SECTION AV

AUDIO, VISUAL & NAVIGATION SYSTEM

CONTENTS

PRECAUTION

PRECAUTIONS

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

INFOID:0000000009651896

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 “SRS AIR BAG” and “SEAT BELT” of this Service Manual.

WARNING:

Always observe the following items for preventing accidental activation.

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that 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 “SRS AIR BAG”.**
- **Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.**

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

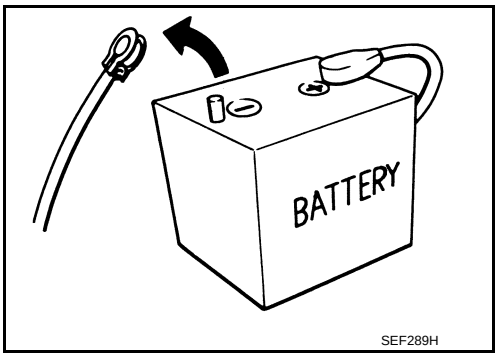
WARNING:

Always observe the following items for preventing accidental activation.

- **When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.**
- **When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.**

Precautions for Removing Battery Terminal

INFOID:0000000009926422



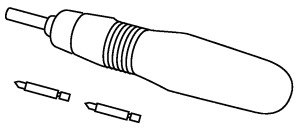
- When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.
  NOTE:
  ECU may be active for several tens of seconds after the ignition switch is turned OFF. If the battery terminal is removed before ECU stops, then a DTC detection error or ECU data corruption may occur.
- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.
  NOTE:
  If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.
- After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.
  NOTE:
  The removal of 12V battery may cause a DTC detection error.

PREPARATION

PREPARATION

Commercial Service Tools

INFOID:0000000009651897

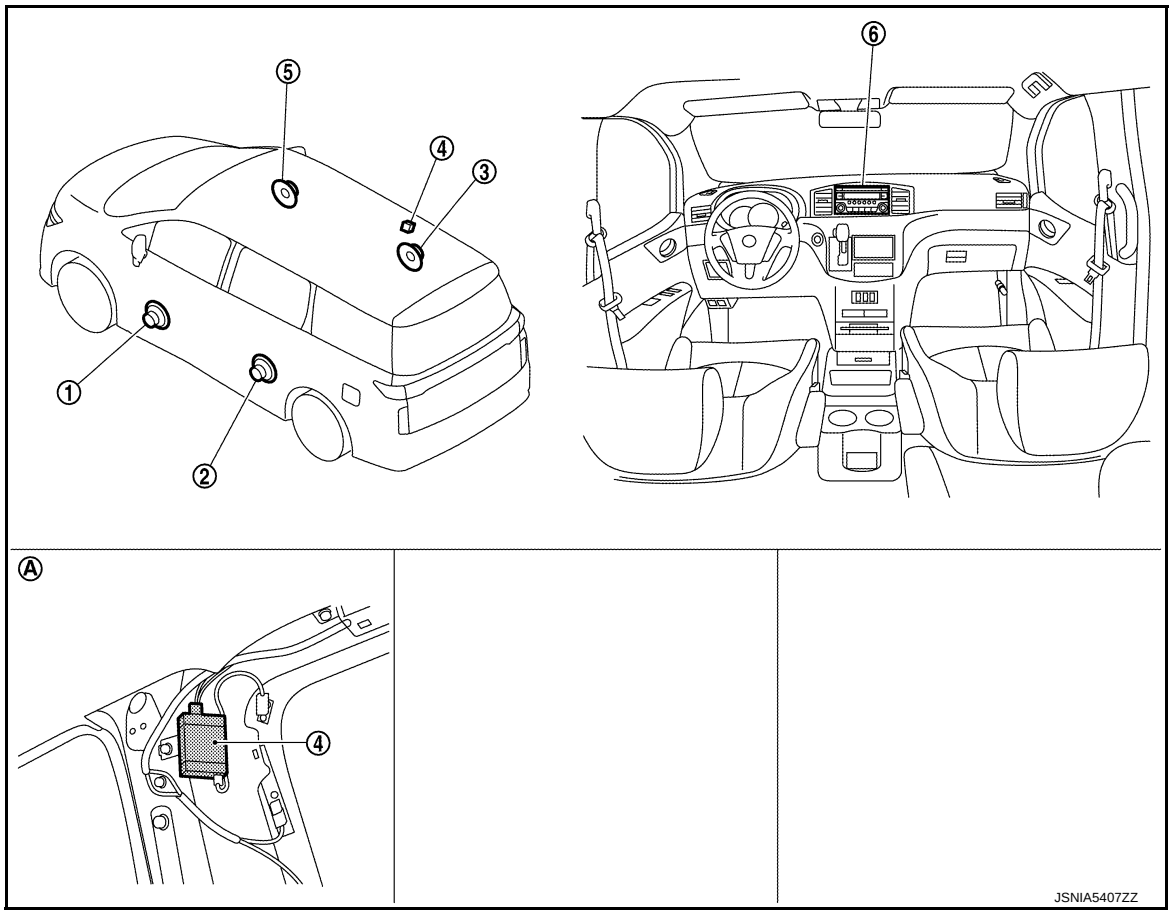
Tool		Description
Power tool	 PBIC0191E	Loosening screws

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000009651898



A. Rear pillar garnish (RH) is removed.

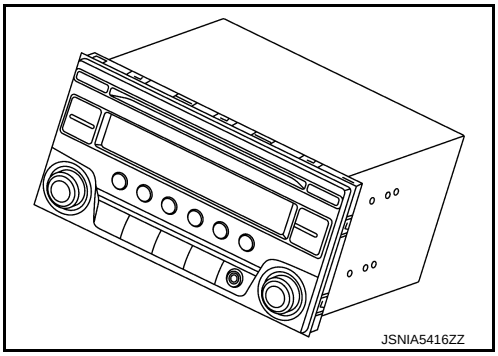
No.	Component	Function
1, 5.	Front door speaker	Refer to AV-15, "Speaker".
2, 3.	Slide door speaker	
4.	Antenna amp.	Refer to AV-16, "Antenna amp., Radio Antenna, and Antenna Feeder".
6.	Audio unit	Refer to AV-14, "Audio unit".

Audio unit

INFOID:0000000009651899

DESCRIPTION

- AM/FM electronic tuner radio, CD player, and auxiliary input jack are integrated into the audio unit.
- The audio unit supports CD-R/CD-RW and provides the playback of MP3/WMA music files.


JSNIA5416ZZ

SPECIFICATION

Manufacturer name		Clarion Co.,Ltd
Audio amplifier		45 W × 4
AM/FM electric tuner	FM diversity function	With
CD drive	CD changer	Without
	Used disc	ϕ 12 cm (4.7 in)
	CD-R/CD-RW playback function	With*
	MP3 / WMA playback function	With
Auxiliary input	ϕ 3.5 mm (0.1 in) stereo mini jack	With
Steering switch		Without

*: If the reflectance of the surface of the media is low, the data may not be read.

Speaker

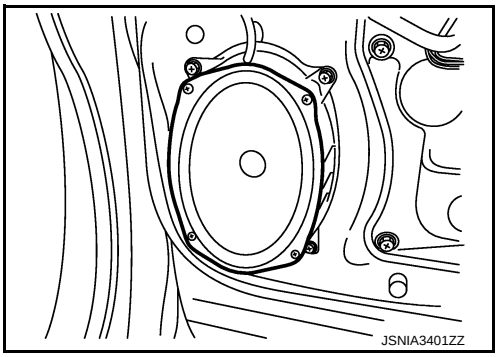
INFOID:0000000009651900

4 speakers system is adopted.

FRONT DOOR SPEAKER

- ϕ 15.0 × 23.0 cm (6 × 9 in) speaker is installed to the bottom of the front door.
- Sound signal is input from the audio unit to output low range sounds.

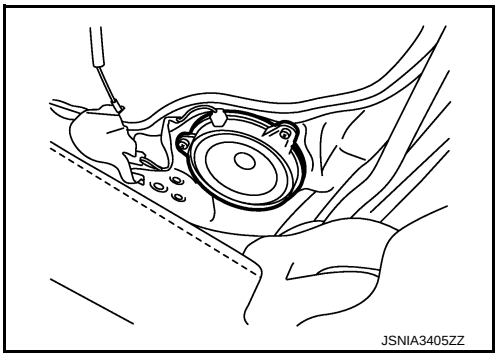
Rated input : 20 W
Maximum input : 40 W
Impedance : 2 Ω


JSNIA3401ZZ

SLIDE DOOR SPEAKER

- ϕ 16cm (6.5 in) speaker is located at the lower part of the back of the slide door.
- Sound signal is input from the audio unit to output high, mid, and low range sounds.

Rated input : 20 W
Maximum input : 40 W
Impedance : 2 Ω


JSNIA3405ZZ

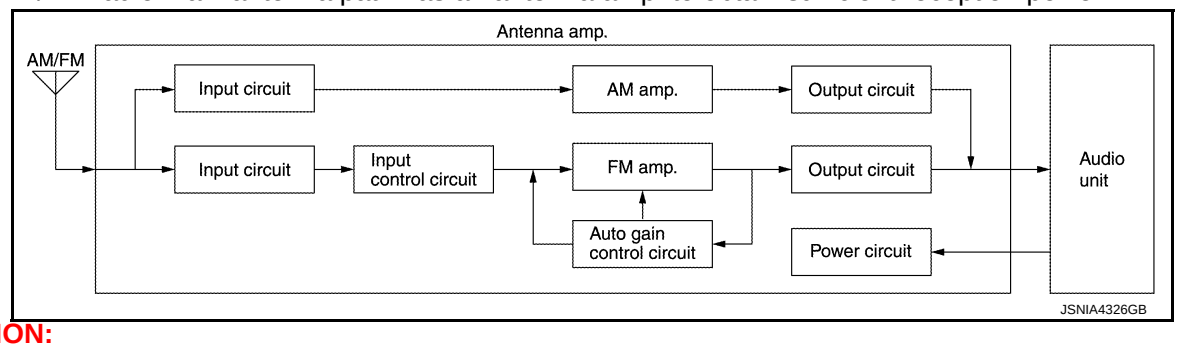
Antenna amp., Radio Antenna, and Antenna Feeder

INFOID:0000000009651901

RADIO ANTENNA

- AM/FM radio main antenna is located on the right rear side window glass and FM radio sub antenna on the left rear side window glass.

- The AM/FM radio main antenna path has an antenna amp. to obtain sufficient reception power.

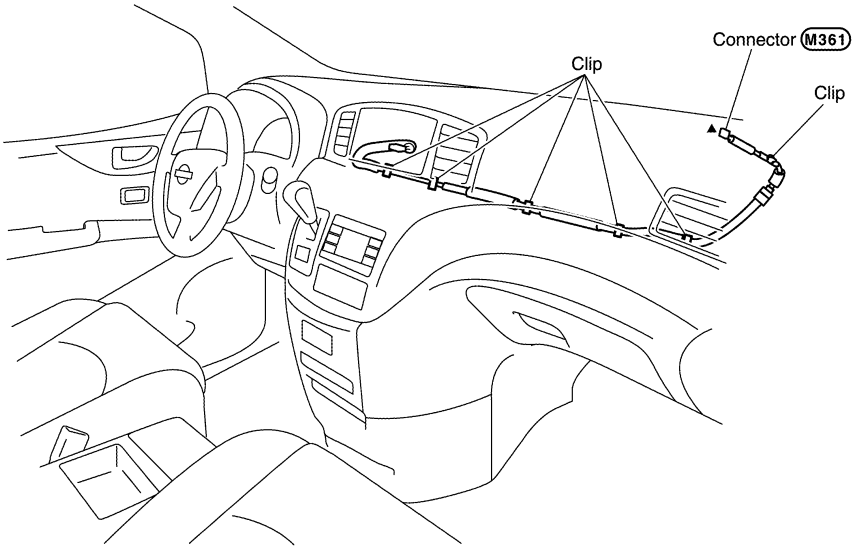


CAUTION:

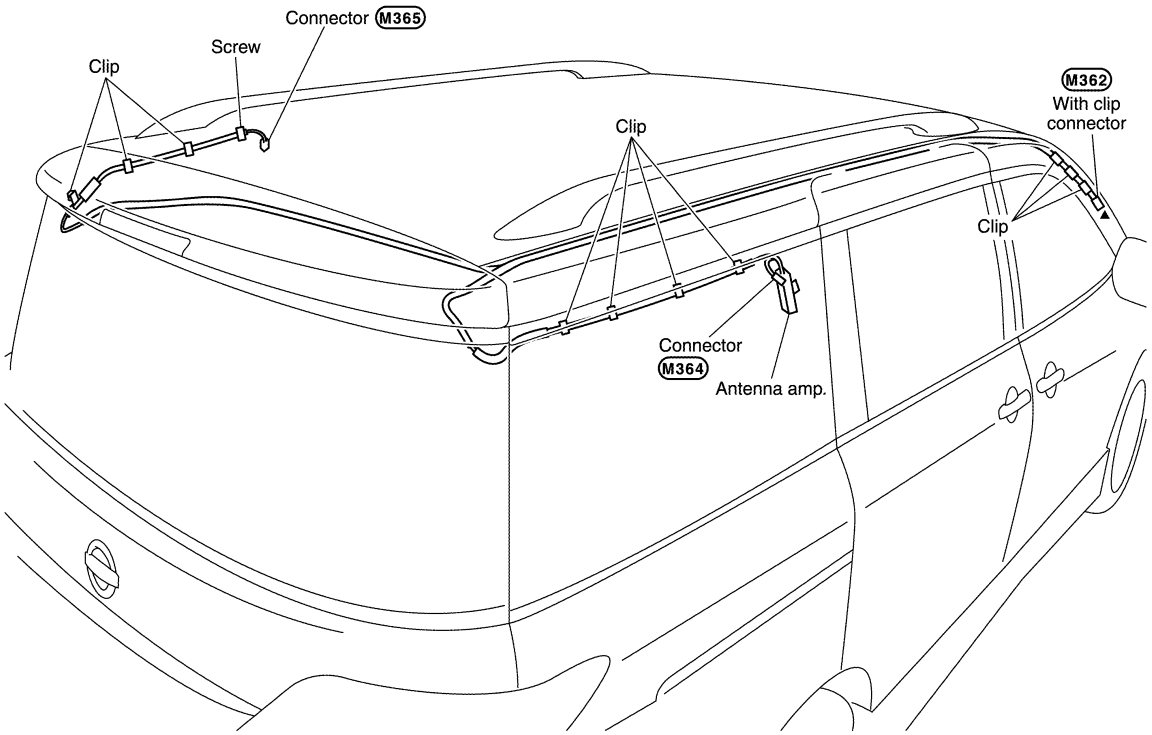
Affixing any mirror-type window films or metallic items (e.g. commercial antenna) on the rear side window glass causes a reduction in the radio receiver sensitivity.

ANTENNA FEEDER LAYOUT

SEC. 280



Instrument panel passenger side



Rear view of vehicle

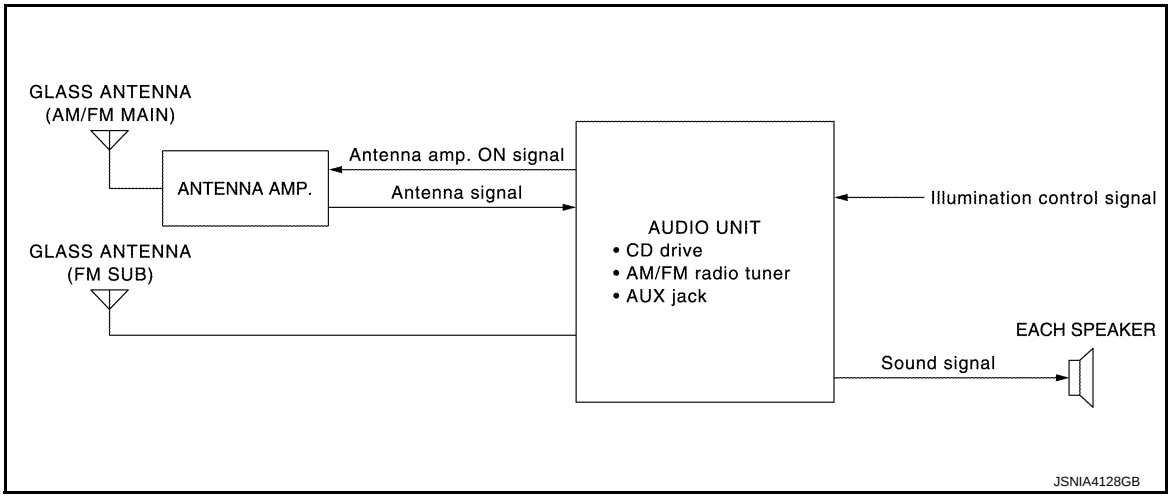
JSNIA4220GB

▲: Indicates that the part is connected at points with same symbol in actual vehicle.

SYSTEM
AUDIO SYSTEM
AUDIO SYSTEM : System Description

INFOID:0000000009651902

SYSTEM DIAGRAM



DESCRIPTION

The audio system is equipped with following functions.

×: Applicable

Functions
AM/FM radio
CD
AUX connection

AUDIO FUNCTION

The MP3/WMA playback function enables music to play for a long time: the user need not change the CD during a long trip. The text display function is also adopted so that the title name and artist name of the ID3 tag/ WMA tag can be displayed.

Operating signal

Audio system operation can be performed with audio fascia switch.

AM/FM Radio Mode

- AM/FM radio tuner is built into audio unit.
- Radio signals are received by radio antenna, next they are amplified by antenna amp., and finally they are input to audio unit.
- FM radio wave is received by FM sub antenna, and it is transmitted to the audio unit directly.
- Audio unit outputs the sound signal to each speaker.

CD Mode

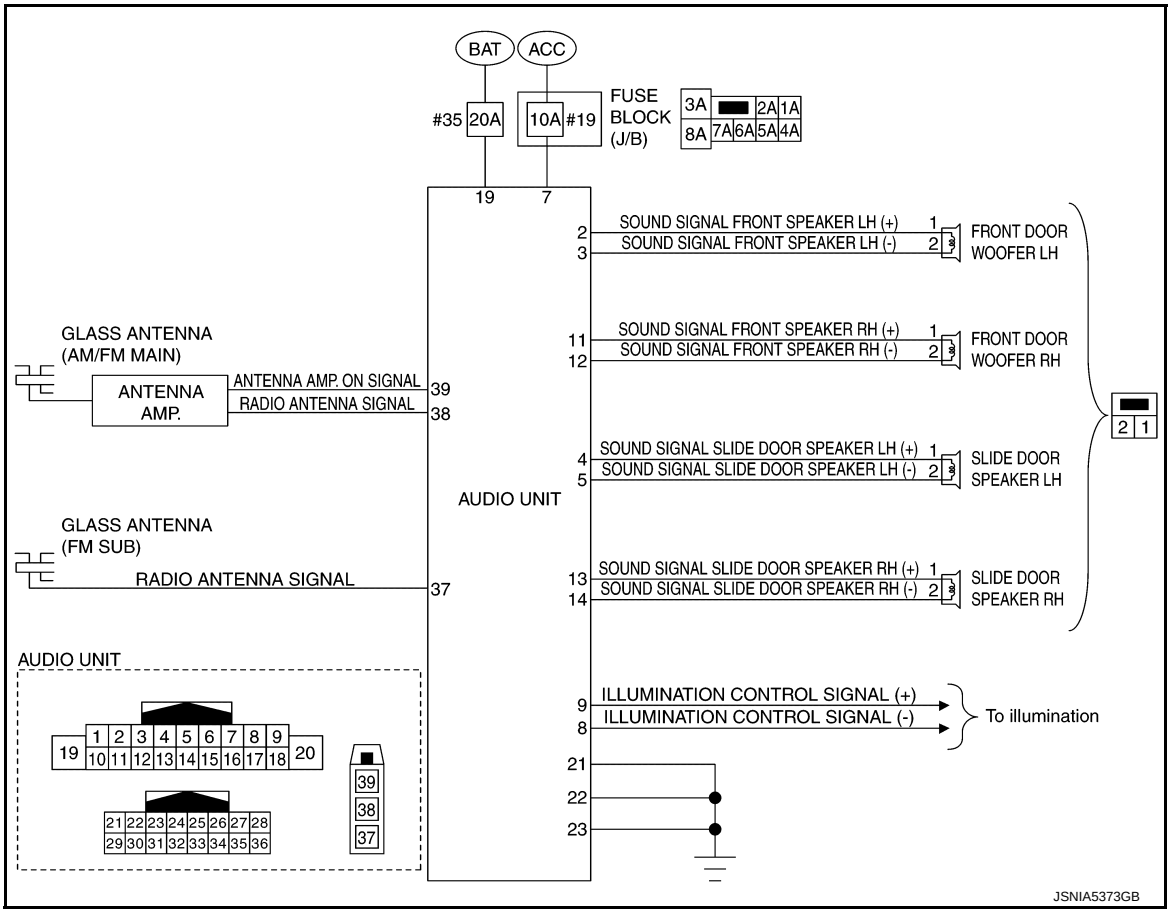
- CD function is built into audio unit.
- Audio unit outputs sound signal to each speaker when CD is inserted to audio unit.

AUX Input Function

- When the external device is connected to the AUX (auxiliary) input jack of the audio unit, the external device inputs a sound signal to the audio unit.
- When AUX mode is selected, audio unit outputs sound signal to each speaker.

AUDIO SYSTEM : Circuit Diagram

INFOID:0000000009651903



DIAGNOSIS SYSTEM (AUDIO UNIT)

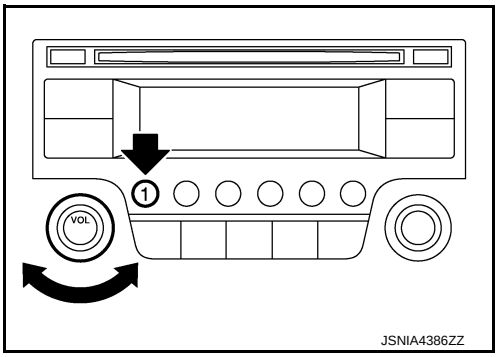
Diagnosis Description

INFOID:0000000009651904

Self-diagnosis mode can perform the following items.
- Versions and EQ profile display function
- Speaker channel check

VERSIONS AND EQ PROFILE DISPLAY FUNCTION

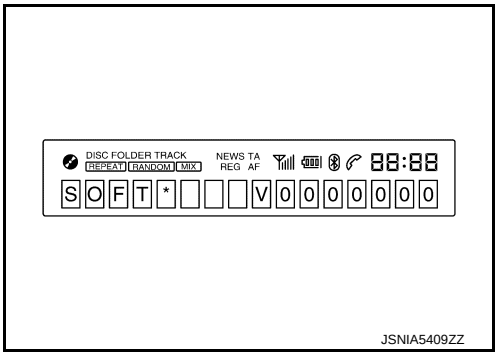
1. Turn ignition switch to the ON position.
2. Turn the audio unit off.
3. While pressing the “1” button, turn the volume control dial clockwise or counterclockwise 30 clicks or more. When the self-diagnosis mode is started, diagnosis default screen is displayed.



JSNIA4386ZZ

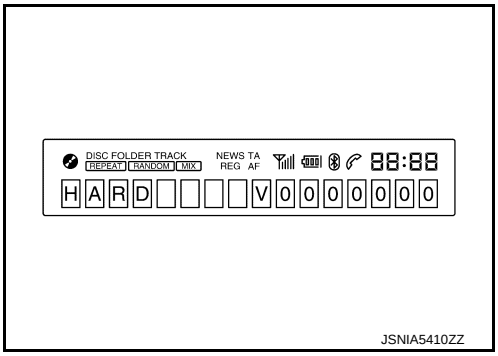
NOTE:
Diagnosis default screen = All icons and segments of the audio unit are turned on.

4. Press the “DISP” switch to enter version diagnostics. Audio software version is displayed.



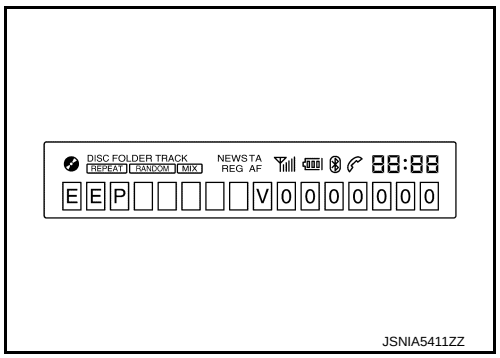
JSNIA5409ZZ

5. Press the “DISP” switch again to display the audio hardware version.

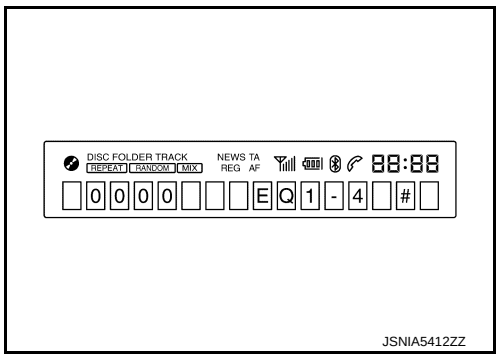


JSNIA5410ZZ

6. Press the “DISP” switch again to display the audio EEPROM version.



7. Press the “DISP” switch again to display the status of EQ profile selection signal.
NOTE:
When Control Signal Circuit (EQ) has a malfunction, "INVALID EQ" is displayed.

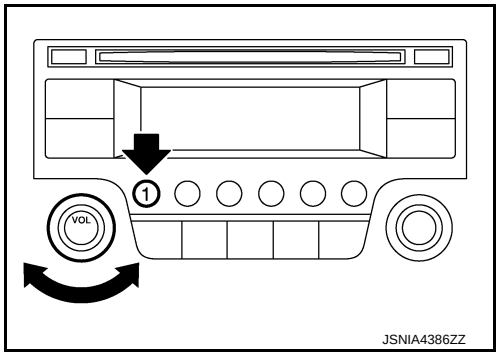


8. Press the “DISP” switch with a long press to back to diagnosis default screen.

Finishing Self-diagnosis Mode
Self-diagnosis mode is canceled when turning ignition switch OFF.

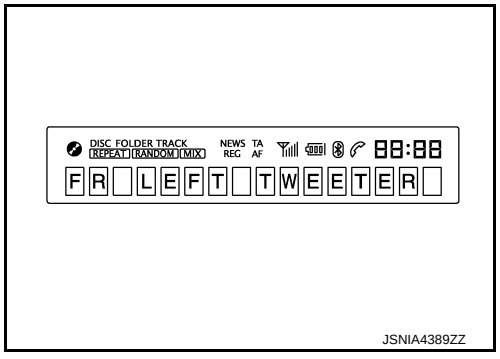
SPEAKER CHANNEL CHECK FUNCTION

1. Turn ignition switch to the ON position.
2. Turn the audio unit off.
3. While pressing the “1” button, turn the volume control dial clockwise or counterclockwise 30 clicks or more. When the self-diagnosis mode is started, diagnosis default screen is displayed.



NOTE:
Diagnosis default screen = All icons and segments of the audio unit are turned on.

4. Press the “RPT/RDM” switch to generate a test tone in a speaker. Press the “RPT/RDM” switch again to generate a test tone in the next speaker.



Speaker channel check item

Mode	Description
FR LEFT TWEETER	• Outputs test tone from front door speaker LH. • Test tone frequency is high range.
FR RIGHT TWEETER	• Outputs test tone from front door speaker RH. • Test tone frequency is high range.
FR RIGHT	• Outputs test tone from front door speaker RH. • Test tone frequency is mid range.
RR RIGHT	• Outputs test tone from slide door speaker RH. • Test tone frequency is mid range.
RR LEFT	• Outputs test tone from slide door speaker LH. • Test tone frequency is mid range.
FR LEFT	• Outputs test tone from front door speaker LH. • Test tone frequency is mid range.

5. Press the “RPT/RDM” switch with a long press to back to diagnosis default screen.

Finishing Self-diagnosis Mode

Self-diagnosis mode is canceled when turning ignition switch OFF.

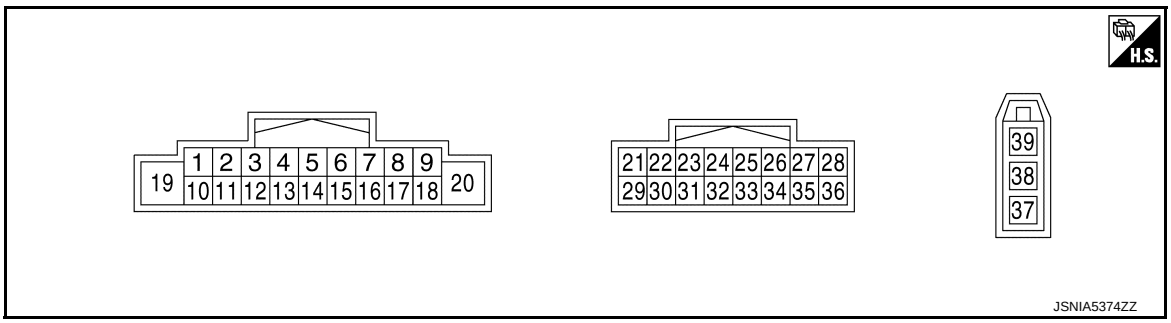
ECU DIAGNOSIS INFORMATION

AUDIO UNIT

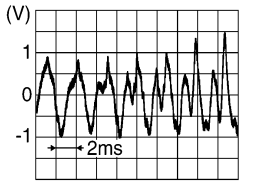
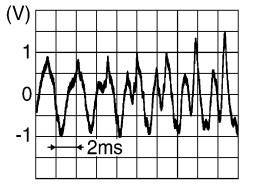
Reference Value

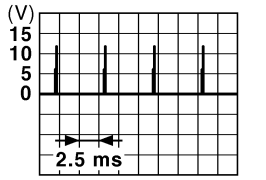
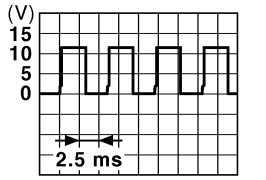
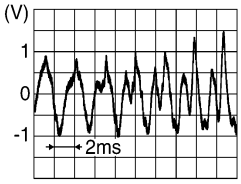
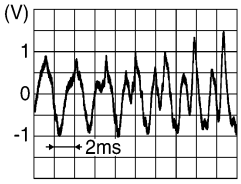
INFOID:0000000009651905

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
2 (R)	3 (G)	Sound signal front speaker LH	Output	Ignition switch ON	Sound output.	Outputs waveform synchronized with sound.	 SKIB3609E
4 (V)	5 (LG)	Sound signal slide door speaker LH	Output	Ignition switch ON	Sound output.	Outputs waveform synchronized with sound.	 SKIB3609E
7 (V)	Ground	ACC power supply	Input	Ignition switch ACC	—	10.8 - 15.6 V	Battery voltage

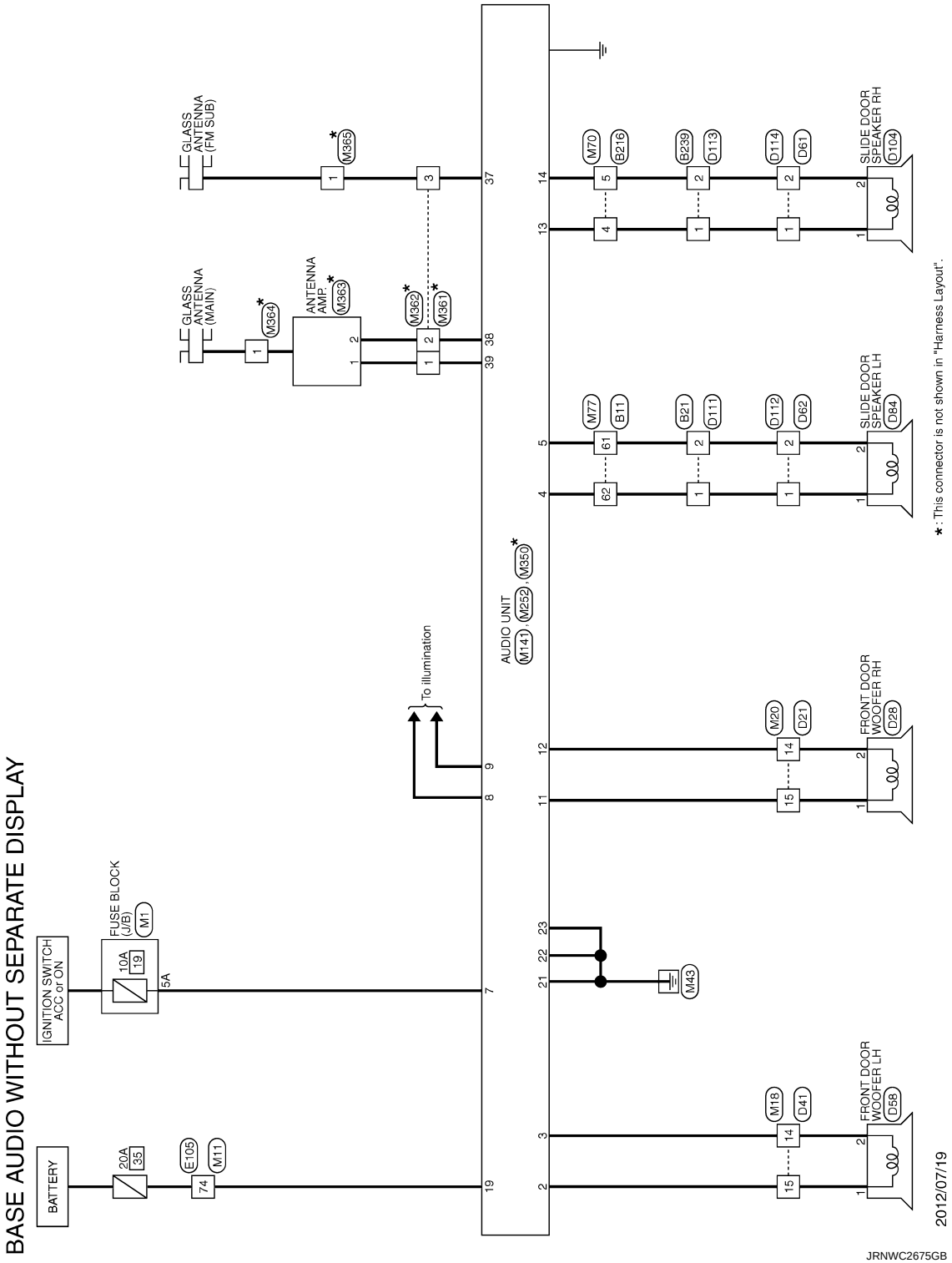
Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
9 (R/ W)	8 (B/ W)	Illumination control signal	Input	Ignition switch ON	• Lighting switch 1ST • When meter illumination is maximum	Waveform of 0 -15.6 V is input according to meter illumination step.	 JPNIA1687GB
					• Lighting switch 1ST • When meter illumination is step 11		 JPNIA1686GB
					• Lighting switch 1ST • When meter illumination is minimum		0 V
11 (W)	12 (B)	Sound signal front speaker RH	Output	Ignition switch ON	Sound output.	Outputs waveform synchronized with sound.	 SKIB3609E
13 (P)	14 (L)	Sound signal slide door speaker RH	Output	Ignition switch ON	Sound output.	Outputs waveform synchronized with sound.	 SKIB3609E
19 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	10.8 - 15.6 V	Battery voltage
21 (B)	Ground	Control signal	—	Ignition switch ON	—	1 V or less	0 V
22 (B)	Ground	Control signal	—	Ignition switch ON	—	1 V or less	0 V
23 (B)	Ground	Control signal	—	Ignition switch ON	—	1 V or less	0 V
37	—	FM sub	Input	—	—	—	—
38	—	AM-FM main	Input	—	—	—	—
39	Ground	Antenna amp. ON signal	Output	Ignition switch ACC	—	10.8 - 15.6 V	12.0 V

WIRING DIAGRAM

BASE AUDIO WITHOUT SEPARATE DISPLAY

Wiring Diagram

INFOID:0000000009651906

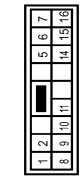


BASE AUDIO WITHOUT SEPARATE DISPLAY

Connector No.	B11
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS19

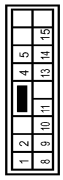
Terminal No.	Color Of Wire	Signal Name [Specification]
10	LG	–
12	Y	–
13	P	–
15	L	–
29	GR	–
30	W	–
31	BR	–
37	SHIELD	–
38	R/L	–
39	B	–
40	R/W	–
51	O	–
52	B/P	–
53	V	–
54	P	–
55	L	–
57	Y	–
58	L	–
59	V	–
60	O	–
61	B	–
62	W	–
63	Y	–
64	W	–
65	R	–
66	SHIELD	–
67	B	–
68	W	–
69	SHIELD	–
70	W/R	–
71	B/R	–
72	P	–
74	BR	–
75	SB	–
77	V	–
78	LG	–
79	W	–
80	R	–
81	SB	–
82	V	–
87	BR	–
88	P	–
89	BR	–
90	LG	– [Without automatic drive positioner]
90	P	– [With automatic drive positioner]
91	O	–
92	G	–

Connector No.	B21
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS



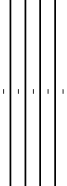
Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	–
2	B	–
5	Y	–
6	BR	–
7	LG	–
8	GR	–
9	SB	–
10	Y	–
11	G	–
14	O	–
15	W	–
16	B	–

Connector No.	B216
Connector Name	WIRE TO WIRE
Connector Type	NS16MBR-CS



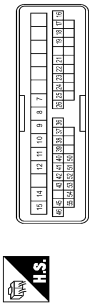
Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	–
2	O	–
4	BR	–
5	Y	–
8	V	–
9	P	–
10	L	–
11	LG	–
13	G	–
14	SB	–
15	Y	–

Connector No.	B239
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS



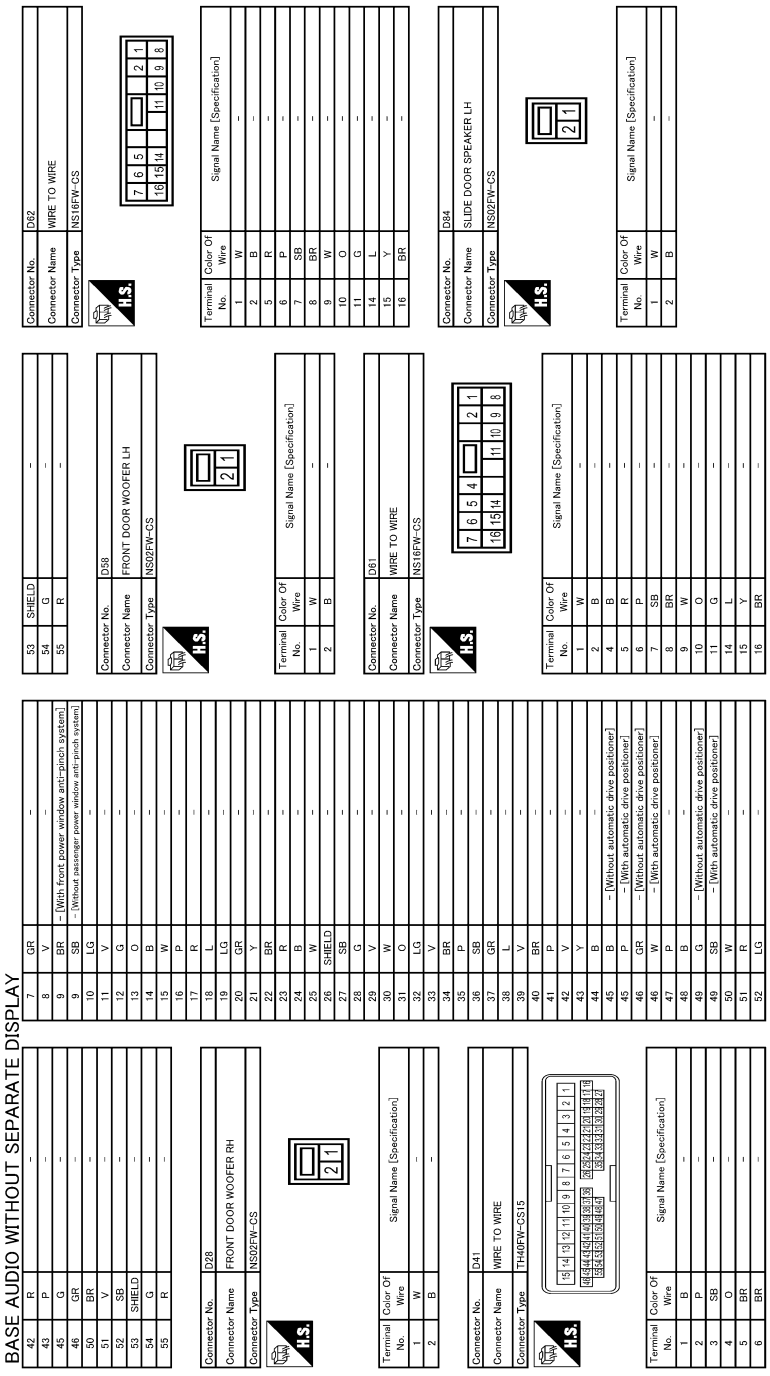
Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	– [Without BOSE system]
1	L	– [With BOSE system]
2	P	– [With BOSE system]
2	Y	– [Without BOSE system]
4	B	–
5	GR	–
6	O	–
7	SB	–
8	R	–
9	G	–
10	O	–
11	L	–
14	P	–
15	V	–
16	B/R	–

Connector No.	D21
Connector Name	WIRE TO WIRE
Connector Type	TH40FW-CS15



Terminal No.	Color Of Wire	Signal Name [Specification]
7	W	–
8	P	– [Without passenger power window anti-pinch system]
8	V	– [With front power window anti-pinch system]
9	BR	– [Without passenger power window anti-pinch system]
9	L	– [With front power window anti-pinch system]
10	LG	–
11	LG	–
12	R	–
14	B	–
15	W	–
16	P	–
17	Y	–
18	R	–
19	W	–
21	R	–
22	B	–
23	W	–
24	SHIELD	–
25	G	–
26	L	–
36	LG	–
37	Y	–
38	L	–
39	O	–
40	B	–
41	W	–

JRNWC6723GB



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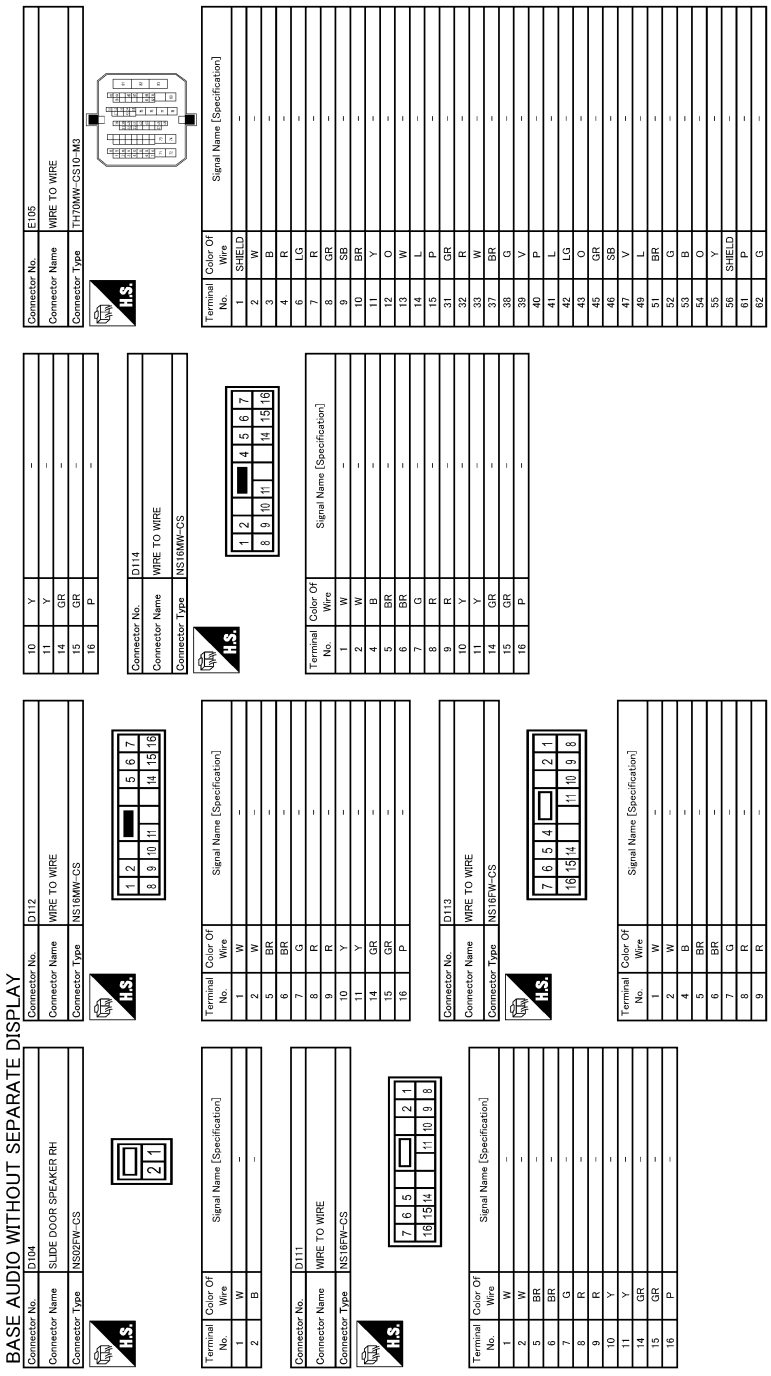

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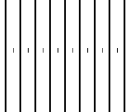
BASE AUDIO WITHOUT SEPARATE DISPLAY

Connector No.	M11
Connector Name	WIRE TO WIRE
Connector Type	TH70FW-CS10-M3

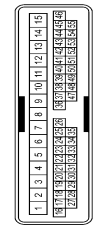
Terminal No.	Color Of Wire	Signal Name [Specification]
1	SHIELD	–
2	W	–
3	B	–
4	R	–
6	O	–
7	G	–
8	G	–
9	B	–
10	R	–
11	W	–
12	LG	–
13	Y	–
14	L	–
15	P	–
31	R	–
32	V	–
33	Y	–
37	BR	–
38	BR	–
39	Y	–
40	P	–
41	L	–
42	G	–
43	W	–
45	LG	–
46	V	–
47	LG	–
49	G	–
51	SB	–
52	GR	–
53	B	–
54	R	–
55	L	–
56	SHIELD	–
61	BR	–
62	LG	–
63	W/L	–
64	W/R	–
66	W	–
67	Y	–
69	SB	–
70	LG	–
71	R	–
72	L	–
73	GR	–
74	Y	–
75	SB	–
76	Y	–
77	G	–
78	O	–
80	R	–
81	L	–
82	LG	–
83	R	–

Connector No.	M1
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS06FW-M2



Terminal No.	Color Of Wire	Signal Name [Specification]
1A	Y	–
2A	G	–
3A	L	–
4A	GR	–
5A	V	–
6A	R	–
7A	GR	–
8A	L	–

Connector No.	M18
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-CS15



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B/W	–
2	R	–
3	W	–
4	Y	–
5	SB	–
6	BR	–
7	LG	–
8	L	–
9	GR	–
10	P	–
11	V	–
12	G	–
13	O	–
14	BR	– [With BOSE system]
14	G	– [Without BOSE system]
15	R	–
16	Y	–
17	SB	–
18	P	–
19	V	–
20	Y	–
21	W	–
22	G	–
23	R	–
24	B	–
25	W	–
26	SHIELD	–
27	GR	–
28	G	–
29	O	–
30	LG	–
31	R	–
32	G	–
33	Y	–
34	R/W	–
35	GR	–
36	LG	–
37	W	–
38	P	–
39	V	–
40	BR	–
41	P	–
42	V	–
43	SB	–
44	B	–
45	W/L	– [With automatic drive positioner]
45	Y	– [Without automatic drive positioner]
46	GR/V	– [With automatic drive positioner]
46	W	– [Without automatic drive positioner]
47	V	–
48	B/P	–
49	O	– [With automatic drive positioner]
49	R/W	– [Without automatic drive positioner]
50	V	–
51	LG	–
52	W	–
53	SHIELD	–
54	L/R	–
55	L/G	–

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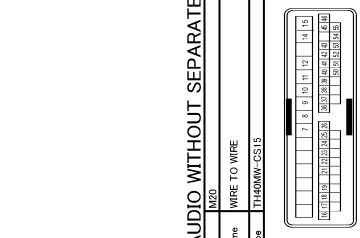
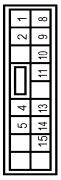
BASE AUDIO WITHOUT SEPARATE DISPLAY

Connector No.	M20
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-CS15



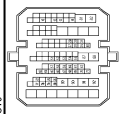
Terminal No.	Color Of Wire	Signal Name [Specification]
7	B/W	–
8	L	– [Without passenger power window anti-pinch system]
8	P	– [With front power window anti-pinch system]
9	BR	– [Without passenger power window anti-pinch system]
9	GR	– [With front power window anti-pinch system]
10	LG	–
11	SB	–
12	V	–
14	B	–
15	W	–
16	BR	–
17	P	–
18	R	–
19	Y	–
21	R	–
22	B	–
23	W	–
24	SHIELD	–
25	W/L	–
26	W/R	–
36	LG	–
37	W	–
38	P	–
39	G	–
40	B	–
41	R	–
42	L	–
43	GR	–
45	BR	–
46	GR	–
50	V	–
51	BR	– [With automatic drive positioner]
51	LG	– [Without automatic drive positioner]
52	W	–
53	SHIELD	–
54	B/Y	–
55	LG	–

Connector No.	M70
Connector Name	WIRE TO WIRE
Connector Type	NS16FBR-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	–
2	R	–
4	P	–
5	L	–
8	G	–
9	V	–
10	R/L	–
11	SB	–
13	Y	–
14	P	–
15	W	–

Connector No.	M77
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS19



Terminal No.	Color Of Wire	Signal Name [Specification]
10	GR	–
12	V	–
13	W	–
15	Y	–
29	L	–
30	P	–
31	BR	–
37	SHIELD	–
38	B	– [Without automatic drive positioner]
38	W	– [With automatic drive positioner]
39	B	– [With automatic drive positioner]
39	W	– [Without automatic drive positioner]
40	R	–
51	V	–
52	B	–
53	O	–
54	P	–
55	L	–
57	Y	–
58	L	–
59	O	–
60	G	–
61	LG	–
62	V	–
63	SB	–
64	R	–
65	G	–
66	SHIELD	–
67	W/L	–
68	GR/V	–
69	SHIELD	–
70	W/L	–
71	W/R	–
72	LG	–
74	GR	–
75	G	–
77	O	–
78	LG	–
79	R	–
80	G	–
81	L	–
82	W	–
87	V	–
88	R	–
89	Y	–
90	P	– [Without automatic drive positioner]
90	R	– [With automatic drive positioner]
91	SB	–
92	P	–

Connector No.	M141
Connector Name	AUDIO UNIT
Connector Type	TH18FW-CS2

Terminal No.	Color Of Wire	Signal Name [Specification]
2	R	SOUND SIGNAL FRONT SPEAKER LH (+)
3	G	SOUND SIGNAL FRONT SPEAKER LH (–)
4	V	SOUND SIGNAL SLIDE DOOR SPEAKER LH (+)
5	LG	SOUND SIGNAL SLIDE DOOR SPEAKER LH (–)
7	V	ACC
8	B/W	ILLUMINATION CONTROL SIGNAL (–)
9	R/W	ILLUMINATION CONTROL SIGNAL (+)
11	W	SOUND SIGNAL FRONT SPEAKER RH (+)
12	B	SOUND SIGNAL FRONT SPEAKER RH (–)
13	P	SOUND SIGNAL SLIDE DOOR SPEAKER RH (+)
14	L	SOUND SIGNAL SLIDE DOOR SPEAKER RH (–)
19	Y	BATTERY

Connector No.	M252
Connector Name	AUDIO UNIT
Connector Type	TH16FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
21	B	E01
22	B	E01
23	B	E03

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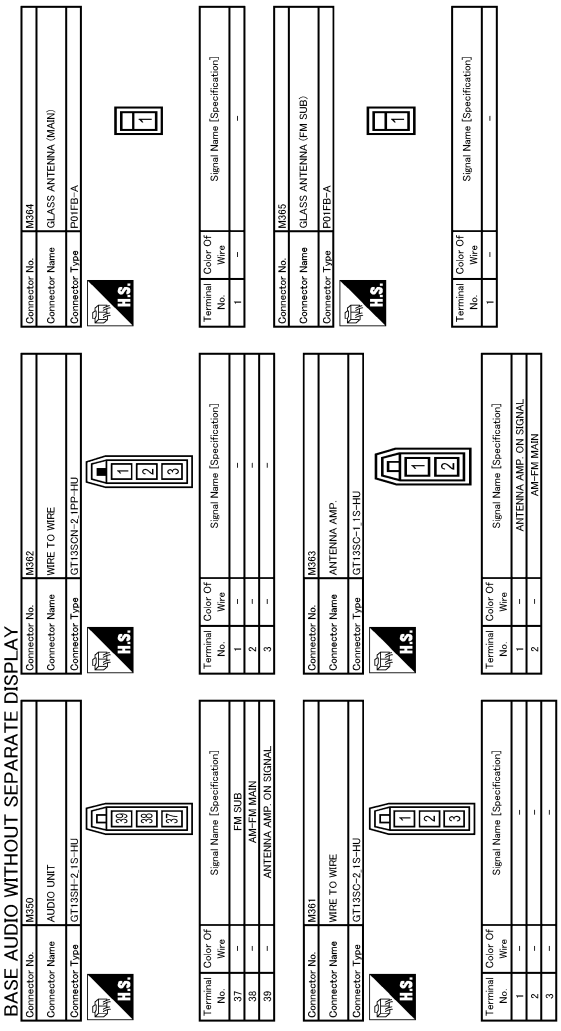
BASE AUDIO WITHOUT SEPARATE DISPLAY



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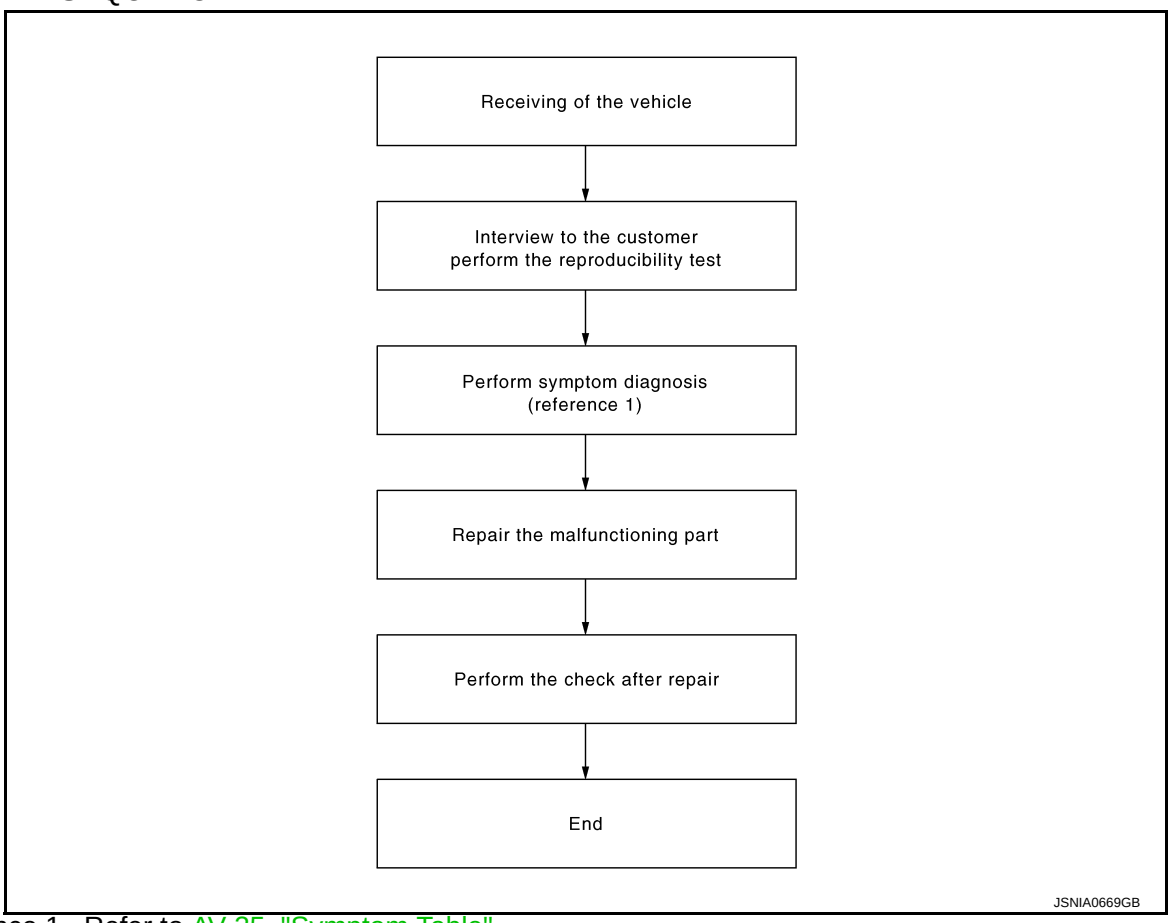
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000009651907

OVERALL SEQUENCE



Reference 1···Refer to AV-35, "Symptom Table".

DETAILED FLOW

1.CHECK SYMPTOM

Check the malfunction symptoms by performing the following items.
- Interview the customer to obtain the malfunction information (conditions and environment when the malfunction occurred).
- Check the symptom.

>> GO TO 2.

2.PERFORM DIAGNOSIS BY SYMPTOM

Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to AV-35, "Symptom Table".

>> GO TO 3.

3.REPAIR OR REPLACE MALFUNCTIONING PARTS

Repair or replace the malfunctioning parts.

>> GO TO 4.

4.FINAL CHECK

Perform the operation to check that the malfunction symptom is solved or any other symptoms are present.

Is there any symptom?

YES >> GO TO 2.
NO >> INSPECTION END

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID:0000000009651908

1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	35
Ignition switch ACC or ON	19

Is inspection result normal?

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

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between audio unit harness connectors and ground.

Signal name	Audio unit	Probe		Condition	Standard	Reference value
		Terminal				
	Connector	(+)	(–)	Ignition switch		
Battery power supply	M141	19	Ground	OFF	10.8 - 15.6 V	Battery voltage
ACC power supply		7		ACC		

Is inspection result normal?

YES >> INSPECTION END
NO >> Check harness between audio unit and fuse.

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:0000000009651909

AUDIO SYSTEM

Symptoms	Check items	Possible malfunction location / Action to take
Audio unit does not start.	—	Audio unit power supply and ground circuit. Refer to AV-34, "AUDIO UNIT : Diagnosis Procedure".
No sound comes out.	No sound from all speakers.	Audio unit power supply and ground circuit. Refer to AV-34, "AUDIO UNIT : Diagnosis Procedure".
	Only a certain speaker (front right, front left, rear right, or rear left, etc.) does not output sound.	• Poor connector connection of speaker. • Sound signal circuit malfunction between audio unit and speaker. • Malfunction in speaker. • Malfunction in audio unit.
Noise is mixed with audio.	Noise comes out from all speakers.	Malfunction in audio unit.
	Noise comes out only from a certain speaker (front right, front left, rear right, or rear left, etc.).	• Poor connector connection of speaker. • Sound signal circuit malfunction between audio unit and speaker. • Malfunction in speaker. • Poor installation of speaker (e.g. backlash and looseness) • Malfunction in audio unit.
	Noise is mixed with radio only (when the car hits a bump or while driving over bad roads).	Poor connector connection of antenna or antenna feeder.
Radio is not received or poor reception.	• Other audio sounds are normal. • Any radio cannot be received or poor reception is caused even after moving to a service area with good reception (e.g. a place with clear view and no obstacles generating external noises).	• Antenna amp. ON signal circuit malfunction. • Poor connector connection of antenna or antenna feeder.

NORMAL OPERATING CONDITION

Description

INFOID:0000000009651910

RELATED TO AUDIO

- The majority of the audio malfunctions are the result of outside causes (bad CD, electromagnetic interference, etc.). Check the symptoms below to diagnose the malfunction.
- The vehicle itself can be a source of noise if noise prevention parts or electrical equipment is malfunctioning. Check that noise is caused and/or changed by engine speed, ignition switch turned to each position, and operation of each piece of electrical equipment. Then determine the cause.

NOTE:

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

Symptoms	Cause and counter measure
Cannot play	Check that the CD was inserted correctly.
	Check that the CD is scratched or dirty.
	Check that there is condensation inside the player, and if there is, wait until the condensation is gone (about 1 hour) before using the player.
	The player will play correctly after it returns to the normal temperature if there is a temperature increase error.
	Only the music CD files (CD-DA data) will be played if there is a mixture of music CD files (CD-DA data) and MP3/WMA files on a CD.
	Files with extensions other than ".MP3", ".WMA", ".mp3", or ".wma" cannot be played.
	Check that the finalization process, such as session close and disc close, is done for the disc.
	Check that the CD is protected by copyright.
Poor sound quality	Check that the CD is scratched or dirty.
It takes a relatively long time before the music starts playing.	If there are many folder or file levels on the MP3/WMA CD, or if it is a multi session disc, some time may be required before the music starts playing.
The songs do not play back in the desired order.	The playback order is the order in which the files were written by the software, so the files might not play in the desired order.
Poor reception only from a certain radio broadcast station.	Check incoming radio wave signal strength of applicable broadcast station.
Buzz/rattle sound from speaker	The majority of rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the rattle.

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

NOTE:

- Fading noise: This noise occurs because of variations in the field strength in a narrow range due to mountains or buildings blocking the signal.
- Multi-path noise: This noise results from a time difference between the broadcast waves directly from the station arriving at the antenna and the waves reflected by mountains or buildings.

REMOVAL AND INSTALLATION

AUDIO UNIT

Removal and Installation

INFOID:0000000009651911

REMOVAL

1. Remove cluster lid D. Refer to IP-14, "Removal and Installation".
2. Remove audio unit mounting screws.
3. Pull out audio unit, and then disconnect antenna feeder and harness connectors.
4. Remove audio unit and brackets as a single unit.
5. Remove brackets from audio unit.

INSTALLATION

Install in the reverse order of removal.

FRONT DOOR SPEAKER

Removal and Installation

INFOID:0000000009651912

REMOVAL

1. Remove front door finisher. Refer to INT-14, "Removal and Installation".
2. Remove front door speaker screws and disconnect front door speaker connector.

INSTALLATION

Install in the reverse order of removal.

SLIDE DOOR SPEAKER

Removal and Installation

INFOID:0000000009651913

REMOVAL

1. Remove slide door finisher. Refer to INT-17, "Removal and Installation".
2. Remove screws and disconnect connector, and remove slide door speaker.

INSTALLATION

Install in the reverse order of removal.

ANTENNA AMP.

Removal and Installation

INFOID:0000000009651914

REMOVAL

1. Remove rear pillar garnish RH. Refer to INT-27, "REAR PILLAR GARNISH : Removal and Installation".
2. Remove screw and disconnect connector, and remove antenna amp.

INSTALLATION

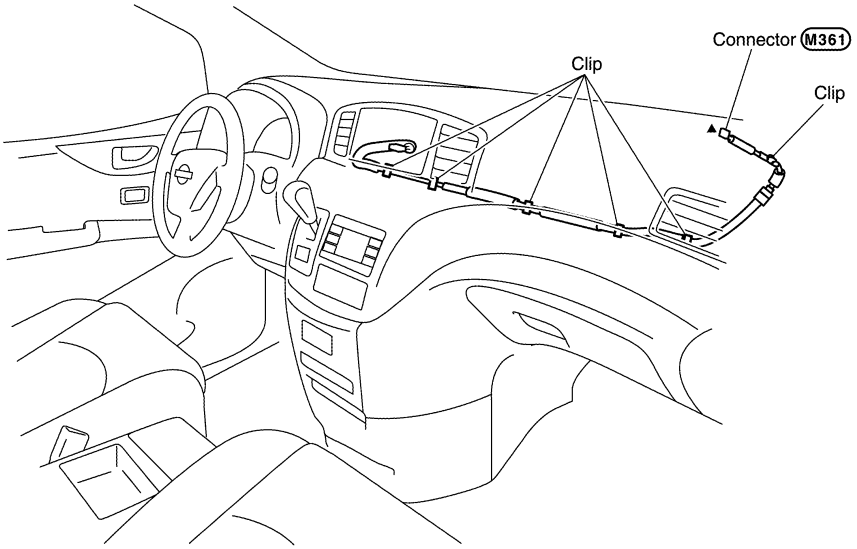
Install in the reverse order of removal.

ANTENNA FEEDER

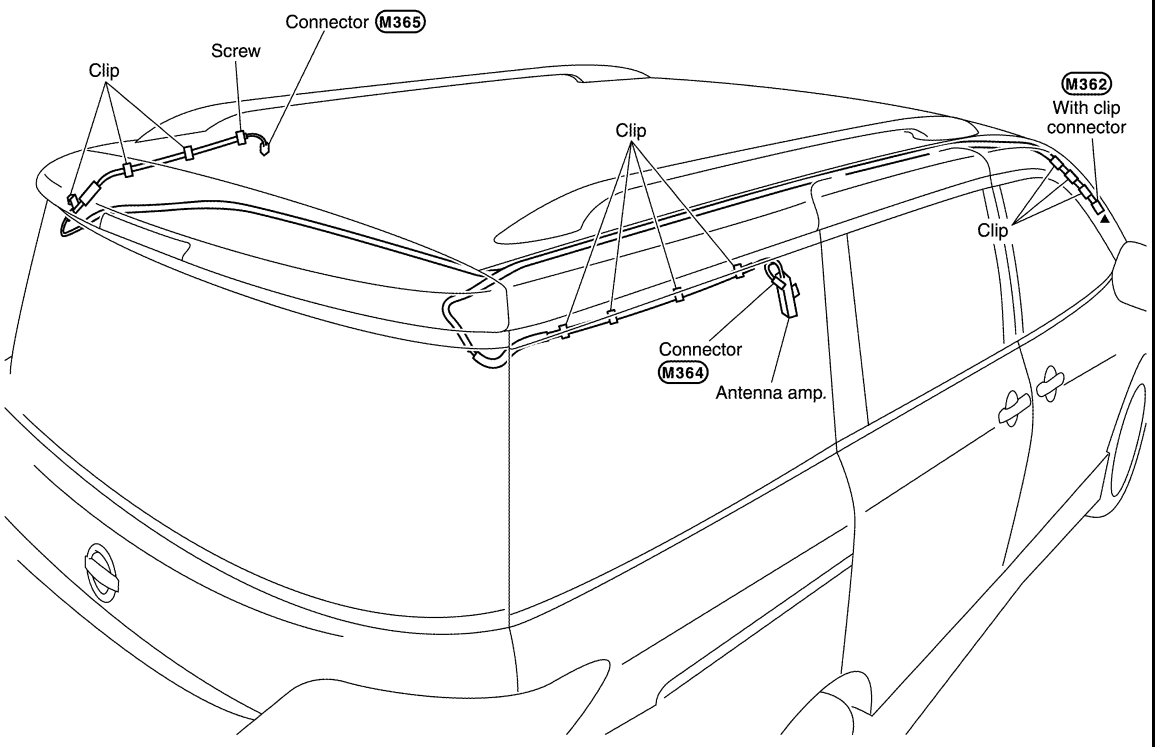
Feeder Layout

INFOID:0000000009651915

SEC. 280



Instrument panel passenger side



Rear view of vehicle

JSNIA4220GB

▲: Indicates that the part is connected at points with same symbol in actual vehicle.

PRECAUTION

PRECAUTIONS

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

INFOID:0000000009651916

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 “SRS AIR BAG” and “SEAT BELT” of this Service Manual.

WARNING:

Always observe the following items for preventing accidental activation.

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that 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 “SRS AIR BAG”.**
- **Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.**

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

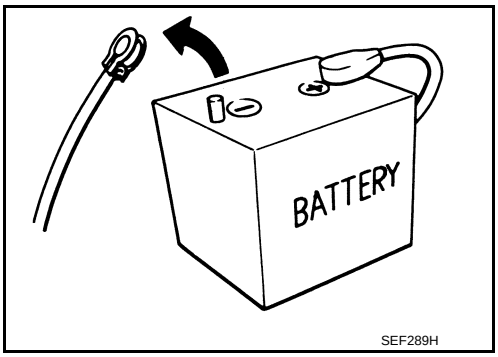
WARNING:

Always observe the following items for preventing accidental activation.

- **When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.**
- **When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.**

Precautions for Removing Battery Terminal

INFOID:0000000009926423



- When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.
  NOTE:
  ECU may be active for several tens of seconds after the ignition switch is turned OFF. If the battery terminal is removed before ECU stops, then a DTC detection error or ECU data corruption may occur.
- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.
  NOTE:
  If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.
- After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.
  NOTE:
  The removal of 12V battery may cause a DTC detection error.

Precaution for Trouble Diagnosis

INFOID:0000000009651917

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.

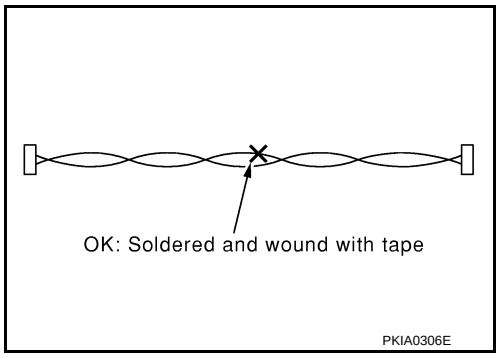
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

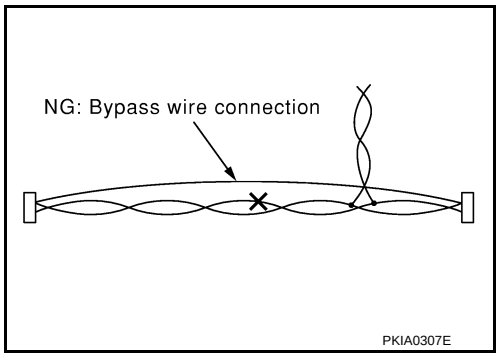
INFOID:0000000009651918

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.)

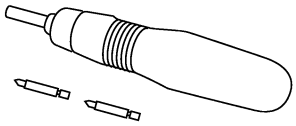


PREPARATION

PREPARATION

Commercial Service Tools

INFOID:0000000009651919

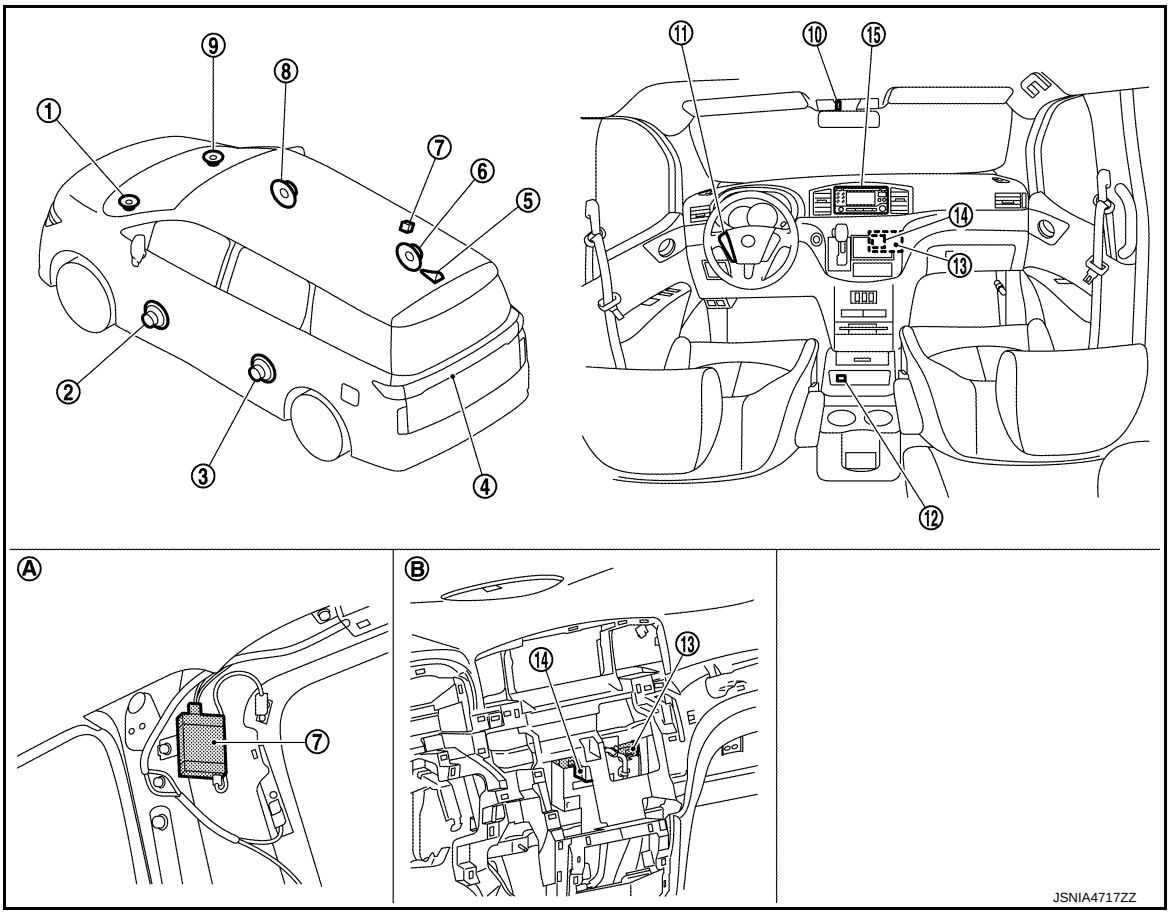
Tool		Description
Power tool	 PBIC0191E	Loosening screws

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000009651920



A. Rear pillar garnish (RH) is removed. B. Cluster lid C is removed.

No.	Component	Function
1,9.	Front squawker	Refer to AV-47, "Speaker".
2,8.	Front door woofer	
3,6.	Slide door speaker	
4.	Rear view camera	Refer to AV-52, "Rear View Camera".
5.	Satellite radio antenna	Refer to AV-50, "Satellite Radio Antenna".
7.	Antenna amp.	Refer to AV-49, "Antenna amp., Radio Antenna, and Antenna Feeder".
10.	Microphone	Refer to AV-48, "Microphone".
11.	Steering switch	Refer to AV-49, "Steering Switch".
12.	USB connector	Refer to AV-48, "USB Connector".
13.	TEL adapter unit	Refer to AV-48, "TEL Adapter Unit".
14.	TEL antenna	Refer to AV-48, "TEL Antenna".
15.	Audio unit	Refer to AV-45, "Audio Unit".

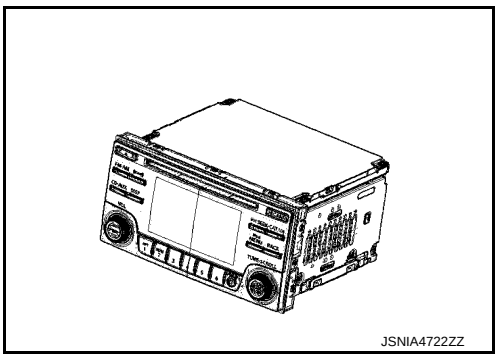
Audio Unit

INFOID:0000000009651921

Description

- AM/FM electronic tuner radio, satellite radio tuner, CD drive, auxiliary input jack, and camera controller are integrated into the audio unit.
- The display can show audio status and rear view monitor images.
- Music files stored in iPod®*/USB memory can be played by using the separate USB connector.
- Audio played back by external audio equipment is outputted from the vehicle speakers via the auxiliary input jack installed to the audio fascia.

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


JSNIA4722ZZ

Specifications

Manufacturer name			Panasonic Corporation
Display	Screen size		4.3 inch (95 mm × 54 mm)
	Number of pixels		480 × 234 pixels
	Drive type		TFT active matrix method
Audio amplifier			40 W × 4 ch
AM/FM electric tuner	FM diversity function		With
CD drive	Used disc		ϕ 12 cm (4.7 in)
	Playable disc	CD	CD-ROM (CD-DA)
			CD-R*1
			CD-RW*1
	Playable format	Music	MP3
			WMA
			AAC
	Text display function	ID3 / WMA / AAC tag	Artist name
			Song title
USB	High communication standard		USB2.0
	Playable format		MP3
			WMA
			AAC
	iPod®Action*2		iPod nano® 1st generation
			iPod nano® 2nd generation
			iPod nano® 3rd generation
			iPod nano® 4th generation
			iPod nano® 5th generation
			iPod touch® 1st generation
			iPod touch® 2nd generation
			iPod touch® 3rd generation
			iPod Classic® 1st generation
			iPod Classic® 2nd generation
			iPod® 5th generation
			iPhone 3rd generation
			iPhone 4th generation

Auxiliary input		ϕ 3.5 mm (0.1 in) stereo mini jack
Camera controller	Guideline display function	Width/distance display

- *1: If the reflectance of the surface of the media is low, the data may not be read.
- *2: It may not be used if it is not updated to the latest firmware or partial functions may not work if it is used.

Speaker

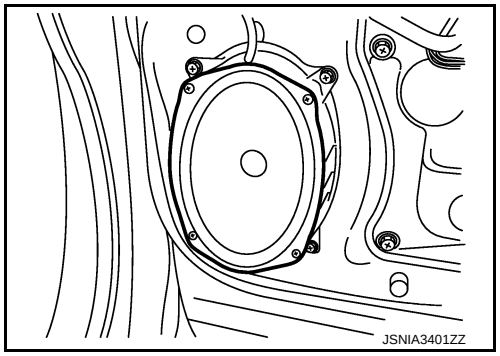
INFOID:0000000009651922

6 speakers system is adopted.

FRONT DOOR WOOFER

- ϕ 15.0 × 23.0 cm (6 × 9 in) speaker is installed to the bottom of the front door.
- Sound signal is input from the audio unit to output low range sounds.

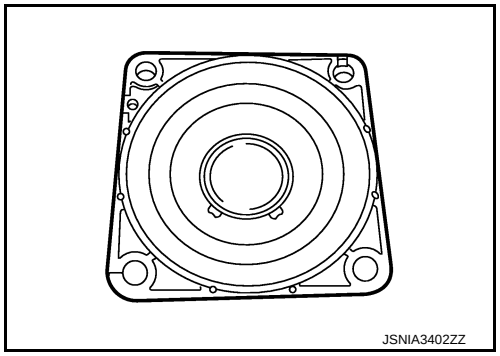
Rated input : 20 W
Maximum input : 40 W
Impedance : 2 Ω



FRONT SQUAWKER

- ϕ 6.5 cm (2 in) squawker is installed to the side of instrument panel.
- Sound signal is input from the audio unit to output high and mid range sounds.

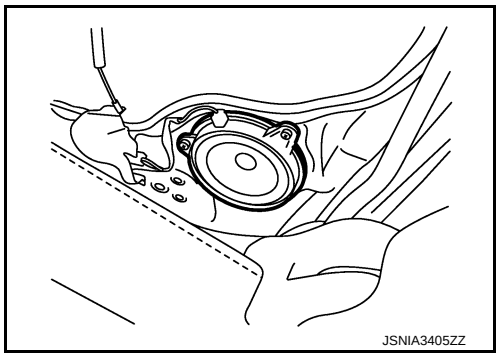
Rated input : 7 W
Maximum input : 40 W
Impedance : 4 Ω



SLIDE DOOR SPEAKER

- ϕ 16cm (6.5 in) speaker is located at the lower part of the back of the slide door.
- Sound signal is input from the audio unit to output high, mid, and low range sounds.

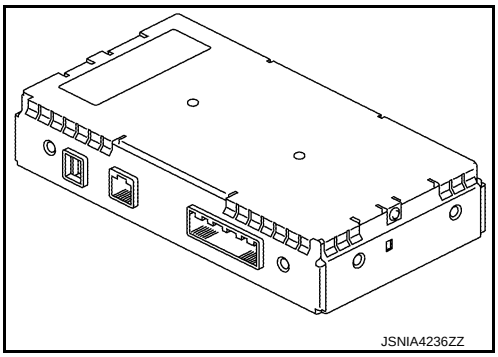
Rated input : 20 W
Maximum input : 40 W
Impedance : 2 Ω



TEL Adapter Unit

INFOID:0000000009651923

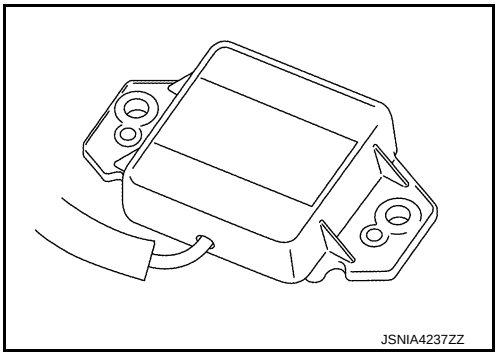
- Inputs the TEL voice signal from TEL antenna and outputs it to the audio unit
- It is connected with the audio unit via AV communication and controlled with the audio unit.


JSNIA4236ZZ

TEL Antenna

INFOID:0000000009651924

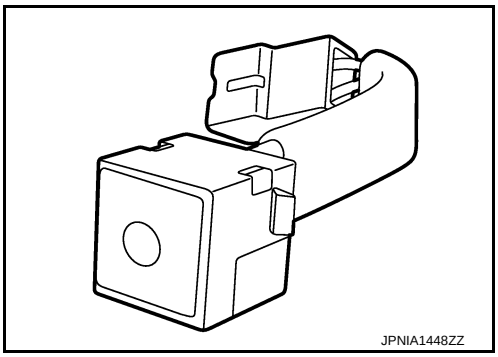
Receives the TEL voice signal from cellular phone and outputs it to the TEL adapter unit.


JSNIA4237ZZ

Microphone

INFOID:0000000009651925

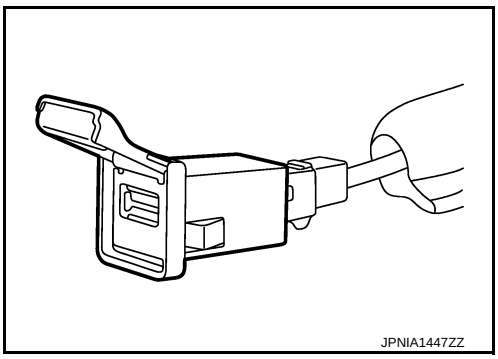
- The voice control/TEL microphone is installed on the left side of the map lamp assembly.
- The power is supplied from the TEL adapter unit to the microphone, transmitting sound signals to the TEL adapter unit at the voice control or during hands-free phone communication.


JPNIA1448ZZ

USB Connector

INFOID:0000000009651926

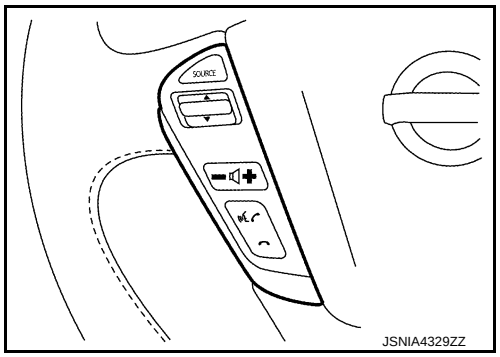
- USB connector is installed to the console box.
- iPod® and USB memory can be connected to the audio unit.


JPNIA1447ZZ

Steering Switch

INFOID:0000000009651927

- Operations for audio and hands-free phone, etc. are possible.
- This switch is connected to the TEL adapter unit, and the switch operation signal is transmitted to the TEL adapter unit via voltage multiplex communication.



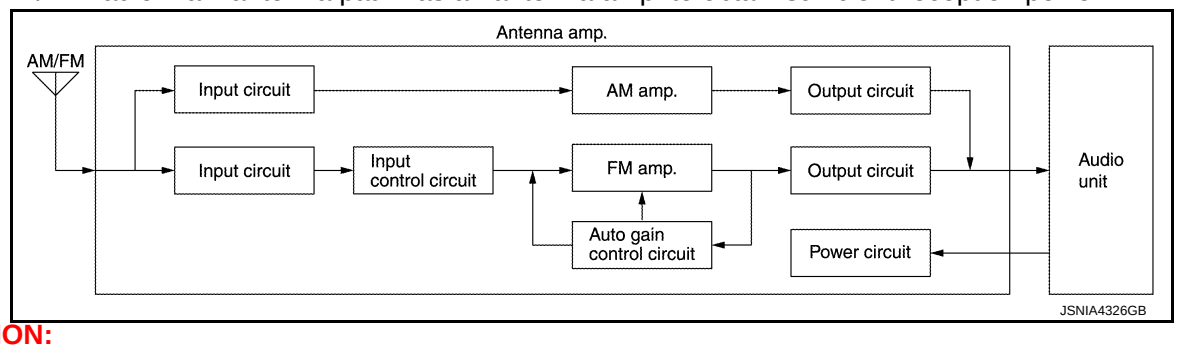
Antenna amp., Radio Antenna, and Antenna Feeder

INFOID:0000000009651928

RADIO ANTENNA

- AM/FM radio main antenna is located on the right rear side window glass and FM radio sub antenna on the left rear side window glass.

- The AM/FM radio main antenna path has an antenna amp. to obtain sufficient reception power.

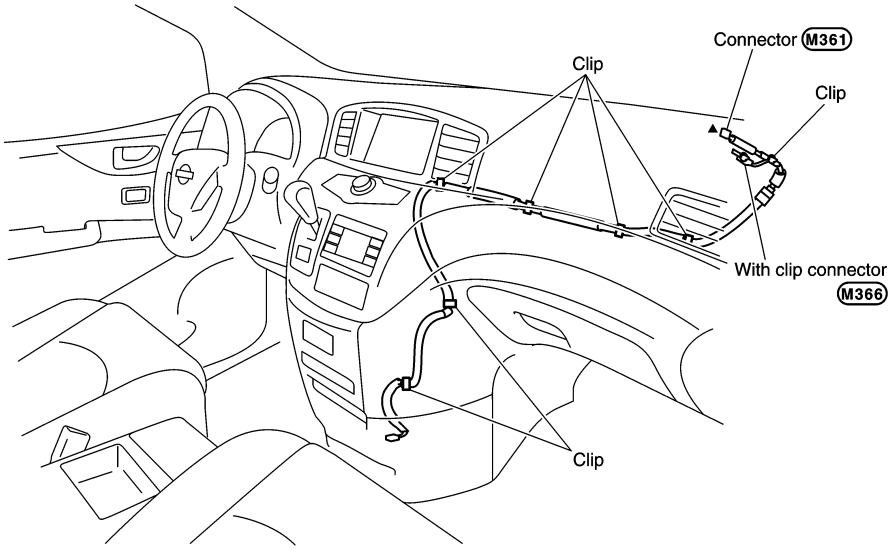


CAUTION:

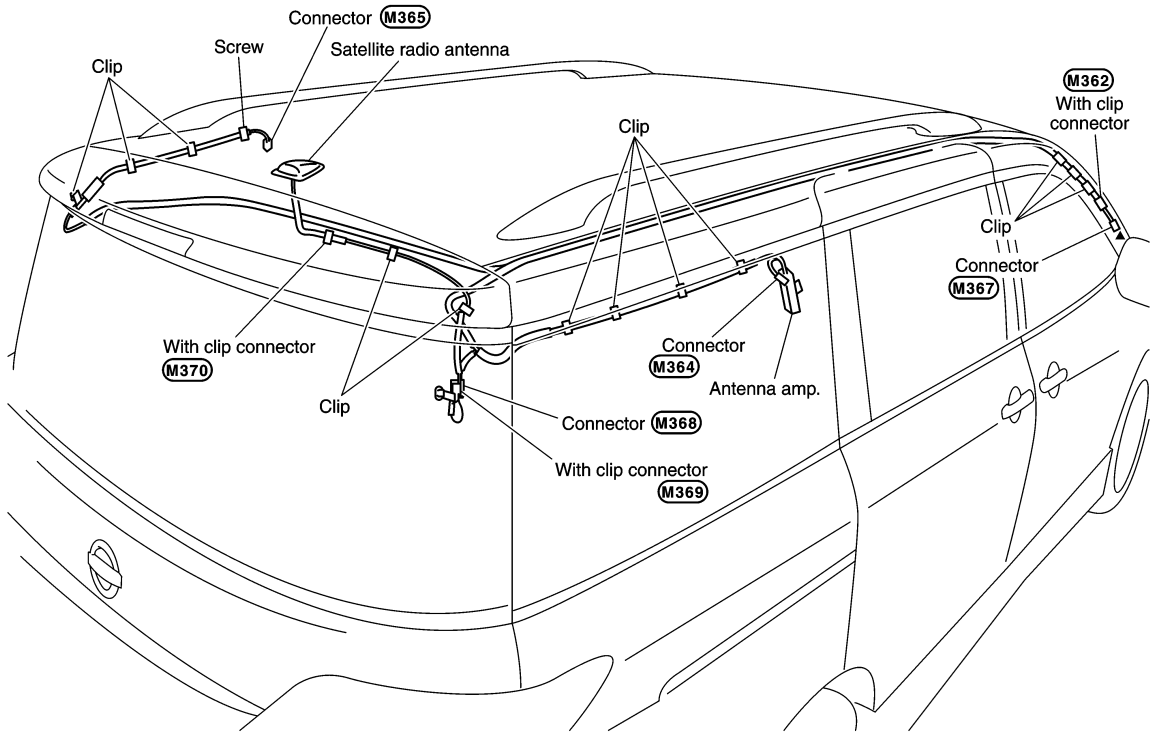
Affixing any mirror-type window films or metallic items (e.g. commercial antenna) on the rear side window glass causes a reduction in the radio receiver sensitivity.

ANTENNA FEEDER LAYOUT

SEC. 280



Instrument panel passenger side



Rear view of vehicle

JSNIA4724GB

▲: Indicates that the part is connected at points with same symbol in actual vehicle.

Satellite Radio Antenna

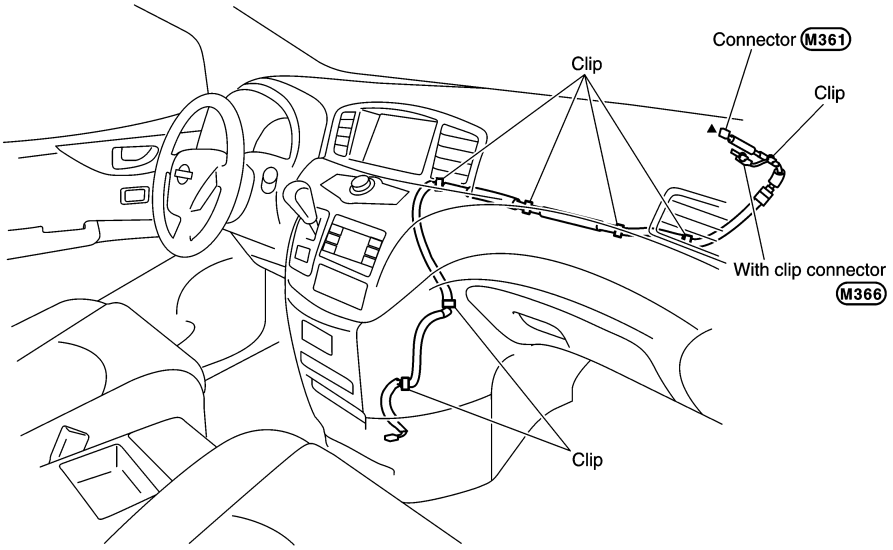
INFOID:0000000009651929

SATELLITE RADIO ANTENNA

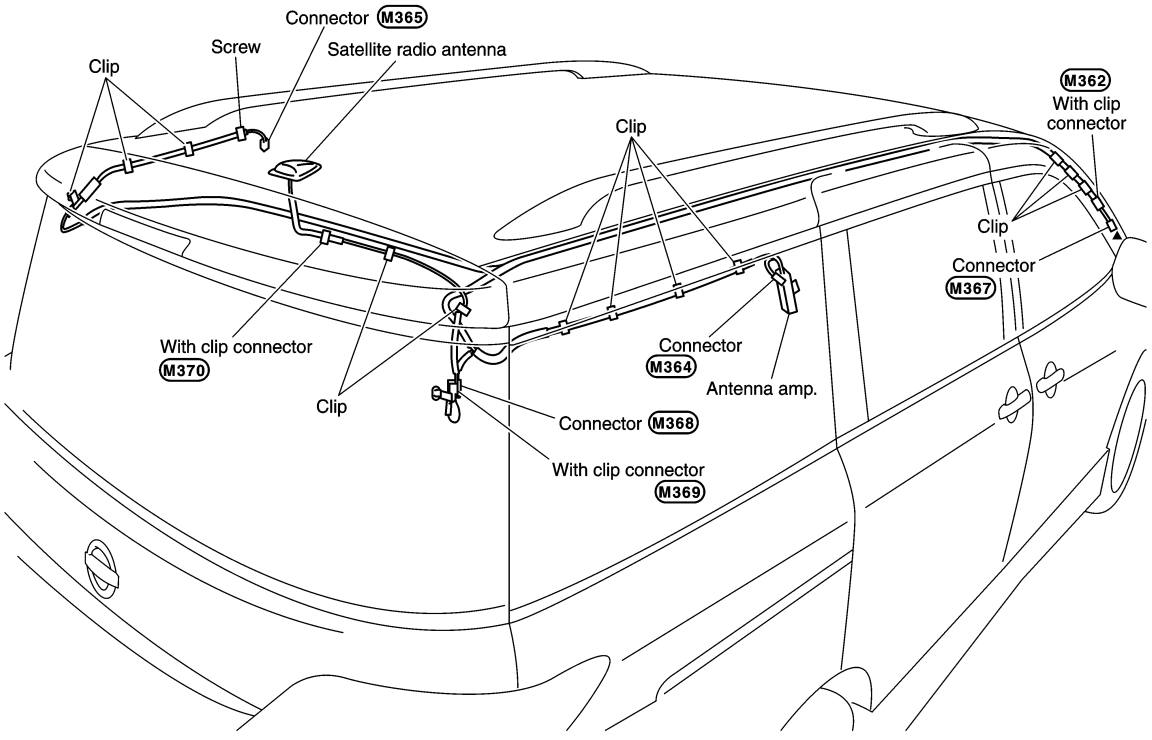
- Satellite radio antenna is installed to the rear center of the roof.
- Receives satellite radio waves and outputs it to audio unit.

ANTENNA FEEDER LAYOUT

SEC. 280



Instrument panel passenger side



Rear view of vehicle

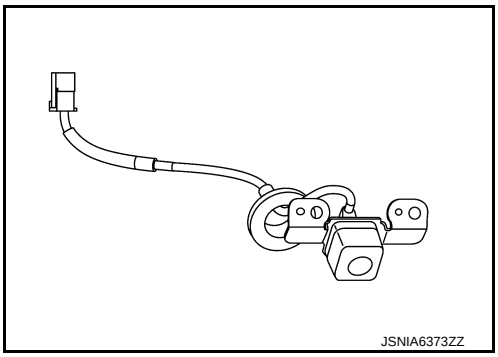
JSNIA4724GB

▲: Indicates that the part is connected at points with same symbol in actual vehicle.

Rear View Camera

INFOID:0000000009651930

- The rear view camera is installed to the back door finisher.
- Super-small CCD camera (color) using CCD* for the image pickup element is adopted.
- With the mirror processing function, a mirror image is sent as if it is viewed by a rear view mirror.
- Power for the camera is supplied from the audio unit, and the image at the rear of the vehicle is sent to the audio unit.



NOTE:

*: Abbreviation of Charge Coupled Device. CCD can turn incident light from the lens into electrons and memorize the image like a photo.

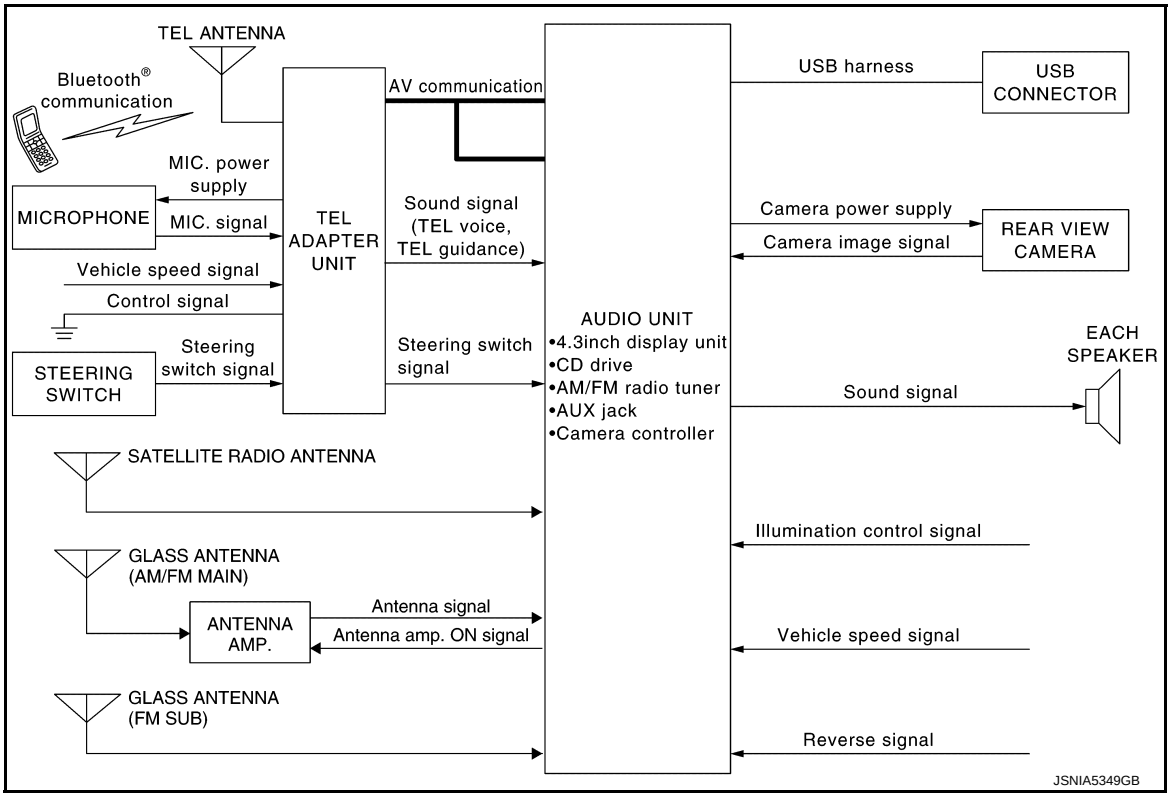
Specification

Manufacturer name	Panasonic corporation
Image pickup element	1/4-inch interline CCD color
Effective number of pixels	Approx. 250,000 pixels (510 × 492)
Minimum brightness	2 lx
Angle of view	H: 137° V: 92°
Image	With mirror processing function

SYSTEM
DISPLAY AUDIO SYSTEM
DISPLAY AUDIO SYSTEM : System Description

INFOID:0000000009651931

SYSTEM DIAGRAM



DESCRIPTION

Display audio system is equipped with the following functions (display unit is built in to audio unit).

FUNCTION NAME
Audio function
Hands-free phone function
Rear view monitor function

Operating Signal

Display audio system operation can be performed with audio switch and steering switch.

COMMUNICATION SIGNAL

- Audio unit function by transmitting/receiving data one by one with TEL adapter unit (slave unit) that configures them completely as a master unit by connecting between units that configure display audio system with two AV communication lines (H, L).
- Two AV communication lines (H, L) adopt a twisted pair line that is resistant to noise.

AUDIO FUNCTION

- The audio unit has a 4.3-inch liquid crystal color display.
- The adoption of CD drive, USB connector, and auxiliary input jack (stereo mini jack) enables the playback of various kinds of media.
- The MP3/WMA/AAC playback function enables music to play for a long time: the user need not change the CD during a long trip. The text display function is also adopted so that the title name and artist name of the ID3 tag/WMA/AAC tag can be displayed.

  NOTE:
  - MP3 stands for MPEG AUDIO LAYER3. It is the compression standard defined by “MPEG”, a joint activity organization of ISO and IEC (the international standardization groups).

- WMA stands for Windows Media® Audio. It is the sound data compression standard formulated by Micros oft Corporation.
- AAC is abbreviation of Advanced Audio Coding. It is the sound data compression method standardized in an animation compression standard (MPEG).

- The audio system is equipped with the following functions.

FUNCTION
AM/FM radio
Satellite radio
CD
Auxiliary input
USB connection
Speed sensitive volume

AM/FM Radio
- AM/FM radio tuner is built into audio unit.
- AM/FM radio wave is received by radio antenna, next it is amplified by antenna amp., and finally it is input to audio unit.
- FM radio wave is received by FM sub antenna, and it is transmitted to the audio unit directly.
- Audio unit outputs the sound signal to each speaker.

Satellite Radio
- Radio signal is received by satellite radio antenna and transmitted to audio unit.
- Audio unit outputs the sound signal to each speaker.

CD
- CD function is built into audio unit.
- Audio unit outputs sound signal to each speaker when CD is inserted to audio unit.
- For further information about CD function specifications, refer to AV-45, "Audio Unit".

Auxiliary input
- Auxiliary input jack (stereo mini jack) installed to the audio fascia.
- Audio played back by external equipment (e.g. iPod® and portable audio) is outputted from the vehicle speakers via the auxiliary input jack installed to the audio fascia.
- In auxiliary input mode, only sound volume and sound quality can be operated with the audio unit.

USB Connection
- iPod® or music files in USB memory can be played.
- iPod® sound signals are transmitted from USB connector to each speaker via audio unit.
- iPod® is recharged when connected to USB connector.
- Compliant USB memory and data recorded are limited.

USB memory	USB2.0
File system	FAT16
	FAT32

- Only files that meet the following conditions will be played.

	Music file
File format	“MP3”, “WMA”
File extension	“.mp3”, “.wma”
Maximum file size	800 MB

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

NOTE:
- The audio unit does not support the display of static images and videos.
- Use the enclosed USB harness when connecting iPod® to USB connector.

Speed Sensitive Volume

- Volume level of this system gone up and down automatically in proportion to the vehicle speed.
- The control level can be selected by the customer.

HANDS-FREE PHONE FUNCTION

- TEL adapter unit is controlled with AV communication from audio unit.
- When the cellular phone is connected to the TEL adapter unit via TEL antenna in Bluetooth® communication, hands-free phone communication can be performed.
- Simply operating the steering switch without releasing hands from the steering wheel allows the driver to make a phone call or receive a phone call.
- When a Bluetooth® communication compliant phone is registered to the TEL adapter unit, hands-free phone communication can be performed. Five units of Bluetooth® communication devices can be registered to the TEL adapter unit.
- The content of the memory (telephone book) of the cellular phone can be recorded in the TEL adapter unit.
- TEL adapter unit has the on board self-diagnosis function. Refer to AV-66, "On Board Diagnosis Function".

Bluetooth® compliant profile	HFP1.5
	Core specification 2.0 + EDR

When A Call Is Originated

- Spoken voice sound output from the microphone (microphone signal) is input to TEL adapter unit.
- TEL adapter unit outputs to cellular phone with Bluetooth® communication as a TEL voice signal.
- Voice sound is then heard at the other party.

When Receiving A Call

- Voice sound is input to own cellular phone from the other party.
- TEL voice signal is input to TEL adapter unit by establishing Bluetooth® communication from cellular phone, and the signal is output to front speaker.

REAR VIEW MONITOR FUNCTION

Operation Description

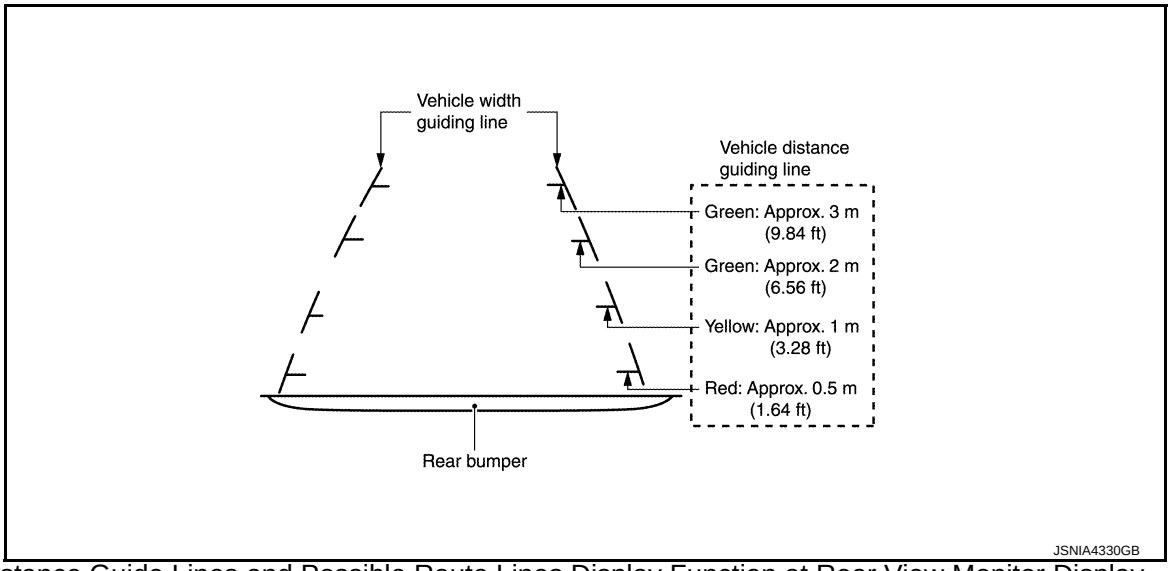
- When the selector lever is shifted to the reverse position, the rear view monitor image is displayed.
- When the selector lever is shifted to any position other than the reverse position, the original image (the image displayed before the rear view monitor image) is displayed.

Camera Image Operation Principle

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

Vehicle Width and Distance Guide Lines Display Function at Rear View Monitor Display

- The vehicle width and distance guide lines are displayed at the rear view monitor display to allow the driver to more easily judge distances between the vehicle and objects and help the driver back into a parking space.



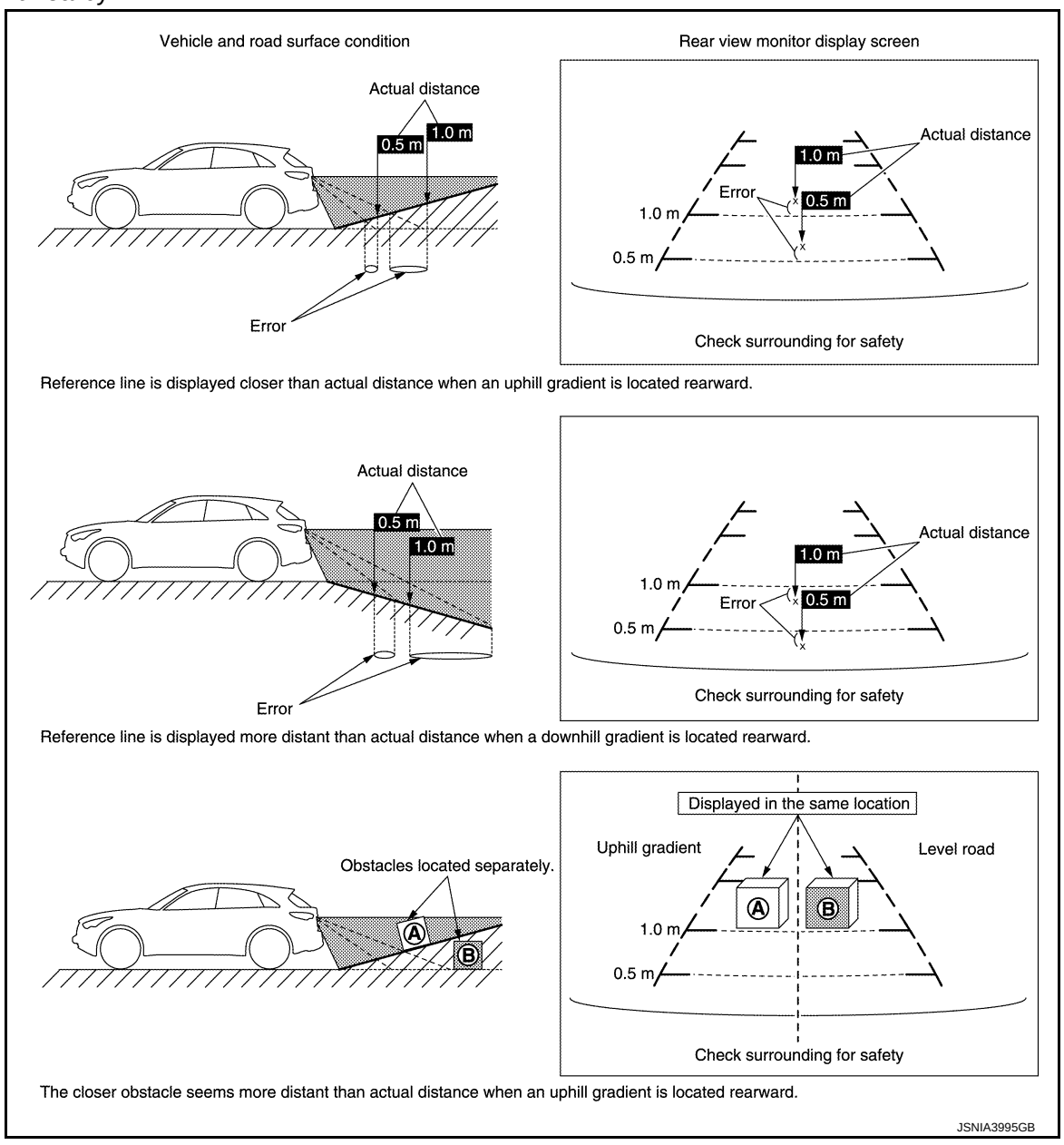
Side Distance Guide Lines and Possible Route Lines Display Function at Rear View Monitor Display

Precautions for Side Distance Guide Lines and predictive course line Display on the Rear View Monitor Display

Side distance guide lines and predictive course line on the display may be different from actual lines depending on vehicle conditions and road conditions.

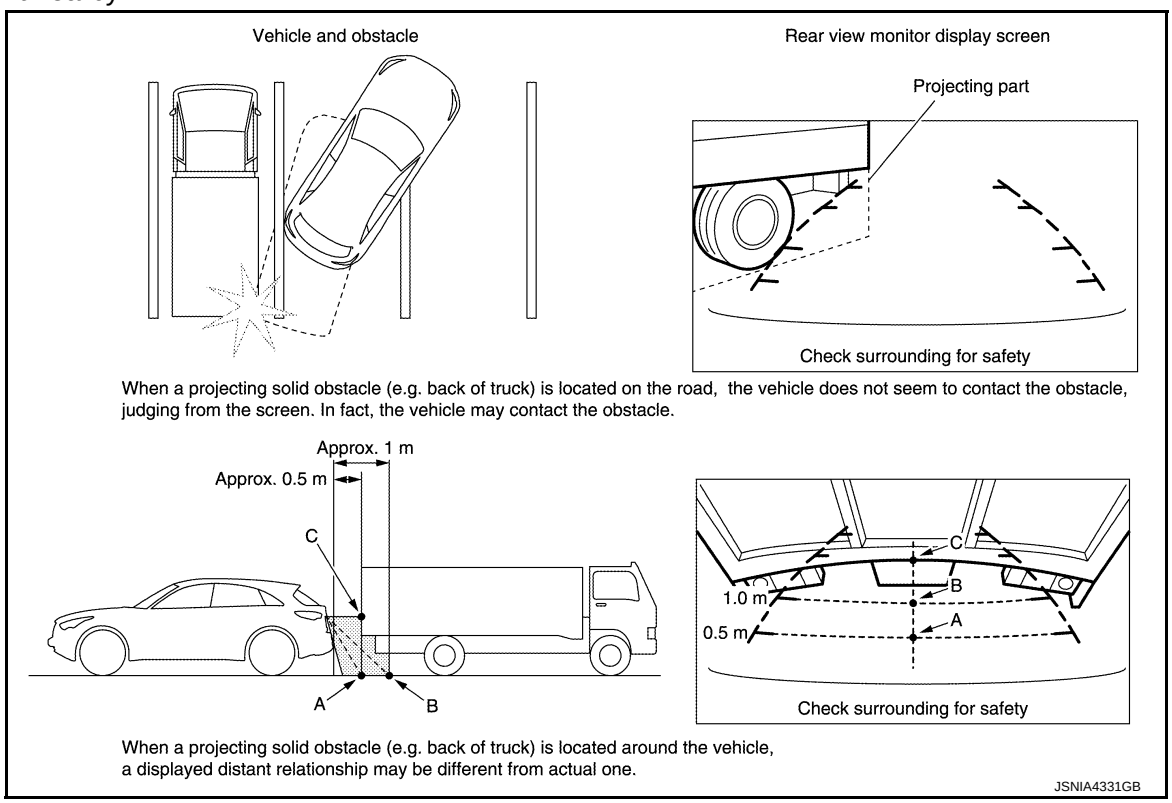
Precautions for road conditions

- Since guide lines are drawn based on the road, a different distance may be displayed if a protruding block is present nearby.



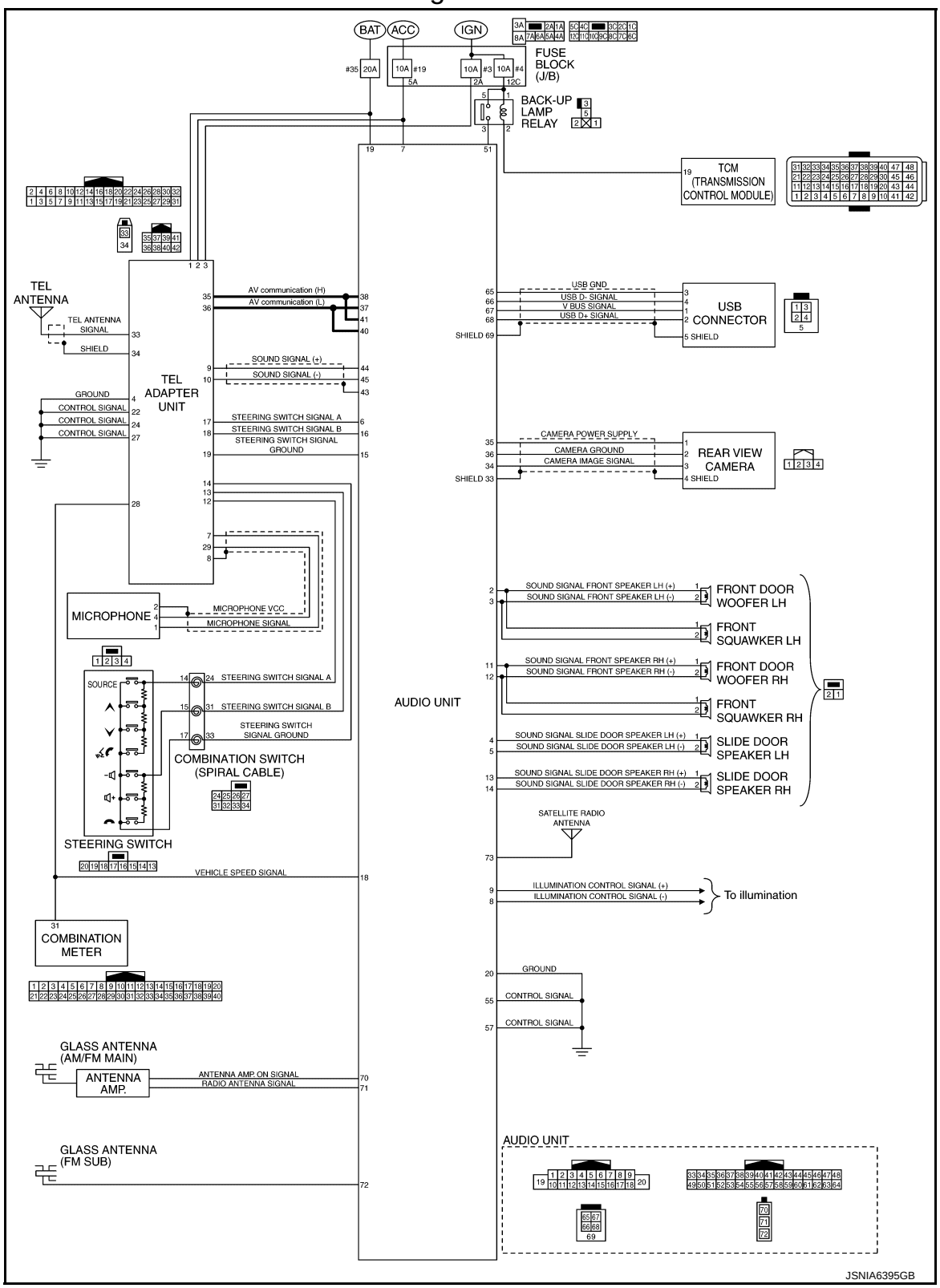
Precautions for block

- Since guide lines are drawn based on the road, a different distance may be displayed if a protruding block is present nearby.



DISPLAY AUDIO SYSTEM : Circuit Diagram

INFOID:0000000009651932



DIAGNOSIS SYSTEM (AUDIO UNIT)

Description

INFOID:0000000009651933

The audio unit diagnosis function starts up with audio switch operation and the audio unit performs a diagnosis for each unit in the system during the on board diagnosis.

On Board Diagnosis Function

INFOID:0000000009651934

ON BOARD DIAGNOSIS

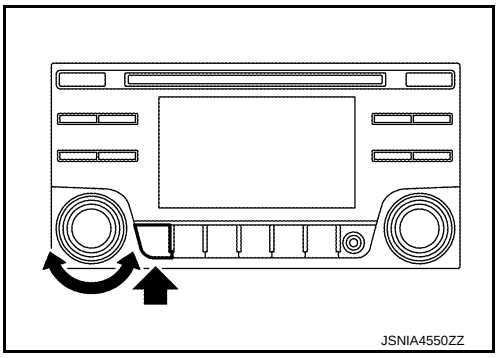
- The trouble diagnosis function has a self-diagnosis mode for conducting trouble diagnosis automatically and a confirmation/adjustment mode for operating manually.
- Self-diagnosis mode performs the audio unit diagnosis, and it indicates the results to the display.
- The confirmation/adjustment mode allows the technician to check, modify or adjust the vehicle signals and set values, as well as to monitor the system error records. The checking, modifying or adjusting generally require human intervention and judgment (the system cannot make judgment automatically).

On Board Diagnosis Item

Mode		Description
Self Diagnosis		Audio unit diagnosis.
Confirmation/ Adjustment	Display Diagnosis	The following check functions are available: color tone check by color bar display, light and shade check by gray scale display.
	Vehicle Signals	Diagnosis of signals can be performed for vehicle speed, lights, reverse and vehicle recognition.
	Speaker Test	The connection of a speaker can be confirmed by test tone.
	Error History	The system malfunction and the frequency when occurring in the past are displayed. When the malfunctioning item is selected, the time and place that the selected malfunction last occurred are displayed.
	Camera System	Guiding line position that overlaps rear view camera image can be adjusted. (without around view monitor)
	AV COMM Diagnosis	The communication condition of each unit of display audio system can be monitored.
	Delete Unit Connection Log	Not used for this vehicle.
	Initialize Setting	Initializes the audio unit memory.

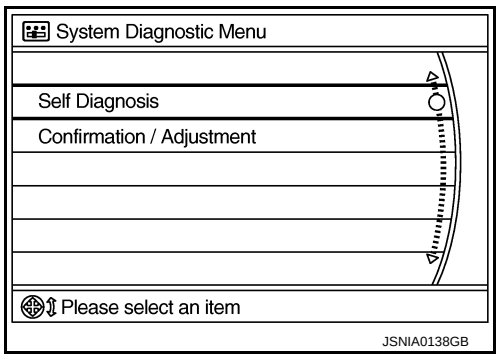
STARTING PROCEDURE

1. Start the engine.
2. Turn the audio system OFF.
3. While pressing the “1” button, turn the volume control dial clockwise or counterclockwise for 40 clicks or more. (When the self-diagnosis mode is started, a short beep will be heard.)



4. Shifting from current screen to system initial screen is performed by pressing “iPod MENU” button.

5. The trouble diagnosis initial screen is displayed, and then the items of “Self Diagnosis” and “Confirmation/Adjustment” can be selected.

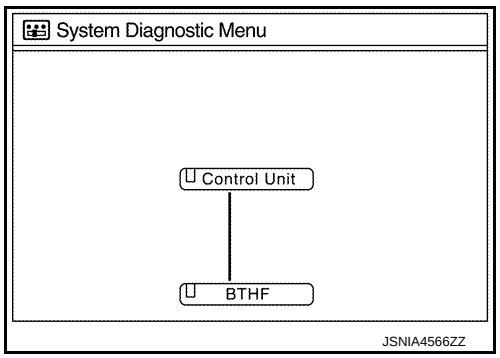


SELF-DIAGNOSIS MODE

1. Start the self-diagnosis function and select “Self Diagnosis”.

- Self-diagnosis subdivision screen is displayed, and the self-diagnosis mode starts.
- The bar graph visible on the center of the self-diagnosis subdivision screen indicates progress of the trouble diagnosis.

2. Diagnosis results are displayed after the self-diagnosis is completed. The unit names and the connection lines are color-coded according to the diagnostic results.

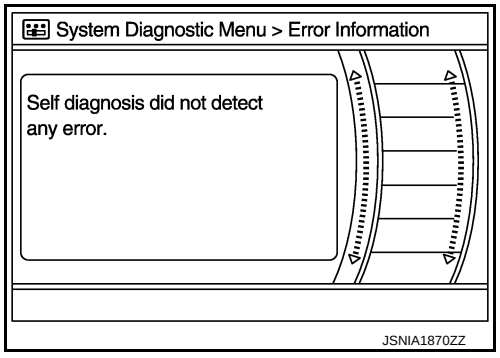


Diagnosis results	Unit	Connection line
Normal	Green	Green
Connection malfunction	Gray	Yellow
Unit malfunction Note	Red	Green

NOTE:
Control unit (audio unit) and is displayed in red.

- Replace audio unit if “Self-Diagnosis did not run because of a control unit malfunction” is indicated. The symptom is audio unit internal error. Refer to AV-112, "Removal and Installation".
- If multiple errors occur at the same time for a single unit, the screen switch colors are determined according to the following order of priority: red > gray.

- The comments of the self-diagnosis results can be viewed with a component in the diagnosis result screen.



Detection Range of Self-diagnosis Mode

- The self-diagnosis mode allows the technician to diagnose the connection in the communication line between audio unit and each unit and the internal operation of the audio unit.
- If there is malfunction to the switch of the audio unit because the start condition of the diagnosis function is switch operation, the on board diagnosis function cannot be started.

SELF-DIAGNOSIS RESULTS

Check the applicable display at the following table, and then repair the malfunctioning parts.

Only Unit Part Is Displayed In Red.

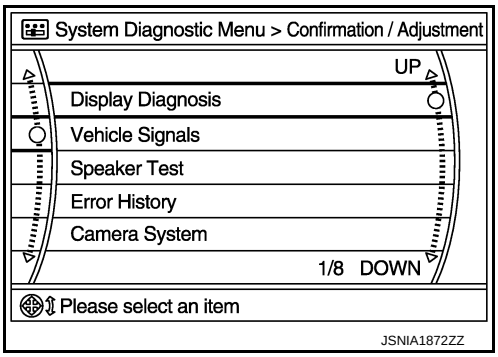
Screen switch	Description	Possible malfunction location / Action to take
Control unit	Malfunction is detected in audio unit power supply and ground circuits.	Check audio unit power supply and ground circuits. When detecting no malfunction in those components, replace audio unit. Refer to AV-112, "Removal and Installation".

A Connecting Cable Between Units Is Displayed In Yellow.

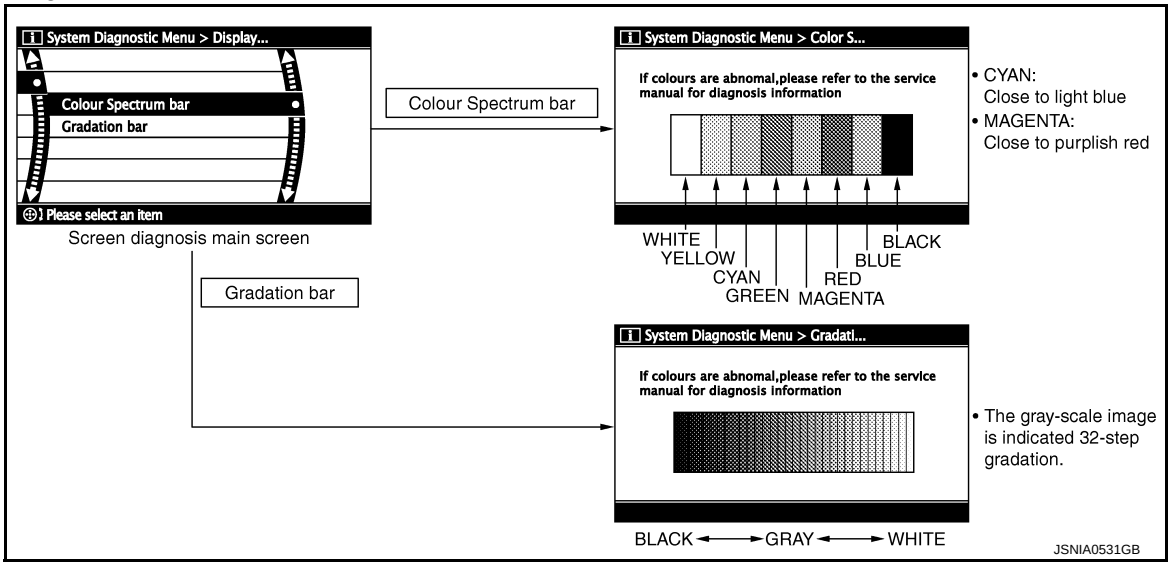
Area with yellow connection lines	Description	Possible malfunction location / Action to take
Control unit ⇔ BTHF	When either one of the following items is detected: • TEL adapter unit power supply and ground circuits are malfunctioning. • AV communication circuits between audio unit and TEL adapter unit are malfunctioning.	• TEL adapter unit power supply and ground circuits. • AV communication circuits between audio unit and TEL adapter unit.

CONFIRMATION/ADJUSTMENT MODE

1. Start the diagnosis function and select “Confirmation/Adjustment”. The confirmation/adjustment mode indicates where each item can be checked or adjusted.
2. Select each switch on the “Confirmation/Adjustment Mode” screen to display the relevant trouble diagnosis screen. Press the “iPod MENU” switch to return to the initial Confirmation/ Adjustment mode screen.

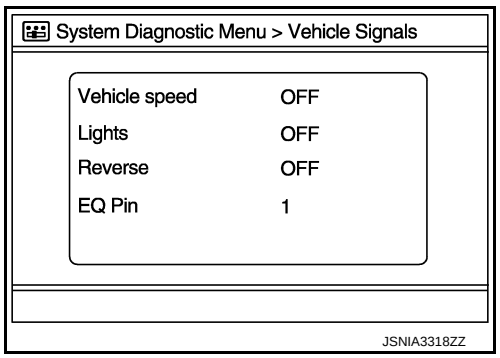


Display Diagnosis



Vehicle Signals

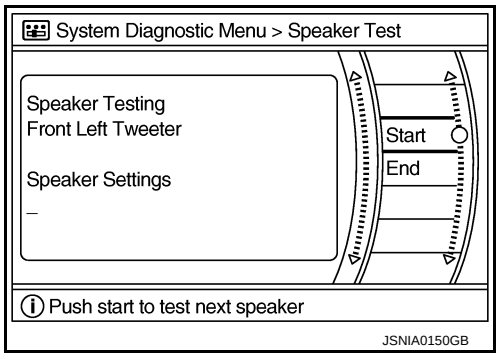
A comparison check can be made of each actual vehicle signal and the signals recognized by the system.



Diagnosis item	Display	Vehicle status	Remarks
Vehicle speed	ON	Vehicle speed > 0 km/h (0 MPH)	Changes in indication may be delayed. This is normal.
	OFF	Vehicle speed = 0 km/h (0 MPH)	
Lights	ON	Lighting switch is ON	—
	OFF	Lighting switch is OFF	
Reverse	ON	Shift position is in “R”	Changes in indication may be delayed. This is normal.
	OFF	Shift position is in other than “R”	
EQ Pin	2	Status of EQ profile selection signal	”2” is displayed for this vehicle.

Speaker Test

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



Error History

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

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

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

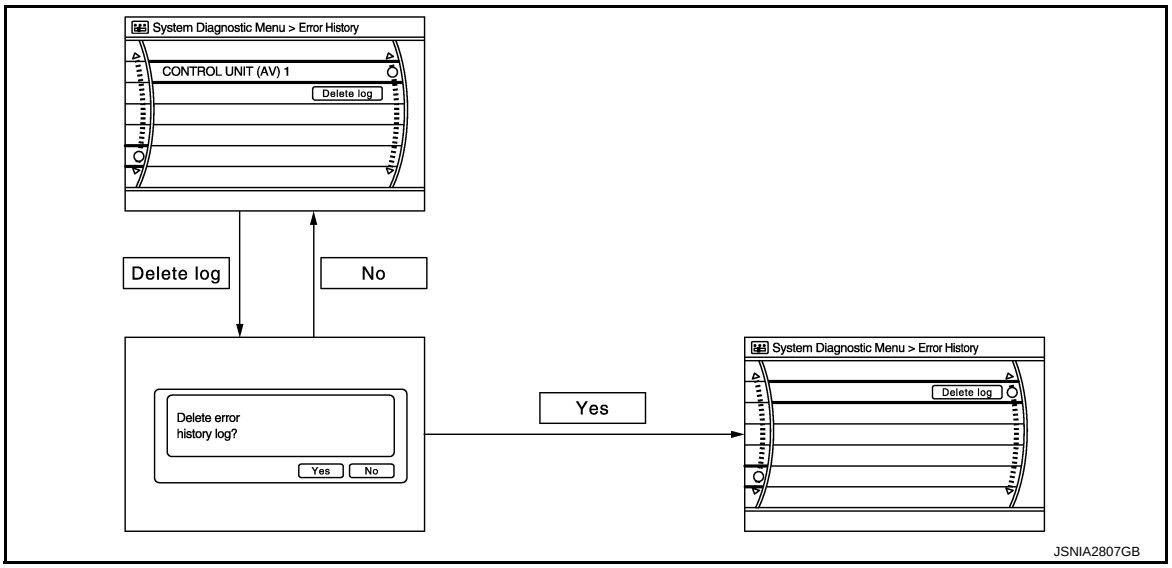
Count up method A

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

Count up method B

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

Display type of occurrence frequency	Error history display item
Count up method A	AV communication line, CONTROL UNIT (AV)
Count up method B	CAN Controller Memory Error



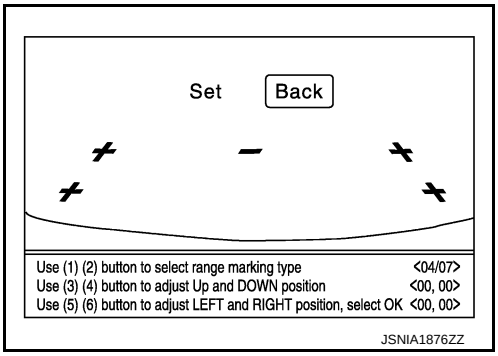
Error item

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

Error item	Description	Possible malfunction factor/Action to take
CONTROL UNIT (AV)	AV communication circuit initial diagnosis malfunction is detected.	Replace the audio unit. Refer to AV-112, "Removal and Installation".
CAN Controller Memory Error	Audio unit malfunction is detected.	
• AV COMM CIRCUIT • H/F Unit Connection Error	When either one of the following items is detected: • TEL adapter unit power supply and ground circuits are malfunctioning. • AV communication circuits between audio unit and TEL adapter unit are malfunctioning.	• TEL adapter unit power supply and ground circuits. • AV communication circuits between audio unit and TEL adapter unit.

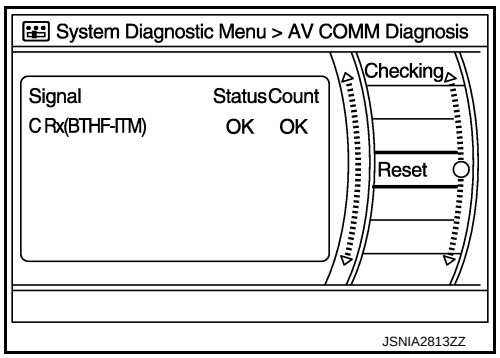
Camera System

Use this mode to adjust the guide line display position of the rear view monitor if necessary after removing the rear view camera.



AV COMM Diagnosis

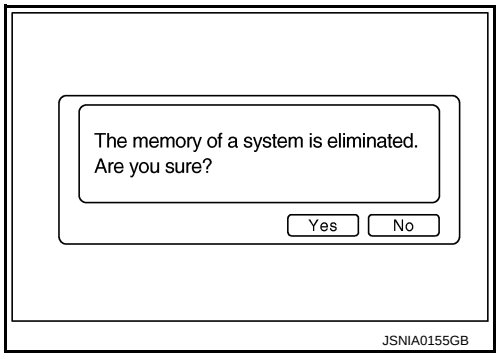
- Displays the communication status between audio unit (master unit) and each unit.
- The error counter displays “OK” if any malfunction was not detected in the past and displays “0” if a malfunction is detected. It increases by 1 if the condition is normal at the next ignition switch ON cycle. The upper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



Items	Status (Current)	Counter (Past)
C Rx(BTHF-ITM)	OK / ???	OK / 0 – 39

NOTE:
“???” indicates UNKWN.

Initialize Settings
Deletes data stored from the audio unit.



DIAGNOSIS SYSTEM (TEL ADAPTER UNIT)

Description

INFOID:0000000009651935

During on board diagnosis the diagnosis function of TEL adapter unit starts with the operation of the steering switch and performs the diagnosis when ignition switch ACC.

On Board Diagnosis Function

INFOID:0000000009651936

HANDS-FREE PHONE SYSTEM ON BOARD DIAGNOSIS

During on board diagnosis the diagnosis function of TEL adapter unit starts with the operation of the steering switch and performs the diagnosis when ignition switch ACC.

ON BOARD DIAGNOSIS ITEM

The on board diagnosis has 3 modes: the self-diagnosis mode that performs the trouble diagnosis, the speaker adaptation data deleting mode and the hands-free phone system initialization mode.

CAUTION:

- **Perform the diagnosis with the vehicle stopped.**
- **Perform STEP2 if necessary.**

STEP	MODE	Description
STEP1	Self-diagnosis	The self-diagnosis mode performs the microphone test and the diagnosis of TEL adapter unit, TEL antenna and steering unit, and then reads out the results with the sound and indicates them on the display.
STEP2	Speaker adaptation data deleting	The speaker adaptation data deleting mode can delete the speaker adaptation data.
	Hands-free phone system initialization	Hands-free phone system initialization mode can perform the initialization of hands-free phone system.

Self-diagnosis results

Self-diagnosis mode reads out the self-diagnosis results.

NOTE:

- Error count is read out simultaneously when reading out the DTC name.
- The errors are read out continuously when some errors occur at the same time.

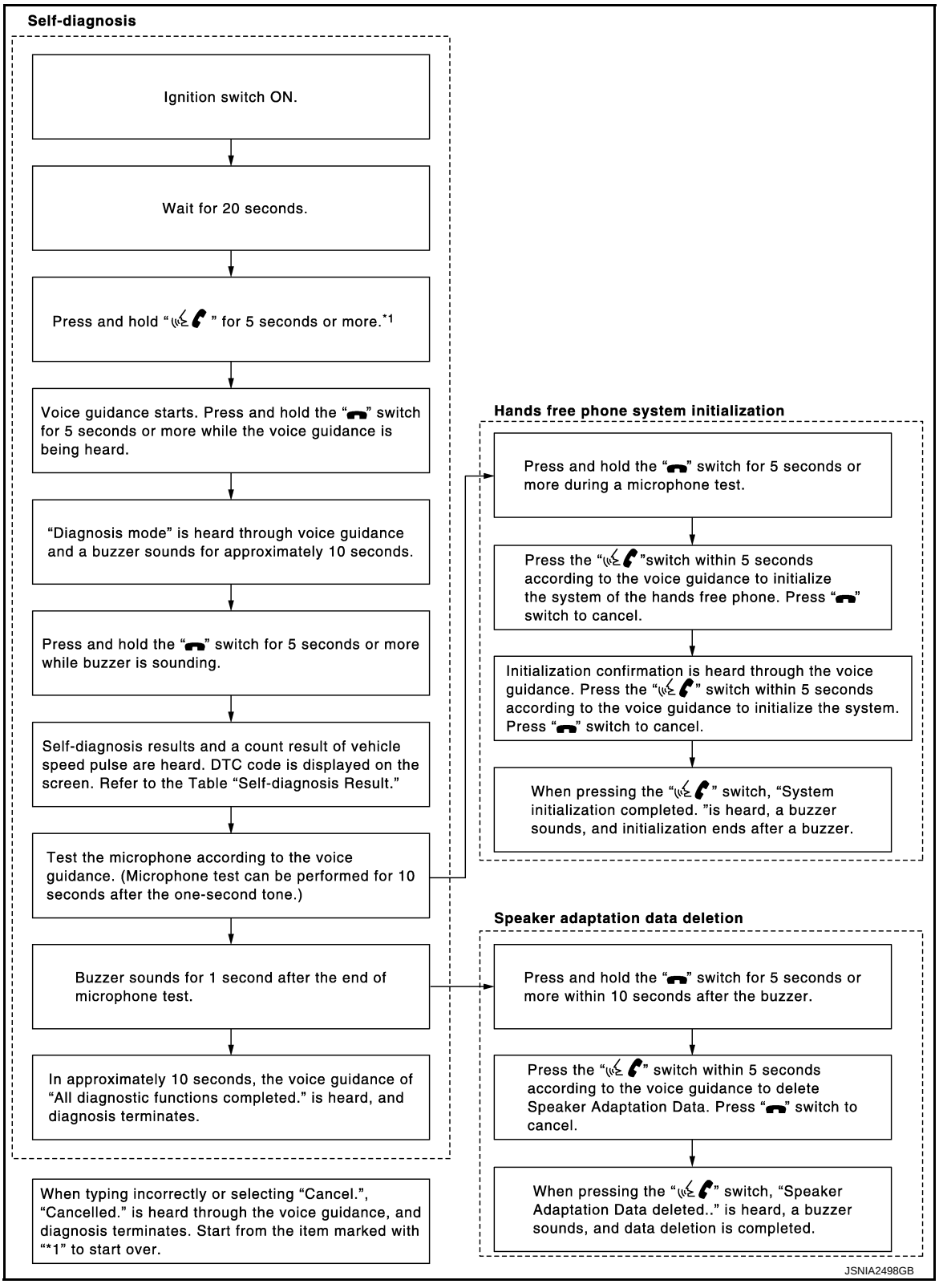
Self-diagnosis results

DTC	DTC name	Possible causes
DTC 10000	INTERNAL FAILURE	TEL adapter unit
DTC 01000	ANT. SHORT TO BATT OR OPEN	TEL antenna
DTC 00100	ANT. SHORT TO GROUND	
DTC 00010	STEERING REMOTE BUTTON STUCK A	Steering switch
DTC 00001	STEERING REMOTE BUTTON STUCK B	
DTC 00000	THERE ARE NO FAILURE RECORDS TO REPORT	—

The Details of Error Count

The error count guides “0” when the error occurs. The next time it counts up “1” if it is normal with the ignition switch ON. It continues the count up unless the initialization of hands-free phone system is performed.

FLOW CHART OF TROUBLE DIAGNOSIS



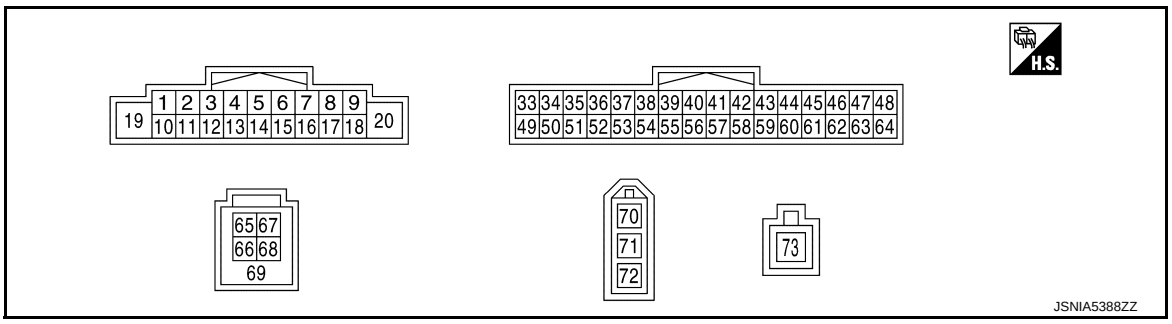
ECU DIAGNOSIS INFORMATION

AUDIO UNIT

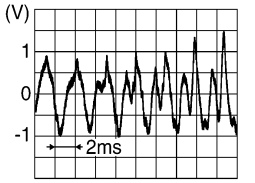
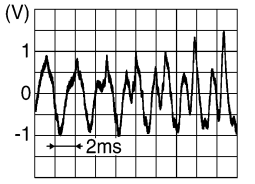
Reference Value

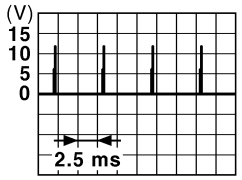
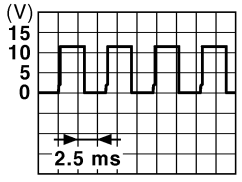
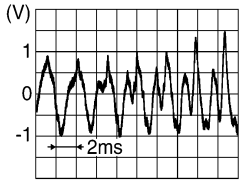
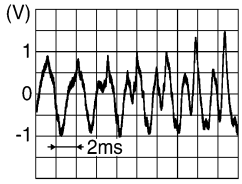
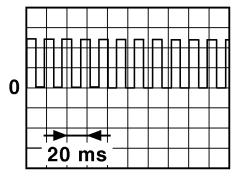
INFOID:0000000009651937

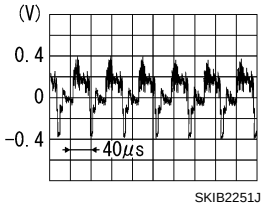
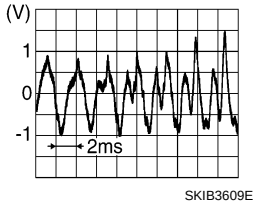
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
2 (R)	3 (G)	Sound signal front speaker LH	Output	Ignition switch ON	Sound output.	Outputs waveform synchronized with sound.	 SKIB3609E
4 (V)	5 (LG)	Sound signal slide door speaker LH	Output	Ignition switch ON	Sound output.	Outputs waveform synchronized with sound.	 SKIB3609E
6 (R)	15 (Y)	Steering switch signal A	Input	Ignition switch ON	Keep pressing SOURCE switch.	0 - 3.3 V	0 V
					Keep pressing SEEK UP switch.		0.7 V
					Keep pressing SEEK DOWN switch.		1.3 V
					Except for above.		3.3 V
7 (V)	20 (B)	ACC power supply	Input	Ignition switch ACC	—	9.0 - 16.0 V	Battery voltage

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
9 (R/W)	8 (B/W)	Illumination control signal	Input	Ignition switch ON	• Lighting switch 1ST • When meter illumination is maximum	Waveform of 0 - 15.6 V is input according to meter illumination step.	 JPNIA1687GB
					• Lighting switch 1ST • When meter illumination is step 11		 JPNIA1686GB
					• Lighting switch 1ST • When meter illumination is minimum		0 V
11 (W)	12 (B)	Sound signal front speaker RH	Output	Ignition switch ON	Sound output.	Outputs waveform synchronized with sound.	 SKIB3609E
13 (P)	14 (L)	Sound signal slide door speaker RH	Output	Ignition switch ON	Sound output.	Outputs waveform synchronized with sound.	 SKIB3609E
16 (SB)	15 (Y)	Steering switch signal B	Input	Ignition switch ON	Keep pressing VOL DOWN switch.	0 - 3.3 V	0 V
					Keep pressing VOL UP switch.		0.7 V
					Except for above.		3.3 V
18 (SB)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	Waveform according to vehicle speed is input.	**NOTE:** The maximum voltage varies depending on the specification (destination unit).  JSNIA0012GB
19 (Y)	20 (B)	Battery power supply	Input	Ignition switch OFF	—	9.0 - 16.0 V	Battery voltage

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
33	—	Shield	—	—	—	—	—
34 (B)	36 (W)	Camera image signal	Input	Ignition switch ON	At camera image is displayed.	Waveform according to camera image is input.	 SKIB2251J
35 (R)	36 (W)	Camera power supply	Output	Ignition switch ON	At camera image is displayed.	5.9 - 6.5 V	6.2 V
37 (LG)	—	AV communication signal (L)	Input/ Output	—	—	—	—
38 (SB)	—	AV communication signal (H)	Input/ Output	—	—	—	—
40 (LG)	—	AV communication signal (L)	Input/ Output	—	—	—	—
41 (SB)	—	AV communication signal (H)	Input/ Output	—	—	—	—
43	—	Shield	—	—	—	—	—
44 (B)	45 (W)	Sound signal (TEL voice, voice guidance)	Input	Ignition switch ON	During voice guide output with the switch pressed.	Waveform according to sound is input.	 SKIB3609E
51 (V)	20 (B)	Reverse signal	Input	Ignition switch ON	Shift position is in R.	7.0 - 16.0 V	12.0 V
					Shift position is in other than R.	—	0 V
55 (B)	—	Control signal	Input	Ignition switch ON	—	—	0 V
57 (B)	—	Control signal	Input	Ignition switch ON	—	—	0 V
65 (G)	—	USB ground	—	—	—	—	—
66 (W)	—	USB D– signal	—	—	—	—	—
67 (R)	—	V BUS signal	—	—	—	4.75 - 5.25 V	—
68 (B)	—	USB D+ signal	—	—	—	—	—
69	—	Shield	—	—	—	—	—
70	Ground	Antenna amp. ON signal	Output	Ignition switch ACC	—	7.0 - 16.0 V	12.0 V
71	—	AM-FM main	Input	—	—	—	—

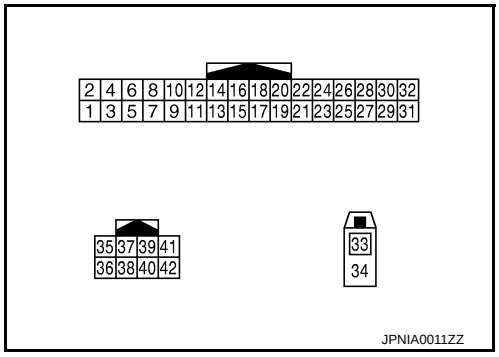
Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
72	—	FM sub	Input	—	—	—	—
73	—	Satellite radio antenna signal	Input	—	—	—	—

TEL ADAPTER UNIT

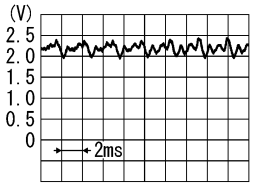
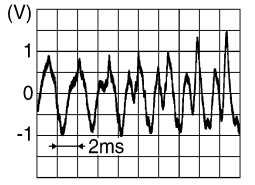
Reference Value

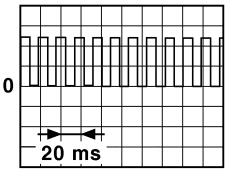
INFOID:0000000009651938

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
1 (Y)	4 (B/ W)	Battery power supply	Input	Ignition switch OFF	—	9.0 - 16.0 V	Battery voltage
2 (V)	4 (B/ W)	ACC power supply	Input	Ignition switch ACC	—	7.0 - 16.0 V	Battery voltage
3 (G)	4 (B/ W)	Ignition signal	Input	Ignition switch ON	—	7.0 - 16.0 V	Battery voltage
7 (W/ L)	8	Microphone signal	Input	Ignition switch ON	Give a voice.	Outputs waveform synchronized with voice is input.	 PKIB5037J
9 (B)	10 (W)	Sound signal (TEL voice, voice guidance)	Output	Ignition switch ON	During voice guide output with the switch pressed.	Outputs waveform synchronized with sound.	 SKIB3609E
12 (G)	14 (GR)	Steering switch signal A	Input	Ignition switch ON	Keep pressing SOURCE switch.	0 - 5.25 V	0 V
					Keep pressing SEEK UP switch.		1.3 V
					Keep pressing SEEK DOWN switch.		2.5 V
					Keep pressing switch.		3.4 V
					Except for above.		5.0 V

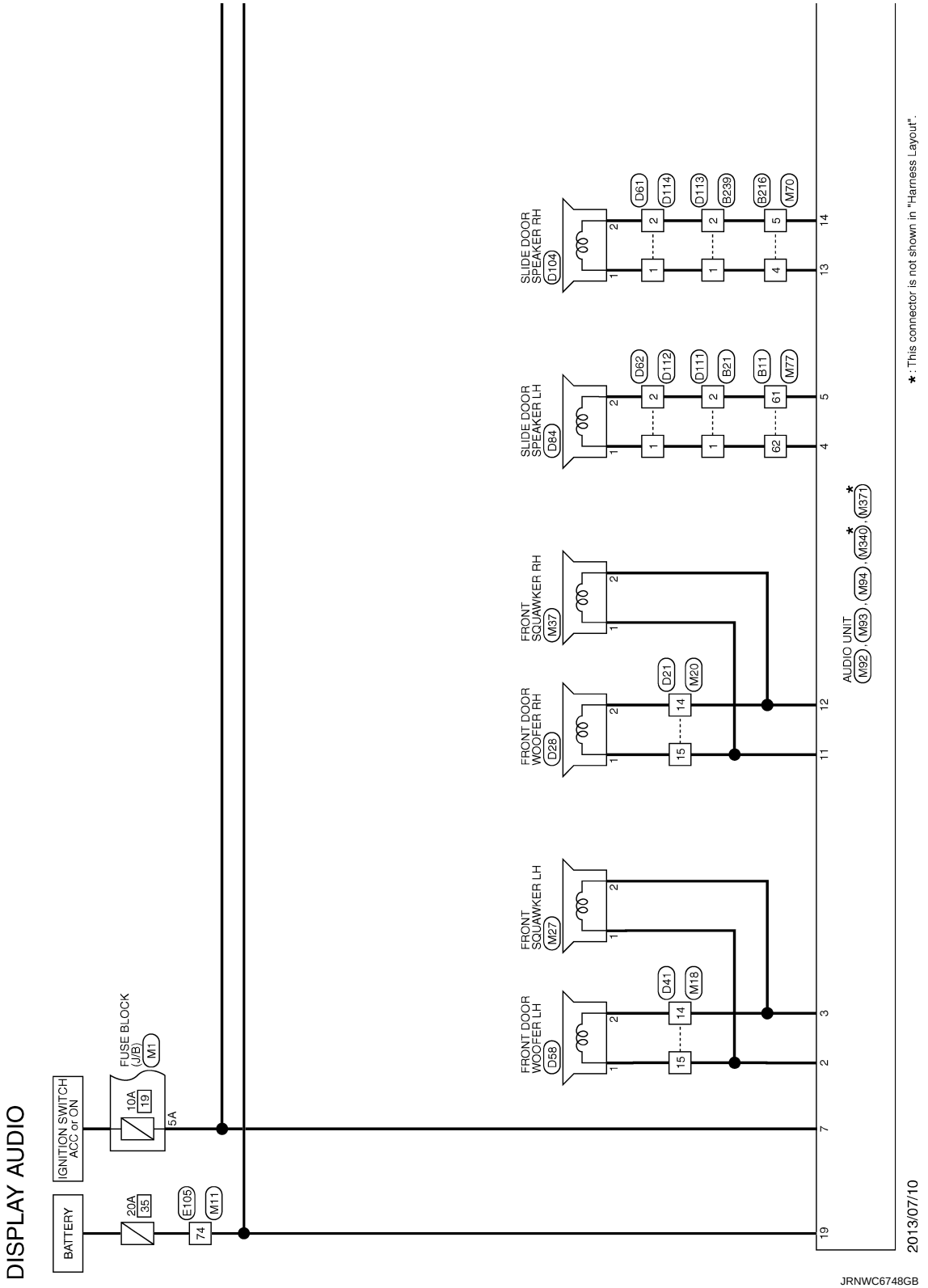
Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
13 (V)	14 (GR)	Steering switch signal B	Input	Ignition switch ON	Keep pressing VOL DOWN switch.	0 - 5.25 V	0 V
					Keep pressing VOL UP switch.		1.3 V
					Keep pressing switch.		2.5 V
					Except for above.		5.0 V
17 (R)	19 (Y)	Steering switch signal A	Output	Ignition switch ON	Keep pressing SOURCE switch.	0 - 3.3 V	0 V
					Keep pressing SEEK UP switch.		0.9 V
					Keep pressing SEEK DOWN switch.		1.6 V
					Except for above.		3.3 V
18 (SB)	19 (Y)	Steering switch signal B	Output	Ignition switch ON	Keep pressing VOL DOWN switch.	0 - 3.3 V	0 V
					Keep pressing VOL UP switch.		0.9 V
					Except for above.		3.3 V
22 (B/ W)	4 (B/ W)	Control signal	—	Ignition switch ON	—	3.1 V or less	0 V
24 (B/ W)	4 (B/ W)	Control signal	—	Ignition switch ON	—	3.1 V or less	0 V
27 (B/ W)	4 (B/ W)	Control signal	—	Ignition switch ON	—	3.1 V or less	0 V
28 (SB)	4 (B/ W)	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	Waveform according to vehicle speed is input.	**NOTE:** The maximum voltage varies depending on the specification (destination unit).  JSNIA0012GB
29 (W/ R)	8	Microphone VCC	Output	Ignition switch ON	—	4.7 - 5.3 V	5.0 V
35 (SB)	—	AV communication signal (H)	Input/ Output	—	—	—	—
36 (LG)	—	AV communication signal (L)	Input/ Output	—	—	—	—
33	4 (B/ W)	TEL antenna signal	Input/ Output	Ignition switch ON	Not connected to TEL antenna connector.	—	5.0 V
34	—	Shield	—	—	—	—	—

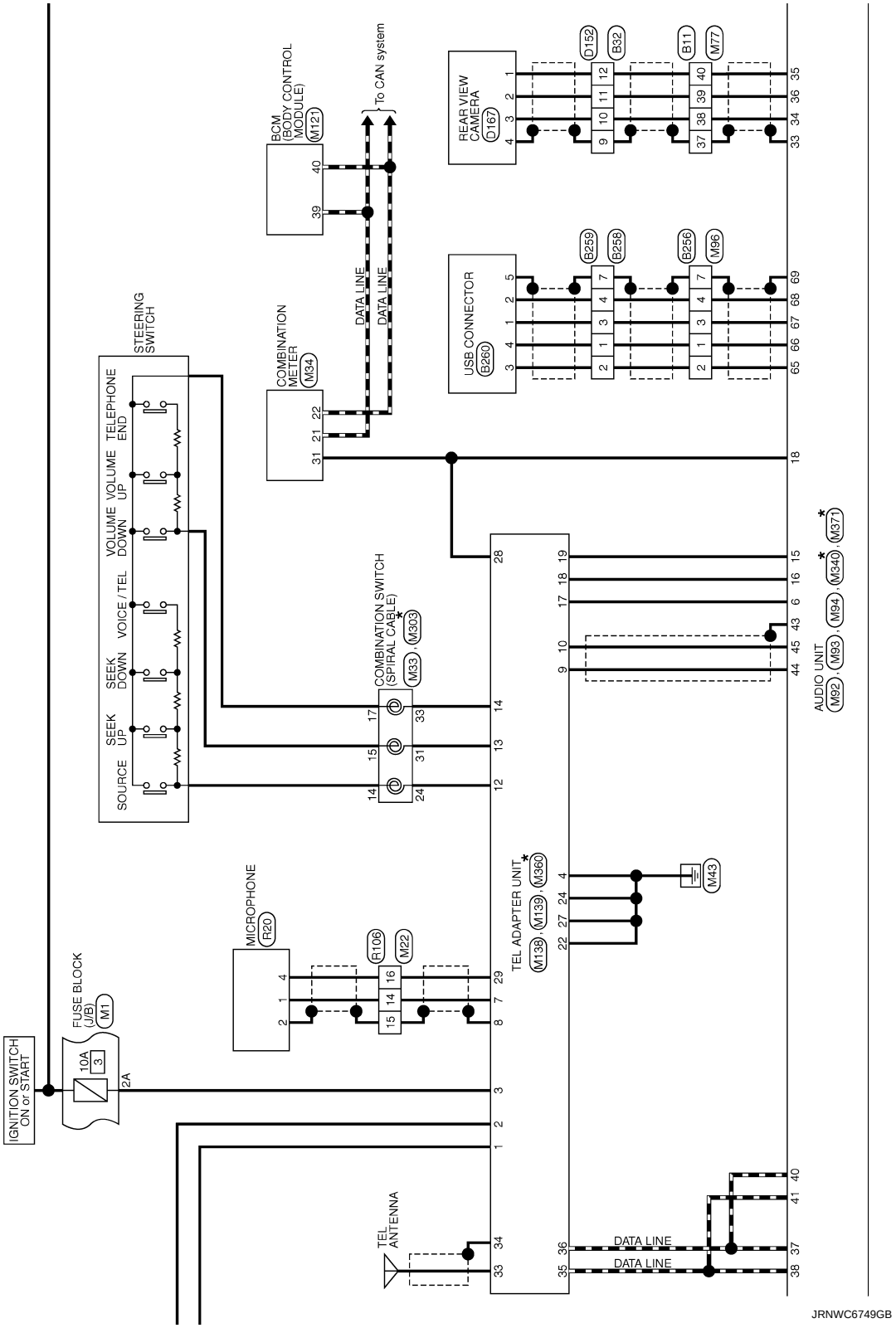
WIRING DIAGRAM

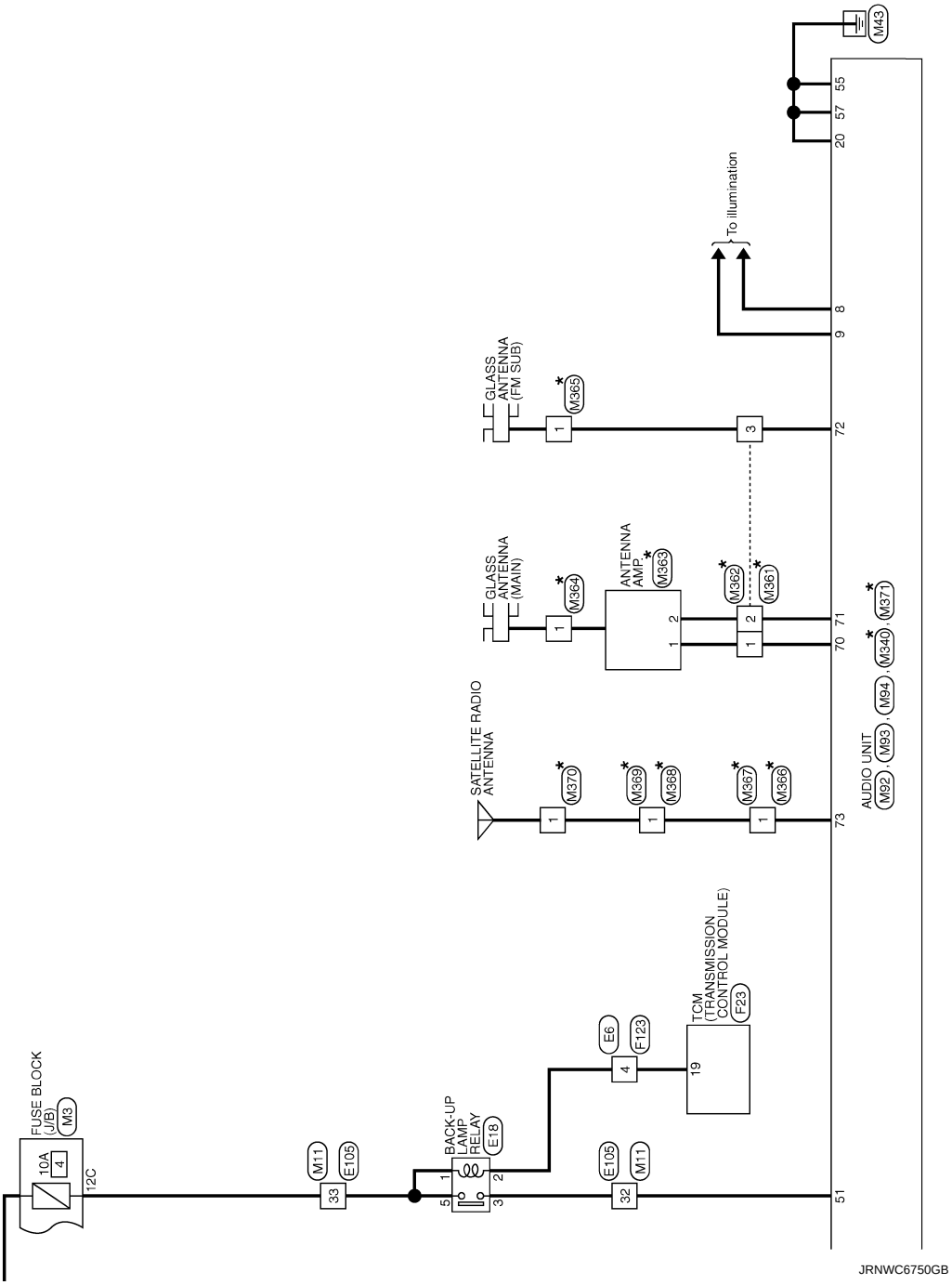
DISPLAY AUDIO

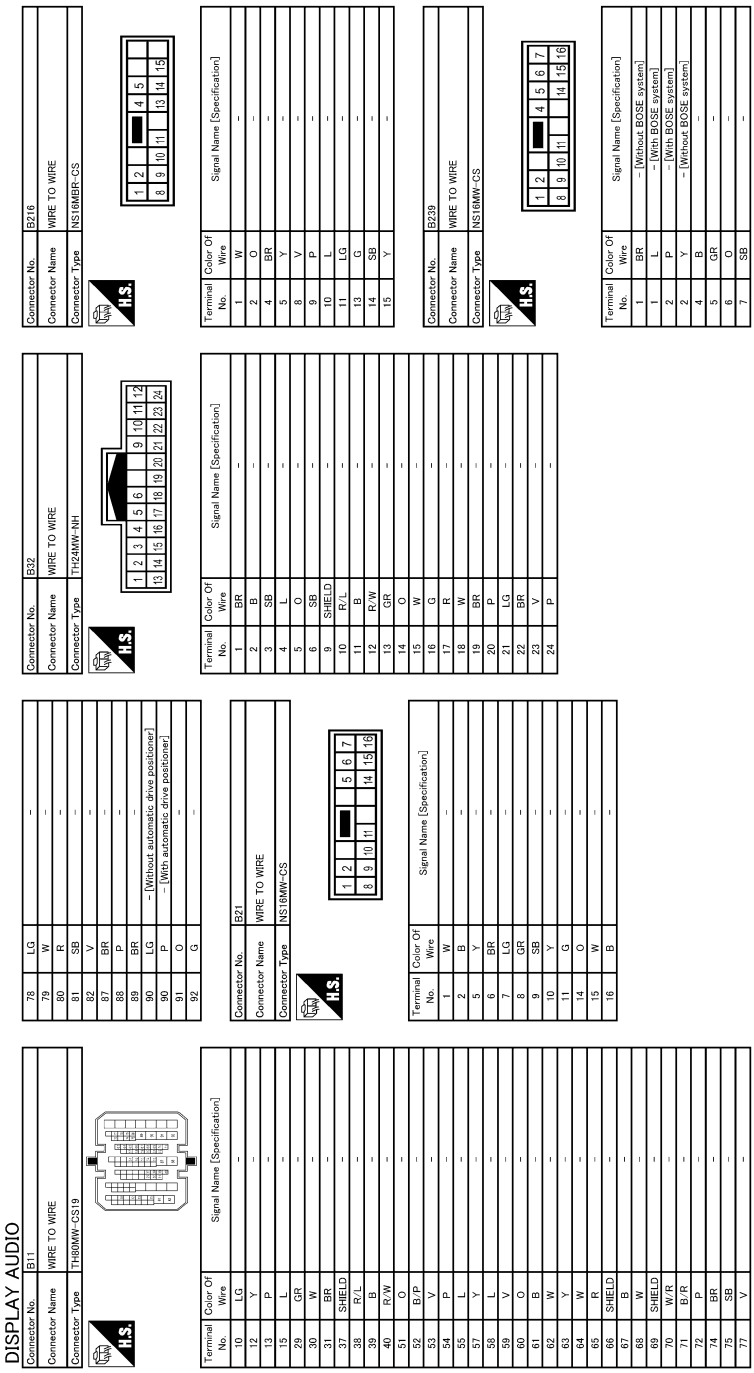
Wiring Diagram

INFOID:0000000009651939

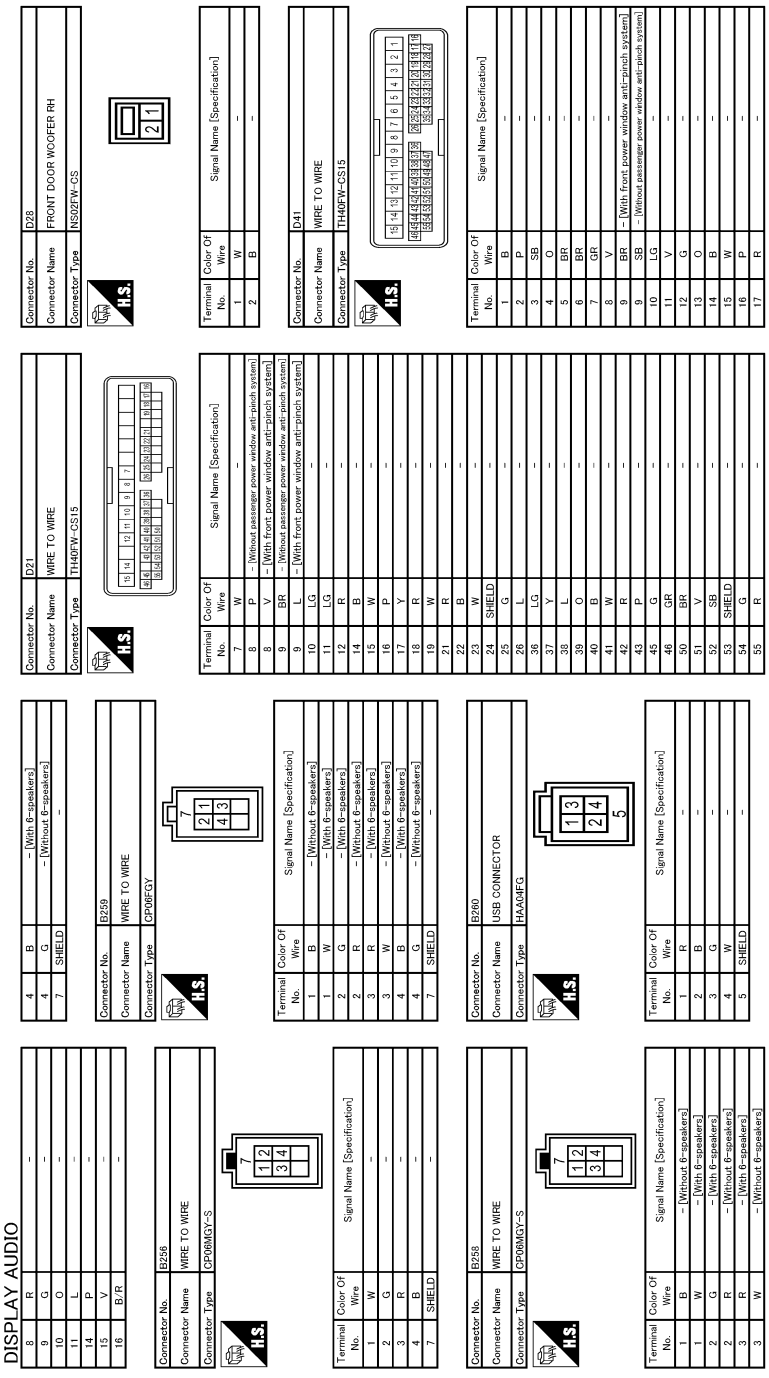



IGNITION SWITCH ON or START
FUSE BLOCK (J/B) M1
10A 3
2A
STEERING SWITCH
SOURCE
SEEK UP
SEEK DOWN
VOICE / TEL
VOLUME DOWN
VOLUME UP
TELEPHONE END
COMBINATION METER M34
BCM (BODY CONTROL MODULE) M121
To CAN system
DATA LINE
DATA LINE
COMBINATION SWITCH (SPIRAL CABLE)* M33, M303
MICROPHONE R20
R106
M22
TEL ADAPTER UNIT* M138, M139, M360
TEL ANTENNA
M43
REAR VIEW CAMERA D167
D152
B32
B11
M77
USB CONNECTOR B260
B259
B258
B256
M96
AUDIO UNIT M92, M93, M94, M340*, M371*
DATA LINE
DATA LINE
JRNWC6749GB

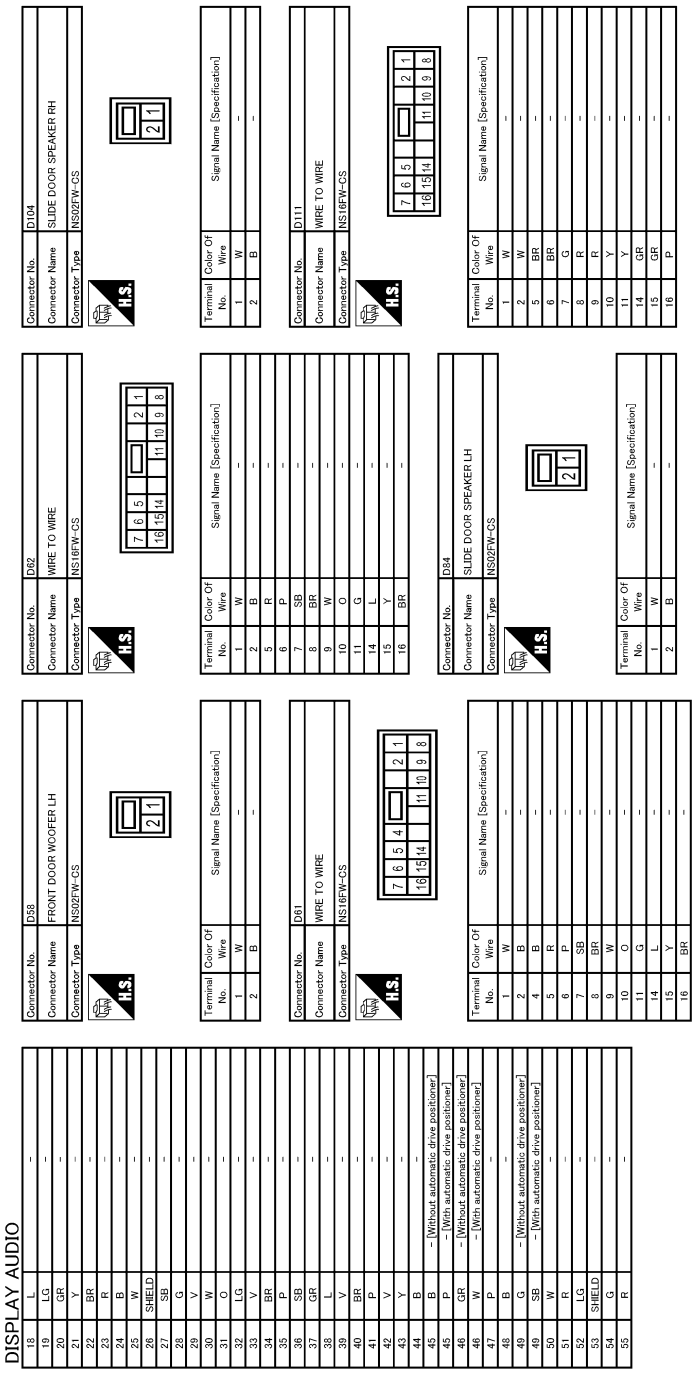

FUSE BLOCK (J/B) M3
10A 4
12C
M11 E105 33
BACK-UP LAMP RELAY E18
5 1 3 2
E6 F123 4
TCM (TRANSMISSION CONTROL MODULE) F23 19
E105 M11 32
51
SATELLITE RADIO ANTENNA
M370 M369 M368 M367 M366
1 1 1
73
GLASS ANTENNA (MAIN)
M364 1
ANTENNA AMP. M363 1 2
M362 M361 1 2
70 71
GLASS ANTENNA (FM SUB)
M365 1
3
72
To illumination
8 9
M43
20 57 55
AUDIO UNIT
M92, M93, M94, M340, M371
JRNWC6750GB



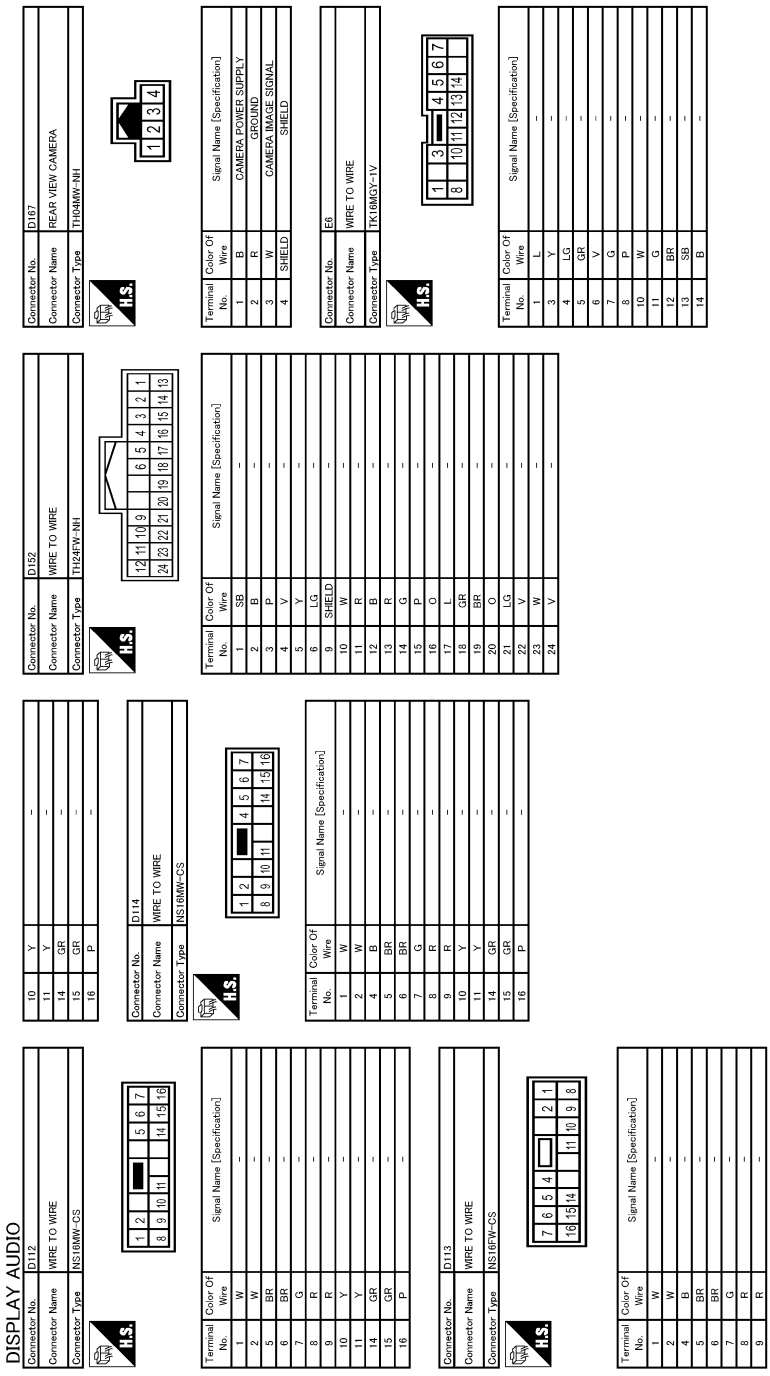
JRNWC6751GB



JRNWC6752GB



JRNWC6753GB



JRNWC6754GB

DISPLAY AUDIO

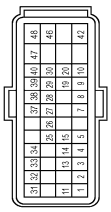
Connector No.	E18
Connector Name	BACK-UP LAMP RELAY
Connector Type	MS02FL-M2-LC

Terminal No.	Color Of Wire	Signal Name [Specification]
1	O	–
2	LG	–
3	R	–
5	Y	–

Connector No.	E105
Connector Name	WIRE TO WIRE
Connector Type	TH70MW-CS10-M3

Terminal No.	Color Of Wire	Signal Name [Specification]
1	SHIELD	–
2	W	–
3	B	–
4	R	–
6	LG	–
7	R	–
8	GR	–
9	SB	–
10	BR	–
11	Y	–
12	O	–
13	W	–
14	L	–
15	P	–
31	GR	–
32	R	–
33	W	–
37	BR	–
38	G	–
39	V	–
40	P	–
41	L	–
42	LG	–
43	O	–
45	GR	–
46	SB	–
47	V	–
49	L	–
51	BR	–
52	G	–
53	B	–
54	O	–
55	Y	–
56	SHIELD	–
61	P	–
62	G	–
63	W/L	–
64	W/R	–
66	W	–
67	Y	–
69	SB	–
70	LG	–
71	R	–
72	L	–
73	GR	–
74	V	–
75	SB	–
76	Y	–
77	G	–
78	O	–
80	R	–
81	L	–
82	LG	–
83	R	–

Connector No.	F23
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Type	RH40FB-RZ8-L-RH

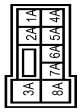


Terminal No.	Color Of Wire	Signal Name [Specification]
1	P/B	TRANSMISSION RANGE SWITCH 2
2	P/L	TRANSMISSION RANGE SWITCH 3
3	G/O	TRANSMISSION RANGE SWITCH 4
4	GR	TRANSMISSION RANGE SWITCH 3 (MONITOR)
5	B	GROUND
7	W	SENSOR GROUND
8	G/W	ROM ASSY (SEL 2)
9	L/R	ROM ASSY (SEL 1)
10	BR/R	ROM ASSY (SEL 3)
11	BR/W	TRANSMISSION RANGE SWITCH 1
13	V	CVT FLUID TEMPERATURE SENSOR
14	R/W	PRIMARY PRESSURE SENSOR
15	V/W	SECONDARY PRESSURE SENSOR
19	G/B	BACK-UP LAMP RELAY
20	R/B	STARTER RELAY
25	W/R	SENSOR GROUND
26	L/O	SENSOR POWER
27	R/G	STEP MOTOR D
28	R	STEP MOTOR C
29	O/B	STEP MOTOR B
30	G/R	STEP MOTOR A
31	P	CAN-L
32	L	CAN-H
33	LG	PRIMARY SPEED SENSOR
34	LG/R	SECONDARY SPEED SENSOR
37	V/R	LOCK-UP SELECT SOLENOID VALVE
38	L/W	TORQUE CONVERTER CLUTCH SOLENOID VALVE
39	W/B	SECONDARY PRESSURE SOLENOID VALVE
40	R/Y	LINE PRESSURE SOLENOID VALVE
42	B	GROUND
46	Y	IGNITION POWER SUPPLY
47	L/R	BATTERY POWER SUPPLY (MEMORY BACK-UP)
48	Y	IGNITION POWER SUPPLY

Connector No.	F123
Connector Name	WIRE TO WIRE
Connector Type	TK16FGY-1V

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	–
3	G/R	–
4	G/B	–
5	R	–
6	L/R	–
7	P	–
8	P	–
10	Y/B	–
11	BR/W	–
12	BR	–
13	G	–
14	B	–

Connector No.	M1
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS306FW-M2



Terminal No.	Color Of Wire	Signal Name [Specification]
1A	Y	–
2A	G	–
3A	L	–
4A	GR	–
5A	V	–
6A	R	–
7A	GR	–
8A	L	–

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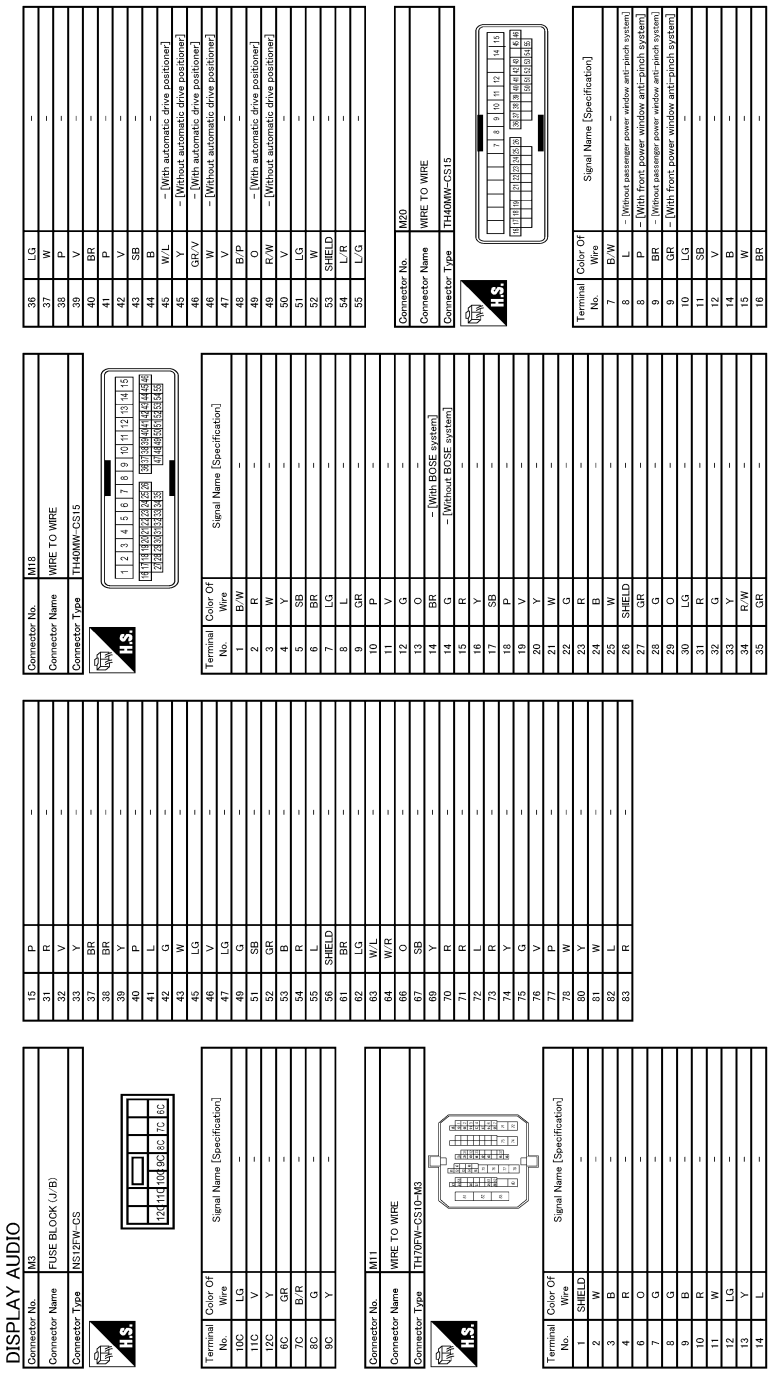

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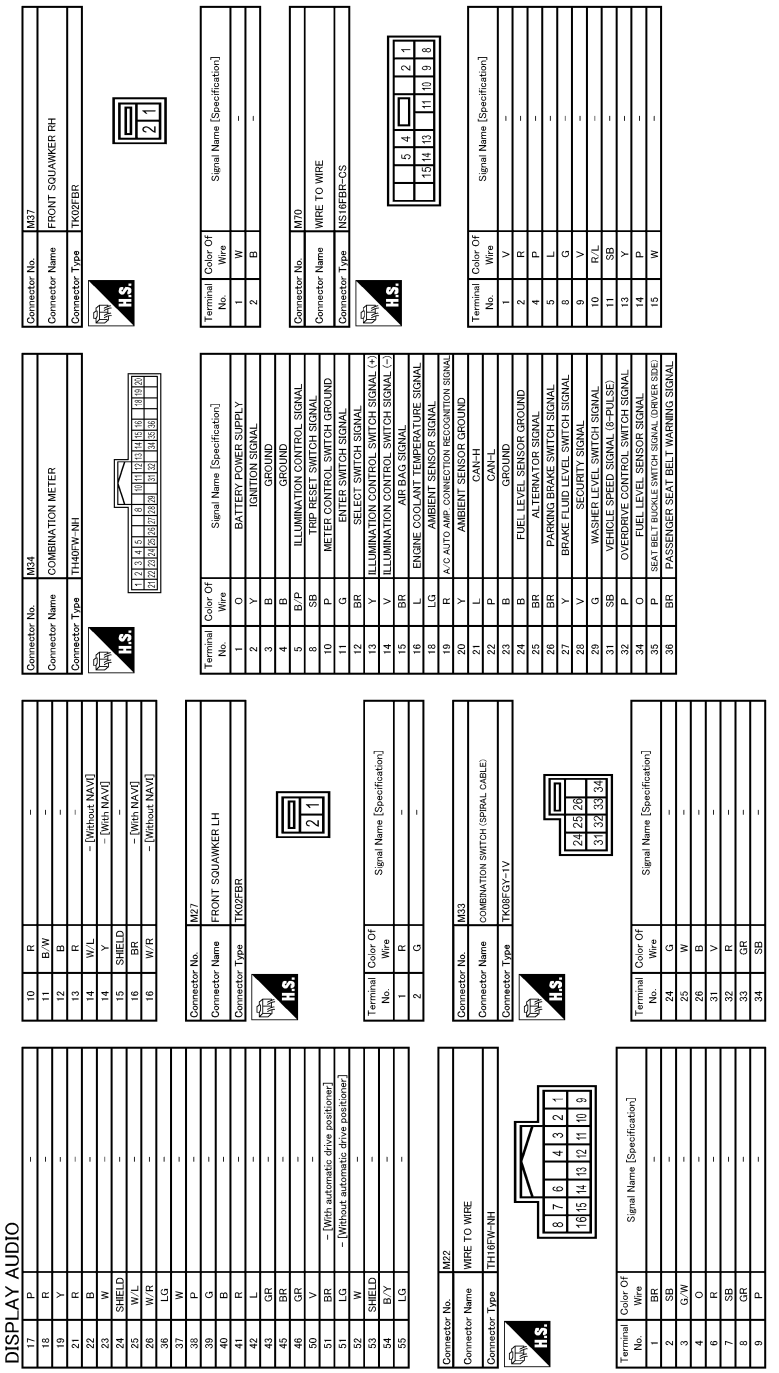

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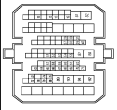
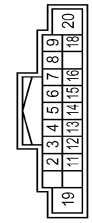
DISPLAY AUDIO

Connector No.	M77
Connector Name	WIRE TO WIRE
Connector Type	TH60FW-CS19



Terminal No.	Color Of Wire	Signal Name [Specification]
10	GR	–
12	V	–
13	W	–
15	Y	–
29	L	–
30	P	–
31	BR	–
37	SHIELD	–
38	B	– [Without automatic drive positioner]
38	W	– [With automatic drive positioner]
39	B	– [With automatic drive positioner]
39	W	– [Without automatic drive positioner]
40	R	–
51	V	–
52	B	–
53	O	–
54	P	–
55	L	–
57	Y	–
58	L	–
59	O	–
60	G	–
61	LG	–
62	V	–
63	SB	–
64	R	–
65	G	–
66	SHIELD	–
67	W/L	–
68	GR/V	–
69	SHIELD	–
70	W/L	–
71	W/R	–
72	LG	–
74	GR	–
75	G	–
77	O	–
78	LG	–
79	R	–
80	G	–
81	L	–
82	W	–
87	V	–
88	R	–
89	Y	–
90	P	– [Without automatic drive positioner]
90	R	– [With automatic drive positioner]
91	SB	–
92	P	–

Connector No.	M92
Connector Name	AUDIO UNIT
Connector Type	TH118FW-CS2

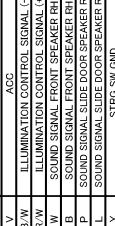


Terminal No.	Color Of Wire	Signal Name [Specification]
2	R	SOUND SIGNAL FRONT SPEAKER LH (+)
3	G	SOUND SIGNAL FRONT SPEAKER LH (-)
4	V	SOUND SIGNAL SLIDE DOOR SPEAKER LH (+)
5	LG	SOUND SIGNAL SLIDE DOOR SPEAKER LH (-)
6	R	STRG SW A
7	V	ACC
8	B/W	ILLUMINATION CONTROL SIGNAL (-)
9	R/W	ILLUMINATION CONTROL SIGNAL (+)
11	W	SOUND SIGNAL FRONT SPEAKER RH (+)
12	B	SOUND SIGNAL FRONT SPEAKER RH (-)
13	P	SOUND SIGNAL SLIDE DOOR SPEAKER RH (+)
14	L	SOUND SIGNAL SLIDE DOOR SPEAKER RH (-)
15	Y	STRG SW GND
16	SB	STRG SW B
18	SB	VEHICLE SPEED (6-PULSE)
19	Y	BATTERY
20	B	GROUND

Connector No.	M83
Connector Name	AUDIO UNIT
Connector Type	TH32FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
33	SHIELD	SHIELD
34	B	CAMERA IMAGE SIGNAL
35	R	CAMERA POWER SUPPLY
36	W	CAMERA GND
37	LG	AV COMM (L)
38	SB	AV COMM (H)
40	LG	AV COMM (L)
41	SB	AV COMM (H)
43	SHIELD	SHIELD
44	B	SOUND SIGNAL (+)
45	W	SOUND SIGNAL (-)
51	V	REVERSE SIGNAL
55	B	EGI02
57	B	CONTROL SIGNAL

Connector No.	M84
Connector Name	AUDIO UNIT
Connector Type	HA40FL



Terminal No.	Color Of Wire	Signal Name [Specification]
65	G	USB GND
66	W	USB D- SIGNAL
67	R	V-BUS SIGNAL
68	B	USB D+ SIGNAL
69	SHIELD	SHIELD

Connector No.	M86
Connector Name	WIRE TO WIRE
Connector Type	CP06FGY

Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	–
2	G	–
3	R	–
4	B	–
7	SHIELD	–

Connector No.	M121
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FB-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	REAR WINDOW DEF RELAY CONT
2	LG	COMBI SW INPUT 5
3	Y	COMBI SW INPUT 4
4	O	COMBI SW INPUT 3
5	G	COMBI SW INPUT 2
6	L	COMBI SW INPUT 1
7	W	KEY CYL UNLOCK SW
8	GR	PW SW COMM [With automatic sliding door]
8	Y	KEY CYL LOCK SW [Without automatic sliding door]
9	V	STOP LAMP SW 1
12	GR	DOOR LK & UNLK SW LOCK
13	BR	DOOR LK & UNLK SW UNLOCK
14	L	OPTICAL SENS
15	W	REAR WINDOW DEF SW
16	Y	DIMMER

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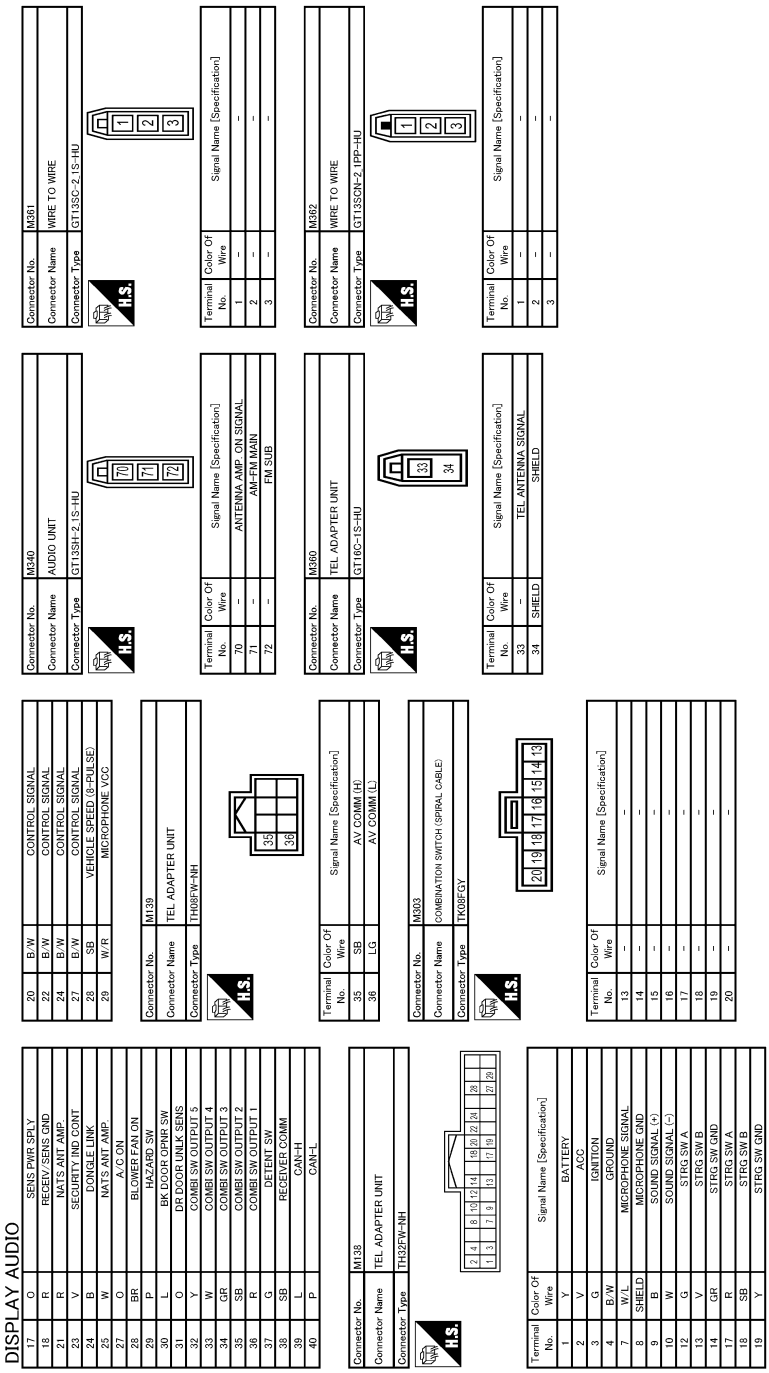

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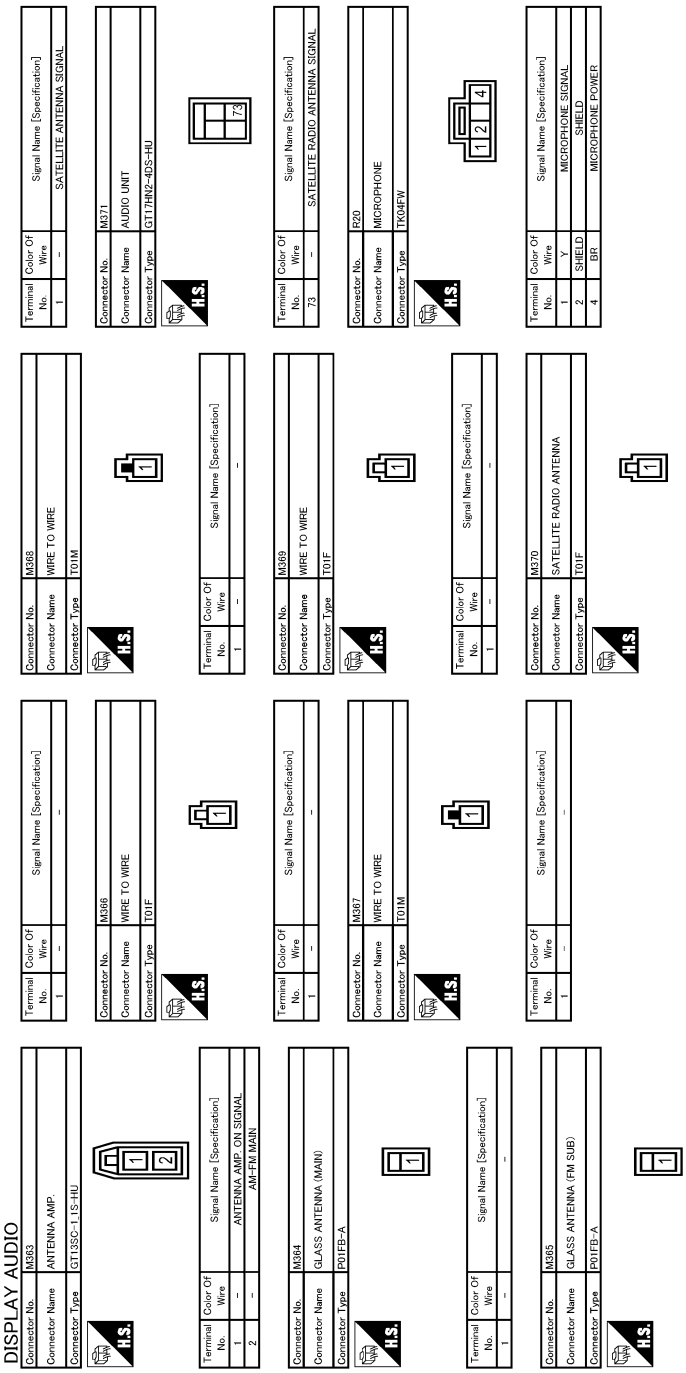

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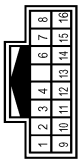
DISPLAY AUDIO

Connector No.	R106
Connector Name	WIRE TO WIRE
Connector Type	TH16MW-NH

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	–
2	SB	–
3	P	–
4	LG	–
6	O	–
7	W	–
8	BR	–
9	L	–
10	LG	–
11	B	–
12	V	–
13	Y	–
14	Y	–
15	SHIELD	–
16	BR	–

JRNWC6761GB

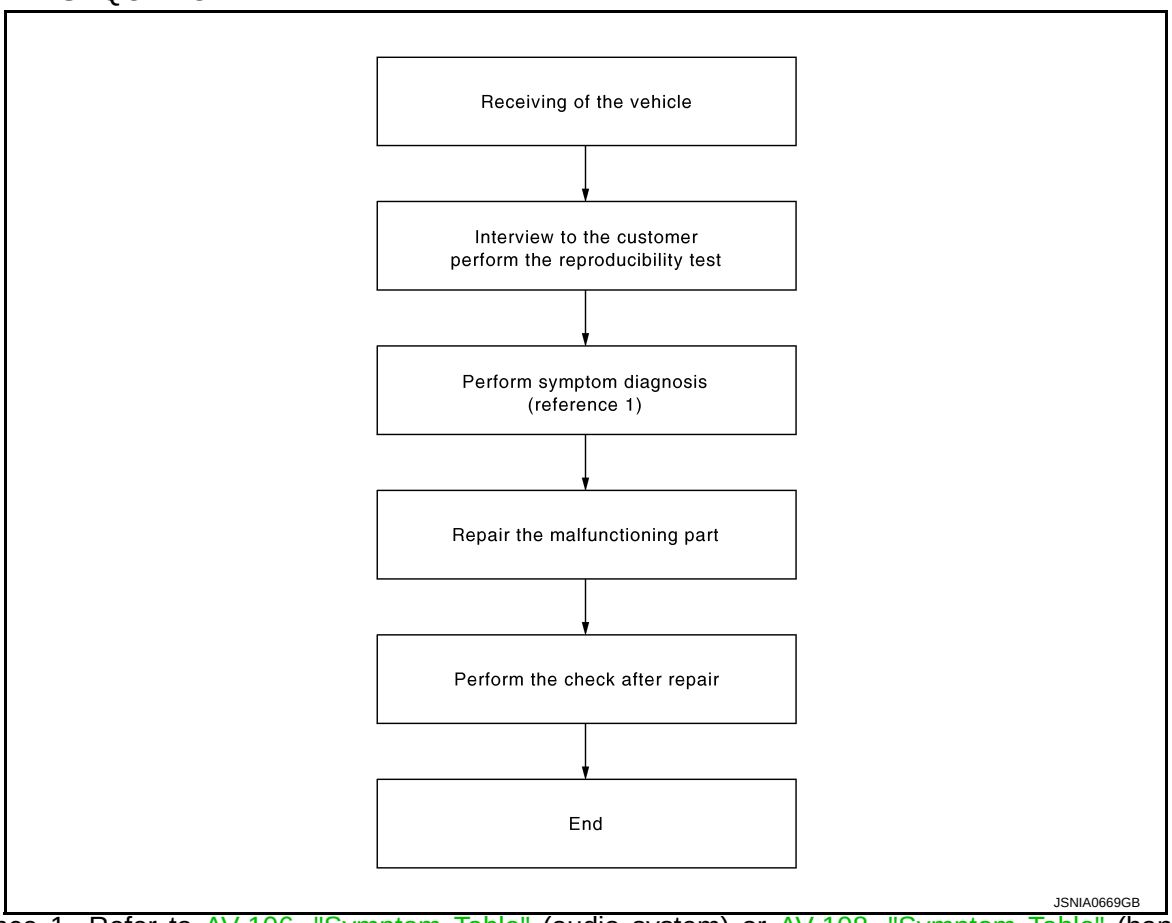
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000009651940

OVERALL SEQUENCE



Reference 1···Refer to AV-106, "Symptom Table" (audio system) or AV-108, "Symptom Table" (hands-free phone system).

DETAILED FLOW

1.CHECK SYMPTOM

Check the malfunction symptoms by performing the following items.
- Interview the customer to obtain the malfunction information (conditions and environment when the malfunction occurred).
- Check the symptom.

>> GO TO 2.

2.PERFORM DIAGNOSIS BY SYMPTOM

Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to AV-106, "Symptom Table" (audio system) or AV-108, "Symptom Table" (hands-free phone system).

>> GO TO 3.

3.REPAIR OR REPLACE MALFUNCTIONING PARTS

Repair or replace the malfunctioning parts.

>> GO TO 4.

4.FINAL CHECK

Perform the operation to check that the malfunction symptom is solved or any other symptoms are present.

Is there any symptom?

YES >> GO TO 2.
NO >> INSPECTION END

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID:0000000009651941

1.CHECK FUSE

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

Power source	Fuse No.
Battery	35
Ignition switch ACC or ON	19

Is inspection result OK?

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

2.CHECK AUDIO UNIT POWER SUPPLY CIRCUIT

Check voltage between the audio unit and ground.

Signal name	Audio unit	Probe		Condition	Standard	Reference value
		Terminal				
	Connector	(+)	(–)	Ignition switch		
Battery power supply	M92	19	20	OFF	9.0 - 15.6 V	Battery voltage
ACC power supply		7		ACC		

Is inspection result OK?

YES >> GO TO 3.
NO >> Check harness between audio unit and fuse.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect audio unit connectors.
3. Check continuity between audio unit harness connectors and ground.

Signal name	Connector	Terminal	Ignition switch position	Continuity
Ground	M92	20	OFF	Existed

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair harness or connector.

TEL ADAPTER UNIT

TEL ADAPTER UNIT : Diagnosis Procedure

INFOID:0000000009651942

1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	35
Ignition switch ACC or ON	19

Is the inspection result normal?

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

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between TEL adapter unit harness connector and ground.

Signal name	TEL adapter unit	Probe		Condition	Standard	Reference value
		Terminal				
	Connector	(+)	(–)	Ignition switch		
Battery power supply	M138	1	4	OFF	9.0 - 16.0 V	Battery voltage
ACC power supply		2		ACC	7.0 - 16.0 V	

Is the inspection result normal?

YES >> GO TO 3.
NO >> Check harness between TEL adapter unit and fuse.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect TEL adapter unit connector.
3. Check continuity between TEL adapter unit harness connector and ground.

Signal name	Connector	Terminal	Ignition switch position	Continuity
Ground	M138	4	OFF	Existed

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair harness or connector.

CAMERA IMAGE SIGNAL CIRCUIT

Description

INFOID:0000000009651943

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

Diagnosis Procedure

INFOID:0000000009651944

1.CHECK CONTINUITY CAMERA POWER SUPPLY CIRCUIT

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

Audio unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M93	35	D167	1	Existed

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

Audio unit		Ground	Continuity
Connector	Terminal		
M93	35		Not existed

Is inspection result normal?

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

2.CHECK VOLTAGE CAMERA POWER SUPPLY

1. Connect audio unit connector and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever to “R”.
4. Check voltage between audio unit harness connector.

Probe				Standard	Voltage (Approx.)
(+)		(–)			
Audio unit					
Connector	Terminal	Connector	Terminal		
M93	35	M93	36	5.9 - 6.5 V	6.2 V

Is inspection result normal?

YES >> GO TO 3.
NO >> Replace audio unit. Refer to AV-112, "Removal and Installation".

3.CHECK CONTINUITY CAMERA IMAGE SIGNAL CIRCUIT

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

Audio unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M93	34	D167	3	Existed

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

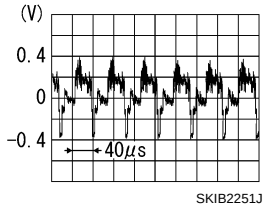
Audio unit		Ground	Continuity
Connector	Terminal		
M93	34		Not existed

Is inspection result normal?

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

4. CHECK CAMERA IMAGE SIGNAL

1. Connect audio unit connector and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever to “R”.
4. Check signal between audio unit harness connector.

Probe				Condition	Standard	Reference value
(+)		(+)				
Audio unit						
Connector	Terminal	Connector	Terminal			
M93	34	M93	36	When camera image is displayed.	Waveform according to camera image is input.	

SKIB2251J

Is inspection result normal?

YES >> Replace audio unit. Refer to AV-112, "Removal and Installation".
NO >> Replace rear view camera. Refer to AV-116, "Removal and Installation".

MICROPHONE SIGNAL CIRCUIT

Description

INFOID:0000000009651945

TEL adapter unit supplies power to microphone. The microphone transmits the sound voice to the TEL adapter unit.

Diagnosis Procedure

INFOID:0000000009651946

1.CHECK CONTINUITY BETWEEN TEL ADAPTER UNIT AND MICROPHONE CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect TEL adapter unit connector and microphone connector.
3. Check continuity between TEL adapter unit harness connector and microphone harness connector.

TEL adapter unit		Microphone		Continuity
Connector	Terminals	Connector	Terminals	
M138	7	R20	1	Existed
	8		2	
	29		4	

4. Check continuity between TEL adapter unit harness connector and ground.

TEL adapter unit		Ground	Continuity
Connector	Terminals		
M138	29		Not existed
	7		

Is the inspection result normal?

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

2.CHECK VOLTAGE MICROPHONE VCC

1. Connect TEL adapter unit connector.
2. Turn ignition switch ON.
3. Check voltage between TEL adapter unit harness connector.

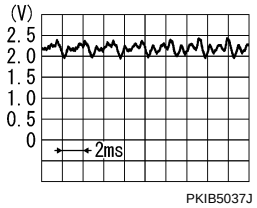
Probe				Standard	Voltage (Approx.)
(+)		(–)			
TEL adapter unit					
Connector	Terminal	Connector	Terminal		
M138	29	M138	8	4.7 - 5.3 V	5.0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace TEL adapter unit. Refer to AV-118, "Removal and Installation".

3.CHECK MICROPHONE SIGNAL

1. Connect microphone connector.
2. Check signal between TEL adapter unit harness connector.

Probe				Condition	Standard	Reference value
(+)		(+)				
TEL adapter unit						
Connector	Terminal	Connector	Terminal			
M138	7	M138	8	Give a voice.	Waveform according to voice is input.	

PKIB5037J

Is the inspection result normal?

YES >> Replace TEL adapter unit. Refer to AV-118, "Removal and Installation".
NO >> Replace microphone. Refer to AV-120, "Removal and Installation".

CONTROL SIGNAL CIRCUIT

Description

INFOID:0000000009651947

TEL adapter unit identifies the vehicle model according to the control signal and performs the control.

Diagnosis Procedure

INFOID:0000000009651948

1.CHECK CONTINUITY CONTROL SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect TEL adapter unit connector.
3. Check continuity between TEL adapter unit harness connector and ground.

TEL adapter unit		Ground	Standard	Reference value (Approx.)
Connector	Terminals			
M138	22		3.1 V or less	0 V
	24			
	27			

Is the inspection result normal?

YES >> Replace TEL adapter unit. Refer to AV-118, "Removal and Installation".
NO >> Repair harness or connector.

STEERING SWITCH SIGNAL A CIRCUIT (STEERING SWITCH TO TEL ADAPTER UNIT)

Description

INFOID:0000000009651949

- Transmits the steering switch signal to TEL adapter unit.
- Transmits the steering switch signal to audio unit via TEL adapter unit.

Diagnosis Procedure

INFOID:0000000009651950

1.CHECK STEERING SWITCH SIGNAL A (STEERING SWITCH TO TEL ADAPTER UNIT) CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect TEL adapter unit connector and spiral cable connector.
3. Check continuity between TEL adapter unit harness connector and spiral cable harness connector.

TEL adapter unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M138	12	M33	24	Existed

4. Check continuity between TEL adapter unit harness connector and ground.

TEL adapter unit		Ground	Continuity
Connector	Terminal		
M138	12		Not existed

Is the inspection result normal?

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

2.CHECK SPIRAL CABLE

Check spiral cable.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace spiral cable. Refer to SR-15, "Removal and Installation".

3.CHECK TEL ADAPTER UNIT VOLTAGE

1. Connect TEL adapter unit connector and spiral cable connector.
2. Turn ignition switch ON.
3. Check voltage between TEL adapter unit harness connector.

Probe				Standard	Voltage (Approx.)
(+)		(–)			
TEL adapter unit					
Connector	Terminal	Connector	Terminal		
M138	12	M138	14	0 - 5.25 V	5.0 V

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace TEL adapter unit. Refer to AV-118, "Removal and Installation".

4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to AV-98, "Component Inspection".

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace steering wheel. Refer to ST-12, "Removal and Installation".

Component Inspection

INFOID:0000000009651951

Measure the resistance between the steering switch connector terminals 14 to 17 and 15 to 17.

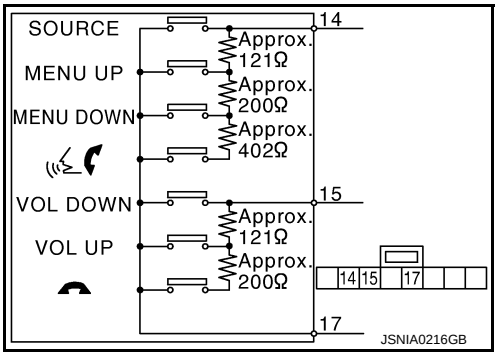
Standard

Between terminals 14 and 17

switch ON	: 708 – 737 Ω
MENU DOWN switch ON	: 314 – 327 Ω
MENU UP switch ON	: 118 – 123 Ω
SOURCE switch ON	: Less than 1 Ω

Between terminals 15 and 17

switch ON	: 314 – 327 Ω
VOL UP switch ON	: 118 – 123 Ω
VOL DOWN switch ON	: Less than 1 Ω



STEERING SWITCH SIGNAL B CIRCUIT (STEERING SWITCH TO TEL ADAPTER UNIT)

Description

INFOID:0000000009651952

- Transmits the steering switch signal to TEL adapter unit.
- Transmits the steering switch signal to audio unit via TEL adapter unit.

Diagnosis Procedure

INFOID:0000000009651953

1.CHECK STEERING SWITCH SIGNAL B (STEERING SWITCH TO TEL ADAPTER UNIT) CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect TEL adapter unit connector and spiral cable connector.
3. Check continuity between TEL adapter unit harness connector and spiral cable harness connector.

TEL adapter unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M138	13	M33	31	Existed

4. Check continuity between TEL adapter unit harness connector and ground.

TEL adapter unit		Ground	Continuity
Connector	Terminal		
M138	13		Not existed

Is the inspection result normal?

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

2.CHECK SPIRAL CABLE

Check spiral cable.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace spiral cable. Refer to SR-15, "Removal and Installation".

3.CHECK TEL ADAPTER UNIT VOLTAGE

1. Connect TEL adapter unit connector and spiral cable connector.
2. Turn ignition switch ON.
3. Check voltage between TEL adapter unit harness connector.

Probe				Standard	Voltage (Approx.)
(+)		(–)			
TEL adapter unit					
Connector	Terminal	Connector	Terminal		
M138	13	M138	14	0 - 5.25 V	5.0 V

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace TEL adapter unit. Refer to AV-118, "Removal and Installation".

4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to AV-100, "Component Inspection".

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace steering wheel. Refer to ST-12, "Removal and Installation".

Component Inspection

INFOID:0000000009651954

Measure the resistance between the steering switch connector terminals 14 to 17 and 15 to 17.

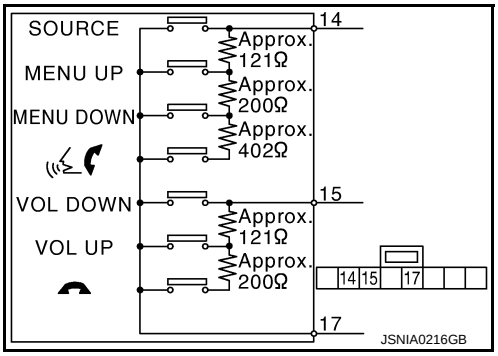
Standard

Between terminals 14 and 17

switch ON	: 708 – 737 Ω
MENU DOWN switch ON	: 314 – 327 Ω
MENU UP switch ON	: 118 – 123 Ω
SOURCE switch ON	: Less than 1 Ω

Between terminals 15 and 17

switch ON	: 314 – 327 Ω
VOL UP switch ON	: 118 – 123 Ω
VOL DOWN switch ON	: Less than 1 Ω



STEERING SWITCH SIGNAL GND CIRCUIT (STEERING SWITCH TO TEL ADAPTER UNIT)

Description

INFOID:0000000009651955

- Transmits the steering switch signal to TEL adapter unit.
- Transmits the steering switch signal to audio unit via TEL adapter unit.

Diagnosis Procedure

INFOID:0000000009651956

1.CHECK STEERING SWITCH SIGNAL GROUND CIRCUIT (STEERING SWITCH TO TEL ADAPTER UNIT)

1. Turn ignition switch OFF.
2. Disconnect TEL adapter unit connector and spiral cable connector.
3. Check continuity between TEL adapter unit harness connector and spiral cable harness connector.

TEL adapter unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M138	14	M33	33	Existed

Is the inspection result normal?

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

2.CHECK SPIRAL CABLE

Check spiral cable.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace spiral cable. Refer to SR-15, "Removal and Installation".

3.CHECK GROUND CIRCUIT

1. Connect TEL adapter unit connector.
2. Check continuity between TEL adapter unit harness connector and ground.

TEL adapter unit		Ground	Continuity
Connector	Terminal		
M138	14		Existed

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace TEL adapter unit. Refer to AV-118, "Removal and Installation".

4.CHECK STEERING SWITCH

Check steering switch. Refer to AV-101, "Component Inspection".

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace steering wheel. Refer to ST-12, "Removal and Installation".

Component Inspection

INFOID:0000000009651957

Measure the resistance between the steering switch connector terminals 14 to 17 and 15 to 17.

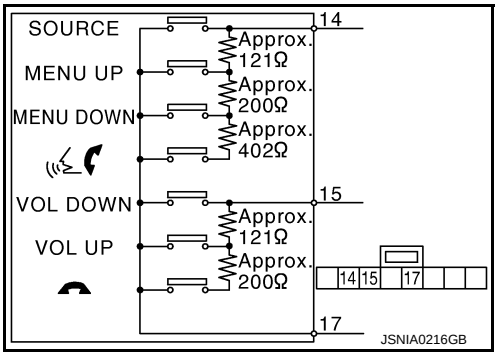
Standard

Between terminals 14 and 17

switch ON	: 708 – 737 Ω
MENU DOWN switch ON	: 314 – 327 Ω
MENU UP switch ON	: 118 – 123 Ω
SOURCE switch ON	: Less than 1 Ω

Between terminals 15 and 17

switch ON	: 314 – 327 Ω
VOL UP switch ON	: 118 – 123 Ω
VOL DOWN switch ON	: Less than 1 Ω



STEERING SWITCH SIGNAL A CIRCUIT (TEL ADAPTER UNIT TO AUDIO UNIT)

Description

INFOID:0000000009651958

- Transmits the steering switch signal to TEL adapter unit.
- Transmits the steering switch signal to audio unit via TEL adapter unit.

Diagnosis Procedure

INFOID:0000000009651959

1. CHECK STEERING SWITCH SIGNAL A CIRCUIT (TEL ADAPTER UNIT TO AUDIO UNIT)

1. Turn ignition switch OFF.
2. Disconnect audio unit connector and TEL adapter unit connector.
3. Check continuity between audio unit harness connector and TEL adapter unit harness connector.

Audio unit		TEL adapter unit		Continuity
Connector	Terminal	Connector	Terminal	
M92	6	M138	17	Existed

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

Audio unit		Ground	Continuity
Connector	Terminal		
M92	6		Not existed

Is inspection result normal?

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

2. CHECK AUDIO UNIT VOLTAGE

1. Connect audio unit connector and TEL adapter unit connector.
2. Turn ignition switch ON.
3. Check voltage between audio unit harness connector terminals.

Probe				Standard	Voltage (Approx.)
(+)		(–)			
Audio unit					
Connector	Terminal	Connector	Terminal		
M92	6	M92	15	0 - 3.4 V	3.3 V

Is inspection result normal?

YES >> Replace TEL adapter unit. Refer to AV-118, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-112, "Removal and Installation".

STEERING SWITCH SIGNAL B CIRCUIT (TEL ADAPTER UNIT TO AUDIO UNIT)

Description

INFOID:0000000009651960

- Transmits the steering switch signal to TEL adapter unit.
- Transmits the steering switch signal to audio unit via TEL adapter unit.

Diagnosis Procedure

INFOID:0000000009651961

1. CHECK STEERING SWITCH SIGNAL B CIRCUIT (TEL ADAPTER UNIT TO AUDIO UNIT)

1. Turn ignition switch OFF.
2. Disconnect audio unit connector and TEL adapter unit connector.
3. Check continuity between audio unit harness connector and TEL adapter unit harness connector.

Audio unit		TEL adapter unit		Continuity
Connector	Terminal	Connector	Terminal	
M92	16	M138	18	Existed

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

Audio unit		Ground	Continuity
Connector	Terminal		
M92	16		Not existed

Is inspection result normal?

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

2. CHECK AUDIO UNIT VOLTAGE

1. Connect audio unit connector and TEL adapter unit connector.
2. Turn ignition switch ON.
3. Check voltage between audio unit harness connector terminals.

Probe				Standard	Voltage (Approx.)
(+)		(–)			
Audio unit					
Connector	Terminal	Connector	Terminal		
M92	16	M92	15	0 - 3.4 V	3.3 V

Is inspection result normal?

YES >> Replace TEL adapter unit. Refer to AV-118, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-112, "Removal and Installation".

STEERING SWITCH SIGNAL GND CIRCUIT (TEL ADAPTER UNIT TO AUDIO UNIT)

Description

INFOID:0000000009651962

- Transmits the steering switch signal to TEL adapter unit.
- Transmits the steering switch signal to audio unit via TEL adapter unit.

Diagnosis Procedure

INFOID:0000000009651963

1. CHECK STEERING SWITCH SIGNAL GROUND CIRCUIT (TEL ADAPTER UNIT TO AUDIO UNIT)

1. Turn ignition switch OFF.
2. Disconnect audio unit connector and TEL adapter unit connector.
3. Check continuity between audio unit harness connector and TEL adapter unit harness connector.

Audio unit		TEL adapter unit		Continuity
Connector	Terminal	Connector	Terminal	
M92	15	M138	19	Existed

Is inspection result normal?

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

2. CHECK GROUND CIRCUIT

1. Connect audio unit connector.
2. Check continuity between audio unit harness connector and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M92	15		Existed

Is inspection result normal?

YES >> Replace TEL adapter unit. Refer to AV-118, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-112, "Removal and Installation".

SYMPTOM DIAGNOSIS

AUDIO SYSTEM SYMPTOMS

Symptom Table

INFOID:0000000009651964

AUDIO SYSTEM

Symptoms	Check items	Possible malfunction location / Action to take
Audio unit does not start.	—	Audio unit power supply and ground circuit. Refer to AV-90, "AUDIO UNIT : Diagnosis Procedure".
Audio sound is not heard or volume is small.	Sound is not heard only from the specific places.	Sound signal circuit of malfunctioning system.
No sound comes out or the level of the sound is low.	No sound from all speakers.	Audio unit power supply and ground circuit. Refer to AV-90, "AUDIO UNIT : Diagnosis Procedure".
	Only a certain speaker (front right, front left, rear right, or rear left, etc.) does not output sound.	• Poor connector connection of speaker. • Sound signal circuit malfunction between audio unit and speaker. • Malfunction in speaker. • Malfunction in audio unit.
Noise is mixed with audio.	Noise comes out from all speakers.	Malfunction in audio unit.
	Noise comes out only from a certain speaker (front right, front left, rear right, or rear left, etc.).	• Poor connector connection of speaker. • Sound signal circuit malfunction between audio unit and speaker. • Malfunction in speaker. • Poor installation of speaker (e.g. backlash and looseness) • Malfunction in audio unit.
	Noise is mixed with radio only (when the car hits a bump or while driving over bad roads).	Poor connector connection of antenna or antenna feeder.
Radio is not received or poor reception.	• Other audio sounds are normal. • Any radio cannot be received or poor reception is caused even after moving to a service area with good reception (e.g. a place with clear view and no obstacles generating external noises).	• Antenna amp. ON signal circuit malfunction. • Poor connector connection of antenna or antenna feeder.
Satellite radio is not received.	It change to satellite radio mode.	• Antenna feeder (satellite radio) • Satellite antenna (antenna base)
	It does not change to satellite radio mode.	Audio unit Refer to AV-112, "Removal and Installation".

RELATED TO USB

NOTE:

Check that there is no malfunction of USB equipment main body before performing a diagnosis.

Symptoms	Check items	Possible malfunction location / Action to take
iPod® or USB memory can not be recognized.	—	• USB harness malfunction. • USB connector malfunction.

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

RELATED TO CAMERA

Symptoms	Check items	Probable malfunction location
Camera image is not shown.	The guide line display is normal.	Camera image signal circuit. Refer to AV-92, "Diagnosis Procedure".
Camera image does not switch.	“Reverse” is not turned ON on “Vehicle Signals” screen of “Confirmation/Adjustment”.	Reverse signal circuit malfunction.
	“Reverse” is turned ON on “Vehicle Signals” screen of “Confirmation/Adjustment”.	Replace audio unit. Refer to AV-112, "Removal and Installation".

RELATED TO STEERING SWITCH

Symptoms	Possible malfunction location / Action to take
All steering switches are not operated.	Steering switch signal ground circuit. (steering switch to TEL adapter unit) Refer to AV-101, "Diagnosis Procedure".
“SOURCE”, “SEEK UP”, “VOL UP”, “SEEK DOWN” and “VOL DOWN” switches are not operated.	Steering switch signal ground circuit. (TEL adapter unit to audio unit) Refer to AV-105, "Diagnosis Procedure".
Only specified switch cannot be operated.	Replace steering wheel. Refer to ST-12, "Removal and Installation".
“SOURCE”, “SEEK UP”, “SEEK DOWN” and “ ” switches are not operated.	Steering switch signal A circuit. (steering switch to TEL adapter unit) Refer to AV-97, "Diagnosis Procedure".
“SOURCE”, “SEEK UP” and “SEEK DOWN” switches are not operated.	Steering switch signal A circuit. (TEL adapter unit to audio unit) Refer to AV-103, "Diagnosis Procedure".
”VOL UP“, “VOL DOWN” and “ ” switches are not operated.	Steering switch signal B circuit. (steering switch to TEL adapter unit) Refer to AV-99, "Diagnosis Procedure".
“VOL UP” and “VOL DOWN” switches are not operated.	Steering switch signal B circuit. (TEL adapter unit to audio unit) Refer to AV-104, "Diagnosis Procedure".

HANDS-FREE PHONE SYMPTOMS

Symptom Table

INFOID:0000000009651965

RELATED TO HANDS-FREE PHONE

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

Check Compatibility

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

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

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

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

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

Symptoms	Check items	Possible malfunction location/Action to take
Does not recognize cellular phone connection.	Repeat the registration of cellular phone.	TEL adapter unit
Hands-free phone cannot be established.	• Both the reception and the speech cannot be performed. • Audio cannot be operated by steering switch.	• TEL adapter unit power supply and ground circuit. Refer to AV-90, "TEL ADAPTER UNIT : Diagnosis Procedure". • Control signal circuit Refer to AV-96, "Diagnosis Procedure".
	• Both the reception and the speech cannot be performed. • Audio can be operated by steering switch.	AV communication circuit between audio unit and TEL adapter unit.
The other party's voice cannot be heard by hands-free phone.	Audio system sound is normal.	Sound signal (TEL voice, TEL guidance) circuit
	Audio system sound does not sound.	Refer to AV-106, "Symptom Table".
Originating sound is not heard by the other party with hands-free phone communication.	Voice recognition function is normal.	TEL adapter unit
	Voice recognition function does not work.	Microphone signal circuit. Refer to AV-94, "Diagnosis Procedure".

RELATED TO STEERING SWITCH

Symptoms	Possible malfunction location / Action to take
All steering switches are not operated.	Steering switch signal ground circuit. (steering switch to TEL adapter unit) Refer to AV-101, "Diagnosis Procedure".
Only specified switch cannot be operated.	Replace steering wheel. Refer to ST-12, "Removal and Installation".

Symptoms	Possible malfunction location / Action to take
“SOURCE”, “SEEK UP”, “SEEK DOWN” and “ ” switches are not operated.	Steering switch signal A circuit. (steering switch to TEL adapter unit) Refer to AV-97, "Diagnosis Procedure".
”VOL UP“, “VOL DOWN” and “ ” switches are not operated.	Steering switch signal B circuit. (steering switch to TEL adapter unit) Refer to AV-99, "Diagnosis Procedure".

NORMAL OPERATING CONDITION

Description

INFOID:0000000009651966

RELATED TO AUDIO

- The majority of the audio malfunctions are the result of outside causes (bad CD, electromagnetic interference, etc.). Check the symptoms below to diagnose the malfunction.
- The vehicle itself can be a source of noise if noise prevention parts or electrical equipment is malfunctioning. Check that noise is caused and/or changed by engine speed, ignition switch turned to each position, and operation of each piece of electrical equipment. Then determine the cause.

NOTE:

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

Symptoms	Cause and Counter measure
Cannot play	Check if the disc or USB device was inserted correctly.
	Check that the disc is scratched or dirty.
	Check if there is condensation inside the player, and if there is, wait until the condensation is gone (about 1 hour) before using the player.
	If there is a temperature increase error, the player will play correctly after it returns to the normal temperature.
	Files with extensions other than ".MP3 (.mp3)", ".WMA (.wma)", ".AAC (.aac)" or ".M4A (.m4a)" cannot be played. In addition, the character codes and number of characters for folder names and file names should be in compliance with the specifications.
	Check if the disc or the file is generated in an irregular format. This may occur depending on the variation or the setting of compressed audio writing applications or other text editing applications.
	Check if the finalization process, such as session close and disc close, is done for the disc.
	Check if the disc or USB device is protected by copyright.
Poor sound quality	Check if the disc is scratched or dirty.
It takes a relatively long time before the music starts playing.	If there are many folder or file levels on the disc or USB device, some time may be required before the music starts playing.
Music cuts off or skips	The writing software and hardware combination might not match, or the writing speed, writing depth, writing width, etc., might not match the specifications. Try using the slowest writing speed.
Skipping with high bit rate files	Skipping may occur with large quantities of data, such as for high bit rate data.
Move immediately to the next song when playing.	If an unsupported compressed audio file has been given a supported extension like ".MP3", or when play is prohibited by copyright protection, the player will skip to the next song.
The songs do not play back in the desired order.	The playback order is the order in which the files were written by the writing software, so the files might not play in the desired order.
	Random/Shuffle may be active on the audio system or on a USB device.
Poor reception only from a certain radio broadcast station.	Check incoming radio wave signal strength of applicable broadcast station.
Buzz/rattle sound from speaker	The majority of rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the rattle.

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

NOTE:

- Fading noise: This noise occurs because of variations in the field strength in a narrow range due to mountains or buildings blocking the signal.
- Multi-path noise: This noise results from a time difference between the broadcast waves directly from the station arriving at the antenna and the waves reflected by mountains or buildings.

RELATED TO TELEPHONE

Symptoms	Cause and Counter measure
System fails to interpret the command correctly.	1. Ensure that the command format is valid.
	2. Ensure that the command is spoken after the tone.
	3. Speak clearly without pausing between words and at a level appropriate to the ambient noise level in the vehicle.
	4. Ensure that the ambient noise level is not excessive (for example, windows open or defroster on). **NOTE:** If it is too noisy to use the phone, it is likely that the voice commands will not be recognized.
	5. If more than one command was said at a time, try saying the commands separately.
	6. If the system consistently fails to recognize commands, the voice training procedure should be carried out to improve the recognition response for the speaker. Refer to AV-66, "On Board Diagnosis Function".
The system consistently selects the wrong entry from the phone book.	1. Ensure that the phone book entry name requested matches what was originally stored. This can be confirmed by using the “List Names” command.
	2. Replace one of the names being confused with a new name.

REMOVAL AND INSTALLATION

AUDIO UNIT

Removal and Installation

INFOID:0000000009651967

REMOVAL

1. Remove cluster lid D. Refer to IP-14, "Removal and Installation".
2. Remove audio unit mounting screws.
3. Pull out audio unit, and then disconnect antenna feeder and harness connectors.
4. Remove audio unit and brackets as a single unit.
5. Remove brackets from audio unit.

INSTALLATION

Install in the reverse order of removal.

FRONT DOOR WOOFER

Removal and Installation

INFOID:0000000009651968

REMOVAL

1. Remove front door finisher. Refer to INT-14, "Removal and Installation".
2. Remove front door woofer screws and disconnect front door woofer connector.

INSTALLATION

Install in the reverse order of removal.

FRONT SQUAWKER

Removal and Installation

INFOID:0000000009651969

REMOVAL

1. Remove speaker grille from instrument panel. Refer to IP-14, "Removal and Installation".
2. Remove screws and disconnect connector, and remove the front squawker.

WARNING:
Never damage wind shield glass.

INSTALLATION

Install in the reverse order of removal.

SLIDE DOOR SPEAKER

Removal and Installation

INFOID:0000000009651970

REMOVAL

1. Remove slide door finisher. Refer to INT-17, "Removal and Installation".
2. Remove screws and disconnect connector, and remove slide door speaker.

INSTALLATION

Install in the reverse order of removal.

REAR VIEW CAMERA

Removal and Installation

INFOID:0000000009943033

REMOVAL

1. Remove back door finisher. Refer to EXT-47, "Removal and Installation".
2. Remove screws to remove rear view camera from back door finisher.

INSTALLATION

Install in the reverse order of removal.

NOTE:

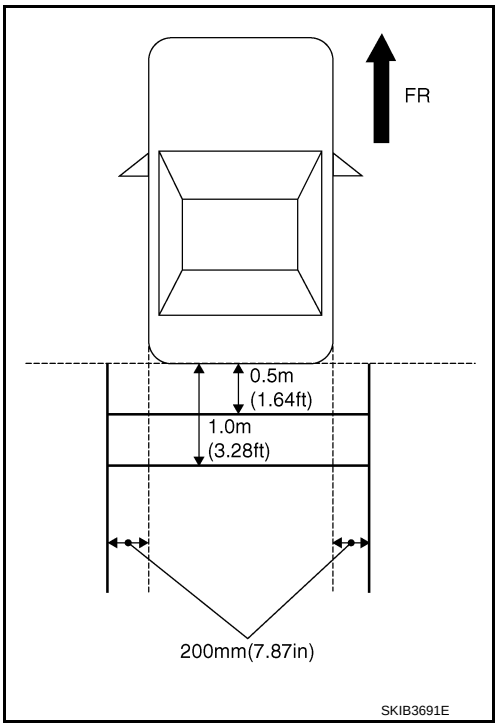
Adjust the guide line position if the guide line position is shifted after installing the rear view camera. Refer to AV-116, "Adjustment".

Adjustment

INFOID:0000000009651972

Adjust the guide line position if the guide line position is shifted after installing the rear view camera.

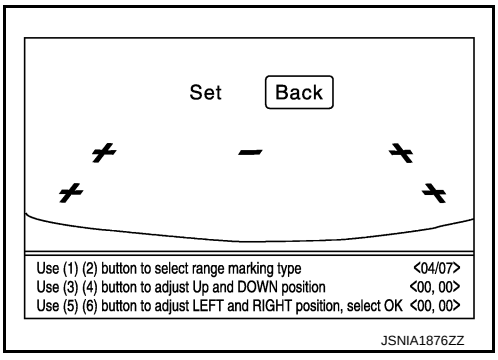
1. Draw lines on rearward area of the vehicle passing through the following points: 200 mm (7.87 in) from both sides of the vehicle, and 0.5 m (1.64 ft), 1.0 m (3.28 ft) from the rear end of the bumper.
2. Set into “Camera system” mode of Confirmation / Adjustment mode.



3. Press “1” or “2” switches, and then select the guiding line pattern so that its angle is aligned with the correction line of the rear of the vehicle.

Selected pattern : 7

4. Make fine adjustment to the correction line of the rear of the vehicle with “3”, “4”, “5” or “6” switches so that its position is aligned with the guiding line. Press “PUSH ENTER” switch and record the adjusted guiding line position to the camera control unit.



Up/Down adjustment range : (–20) – (20)

Left/Right adjustment range : (–20) – (20)

CAUTION:

Never operate other function such as pressing BACK while writing index data.

USB CONNECTOR

Removal and Installation

INFOID:0000000009651973

REMOVAL

1. Remove center console upper finisher. Refer to IP-29, "Disassembly and Assembly".
2. Unhook pawl to remove USB connector from center console upper finisher.

INSTALLATION

Install in the reverse order of removal.

TEL ADAPTER UNIT

Removal and Installation

INFOID:0000000009651974

REMOVAL

1. Remove cluster lid C. Refer to IP-14, "Removal and Installation".
2. Remove TEL adapter unit mounting bracket screws.
3. Disconnect connector to remove TEL adapter unit, TEL antenna, and bracket as a single unit.
4. Remove bracket screws to remove TEL adapter unit from bracket.

INSTALLATION

Install in the reverse order of removal.

TEL ANTENNA

Removal and Installation

INFOID:0000000009651975

REMOVAL

1. Remove cluster lid C. Refer to IP-14, "Removal and Installation".
2. Remove TEL adapter unit mounting bracket screws.
3. Disconnect connector to remove TEL adapter unit, TEL antenna, and bracket as a single unit.
4. Disconnect connector and remove screws to TEL antenna.

INSTALLATION

Install in the reverse order of removal.

MICROPHONE

Removal and Installation

INFOID:0000000009651976

REMOVAL

1. Remove map lamp assembly. Refer to INL-67, "Removal and Installation".
2. Unhook pawls to remove microphone from map lamp assembly.

CAUTION:
Carefully handle the pawl fixing the microphone to prevent damage to the pawl.

INSTALLATION

Install in the reverse order of removal.

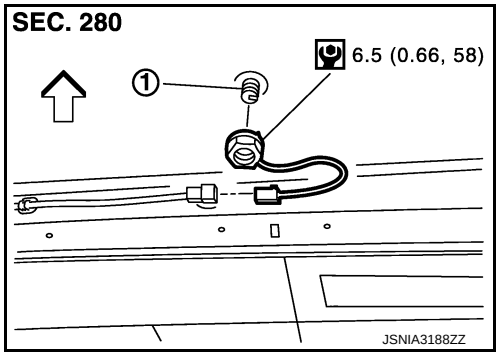
NOTE:
After installing microphone, check that it is securely installed with no backlash.

SATELLITE RADIO ANTENNA

Exploded View

INFOID:0000000009651977

REMOVAL

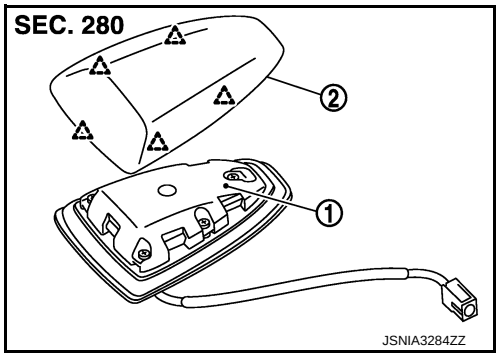


1. Satellite radio antenna

⇦ : Vehicle front

: N·m (kg-m, in-fb)

DISASSEMBLY



1. Satellite radio antenna
2. Cover

: Pawl

Removal and Installation

INFOID:0000000009651978

REMOVAL

1. Remove rear upper ventilator duct 2. Refer to HA-56, "Exploded View".
2. Disconnect antenna feeder connector.
3. Remove nut, and remove satellite radio antenna and the cover from the vehicle as a single unit.

INSTALLATION

Install in the reverse order of removal.

CAUTION:

If the satellite radio antenna mounting nut is tightened looser than the specified torque, then this will lower the sensitivity of the antenna. On the other hand, if the nut is tightened tighter than the specified torque, then this will deform the roof panel.

Disassembly and Assembly

INFOID:0000000009651979

DISASSEMBLY

Insert cloth-covered driver into gaps between satellite radio antenna and the cover, and remove the cover from satellite radio antenna.

ASSEMBLY

Assemble in the reverse order of disassembly.

ANTENNA AMP.

Removal and Installation

INFOID:0000000009651980

REMOVAL

1. Remove rear pillar garnish RH. Refer to INT-27, "REAR PILLAR GARNISH : Removal and Installation".
2. Remove screw and disconnect connector, and remove antenna amp.

INSTALLATION

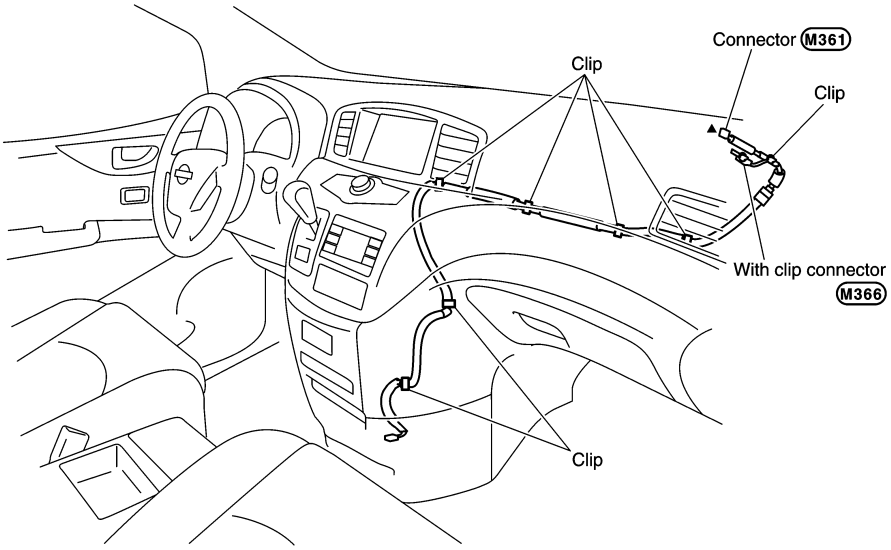
Install in the reverse order of removal.

ANTENNA FEEDER

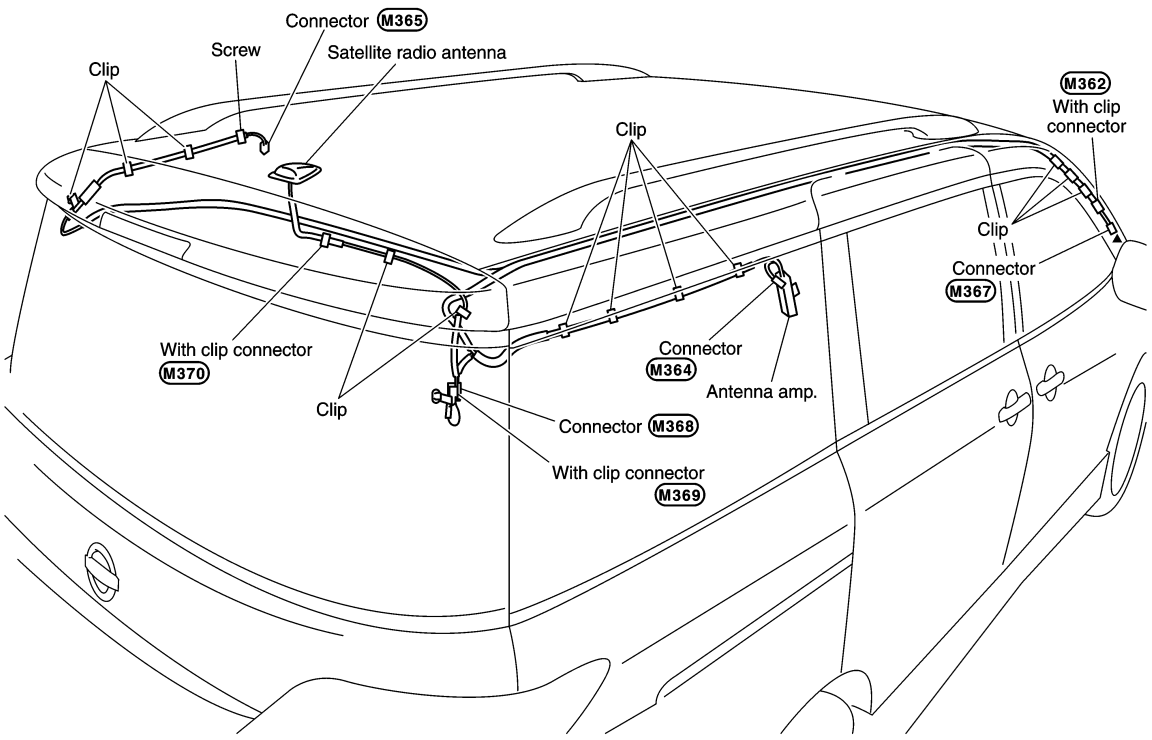
Feeder Layout

INFOID:0000000009651981

SEC. 280



Instrument panel passenger side



Rear view of vehicle

JSNIA4724GB

▲: Indicates that the part is connected at points with same symbol in actual vehicle.

PRECAUTION

PRECAUTIONS

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

INFOID:0000000009651982

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 “SRS AIR BAG” and “SEAT BELT” of this Service Manual.

WARNING:

Always observe the following items for preventing accidental activation.

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that 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 “SRS AIR BAG”.**
- **Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.**

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

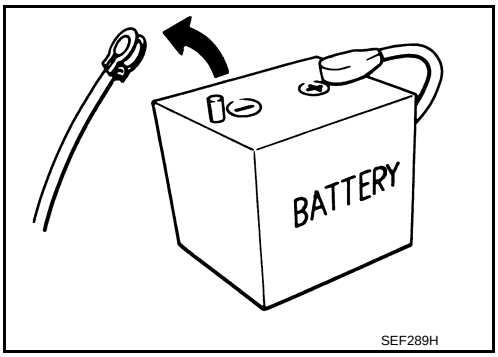
WARNING:

Always observe the following items for preventing accidental activation.

- **When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.**
- **When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.**

Precautions for Removing Battery Terminal

INFOID:0000000009926426



- When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.
  NOTE:
  ECU may be active for several tens of seconds after the ignition switch is turned OFF. If the battery terminal is removed before ECU stops, then a DTC detection error or ECU data corruption may occur.
- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.
  NOTE:
  If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.
- After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.
  NOTE:
  The removal of 12V battery may cause a DTC detection error.

Precaution for Trouble Diagnosis

INFOID:0000000009651984

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.

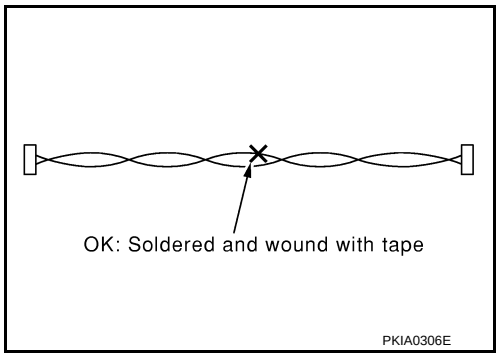
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

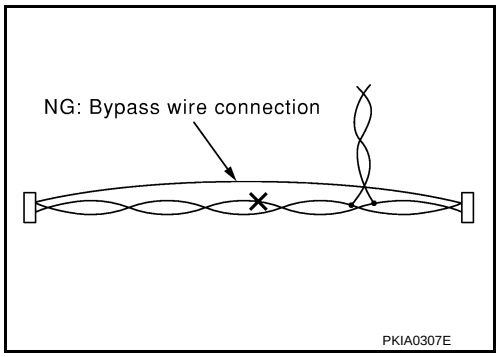
INFOID:0000000009651985

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.)

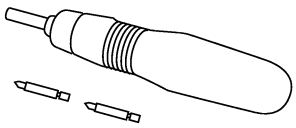


PREPARATION

PREPARATION

Commercial Service Tools

INFOID:0000000009651986

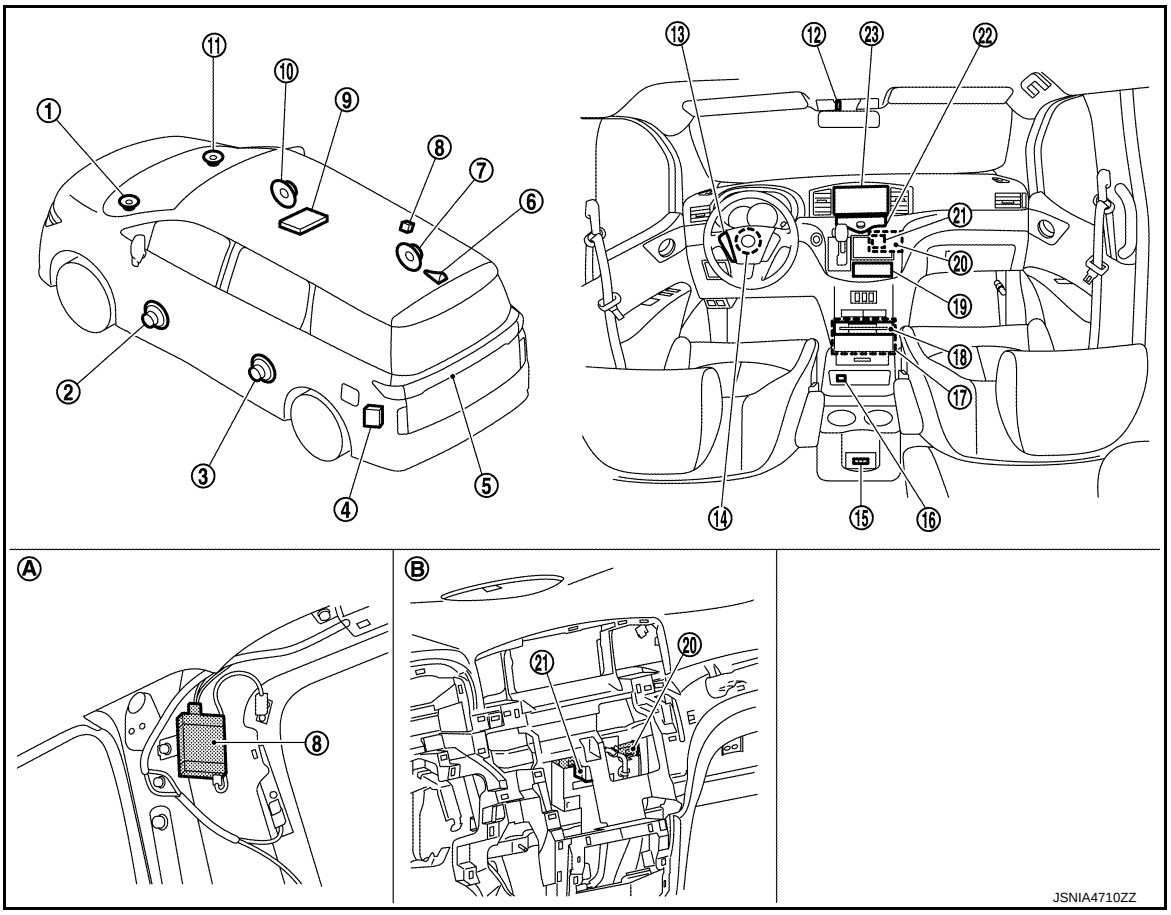
Tool		Description
Power tool	 PBIC0191E	Loosening screws

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000009651987



A. Rear pillar garnish (RH) is removed. B. Cluster lid C is removed.

No.	Component	Function
1,11.	Front squawker	Refer to AV-130, "Speaker".
2,10.	Front door woofer	
3,7.	Slide door speaker	
4.	Satellite radio tuner	Refer to AV-136, "Satellite Radio Tuner".
5.	Rear view camera	Refer to AV-133, "Rear View Camera".
6.	Satellite radio antenna	Refer to AV-136, "Satellite Radio Antenna".
8.	Antenna amp.	Refer to AV-134, "Antenna amp., Radio Antenna, and Antenna Feeder".
9.	Rear display unit	Refer to AV-130, "Rear Display Unit"
12.	Microphone	Refer to AV-133, "Microphone".
13.	Steering switch	Refer to AV-132, "Steering Switch".
14.	Steering angle sensor	Refer to AV-134, "Steering Angle Sensor".
15.	Auxiliary input jacks	Refer to AV-133, "Auxiliary Input Jacks".
16.	USB connector	Refer to AV-133, "USB Connector".
17.	AV control unit	Refer to AV-128, "AV Control Unit".
18.	Disk eject switch	Refer to AV-132, "Disk Eject Switch".

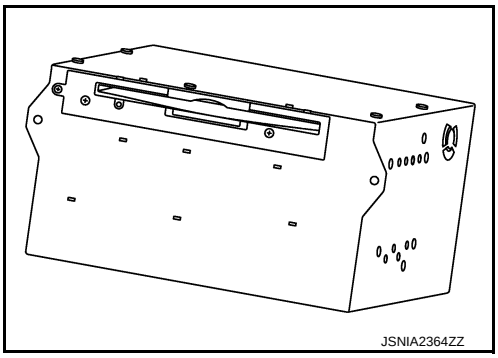
No.	Component	Function
19.	Preset switch	Refer to AV-131, "Multifunction Switch".
20.	TEL adapter unit	Refer to AV-132, "TEL Adapter Unit".
21.	TEL antenna	Refer to AV-132, "TEL Antenna".
22.	Multifunction switch	Refer to AV-131, "Multifunction Switch".
23.	Front display unit	Refer to AV-130, "Front Display Unit".

AV Control Unit

INFOID:0000000009651988

DESCRIPTION

- The AV control unit is equipped with the following parts. It is the master unit integrated with functions and controls the multi-AV system.


JSNIA2364ZZ

Units equipped
Audio amplifier
AM/FM electronic tuner
CD/DVD drive
USB interface
Camera controller

- Signals necessary for the vehicle information display function are received from ECM and the combination meter via CAN communication.
- Signals necessary for vehicle setting functions are sent and received with BCM via CAN communication.
- It inputs the signal for driving status recognition (vehicle speed signal, reverse signal, and parking brake signal).
- A predictive course line is generated on the camera image from the rear view camera, and it is shown on the front display.
- It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).

NOTE:
For details of each functions, refer to AV-139, "MULTI AV SYSTEM : System Description".

Audio Amplifier
- 50 W x 4ch amplifiers are installed.
- Audio sound, TEL voice and guiding voice are output to each speaker.

AM/FM Electronic Tuner
The adoption of the PLL frequency synthesizer system enables the signal outputting with accurate frequencies.

CD/DVD drive
- It is CD-R/CD-RW compliant and enables MP3 and WMA files to play music.
- It displays the artist name, album title or song title recorded to the file by the ID3 tag/WMA tag display function.
- DVD playback function is equipped.

USB Interface
- Music can be played by connecting an iPod® or USB memory.

Camera Controller
- Warning message, width/distance guiding line and predictive course line are generated on the image from the rear view camera.
- The predictive course line is drawn based on the steering signal received from the steering sensor via CAN communication.

Specification

Manufacturer name	Panasonic corporation
Audio Amplifier	50 W × 4 ch

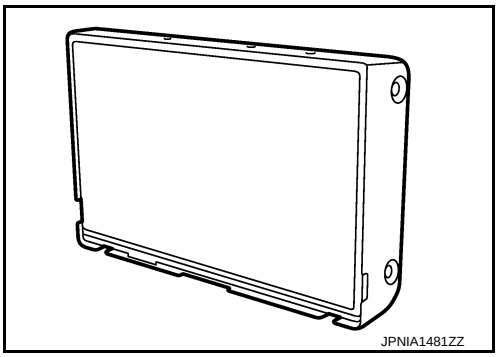
CD/DVD drive	Used disc		ϕ 12 cm (4.7 in)
	Playable disc	CD	CD-ROM (CD-DA)
			CD-R[*1]
			CD-RW[*1]
		DVD	DVD-ROM
			DVD-R[*1]
			DVD-RW[*1]
	Playable format	Music	MP3
			WMA
		Image	DVD-VIDEO
			VIDEO-CD
	Text display function	ID3 / WMA tag	Artist name
			Album title
			Song title
USB	High communication standard		USB1.1
	Playable format	Music	MP3
			WMA
	Text display function	ID3 / WMA tag	Artist name
			Album title
			Song title
	iPod®Action[*2]		iPod Classic® 1st generation
			iPod Classic® 2nd generation
			iPod nano® 3rd generation
			iPod nano® 2nd generation
			iPod nano® 1st generation
			iPod® 5th generation
			iPod touch® 1st generation
			iPod touch® 2nd generation
			iPhone 3rd generation
Flash memory	Total capacity		2 GB
Camera controller	Guideline display function		Width/distance display
			Predictive course lines display/non-display switch
	Steering angle signal input method		CAN communication
Other functions			Speed sensitive volume function
			Steering switch compliant

- *1: If the reflectance of the surface of the media is low, the data may not be read.
- *2: It may not be used if it is not updated to the latest firmware or partial functions may not work if it is used.

Front Display Unit

INFOID:0000000009651989

- The front display unit has an 7-inch QVGA liquid-crystal display.
- It receives the power (signal VCC and inverter VCC) from the AV control unit and operates.
- Composite image signals (DVD, USB memory-stored video data, auxiliary input, and camera) are input from AV control unit.
- RGB image signal is input from AV control unit (RGB, RGB area and RGB synchronizing).
- Synchronizing signal (HP, VP) is output to AV control unit.
- This unit is connected to the AV control unit via serial communication. Images shown on the front display unit are controlled by the AV control unit.



Specification

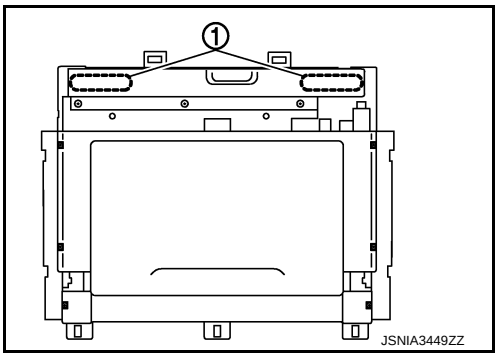
Manufacturer name	Panasonic corporation
Screen size	7-inch QVGA [154.08 × 86.58 mm (6.1 × 3.4 in)]
Number of pixels	480 × 234 pixels

Rear Display Unit

INFOID:0000000009651990

- The rear display unit has an 11-inch WVGA* liquid-crystal display and a remote-control automatic folding function.
- Composite image signal [USB (video data), DVD and auxiliary input] and headphone sound signal are input from AV control unit.
- A remote control operation signal is received through the built-in light-receptive spot (1).
- The display brightness is adjusted automatically, according to ambient brightness.

*: WVGA (Wide VGA) is a standard of the resolution of the display. It extended width of VGA.



Specification

Manufacturer name	Clarion Co., Ltd.
Screen size	11-inch WVGA [243.6 mm × 137.52mm (9.6 in × 5.4 in)]
Number of pixels	800 × 480 pixels

Speaker

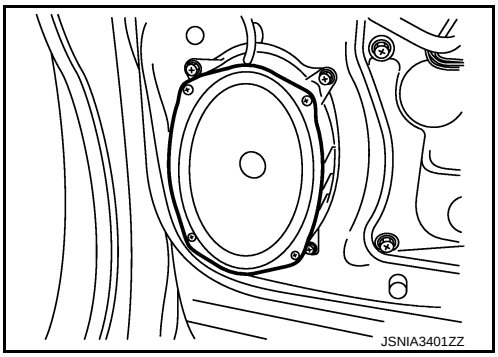
INFOID:0000000009651991

6 speakers system is adopted.

FRONT DOOR WOOFER

- ϕ 15.0 × 23.0 cm (6 × 9 in) speaker is installed to the bottom of the front door.
- Sound signal is input from the AV control unit to output low range sounds.

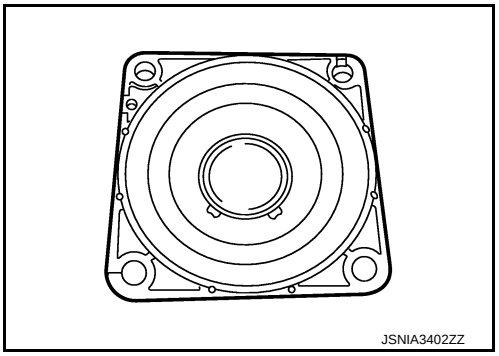
Rated input : 20 W
Maximum input : 40 W
Impedance : 2 Ω



FRONT SQUAWKER

- ϕ 6.5 cm (2 in) squawker is installed to the side of instrument panel.
- Sound signal is input from the AV control unit to output high and mid range sounds.

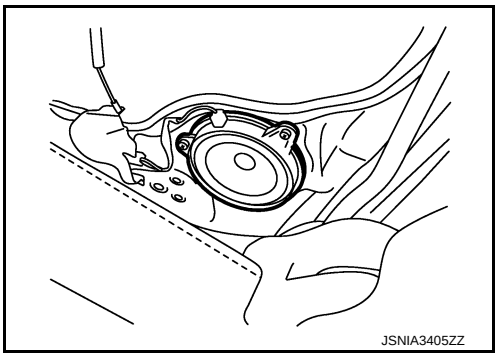
Rated input : 7 W
Maximum input : 40 W
Impedance : 4 Ω



SLIDE DOOR SPEAKER

- ϕ 16cm (6.5 in) speaker is located at the lower part of the back of the slide door.
- Sound signal is input from the AV control unit to output high, mid, and low range sounds.

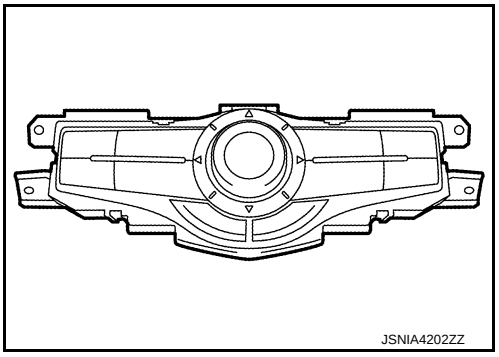
Rated input : 20 W
Maximum input : 40 W
Impedance : 2 Ω



Multifunction Switch

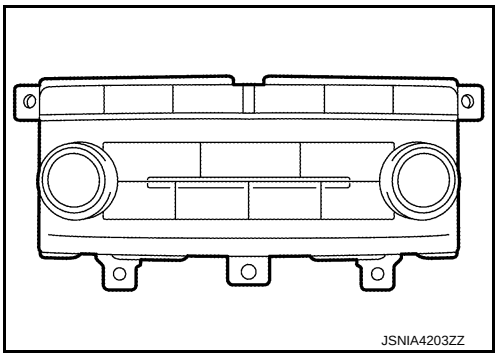
INFOID:0000000009651992

- The multifunction switch is an integrated switch that combines the audio operation and other operations switches. This integrated switch is located in the lower part of the front display unit.
- Connected with preset switch via hardwire and operation signal is transmitted to AV control unit via AV communication.



PRESET SWITCH

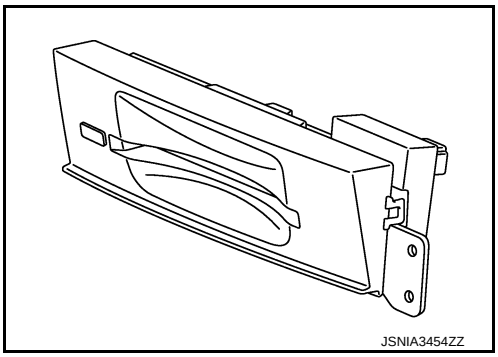
- The preset switch is separated from the multifunction switch and capable of audio operation.
- Operation signals of the multifunction switch and the preset switch are transmitted to the AV control unit via AV communication.



Disk Eject Switch

INFOID:0000000009651993

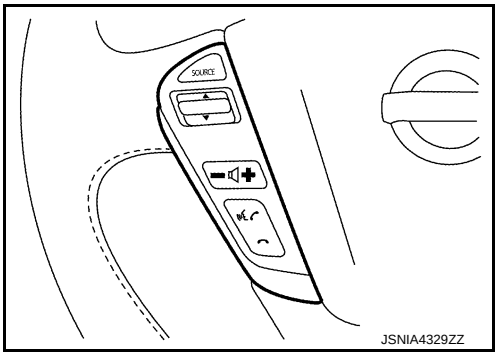
- The disk eject switch is used for removing CD/DVD from the AV control unit.
- When the disk eject switch is pressed, a disk eject signal is transmitted to the AV control unit, and the AV control unit ejects CD/DVD.



Steering Switch

INFOID:0000000009651994

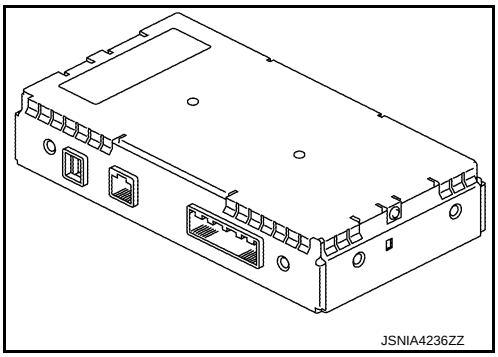
- Operations for audio and hands-free phone, etc. are possible.
- This switch is connected to the AV control unit, and the switch operation signal is transmitted to the AV control unit via voltage multiplex communication.



TEL Adapter Unit

INFOID:0000000009651995

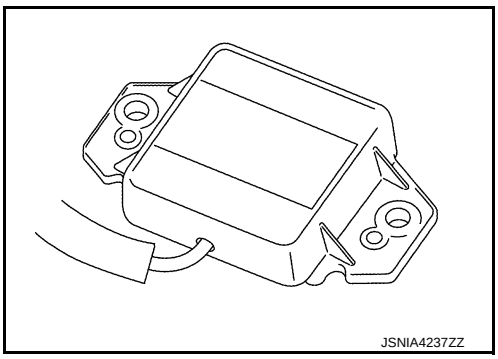
- Inputs the TEL voice signal from TEL antenna and outputs it to the AV control unit.
- It is connected with the AV control unit via AV communication and controlled with the AV control unit.



TEL Antenna

INFOID:0000000009651996

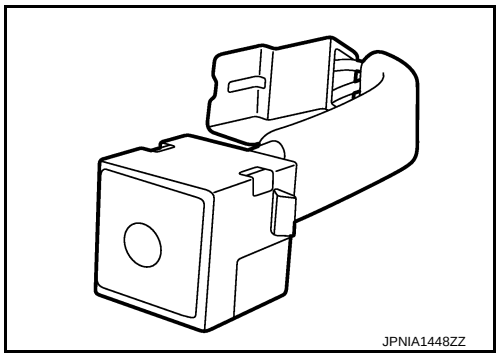
Receives the TEL voice signal from cellular phone and outputs it to the TEL adapter unit.



Microphone

INFOID:0000000009651997

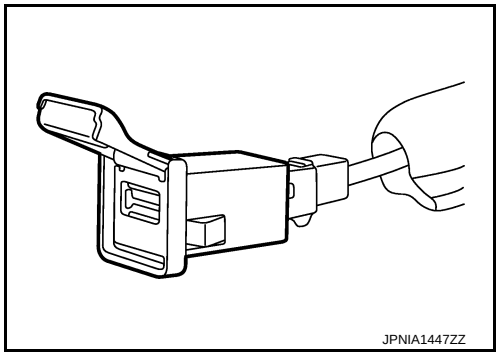
- The voice control/TEL microphone is installed on the left side of the map lamp assembly.
- The power is supplied from the TEL adapter unit to the microphone, transmitting sound signals to the TEL adapter unit at the voice control or during hands-free phone communication.


JPNIA1448ZZ

USB Connector

INFOID:0000000009651998

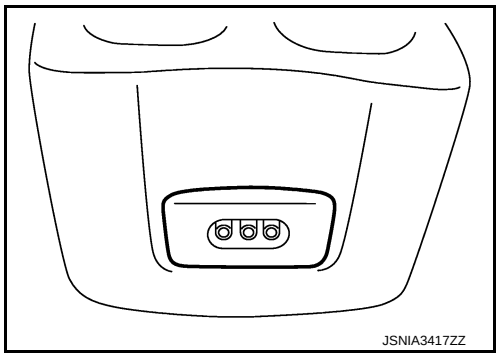
- USB connector is installed to the console box.
- iPod® and USB memory can be connected to the AV control unit.


JPNIA1447ZZ

Auxiliary Input Jacks

INFOID:0000000009651999

- Installed to the rear of center console.
- Sound signals and image signals from the external equipment are transmitted to the AV control unit.

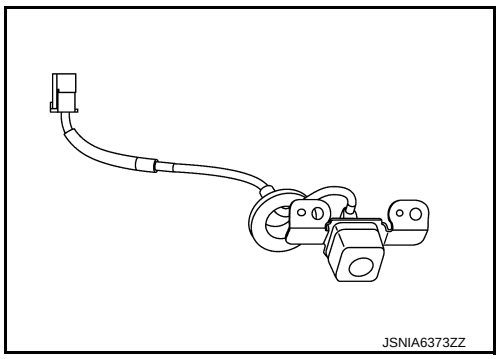

JSNIA3417ZZ

Rear View Camera

INFOID:0000000009652000

- The rear view camera is installed to the back door finisher.
- Super-small CCD camera (color) using CCD* for the image pickup element is adopted.
- With the mirror processing function, a mirror image is sent as if it is viewed by a rear view mirror.
- Power for the camera is supplied from the AV control unit, and the image at the rear of the vehicle is sent to the AV control unit.

NOTE:
*: Abbreviation of Charge Coupled Device. CCD can turn incident light from the lens into electrons and memorize the image like a photo.


JSNIA6373ZZ

Specification

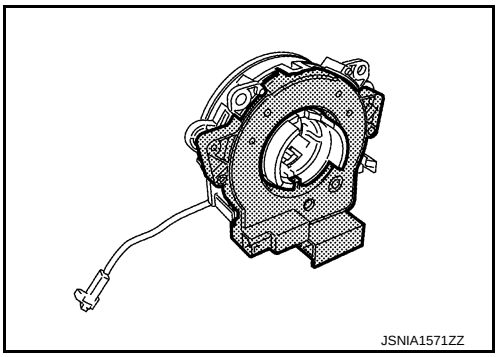
Manufacturer name	Panasonic corporation
Image pickup element	1/4-inch interline CCD color

Effective number of pixels	Approx. 250,000 pixels (510 × 492)
Minimum brightness	2 lx
Angle of view	H: 137° V: 92°
Image	With mirror processing function

Steering Angle Sensor

INFOID:0000000009652001

- Steering sensor is installed to the spiral cable.
- Steering angle sends the steering signal necessary for predictive course line of the rear view monitor function to the AV control unit via CAN communication.



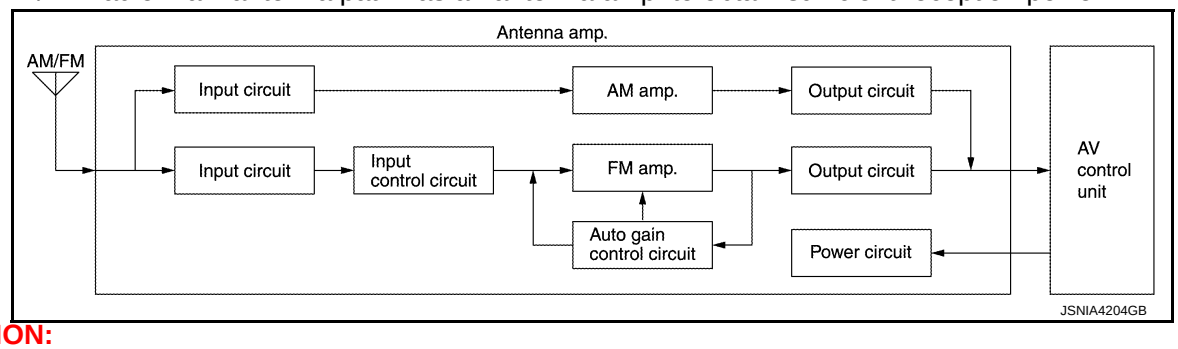
Antenna amp., Radio Antenna, and Antenna Feeder

INFOID:0000000009652002

RADIO ANTENNA

- AM/FM radio main antenna is located on the right rear side window glass and FM radio sub antenna on the left rear side window glass.

- The AM/FM radio main antenna path has an antenna amp. to obtain sufficient reception power.

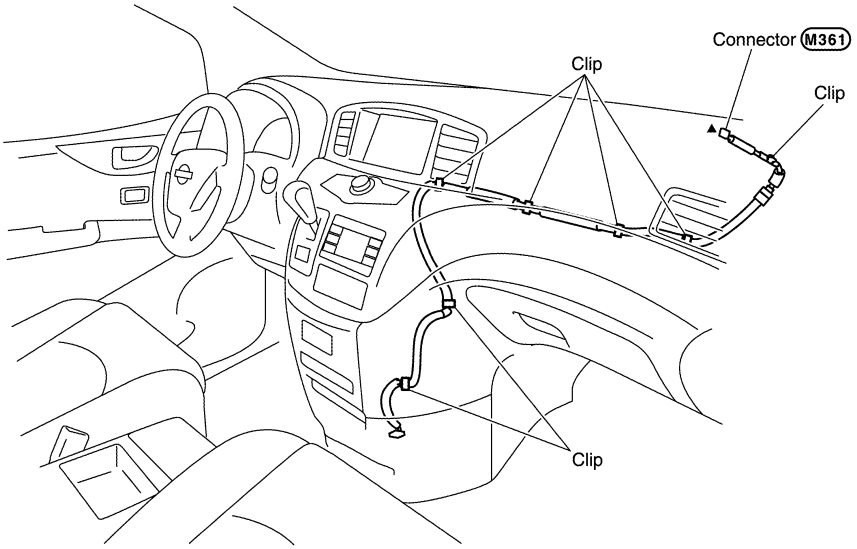


CAUTION:

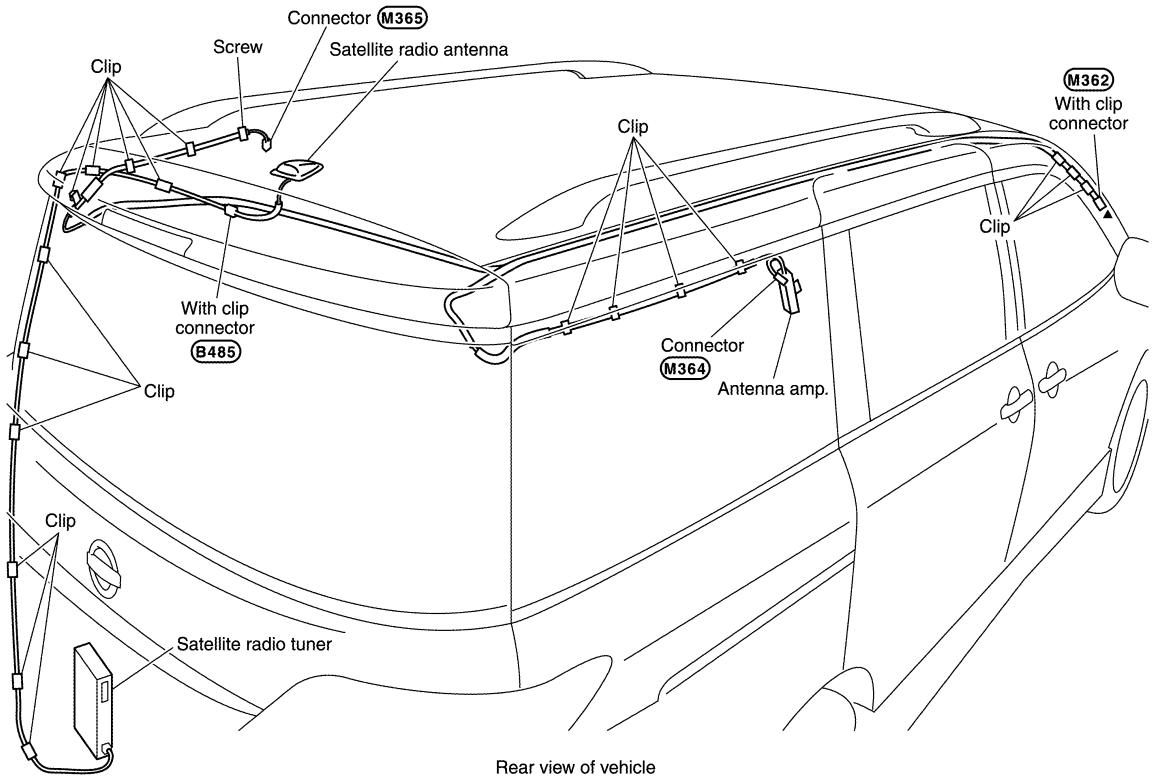
Affixing any mirror-type window films or metallic items (e.g. commercial antenna) on the rear side window glass causes a reduction in the radio receiver sensitivity.

ANTENNA FEEDER LAYOUT

SEC. 280



Instrument panel passenger side



Rear view of vehicle

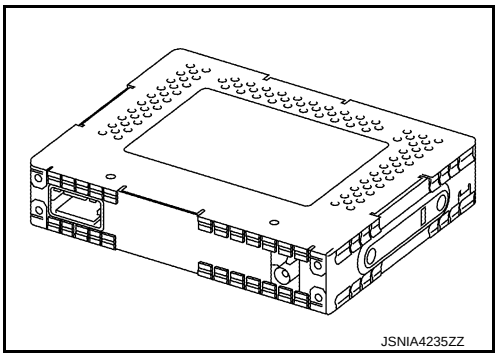
JSNIA4219GB

▲: Indicates that the part is connected at points with same symbol in actual vehicle.

Satellite Radio Tuner

INFOID:0000000009652003

- Inputs the satellite radio signal from satellite radio antenna and outputs the sound signal to the AV control unit.
- It is controlled with the AV control unit and serial communication (communication signal and request signal).



Satellite Radio Antenna

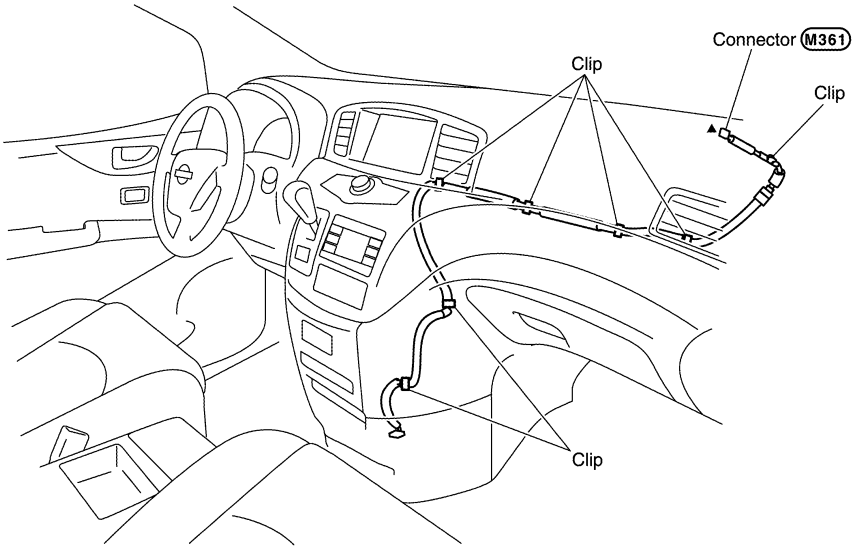
INFOID:0000000009652004

SATELLITE RADIO ANTENNA

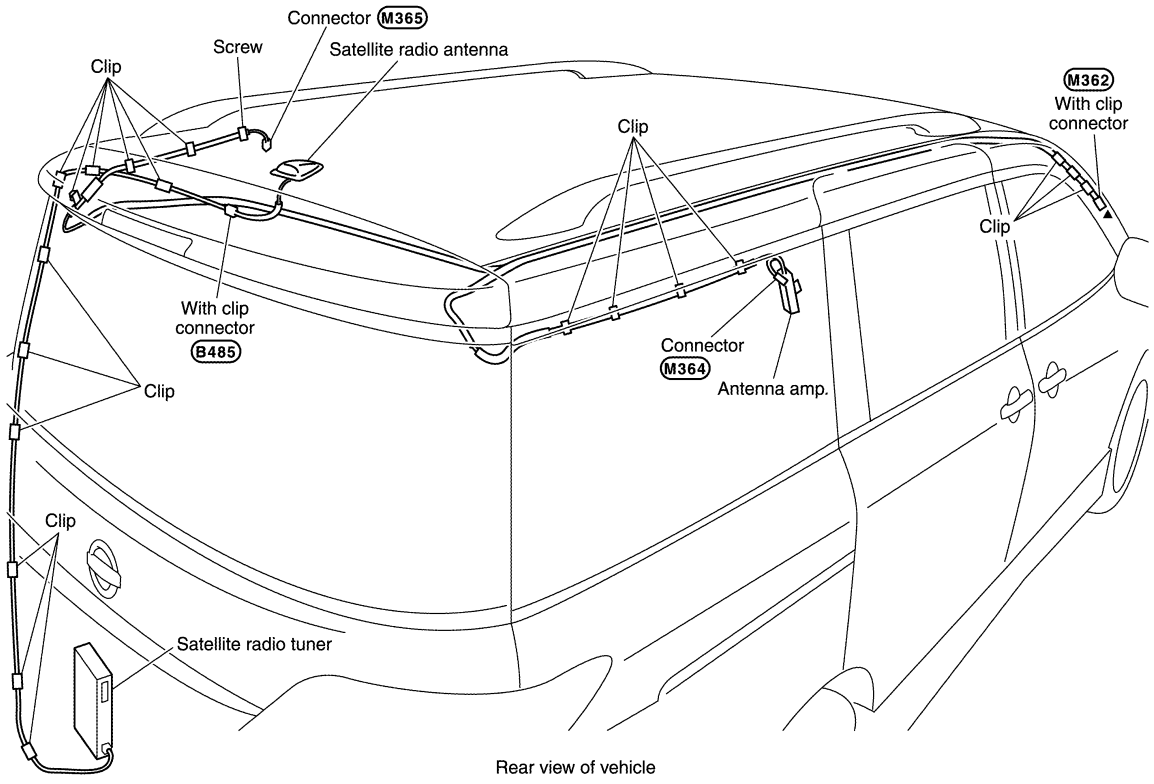
- Satellite radio antenna is installed to the rear center of the roof.
- Receives satellite radio waves and outputs it to satellite radio tuner.

ANTENNA FEEDER LAYOUT

SEC. 280



Instrument panel passenger side



Rear view of vehicle

JSNIA4219GB

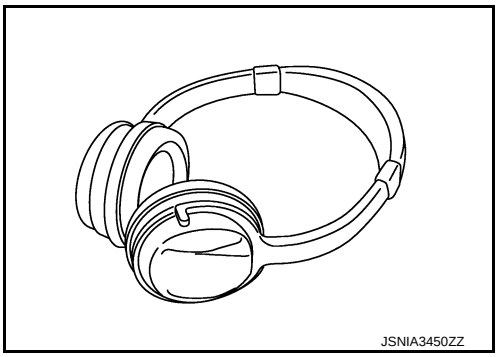
▲: Indicates that the part is connected at points with same symbol in actual vehicle.

Headphone

INFOID:0000000009652005

- The adoption of the wireless headphone allows the independent audio listening on the rear seat.
- Sound signals are received from the rear display unit via infrared communication.

Battery: AAA battery × 2

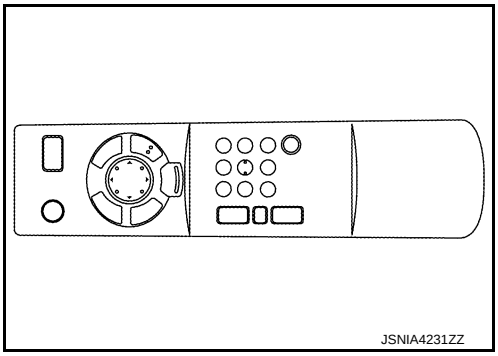


Remote Controller

INFOID:0000000009652006

- The adoption of the infrared remote controller allows audio operation and other operations on the rear seat.
- The light-receptive spot is included in the rear display unit.

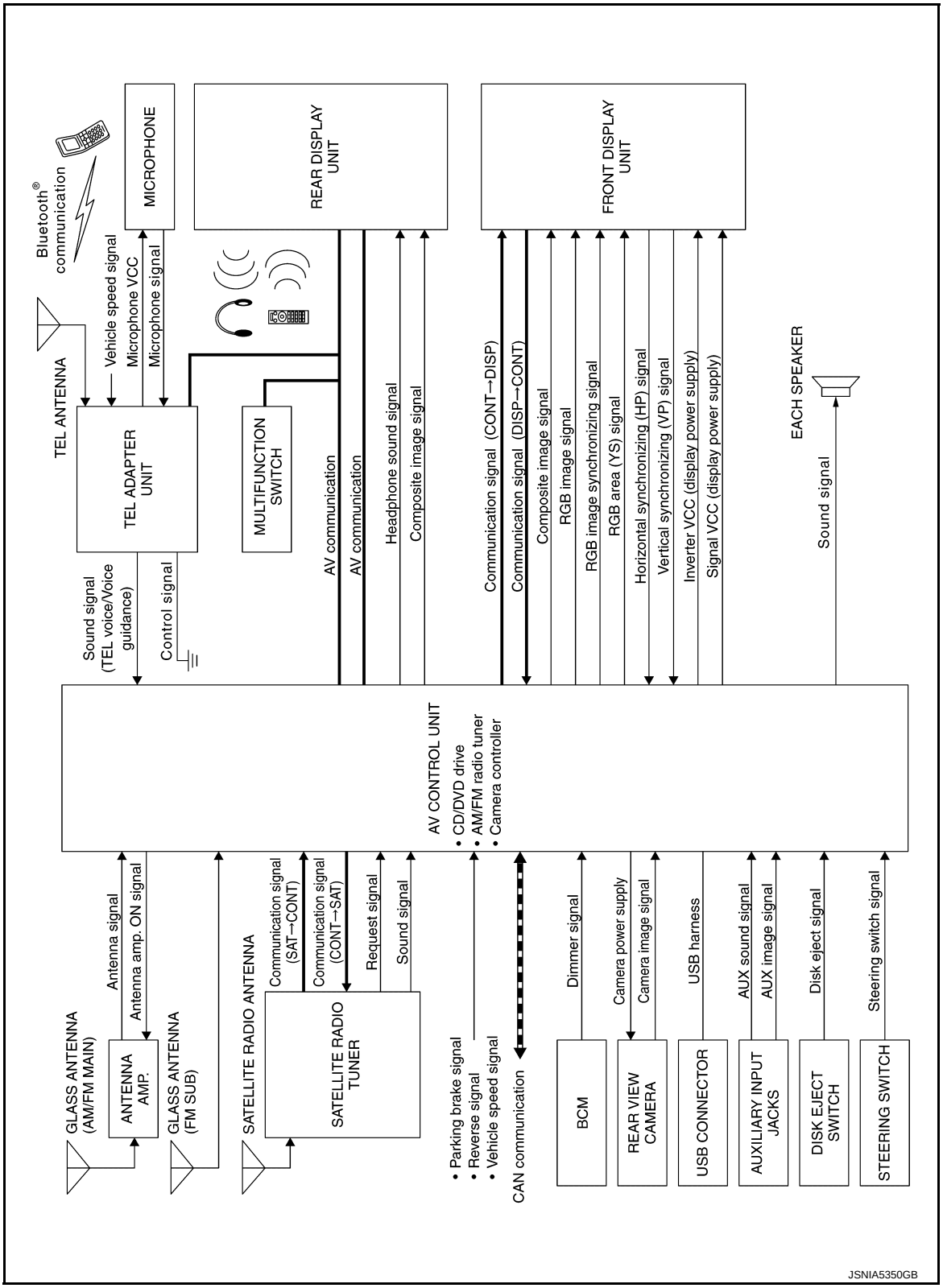
Battery: AA battery × 2



SYSTEM
MULTI AV SYSTEM
MULTI AV SYSTEM : System Description

INFOID:0000000009652007

SYSTEM DIAGRAM



NOTE:

The name MULTIFUNCTION SWITCH indicates the integration of PRESET SWITCH and MULTIFUNCTION SWITCH virtually.

CAN COMMUNICATION

AV control unit Input Signal

Transmit unit	Signal name
ECM	Engine status signal
	Fuel consumption monitor signal
Steering angle sensor	Steering angle sensor signal
Combination meter	Vehicle speed signal
	Distance to empty signal
	Fuel level low warning signal
BCM	System setting signal

DESCRIPTION

Multi AV system means that the following systems are integrated.

FUNCTION NAME
Audio function
DVD playback function
Bluetooth® hands-free phone function
Mobile entertainment system
Auxiliary input function
Rear view monitor function
Vehicle information function
Auto Light adjustment system

COMMUNICATION SIGNAL

- AV control unit function by transmitting/receiving data one by one with each unit (slave unit) that configures them completely as a master unit by connecting between units that configure MULTI AV system with two AV communication lines (H, L).
- Two AV communication lines (H, L) adopt a twisted pair line that is resistant to noise.
- AV control unit is connected with front display unit and serial communication, and it transmits the required signal of display and display control and receives the response signal from front display unit.

CAN COMMUNICATION

- AV control unit is connected by CAN communication, and it receives data signal from ECM and combination meter. It computes and displays fuel economy information value with the obtained information.
- The AV control unit, which has the vehicle setting function, transmits and receives data on vehicle setting condition via CAN communication with the BCM.
- AV control unit receives steering angle signal from steering angle sensor via CAN communication and performs control of predictive course line in rear view monitor image.

AUDIO FUNCTION

The audio system is equipped with the following functions.

FUNCTION
AM/FM radio
Satellite radio
CD
USB connection

Operating Signal

Audio system operation can be performed with multifunction switch, preset switch, or steering switch.
- Operating signal is transmitted to AV control unit with AV communication when it is operated by multifunction switch or preset switch.
- The disk eject signal is transmitted to AV control unit by hardwire, when disk eject switch is operated.
- Operating signal is transmitted to AV control unit with steering switch signal when it is operated by steering switch.
- Operation status of audio is indicated at front display by RGB image signal, RGB area signal, and RGB image synchronizing signal.

AM/FM Radio Function
- AM/FM radio tuner is built into AV control unit.
- AM/FM radio wave is received by radio antenna, next it is amplified by antenna amp., and finally it is input to AV control unit.
- FM radio wave is received by FM sub antenna, and it is transmitted to the AV control unit directly.
- AV control unit outputs audio signal to each speaker.

Satellite Radio Mode
- Satellite radio tuner is controlled by communication signal and request signal with AV control unit.
- Sound signal (satellite radio) is received by satellite radio antenna and transmitted to AV control unit via satellite radio tuner.
- AV control unit outputs audio signal (satellite radio) to each speaker.

CD Mode
- CD function is built into AV control unit.
- AV control unit outputs audio signal to each speaker when CD is inserted to AV control unit.
- For further information about CD function specifications, refer to AV-128, "AV Control Unit".

USB Connection Function
- Connecting iPod® or USB memory allows the driver to play iPod® music files or USB memory-stored music files.
- Sound signals of music files stored in iPod® or USB memory is transmitted from the USB connector to the AV control unit.
- AV control unit outputs sound signal to each speaker.
- iPod® is recharged when connected to USB connector.
- Compliant USB memory and data recorded are limited.

USB memory	USB1.1
File system	FAT16
	FAT32

- Only files that meet the following conditions will be played.

	Music file
File format	“MP3”, “WMA”
File extension	“.mp3”, “.wma”
Maximum file size	2GB

NOTE:
- iPod® is a trademark of Apple inc., registered in the U.S. and other countries.
- Image signals cannot be received from iPod® or USB memory.
- Use the enclosed USB harness when connecting iPod® to USB connector.

DVD PLAYBACK FUNCTION
- DVD is played by inserting DVD into the AV control unit.
- DVD image signals are transmitted to the front display unit, and DVD sound signals are transmitted to each speaker.
- DVD image signals and sound signals are transmitted to the rear display unit. The rear display unit transmits the sound signals to the headphone via infrared communication.
- For further information about DVD function specifications, refer to AV-128, "AV Control Unit".

MOBILE ENTERTAINMENT SYSTEM

Image and sound (DVD, USB memory-stored video data, and auxiliary input) played by AV control unit can be enjoyed in rear seat using rear display unit and headphone.

Operating Signal
- The mobile entertainment system can be controlled by one of the remote controller.
- It receives the operation signal of the remote controller by the remote control receiver built into rear display unit, and then transmits it to the AV control unit.

Headphone Sound
Headphone sound signals are transmitted to infrared communication between rear display unit and headphone.

Screen rear display
- Image signal output from AV control unit is transmitted to the rear display unit.
- The rear display unit receives the composite image signal (DVD, USB memory-stored video data, and auxiliary input) from the AV control unit.
- The rear display unit switches composite images through the communications with the AV control unit via AV communication.

BLUETOOTH® HANDS-FREE PHONE FUNCTION
- TEL adapter unit is controlled with AV communication from AV control unit.
- When the cellular phone is connected to the TEL adapter unit via TEL antenna in Bluetooth® communication, hands-free phone communication can be performed.
- Simply operating the steering switch without releasing hands from the steering wheel allows the driver to make a phone call or receive a phone call.
- When a Bluetooth® communication compliant phone is registered to the TEL adapter unit, hands-free phone communication can be performed. Five units of Bluetooth® communication devices can be registered to the TEL adapter unit.
- The content of the memory (telephone book) of the cellular phone can be recorded in the TEL adapter unit.
- TEL adapter unit has the on board self-diagnosis function. Refer to AV-159, "On Board Diagnosis Function".

Bluetooth® compliant profile	HFP1.5
	Core specification 2.0 + EDR

When A Call Is Originated
- Spoken voice sound output from the microphone (microphone signal) is input to TEL adapter unit.
- TEL adapter unit outputs to cellular phone with Bluetooth® communication as a TEL voice signal.
- Voice sound is then heard at the other party.

When Receiving A Call
- Voice sound is input to own cellular phone from the other party.
- TEL voice signal is input to TEL adapter unit by establishing Bluetooth® communication from cellular phone, and the signal is output to front speaker.

AUXILIARY INPUT FUNCTION
- Image and sound can be output from an external device by connecting a device with front auxiliary input jacks.
- AUX image signals are transmitted to front and rear display unit via AV control unit
- AUX sound signals are transmitted to each unit as follows:
- To each speaker via AV control unit.
- To the rear display unit via AV control unit, and headphone sound signals are transmitted to infrared communication between rear display unit and headphone.

REAR VIEW MONITOR FUNCTION

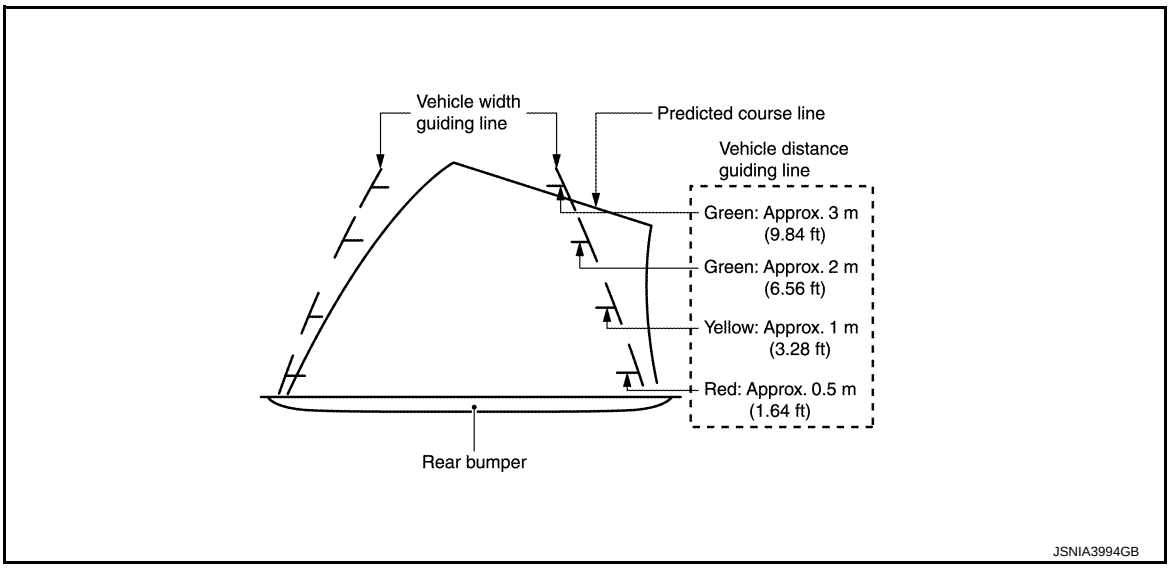
Operation Description
- When the selector lever is shifted to the reverse position, the rear view monitor image is displayed.
- When the selector lever is shifted to any position other than the reverse position, the original image (the image displayed before the rear view monitor image) is displayed.

Camera Image Operation Principle
- The AV control unit that receives the reverse signal input supplies power to the rear view camera and gives input of image signal.

- The AV control unit outputs the rear view camera image to the front display when the reverse signal is inputted.
- The AV control unit generates the warning message, side distance guiding lines and the predictive course lines on the image from the rear view camera, and transmits the rear view camera image signal to the front display unit.

Side Distance Guide Lines and Predictive Course Lines Display Function at Rear View Monitor Display

- The side distance guide lines and the predictive course line that indicate the vehicle route according to the steering angle are displayed at the rear view monitor display to allow the driver to more easily judge distances between the vehicle and objects and help the driver back into a parking space.
- The AV control unit receives the steering angle signal from the steering angle sensor via CAN communication and draws a predictive course line according to the steering angle signal.
- When the predictive course line are displayed, the side distance guide lines are displayed translucently.
- The predictive course line are not displayed when the steering is in the neutral position.
- The predictive course line can be displayed/not displayed by selecting “Settings” - “Others” - “Camera” - “Predictive Course Lines”

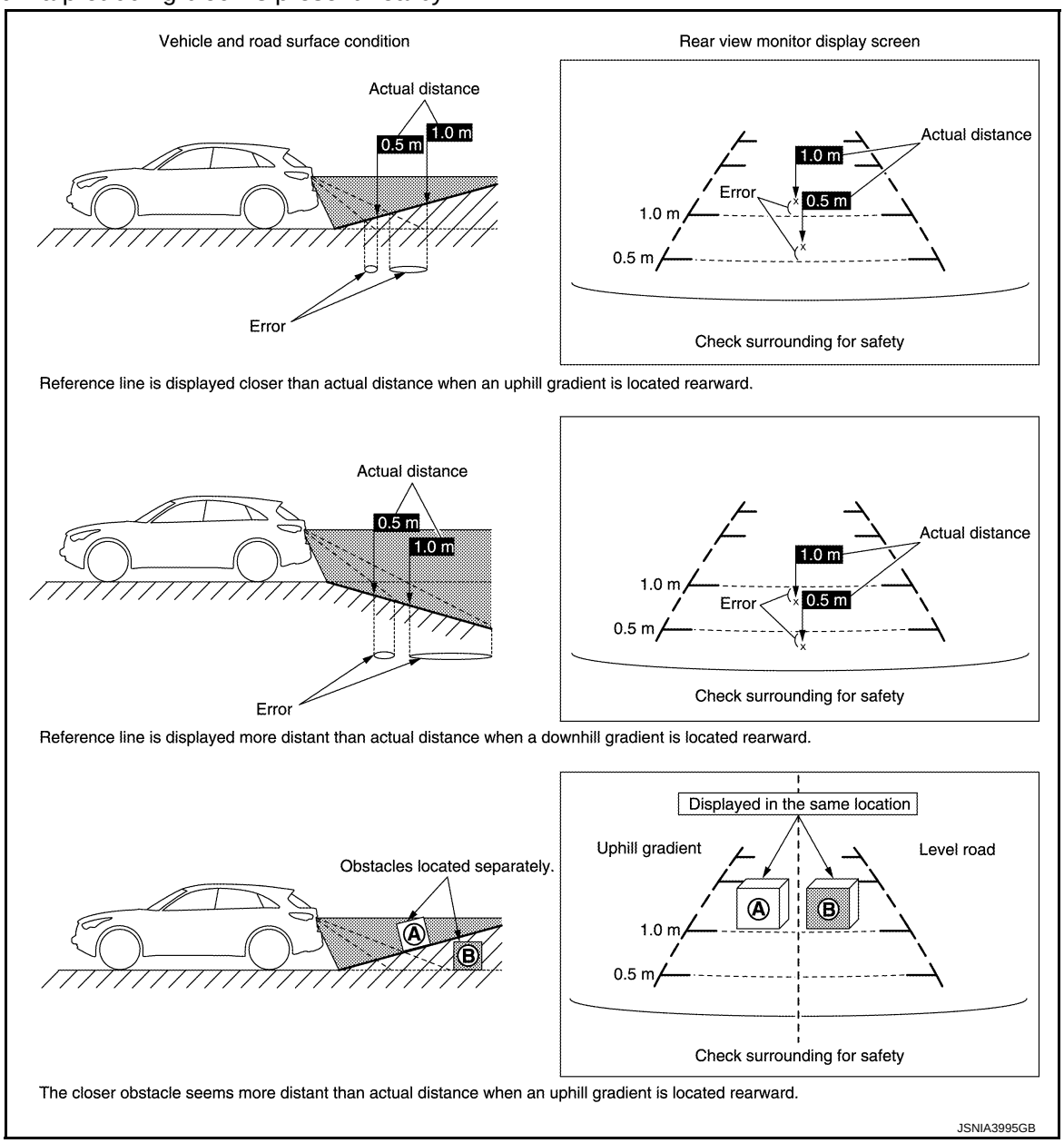


Precautions for Side Distance Guide Lines and predictive course line Display on the Rear View Monitor Display

Side distance guide lines and predictive course line on the display may be different from actual lines depending on vehicle conditions and road conditions.

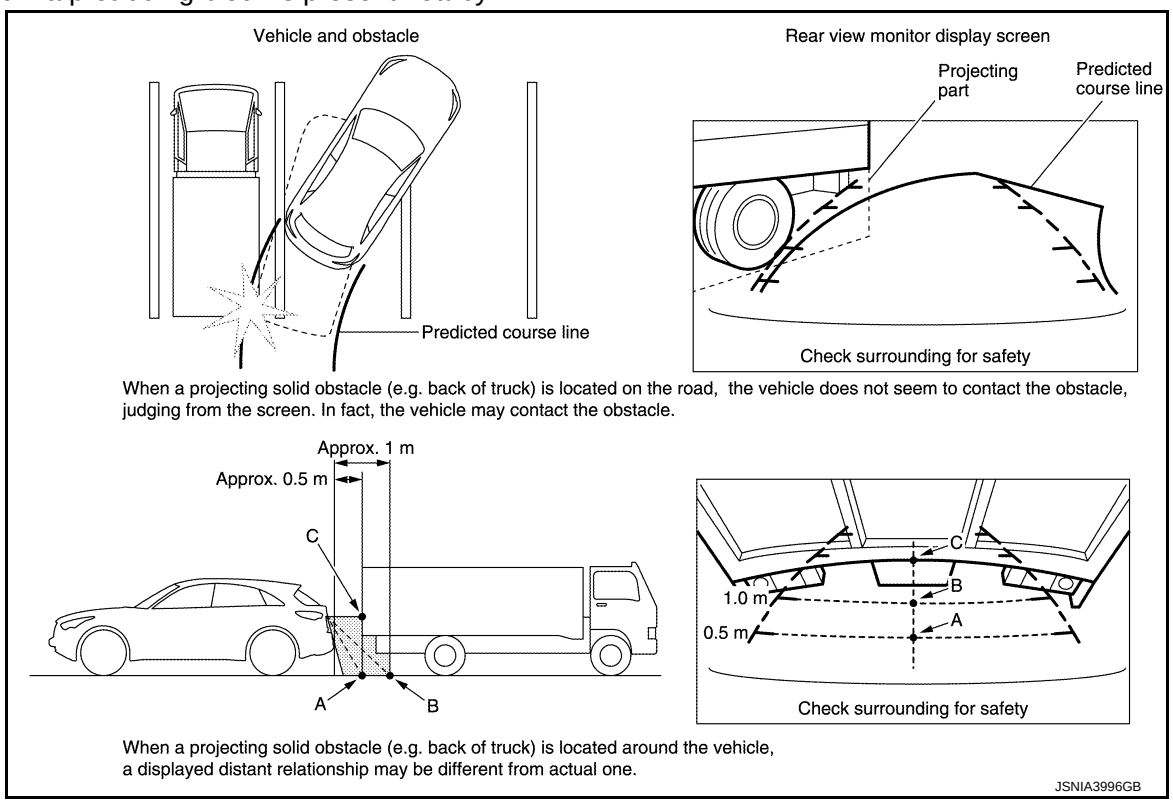
Precautions for road conditions

- Since guide lines and predictive course line are drawn based on the road, a different distance may be displayed if a protruding block is present nearby.



Precautions for block

- Since guide lines and predictive course line are drawn based on the road, a different distance may be displayed if a protruding block is present nearby.



VEHICLE INFORMATION FUNCTION

- Status of audio, climate control system, fuel economy, maintenance and navigation are displayed.
- AV control unit displays the fuel consumption status while receiving data signal through CAN communication from ECM and combination meter.

Vehicle Setting Function

The AV control unit transmits and receives data signals via CAN communication with the BCM, allowing the following vehicle settings.

- To turn on the automatic interior room lamp (ON/OFF) when the door is unlocked
- To adjust the auto light sensitivity (+/–)
- To operate the intermittent wiper linked with the vehicle speed (ON/OFF)
- Vehicle setting initialization

NOTE:
The setting items vary depending on the vehicle specification

AUTO LIGHT ADJUSTMENT SYSTEM

When the light switch is in the 1st or 2nd position, the dimming of the display is judged according to a dimming signal transmitted from BCM to the AV control unit. Display illuminance is independent of vehicle exterior illuminance detected by the auto light detecting sensor even when the light switch is in 1st or 2nd position.

MULTI AV SYSTEM : Circuit Diagram

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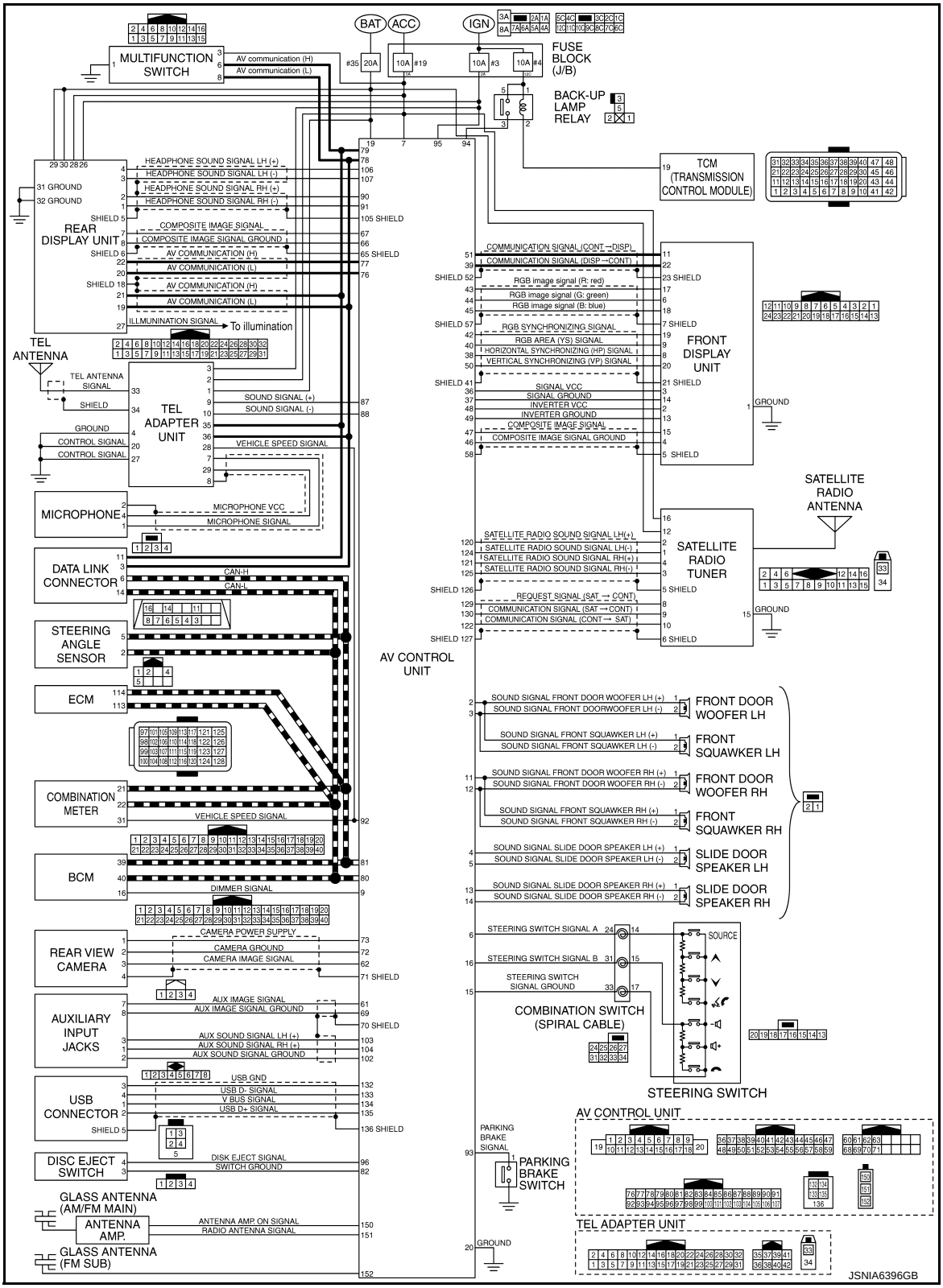

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

Description

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- The AV control unit diagnosis function starts up with multifunction switch operation and the AV control unit performs a diagnosis for each unit in the system during the on board diagnosis.
- Perform a CONSULT diagnosis if the on board diagnosis does not start, e.g., the screen does not display anything, the multifunction switch does not function, etc.

On Board Diagnosis Function

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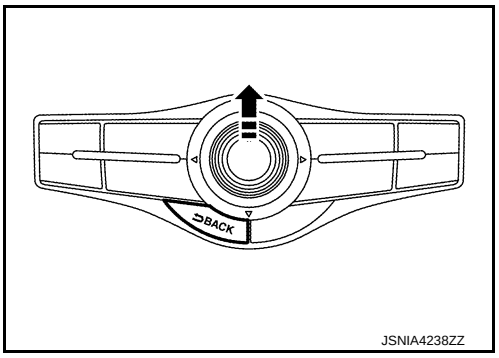
MULTIFUNCTION SWITCH AND PRESET SWITCH SELF-DIAGNOSIS FUNCTION

The ON/OFF operation (continuity) of each switch in the multifunction switch and preset switch can be checked.

Self-diagnosis Mode

- Press the “BACK” switch and the “UP” switch of the 4-direction switches within 10 seconds after turning the ignition switch from OFF to ACC and hold them for 3 seconds or more. Then the buzzer sounds, all indicators of the preset switch illuminate, and the self-diagnosis mode starts.
- The continuity of each switch at the ON position can be checked by pressing the switch. The buzzer sounds if the switch is normal.
  NOTE:
  The disk eject switch cannot be checked.



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Finishing Self-diagnosis Mode

Self-diagnosis mode is canceled when turning the ignition switch OFF.

ON BOARD DIAGNOSIS

Description

- The trouble diagnosis function has a self-diagnosis mode for conducting trouble diagnosis automatically and a confirmation/adjustment mode for operating manually.
- Self-diagnosis mode performs the AV control unit diagnosis and the connection diagnosis between each of the units that make up the system, and it indicates the results to the front display unit.
- The confirmation/adjustment mode allows the technician to check, modify or adjust the vehicle signals and set values, as well as to monitor the system error records and system communication status. The checking, modifying or adjusting generally require human intervention and judgment (the system cannot make judgment automatically).

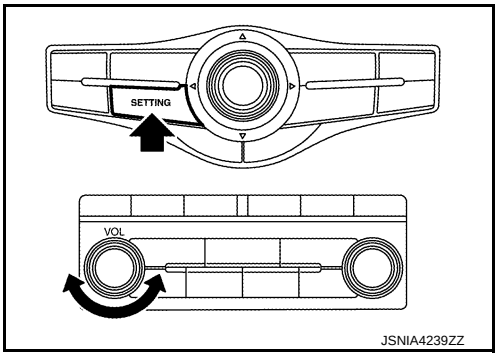
On Board Diagnosis Item

Mode	Description
Self Diagnosis	• AV control unit diagnosis. • Diagnoses the connections across system components, between AV control unit and each unit.

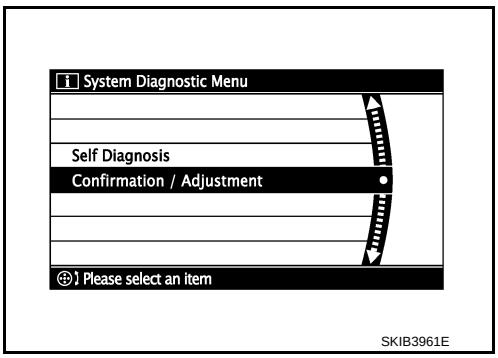
Mode		Description
Confirmation/ Adjustment	Display Diagnosis	The following check functions are available: color tone check by color bar display and white display, light and shade check by gray scale display.
	Vehicle Signals	Diagnosis of signals can be performed for vehicle speed, parking brake, lights, ignition and reverse.
	Speaker Test	The connection of a speaker can be confirmed by test tone.
	Climate Control	Start auto air conditioner system self-diagnosis.
	Error History	The system malfunction and the frequency when occurring in the past are displayed. When the malfunctioning item is selected, the time and place that the selected malfunction last occurred are displayed.
	Camera Cont.	• Guiding line position that overlaps rear view camera image can be adjusted. • Configuration stored in the AV control unit can be checked.
	Vehicle CAN Diagnosis	The transmitting/receiving of CAN communication can be monitored.
	AV COMM Diagnosis	The communication condition of each unit of Multi AV system can be monitored.
	Delete Unit Connection Log	Erase the connection history of unit and error history.
	Initialize Settings	Initializes the AV control unit memory.

METHOD OF STARTING

1. Start the engine.
2. Turn the audio system OFF.
3. While pressing the “SETTING” button, turn the volume control dial clockwise or counterclockwise for 40 clicks or more. (When the self-diagnosis mode is started, the trouble diagnosis initial screen is displayed.)
   • Shifting from current screen to previous screen is performed by pressing “BACK” button.



4. Items of “Self Diagnosis” and “Confirmation/Adjustment” can be selected on the trouble diagnosis initial screen.

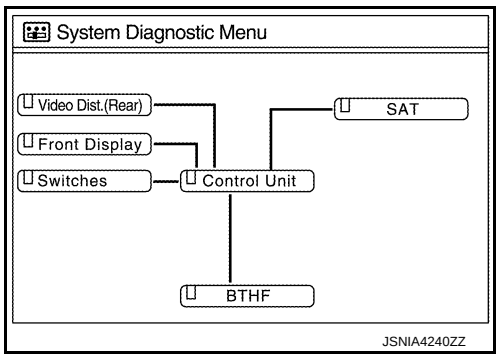


SELF-DIAGNOSIS MODE

1. Start the self-diagnosis function and select “Self Diagnosis”.

- Self-diagnosis subdivision screen is displayed, and the self-diagnosis mode starts.
- The bar graph visible on the center of the self-diagnosis subdivision screen indicates progress of the trouble diagnosis.

2. Diagnosis results are displayed after the self-diagnosis is completed. The unit names and the connection lines are color-coded according to the diagnostic results.

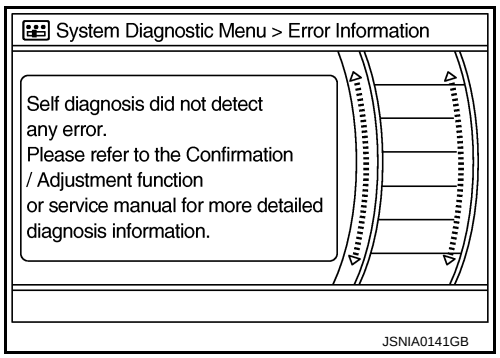


Diagnosis results	Unit	Connection line
Normal	Green	Green
Connection malfunction	Gray	Yellow
Unit malfunction Note	Red	Green

NOTE:
Control unit (AV control unit) and is displayed in red.

- Replace AV control unit if “Self-Diagnosis did not run because of a control unit malfunction” is indicated. The symptom is AV control unit internal error. Refer to AV-250, "Removal and Installation".
- If multiple errors occur at the same time for a single unit, the screen switch colors are determined according to the following order of priority: red > gray.

- The comments of the self-diagnosis results can be viewed with a component in the diagnosis result screen.



Detection Range of Self-diagnosis Mode

- The self-diagnosis mode allows the technician to diagnose the connection in the communication line between AV control unit and each unit and the internal operation of the AV control unit.
- Because the start condition of diagnosis function is a switch operation, the on board diagnosis function cannot be started up if any malfunction is detected in the communication circuit between AV control unit and multifunction switch.

SELF-DIAGNOSIS RESULTS

Check the applicable display at the following table, and then repair the malfunctioning parts.

Only Unit Part Is Displayed In Red.

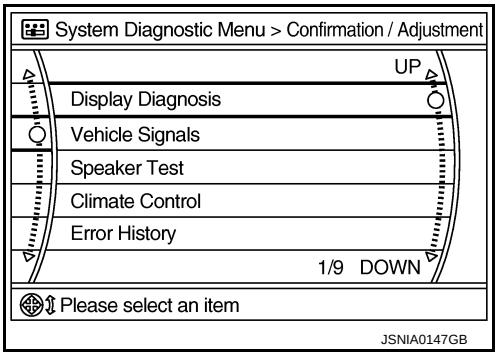
Screen switch	Description	Possible malfunction location / Action to take
Control unit	Malfunction is detected in AV control unit power supply and ground circuits.	Check AV control unit power supply and ground circuits. When detecting no malfunction in those components, replace AV control unit. Refer to AV-250, "Removal and Installation"

A Connecting Cable Between Units Is Displayed In Yellow.

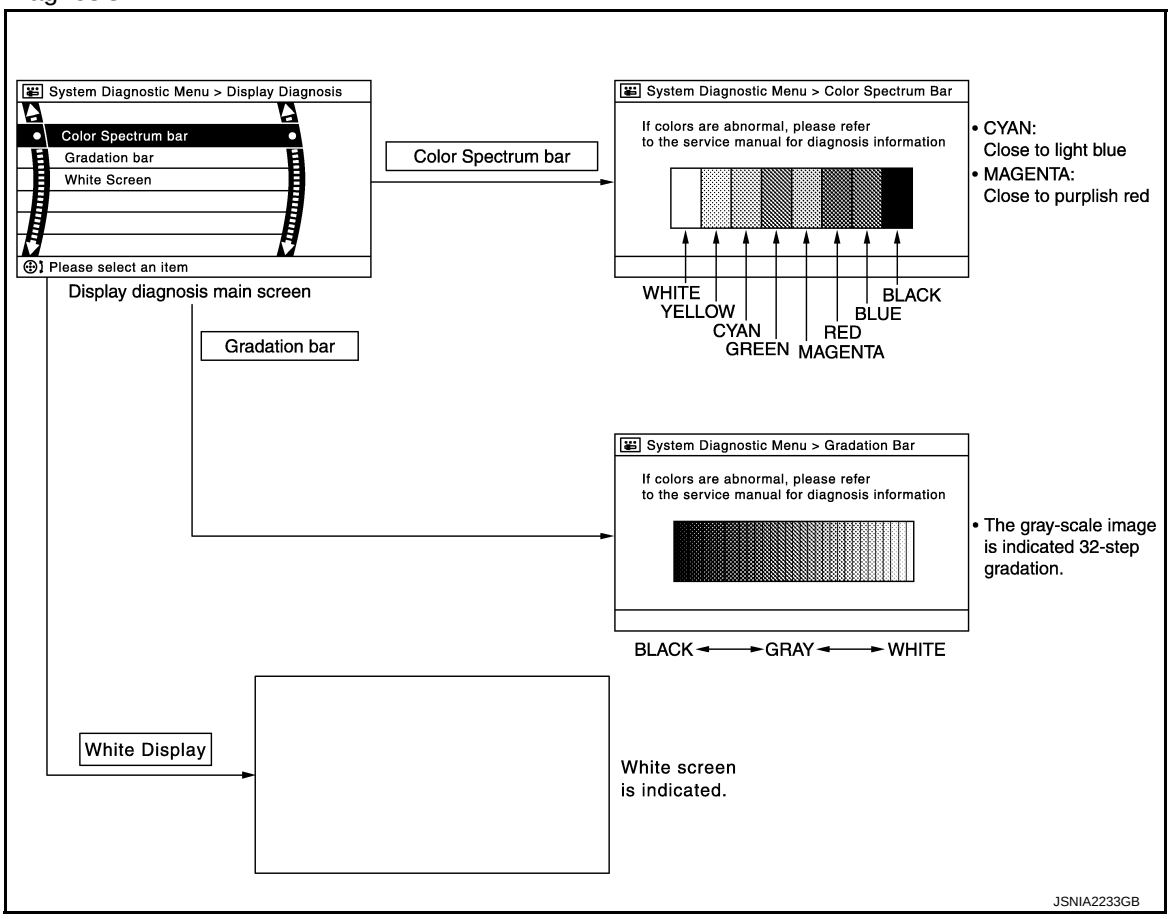
Area with yellow connection lines	Description	Possible malfunction location / Action to take
Control unit ⇔ Front display	Serial communication circuits between AV control unit and front display unit are malfunctioning.	Serial communication circuits between AV control unit and front display unit.
Control unit ⇔ SAT	When either one of the following items are detected: • satellite radio tuner power supply and ground circuits are malfunctioning. • communication circuits between AV control unit and satellite radio tuner are malfunctioning. • request signal circuit between AV control unit and satellite radio tuner are malfunctioning.	• Satellite radio tuner power supply and ground circuit. Refer to AV-215, "SATELLITE RADIO TUNER : Diagnosis Procedure". • Communication circuit between AV control unit and satellite radio tuner. • Request signal circuit between AV control unit and satellite radio tuner.
Control unit ⇔ BTHF	When either one of the following items are detected: • TEL adapter unit power supply and ground circuit are malfunctioning. • AV communication circuits between AV control unit and TEL adapter unit are malfunctioning.	• TEL adapter unit power supply and ground circuits. Refer to AV-216, "TEL ADAPTER UNIT : Diagnosis Procedure". • AV communication circuits between AV control unit and TEL adapter unit.
Control unit ⇔ Video Dist.(Rear)	When either one of the following items are detected: • Rear display unit power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and rear display unit are malfunctioning.	• Rear display unit power supply and ground circuits. Refer to AV-214, "REAR DISPLAY UNIT : Diagnosis Procedure". • AV communication circuits between AV control unit and rear display unit.

CONFIRMATION/ADJUSTMENT MODE

1. Start the diagnosis function and select “Confirmation/Adjustment”. The confirmation/adjustment mode indicates where each item can be checked or adjusted.
2. Select each switch on the “Confirmation/Adjustment Mode” screen to display the relevant trouble diagnosis screen. Press the “BACK” switch to return to the initial Confirmation/Adjustment Mode screen.

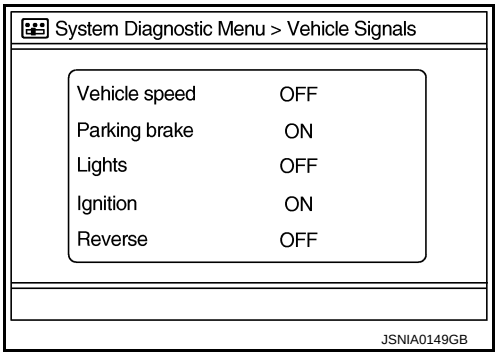


Display Diagnosis



Vehicle Signals

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

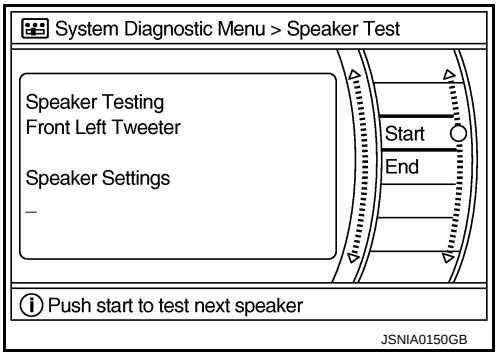


Diagnosis item	Display	Vehicle status	Remarks
Vehicle speed	ON	Vehicle speed > 0 km/h (0 MPH)	Changes in indication may be delayed. This is normal.
	OFF	Vehicle speed = 0 km/h (0 MPH)	
Parking brake	ON	Parking brake is applied.	
	OFF	Parking brake is released.	
Lights	ON	Block the light from the auto light optical sensor when the lighting switch is 1st or 2nd.	—
	OFF	Either of the following conditions • Lighting switch is OFF • Expose the auto light optical sensor to light when the lighting switch is 1st or 2nd.	

Diagnosis item	Display	Vehicle status	Remarks
Ignition	ON	Ignition switch is ON	—
	OFF	Ignition switch is in ACC position	
Reverse	ON	Selector lever is in “R” position	Changes in indication may be delayed. This is normal.
	OFF	Selector lever is in other than “R” position	

Speaker Test

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



Climate Control

Refer to “HEATER & AIR CONDITIONING CONTROL SYSTEM” for details.

Error History

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

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

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

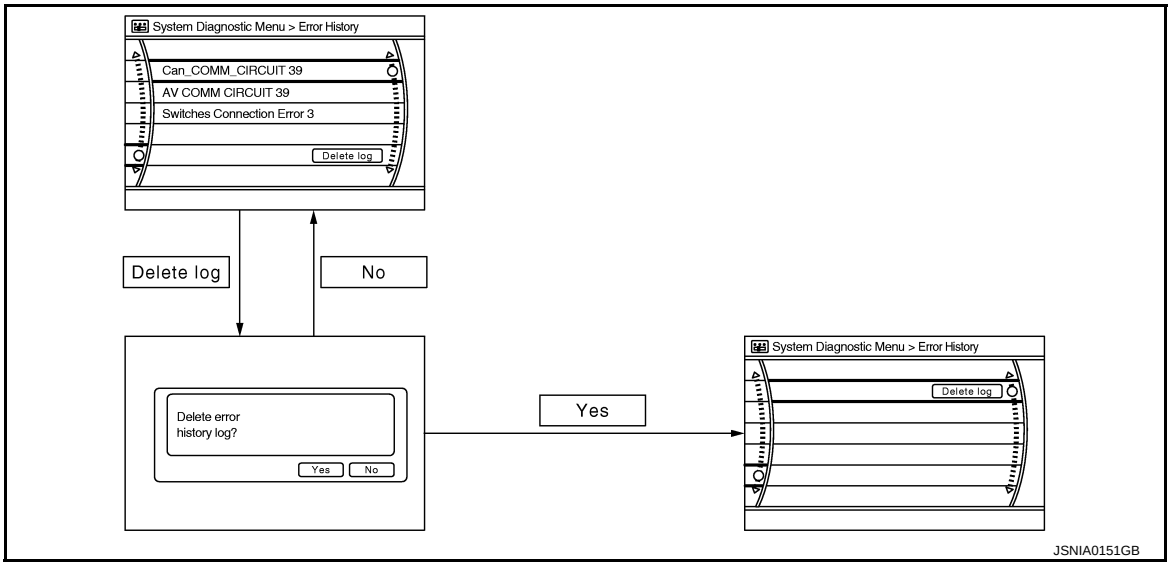
Count up method A

- The counter resets to 0 if an error occurs when ignition switch is turned ON. The counter increases by 1 if the condition is normal at a next ignition ON cycle.
- The counter upper limit is 39. Any counts exceeding 39 are ignored.“ The counter can be reset (no error record display) with the “Delete log” switch or CONSULT.

Count up method B

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

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



Error item

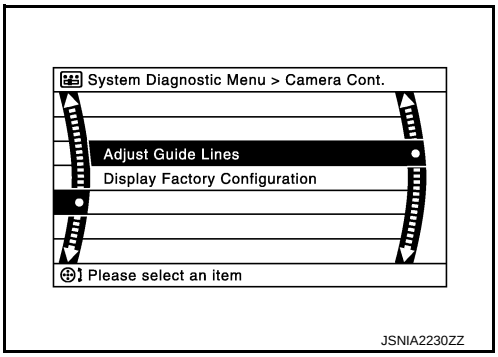
Some error items may be displayed simultaneously according to the cause. If some error items are displayed simultaneously, the detection of the cause can be performed by the combination of display items

Error item	Description	Possible malfunction factor/Action to take
CAN COMM CIRCUIT	CAN communication malfunction is detected.	Perform diagnosis with CONSULT, and then repair the malfunctioning parts according to the diagnosis results. Refer to AV-156, "CONSULT Function".
CONTROL UNIT (CAN)	CAN initial diagnosis malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-250, "Removal and Installation".
CONTROL UNIT (AV)	AV communication circuit initial diagnosis malfunction is detected.	
FLASH-ROM Error Of Control Unit	AV control unit malfunction is detected.	
CAN Controller Memory Error		
Steer. Angle Sensor Calibration	Neutral position adjustment of the steering angle sensor is incomplete.	Adjust the neutral position of the steering angle sensor. Refer to BRC-49, "Work Procedure".
Front Display Connection Error	When either one of the following items is detected: • front display unit power supply and ground circuits malfunction is detected. • malfunction is detected in communication circuits between AV control unit and front display unit.	• Front display unit power supply and ground circuits. Refer to AV-213, "FRONT DISPLAY UNIT : Diagnosis Procedure". • Communication circuits between AV control unit and front display unit.
XM Connection Error	When either one of the following items are detected: • satellite radio tuner power supply and ground circuits are malfunctioning. • communication circuits between AV control unit and satellite radio tuner are malfunctioning. • request signal circuit between AV control unit and satellite radio tuner are malfunctioning.	• Satellite radio tuner power supply and ground circuit. Refer to AV-215, "SATELLITE RADIO TUNER : Diagnosis Procedure". • Communication circuit between AV control unit and satellite radio tuner. • Request signal circuit between AV control unit and satellite radio tuner.
• AV COMM CIRCUIT • Switches Connection Error	When either one of the following items is detected: • multifunction switch power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and multifunction switch are malfunctioning.	• Multifunction switch power supply and ground circuits. • AV communication circuits between AV control unit and multifunction switch.

Error item	Description	Possible malfunction factor/Action to take
• AV COMM CIRCUIT • H/F Unit Connection Error	When either one of the following items are detected: • TEL adapter unit power supply and ground circuit are malfunctioning. • AV communication circuits between AV control unit and TEL adapter unit are malfunctioning.	• TEL adapter unit power supply and ground circuits. Refer to AV-216, "TEL ADAPTER UNIT : Diagnosis Procedure". • AV communication circuits between AV control unit and TEL adapter unit.
• AV COMM CIRCUIT • 2nd Display Connection Error	When either one of the following items are detected: • Rear display unit power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and rear display unit are malfunctioning.	• Rear display unit power supply and ground circuits. Refer to AV-214, "REAR DISPLAY UNIT : Diagnosis Procedure". • AV communication circuits between AV control unit and rear display unit.
• AV COMM CIRCUIT • Switches Connection Error • H/F Unit Connection Error • 2nd Display Connection Error	AV communication circuits between AV control unit and multifunction switch are malfunctioning.	AV communication circuits between AV control unit and multifunction switch.

Camera Cont.

The two functions of “Correct Draw Line of Rear view Cam”, “Confirm Configuration” are available.

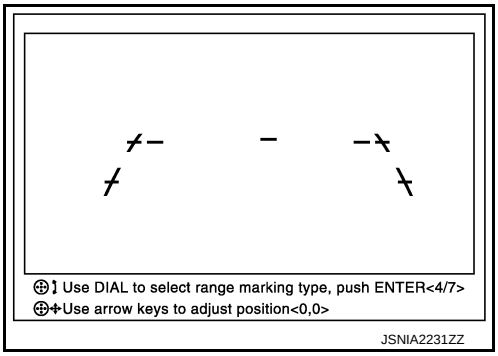


Adjust Offset of Rear view Camera

- Use this mode to adjust the guide line display position of the rear view monitor if necessary after removing the rear view monitor camera.

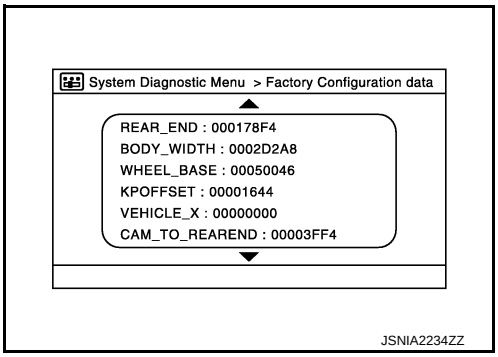
  CAUTION:

  After the adjustment, never perform other operations for one minute.



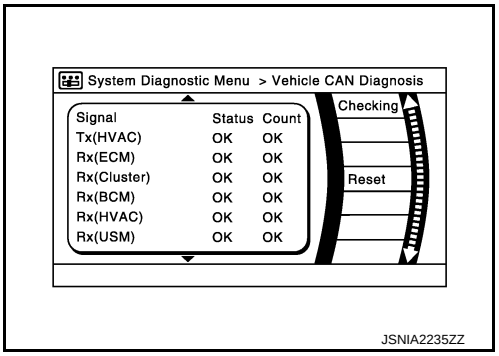
Factory Configuration Confirmation

- Configuration stored in the AV control unit can be checked.



Vehicle CAN Diagnosis

- CAN communication status and error counter is displayed.
- The error counter displays “OK” if any malfunction was not detected in the past and displays “0” if a malfunction is detected. It increases by 1 if the condition is normal at the next ignition switch ON cycle. The upper limit of the counter is 39.
- The error counter is erased if “Reset” is pressed.

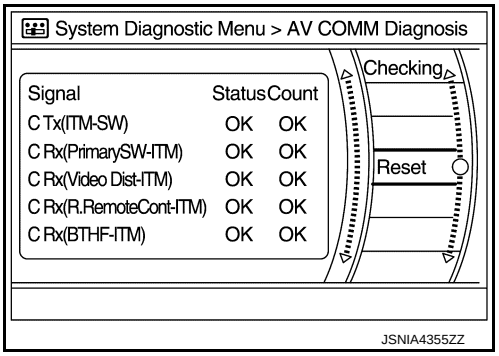


Items	Display (Current)	Malfunction counter (Past)
Tx(HVAC)	OK / ???	OK / 0 – 39
Rx(ECM)	OK / ???	OK / 0 – 39
Rx(Cluster)	OK / ???	OK / 0 – 39
Rx(BCM)	OK / ???	OK / 0 – 39
Rx(HVAC)	OK / ???	OK / 0 – 39
Rx(USM)	OK / ???	OK / 0 – 39
Rx(VDC)	OK / ???	OK / 0 – 39
Rx(STRG)	OK / ???	OK / 0 – 39

NOTE:
“???” indicates UNKWN.

AV COMM Diagnosis

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

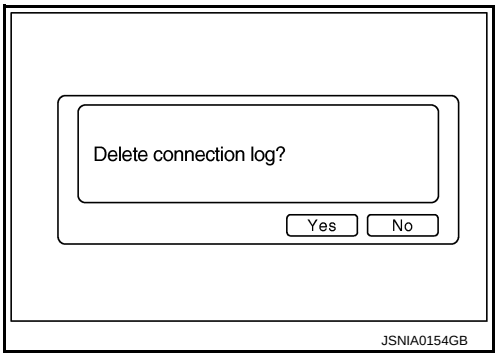


Items	Status (Current)	Counter (Past)
C Tx(ITM–PrimarySW)	OK / ???	OK / 0 – 39
C Rx(PrimarySW–ITM)	OK / ???	OK / 0 – 39
C Rx(Video Dist–ITM)	OK / ???	OK / 0 – 39
C Rx(R.RemoteCont–ITM)	OK / ???	OK / 0 – 39
C Rx(BTHF–ITM)	OK / ???	OK / 0 – 39

NOTE:
“???” indicates UNKWN

Delete Unit Connection Log

Deletes any unit connection records and error records from the AV control unit memory. (Clear the records of the unit that has been removed.)

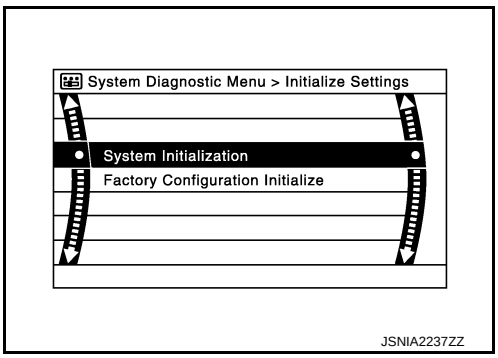


Initialize Settings

"User Data Initialization" and "Accessory Number Initialization" are possible.

CAUTION:

- **Never perform Accessory Number Initialization except when configuration is unsuccessful.**
- **Accessory Number Initialization requires configuration. For details, refer to AV-200, "Description".**



CONSULT Function

INFOID:0000000009652011

APPLICATION ITEMS

CONSULT performs the following functions via the communication with the AV control unit.

Diagnosis mode	Description
Ecu Identification	The part number of AV control unit can be checked.
Self Diagnostic Result	Performs a diagnosis on the AV control unit and a connection diagnosis for the communication circuit of the Multi AV system, and displays the current and past malfunctions collectively.
Data Monitor	The diagnosis of vehicle signal that is input to the AV control unit can be performed.
Work Support	Steering angle sensor can be adjusted.
Configuration	• Read and save the vehicle specification. • Write the vehicle specification when replacing AV control unit.

AV Communication

When "AV communication" of "CAN Diag Support Monitor" is selected, the following function will be performed.

AV communication	AV&NAVI C/U	Displays the communication status from AV control unit to each unit as well as the error counter.
	AUDIO	Displays the AV control unit communication status and the error counter.

ECU IDENTIFICATION

The part number of AV control unit is displayed.

SELF DIAGNOSIS RESULT

- In CONSULT self-diagnosis, self-diagnosis results and error history are displayed collectively.
- The current malfunction indicates "CRNT". The past malfunction indicates "PAST".
- The timing is displayed as "0" if any of the error codes [U1000], [U1010], [U1300] and [U1310] is detected. The counter increases by 1 if the condition is normal at the next ignition switch ON cycle.

Self-diagnosis Results Display Item

Error item	Description	Possible malfunction factor/Action to take
CAN COMM CIRCUIT [U1000]	CAN communication malfunction is detected.	Refer to AV-202, "Diagnosis Procedure".
CONTROL UNIT (CAN) [U1010]	CAN initial diagnosis malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-250, "Removal and Installation".
CONTROL UNIT (AV) [U1310]	AV communication circuit initial diagnosis malfunction is detected.	
Cont Unit [U1200]	AV control unit malfunction is detected.	
CAN CONT [U1216]		
ST ANGLE SEN CALIB [U1232]	Neutral position adjustment of the steering angle sensor is incomplete.	Adjust the neutral position of the steering angle sensor. Refer to AV-206, "Diagnosis Procedure".

Error item	Description	Possible malfunction factor/Action to take
FRONT DISP CONN [U1243]	When either one of the following items is detected: • front display unit power supply and ground circuits malfunction is detected. • communication circuits between AV control unit and front display unit.	• Front display unit power supply and ground circuits. Refer to AV-213, "FRONT DISPLAY UNIT : Diagnosis Procedure". • Communication circuits between AV control unit and front display unit.
SAT CONN [U1255]	When either one of the following items are detected: • satellite radio tuner power supply and ground circuits are malfunctioning. • communication circuits between AV control unit and satellite radio tuner are malfunctioning. • request signal circuit between AV control unit and satellite radio tuner are malfunctioning.	• Satellite radio tuner power supply and ground circuit. Refer to AV-215, "SATELLITE RADIO TUNER : Diagnosis Procedure". • Communication circuit between AV control unit and satellite radio tuner. • Request signal circuit between AV control unit and satellite radio tuner.
• AV COMM CIRCUIT [U1300] • SWITCH CONN [U1240]	When either one of the following items are detected: • multifunction switch power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and multifunction switch are malfunctioning.	• Multifunction switch power supply and ground circuits. • AV communication circuits between AV control unit and multifunction switch.
• AV COMM CIRCUIT [U1300] • VIDEO DIST CONN [U1246]	When either one of the following items are detected: • rear display unit power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and rear display unit are malfunctioning.	• Rear display unit power supply and ground circuits. Refer to AV-214, "REAR DISPLAY UNIT : Diagnosis Procedure". • AV communication circuits between AV control unit and rear display unit.
• AV COMM CIRCUIT [U1300] • HAND FREE CONN [U1256]	When either one of the following items is detected: • TEL adapter unit power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and TEL adapter unit are malfunctioning.	• TEL adapter unit power supply and ground circuits. Refer to AV-216, "TEL ADAPTER UNIT : Diagnosis Procedure". • AV communication circuits between AV control unit and TEL adapter unit.
• AV COMM CIRCUIT [U1300] • SWITCH CONN [U1240] • VIDEO DIST CONN [U1246] • HAND FREE CONN [U1256]	AV communication circuits between AV control unit and multifunction switch are malfunctioning.	AV communication circuits between AV control unit and multifunction switch.

DATA MONITOR

NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

All Signals

- Displays the status of the following vehicle signals inputted into the AV control unit.
- For each signal, actual signal can be compared with the condition recognized on the system.

Display Item	Display	Vehicle status	Remarks
VHCL SPD SIG	On	Vehicle speed >0 km/h (0 MPH)	Changes in indication may be delayed. This is normal.
	Off	Vehicle speed =0 km/h (0 MPH)	
PKB SIG	On	Parking brake is applied.	
	Off	Parking brake is released.	

Display Item	Display	Vehicle status	Remarks
ILLUM SIG	On	Block the light from the auto light optical sensor when the lighting switch is 1st or 2nd.	—
	Off	Either of the following conditions • Lighting switch is OFF • Expose the auto light optical sensor to light when the lighting switch is 1st or 2nd.	
IGN SIG	On	Ignition switch is ON	
	Off	Ignition switch is in ACC position	
REV SIG	On	Selector lever is in R position	Changes in indication may be delayed. This is normal.
	Off	Selector lever is in any position other than R	

Selection From Menu

Allows the technician to select which vehicle signals should be displayed and displays the status of the selected vehicle signals.

Item to be selected	Description
VHCL SPD SIG	The same as when “ALL SIGNALS” is selected.
PKB SIG	
ILLUM SIG	
IGN SIG	
REV SIG	

WORK SUPPORT

Adjusts the neutral position of the steering angle sensor.

CAUTION:

For vehicles with VDC, adjust the steering angle sensor neutral position on the ABS actuator control unit side.

Item	Description
ST ANGLE SENSOR ADJUSTMENT	Adjusts the neutral position of the steering angle sensor.

CONFIGURATION

Configuration includes functions as follows.

Function		Description
Read/Write Configuration	Before Replace ECU	Allows the reading of vehicle specification written in AV control unit to store the specification in CONSULT.
	After Replace ECU	Allows the writing of the vehicle information stored in CONSULT into the AV control unit.
Manual Configuration		Allows the writing of the vehicle specification into the AV control unit by hand.

DIAGNOSIS SYSTEM (TEL ADAPTER UNIT)

Description

INFOID:0000000009652012

During on board diagnosis the diagnosis function of TEL adapter unit starts with the operation of the steering switch and performs the diagnosis when ignition switch ACC.

On Board Diagnosis Function

INFOID:0000000009652013

HANDS-FREE PHONE SYSTEM ON BOARD DIAGNOSIS

During on board diagnosis the diagnosis function of TEL adapter unit starts with the operation of the steering switch and performs the diagnosis when ignition switch ACC.

ON BOARD DIAGNOSIS ITEM

The on board diagnosis has 3 modes: the self-diagnosis mode that performs the trouble diagnosis, the speaker adaptation data deleting mode and the hands-free phone system initialization mode.

CAUTION:

- **Perform the diagnosis with the vehicle stopped.**
- **Perform STEP2 if necessary.**

STEP	MODE	Description
STEP1	Self-diagnosis	The self-diagnosis mode performs the microphone test and the diagnosis of TEL adapter unit, TEL antenna and steering unit, and then reads out the results with the sound and indicates them on the display.
STEP2	Speaker adaptation data deleting	The speaker adaptation data deleting mode can delete the speaker adaptation data.
	Hands-free phone system initialization	Hands-free phone system initialization mode can perform the initialization of hands-free phone system.

Self-diagnosis results

Self-diagnosis mode reads out the self-diagnosis results.

NOTE:

- Error count is read out simultaneously when reading out the DTC name.
- The errors are read out continuously when some errors occur at the same time.

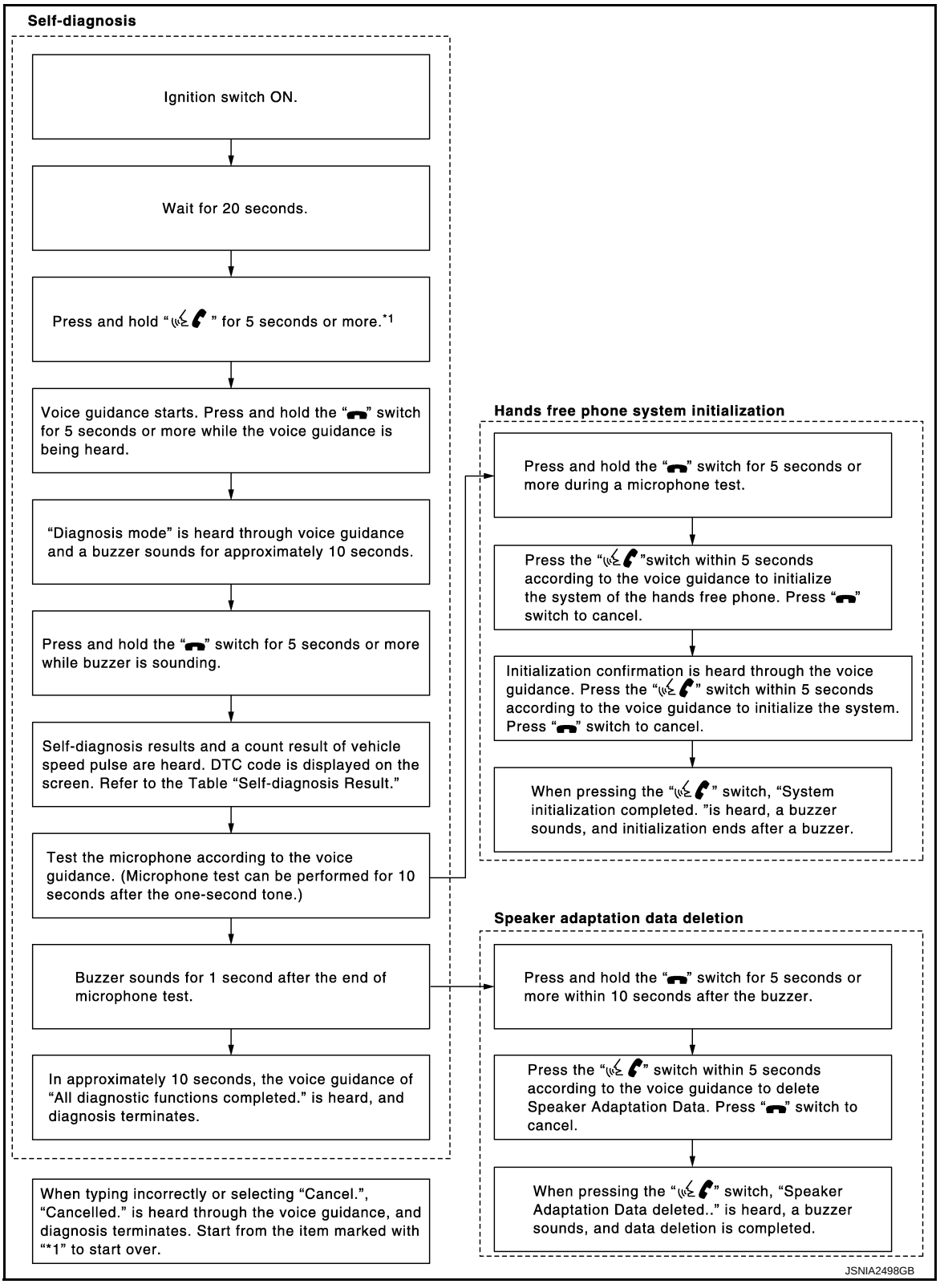
Self-diagnosis results

DTC	DTC name	Possible causes
DTC 10000	INTERNAL FAILURE	TEL adapter unit
DTC 01000	ANT. SHORT TO BATT OR OPEN	TEL antenna
DTC 00100	ANT. SHORT TO GROUND	
DTC 00010	STEERING REMOTE BUTTON STUCK A	Steering switch
DTC 00001	STEERING REMOTE BUTTON STUCK B	
DTC 00000	THERE ARE NO FAILURE RECORDS TO REPORT	—

The Details of Error Count

The error count guides “0” when the error occurs. The next time it counts up “1” if it is normal with the ignition switch ON. It continues the count up unless the initialization of hands-free phone system is performed.

FLOW CHART OF TROUBLE DIAGNOSIS



ECU DIAGNOSIS INFORMATION

AV CONTROL UNIT

Reference Value

INFOID:0000000009652014

VALUES ON THE DIAGNOSIS TOOL

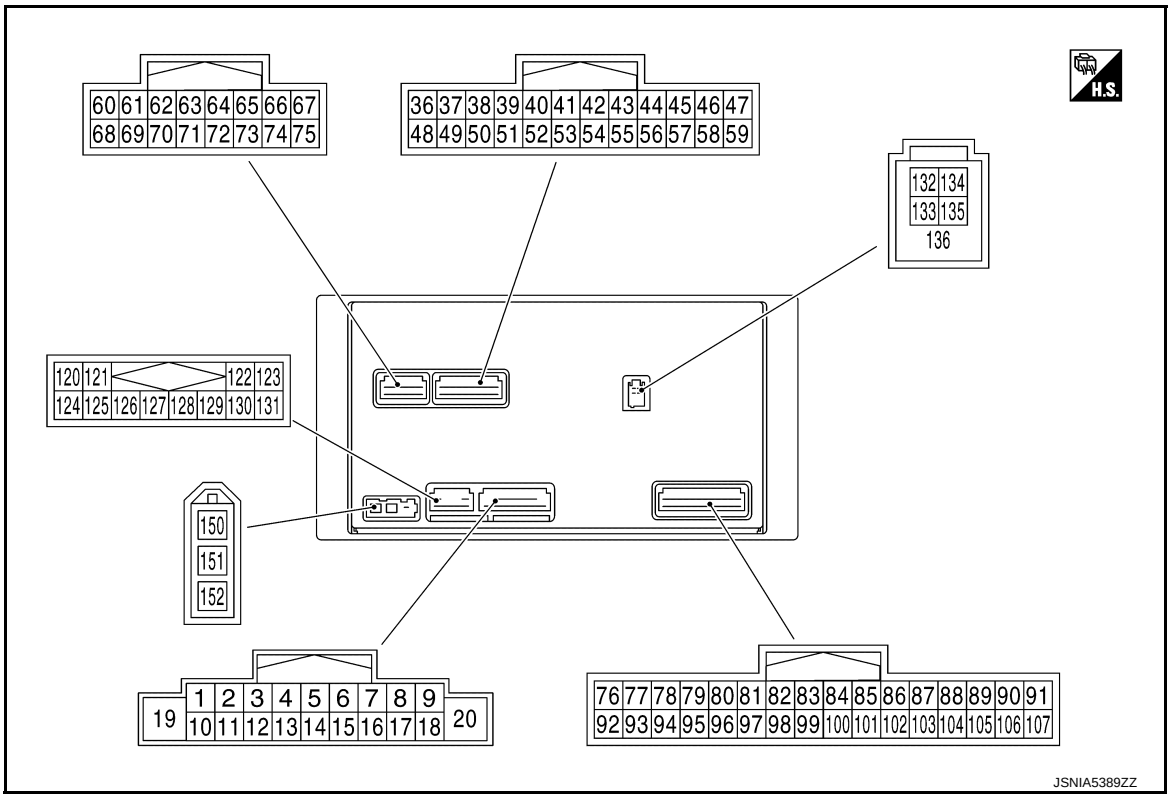
NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

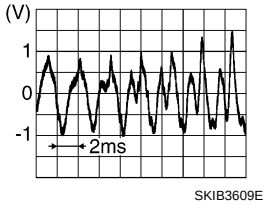
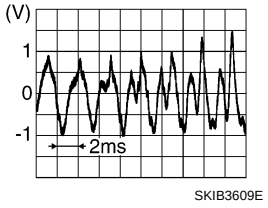
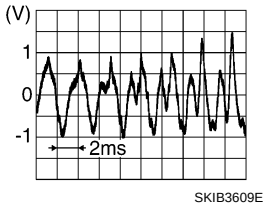
CONSULT MONITOR ITEM

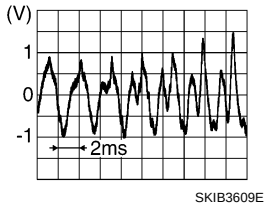
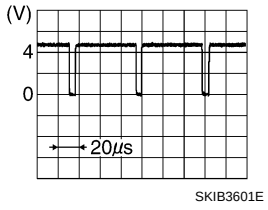
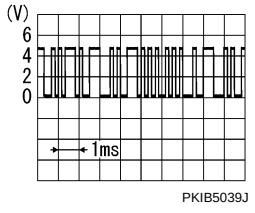
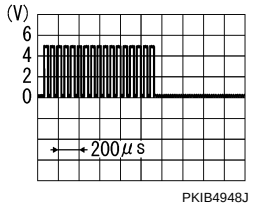
Monitor Item	Condition		Value/Status
VHCL SPD SIG	Ignition switch ON	Vehicle speed > 0 km/h (0 MPH)	On
		Vehicle speed = 0 km/h (0 MPH)	Off
PKB SIG	Ignition switch ON	Parking brake is applied.	On
		Parking brake is released.	Off
ILLUM SIG	Ignition switch ON	Block the light from the auto light optical sensor when the lighting switch is 1st or 2nd.	On
		Expose the auto light optical sensor to light when the lighting switch is OFF, 1st or 2nd.	Off
IGN SIG	Ignition switch ON	—	On
	Ignition switch ACC	—	Off
REV SIG	Ignition switch ON	Selector lever is in the R position	On
		Selector lever is in any position other than R	Off

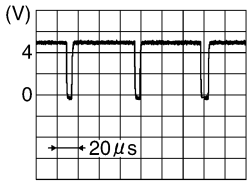
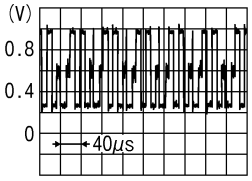
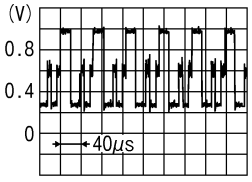
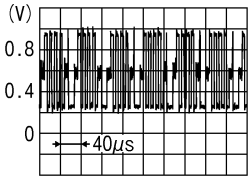
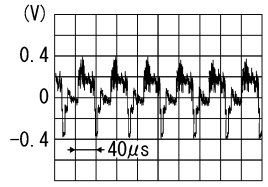
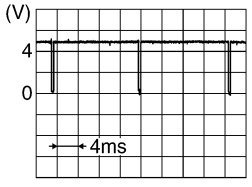
TERMINAL LAYOUT

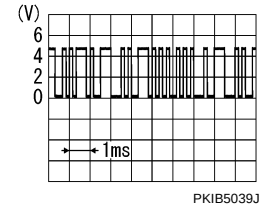
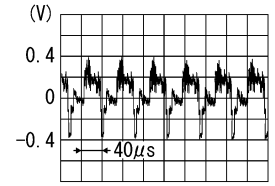
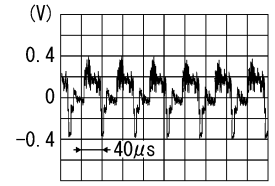
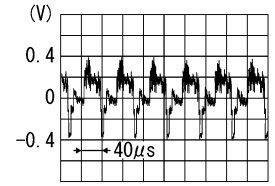


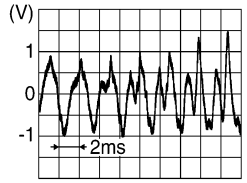
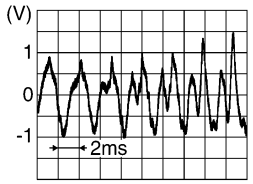
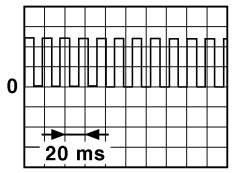
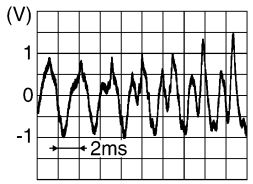
PHYSICAL VALUES

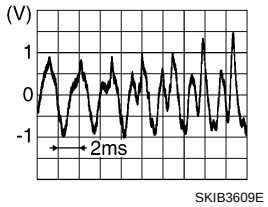
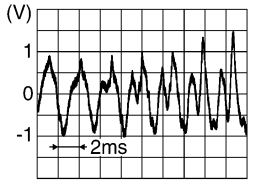
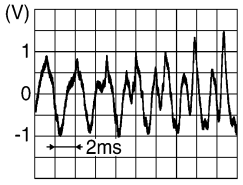
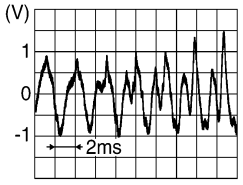
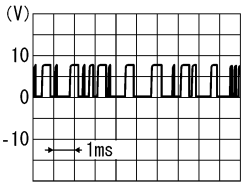
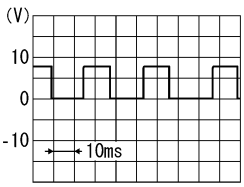
Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
2 (R)	3 (G)	Sound signal front speaker LH	Output	Ignition switch ON	Sound output	Waveform according to sound signal is input.	 SKIB3609E
4 (V)	5 (P)	Sound signal slide door speaker LH	Output	Ignition switch ON	Sound output	Waveform according to sound signal is input.	 SKIB3609E
6 (L)	15 (GR)	Steering switch signal A	Input	Ignition switch ON	Keep pressing SOURCE switch.	0 - 3.3 V	0 V
					Keep pressing SEEK UP switch.		0.7 V
					Keep pressing SEEK DOWN switch.		1.3 V
					Keep pressing switch		2.0 V
					Except for above.		3.3 V
7 (O)	20 (B)	ACC power supply	Input	Ignition switch ACC	—	9.0 – 16.0 V	Battery voltage
9 (O)	20 (B)	Dimmer signal	Input	Ignition switch ON	Either of the following conditions • Lighting switch is OFF • Lighting switch is 1st or 2nd, and the area around the vehicle is bright (shine a light on the optical sensor)	3.0 V or less	0 V
					Lighting switch is 1st or 2nd, and the area around the vehicle is dark (block the light from the optical sensor)	7.0 – 16.0 V	12.0 V
11 (W)	12 (B)	Sound signal front speaker RH	Output	Ignition switch ON	Sound output	Outputs waveform synchronized with sound.	 SKIB3609E

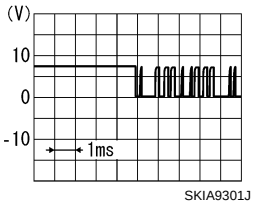
Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
13 (BR)	14 (Y)	Sound signal slide door speaker RH	Output	Ignition switch ON	Sound output	Outputs waveform synchronized with sound.	 SKIB3609E
16 (P)	15 (GR)	Steering switch signal B	Input	Ignition switch ON	Keep pressing VOL DOWN switch.	0 – 3.3 V	0 V
					Keep pressing VOL UP switch.		0.7 V
					Keep pressing switch.		1.3 V
					Except for above.		3.3 V
19 (SB)	20 (B)	Battery power supply	Input	Ignition switch OFF	—	9.0 – 16.0 V	Battery voltage
36 (P)	37 (Y)	Signal VCC	Output	Ignition switch ACC	—	8.0 – 9.5 V	8.8 V
38 (G)	20 (B)	Horizontal synchronizing (HP) signal	Input	Ignition switch ON	—	Waveform of 1.0 V – 5.5 V is input.	 SKIB3601E
39 (R)	20 (B)	Communication signal (DISP→CONT)	Input	Ignition switch ON	When adjusting display brightness.	Waveform of 0.5 V or less – 3.5 V or more is input.	 PKIB5039J
40 (B)	20 (B)	RGB area (YS) signal	Output	Ignition switch ON	At RGB image is displayed.	5.5 V or less	5.0 V
					At AUX image is displayed.	Waveform of 0.8 V – 5.5 V is Output.	 PKIB4948J
41	—	Shield	—	—	—	—	—

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
42 (W)	20 (B)	RGB synchronizing signal	Output	Ignition switch ON	—	Waveform of 0.8 V – 5.5 V is Output.	 SKIB3603E
43 (R)	20 (B)	RGB image signal (R: red)	Output	Ignition switch ON	Start Confirmation/Adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on Display Diagnosis screen.	Outputs waveform synchronized with RGB image.	 JSNIA1029ZZ
44 (W)	20 (B)	RGB image signal (G: green)	Output	Ignition switch ON	Start Confirmation/Adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on Display Diagnosis screen.	Outputs waveform synchronized with RGB image.	 JSNIA1030ZZ
45 (B)	20 (B)	RGB image signal (B: blue)	Output	Ignition switch ON	Start Confirmation/Adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on Display Diagnosis screen.	Outputs waveform synchronized with RGB image.	 JSNIA1031ZZ
47 (B)	46 (W)	Composite image signal (for front display unit)	Output	Ignition switch ON	When DVD or AUX image is displayed on front display unit.	Outputs waveform synchronized with composite image.	 SKIB2251J
48 (BR)	49 (SB)	Inverter VCC	Output	Ignition switch ACC	—	8.0 – 9.5 V	8.8 V
50 (R)	20 (B)	Vertical synchronizing (VP) signal	Input	Ignition switch ON	—	Waveform of 1.0 V – 5.5 V is input.	 SKIB3598E

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
51 (G)	20 (B)	Communication signal (CONT→DISP)	Output	Ignition switch ON	When adjusting display brightness.	Waveform of 0.5 V or less – 3.5 V or more is output.	 PKIB5039J
52	—	Shield	—	—	—	—	—
57	—	Shield	—	—	—	—	—
58	—	Shield	—	—	—	—	—
61 (BR)	69 (Y)	AUX image signal	Output	Ignition switch ON	When AUX image is displayed on front or rear display unit.	Outputs waveform synchronized with AUX image.	 SKIB2251J
62 (Y)	20 (B)	Camera image signal	input	Ignition switch ON	When camera image is displayed.	Waveform according to camera image is input.	 SKIB2251J
65	—	Shield	—	—	—	—	—
67 (W)	66 (B)	Composite image signal (for rear display unit)	Output	Ignition switch ON	When DVD or AUX image is displayed on rear display unit	Outputs waveform synchronized with composite image.	 SKIB2251J
70	—	Shield	—	—	—	—	—
71	—	Shield	—	—	—	—	—
73 (G)	72 (W)	Camera power supply	Output	Ignition switch ON	When camera image is displayed.	5.9 – 6.5 V	6.2 V
76 (LG)	—	AV communication signal (L)	Input/ Output	—	—	—	—
77 (V)	—	AV communication signal (H)	Input/ Output	—	—	—	—
78 (LG)	—	AV communication signal (L)	Input/ Output	—	—	—	—
79 (SB)	—	AV communication signal (H)	Input/ Output	—	—	—	—
80 (P)	—	CAN–L	Input/ Output	—	—	—	—

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
81 (L)	—	CAN–H	Input/ Output	—	—	—	—
96 (BR)	82 (W)	Disk eject signal	Input	Ignition switch ON	Keep pressing disk eject switch.	—	0 V
					Except for above.	—	3.3 V
87 (R)	88 (W)	Sound signal (TEL voice, voice guidance)	Output	Ignition switch ON	During voice guide output with the switch pressed.	Outputs waveform synchronized with sound.	 SKIB3609E
90 (BR)	91 (Y)	Headphone sound signal RH	Output	Ignition switch ON	Headphone sound output.	Outputs waveform synchronized with sound.	 SKIB3609E
92 (Y)	20 (B)	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	Waveform according to vehicle speed is input.	**NOTE:** The maximum voltage varies depending on the specification (destination unit).  JSNIA0012GB
93 (W)	20 (B)	Parking brake signal	Input	Ignition switch ON	Parking brake is applied.	1.5 V or less	0 V
					Parking brake is released.	3.5 V or more	4.5 V
94 (BR)	20 (B)	Reverse signal	Input	Ignition switch ON	Selector lever is in “R” position.	7.0 – 16.0 V	12.0 V
					Selector lever is in other than “R” position.	—	0 V
95 (G)	20 (B)	Ignition signal	Input	Ignition switch ON	—	9.0 – 16.0 V	Battery voltage
103 (B)	102 (W)	AUX sound signal LH	Input	Ignition switch ON	When AUX mode is selected on front or rear display unit.	Waveform according to sound is input.	 SKIB3609E

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
104 (R)	102 (W)	AUX sound signal RH	Input	Ignition switch ON	When AUX mode is selected on front or rear display unit.	Waveform according to sound is input.	 SKIB3609E
105 (GR)	—	Shield	—	—	—	—	—
106 (P)	107 (L)	Headphone sound signal LH	Output	Ignition switch ON	Headphone sound output.	Outputs waveform synchronized with sound.	 SKIB3609E
120 (R)	124 (B)	Satellite radio sound signal LH	Input	Ignition switch ON	When satellite radio mode is selected.	Outputs waveform synchronized with sound.	 SKIB3609E
121 (W)	125 (G)	Satellite radio sound signal RH	Output	Ignition switch ON	When satellite radio mode is selected.	Outputs waveform synchronized with sound.	 SKIB3609E
122 (R/W)	20 (B)	Communication signal (CONT→SAT)	Output	Ignition switch ON	When satellite radio mode is selected.	Waveform of 1.5 - 6.0 V is input.	 SKIA9300J
126	—	Shield	—	—	—	—	—
127	—	Shield	—	—	—	—	—
129 (R/L)	20 (B)	Request signal (SAT→CONT)	Input	Ignition switch ON	When satellite radio mode is selected.	Waveform of 1.1 V or less – 7.181 V or more is Input.	 SKIA9299J

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
130 (B)	20 (B)	Communication signal (SAT→CONT)	Input	Ignition switch ON	When satellite radio mode is selected.	Waveform of 1.1 V or less – 7.181 V or more is Input.	 SKIA9301J
132 (G)	—	USB ground	—	—	—	—	—
133 (W)	—	USB D– signal	—	—	—	—	—
134 (R)	—	V BUS signal	—	—	—	4.75 – 5.25 V	—
135 (B)	—	USB D+ signal	—	—	—	—	—
136	—	Shield	—	—	—	—	—
150	20 (B)	Antenna amp. ON signal	Input	Ignition switch ACC	—	7.0 – 16.0 V	12.0 V
151	—	AM-FM main	Input	—	—	—	—
152	—	FM sub	Input	—	—	—	—

DTC Index

INFOID:0000000009652015

SELF-DIAGNOSIS RESULTS DISPLAY ITEM

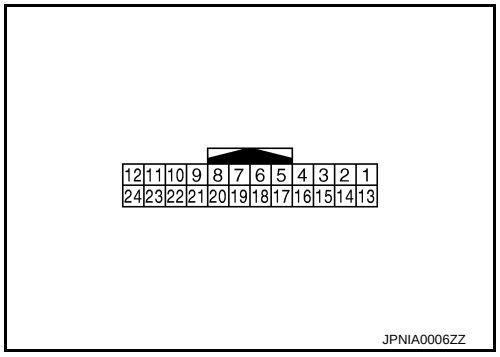
DTC	Display item	Refer to
U1000	CAN COMM CIRCUIT [U1000]	AV-202, "Diagnosis Procedure"
U1010	CONTROL UNIT (CAN) [1010]	AV-203, "DTC Logic"
U1200	Cont Unit [U1200]	AV-204, "DTC Logic"
U1216	CAN CONT [U1216]	AV-205, "DTC Logic"
U1232	ST ANGLE SEN CALIB [1232]	AV-206, "Diagnosis Procedure"
U1243	FRONT DISP CONN [U1243]	AV-207, "Diagnosis Procedure"
U1255	SAT CONN [U1255]	AV-209, "Diagnosis Procedure"
U1310	CONTROL UNIT (AV) [U1310]	AV-212, "DTC Logic"
U1300 U1240	• AV COMM CIRCUIT [U1300] • SWITCH CONN [U1240]	AV-211, "Description"
U1300 U1246	• AV COMM CIRCUIT [U1300] • VIDEO DIST CONN [U1246]	
U1300 U1256	• AV COMM CIRCUIT [U1300] • HAND FREE CONN [U1256]	
U1300 U1240 U1246 U1256	• AV COMM CIRCUIT [U1300] • SWITCH CONN [U1240] • VIDEO DIST CONN [U1246] • HAND FREE CONN [U1256]	

FRONT DISPLAY UNIT

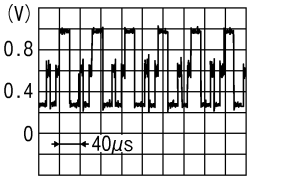
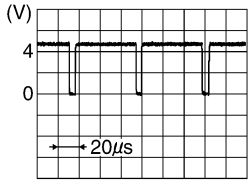
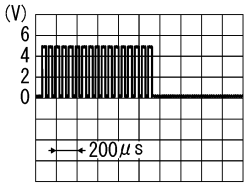
Reference Value

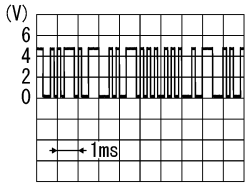
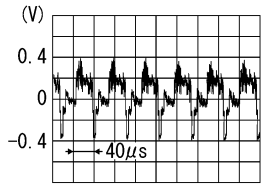
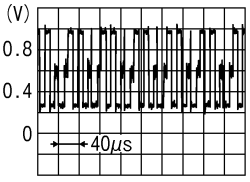
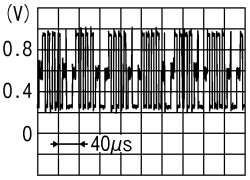
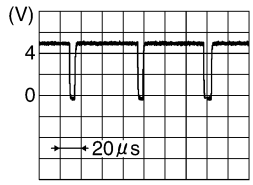
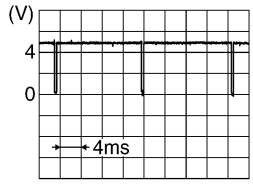
INFOID:0000000009943047

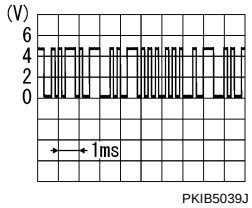
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
2 (BR)	13 (SB)	Inverter VCC	Input	Ignition switch ACC	—	8.0 – 9.5 V	8.8 V
3 (P)	14 (Y)	Signal VCC	Output	Ignition switch ACC	—	8.0 – 9.5 V	8.8 V
5	—	Shield	—	—	—	—	—
6 (W)	1 (B)	RGB image signal (G: green)	Input	Ignition switch ON	Start Confirmation/Adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on Display Diagnosis screen.	Outputs waveform synchronized with RGB image.	 JSNIA1030ZZ
7	—	Shield	—	—	—	—	—
8 (G)	1 (B)	Horizontal synchronizing (HP) signal	Output	Ignition switch ON	—	Waveform of 1.0 V – 5.5 V is output.	 SKIB3601E
9 (B)	1 (B)	RGB area (YS) signal	Input	Ignition switch ON	At RGB image is displayed.	5.5 V or less	5.0 V
					At AUX image is displayed.	Waveform of 0.8 V – 5.5 V is input.	 PKIB4948J

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
11 (G)	1 (B)	Communication signal (CONT→DISP)	Input	Ignition switch ON	When adjusting display brightness.	Waveform of 0.4 V – 5.3 V is input.	 PKIB5039J
15 (B)	4 (W)	Composite image signal	Input	Ignition switch ON	When DVD or AUX image is displayed.	Outputs waveform synchronized with composite image.	 SKIB2251J
17 (R)	1 (B)	RGB image signal (R: red)	Input	Ignition switch ON	Start Confirmation/Adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on Display Diagnosis screen.	Outputs waveform synchronized with RGB image.	 JSNIA1029ZZ
18 (B)	1 (B)	RGB image signal (B: blue)	Input	Ignition switch ON	Start Confirmation/Adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on Display Diagnosis screen.	Outputs waveform synchronized with RGB image.	 JSNIA1031ZZ
19 (W)	1 (B)	RGB synchronizing signal	Input	Ignition switch ON	—	Waveform of 0.8 V – 5.5 V is input.	 SKIB3603E
20 (R)	1 (B)	Vertical synchronizing (VP) signal	Output	Ignition switch ON	—	Waveform of 1.0 V – 5.5 V is output.	 SKIB3598E
21	—	Shield	—	—	—	—	—

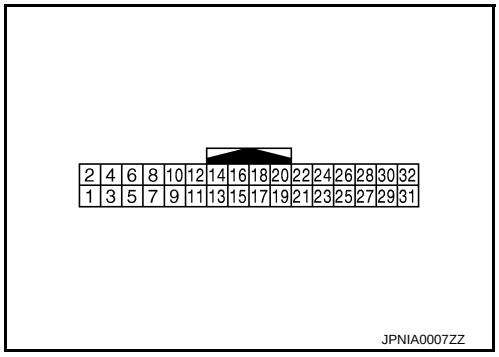
Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
22 (R)	1 (B)	Communication signal (DISP→CONT)	Output	Ignition switch ON	When adjusting display brightness.	Waveform of 0.5 V or less – 3.5 V or more is output.	 PKIB5039J
23	—	Shield	—	—	—	—	—

REAR DISPLAY UNIT

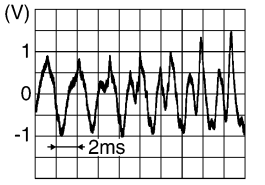
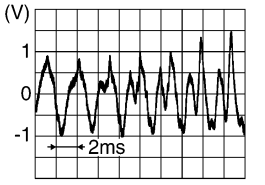
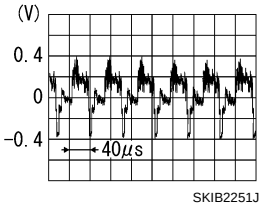
Reference Value

INFOID:0000000009652017

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
2 (L/O)	1 (W/L)	Headphone sound signal RH	Input	Ignition switch ON	Headphone sound output.	Waveform according to headphone sound is input.	
4 (BR)	3 (Y)	Headphone sound signal LH	Input	Ignition switch ON	Headphone sound output.	Waveform according to headphone sound is input.	
5	—	Shield	—	—	—	—	—
6	—	Shield	—	—	—	—	—
7 (L/G)	8 (L/R)	Composite image signal	Input	Ignition switch ON	When DVD, USB or AUX image is displayed.	Waveform according to composite image is input.	
18	—	Shield	—	—	—	—	—
19 (R)	—	AV communication signal (L)	Input/ Output	—	—	—	—
20 (Y)	—	AV communication signal (L)	Input/ Output	—	—	—	—
21 (G)	—	AV communication signal (H)	Input/ Output	—	—	—	—

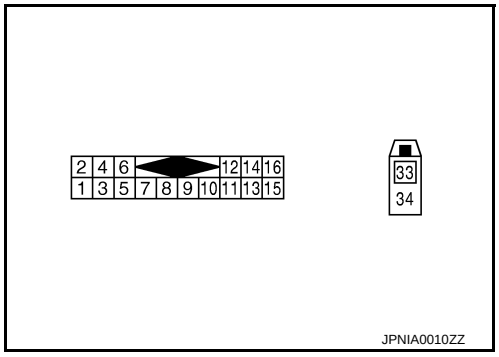
Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
22 (BR)	—	AV communication signal (H)	Input/ Output	—	—	—	—
26 (LG)	31 (B) 32 (B)	Ignition signal	Input	Ignition switch ON	—	3.0 V – battery voltage	Battery voltage
27 (SB)	31 (B) 32 (B)	Illumination signal	Input	Ignition switch ON	Lighting switch is 1st or 2nd.	—	12.0 V
					Lighting switch is OFF.	—	0 V
28 (V)	31 (B) 32 (B)	ACC power supply	Input	Ignition switch ACC	—	7.6 V – battery voltage	Battery voltage
29 (P)	31 (B) 32 (B)	Battery power supply	Input	Ignition switch ON	—	9.0 – 16.0 V	Battery voltage
30 (P)	31 (B) 32 (B)	Battery power supply	Input	Ignition switch ON	—	9.0 – 16.0 V	Battery voltage

SATELLITE RADIO TUNER

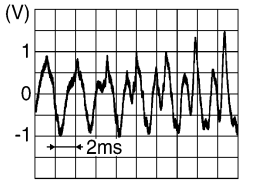
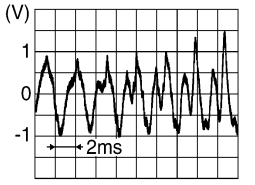
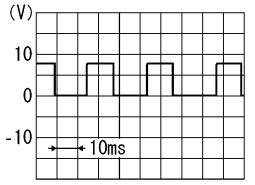
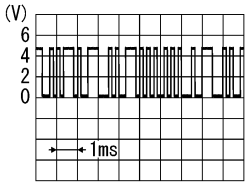
Reference Value

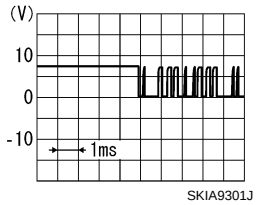
INFOID:0000000009652018

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
2 (W)	1 (B)	Satellite radio sound signal LH	Output	Ignition switch ON	When satellite radio mode is selected.	Outputs waveform synchronized with sound.	 SKIB3609E
4 (G)	3 (R)	Satellite radio sound signal RH	Output	Ignition switch ON	When satellite radio mode is selected.	Outputs waveform synchronized with sound.	 SKIB3609E
5	—	Shield	—	—	—	—	—
6	—	Shield	—	—	—	—	—
8 (R/L)	15 (B)	Request signal (SAT TO CONT)	Output	Ignition switch ON	When satellite radio mode is selected.	Waveform of 0.5 - 7.0 V is Output.	 SKIA9299J
9 (B/R)	15 (B)	Communication signal (SAT TO CONT)	Output	Ignition switch ON	When satellite radio mode is selected.	Waveform of 0.5 - 7.0 V is Output.	 PKIB5039J

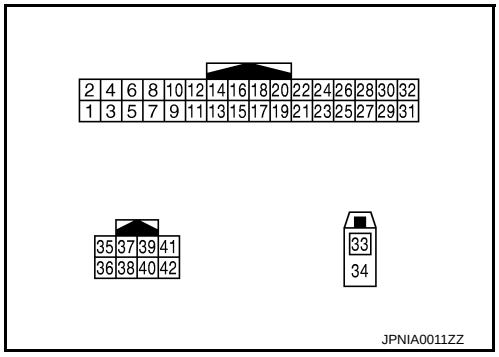
Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
10 (R/B)	15 (B)	Communication signal (CONT TO SAT)	Input	Ignition switch ON	When satellite radio mode is selected.	Waveform of 1.5 - 6.0 V is input.	 SKIA9301J
12 (LG)	15 (B)	Battery power supply	Input	Ignition switch OFF	—	10.8 - 15.6 V	Battery voltage
16 (O)	15 (B)	ACC power supply	Input	Ignition switch ACC	—	7.0 - 16.0 V	Battery voltage
33	—	Satellite radio antenna signal	Input	—	—	—	—

TEL ADAPTER UNIT

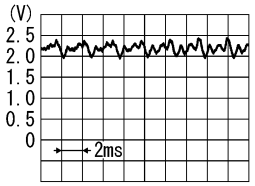
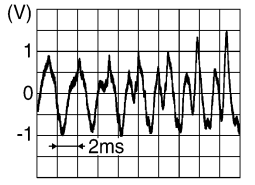
Reference Value

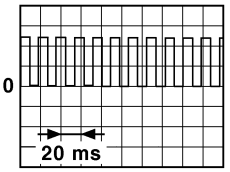
INFOID:0000000009652019

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
1 (Y)	4 (B/ W)	Battery power supply	Input	Ignition switch OFF	—	9.0 - 16.0 V	Battery voltage
2 (V)	4 (B/ W)	ACC power supply	Input	Ignition switch ACC	—	7.0 - 16.0 V	Battery voltage
3 (G)	4 (B/ W)	Ignition signal	Input	Ignition switch ON	—	7.0 - 16.0 V	Battery voltage
7 (W/ L)	8	Microphone signal	Input	Ignition switch ON	Give a voice.	Waveform according to voice is input.	 PKIB5037J
9 (B)	10 (W)	Sound signal (TEL voice, voice guidance)	Output	Ignition switch ON	During voice guide output with the switch pressed.	Outputs waveform synchronized with sound.	 SKIB3609E
20 (B/ W)	4 (B/ W)	Control signal	—	Ignition switch ON	—	3.1 V or less	0 V
27 (B/ W)	4 (B/ W)	Control signal	—	Ignition switch ON	—	3.1 V or less	0 V

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
28 (SB)	4 (B/ W)	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	Waveform according to vehicle speed is input.	**NOTE:** The maximum voltage varies depending on the specification (destination unit).  JSNIA0012GB
29 (W/ R)	8	Microphone VCC	Output	Ignition switch ON	—	4.7 - 5.3 V	5.0 V
35 (SB)	—	AV communication signal (H)	Input/ Output	—	—	—	—
36 (LG)	—	AV communication signal (L)	Input/ Output	—	—	—	—
33	4 (B/ W)	TEL antenna signal	Input/ Output	Ignition switch ON	Not connected to TEL antenna connector.	—	5.0 V
34	—	Shield	—	—	—	—	—

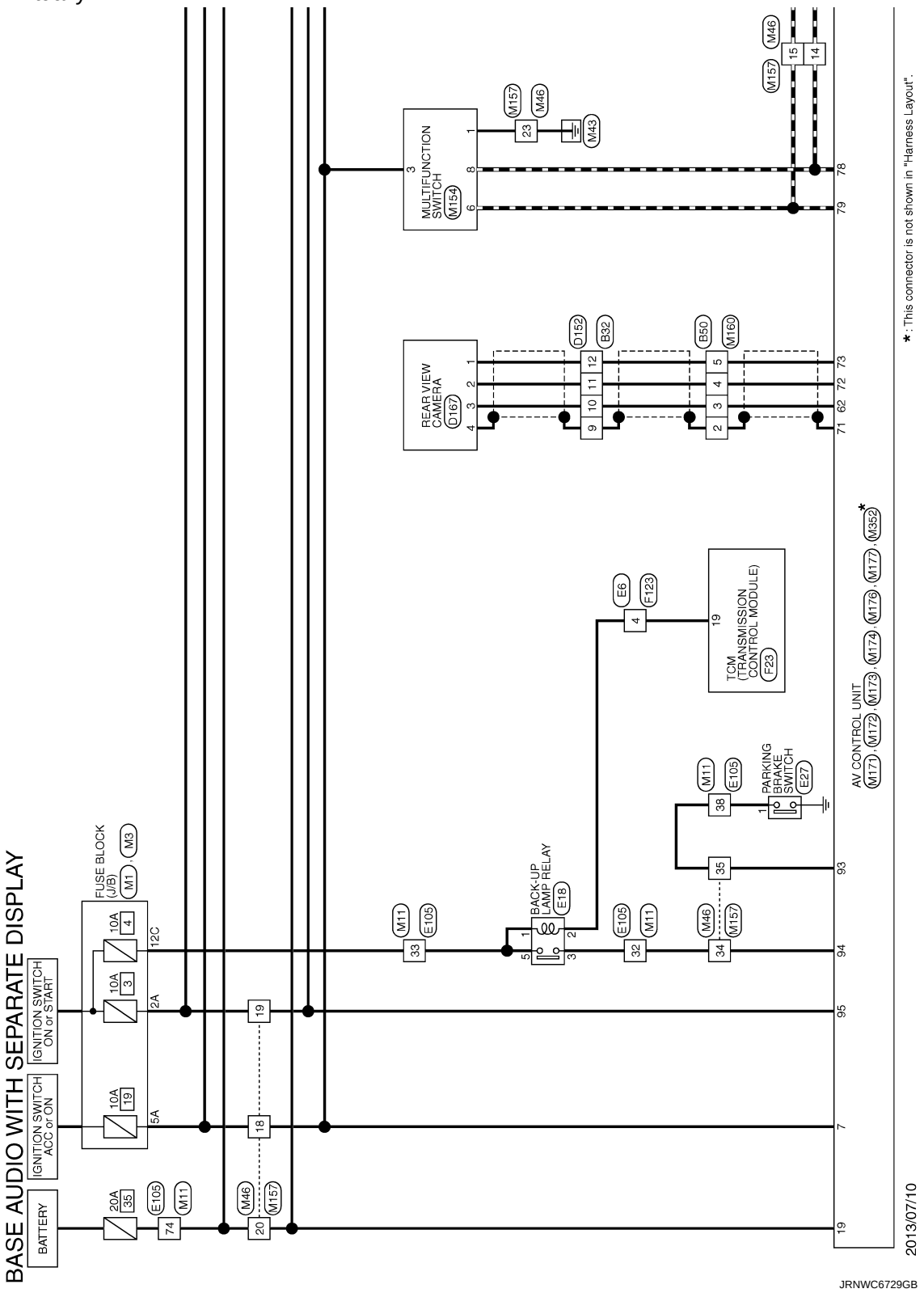
WIRING DIAGRAM

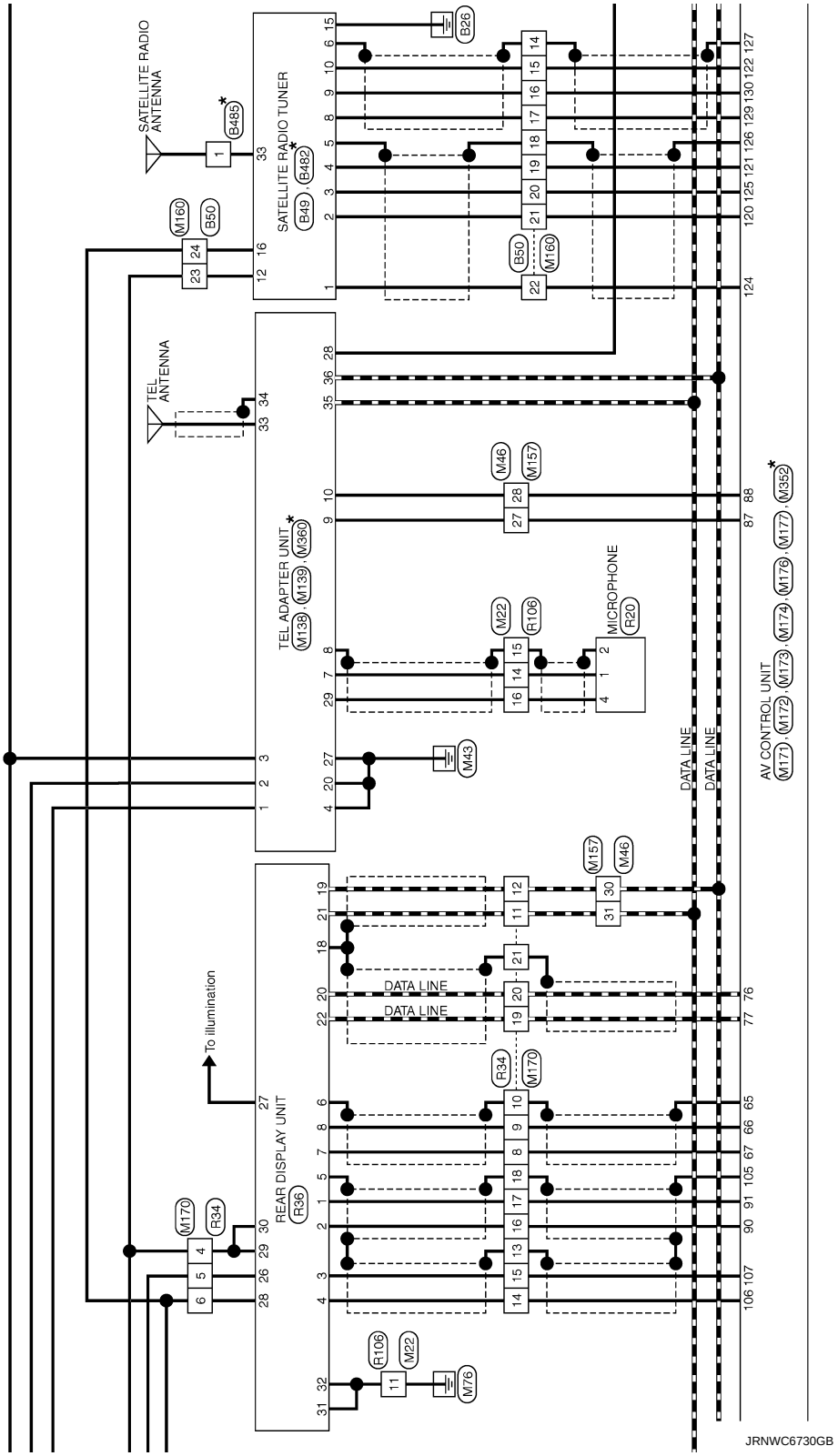
BASE AUDIO WITH SEPARATE DISPLAY

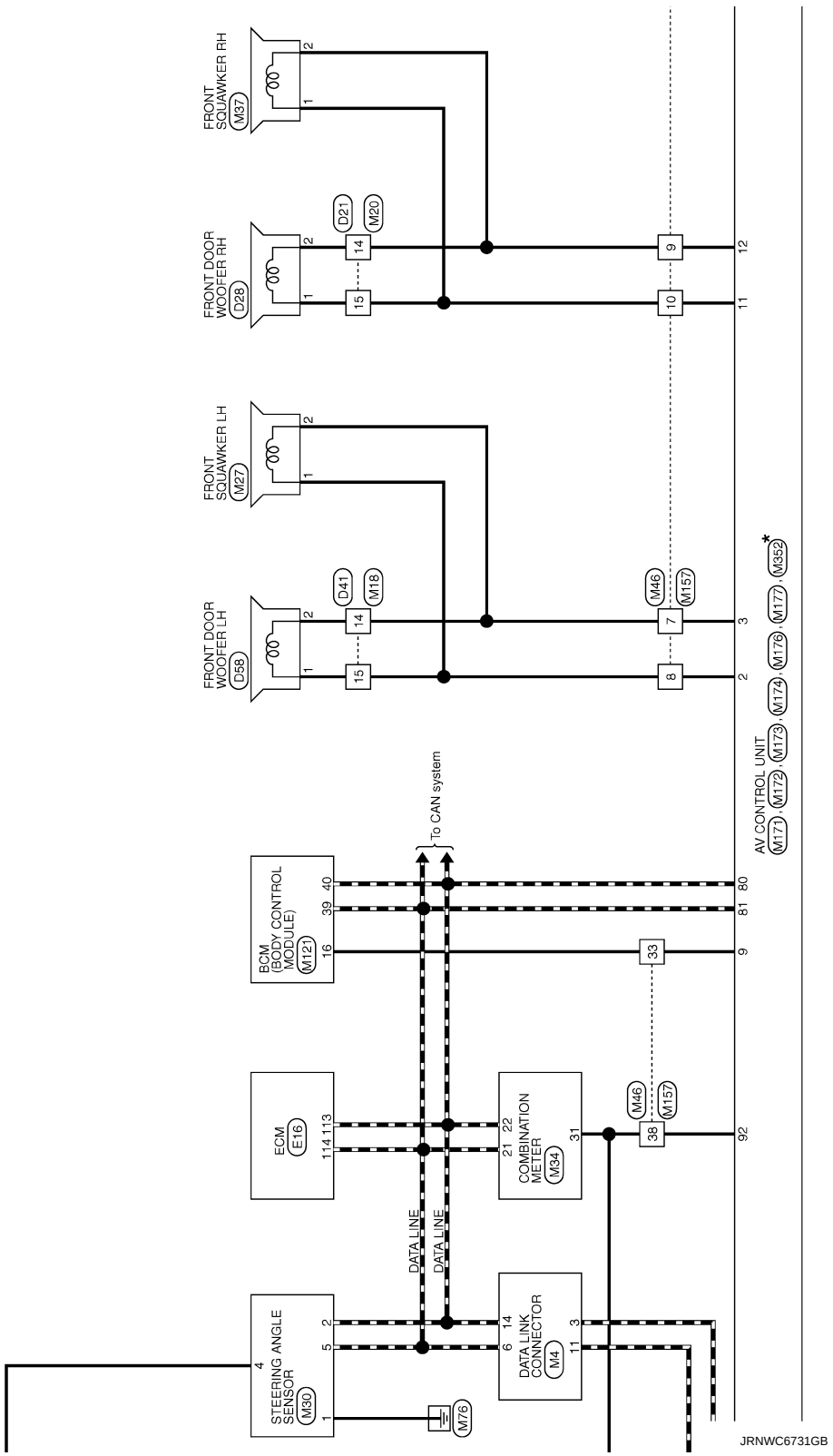
Wiring Diagram

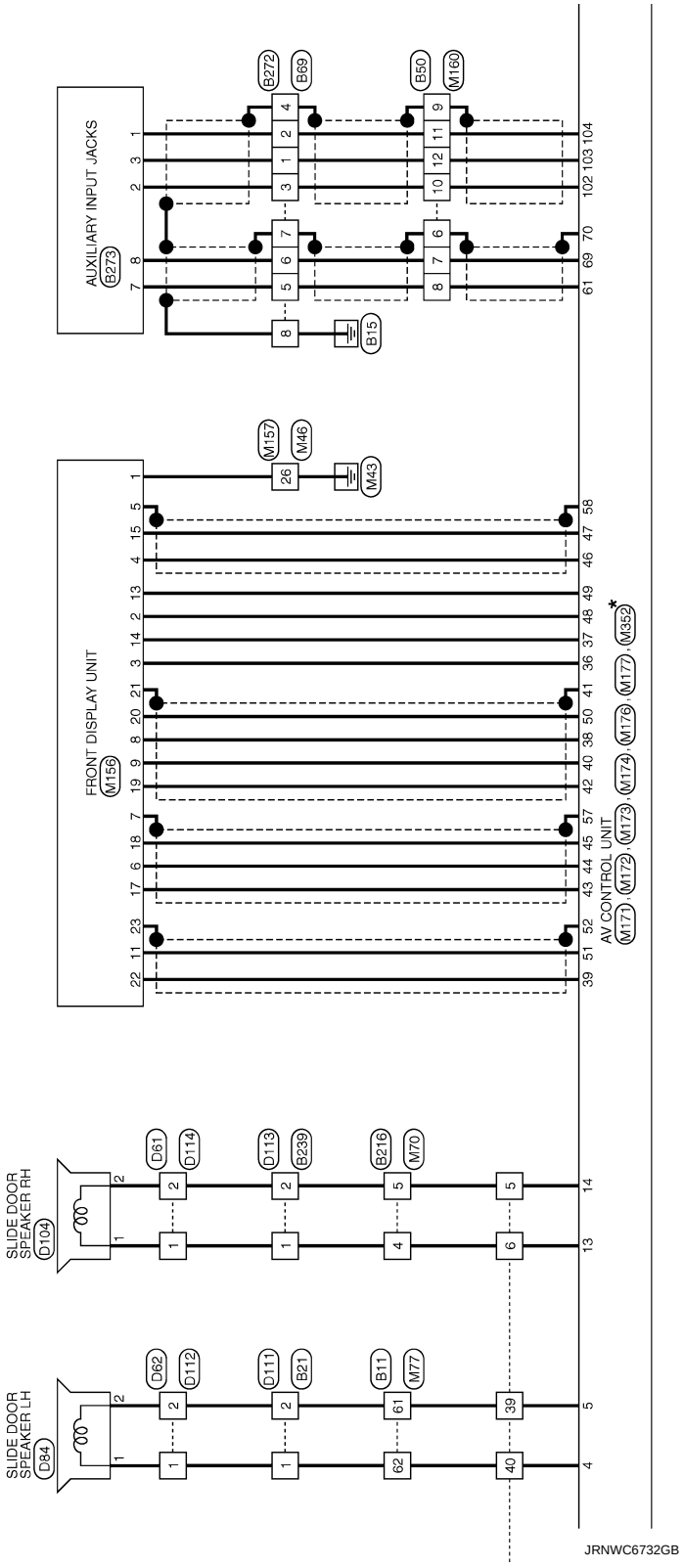
INFOID:0000000009652020

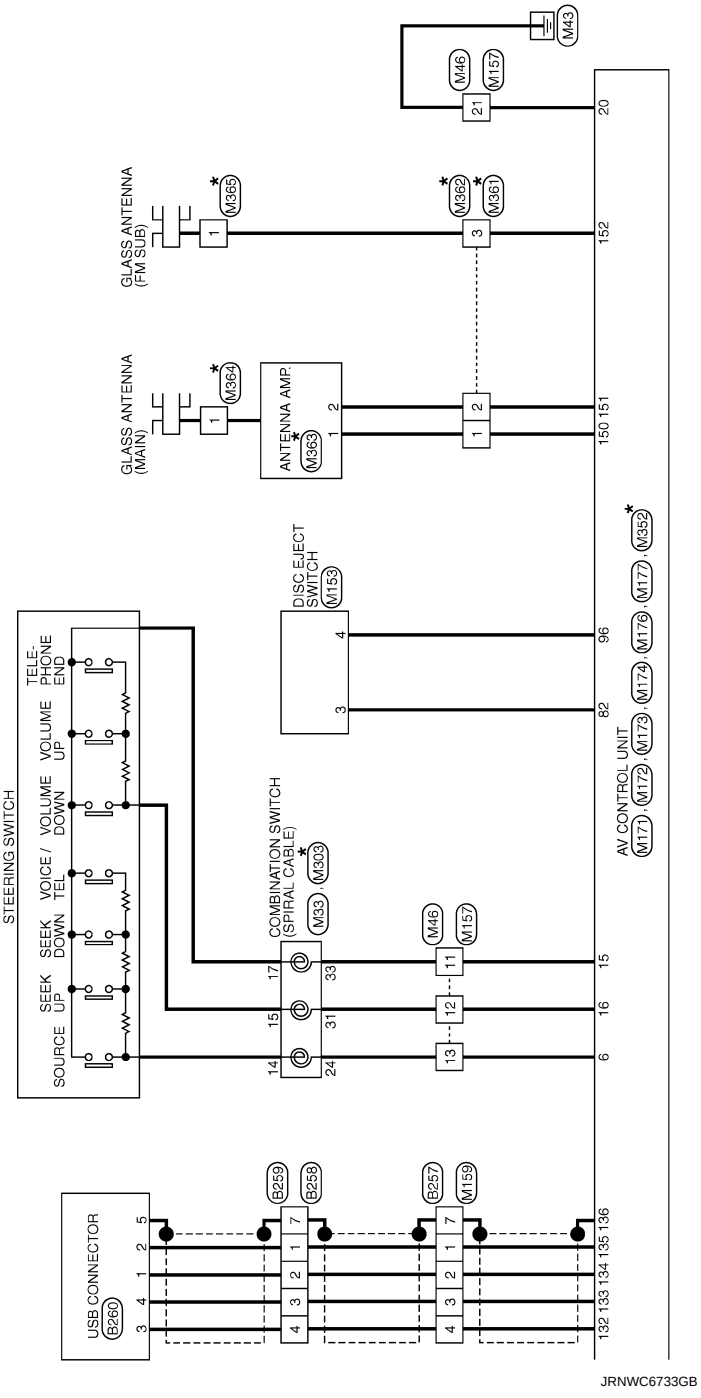
NOTE:
The name MULTIFUNCTION SWITCH indicates the integration of PRESET SWITCH and MULTIFUNCTION SWITCH virtually.




SATELLITE RADIO ANTENNA
B485
SATELLITE RADIO TUNER
B482
B49
B26
M160
B50
TEL ANTENNA
TEL ADAPTER UNIT
M139
M360
M46
M157
M22
R106
MICROPHONE
R20
M43
DATA LINE
AV CONTROL UNIT
M171
M172
M173
M174
M176
M177
M352
M170
R34
R36
REAR DISPLAY UNIT
To illumination
M76
JRNWC6730GB

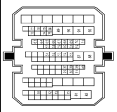

FRONT SQUAWKER RH
M37
FRONT DOOR WOOFER RH
D28
D21
M20
FRONT SQUAWKER LH
M27
FRONT DOOR WOOFER LH
D58
D41
M18
M46
M157
AV CONTROL UNIT
M171, M172, M173, M174, M176, M177, M352
To CAN system
BCM (BODY CONTROL MODULE)
M121
ECM
E16
COMBINATION METER
M34
DATA LINE
DATA LINE
STEERING ANGLE SENSOR
M30
DATA LINK CONNECTOR
M4
M76
JRNWC6731GB


AUXILIARY INPUT JACKS
B273
B272
B69
B50
M160
B15
FRONT DISPLAY UNIT
M156
M157
M46
M43
AV CONTROL UNIT
M171, M172, M173, M174, M176, M177, M352*
SLIDE DOOR SPEAKER RH
D104
D61
D114
D113
B239
B216
M70
SLIDE DOOR SPEAKER LH
D84
D62
D112
D111
B21
B11
M77
JRNWC6732GB


M43
M46
M157
21
20
GLASS ANTENNA (FM SUB)
M365
M362
M361
1
3
152
GLASS ANTENNA (MAIN)
M364
ANTENNA AMP.
M363
2
1
150 151
DISC EJECT SWITCH
M153
4
3
96
82
AV CONTROL UNIT
M171 M172 M173 M174 M176 M177 M352
STEERING SWITCH
TELE-PHONE END
VOLUME UP
VOLUME DOWN
VOICE / TEL
SEEK DOWN
SEEK UP
SOURCE
COMBINATION SWITCH (SPIRAL CABLE)
M303
M33
17
15
14
33
31
24
M46
M157
11
12
13
15
16
6
USB CONNECTOR
B260
5
2
1
4
3
B259
B258
B257
M159
7
1
2
3
4
132 133 134 135 136
JRNWC6733GB

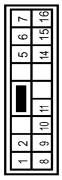
BASE AUDIO WITH SEPARATE DISPLAY

Connector No.	B11
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS19



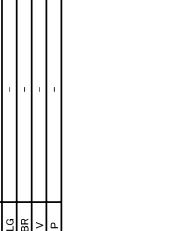
Terminal No.	Color Of Wire	Signal Name [Specification]
10	LG	–
12	Y	–
13	P	–
15	L	–
29	GR	–
30	W	–
31	BR	–
37	SHIELD	–
38	R/L	–
39	B	–
40	R/W	–
51	O	–
52	B/P	–
53	V	–
54	P	–
55	L	–
57	Y	–
58	L	–
59	V	–
60	O	–
61	B	–
62	W	–
63	Y	–
64	W	–
65	R	–
66	SHIELD	–
67	B	–
68	W	–
69	SHIELD	–
70	W/R	–
71	B/R	–
72	P	–
74	BR	–
75	SB	–
77	V	–
78	LG	–
79	W	–
80	R	–
81	SB	–
82	V	–
87	BR	–
88	P	–
89	BR	–
90	LG	– [Without automatic drive positioner]
90	P	– [With automatic drive positioner]
91	O	–
92	G	–

Connector No.	B21
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS



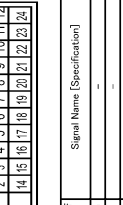
Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	–
2	B	–
5	Y	–
6	BR	–
7	LG	–
8	GR	–
9	SB	–
10	Y	–
11	G	–
14	O	–
15	W	–
16	B	–

Connector No.	B22
Connector Name	WIRE TO WIRE
Connector Type	TH24MW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	–
2	B	–
3	SB	–
4	L	–
5	O	–
6	SB	–
9	SHIELD	–
10	R/L	–
11	B	–
12	R/W	–
13	GR	–
14	O	–
15	W	–
16	G	–
17	R	–
18	W	–
19	BR	–
20	P	–
21	LG	–
22	BR	–
23	V	–
24	P	–

Connector No.	B49
Connector Name	SATELLITE RADIO TUNER
Connector Type	A16FW



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	SATELLITE RADIO SOUND SIGNAL LH (–)
2	W	SATELLITE RADIO SOUND SIGNAL LH (+)
3	R	SATELLITE RADIO SOUND SIGNAL RH (–)
4	G	SATELLITE RADIO SOUND SIGNAL RH (+)
5	SHIELD	SHIELD
6	SHIELD	SHIELD
8	R/L	REQUEST (SAT–CONT)
9	B/R	COMM (SAT–CONT)
10	R/B	COMM (CONT–SAT)
12	LG	BATTERY
15	B	GROUND
16	O	ACC

Connector No.	B50
Connector Name	WIRE TO WIRE
Connector Type	TH24MW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
2	SHIELD	–
3	R/L	–
4	B	–
5	R/W	–
6	SHIELD	–
7	R	–
8	L	–

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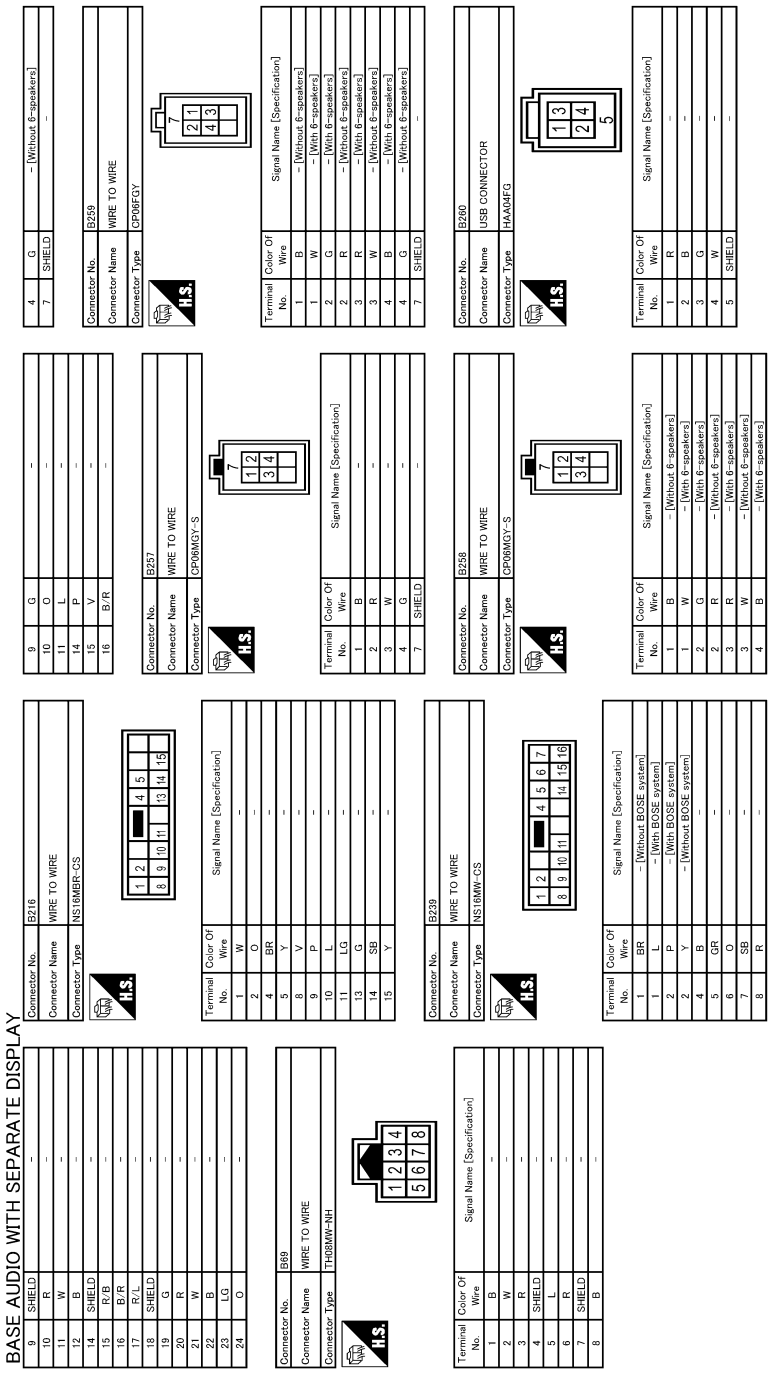

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BASE AUDIO WITH SEPARATE DISPLAY

Connector No.	B272
Connector Name	WIRE TO WIRE
Connector Type	TH08FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	–
2	R	–
3	W	–
4	B	–
5	B/R	–
6	W/R	–
7	B	–
8	GR	–

Connector No.	B273
Connector Name	AUXILIARY INPUT JACKS
Connector Type	A08FW

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	SOUND SIGNAL RH (+)
2	W	SOUND SIGNAL GND
3	B	SOUND SIGNAL LH (+)
7	B/R	AUX IMAGE SIGNAL
8	W/R	AUX IMAGE GND

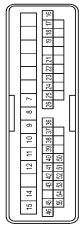
Connector No.	B482
Connector Name	SATELLITE RADIO TUNER
Connector Type	FAKRA

Terminal No.	Color Of Wire	Signal Name [Specification]
33	–	SATELLITE RADIO ANTENNA SIGNAL

Connector No.	B485
Connector Name	SATELLITE RADIO ANTENNA
Connector Type	GT16C-1PP-HU

Terminal No.	Color Of Wire	Signal Name [Specification]
1	–	SATELLITE ANTENNA

Connector No.	D21
Connector Name	WIRE TO WIRE
Connector Type	TH40FW-CS15

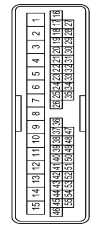


Terminal No.	Color Of Wire	Signal Name [Specification]
7	W	–
8	P	– [Without passenger power window anti-pinch system]
8	V	– [With front power window anti-pinch system]
9	BR	– [Without passenger power window anti-pinch system]
9	L	– [With front power window anti-pinch system]
10	LG	–
11	LG	–
12	R	–
14	B	–
15	W	–
16	P	–
17	Y	–
18	R	–
19	W	–
21	R	–
22	B	–
23	W	–
24	SHIELD	–
25	G	–
26	L	–
36	LG	–
37	Y	–
38	L	–
39	O	–
40	B	–
41	W	–
42	R	–
43	P	–
45	G	–
46	GR	–
50	BR	–
51	V	–
52	SB	–
53	SHIELD	–
54	G	–
55	R	–

Connector No.	D28
Connector Name	FRONT DOOR WOOFER RH
Connector Type	NS02FW-CS

Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	–
2	B	–

Connector No.	D41
Connector Name	WIRE TO WIRE
Connector Type	TH40FW-CS15



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	–
2	P	–
3	SB	–
4	O	–
5	BR	–
6	BR	–
7	GR	–
8	V	–
9	BR	– [With front power window anti-pinch system]
9	SB	– [Without passenger power window anti-pinch system]
10	LG	–
11	V	–
12	G	–
13	O	–
14	B	–
15	W	–
16	P	–
17	R	–

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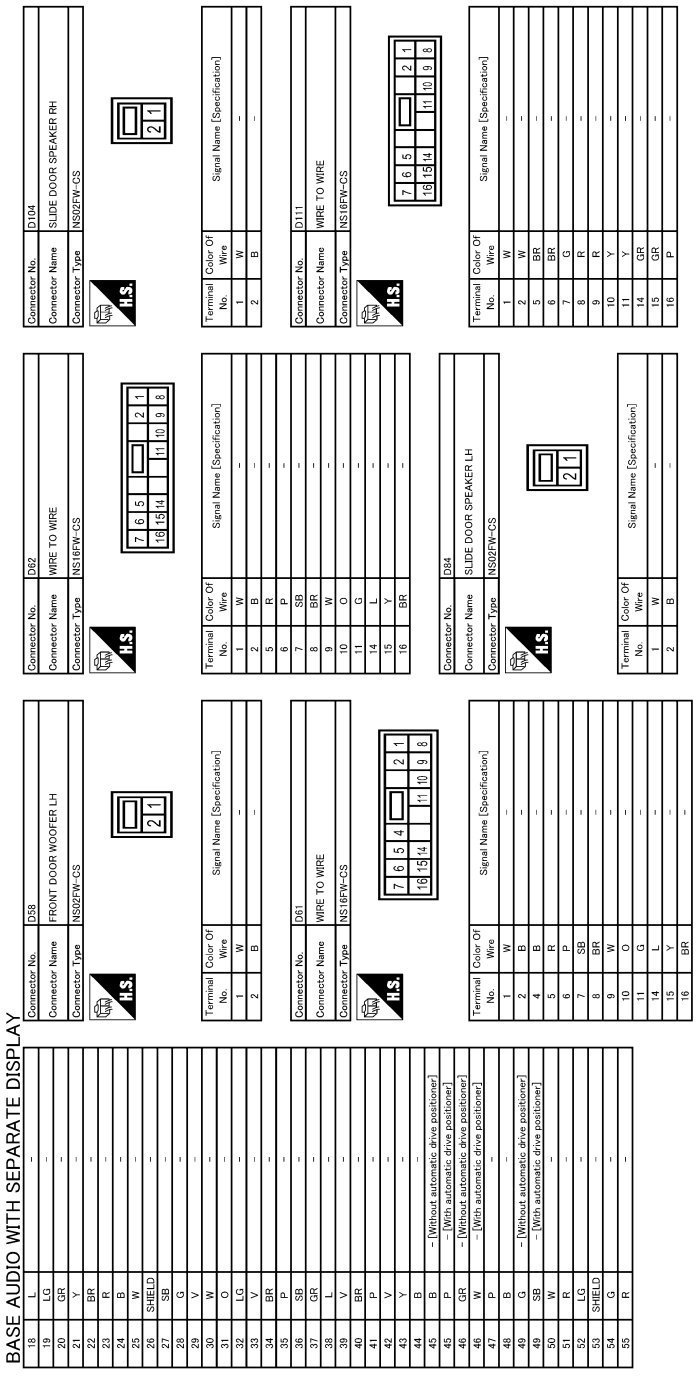

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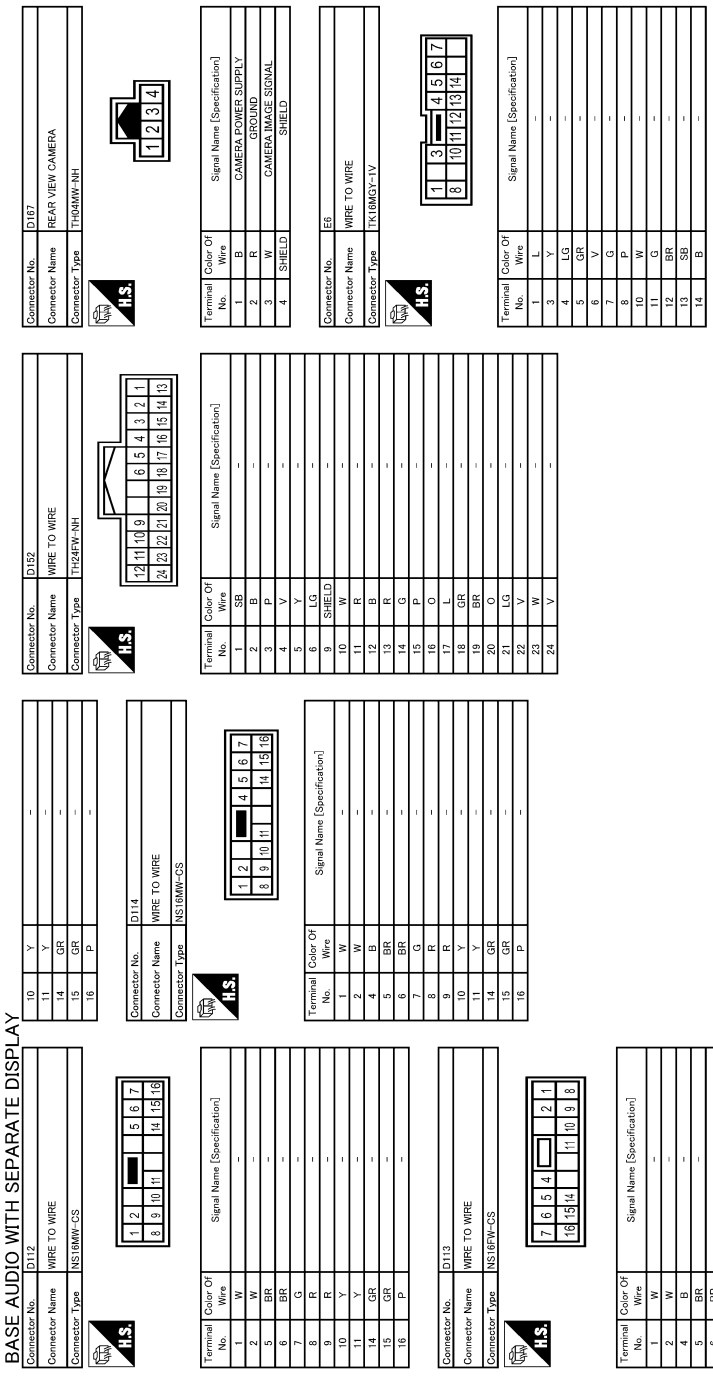
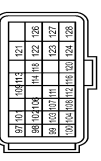


JRNWC6738GB

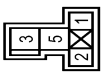
BASE AUDIO WITH SEPARATE DISPLAY

Connector No.	E16
Connector Name	ECM
Connector Type	RH24FGY-RZ8-L-LH



Terminal No.	Color Of Wire	Signal Name [Specification]
97	W	ACCELERATOR PEDAL POSITION SENSOR 1
98	O	ACCELERATOR PEDAL POSITION SENSOR 2
99	P	SENSOR POWER SUPPLY
100	B	SENSOR GROUND
101	Y	ASCD STEERING SWITCH
102	LG	EVAP CONTROL SYSTEM PRESSURE SENSOR
103	GR	SENSOR POWER SUPPLY
104	LG	DATA LINK CONNECTOR
106	V	EVAP CANISTER VENT CONTROL VALVE
107	W	SENSOR POWER SUPPLY
108	BR	SENSOR GROUND
109	G	IGNITION SWITCH
111	Y	FUEL TANK TEMPERATURE SENSOR
112	V	SENSOR GROUND
113	P	CAN COMMUNICATION LINE
114	L	CAN COMMUNICATION LINE
116	G	SENSOR GROUND
118	R	PNP signal
120	SB	SENSOR GROUND
121	L	POWER SUPPLY FOR ECM
122	SB	STOP LAMP SWITCH
123	B	ECM GROUND
124	B	ECM GROUND
126	BR	ASCD BRAKE SWITCH
127	B	ECM GROUND
128	B	ECM GROUND

Connector No.	E18
Connector Name	BACK-UP LAMP RELAY
Connector Type	M5I02FL-M2-LC

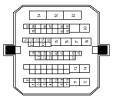


Terminal No.	Color Of Wire	Signal Name [Specification]
1	O	–
2	LG	–
3	R	–
5	Y	–

Connector No.	E27
Connector Name	PARKING BRAKE SWITCH
Connector Type	P01FB-A

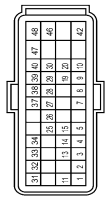
Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	–

Connector No.	E105
Connector Name	WIRE TO WIRE
Connector Type	TH70MW-CS10-M3



Terminal No.	Color Of Wire	Signal Name [Specification]
1	SHIELD	–
2	W	–
3	B	–
4	R	–
6	LG	–
7	R	–
8	GR	–
9	SB	–
10	BR	–
11	Y	–
12	O	–
13	W	–
14	L	–
15	P	–
31	GR	–
32	R	–
33	W	–
37	BR	–
38	G	–
39	V	–
40	P	–
41	L	–
42	LG	–
43	O	–
45	GR	–
46	SB	–
47	V	–
49	L	–
51	BR	–
52	G	–
53	B	–
54	O	–
55	Y	–
56	SHIELD	–
61	P	–
62	G	–
63	W/L	–
64	W/R	–
66	W	–
67	Y	–
69	SB	–
70	LG	–
71	R	–
72	L	–
73	GR	–
74	Y	–
75	SB	–
76	Y	–
77	G	–
78	O	–
80	R	–
81	L	–
82	LG	–
83	R	–

Connector No.	F23
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Type	RH40FB-RZ8-L-RH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	P/B	TRANSMISSION RANGE SWITCH 2
2	P/L	TRANSMISSION RANGE SWITCH 3
3	G/O	TRANSMISSION RANGE SWITCH 4
4	GR	TRANSMISSION RANGE SWITCH 3 (MONITOR)
5	B	GROUND
7	W	SENSOR GROUND
8	G/W	ROM ASSY (SEL 2)
9	L/R	ROM ASSY (SEL 1)
10	BR/R	ROM ASSY (SEL 3)
11	BR/W	TRANSMISSION RANGE SWITCH 1
13	V	CVT FLUID TEMPERATURE SENSOR
14	R/W	PRIMARY PRESSURE SENSOR
15	V/W	SECONDARY PRESSURE SENSOR
19	G/B	BACK-UP LAMP RELAY
20	R/B	STARTER RELAY
25	W/R	SENSOR GROUND

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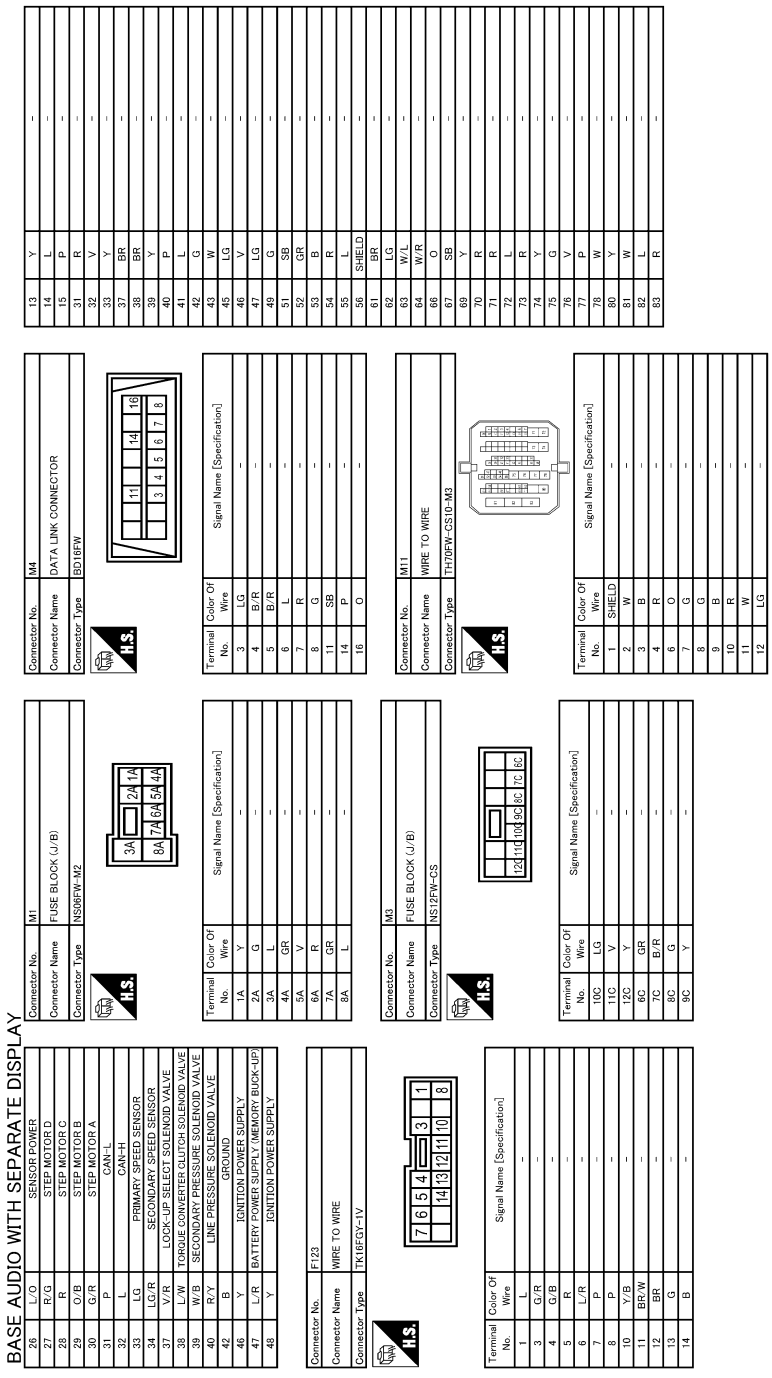

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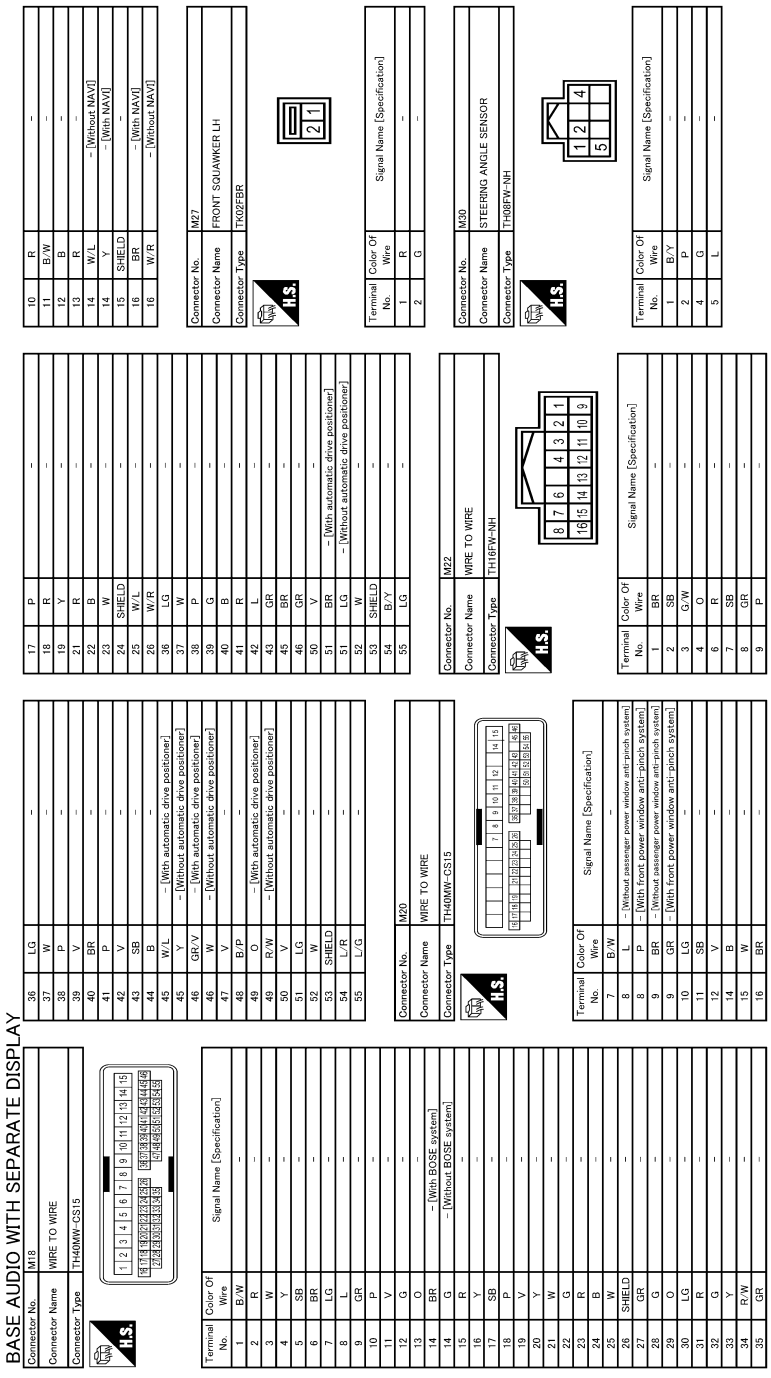
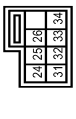


JRNWC6741GB

BASE AUDIO WITH SEPARATE DISPLAY

Connector No.	M33
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TK08FGY-1V



Terminal No.	Color Of Wire	Signal Name [Specification]
24	G	–
25	W	–
26	B	–
31	V	–
32	R	–
33	GR	–
34	SB	–

Connector No.	M34
Connector Name	COMBINATION METER
Connector Type	TH40FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
1	O	BATTERY POWER SUPPLY
2	Y	IGNITION SIGNAL
3	B	GROUND
4	B	GROUND
5	B/P	ILLUMINATION CONTROL SIGNAL
8	SB	TRIP RESET SWITCH SIGNAL
10	P	METER CONTROL SWITCH GROUND
11	G	ENTER SWITCH SIGNAL
12	BR	SELECT SWITCH SIGNAL
13	Y	ILLUMINATION CONTROL SWITCH SIGNAL (+)
14	V	ILLUMINATION CONTROL SWITCH SIGNAL (–)
15	BR	AIR BAG SIGNAL
16	L	ENGINE COOLANT TEMPERATURE SIGNAL
18	LG	AMBIENT SENSOR SIGNAL
19	R	A/C AUTO AMP. CONNECTION RECOGNITION SIGNAL
20	Y	AMBIENT SENSOR GROUND
21	L	CAN-H
22	P	CAN-L
23	B	GROUND
24	B	FUEL LEVEL SENSOR GROUND
25	BR	ALTERNATOR SIGNAL
26	BR	PARKING BRAKE SWITCH SIGNAL
27	Y	BRAKE FLUID LEVEL SWITCH SIGNAL
28	V	SECURITY SIGNAL
29	G	WASHER LEVEL SWITCH SIGNAL
31	SB	VEHICLE SPEED SIGNAL [8-PULSE]
32	P	OVERDRIVE CONTROL SWITCH SIGNAL
34	O	FUEL LEVEL SENSOR SIGNAL
35	P	SEAT BELT BUCKLE SWITCH SIGNAL [DRIVER SIDE]
36	BR	PASSENGER SEAT BELT WARNING SIGNAL

Connector No.	M37
Connector Name	FRONT SQUAWKER RH
Connector Type	TK02FBR

Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	–
2	B	–

Connector No.	M46
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
2	BR	–
3	Y	–
4	SHIELD	–
5	L	–
6	P	–
7	G	–
8	R	–
9	B	–
10	W	–
11	GR	–
12	V	–
13	G	–
14	LG	–
15	SB	–
16	B/Y	–
17	R	–
18	V	–
19	G/R	–
20	Y	–
21	B	–
23	B	–
24	Y	–
25	SHIELD	–
26	B	–
27	B	–
28	W	–
30	LG	–
31	SB	–
33	Y	–
34	V	–
35	BR	–
36	P	–
37	L	–
38	SB	–
39	LG	–
40	V	–

Connector No.	M70
Connector Name	WIRE TO WIRE
Connector Type	NS16FBR-CS

Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	–
2	R	–
4	P	–
5	L	–
8	G	–
9	V	–
10	R/L	–
11	SB	–
13	Y	–
14	P	–
15	W	–

Connector No.	M77
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS19

Terminal No.	Color Of Wire	Signal Name [Specification]
10	GR	–
12	V	–
13	W	–
15	Y	–
29	L	–
30	P	–
31	BR	–
37	SHIELD	–
38	B	– [Without automatic drive positioner]

JRNWC6742GB

BASE AUDIO WITH SEPARATE DISPLAY

38	W	– [With automatic drive positioner]
39	B	– [With automatic drive positioner]
39	W	– [Without automatic drive positioner]
40	R	–
51	V	–
52	B	–
53	O	–
54	P	–
55	L	–
57	Y	–
58	L	–
59	O	–
60	G	–
61	LG	–
62	V	–
63	SB	–
64	R	–
65	G	–
66	SHIELD	–
67	W/L	–
68	GR/V	–
69	SHIELD	–
70	W/L	–
71	W/R	–
72	LG	–
74	GR	–
75	G	–
77	O	–
78	LG	–
79	R	–
80	G	–
81	L	–
82	W	–
87	V	–
88	R	–
89	Y	–
90	P	– [Without automatic drive positioner]
90	R	– [With automatic drive positioner]
91	SB	–
92	P	–

Connector No.	M121
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FB-NH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	REAR WINDOW DEF RELAY CONT
2	LG	COMBI SW INPUT 5
3	Y	COMBI SW INPUT 4
4	O	COMBI SW INPUT 3
5	G	COMBI SW INPUT 2
6	L	COMBI SW INPUT 1
7	W	KEY CYL UNLOCK SW
8	GR	PW SW COMM [With automatic sliding door]
8	Y	KEY CYL LOCK SW [Without automatic sliding door]
9	V	STOP LAMP SW 1
12	GR	DOOR LK & UNLK SW LOCK
13	BR	DOOR LK & UNLK SW UNLOCK
14	L	OPTICAL SENS
15	W	REAR WINDOW DEF SW
16	Y	DIMMER
17	O	SENS PWR SPLY
18	R	RECEIV SENS GND
21	R	NATS ANT AMP
23	V	SECURITY IND CONT
24	B	DONGLE LINK
25	W	NATS ANT AMP
27	O	A/C ON
28	BR	BLOWER FAN ON
29	P	HAZARD SW
30	L	BK DOOR OPNR SW
31	O	DR DOOR UNLK SENS
32	Y	COMBI SW OUTPUT 5
33	W	COMBI SW OUTPUT 4
34	GR	COMBI SW OUTPUT 3
35	SB	COMBI SW OUTPUT 2
36	R	COMBI SW OUTPUT 1
37	G	DETENT SW
38	SB	RECEIVER COMM
39	L	CAN-H
40	P	CAN-L

Connector No.	M138
Connector Name	TEL ADAPTER UNIT
Connector Type	TH32FW-NH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	BATTERY
2	V	ACC
3	G	IGNITION
4	B/W	GROUND
7	W/L	MICROPHONE SIGNAL
8	SHIELD	MICROPHONE GND
9	B	SOUND SIGNAL (+)
10	W	SOUND SIGNAL (–)
12	G	STRG SW A
13	V	STRG SW B
14	GR	STRG SW GND
17	R	STRG SW A
18	SB	STRG SW B
19	Y	STRG SW GND
20	B/W	CONTROL SIGNAL
22	B/W	CONTROL SIGNAL
24	B/W	CONTROL SIGNAL
27	B/W	CONTROL SIGNAL
28	SB	VEHICLE SPEED (8-PULSE)
29	W/R	MICROPHONE VCC

Connector No.	M139
Connector Name	TEL ADAPTER UNIT
Connector Type	TH08FW-NH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
35	SB	AV COMM (H)
36	LG	AV COMM (L)

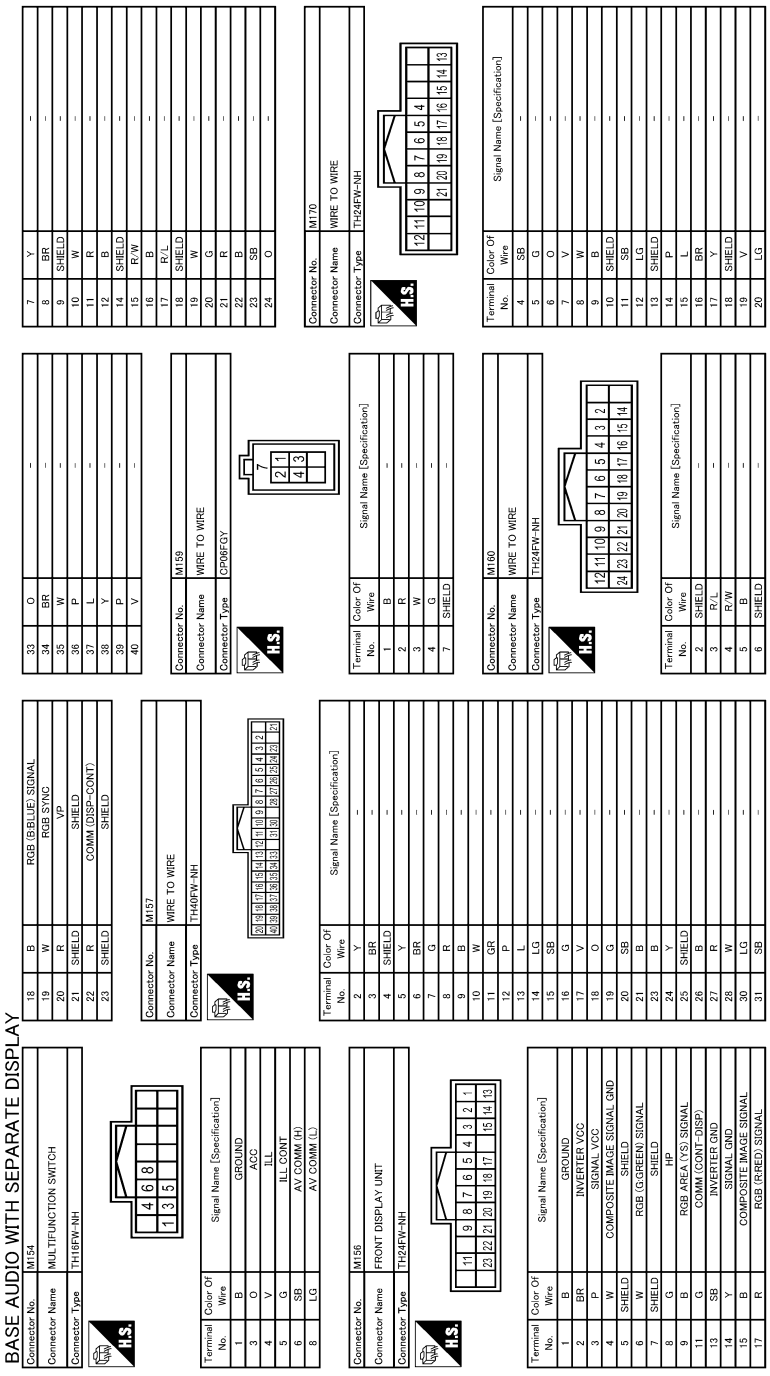
Connector No.	M153
Connector Name	DISC EJECT SWITCH
Connector Type	JAB04FB

H.S.

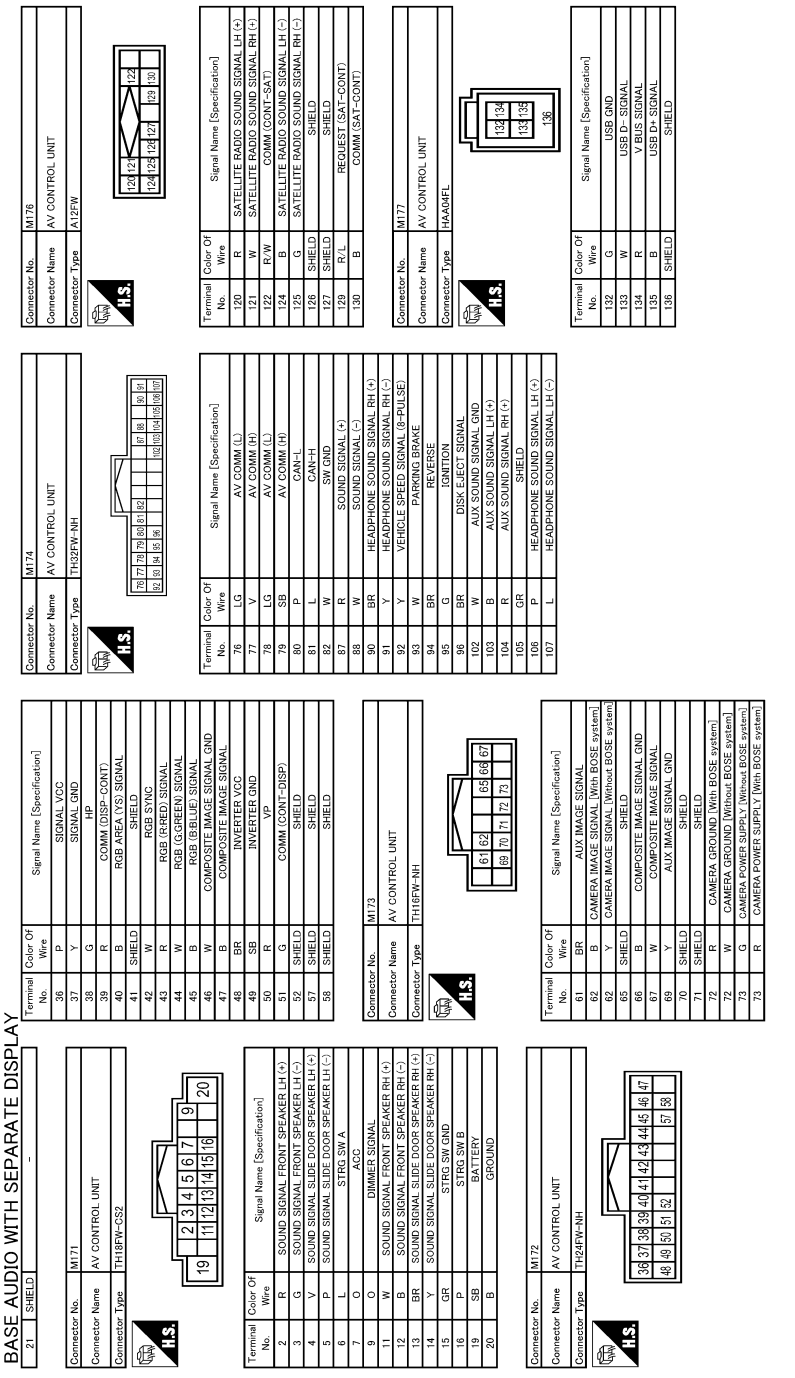
Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	–
2	G	–
3	W	–
4	BR	–

JRNWC6743GB

BASE AUDIO WITH SEPARATE DISPLAY

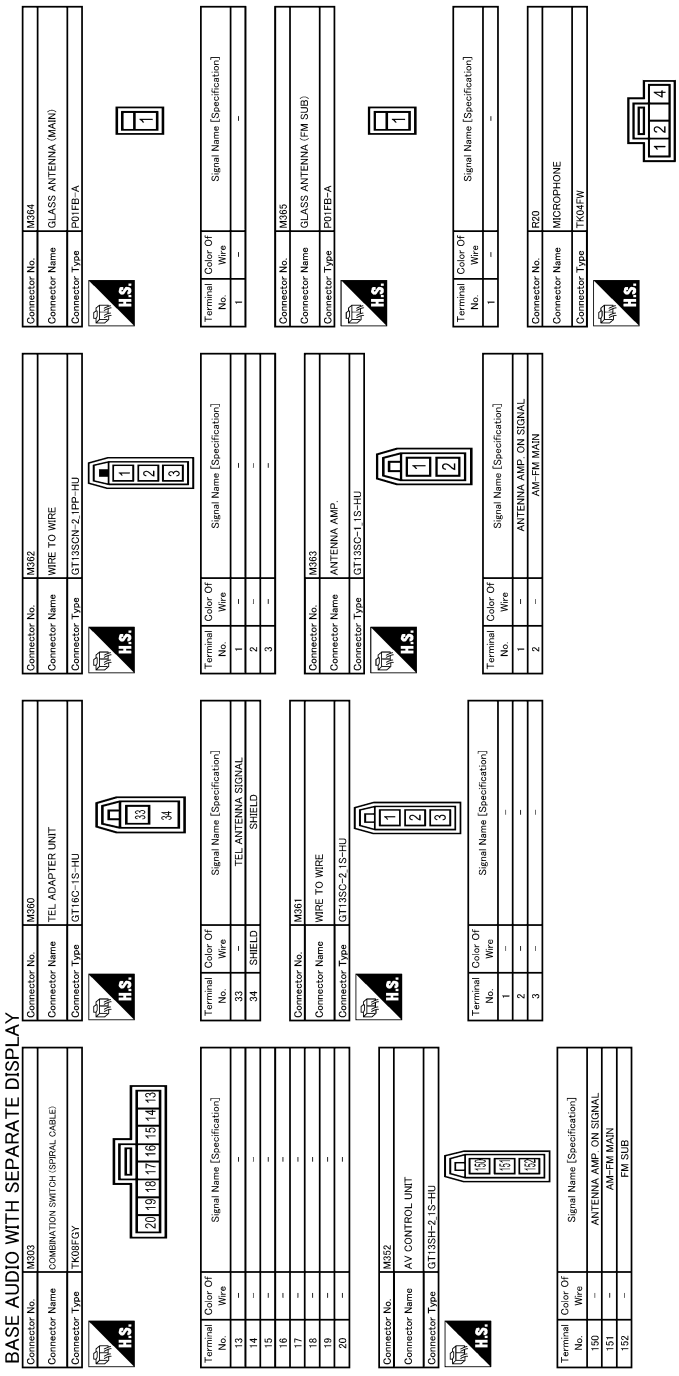


JRNWC6744GB



JRNWC6745GB

BASE AUDIO WITH SEPARATE DISPLAY



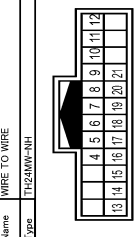
JRNWC6746GB

BASE AUDIO WITH SEPARATE DISPLAY

Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	MICROPHONE SIGNAL
2	SHIELD	SHIELD
4	BR	MICROPHONE POWER

Connector No.	R34
Connector Name	WIRE TO WIRE
Connector Type	TH24MW-NH

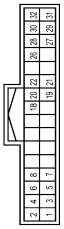
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
4	P	–
5	LG	–
6	V	–
7	SB	–
8	L/G	–
9	L/R	–
10	SHIELD	–
11	G	–
12	R	–
13	SHIELD	–
14	BR	–
15	Y	–
16	L/O	–
17	W/L	–
18	SHIELD	–
19	BR	–
20	Y	–
21	SHIELD	–

Connector No.	R36
Connector Name	REAR DISPLAY UNIT
Connector Type	TH32FW-NH

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W/L	HEADPHONE SOUND SIGNAL RH (–)
2	L/O	HEADPHONE SOUND SIGNAL RH (+)
3	Y	HEADPHONE SOUND SIGNAL LH (–)
4	BR	HEADPHONE SOUND SIGNAL LH (+)
5	SHIELD	SHIELD
6	SHIELD	SHIELD
7	L/G	COMPOSITE IMAGE SIGNAL
8	L/R	COMPOSITE IMAGE SIGNAL GND
18	SHIELD	SHIELD
19	R	AV COMM (L)
20	Y	AV COMM (L)
21	G	AV COMM (H)
22	BR	AV COMM (H)
26	LG	IGN
27	SB	ILL
28	V	ACC
29	P	BAT
30	P	BAT
31	B	GROUND
32	B	GROUND

Connector No.	R106
Connector Name	WIRE TO WIRE
Connector Type	TH16MW-NH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	–
2	SB	–
3	P	–
4	LG	–
6	O	–
7	W	–
8	BR	–
9	L	–
10	LG	–
11	B	–
12	V	–
13	Y	–
14	Y	–
15	SHIELD	–
16	BR	–

JRNWC6747GB

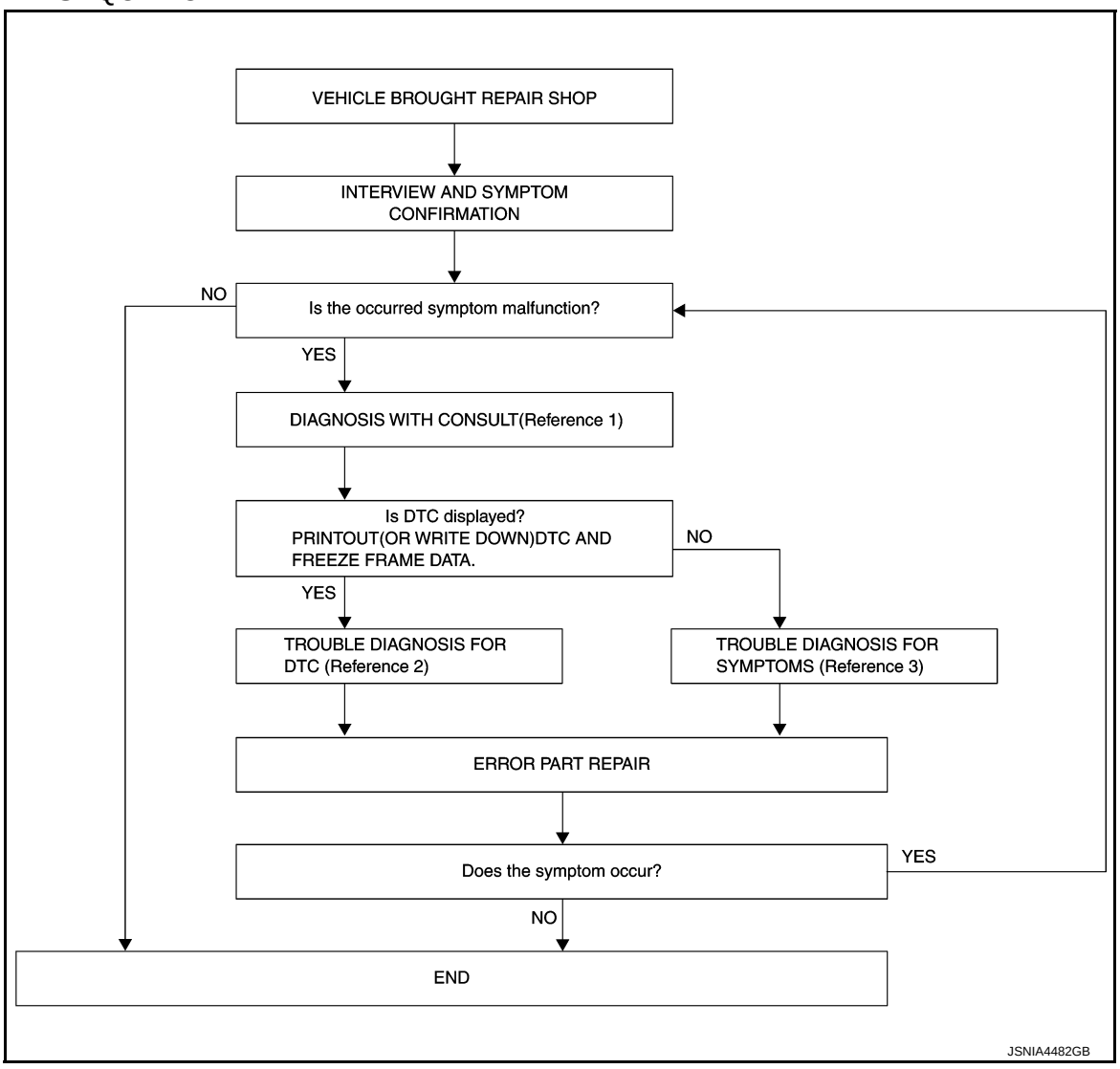
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000009652021

OVERALL SEQUENCE



- Reference 1··· Refer to AV-156, "CONSULT Function".
- Reference 2··· Refer to AV-168, "DTC Index".
- Reference 3··· Refer to AV-240, "Symptom Table".

DETAILED FLOW

1. INTERVIEW AND SYMPTOM CONFIRMATION

Check the malfunction symptoms by performing the following items.
- Interview the customer to obtain the malfunction information (conditions and environment when the malfunction occurred).
- Check the symptom.

Is the occurred symptom malfunction?

YES >> GO TO 2.
NO >> INSPECTION END

2. DIAGNOSIS WITH CONSULT

1. Connect CONSULT and perform a self-diagnosis for “MULTI AV”. Refer to AV-156, "CONSULT Function".
   NOTE:
   Skip to step 4 of the diagnosis procedure if “MULTI AV” is not displayed.
2. When DTC is detected, follow the instructions below:

- Record DTC and Freeze Frame Data.

Is DTC displayed?

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

3. TROUBLE DIAGNOSIS FOR DTC

1. Check the DTC indicated in the self-diagnosis results.
2. Perform the relevant diagnosis referring to the DTC Index. Refer to AV-168, "DTC Index".

>> GO TO 5.

4. TROUBLE DIAGNOSIS FOR SYMPTOMS

Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to AV-240, "Symptom Table".

>> GO TO 5.

5. ERROR PART REPAIR

1. Repair or replace the identified malfunctioning parts.
2. Perform a self-diagnosis for “MULTI AV” with CONSULT.
   NOTE:
   Erase the stored self-diagnosis results after repairing or replacing the relevant components if any DTC has been indicated in the self-diagnosis results.
3. Check that the symptom does not occur.

Does the symptom occur?

YES >> GO TO 1.
NO >> INSPECTION END

ADDITIONAL SERVICE WHEN REPLACING (AV CONTROL UNIT)

Description

INFOID:0000000009652022

BEFORE REPLACEMENT

When replacing AV control unit, save or print current vehicle specification with CONSULT configuration before replacement.

AFTER REPLACEMENT

CAUTION:

When replacing AV control unit, you must perform “After Replace ECU” or “Manual Configuration” with CONSULT.

- **Complete the procedure of “After Replace ECU” or “Manual Configuration” in order.**
- **If you set incorrect “After Replace ECU” or “Manual Configuration”, incidents might occur.**
- **Configuration is different for each vehicle model. Confirm configuration of each vehicle model.**

Work Procedure

INFOID:0000000009652023

1.SAVING VEHICLE SPECIFICATION

CONSULT Configuration

Perform “Before Replace ECU” to save or print current vehicle specification. Refer to AV-200, "Description".

NOTE:

If “Before Replace ECU” can not be used, use the “Manual Configuration”.

>> GO TO 2.

2.REPLACE AV CONTROL UNIT

Replace AV control unit. Refer to AV-250, "Removal and Installation".

>> GO TO 3.

3.WRITING VEHICLE SPECIFICATION

CONSULT Configuration

Perform “After Replace ECU” or “Manual Configuration” to write vehicle specification. Refer to AV-200, "Work Procedure".

>> GO TO 4.

4.OPERATION CHECK

Check that the operation of the AV control unit and camera images (fixed guide lines and predictive course lines) are normal.

>> WORK END

CONFIGURATION (AV CONTROL UNIT)

Description

INFOID:0000000009652024

- Since vehicle specifications are not included in the AV control unit after replacement, it is required to write vehicle specifications with CONSULT.
- Configuration has three functions as follows.

Function		Description
Read/Write Configuration	Before Replace ECU	Allows the reading of vehicle specification written in AV control unit to store the specification in CONSULT.
	After Replace ECU	Allows the writing of the vehicle information stored in CONSULT into the AV control unit.
Manual Configuration		Allows the writing of the vehicle specification into the AV control unit by hand.

Work Procedure

INFOID:0000000009652025

1.WRITE VEHICLE SPECIFICATION

CONSULT Configuration
Write vehicle specification into AV control unit.

To write vehicle specification stored in CONSULT into the AV control unit>>GO TO 2.
To write vehicle specification into the AV control unit by hand>>GO TO 3.

2.WRITE STORED DATA

CONSULT Configuration
Select “After Replace ECU” in “Read/Write Configuration.” Write data stored in CONSULT with the “Before Replace ECU” function into the AV control unit.

>> GO TO 4.

3.MANUALLY WRITE VEHICLE SPECIFICATION

CONSULT Configuration
Perform “Manual Configuration.” Refer to the Configuration List to write vehicle specification into the AV control unit. Refer to AV-200, "Configuration List".
NOTE:
If selection items are not displayed on the CONSULT screen, touch “NEXT.”

>> GO TO 4.

4.OPERATION CHECK

Check that the operation of the AV control unit and camera images (fixed guide lines and predictive course lines) are normal.

>> WORK END

Configuration List

INFOID:0000000009652026

CAUTION:
Grasp vehicle specifications precisely. The control of ECU may not function normally if the specifications are misread.
NOTE:
- The items shown in this list depend on vehicle specifications.
- The config list may not be displayed depending on vehicle specifications. This is not a malfunction.

MANUAL SETTING ITEM	
Items	Setting value
STEERING	LHD
	RHD
SOUND SYSTEM	BASE
	BOSE

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description

INFOID:0000000009652027

CAN (Controller Area Network) is a serial communication line for real-time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independently). In CAN communication, control units are connected with 2 communication lines (CAN-H, CAN-L) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.
CAN Communication Signal Chart. Refer to LAN-32, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart".

DTC Logic

INFOID:0000000009652028

DTC DETECTION LOGIC

DTC	Display contents of CONSULT	DTC detection condition	Probable malfunction location
U1000	CAN COMM CIRCUIT [U1000]	AV control unit is not transmitting or receiving CAN communication signal for 2 seconds or more.	CAN communication system.

Diagnosis Procedure

INFOID:0000000009652029

1. PERFORM SELF-DIAGNOSTIC

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Check “Self Diagnostic Result” of “MULTI AV”.

Is “CAN COMM CIRCUIT” displayed?

YES >> Refer to LAN-17, "Trouble Diagnosis Procedure".
NO >> Refer to GI-42, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

DTC Logic

INFOID:0000000009652030

DTC DETECTION LOGIC

DTC	Display contents of CONSULT	DTC detection condition	Probable malfunction factor
U1010	CONTROL UNIT (CAN) [U1010]	CAN initial diagnosis malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-250, "Removal and Installation".

U1200 AV CONTROL UNIT

DTC Logic

INFOID:0000000009652031

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1200	Cont Unit [U1200]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-250, "Removal and Installation".

U1216 AV CONTROL UNIT

DTC Logic

INFOID:0000000009652032

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1216	CAN CONT [U1216]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-250, "Removal and Installation".

U1232 STEERING ANGLE SENSOR

DTC Logic

INFOID:0000000009652033

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1232	ST ANGLE SEN CALIB [1232]	Neutral position adjustment of the steering angle sensor is incomplete.	Adjust neutral position of the steering angle sensor.

Diagnosis Procedure

INFOID:0000000009652034

1.ADJUST THE NEUTRAL POSITION OF THE STEERING ANGLE SENSOR

When U1232 is detected, adjust the neutral position of the steering angle sensor.

>> Adjusts the steering angle sensor neutral position on ABS actuator and electrical unit (control unit) side. Refer to BRC-49, "Work Procedure".

U1243 FRONT DISPLAY UNIT

DTC Logic

INFOID:0000000009652035

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1243	FRONT DISP CONN [U1243]	When either one of the following items are detected: • front display unit power supply and ground circuits are malfunctioning. • serial communication circuits between front display unit and AV control unit are malfunctioning.	• Front display unit power supply and ground circuits. • Serial communication circuits between front display unit and AV control unit.

Diagnosis Procedure

INFOID:0000000009652036

1.CHECK FRONT DISPLAY UNIT POWER SUPPLY AND GROUND CIRCUITS

Check front display unit power supply and ground circuits. Refer to AV-213, "FRONT DISPLAY UNIT : Diagnosis Procedure".

Is inspection result normal?

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

2.CHECK CONTINUITY COMMUNICATION CIRCUITS

1. Turn ignition switch OFF.
2. Disconnect front display unit connector and AV control unit connector.
3. Check continuity between front display unit harness connector and AV control unit harness connector.

Front display unit		AV control unit		Continuity
Connector	Terminals	Connector	Terminals	
M156	11	M172	51	Existed
	22		39	

4. Check continuity between front display unit harness connector and ground.

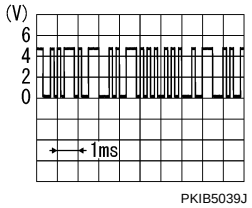
Front display unit		Ground	Continuity
Connector	Terminals		
M156	11		Not existed
	12		

Is inspection result normal?

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

3.CHECK COMMUNICATION SIGNAL

1. Connect front display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between front display unit harness connector and ground.

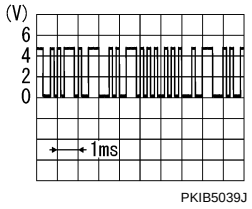
Probe				Condition	Standard	Reference value
(+)		(–)				
Front display unit						
Connector	Terminal	Connector	Terminal			
M156	11	M156	1	When adjusting display brightness.	Waveform of 0.4 V - 5.3 V is input.	 PKIB5039J

Is inspection result normal?

YES >> GO TO 4.
NO >> Replace AV control unit. Refer to AV-250, "Removal and Installation".

4. CHECK COMMUNICATION SIGNAL

Check signal between front display unit harness connector and ground.

Probe				Condition	Standard	Reference value
(+)		(–)				
Front display unit						
Connector	Terminal	Connector	Terminal			
M156	22	M156	1	When adjusting display brightness.	Waveform of 0.5 V or less - 3.5 V or more is input.	 PKIB5039J

Is inspection result normal?

YES >> INSPECTION END
NO >> Replace front display unit. Refer to AV-251, "Removal and Installation".

U1255 SATELLITE RADIO TUNER

DTC Logic

INFOID:0000000009652037

DTC	Display contents of CONSULT	DTC Detection Condition	Possible causes
U1255	SAT CONN [U1255]	When either one of the following items is detected: • satellite radio tuner power supply and ground circuit are malfunctioning. • communication circuits between AV control unit and satellite radio tuner are malfunctioning. • request signal circuit between AV control unit and satellite radio tuner are malfunctioning.	• Satellite radio tuner power supply and ground circuit. Refer to AV-215, "SATELLITE RADIO TUNER : Diagnosis Procedure". • Communication circuit between AV control unit and satellite radio tuner. • Request signal circuit between AV control unit and satellite radio tuner.

Diagnosis Procedure

INFOID:0000000009652038

1.CHECK SATELLITE RADIO TUNER POWER SUPPLY AND GROUND CIRCUIT

Check satellite radio tuner power supply and ground circuit. Refer to AV-215, "SATELLITE RADIO TUNER : Diagnosis Procedure".

Is the inspection result normal?

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

2.CHECK CONTINUITY COMMUNICATION CIRCUIT AND REQUEST SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector and satellite radio tuner connector.
3. Check continuity between AV control unit harness connector and satellite radio tuner harness connector.

AV control unit		Satellite radio tuner		Continuity
Connector	Terminals	Connector	Terminals	
M176	122	B49	10	Existed
	129		8	
	130		9	

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

AV control unit			Continuity
Connector	Terminals		
M176	122	Ground	Not existed
	129		
	130		

Is the inspection result normal?

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

3.CHECK AV CONTROL UNIT VOLTAGE

1. Connect AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between AV control unit harness connector and ground.

(+)		(–)	Voltage (Approx.)
AV control unit			
Connector	Terminals		
M176	129	Ground	7.0 V
	130		7.0 V

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace AV control unit. Refer to AV-250, "Removal and Installation".

4. CHECK SATELLITE RADIO TUNER VOLTAGE

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector.
3. Connect satellite radio tuner.
4. Turn ignition switch ON.
5. Check signal between satellite radio tuner harness connector and ground.

(+)		(–)	Voltage (Approx.)
Satellite radio tuner			
Connector	Terminal		
B49	10	Ground	7.0 V

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace satellite radio tuner. Refer to AV-264, "Removal and Installation".

U1300 AV COMM CIRCUIT

Description

INFOID:0000000009652039

U1300 is indicated when malfunction occurs in communication signal of multi AV system. Indicated simultaneously, without fail, with the malfunction of control units connected to AV control unit with communication line. Determine the possible malfunction cause from the table below.

SELF-DIAGNOSIS RESULTS DISPLAY ITEM

DTC	Display contents of CONSULT	DTC Detection Condition	Possible causes
U1300 U1240	• AV COMM CIRCUIT [U1300] • SWITCH CONN [U1240]	When either one of the following items is detected: • multifunction switch power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and multifunction switch are malfunctioning.	• Multifunction switch power supply and ground circuits. • AV communication circuits between AV control unit and multifunction switch.
U1300 U1246	• AV COMM CIRCUIT [U1300] • VIDEO DIST CONN [U1246]	When either one of the following items are detected: • rear display unit power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and rear display unit are malfunctioning.	• Rear display unit power supply and ground circuits. • AV communication circuits between AV control unit and rear display unit.
U1300 U1256	• AV COMM CIRCUIT [U1300] • HAND FREE CONN [U1256]	When either one of the following items is detected: • TEL adapter unit power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and TEL adapter unit are malfunctioning.	• TEL adapter unit power supply and ground circuits. • AV communication circuits between AV control unit and TEL adapter unit.
U1300 U1240 U1246 U1256	• AV COMM CIRCUIT [U1300] • SWITCH CONN [U1240] • VIDEO DIST CONN [U1246] • HAND FREE CONN [U1256]	AV communication circuits between AV control unit and multifunction switch are malfunctioning.	AV communication circuits between AV control unit and multifunction switch.

U1310 AV CONTROL UNIT

DTC Logic

INFOID:0000000009652040

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1310	CONTROL UNIT (AV) [U1310]	An initial diagnosis error is detected in AV communication circuit.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-250, "Removal and Installation".

POWER SUPPLY AND GROUND CIRCUIT

AV CONTROL UNIT

AV CONTROL UNIT : Diagnosis Procedure

INFOID:0000000009652041

1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	35
Ignition switch ACC or ON	19

Is the inspection result normal?

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

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between AV control unit harness connectors and ground.

Signal name	AV control unit	Probe		Condition	Standard	Reference value
		Terminal				
	Connector	(+)	(–)	Ignition switch		
Battery power supply	M171	19	20	OFF	9.0 - 15.6 V	Battery voltage
ACC power supply		7		ACC	9.0 - 16.0 V	

Is the inspection result normal?

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

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit connectors.
3. Check continuity between AV control unit harness connectors and ground.

Signal name	Connector	Terminal	Ignition switch position	Continuity
Ground	M171	20	OFF	Existed

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair harness or connector.

FRONT DISPLAY UNIT

FRONT DISPLAY UNIT : Diagnosis Procedure

INFOID:0000000009652042

1.CHECK POWER SUPPLY CIRCUIT (DISPLAY SIDE)

Check voltage between display unit harness connector and ground.

Signal name	Front display unit	Probe		Condition	Standard	Voltage (Approx.)
		Terminal				
	Connector	(+)	(–)	Ignition switch		
Inverter VCC	M156	2	17	OFF	8.0 - 9.5 V	8.8 V
Signal VCC		3	14	ACC		

Is the inspection result normal?

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

2.CHECK POWER SUPPLY CIRCUIT (CONTINUITY)

1. Turn ignition switch OFF.
2. Disconnect the harness connector between front display unit and AV control unit.
3. Check continuity between front display unit harness connector and AV control unit harness connector.

Front display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M156	2	M172	48	Existed
	3		36	

4. Check continuity between front display unit harness connector and ground.

Front display unit		Ground	Continuity
Connector	Terminal		
M156	2		Not existed
	3		

Is the inspection result normal?

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

3.CHECK POWER SUPPLY CIRCUIT (AV CONTROL UNIT SIDE)

1. Connect the AV control unit harness connector.
2. Turn ignition switch ACC.
3. Check voltage between AV control unit harness connector and ground.

Probe				Standard	Voltage (Approx.)
(+)		(–)			
AV control unit					
Connector	Terminal	Connector	Terminal		
M172	48	M172	49	8.0 - 9.5 V	8.8 V
	36		37		

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace AV control unit. Refer to AV-250, "Removal and Installation".

4.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect front display unit connector.
3. Check continuity between front display unit harness connectors and ground.

Signal name	Connector	Terminal	Ignition switch position	Continuity
Ground	M156	1	OFF	Existed

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair harness or connector.

REAR DISPLAY UNIT

REAR DISPLAY UNIT : Diagnosis Procedure

INFOID:0000000009652043

1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	35
Ignition switch ACC or ON	19

Is the inspection result normal?

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

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between rear display unit harness connector and ground.

Signal name	Rear display unit	Probe		Condition	Standard	Reference value
		Terminal				
	Connector	(+)	(–)	Ignition switch		
Battery power supply	R36	29	31 32	OFF	9.0 - 16.0 V	Battery voltage
		30				
ACC power supply		28		ACC	7.6 V - Battery voltage	

Is the inspection result normal?

YES >> GO TO 3.
NO >> Check harness between rear display unit and fuse.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect rear display unit connector.
3. Check continuity between rear display unit harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	R36	31	OFF	Existed
		32		

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair harness or connector.

SATELLITE RADIO TUNER

SATELLITE RADIO TUNER : Diagnosis Procedure

INFOID:0000000009652044

1.CHECK FUSES

Check that the following fuses of the satellite radio tuner are not blown.

Power source	Fuse No.
Battery	35
Ignition switch ACC or ON	19

Is inspection result OK?

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

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between the satellite radio tuner and ground.

Signal name	Satellite radio tuner	Probe		Condition	Standard	Reference value
		Terminal				
	Connector	(+)	(–)	Ignition switch		
Battery power supply	B49	12	15	OFF	10.8 - 15.6 V	Battery voltage
ACC power supply		16		ACC	7.0 - 16.0 V	

Is inspection result OK?

YES >> GO TO 3.
NO >> Check harness between satellite radio tuner and fuse.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect satellite radio tuner connector.
3. Check continuity between satellite radio tuner harness connector and ground.

Signal name	Connector	Terminal No.	Ignition switch position	Continuity
Ground	B49	15	OFF	Existed

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair harness or connector.

TEL ADAPTER UNIT

TEL ADAPTER UNIT : Diagnosis Procedure

INFOID:0000000009652045

1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	35
Ignition switch ACC or ON	19

Is the inspection result normal?

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

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between TEL adapter unit harness connector and ground.

Signal name	TEL adapter unit	Probe		Condition	Standard	Reference value
		Terminal				
	Connector	(+)	(–)	Ignition switch		
Battery power supply	M138	1	4	OFF	9.0 - 16.0 V	Battery voltage
ACC power supply		2		ACC	7.0 - 16.0 V	

Is the inspection result normal?

YES >> GO TO 3.
NO >> Check harness between TEL adapter unit and fuse.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect TEL adapter unit connector.
3. Check continuity between TEL adapter unit harness connector and ground.

Signal name	Connector	Terminal	Ignition switch position	Continuity
Ground	M138	4	OFF	Existed

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair harness or connector.

RGB (R: RED) SIGNAL CIRCUIT

Description

INFOID:0000000009652046

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

Diagnosis Procedure

INFOID:0000000009652047

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

1. Turn ignition switch OFF.
2. Disconnect front display unit connector and AV control unit connector.
3. Check continuity between front display unit harness connector and AV control unit harness connector.

Front display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M156	17	M172	43	Existed

4. Check continuity between front display unit harness connector and ground.

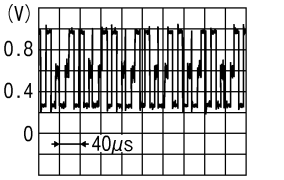
Front display unit		Ground	Continuity
Connector	Terminal		
M156	17		Not existed

Is the inspection result normal?

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

2.CHECK RGB (R: RED) SIGNAL

1. Connect front display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between front display unit harness connector and ground.

Probe				Condition	Standard	Reference value
(+)		(-)				
Front display unit						
Connector	Terminal	Connector	Terminal			
M156	17	M156	1	Start confirmation/ adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	Waveform according to RGB image is input.	 JSNIA1029ZZ

Is the inspection result normal?

YES >> Replace front display unit. Refer to AV-251, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-250, "Removal and Installation".

RGB (G: GREEN) SIGNAL CIRCUIT

Description

INFOID:0000000009652048

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

Diagnosis Procedure

INFOID:0000000009652049

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

1. Turn ignition switch OFF.
2. Disconnect front display unit connector and AV control unit connector.
3. Check continuity between front display unit harness connector and AV control unit harness connector.

Front display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M156	6	M172	44	Existed

4. Check continuity between front display unit harness connector and ground.

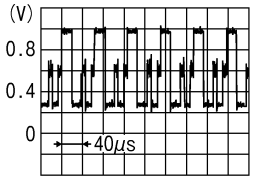
Front display unit		Ground	Continuity
Connector	Terminal		
M156	6		Not existed

Is the inspection result normal?

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

2.CHECK RGB (G: GREEN) SIGNAL

1. Connect front display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between front display unit harness connector and ground.

Probe				Condition	Standard	Reference value
(+)		(-)				
Front display unit						
Connector	Terminal	Connector	Terminal			
M156	6	M156	1	Start confirmation/ adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	Waveform according to RGB image is input.	 JSNIA1030ZZ

Is the inspection result normal?

YES >> Replace front display unit. Refer to AV-251, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-250, "Removal and Installation".

RGB (B: BLUE) SIGNAL CIRCUIT

Description

INFOID:0000000009652050

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

Diagnosis Procedure

INFOID:0000000009652051

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

1. Turn ignition switch OFF.
2. Disconnect front display unit connector and AV control unit connector.
3. Check continuity between front display unit harness connector and AV control unit harness connector.

Front display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M156	18	M172	45	Existed

4. Check continuity between front display unit harness connector and ground.

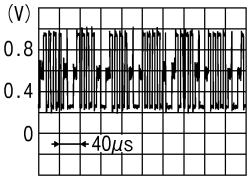
Front display unit		Ground	Continuity
Connector	Terminal		
M156	18		Not existed

Is the inspection result normal?

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

2.CHECK RGB (B: BLUE) SIGNAL

1. Connect front display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between front display unit harness connector and ground.

Probe				Condition	Standard	Reference value
(+)		(-)				
Front display unit						
Connector	Terminal	Connector	Terminal			
M156	18	M156	1	Start confirmation/ adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	Waveform according to RGB image is input.	 JSNIA1031ZZ

Is the inspection result normal?

YES >> Replace front display unit. Refer to AV-251, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-250, "Removal and Installation".

RGB SYNCHRONIZING SIGNAL CIRCUIT

Description

INFOID:0000000009652052

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

Diagnosis Procedure

INFOID:0000000009652053

1.CHECK CONTINUITY RGB SYNCHRONIZING SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect front display unit connector and AV control unit connector.
3. Check continuity between front display unit harness connector and AV control unit harness connector.

Front display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M156	19	M172	42	Existed

4. Check continuity between front display unit harness connector and ground.

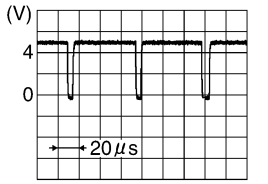
Front display unit		Ground	Continuity
Connector	Terminal		
M156	19		Not existed

Is the inspection result normal?

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

2.CHECK RGB SYNCHRONIZING SIGNAL

1. Connect front display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between front display unit harness connector and ground.

Probe				Standard	Reference value
(+)		(-)			
Front display unit					
Connector	Terminal	Connector	Terminal		
M156	19	M156	1	Waveform of 0.8 V - 5.5 V is input.	

SKIB3603E

Is the inspection result normal?

YES >> Replace front display unit. Refer to AV-251, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-250, "Removal and Installation".

RGB AREA (YS) SIGNAL CIRCUIT

Description

INFOID:0000000009652054

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

Diagnosis Procedure

INFOID:0000000009652055

1.CHECK CONTINUITY RGB AREA (YS) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect front display unit connector and AV control unit connector.
3. Check continuity between front display unit harness connector and AV control unit harness connector.

Front display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M156	9	M172	40	Existed

4. Check continuity between front display unit harness connector and ground.

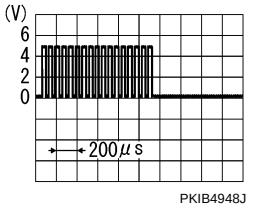
Front display unit		Ground	Continuity
Connector	Terminal		
M156	9		Not existed

Is the inspection result normal?

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

2.CHECK RGB AREA (YS) SIGNAL

1. Connect front display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between front display unit harness connector and ground.

Probe				Condition	Standard	Reference value
(+)		(-)				
Front display unit						
Connector	Terminal	Connector	Terminal			
M156	9	M156	1	At RGB image is displayed	5.5 V or less	5.0 V
				At AUX image is displayed	Waveform of 0.8 V - 5.5 V is input.	

PKIB4948J

Is the inspection result normal?

YES >> Replace front display unit. Refer to AV-251, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-250, "Removal and Installation".

HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

Description

INFOID:0000000009652056

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

Diagnosis Procedure

INFOID:0000000009652057

1.CHECK CONTINUITY HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect front display unit connector and AV control unit connector.
3. Check continuity between front display unit harness connector and AV control unit harness connector.

Front display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M156	8	M172	38	Existed

4. Check continuity between front display unit harness connector and ground.

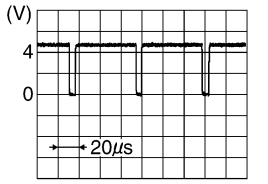
Front display unit		Ground	Continuity
Connector	Terminal		
M156	8		Not existed

Is the inspection result normal?

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

2.CHECK HORIZONTAL SYNCHRONIZING (HP) SIGNAL

1. Connect front display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between front display unit harness connector and ground.

Probe				Standard	Reference value
(+)		(-)			
Front display unit					
Connector	Terminal	Connector	Terminal		
M156	8	M156	1	Waveform of 1.0 V - 5.5 V is output.	

SKIB3601E

Is the inspection result normal?

YES >> Replace AV control unit. Refer to AV-250, "Removal and Installation".
NO >> Replace front display unit. Refer to AV-251, "Removal and Installation".

VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

Description

INFOID:0000000009652058

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

Diagnosis Procedure

INFOID:0000000009652059

1.CHECK CONTINUITY VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect front display unit connector and AV control unit connector.
3. Check continuity between front display unit harness connector and AV control unit harness connector.

Front display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M156	20	M172	50	Existed

4. Check continuity between front display unit harness connector and ground.

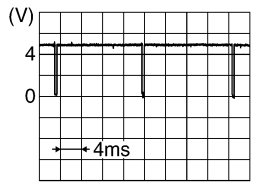
Front display unit		Ground	Continuity
Connector	Terminal		
M156	20		Not existed

Is the inspection result normal?

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

2.CHECK VERTICAL SYNCHRONIZING (VP) SIGNAL

1. Connect front display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between front display unit harness connector and ground.

Probe				Standard	Reference value
(+)		(-)			
Front display unit					
Connector	Terminal	Connector	Terminal		
M156	20	M156	1	Waveform of 1.0 V - 5.5 V is output.	

SKIB3598E

Is the inspection result normal?

YES >> Replace AV control unit. Refer to AV-250, "Removal and Installation".
NO >> Replace front display unit. Refer to AV-251, "Removal and Installation".

COMPOSITE IMAGE SIGNAL CIRCUIT (AV CONTROL UNIT TO FRONT DISPLAY UNIT)

Description

INFOID:0000000009652060

The AV control unit outputs image signal (DVD, auxiliary input, and camera) to the front display unit and rear display unit by composite image signal.

Diagnosis Procedure

INFOID:0000000009652061

1. CHECK CONTINUITY COMPOSITE IMAGE SIGNAL CIRCUIT (AV CONTROL UNIT TO FRONT DISPLAY UNIT)

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector and front display unit connector.
3. Check continuity between AV control unit harness connector and front display unit harness connector.

AV control unit		Front display unit		Continuity
Connector	Terminal	Connector	Terminal	
M172	46	M156	4	Existed
	47		15	

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

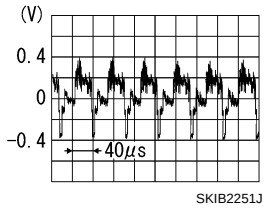
AV control unit		Ground	Continuity
Connector	Terminal		
M172	46		Not existed
	47		

Is inspection result normal?

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

2. CHECK COMPOSITE IMAGE SIGNAL (AV CONTROL UNIT TO FRONT DISPLAY UNIT)

1. Connect AV control unit connector and front display unit connector.
2. Turn ignition switch ON.
3. Check signal between front display unit harness connector.

Probe				Condition	Standard	Reference value
(+)		(–)				
Front display unit						
Connector	Terminal	Connector	Terminal			
M156	15	M156	4	When DVD, AUX or camera image is displayed.	Waveform according to composite image is input.	

SKIB2251J

Is inspection result normal?

YES >> Replace front display unit. Refer to AV-251, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-250, "Removal and Installation".

COMPOSITE IMAGE SIGNAL CIRCUIT (AV CONTROL UNIT TO REAR DISPLAY UNIT)

Description

INFOID:0000000009652062

The AV control unit outputs image signal (DVD, auxiliary input, and camera) to the front display unit and rear display unit by composite image signal.

Diagnosis Procedure

INFOID:0000000009652063

1.CHECK CONTINUITY COMPOSITE IMAGE SIGNAL CIRCUIT (AV CONTROL UNIT TO REAR DISPLAY UNIT)

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector and rear display unit connector.
3. Check continuity between AV control unit harness connector and rear display unit harness connector.

AV control unit		Rear display unit		Continuity
Connector	Terminal	Connector	Terminal	
M173	67	R36	7	Existed
	66		8	

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

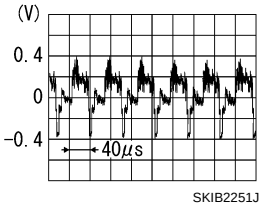
AV control unit		Ground	Continuity
Connector	Terminal		
M173	67		Not existed
	66		

Is the inspection result normal?

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

2.CHECK COMPOSITE IMAGE SIGNAL (AV CONTROL UNIT TO REAR DISPLAY UNIT)

1. Connect AV control unit connector and rear display unit connector.
2. Turn ignition switch ON.
3. Check signal between rear display unit harness connector.

Probe				Condition	Standard	Reference value
(+)		(–)				
Rear display unit						
Connector	Terminal	Connector	Terminal			
R36	7	R36	8	When DVD or AUX image is displayed.	Waveform according to composite image is input.	

SKIB2251J

Is the inspection result normal?

YES >> Replace rear display unit. Refer to AV-252, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-250, "Removal and Installation".

AUX IMAGE SIGNAL CIRCUIT

Description

INFOID:0000000009652064

- Transmits the image signal of AUX (auxiliary input) device from auxiliary input jacks to AV control unit.
- The AV control unit transmits the AUX image signal to the front display unit by composite image signal.

Diagnosis Procedure

INFOID:0000000009652065

1.CHECK CONTINUITY AUX IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector and auxiliary input jacks connector.
3. Check continuity between AV control unit harness connector and auxiliary input jacks harness connector.

AV control unit		Auxiliary input jacks		Continuity
Connector	Terminal	Connector	Terminal	
M173	61	B273	7	Existed
	69		8	

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

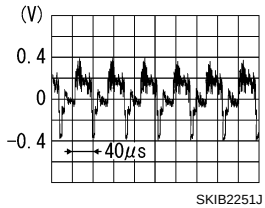
AV control unit		Ground	Continuity
Connector	Terminal		
M173	61		Not existed
	69		

Is the inspection result normal?

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

2.CHECK AUX IMAGE SIGNAL

1. Connect AV control unit connector and auxiliary input jacks connector.
2. Turn ignition switch ON.
3. Check signal between AV control unit harness connector and ground.

Probe				Condition	Standard	Reference value
(+)		(–)				
AV control unit						
Connector	Terminal	Connector	Terminal			
M173	61	M173	69	When AUX image is displayed on front or rear display unit.	Waveform according to AUX image is input.	

SKIB2251J

Is the inspection result normal?

YES >> Replace AV control unit. Refer to AV-250, "Removal and Installation".
NO >> Check that there is no malfunction in the external device.

CAMERA IMAGE SIGNAL CIRCUIT

Description

INFOID:0000000009652066

- AV control unit outputs camera power supply to rear view camera and inputs rear view camera image signal from rear view camera when the reverse signal is input.
- The AV control unit that inputs the camera image signal transmits the camera image signal to the front display unit.

Diagnosis Procedure

INFOID:0000000009652067

1.CHECK CONTINUITY CAMERA POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector and rear view camera connector.
3. Check continuity between AV control unit harness connector and rear view camera harness connector.

AV control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M173	73	D167	1	Existed

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

AV control unit		Ground	Continuity
Connector	Terminal		
M173	73		Not existed

Is inspection result normal?

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

2.CHECK VOLTAGE CAMERA POWER SUPPLY

1. Connect AV control unit connector and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever to “R”.
4. Check voltage between AV control unit harness connector and ground.

Probe				Standard	Voltage (Approx.)
(+)		(–)			
AV control unit					
Connector	Terminal	Connector	Terminal		
M173	73	M173	72	5.9 - 6.5 V	6.2 V

Is inspection result normal?

YES >> GO TO 3.
NO >> Replace AV control unit. Refer to AV-250, "Removal and Installation".

3.CHECK CONTINUITY CAMERA IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector and rear view camera connector.
3. Check continuity between AV control unit harness connector and rear view camera harness connector.

AV control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M173	62	D167	3	Existed

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

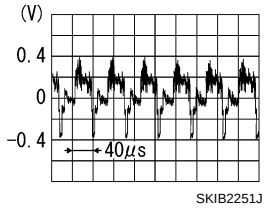
AV control unit		Ground	Continuity
Connector	Terminal		
M173	62		Not existed

Is inspection result normal?

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

4. CHECK CAMERA IMAGE SIGNAL

1. Connect AV control unit connector and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever to “R”.
4. Check signal between AV control unit harness connector and ground.

Probe				Condition	Standard	Reference value
(+)		(+)				
AV control unit						
Connector	Terminal	Connector	Terminal			
M173	62	M171	20	When camera image is displayed.	Waveform according to camera image is input.	

SKIB2251J

Is inspection result normal?

YES >> Replace AV control unit. Refer to AV-250, "Removal and Installation".
NO >> Replace rear view camera. Refer to AV-267, "Removal and Installation".

DISK EJECT SIGNAL CIRCUIT

Description

INFOID:0000000009652068

The disk eject switch outputs disk eject signal to the AV control unit when the switch of disk eject switch is pressed.

Diagnosis Procedure

INFOID:0000000009652069

1.CHECK CONTINUITY DISK EJECT SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector and disk eject switch connector.
3. Check continuity between AV control unit harness connector and disk eject switch harness connector.

AV control unit		Disk eject switch		Continuity
Connector	Terminal	Connector	Terminal	
M174	96	M153	4	Existed
	82		3	

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

AV control unit		Ground	Continuity
Connector	Terminal		
M174	96		Not existed
	82		

Is the inspection result normal?

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

2.CHECK AV CONTROL UNIT VOLTAGE

1. Connect AV control unit connector.
2. Turn ignition switch ON.
3. Check voltage between disk eject switch harness connector and ground.

Probe				Standard	Voltage (Approx.)
(+)		(–)			
Disk eject switch					
Connector	Terminal	Connector	Terminal		
M153	4	M153	3	—	3.3 V

Is the inspection result normal?

YES >> Replace disk eject switch. Refer to AV-258, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-250, "Removal and Installation".

MICROPHONE SIGNAL CIRCUIT

Description

INFOID:0000000009652070

TEL adapter unit supplies power to microphone. The microphone transmits the sound voice to the TEL adapter unit.

Diagnosis Procedure

INFOID:0000000009652071

1.CHECK CONTINUITY BETWEEN TEL ADAPTER UNIT AND MICROPHONE CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect TEL adapter unit connector and microphone connector.
3. Check continuity between TEL adapter unit harness connector and microphone harness connector.

TEL adapter unit		Microphone		Continuity
Connector	Terminals	Connector	Terminals	
M138	7	R20	1	Existed
	8		2	
	29		4	

4. Check continuity between TEL adapter unit harness connector and ground.

TEL adapter unit		Ground	Continuity
Connector	Terminals		
M138	29		Not existed
	7		

Is the inspection result normal?

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

2.CHECK VOLTAGE MICROPHONE VCC

1. Connect TEL adapter unit connector.
2. Turn ignition switch ON.
3. Check voltage between TEL adapter unit harness connector.

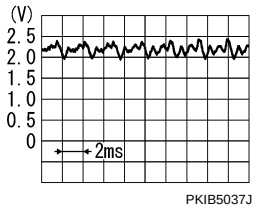
Probe				Standard	Voltage (Approx.)
(+)		(–)			
TEL adapter unit					
Connector	Terminal	Connector	Terminal		
M138	29	M138	8	4.7 - 5.3 V	5.0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace TEL adapter unit. Refer to AV-261, "Removal and Installation".

3.CHECK MICROPHONE SIGNAL

1. Connect microphone connector.
2. Check signal between TEL adapter unit harness connector.

Probe				Condition	Standard	Reference value
(+)		(+)				
TEL adapter unit						
Connector	Terminal	Connector	Terminal			
M138	7	M138	8	Give a voice.	Waveform according to voice is input.	 PKIB5037J

Is the inspection result normal?

YES >> Replace TEL adapter unit. Refer to AV-261, "Removal and Installation".
NO >> Replace microphone. Refer to AV-263, "Removal and Installation".

CONTROL SIGNAL CIRCUIT

Description

INFOID:0000000009652072

TEL adapter unit identifies the vehicle model according to the control signal and performs the control.

Diagnosis Procedure

INFOID:0000000009652073

1.CHECK CONTINUITY CONTROL SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect TEL adapter unit connector.
3. Check continuity between TEL adapter unit harness connector and ground.

TEL adapter unit		Ground	Standard	Reference value (Approx.)
Connector	Terminals			
M138	20		3.1 V or less	0 V
	27			

Is the inspection result normal?

YES >> Replace TEL adapter unit. Refer to AV-261, "Removal and Installation".
NO >> Repair harness or connector.

STEERING SWITCH SIGNAL A CIRCUIT

Description

INFOID:0000000009652074

Transmits the steering switch signal to AV control unit.

Diagnosis Procedure

INFOID:0000000009652075

1.CHECK STEERING SWITCH SIGNAL A CIRCUIT

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

AV control unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M171	6	M33	24	Existed

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

AV control unit		Ground	Continuity
Connector	Terminal		
M171	6		Not existed

Is the inspection result normal?

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

2.CHECK SPIRAL CABLE

Check spiral cable.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace spiral cable. Refer to SR-15, "Removal and Installation".

3.CHECK AV CONTROL UNIT VOLTAGE

1. Connect AV control unit connector and spiral cable connector.
2. Turn ignition switch ON.
3. Check voltage between AV control unit harness connector.

Probe				Standard	Voltage (Approx.)
(+)		(–)			
AV control unit					
Connector	Terminal	Connector	Terminal		
M171	6	M171	15	0 - 3.3 V	3.3 V

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace AV control unit. Refer to AV-250, "Removal and Installation".

4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to AV-234, "Component Inspection".

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace steering wheel. Refer to ST-12, "Removal and Installation".

Component Inspection

INFOID:0000000009652076

Measure the resistance between the steering switch connector terminals 14 to 17 and 15 to 17.

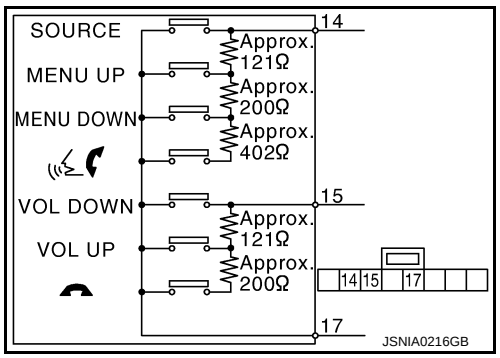
Standard

Between terminals 14 and 17

switch ON	: 708 – 737 Ω
MENU DOWN switch ON	: 314 – 327 Ω
MENU UP switch ON	: 118 – 123 Ω
SOURCE switch ON	: Less than 1 Ω

Between terminals 15 and 17

switch ON	: 314 – 327 Ω
VOL UP switch ON	: 118 – 123 Ω
VOL DOWN switch ON	: Less than 1 Ω



STEERING SWITCH SIGNAL B CIRCUIT

Description

INFOID:0000000009652077

Transmits the steering switch signal to AV control unit.

Diagnosis Procedure

INFOID:0000000009652078

1.CHECK STEERING SWITCH SIGNAL B CIRCUIT

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

AV control unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M171	16	M33	31	Existed

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

AV control unit		Ground	Continuity
Connector	Terminal		
M171	16		Not existed

Is the inspection result normal?

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

2.CHECK SPIRAL CABLE

Check spiral cable.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace spiral cable. Refer to SR-15, "Removal and Installation".

3.CHECK AV CONTROL UNIT VOLTAGE

1. Connect AV control unit connector and spiral cable connector.
2. Turn ignition switch ON.
3. Check voltage between AV control unit harness connector.

Probe				Standard	Voltage (Approx.)
(+)		(–)			
AV control unit					
Connector	Terminal	Connector	Terminal		
M171	16	M171	15	0 - 3.3 V	3.3 V

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace AV control unit. Refer to AV-250, "Removal and Installation".

4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to AV-236, "Component Inspection".

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace steering wheel. Refer to ST-12, "Removal and Installation".

Component Inspection

INFOID:0000000009652079

Measure the resistance between the steering switch connector terminals 14 to 17 and 15 to 17.

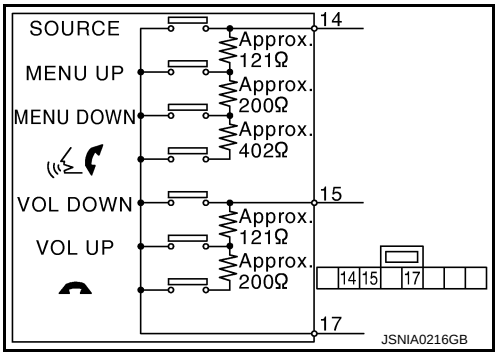
Standard

Between terminals 14 and 17

switch ON	: 708 – 737 Ω
MENU DOWN switch ON	: 314 – 327 Ω
MENU UP switch ON	: 118 – 123 Ω
SOURCE switch ON	: Less than 1 Ω

Between terminals 15 and 17

switch ON	: 314 – 327 Ω
VOL UP switch ON	: 118 – 123 Ω
VOL DOWN switch ON	: Less than 1 Ω



STEERING SWITCH GROUND CIRCUIT

Description

INFOID:0000000009652080

Transmits the steering switch signal to AV control unit.

Diagnosis Procedure

INFOID:0000000009652081

1.CHECK STEERING SWITCH SIGNAL GROUND CIRCUIT

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

AV control unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M171	15	M33	33	Existed

3. Connect AV control unit connector.

Is the inspection result normal?

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

2.CHECK SPIRAL CABLE

Check spiral cable.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace spiral cable. Refer to SR-15, "Removal and Installation".

3.CHECK GROUND CIRCUIT

1. Connect AV control unit connector.
2. Check continuity between AV control unit harness connector and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M171	15		Existed

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace AV control unit. Refer to AV-250, "Removal and Installation".

4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to AV-238, "Component Inspection".

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace steering wheel. Refer to ST-12, "Removal and Installation".

Component Inspection

INFOID:0000000009652082

Measure the resistance between the steering switch connector terminals 14 to 17 and 15 to 17.

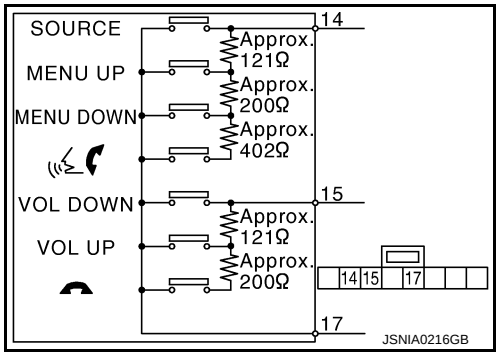
Standard

Between terminals 14 and 17

switch ON	: 708 – 737 Ω
MENU DOWN switch ON	: 314 – 327 Ω
MENU UP switch ON	: 118 – 123 Ω
SOURCE switch ON	: Less than 1 Ω

Between terminals 15 and 17

switch ON	: 314 – 327 Ω
VOL UP switch ON	: 118 – 123 Ω
VOL DOWN switch ON	: Less than 1 Ω



SYMPTOM DIAGNOSIS

MULTI AV SYSTEM SYMPTOMS

Symptom Table

INFOID:0000000009652083

OPERATION

Symptoms	Check items	Probable malfunction location
Multifunction switch and preset switch operation does not work.	• All switches cannot be operated. • “MULTI AV” is displayed on system selection screen when the CONSULT is started.	• Multifunction switch power supply and ground circuit. • AV communication circuit between AV control unit and multifunction switch. Perform CONSULT self-diagnosis. Refer to AV-156, "CONSULT Function".
	• All switches cannot be operated. • “MULTI AV” is not displayed on system selection screen when the CONSULT is initialized.	AV control unit power supply and ground circuit malfunction. Refer to AV-213, "AV CONTROL UNIT : Diagnosis Procedure".
	Only specified switch cannot be operated.	Multifunction switch or preset switch malfunction. Perform multifunction switch and preset switch self-diagnosis function. Refer to AV-147, "On Board Diagnosis Function".
Fuel economy display is abnormal.	There is malfunction in the CONSULT “self-diagnosis result” of “MULTI AV”. Refer to AV-156, "CONSULT Function".	Perform detected DTC diagnosis. Refer to AV-168, "DTC Index".
	There is no malfunction in the CONSULT “self-diagnosis result” of “MULTI AV”. Refer to AV-156, "CONSULT Function".	Ignition signal circuit malfunction. (AV control unit)

RELATED TO HANDS-FREE PHONE

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

Check Compatibility

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

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

b. If the customer's phone is NOT on the approved list:

   Stop diagnosis here. The customer needs to obtain a Bluetooth® phone that is on the approved list before any further action.

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

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

Symptoms	Check items	Probable malfunction location
Does not recognize cellular phone connection. (No connection is displayed on the display at the guide.)	Repeat the registration of cellular phone.	TEL adapter unit malfunction. Refer to AV-261, "Removal and Installation".
Hands-free phone cannot be established.	Both the reception and the speech cannot be performed	• Perform CONSULT self-diagnosis. Refer to AV-156, "CONSULT Function". • No malfunction. TEL adapter unit malfunction. Refer to AV-261, "Removal and Installation". • Malfunction is detected. Perform detected DTC self-diagnosis. Refer to AV-168, "DTC Index".
The other party's voice cannot be heard by hands-free phone.	The operation of the " " switch can be performed.	TEL voice signal circuit malfunction between TEL adapter unit and AV control unit.
	The operation of the " " switch cannot be performed.	Control signal circuit malfunction. Refer to AV-233, "Diagnosis Procedure".
Originating sound is not heard by the other party with hands-free phone communication.	Sound operation function is normal.	TEL adapter unit malfunction. Refer to AV-261, "Removal and Installation".
	Sound operation function does not work.	Microphone signal circuit malfunction. Refer to AV-231, "Diagnosis Procedure".
The system cannot be operated.	"SOURCE", "MENU UP", and "MENU DOWN" switches are operated. But " " switch is not operated.	Steering switch malfunction. Replace steering wheel. Refer to ST-12, "Removal and Installation".
	"SOURCE", "MENU UP", "MENU DOWN" and " " switches are not operated.	Steering switch signal B circuit malfunction. Refer to AV-236, "Diagnosis Procedure".
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to AV-238, "Diagnosis Procedure".

RELATED TO REAR VIEW MONITOR

Symptoms	Check items	Probable malfunction location
Camera image is not shown. (Vehicle width and possible route line is displayed.)	DVD image is displayed.	Camera image signal circuit. Refer to AV-228, "Diagnosis Procedure".
	DVD image is not displayed.	Composite image signal circuit malfunction between AV control unit and front display unit. Refer to AV-225, "Diagnosis Procedure".
Camera image is not shown. (displayed in black and nothing can be displayed)	—	• Horizontal synchronizing (HP) signal circuit. Refer to AV-223, "Diagnosis Procedure". • Vertical synchronizing (VP) signal circuit. Refer to AV-224, "Diagnosis Procedure".
Camera image does not switch.	"Reverse" is not turned ON on "Vehicle Signals" screen of "Confirmation/Adjustment".	Reverse signal circuit malfunction.
	"Reverse" is turned ON on "Vehicle Signals"screen of "Confirmation/Adjustment".	AV control unit malfunction. Replace AV control unit. Refer to AV-250, "Removal and Installation".

RELATED TO RGB IMAGE

Symptoms	Check items	Possible malfunction location / Action to take
RGB image is not shown.	There is malfunction in the CONSULT “self-diagnosis result” of “MULTI AV”. Refer to AV-156, "CONSULT Function".	Perform detected DTC diagnosis. Refer to AV-168, "DTC Index".
	There is no malfunction in CONSULT “self-diagnosis results” of “MULTI AV”. Refer to AV-156, "CONSULT Function".	Vertical synchronizing (VP) signal circuit. Refer to AV-224, "Diagnosis Procedure".
Color of RGB image is not proper.	Light blue (Cyan) tint.	RGB signal (R: red) circuit. Refer to AV-218, "Diagnosis Procedure".
	Purple (Magenta) tint.	RGB signal (G: green) circuit. Refer to AV-219, "Diagnosis Procedure".
	Screen looks yellowish.	RGB signal (B: blue) circuit. Refer to AV-220, "Diagnosis Procedure".
RGB screen is rolling.	—	RGB synchronizing signal circuit. Refer to AV-221, "Diagnosis Procedure".
Fuel economy display is malfunctioning.	There is malfunction in the CONSULT “self-diagnosis result” of “MULTI AV”. Refer to AV-156, "CONSULT Function".	Perform detected DTC diagnosis. Refer to AV-168, "DTC Index".
	There is no malfunction in CONSULT “self-diagnosis results” of “MULTI AV”. Refer to AV-156, "CONSULT Function".	Ignition signal circuit malfunction. (AV control unit)

RELATED TO AUDIO

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	—	Disk eject signal circuit malfunction. Refer to AV-230, "Diagnosis Procedure".
No sound comes out or the level of the sound is low.	No sound from all speakers.	Audio unit power supply and ground circuits malfunction. Refer to AV-213, "AV CONTROL UNIT : Diagnosis Procedure".
	Only a certain speaker (front right, front left, rear right, or rear left, etc.) does not output sound.	• Poor connector connection of speaker. • Sound signal circuit malfunction between AV control unit and speaker. • Malfunction in speaker. • Malfunction in AV control unit.
Noise is mixed with audio.	Noise comes out from all speakers.	Malfunction in AV control unit.
	Noise comes out only from a certain speaker (front right, front left, rear right, or rear left, etc.).	• Poor connector connection of speaker. • Sound signal circuit malfunction between AV control unit and speaker. • Malfunction in speaker. • Poor installation of speaker (e.g. backlash and looseness) • Malfunction in AV control unit.
	Noise is mixed with radio only (when the car hits a bump or while driving over bad roads).	Poor connector connection of antenna or antenna feeder.
Radio is not received or poor reception.	• Other audio sounds are normal. • Any radio cannot be received or poor reception is caused even after moving to a service area with good reception (e.g. a place with clear view and no obstacles generating external noises).	• Antenna amp. ON signal circuit malfunction. • Poor connector connection of antenna or antenna feeder.

Symptoms	Check items	Probable malfunction location
Satellite radio is not received.	There is malfunction in the CONSULT self-diagnosis result. Refer to AV-156, "CONSULT Function".	• Malfunction in antenna, antenna feeder, or AV control unit. Perform DTC diagnosis. Refer to AV-168, "DTC Index" • Poor continuity in antenna feeder. • Poor connector connection of antenna or antenna feeder.
	There is no malfunction in the CONSULT self-diagnosis result. Refer to AV-156, "CONSULT Function".	• Poor continuity in antenna feeder. • Poor connector connection of antenna or antenna feeder. • Loose satellite radio antenna mounting nut. Refer to AV-265, "Removal and Installation".

RELATED TO USB

NOTE:
Check that there is no malfunction of USB equipment main body before performing a diagnosis.

Symptoms	Check items	Possible malfunction location / Action to take
iPod® or USB memory can not be recognized.	—	• USB harness malfunction. • USB connector malfunction.

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

RELATED TO DVD MODE

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	—	Disk eject signal circuit malfunction. Refer to AV-230, "Diagnosis Procedure".
DVD image is not displayed.	Front display unit and rear display unit are not displayed.	Perform “Self Diagnostic Result” of “MULTI AV” with CONSULT. Refer to AV-156, "CONSULT Function".
	Rear display unit is normal.	Composite image signal circuit between AV control unit and front display unit. Refer to AV-225, "Diagnosis Procedure".
	Front display unit is normal.	Composite image signal circuit between AV control unit and rear display unit. Refer to AV-226, "Diagnosis Procedure".
DVD sound is not heard.	No sound from all speakers.	AV control unit malfunction. Replace AV control unit. Refer to AV-250, "Removal and Installation".
	Sound is heard only from specific places.	Sound signals circuit of suspect system.

RELATED TO AUXILIARY INPUT

NOTE:
Check that there is no malfunction of AUX equipment main body before performing a diagnosis.

Symptoms	Check items	Probable malfunction location
No voice sound is heard when AUX mode is selected.	Voice sound is heard when other modes are selected.	AUX sound signal circuit.
Image is not displayed when AUX mode is selected.	Front display unit and rear display unit are not displayed.	Perform “Self Diagnostic Result” of “MULTI AV” with CONSULT. Refer to AV-156, "CONSULT Function".
	DVD image is displayed on front display unit and rear display unit.	AUX image signal circuit malfunction. Refer to AV-227, "Diagnosis Procedure".
	Rear display unit is normal.	Composite image signal circuit between AV control unit and front display unit. Refer to AV-225, "Diagnosis Procedure".
	Front display unit is normal.	Composite image signal circuit between AV control unit and rear display unit. Refer to AV-226, "Diagnosis Procedure".

RELATED TO HEADPHONE

Symptom	Check Item		Possible malfunction location / Action to take
Audio cannot be heard from headphone.	Turn ON the rear display.	Audio cannot be heard.	Check power supply of headphone.
Headphone cannot be turned ON.	• Battery polarity. • Battery poor contact • Battery replacement	Power is ON. (Power indicator lamp: ON)	This is not a malfunction.
		Power cannot be turned ON. (Power indicator lamp: OFF)	Replace headphone.

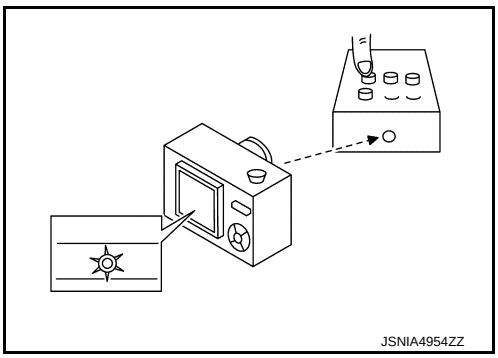
RELATED TO REAR DISPLAY

Perform the diagnosis of the following items before starting diagnosis by symptom.

- Self-diagnosis: Refer to AV-156, "CONSULT Function".
- Self-diagnosis mode: Refer to AV-147, "On Board Diagnosis Function".
- Power supply system: Refer to AV-214, "REAR DISPLAY UNIT : Diagnosis Procedure".

Symptom	Check Item		Possible malfunction location / Action to take
Rear display cannot be opened.	Use the touch button in the front display to open/close the rear display.	Operable.	Operate with the remote to see if rear display opens.
		Inoperative.	Replace rear display.
Inoperative with the remote.	All keys inoperative.	• Check by touching and check battery polarity. • Replace battery.	• Check with a remote from the same vehicle family. • Check infrared* of the luminescent part (LED) of the remote.
	Some keys inoperative.	• Check with a remote from the same vehicle family. • Check infrared* of the luminescent part (LED) of the remote.	The function corresponding to the remote operation is not included. (This is not a malfunction.)
Rear display screen is black.	Play a DVD.	Screen is dark.	Adjust screen for image quality. (This is not a malfunction.)
		Screen is black	Replace rear display.
Video shown on rear display screen becomes distorted or rolls up/down.	Adjust the color and image settings using the display screen menu items.		If the symptom does not change, replace rear display.
Rear display screen is blue.	—		Replace rear display.

*: To check infrared, check light of the luminescent part (LED) through the lens of digital camera when operating the remote.



RELATED TO STEERING SWITCH

Symptoms	Probable malfunction location
None of the steering switch operations work.	Steering switch ground circuit malfunction. Refer to AV-238, "Diagnosis Procedure".
Only specified switch cannot be operated.	Steering switch malfunction. Replace steering wheel. Refer to ST-12, "Removal and Installation".
“SOURCE”, “MENU UP”, “MENU DOWN”, “ ” switches are not operated.	Steering switch signal A circuit. Refer to AV-234, "Diagnosis Procedure".
”VOL UP“, “VOL DOWN”, “ ” switches are not operated.	Steering switch signal B circuit. Refer to AV-236, "Diagnosis Procedure".

NORMAL OPERATING CONDITION

Description

INFOID:0000000009652084

BASIC OPERATIONS

Symptom	Possible cause	Possible solution
No image is displayed.	The brightness is at the lowest setting.	Adjust the brightness of the display.
	The systems in the video mode.	Press “DISC-AUX” to change the mode.
	The display is turned off.	Press “☀/☽ OFF” to turn on the display.
Screen not clear.	Contrast setting is not appropriate.	Adjust the contrast of the display.
The screen is too dim. The movement is slow.	The temperature in the interior of the vehicle is low.	Wait until the interior of the vehicle has warmed up.
Some pixels in the display are darker or brighter than others.	This condition is an inherent characteristic of liquid crystal displays.	This is not a malfunction.
Some menu items cannot be selected.	Some menu items become unavailable while the vehicle is driven.	Park the vehicle in a safe location, and then operate the multi AV system.

RELATED TO VOICE RECOGNITION

Related to Telephone

The system should respond correctly to all voice commands without difficulty. If problems are encountered, try the following solutions.

Where the solutions are listed by number, try each solution in turn, starting with number 1, until the problem is resolved.

Symptom	Solution
System fails to interpret the command correctly.	1. Ensure that the command is valid.
	2. Ensure that the command is spoken after the tone.
	3. Speak clearly without pausing between words and at level appropriate to the ambient noise level in the vehicle.
	4. Ensure that the ambient noise level is not excessive (for example, windows open or defroster on). **NOTE:** If it is too noisy to use the phone, it is likely that the voice commands will not be recognized.
	5. If more than one command was said at a time, try saying the commands separately.
	6. If the system consistently fails to recognize commands, the voice training procedure should be carried out to improve the recognition response for the speaker. Refer to “Speaker adaptation (SA) mode” in “OWNER’S MANUAL”.
The system consistently selects the wrong voicetag	1. Ensure that the phone book entry name requested matches what was originally stored. This can be confirmed by using the “List Names” command.
	2. Replace one of the names being confused with a new name.

RELATED TO AUDIO

- The majority of the audio malfunctions are the result of outside causes (bad CD/cassette, electromagnetic interference, etc.). Check the symptoms below to diagnose the malfunction.
- The vehicle itself can be a source of noise if noise prevention parts or electrical equipment is malfunctioning. Check if noise is caused and/or changed by engine speed, ignition switch turned to each position, and operation of each piece of electrical equipment, and then determine the cause.

NOTE:

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

Symptom	Cause and Counter measure
Cannot play	Check if the CD was inserted correctly.
	Check if the CD is scratched or dirty.
	Check if there is condensation inside the player, and if there is, wait until the condensation is gone (about 1 hour) before using the player.
	If there is a temperature increase error, the player will play correctly after it returns to the normal temperature.
	If there is a mixture of music CD files (CD-DA data) and MP3/WMA files on a CD, only the music CD files (CD-DA data) will be played.
	Files with extensions other than ".MP3 (.mp3)" or ".WMA (.wma)" cannot be played. In addition, the character codes and number of characters for folder names and file names should be in compliance with the specifications.
	Check if the disc or the file is generated in an irregular format, This may occur depending on the variation or the setting of MP3/WMA writing applications or other text editing applications.
	Check if the finalization process, such as session close and disc close, is done for the disc.
	Check if the CD is protected by copyright.
	Disks recorded in live file system format are not supported. (For Microsoft Windows® Vista, check the settings.)
Poor sound quality	Check if the CD is scratched or dirty.
It takes a relatively long time before the music starts playing.	If there are many folder or file levels on the MP3/WMA CD, or if it is a multisession disc, some time may be required before the music starts playing.
Music cuts off or skips	The writing software and hardware combination might not match, or the writing speed, writing depth, writing width might not match the specifications. Try using the slowest writing speed.
Skipping with high bit rate files	Skipping may occur with large quantities if data such as for high bit rate data.
Move immediately to the next song when playing	When a non-MP3/WMA file has been given an extension of ".MP3 (.mp3)" or ".WMA (.wma)" when play is prohibited by copyright protection, the player will skip to the next song.
The songs do not play back in the desired order.	The playback order is the order in which the files were written by the software, so the files might not play in the desired order.
Poor reception only from a certain radio broadcast station.	Check incoming radio wave signal strength of applicable broadcast station.
Buzz/rattle sound from speaker	The majority of rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the rattle.

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

NOTE:

- Fading noise: This noise occurs because of variations in the field strength in a narrow range due to mountains or buildings blocking the signal.
- Multi-path noise: This noise results from a time difference between the broadcast waves directly from the station arriving at the antenna and the waves reflected by mountains or buildings.

RELATED TO DVD

Symptom	Possible cause	Possible solution
Not working as operated	Some operations may be rejected or may not function as intended because of the manufacturer's intent, depending on DVD.	This is not a malfunction.
Operation not accepted	If a requested operation is prohibited, then a message is displayed on the screen. (Message display depends on DVD.)	This is not a malfunction.

Symptom	Possible cause	Possible solution
DVD can not be played	Check that the DVD is inserted in the right place.	Upturn the DVD (facing the title upward).
	Check that there is no condensation inside the player.	Wait until the condensation evaporates (approximately one hour).
	DVD menu is displayed.	Select item to touch “ENTER”.
	Insertion of a DVD with a different region code.	DVDs with a different region code can not be played. Check DVD.
	Some DVD softwares may not be played because not all DVD softwares fully comply in the standard.	This is not a malfunction.
Interruption during playback or flicker in the display	Check that the DVD has no scratches and dirt.	Errors may not be corrected depending on the size of scratches.
		Wipe and clean the dirt on the disc.
Subtitles not shown	Subtitle setting is OFF.	Set subtitle.
	Subtitle is not included in the software.	Check DVD.
Not played in set language	If a language is not included in the DVD, then the DVD is played in a recommended language.	Check DVD.
Not played with set subtitle	If a set subtitle is not included in the DVD, then the DVD is played with a recommended subtitle.	Check DVD.
Angle unchangeable	Plural angles are not recorded in the software.	Check if the DVD is multi–angle capable.
Unusual screen display	Display mode to the output aspect ratio for the DVD software is inappropriate.	Switch to the appropriate display mode.
Distortion in picture	In the process of fast–forward or fast–reverse.	This is not a malfunction.
Low sound quality	Check that the DVD has no scratches and dirt.	Wipe and clean the dirt on the disc.
Subtitle and language not selectable (not played with set subtitle or in set language)	The DVD is not multilanguage–capable.	The inclusion of the number of languages depends on DVD. Languages may be selectable on the Menu screen. Check DVD.
	The DVD has a priority language or setting.	If the DVD has a priority language or settings, then settings changed with this device are not reflected.
Playback time is indicated, but no sound comes out.	Playback of Mix mode Truck 1. (Mix mode: Format including Truck 1 with data other than music and Trucks from Truck 2 with music data.)	Play music data included in trucks from Truck 2.

RELATED TO HANDS-FREE PHONE

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

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

REMOVAL AND INSTALLATION

AV CONTROL UNIT

Removal and Installation

INFOID:0000000009652085

REMOVAL

CAUTION:

- **Before replacing AV control unit, perform “Read/Write Configuration” to save or print current vehicle specification. For details, refer to AV-199, "Work Procedure".**
- **Remove battery terminal and AV control unit after a lapse of 30 seconds or more after turning the ignition switch OFF.**

NOTE:

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

1. Remove disk eject switch. Refer to AV-258, "Removal and Installation".
2. Remove two harness clips mounted to the bracket.
3. Remove four mounting screws and pull the AV control unit together with the brackets.
4. Disconnect connectors to remove AV control unit and bracket from the vehicle as a single unit.
5. Remove bracket screws to remove AV control unit.

INSTALLATION

Note the following, and install in the reverse order of removal.

CAUTION:

Be sure to perform “Read/Write Configuration” when replacing AV control unit. For details, refer to AV-200, "Work Procedure".

FRONT DISPLAY UNIT

Removal and Installation

INFOID:0000000009652086

REMOVAL

1. Remove cluster lid D. Refer to IP-14, "Removal and Installation".
2. Remove front display unit mounting screws.
3. Disconnect front display unit connectors to remove front display unit.

INSTALLATION

Install in the reverse order of removal.

REAR DISPLAY UNIT

Removal and Installation

INFOID:0000000009652087

REMOVAL

1. Remove roof console. Refer to INT-35, "Removal and Installation".
2. Disconnect rear display unit connector, remove rear display unit mounting bolts and remove the rear display unit.
   NOTE:
   To prevent rear display unit from dropping, securely support the rear display unit during the removal/installation.

INSTALLATION

Install in the reverse order of removal.

FRONT DOOR WOOFER

Removal and Installation

INFOID:0000000009652088

REMOVAL

1. Remove front door finisher. Refer to INT-14, "Removal and Installation".
2. Remove front door woofer screws and disconnect front door woofer connector.

INSTALLATION

Install in the reverse order of removal.

FRONT SQUAWKER

Removal and Installation

INFOID:0000000009652089

REMOVAL

1. Remove speaker grille from instrument panel. Refer to IP-14, "Removal and Installation".
2. Remove screws and disconnect connector, and remove the front squawker.

WARNING:
Never damage wind shield glass.

INSTALLATION

Install in the reverse order of removal.

SLIDE DOOR SPEAKER

Removal and Installation

INFOID:0000000009652090

REMOVAL

1. Remove slide door finisher. Refer to INT-17, "Removal and Installation".
2. Remove screws and disconnect connector, and remove slide door speaker.

INSTALLATION

Install in the reverse order of removal.

MULTIFUNCTION SWITCH

Removal and Installation

INFOID:0000000009652091

REMOVAL

1. Remove cluster lid C. Refer to IP-14, "Removal and Installation".
2. Remove multifunction switch mounting screws.
3. Remove bracket and disconnect harness connectors connected to preset switch.
4. Unhook pawl to remove multifunction switch from cluster lid C.

CAUTION:

Carefully handle the pawl fixing the multifunction switch to prevent damage to the pawl.

INSTALLATION

Install in the reverse order of removal.

PRESET SWITCH

Removal and Installation

INFOID:0000000009652092

REMOVAL

1. Remove cluster lid C. Refer to IP-14, "Removal and Installation".
2. Remove preset switch mounting screws and disconnect preset switch connector.
3. Unhook pawl by using a remover tool to remove preset switch from cluster lid C.

CAUTION:

Carefully handle the pawl fixing the preset switch to prevent damage to the pawl.

INSTALLATION

Install in the reverse order of removal.

DISK EJECT SWITCH

Removal and Installation

INFOID:0000000009652093

REMOVAL

1. Remove instrument lower center cover. Refer to IP-14, "Removal and Installation".
2. Remove screws and unhook two pawls of AV control unit to remove disk eject switch.

CAUTION:

Carefully handle the pawl fixing the disk eject switch to prevent damage to the pawl.

INSTALLATION

Install in the reverse order of removal.

AUXILIARY INPUT JACKS

Removal and Installation

INFOID:0000000009652094

REMOVAL

1. Remove center console body assembly. Refer to IP-28, "Removal and Installation".
2. Remove screws to remove auxiliary input jacks from center console body assembly.

INSTALLATION

Install in the reverse order of removal.

USB CONNECTOR

Removal and Installation

INFOID:0000000009652095

REMOVAL

1. Remove center console upper finisher. Refer to IP-29, "Disassembly and Assembly".
2. Unhook pawl to remove USB connector from center console upper finisher.

INSTALLATION

Install in the reverse order of removal.

TEL ADAPTER UNIT

Removal and Installation

INFOID:0000000009652096

REMOVAL

1. Remove cluster lid C. Refer to IP-14, "Removal and Installation".
2. Remove TEL adapter unit mounting bracket screws.
3. Disconnect connector to remove TEL adapter unit, TEL antenna, and bracket as a single unit.
4. Remove bracket screws to remove TEL adapter unit from bracket.

INSTALLATION

Install in the reverse order of removal.

TEL ANTENNA

Removal and Installation

INFOID:0000000009652097

REMOVAL

1. Remove cluster lid C. Refer to IP-14, "Removal and Installation".
2. Remove TEL adapter unit mounting bracket screws.
3. Disconnect connector to remove TEL adapter unit, TEL antenna, and bracket as a single unit.
4. Disconnect connector and remove screws to TEL antenna.

INSTALLATION

Install in the reverse order of removal.

MICROPHONE

Removal and Installation

INFOID:0000000009652098

REMOVAL

1. Remove map lamp assembly. Refer to INL-67, "Removal and Installation".
2. Unhook pawls to remove microphone from map lamp assembly.

CAUTION:
Carefully handle the pawl fixing the microphone to prevent damage to the pawl.

INSTALLATION

Install in the reverse order of removal.

NOTE:
After installing microphone, check that it is securely installed with no backlash.

SATELLITE RADIO TUNER

Removal and Installation

INFOID:0000000009652099

REMOVAL

1. Remove luggage side lower finisher. Refer to INT-43, "LUGGAGE SIDE LOWER FINISHER : Removal and Installation".
2. Remove bolts to remove satellite radio tuner with brackets as a single unit from the body.
3. Remove brackets screws to remove satellite radio tuner.

INSTALLATION

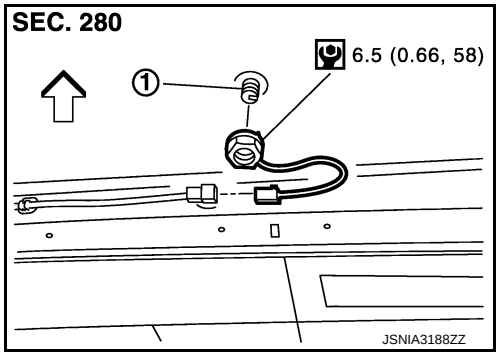
Install in the reverse order of removal.

SATELLITE RADIO ANTENNA

Exploded View

INFOID:0000000009652100

REMOVAL

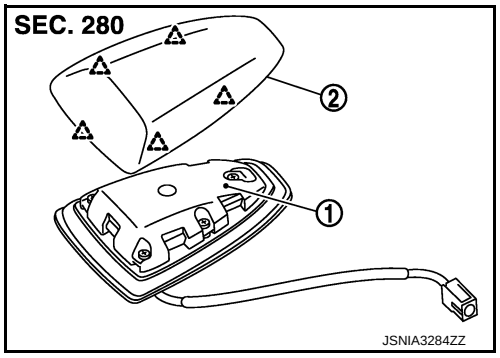


1. Satellite radio antenna

⇦ : Vehicle front

: N·m (kg-m, in-fb)

DISASSEMBLY



1. Satellite radio antenna
2. Cover

: Pawl

Removal and Installation

INFOID:0000000009652101

REMOVAL

1. Remove rear upper ventilator duct 2. Refer to HA-56, "Exploded View".
2. Disconnect antenna feeder connector.
3. Remove nut, and remove satellite radio antenna and the cover from the vehicle as a single unit.

INSTALLATION

Install in the reverse order of removal.

CAUTION:

If the satellite radio antenna mounting nut is tightened looser than the specified torque, then this will lower the sensitivity of the antenna. On the other hand, if the nut is tightened tighter than the specified torque, then this will deform the roof panel.

Disassembly and Assembly

INFOID:0000000009652102

DISASSEMBLY

Insert cloth-covered driver into gaps between satellite radio antenna and the cover, and remove the cover from satellite radio antenna.

ASSEMBLY

Assemble in the reverse order of disassembly.

ANTENNA AMP.

Removal and Installation

INFOID:0000000009652103

REMOVAL

1. Remove rear pillar garnish RH. Refer to INT-27, "REAR PILLAR GARNISH : Removal and Installation".
2. Remove screw and disconnect connector, and remove antenna amp.

INSTALLATION

Install in the reverse order of removal.

REAR VIEW CAMERA

Removal and Installation

INFOID:0000000009943059

REMOVAL

1. Remove back door finisher. Refer to EXT-47, "Removal and Installation".
2. Remove screws to remove rear view camera from back door finisher.

INSTALLATION

Install in the reverse order of removal.

NOTE:

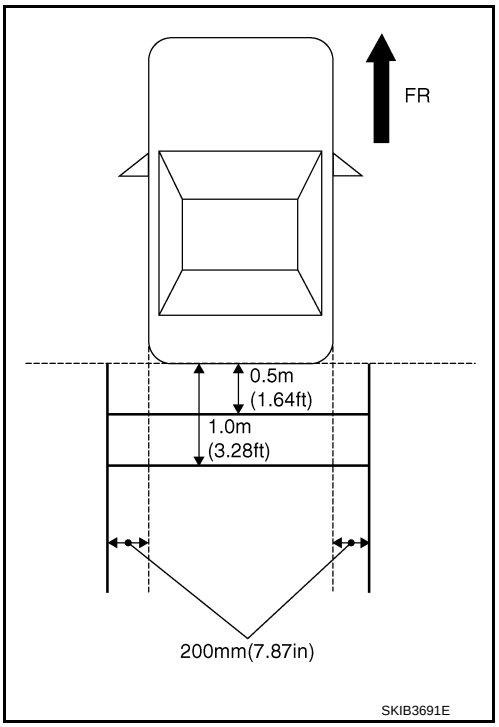
Adjust the guide line position if the guide line position is shifted after installing the rear view camera. Refer to AV-267, "Adjustment".

Adjustment

INFOID:0000000009878738

Adjust the guide line position if the guide line position is shifted after installing the rear view camera.

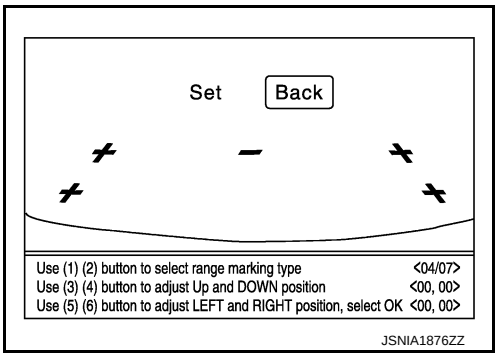
1. Draw lines on rearward area of the vehicle passing through the following points: 200 mm (7.87 in) from both sides of the vehicle, and 0.5 m (1.64 ft), 1.0 m (3.28 ft) from the rear end of the bumper.
2. Set into “Camera system” mode of Confirmation / Adjustment mode.



3. Press “1” or “2” switches, and then select the guiding line pattern so that its angle is aligned with the correction line of the rear of the vehicle.

Selected pattern : 7

4. Make fine adjustment to the correction line of the rear of the vehicle with “3”, “4”, “5” or “6” switches so that its position is aligned with the guiding line. Press “PUSH ENTER” switch and record the adjusted guiding line position to the camera control unit.



Up/Down adjustment range : (–20) – (20)

Left/Right adjustment range : (–20) – (20)

CAUTION:

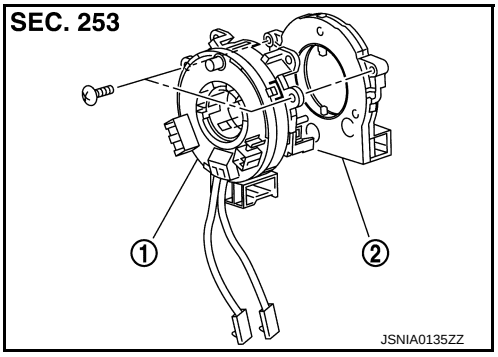
Never operate other function such as pressing BACK while writing index data.

STEERING ANGLE SENSOR

Exploded View

INFOID:0000000009652106

DISASSEMBLY



1. Spiral cable
2. Steering angle sensor

Removal and Installation

INFOID:0000000009652107

REMOVAL

1. Remove spiral cable. Refer to SR-15, "Removal and Installation".
2. Remove steering angle sensor from spiral cable.

INSTALLATION

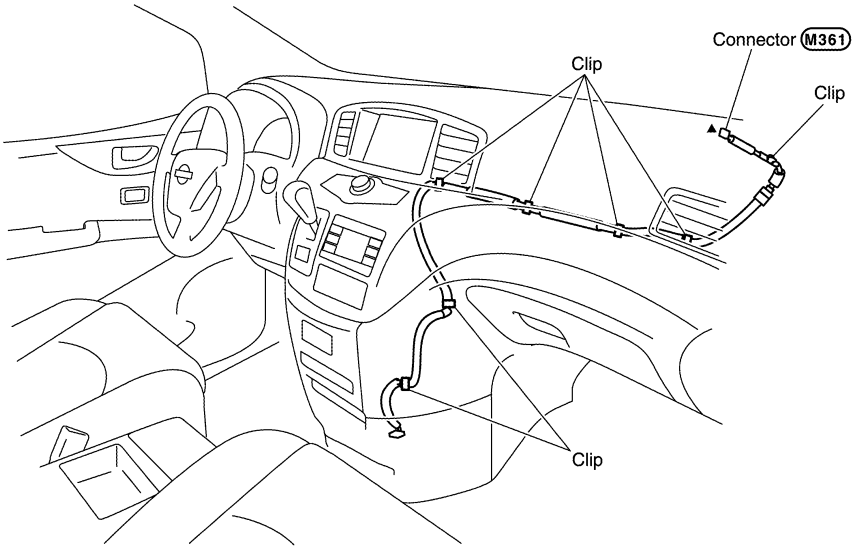
1. Install in the reverse order of removal.
2. Perform steering angle sensor neutral position adjustment. Refer to BRC-49, "Work Procedure".

ANTENNA FEEDER

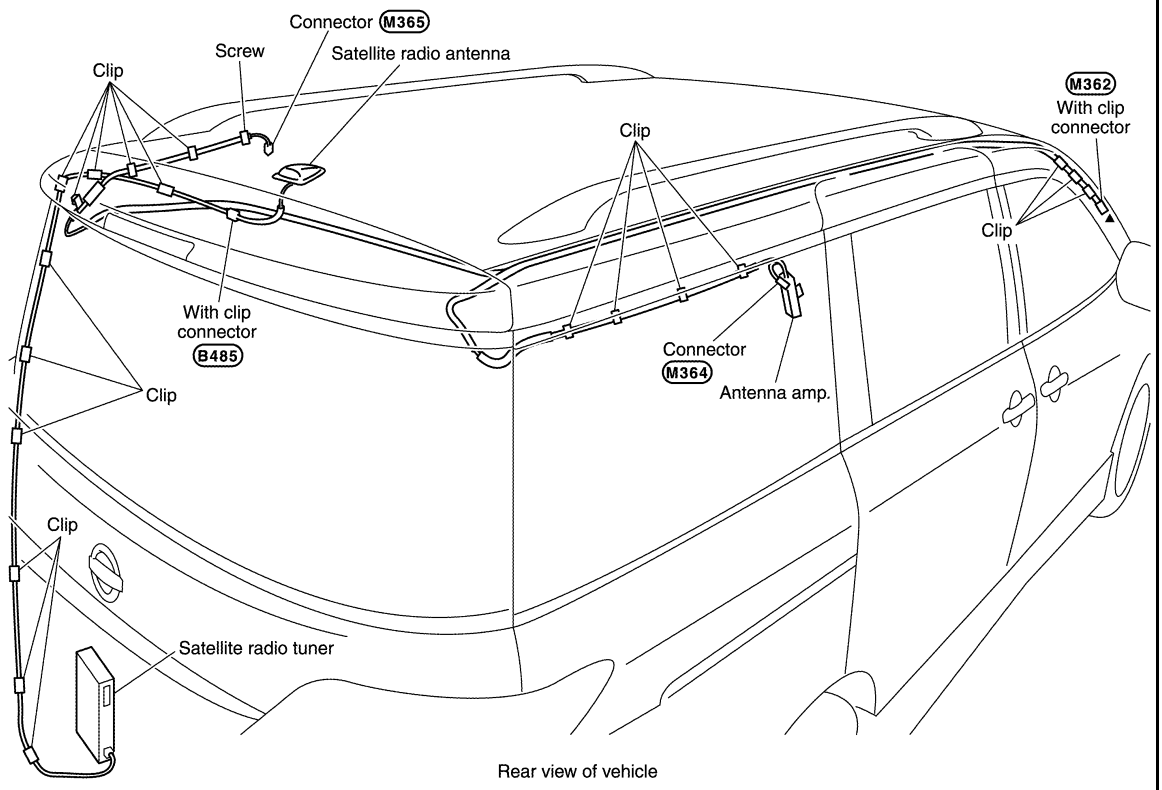
Feeder Layout

INFOID:0000000009652108

SEC. 280



Instrument panel passenger side



Rear view of vehicle

JSNIA4219GB

▲: Indicates that the part is connected at points with same symbol in actual vehicle.

PRECAUTION

PRECAUTIONS

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

INFOID:0000000009652109

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 “SRS AIR BAG” and “SEAT BELT” of this Service Manual.

WARNING:

Always observe the following items for preventing accidental activation.

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that 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 “SRS AIR BAG”.**
- **Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.**

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

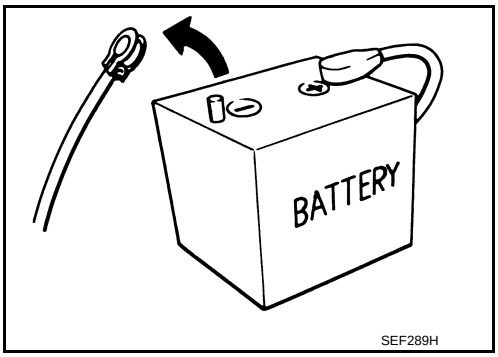
WARNING:

Always observe the following items for preventing accidental activation.

- **When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.**
- **When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.**

Precautions for Removing Battery Terminal

INFOID:0000000009926430



- When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.
  NOTE:
  ECU may be active for several tens of seconds after the ignition switch is turned OFF. If the battery terminal is removed before ECU stops, then a DTC detection error or ECU data corruption may occur.
- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.
  NOTE:
  If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.
- After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.
  NOTE:
  The removal of 12V battery may cause a DTC detection error.

Precaution for Trouble Diagnosis

INFOID:0000000009652111

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.

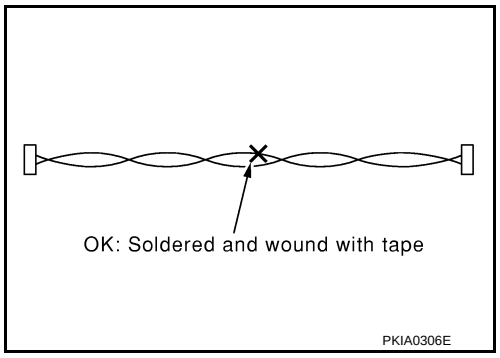
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

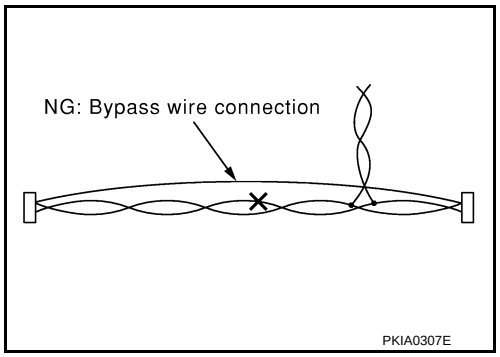
INFOID:0000000009652112

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.)

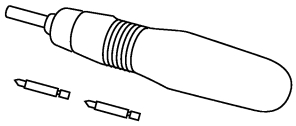


PREPARATION

PREPARATION

Commercial Service Tools

INFOID:0000000009652113

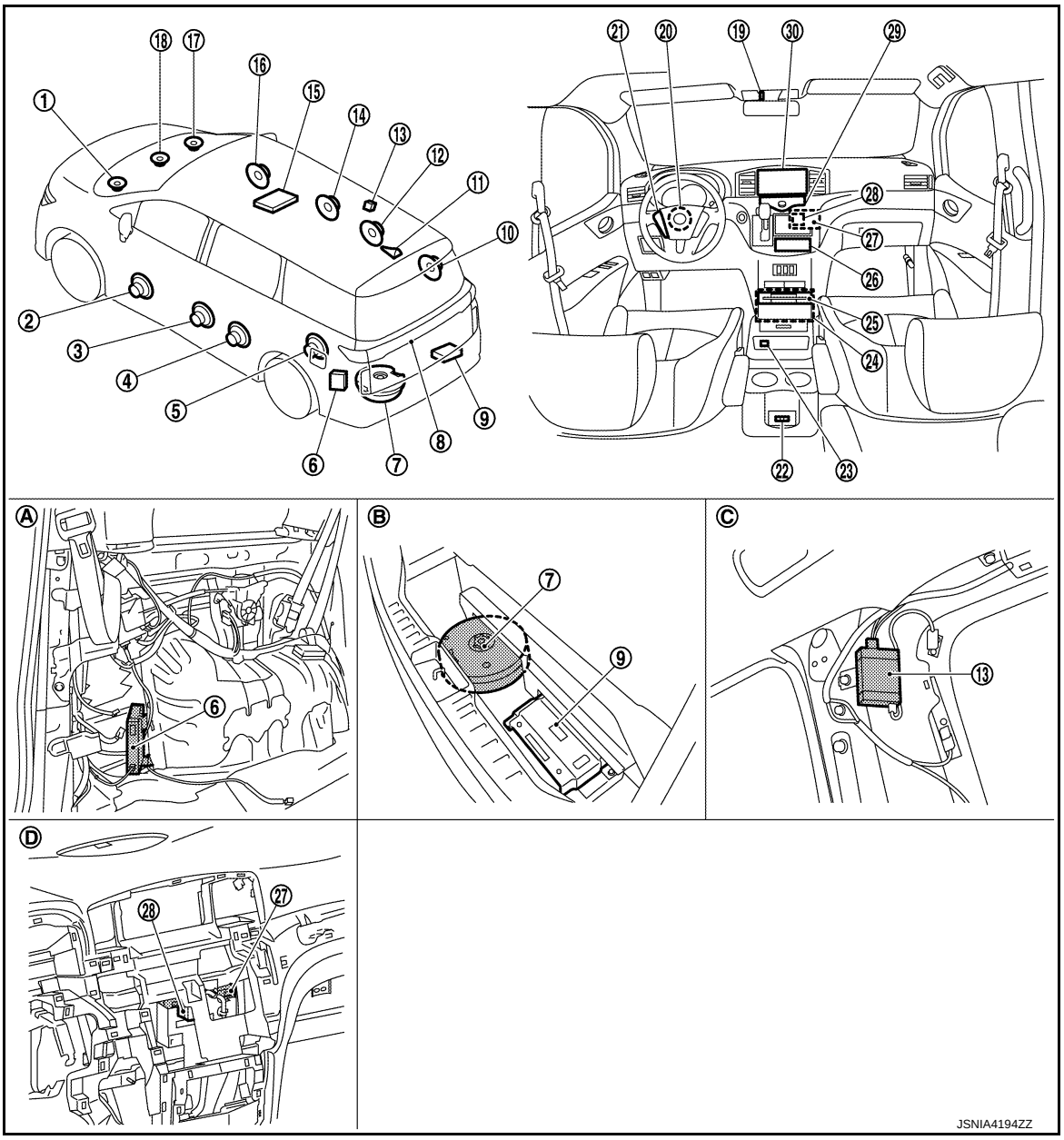
Tool		Description
Power tool	 PBIC0191E	Loosening screws

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000009652114



A. Luggage side lower finisher is removed.
B. Within luggage floor box
C. Rear pillar garnish (RH) is removed.
D. Cluster lid C is removed.

No.	Component	Function
1,17.	Front squawker	Refer to AV-278, "Speaker".
2,16.	Front door woofer	
3,14.	Slide door squawker	
4,12.	Slide door speaker	
5,10.	Luggage squawker	

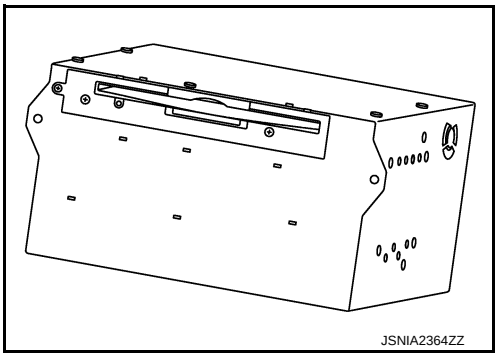
No.	Component	Function
6.	Satellite radio tuner	Refer to AV-284, "Satellite Radio Tuner".
7.	Woofer	Refer to AV-278, "Speaker".
8.	Rear view camera	Refer to AV-281, "Rear View Camera".
9.	BOSE amp.	Refer to AV-278, "BOSE Amp.".
11.	Satellite radio antenna	Refer to AV-284, "Satellite Radio Antenna".
13.	Antenna amp.	Refer to AV-281, "Antenna amp, Radio Antenna, and Antenna Feeder".
15.	Rear display unit	Refer to AV-276, "Rear Display Unit".
18.	Center speaker	Refer to AV-278, "Speaker".
19.	Microphone	Refer to AV-280, "Microphone".
20.	Steering angle sensor	Refer to AV-281, "Steering Angle Sensor".
21.	Steering switch	Refer to AV-277, "Steering Switch".
22.	Auxiliary input jacks	Refer to AV-281, "Auxiliary Input Jacks".
23.	USB connector	Refer to AV-280, "USB Connector".
24.	AV control unit	Refer to AV-274, "AV Control Unit".
25.	Disk eject switch	Refer to AV-277, "Disk Eject Switch".
26.	Preset switch	Refer to AV-277, "Multifunction Switch".
27.	TEL adapter unit	Refer to AV-280, "TEL Adapter Unit".
28.	TEL antenna	Refer to AV-280, "TEL Antenna".
29.	Multifunction switch	Refer to AV-277, "Multifunction Switch".
30.	Front display unit	Refer to AV-276, "Front Display Unit".

AV Control Unit

INFOID:0000000009652115

DESCRIPTION

- The AV control unit is equipped with the following parts. It is the master unit integrated with functions and controls the multi-AV system.


JSNIA2364ZZ

Units equipped
AM/FM electronic tuner
CD/DVD drive
USB interface
Camera controller

- Signals necessary for the vehicle information display function are received from ECM and the combination meter via CAN communication.
- Signals necessary for vehicle setting functions are sent and received with BCM via CAN communication.
- It inputs the signal for driving status recognition (vehicle speed signal, reverse signal, and parking brake signal).
- A predictive course line is generated on the camera image from the rear view camera, and it is shown on the front display.
- It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).

NOTE:
For details of each functions, refer to AV-287, "MULTI AV SYSTEM : System Description".

AM/FM Electronic Tuner
The adoption of the PLL frequency synthesizer system enables the signal outputting with accurate frequencies.

CD/DVD drive
- It is CD-R/CD-RW compliant and enables MP3 and WMA files to play music.

- It displays the artist name, album title or song title recorded to the file by the ID3 tag/WMA tag display function.
- DVD playback function is equipped.

USB Interface

- Music can be played by connecting an iPod® or USB memory.

Camera Controller

- Warning message, width/distance guiding line and predictive course line are generated on the image from the rear view camera.
- The predictive course line is drawn based on the steering signal received from the steering sensor via CAN communication.

Specification

Manufacturer name			Panasonic corporation
Audio amplifier			External amplifier
CD/DVD drive	Used disc		ϕ 12 cm (4.7 in)
	Playable disc	CD	CD-ROM (CD-DA)
			CD-R*1
			CD-RW*1
		DVD	DVD-ROM
			DVD-R*1
			DVD-RW*1
	Playable format	Music	MP3
			WMA
		Image	DVD-VIDEO
			VIDEO-CD
	Text display function	ID3 / WMA tag	Artist name
			Album title
			Song title
USB	High communication standard		USB1.1
	Playable format	Music	MP3
			WMA
	Text display function	ID3 / WMA tag	Artist name
			Album title
			Song title
	iPod®Action*2		iPod Classic® 1st generation
			iPod Classic® 2nd generation
			iPod nano® 3rd generation
			iPod nano® 2nd generation
			iPod nano® 1st generation
			iPod® 5th generation
			iPod touch® 1st generation
			iPod touch® 2nd generation
			iPhone 3rd generation
Flash memory	Total capacity		2 GB

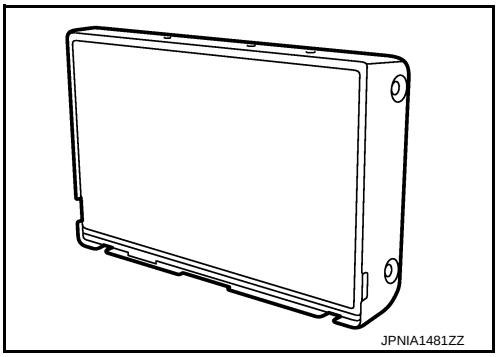
Camera controller	Guideline display function	Width/distance display
		Predictive course lines display/non-display switch
	Steering angle signal input method	CAN communication
Other functions		Speed sensitive volume function
		Steering switch compliant

- *1: If the reflectance of the surface of the media is low, the data may not be read.
- *2: It may not be used if it is not updated to the latest firmware or partial functions may not work if it is used.

Front Display Unit

INFOID:0000000009652116

- The front display unit has an 7-inch QVGA liquid-crystal display.
- It receives the power (signal VCC and inverter VCC) from the AV control unit and operates.
- Composite image signals (DVD, USB memory-stored video data, auxiliary input, and camera) are input from AV control unit.
- RGB image signal is input from AV control unit (RGB, RGB area and RGB synchronizing).
- Synchronizing signal (HP, VP) is output to AV control unit.
- This unit is connected to the AV control unit via serial communication. Images shown on the front display unit are controlled by the AV control unit.


JPNIA1481ZZ

Specification

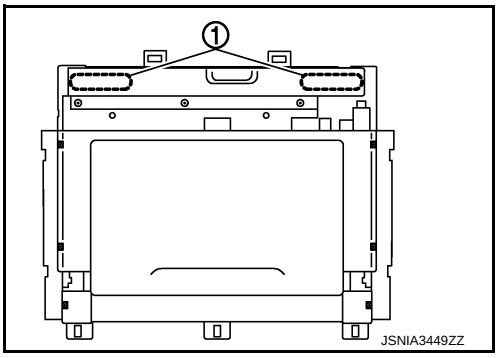
Manufacturer name	Panasonic corporation
Screen size	7-inch QVGA [154.08 × 86.58 mm (6.1 × 3.4 in)]
Number of pixels	480 × 234 pixels

Rear Display Unit

INFOID:0000000009652117

- The rear display unit has an 11-inch WVGA* liquid-crystal display and a remote-control automatic folding function.
- Composite image signal [USB (video data), DVD and auxiliary input] and headphone sound signal are input from AV control unit.
- A remote control operation signal is received through the built-in light-receptive spot (1).
- The display brightness is adjusted automatically, according to ambient brightness.

*: WVGA (Wide VGA) is a standard of the resolution of the display. It extended width of VGA.



JSNIA3449ZZ

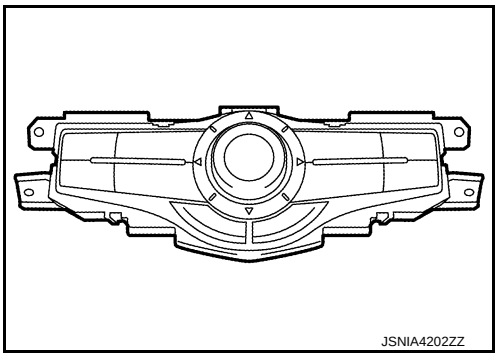
Specification

Manufacturer name	Clarion Co., Ltd.
Screen size	11-inch WVGA [243.6 mm × 137.52mm (9.6 in × 5.4 in)]
Number of pixels	800 × 480 pixels

Multifunction Switch

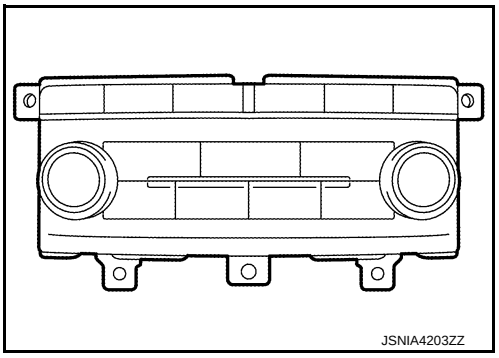
INFOID:0000000009652118

- The multifunction switch is an integrated switch that combines the audio operation and other operations switches. This integrated switch is located in the lower part of the front display unit.
- Connected with preset switch via hardwire and operation signal is transmitted to AV control unit via AV communication.


JSNIA4202ZZ

PRESET SWITCH

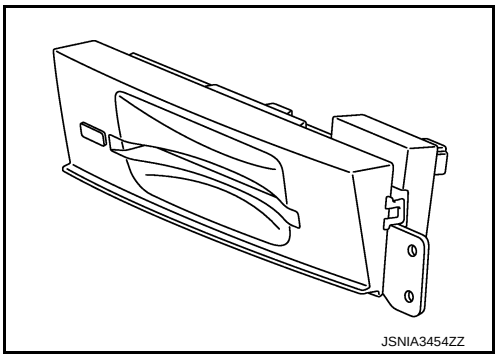
- The preset switch is separated from the multifunction switch and capable of audio operation.
- Operation signals of the multifunction switch and the preset switch are transmitted to the AV control unit via AV communication.


JSNIA4203ZZ

Disk Eject Switch

INFOID:0000000009652119

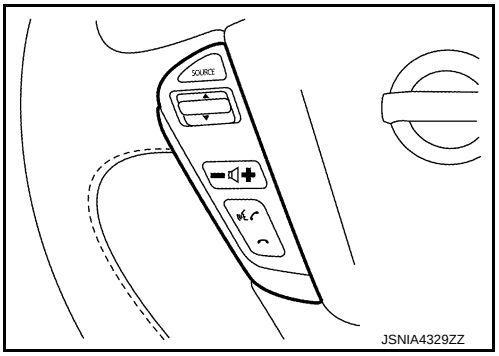
- The disk eject switch is used for removing CD/DVD from the AV control unit.
- When the disk eject switch is pressed, a disk eject signal is transmitted to the AV control unit, and the AV control unit ejects CD/DVD.


JSNIA3454ZZ

Steering Switch

INFOID:0000000009652120

- Operations for audio and hands-free phone, etc. are possible.
- This switch is connected to the AV control unit, and the switch operation signal is transmitted to the AV control unit via voltage multiplex communication.

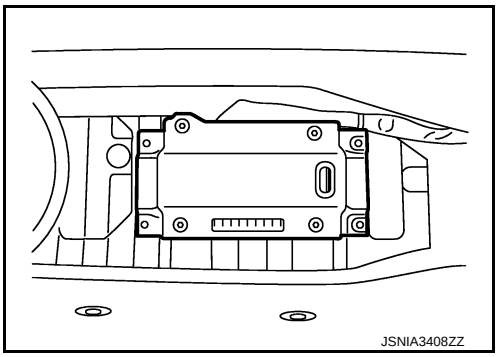


JSNIA4329ZZ

BOSE Amp.

INFOID:0000000009652121

- Installed to the luggage floor box.
- Receives sound signal from AV control unit, and outputs sound signal to each speaker and woofer.



Speaker

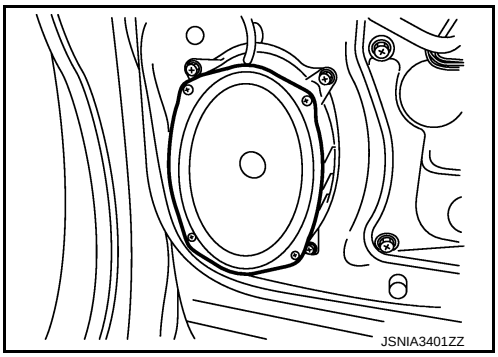
INFOID:0000000009652122

12 speakers system is adopted.

FRONT DOOR WOOFER

- ϕ 15.0 × 23.0 cm (6 × 9 in) speaker is installed to the bottom of the front door.
- Sound signal is input from the BOSE amp. to output low range sounds.

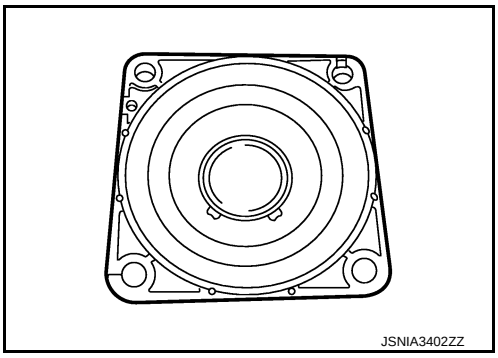
Rated input : 13.6 W
Maximum input : 40.5 W
Impedance : 2 Ω



FRONT SQUAWKER

- ϕ 6.5 cm (2 in) squawker is installed to the side of instrument panel.
- Sound signal is input from the BOSE amp. to output high and mid range sounds.

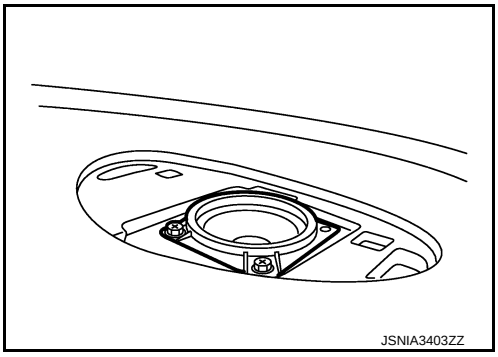
Rated input : 4.8 W
Maximum input : 14 W
Impedance : 3.6 Ω



CENTER SQUAWKER

- ϕ 8 cm (3 in) squawker is installed to the center of instrument panel.
- Sound signal is input from the BOSE amp. to output high and mid range sounds.

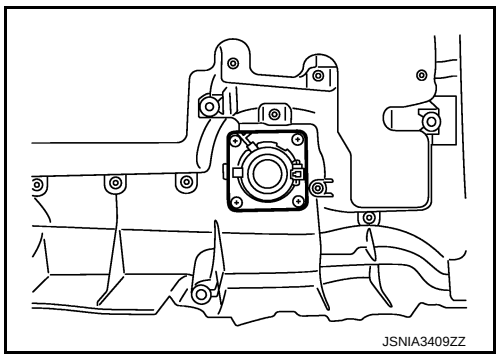
Rated input : 7.6 W
Maximum input : 22.5 W
Impedance : 3.6 Ω



SLIDE DOOR SQUAWKER

- ϕ 8 cm (3 in) squawker is located at the lower part of the front of the slide door.
- Sound signal is input from the BOSE amp. to output high and mid range sounds.

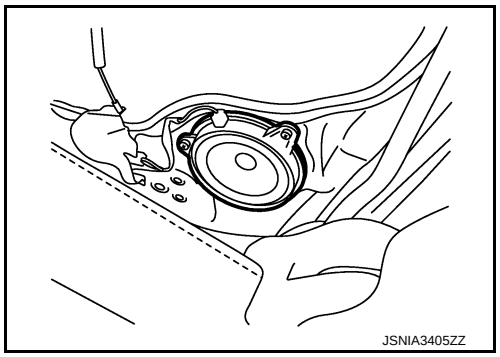
Rated input : 7.6 W
Maximum input : 22.5 W
Impedance : 3.6 Ω


JSNIA3409ZZ

SLIDE DOOR SPEAKER

- ϕ 16 cm speaker is located at the lower part of the back of the slide door.
- Sound signal is input from the BOSE amp. to output high, mid, and low range sounds.

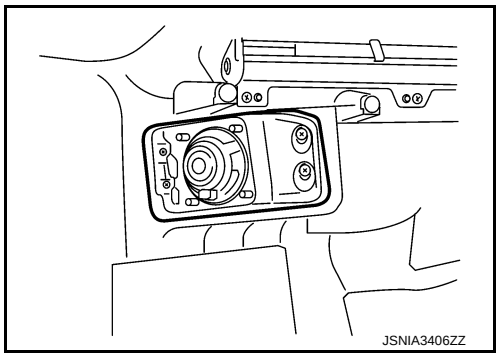
Rated input : 12.9 W
Maximum input : 38.5 W
Impedance : 2.1 Ω


JSNIA3405ZZ

LUGGAGE SQUAWKER

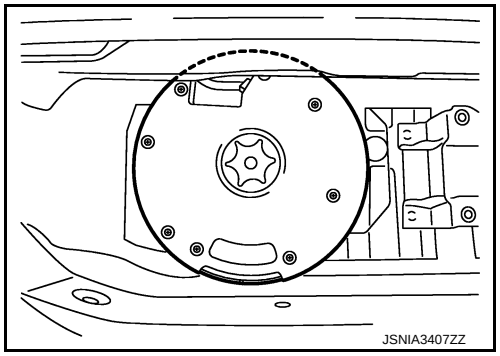
- ϕ 8 cm (3 in) squawker is installed to the side of luggage room.
- Sound signal is input from the BOSE amp. to output high and mid range sounds.

Rated input : 7.6 W
Maximum input : 22.5 W
Impedance : 3.6 Ω


JSNIA3406ZZ

WOOFER

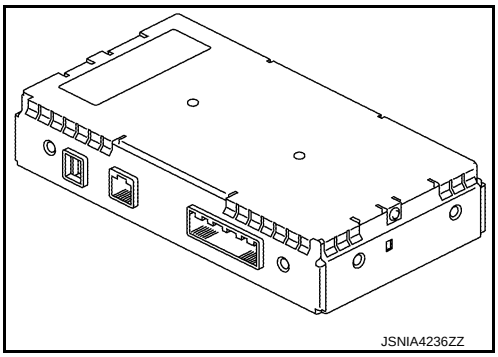
- Woofer integral with the enclosure is located in the luggage floor box to improve the sound-field characteristics of the bass range.
- Composed of two woofers and a woofer amp.
- The woofer is activated when receiving a woofer amp. ON signal from the BOSE amp.


JSNIA3407ZZ

TEL Adapter Unit

INFOID:0000000009652123

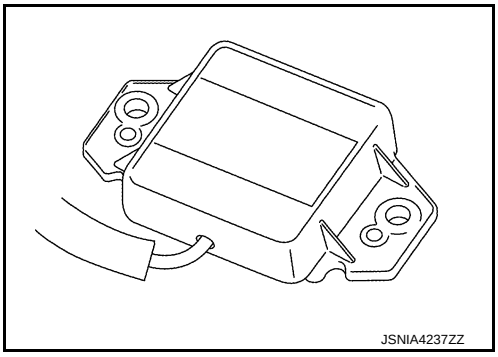
- Inputs the TEL voice signal from TEL antenna and outputs it to the AV control unit.
- It is connected with the AV control unit via AV communication and controlled with the AV control unit.


JSNIA4236ZZ

TEL Antenna

INFOID:0000000009652124

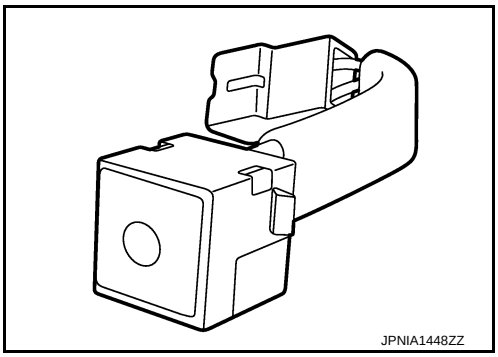
Receives the TEL voice signal from cellular phone and outputs it to the TEL adapter unit.


JSNIA4237ZZ

Microphone

INFOID:0000000009652125

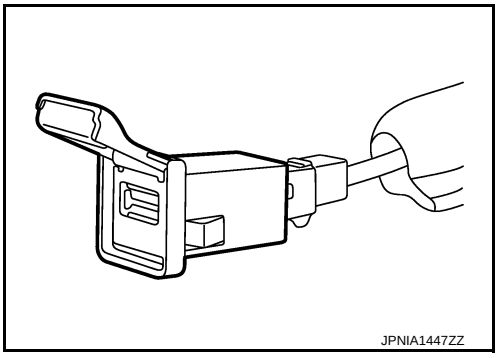
- The voice control/TEL microphone is installed on the left side of the map lamp assembly.
- The power is supplied from the TEL adapter unit to the microphone, transmitting sound signals to the TEL adapter unit at the voice control or during hands-free phone communication.


JPNIA1448ZZ

USB Connector

INFOID:0000000009652126

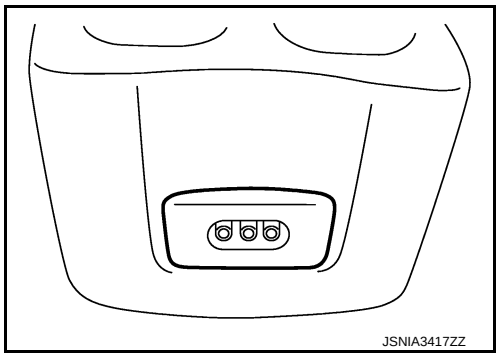
- USB connector is installed to the console box.
- iPod® and USB memory can be connected to the AV control unit.


JPNIA1447ZZ

Auxiliary Input Jacks

INFOID:0000000009652127

- Installed to the rear of center console.
- Sound signals and image signals from the external equipment are transmitted to the AV control unit.

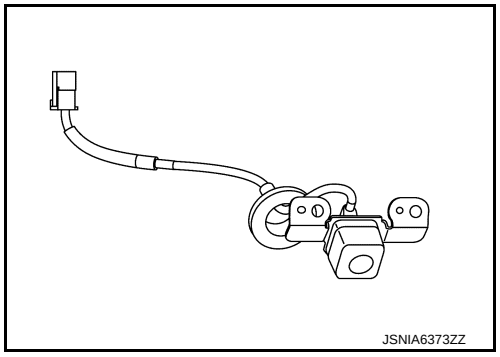

JSNIA3417ZZ

Rear View Camera

INFOID:0000000009652128

- The rear view camera is installed to the back door finisher.
- Super-small CCD camera (color) using CCD* for the image pickup element is adopted.
- With the mirror processing function, a mirror image is sent as if it is viewed by a rear view mirror.
- Power for the camera is supplied from the AV control unit, and the image at the rear of the vehicle is sent to the AV control unit.

NOTE:
*: Abbreviation of Charge Coupled Device. CCD can turn incident light from the lens into electrons and memorize the image like a photo.


JSNIA6373ZZ

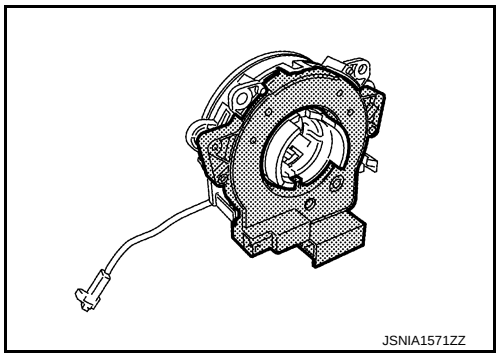
Specification

Manufacturer name	Panasonic corporation
Image pickup element	1/4-inch interline CCD color
Effective number of pixels	Approx. 250,000 pixels (510 × 492)
Minimum brightness	2 lx
Angle of view	H: 137° V: 92°
Image	With mirror processing function

Steering Angle Sensor

INFOID:0000000009652129

- Steering sensor is installed to the spiral cable.
- Steering angle sends the steering signal necessary for predictive course line of the rear view monitor function to the AV control unit via CAN communication.


JSNIA1571ZZ

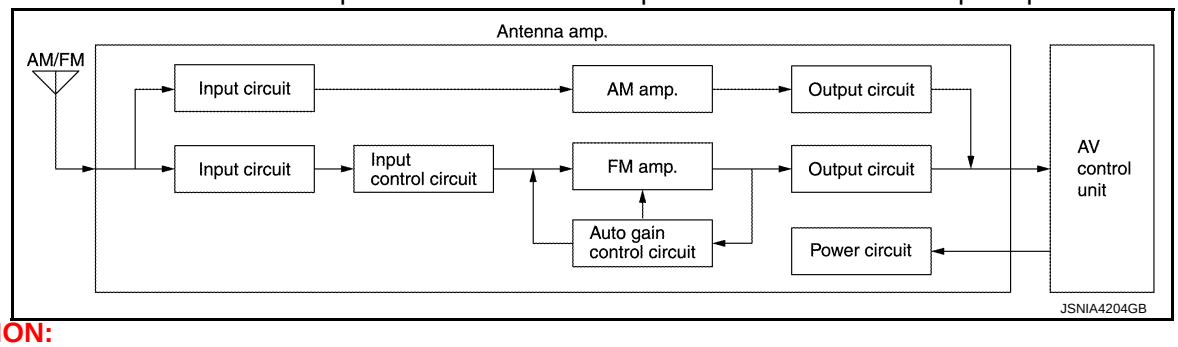
Antenna amp, Radio Antenna, and Antenna Feeder

INFOID:0000000009652130

RADIO ANTENNA

- AM/FM radio main antenna is located on the right rear side window glass and FM radio sub antenna on the left rear side window glass.

- The AM/FM radio main antenna path has an antenna amp. to obtain sufficient reception power.

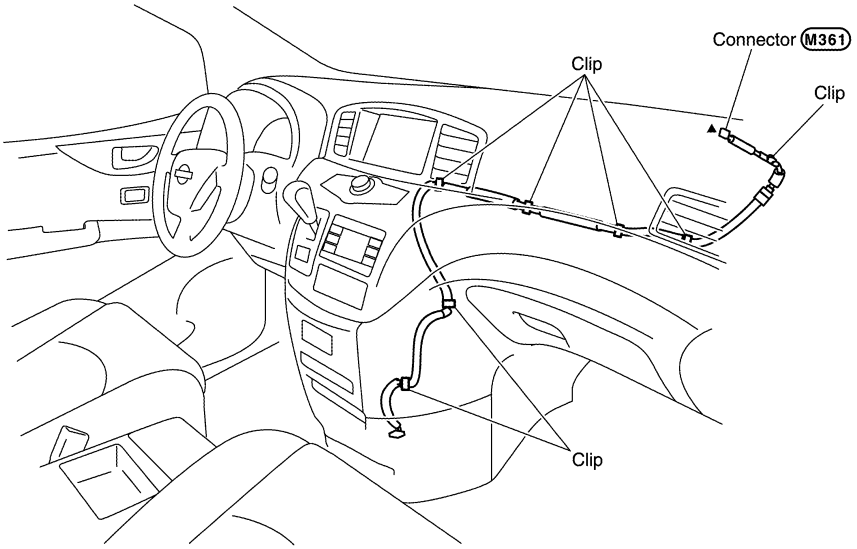


CAUTION:

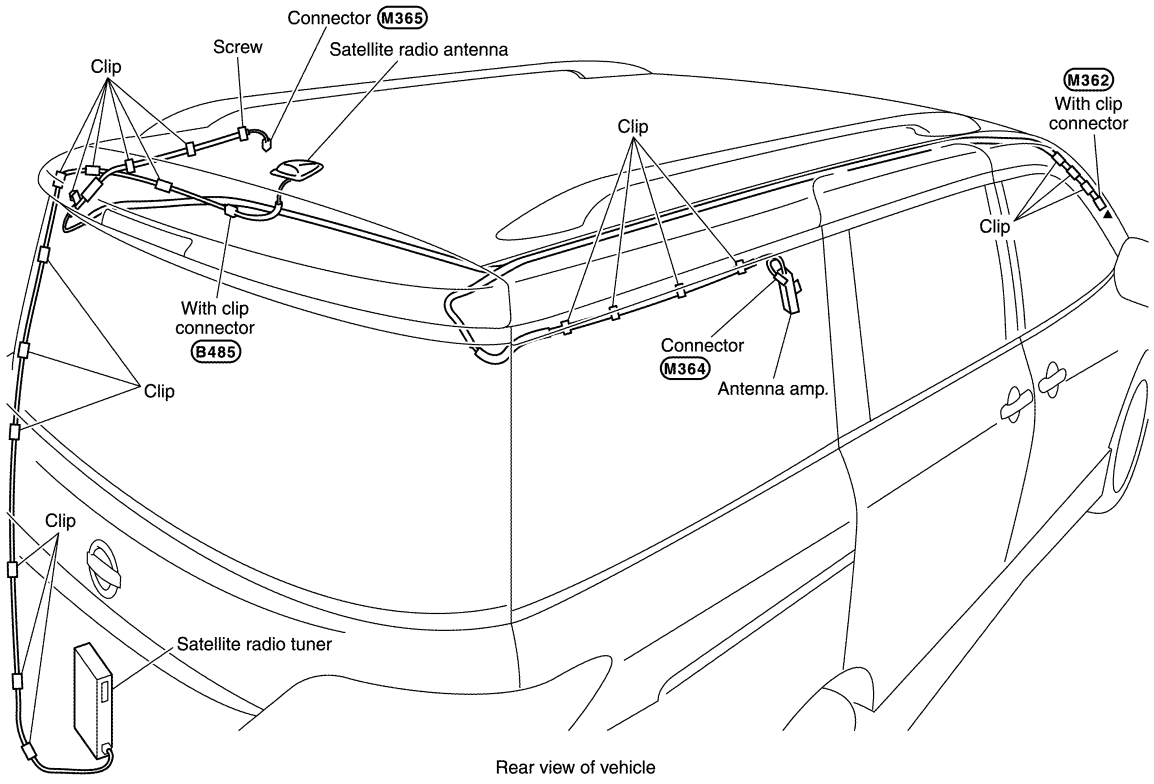
Affixing any mirror-type window films or metallic items (e.g. commercial antenna) on the rear side window glass causes a reduction in the radio receiver sensitivity.

ANTENNA FEEDER LAYOUT

SEC. 280



Instrument panel passenger side



Rear view of vehicle

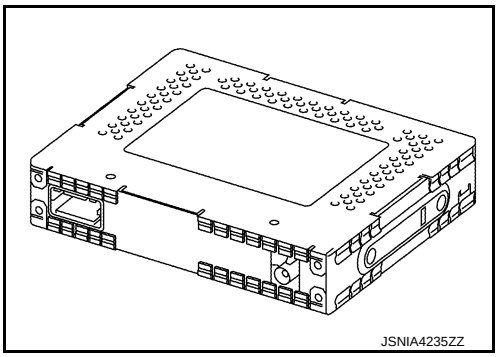
JSNIA4219GB

▲: Indicates that the part is connected at points with same symbol in actual vehicle.

Satellite Radio Tuner

INFOID:0000000009652131

- Inputs the satellite radio signal from satellite radio antenna and outputs the sound signal to the AV control unit.
- It is controlled with the AV control unit and serial communication (communication signal and request signal).



Satellite Radio Antenna

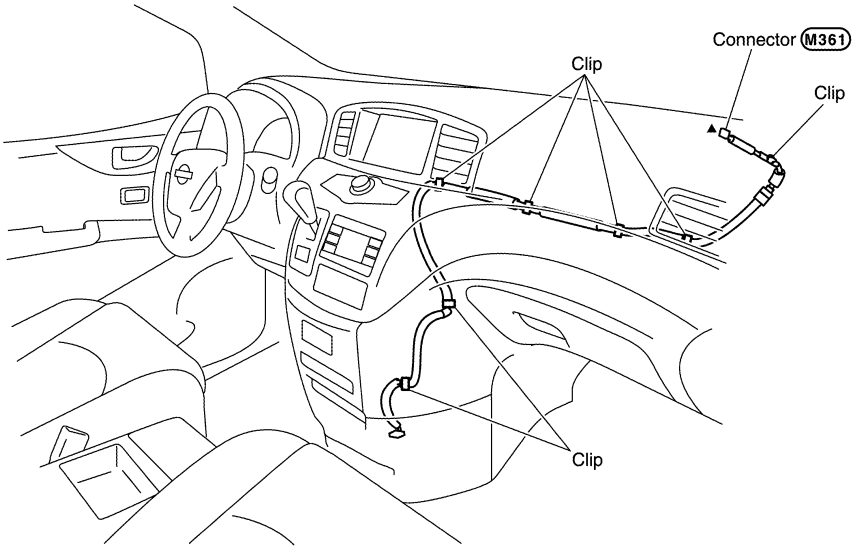
INFOID:0000000009652132

SATELLITE RADIO ANTENNA

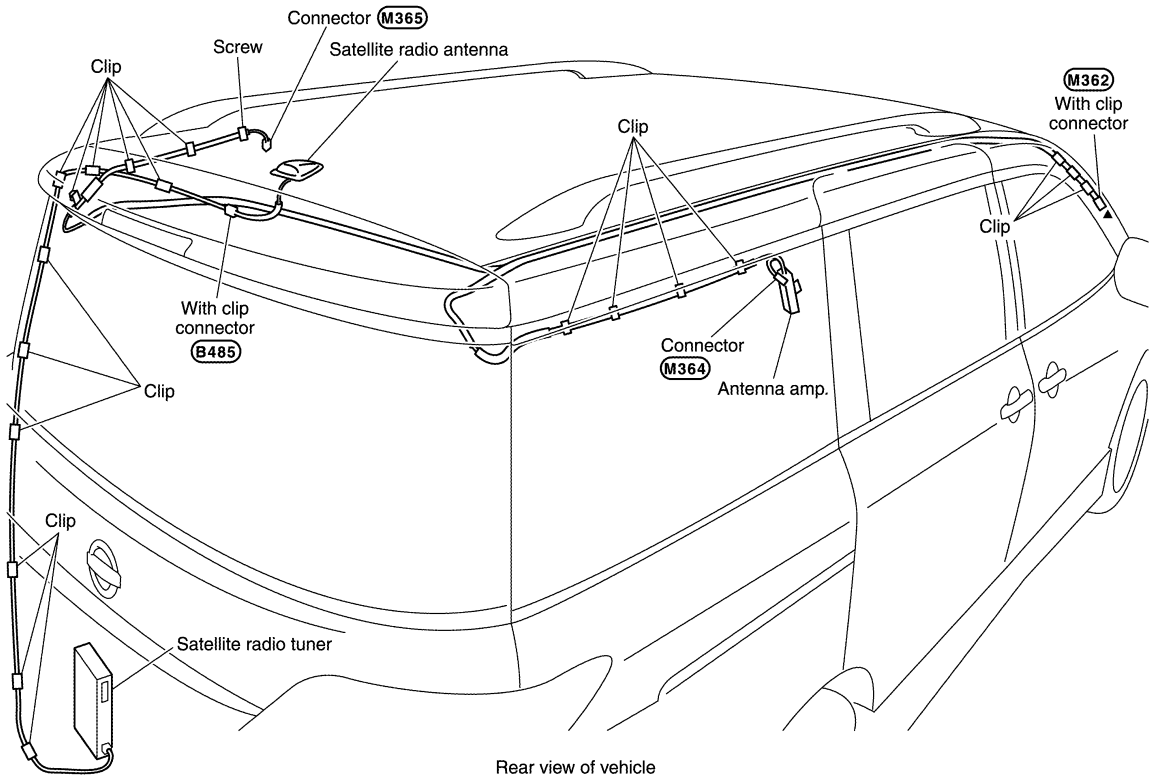
- Satellite radio antenna is installed to the rear center of the roof.
- Receives satellite radio waves and outputs it to satellite radio tuner.

ANTENNA FEEDER LAYOUT

SEC. 280



Instrument panel passenger side



Rear view of vehicle

JSNIA4219GB

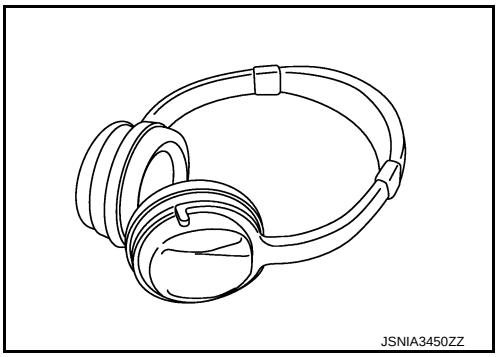
▲: Indicates that the part is connected at points with same symbol in actual vehicle.

Headphone

INFOID:0000000009652133

- The adoption of the wireless headphone allows the independent audio listening on the rear seat.
- Sound signals are received from the rear display unit via infrared communication.

Battery: AAA battery × 2

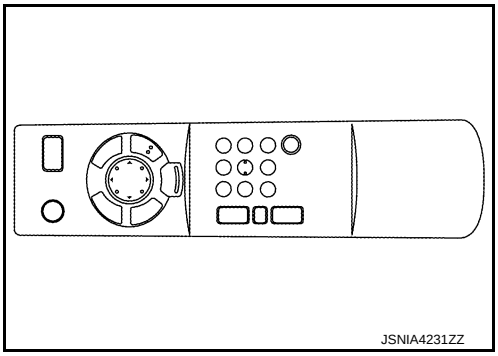


Remote Controller

INFOID:0000000009652134

- The adoption of the infrared remote controller allows audio operation and other operations on the rear seat.
- The light-receptive spot is included in the rear display unit.

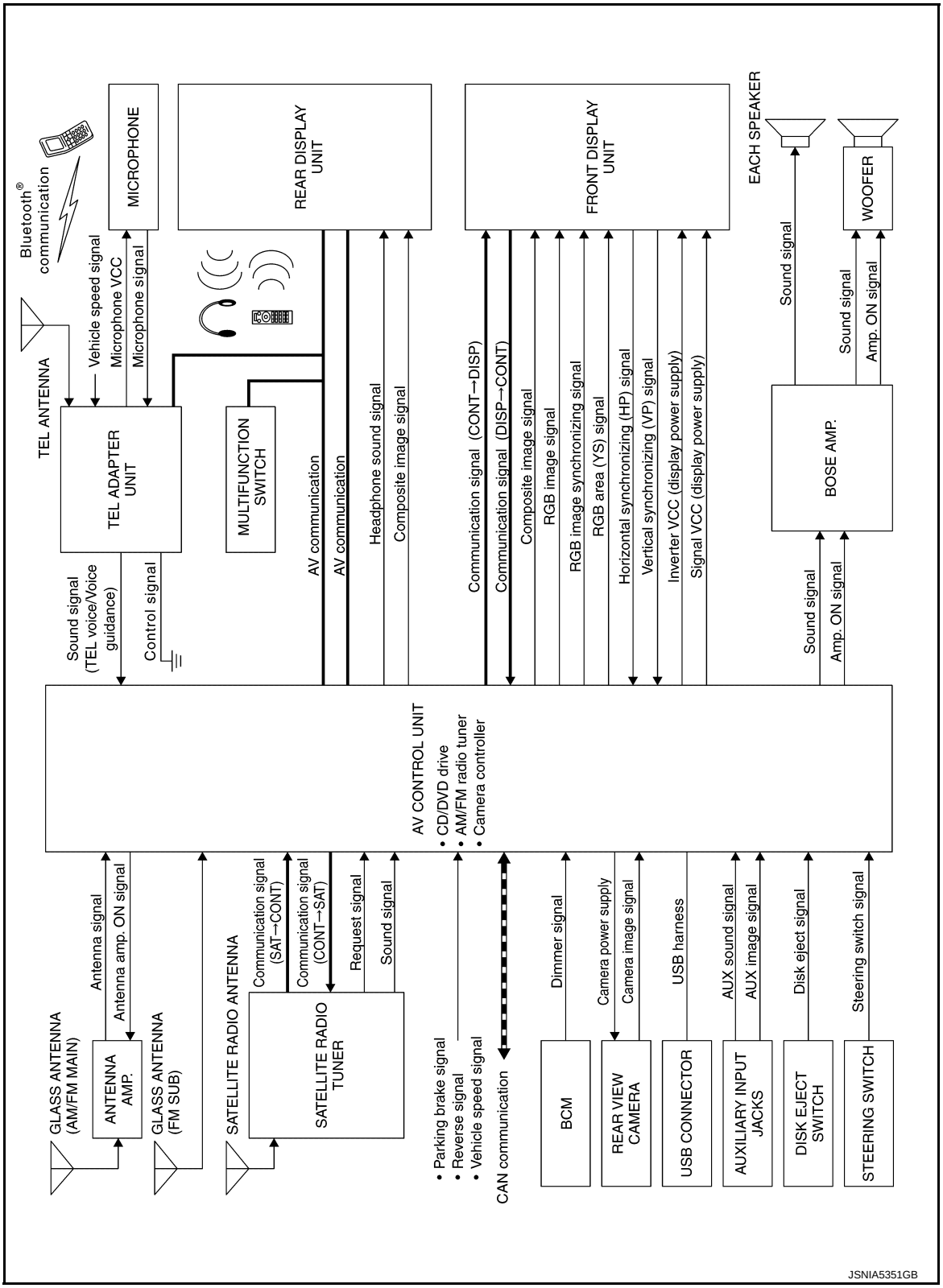
Battery: AA battery × 2



SYSTEM
MULTI AV SYSTEM
MULTI AV SYSTEM : System Description

INFOID:0000000009652135

SYSTEM DIAGRAM



NOTE:

The name MULTIFUNCTION SWITCH indicates the integration of PRESET SWITCH and MULTIFUNCTION SWITCH virtually.

CAN COMMUNICATION

AV control unit Input Signal

Transmit unit	Signal name
ECM	Engine status signal
	Fuel consumption monitor signal
Steering angle sensor	Steering angle sensor signal
Combination meter	Vehicle speed signal
	Distance to empty signal
	Fuel level low warning signal
BCM	System setting signal

DESCRIPTION

Multi AV system means that the following systems are integrated.

FUNCTION NAME
Audio function
DVD playback function
Bluetooth® hands-free phone function
Mobile entertainment system
Auxiliary input function
Rear view monitor function
Vehicle information function
Auto Light adjustment system

COMMUNICATION SIGNAL

- AV control unit function by transmitting/receiving data one by one with each unit (slave unit) that configures them completely as a master unit by connecting between units that configure MULTI AV system with two AV communication lines (H, L).
- Two AV communication lines (H, L) adopt a twisted pair line that is resistant to noise.
- AV control unit is connected with front display unit and serial communication, and it transmits the required signal of display and display control and receives the response signal from front display unit.
- AV control unit controls satellite radio tuner by serial communication.

CAN COMMUNICATION

- AV control unit is connected by CAN communication, and it receives data signal from ECM and combination meter. It computes and displays fuel economy information value with the obtained information.
- The AV control unit, which has the vehicle setting function, transmits and receives data on vehicle setting condition via CAN communication with the BCM.
- AV control unit receives steering angle signal from steering angle sensor via CAN communication and performs control of predictive course line in rear view monitor image.

AUDIO FUNCTION

The audio system is equipped with the following functions.

FUNCTION
AM/FM radio
Satellite radio
CD
USB connection

Operating Signal

Audio system operation can be performed with multifunction switch, preset switch, or steering switch.

- Operating signal is transmitted to AV control unit with AV communication when it is operated by multifunction switch or preset switch.
- The disk eject signal is transmitted to AV control unit by hardwire, when disk eject switch is operated.
- Operating signal is transmitted to AV control unit with steering switch signal when it is operated by steering switch.
- Operation status of audio is indicated at front display by RGB image signal, RGB area signal, and RGB image synchronizing signal.

AM/FM Radio Function

- AM/FM radio tuner is built into AV control unit.
- AM/FM radio wave is received by radio antenna, next it is amplified by antenna amp., and finally it is input to AV control unit.
- FM radio wave is received by FM sub antenna, and it is transmitted to the AV control unit directly.
- Audio signal is input to BOSE amp. and BOSE amp. outputs to woofer and each speaker.

Satellite Radio Mode

- Satellite radio tuner is controlled by communication signal and request signal with AV control unit.
- Sound signal (satellite radio) is received by satellite radio antenna and transmitted to AV control unit via satellite radio tuner.
- AV control unit outputs audio signal (satellite radio) to BOSE amp. The signal is also outputted from BOSE amp. to woofer and each speaker.

CD Mode

- CD function is built into AV control unit.
- AV control unit outputs audio signal to BOSE amp. The signal is also outputted from BOSE amp. to woofer and each speaker when CD is inserted to AV control unit.
- For further information about CD function specifications, refer to AV-274, "AV Control Unit".

USB Connection Function

- Connecting iPod® or USB memory allows the driver to play iPod® music files or USB memory-stored music files.
- Sound signals of music files stored in iPod® or USB memory is transmitted from the USB connector to the AV control unit.
- AV control unit outputs sound signal to BOSE amp. The signal is also outputted from BOSE amp. to woofer and each speaker.
- iPod® is recharged when connected to USB connector.
- Compliant USB memory and data recorded are limited.

USB memory	USB1.1
File system	FAT16
	FAT32

- Only files that meet the following conditions will be played.

	Music file
File format	“MP3”, “WMA”
File extension	“.mp3”, “.wma”
Maximum file size	2 GB

NOTE:

- iPod® is a trademark of Apple inc., registered in the U.S. and other countries.
- Image signals cannot be received from iPod® or USB memory.
- Use the enclosed USB harness when connecting iPod® to USB connector.

DVD PLAYBACK FUNCTION

- DVD is played by inserting DVD into the AV control unit.
- DVD image signals are transmitted to the front display unit, and DVD sound signals are transmitted to woofer and each speaker via BOSE amp.

- DVD image signals and sound signals are transmitted to the rear display unit. The rear display unit transmits the sound signals to the headphone via infrared communication.
- For further information about DVD function specifications, refer to AV-274, "AV Control Unit".

MOBILE ENTERTAINMENT SYSTEM

Image and sound (DVD, USB memory-stored video data, and auxiliary input) played by AV control unit can be enjoyed in rear seat using rear display unit and headphone.

Operating Signal

- The mobile entertainment system can be controlled by one of the remote controller.
- It receives the operation signal of the remote controller by the remote control receiver built into rear display unit, and then transmits it to the AV control unit.

Headphone Sound

Headphone sound signals are transmitted to infrared communication between rear display unit and headphone.

Screen rear display

- Image signal output from AV control unit is transmitted to the rear display unit.
- The rear display unit receives the composite image signal (DVD, USB memory-stored video data, and auxiliary input) from the AV control unit.
- The rear display unit switches composite images through the communications with the AV control unit via AV communication.

BLUETOOTH® HANDS-FREE PHONE FUNCTION

- TEL adapter unit is controlled with AV communication from AV control unit.
- When the cellular phone is connected to the TEL adapter unit via TEL antenna in Bluetooth® communication, hands-free phone communication can be performed.
- Simply operating the steering switch without releasing hands from the steering wheel allows the driver to make a phone call or receive a phone call.
- When a Bluetooth® communication compliant phone is registered to the TEL adapter unit, hands-free phone communication can be performed. Five units of Bluetooth® communication devices can be registered to the TEL adapter unit.
- The content of the memory (telephone book) of the cellular phone can be recorded in the TEL adapter unit.
- TEL adapter unit has the on board self-diagnosis function. Refer to AV-307, "On Board Diagnosis Function".

Bluetooth® compliant profile	HFP1.5
	Core specification 2.0 + EDR

When A Call Is Originated

- Spoken voice sound output from the microphone (microphone signal) is input to TEL adapter unit.
- TEL adapter unit outputs to cellular phone with Bluetooth® communication as a TEL voice signal.
- Voice sound is then heard at the other party.

When Receiving A Call

- Voice sound is input to own cellular phone from the other party.
- TEL voice signal is input to TEL adapter unit by establishing Bluetooth® communication from cellular phone, and the signal is output to front speaker via BOSE amp.

AUXILIARY INPUT FUNCTION

- Image and sound can be output from an external device by connecting a device with front auxiliary input jacks.
- AUX image signals are transmitted to front and rear display unit via AV control unit
- AUX sound signals are transmitted to each unit as follows:
- To each speaker via AV control unit and BOSE amp.
- To the rear display unit via AV control unit, and headphone sound signals are transmitted to infrared communication between rear display unit and headphone.

REAR VIEW MONITOR FUNCTION

Operation Description

- When the selector lever is shifted to the reverse position, the rear view monitor image is displayed.

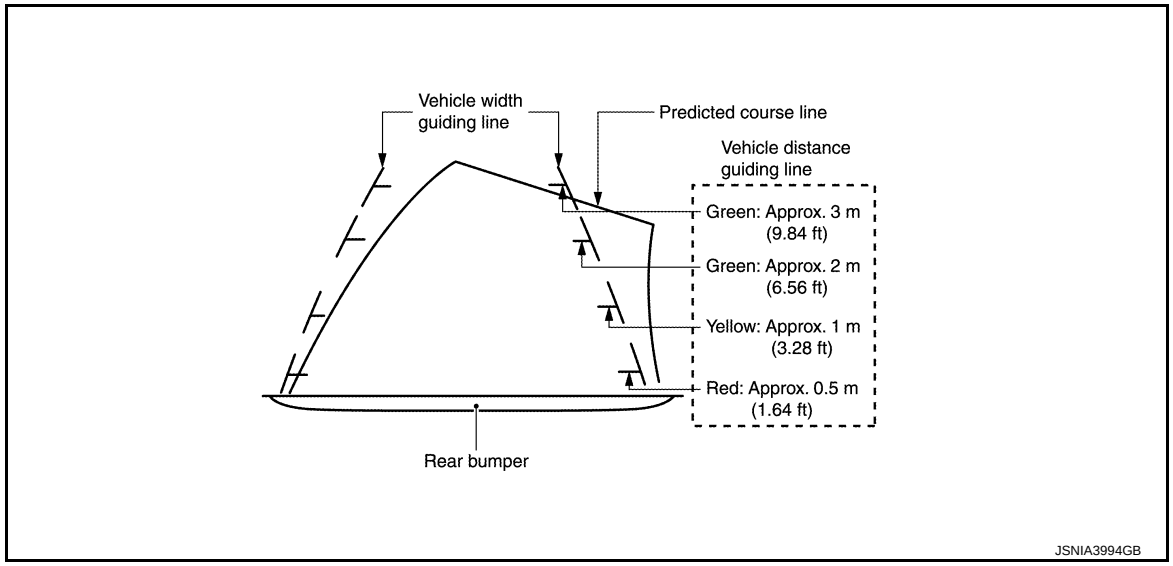
- When the selector lever is shifted to any position other than the reverse position, the original image (the image displayed before the rear view monitor image) is displayed.

Camera Image Operation Principle

- The AV control unit that receives the reverse signal input supplies power to the rear view camera and gives input of image signal.
- The AV control unit outputs the rear view camera image to the front display when the reverse signal is inputted.
- The AV control unit generates the warning message, side distance guiding lines and the predictive course lines on the image from the rear view camera, and transmits the rear view camera image signal to the front display unit.

Side Distance Guide Lines and Predictive Course Lines Display Function at Rear View Monitor Display

- The side distance guide lines and the predictive course line that indicate the vehicle route according to the steering angle are displayed at the rear view monitor display to allow the driver to more easily judge distances between the vehicle and objects and help the driver back into a parking space.
- The AV control unit receives the steering angle signal from the steering angle sensor via CAN communication and draws a predictive course line according to the steering angle signal.
- When the predictive course line are displayed, the side distance guide lines are displayed translucently.
- The predictive course line are not displayed when the steering is in the neutral position.
- The predictive course line can be displayed/not displayed by selecting “Settings” - “Others” - “Camera” - “Predictive Course Lines”

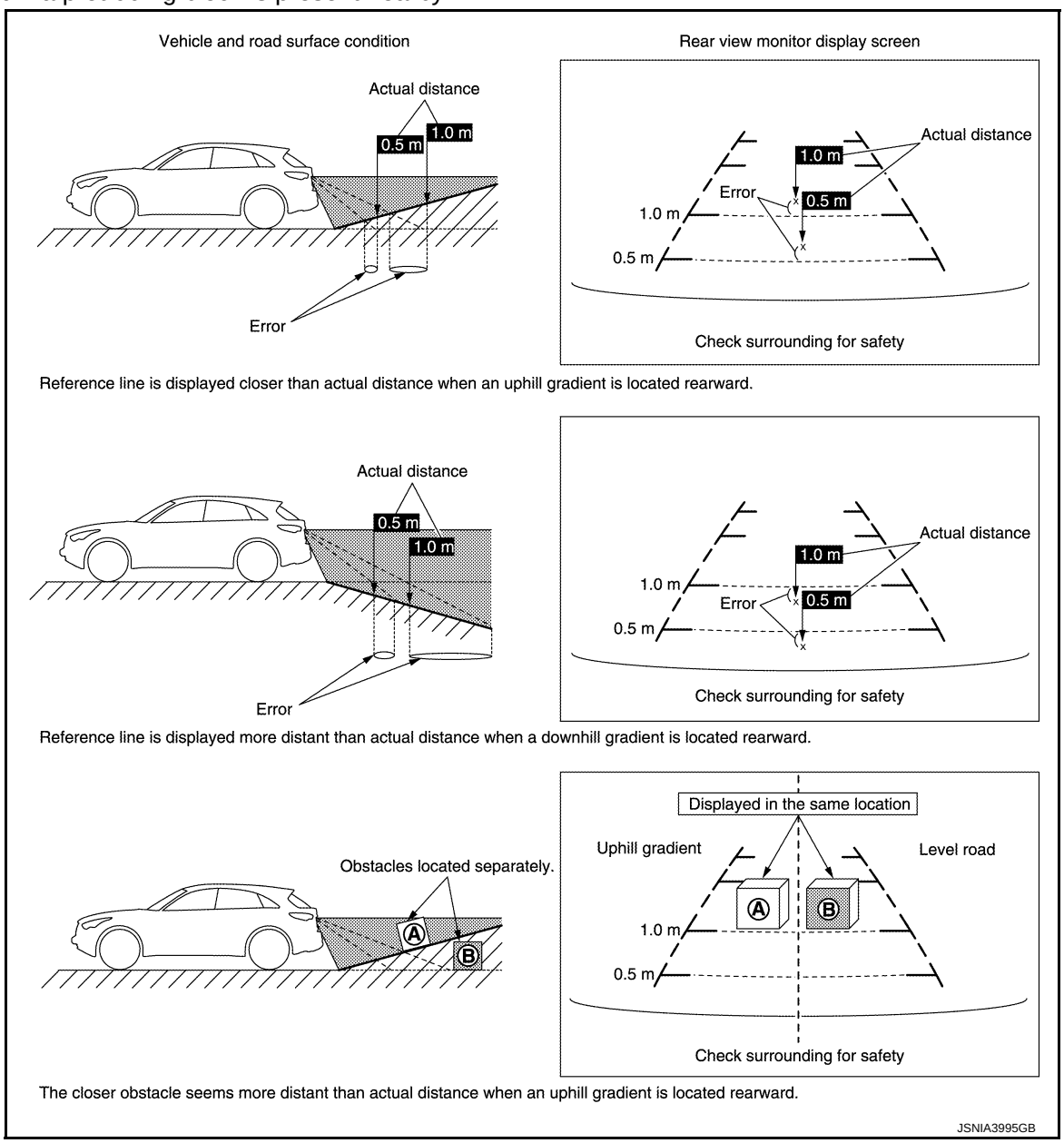


Precautions for Side Distance Guide Lines and predictive course line Display on the Rear View Monitor Display

Side distance guide lines and predictive course line on the display may be different from actual lines depending on vehicle conditions and road conditions.

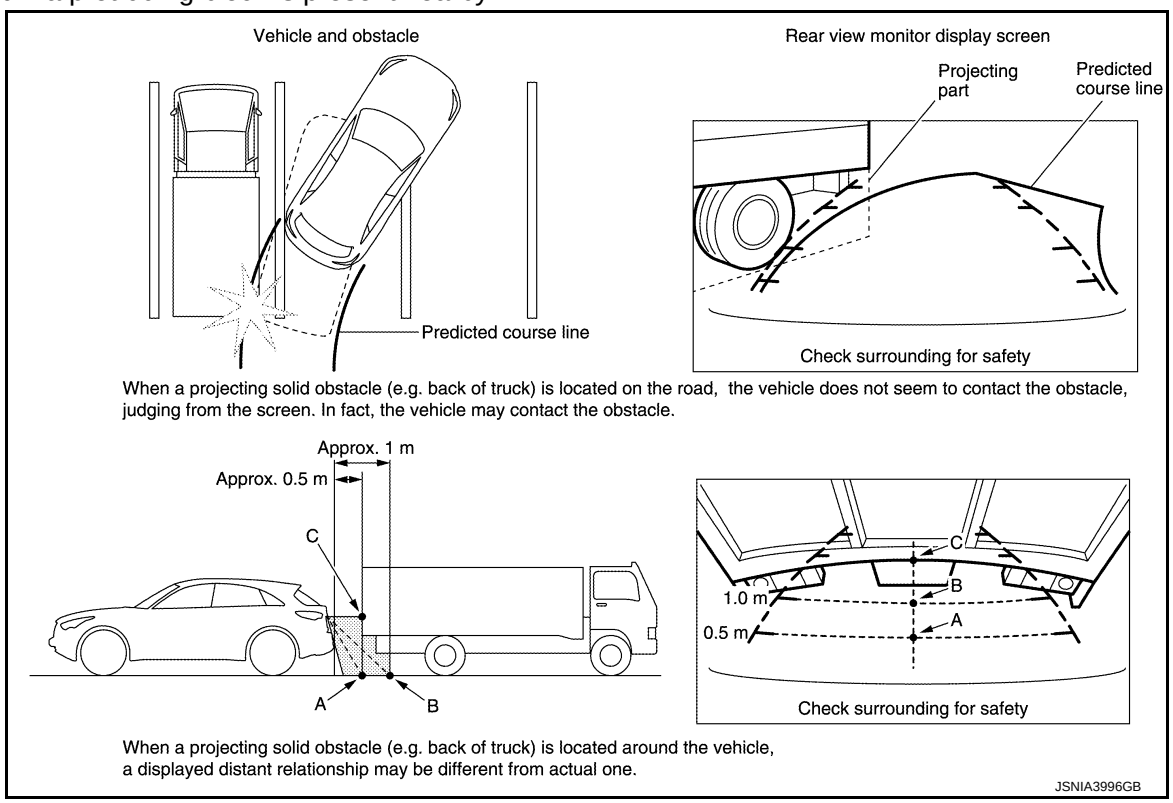
Precautions for road conditions

- Since guide lines and predictive course line are drawn based on the road, a different distance may be displayed if a protruding block is present nearby.



Precautions for block

- Since guide lines and predictive course line are drawn based on the road, a different distance may be displayed if a protruding block is present nearby.



VEHICLE INFORMATION FUNCTION

- Status of audio, climate control system, fuel economy, maintenance and navigation are displayed.
- AV control unit displays the fuel consumption status while receiving data signal through CAN communication from ECM and combination meter.

Vehicle Setting Function

The AV control unit transmits and receives data signals via CAN communication with the BCM, allowing the following vehicle settings.

- To turn on the automatic interior room lamp (ON/OFF) when the door is unlocked
- To adjust the auto light sensitivity (+/–)
- To operate the intermittent wiper linked with the vehicle speed (ON/OFF)
- Vehicle setting initialization

NOTE:
The setting items vary depending on the vehicle specification

AUTO LIGHT ADJUSTMENT SYSTEM

When the light switch is in the 1st or 2nd position, the dimming of the display is judged according to a dimming signal transmitted from BCM to the AV control unit. Display illuminance is independent of vehicle exterior illuminance detected by the auto light detecting sensor even when the light switch is in 1st or 2nd position.

MULTI AV SYSTEM : Circuit Diagram

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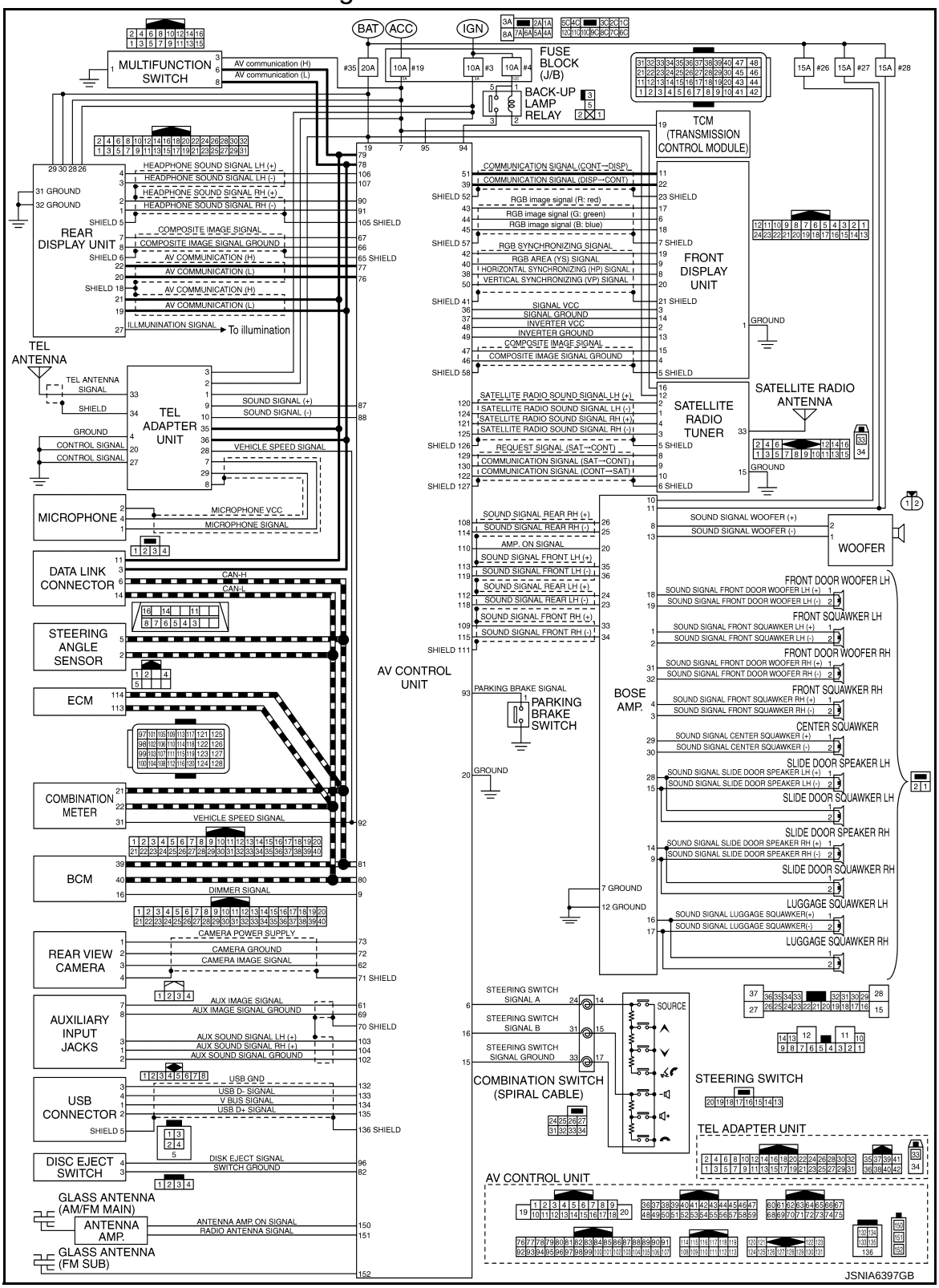

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

Description

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- The AV control unit diagnosis function starts up with multifunction switch operation and the AV control unit performs a diagnosis for each unit in the system during the on board diagnosis.
- Perform a CONSULT diagnosis if the on board diagnosis does not start, e.g., the screen does not display anything, the multifunction switch does not function, etc.

On Board Diagnosis Function

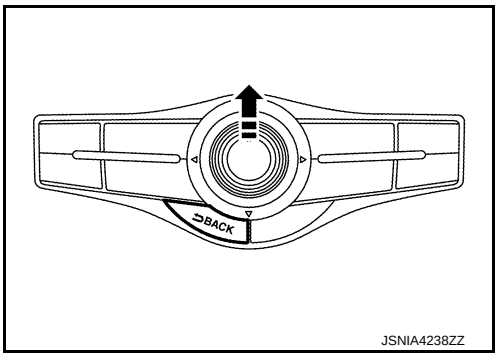
INFOID:0000000009652138

MULTIFUNCTION SWITCH AND PRESET SWITCH SELF-DIAGNOSIS FUNCTION

The ON/OFF operation (continuity) of each switch in the multifunction switch and preset switch can be checked.

Self-diagnosis Mode

- Press the “BACK” switch and the “UP” switch of the 4-direction switches within 10 seconds after turning the ignition switch from OFF to ACC and hold them for 3 seconds or more. Then the buzzer sounds, all indicators of the preset switch illuminate, and the self-diagnosis mode starts.
- The continuity of each switch at the ON position can be checked by pressing the switch. The buzzer sounds if the switch is normal.
  NOTE:
  The disk eject switch cannot be checked.



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Finishing Self-diagnosis Mode

Self-diagnosis mode is canceled when turning the ignition switch OFF.

ON BOARD DIAGNOSIS

Description

- The trouble diagnosis function has a self-diagnosis mode for conducting trouble diagnosis automatically and a confirmation/adjustment mode for operating manually.
- Self-diagnosis mode performs the AV control unit diagnosis and the connection diagnosis between each of the units that make up the system, and it indicates the results to the front display unit.
- The confirmation/adjustment mode allows the technician to check, modify or adjust the vehicle signals and set values, as well as to monitor the system error records and system communication status. The checking, modifying or adjusting generally require human intervention and judgment (the system cannot make judgment automatically).

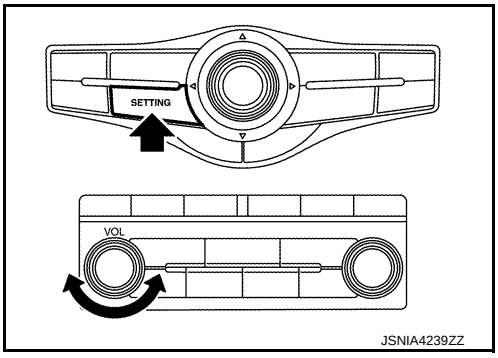
On Board Diagnosis Item

Mode	Description
Self Diagnosis	• AV control unit diagnosis. • Diagnoses the connections across system components, between AV control unit and each unit.

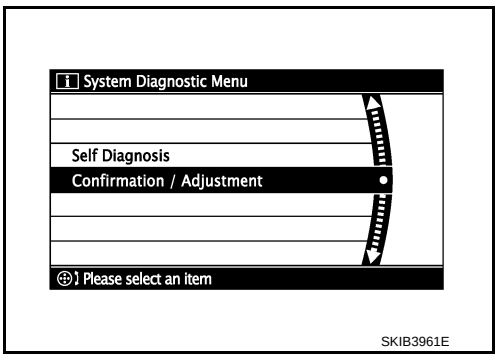
Mode		Description
Confirmation/ Adjustment	Display Diagnosis	The following check functions are available: color tone check by color bar display and white display, light and shade check by gray scale display.
	Vehicle Signals	Diagnosis of signals can be performed for vehicle speed, parking brake, lights, ignition and reverse.
	Speaker Test	The connection of a speaker can be confirmed by test tone.
	Climate Control	Start auto air conditioner system self-diagnosis.
	Error History	The system malfunction and the frequency when occurring in the past are displayed. When the malfunctioning item is selected, the time and place that the selected malfunction last occurred are displayed.
	Camera Cont.	• Guiding line position that overlaps rear view camera image can be adjusted. • Configuration stored in the AV control unit can be checked.
	Vehicle CAN Diagnosis	The transmitting/receiving of CAN communication can be monitored.
	AV COMM Diagnosis	The communication condition of each unit of Multi AV system can be monitored.
	Delete Unit Connection Log	Erase the connection history of unit and error history.
	Initialize Settings	Initializes the AV control unit memory.

METHOD OF STARTING

1. Start the engine.
2. Turn the audio system OFF.
3. While pressing the “SETTING” button, turn the volume control dial clockwise or counterclockwise for 40 clicks or more. (When the self-diagnosis mode is started, the trouble diagnosis initial screen is displayed.)
   • Shifting from current screen to previous screen is performed by pressing “BACK” button.



4. Items of “Self Diagnosis” and “Confirmation/Adjustment” can be selected on the trouble diagnosis initial screen.

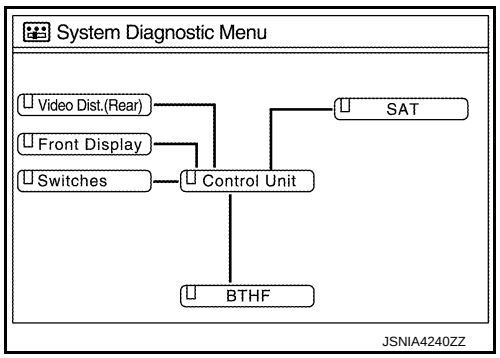


SELF-DIAGNOSIS MODE

1. Start the self-diagnosis function and select “Self Diagnosis”.

- Self-diagnosis subdivision screen is displayed, and the self-diagnosis mode starts.
- The bar graph visible on the center of the self-diagnosis subdivision screen indicates progress of the trouble diagnosis.

2. Diagnosis results are displayed after the self-diagnosis is completed. The unit names and the connection lines are color-coded according to the diagnostic results.

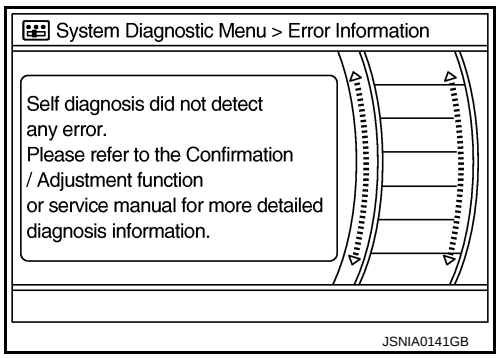


Diagnosis results	Unit	Connection line
Normal	Green	Green
Connection malfunction	Gray	Yellow
Unit malfunction Note	Red	Green

NOTE:
Control unit (AV control unit) and is displayed in red.

- Replace AV control unit if “Self-Diagnosis did not run because of a control unit malfunction” is indicated. The symptom is AV control unit internal error. Refer to AV-404, "Removal and Installation".
- If multiple errors occur at the same time for a single unit, the screen switch colors are determined according to the following order of priority: red > gray.

- The comments of the self-diagnosis results can be viewed with a component in the diagnosis result screen.



Detection Range of Self-diagnosis Mode

- The self-diagnosis mode allows the technician to diagnose the connection in the communication line between AV control unit and each unit and the internal operation of the AV control unit.
- Because the start condition of diagnosis function is a switch operation, the on board diagnosis function cannot be started up if any malfunction is detected in the communication circuit between AV control unit and multifunction switch.

SELF-DIAGNOSIS RESULTS

Check the applicable display at the following table, and then repair the malfunctioning parts.

Only Unit Part Is Displayed In Red.

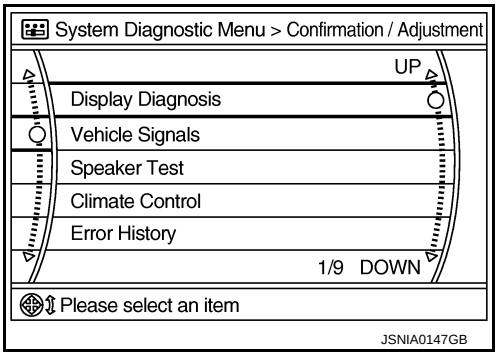
Screen switch	Description	Possible malfunction location / Action to take
Control unit	Malfunction is detected in AV control unit power supply and ground circuits.	Check AV control unit power supply and ground circuits. When detecting no malfunction in those components, replace AV control unit. Refer to AV-404, "Removal and Installation".

A Connecting Cable Between Units Is Displayed In Yellow.

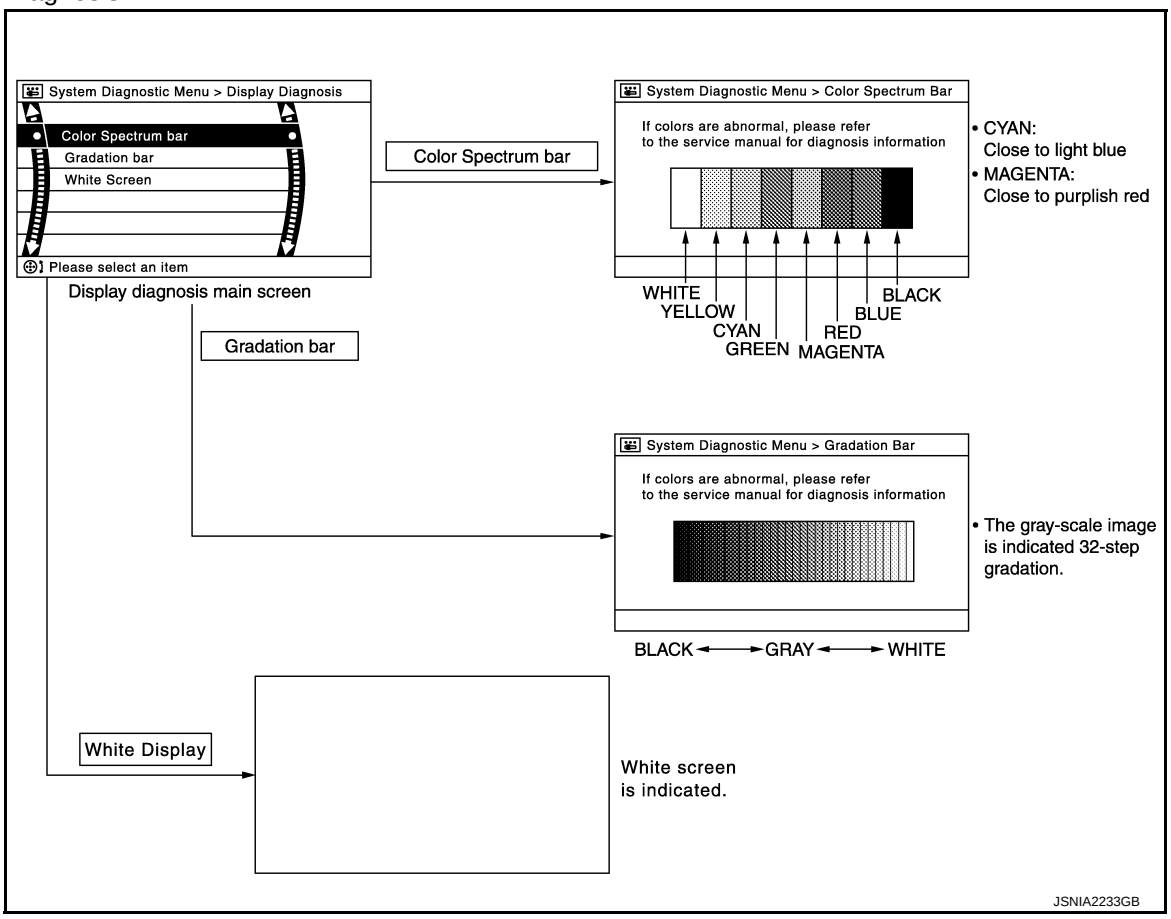
Area with yellow connection lines	Description	Possible malfunction location / Action to take
Control unit ⇔ Front display	Serial communication circuits between AV control unit and front display unit are malfunctioning.	Serial communication circuits between AV control unit and front display unit.
Control unit ⇔ SAT	When either one of the following items are detected: • satellite radio tuner power supply and ground circuits are malfunctioning. • communication circuits between AV control unit and satellite radio tuner are malfunctioning. • request signal circuit between AV control unit and satellite radio tuner are malfunctioning.	• Satellite radio tuner power supply and ground circuit. Refer to AV-370, "SATELLITE RADIO TUNER : Diagnosis Procedure". • Communication circuit between AV control unit and satellite radio tuner. • Request signal circuit between AV control unit and satellite radio tuner.
Control unit ⇔ BTHF	When either one of the following items are detected: • TEL adapter unit power supply and ground circuit are malfunctioning. • AV communication circuits between AV control unit and TEL adapter unit are malfunctioning.	• TEL adapter unit power supply and ground circuits. Refer to AV-371, "TEL ADAPTER UNIT : Diagnosis Procedure" • AV communication circuits between AV control unit and TEL adapter unit.
Control unit ⇔ Video Dist.(Rear)	When either one of the following items are detected: • Rear display unit power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and rear display unit are malfunctioning.	• Rear display unit power supply and ground circuits. • AV communication circuits between AV control unit and rear display unit.

CONFIRMATION/ADJUSTMENT MODE

1. Start the diagnosis function and select “Confirmation/Adjustment”. The confirmation/adjustment mode indicates where each item can be checked or adjusted.
2. Select each switch on the “Confirmation/Adjustment Mode” screen to display the relevant trouble diagnosis screen. Press the “BACK” switch to return to the initial Confirmation/Adjustment Mode screen.

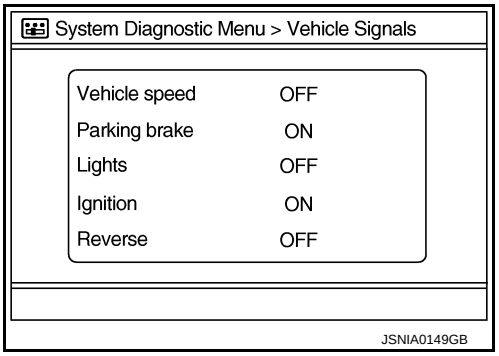


Display Diagnosis



Vehicle Signals

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

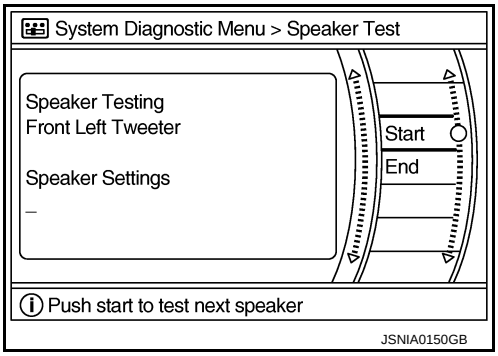


Diagnosis item	Display	Vehicle status	Remarks
Vehicle speed	ON	Vehicle speed > 0 km/h (0 MPH)	Changes in indication may be delayed. This is normal.
	OFF	Vehicle speed = 0 km/h (0 MPH)	
Parking brake	ON	Parking brake is applied.	
	OFF	Parking brake is released.	
Lights	ON	Block the light from the auto light optical sensor when the lighting switch is 1st or 2nd.	—
	OFF	Either of the following conditions • Lighting switch is OFF • Expose the auto light optical sensor to light when the lighting switch is 1st or 2nd.	

Diagnosis item	Display	Vehicle status	Remarks
Ignition	ON	Ignition switch is ON	—
	OFF	Ignition switch is in ACC position	
Reverse	ON	Selector lever is in “R” position	Changes in indication may be delayed. This is normal.
	OFF	Selector lever is in other than “R” position	

Speaker Test

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



Climate Control

Refer to “HEATER & AIR CONDITIONING CONTROL SYSTEM” for details.

Error History

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

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

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

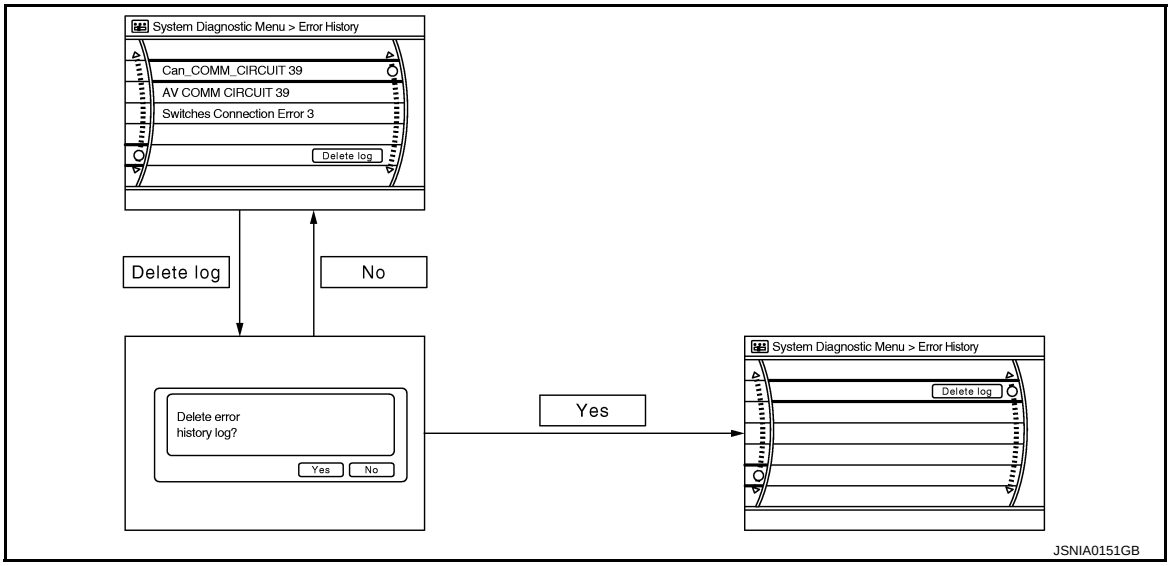
Count up method A

- The counter resets to 0 if an error occurs when ignition switch is turned ON. The counter increases by 1 if the condition is normal at a next ignition ON cycle.
- The counter upper limit is 39. Any counts exceeding 39 are ignored.“ The counter can be reset (no error record display) with the “Delete log” switch or CONSULT.

Count up method B

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

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



Error item

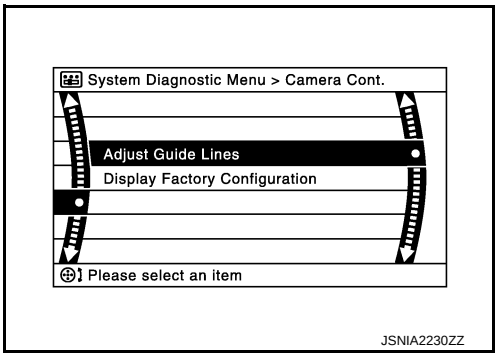
Some error items may be displayed simultaneously according to the cause. If some error items are displayed simultaneously, the detection of the cause can be performed by the combination of display items

Error item	Description	Possible malfunction factor/Action to take
CAN COMM CIRCUIT	CAN communication malfunction is detected.	Perform diagnosis with CONSULT, and then repair the malfunctioning parts according to the diagnosis results. Refer to AV-304, "CONSULT Function".
CONTROL UNIT (CAN)	CAN initial diagnosis malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-404, "Removal and Installation".
CONTROL UNIT (AV)	AV communication circuit initial diagnosis malfunction is detected.	
FLASH-ROM Error Of Control Unit	AV control unit malfunction is detected.	
CAN Controller Memory Error		
Steer. Angle Sensor Calibration	Neutral position adjustment of the steering angle sensor is incomplete.	Adjust the neutral position of the steering angle sensor. Refer to BRC-49, "Work Procedure".
Front Display Connection Error	When either one of the following items is detected: • front display unit power supply and ground circuits malfunction is detected. • malfunction is detected in communication circuits between AV control unit and front display unit.	• Front display unit power supply and ground circuits. Refer to AV-367, "FRONT DISPLAY UNIT : Diagnosis Procedure". • Communication circuits between AV control unit and front display unit.
XM Connection Error	When either one of the following items are detected: • satellite radio tuner power supply and ground circuits are malfunctioning. • communication circuits between AV control unit and satellite radio tuner are malfunctioning. • request signal circuit between AV control unit and satellite radio tuner are malfunctioning.	• Satellite radio tuner power supply and ground circuit. Refer to AV-370, "SATELLITE RADIO TUNER : Diagnosis Procedure". • Communication circuit between AV control unit and satellite radio tuner. • Request signal circuit between AV control unit and satellite radio tuner.
• AV COMM CIRCUIT • Switches Connection Error	When either one of the following items is detected: • multifunction switch power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and multifunction switch are malfunctioning.	• Multifunction switch power supply and ground circuits. • AV communication circuits between AV control unit and multifunction switch.

Error item	Description	Possible malfunction factor/Action to take
• AV COMM CIRCUIT • H/F Unit Connection Error	When either one of the following items are detected: • TEL adapter unit power supply and ground circuit are malfunctioning. • AV communication circuits between AV control unit and TEL adapter unit are malfunctioning.	• TEL adapter unit power supply and ground circuits. Refer to AV-371, "TEL ADAPTER UNIT : Diagnosis Procedure". • AV communication circuits between AV control unit and TEL adapter unit.
• AV COMM CIRCUIT • 2nd Display Connection Error	When either one of the following items are detected: • Rear display unit power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and rear display unit are malfunctioning.	• Rear display unit power supply and ground circuits. Refer to AV-368, "REAR DISPLAY UNIT : Diagnosis Procedure". • AV communication circuits between AV control unit and rear display unit.
• AV COMM CIRCUIT • Switches Connection Error • H/F Unit Connection Error • 2nd Display Connection Error	AV communication circuits between AV control unit and multifunction switch are malfunctioning.	AV communication circuits between AV control unit and multifunction switch.

Camera Cont.

The two functions of “Correct Draw Line of Rear view Cam”, “Confirm Configuration” are available.

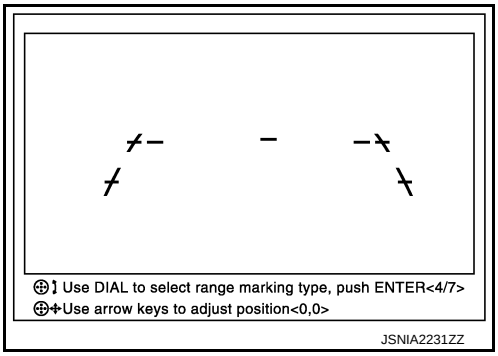


Adjust Offset of Rear view Camera

- Use this mode to adjust the guide line display position of the rear view monitor if necessary after removing the rear view monitor camera.

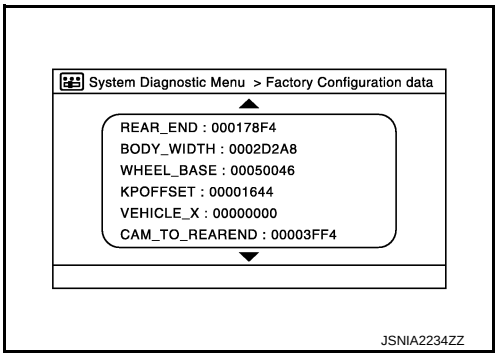
CAUTION:

After the adjustment, never perform other operations for one minute.



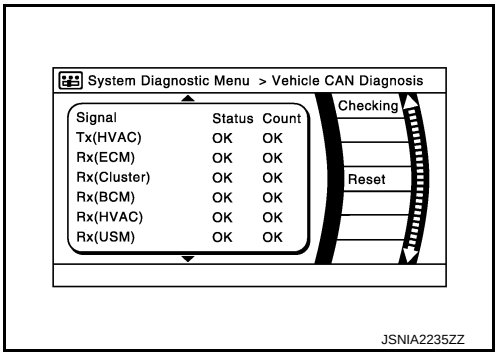
Factory Configuration Confirmation

- Configuration stored in the AV control unit can be checked.



Vehicle CAN Diagnosis

- CAN communication status and error counter is displayed.
- The error counter displays “OK” if any malfunction was not detected in the past and displays “0” if a malfunction is detected. It increases by 1 if the condition is normal at the next ignition switch ON cycle. The upper limit of the counter is 39.
- The error counter is erased if “Reset” is pressed.

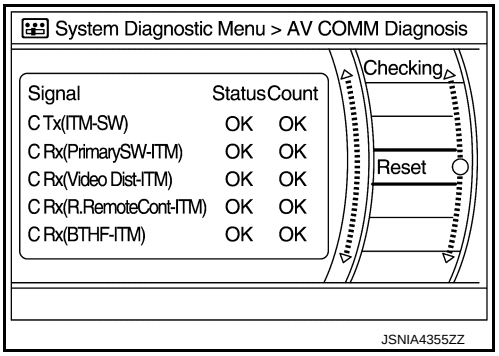


Items	Display (Current)	Malfunction counter (Past)
Tx(HVAC)	OK / ???	OK / 0 – 39
Rx(ECM)	OK / ???	OK / 0 – 39
Rx(Cluster)	OK / ???	OK / 0 – 39
Rx(BCM)	OK / ???	OK / 0 – 39
Rx(HVAC)	OK / ???	OK / 0 – 39
Rx(USM)	OK / ???	OK / 0 – 39
Rx(VDC)	OK / ???	OK / 0 – 39
Rx(STRG)	OK / ???	OK / 0 – 39

NOTE:
“???” indicates UNKWN.

AV COMM Diagnosis

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

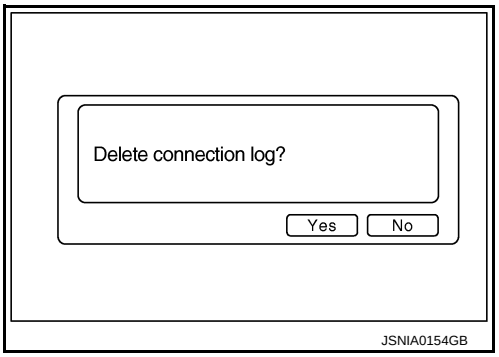


Items	Status (Current)	Counter (Past)
C Tx(ITM–PrimarySW)	OK / ???	OK / 0 – 39
C Rx(PrimarySW–ITM)	OK / ???	OK / 0 – 39
C Rx(Video Dist–ITM)	OK / ???	OK / 0 – 39
C Rx(R.RemoteCont–ITM)	OK / ???	OK / 0 – 39
C Rx(BTHF–ITM)	OK / ???	OK / 0 – 39

NOTE:
“???” indicates UNKWN

Delete Unit Connection Log

Deletes any unit connection records and error records from the AV control unit memory. (Clear the records of the unit that has been removed.)

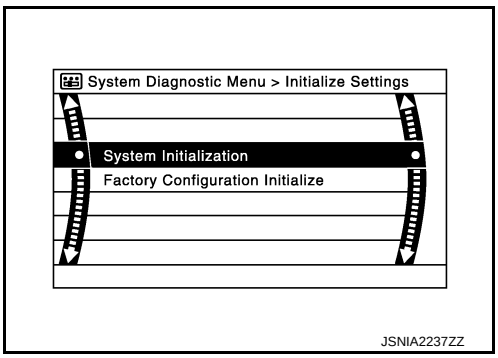


Initialize Settings

"User Data Initialization" and "Accessory Number Initialization" are possible.

CAUTION:

- **Never perform Accessory Number Initialization except when configuration is unsuccessful.**
- **Accessory Number Initialization requires configuration. For details, refer to AV-354, "Description".**



CONSULT Function

INFOID:0000000009652139

APPLICATION ITEMS

CONSULT performs the following functions via the communication with the AV control unit.

Diagnosis mode	Description
Ecu Identification	The part number of AV control unit can be checked.
Self Diagnostic Result	Performs a diagnosis on the AV control unit and a connection diagnosis for the communication circuit of the Multi AV system, and displays the current and past malfunctions collectively.
Data Monitor	The diagnosis of vehicle signal that is input to the AV control unit can be performed.
Work Support	Steering angle sensor can be adjusted.
Configuration	• Read and save the vehicle specification. • Write the vehicle specification when replacing AV control unit.

AV Communication

When "AV communication" of "CAN Diag Support Monitor" is selected, the following function will be performed.

AV communication	AV&NAVI C/U	Displays the communication status from AV control unit to each unit as well as the error counter.
	AUDIO	Displays the AV control unit communication status and the error counter.

ECU IDENTIFICATION

The part number of AV control unit is displayed.

SELF DIAGNOSIS RESULT

- In CONSULT self-diagnosis, self-diagnosis results and error history are displayed collectively.
- The current malfunction indicates "CRNT". The past malfunction indicates "PAST".
- The timing is displayed as "0" if any of the error codes [U1000], [U1010], [U1300] and [U1310] is detected. The counter increases by 1 if the condition is normal at the next ignition switch ON cycle.

Self-diagnosis Results Display Item

Error item	Description	Possible malfunction factor/Action to take
CAN COMM CIRCUIT [U1000]	CAN communication malfunction is detected.	Refer to AV-356, "Diagnosis Procedure".
CONTROL UNIT (CAN) [U1010]	CAN initial diagnosis malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-404, "Removal and Installation".
CONTROL UNIT (AV) [U1310]	AV communication circuit initial diagnosis malfunction is detected.	
Cont Unit [U1200]	AV control unit malfunction is detected.	
CAN CONT [U1216]		
ST ANGLE SEN CALIB [U1232]	Neutral position adjustment of the steering angle sensor is incomplete.	Adjust the neutral position of the steering angle sensor. Refer to AV-360, "Diagnosis Procedure".

Error item	Description	Possible malfunction factor/Action to take
FRONT DISP CONN [U1243]	When either one of the following items is detected: • front display unit power supply and ground circuits malfunction is detected. • communication circuits between AV control unit and front display unit.	• Front display unit power supply and ground circuits. Refer to AV-367, "FRONT DISPLAY UNIT : Diagnosis Procedure". • Communication circuits between AV control unit and front display unit.
SAT CONN [U1255]	When either one of the following items is detected: • satellite radio tuner power supply and ground circuit are malfunctioning. • communication circuits between AV control unit and satellite radio tuner are malfunctioning. • request signal circuit between AV control unit and satellite radio tuner are malfunctioning.	• Satellite radio tuner power supply and ground circuit. Refer to AV-370, "SATELLITE RADIO TUNER : Diagnosis Procedure". • Communication circuit between AV control unit and satellite radio tuner. • Request signal circuit between AV control unit and satellite radio tuner.
• AV COMM CIRCUIT [U1300] • SWITCH CONN [U1240]	When either one of the following items are detected: • multifunction switch power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and multifunction switch are malfunctioning.	• Multifunction switch power supply and ground circuits. • AV communication circuits between AV control unit and multifunction switch.
• AV COMM CIRCUIT [U1300] • VIDEO DIST CONN [U1246]	When either one of the following items are detected: • rear display unit power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and rear display unit are malfunctioning.	• Rear display unit power supply and ground circuits. Refer to AV-368, "REAR DISPLAY UNIT : Diagnosis Procedure". • AV communication circuits between AV control unit and rear display unit.
• AV COMM CIRCUIT [U1300] • HAND FREE CONN [U1256]	When either one of the following items is detected: • TEL adapter unit power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and TEL adapter unit are malfunctioning.	• TEL adapter unit power supply and ground circuits. Refer to AV-371, "TEL ADAPTER UNIT : Diagnosis Procedure". • AV communication circuits between AV control unit and TEL adapter unit.
• AV COMM CIRCUIT [U1300] • SWITCH CONN [U1240] • VIDEO DIST CONN [U1246] • HAND FREE CONN [U1256]	AV communication circuits between AV control unit and multifunction switch are malfunctioning.	AV communication circuits between AV control unit and multifunction switch.

DATA MONITOR

NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

ALL SIGNALS

- Displays the status of the following vehicle signals inputted into the AV control unit.
- For each signal, actual signal can be compared with the condition recognized on the system.

Display Item	Display	Vehicle status	Remarks
VHCL SPD SIG	On	Vehicle speed >0 km/h (0 MPH)	Changes in indication may be delayed. This is normal.
	Off	Vehicle speed =0 km/h (0 MPH)	
PKB SIG	On	Parking brake is applied.	
	Off	Parking brake is released.	

Display Item	Display	Vehicle status	Remarks
ILLUM SIG	On	Block the light from the auto light optical sensor when the lighting switch is 1st or 2nd.	—
	Off	Either of the following conditions • Lighting switch is OFF • Expose the auto light optical sensor to light when the lighting switch is 1st or 2nd.	
IGN SIG	On	Ignition switch is ON	
	Off	Ignition switch is in ACC position	
REV SIG	On	Selector lever is in R position	Changes in indication may be delayed. This is normal.
	Off	Selector lever is in any position other than R	

SELECTION FROM MENU

Allows the technician to select which vehicle signals should be displayed and displays the status of the selected vehicle signals.

Item to be selected	Description
VHCL SPD SIG	The same as when “ALL SIGNALS” is selected.
PKB SIG	
ILLUM SIG	
IGN SIG	
REV SIG	

WORK SUPPORT

Adjusts the neutral position of the steering angle sensor.

CAUTION:

For vehicles with VDC, adjust the steering angle sensor neutral position on the ABS actuator control unit side.

Item	Description
ST ANGLE SENSOR ADJUSTMENT	Adjusts the neutral position of the steering angle sensor.

CONFIGURATION

Configuration includes functions as follows.

Function		Description
Read/Write Configuration	Before Replace ECU	Allows the reading of vehicle specification written in AV control unit to store the specification in CONSULT.
	After Replace ECU	Allows the writing of the vehicle information stored in CONSULT into the AV control unit.
Manual Configuration		Allows the writing of the vehicle specification into the AV control unit by hand.

DIAGNOSIS SYSTEM (TEL ADAPTER UNIT)

Description

INFOID:0000000009652140

During on board diagnosis the diagnosis function of TEL adapter unit starts with the operation of the steering switch and performs the diagnosis when ignition switch ACC.

On Board Diagnosis Function

INFOID:0000000009652141

HANDS-FREE PHONE SYSTEM ON BOARD DIAGNOSIS

During on board diagnosis the diagnosis function of TEL adapter unit starts with the operation of the steering switch and performs the diagnosis when ignition switch ACC.

ON BOARD DIAGNOSIS ITEM

The on board diagnosis has 3 modes: the self-diagnosis mode that performs the trouble diagnosis, the speaker adaptation data deleting mode and the hands-free phone system initialization mode.

CAUTION:

- **Perform the diagnosis with the vehicle stopped.**
- **Perform STEP2 if necessary.**

STEP	MODE	Description
STEP1	Self-diagnosis	The self-diagnosis mode performs the microphone test and the diagnosis of TEL adapter unit, TEL antenna and steering unit, and then reads out the results with the sound and indicates them on the display.
STEP2	Speaker adaptation data deleting	The speaker adaptation data deleting mode can delete the speaker adaptation data.
	Hands-free phone system initialization	Hands-free phone system initialization mode can perform the initialization of hands-free phone system.

Self-diagnosis results

Self-diagnosis mode reads out the self-diagnosis results.

NOTE:

- Error count is read out simultaneously when reading out the DTC name.
- The errors are read out continuously when some errors occur at the same time.

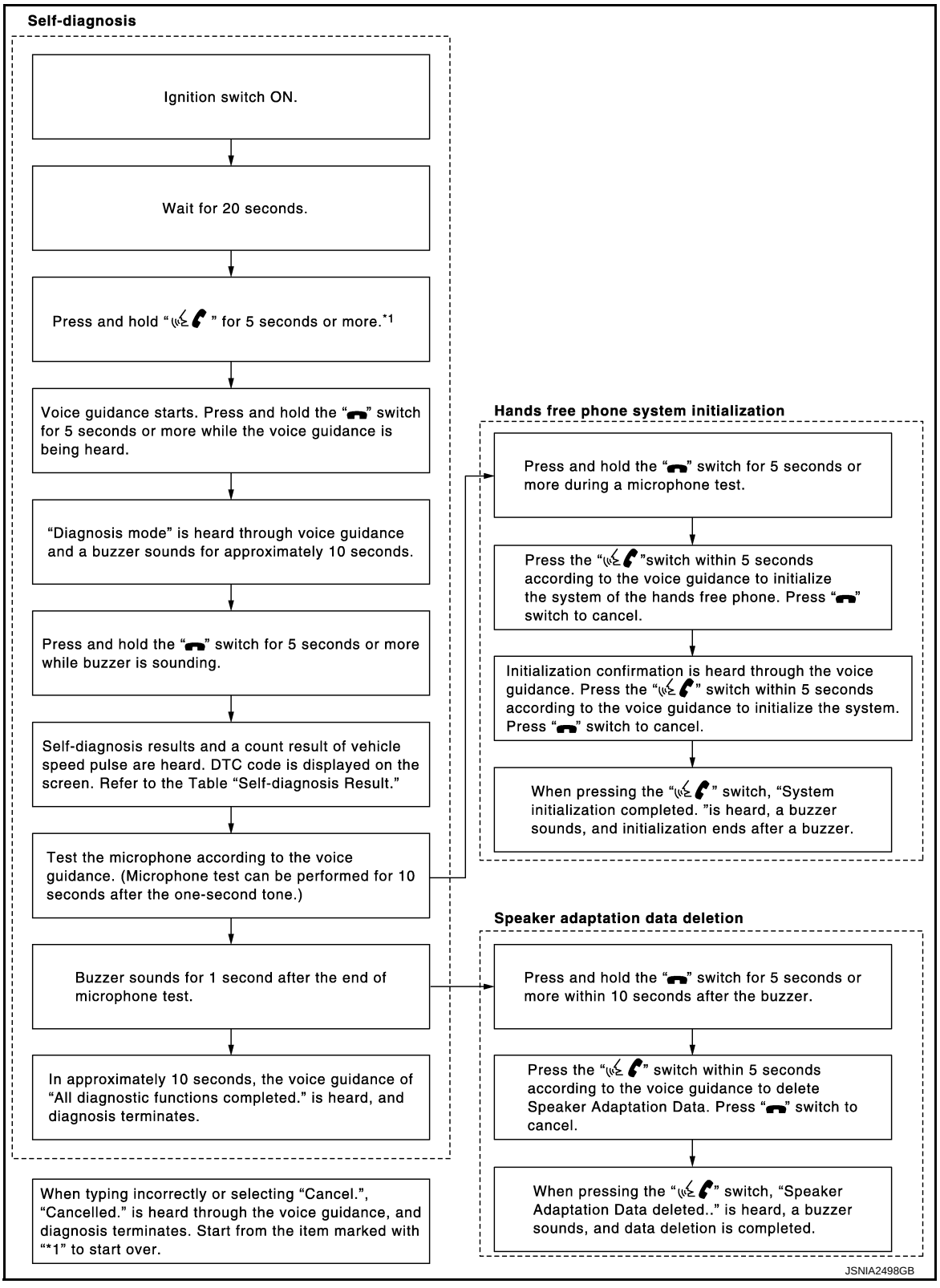
Self-diagnosis results

DTC	DTC name	Possible causes
DTC 10000	INTERNAL FAILURE	TEL adapter unit
DTC 01000	ANT. SHORT TO BATT OR OPEN	TEL antenna
DTC 00100	ANT. SHORT TO GROUND	
DTC 00010	STEERING REMOTE BUTTON STUCK A	Steering switch
DTC 00001	STEERING REMOTE BUTTON STUCK B	
DTC 00000	THERE ARE NO FAILURE RECORDS TO REPORT	—

The Details of Error Count

The error count guides “0” when the error occurs. The next time it counts up “1” if it is normal with the ignition switch ON. It continues the count up unless the initialization of hands-free phone system is performed.

FLOW CHART OF TROUBLE DIAGNOSIS



ECU DIAGNOSIS INFORMATION

AV CONTROL UNIT

Reference Value

INFOID:0000000009652142

VALUES ON THE DIAGNOSIS TOOL

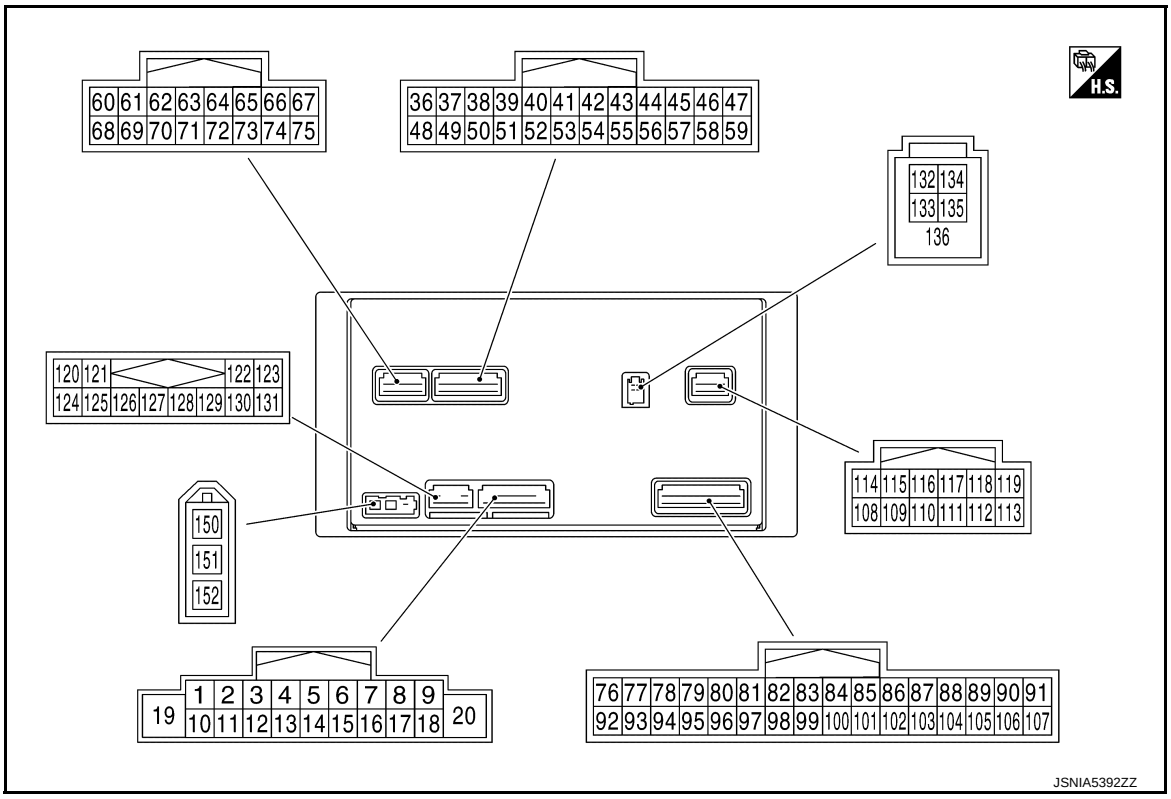
NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

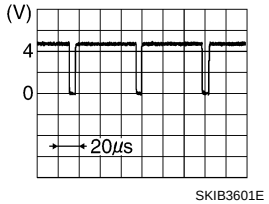
CONSULT MONITOR ITEM

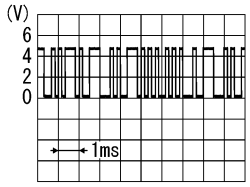
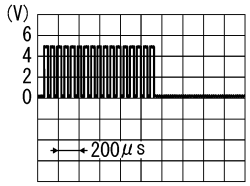
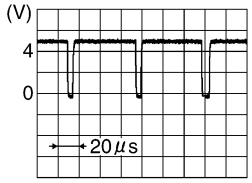
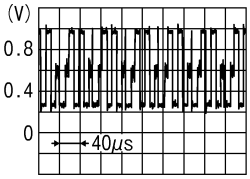
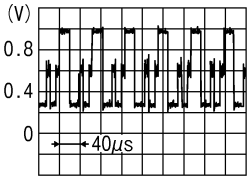
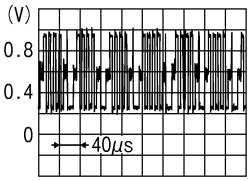
Monitor Item	Condition		Value/Status
VHCL SPD SIG	Ignition switch ON	Vehicle speed > 0 km/h (0 MPH)	On
		Vehicle speed = 0 km/h (0 MPH)	Off
PKB SIG	Ignition switch ON	Parking brake is applied.	On
		Parking brake is released.	Off
ILLUM SIG	Ignition switch ON	Block the light from the auto light optical sensor when the lighting switch is 1st or 2nd.	On
		Expose the auto light optical sensor to light when the lighting switch is OFF, 1st or 2nd.	Off
IGN SIG	Ignition switch ON	—	On
	Ignition switch ACC	—	Off
REV SIG	Ignition switch ON	Selector lever is in the R position	On
		Selector lever is in any position other than R	Off

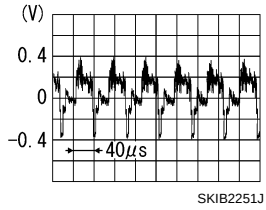
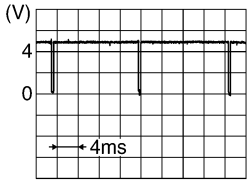
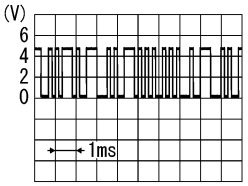
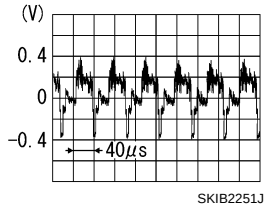
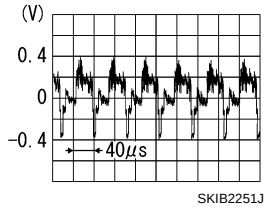
TERMINAL LAYOUT

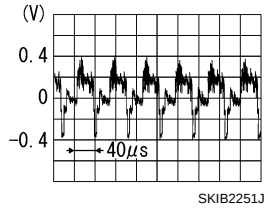
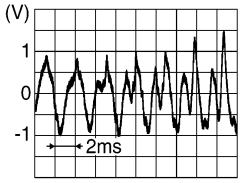
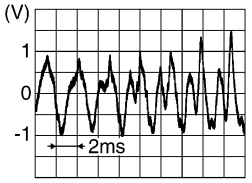


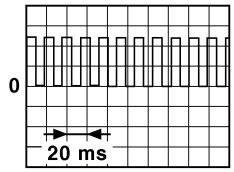
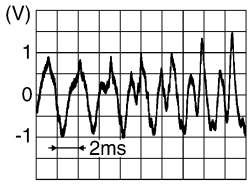
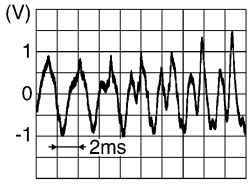
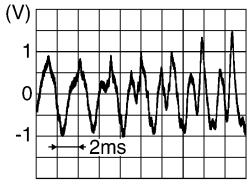
PHYSICAL VALUES

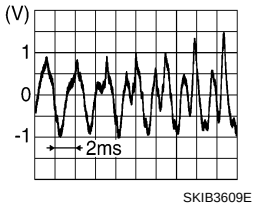
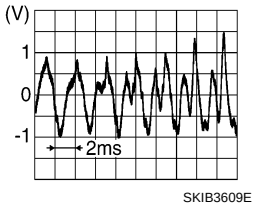
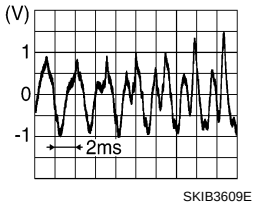
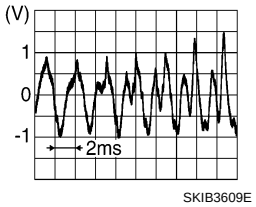
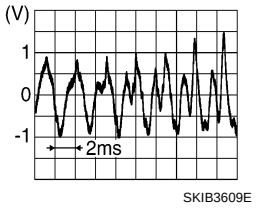
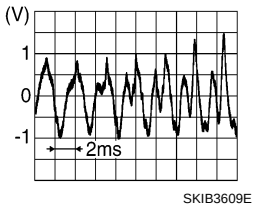
Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
6 (L)	15 (GR)	Steering switch signal A	Input	Ignition switch ON	Keep pressing SOURCE switch.	0 - 3.3 V	0 V
					Keep pressing SEEK UP switch.		0.7 V
					Keep pressing SEEK DOWN switch.		1.3 V
					Keep pressing switch		2.0 V
					Except for above.		3.3 V
7 (O)	20 (B)	ACC power supply	Input	Ignition switch ACC	—	9.0 – 16.0 V	Battery voltage
9 (O)	20 (B)	Dimmer signal	Input	Ignition switch ON	Either of the following conditions • Lighting switch is OFF • Lighting switch is 1st or 2nd, and the area around the vehicle is bright (shine a light on the optical sensor)	3.0 V or less	0 V
					Lighting switch is 1st or 2nd, and the area around the vehicle is dark (block the light from the optical sensor)	7.0 – 16.0 V	12.0 V
16 (P)	15 (GR)	Steering switch signal B	Input	Ignition switch ON	Keep pressing VOL DOWN switch.	0 – 3.3 V	0 V
					Keep pressing VOL UP switch.		0.7 V
					Keep pressing switch.		1.3 V
					Except for above.		3.3 V
19 (SB)	20 (B)	Battery power supply	Input	Ignition switch OFF	—	9.0 – 16.0 V	Battery voltage
36 (P)	37 (Y)	Signal VCC	Output	Ignition switch ACC	—	8.0 – 9.5 V	8.8 V
38 (G)	20 (B)	Horizontal synchronizing (HP) signal	Input	Ignition switch ON	—	Waveform of 1.0 V – 5.5 V is input.	 SKIB3601E

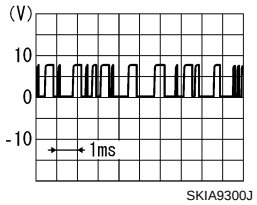
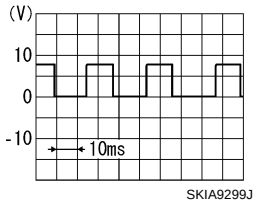
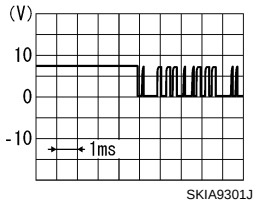
Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
39 (R)	20 (B)	Communication signal (DISP→CONT)	Input	Ignition switch ON	When adjusting display brightness.	Waveform of 0.5 V or less – 3.5 V or more is input.	 PKIB5039J
40 (B)	20 (B)	RGB area (YS) signal	Output	Ignition switch ON	At RGB image is displayed.	5.5 V or less	5.0 V
					At AUX image is displayed.	Waveform of 0.8 V – 5.5 V is Output.	 PKIB4948J
41	—	Shield	—	—	—	—	—
42 (W)	20 (B)	RGB synchronizing signal	Output	Ignition switch ON	—	Waveform of 0.8 V – 5.5 V is Output.	 SKIB3603E
43 (R)	20 (B)	RGB image signal (R: red)	Output	Ignition switch ON	Start Confirmation/Adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on Display Diagnosis screen.	Outputs waveform synchronized with RGB image.	 JSNIA1029ZZ
44 (W)	20 (B)	RGB image signal (G: green)	Output	Ignition switch ON	Start Confirmation/Adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on Display Diagnosis screen.	Outputs waveform synchronized with RGB image.	 JSNIA1030ZZ
45 (B)	20 (B)	RGB image signal (B: blue)	Output	Ignition switch ON	Start Confirmation/Adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on Display Diagnosis screen.	Outputs waveform synchronized with RGB image.	 JSNIA1031ZZ

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
47 (B)	46 (W)	Composite image signal (for front display unit)	Output	Ignition switch ON	When DVD or AUX image is displayed on front display unit.	Outputs waveform synchronized with composite image.	 SKIB2251J
48 (BR)	49 (SB)	Inverter VCC	Output	Ignition switch ACC	—	8.0 – 9.5 V	8.8 V
50 (R)	20 (B)	Vertical synchronizing (VP) signal	Input	Ignition switch ON	—	Waveform of 1.0 V – 5.5 V is Input.	 SKIB3598E
51 (G)	20 (B)	Communication signal (CONT→DISP)	Output	Ignition switch ON	When adjusting display brightness.	Waveform of 0.4 V – 5.3 V is Output.	 PKIB5039J
52	—	Shield	—	—	—	—	—
57	—	Shield	—	—	—	—	—
58	—	Shield	—	—	—	—	—
61 (BR)	69 (Y)	AUX image signal	Output	Ignition switch ON	When AUX image is displayed on front or rear display unit.	Outputs waveform synchronized with AUX image.	 SKIB2251J
62 (B)	20 (B)	Camera image signal	input	Ignition switch ON	When camera image is displayed.	Outputs waveform synchronized with camera image.	 SKIB2251J
65	—	Shield	—	—	—	—	—

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
67 (W)	66 (B)	Composite image signal (for rear display unit)	Output	Ignition switch ON	When DVD or AUX image is displayed on rear display unit	Outputs waveform synchronized with composite image.	 SKIB2251J
70	—	Shield	—	—	—	—	—
71	—	Shield	—	—	—	—	—
73 (R)	72 (R)	Camera power supply	Output	Ignition switch ON	When camera image is displayed.	5.9 – 6.5 V	6.2 V
76 (LG)	—	AV communication signal (L)	Input/ Output	—	—	—	—
77 (V)	—	AV communication signal (H)	Input/ Output	—	—	—	—
78 (LG)	—	AV communication signal (L)	Input/ Output	—	—	—	—
79 (SB)	—	AV communication signal (H)	Input/ Output	—	—	—	—
80 (P)	—	CAN–L	Input/ Output	—	—	—	—
81 (L)	—	CAN–H	Input/ Output	—	—	—	—
96 (BR)	82 (W)	Disk eject signal	Input	Ignition switch ON	Keep pressing disk eject switch.	—	0 V
					Except for above.	—	3.3 V
87 (R)	88 (W)	Sound signal (TEL voice, voice guidance)	Output	Ignition switch ON	During voice guide output with the switch pressed.	Outputs waveform synchronized with sound.	 SKIB3609E
90 (BR)	91 (Y)	Headphone sound signal RH	Output	Ignition switch ON	Headphone sound output.	Outputs waveform synchronized with sound.	 SKIB3609E

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
92 (Y)	20 (B)	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	Waveform according to vehicle speed is input.	**NOTE:** The maximum voltage varies depending on the specification (destination unit).  JSNIA0012GB
93 (W)	20 (B)	Parking brake signal	Input	Ignition switch ON	Parking brake is applied.	1.5 V or less	0 V
					Parking brake is released.	3.5 V or more	4.5 V
94 (BR)	20 (B)	Reverse signal	Input	Ignition switch ON	Selector lever is in “R” position.	7.0 – 16.0 V	12.0 V
					Selector lever is in other than “R” position.	—	0 V
95 (G)	20 (B)	Ignition signal	Input	Ignition switch ON	—	9.0 – 16.0 V	Battery voltage
103 (B)	102 (W)	AUX sound signal LH	Input	Ignition switch ON	When AUX mode is selected on front or rear display unit.	Outputs waveform synchronized with sound.	 SKIB3609E
104 (R)	102 (W)	AUX sound signal RH	Input	Ignition switch ON	When AUX mode is selected on front or rear display unit.	Outputs waveform synchronized with sound.	 SKIB3609E
105 (GR)	—	Shield	—	—	—	—	—
106 (P)	107 (L)	Headphone sound signal LH	Output	Ignition switch ON	Headphone sound output.	Outputs waveform synchronized with sound.	 SKIB3609E

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
108 (BR)	114 (Y)	Sound signal rear RH	Input	Ignition switch ON	Sound output	Outputs waveform synchronized with sound.	 SKIB3609E
109 (W)	115 (B)	Sound signal front RH	Input	Ignition switch ON	Sound output	Outputs waveform synchronized with sound.	 SKIB3609E
110 (LG)	20 (B)	BOSE amp. ON signal	Output	Ignition switch ACC	—	7.0 – 16.0 V	12.0 V
111 (GR)	—	Shield	—	—	—	—	—
112 (B)	118 (W)	Sound signal rear LH	Input	Ignition switch ON	Sound output	Outputs waveform synchronized with sound.	 SKIB3609E
113 (R)	119 (G)	Sound signal front LH	Input	Ignition switch ON	Sound output	Outputs waveform synchronized with sound.	 SKIB3609E
120 (R)	124 (B)	Satellite radio sound signal LH	Input	Ignition switch ON	When satellite radio mode is selected.	Outputs waveform synchronized with sound.	 SKIB3609E
121 (W)	125 (G)	Satellite radio sound signal RH	Output	Ignition switch ON	When satellite radio mode is selected.	Outputs waveform synchronized with sound.	 SKIB3609E

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
122 (R/W)	20 (B)	Communication signal (CONT→SAT)	Output	Ignition switch ON	When satellite radio mode is selected.	Waveform of 1.5 - 6.0 V is input.	 SKIA9300J
126	—	Shield	—	—	—	—	—
127	—	Shield	—	—	—	—	—
129 (R/L)	Ground	Request signal (SAT→CONT)	Input	Ignition switch ON	When satellite radio mode is selected.	Waveform of 1.1 V or less – 7.181 V or more is Input.	 SKIA9299J
130 (B)	Ground	Communication signal (SAT→CONT)	Input	Ignition switch ON	When satellite radio mode is selected.	Waveform of 1.1 V or less – 7.181 V or more is Input.	 SKIA9301J
132 (G)	—	USB ground	—	—	—	—	—
133 (W)	—	USB D– signal	—	—	—	—	—
134 (R)	—	V BUS signal	—	—	—	4.75 – 5.25 V	—
135 (B)	—	USB D+ signal	—	—	—	—	—
136	—	Shield	—	—	—	—	—
150	20 (B)	Antenna amp. ON signal	Input	Ignition switch ACC	—	7.0 – 16.0 V	12.0 V
151	—	AM-FM main	Input	—	—	—	—
152	—	FM sub	Input	—	—	—	—

DTC Index

INFOID:0000000009652143

SELF-DIAGNOSIS RESULTS DISPLAY ITEM

DTC	Display item	Refer to
U1000	CAN COMM CIRCUIT [U1000]	AV-356, "Diagnosis Procedure"
U1010	CONTROL UNIT (CAN) [1010]	AV-357, "DTC Logic"
U1200	Cont Unit [U1200]	AV-358, "DTC Logic"
U1216	CAN CONT [U1216]	AV-359, "DTC Logic"
U1232	ST ANGLE SEN CALIB [1232]	AV-360, "Diagnosis Procedure"

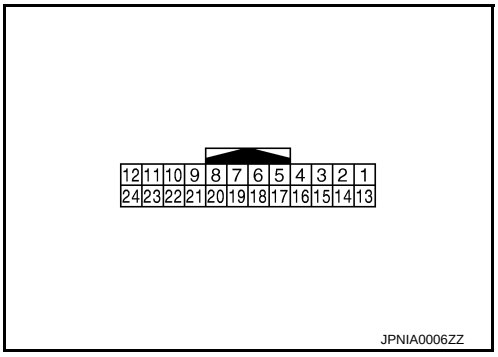
DTC	Display item	Refer to
U1243	FRONT DISP CONN [U1243]	AV-361, "Diagnosis Procedure"
U1255	SAT CONN [U1255]	AV-363, "Diagnosis Procedure"
U1310	CONTROL UNIT (AV) [U1310]	AV-366, "DTC Logic"
U1300 U1240	• AV COMM CIRCUIT [U1300] • SWITCH CONN [U1240]	AV-365, "Description"
U1300 U1246	• AV COMM CIRCUIT [U1300] • VIDEO DIST CONN [U1246]	
U1300 U1256	• AV COMM CIRCUIT [U1300] • HAND FREE CONN [U1256]	
U1300 U1240 U1246 U1256	• AV COMM CIRCUIT [U1300] • SWITCH CONN [U1240] • VIDEO DIST CONN [U1246] • HAND FREE CONN [U1256]	

FRONT DISPLAY UNIT

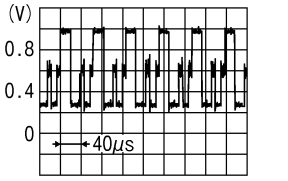
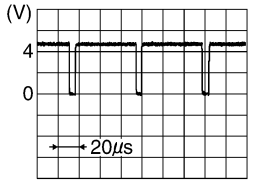
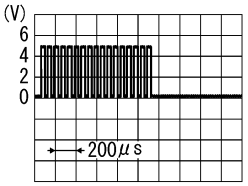
Reference Value

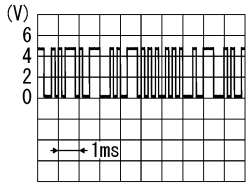
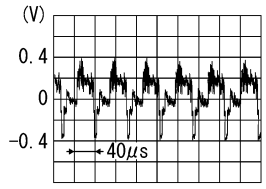
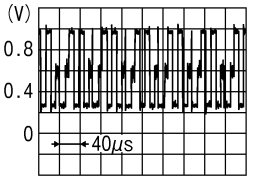
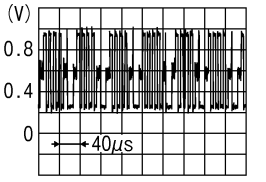
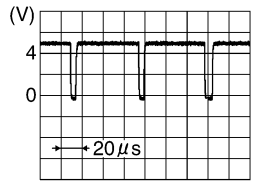
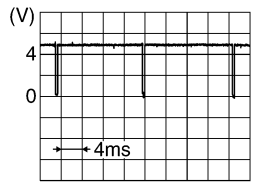
INFOID:0000000009943105

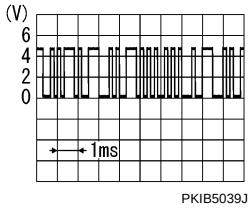
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
2 (BR)	13 (SB)	Inverter VCC	Input	Ignition switch ACC	—	8.0 – 9.5 V	8.8 V
3 (P)	14 (Y)	Signal VCC	Output	Ignition switch ACC	—	8.0 – 9.5 V	8.8 V
5	—	Shield	—	—	—	—	—
6 (W)	1 (B)	RGB image signal (G: green)	Input	Ignition switch ON	Start Confirmation/Adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on Display Diagnosis screen.	Outputs waveform synchronized with RGB image.	 JSNIA1030ZZ
7	—	Shield	—	—	—	—	—
8 (G)	1 (B)	Horizontal synchronizing (HP) signal	Output	Ignition switch ON	—	Waveform of 1.0 V – 5.5 V is output.	 SKIB3601E
9 (B)	1 (B)	RGB area (YS) signal	Input	Ignition switch ON	At RGB image is displayed.	5.5 V or less	5.0 V
					At AUX image is displayed.	Waveform of 0.8 V – 5.5 V is input.	 PKIB4948J

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
11 (G)	1 (B)	Communication signal (CONT→DISP)	Input	Ignition switch ON	When adjusting display brightness.	Waveform of 0.4 V – 5.3 V is input.	 PKIB5039J
15 (B)	4 (W)	Composite image signal	Input	Ignition switch ON	When DVD or AUX image is displayed.	Outputs waveform synchronized with composite image.	 SKIB2251J
17 (R)	1 (B)	RGB image signal (R: red)	Input	Ignition switch ON	Start Confirmation/Adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on Display Diagnosis screen.	Outputs waveform synchronized with RGB image.	 JSNIA1029ZZ
18 (B)	1 (B)	RGB image signal (B: blue)	Input	Ignition switch ON	Start Confirmation/Adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on Display Diagnosis screen.	Outputs waveform synchronized with RGB image.	 JSNIA1031ZZ
19 (W)	1 (B)	RGB synchronizing signal	Input	Ignition switch ON	—	Waveform of 0.8 V – 5.5 V is input.	 SKIB3603E
20 (R)	1 (B)	Vertical synchronizing (VP) signal	Output	Ignition switch ON	—	Waveform of 1.0 V – 5.5 V is output.	 SKIB3598E
21	—	Shield	—	—	—	—	—

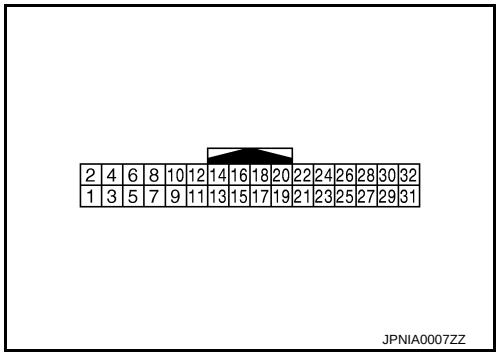
Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
22 (R)	1 (B)	Communication signal (DISP→CONT)	Output	Ignition switch ON	When adjusting display brightness.	Waveform of 0.5 V or less – 3.5 V or more is output.	 PKIB5039J
23	—	Shield	—	—	—	—	—

REAR DISPLAY UNIT

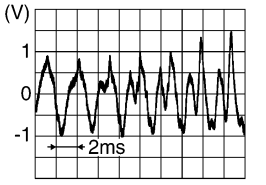
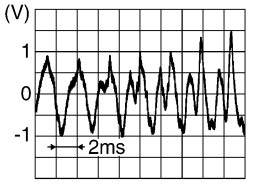
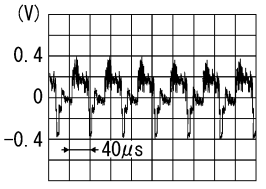
Reference Value

INFOID:0000000009652145

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
2 (L/O)	1 (W/L)	Headphone sound signal RH	Input	Ignition switch ON	Headphone sound output.	Waveform according to headphone sound is input.	
4 (BR)	3 (Y)	Headphone sound signal LH	Input	Ignition switch ON	Headphone sound output.	Waveform according to headphone sound is input.	
5	—	Shield	—	—	—	—	—
6	—	Shield	—	—	—	—	—
7 (L/G)	8 (L/R)	Composite image signal	Input	Ignition switch ON	When DVD, USB or AUX image is displayed.	Waveform according to composite image is input.	
18	—	Shield	—	—	—	—	—
19 (R)	—	AV communication signal (L)	Input/ Output	—	—	—	—
20 (Y)	—	AV communication signal (L)	Input/ Output	—	—	—	—
21 (G)	—	AV communication signal (H)	Input/ Output	—	—	—	—

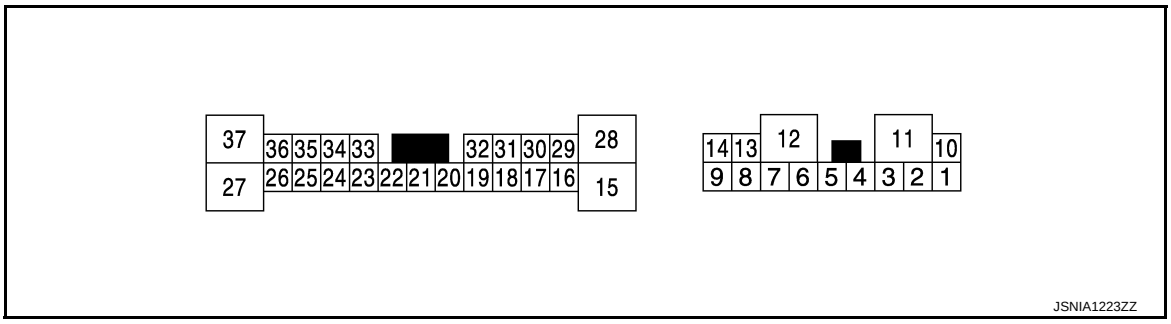
Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
22 (BR)	—	AV communication signal (H)	Input/ Output	—	—	—	—
26 (LG)	31 (B) 32 (B)	Ignition signal	Input	Ignition switch ON	—	3.0 V – battery voltage	Battery voltage
27 (SB)	31 (B) 32 (B)	Illumination signal	Input	Ignition switch ON	Lighting switch is 1st or 2nd.	—	12.0 V
					Lighting switch is OFF.	—	0 V
28 (V)	31 (B) 32 (B)	ACC power supply	Input	Ignition switch ACC	—	7.6 V – battery voltage	Battery voltage
29 (P)	31 (B) 32 (B)	Battery power supply	Input	Ignition switch ON	—	9.0 – 16.0 V	Battery voltage
30 (P)	31 (B) 32 (B)	Battery power supply	Input	Ignition switch ON	—	9.0 – 16.0 V	Battery voltage

BOSE AMP.

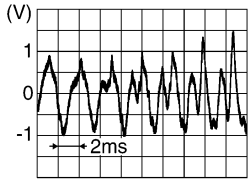
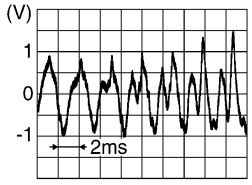
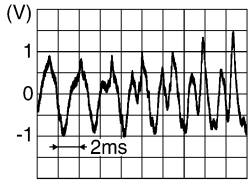
Reference Values

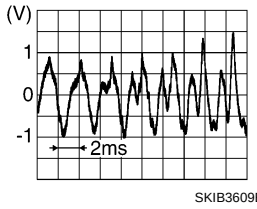
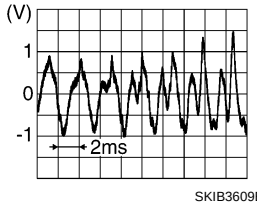
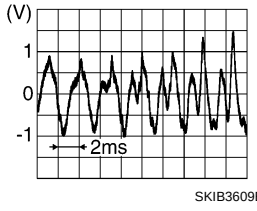
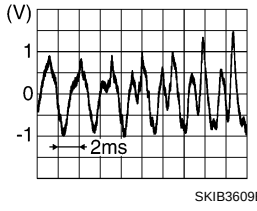
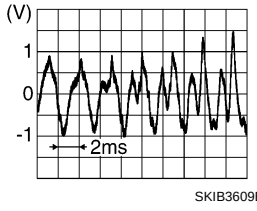
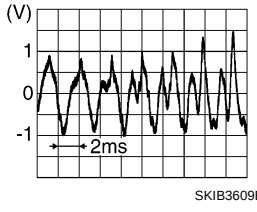
INFOID:0000000009652146

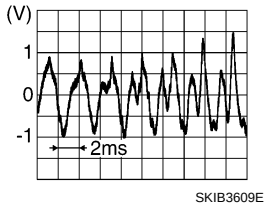
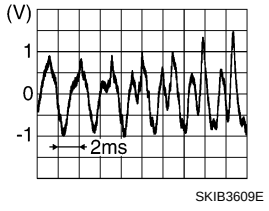
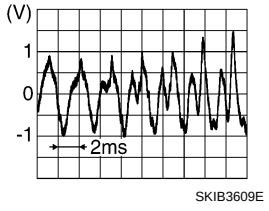
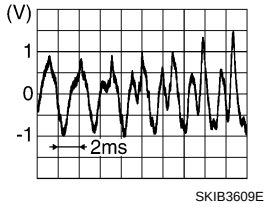
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
1 (W)	2 (B)	Sound signal front squawker LH	Output	Ignition switch ON	Sound output	Outputs waveform synchronized with sound.	 SKIB3609E
4 (BR)	3 (Y)	Sound signal front squawker RH	Output	Ignition switch ON	Sound output	Outputs waveform synchronized with sound.	 SKIB3609E
10 (SB)	7 (B) 12 (B)	Battery power supply	Input	Ignition switch OFF	—	9.0 – 16.0 V	Battery power supply
11 (G)	7 (B) 12 (B)	Battery power supply	Input	Ignition switch OFF	—	9.0 – 16.0 V	Battery power supply
13 (R)	8 (G)	Sound signal woofer	Output	Ignition switch ON	Sound output	Outputs waveform synchronized with sound.	 SKIB3609E

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
14 (L)	9 (P)	Sound signal slide door speaker RH	Output	Ignition switch ON	Sound output	Outputs waveform synchronized with sound.	 SKIB3609E
16 (Y)	17 (BR)	Sound signal luggage squawker	Output	Ignition switch ON	Sound output	Outputs waveform synchronized with sound.	 SKIB3609E
18 (BR)	19 (G)	Sound signal front door woofer LH	Output	Ignition switch ON	Sound output	Outputs waveform synchronized with sound.	 SKIB3609E
20 (LG)	7 (B) 12 (B)	Amp. ON signal	Input	Ignition switch ACC	—	6.5 V or more	12.0 V
24 (R)	23 (L)	Sound signal rear LH	Input	Ignition switch ON	Sound output	Waveform according to sound signal is input.	 SKIB3609E
26 (BR)	25 (Y)	Sound signal rear RH	Input	Ignition switch ON	Sound output	Waveform according to sound signal is input.	 SKIB3609E
28 (L)	15 (R)	Sound signal slide door speaker LH	Output	Ignition switch ON	Sound output	Outputs waveform synchronized with sound.	 SKIB3609E

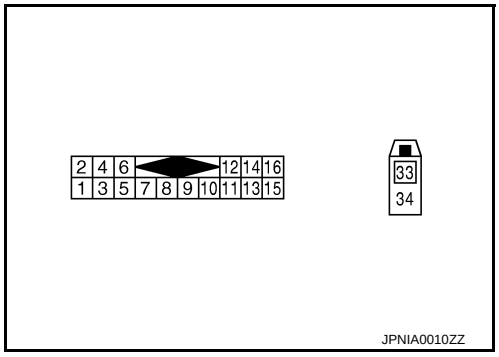
Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
29 (V)	30 (P)	Sound signal center squawker	Output	Ignition switch ON	Sound output	Outputs waveform synchronized with sound.	 SKIB3609E
31 (L)	32 (R)	Sound signal front door woofer RH	Output	Ignition switch ON	Sound output	Outputs waveform synchronized with sound.	 SKIB3609E
33 (V)	34 (G)	Sound signal front RH	Input	Ignition switch ON	Sound output	Waveform according to sound signal is input.	 SKIB3609E
35 (W)	36 (B)	Sound signal front LH	Input	Ignition switch ON	Sound output	Waveform according to sound signal is input.	 SKIB3609E

SATELLITE RADIO TUNER

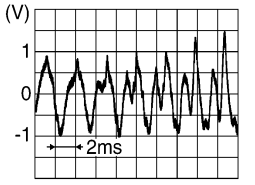
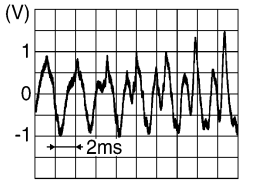
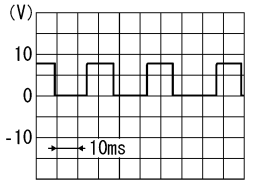
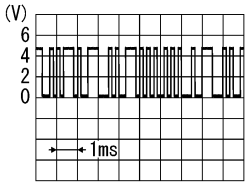
Reference Value

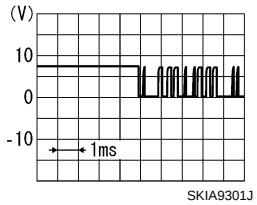
INFOID:0000000009652147

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
2 (W)	1 (B)	Satellite radio sound signal LH	Output	Ignition switch ON	When satellite radio mode is selected.	Outputs waveform synchronized with sound.	 SKIB3609E
4 (G)	3 (R)	Satellite radio sound signal RH	Output	Ignition switch ON	When satellite radio mode is selected.	Outputs waveform synchronized with sound.	 SKIB3609E
5	—	Shield	—	—	—	—	—
6	—	Shield	—	—	—	—	—
8 (R/L)	15 (B)	Request signal (SAT TO CONT)	Output	Ignition switch ON	When satellite radio mode is selected.	Waveform of 0.5 - 7.0 V is Output.	 SKIA9299J
9 (B/R)	15 (B)	Communication signal (SAT TO CONT)	Output	Ignition switch ON	When satellite radio mode is selected.	Waveform of 0.5 - 7.0 V is Output.	 PKIB5039J

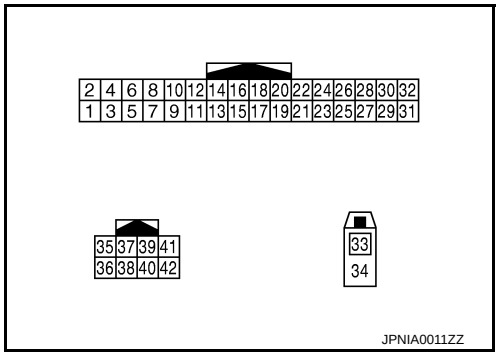
Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
10 (R/B)	15 (B)	Communication signal (CONT TO SAT)	Input	Ignition switch ON	When satellite radio mode is selected.	Waveform of 1.5 - 6.0 V is input.	 SKIA9301J
12 (LG)	15 (B)	Battery power supply	Input	Ignition switch OFF	—	10.8 - 15.6 V	Battery voltage
16 (O)	15 (B)	ACC power supply	Input	Ignition switch ACC	—	7.0 - 16.0 V	Battery voltage
33	—	Satellite radio antenna signal	Input	—	—	—	—

TEL ADAPTER UNIT

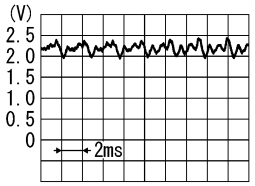
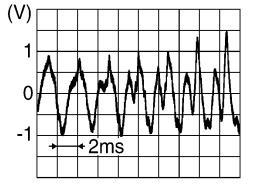
Reference Value

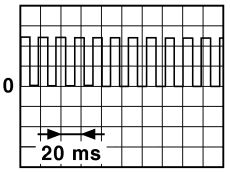
INFOID:0000000009652148

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
1 (Y)	4 (B/ W)	Battery power supply	Input	Ignition switch OFF	—	9.0 - 16.0 V	Battery voltage
2 (V)	4 (B/ W)	ACC power supply	Input	Ignition switch ACC	—	7.0 - 16.0 V	Battery voltage
3 (G)	4 (B/ W)	Ignition signal	Input	Ignition switch ON	—	7.0 - 16.0 V	Battery voltage
7 (W/ L)	8	Microphone signal	Input	Ignition switch ON	Give a voice.	Waveform according to voice is input.	 PKIB5037J
9 (B)	10 (W)	Sound signal (TEL voice, voice guidance)	Output	Ignition switch ON	During voice guide output with the switch pressed.	Outputs waveform synchronized with sound.	 SKIB3609E
20 (B/ W)	4 (B/ W)	Control signal	—	Ignition switch ON	—	3.1 V or less	0 V
27 (B/ W)	4 (B/ W)	Control signal	—	Ignition switch ON	—	3.1 V or less	0 V

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
28 (SB)	4 (B/ W)	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	Waveform according to vehicle speed is input.	**NOTE:** The maximum voltage varies depending on the specification (destination unit).  JSNIA0012GB
29 (W/ R)	8	Microphone VCC	Output	Ignition switch ON	—	4.7 - 5.3 V	5.0 V
35 (SB)	—	AV communication signal (H)	Input/ Output	—	—	—	—
36 (LG)	—	AV communication signal (L)	Input/ Output	—	—	—	—
33	4 (B/ W)	TEL antenna signal	Input/ Output	Ignition switch ON	Not connected to TEL antenna connector.	—	5.0 V
34	—	Shield	—	—	—	—	—

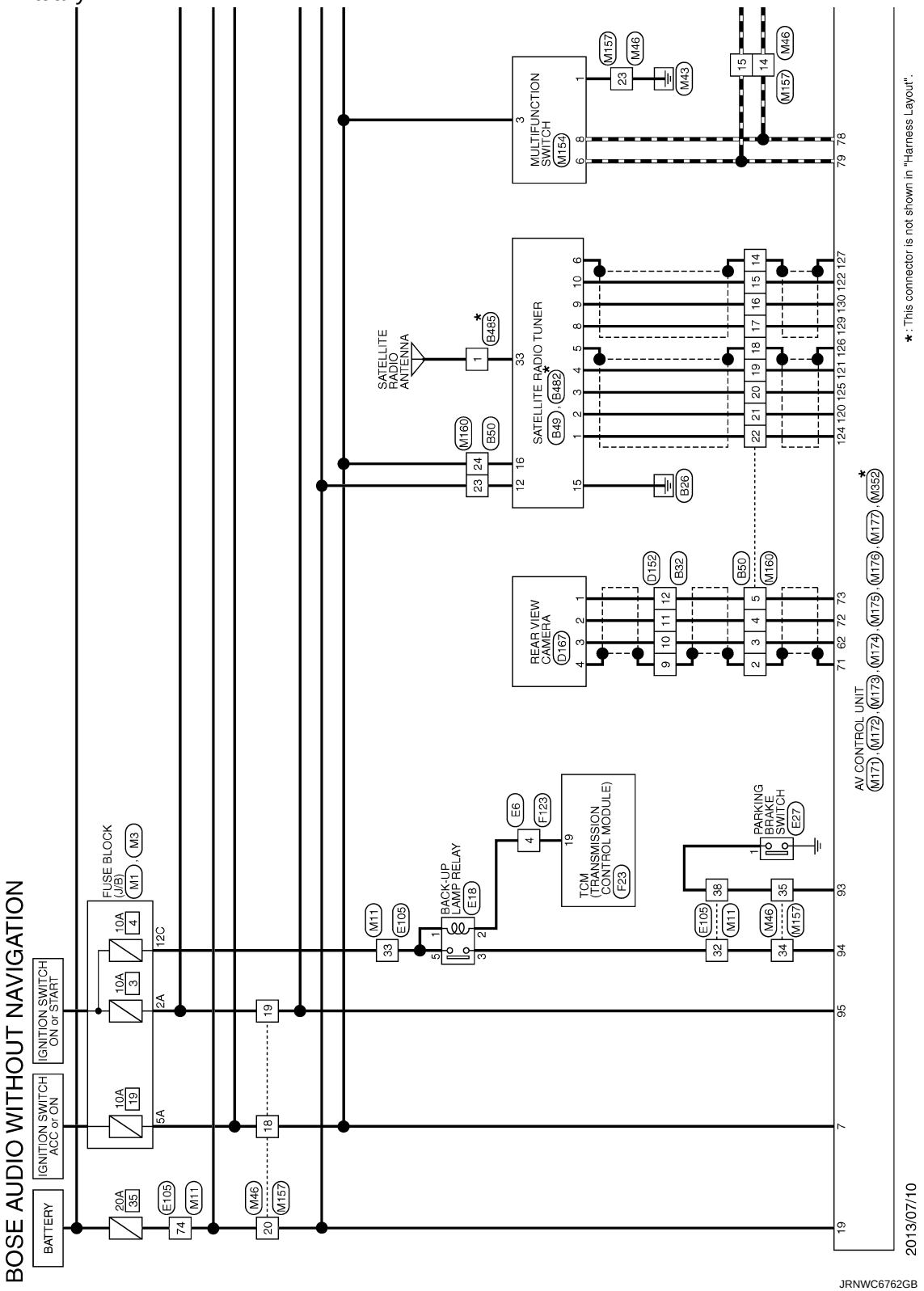
WIRING DIAGRAM

BOSE AUDIO WITHOUT NAVIGATION

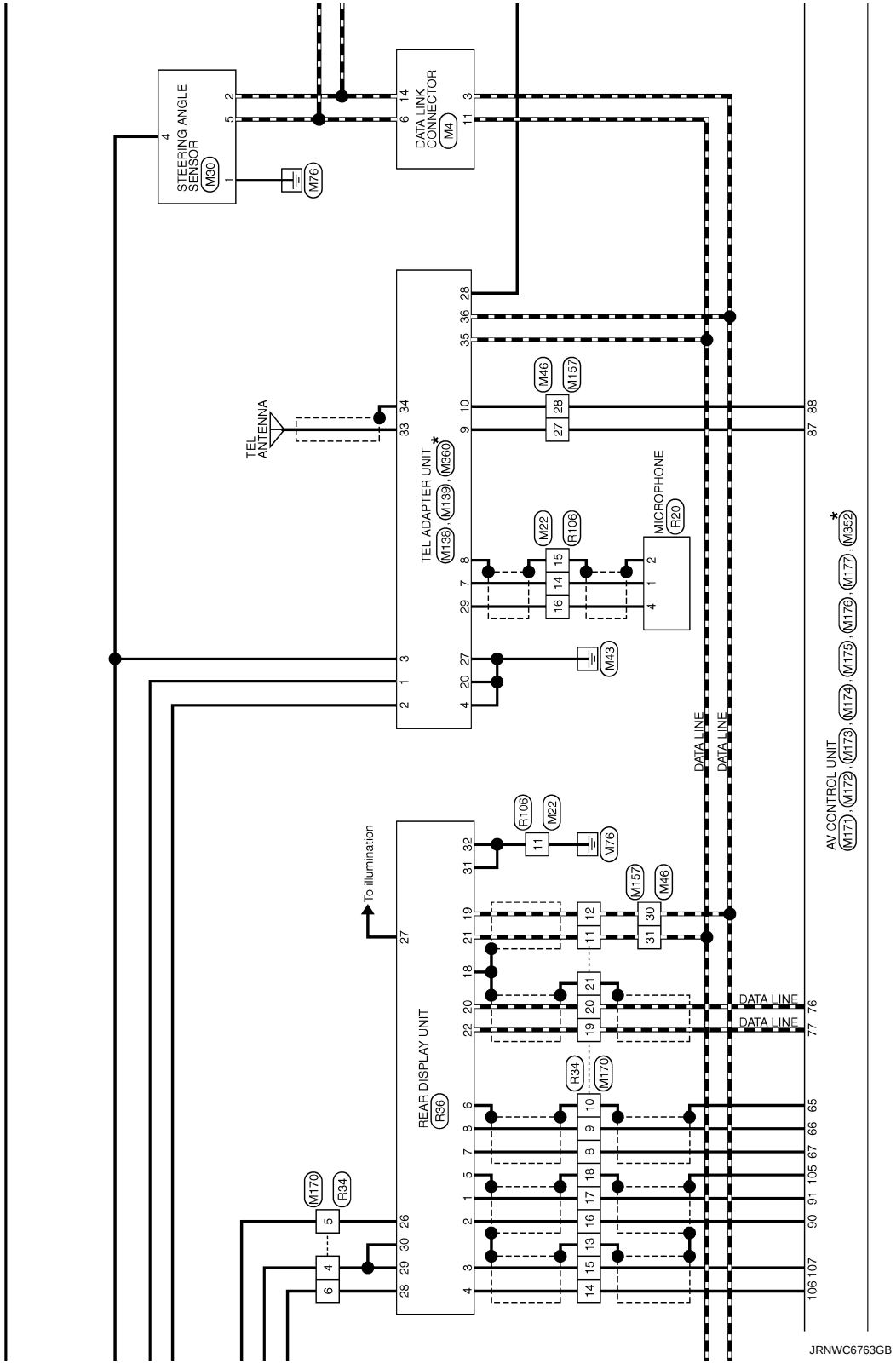
Wiring Diagram

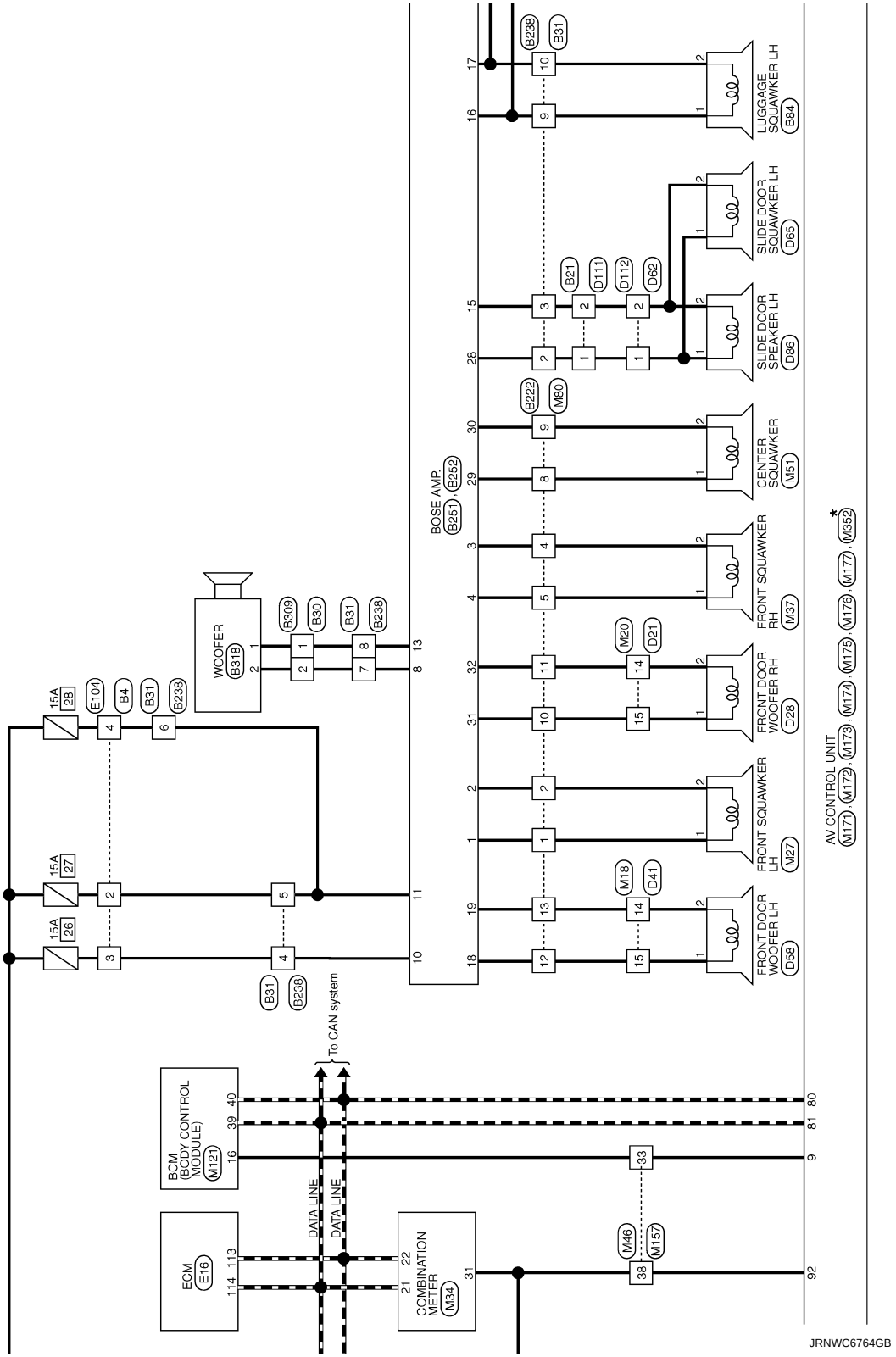
INFOID:0000000009652149

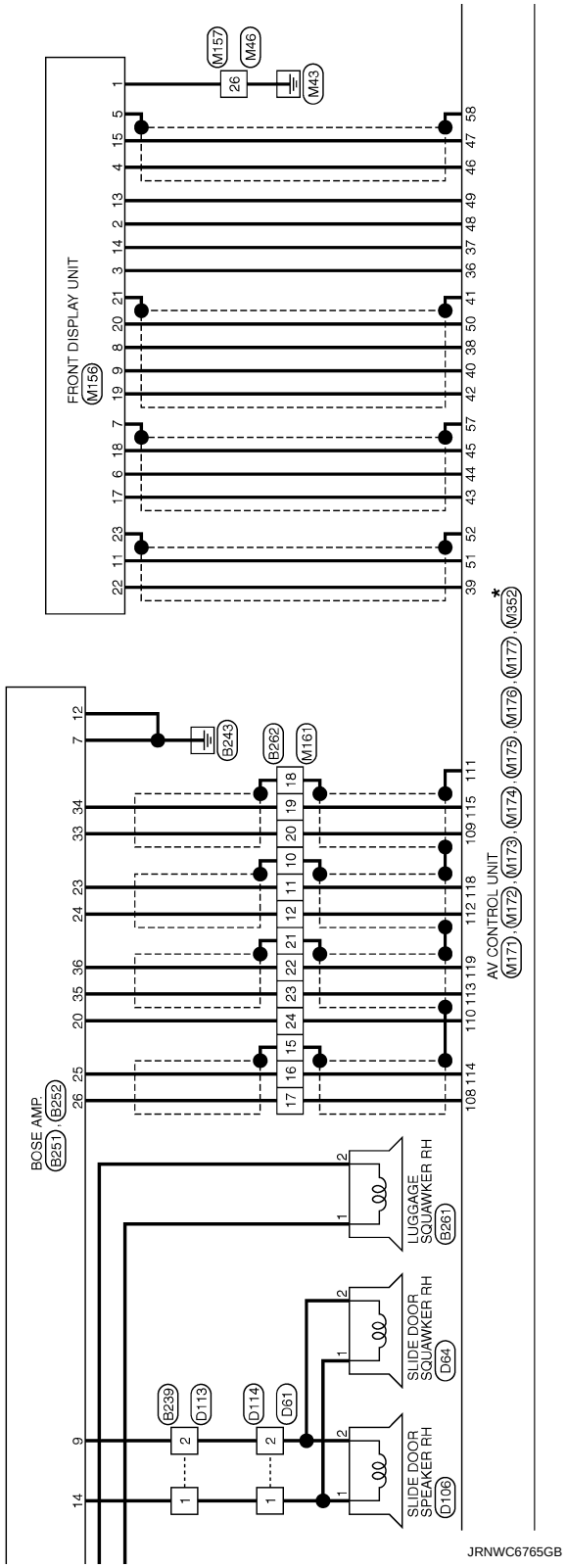
NOTE:
The name MULTIFUNCTION SWITCH indicates the integration of PRESET SWITCH and MULTIFUNCTION SWITCH virtually.

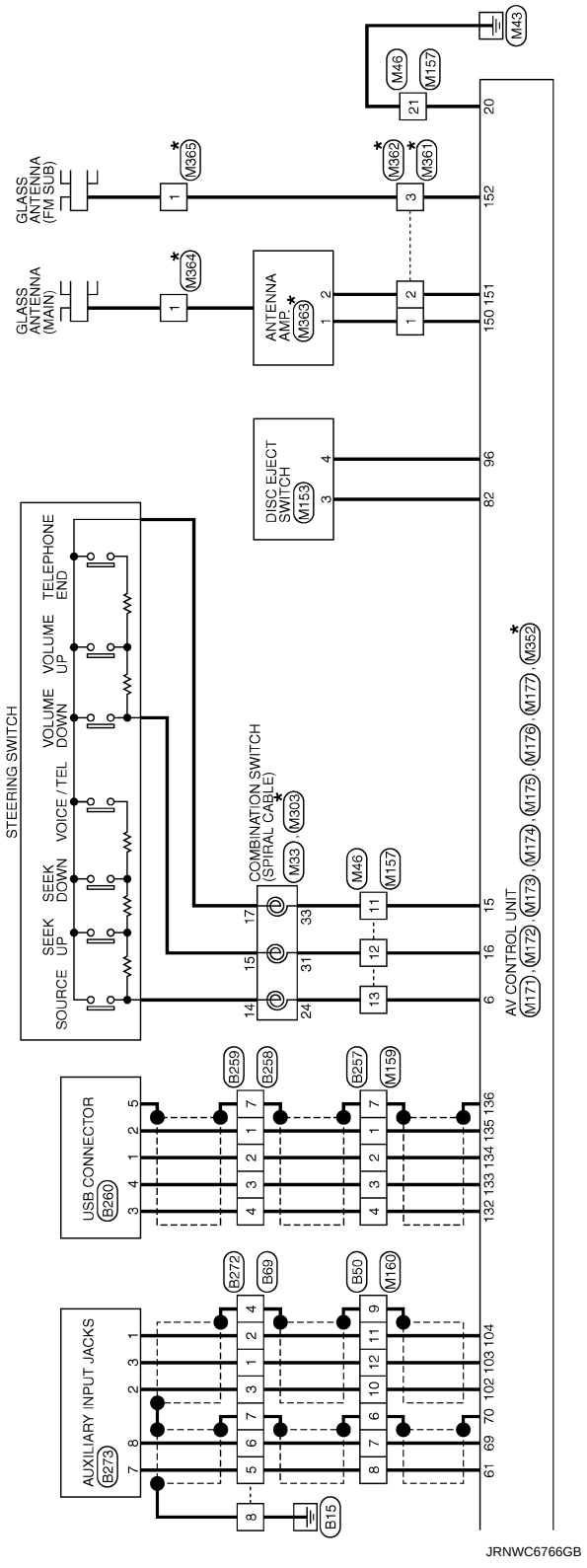


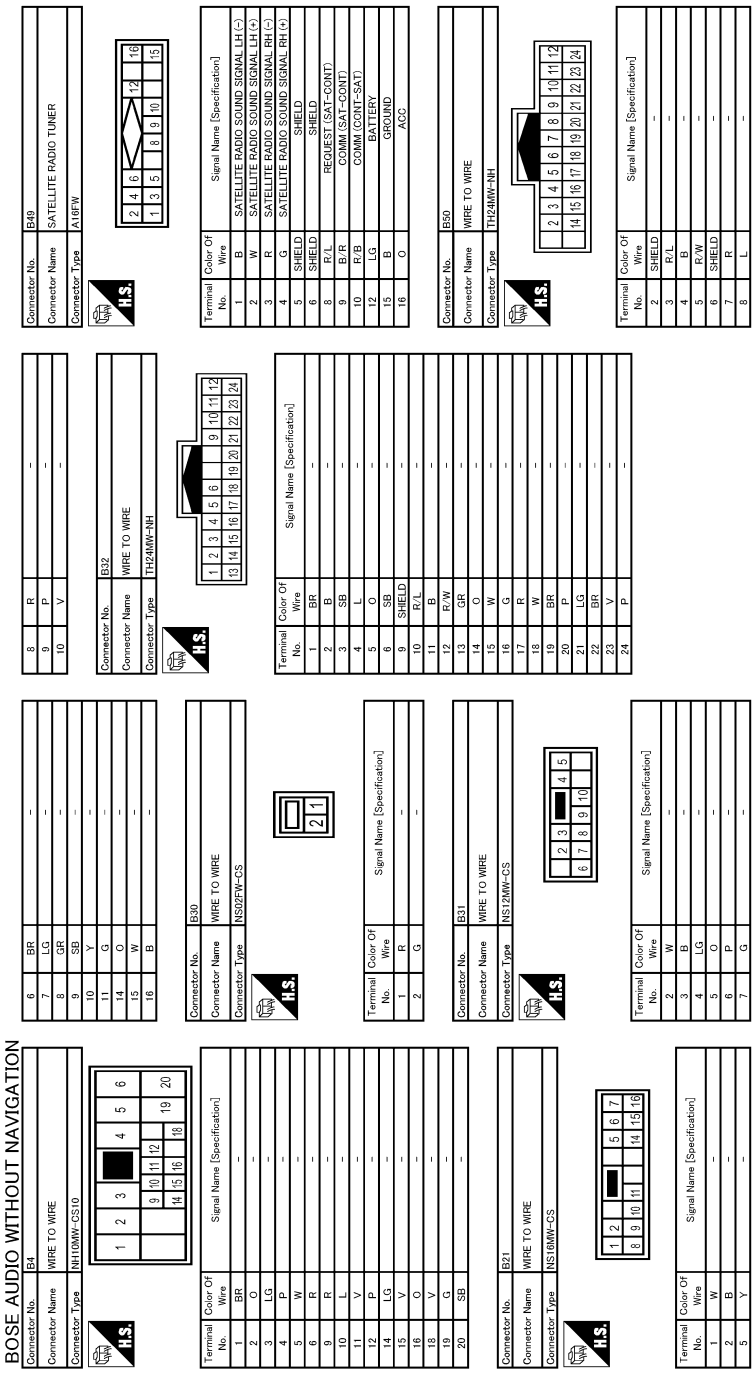
*: This connector is not shown in "Harness Layout".


STEERING ANGLE SENSOR
M30
M76
DATA LINK CONNECTOR
M4
TEL ANTENNA
TEL ADAPTER UNIT
M360
M138, M139
M46
M157
MICROPHONE
R20
M22
R106
M43
DATA LINE
DATA LINE
AV CONTROL UNIT
M171, M172, M173, M174, M175, M176, M177, M352
To illumination
REAR DISPLAY UNIT
R36
R34
M170
DATA LINE
DATA LINE
JRNWC6763GB

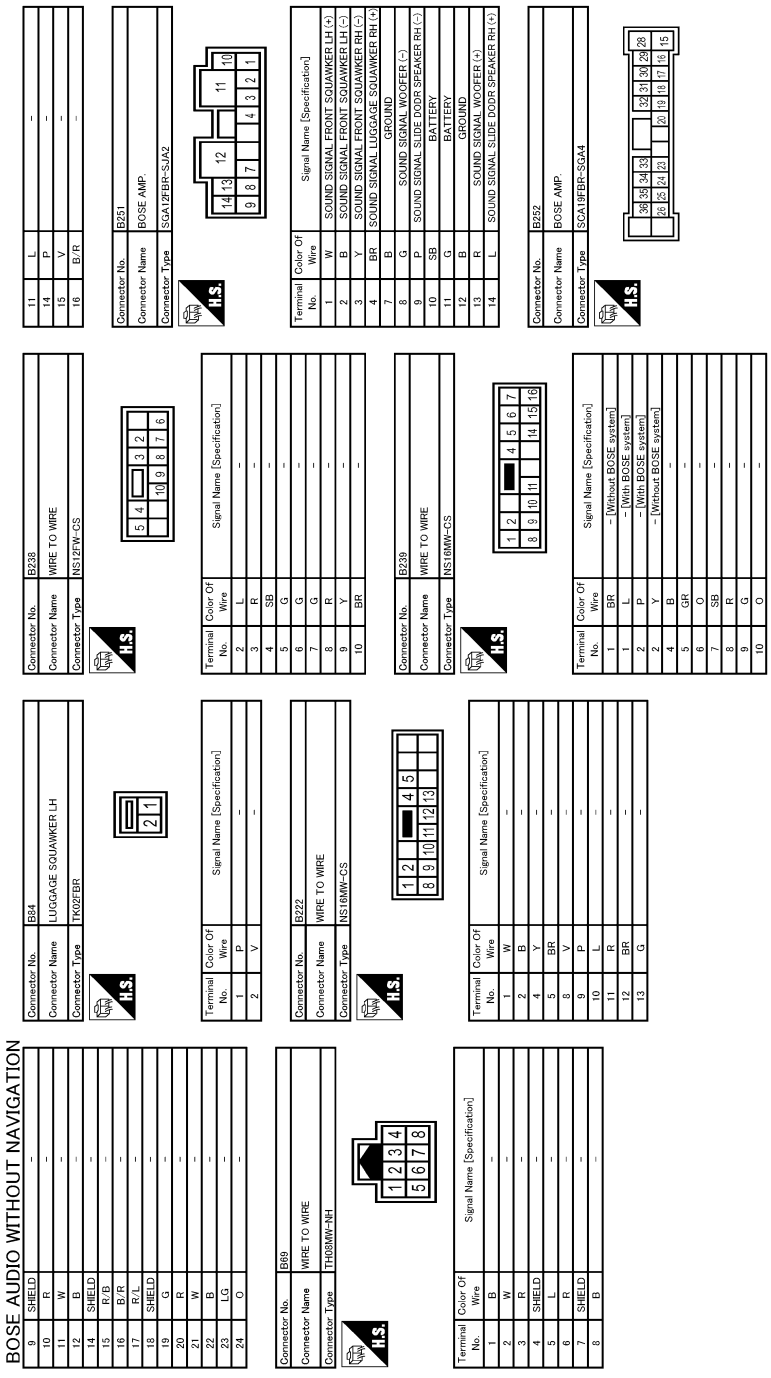

BOSE AMP.
(B251), (B252)
AV CONTROL UNIT
(M171), (M172), (M173), (M174), (M175), (M176), (M177), (M352)*
FRONT DOOR WOOFER LH
(D58)
FRONT SQUAWKER LH
(M27)
FRONT DOOR WOOFER RH
(D28)
FRONT SQUAWKER RH
(M37)
CENTER SQUAWKER
(M51)
SLIDE DOOR SPEAKER LH
(D86)
SLIDE DOOR SQUAWKER LH
(D65)
LUGGAGE SQUAWKER LH
(B84)
WOOFER
(B318)
15A 28
15A 27
15A 26
BCM (BODY CONTROL MODULE)
(M121)
ECM
(E16)
COMBINATION METER
(M34)
DATA LINE
DATA LINE
To CAN system
JRNWC6764GB


FRONT DISPLAY UNIT
M156
M157
M46
M43
AV CONTROL UNIT
M171, M172, M173, M174, M175, M176, M177, M352
BOSE AMP.
B251, B252
B243
B262
M161
LUGGAGE SQUAWKER RH
B261
SLIDE DOOR SQUAWKER RH
D84
SLIDE DOOR SPEAKER RH
D106
B239
D113
D114
D61
JRNWC6765GB


M43
M46
M157
21
20
GLASS ANTENNA (FM SUB)
M365
M362
M361
152
GLASS ANTENNA (MAIN)
M364
ANTENNA AMP.
M363
150 151
DISC EJECT SWITCH
M153
96
82
STEERING SWITCH
SOURCE
SEEK UP
SEEK DOWN
VOICE / TEL
VOLUME DOWN
VOLUME UP
TELEPHONE END
COMBINATION SWITCH (SPIRAL CABLE)
M303
M33
M46
M157
AV CONTROL UNIT
M171, M172, M173, M174, M175, M176, M177, M352
USB CONNECTOR
B260
B259
B258
B257
M159
132 133 134 135 136
AUXILIARY INPUT JACKS
B273
B272
B69
B50
M160
61 69 70 102 103 104
B15
JRNWC6766GB



JRNWC6767GB



JRNWC6768GB

BOSE AUDIO WITHOUT NAVIGATION

Terminal No.	Color Of Wire	Signal Name [Specification]
15	R	SOUND SIGNAL SLIDE DOOR SPEAKER LH (-)
16	Y	SOUND SIGNAL LUGGAGE SQUAWKER (+)
17	BR	SOUND SIGNAL LUGGAGE SQUAWKER (-)
18	BR	SOUND SIGNAL FRONT DOOR SPEAKER LH (+)
19	G	SOUND SIGNAL FRONT DOOR SPEAKER LH (-)
20	LG	AMP. ON SIGNAL
23	L	SOUND SIGNAL REAR LH (-)
24	R	SOUND SIGNAL REAR LH (+)
25	Y	SOUND SIGNAL REAR RH (-)
26	BR	SOUND SIGNAL REAR RH (+)
28	L	SOUND SIGNAL SLIDE DOOR SPEAKER LH (+)
29	V	SOUND SIGNAL CENTER SQUAWKER (+)
30	P	SOUND SIGNAL CENTER SQUAWKER (-)
31	L	SOUND SIGNAL FRONT DOOR SPEAKER RH (+)
32	R	SOUND SIGNAL FRONT DOOR SPEAKER RH (-)
33	V	SOUND SIGNAL FRONT RH (+)
34	G	SOUND SIGNAL FRONT RH (-)
35	W	SOUND SIGNAL FRONT LH (+)
36	B	SOUND SIGNAL FRONT LH (-)

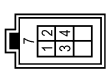
Connector No.	B257
Connector Name	WIRE TO WIRE
Connector Type	CP06MGY-S

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	R	-
3	W	-
4	G	-
7	SHIELD	-

Connector No.	B258
Connector Name	WIRE TO WIRE
Connector Type	CP06MGY-S

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	– [Without 6-speakers]
1	W	– [With 6-speakers]
2	G	– [With 6-speakers]
2	R	– [Without 6-speakers]
3	R	– [With 6-speakers]
3	W	– [Without 6-speakers]
4	B	– [With 6-speakers]
4	G	– [Without 6-speakers]
7	SHIELD	–

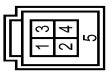
Connector No.	B259
Connector Name	WIRE TO WIRE
Connector Type	CP06FGY

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	– [Without 6-speakers]
1	W	– [With 6-speakers]
2	G	– [With 6-speakers]
2	R	– [Without 6-speakers]
3	R	– [With 6-speakers]
3	W	– [Without 6-speakers]
4	B	– [With 6-speakers]
4	G	– [Without 6-speakers]
7	SHIELD	–

Connector No.	B260
Connector Name	USB CONNECTOR
Connector Type	HAA04FG

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	B	-
3	G	-
4	W	-
5	SHIELD	-

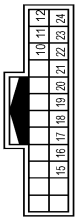
Connector No.	B261
Connector Name	LUGGAGE SQUAWKER RH
Connector Type	TK02FBR

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	-
2	Y	-

Connector No.	B262
Connector Name	WIRE TO WIRE
Connector Type	TH24MW-NH

H.S.



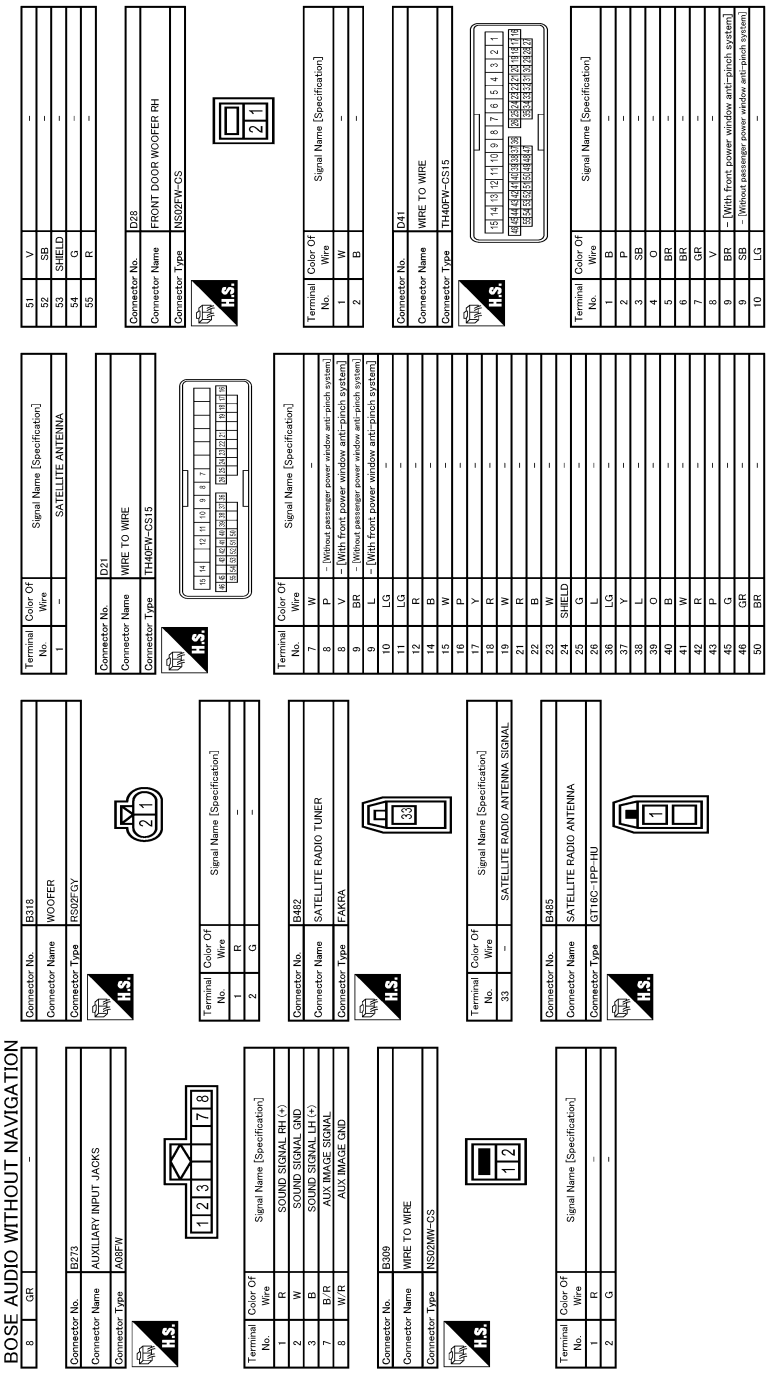
Terminal No.	Color Of Wire	Signal Name [Specification]
10	SHIELD	-
11	L	-
12	R	-
15	SHIELD	-
16	Y	-
17	BR	-
18	SHIELD	-
19	G	-
20	V	-
21	SHIELD	-
22	B	-
23	W	-
24	LG	-

Connector No.	B272
Connector Name	WIRE TO WIRE
Connector Type	TH08FW-NH

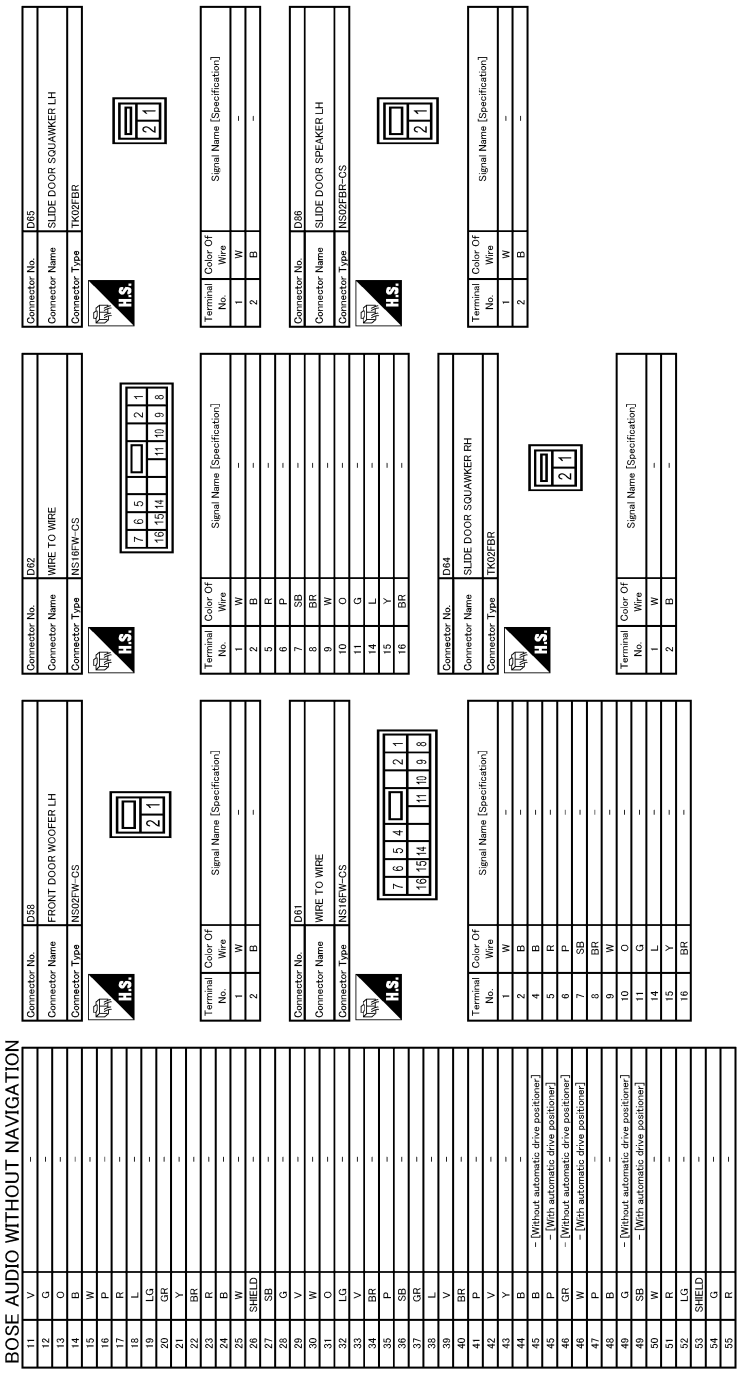
H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	R	-
3	W	-
4	B	-
5	B/R	-
6	W/R	-
7	B	-

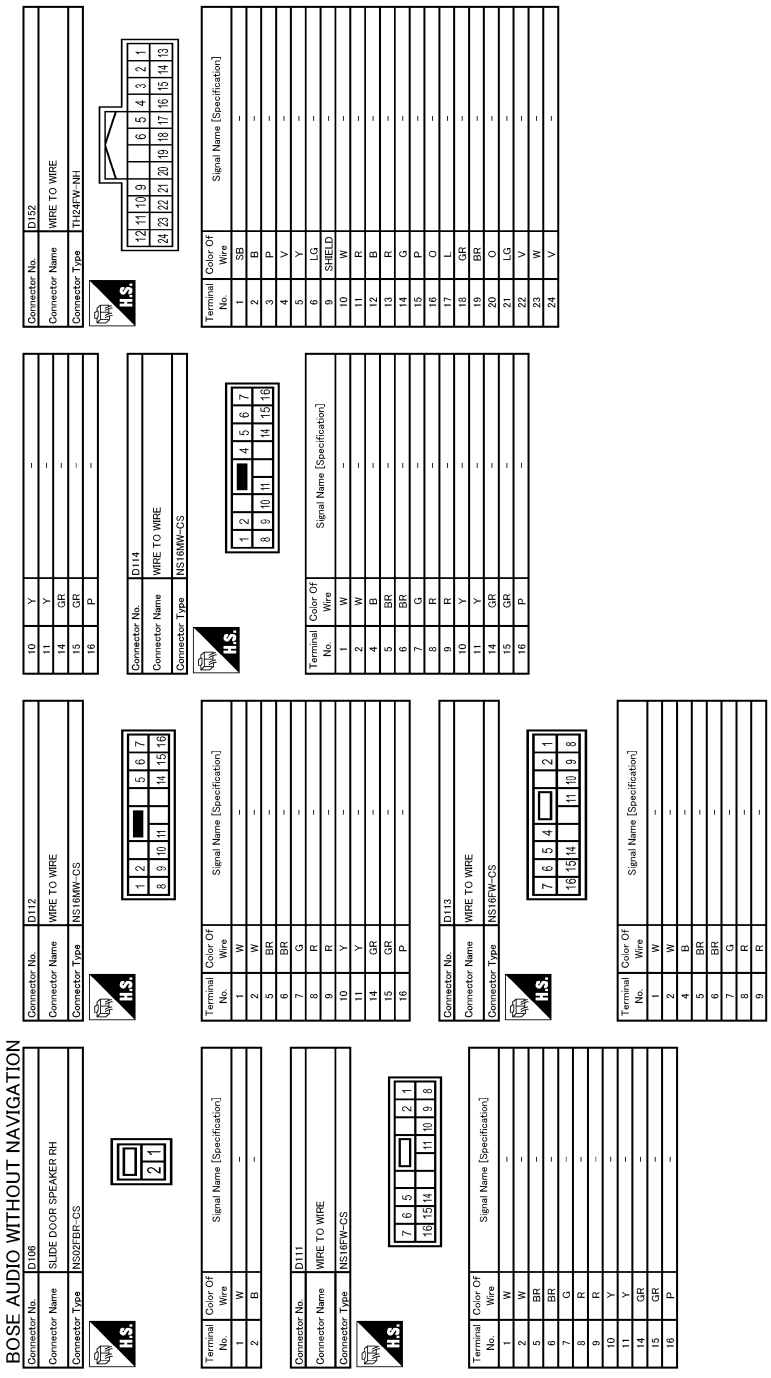
JRNWC6769GB



JRNWC6770GB



JRNWC6771GB



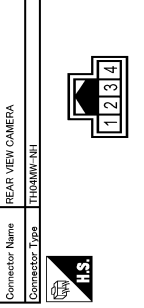
JRNWC6772GB

BOSE AUDIO WITHOUT NAVIGATION

Connector No.	D167
Connector Name	REAR VIEW CAMERA
Connector Type	TH04MW-NH

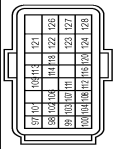
Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	CAMERA POWER SUPPLY
2	R	GROUND
3	W	CAMERA IMAGE SIGNAL
4	SHIELD	SHIELD

Connector No.	E6
Connector Name	WIRE TO WIRE
Connector Type	TK16MGY-1V



Terminal No.	Color Of Wire	Signal Name [Specification]
121	L	–
122	SB	–
123	B	–
124	B	–
126	BR	–
127	B	–
128	B	–

Connector No.	E16
Connector Name	ECM
Connector Type	RH24FGY-RZ8-L-LH



Terminal No.	Color Of Wire	Signal Name [Specification]
97	W	ACCELERATOR PEDAL POSITION SENSOR 1
98	O	ACCELERATOR PEDAL POSITION SENSOR 2
99	P	SENSOR POWER SUPPLY
100	B	SENSOR GROUND
101	Y	ASCD STEERING SWITCH
102	LG	EVAP CONTROL SYSTEM PRESSURE SENSOR
103	GR	SENSOR POWER SUPPLY
104	LG	DATA LINK CONNECTOR
106	V	EVAP CANISTER VENT CONTROL VALVE
107	W	SENSOR POWER SUPPLY
108	BR	SENSOR GROUND
109	G	IGNITION SWITCH
111	Y	FUEL TANK TEMPERATURE SENSOR
112	V	SENSOR GROUND
113	P	CAN COMMUNICATION LINE
114	L	CAN COMMUNICATION LINE
116	G	SENSOR GROUND
118	R	PNP signal
120	SB	SENSOR GROUND
121	L	POWER SUPPLY FOR ECM
122	SB	STOP LAMP SWITCH
123	B	ECM GROUND
124	B	ECM GROUND
126	BR	ASCD BRAKE SWITCH
127	B	ECM GROUND
128	B	ECM GROUND

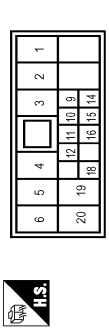
Connector No.	E18
Connector Name	BACK-UP LAMP RELAY
Connector Type	MS02FL-M2-LC

Terminal No.	Color Of Wire	Signal Name [Specification]
1	O	–
2	LG	–
3	R	–
5	Y	–

Connector No.	E27
Connector Name	PARKING BRAKE SWITCH
Connector Type	P01FB-A

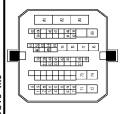
Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	–

Connector No.	E104
Connector Name	WIRE TO WIRE
Connector Type	NH10FW-CS10



Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	–
2	GR	–
3	BR	–
4	L	–
5	R	–
6	LG	–
9	Y	–
10	L	–
11	P	–
12	V	–
14	LG	–
15	V	–
16	W	–
18	GR	–
19	SB	–
20	V	–

Connector No.	E105
Connector Name	WIRE TO WIRE
Connector Type	TH70MW-CS10-M3



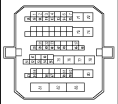
Terminal No.	Color Of Wire	Signal Name [Specification]
1	SHIELD	–
2	W	–
3	B	–
4	R	–

JRNWC6773GB

JRNWC6774GB

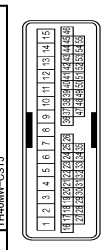
BOSE AUDIO WITHOUT NAVIGATION

Connector No.	M11
Connector Name	WIRE TO WIRE
Connector Type	TH70FW-CS10-M3



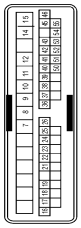
Terminal No.	Color Of Wire	Signal Name [Specification]
1	SHIELD	–
2	W	–
3	B	–
4	R	–
6	O	–
7	G	–
8	G	–
9	B	–
10	R	–
11	W	–
12	LG	–
13	Y	–
14	L	–
15	P	–
31	R	–
32	V	–
33	Y	–
37	BR	–
38	BR	–
39	Y	–
40	P	–
41	L	–
42	G	–
43	W	–
45	LG	–
46	V	–
47	LG	–
49	G	–
51	SB	–
52	GR	–
53	B	–
54	R	–
55	–	–
56	SHIELD	–
61	BR	–
62	LG	–
63	W/L	–
64	W/R	–
66	O	–
67	SB	–
69	Y	–
70	R	–
71	R	–
72	L	–
73	R	–
74	Y	–
75	G	–
76	V	–
77	P	–
78	W	–
80	Y	–
81	W	–
82	L	–
83	R	–

Connector No.	M18
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-CS15



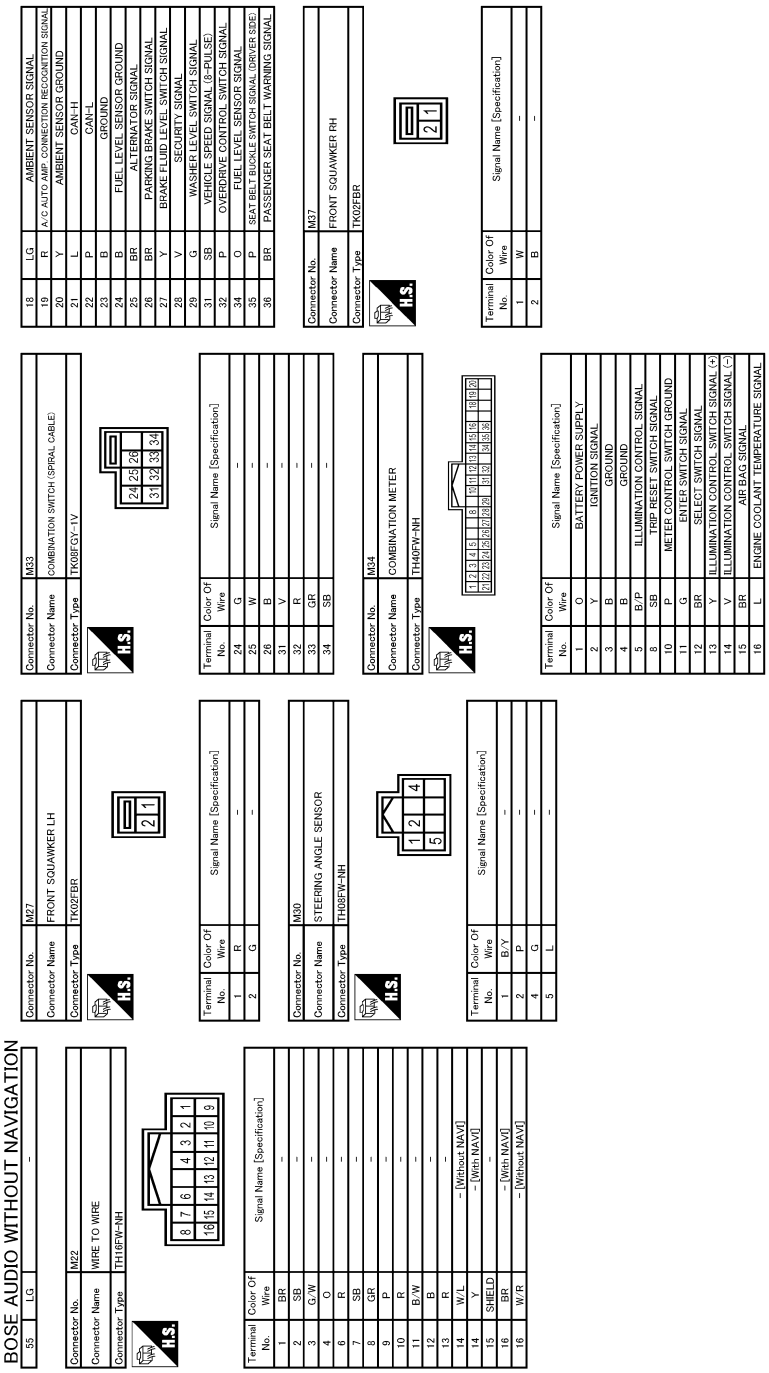
Terminal No.	Color Of Wire	Signal Name [Specification]
1	B/W	–
2	R	–
3	W	–
4	Y	–
5	SB	–
6	BR	–
7	LG	–
8	L	–
9	GR	–
10	P	–
11	V	–
12	G	–
13	O	–
14	BR	– [With BOSE system]
15	R	– [Without BOSE system]
16	Y	–
17	SB	–
18	P	–
19	V	–
20	Y	–
21	W	–
22	G	–
23	R	–
24	B	–
25	W	–
26	SHIELD	–
27	GR	–
28	G	–
29	O	–
30	LG	–
31	R	–
32	G	–
33	Y	–
34	R/W	–
35	GR	–
36	LG	–
37	W	–
38	P	–
39	V	–
40	BR	–
41	P	–
42	V	–
43	SB	–
44	B	–
45	W/L	– [With automatic drive positioner]
45	Y	– [Without automatic drive positioner]
46	GR/V	– [With automatic drive positioner]
46	W	– [Without automatic drive positioner]
47	V	–
48	B/P	–
49	O	– [With automatic drive positioner]
49	R/W	– [Without automatic drive positioner]
50	V	–
51	LG	–
52	W	–
53	SHIELD	–
54	L/R	–
55	L/G	–

Connector No.	M20
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-CS15

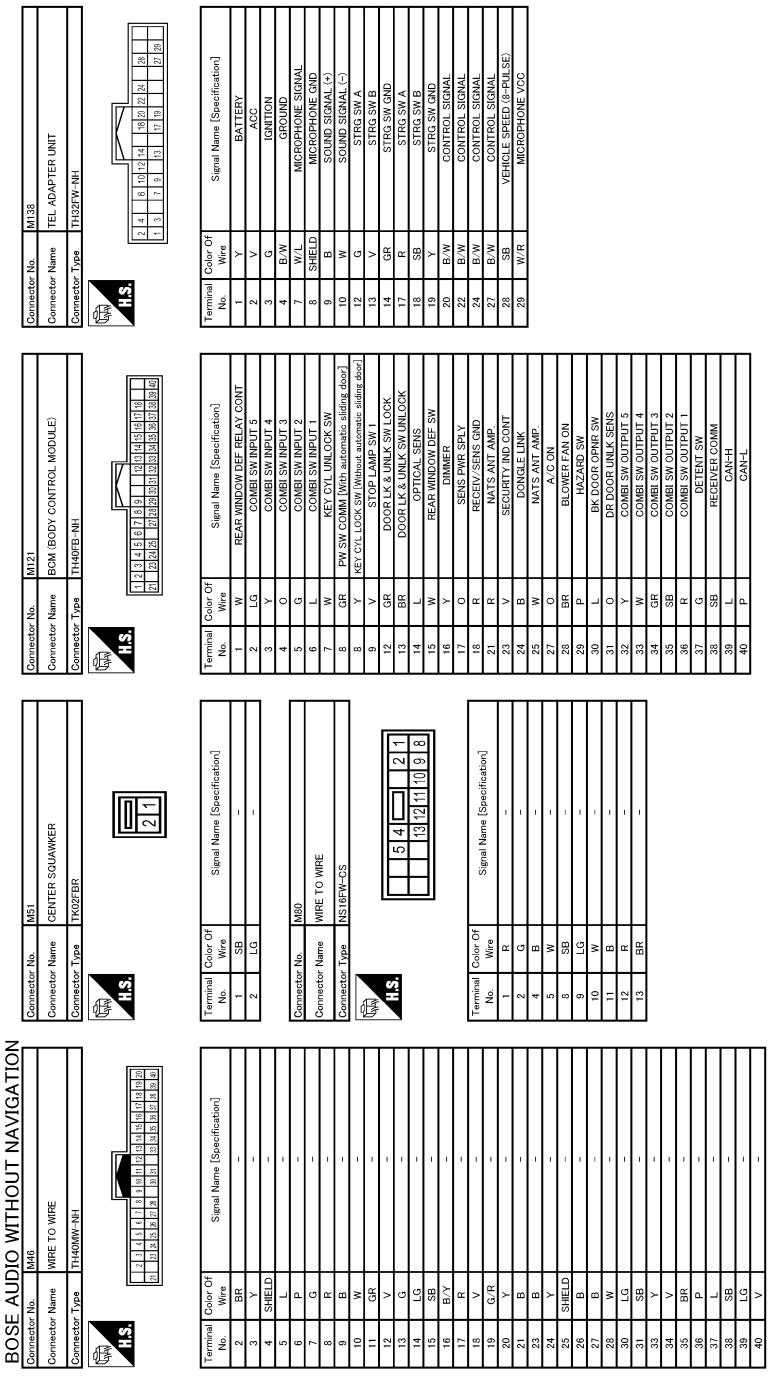


Terminal No.	Color Of Wire	Signal Name [Specification]
7	B/W	–
8	L	– [Without passenger power window anti-pinch system]
8	P	– [With front power window anti-pinch system]
9	BR	– [Without passenger power window anti-pinch system]
9	GR	– [With front power window anti-pinch system]
10	LG	–
11	SB	–
12	V	–
14	B	–
15	W	–
16	BR	–
17	P	–
18	R	–
19	Y	–
21	R	–
22	B	–
23	W	–
24	SHIELD	–
25	W/L	–
26	W/R	–
36	LG	–
37	W	–
38	P	–
39	G	–
40	B	–
41	R	–
42	L	–
43	GR	–
45	BR	–
46	GR	–
50	V	–
51	BR	– [With automatic drive positioner]
51	LG	– [Without automatic drive positioner]
52	W	–
53	SHIELD	–
54	B/Y	–

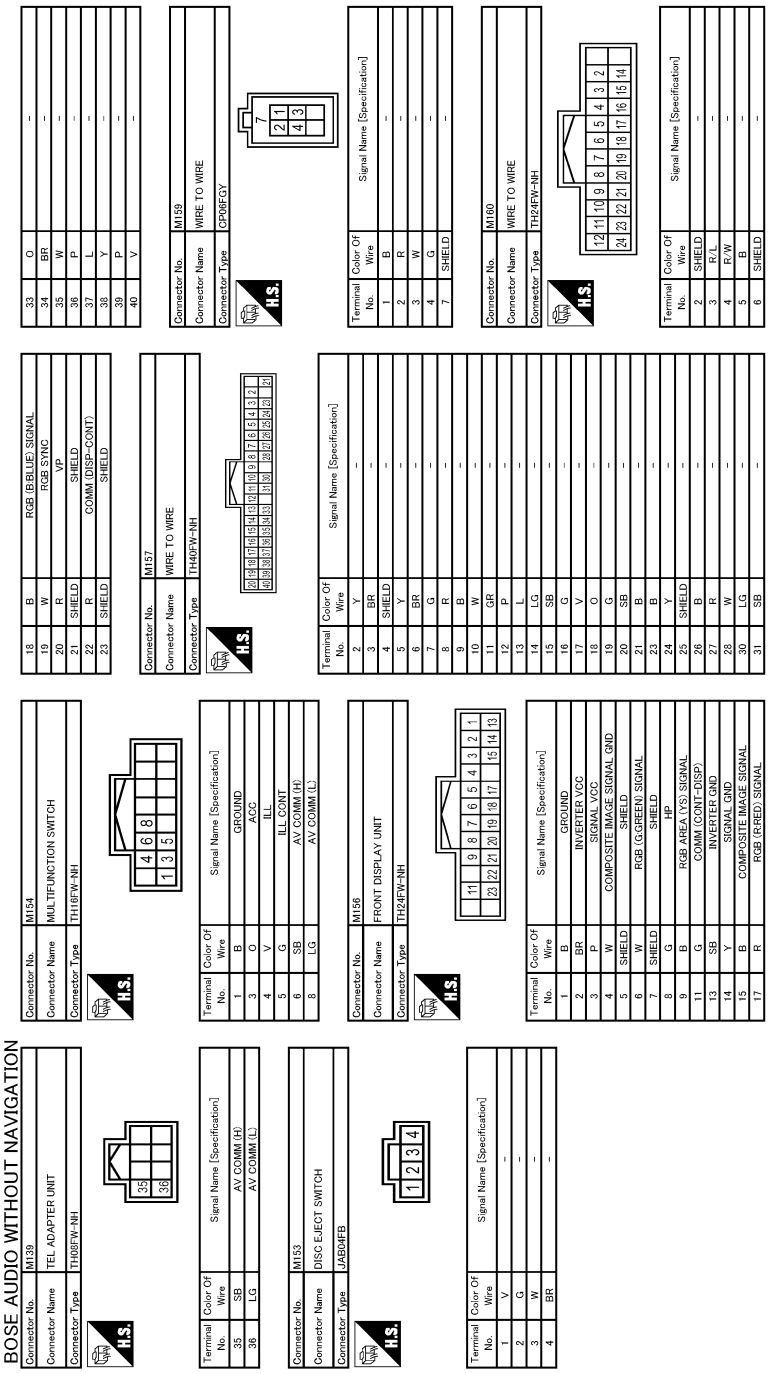
JRNWC6775GB



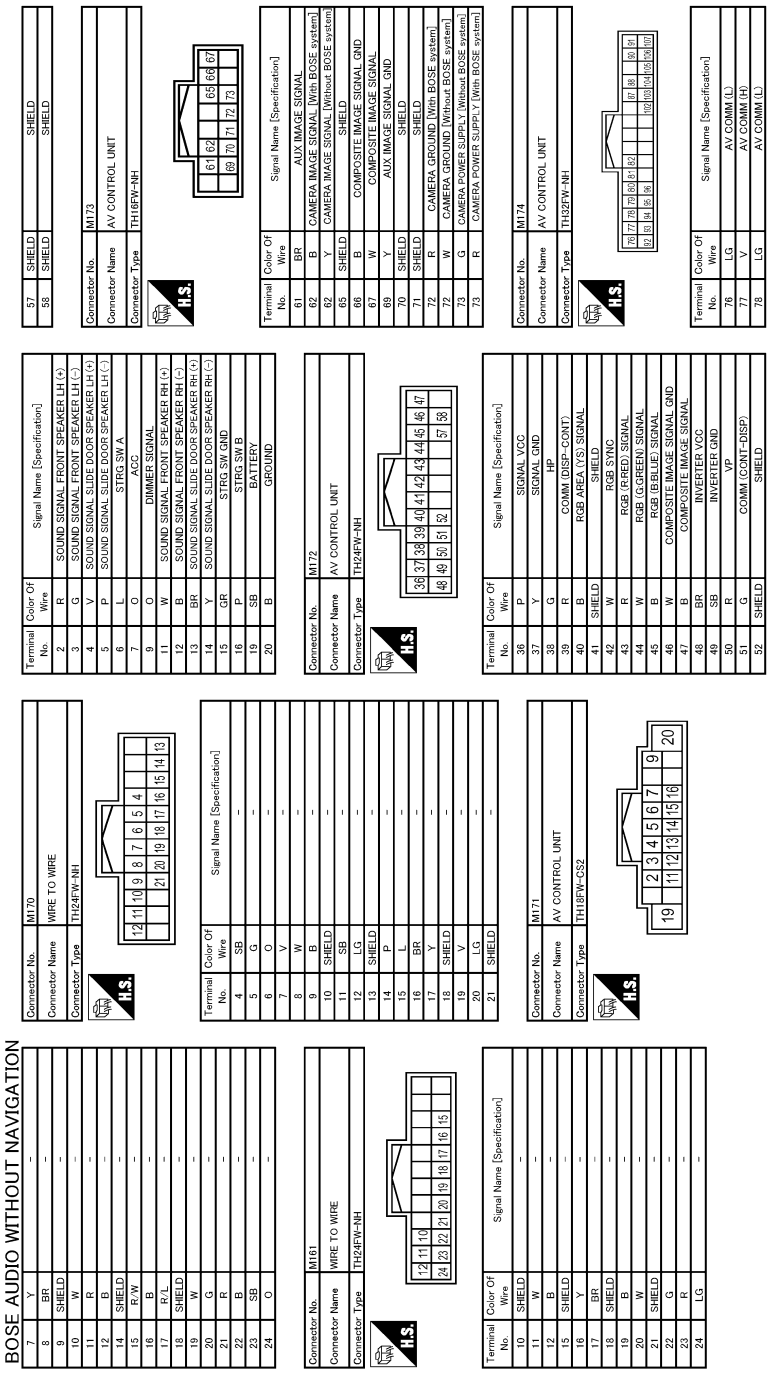
JRNWC6776GB



JRNWC6777GB



JRNWC6778GB



JRNWC6779GB

BOSE AUDIO WITHOUT NAVIGATION

79	SB	AV COMM (H)
80	P	CAN-L
81	L	CAN-H
82	W	SW GND
87	R	SOUND SIGNAL (+)
88	W	SOUND SIGNAL (–)
90	BR	HEADPHONE SOUND SIGNAL RH (+)
91	Y	HEADPHONE SOUND SIGNAL RH (–)
92	Y	VEHICLE SPEED SIGNAL (8–PULSE)
93	W	PARKING BRAKE
94	BR	REVERSE
95	G	IGNITION
96	BR	DISK EJECT SIGNAL
102	W	AUX SOUND SIGNAL GND
103	B	AUX SOUND SIGNAL LH (+)
104	R	AUX SOUND SIGNAL RH (+)
105	GR	SHIELD
106	P	HEADPHONE SOUND SIGNAL LH (+)
107	L	HEADPHONE SOUND SIGNAL LH (–)

Connector No.	M175
Connector Name	AV CONTROL UNIT
Connector Type	TH12FW-NH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
108	BR	SOUND SIGNAL REAR RH (+)
109	W	SOUND SIGNAL FRONT RH (+)
110	LG	AMP. ON SIGNAL
111	GR	SHIELD
112	B	SOUND SIGNAL REAR LH (+)
113	R	SOUND SIGNAL FRONT LH (+)
114	Y	SOUND SIGNAL REAR RH (–)
115	B	SOUND SIGNAL FRONT RH (–)
116	W	SOUND SIGNAL REAR LH (–)
119	G	SOUND SIGNAL FRONT LH (–)

Connector No.	M176
Connector Name	AV CONTROL UNIT
Connector Type	A12FW

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
120	R	SATELLITE RADIO SOUND SIGNAL LH (+)
121	W	SATELLITE RADIO SOUND SIGNAL RH (+)
122	R/W	COMM (CONT–SAT)
124	B	SATELLITE RADIO SOUND SIGNAL LH (–)
125	G	SATELLITE RADIO SOUND SIGNAL RH (–)
126	SHIELD	SHIELD
127	SHIELD	SHIELD
129	R/L	REQUEST (SAT–CONT)
130	B	COMM (SAT–CONT)

Connector No.	M177
Connector Name	AV CONTROL UNIT
Connector Type	HA04FL

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
132	G	USB GND
133	W	USB D– SIGNAL
134	R	V BUS SIGNAL
135	B	USB D+ SIGNAL
136	SHIELD	SHIELD

Connector No.	M303
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TK08FGY

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
13	–	–
14	–	–
15	–	–
16	–	–
17	–	–
18	–	–
19	–	–
20	–	–

Connector No.	M352
Connector Name	AV CONTROL UNIT
Connector Type	GT13SH-2.1S-HU

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
150	–	ANTENNA AMP. ON SIGNAL
151	–	AM–FM MAIN
152	–	FM SUB

Connector No.	M380
Connector Name	TEL ADAPTER UNIT
Connector Type	GT16C-1S-HU

H.S.

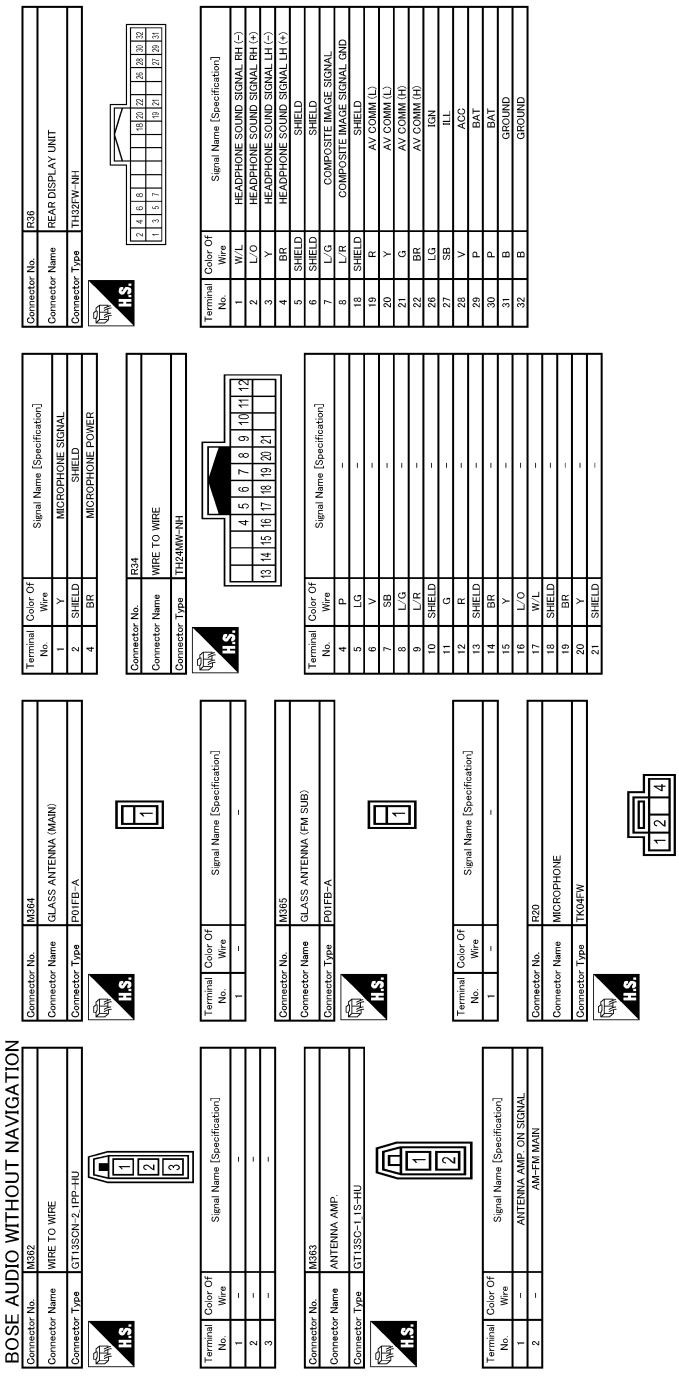
Terminal No.	Color Of Wire	Signal Name [Specification]
33	–	TEL ANTENNA SIGNAL
34	SHIELD	SHIELD

Connector No.	M361
Connector Name	WIRE TO WIRE
Connector Type	GT13SC-2.1S-HU

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	–	–
2	–	–
3	–	–

JRNWC6780GB



JRNWC6781GB

BOSE AUDIO WITHOUT NAVIGATION

Connector No.	R106
Connector Name	WIRE TO WIRE
Connector Type	TH16MW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	-
2	SB	-
3	P	-
4	LG	-
6	O	-
7	W	-
8	BR	-
9	L	-
10	LG	-
11	B	-
12	V	-
13	Y	-
14	Y	-
15	SHIELD	-
16	BR	-

JRNWC6782GB

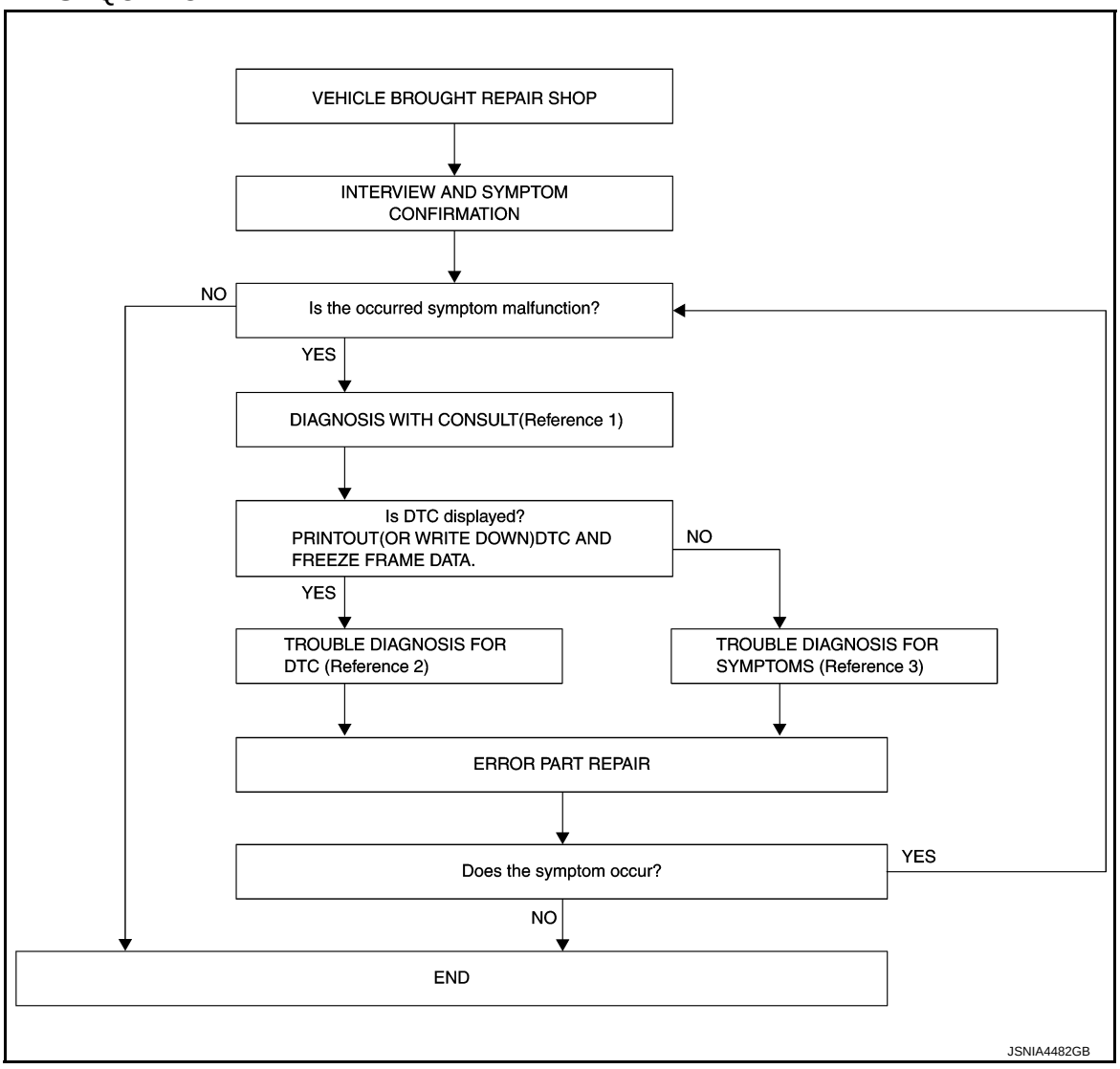
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000009652150

OVERALL SEQUENCE



- Reference 1··· Refer to AV-304, "CONSULT Function".
- Reference 2··· Refer to AV-316, "DTC Index".
- Reference 3··· Refer to AV-394, "Symptom Table".

DETAILED FLOW

1. INTERVIEW AND SYMPTOM CONFIRMATION

Check the malfunction symptoms by performing the following items.
- Interview the customer to obtain the malfunction information (conditions and environment when the malfunction occurred).
- Check the symptom.

Is the occurred symptom malfunction?

YES >> GO TO 2.
NO >> INSPECTION END

2. DIAGNOSIS WITH CONSULT

1. Connect CONSULT and perform a self-diagnosis for “MULTI AV”. Refer to AV-304, "CONSULT Function".
   NOTE:
   Skip to step 4 of the diagnosis procedure if “MULTI AV” is not displayed.
2. When DTC is detected, follow the instructions below:

- Record DTC and Freeze Frame Data.

Is DTC displayed?

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

3. TROUBLE DIAGNOSIS FOR DTC

1. Check the DTC indicated in the self-diagnosis results.
2. Perform the relevant diagnosis referring to the DTC Index. Refer to AV-316, "DTC Index".

>> GO TO 5.

4. TROUBLE DIAGNOSIS FOR SYMPTOMS

Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to AV-394, "Symptom Table".

>> GO TO 5.

5. ERROR PART REPAIR

1. Repair or replace the identified malfunctioning parts.
2. Perform a self-diagnosis for “MULTI AV” with CONSULT.
   NOTE:
   Erase the stored self-diagnosis results after repairing or replacing the relevant components if any DTC has been indicated in the self-diagnosis results.
3. Check that the symptom does not occur.

Does the symptom occur?

YES >> GO TO 1.
NO >> INSPECTION END

ADDITIONAL SERVICE WHEN REPLACING (AV CONTROL UNIT)

Description

INFOID:0000000009652151

BEFORE REPLACEMENT

When replacing AV control unit, save or print current vehicle specification with CONSULT configuration before replacement.

AFTER REPLACEMENT

CAUTION:

When replacing AV control unit, you must perform “After Replace ECU” or “Manual Configuration” with CONSULT.

- **Complete the procedure of “After Replace ECU” or “Manual Configuration” in order.**
- **If you set incorrect “After Replace ECU” or “Manual Configuration”, incidents might occur.**
- **Configuration is different for each vehicle model. Confirm configuration of each vehicle model.**

Work Procedure

INFOID:0000000009652152

1. SAVING VEHICLE SPECIFICATION

CONSULT Configuration

Perform “Before Replace ECU” to save or print current vehicle specification. Refer to AV-354, "Description".

NOTE:

If “Before Replace ECU” can not be used, use the “Manual Configuration”.

>> GO TO 2.

2. REPLACE AV CONTROL UNIT

Replace AV control unit. Refer to AV-404, "Removal and Installation".

>> GO TO 3.

3. WRITING VEHICLE SPECIFICATION

CONSULT Configuration

Perform “After Replace ECU” or “Manual Configuration” to write vehicle specification. Refer to AV-354, "Work Procedure".

>> GO TO 4.

4. OPERATION CHECK

Check that the operation of the AV control unit and camera images (fixed guide lines and predictive course lines) are normal.

>> WORK END

CONFIGURATION (AV CONTROL UNIT)

Description

INFOID:0000000009652153

- Since vehicle specifications are not included in the AV control unit after replacement, it is required to write vehicle specifications with CONSULT.
- Configuration has three functions as follows.

Function		Description
Read/Write Configuration	Before Replace ECU	Allows the reading of vehicle specification written in AV control unit to store the specification in CONSULT.
	After Replace ECU	Allows the writing of the vehicle information stored in CONSULT into the AV control unit.
Manual Configuration		Allows the writing of the vehicle specification into the AV control unit by hand.

Work Procedure

INFOID:0000000009652154

1.WRITE VEHICLE SPECIFICATION

CONSULT Configuration
Write vehicle specification into AV control unit.

To write vehicle specification stored in CONSULT into the AV control unit>>GO TO 2.
To write vehicle specification into the AV control unit by hand>>GO TO 3.

2.WRITE STORED DATA

CONSULT Configuration
Select “After Replace ECU” in “Read/Write Configuration.” Write data stored in CONSULT with the “Before Replace ECU” function into the AV control unit.

>> GO TO 4.

3.MANUALLY WRITE VEHICLE SPECIFICATION

CONSULT Configuration
Perform “Manual Configuration.” Refer to the Configuration List to write vehicle specification into the AV control unit. Refer to AV-354, "Configuration List".
NOTE:
The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

>> GO TO 4.

4.OPERATION CHECK

Check that the operation of the AV control unit and camera images (fixed guide lines and predictive course lines) are normal.

>> WORK END

Configuration List

INFOID:0000000009652155

CAUTION:
Grasp vehicle specifications precisely. The control of ECU may not function normally if the specifications are misread.
NOTE:
- The items shown in this list depend on vehicle specifications.
- The config list may not be displayed depending on vehicle specifications. This is not a malfunction.

MANUAL SETTING ITEM	
Items	Setting value
STEERING	LHD
	RHD
SOUND SYSTEM	BASE
	BOSE

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description

INFOID:0000000009652156

CAN (Controller Area Network) is a serial communication line for real-time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independently). In CAN communication, control units are connected with 2 communication lines (CAN-H, CAN-L) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.
CAN Communication Signal Chart. Refer to LAN-32, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart".

DTC Logic

INFOID:0000000009652157

DTC DETECTION LOGIC

DTC	Display contents of CONSULT	DTC detection condition	Probable malfunction location
U1000	CAN COMM CIRCUIT [U1000]	AV control unit is not transmitting or receiving CAN communication signal for 2 seconds or more.	CAN communication system.

Diagnosis Procedure

INFOID:0000000009652158

1. PERFORM SELF-DIAGNOSTIC

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Check “Self Diagnostic Result” of “MULTI AV”.

Is “CAN COMM CIRCUIT” displayed?

YES >> Refer to LAN-17, "Trouble Diagnosis Procedure".
NO >> Refer to GI-42, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

DTC Logic

INFOID:0000000009652159

DTC DETECTION LOGIC

DTC	Display contents of CONSULT	DTC detection condition	Probable malfunction factor
U1010	CONTROL UNIT (CAN) [U1010]	CAN initial diagnosis malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-404, "Removal and Installation".

U1200 AV CONTROL UNIT

DTC Logic

INFOID:0000000009652160

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1200	Cont Unit [U1200]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-404, "Removal and Installation".

U1216 AV CONTROL UNIT

DTC Logic

INFOID:0000000009652161

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1216	CAN CONT [U1216]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-404, "Removal and Installation".

U1232 STEERING ANGLE SENSOR

DTC Logic

INFOID:0000000009652162

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1232	ST ANGLE SEN CALIB [1232]	Neutral position adjustment of the steering angle sensor is incomplete.	Adjust neutral position of the steering angle sensor.

Diagnosis Procedure

INFOID:0000000009652163

1.ADJUST THE NEUTRAL POSITION OF THE STEERING ANGLE SENSOR

When U1232 is detected, adjust the neutral position of the steering angle sensor.

>> Adjusts the steering angle sensor neutral position on ABS actuator and electrical unit (control unit) side. Refer to BRC-49, "Work Procedure".

U1243 FRONT DISPLAY UNIT

DTC Logic

INFOID:0000000009652164

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1243	FRONT DISP CONN [U1243]	When either one of the following items are detected: • front display unit power supply and ground circuits are malfunctioning. • serial communication circuits between front display unit and AV control unit are malfunctioning.	• Front display unit power supply and ground circuits. • Serial communication circuits between front display unit and AV control unit.

Diagnosis Procedure

INFOID:0000000009652165

1.CHECK FRONT DISPLAY UNIT POWER SUPPLY AND GROUND CIRCUITS

Check front display unit power supply and ground circuits. Refer to AV-367, "FRONT DISPLAY UNIT : Diagnosis Procedure".

Is inspection result normal?

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

2.CHECK CONTINUITY COMMUNICATION CIRCUITS

1. Turn ignition switch OFF.
2. Disconnect front display unit connector and AV control unit connector.
3. Check continuity between front display unit harness connector and AV control unit harness connector.

Front display unit		AV control unit		Continuity
Connector	Terminals	Connector	Terminals	
M156	11	M172	51	Existed
	22		39	

4. Check continuity between front display unit harness connector and ground.

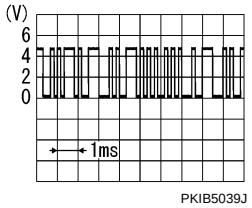
Front display unit		Ground	Continuity
Connector	Terminals		
M156	11		Not existed
	12		

Is inspection result normal?

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

3.CHECK COMMUNICATION SIGNAL

1. Connect front display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between front display unit harness connector and ground.

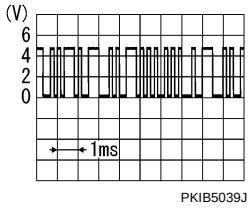
Probe				Condition	Standard	Reference value
(+)		(–)				
Front display unit						
Connector	Terminal	Connector	Terminal			
M156	11	M156	1	When adjusting display brightness.	Waveform of 0.4 V - 5.3 V is input.	 PKIB5039J

Is inspection result normal?

YES >> GO TO 4.
NO >> Replace AV control unit. Refer to AV-404, "Removal and Installation".

4. CHECK COMMUNICATION SIGNAL

Check signal between front display unit harness connector and ground.

Probe				Condition	Standard	Reference value
(+)		(–)				
Front display unit						
Connector	Terminal	Connector	Terminal			
M156	22	M156	1	When adjusting display brightness.	Waveform of 0.5 V or less - 3.5 V or more is input.	 PKIB5039J

Is inspection result normal?

YES >> INSPECTION END
NO >> Replace front display unit. Refer to AV-405, "Removal and Installation".

U1255 SATELLITE RADIO TUNER

DTC Logic

INFOID:0000000009652166

DTC	Display contents of CONSULT	DTC Detection Condition	Possible causes
U1255	SAT CONN [U1255]	When either one of the following items is detected: • satellite radio tuner power supply and ground circuit are malfunctioning. • communication circuits between AV control unit and satellite radio tuner are malfunctioning. • request signal circuit between AV control unit and satellite radio tuner are malfunctioning.	• Satellite radio tuner power supply and ground circuit. Refer to AV-370, "SATELLITE RADIO TUNER : Diagnosis Procedure". • Communication circuit between AV control unit and satellite radio tuner. • Request signal circuit between AV control unit and satellite radio tuner.

Diagnosis Procedure

INFOID:0000000009652167

1.CHECK SATELLITE RADIO TUNER POWER SUPPLY AND GROUND CIRCUIT

Check satellite radio tuner power supply and ground circuit. Refer to AV-370, "SATELLITE RADIO TUNER : Diagnosis Procedure".

Is the inspection result normal?

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

2.CHECK CONTINUITY COMMUNICATION CIRCUIT AND REQUEST SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector and satellite radio tuner connector.
3. Check continuity between AV control unit harness connector and satellite radio tuner harness connector.

AV control unit		Satellite radio tuner		Continuity
Connector	Terminals	Connector	Terminals	
M176	122	B49	10	Existed
	129		8	
	130		9	

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

AV control unit			Continuity
Connector	Terminals		
M176	122	Ground	Not existed
	129		
	130		

Is the inspection result normal?

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

3.CHECK AV CONTROL UNIT VOLTAGE

1. Connect AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between AV control unit harness connector and ground.

(+)		(–)	Voltage (Approx.)
AV control unit			
Connector	Terminals		
M176	129	Ground	7.0 V
	130		7.0 V

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace AV control unit. Refer to AV-404, "Removal and Installation".

4. CHECK SATELLITE RADIO TUNER VOLTAGE

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector.
3. Connect satellite radio tuner.
4. Turn ignition switch ON.
5. Check signal between satellite radio tuner harness connector and ground.

(+)		(–)	Voltage (Approx.)
Satellite radio tuner			
Connector	Terminal		
B49	10	Ground	7.0 V

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace satellite radio tuner. Refer to AV-424, "Removal and Installation".

U1300 AV COMM CIRCUIT

Description

INFOID:0000000009652168

U1300 is indicated when malfunction occurs in communication signal of multi AV system. Indicated simultaneously, without fail, with the malfunction of control units connected to AV control unit with communication line. Determine the possible malfunction cause from the table below.

SELF-DIAGNOSIS RESULTS DISPLAY ITEM

DTC	Display contents of CONSULT	DTC Detection Condition	Possible causes
U1300 U1240	• AV COMM CIRCUIT [U1300] • SWITCH CONN [U1240]	When either one of the following items is detected: • multifunction switch power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and multifunction switch are malfunctioning.	• Multifunction switch power supply and ground circuits. • AV communication circuits between AV control unit and multifunction switch.
U1300 U1246	• AV COMM CIRCUIT [U1300] • VIDEO DIST CONN [U1246]	When either one of the following items are detected: • rear display unit power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and rear display unit are malfunctioning.	• Rear display unit power supply and ground circuits. • AV communication circuits between AV control unit and rear display unit.
U1300 U1256	• AV COMM CIRCUIT [U1300] • HAND FREE CONN [U1256]	When either one of the following items is detected: • TEL adapter unit power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and TEL adapter unit are malfunctioning.	• TEL adapter unit power supply and ground circuits. • AV communication circuits between AV control unit and TEL adapter unit.
U1300 U1240 U1246 U1256	• AV COMM CIRCUIT [U1300] • SWITCH CONN [U1240] • VIDEO DIST CONN [U1246] • HAND FREE CONN [U1256]	AV communication circuits between AV control unit and multifunction switch are malfunctioning.	AV communication circuits between AV control unit and multifunction switch.

U1310 AV CONTROL UNIT

DTC Logic

INFOID:0000000009652169

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1310	CONTROL UNIT (AV) [U1310]	An initial diagnosis error is detected in AV communication circuit.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-404, "Removal and Installation".

POWER SUPPLY AND GROUND CIRCUIT

AV CONTROL UNIT

AV CONTROL UNIT : Diagnosis Procedure

INFOID:0000000009652170

1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	35
Ignition switch ACC or ON	19

Is the inspection result normal?

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

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between AV control unit harness connectors and ground.

Signal name	AV control unit	Probe		Condition	Standard	Reference value
		Terminal				
	Connector	(+)	(–)	Ignition switch		
Battery power supply	M171	19	20	OFF	9.0 - 15.6 V	Battery voltage
ACC power supply		7		ACC	9.0 - 16.0 V	

Is the inspection result normal?

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

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit connectors.
3. Check continuity between AV control unit harness connectors and ground.

Signal name	Connector	Terminal	Ignition switch position	Continuity
Ground	M171	20	OFF	Existed

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair harness or connector.

FRONT DISPLAY UNIT

FRONT DISPLAY UNIT : Diagnosis Procedure

INFOID:0000000009652171

1.CHECK POWER SUPPLY CIRCUIT (DISPLAY SIDE)

Check voltage between display unit harness connector and ground.

Signal name	Front display unit	Probe		Condition	Standard	Voltage (Approx.)
		Terminal				
	Connector	(+)	(–)	Ignition switch		
Inverter VCC	M156	2	13	OFF	8.0 - 9.5 V	8.8 V
Signal VCC		3	14	ACC		

Is the inspection result normal?

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

2.CHECK POWER SUPPLY CIRCUIT (CONTINUITY)

1. Turn ignition switch OFF.
2. Disconnect the harness connector between front display unit and AV control unit.
3. Check continuity between front display unit harness connector and AV control unit harness connector.

Front display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M156	2	M172	48	Existed
	3		36	

4. Check continuity between front display unit harness connector and ground.

Front display unit		Ground	Continuity
Connector	Terminal		
M156	2		Not existed
	3		

Is the inspection result normal?

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

3.CHECK POWER SUPPLY CIRCUIT (AV CONTROL UNIT SIDE)

1. Connect the AV control unit harness connector.
2. Turn ignition switch ACC.
3. Check voltage between AV control unit harness connector and ground.

Probe				Standard	Voltage (Approx.)
(+)		(–)			
AV control unit					
Connector	Terminal	Connector	Terminal		
M172	48	M172	49	8.0 - 9.5 V	8.8 V
	36		37		

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace AV control unit. Refer to AV-404, "Removal and Installation".

4.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect front display unit connector.
3. Check continuity between front display unit harness connectors and ground.

Signal name	Connector	Terminal	Ignition switch position	Continuity
Ground	M156	1	OFF	Existed

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair harness or connector.

REAR DISPLAY UNIT

REAR DISPLAY UNIT : Diagnosis Procedure

INFOID:0000000009652172

1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	35
Ignition switch ACC or ON	19

Is the inspection result normal?

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

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between rear display unit harness connector and ground.

Signal name	Rear display unit	Probe		Condition	Standard	Reference value
		Terminal				
	Connector	(+)	(–)	Ignition switch		
Battery power supply	R36	29	31 32	OFF	9.0 - 16.0 V	Battery voltage
		30				
ACC power supply		28		ACC	7.6 V - Battery voltage	

Is the inspection result normal?

YES >> GO TO 3.
NO >> Check harness between rear display unit and fuse.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect rear display unit connector.
3. Check continuity between rear display unit harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	R36	31	OFF	Existed
		32		

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair harness or connector.

BOSE AMP.

BOSE AMP. : Diagnosis Procedure

INFOID:0000000009652173

1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	26
	27, 28

Is the inspection result normal?

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

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between BOSE amp. harness connector and ground.

Signal name	BOSE amp.	Probe		Condition	Standard	Reference value
		Terminal				
	Connector	(+)	(–)	Ignition switch		
Battery power supply	B251	10	7 12	OFF	9.0 - 16.0 V	Battery voltage
		11				

Is the inspection result normal?

YES >> GO TO 3.
NO >> Check harness between BOSE amp. and fuse.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BOSE amp. connector.
3. Check continuity between BOSE amp. harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	B251	7	OFF	Existed
		12		

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair harness or connector.

SATELLITE RADIO TUNER

SATELLITE RADIO TUNER : Diagnosis Procedure

INFOID:0000000009652174

1.CHECK FUSES

Check that the following fuses of the satellite radio tuner are not blown.

Power source	Fuse No.
Battery	35
Ignition switch ACC or ON	19

Is inspection result OK?

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

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between the satellite radio tuner and ground.

Signal name	Satellite radio tuner	Probe		Condition	Standard	Reference value
		Terminal				
	Connector	(+)	(–)	Ignition switch		
Battery power supply	B49	12	15	OFF	10.8 - 15.6 V	Battery voltage
ACC power supply		16		ACC	7.0 - 16.0 V	

Is inspection result OK?

YES >> GO TO 3.
NO >> Check harness between satellite radio tuner and fuse.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect satellite radio tuner connector.
3. Check continuity between satellite radio tuner harness connector and ground.

Signal name	Connector	Terminal No.	Ignition switch position	Continuity
Ground	B49	15	OFF	Existed

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair harness or connector.

TEL ADAPTER UNIT

TEL ADAPTER UNIT : Diagnosis Procedure

INFOID:0000000009652175

1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	35
Ignition switch ACC or ON	19

Is the inspection result normal?

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

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between TEL adapter unit harness connector and ground.

Signal name	TEL adapter unit	Probe		Condition	Standard	Reference value
		Terminal				
	Connector	(+)	(–)	Ignition switch		
Battery power supply	M138	1	4	OFF	9.0 - 16.0 V	Battery voltage
ACC power supply		2		ACC	7.0 - 16.0 V	

Is the inspection result normal?

YES >> GO TO 3.
NO >> Check harness between TEL adapter unit and fuse.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect TEL adapter unit connector.
3. Check continuity between TEL adapter unit harness connector and ground.

Signal name	Connector	Terminal	Ignition switch position	Continuity
Ground	M138	4	OFF	Existed

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair harness or connector.

RGB (R: RED) SIGNAL CIRCUIT

Description

INFOID:0000000009652176

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

Diagnosis Procedure

INFOID:0000000009652177

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

1. Turn ignition switch OFF.
2. Disconnect front display unit connector and AV control unit connector.
3. Check continuity between front display unit harness connector and AV control unit harness connector.

Front display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M156	17	M172	43	Existed

4. Check continuity between front display unit harness connector and ground.

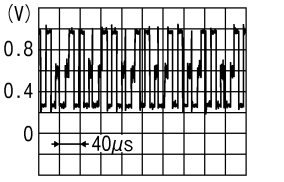
Front display unit		Ground	Continuity
Connector	Terminal		
M156	17		Not existed

Is the inspection result normal?

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

2.CHECK RGB (R: RED) SIGNAL

1. Connect front display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between front display unit harness connector and ground.

Probe				Condition	Standard	Reference value
(+)		(-)				
Front display unit						
Connector	Terminal	Connector	Terminal			
M156	17	M156	1	Start confirmation/ adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	Waveform according to RGB image is input.	

JSNIA1029ZZ

Is the inspection result normal?

YES >> Replace front display unit. Refer to AV-405, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-404, "Removal and Installation".

RGB (G: GREEN) SIGNAL CIRCUIT

Description

INFOID:0000000009652178

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

Diagnosis Procedure

INFOID:0000000009652179

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

1. Turn ignition switch OFF.
2. Disconnect front display unit connector and AV control unit connector.
3. Check continuity between front display unit harness connector and AV control unit harness connector.

Front display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M156	6	M172	44	Existed

4. Check continuity between front display unit harness connector and ground.

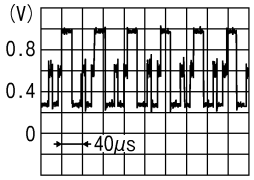
Front display unit		Ground	Continuity
Connector	Terminal		
M156	6		Not existed

Is the inspection result normal?

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

2. CHECK RGB (G: GREEN) SIGNAL

1. Connect front display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between front display unit harness connector and ground.

Probe				Condition	Standard	Reference value
(+)		(-)				
Front display unit						
Connector	Terminal	Connector	Terminal			
M156	6	M156	1	Start confirmation/ adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	Waveform according to RGB image is input.	 JSNIA1030ZZ

Is the inspection result normal?

YES >> Replace front display unit. Refer to AV-405, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-404, "Removal and Installation".

RGB (B: BLUE) SIGNAL CIRCUIT

Description

INFOID:0000000009652180

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

Diagnosis Procedure

INFOID:0000000009652181

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

1. Turn ignition switch OFF.
2. Disconnect front display unit connector and AV control unit connector.
3. Check continuity between front display unit harness connector and AV control unit harness connector.

Front display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M156	18	M172	45	Existed

4. Check continuity between front display unit harness connector and ground.

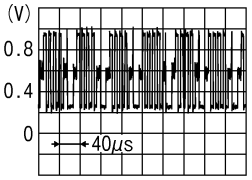
Front display unit		Ground	Continuity
Connector	Terminal		
M156	18		Not existed

Is the inspection result normal?

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

2.CHECK RGB (B: BLUE) SIGNAL

1. Connect front display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between front display unit harness connector and ground.

Probe				Condition	Standard	Reference value
(+)		(-)				
Front display unit						
Connector	Terminal	Connector	Terminal			
M156	18	M156	1	Start confirmation/ adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	Waveform according to RGB image is input.	 JSNIA1031ZZ

Is the inspection result normal?

YES >> Replace front display unit. Refer to AV-405, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-404, "Removal and Installation".

RGB SYNCHRONIZING SIGNAL CIRCUIT

Description

INFOID:0000000009652182

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

Diagnosis Procedure

INFOID:0000000009652183

1.CHECK CONTINUITY RGB SYNCHRONIZING SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect front display unit connector and AV control unit connector.
3. Check continuity between front display unit harness connector and AV control unit harness connector.

Front display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M156	19	M172	42	Existed

4. Check continuity between front display unit harness connector and ground.

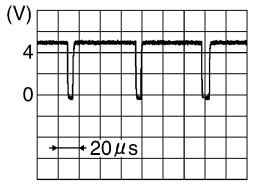
Front display unit		Ground	Continuity
Connector	Terminal		
M156	19		Not existed

Is the inspection result normal?

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

2.CHECK RGB SYNCHRONIZING SIGNAL

1. Connect front display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between front display unit harness connector and ground.

Probe				Standard	Reference value
(+)		(-)			
Front display unit					
Connector	Terminal	Connector	Terminal		
M156	19	M156	1	Waveform of 0.8 V - 5.5 V is input.	

SKIB3603E

Is the inspection result normal?

YES >> Replace front display unit. Refer to AV-405, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-404, "Removal and Installation".

RGB AREA (YS) SIGNAL CIRCUIT

Description

INFOID:0000000009652184

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

Diagnosis Procedure

INFOID:0000000009652185

1.CHECK CONTINUITY RGB AREA (YS) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect front display unit connector and AV control unit connector.
3. Check continuity between front display unit harness connector and AV control unit harness connector.

Front display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M156	9	M172	40	Existed

4. Check continuity between front display unit harness connector and ground.

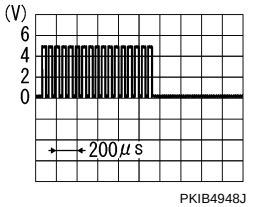
Front display unit		Ground	Continuity
Connector	Terminal		
M156	9		Not existed

Is the inspection result normal?

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

2.CHECK RGB AREA (YS) SIGNAL

1. Connect front display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between front display unit harness connector and ground.

Probe				Condition	Standard	Reference value
(+)		(-)				
Front display unit						
Connector	Terminal	Connector	Terminal			
M156	9	M156	1	At RGB image is displayed	5.5 V or less	5.0 V
				At AUX image is displayed	Waveform of 0.8 V - 5.5 V is input.	 PKIB4948J

Is the inspection result normal?

YES >> Replace front display unit. Refer to AV-405, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-404, "Removal and Installation".

HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

Description

INFOID:0000000009652186

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

Diagnosis Procedure

INFOID:0000000009652187

1.CHECK CONTINUITY HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect front display unit connector and AV control unit connector.
3. Check continuity between front display unit harness connector and AV control unit harness connector.

Front display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M156	8	M172	38	Existed

4. Check continuity between front display unit harness connector and ground.

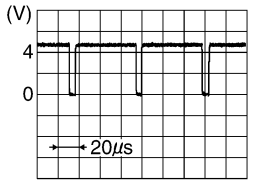
Front display unit		Ground	Continuity
Connector	Terminal		
M156	8		Not existed

Is the inspection result normal?

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

2.CHECK HORIZONTAL SYNCHRONIZING (HP) SIGNAL

1. Connect front display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between front display unit harness connector and ground.

Probe				Standard	Reference value
(+)		(-)			
Front display unit					
Connector	Terminal	Connector	Terminal		
M156	8	M156	1	Waveform of 1.0 V - 5.5 V is output.	

SKIB3601E

Is the inspection result normal?

YES >> Replace AV control unit. Refer to AV-404, "Removal and Installation".
NO >> Replace front display unit. Refer to AV-405, "Removal and Installation".

VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

Description

INFOID:0000000009652188

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

Diagnosis Procedure

INFOID:0000000009652189

1.CHECK CONTINUITY VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect front display unit connector and AV control unit connector.
3. Check continuity between front display unit harness connector and AV control unit harness connector.

Front display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M156	20	M172	50	Existed

4. Check continuity between front display unit harness connector and ground.

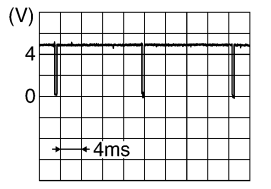
Front display unit		Ground	Continuity
Connector	Terminal		
M156	20		Not existed

Is the inspection result normal?

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

2.CHECK VERTICAL SYNCHRONIZING (VP) SIGNAL

1. Connect front display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between front display unit harness connector and ground.

Probe				Standard	Reference value
(+)		(-)			
Front display unit					
Connector	Terminal	Connector	Terminal		
M156	20	M156	1	Waveform of 1.0 V - 5.5 V is output.	

SKIB3598E

Is the inspection result normal?

YES >> Replace AV control unit. Refer to AV-404, "Removal and Installation".
NO >> Replace front display unit. Refer to AV-405, "Removal and Installation".

COMPOSITE IMAGE SIGNAL CIRCUIT (AV CONTROL UNIT TO FRONT DISPLAY UNIT)

Description

INFOID:0000000009652190

The AV control unit outputs image signal (DVD, auxiliary input, and camera) to the front display unit and rear display unit by composite image signal.

Diagnosis Procedure

INFOID:0000000009652191

1.CHECK CONTINUITY COMPOSITE IMAGE SIGNAL CIRCUIT (AV CONTROL UNIT TO FRONT DISPLAY UNIT)

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector and front display unit connector.
3. Check continuity between AV control unit harness connector and front display unit harness connector.

AV control unit		Front display unit		Continuity
Connector	Terminal	Connector	Terminal	
M172	46	M156	4	Existed
	47		15	

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

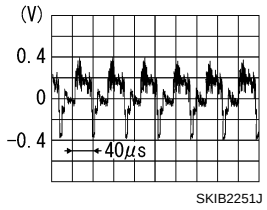
AV control unit		Ground	Continuity
Connector	Terminal		
M172	46		Not existed
	47		

Is inspection result normal?

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

2.CHECK COMPOSITE IMAGE SIGNAL (AV CONTROL UNIT TO FRONT DISPLAY UNIT)

1. Connect AV control unit connector and front display unit connector.
2. Turn ignition switch ON.
3. Check signal between front display unit harness connector.

Probe				Condition	Standard	Reference value
(+)		(–)				
Front display unit						
Connector	Terminal	Connector	Terminal			
M156	15	M156	4	When DVD, AUX or camera image is displayed.	Waveform according to composite image is input.	

SKIB2251J

Is inspection result normal?

YES >> Replace front display unit. Refer to AV-405, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-404, "Removal and Installation".

COMPOSITE IMAGE SIGNAL CIRCUIT (AV CONTROL UNIT TO REAR DISPLAY UNIT)

Description

INFOID:0000000009652192

The AV control unit outputs image signal (DVD, auxiliary input, and camera) to the front display unit and rear display unit by composite image signal.

Diagnosis Procedure

INFOID:0000000009652193

1.CHECK CONTINUITY COMPOSITE IMAGE SIGNAL CIRCUIT (AV CONTROL UNIT TO REAR DISPLAY UNIT)

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector and rear display unit connector.
3. Check continuity between AV control unit harness connector and rear display unit harness connector.

AV control unit		Rear display unit		Continuity
Connector	Terminal	Connector	Terminal	
M173	67	R36	7	Existed
	66		8	

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

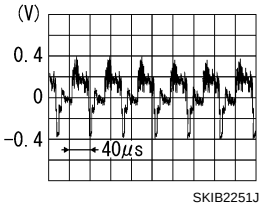
AV control unit		Ground	Continuity
Connector	Terminal		
M173	67		Not existed
	66		

Is the inspection result normal?

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

2.CHECK COMPOSITE IMAGE SIGNAL (AV CONTROL UNIT TO REAR DISPLAY UNIT)

1. Connect AV control unit connector and rear display unit connector.
2. Turn ignition switch ON.
3. Check signal between rear display unit harness connector.

Probe				Condition	Standard	Reference value
(+)		(–)				
Rear display unit						
Connector	Terminal	Connector	Terminal			
R36	7	R36	8	When DVD or AUX image is displayed.	Waveform according to composite image is input.	

SKIB2251J

Is the inspection result normal?

YES >> Replace rear display unit. Refer to AV-406, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-404, "Removal and Installation".

AUX IMAGE SIGNAL CIRCUIT

Description

INFOID:0000000009652194

- Transmits the image signal of AUX (auxiliary input) device from auxiliary input jacks to AV control unit.
- The AV control unit transmits the AUX image signal to the front display unit by composite image signal.

Diagnosis Procedure

INFOID:0000000009652195

1.CHECK CONTINUITY AUX IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector and auxiliary input jacks connector.
3. Check continuity between AV control unit harness connector and auxiliary input jacks harness connector.

AV control unit		Auxiliary input jacks		Continuity
Connector	Terminal	Connector	Terminal	
M173	61	B273	7	Existed
	69		8	

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

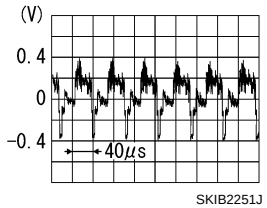
AV control unit		Ground	Continuity
Connector	Terminal		
M173	61		Not existed
	69		

Is the inspection result normal?

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

2.CHECK AUX IMAGE SIGNAL

1. Connect AV control unit connector and auxiliary input jacks connector.
2. Turn ignition switch ON.
3. Check signal between AV control unit harness connector and ground.

Probe				Condition	Standard	Reference value
(+)		(–)				
AV control unit						
Connector	Terminal	Connector	Terminal			
M173	61	M173	69	When AUX image is displayed on front or rear display unit.	Waveform according to AUX image is input.	

SKIB2251J

Is the inspection result normal?

YES >> Replace AV control unit. Refer to AV-404, "Removal and Installation".
NO >> Check that there is no malfunction in the external device.

CAMERA IMAGE SIGNAL CIRCUIT

Description

INFOID:0000000009652196

- AV control unit outputs camera power supply to rear view camera and inputs rear view camera image signal from rear view camera when the reverse signal is input.
- The AV control unit that inputs the camera image signal transmits the camera image signal to the front display unit.

Diagnosis Procedure

INFOID:0000000009652197

1.CHECK CONTINUITY CAMERA POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector and rear view camera connector.
3. Check continuity between AV control unit harness connector and rear view camera harness connector.

AV control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M173	73	D167	1	Existed

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

AV control unit		Ground	Continuity
Connector	Terminal		
M173	73		Not existed

Is inspection result normal?

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

2.CHECK VOLTAGE CAMERA POWER SUPPLY

1. Connect AV control unit connector and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever to “R”.
4. Check voltage between AV control unit harness connector and ground.

Probe				Standard	Voltage (Approx.)
(+)		(–)			
AV control unit					
Connector	Terminal	Connector	Terminal		
M173	73	M173	72	5.9 - 6.5 V	6.2 V

Is inspection result normal?

YES >> GO TO 3.
NO >> Replace AV control unit. Refer to AV-404, "Removal and Installation".

3.CHECK CONTINUITY CAMERA IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector and rear view camera connector.
3. Check continuity between AV control unit harness connector and rear view camera harness connector.

AV control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M173	62	D167	3	Existed

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

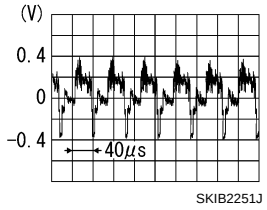
AV control unit		Ground	Continuity
Connector	Terminal		
M173	62		Not existed

Is inspection result normal?

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

4. CHECK CAMERA IMAGE SIGNAL

1. Connect AV control unit connector and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever to “R”.
4. Check signal between AV control unit harness connector and ground.

Probe				Condition	Standard	Reference value
(+)		(+)				
AV control unit						
Connector	Terminal	Connector	Terminal			
M173	62	M171	20	When camera image is displayed.	Waveform according to camera image is input.	

SKIB2251J

Is inspection result normal?

YES >> Replace AV control unit. Refer to AV-404, "Removal and Installation".
NO >> Replace rear view camera. Refer to AV-426, "Removal and Installation".

DISK EJECT SIGNAL CIRCUIT

Description

INFOID:0000000009652198

The disk eject switch outputs disk eject signal to the AV control unit when the switch of disk eject switch is pressed.

Diagnosis Procedure

INFOID:0000000009652199

1.CHECK CONTINUITY DISK EJECT SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector and disk eject switch connector.
3. Check continuity between AV control unit harness connector and disk eject switch harness connector.

AV control unit		Disk eject switch		Continuity
Connector	Terminal	Connector	Terminal	
M174	96	M153	4	Existed
	82		3	

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

AV control unit		Ground	Continuity
Connector	Terminal		
M174	96		Not existed
	82		

Is the inspection result normal?

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

2.CHECK AV CONTROL UNIT VOLTAGE

1. Connect AV control unit connector.
2. Turn ignition switch ON.
3. Check voltage between disk eject switch harness connector and ground.

Probe				Standard	Voltage (Approx.)
(+)		(–)			
Disk eject switch					
Connector	Terminal	Connector	Terminal		
M153	4	M153	3	—	3.3 V

Is the inspection result normal?

YES >> Replace disk eject switch. Refer to AV-417, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-404, "Removal and Installation".

MICROPHONE SIGNAL CIRCUIT

Description

INFOID:0000000009652200

TEL adapter unit supplies power to microphone. The microphone transmits the sound voice to the TEL adapter unit.

Diagnosis Procedure

INFOID:0000000009652201

1.CHECK CONTINUITY BETWEEN TEL ADAPTER UNIT AND MICROPHONE CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect TEL adapter unit connector and microphone connector.
3. Check continuity between TEL adapter unit harness connector and microphone harness connector.

TEL adapter unit		Microphone		Continuity
Connector	Terminals	Connector	Terminals	
M138	7	R20	1	Existed
	8		2	
	29		4	

4. Check continuity between TEL adapter unit harness connector and ground.

TEL adapter unit		Ground	Continuity
Connector	Terminals		
M138	29		Not existed
	7		

Is the inspection result normal?

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

2.CHECK VOLTAGE MICROPHONE VCC

1. Connect TEL adapter unit connector.
2. Turn ignition switch ON.
3. Check voltage between TEL adapter unit harness connector.

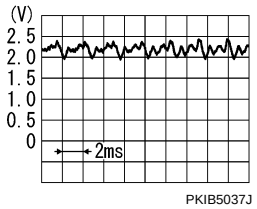
Probe				Standard	Voltage (Approx.)
(+)		(–)			
TEL adapter unit					
Connector	Terminal	Connector	Terminal		
M138	29	M138	8	4.7 - 5.3 V	5.0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace TEL adapter unit. Refer to AV-420, "Removal and Installation".

3.CHECK MICROPHONE SIGNAL

1. Connect microphone connector.
2. Check signal between TEL adapter unit harness connector.

Probe				Condition	Standard	Reference value
(+)		(+)				
TEL adapter unit						
Connector	Terminal	Connector	Terminal			
M138	7	M138	8	Give a voice.	Waveform according to voice is input.	

PKIB5037J

Is the inspection result normal?

YES >> Replace TEL adapter unit. Refer to AV-420, "Removal and Installation".
NO >> Replace microphone. Refer to AV-422, "Removal and Installation".

CONTROL SIGNAL CIRCUIT

Description

INFOID:0000000009652202

TEL adapter unit identifies the vehicle model according to the control signal and performs the control.

Diagnosis Procedure

INFOID:0000000009652203

1.CHECK CONTINUITY CONTROL SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect TEL adapter unit connector.
3. Check continuity between TEL adapter unit harness connector and ground.

TEL adapter unit		Ground	Standard	Reference value (Approx.)
Connector	Terminals			
M138	20		3.1 V or less	0 V
	27			

Is the inspection result normal?

YES >> Replace TEL adapter unit. Refer to AV-420, "Removal and Installation".
NO >> Repair harness or connector.

STEERING SWITCH SIGNAL A CIRCUIT

Description

INFOID:0000000009652204

Transmits the steering switch signal to AV control unit.

Diagnosis Procedure

INFOID:0000000009652205

1.CHECK STEERING SWITCH SIGNAL A CIRCUIT

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

AV control unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M171	6	M33	24	Existed

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

AV control unit		Ground	Continuity
Connector	Terminal		
M171	6		Not existed

Is the inspection result normal?

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

2.CHECK SPIRAL CABLE

Check spiral cable.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace spiral cable. Refer to SR-15, "Removal and Installation".

3.CHECK AV CONTROL UNIT VOLTAGE

1. Connect AV control unit connector and spiral cable connector.
2. Turn ignition switch ON.
3. Check voltage between AV control unit harness connector.

Probe				Standard	Voltage (Approx.)
(+)		(–)			
AV control unit					
Connector	Terminal	Connector	Terminal		
M171	6	M171	15	0 - 3.3 V	3.3 V

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace AV control unit. Refer to AV-404, "Removal and Installation".

4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to AV-388, "Component Inspection".

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace steering wheel. Refer to ST-12, "Removal and Installation".

Component Inspection

INFOID:0000000009652206

Measure the resistance between the steering switch connector terminals 14 to 17 and 15 to 17.

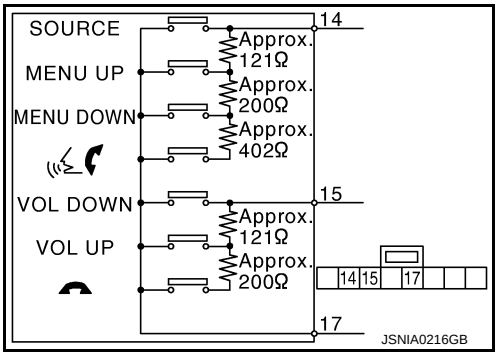
Standard

Between terminals 14 and 17

switch ON	: 708 – 737 Ω
MENU DOWN switch ON	: 314 – 327 Ω
MENU UP switch ON	: 118 – 123 Ω
SOURCE switch ON	: Less than 1 Ω

Between terminals 15 and 17

switch ON	: 314 – 327 Ω
VOL UP switch ON	: 118 – 123 Ω
VOL DOWN switch ON	: Less than 1 Ω



STEERING SWITCH SIGNAL B CIRCUIT

Description

INFOID:0000000009652207

Transmits the steering switch signal to AV control unit.

Diagnosis Procedure

INFOID:0000000009652208

1.CHECK STEERING SWITCH SIGNAL B CIRCUIT

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

AV control unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M171	16	M33	31	Existed

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

AV control unit		Ground	Continuity
Connector	Terminal		
M171	16		Not existed

Is the inspection result normal?

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

2.CHECK SPIRAL CABLE

Check spiral cable.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace spiral cable. Refer to SR-15, "Removal and Installation".

3.CHECK AV CONTROL UNIT VOLTAGE

1. Connect AV control unit connector and spiral cable connector.
2. Turn ignition switch ON.
3. Check voltage between AV control unit harness connector.

Probe				Standard	Voltage (Approx.)
(+)		(–)			
AV control unit					
Connector	Terminal	Connector	Terminal		
M171	16	M171	15	0 - 3.3 V	3.3 V

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace AV control unit. Refer to AV-404, "Removal and Installation".

4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to AV-390, "Component Inspection".

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace steering wheel. Refer to ST-12, "Removal and Installation".

Component Inspection

INFOID:0000000009652209

Measure the resistance between the steering switch connector terminals 14 to 17 and 15 to 17.

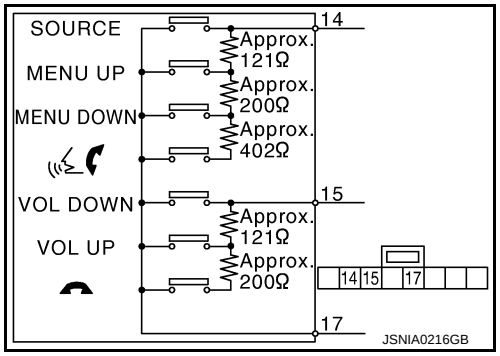
Standard

Between terminals 14 and 17

switch ON	: 708 – 737 Ω
MENU DOWN switch ON	: 314 – 327 Ω
MENU UP switch ON	: 118 – 123 Ω
SOURCE switch ON	: Less than 1 Ω

Between terminals 15 and 17

switch ON	: 314 – 327 Ω
VOL UP switch ON	: 118 – 123 Ω
VOL DOWN switch ON	: Less than 1 Ω



STEERING SWITCH GROUND CIRCUIT

Description

INFOID:0000000009652210

Transmits the steering switch signal to AV control unit.

Diagnosis Procedure

INFOID:0000000009652211

1.CHECK STEERING SWITCH SIGNAL GROUND CIRCUIT

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

AV control unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M171	15	M33	33	Existed

3. Connect AV control unit connector.

Is the inspection result normal?

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

2.CHECK SPIRAL CABLE

Check spiral cable.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace spiral cable. Refer to SR-15, "Removal and Installation".

3.CHECK GROUND CIRCUIT

1. Connect AV control unit connector.
2. Check continuity between AV control unit harness connector and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M171	15		Existed

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace AV control unit. Refer to AV-404, "Removal and Installation".

4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to AV-392, "Component Inspection".

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace steering wheel. Refer to ST-12, "Removal and Installation".

Component Inspection

INFOID:0000000009652212

Measure the resistance between the steering switch connector terminals 14 to 17 and 15 to 17.

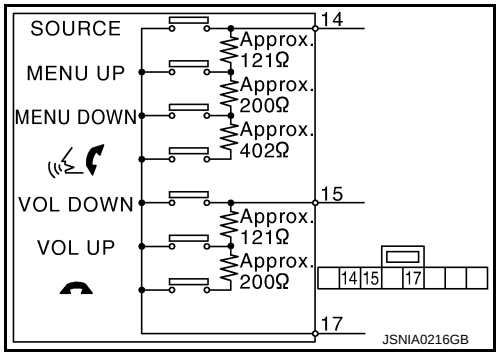
Standard

Between terminals 14 and 17

switch ON	: 708 – 737 Ω
MENU DOWN switch ON	: 314 – 327 Ω
MENU UP switch ON	: 118 – 123 Ω
SOURCE switch ON	: Less than 1 Ω

Between terminals 15 and 17

switch ON	: 314 – 327 Ω
VOL UP switch ON	: 118 – 123 Ω
VOL DOWN switch ON	: Less than 1 Ω



SYMPTOM DIAGNOSIS

MULTI AV SYSTEM SYMPTOMS

Symptom Table

INFOID:0000000009652213

OPERATION

Symptoms	Check items	Probable malfunction location
Multifunction switch and preset switch operation does not work.	• All switches cannot be operated. • “MULTI AV” is displayed on system selection screen when the CONSULT is started.	• Multifunction switch power supply and ground circuit. • AV communication circuit between AV control unit and multifunction switch. Perform CONSULT self-diagnosis. Refer to AV-304, "CONSULT Function".
	• All switches cannot be operated. • “MULTI AV” is not displayed on system selection screen when the CONSULT is initialized.	AV control unit power supply and ground circuit malfunction. Refer to AV-367, "AV CONTROL UNIT : Diagnosis Procedure".
	Only specified switch cannot be operated.	Multifunction switch or preset switch malfunction. Perform multifunction switch and preset switch self-diagnosis function. Refer to AV-295, "On Board Diagnosis Function".
Fuel economy display is abnormal.	There is malfunction in the CONSULT “self-diagnosis result” of “MULTI AV”. Refer to AV-304, "CONSULT Function".	Perform detected DTC diagnosis. Refer to AV-316, "DTC Index".
	There is no malfunction in the CONSULT “self-diagnosis result” of “MULTI AV”. Refer to AV-304, "CONSULT Function".	Ignition signal circuit malfunction. (AV control unit)

RELATED TO HANDS-FREE PHONE

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

Check Compatibility

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

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

b. If the customer's phone is NOT on the approved list:

   Stop diagnosis here. The customer needs to obtain a Bluetooth® phone that is on the approved list before any further action.

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

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

Symptoms	Check items	Probable malfunction location
Does not recognize cellular phone connection. (No connection is displayed on the display at the guide.)	Repeat the registration of cellular phone.	TEL adapter unit malfunction. Refer to AV-420, "Removal and Installation".
Hands-free phone cannot be established.	Both the reception and the speech cannot be performed	• Perform CONSULT self-diagnosis. Refer to AV-304, "CONSULT Function". • No malfunction. TEL adapter unit malfunction. Refer to AV-420, "Removal and Installation". • Malfunction is detected. Perform detected DTC self-diagnosis. Refer to AV-316, "DTC Index".
The other party's voice cannot be heard by hands-free phone.	The operation of the "" switch can be performed.	TEL voice signal circuit malfunction between TEL adapter unit and AV control unit.
	The operation of the "" switch cannot be performed.	Control signal circuit malfunction. Refer to AV-387, "Diagnosis Procedure".
Originating sound is not heard by the other party with hands-free phone communication.	Sound operation function is normal.	TEL adapter unit malfunction. Refer to AV-420, "Removal and Installation".
	Sound operation function does not work.	Microphone signal circuit malfunction. Refer to AV-385, "Diagnosis Procedure".
The system cannot be operated.	"SOURCE", "MENU UP", and "MENU DOWN" switches are operated. But "" switch is not operated.	Steering switch malfunction. Replace steering wheel. Refer to ST-12, "Removal and Installation".
	"SOURCE", "MENU UP", "MENU DOWN" and "" switches are not operated.	Steering switch signal B circuit malfunction. Refer to AV-390, "Diagnosis Procedure".
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to AV-392, "Diagnosis Procedure".

RELATED TO REAR VIEW MONITOR

Symptoms	Check items	Probable malfunction location
Camera image is not shown. (Vehicle width and possible route line is displayed.)	DVD image is displayed.	Camera image signal circuit. Refer to AV-382, "Diagnosis Procedure".
	DVD image is not displayed.	Composite image signal circuit malfunction between AV control unit and front display unit. Refer to AV-379, "Diagnosis Procedure".
Camera image is not shown. (displayed in black and nothing can be displayed)	—	• Horizontal synchronizing (HP) signal circuit. Refer to AV-377, "Diagnosis Procedure". • Vertical synchronizing (VP) signal circuit. Refer to AV-378, "Diagnosis Procedure".
Camera image does not switch.	"Reverse" is not turned ON on "Vehicle Signals" screen of "Confirmation/Adjustment".	Reverse signal circuit malfunction.
	"Reverse" is turned ON on "Vehicle Signals"screen of "Confirmation/Adjustment".	AV control unit malfunction. Replace AV control unit. Refer to AV-404, "Removal and Installation".

RELATED TO RGB IMAGE

Symptoms	Check items	Possible malfunction location / Action to take
RGB image is not shown.	There is malfunction in the CONSULT “self-diagnosis result” of “MULTI AV”. Refer to AV-304, "CONSULT Function".	Perform detected DTC diagnosis. Refer to AV-316, "DTC Index".
	There is no malfunction in CONSULT “self-diagnosis results” of “MULTI AV”. Refer to AV-304, "CONSULT Function".	Vertical synchronizing (VP) signal circuit. Refer to AV-378, "Diagnosis Procedure".
Color of RGB image is not proper.	Light blue (Cyan) tint.	RGB signal (R: red) circuit. Refer to AV-372, "Diagnosis Procedure".
	Purple (Magenta) tint.	RGB signal (G: green) circuit. Refer to AV-373, "Diagnosis Procedure".
	Screen looks yellowish.	RGB signal (B: blue) circuit. Refer to AV-374, "Diagnosis Procedure".
RGB screen is rolling.	—	RGB synchronizing signal circuit. Refer to AV-375, "Diagnosis Procedure".
Fuel economy display is malfunctioning.	There is malfunction in the CONSULT “self-diagnosis result” of “MULTI AV”. Refer to AV-304, "CONSULT Function".	Perform detected DTC diagnosis. Refer to AV-316, "DTC Index".
	There is no malfunction in CONSULT “self-diagnosis results” of “MULTI AV”. Refer to AV-304, "CONSULT Function".	Ignition signal circuit malfunction. (AV control unit)

RELATED TO AUDIO

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	—	Disk eject signal circuit malfunction. Refer to AV-384, "Diagnosis Procedure".
No sound comes out or the level of the sound is low.	No sound from all speakers.	• BOSE amp. ON signal circuit malfunction. • BOSE amp. power supply and ground circuits malfunction. Refer to AV-369, "BOSE AMP. : Diagnosis Procedure".
	Sound is not heard from woofer.	Sound signal (woofer) circuit malfunction.
	Only a certain speaker (front right, front left, rear right, or rear left, etc.) does not output sound.	• Poor connector connection of speaker. • Sound signal circuit malfunction between AV control unit and BOSE amp. • Sound signal circuit malfunction between BOSE amp. and speaker. • Malfunction in speaker. • Malfunction in AV control unit. • Malfunction in BOSE amp.
Noise is mixed with audio.	Noise comes out from all speakers.	• Malfunction in AV control unit. • Malfunction in BOSE amp.
	Noise comes out only from a certain speaker (front right, front left, rear right, or rear left, etc.).	• Poor connector connection of speaker. • Sound signal circuit malfunction between AV control unit and BOSE amp. • Sound signal circuit malfunction between BOSE amp. and speaker. • Malfunction in speaker. • Poor installation of speaker (e.g. backlash and looseness) • Malfunction in AV control unit. • Malfunction in BOSE amp.
	Noise is mixed with radio only (when the car hits a bump or while driving over bad roads).	Poor connector connection of antenna or antenna feeder.

Symptoms	Check items	Probable malfunction location
Radio is not received or poor reception.	• Other audio sounds are normal. • Any radio cannot be received or poor reception is caused even after moving to a service area with good reception (e.g. a place with clear view and no obstacles generating external noises).	• Antenna amp. ON signal circuit malfunction. • Poor connector connection of antenna or antenna feeder.
Satellite radio is not received.	There is malfunction in the CONSULT self-diagnosis result. Refer to AV-304, "CONSULT Function".	• Malfunction in antenna, antenna feeder, or AV control unit. Perform DTC diagnosis. Refer to AV-316, "DTC Index". • Poor continuity in antenna feeder. • Poor connector connection of antenna or antenna feeder.
	There is no malfunction in the CONSULT self-diagnosis result. Refer to AV-304, "CONSULT Function".	• Poor continuity in antenna feeder. • Poor connector connection of antenna or antenna feeder. • Loose satellite radio antenna mounting nut. Refer to AV-425, "Exploded View".

RELATED TO USB

NOTE:
Check that there is no malfunction of USB equipment main body before performing a diagnosis.

Symptoms	Check items	Possible malfunction location / Action to take
iPod® or USB memory can not be recognized.	—	• USB harness malfunction. • USB connector malfunction.

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

RELATED TO DVD MODE

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	—	Disk eject signal circuit malfunction. Refer to AV-384, "Diagnosis Procedure".
DVD image is not displayed.	Front display unit and rear display unit are not displayed.	Perform “Self Diagnostic Result” of “MULTI AV” with CONSULT. Refer to AV-304, "CONSULT Function".
	Rear display unit is normal.	Composite image signal circuit between AV control unit and front display unit. Refer to AV-379, "Diagnosis Procedure".
	Front display unit is normal.	Composite image signal circuit between AV control unit and rear display unit. Refer to AV-380, "Diagnosis Procedure".
DVD sound is not heard.	No sound from all speakers.	• Amp. ON signal circuit malfunction. • BOSE amp. power supply and ground circuits malfunction. Refer to AV-369, "BOSE AMP. : Diagnosis Procedure".
	Sound is not heard from woofer.	• Woofer power supply and ground circuit malfunction. • Sound signal (woofer) circuit malfunction. • Woofer amp. ON signal circuit malfunction.
	Sound is heard only from specific places.	Sound signals circuit of suspect system.

RELATED TO AUXILIARY INPUT

NOTE:
Check that there is no malfunction of AUX equipment main body before performing a diagnosis.

Symptoms	Check items	Probable malfunction location
No voice sound is heard when AUX mode is selected.	Voice sound is heard when other modes are selected.	AUX sound signal circuit.
Image is not displayed when AUX mode is selected.	Front display unit and rear display unit are not displayed.	Perform “Self Diagnostic Result” of “MULTI AV” with CONSULT. Refer to AV-304, "CONSULT Function".
	DVD image is displayed on front display unit and rear display unit.	AUX image signal circuit malfunction. Refer to AV-381, "Diagnosis Procedure".
	Rear display unit is normal.	Composite image signal circuit between AV control unit and front display unit. Refer to AV-379, "Diagnosis Procedure".
	Front display unit is normal.	Composite image signal circuit between AV control unit and rear display unit. Refer to AV-380, "Diagnosis Procedure".

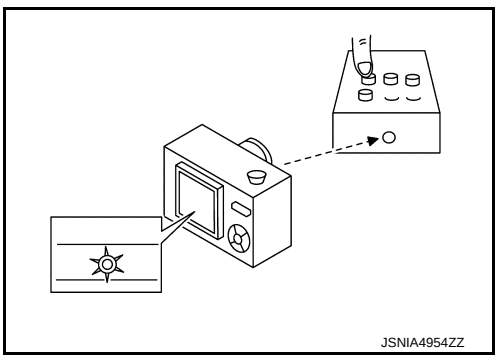
RELATED TO REAR DISPLAY

Perform the diagnosis of the following items before starting diagnosis by symptom.

- Self-diagnosis: Refer to AV-304, "CONSULT Function".
- Self-diagnosis mode: Refer to AV-295, "On Board Diagnosis Function".
- Power supply system: Refer to AV-368, "REAR DISPLAY UNIT : Diagnosis Procedure".

Symptom	Check Item		Possible malfunction location / Action to take
Rear display cannot be opened.	Use the touch button in the front display to open/close the rear display.	Operable.	Operate with the remote to see if rear display opens.
		Inoperative.	Replace rear display.
Inoperative with the remote.	All keys inoperative.	• Check by touching and check battery polarity. • Replace battery.	• Check with a remote from the same vehicle family. • Check infrared* of the luminescent part (LED) of the remote.
	Some keys inoperative.	• Check with a remote from the same vehicle family. • Check infrared* of the luminescent part (LED) of the remote.	The function corresponding to the remote operation is not included. (This is not a malfunction.)
Rear display screen is black.	Play a DVD.	Screen is dark.	Adjust screen for image quality. (This is not a malfunction.)
		Screen is black	Replace rear display.
Video shown on rear display screen becomes distorted or rolls up/down.	Adjust the color and image settings using the display screen menu items.		If the symptom does not change, replace rear display.
Rear display screen is blue.	—		Replace rear display.

*: To check infrared, check light of the luminescent part (LED) through the lens of digital camera when operating the remote.



RELATED TO HEADPHONE

Symptom	Check Item		Possible malfunction location / Action to take
Audio cannot be heard from headphone.	Turn ON the rear display.	Audio cannot be heard.	Check power supply of headphone.
Headphone cannot be turned ON.	• Battery polarity. • Battery poor contact • Battery replacement	Power is ON. (Power indicator lamp: ON)	This is not a malfunction.
		Power cannot be turned ON. (Power indicator lamp: OFF)	Replace headphone.

RELATED TO STEERING SWITCH

Symptoms	Probable malfunction location
None of the steering switch operations work.	Steering switch ground circuit malfunction. Refer to AV-392, "Diagnosis Procedure".
Only specified switch cannot be operated.	Steering switch malfunction. Replace steering wheel. Refer to ST-12, "Removal and Installation".
“SOURCE”, “MENU UP”, “MENU DOWN”, “ ” switches are not operated.	Steering switch signal A circuit. Refer to AV-388, "Diagnosis Procedure".
”VOL UP“, “VOL DOWN”, “ ” switches are not operated.	Steering switch signal B circuit. Refer to AV-390, "Diagnosis Procedure".

NORMAL OPERATING CONDITION

Description

INFOID:0000000009652214

BASIC OPERATIONS

Symptom	Possible cause	Possible solution
No image is displayed.	The brightness is at the lowest setting.	Adjust the brightness of the display.
	The systems in the video mode.	Press “DISC-AUX” to change the mode.
	The display is turned off.	Press “☀/◑ OFF” to turn on the display.
Screen not clear.	Contrast setting is not appropriate.	Adjust the contrast of the display.
The screen is too dim. The movement is slow.	The temperature in the interior of the vehicle is low.	Wait until the interior of the vehicle has warmed up.
Some pixels in the display are darker or brighter than others.	This condition is an inherent characteristic of liquid crystal displays.	This is not a malfunction.
Some menu items cannot be selected.	Some menu items become unavailable while the vehicle is driven.	Park the vehicle in a safe location, and then operate the multi AV system.

RELATED TO VOICE RECOGNITION

Related to Telephone

The system should respond correctly to all voice commands without difficulty. If problems are encountered, try the following solutions.

Where the solutions are listed by number, try each solution in turn, starting with number 1, until the problem is resolved.

Symptom	Solution
System fails to interpret the command correctly.	1. Ensure that the command is valid.
	2. Ensure that the command is spoken after the tone.
	3. Speak clearly without pausing between words and at level appropriate to the ambient noise level in the vehicle.
	4. Ensure that the ambient noise level is not excessive (for example, windows open or defroster on). **NOTE:** If it is too noisy to use the phone, it is likely that the voice commands will not be recognized.
	5. If more than one command was said at a time, try saying the commands separately.
	6. If the system consistently fails to recognize commands, the voice training procedure should be carried out to improve the recognition response for the speaker. Refer to “Speaker adaptation (SA) mode” in “OWNER’S MANUAL”.
The system consistently selects the wrong voicetag	1. Ensure that the phone book entry name requested matches what was originally stored. This can be confirmed by using the “List Names” command.
	2. Replace one of the names being confused with a new name.

RELATED TO AUDIO

- The majority of the audio malfunctions are the result of outside causes (bad CD/cassette, electromagnetic interference, etc.). Check the symptoms below to diagnose the malfunction.
- The vehicle itself can be a source of noise if noise prevention parts or electrical equipment is malfunctioning. Check if noise is caused and/or changed by engine speed, ignition switch turned to each position, and operation of each piece of electrical equipment, and then determine the cause.

NOTE:

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

Symptom	Cause and Counter measure
Cannot play	Check if the CD was inserted correctly.
	Check if the CD is scratched or dirty.
	Check if there is condensation inside the player, and if there is, wait until the condensation is gone (about 1 hour) before using the player.
	If there is a temperature increase error, the player will play correctly after it returns to the normal temperature.
	If there is a mixture of music CD files (CD-DA data) and MP3/WMA files on a CD, only the music CD files (CD-DA data) will be played.
	Files with extensions other than ".MP3 (.mp3)" or ".WMA (.wma)" cannot be played. In addition, the character codes and number of characters for folder names and file names should be in compliance with the specifications.
	Check if the disc or the file is generated in an irregular format, This may occur depending on the variation or the setting of MP3/WMA writing applications or other text editing applications.
	Check if the finalization process, such as session close and disc close, is done for the disc.
	Check if the CD is protected by copyright.
	Disks recorded in live file system format are not supported. (For Microsoft Windows® Vista, check the settings.)
Poor sound quality	Check if the CD is scratched or dirty.
It takes a relatively long time before the music starts playing.	If there are many folder or file levels on the MP3/WMA CD, or if it is a multisession disc, some time may be required before the music starts playing.
Music cuts off or skips	The writing software and hardware combination might not match, or the writing speed, writing depth, writing width might not match the specifications. Try using the slowest writing speed.
Skipping with high bit rate files	Skipping may occur with large quantities if data such as for high bit rate data.
Move immediately to the next song when playing	When a non-MP3/WMA file has been given an extension of ".MP3 (.mp3)" or ".WMA (.wma)" when play is prohibited by copyright protection, the player will skip to the next song.
The songs do not play back in the desired order.	The playback order is the order in which the files were written by the software, so the files might not play in the desired order.
Poor reception only from a certain radio broadcast station .	Check incoming radio wave signal strength of applicable broadcast station.
Buzz/rattle sound from speaker	The majority of rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the rattle.

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

NOTE:

- Fading noise: This noise occurs because of variations in the field strength in a narrow range due to mountains or buildings blocking the signal.
- Multi-path noise: This noise results from a time difference between the broadcast waves directly from the station arriving at the antenna and the waves reflected by mountains or buildings.

RELATED TO DVD

Symptom	Possible cause	Possible solution
Not working as operated	Some operations may be rejected or may not function as intended because of the manufacturer's intent, depending on DVD.	This is not a malfunction.
Operation not accepted	If a requested operation is prohibited, then a message is displayed on the screen. (Message display depends on DVD.)	This is not a malfunction.

Symptom	Possible cause	Possible solution
DVD can not be played	Check that the DVD is inserted in the right place.	Upturn the DVD (facing the title upward).
	Check that there is no condensation inside the player.	Wait until the condensation evaporates (approximately one hour).
	DVD menu is displayed.	Select item to touch “ENTER”.
	Insertion of a DVD with a different region code.	DVDs with a different region code can not be played. Check DVD.
	Some DVD softwares may not be played because not all DVD softwares fully comply in the standard.	This is not a malfunction.
Interruption during playback or flicker in the display	Check that the DVD has no scratches and dirt.	Errors may not be corrected depending on the size of scratches.
		Wipe and clean the dirt on the disc.
Subtitles not shown	Subtitle setting is OFF.	Set subtitle.
	Subtitle is not included in the software.	Check DVD.
Not played in set language	If a language is not included in the DVD, then the DVD is played in a recommended language.	Check DVD.
Not played with set subtitle	If a set subtitle is not included in the DVD, then the DVD is played with a recommended subtitle.	Check DVD.
Angle unchangeable	Plural angles are not recorded in the software.	Check if the DVD is multi–angle capable.
Unusual screen display	Display mode to the output aspect ratio for the DVD software is inappropriate.	Switch to the appropriate display mode.
Distortion in picture	In the process of fast–forward or fast–reverse.	This is not a malfunction.
Low sound quality	Check that the DVD has no scratches and dirt.	Wipe and clean the dirt on the disc.
Subtitle and language not selectable (not played with set subtitle or in set language)	The DVD is not multilanguage–capable.	The inclusion of the number of languages depends on DVD. Languages may be selectable on the Menu screen. Check DVD.
	The DVD has a priority language or setting.	If the DVD has a priority language or settings, then settings changed with this device are not reflected.
Playback time is indicated, but no sound comes out.	Playback of Mix mode Truck 1. (Mix mode: Format including Truck 1 with data other than music and Trucks from Truck 2 with music data.)	Play music data included in trucks from Truck 2.

RELATED TO HANDS-FREE PHONE

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

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

REMOVAL AND INSTALLATION

AV CONTROL UNIT

Removal and Installation

INFOID:0000000009652215

REMOVAL

CAUTION:

- **Before replacing AV control unit, perform “Read/Write Configuration” to save or print current vehicle specification. For details, refer to AV-353, "Work Procedure".**
- **Remove battery terminal and AV control unit after a lapse of 30 seconds or more after turning the ignition switch OFF.**

NOTE:

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

1. Remove disk eject switch. Refer to AV-417, "Removal and Installation".
2. Remove two harness clips mounted to the bracket.
3. Remove four mounting screws and pull the AV control unit together with the brackets.
4. Disconnect connectors to remove AV control unit and bracket from the vehicle as a single unit.
5. Remove bracket screws to remove AV control unit.

INSTALLATION

Note the following, and install in the reverse order of removal.

CAUTION:

Be sure to perform “Read/Write Configuration” when replacing AV control unit. For details, refer to AV-354, "Work Procedure".

FRONT DISPLAY UNIT

Removal and Installation

INFOID:0000000009652216

REMOVAL

1. Remove cluster lid D. Refer to IP-14, "Removal and Installation".
2. Remove front display unit mounting screws.
3. Disconnect front display unit connectors to remove front display unit.

INSTALLATION

Install in the reverse order of removal.

REAR DISPLAY UNIT

Removal and Installation

INFOID:0000000009652217

REMOVAL

1. Remove roof console. Refer to INT-35, "Removal and Installation".
2. Disconnect rear display unit connector, remove rear display unit mounting bolts and remove the rear display unit.
   NOTE:
   To prevent rear display unit from dropping, securely support the rear display unit during the removal/installation.

INSTALLATION

Install in the reverse order of removal.

BOSE AMP.

Removal and Installation

INFOID:0000000009652218

REMOVAL

1. Remove luggage floor box. Refer to INT-45, "LUGGAGE FLOOR BOX : Removal and Installation".
2. Remove BOSE amp. mounting screws.
3. Disconnect connectors to remove BOSE amp.

INSTALLATION

Install in the reverse order of removal.

FRONT DOOR WOOFER

Removal and Installation

INFOID:0000000009652219

REMOVAL

1. Remove front door finisher. Refer to INT-14, "Removal and Installation".
2. Remove front door woofer screws and disconnect front door woofer connector.

INSTALLATION

Install in the reverse order of removal.

FRONT SQUAWKER

Removal and Installation

INFOID:0000000009652220

REMOVAL

1. Remove speaker grille from instrument panel. Refer to IP-14, "Removal and Installation".
2. Remove screws and disconnect connector, and remove the front squawker.

WARNING:
Never damage wind shield glass.

INSTALLATION

Install in the reverse order of removal.

SLIDE DOOR SPEAKER

Removal and Installation

INFOID:0000000009652221

REMOVAL

1. Remove slide door finisher. Refer to INT-17, "Removal and Installation".
2. Remove screws and disconnect connector, and remove slide door speaker.

INSTALLATION

Install in the reverse order of removal.

SLIDE DOOR SQUAWKER

Removal and Installation

INFOID:0000000009652222

REMOVAL

1. Remove slide door finisher. Refer to INT-17, "Removal and Installation".
2. Remove screws to remove slide door squawker.

INSTALLATION

Install in the reverse order of removal.

LUGGAGE SQUAWKER

Removal and Installation

INFOID:0000000009652223

REMOVAL

1. Remove luggage side lower finisher. Refer to INT-43, "LUGGAGE SIDE LOWER FINISHER : Removal and Installation".
2. Remove screws to remove luggage squawker.

INSTALLATION

Install in the reverse order of removal.

CENTER SQUAWKER

Removal and Installation

INFOID:0000000009652224

REMOVAL

1. Remove speaker grille from instrument panel. Refer to IP-14, "Removal and Installation".
2. Remove screws and disconnect connector, and remove the center squawker.

CAUTION:
Never damage wind shield glass.

INSTALLATION

Install in the reverse order of removal.

WOOFER

Removal and Installation

INFOID:0000000009652225

REMOVAL

1. Remove luggage floor box. Refer to INT-45, "LUGGAGE FLOOR BOX : Removal and Installation".
2. Remove woofer clamp and disconnect connector, and remove woofer.

INSTALLATION

Install in the reverse order of removal.

MULTIFUNCTION SWITCH

Removal and Installation

INFOID:0000000009652226

REMOVAL

1. Remove cluster lid C. Refer to IP-14, "Removal and Installation".
2. Remove multifunction switch mounting screws.
3. Remove bracket and disconnect harness connectors connected to preset switch.
4. Unhook pawl to remove multifunction switch from cluster lid C.

CAUTION:

Carefully handle the pawl fixing the multifunction switch to prevent damage to the pawl.

INSTALLATION

Install in the reverse order of removal.

PRESET SWITCH

Removal and Installation

INFOID:0000000009652227

REMOVAL

1. Remove cluster lid C. Refer to IP-14, "Removal and Installation".
2. Remove preset switch mounting screws and disconnect preset switch connector.
3. Unhook pawl by using a remover tool to remove preset switch from cluster lid C.

CAUTION:
Carefully handle the pawl fixing the preset switch to prevent damage to the pawl.

INSTALLATION

Install in the reverse order of removal.

DISK EJECT SWITCH

Removal and Installation

INFOID:0000000009652228

REMOVAL

1. Remove instrument lower center cover. Refer to IP-14, "Removal and Installation".
2. Remove screws and unhook two pawls of AV control unit to remove disk eject switch.

CAUTION:

Carefully handle the pawl fixing the disk eject switch to prevent damage to the pawl.

INSTALLATION

Install in the reverse order of removal.

AUXILIARY INPUT JACKS

Removal and Installation

INFOID:0000000009652229

REMOVAL

1. Remove center console body assembly. Refer to IP-28, "Removal and Installation".
2. Remove screws to remove auxiliary input jacks from center console body assembly.

INSTALLATION

Install in the reverse order of removal.

USB CONNECTOR

Removal and Installation

INFOID:0000000009652230

REMOVAL

1. Remove center console upper finisher. Refer to IP-29, "Disassembly and Assembly".
2. Unhook pawl to remove USB connector from center console upper finisher.

INSTALLATION

Install in the reverse order of removal.

TEL ADAPTER UNIT

Removal and Installation

INFOID:0000000009652231

REMOVAL

1. Remove cluster lid C. Refer to IP-14, "Removal and Installation".
2. Remove TEL adapter unit mounting bracket screws.
3. Disconnect connector to remove TEL adapter unit, TEL antenna, and bracket as a single unit.
4. Remove bracket screws to remove TEL adapter unit from bracket.

INSTALLATION

Install in the reverse order of removal.

TEL ANTENNA

Removal and Installation

INFOID:0000000009652232

REMOVAL

1. Remove cluster lid C. Refer to IP-14, "Removal and Installation".
2. Remove TEL adapter unit mounting bracket screws.
3. Disconnect connector to remove TEL adapter unit, TEL antenna, and bracket as a single unit.
4. Disconnect connector and remove screws to TEL antenna.

INSTALLATION

Install in the reverse order of removal.

MICROPHONE

Removal and Installation

INFOID:0000000009652233

REMOVAL

1. Remove map lamp assembly. Refer to INL-67, "Removal and Installation".
2. Unhook pawls to remove microphone from map lamp assembly.

CAUTION:
Carefully handle the pawl fixing the microphone to prevent damage to the pawl.

INSTALLATION

Install in the reverse order of removal.

NOTE:
After installing microphone, check that it is securely installed with no backlash.

ANTENNA AMP.

Removal and Installation

INFOID:0000000009652234

REMOVAL

1. Remove rear pillar garnish RH. Refer to INT-27, "REAR PILLAR GARNISH : Removal and Installation".
2. Remove screw and disconnect connector, and remove antenna amp.

INSTALLATION

Install in the reverse order of removal.

SATELLITE RADIO TUNER

Removal and Installation

INFOID:0000000009652235

REMOVAL

1. Remove luggage side lower finisher. Refer to INT-43, "LUGGAGE SIDE LOWER FINISHER : Removal and Installation".
2. Remove bolts to remove satellite radio tuner with brackets as a single unit from the body.
3. Remove brackets screws to remove satellite radio tuner.

INSTALLATION

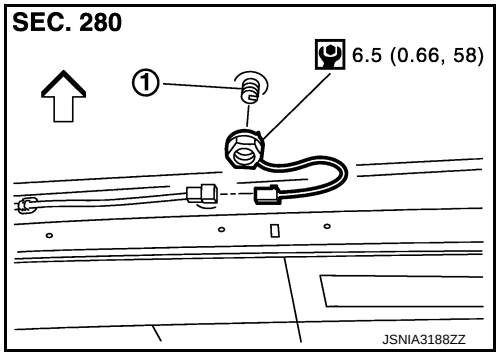
Install in the reverse order of removal.

SATELLITE RADIO ANTENNA

Exploded View

INFOID:0000000009652236

REMOVAL

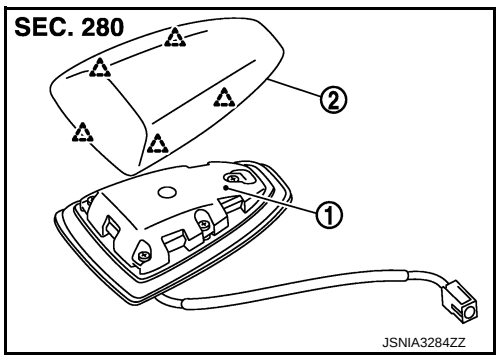


1. Satellite radio antenna

⇦ : Vehicle front

: N·m (kg-m, in-fb)

DISASSEMBLY



1. Satellite radio antenna
2. Cover

: Pawl

Removal and Installation

INFOID:0000000009652237

REMOVAL

1. Remove rear upper ventilator duct 2. Refer to HA-56, "Exploded View".
2. Disconnect antenna feeder connector.
3. Remove nut, and remove satellite radio antenna and the cover from the vehicle as a single unit.

INSTALLATION

Install in the reverse order of removal.

CAUTION:

If the satellite radio antenna mounting nut is tightened looser than the specified torque, then this will lower the sensitivity of the antenna. On the other hand, if the nut is tightened tighter than the specified torque, then this will deform the roof panel.

Disassembly and Assembly

INFOID:0000000009652238

DISASSEMBLY

Insert cloth-covered driver into gaps between satellite radio antenna and the cover, and remove the cover from satellite radio antenna.

ASSEMBLY

Assemble in the reverse order of disassembly.

REAR VIEW CAMERA

Removal and Installation

INFOID:0000000009943277

REMOVAL

1. Remove back door finisher. Refer to EXT-47, "Removal and Installation".
2. Remove screws to remove rear view camera from back door finisher.

INSTALLATION

Install in the reverse order of removal.

NOTE:

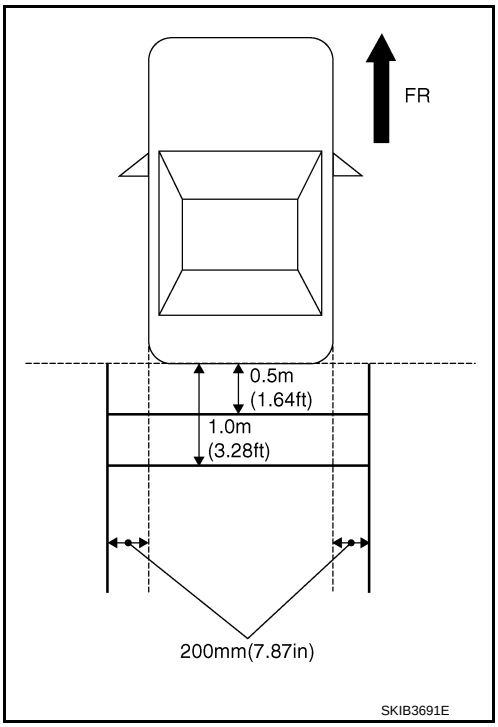
Adjust the guide line position if the guide line position is shifted after installing the rear view camera. Refer to AV-426, "Adjustment".

Adjustment

INFOID:0000000009878736

Adjust the guide line position if the guide line position is shifted after installing the rear view camera.

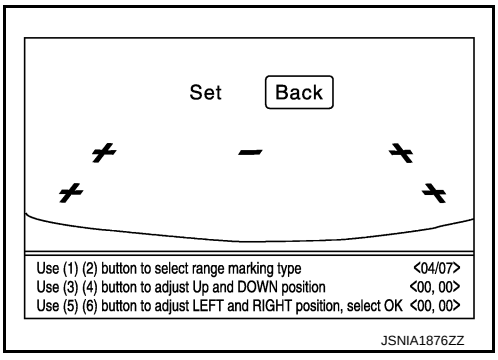
1. Draw lines on rearward area of the vehicle passing through the following points: 200 mm (7.87 in) from both sides of the vehicle, and 0.5 m (1.64 ft), 1.0 m (3.28 ft) from the rear end of the bumper.
2. Set into “Camera system” mode of Confirmation / Adjustment mode.



3. Press “1” or “2” switches, and then select the guiding line pattern so that its angle is aligned with the correction line of the rear of the vehicle.

Selected pattern : 7

4. Make fine adjustment to the correction line of the rear of the vehicle with “3”, “4”, “5” or “6” switches so that its position is aligned with the guiding line. Press “PUSH ENTER” switch and record the adjusted guiding line position to the camera control unit.



Up/Down adjustment range : (–20) – (20)

Left/Right adjustment range : (–20) – (20)

CAUTION:

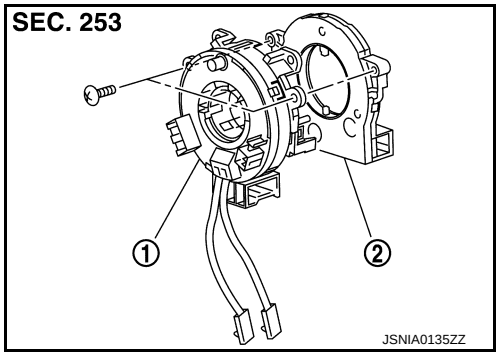
Never operate other function such as pressing BACK while writing index data.

STEERING ANGLE SENSOR

Exploded View

INFOID:0000000009652241

DISASSEMBLY



1. Spiral cable
2. Steering angle sensor

Removal and Installation

INFOID:0000000009652242

REMOVAL

1. Remove spiral cable. Refer to SR-15, "Removal and Installation".
2. Remove steering angle sensor from spiral cable.

INSTALLATION

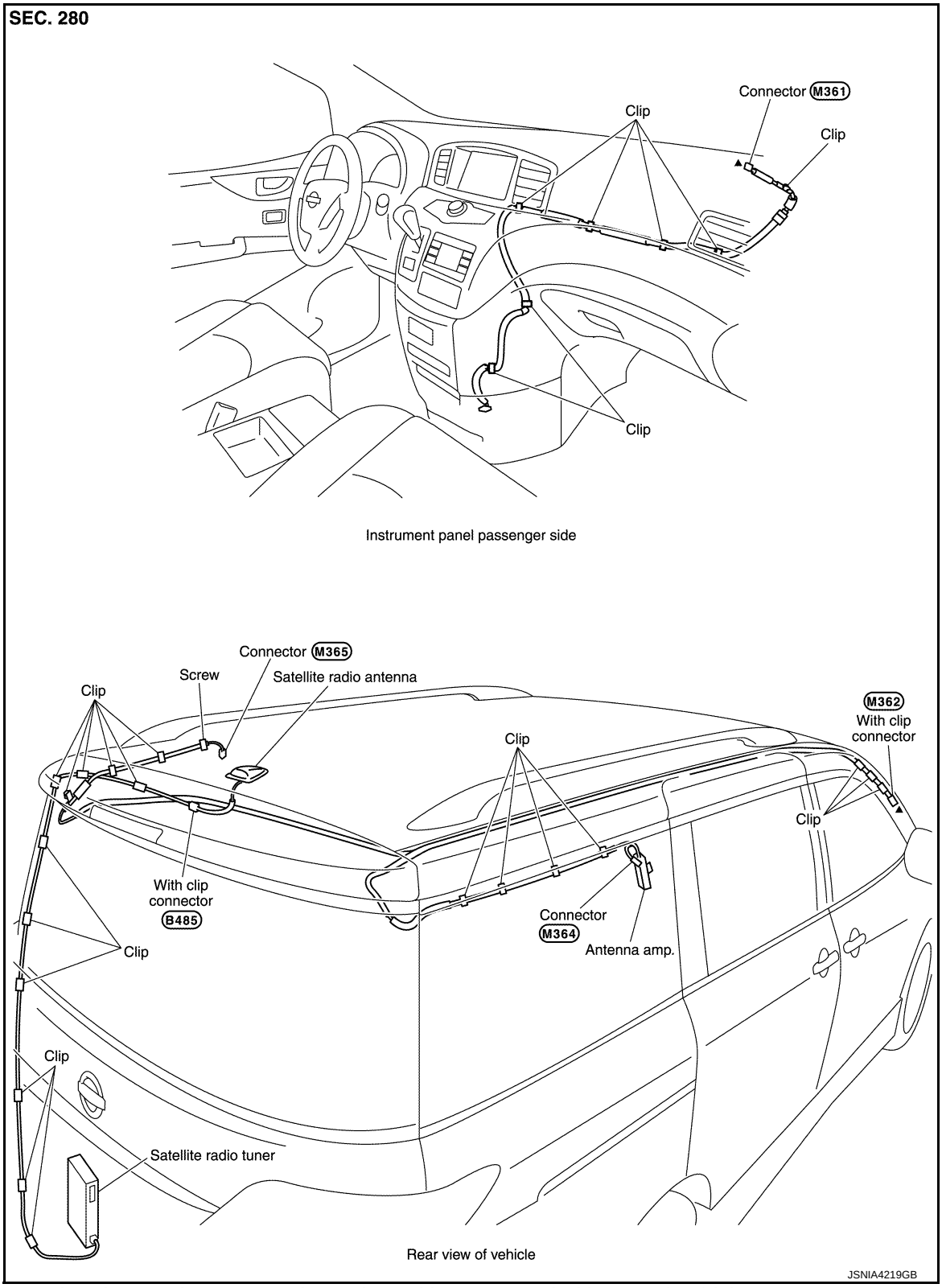
1. Install in the reverse order of removal.
2. Perform steering angle sensor neutral position adjustment. Refer to BRC-49, "Work Procedure".

ANTENNA FEEDER

Feeder Layout

INFOID:0000000009652243

SEC. 280



▲: Indicates that the part is connected at points with same symbol in actual vehicle.

PRECAUTION

PRECAUTIONS

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

INFOID:0000000009652244

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 “SRS AIR BAG” and “SEAT BELT” of this Service Manual.

WARNING:

Always observe the following items for preventing accidental activation.

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that 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 “SRS AIR BAG”.**
- **Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.**

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

WARNING:

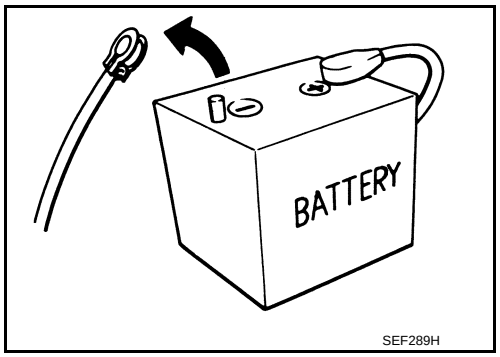
Always observe the following items for preventing accidental activation.

- **When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.**
- **When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.**

Precautions for Removing Battery Terminal

INFOID:0000000009926432

- When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.
  NOTE:
  ECU may be active for several tens of seconds after the ignition switch is turned OFF. If the battery terminal is removed before ECU stops, then a DTC detection error or ECU data corruption may occur.
- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.
  NOTE:
  If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.



SEF289H

- After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.
  NOTE:
  The removal of 12V battery may cause a DTC detection error.

Precaution for Trouble Diagnosis

INFOID:0000000009652246

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.

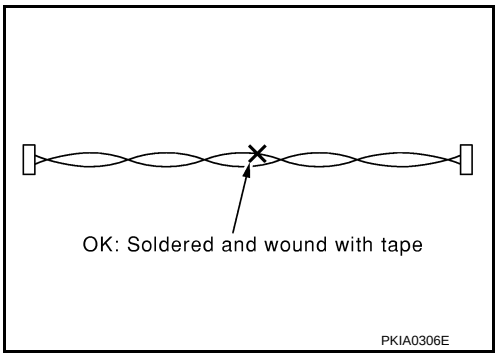
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

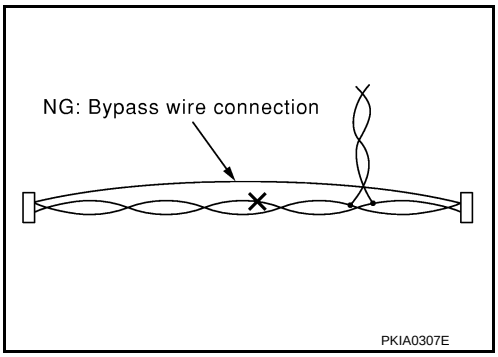
INFOID:0000000009652247

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.)

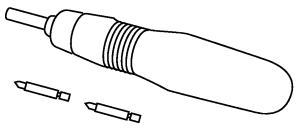


PREPARATION

PREPARATION

Commercial Service Tools

INFOID:0000000009652248

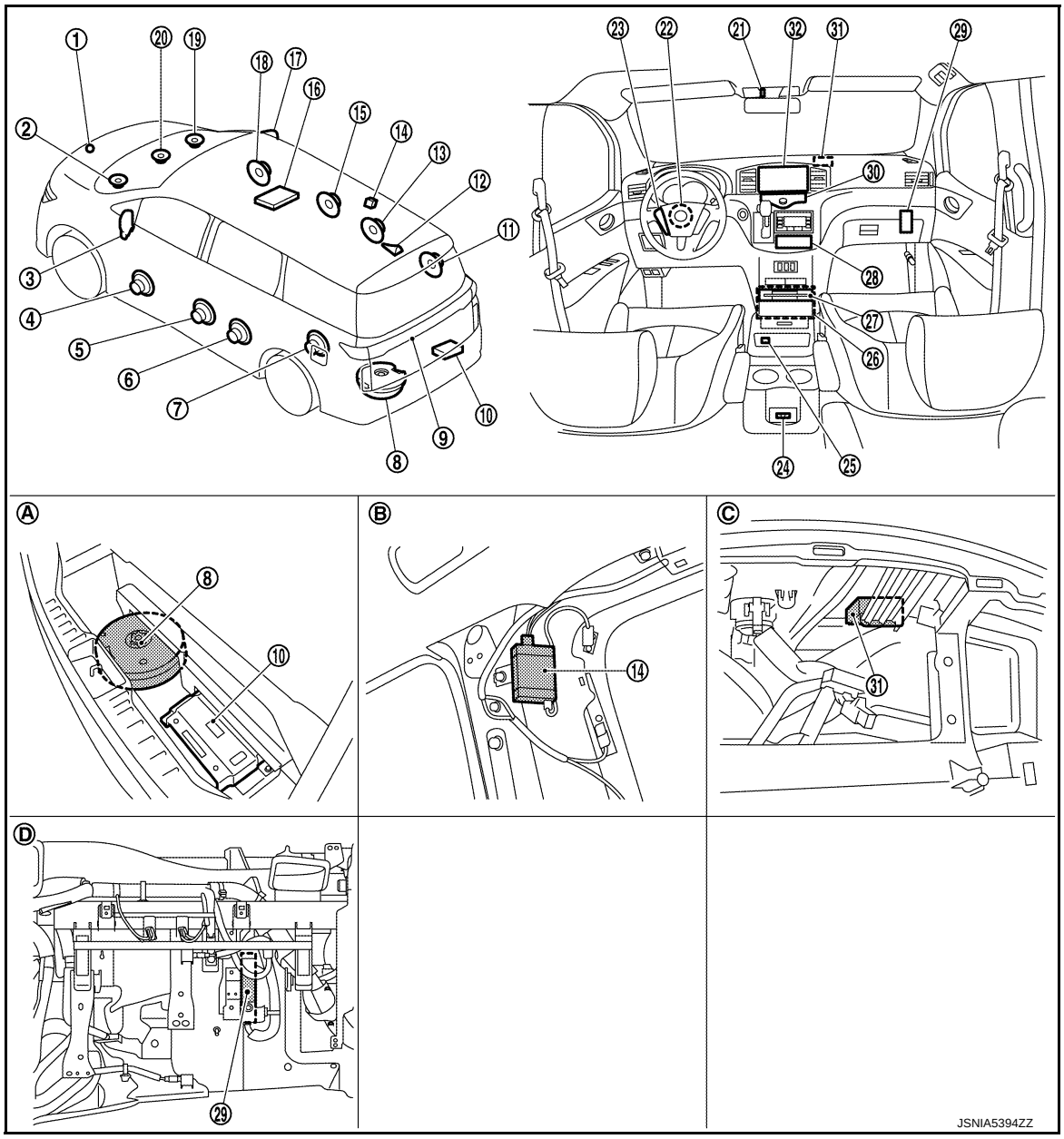
Tool	Description
Power tool  PBIC0191E	Loosening screws

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000009652249



A. Within luggage floor box
B. Rear pillar garnish (RH) is removed.
C. Front display unit is removed.
D. Glove box assembly is removed.

No.	Component	Function
1.	Front camera	Refer to AV-441, "Front Camera".
2,19.	Front squawker	Refer to AV-438, "Speaker".
3,17.	Side camera	Refer to AV-441, "Side Camera".

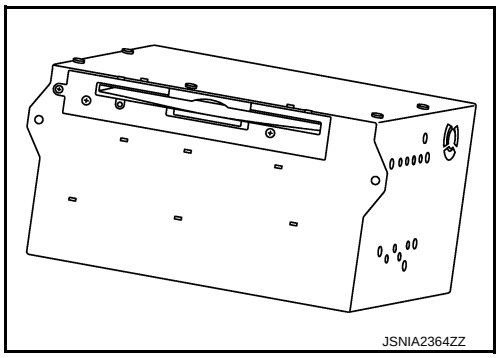
No.	Component	Function
4,18.	Front door woofer	Refer to AV-438, "Speaker".
5,15.	Slide door squawker	
6,13.	Slide door speaker	
7,11.	Luggage squawker	
8.	Woofer	
9.	Rear camera	Refer to AV-440, "Rear Camera".
10.	BOSE amp.	Refer to AV-438, "BOSE Amp.".
12.	Satellite radio antenna	Refer to AV-443, "Satellite Radio Antenna".
14.	Antenna amp.	Refer to AV-442, "Antenna Amp., Radio Antenna, and Antenna Feeder".
16.	Rear display unit	Refer to AV-436, "Rear Display Unit".
20.	Center speaker	Refer to AV-438, "Speaker".
21.	Microphone	Refer to AV-442, "Microphone".
22.	Steering angle sensor	Refer to AV-441, "Steering Angle Sensor".
23.	Steering switch	Refer to AV-437, "Steering Switch".
24.	Auxiliary input jack	Refer to AV-442, "Auxiliary Input Jacks".
25.	USB connector	Refer to AV-442, "USB Connector".
26.	AV control unit	Refer to AV-433, "AV Control Unit".
27.	Disk eject switch	Refer to AV-437, "Disk Eject Switch".
28.	Preset switch	Refer to AV-437, "Multifunction Switch".
29.	Around view monitor control unit	Refer to AV-440, "Around View Monitor Control Unit".
30.	Multifunction switch	Refer to AV-437, "Multifunction Switch".
31.	GPS antenna	Refer to AV-440, "GPS Antenna".
32.	Front display unit	Refer to AV-436, "Front Display Unit".

AV Control Unit

INFOID:0000000009652250

DESCRIPTION

- The AV control unit is equipped with the following parts. It is the master unit integrated with functions and controls the multi-AV system.



Units equipped
HDD (hard disk drive)
AM/FM electronic tuner
Satellite radio tuner
CD/DVD drive
USB interface
Bluetooth® module

- Signals necessary for the vehicle information display function are received from ECM and the combination meter via CAN communication.
- Signals necessary for vehicle setting functions are sent and received with BCM via CAN communication.
- It inputs the signal for driving status recognition (vehicle speed signal, reverse signal, and parking brake signal).
- A possible route line is generated on the camera image from the rear view camera, and it is shown on the display.
- The AV control unit contains an HDD with map data and sensors used for automatic location calculation, i.e. a gyroscope (angular velocity sensor) and a G sensor.

- HDD

- The AV control unit records map data, traffic regulations data, and guidance information.

- Gyroscope
• Detects vehicle cornering condition.
- Acceleration sensor
• Detects the inclination angle and height variation of the vehicle.

NOTE:
For details of each functions, refer to AV-446, "MULTI AV SYSTEM : System Description".

HDD
The adoption of a fast high-capacity 40 GB HDD improves the navigation performance.

AM/FM Electronic Tuner
The adoption of the PLL frequency synthesizer system enables the signal outputting with accurate frequencies.

Satellite Radio Tuner
• The adoption of the PLL frequency synthesizer system enables the signal outputting with accurate frequencies.
• Receives satellite radio antenna signal and converts it into the sound signal and data signal.
• It outputs sound signal to BOSE amp. and outputs data signal to front display unit.

CD/DVD drive
• It is CD-R/CD-RW compliant and enables MP3, WMA, and AAC files to play music.
• It displays the artist name, album title or song title recorded to the file by the ID3 tag/WMA tag/AAC tag display function.
• DVD playback function is equipped.

USB Interface
• Music can be played by connecting an iPod® or USB memory.

Bluetooth® Module
• Wireless connection to the audio device equipped with Bluetooth® communication can play music.
• Once a Bluetooth® communication compliant phone has been registered in the AV control unit, hands-free phone communication can be carried out without connecting the cellular phone to the TEL harness.
• Five units of Bluetooth® communication devices including audio devices and cellular phones can be registered to the AV control unit.

Specification

Manufacturer name		Clarion Co., Ltd.
HDD	Total capacity	40 GB
	Map data capacity	Applox. 20 GB
Audio amplifier		External amplifier

CD/DVD drive	Used disc		ϕ 12 cm (4.7 in)
	Playable disc	CD	CD-ROM (CD-DA)
			CD-R[*1]
			CD-RW[*1]
		DVD	DVD-ROM
			DVD±R[*1]
			DVD±RW[*1]
			DVD±R DL[*1]
	Playable format	Music	MP3
			WMA
			AAC
		Image	DVD-VIDEO
			VIDEO-CD
			DVD-VR
			MPEG4-ASF
			DivX®
	Text display function	ID3 / WMA / AAC tag	Artist name
			Album title
			Song title
USB	High communication standard		USB2.0
	Playable format	Music	MP3
			WMA
			AAC
		Image	MPEG4-ASF
			DivX®
	Image viewer		JPEG
	Text display function	ID3 / WMA / AAC tag	Artist name
			Album title
			Song title
	iPod®Action[*2]		iPod Classic®
			iPod nano® 4th generation
			iPod nano® 3rd generation
			iPod nano® 2nd generation
			iPod nano® 1st generation
			iPod® 5th generation
			iPod touch® 1st generation
			iPod touch® 2nd generation
Bluetooth® audio	Compliant communication type	Wireless connection	Bluetooth® communication
	Compliant profile		A2DP 1.2
			AVRCP 1.3

Hands-free phone	Compliant communication type	Wireless connection	Bluetooth® communication compliant type
	Compliant profile		HFP 1.0,1.5
			DUN 1.1
			OPP 1.1
Other functions			Speed sensitive volume function
			Steering switch compliant
			Voice recognition function

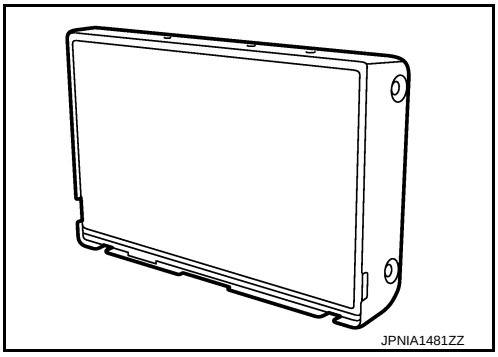
- *1: If the reflectance of the surface of the media is low, the data may not be read.
- *2: It may not be used if it is not updated to the latest firmware or partial functions may not work if it is used.

Front Display Unit

INFOID:0000000009652251

- The front display unit has a high-resolution 8-inch WVGA* display and a touch panel function.
- RGB digital image signal and composite image signal [USB (video data), DVD and auxiliary input] are input from AV control unit.
- Camera image signal is input from rear view camera.
- This unit is connected to the AV control unit via serial communication. Images shown on the front display unit are controlled by the AV control unit.
- Touch panel operation signal is output to the AV control unit by serial communication.

*: WVGA (Wide VGA) is a standard of the resolution of the display. It extended width of VGA.


JPNIA1481ZZ

Specification

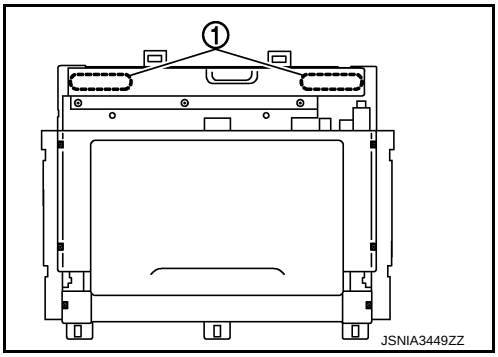
Manufacturer name	Johnson controls KK
Touch panel detection	4 wires analogue resistive film type
Screen size	8-inch WVGA [174 mm × 104.4 mm (6.9 in × 4.1 in)]
Number of pixels	800 × 480 pixels

Rear Display Unit

INFOID:0000000009652252

- The rear display unit has an 11-inch WVGA* liquid-crystal display and a remote-control automatic folding function.
- Composite image signal [USB (video data), DVD and auxiliary input] and headphone sound signal are input from AV control unit.
- A remote control operation signal is received through the built-in light-receptive spot (1).
- The display brightness is adjusted automatically, according to ambient brightness.

*: WVGA (Wide VGA) is a standard of the resolution of the display. It extended width of VGA.



JSNIA3449ZZ

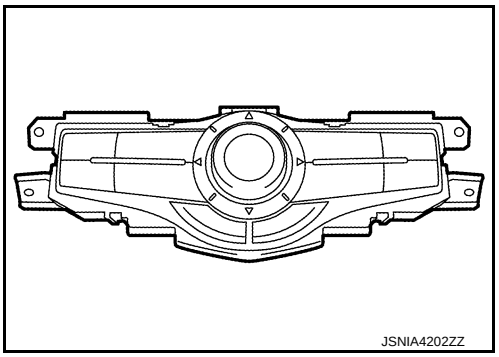
Specification

Manufacturer name	Clarion Co., Ltd.
Screen size	11-inch WVGA [243.6 mm × 137.52mm (9.6 in × 5.4 in)]
Number of pixels	800 × 480 pixels

Multifunction Switch

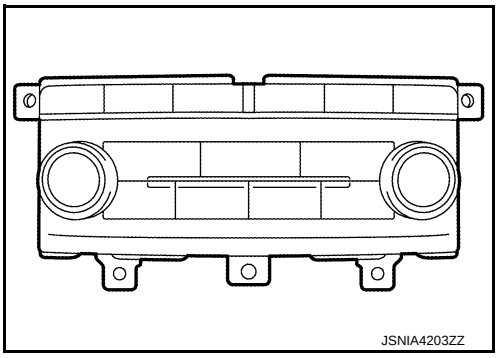
INFOID:0000000009652253

- The multifunction switch is an integrated switch that combines the navigation operation, audio operation, and other operations switches. This integrated switch is located in the lower part of the front display unit to facilitate the use in combination with the touch panel.
- Connected with preset switch via hardwire and operation signal is transmitted to AV control unit via AV communication.


JSNIA4202ZZ

PRESET SWITCH

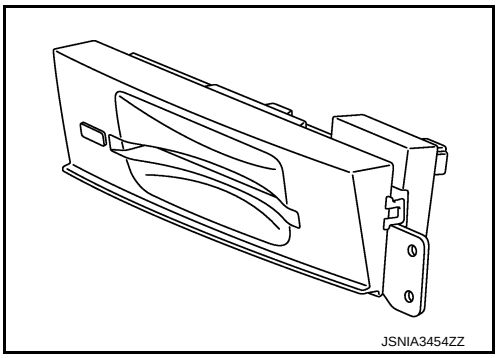
- The preset switch is separated from the multifunction switch and capable of audio operation.
- Operation signals of the multifunction switch and the preset switch are transmitted to the AV control unit via AV communication.


JSNIA4203ZZ

Disk Eject Switch

INFOID:0000000009652254

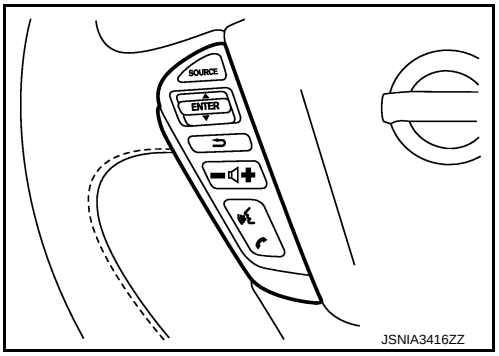
- The disk eject switch is used for removing CD/DVD from the AV control unit.
- When the disk eject switch is pressed, a disk eject signal is transmitted to the AV control unit, and the AV control unit ejects CD/DVD.


JSNIA3454ZZ

Steering Switch

INFOID:0000000009652255

- Operations for navigation, audio, and hands-free phone, etc. are possible.
- This switch is connected to the AV control unit, and the switch operation signal is transmitted to the AV control unit via voltage multiplex communication.

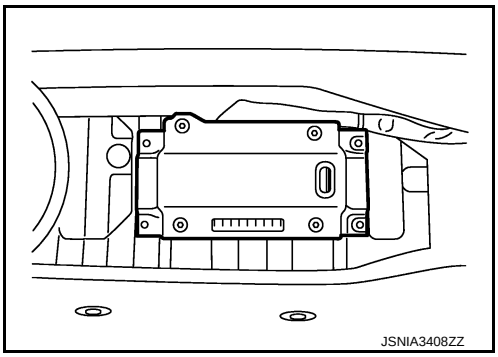


JSNIA3416ZZ

BOSE Amp.

INFOID:0000000009652256

- Installed to the luggage floor box.
- Receives sound signal from AV control unit, and outputs sound signal to each speaker and woofer.


JSNIA3408ZZ

Speaker

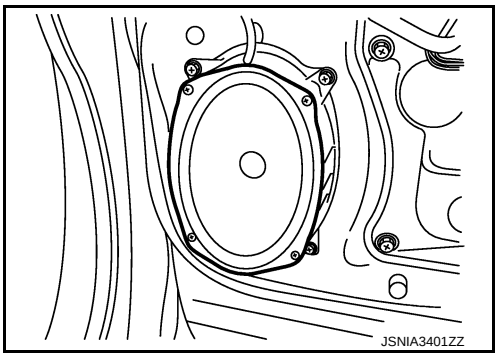
INFOID:0000000009652257

12 speakers system is adopted.

FRONT DOOR WOOFER

- ϕ 15.0 × 23.0 cm (6 × 9 in) speaker is installed to the bottom of the front door.
- Sound signal is input from the BOSE amp. to output low range sounds.

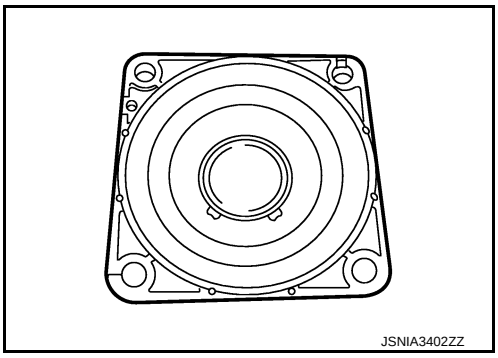
Rated input : 13.6 W
Maximum input : 40.5 W
Impedance : 2 Ω


JSNIA3401ZZ

FRONT SQUAWKER

- ϕ 6.5 cm (2 in) squawker is installed to the side of instrument panel.
- Sound signal is input from the BOSE amp. to output high and mid range sounds.

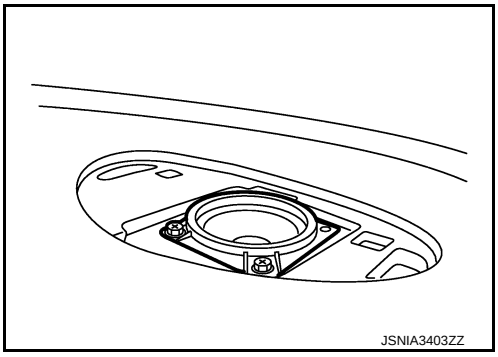
Rated input : 4.8 W
Maximum input : 14 W
Impedance : 3.6 Ω


JSNIA3402ZZ

CENTER SQUAWKER

- ϕ 8 cm (3 in) squawker is installed to the center of instrument panel.
- Sound signal is input from the BOSE amp. to output high and mid range sounds.

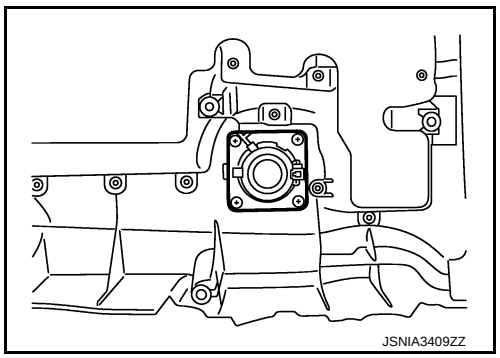
Rated input : 7.6 W
Maximum input : 22.5 W
Impedance : 3.6 Ω


JSNIA3403ZZ

SLIDE DOOR SQUAWKER

- ϕ 8 cm (3 in) squawker is located at the lower part of the front of the slide door.
- Sound signal is input from the BOSE amp. to output high and mid range sounds.

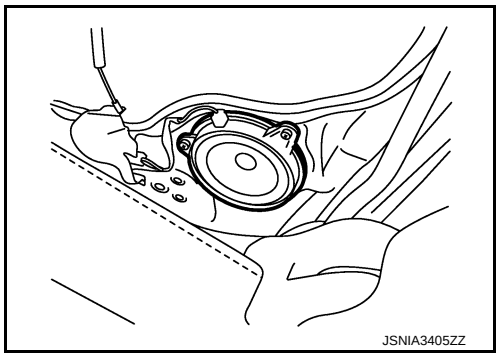
Rated input : 7.6 W
Maximum input : 22.5 W
Impedance : 3.6 Ω



SLIDE DOOR SPEAKER

- ϕ 16 cm speaker is located at the lower part of the back of the slide door.
- Sound signal is input from the BOSE amp. to output high, mid, and low range sounds.

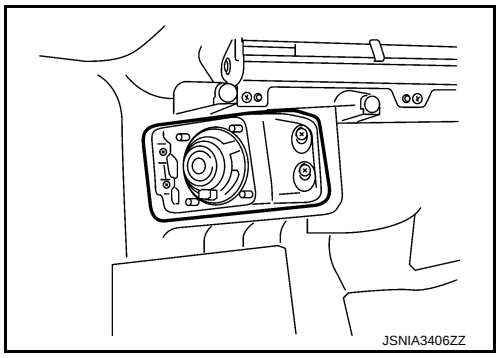
Rated input : 12.9 W
Maximum input : 38.5 W
Impedance : 2.1 Ω



LUGGAGE SQUAWKER

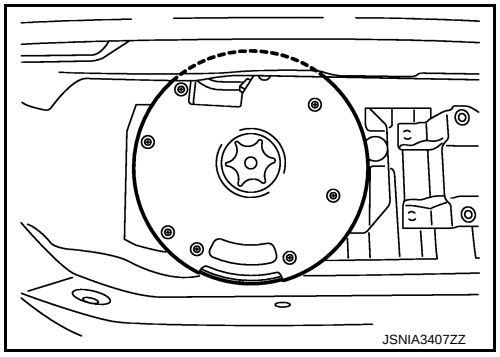
- ϕ 8 cm (3 in) squawker is installed to the side of luggage room.
- Sound signal is input from the BOSE amp. to output high and mid range sounds.

Rated input : 7.6 W
Maximum input : 22.5 W
Impedance : 3.6 Ω



WOOFER

- Woofer integral with the enclosure is located in the luggage floor box to improve the sound-field characteristics of the bass range.
- Composed of two woofers and a woofer amp.

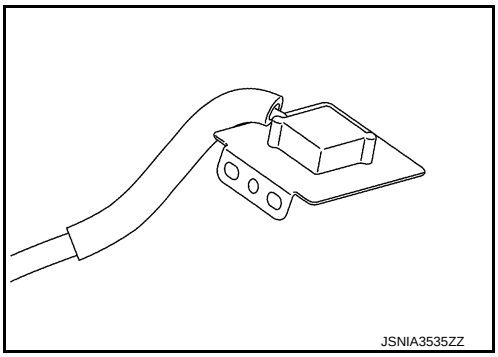


GPS Antenna

INFOID:0000000009652258

- The GPS antenna is installed at the back of the front display unit.
- Power is supplied from the AV control unit.
- This antenna amplifies radio waves received from the GPS satellite and transmits the GPS signal to the AV control unit.

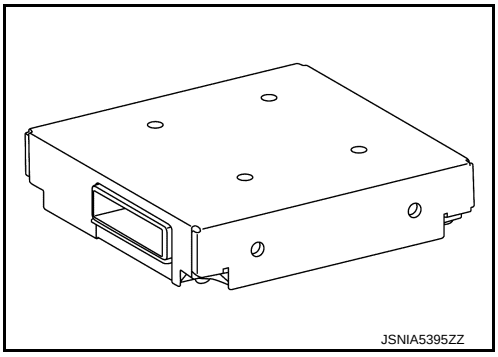
NOTE:
An object on the instrument panel may cause the reception sensitivity to be decreased.



Around View Monitor Control Unit

INFOID:0000000009942718

- The around view monitor control unit is installed at the end of the glove box assembly.
- Necessary signals are transmitted/received to/from control unit via CAN communication.
- Camera image signals received from each camera are converted/synthesized in the around view monitor control unit and transmitted to the front display unit.
- Vehicle width guide lines, predicted course line, vehicle front guiding line and vehicle side line, and vehicle icon are rendered with the around view monitor control unit and combined with camera image.

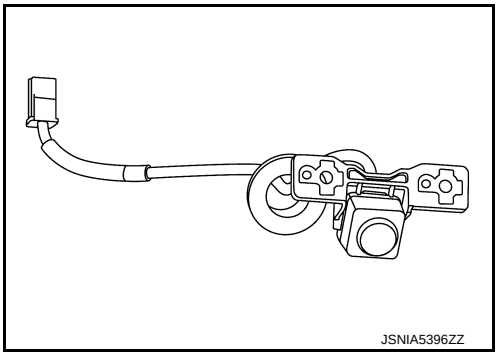


Rear Camera

INFOID:0000000009942719

- The rear camera is installed to the back door finisher.
- Super-small CMOS camera (color) using CMOS* for the image pickup element is adopted.
- With the mirror processing function, a mirror image is sent as if it is viewed by a rear view mirror.
- Power for the camera is supplied from the around view monitor control unit, and the image at the rear of the vehicle is sent to the around view monitor control unit.

NOTE:
*: “CMOS” is abbreviation of Complementary Metal Oxide Semiconductor, and features low power consumption and high speed reading rate of electric charge.



Specification

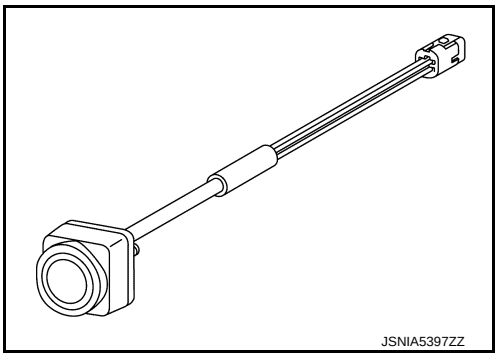
Manufacturer name	SONY Corp.
Image pickup element	1/4-inch CMOS image sensor
Effective number of pixels	Approx. 300,000 pixels (632 × 480)
Minimum brightness	1 lx
Angle of view	H: 190.4° V: 141.8°
Image	With mirror processing function

Side Camera

INFOID:0000000009652261

- The side camera is installed to the door mirror.
- Super-small CMOS camera (color) using CMOS* for the image pickup element is adopted.
- Power for the camera is supplied from the around view monitor control unit, and the image at the side of the vehicle is sent to the around view monitor control unit.

NOTE:
*: "CMOS" is abbreviation of Complementary Metal Oxide Semiconductor, and features low power consumption and high speed reading rate of electric charge.


JSNIA5397ZZ

Specification

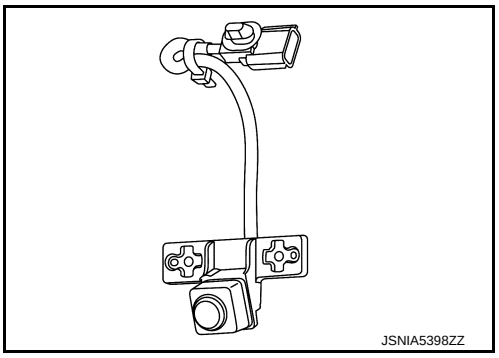
Manufacturer name	SONY Corp.
Image pickup element	1/4-inch CMOS image sensor
Effective number of pixels	Approx. 300,000 pixels (632 × 480)
Minimum brightness	1 lx
Angle of view	H: 190.4° V: 141.8°

Front Camera

INFOID:0000000009652262

- The front camera is installed to the front grille.
- Super-small CMOS camera (color) using CMOS* for the image pickup element is adopted.
- Power for the camera is supplied from the around view monitor control unit, and the image at the front of the vehicle is sent to the around view monitor control unit.

NOTE:
*: "CMOS" is abbreviation of Complementary Metal Oxide Semiconductor, and features low power consumption and high speed reading rate of electric charge.


JSNIA5398ZZ

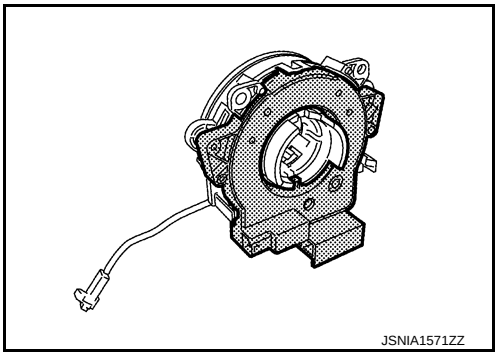
Specification

Manufacturer name	SONY Corp.
Image pickup element	1/4-inch CMOS image sensor
Effective number of pixels	Approx. 300,000 pixels (632 × 480)
Minimum brightness	1 lx
Angle of view	H: 190.4° V: 141.8°

Steering Angle Sensor

INFOID:0000000009652263

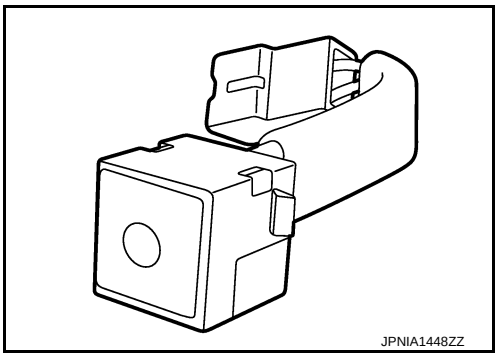
- Steering sensor is installed to the spiral cable.
- Steering angle sends the steering signal necessary for predictive course line of the rear view monitor function to the AV control unit via CAN communication.


JSNIA1571ZZ

Microphone

INFOID:0000000009652264

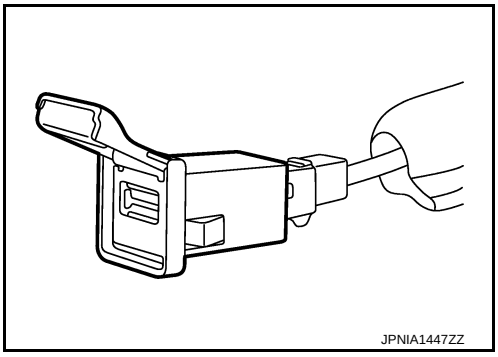
- The voice control/TEL microphone is installed on the left side of the map lamp assembly.
- The power is supplied from the AV control unit to the microphone, transmitting sound signals to the AV control unit at the voice control or during hands-free phone communication.



USB Connector

INFOID:0000000009652265

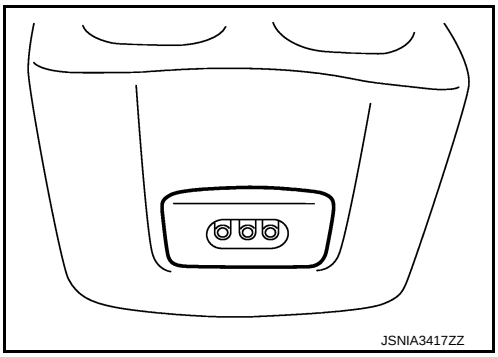
- USB connector is installed to the console box.
- iPod® and USB memory can be connected to the AV control unit.



Auxiliary Input Jacks

INFOID:0000000009652266

- Installed to the rear of center console.
- Sound signals and image signals from the external equipment are transmitted to the AV control unit.



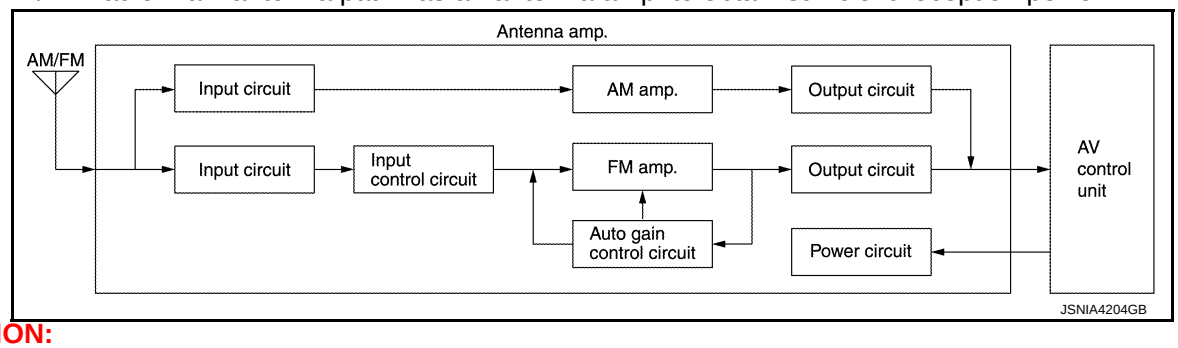
Antenna Amp., Radio Antenna, and Antenna Feeder

INFOID:0000000009652267

RADIO ANTENNA

- AM/FM radio main antenna is located on the right rear side window glass and FM radio sub antenna on the left rear side window glass.

- The AM/FM radio main antenna path has an antenna amp. to obtain sufficient reception power.

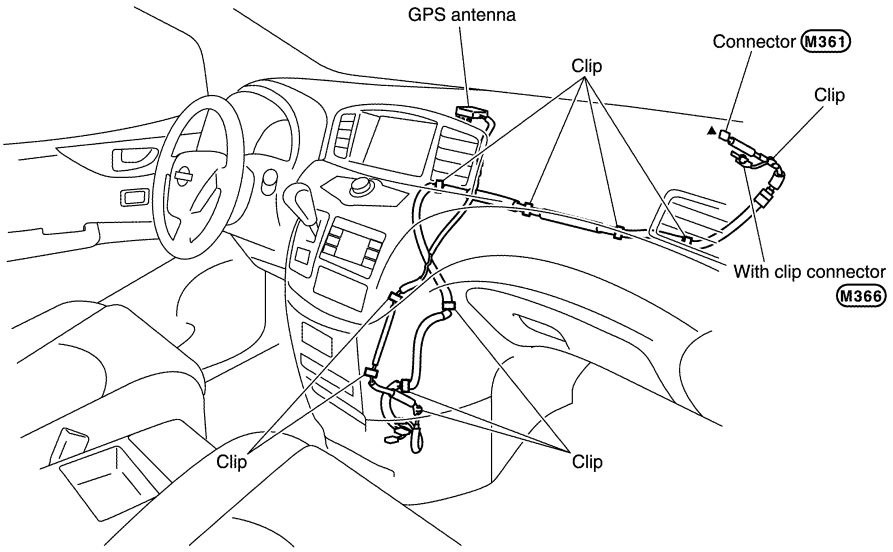


CAUTION:

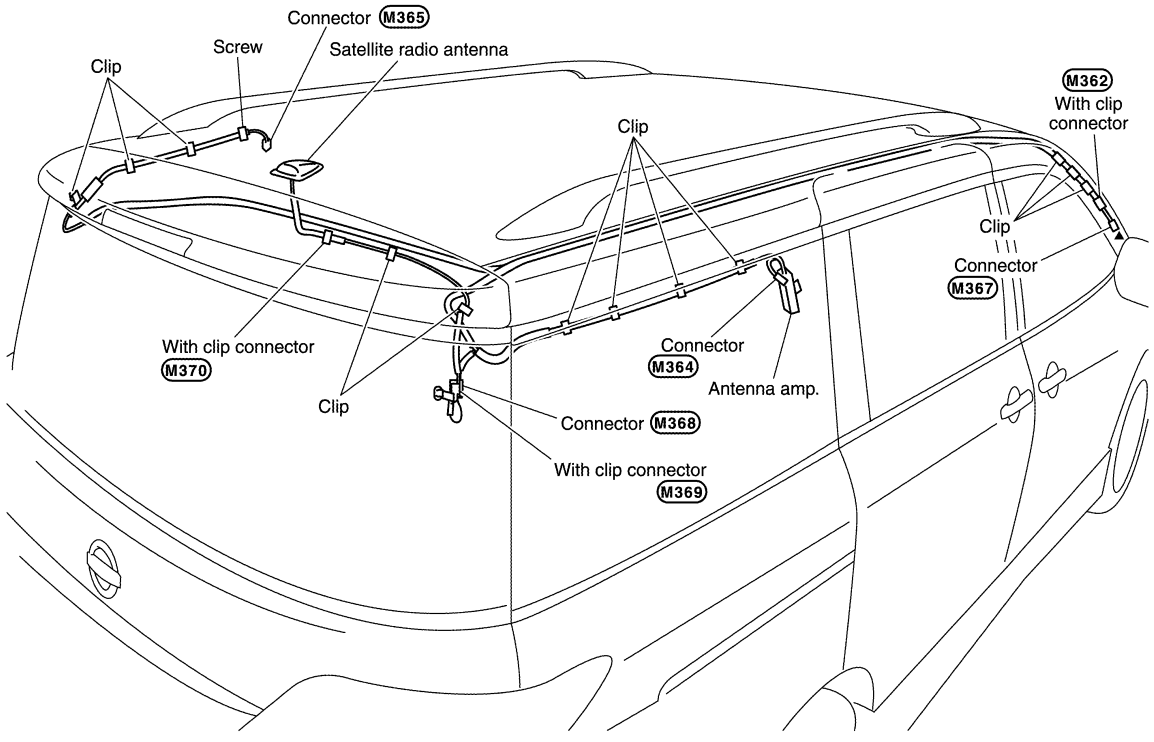
Affixing any mirror-type window films or metallic items (e.g. commercial antenna) on the rear side window glass causes a reduction in the radio receiver sensitivity.

ANTENNA FEEDER LAYOUT

SEC. 280



Instrument panel passenger side



Rear view of vehicle

JSNIA4207GB

▲: Indicates that the part is connected at points with same symbol in actual vehicle.

Satellite Radio Antenna

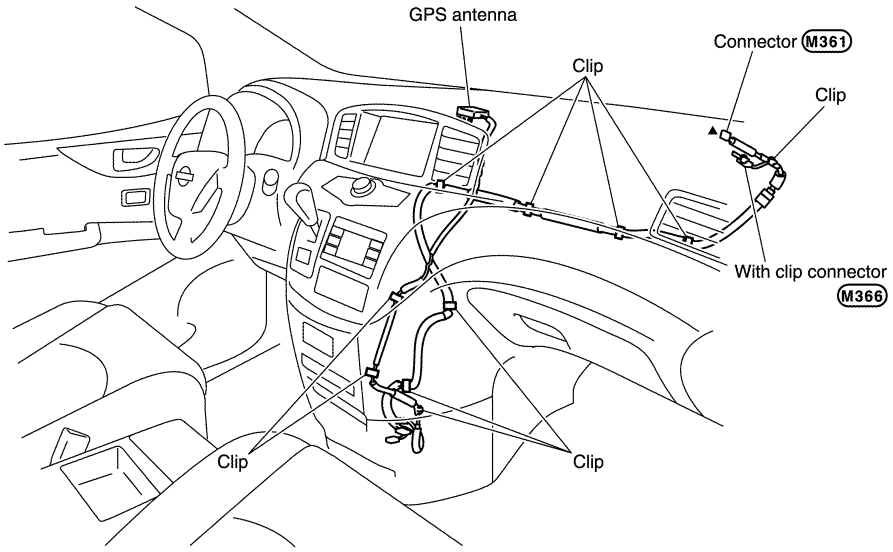
INFOID:0000000009652268

SATELLITE RADIO ANTENNA

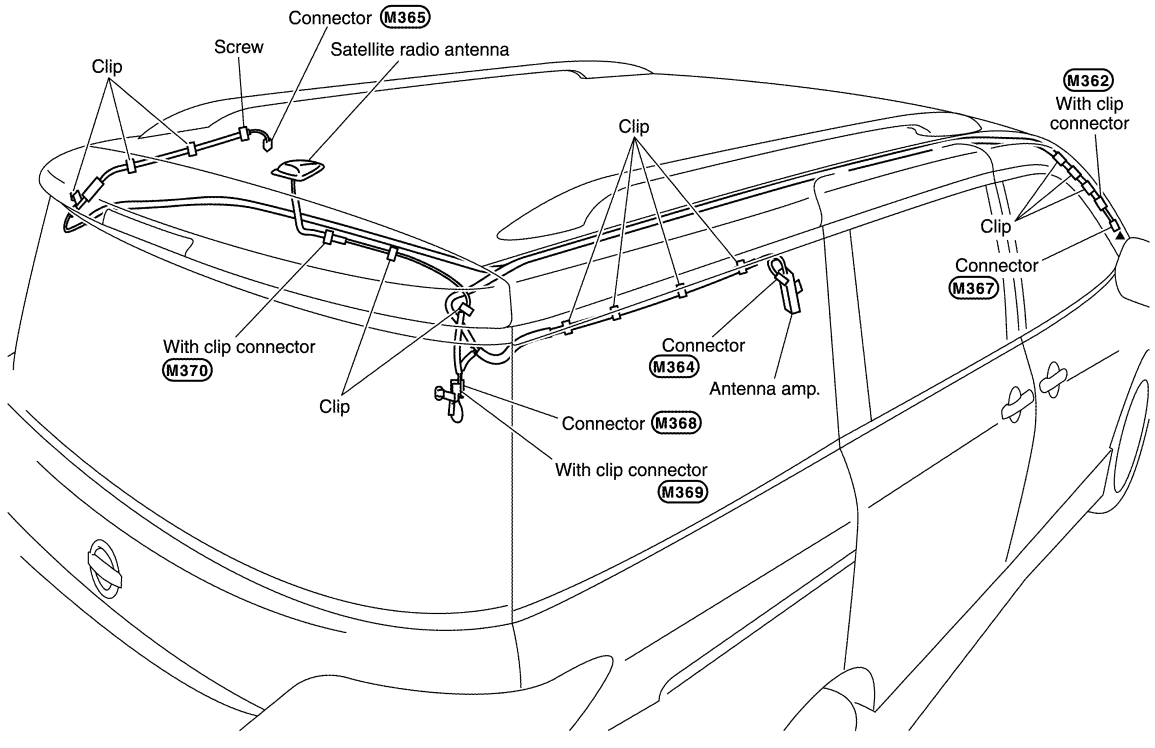
- Satellite radio antenna is installed to the rear center of the roof.
- Receives satellite radio waves and outputs it to AV control unit.

ANTENNA FEEDER LAYOUT

SEC. 280



Instrument panel passenger side



Rear view of vehicle

JSNIA4207GB

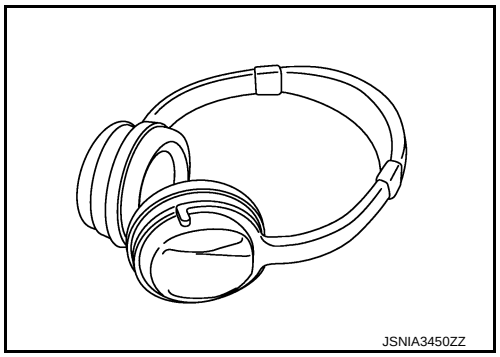
▲: Indicates that the part is connected at points with same symbol in actual vehicle.

Headphone

INFOID:0000000009652269

- The adoption of the wireless headphone allows the independent audio listening on the rear seat.
- Sound signals are received from the rear display unit via infrared communication.

Battery: AAA battery × 2

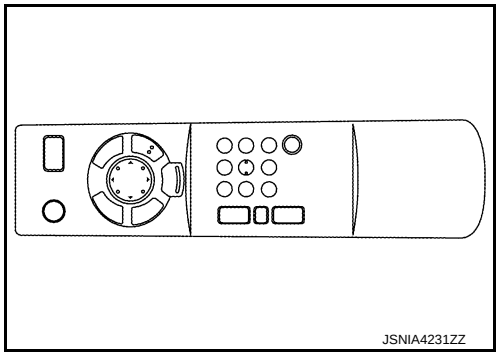


Remote Controller

INFOID:0000000009652270

- The adoption of the infrared remote controller allows audio operation and other operations on the rear seat.
- The light-receptive spot is included in the rear display unit.

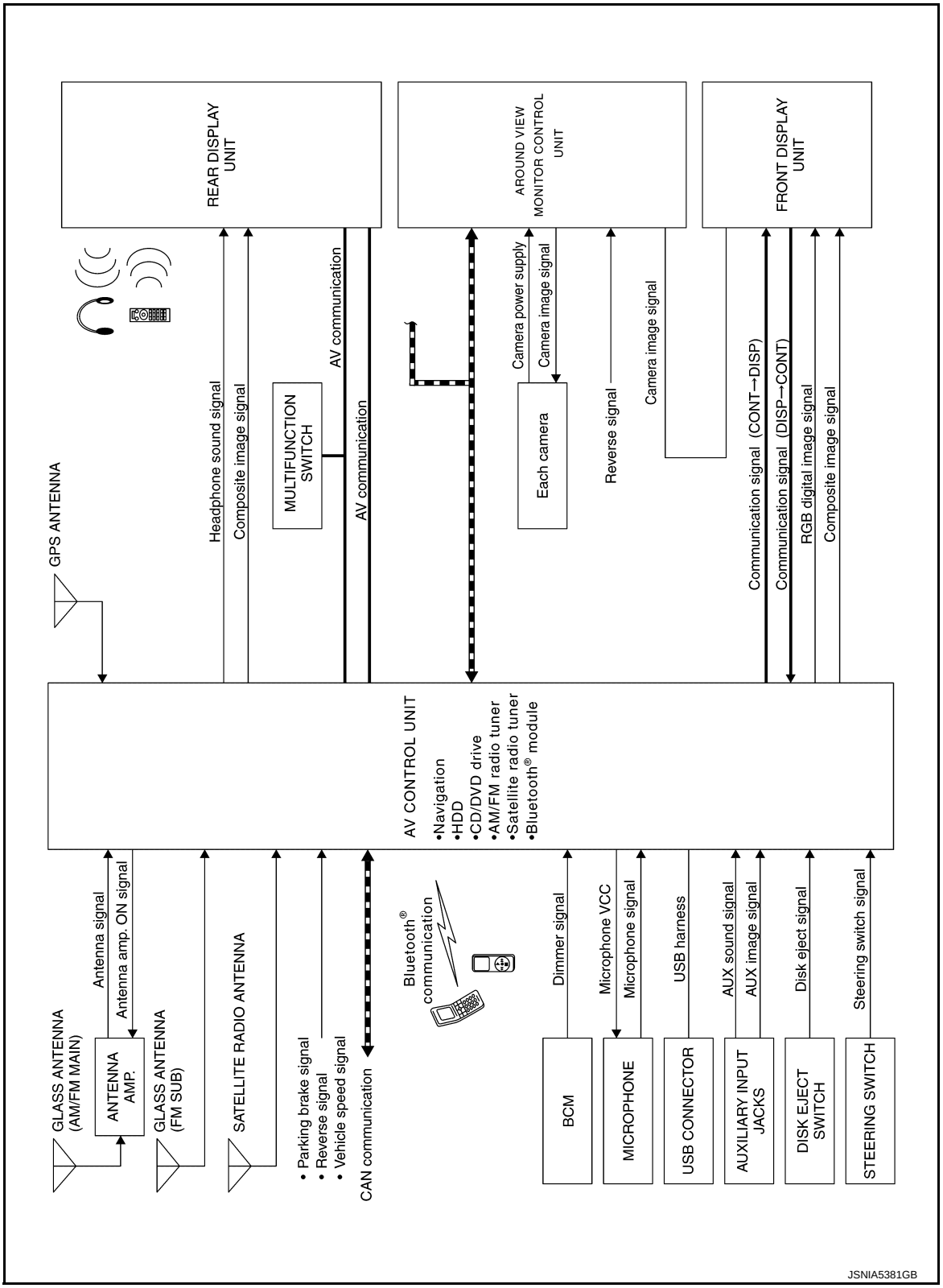
Battery: AA battery × 2



SYSTEM
MULTI AV SYSTEM
MULTI AV SYSTEM : System Description

INFOID:0000000009942742

SYSTEM DIAGRAM



NOTE:

The name MULTIFUNCTION SWITCH indicates the integration of PRESET SWITCH and MULTIFUNCTION SWITCH virtually.

AV Control Unit Input Signal (CAN Communication)

Transmit unit	Signal name
ECM	Engine status signal
	Fuel consumption monitor signal
Steering angle sensor	Steering angle sensor signal
Combination meter	Vehicle speed signal
	Distance to empty signal
	Fuel level low warning signal
BCM	System setting signal
Around view monitor control unit	View change signal

Around View Monitor Control Unit Input Signal (CAN Communication)

Transmit unit	Signal name
AV control unit	Camera switch signal
	Camera OFF signal
Steering angle sensor	Steering angle sensor signal
ABS actuator and electric unit (control unit)	Vehicle speed signal

DESCRIPTION

Multi AV system means that the following systems are integrated.

FUNCTION NAME
Navigation system function
Audio function
DVD play function
Mobile entertainment system
Bluetooth® hands-free phone function
Auxiliary input function
USB connection function
Voice recognition function
Touch panel function
Around view monitor function
Vehicle information function
Auto Light adjustment system

COMMUNICATION SIGNAL

- AV control unit function by transmitting/receiving data one by one with each unit (slave unit) that configures them completely as a master unit by connecting between units that configure MULTI AV system with two AV communication lines (H, L).
- Two AV communication lines (H, L) adopt a twisted pair line that is resistant to noise.
- AV control unit is connected with front display unit and serial communication, and it transmits the required signal of display and display control and receives the response signal from front display unit.

CAN COMMUNICATION

- AV control unit is connected by CAN communication, and it receives data signal from ECM and combination meter. It computes and displays fuel economy information value with the obtained information.
- The AV control unit, which has the vehicle setting function, transmits and receives data on vehicle setting condition via CAN communication with the BCM.

- Around view monitor control unit receives steering angle signal from steering angle sensor via CAN communication and performs control of predictive course line in front/rear view monitor image.
- When pressing the CAMERA switch, the AV control unit transmits camera switch signal to the around view monitor control unit via CAN communication.
- When receiving camera switch signal, the around view monitor control unit displays a camera image on the front display if an image other than camera image is displayed. If a camera image is displayed on the front display, the around view monitor control unit displays a camera image by switching to other view.
- When necessary to switch to an image other than camera image, the AV control unit transmits camera OFF signal to the around view monitor control unit via CAN communication.
- When receiving camera OFF signal, the around view monitor control unit brings the image output to the front display into standby mode.
- When necessary to switch to a camera image, the around view monitor control unit transmits view change signal to the AV control unit via CAN communication.
- When receiving view change signal, the AV control unit brings an image output to the front display into standby mode.
- The around view monitor control unit judges the showing/hiding of a camera image according to vehicle speed signal received from the ABS actuator and electric unit (control unit) via CAN communication.

TYPE OF VOICE SIGNAL

Reception Voice Signal

- Hands-free phone reception voice is output from the cellular phone through the AV control unit to the front speaker via Bluetooth® communication.
- If the hands-free phone is used while the audio is ON and/or the voice guidance is being output, these sounds are muted and only the reception voice is output.

Speech Sound Signal

Hands-free phone speech sound is transmitted from the microphone via the AV control unit and Bluetooth® communication to the cellular phone.

Guide Sound Signal

- Voice signals output during the route guidance of the navigation system are output from the AV control unit to the front speaker.
- If the voice guidance is output with the audio ON, audio output of the front speaker is turned down 10 dB and then voice guidance is output.
- Adjusting the volume while the voice guidance is being output can change the volume of the guidance.

NAVIGATION SYSTEM FUNCTION

Description

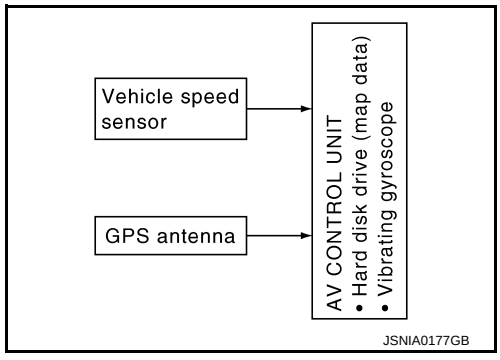
- The AV control unit controls navigation function while GPS tuner has built-in map data, GYRO (angle speed sensor), on the HDD (Hard Disk Drive).
- The AV control unit inputs operation signal with communication signal, through display (touch panel) and multifunction switch and steering switch.
- Guide sound is output to front speaker through BOSE amp. from AV control unit when operating navigation system.
- A vehicle position is calculated with the GYRO (angle speed sensor), vehicle sensor, signal from GPS satellite and map data stored on HDD (Hard Disk Drive), and transmits the map image signal (RGB image, RGB area, RGB image synchronizing) to the display.

Position Detection Principle

The navigation system periodically calculates the current vehicle position according to the following three types of signals.

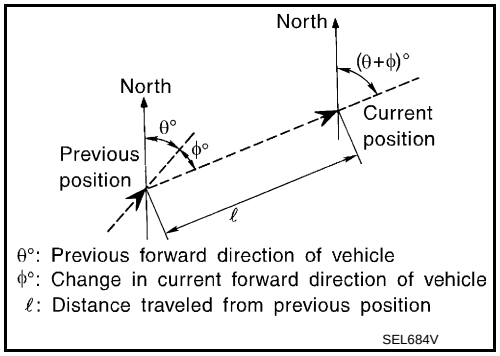
- Travel distance of the vehicle as determined by the vehicle speed sensor
- Vehicle turning angle determined by the gyroscope (angular speed sensor)
- The travel direction of the vehicle determined by the GPS antenna (GPS information)

The current position of the vehicle is then identified by comparing the calculated vehicle position with map data, which is stored in the HDD (Hard Disk Drive) (map-matching), and indicated on the screen with a current location mark. More accurate data is used by comparing position detection results from GPS to the map-matching.



The current position is calculated by detecting the travel distance from the previous calculation point, and its direction change.

- Travel distance
  The travel distance is generated from the vehicle speed sensor input signal. The automatic distance correction function is adopted for preventing a miss-detection of the travel distance because of tire wear etc.
- Travel direction
  The gyroscope (angular velocity sensor) and GPS antenna (GPS information) generate the change of the travel direction. Both have advantages and disadvantages as per the following descriptions.

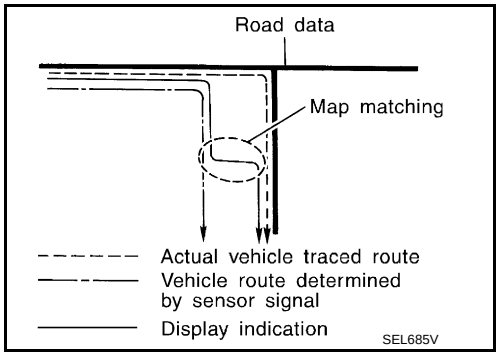


Type	Advantage	Disadvantage
Gyroscope (angular velocity sensor)	The turning angle is precisely detected.	Errors are accumulated when driving a long distance without stopping.
GPS antenna (GPS information)	The travel direction (North/South/East/West) is detected.	The travel direction is not precisely detected when driving slowly.

Input signals 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.

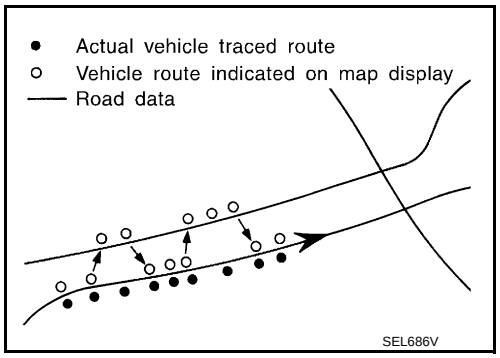
Map-matching

Map-matching repositions the vehicle on the road map when a new location is judged to be more accurate. This is done by comparing the current vehicle position (calculated by the normal position detection method) from the map data stored in the HDD (Hard Disk Drive).

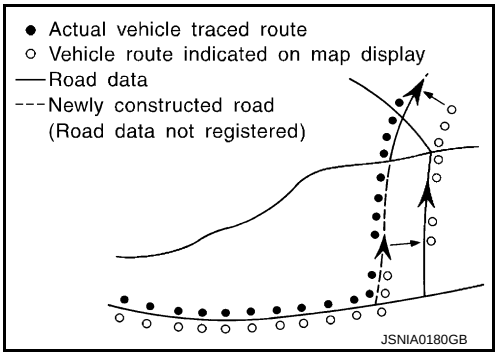


There is a possibility that the vehicle position may not be corrected in the following case, and when vehicle is driven over a certain distance or time in which GPS information is hard to receive. Correct manually the current location mark on the screen.

- In map-matching, several alternative routes are prepared and prioritized in addition to the road judged as currently driving on.
  Therefore, due to errors in the distance and/or direction, an incorrect road may be prioritized, and the current location mark may be repositioned to the incorrect road.
  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, etc.

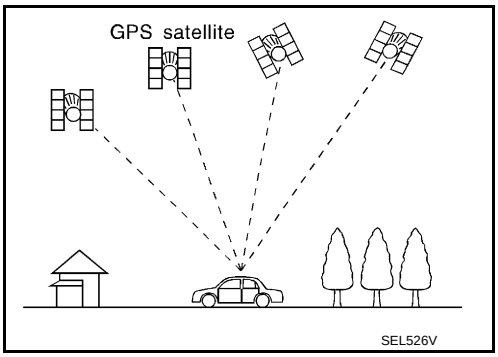


- Map-matching does not function correctly when road on which the vehicle is driving is new, etc. and not recorded in the map data. Also, map-matching does not function correctly when road pattern stored in the map data and the actual road pattern are different due to repair, etc.
  Therefore, the map-matching function judges other road as a currently driving road if the road is not in the map, and displays the current location mark on it. Later, the current location mark may be repositioned to the road if the correct road is detected.
- Effective range for comparing the vehicle position and travel direction calculated by the distance and direction with the road data is limited. Therefore, correction by map-matching is not possible when there is an excessive gap between current vehicle position and the position on the map.



GPS (Global Positioning System)

GPS (Global Positioning System) is developed for and is controlled by the US Department of Defense. The system utilizes GPS satellites (NAVSTAR), transmitting out radio waves while flying on an orbit around the earth at an altitude of approximately 21,000 km (13,049 mile).
The receiver calculates the travel position in three dimensions (latitude/longitude/altitude) according to the time lag of the radio waves that four or more GPS satellites transmit (three-dimensional positioning). The GPS receiver calculates the travel position in two dimensions (latitude/longitude) with the previous altitude data if the GPS receiver receives only three radio waves (two-dimensional positioning). GPS position correction is not performed while stopping the vehicle.



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

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

AUDIO FUNCTION

Description

- BOSE® sound system (special digital amp. and 12 speakers) is adopted.
- The MP3/WMA/AAC playback function enables music to play for a long time: the user need not change the CD during a long trip. The text display function is also adopted so that the title name and artist name of the ID3 tag/WMA/AAC tag can be displayed.
- The audio system is equipped with the following functions.

FUNCTION
AM/FM radio
Satellite radio
CD
Bluetooth® audio
Speed sensitive volume

Operating Signal

Audio system operation can be performed with multifunction switch, preset switch, steering switch, touch panel function or voice recognition function.

- Operating signal is transmitted to AV control unit with AV communication when it is operated by multifunction switch or preset switch.
- The disk eject signal is transmitted to AV control unit by hardwire, when disk eject switch is operated.
- Operating signal is transmitted to AV control unit with steering switch signal when it is operated by steering switch.
- Operation status of audio is indicated at front display.

AM/FM Radio Function

- AM/FM radio tuner is built into AV control unit.
- AM/FM radio wave is received by radio antenna, next it is amplified by antenna amp., and finally it is input to AV control unit.
- FM radio wave is received by FM sub antenna, and it is transmitted to the AV control unit directly.
- Audio signal is input to BOSE amp. and BOSE amp. outputs to woofer and each speaker.

Satellite Radio Function

- Satellite radio tuner is built into AV control unit.
- Sound signal and data signal (satellite radio) are received by satellite radio antenna. There are input to AV control unit. AV control unit outputs sound signal to woofer and each speaker via BOSE amp. and data signal to front display unit.

CD Function

- CD function is built into AV control unit.
- AV control unit outputs sound signal to BOSE amp., and BOSE amp. outputs to woofer and each speaker when CD is inserted to AV control unit.
- For further information about CD function specifications, refer to AV-433, "AV Control Unit".

Bluetooth® Audio Function

- Bluetooth® audio function is adopted to play music data in the portable audio in wireless communication.
- Five units of Bluetooth® communication devices including audio devices and cellular phones can be registered to the AV control unit.
- When the Bluetooth® audio is connected to the portable audio through Bluetooth®, it can play the music data in the portable audio.
- For further information about Bluetooth® compliant profile, refer to AV-433, "AV Control Unit".

Speed Sensitive Volume Function

- The AV control unit receives the vehicle speed signal from the combination meter via CAN communication and changes the sound volume in conjunction with the vehicle speed.
- The control level can be selected by the customer.

DVD PLAY FUNCTION

- DVD is played by inserting DVD into the AV control unit.
- DVD image signals are transmitted to the front display unit, and DVD sound signals are transmitted to woofer and each speaker via BOSE amp.
- DVD image signals are transmitted to rear display unit via video distributor, and DVD sound signals are transmitted to rear display unit. The rear display unit transmits the sound signals to the headphone via infrared communication.
- For further information about DVD function specifications, refer to AV-433, "AV Control Unit".

MOBILE ENTERTAINMENT SYSTEM

Image and sound (DVD, USB memory-stored video data, and auxiliary input) played by AV control unit can be enjoyed in rear seat using rear display unit and headphone.

Operating Signal

- The mobile entertainment system can be controlled by one of the remote controller.
- It receives the operation signal of the remote controller by the remote control receiver built into rear display unit, and then transmits it to the AV control unit.

Headphone Sound

Headphone sound signals are transmitted to infrared communication between rear display unit and headphone.

Screen rear display

- Image signal output from AV control unit is transmitted to the rear display unit.
- The rear display unit receives the composite image signal (DVD, USB memory-stored video data, and auxiliary input) from the AV control unit.
- The rear display unit switches composite images through the communications with the AV control unit via AV communication.

BLUETOOTH® HANDS-FREE PHONE FUNCTION

- When the cellular phone is connected to the AV control unit in Bluetooth® communication, hands-free phone communication can be performed.
- Simply operating the steering switch without releasing hands from the steering wheel allows the driver to make a phone call or receive a phone call.
- When a Bluetooth® communication compliant phone is registered to the AV control unit, hands-free phone communication can be performed. Five units of Bluetooth® communication devices including audio devices and cellular phones can be registered to the AV control unit.
- The content of the memory (telephone book) of the cellular phone can be recorded in the AV control unit.
- For further information about Bluetooth® compliant profile, refer to AV-433, "AV Control Unit".

When A Call Is Originated

Spoken voice sound output from the microphone (microphone signal) is input to AV control unit. AV control unit outputs to cellular phone with Bluetooth® communication as a TEL voice signal. Voice sound is then heard at the other party.

When Receiving A Call

Voice sound is input to own cellular phone from the other party. TEL voice signal is output to door speaker, and the signal is input to BOSE amp. via AV control unit by establishing Bluetooth® communication from cellular phone.

AUXILIARY INPUT FUNCTION

- Image and sound can be output from an external device by connecting a device with front auxiliary input jacks.
- AUX image signals are transmitted to front and rear display unit via AV control unit
- AUX sound signals are transmitted to each unit as follows:
- To each speaker via AV control unit and BOSE amp.
- To the rear display unit via AV control unit, and headphone sound signals are transmitted to infrared communication between rear display unit and headphone.

USB CONNECTION FUNCTION

- Connecting iPod® or USB memory allows the driver to play iPod® music files or USB memory-stored music files, video data, and image viewer data.
- Sound signals of music files stored in iPod® or USB memory are transmitted from the USB connector to the AV control unit. The AV control unit transmits the sound signals to the BOSE amp. and video distributor.
- Sound signals transmitted from the BOSE amp. to woofer and each speaker, and sound signals transmitted to headphone via rear display unit
- Video signals and image viewer file signals are transmitted from the USB connector to the AV control unit. The data and files are displayed on the front display unit screen.
- Video signals are transmitted from the USB connector to the AV control unit. The data and files are displayed on the rear display unit screen.
- iPod® is recharged when connected to USB connector.
- Compliant USB memory and data recorded are limited.

USB memory	USB2.0
File system	FAT16
	FAT32

- Only files that meet the following conditions will be played.

	Music file	Video file	Image viewer file
File format	“MP3”, “WMA”, “AAC”, “M4A”	“DivX”, “MPEG4 (ASF)”	“JPEG”

	Music file	Video file	Image viewer file
File extension	".mp3", ".wma", ".aac", ".m4a"	".divx", ".afs", ".avi"	".jpg", ".jpeg"
Maximum file size	2 GB	2 GB	2 MB

NOTE:
- iPod® is a trademark of Apple inc., registered in the U.S. and other countries.
- Image signals cannot be received from iPod®.
- Use the enclosed USB harness when connecting iPod® to USB connector.
- If a video-sound codec combination is not satisfied, its video file may not be played.
- Signals cannot be transmitted to video distributor under the following conditions:
- Only sound signal or only image viewer data is stored in iPod®
- Only sound signal or only image viewer data is stored in USB memory

VOICE RECOGNITION FUNCTION
- By speaking a command, operations of navigation and hands-free phone can be performed.
- To perform the voice control, press the switch of the steering switch. The system changes to the speech reception status. When a command is spoken, the speech recognition result is displayed, and the operation is executed.
- The voice control cannot be performed under the conditions listed below.
- When the hand-free phone is used
- When the vehicle is moving backwards

Major Functions

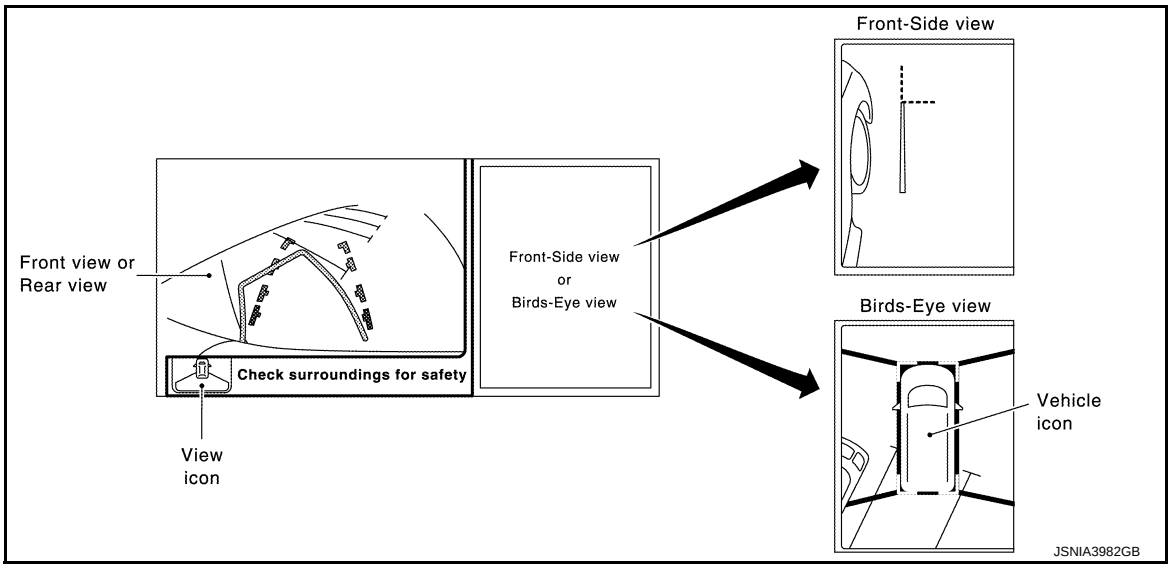
With this function, the list of commands used for telephone, and navigation operation can be checked.

TOUCH PANEL SYSTEM
Each operation of multi AV system can be performed by directly touching a front display.

AROUND VIEW MONITOR FUNCTION
- This system is equipped with wide-angle cameras on the front and rear of the vehicle and on both right and left door mirrors. The images from front view, rear view, front-side view (RH side), and birds-eye view that shows the view from the top of the vehicle are displayed to monitor the vehicle surroundings.
- Around view monitor control unit cuts out and expands the image received from each camera to create each view.
- In front view and rear view, the vehicle width, distance lines and predictive course lines are superimposed and displayed. In front-side view, the vehicle distance guiding line and vehicle width guiding line are displayed.
- The Birds-Eye view converts the images from 4 cameras into the overhead view and displays the status of the vehicle on display. The vehicle icon that are displayed on the Birds-Eye view display are rendered by around view monitor control unit.

Around View Monitor Screen
- Around view monitor combines and displays the travel direction view and "Birds-Eye view", "Front-Side view".
- Around view monitor control unit renders the view icon and warning message on display. Language of warning message can be selected by CONSULT.
- Around view monitor control unit renders the view icon and warning message on display.

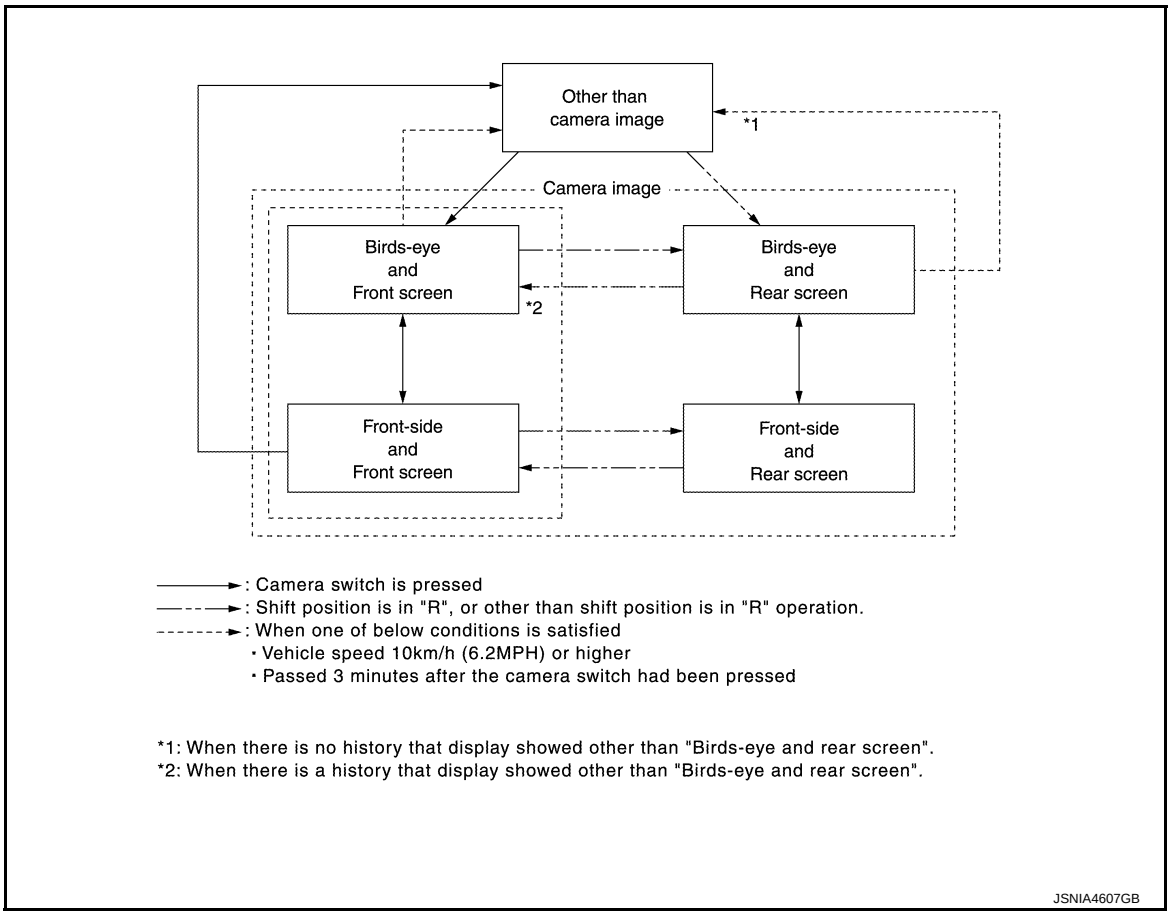
Screen constitution



Operation Description

- Around view monitor operates by pressing the “CAMERA” switch or shifting the selector lever to the reverse position.
- When the selector lever is in any position other than the reverse position, the screen is switched to the around view monitor by pressing the “CAMERA” switch.
- The screen is switched to the around view monitor by shifting the selector lever to the reverse position.
- In the around view monitor, Birds-Eye view, Front-side view can be switched by pressing the “CAMERA” switch.
- The around view monitor is cancelled 3 minutes after pressing the “CAMERA” switch, and then the screen returns to the screen before displaying the around view monitor when selector lever is in a position other than the reverse position.
- In the Birds-Eye view, the invisible area is displayed to show the border of 4 camera images. In addition, red fixed lines are displayed in 4 corners of the vehicle icon. After turning the ignition switch ON, the invisible area is highlighted with yellow and red fixed lines are blink only once.

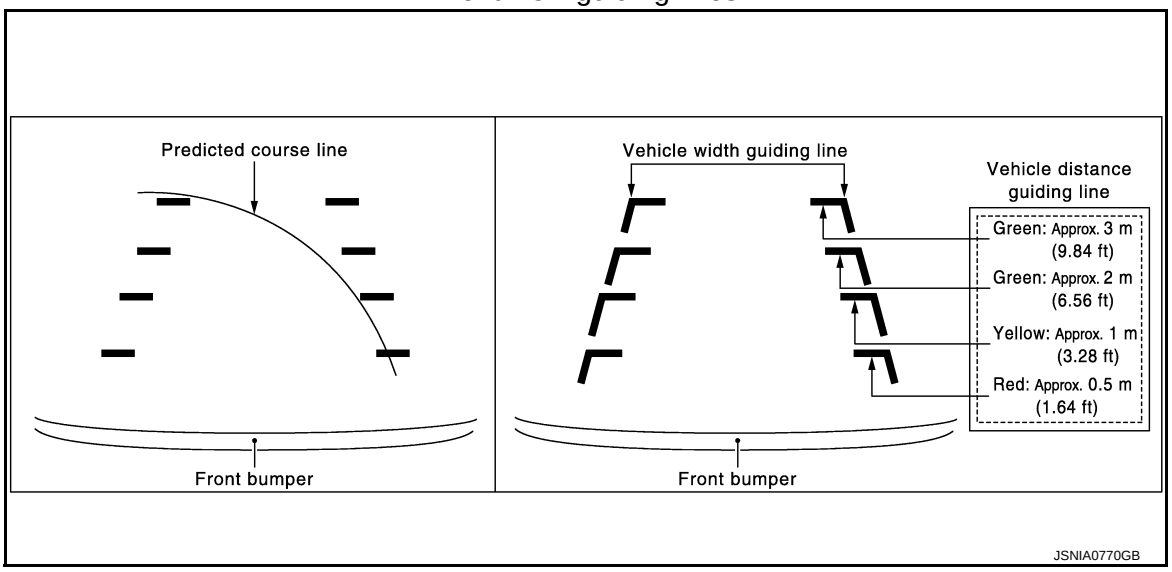
Around view monitor screen transition



FRONT VIEW

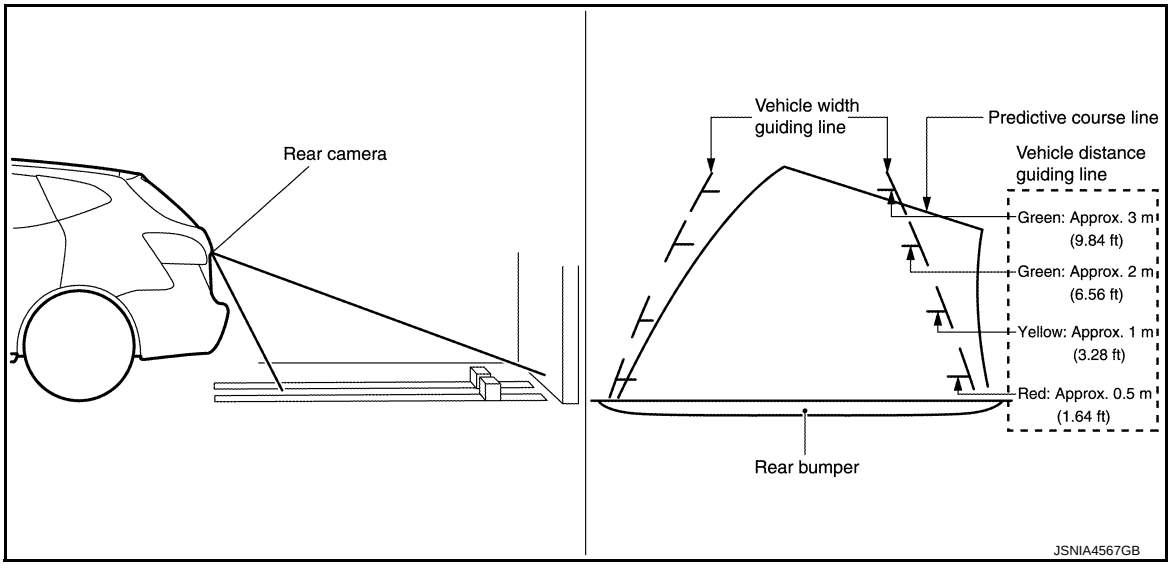
- The front view image is from the front camera.
- When the selector lever is in any position other than the reverse position, the front view is displayed by pressing the “CAMERA” switch. It improves the visibility of obstacles in front of the vehicle and helps driving by the images displayed from Birds-Eye view and Front-Side view.
- Display the vehicle width guiding line and vehicle distance guiding line in front view and display the predictive course line according to the steering angle.
- If the steering angle is within approximately 90 degrees, the predictive course lines on the left/right side are displayed. If the steering angle is exceeding approximately 90 degrees, only the predictive course line on the outside (in the opposite side of steering direction) is displayed.
- Around view monitor control unit receives the steering angle signal from steering angle sensor via CAN communication, and controls the direction and distance of the predictive course line.
- ON/OFF setting of predictive course line can be performed by CONSULT

Front view guiding lines



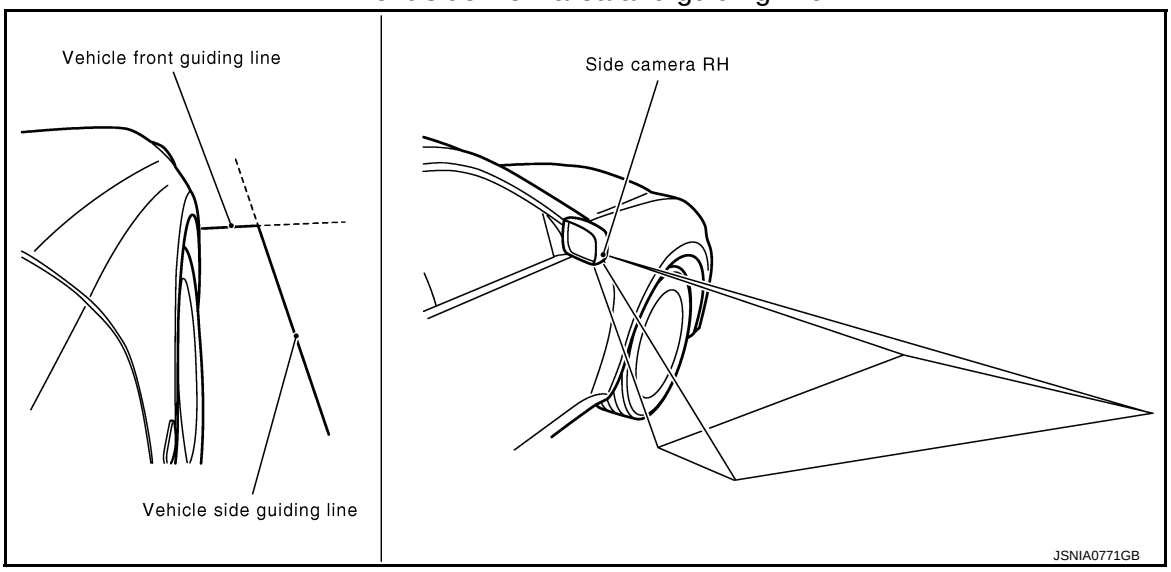
REAR VIEW
- The rear view image is from the rear camera.
- When the selector lever is in the reverse position, the rear view is displayed. Backing and parking are improved by the images from Birds-Eye view and Front-Side view.
- Display the vehicle width guiding line and vehicle distance guiding line in Rear view and display the predictive course line according to the steering angle.
- The predictive course line is not displayed at the steering neutral position.
- Around view monitor control unit receives the steering angle signal from steering angle sensor via CAN communication, and controls the direction and distance of the predictive course line.
- ON/OFF setting of predictive course line can be performed by CONSULT

Rear view guiding lines



FRONT-SIDE VIEW
- The front-side view image is from the side camera RH.
- In Front-Side view, display the vehicle distance guiding line and vehicle width guiding line.

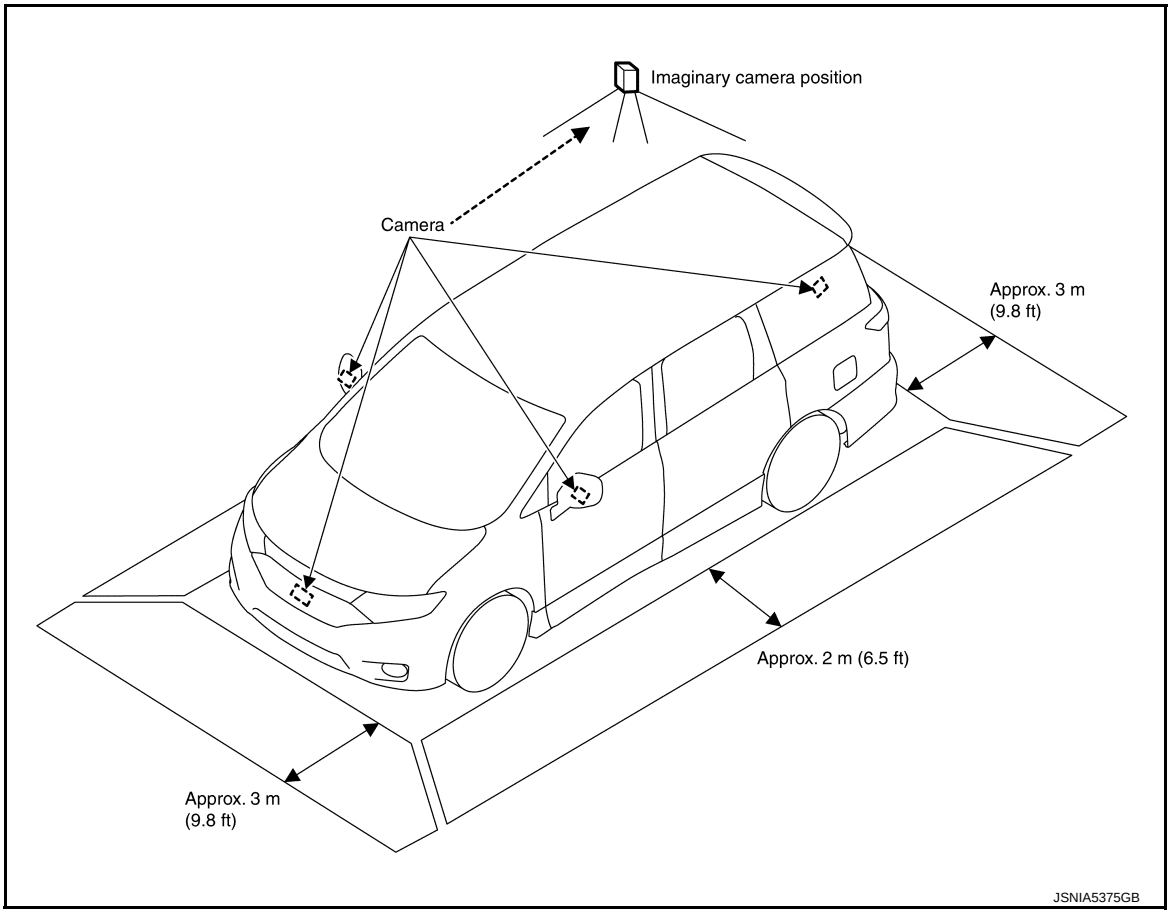
Front-side view area and guiding line



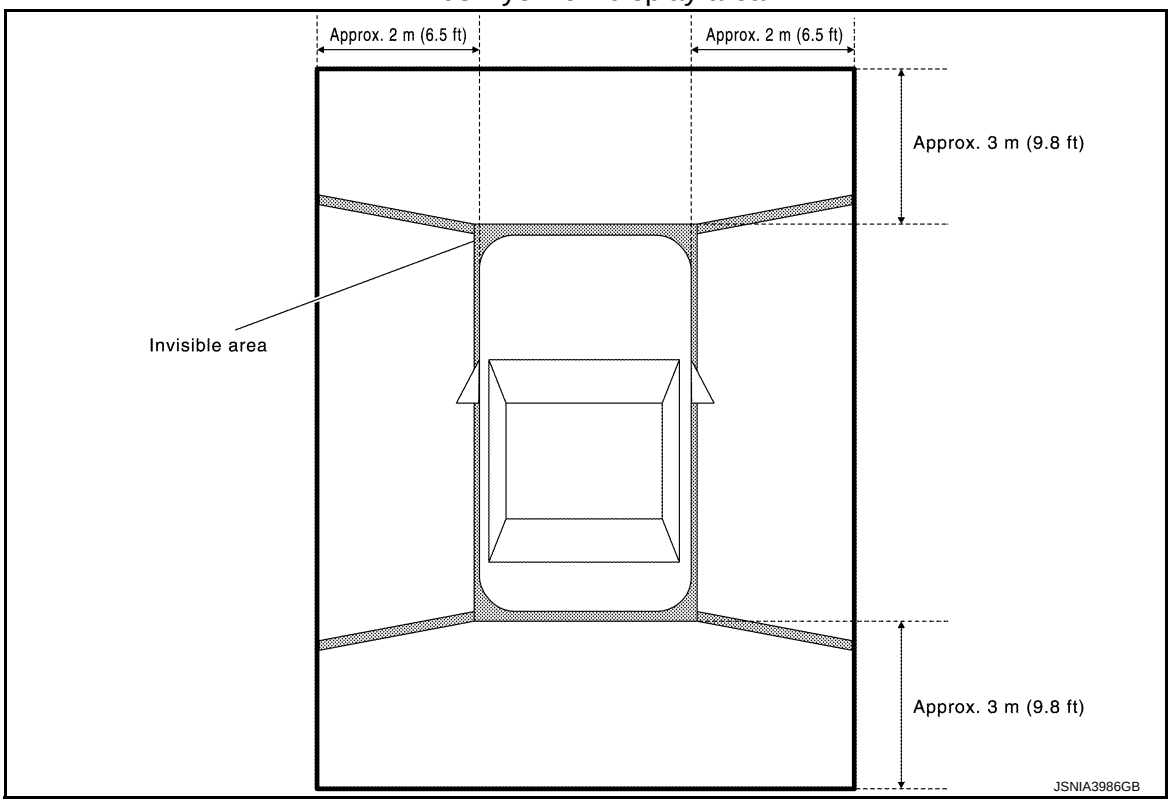
BIRDS-EYE VIEW

- The image from the 4 cameras is cut out and converted into the overhead view, and the surroundings of the vehicle is displayed in birds-eye view.
- In Birds-Eye view, the invisible area is displayed on the image to specify the boundary of the 4 cameras.

Birds-Eye view display image



Birds-Eye view display area



Camera Image Operation Principle

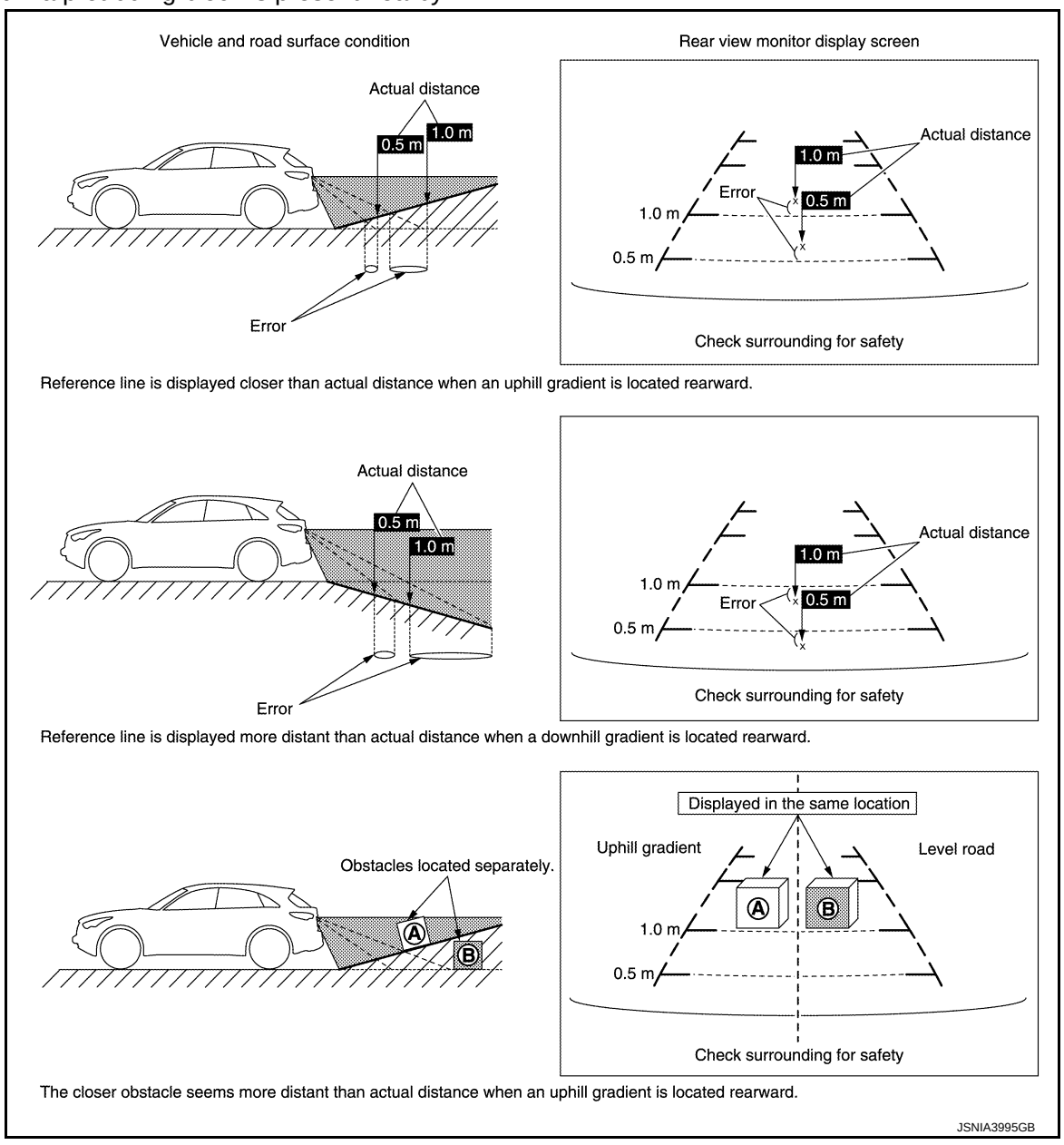
- If the camera image calibration is incomplete, the applicable camera position is indicated as an error on the Birds-Eye view display. (Calibration operation is necessary when replacing each camera or when replacing around view monitor control unit.)
- Around view monitor control unit receives the camera switch signal via CAN communication from AV control unit by pressing the “CAMERA” switch.
- Around view monitor control unit that receives the camera switch signal supplies the power to each camera and inputs the camera image from each camera.
- When the selector lever is in the reverse position, around view monitor control unit receives the reverse signal, supplies the power to each camera, and inputs the camera image from each camera.
- Around view monitor control unit that receives the camera image signal from each camera cuts out the required screen for each view, superimposes the camera image, vehicle icon, guiding lines, and outputs them to the AV control unit.

Precautions for Vehicle Width Guide Line and Predictive Course Line Display on The Rear View Monitor Display

Side distance guide lines and predictive course line on the display may be different from actual lines depending on vehicle conditions and road conditions.

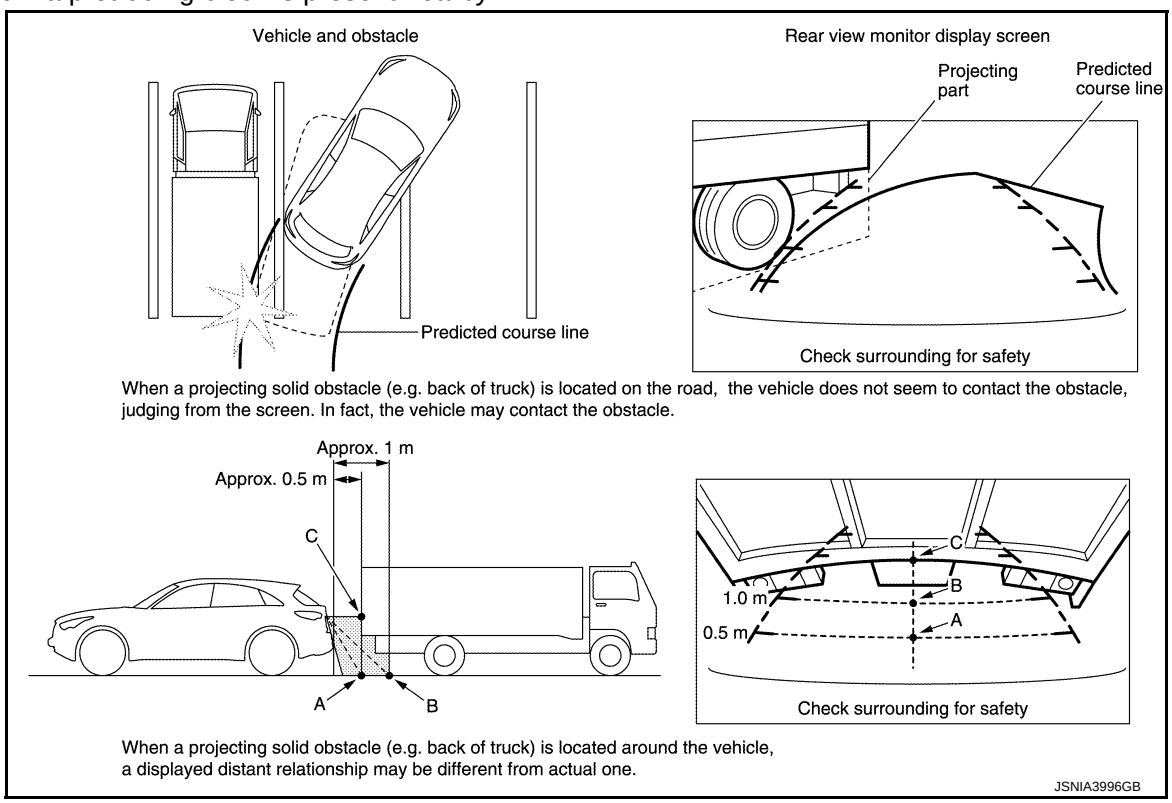
PRECAUTIONS FOR ROAD CONDITIONS

- Since guide lines and predictive course line are drawn based on the road, a different distance may be displayed if a protruding block is present nearby.



PRECAUTIONS FOR BLOCK

- Since guide lines and predictive course line are drawn based on the road, a different distance may be displayed if a protruding block is present nearby.



VEHICLE INFORMATION FUNCTION

- Status of audio, climate control system, fuel economy, maintenance and navigation are displayed.
- AV control unit displays the fuel consumption status while receiving data signal through CAN communication from ECM and combination meter.

Vehicle Setting Function

The AV control unit transmits and receives data signals via CAN communication with the BCM, allowing the following vehicle settings.

- To turn on the automatic interior room lamp (ON/OFF) when the door is unlocked
- To adjust the auto light sensitivity (+/–)
- To operate the intermittent wiper linked with the vehicle speed (ON/OFF)
- Vehicle setting initialization

NOTE:
The setting items vary depending on the vehicle specification

AUTO LIGHT ADJUSTMENT SYSTEM

When the light switch is in the 1st or 2nd position, the dimming of the display is judged according to a dimming signal transmitted from BCM to the AV control unit. Display illuminance is independent of vehicle exterior illuminance detected by the auto light detecting sensor even when the light switch is in 1st or 2nd position.

MULTI AV SYSTEM : Map Data Update

INFOID:0000000009652272

To update map data, use an DVD-ROM including new map data.

MULTI AV SYSTEM : Fail-Safe

INFOID:0000000009652273

When the ambiance temperature becomes extremely low or extremely high, AV control unit displays the message and limits the AV control unit function.

FAIL-SAFE CONDITIONS

When the ambiance temperature is –20°C (–4°F) or lower, or when it is 70°C (158°F) or higher

Display

The messages displayed on fail-safe conditions are as shown below:

Fail-safe mode	Display (display of the fail-safe condition)
When HDD temperature is low	HDD system is experiencing problems due to extreme low temperature. Normal operation will resume when temperature rises.
When HDD temperature is high	HDD system is experiencing problems due to extreme high temperature. Normal operation will resume when temperature drops.

DESCRIPTION OF CONTROLS

Function		When Fail-safe Function is activated
Air conditioner	Operation	Only multifunction switch (preset switch) can be operated.
	Display	• LED of multifunction switch (preset switch) illuminates. • Aimed temperature, blow angle, and flow rate are displayed in simplified mode.
Audio	Operation	Only ON/OFF and volume control operations by multifunction switch (preset switch) are possible.
	Display	No display (“Fail-safe mode” is displayed)
Camera	Operation	Image tone cannot be controlled.
	Display	Cannot be superimposed. (warning display, tone control display)
Hands-free phone	Operation	Cannot be operated.
Navigation	Operation	Cannot be operated.
Self diagnosis		The display in simplified mode of fail-safe condition
CONSULT diagnosis		Cannot be operated.

Ability Operation Mode

There is an ability operation mode for Fail-safes due to low or high ambiance temperature.
If HDD data can be read, fail-safe is shown, then normal displays are displayed only for functions which can be operated.

RELEASE CONDITIONS OF FAIL-SAFE

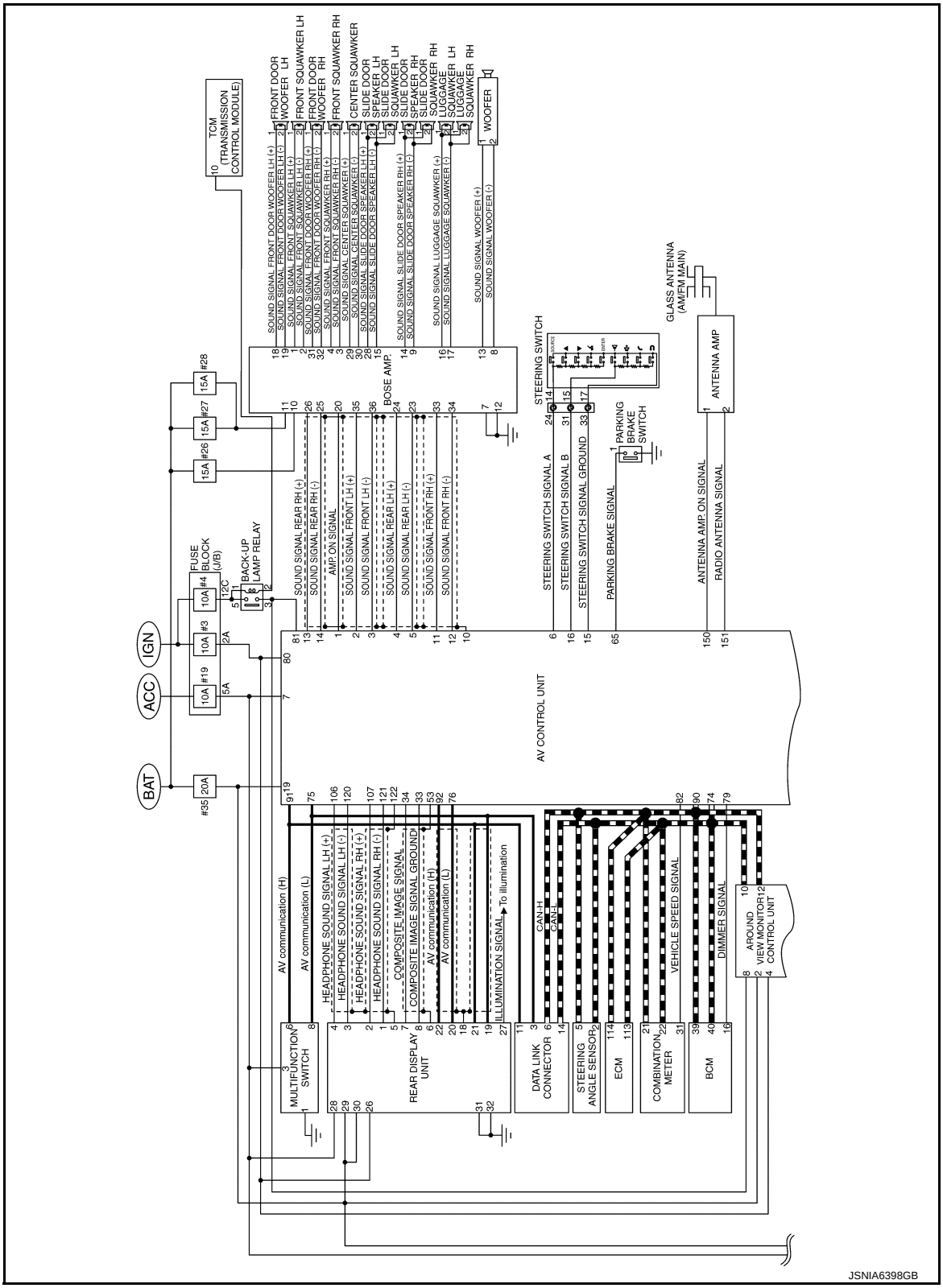
Fail-safe is released on following conditions and normal mode is restored.

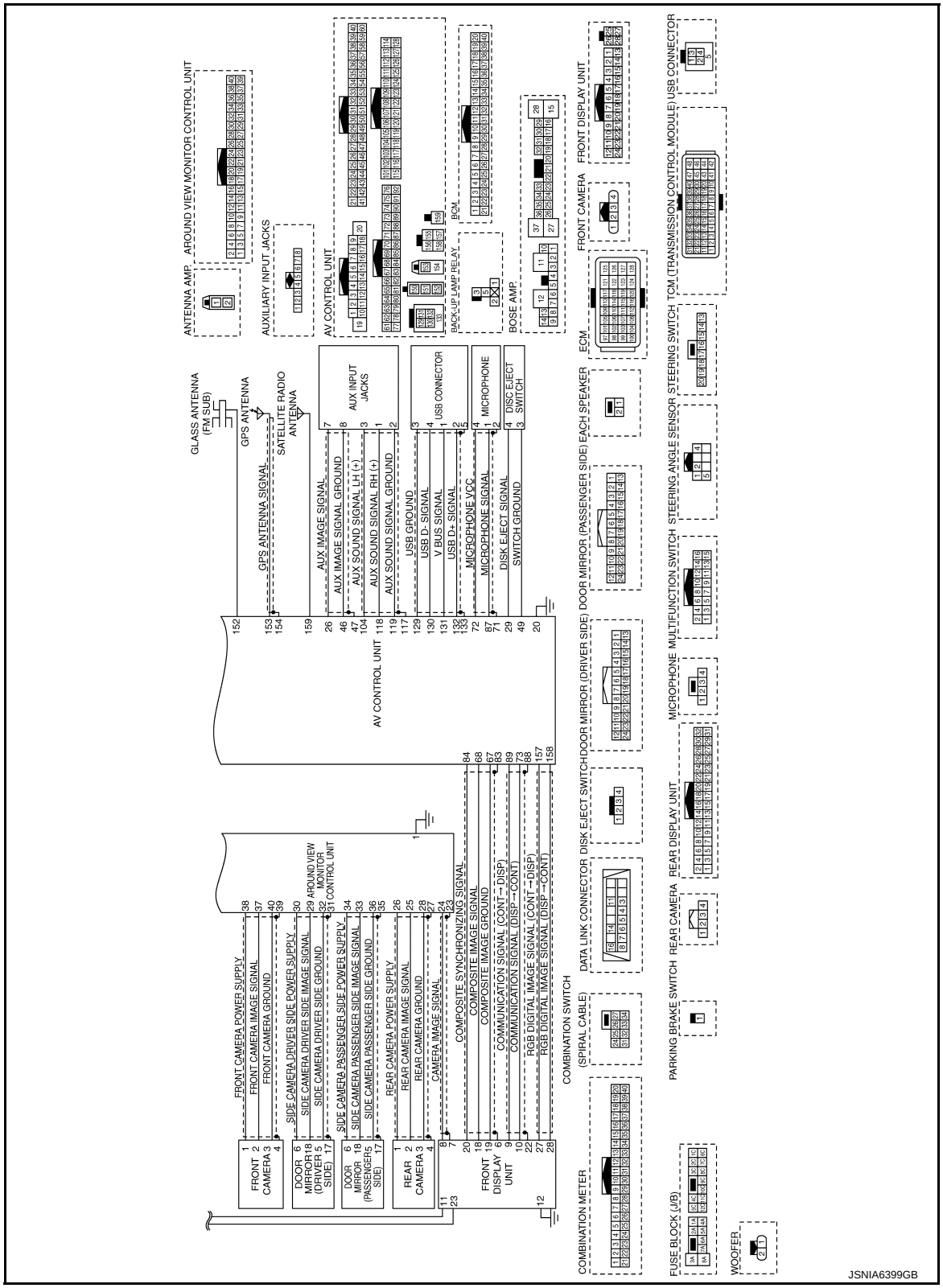
When The Temperature of HDD Is Low or High

If the ambient temperature becomes out of fail-safe condition range, normal mode is restored.

MULTI AV SYSTEM : Circuit Diagram

INFOID:0000000009942764




ANTENNA AMP.
AROUND VIEW MONITOR CONTROL UNIT
AUXILIARY INPUT JACKS
AV CONTROL UNIT
BACK-UP LAMP RELAY
BCM
BOSE AMP.
ECM
FRONT CAMERA
FRONT DISPLAY UNIT
GLASS ANTENNA (FM SUB)
GPS ANTENNA
SATELLITE RADIO ANTENNA
AUX INPUT JACKS
USB CONNECTOR
MICROPHONE
DISC EJECT SWITCH
FRONT CAMERA POWER SUPPLY
FRONT CAMERA IMAGE SIGNAL
FRONT CAMERA GROUND
SIDE CAMERA DRIVER SIDE POWER SUPPLY
SIDE CAMERA DRIVER SIDE IMAGE SIGNAL
SIDE CAMERA DRIVER SIDE GROUND
SIDE CAMERA PASSENGER SIDE POWER SUPPLY
SIDE CAMERA PASSENGER SIDE IMAGE SIGNAL
SIDE CAMERA PASSENGER SIDE GROUND
REAR CAMERA POWER SUPPLY
REAR CAMERA IMAGE SIGNAL
REAR CAMERA GROUND
CAMERA IMAGE SIGNAL
COMPOSITE SYNCHRONIZING SIGNAL
COMPOSITE IMAGE SIGNAL
COMPOSITE IMAGE GROUND
COMMUNICATION SIGNAL (CONT→DISP)
COMMUNICATION SIGNAL (DISP→CONT)
RGB DIGITAL IMAGE SIGNAL (CONT→DISP)
RGB DIGITAL IMAGE SIGNAL (DISP→CONT)
AUX IMAGE SIGNAL
AUX IMAGE SIGNAL GROUND
AUX SOUND SIGNAL LH (+)
AUX SOUND SIGNAL RH (+)
AUX SOUND SIGNAL GROUND
USB GROUND
USB D- SIGNAL
V BUS SIGNAL
USB D+ SIGNAL
MICROPHONE VCC
MICROPHONE SIGNAL
DISC EJECT SIGNAL
SWITCH GROUND
AV CONTROL UNIT
AROUND VIEW MONITOR CONTROL UNIT
COMBINATION SWITCH
COMBINATION METER
DATA LINK CONNECTOR
DISC EJECT SWITCH
DOOR MIRROR (DRIVER SIDE)
DOOR MIRROR (PASSENGER SIDE)
EACH SPEAKER
MICROPHONE
MULTIFUNCTION SWITCH
STEERING ANGLE SENSOR
STEERING SWITCH
TCM (TRANSMISSION CONTROL MODULE)
USB CONNECTOR
FRONT CAMERA (SPIRAL CABLE)
PARKING BRAKE SWITCH
REAR CAMERA
REAR DISPLAY UNIT
FUSE BLOCK (J/B)
WOOFER
JSNIA6399GB

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

Description

INFOID:0000000009652275

- The AV control unit diagnosis function starts up with multifunction switch operation and the AV control unit performs a diagnosis for each unit in the system during the on board diagnosis.
- Perform a CONSULT diagnosis if the on board diagnosis does not start, e.g., the screen does not display anything, the multifunction switch does not function, etc.

On Board Diagnosis Function

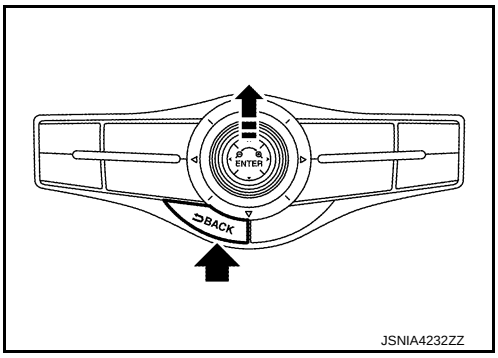
INFOID:0000000009652276

MULTIFUNCTION SWITCH AND PRESET SWITCH SELF-DIAGNOSIS FUNCTION

The ON/OFF operation (continuity) of each switch in the multifunction switch and preset switch can be checked.

Self-diagnosis Mode

- Press the “BACK” switch and the “UP” switch of the 8-direction switches within 10 seconds after turning the ignition switch from OFF to ACC and hold them for 3 seconds or more. Then the buzzer sounds, all indicators of the preset switch illuminate, and the self-diagnosis mode starts.
- The continuity of each switch at the ON position can be checked by pressing the switch. The buzzer sounds if the switch is normal.
  NOTE:
  The disk eject switch cannot be checked.



JSNIA4232ZZ

Finishing Self-diagnosis Mode

Self-diagnosis mode is canceled when turning the ignition switch OFF.

ON BOARD DIAGNOSIS

Description

- The trouble diagnosis function has a self-diagnosis mode for conducting trouble diagnosis automatically and a confirmation/adjustment mode for operating manually.
- The self-diagnosis mode performs diagnoses on the AV control unit, connections between system components as well as connections between AV control unit and GPS antenna. Then it displays the diagnosis results on the display.
- The confirmation/adjustment mode allows the technician to check, modify or adjust the vehicle signals and set values, as well as to monitor the system error records and system communication status. The checking, modifying or adjusting generally require human intervention and judgment (the system cannot make judgment automatically).

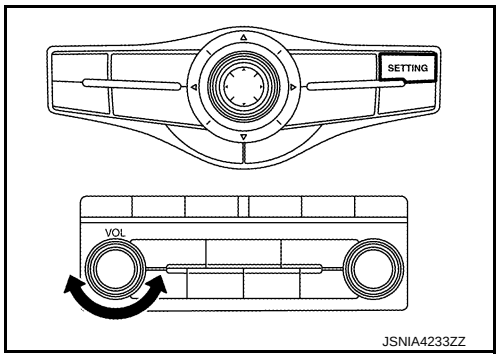
On Board Diagnosis Item

Mode	Description
Self Diagnosis	• AV control unit diagnosis. • Diagnoses the connections across system components, between AV control unit and GPS antenna.

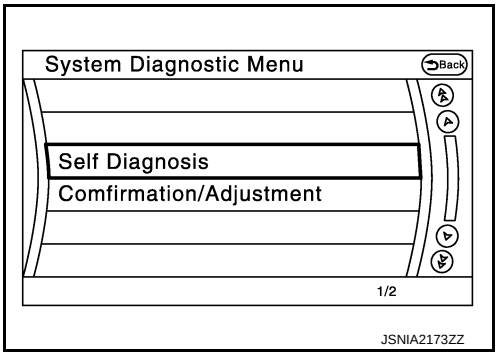
Mode			Description
Confirmation/ Adjustment	Display Diagnosis		The following check functions are available: color tone check by color bar display and white display, light and shade check by gray scale display and touch panel calibration response check.
	Vehicle Signals		Diagnosis of signals can be performed for vehicle speed, parking brake, lights, ignition and reverse.
	Speaker Test		The connection of a speaker can be confirmed by test tone.
	Navigation	Steering Angle Adjustment	When there is a difference between the actual turning angle and the vehicle mark turning angle, it can be adjusted.
		Speed Calibration	When there is a difference between the current location mark and the actual location, it can be adjusted.
		XM SAT Subscription Status	The XM NavTraffic subscription status can be checked.
	Error History		The system malfunction and the frequency when occurring in the past are displayed. When the malfunctioning item is selected, the time and place that the selected malfunction last occurred are displayed.
	Synchronizer FES Clock		–
	Vehicle CAN Diagnosis		The transmitting/receiving of CAN communication can be monitored.
	AV COMM Diagnosis		The communication condition of each unit of Multi AV system can be monitored.
	Handsfree Phone		The received volume adjustment of hands-free phone, microphone speaker check, and erase memory can be performed.
	XM	XM NaviTrffic	Change Channel • Any necessary channels required to receive traffic information from the satellite radio system can be set. Change Application ID • Any application ID'-s required to receive traffic information from the satellite radio system can be set.
		XM NavWeather	
		XM CGS	
		Diag	
	Delete Unit Connection Log		Erase the connection history of unit and error history.
	Initialize Settings		Initializes the AV control unit memory.
	Version Information		Version information of the AV control unit is displayed.

STARTING PROCEDURE

1. Start the engine.
2. Turn the audio system OFF.
3. While pressing the “SETTING” button, turn the volume control dial clockwise or counterclockwise for 40 clicks or more. (When the self-diagnosis mode is started, the trouble diagnosis initial screen is displayed.)
   - Shifting from current screen to previous screen is performed by pressing “BACK” button.



4. Items of “Self Diagnosis” and “Confirmation/Adjustment” can be selected on the trouble diagnosis initial screen.



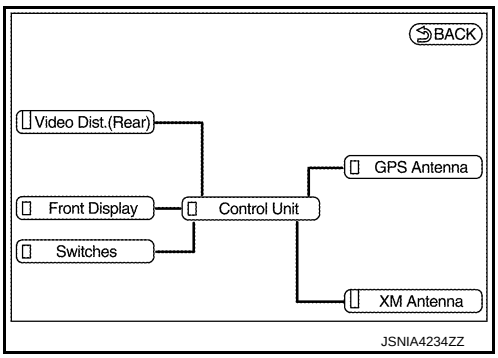
SELF-DIAGNOSIS MODE

1. Start the self-diagnosis function and select “Self Diagnosis”.

- Self-diagnosis subdivision screen is displayed, and the self-diagnosis mode starts.
- The bar graph visible on the center of the self-diagnosis subdivision screen indicates progress of the trouble diagnosis.

2. Diagnosis results are displayed after the self-diagnosis is completed. The unit names and the connection lines are color-coded according to the diagnostic results.

Diagnosis results	Unit	Connection line
Normal	Green	Green
Connection malfunction	Gray	Yellow
Unit malfunction Note	Red	Green

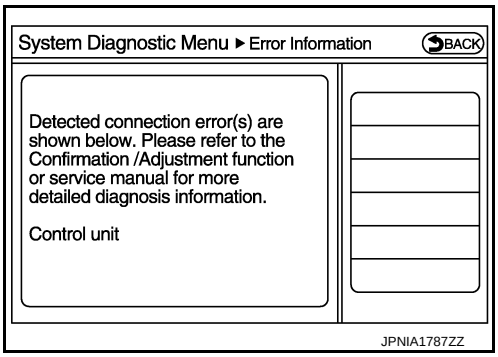


NOTE:

Control unit (AV control unit) is displayed in red.

- Replace AV control unit if “Self-Diagnosis did not run because of a control unit malfunction” is indicated. The symptom is AV control unit internal error. Refer to AV-610, "Removal and Installation".
- If multiple errors occur at the same time for a single unit, the screen switch colors are determined according to the following order of priority: red > gray.

- The comments of the self-diagnosis results can be viewed with a component in the diagnosis result screen.



Detection Range of Self-diagnosis Mode

- The self-diagnosis mode allows the technician to diagnose the connection in the communication line between AV control unit and each unit and the internal operation of the AV control unit.
- Because the start condition of diagnosis function is a switch operation, the on board diagnosis function cannot be started up if any malfunction is detected in the communication circuit between AV control unit and multifunction switch.

SELF-DIAGNOSIS RESULTS

Check the applicable display at the following table, and then repair the malfunctioning parts.

Only Unit Part Is Displayed In Red.

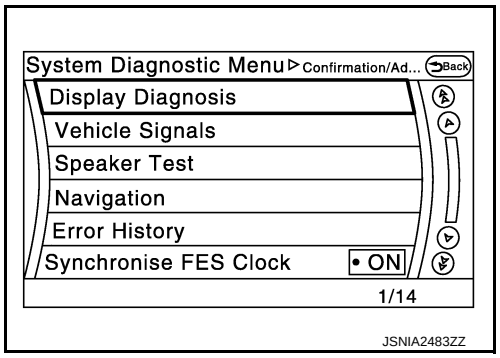
Screen switch	Description	Possible malfunction location / Action to take
Control Unit	Malfunction is detected in AV control unit power supply and ground circuits.	Check AV control unit power supply and ground circuits. When detecting no malfunction in those components, replace AV control unit. Refer to AV-610, "Removal and Installation".

A Connecting Cable Between Units Is Displayed In Yellow.

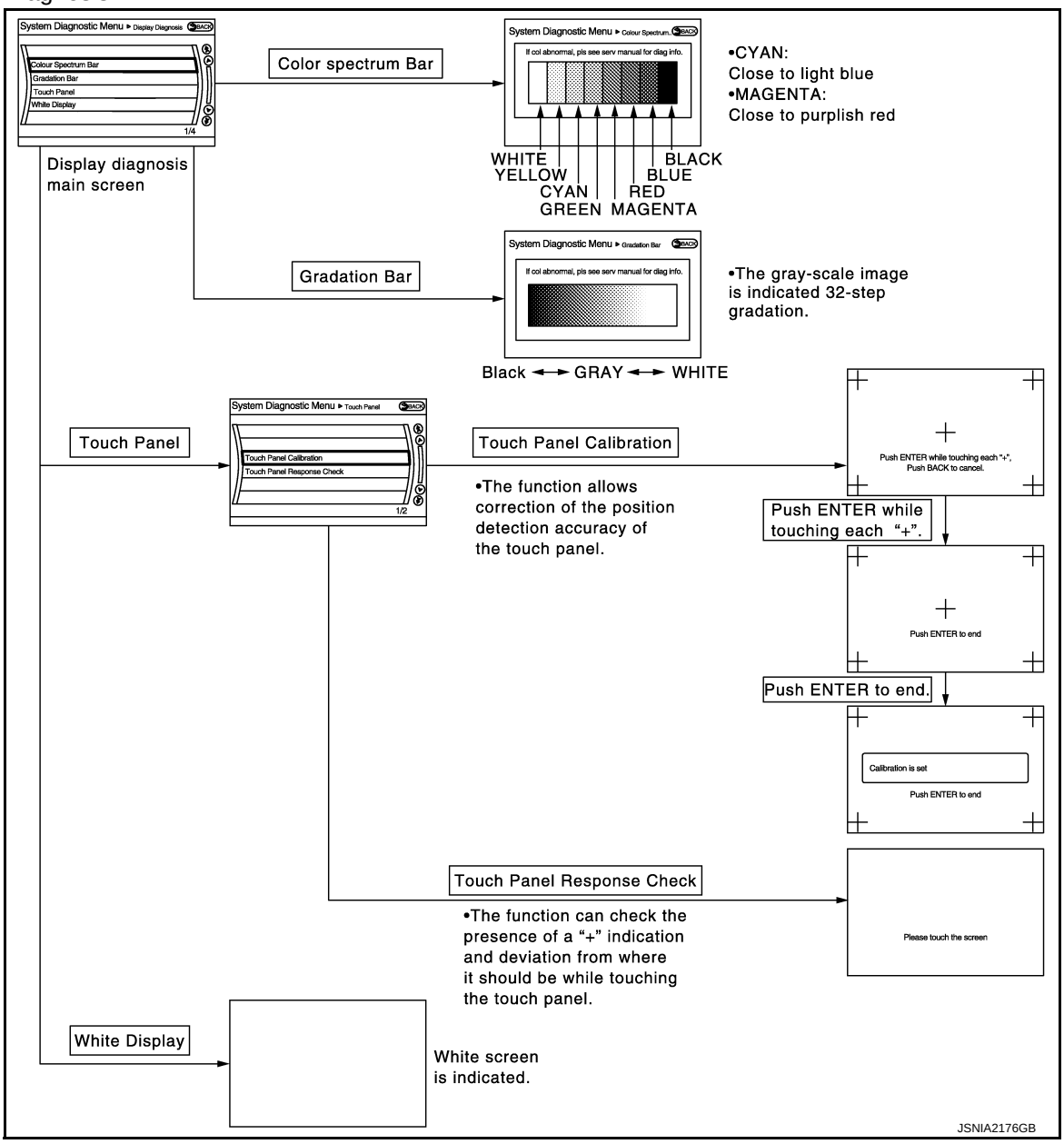
Area with yellow connection lines	Description	Possible malfunction location / Action to take
Control unit ⇔ Front Display	Serial communication circuits between AV control unit and front display unit are malfunctioning.	Serial communication circuits between AV control unit and front display unit.
Control unit ⇔ GPS Antenna	GPS antenna connection malfunctions detected.	GPS antenna
Control unit ⇔ XM Antenna	Satellite radio antenna connection malfunction is detected.	Satellite radio antenna disconnection
Control unit ⇔ Video Dist.(Rear)	When either one of the following items are detected: • Rear display unit power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and rear display unit are malfunctioning.	• Rear display unit power supply and ground circuits. Refer to AV-581, "REAR DISPLAY UNIT : Diagnosis Procedure". • AV communication circuits between AV control unit and rear display unit.

CONFIRMATION/ADJUSTMENT MODE

1. Start the diagnosis function and select “Confirmation/Adjustment”. The confirmation/adjustment mode indicates where each item can be checked or adjusted.
2. Select each switch on the “Confirmation/Adjustment Mode” screen to display the relevant trouble diagnosis screen. Press the “Back” switch to return to the initial Confirmation/Adjustment Mode screen.

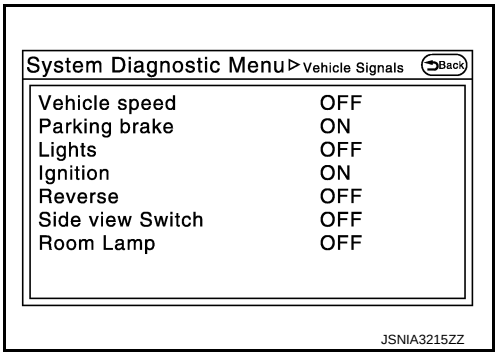


Display Diagnosis



Vehicle Signals

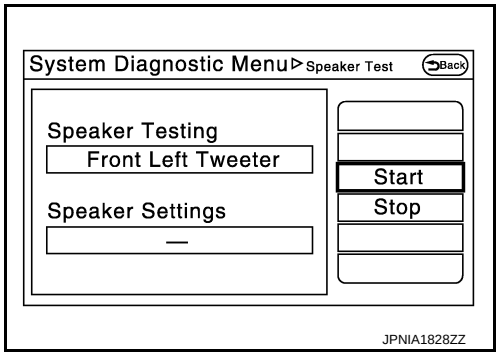
A comparison check can be made of each actual vehicle signal and the signals recognized by the system.



Diagnosis item	Display	Vehicle status	Remarks
Vehicle speed	ON	Vehicle speed >= 8 km/h (5 MPH)	Changes in indication may be delayed. This is normal.
	OFF	Vehicle speed < 8 km/h (5 MPH)	
Parking brake	ON	Parking brake is applied.	
	OFF	Parking brake is released.	
Lights	ON	Block the light from the auto light optical sensor when the lighting switch is 1st or 2nd.	—
	OFF	Either of the following conditions. • Lighting switch is OFF • Expose the auto light optical sensor to light when the lighting switch is 1st or 2nd.	
Ignition	ON	Ignition switch is ON.	—
	OFF	Ignition switch is in ACC position.	
Reverse	ON	Selector lever is in “R” position.	Changes in indication may be delayed. This is normal.
	OFF	Selector lever is in other than “R” position.	
Side view Switch	OFF	—	This item is displayed, but cannot be monitored.
Room Lamp	OFF	—	This item is displayed, but cannot be monitored.

Speaker Test

Select “SPEAKER DIAGNOSIS” to display the Speaker Diagnosis screen. Press “Start” to generate a test tone in a speaker. Press “Start” to generate a test tone in the next speaker. Press “Stop” to stop the test tones.



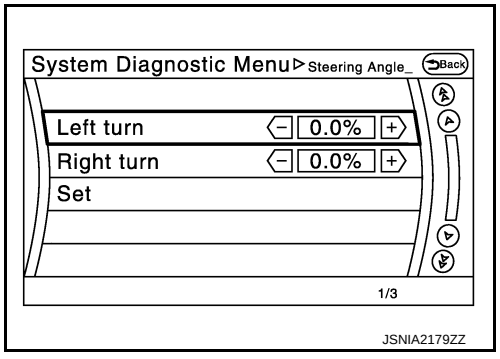
Climate Control

Refer to “HEATER & AIR CONDITIONING CONTROL SYSTEM” for details.

Navigation

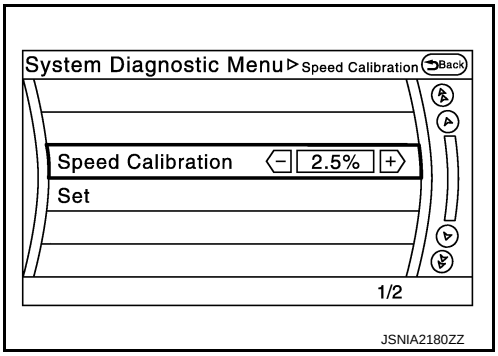
STEERING ANGLE ADJUSTMENT

The steering angle output value detected with the gyroscope is adjusted.



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

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

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

The error record displays the time and place of the most recent occurrence of that error. However, take note of the following points.

- If there is a malfunction with the GPS antenna circuit board in the AV control unit, the correct date and time of occurrence may not be able to be displayed.
- Place of the error occurrence is represented by the position of the current location mark at the time an error occurred. If current location mark has deviated from the correct position, then the place of the error occurrence cannot be located correctly.
- The frequency of occurrence is displayed in a count up manner. The actual count up method differs depending on the error item.

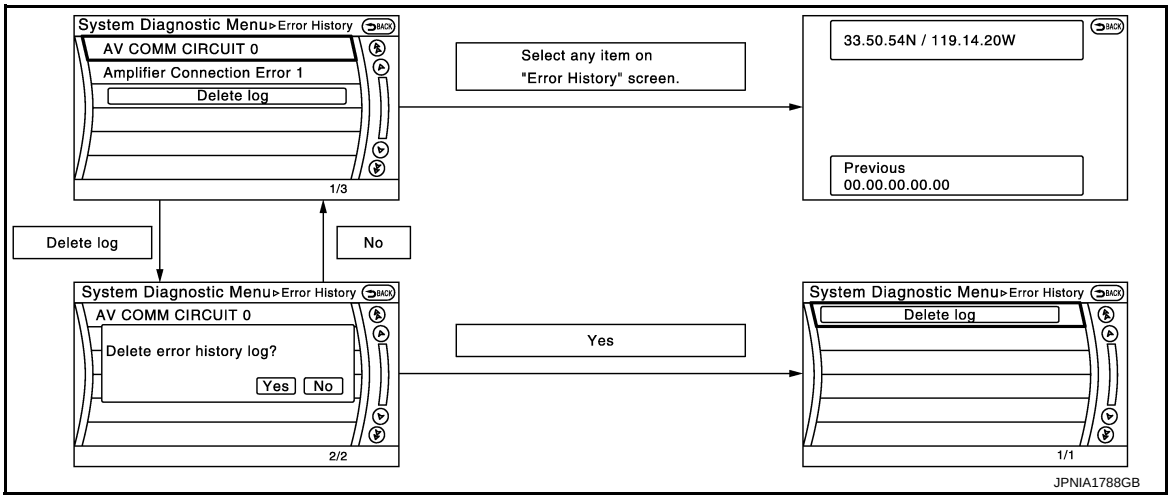
Count up method A

- The counter resets to 0 if an error occurs when ignition switch is turned ON. The counter increases by 1 if the condition is normal at a next ignition ON cycle.
- The counter upper limit is 39. Any counts exceeding 39 are ignored.“ The counter can be reset (no error record display) with the “Delete log” switch or CONSULT.

Count up method B

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

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



Error item

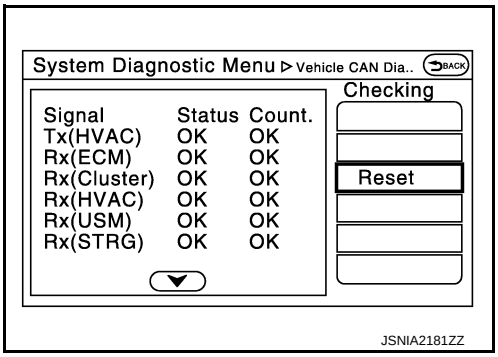
Some error items may be displayed simultaneously according to the cause. If some error items are displayed simultaneously, the detection of the cause can be performed by the combination of display items

Error item	Description	Possible malfunction factor/Action to take
CAN COMM CIRCUIT	CAN communication malfunction is detected.	Perform diagnosis with CONSULT, and then repair the malfunctioning parts according to the diagnosis results. Refer to AV-474, "CONSULT Function".
CONTROL UNIT (CAN)	CAN initial diagnosis malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-610, "Removal and Installation".
CONTROL UNIT (AV)	AV communication circuit initial diagnosis malfunction is detected.	
FLASH-ROM Error Of Control Unit	AV control unit malfunction is detected.	
Connection Of Gyro		
Connection of G Sensor		
CAN Controller Memory Error		
Bluetooth Module Connection Error		
Sub CPU Connection Error		
iPod authentification chip error		
Audio connection error		
DSP Connection Error	AV control unit malfunction is detected.	• If a disc can be played, then there is a possibility of the detection of a temporary malfunction. • Replace the AV control unit if the malfunction occurs constantly. Refer to AV-610, "Removal and Installation".
DSP Communication Error		
HDD Connection Error	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-610, "Removal and Installation".
HDD Read Error		
HDD Write Error		
HDD Communication Error		
HDD Access Error		
GPS Communication Error	GPS malfunction is detected.	• An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs. • Replace the AV control unit if the malfunction occurs constantly. Refer to AV-610, "Removal and Installation".
GPS ROM Error		
GPS RAM Error		
GPS RTC Error		
Unfinished configuration	The writing of configuration data is incomplete.	Write configuration data with CONSULT.
USB Controller Communication Error	USB connection malfunction is detected.	Check that the connection to the USB connector is normal.
DVD Mechanism Communication Error	AV control unit malfunction is detected.	• If DVD can be played, then there is a possibility of the detection of a temporary malfunction. • Replace the AV control unit if the malfunction occurs constantly. Refer to AV-610, "Removal and Installation".
Steer. Angle Sensor Calibration	Neutral position adjustment of the steering angle sensor is incomplete.	Adjust the neutral position of the steering angle sensor. Refer to BRC-49, "Work Procedure".

Error item	Description	Possible malfunction factor/Action to take
Front Display Connection Error	When either one of the following items are detected: • front display unit power supply and ground circuits are malfunctioning. • serial communication circuits between AV control unit and front display unit are malfunctioning.	• Front display unit power supply and ground circuits. Refer to AV-580, "FRONT DISPLAY UNIT : Diagnosis Procedure". • Serial communication circuits between AV control unit and front display unit.
AM/FM antenna amplifier short to ground	Radio antenna amp. ON signal circuit malfunction is detected.	Radio antenna amp. ON signal circuit between AV control unit and antenna amp.
AM/FM antenna amplifier open		
Ext_Amp_ON output terminal short to ground	BOSE amp. ON signal circuit malfunction is detected.	BOSE amp. ON signal circuit between AV control unit and BOSE amp.
Ext_Amp_ON output terminal :open		
GPS Antenna Error	GPS antenna connection malfunction is detected.	Check the connection of the GPS antenna connector.
USB electric current Error	Detection of overcurrent in USB connector.	Check USB harness between the AV control unit and USB connector.
XM Antenna Connection Error	Satellite radio antenna connection malfunction is detected.	Satellite radio antenna disconnection.
• AV COMM CIRCUIT • Switches Connection Error	When either one of the following items are detected: • multifunction switch power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and multifunction switch were malfunctioning.	• Multifunction switch power supply and ground circuits. • AV communication circuits between AV control unit and multifunction switch.
• AV COMM CIRCUIT • 2nd Display Connection Error	When either one of the following items are detected: • Rear display unit power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and rear display unit are malfunctioning.	• Rear display unit power supply and ground circuits. Refer to AV-581, "REAR DISPLAY UNIT : Diagnosis Procedure". • AV communication circuits between AV control unit and rear display unit.
• AV COMM CIRCUIT • Switches Connection Error • 2nd Display Connection Error	AV communication circuits between AV control unit and multifunction switch are malfunctioning.	AV communication circuits between AV control unit and multifunction switch.

Vehicle CAN Diagnosis

- CAN communication status and error counter is displayed.
- The error counter displays “OK” if any malfunction was not detected in the past and displays “0” if a malfunction is detected. It increases by 1 if the condition is normal at the next ignition switch ON cycle. The upper limit of the counter is 39.
- The error counter is erased if “Reset” is pressed.

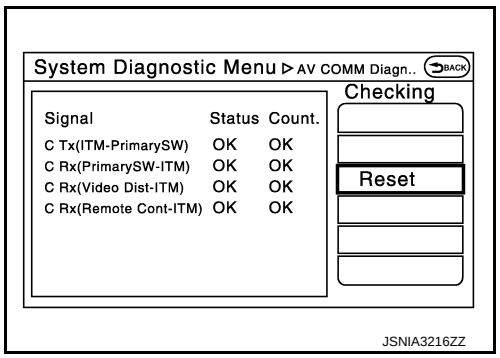


Items	Display (Current)	Malfunction counter (Past)
Tx(HVAC)	OK / ???	OK / 0 – 39
Rx(ECM)	OK / ???	OK / 0 – 39
Rx(Cluster)	OK / ???	OK / 0 – 39
Rx(HVAC)	OK / ???	OK / 0 – 39
Rx(USM)	OK / ???	OK / 0 – 39
Rx(STRG)	OK / ???	OK / 0 – 39

NOTE:
“???” indicates UNKWN.

AV COMM Diagnosis

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



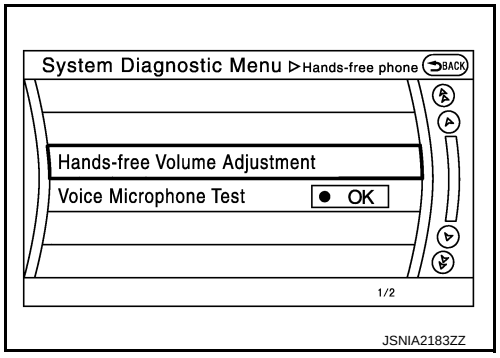
JSNIA3216ZZ

Items	Status (Current)	Counter (Past)
C Tx(ITM–PrimarySW)	OK / ???	OK / 0 – 39
C Rx(PrimarySW–ITM)	OK / ???	OK / 0 – 39
C Rx(Video Dist–ITM)	OK / ???	OK / 0 – 39
C Rx(Remote Cont–ITM)	OK / ???	OK / 0 – 39

NOTE:
“???” indicates UNKWN

Hands-Free Phone

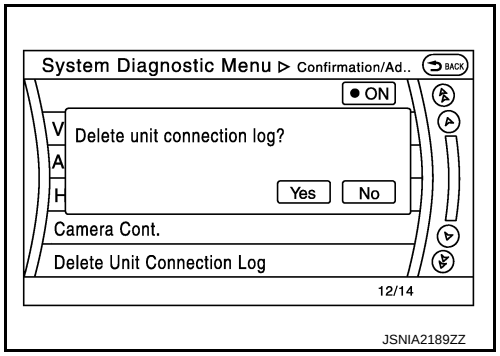
The hands-free phone reception volume adjustment and microphone and speaker test functions are also available.



JSNIA2183ZZ

Delete Unit Connection Log

Deletes any unit connection records and error records from the AV control unit memory. (Clear the records of the unit that has been removed.)



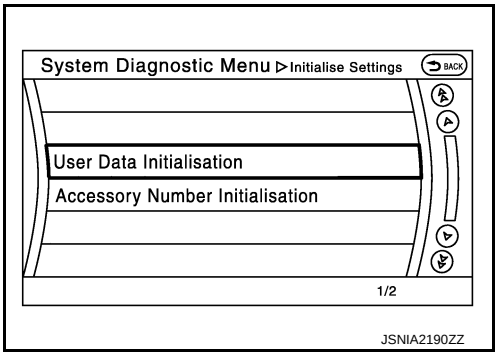
JSNIA2189ZZ

Initialize Settings

"User Data Initialization" and "Accessory Number Initialization" are possible.

CAUTION:

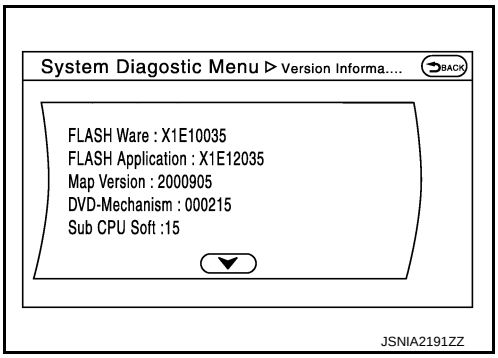
- **Never perform Accessory Number Initialization except when configuration is unsuccessful.**
- **Accessory Number Initialization requires configuration. For details, refer to AV-526, "CONFIGURATION (AV CONTROL UNIT) : Description".**



JSNIA2190ZZ

Version Information

Version information of the AV control unit is displayed.



JSNIA2191ZZ

CONSULT Function

INFOID:0000000009652277

CONSULT FUNCTIONS

CONSULT performs the following functions via the communication with the AV control unit.

Diagnosis mode	Description
Ecu Identification	The part number of AV control unit can be checked.
Self Diagnostic Result	Performs a diagnosis on the AV control unit and a connection diagnosis for the communication circuit of the Multi AV system, and displays the current and past malfunctions collectively.
Data Monitor	The diagnosis of vehicle signal that is input to the AV control unit can be performed.
Work Support	Steering angle sensor can be adjusted.
Configuration	• Read and save the vehicle specification. • Write the vehicle specification when replacing AV control unit.

AV Communication

When "AV communication" of "CAN Diag Support Monitor" is selected, the following function will be performed.

AV communication	AV&NAVI C/U	Displays the communication status from AV control unit to each unit as well as the error counter.
	AUDIO	Displays the AV control unit communication status and the error counter.

ECU IDENTIFICATION

The part number of AV control unit is displayed.

SELF DIAGNOSIS RESULT

- In CONSULT self-diagnosis, self-diagnosis results and error history are displayed collectively.
- The current malfunction indicates "CRNT". The past malfunction indicates "PAST".
- The timing is displayed as "0" if any of the error codes [U1000], [U1010], [U1300] and [U1310] is detected. The counter increases by 1 if the condition is normal at the next ignition switch ON cycle.

Self-diagnosis Results Display Item

Error item	Description	Possible malfunction factor/Action to take
CAN COMM CIRCUIT [U1000]	CAN communication malfunction is detected.	Refer to AV-535, "AV CONTROL UNIT : Diagnosis Procedure".
CONTROL UNIT (CAN) [U1010]	CAN initial diagnosis malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-610, "Removal and Installation".
CONTROL UNIT (AV) [U1310]	AV communication circuit initial diagnosis malfunction is detected.	
Cont Unit [U1200]	AV control unit malfunction is detected.	
GYRO NO CONN [U1201]		
G-SENSOR NO CONN [U1202]		
CAN CONT [U1216]		
BLUETOOTH MODULE [U1217]		
SUB CPU CONN [U1228]		
iPod CERTIFICATION [U1229]		
Built-in AUDIO CONN [U122E]		
HDD CONN [U1218]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-610, "Removal and Installation".
HDD READ [U1219]		
HDD WRITE [U121A]		
HDD COMM [U121B]		
HDD ACCESS [U121C]		
GPS COMM [U1204]	GPS malfunction is detected.	• An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs. • Replace the AV control unit if the malfunction occurs constantly. Refer to AV-610, "Removal and Installation".
GPS ROM [U1205]		
GPS RAM [U1206]		
GPS RTC [U1207]		
USB CONTROLLER [U1225]	USB connection malfunction is detected.	Check that the connection to the USB connector is normal.
DSP CONN [U121D]	AV control unit malfunction is detected.	• If a disc can be played, then there is a possibility of the detection of a temporary malfunction. • Replace the AV control unit if the malfunction occurs constantly. Refer to AV-610, "Removal and Installation".
DSP COMM [U121E]		
DVD COMM [U1227]	AV control unit malfunction is detected.	• If DVD can be played, then there is a possibility of the detection of a temporary malfunction. • Replace the AV control unit if the malfunction occurs constantly. Refer to AV-610, "Removal and Installation".
CONFIG UNFINISH [U122A]	The writing of configuration data is incomplete.	Write configuration data with CONSULT.
ST ANGLE SEN CALIB [U1232]	Neutral position adjustment of the steering angle sensor is incomplete.	Adjust the neutral position of the steering angle sensor. Refer to AV-568, "AV CONTROL UNIT : Diagnosis Procedure".

Error item	Description	Possible malfunction factor/Action to take
FRONT DISP CONN [U1243]	When either one of the following items are detected: • front display unit power supply and ground circuits are malfunctioning. • serial communication circuits between AV control unit and front display unit are malfunctioning.	• Front display unit power supply and ground circuits. Refer to AV-580, "FRONT DISPLAY UNIT : Diagnosis Procedure". • Serial communication circuits between AV control unit and front display unit.
GPS ANTENNA CONN [U1244]	GPS antenna connection malfunction is detected.	Check the connection of the GPS antenna connector.
XM ANTENNA CONN [U1258]	Satellite radio antenna connection malfunction is detected.	Satellite radio antenna disconnection.
USB OVERCURRENT [U1263]	Detection of overcurrent in USB connecter.	Check USB harness between the AV control unit and USB connector.
ANTENNA AMP TERMINAL [OPEN or SHORT] [U1264]	Radio antenna amp. ON signal circuit malfunction is detected.	Radio antenna amp. ON signal circuit between AV control unit and antenna amp.
AMP ON TERMINAL [GND-SHORT or VB-SHORT] [U1265]	BOSE amp. ON signal circuit malfunction is detected.	BOSE amp. ON signal circuit between AV control unit and BOSE amp.
• AV COMM CIRCUIT [U1300] • SWITCH CONN [U1240]	When either one of the following items are detected: • multifunction switch power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and multifunction switch are malfunctioning.	• Multifunction switch power supply and ground circuits. • AV communication circuits between AV control unit and multifunction switch.
• AV COMM CIRCUIT [U1300] • VIDEO DIST CONN [U1246]	When either one of the following items are detected: • Rear display unit power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and rear display unit are malfunctioning.	• Rear display unit power supply and ground circuits. Refer to AV-581, "REAR DISPLAY UNIT : Diagnosis Procedure". • AV communication circuits between AV control unit and rear display unit.
• AV COMM CIRCUIT [U1300] • SWITCH CONN [U1240] • VIDEO DIST CONN [U1246]	AV communication circuits between AV control unit and multifunction switch are malfunctioning.	AV communication circuits between AV control unit and multifunction switch.

DATA MONITOR

NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

ALL SIGNALS

- Displays the status of the following vehicle signals inputted into the AV control unit.
- For each signal, actual signal can be compared with the condition recognized on the system.

Display Item	Display	Vehicle status	Remarks
VHCL SPD SIG	On	Vehicle speed >= 8 km/h (5 MPH)	Changes in indication may be delayed. This is normal.
	Off	Vehicle speed < 8 km/h (5 MPH)	
PKB SIG	On	Parking brake is applied.	
	Off	Parking brake is released.	

Display Item	Display	Vehicle status	Remarks
ILLUM SIG	On	Block the light from the auto light optical sensor when the lighting switch is 1st or 2nd.	—
	Off	Either of the following conditions. • Lighting switch is OFF • Expose the auto light optical sensor to light when the lighting switch is 1st or 2nd.	
IGN SIG	On	Ignition switch is ON	
	Off	Ignition switch is in ACC position	
REV SIG	On	Selector lever is in R position	Changes in indication may be delayed. This is normal.
	Off	Selector lever is in any position other than R	
SIDE VIEW SW	Off	—	This item is displayed, but cannot be monitored.
ROOM LAMP	Off	—	This item is displayed, but cannot be monitored.

SELECTION FROM MENU

Allows the technician to select which vehicle signals should be displayed and displays the status of the selected vehicle signals.

Item to be selected	Description
VHCL SPD SIG	The same as when “ALL SIGNALS” is selected.
PKB SIG	
ILLUM SIG	
IGN SIG	
REV SIG	
SIDE VIEW SW	
ROOM LAMP	

WORK SUPPORT

Adjusts the neutral position of the steering angle sensor.

CAUTION:

For vehicles with VDC, adjust the steering angle sensor neutral position on the ABS actuator control unit side.

Item	Description
ST ANGLE SENSOR ADJUSTMENT	Adjusts the neutral position of the steering angle sensor.

CONFIGURATION

Configuration includes functions as follows.

Function		Description
Read/Write Configuration	Before Replace ECU	Allows the reading of vehicle specification written in AV control unit to store the specification in CONSULT.
	After Replace ECU	Allows the writing of the vehicle information stored in CONSULT into the AV control unit.
Manual Configuration		Allows the writing of the vehicle specification into the AV control unit by hand.

DIAGNOSIS SYSTEM (AROUND VIEW MONITOR CONTROL UNIT)

CONSULT Function

INFOID:0000000009942809

APPLICATION ITEMS

CONSULT can display each diagnostic item using the diagnostic test modes shown as follows:

Test mode	Function
Ecu Identification	Around view monitor control unit part number can be read.
Self Diagnostic Result	Around view monitor control unit checks the conditions and displays memorized error.
Data Monitor	Around view monitor control unit input/output data in real time.
Work support	Changes setting of each function.

ECU IDENTIFICATION

Displays the part number of around view monitor control unit.

SELF-DIAGNOSTIC RESULTS

For details, refer to AV-495, "DTC Index".

DATA MONITOR

NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor Item	Display	Description
ST ANGLE SENSOR SIGNAL	ON/OFF	Input status of steering angle sensor signal is displayed by ON/OFF.
REVERSE SIGNAL	ON/OFF	Input status of reverse signal is displayed by ON/OFF in real time.
VEHICLE SPEED SIGNAL	ON/OFF	Input status of vehicle speed signal is displayed by ON/OFF.
CAMERA SWITCH SIGNAL	ON/OFF	Input status of camera switch signal is displayed by ON/OFF.
CAMERA OFF SIGNAL	ON/OFF	Input status of camera OFF signal is displayed by ON/OFF.
ST ANGLE SENSOR TYPE	Absolute	Type of steering angle sensor is displayed. (“Absolute” is displayed on this vehicle.)
STEERING GEAR RATIO TYPE	Type 0	Type of steering gear ratio is displayed. (“Type 0” is displayed on this vehicle.)
STEERING POSITION	LHD/RHD	Steering position is displayed.
REAR CAMERA IMAGE SIGNAL	OK/NG	Input status of rear camera image signal is displayed by OK/NG in real time.
F-CAMERA IMAGE SIGNAL	OK/NG	Input status of front camera image signal is displayed by OK/NG in real time.
PA-SIDE CAMERA IMAGE SIG	OK/NG	Input status of side camera RH image signal is displayed by OK/NG in real time.
DR-SIDE CAMERA IMAGE SIG	OK/NG	Input status of side camera LH image signal is displayed by OK/NG in real time.

WORK SUPPORT

Work support item	Function
CALIBRATING CAMERA IMAGE (FRONT CAMERA)	Performs the calibration of front camera.
CALIBRATING CAMERA IMAGE (PASS-SIDE CAMERA)	Performs the calibration of side camera RH.
CALIBRATING CAMERA IMAGE (DR-SIDE CAMERA)	Performs the calibration of side camera LH.
CALIBRATING CAMERA IMAGE (REAR CAMERA)	Performs the calibration of rear camera.
INITIALIZE CAMERA IMAGE CALIBRATION	The calibration can be initialized to NISSAN factory shipment condition.

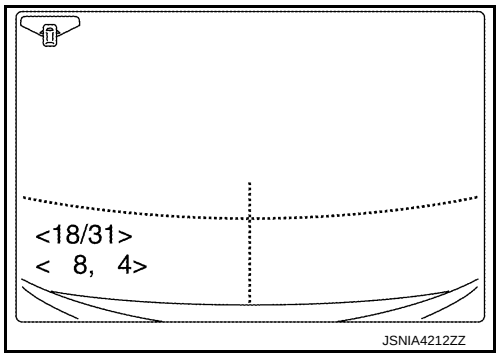
Work support item	Function
FINE TUNING OF BIRDS-EYE VIEW	The confirmation and adjustment of the difference between each camera can be performed.
SELECT LANGUAGE OF WARNING MESSAGE	Language of warning message shown during camera image display can be selected.
PREDICTIVE COURSE LINE DISPLAY	ON/OFF setting of predictive course line can be performed.
STEERING ANGLE SENSOR ADJUSTMENT	Steering angle sensor neutral position can be adjusted and registered.
NON-VIEWABLE AREA REMINDER	ON/OFF setting of the non-viewable area reminder can be performed.

Calibrating Camera Image (front camera, pass-side camera, dr-side camera, and rear camera)

Perform the calibration of camera image caused by the incorrect mounting position of each camera, etc. Always perform calibration after performing the following work.

- When each camera or each camera mount (e.g. front grille, door mirror, and others) is removed
- When replacing the around view monitor control unit

Refer to AV-528, "CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Work Procedure" for the calibration procedure.



Adjustment range	
Rotating direction	: 31 patterns (16 on the center)
Upper/lower direction	: (–22) – (+22)
Left/right direction	: (–22) – (+22)

Initialize Camera Image Calibration

The calibration can be initialized to NISSAN factory shipment condition.

Select Language of Warning Message

No need to be selected because it can change the language on setting of Navi by customer.

Predictive Course Line Display

ON/OFF setting of predictive course line can be performed.

Steering Angle Sensor Adjustment

Steering angle sensor neutral position can be adjusted and registered.

CAUTION:

For vehicles with VDC, adjust the steering angle sensor neutral position on the ABS actuator control unit side.

Non-Viewable Area Reminder

ON/OFF setting of the non-viewable area reminder can be performed.

ECU DIAGNOSIS INFORMATION

AV CONTROL UNIT

Reference Value

INFOID:0000000009652279

VALUES ON THE DIAGNOSIS TOOL

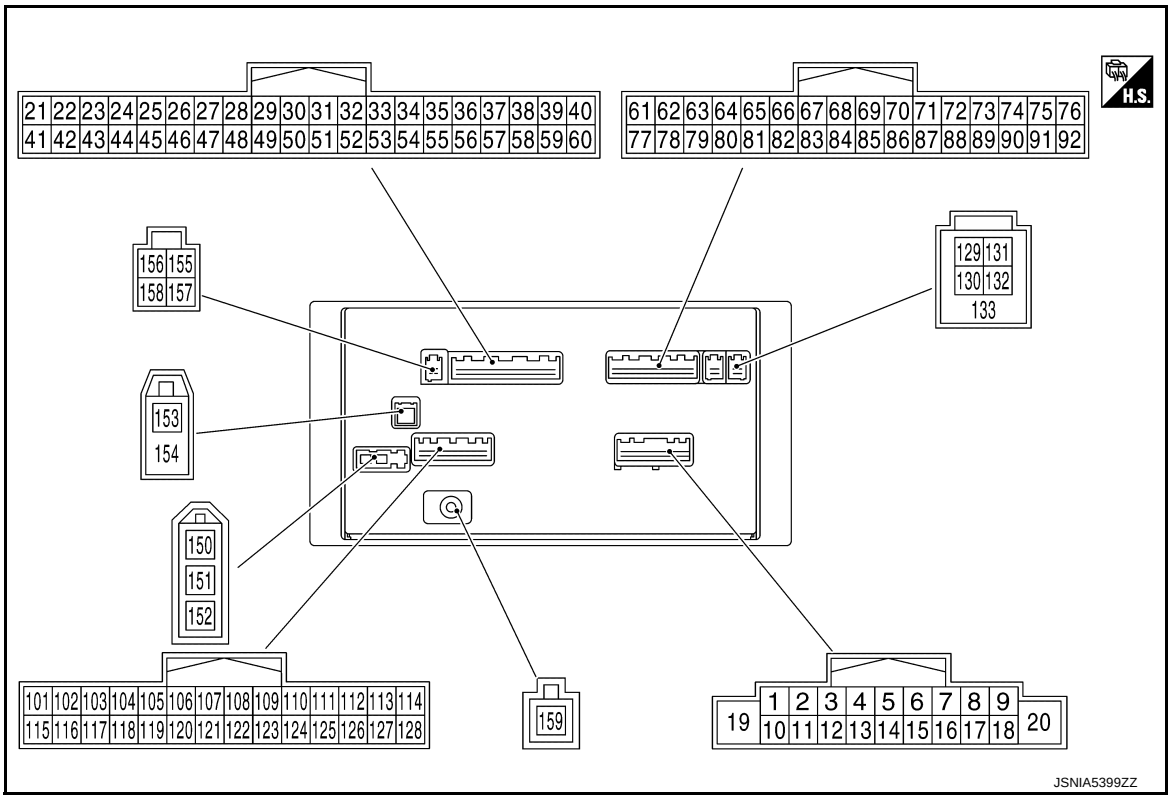
NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

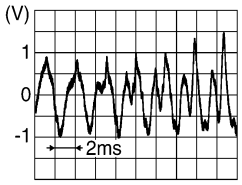
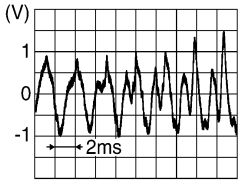
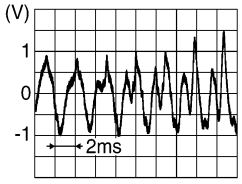
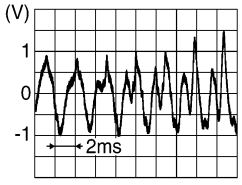
CONSULT MONITOR ITEM

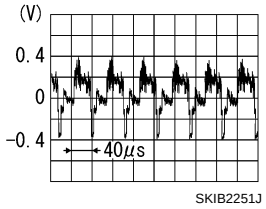
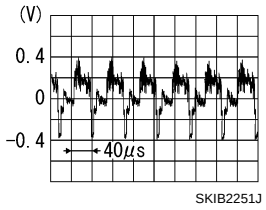
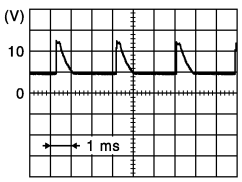
Monitor Item	Condition		Value/Status
VHCL SPD SIG	Ignition switch ON	Vehicle speed > 0 km/h (0 MPH)	On
		Vehicle speed = 0 km/h (0 MPH)	Off
PKB SIG	Ignition switch ON	Parking brake is applied.	On
		Parking brake is released.	Off
ILLUM SIG	Ignition switch ON	Lighting switch is ON	On
		Lighting switch is OFF	Off
IGN SIG	Ignition switch ON	—	On
	Ignition switch ACC	—	Off
REV SIG	Ignition switch ON	Selector lever is in R position	On
		Selector lever is in any position other than R	Off
SIDE VIEW SW	Ignition switch ON	This item is displayed, but cannot be monitored.	Off
ROOM LAMP	Ignition switch ON	This item is displayed, but cannot be monitored.	Off

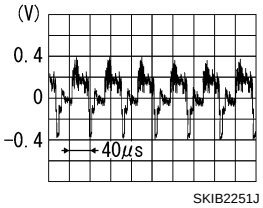
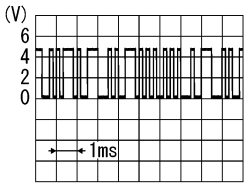
TERMINAL LAYOUT

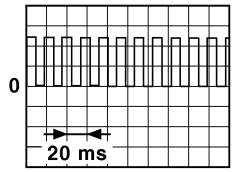
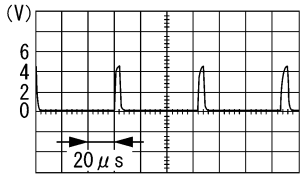
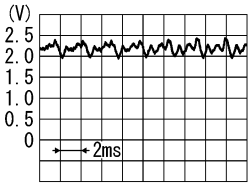
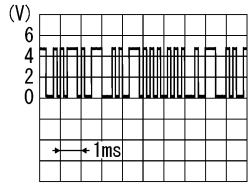
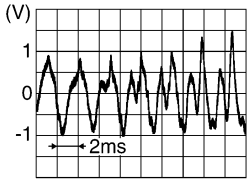


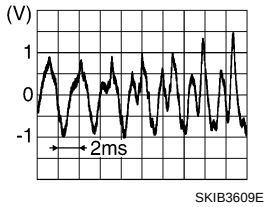
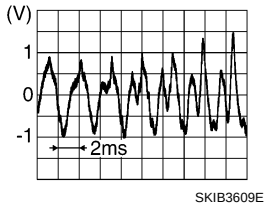
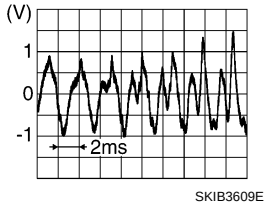
PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
1 (LG)	20 (B)	Amp. ON signal	Input	Ignition switch ON	—	9.0 – 16.0 V	12.0 V
2 (R)	3 (G)	Sound signal front LH	Output	Ignition switch ON	Sound output	Outputs waveform synchronized with sound.	 SKIB3609E
4 (B)	5 (W)	Sound signal rear LH	Output	Ignition switch ON	Sound output	Outputs waveform synchronized with sound.	 SKIB3609E
6 (L)	15 (GR)	Steering switch signal A	Input	Ignition switch ON	Keep pressing SOURCE switch.	0 - 5.5 V	0 V
					Keep pressing MENU UP switch.		1.0 V
					Keep pressing MENU DOWN switch.		2.0 V
					Keep pressing switch.		3.0 V
					Keep pressing ENTER switch.		4.0 V
					Except for above.		5.0 V
7 (O)	20 (B)	ACC power supply	Input	Ignition switch ACC	—	7.0 – 16.0 V	Battery voltage
10 (GR)	—	Shield	—	—	—	—	—
11 (W)	12 (B)	Sound signal front RH	Output	Ignition switch ON	Sound output	Outputs waveform synchronized with sound.	 SKIB3609E
13 (BR)	14 (Y)	Sound signal rear RH	Output	Ignition switch ON	Sound output	Outputs waveform synchronized with sound.	 SKIB3609E

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
16 (P)	15 (GR)	Steering switch signal B	Input	Ignition switch ON	Keep pressing VOL DOWN switch.	0 – 5.5 V	0 V
					Keep pressing VOL UP switch.		1.0 V
					Keep pressing switch.		2.0 V
					Keep pressing switch.		3.0 V
					Except for above.		5.0 V
19 (SB)	20 (B)	Battery power supply	Input	Ignition switch OFF	—	9.0 – 16.0 V	Battery voltage
22 (G)	42 (R)	Camera power supply	Output	Ignition switch ON	"Camera" switch is ON or selector lever is in "R" position.	5.9 – 6.5 V	6.0 V
26 (BR)	46 (Y)	AUX image signal	Input	Ignition switch ON	When AUX image is displayed on front or rear display unit.	Waveform according to AUX image is input.	 SKIB2251J
29 (BR)	49 (W)	Disk eject signal	Input	Ignition switch ON	Keep pressing disk eject switch.	1.5 V or less	0 V
					Except for above.	5.0 V or more	5.0 V
34 (W)	33 (B)	Composite image signal (for rear display unit)	Input	Ignition switch ON	When DVD, USB or AUX image is displayed on rear display unit.	Waveform according to composite image is input.	 SKIB2251J
47	—	Shield	—	—	—	—	—
53	—	Shield	—	—	—	—	—
65 (W)	20 (B)	Parking brake signal	Input	Ignition switch ON	Parking brake is applied.	1.5 V or less	0 V
					Parking brake is released.	3.5 V or more	 JSNIA1938ZZ

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
68 (R)	67 (W)	Composite image signal (for front display unit)	Output	Ignition switch ON	When DVD, USB or AUX image is displayed on front display unit.	Waveform according to composite image is input.	 SKIB2251J
71	—	Shield	—	—	—	—	—
72 (Y)	20 (B)	Microphone VCC	Output	Ignition switch ON	—	4.18 – 5.3 V	5.0 V
73 (G)	20 (B)	Communication signal (CONT→DISP)	Output	Ignition switch ON	—	Waveform of 1.5 V or less – 3.5 V or more is Output.	 PKIB5039J
74 (P)	—	CAN-L	—	—	—	—	—
75 (LG)	—	AV communication signal (L)	Input/ Output	—	—	—	—
76 (LG)	—	AV communication signal (L)	Input/ Output	—	—	—	—
79 (O)	20 (B)	Dimmer signal	Input	Ignition switch ON	Either of the following conditions • Lighting switch is OFF • Lighting switch is 1st or 2nd, and the area around the vehicle is bright (shine a light on the optical sensor)	3.0 V or less	0 V
					Lighting switch is 1st or 2nd, and the area around the vehicle is dark (block the light from the optical sensor)	7.0 – 16.0 V	12.0 V
80 (G)	20 (B)	Ignition signal	Input	Ignition switch ON	—	7.0 – 16.0 V	Battery voltage
81 (BR)	20 (B)	Reverse signal	Input	Ignition switch ON	Selector lever is in “R” position.	7.0 V or more	12.0 V
					Selector lever is in other than “R” position.	3.0 V or less	0 V

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
82 (Y)	20 (B)	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	Waveform according to vehicle speed is input.	**NOTE:** The maximum voltage varies depending on the specification (destination unit).  JSNIA0012GB
83	—	Shield	—	—	—	—	—
84 (B)	20 (B)	Composite image synchronizing signal	Output	Ignition switch ON	When DVD, USB or AUX image is displayed on front display unit.	Waveform according to composite image is input.	 SKIA0187E
87 (BR)	71	Microphone signal	Input	Ignition switch ON	Give a voice	Outputs waveform synchronized with voice is input.	 PKIB5037J
88	—	Shield	—	—	—	—	—
89 (R)	20 (B)	Communication signal (DISP→CONT)	Input	Ignition switch ON	When adjusting display brightness.	Waveform of 1.5 V or less – 3.5 V or more is input.	 PKIB5039J
90 (L)	—	CAN-H	—	—	—	—	—
91 (SB)	—	AV communication signal (H)	Input/ Output	—	—	—	—
92 (V)	—	AV communication signal (H)	Input/ Output	—	—	—	—
104 (B)	119 (W)	AUX sound signal LH	Input	Ignition switch ON	When AUX mode is selected on front or rear display unit.	Waveform according to sound is input.	 SKIB3609E

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
106 (P)	120 (L)	Headphone sound signal LH	Output	Ignition switch ON	Headphone sound output.	Outputs waveform synchronized with sound.	 SKIB3609E
107 (BR)	121 (Y)	Headphone sound signal RH	Output	Ignition switch ON	Headphone sound output.	Outputs waveform synchronized with sound.	 SKIB3609E
117	—	Shield	—	—	—	—	—
118 (R)	119 (W)	AUX sound signal RH	Input	Ignition switch ON	When AUX mode is selected on front or rear display unit.	Waveform according to sound is input.	 SKIB3609E
122 (GR)	—	Shield	—	—	—	—	—
130 (W)	129 (G)	USB D– signal	—	—	—	—	—
131 (R)	129 (G)	V BUS signal	—	—	—	4.75 – 5.25 V	—
132 (B)	129 (G)	USB D+ signal	—	—	—	—	—
133	—	Shield	—	—	—	—	—
150	20 (B)	Antenna amp. ON signal	Input	Ignition switch ACC	—	9.0 – 16.0 V	12.0 V
151	—	AM-FM main	Input	—	—	—	—
152	—	FM sub	Input	—	—	—	—
153	20 (B)	GPS antenna signal	Input	Ignition switch ON	Not connected GPS antenna connector.	4.5 – 5.25 V	5.0 V
154	—	Shield	—	—	—	—	—
157	20 (B)	RGB digital image signal (–)	Output	Ignition switch ON	Not connected connector.	—	3.0 V
158	20 (B)	RGB digital image signal (+)	Output	Ignition switch ON	Not connected connector.	—	3.0 V
159	20 (B)	Satellite radio antenna signal	—	—	Not connected satellite radio antenna connector.	—	5.0 V

Fail-Safe

INFOID:0000000009652280

When the ambiance temperature becomes extremely low or extremely high, AV control unit displays the message and limits the AV control unit function.

FAIL-SAFE CONDITIONS

When the ambiance temperature is –20°C (–4°F) or lower, or when it is 70°C (158°F) or higher

Display

The messages displayed on fail-safe conditions are as shown below:

Fail-safe mode	Display (display of the fail-safe condition)
When HDD temperature is low	HDD system is experiencing problems due to extreme low temperature. Normal operation will resume when temperature rises.
When HDD temperature is high	HDD system is experiencing problems due to extreme high temperature. Normal operation will resume when temperature drops.

DESCRIPTION OF CONTROLS

Function		When Fail-safe Function is activated
Air conditioner	Operation	Only multifunction switch (preset switch) can be operated.
	Display	• LED of multifunction switch (preset switch) illuminates. • Aimed temperature, blow angle, and flow rate are displayed in simplified mode.
Audio	Operation	Only ON/OFF and volume control operations by multifunction switch (preset switch) are possible.
	Display	No display (“Fail-safe mode” is displayed)
Camera	Operation	Image tone cannot be controlled.
	Display	Cannot be superimposed. (warning display, tone control display)
Hands-free phone	Operation	Cannot be operated.
Navigation	Operation	Cannot be operated.
Self diagnosis		The display in simplified mode of fail-safe condition
CONSULT diagnosis		Cannot be operated.

Ability Operation Mode

There is an ability operation mode for Fail-safes due to low or high ambiance temperature.

If HDD data can be read, fail-safe is shown, then normal displays are displayed only for functions which can be operated.

RELEASE CONDITIONS OF FAIL-SAFE

Fail-safe is released on following conditions and normal mode is restored.

When The Temperature of HDD Is Low or High

If the ambient temperature becomes out of fail-safe condition range, normal mode is restored.

DTC Index

INFOID:0000000009652281

SELF-DIAGNOSIS RESULTS DISPLAY ITEM

DTC	Display item	Refer to
U1000	CAN COMM CIRCUIT [U1000]	AV-535, "AV CONTROL UNIT : Diagnosis Procedure"
U1010	CONTROL UNIT (CAN) [1010]	AV-537, "AV CONTROL UNIT : DTC Logic"
U1200	Cont Unit [U1200]	AV-546, "DTC Logic"
U1201	GYRO NO CONN [U1201]	AV-547, "DTC Logic"
U1202	G-SENSOR NO CONN [U1202]	AV-548, "DTC Logic"
U1204	GPS COMM [U1204]	AV-549, "Diagnosis Procedure"
U1205	GPS ROM [U1205]	AV-550, "Diagnosis Procedure"

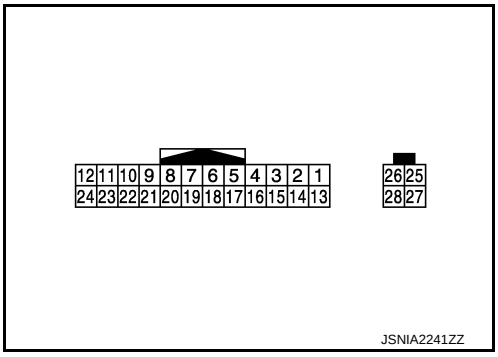
DTC	Display item	Refer to
U1206	GPS RAM [U1206]	AV-551, "Diagnosis Procedure"
U1207	GPS RTC [U1207]	AV-552, "Diagnosis Procedure"
U1216	CAN CONT [U1216]	AV-553, "DTC Logic"
U1217	BLUETOOTH MODULE [U1217]	AV-554, "DTC Logic"
U1218	HDD CONN [U1218]	AV-555, "DTC Logic"
U1219	HDD READ [U1219]	AV-556, "DTC Logic"
U121A	HDD WRITE [U121A]	AV-557, "DTC Logic"
U121B	HDD COMM [U121B]	AV-558, "DTC Logic"
U121C	HDD ACCESS [U121C]	AV-559, "DTC Logic"
U121D	DSP CONN [U121D]	AV-560, "Diagnosis Procedure"
U121E	DSP COMM [U121E]	AV-561, "Diagnosis Procedure"
U1225	USB CONTROLLER [U1225]	AV-562, "DTC Logic"
U1227	DVD COMM [U1227]	AV-563, "Diagnosis Procedure"
U1228	SUB CPU CONN [U1228]	AV-564, "DTC Logic"
U1229	iPod CERTIFICATION [U1229]	AV-565, "DTC Logic"
U122A	CONFIG UNFINISH [U122A]	AV-566, "Diagnosis Procedure"
U122E	Built-in AUDIO CONN [U122E]	AV-567, "DTC Logic"
U1232	ST ANGLE SEN CALIB [1232]	AV-568, "AV CONTROL UNIT : Diagnosis Procedure"
U1243	FRONT DISP CONN [U1243]	AV-569, "Diagnosis Procedure"
U1244	GPS ANTENNA CONN [U1244]	AV-571, "Diagnosis Procedure"
U1258	XM ANTENNA CONN [U1258]	AV-572, "Diagnosis Procedure"
U1263	USB OVERCURRENT [U1263]	AV-573, "Diagnosis Procedure"
U1264	ANTENNA AMP TERMINAL [OPEN or SHORT] [U1264]	AV-574, "Diagnosis Procedure"
U1265	AMP ON TERMINAL [GND-SHORT or VB-SHORT] [U1265]	AV-575, "Diagnosis Procedure"
U1310	CONTROL UNIT (AV) [U1310]	AV-579, "DTC Logic"
U1300 U1240	• AV COMM CIRCUIT [U1300] • SWITCH CONN [U1240]	AV-576, "Description"
U1300 U1246	• AV COMM CIRCUIT [U1300] • VIDEO DIST CONN [U1246]	
U1300 U1240 U1246	• AV COMM CIRCUIT [U1300] • SWITCH CONN [U1240] • VIDEO DIST CONN [U1246]	

FRONT DISPLAY UNIT

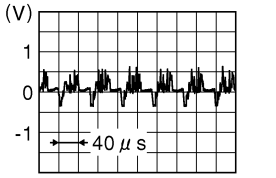
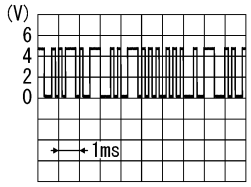
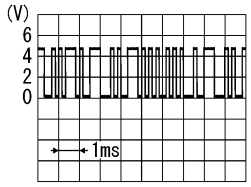
Reference Value

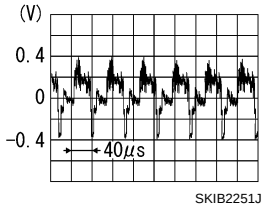
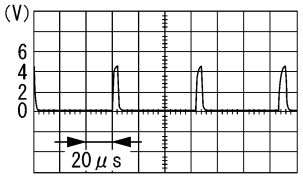
INFOID:0000000009942961

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
6	—	Shield	—	—	—	—	—
7	—	Shield	—	—	—	—	—
8 (Y)	12 (B)	Camera image signal	Input	Ignition switch ON	When camera image is displayed.	Waveform according to camera image is input.	 JSNIA0834GB
9 (R)	12 (B)	Communication signal (DISP→CONT)	Output	Ignition switch ON	When adjusting display brightness.	Waveform of 1.5 V or less – 3.5 V or more is output.	 PKIB5039J
10 (G)	12 (B)	Communication signal (CONT→DISP)	Input	Ignition switch ON	—	Waveform of 1.5 V or less – 3.5 V or more is input.	 PKIB5039J
11 (SB)	12 (B)	Battery power supply	Input	Ignition switch OFF	—	9.0 – 16.0 V	Battery voltage

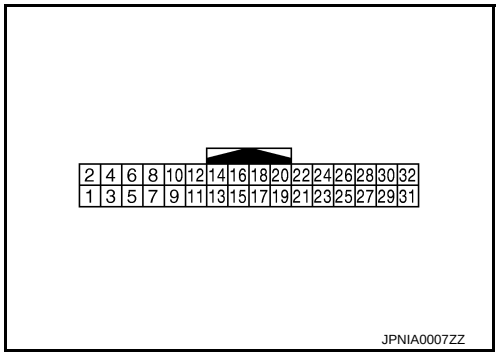
Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
18 (R)	19 (W)	Composite image signal	Input	Ignition switch ON	When DVD, USB or AUX image is displayed	Waveform according to composite image is input.	 SKIB2251J
20 (B)	12 (B)	Composite image synchronizing signal	Input	Ignition switch ON	When DVD, USB or AUX image is displayed	Waveform according to composite image is input.	 SKIA0187E
22	—	Shield	—	—	—	—	—
23 (O)	12 (B)	ACC power supply	Input	Ignition switch ACC	—	6.0 – 16.0 V	Battery voltage
27	12 (B)	RGB digital image signal (–)	Input	—	—	—	—
28	12 (B)	RGB digital image signal (+)	Input	—	—	—	—

REAR DISPLAY UNIT

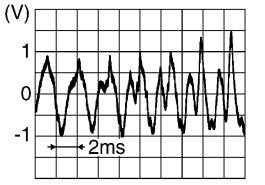
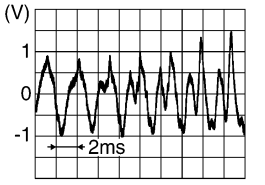
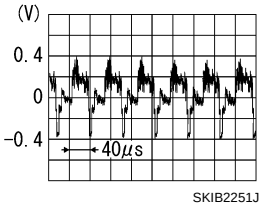
Reference Value

INFOID:0000000009652283

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
2 (L/O)	1 (W/L)	Headphone sound signal RH	Input	Ignition switch ON	Headphone sound output.	Waveform according to headphone sound is input.	
4 (BR)	3 (Y)	Headphone sound signal LH	Input	Ignition switch ON	Headphone sound output.	Waveform according to headphone sound is input.	
5	—	Shield	—	—	—	—	—
6	—	Shield	—	—	—	—	—
7 (L/G)	8 (L/R)	Composite image signal	Input	Ignition switch ON	When DVD, USB or AUX image is displayed.	Waveform according to composite image is input.	
18	—	Shield	—	—	—	—	—
19 (R)	—	AV communication signal (L)	Input/ Output	—	—	—	—
20 (Y)	—	AV communication signal (L)	Input/ Output	—	—	—	—
21 (G)	—	AV communication signal (H)	Input/ Output	—	—	—	—

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
22 (BR)	—	AV communication signal (H)	Input/ Output	—	—	—	—
26 (LG)	31 (B) 32 (B)	Ignition signal	Input	Ignition switch ON	—	3.0 V – battery voltage	Battery voltage
27 (SB)	31 (B) 32 (B)	Illumination signal	Input	Ignition switch ON	Lighting switch is 1st or 2nd.	—	12.0 V
					Lighting switch is OFF.	—	0 V
28 (V)	31 (B) 32 (B)	ACC power supply	Input	Ignition switch ACC	—	7.6 V – battery voltage	Battery voltage
29 (P)	31 (B) 32 (B)	Battery power supply	Input	Ignition switch ON	—	9.0 – 16.0 V	Battery voltage
30 (P)	31 (B) 32 (B)	Battery power supply	Input	Ignition switch ON	—	9.0 – 16.0 V	Battery voltage

AROUND VIEW MONITOR CONTROL UNIT

Reference Value

INFOID:0000000009942940

VALUES ON THE DIAGNOSIS TOOL

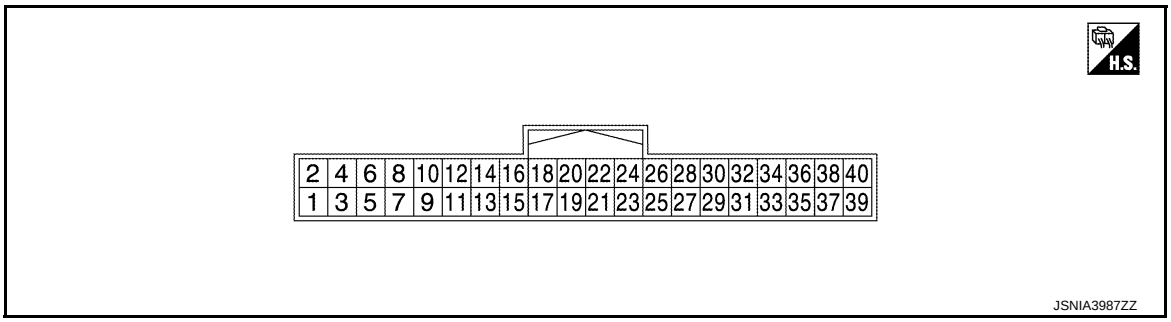
NOTE:
The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

CONSULT MONITOR ITEM

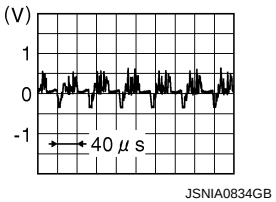
Monitor Item	Condition		Value/Status
ST ANGLE SENSOR SIGNAL	Ignition switch ON	Steering angle sensor signal is input condition.	ON
		Except for above	OFF
REVERSE SIGNAL	Ignition switch ON	Shift position is in “R”	ON
		Other than shift position is in “R”	OFF
VEHICLE SPEED SIGNAL*1	Ignition switch ON	Vehicle speed signal is input condition.	ON
		Except for above	OFF
CAMERA SWITCH SIGNAL*1	Ignition switch ON	Pressing the “CAMERA” switch	ON
		Except for above	OFF
CAMERA OFF SIGNAL	Ignition switch ON	While camera image is not indicated.	ON
		While camera image is indicated.	OFF
ST ANGLE SENSOR TYPE*2	Ignition switch ON	—	Absolute
STEERING GEAR RATIO TYPE*3	Ignition switch ON	—	Type 0
STEERING POSITION	Ignition switch ON	LHD models	LHD
		RHD models	RHD
REAR CAMERA IMAGE SIGNAL	Ignition switch ON	Input status of rear camera image signal is normal.	OK
		Input status of rear camera image signal is not normal.	NG
F-CAMERA IMAGE SIGNAL	Ignition switch ON	Input status of front camera image signal is normal.	OK
		Input status of front camera image signal is not normal.	NG
PA-SIDE CAMERA IMAGE SIG	Ignition switch ON	Input status of side camera RH image signal is normal.	OK
		Input status of side camera RH image signal is not normal.	NG
DR-SIDE CAMERA IMAGE SIG	Ignition switch ON	Input status of side camera LH image signal is normal.	OK
		Input status of side camera LH image signal is not normal.	NG

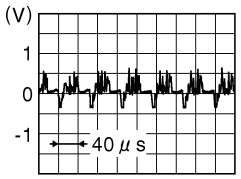
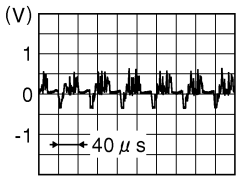
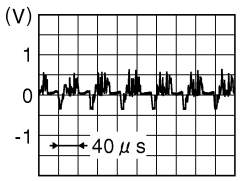
- *1: Once the signal is input, it remains ON indication until CONSULT is finished.
- *2: “Absolute” is always indicated on this vehicle.
- *3: “Type 0” is always indicated on this vehicle.

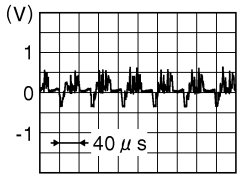
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
1 (B)	Ground	Ground	—	Ignition switch ON	—	—	0 V
2 (O)	Ground	Battery power supply	Input	Ignition switch OFF	—	9 - 16 V	Battery voltage
4 (G)	Ground	Ignition signal	Input	Ignition switch ON	—	7.7 V or more	Battery voltage
				Ignition switch OFF		6.3 V or less	0 V
8 (V)	Ground	Reverse signal	Input	Ignition switch ON	Shift position is in “R”	5.3 V or more	12.0 V
					Other than shift position is in “R”	3.0 V or less	0 V
10 (P)	—	CAN–L	Input/ Output	—	—	—	—
12 (L)	—	CAN–H	Input/ Output	—	—	—	—
23	—	Shield	—	—	—	—	—
24 (Y)	23	Camera image signal	Output	Ignition switch ON	At camera image is displayed.	Waveform according to camera image is input.	
25 (B)	Ground	Rear camera ground	—	Ignition switch ON	—	0.1 V or less	0 V

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
26 (R)	25 (B)	Rear camera power supply	Output	Ignition switch ON	"CAMERA" switch (around view monitor switch) is ON or shift position is "R".	5.9 - 6.5 V	6.2 V
27	—	Shield	—	—	—	—	—
28 (W)	27	Rear camera image signal	Input	Ignition switch ON	"CAMERA" switch (around view monitor switch) is ON or shift position is "R".	Waveform according to camera image is input.	 JSNIA0834GB
29 (B)	Ground	Side camera driver side ground	—	Ignition switch ON	—	0.1 V or less	0 V
30 (R)	29 (B)	Side camera driver side power supply	Output	Ignition switch ON	"CAMERA" switch (around view monitor switch) is ON or shift position is "R".	5.9 - 6.5 V	6.2 V
31	—	Shield	—	—	—	—	—
32 (W)	31	Side camera driver side image signal	Input	Ignition switch ON	"CAMERA" switch (around view monitor switch) is ON or shift position is "R".	Waveform according to camera image is input.	 JSNIA0834GB
33 (B)	Ground	Side camera passenger side ground	—	Ignition switch ON	—	0.1 V or less	0 V
34 (R)	33 (B)	Side camera passenger side power supply	Output	Ignition switch ON	"CAMERA" switch (around view monitor switch) is ON or shift position is "R".	5.9 - 6.5 V	6.2 V
35	—	Shield	—	—	—	—	—
36 (W)	35	Side camera passenger side image signal	Input	Ignition switch ON	"CAMERA" switch (around view monitor switch) is ON or shift position is "R".	Waveform according to camera image is input.	 JSNIA0834GB

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
37 (B)	Ground	Front camera ground	—	Ignition switch ON	—	0.1 V or less	0 V
38 (R)	37 (B)	Front camera power supply	Output	Ignition switch ON	“CAMERA” switch (around view monitor switch) is ON or shift position is “R”.	5.9 - 6.5 V	6.2 V
39	—	Shield	—	—	—	—	—
40 (W)	39	Front camera image signal	Input	Ignition switch ON	“CAMERA” switch (around view monitor switch) is ON or shift position is “R”.	Waveform according to camera image is input.	 JSNIA0834GB

DTC Index

INFOID:0000000009942941

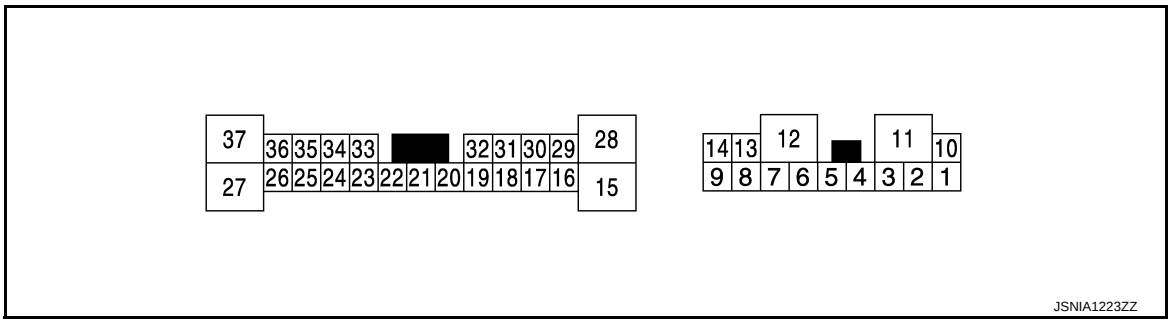
DTC	CONSULT display	Refer to
U0428	ST ANGLE SENSOR CALIBRATION	AV-534, "Diagnosis Procedure"
U1000	CAN COMM CIRCUIT	AV-535, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure"
U1010	CONTROL UNIT (CAN)	AV-537, "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"
U111A	REAR CAMERA IMAGE SIGNAL	AV-538, "Diagnosis Procedure"
U111B	SIDE CAMERA RH IMAGE SIGNAL	AV-540, "Diagnosis Procedure"
U111C	FRONT CAMERA IMAGE SIGNAL	AV-542, "Diagnosis Procedure"
U111D	SIDE CAMERA LH IMAGE SIGNAL	AV-544, "Diagnosis Procedure"
U1232	ST ANGLE SEN CALIB	AV-568, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure"
U1304	CAMERA IMAGE CALIB	AV-577, "Diagnosis Procedure"
U1305	CONFIG UNFINISH	AV-578, "Diagnosis Procedure"

BOSE AMP.

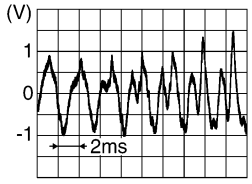
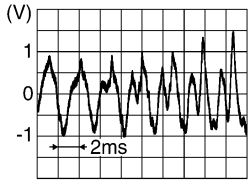
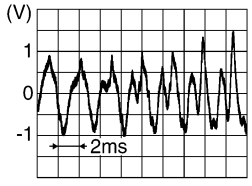
Reference Values

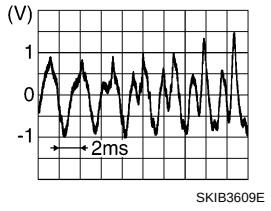
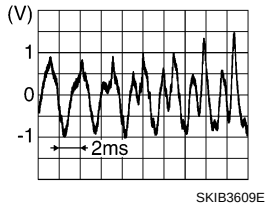
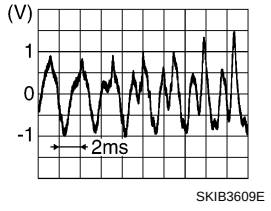
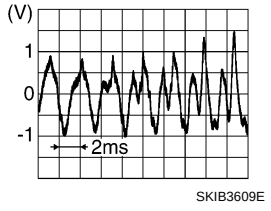
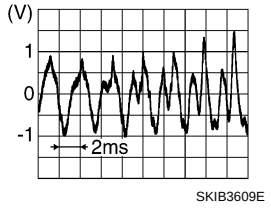
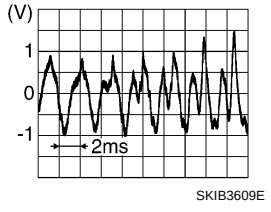
INFOID:0000000009652286

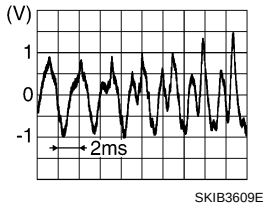
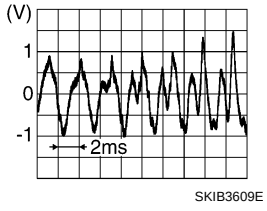
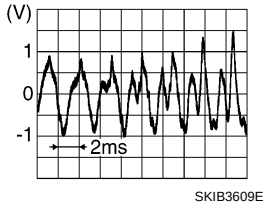
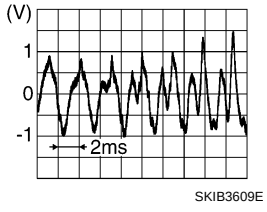
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
1 (W)	2 (B)	Sound signal front squawker LH	Output	Ignition switch ON	Sound output	Outputs waveform synchronized with sound.	 SKIB3609E
4 (BR)	3 (Y)	Sound signal front squawker RH	Output	Ignition switch ON	Sound output	Outputs waveform synchronized with sound.	 SKIB3609E
10 (SB)	7 (B) 12 (B)	Battery power supply	Input	Ignition switch OFF	—	9.0 – 16.0 V	Battery power supply
11 (G)	7 (B) 12 (B)	Battery power supply	Input	Ignition switch OFF	—	9.0 – 16.0 V	Battery power supply
13 (R)	8 (G)	Sound signal woofer	Output	Ignition switch ON	Sound output	Outputs waveform synchronized with sound.	 SKIB3609E

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
14 (L)	9 (P)	Sound signal slide door speaker RH	Output	Ignition switch ON	Sound output	Outputs waveform synchronized with sound.	 SKIB3609E
16 (Y)	17 (BR)	Sound signal luggage squawker	Output	Ignition switch ON	Sound output	Outputs waveform synchronized with sound.	 SKIB3609E
18 (BR)	19 (G)	Sound signal front door woofer LH	Output	Ignition switch ON	Sound output	Outputs waveform synchronized with sound.	 SKIB3609E
20 (LG)	7 (B) 12 (B)	Amp. ON signal	Input	Ignition switch ACC	—	6.5 V or more	12.0 V
24 (R)	23 (L)	Sound signal rear LH	Input	Ignition switch ON	Sound output	Waveform according to sound signal is input.	 SKIB3609E
26 (BR)	25 (Y)	Sound signal rear RH	Input	Ignition switch ON	Sound output	Waveform according to sound signal is input.	 SKIB3609E
28 (L)	15 (R)	Sound signal slide door speaker LH	Output	Ignition switch ON	Sound output	Outputs waveform synchronized with sound.	 SKIB3609E

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
29 (V)	30 (P)	Sound signal center squawker	Output	Ignition switch ON	Sound output	Outputs waveform synchronized with sound.	 SKIB3609E
31 (L)	32 (R)	Sound signal front door speaker RH	Output	Ignition switch ON	Sound output	Outputs waveform synchronized with sound.	 SKIB3609E
33 (V)	34 (G)	Sound signal front RH	Input	Ignition switch ON	Sound output	Waveform according to sound signal is input.	 SKIB3609E
35 (W)	36 (B)	Sound signal front LH	Input	Ignition switch ON	Sound output	Waveform according to sound signal is input.	 SKIB3609E

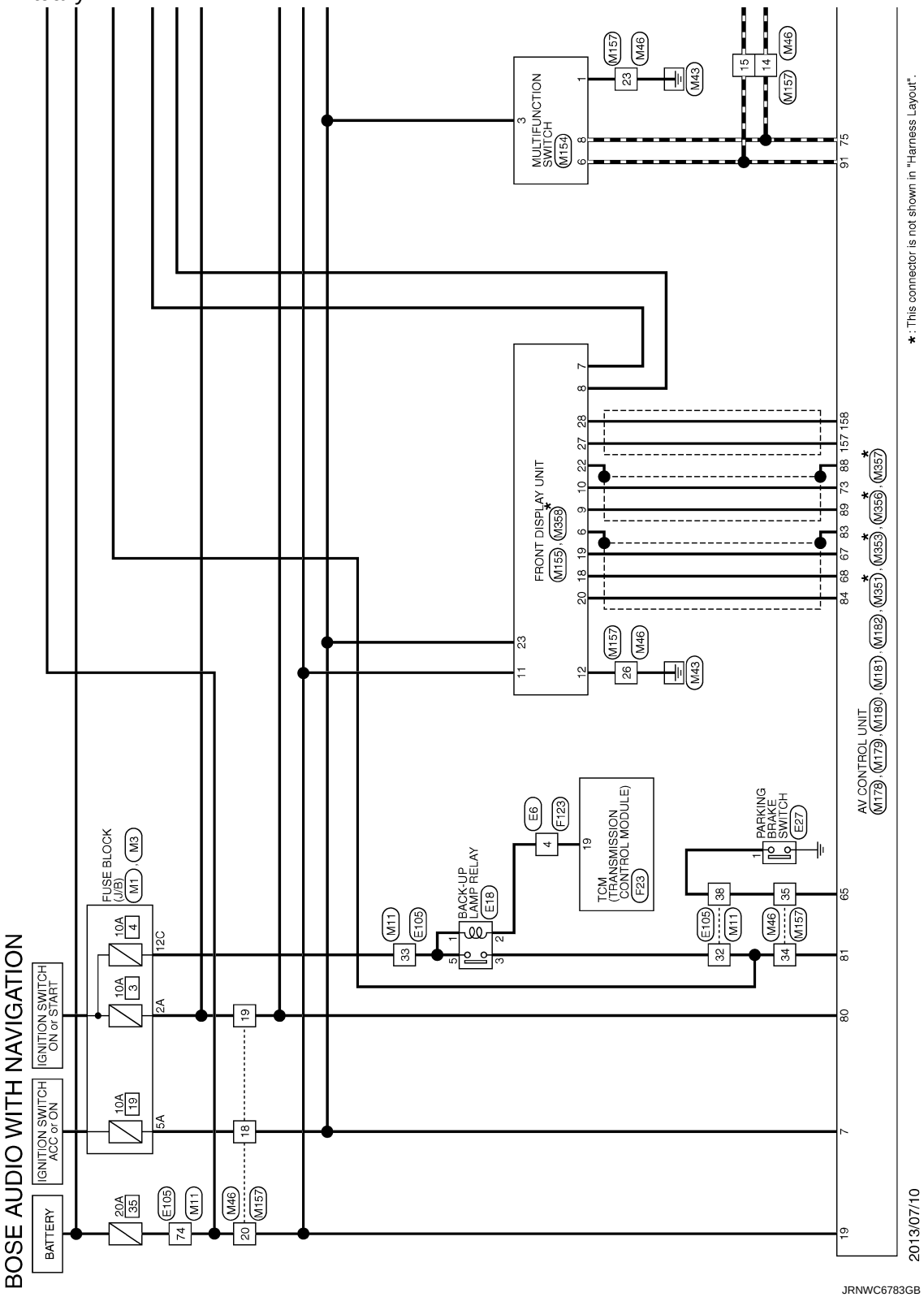
WIRING DIAGRAM

BOSE AUDIO WITH NAVIGATION

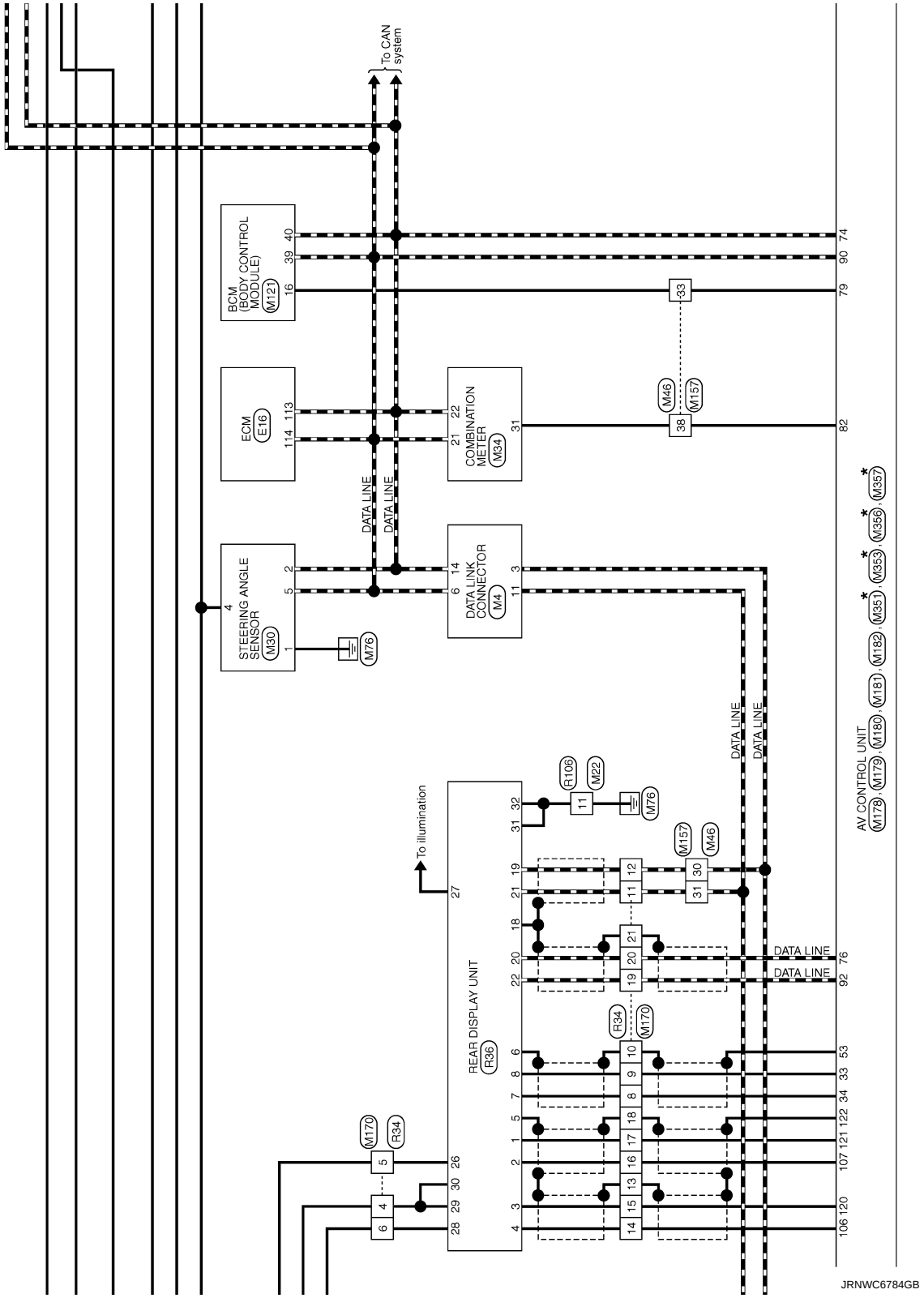
Wiring Diagram

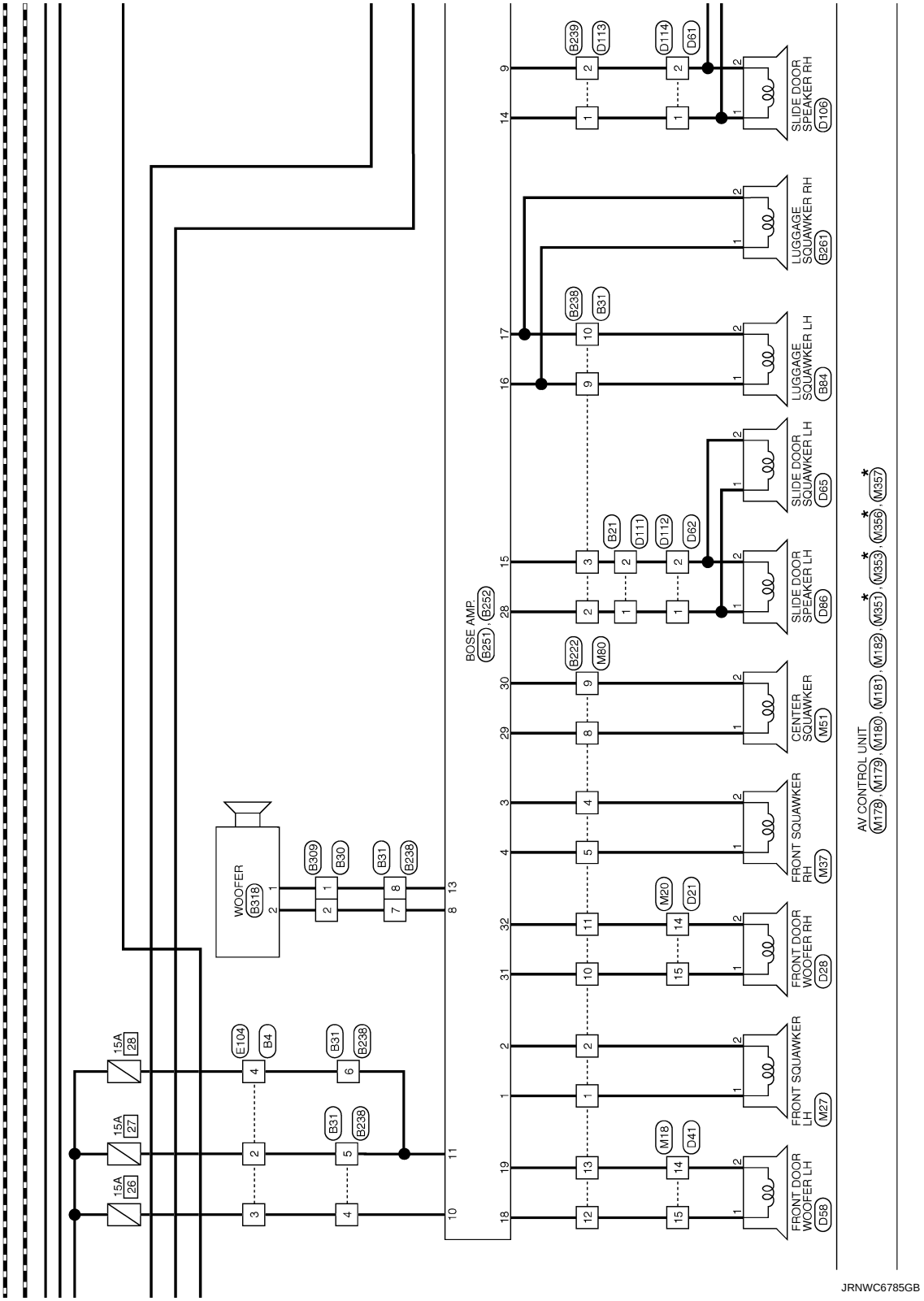
INFOID:0000000009652287

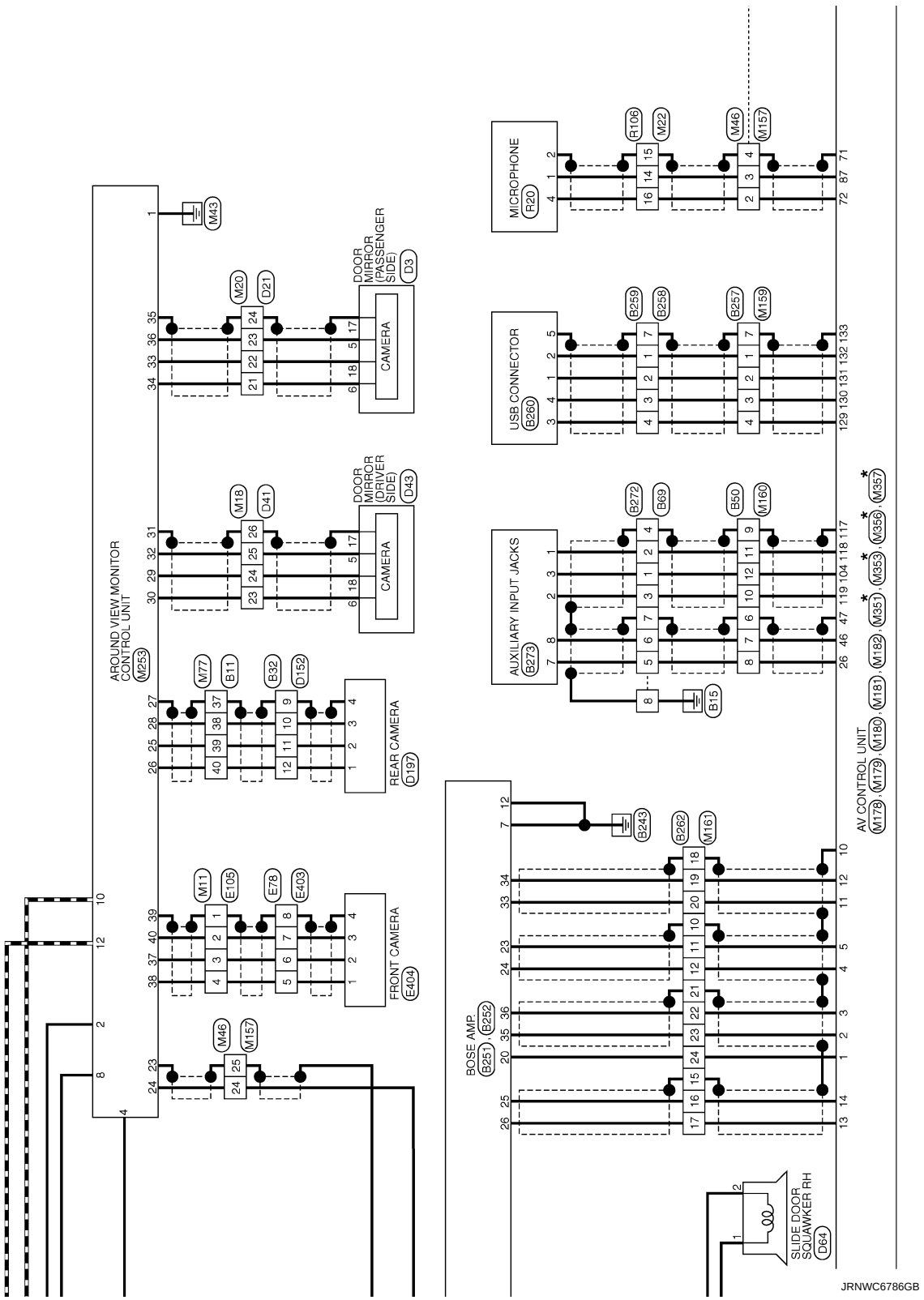
NOTE:
The name MULTIFUNCTION SWITCH indicates the integration of PRESET SWITCH and MULTIFUNCTION SWITCH virtually.

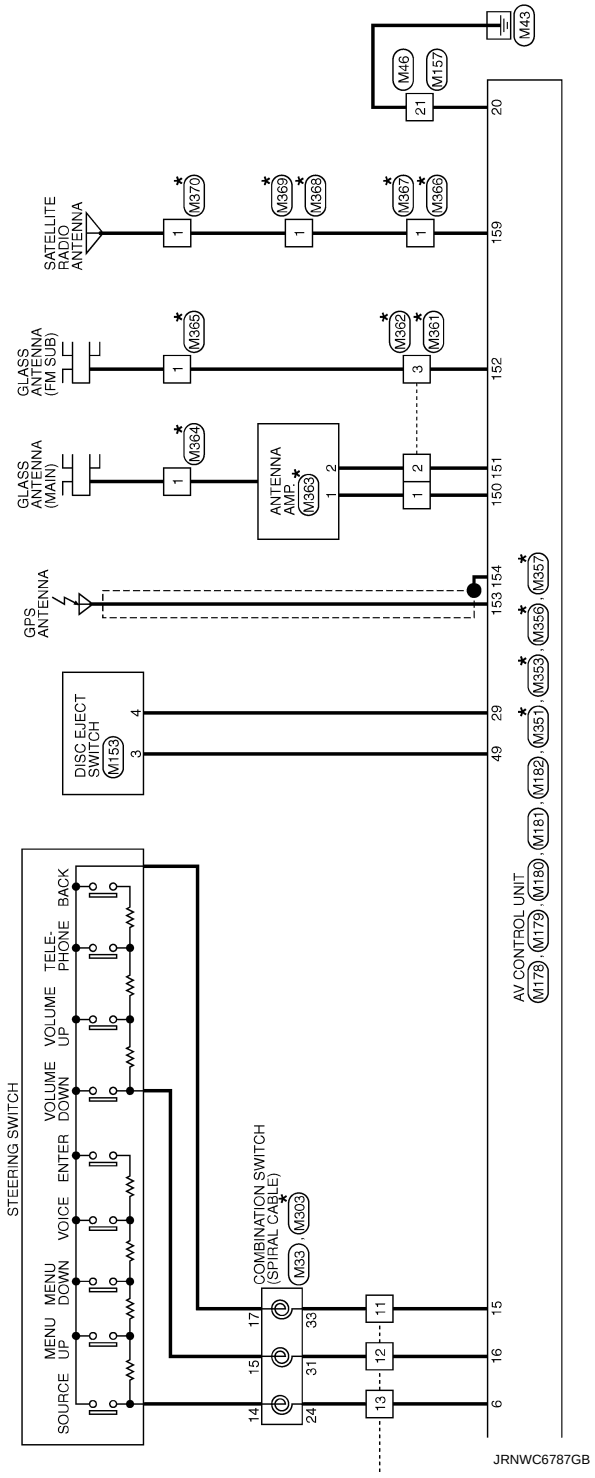


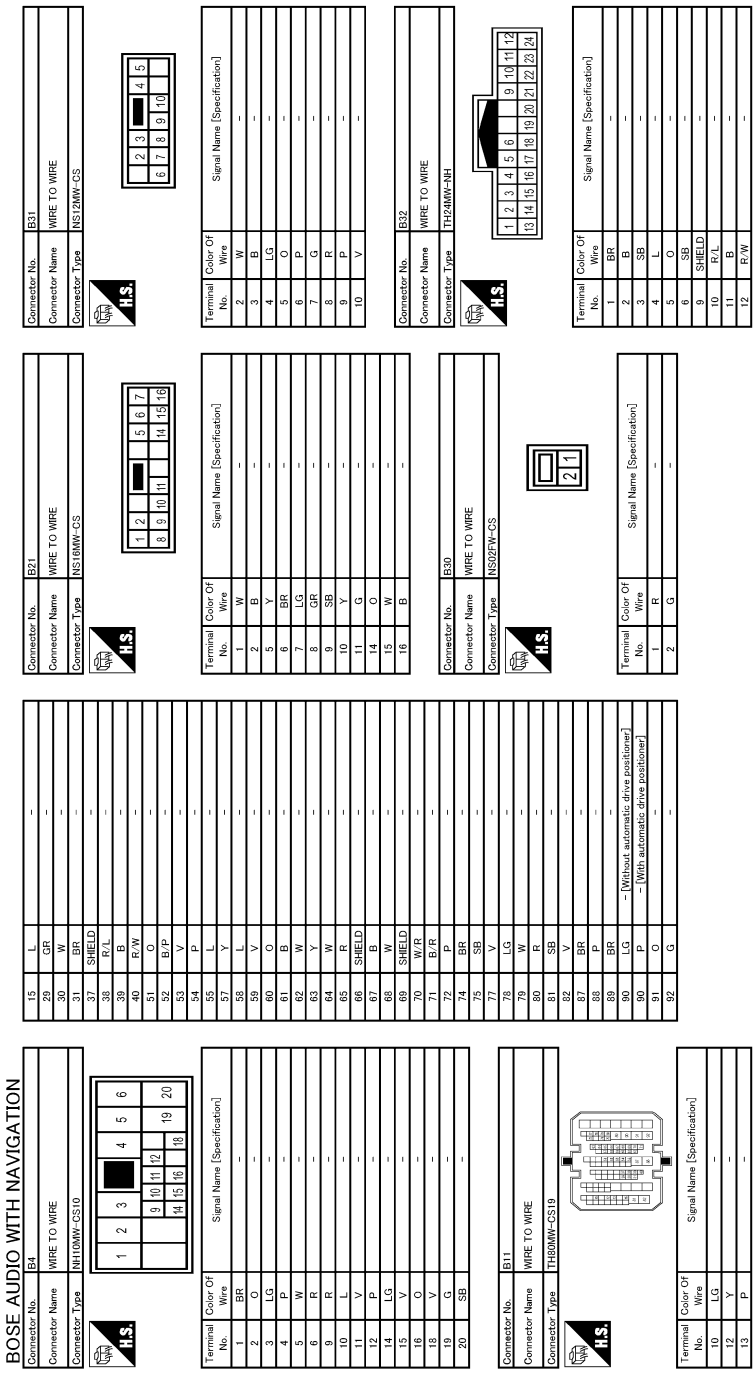
JRNWC6783GB


To CAN system
BCM (BODY CONTROL MODULE) M121
ECM E16
COMBINATION METER M34
STEERING ANGLE SENSOR M30
DATA LINK CONNECTOR M4
DATA LINE
REAR DISPLAY UNIT R36
To illumination
AV CONTROL UNIT
M178, M179, M180, M181, M182, M351*, M353*, M356*, M357*
JRNWC6784GB


BOSE AMP.
B251, B252
AV CONTROL UNIT
M179, M179, M180, M181, M182, M351*, M353*, M356*, M357*
WOOFER
B318
FRONT DOOR WOOFER LH
D58
FRONT SQUAWKER LH
M27
FRONT DOOR WOOFER RH
D28
FRONT SQUAWKER RH
M37
CENTER SQUAWKER
M51
SLIDE DOOR SQUAWKER LH
D65
SLIDE DOOR SPEAKER LH
D86
LUGGAGE SQUAWKER LH
B84
LUGGAGE SQUAWKER RH
B261
SLIDE DOOR SPEAKER RH
D106
15A 28
15A 27
15A 26
JRNWC6785GB


AROUND VIEW MONITOR CONTROL UNIT M253
DOOR MIRROR (PASSENGER SIDE) D3
DOOR MIRROR (DRIVER SIDE) D43
CAMERA
REAR CAMERA D197
FRONT CAMERA E404
MICROPHONE R20
USB CONNECTOR B260
AUXILIARY INPUT JACKS B273
AV CONTROL UNIT M178, M179, M180, M181, M182, M351*, M353*, M356*, M357*
BOSE AMP B251, B252
SLIDE DOOR SQUAWKER RH D64
JRNWC6786GB


M43
M46
M157
21
20
SATELLITE RADIO ANTENNA
M370
M369
M363
M367
M366
159
GLASS ANTENNA (FM SUB)
M365
M392
M361
152
GLASS ANTENNA (MAIN)
M364
ANTENNA AMP.
M363
150 151
GPS ANTENNA
153 154
M357
M356
M353
DISC EJECT SWITCH
M153
29
49
M351
M182
M181
M180
M179
M178
AV CONTROL UNIT
STEERING SWITCH
SOURCE
MENU UP
MENU DOWN
VOICE
ENTER
VOLUME DOWN
VOLUME UP
TELE-PHONE
BACK
COMBINATION SWITCH (SPIRAL CABLE)
M33
M303
JRNWC6787GB



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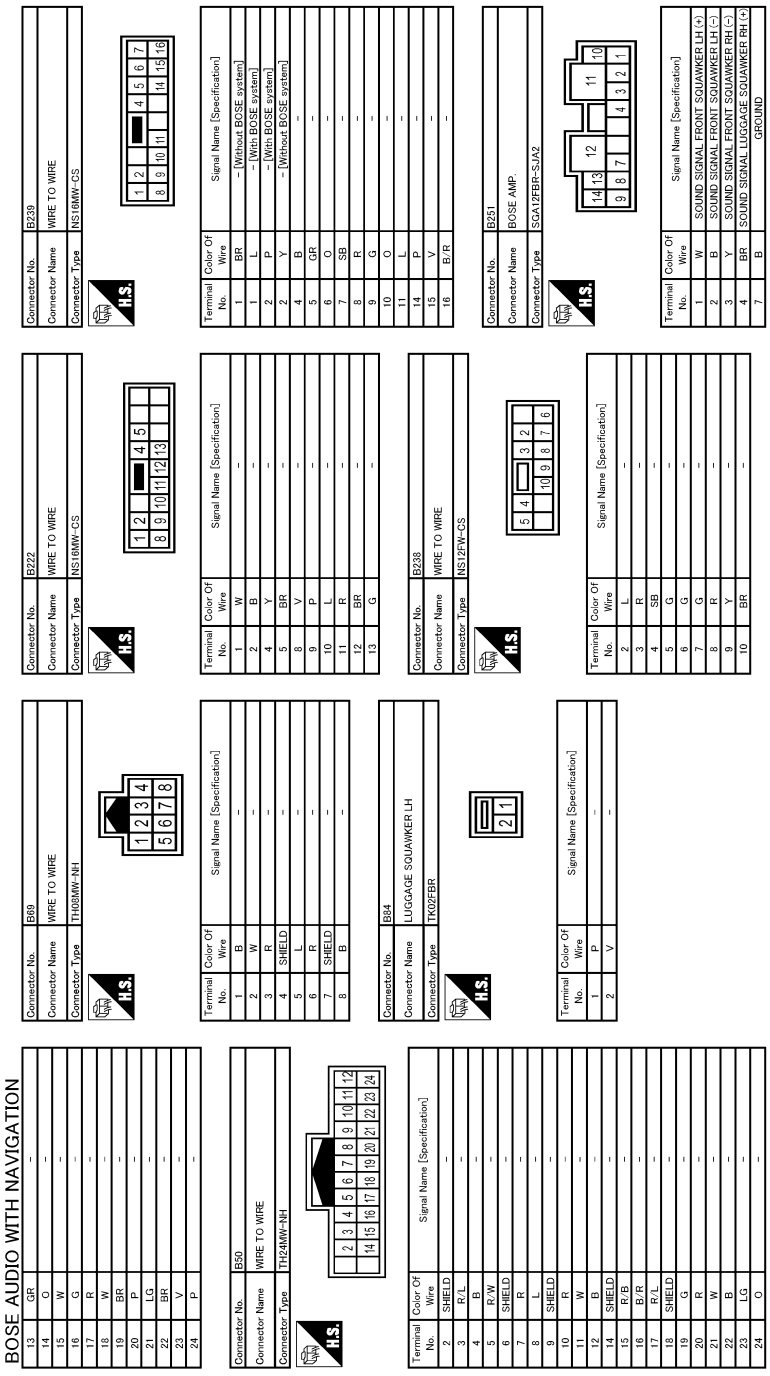

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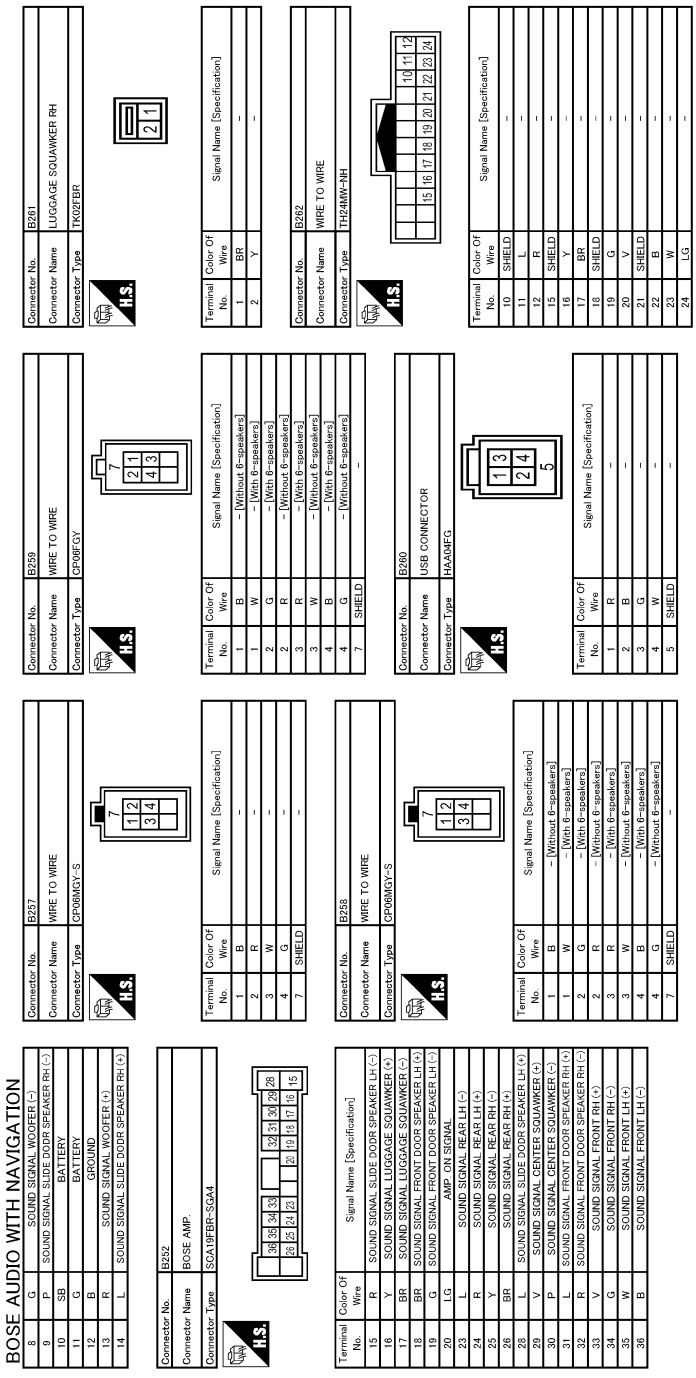

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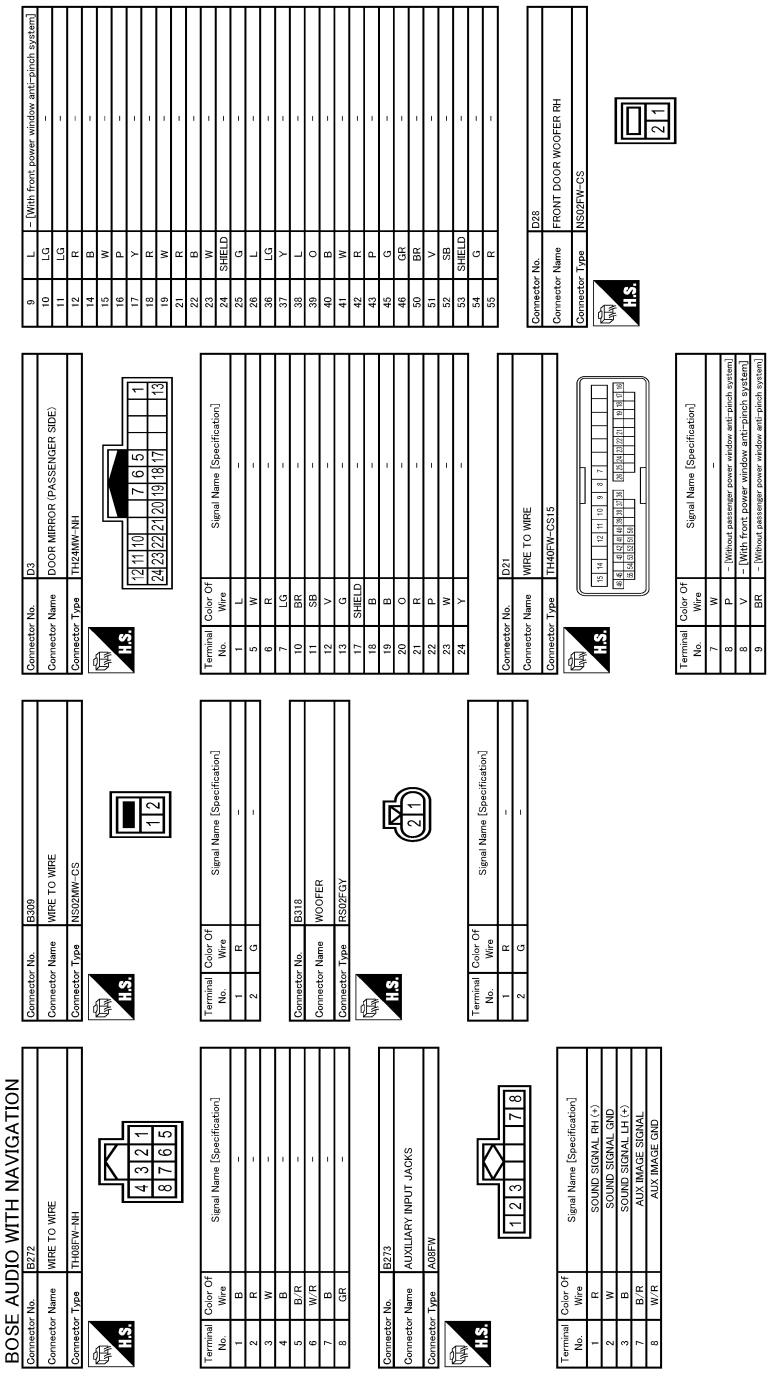

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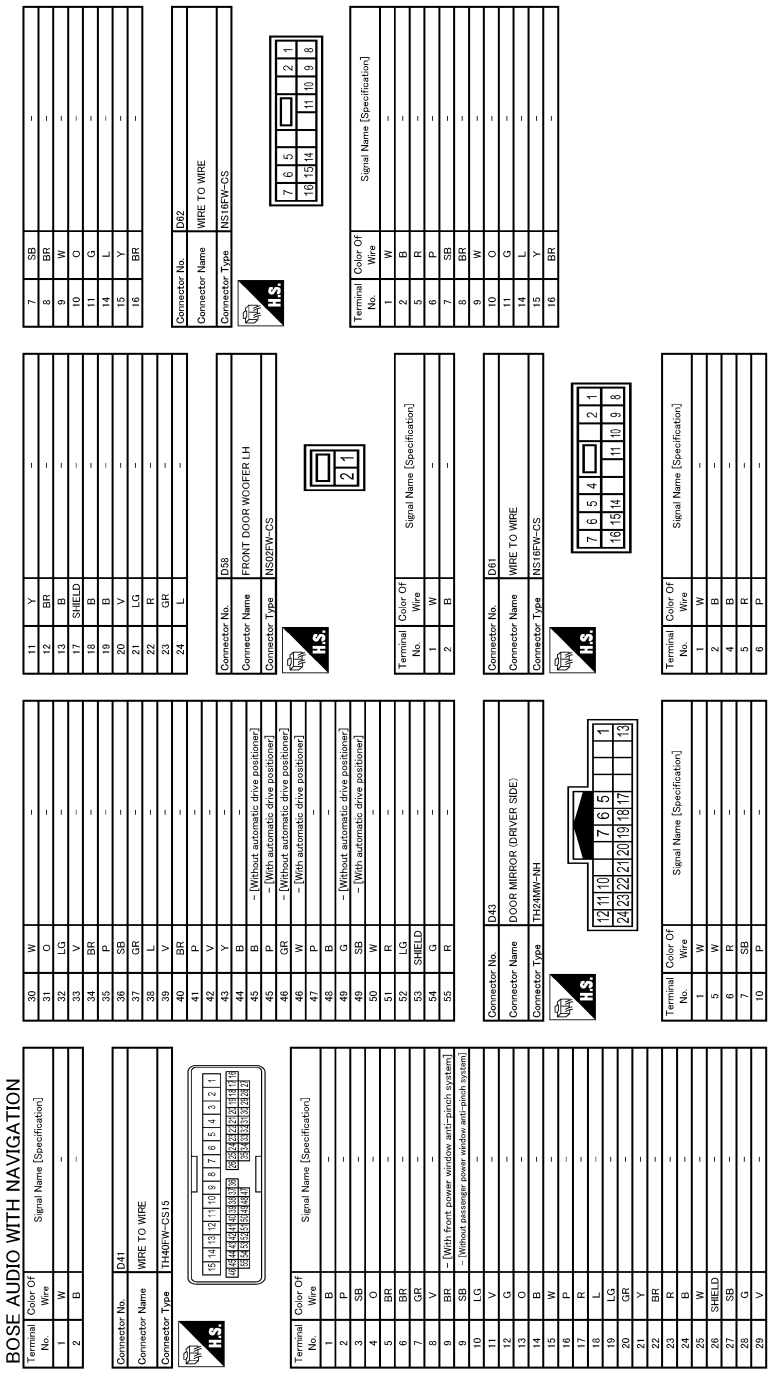

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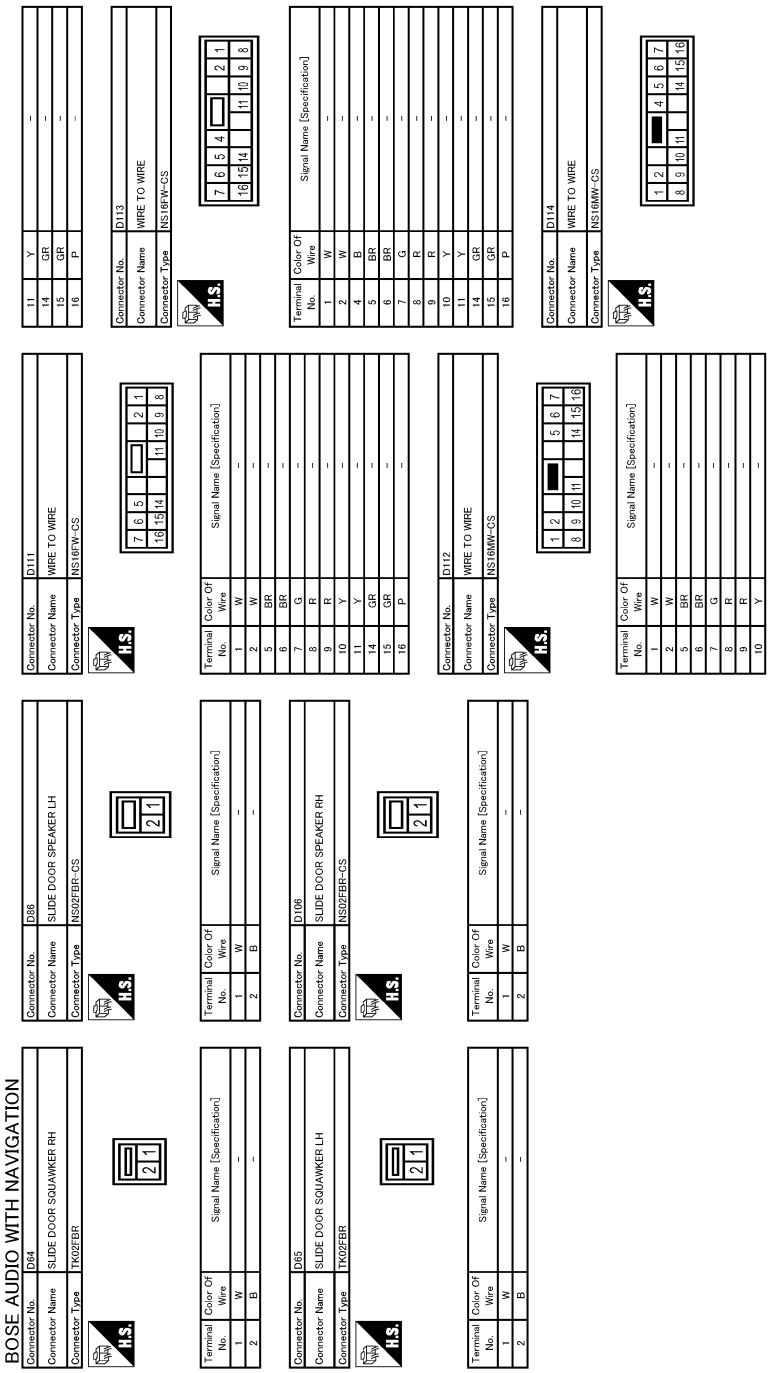

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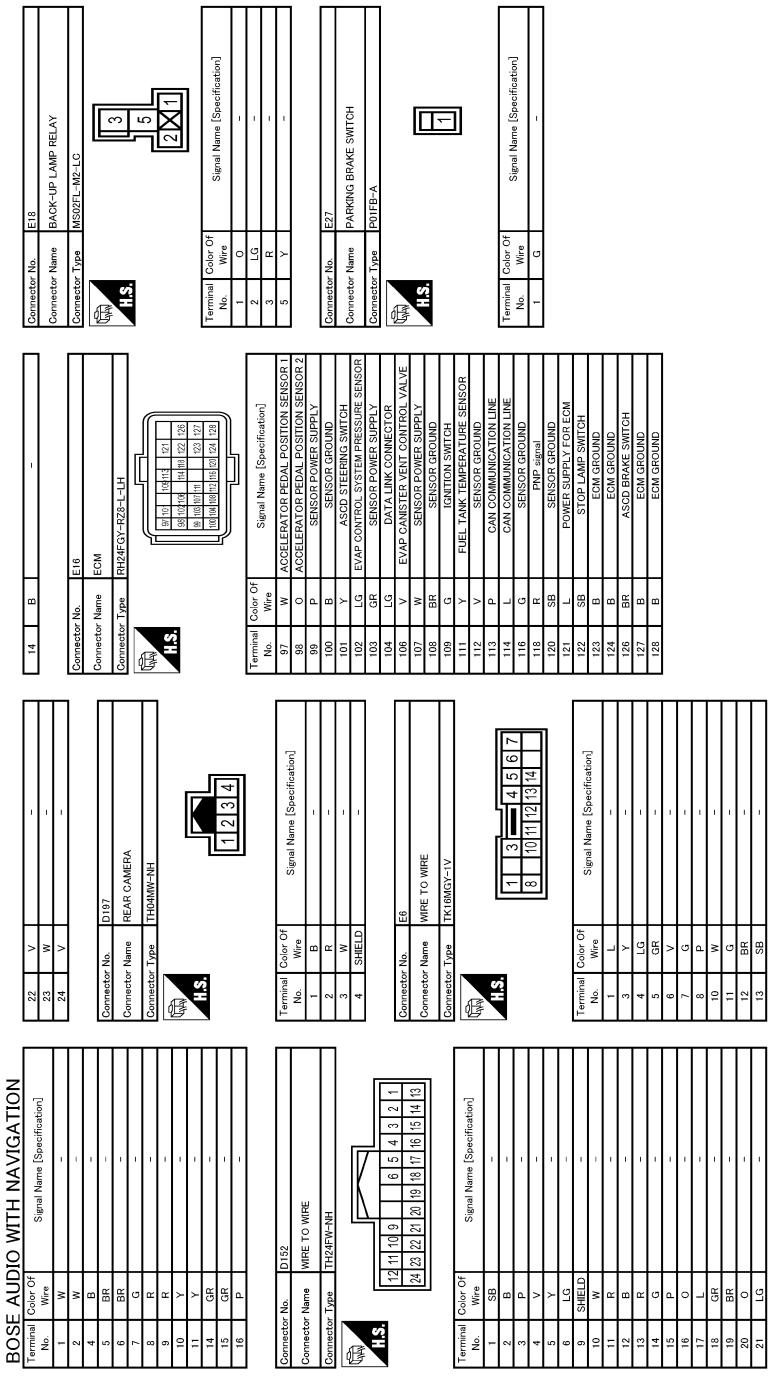

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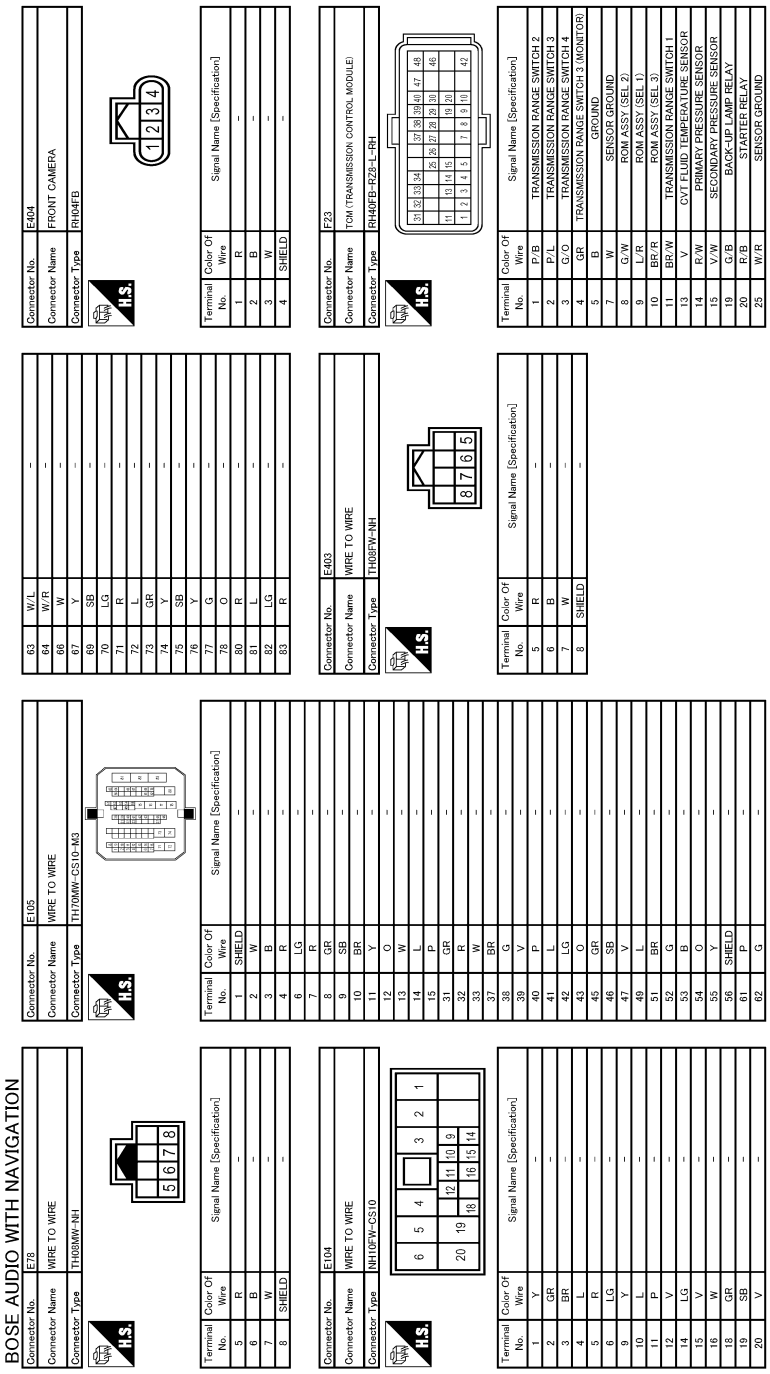


JRNWC6795GB

BOSE AUDIO WITH NAVIGATION

26	L/O	SENSOR POWER
27	R/G	STEP MOTOR D
28	R	STEP MOTOR C
29	O/B	STEP MOTOR B
30	G/R	STEP MOTOR A
31	P	CAN-L
32	L	CAN-H
33	LG	PRIMARY SPEED SENSOR
34	LG/R	SECONDARY SPEED SENSOR
37	V/R	LOCK-UP SELECT SOLENOID VALVE
38	L/W	TORQUE CONVERTER CLUTCH SOLENOID VALVE
39	W/B	SECONDARY PRESSURE SOLENOID VALVE
40	R/Y	LINE PRESSURE SOLENOID VALVE
42	B	GROUND
46	Y	IGNITION POWER SUPPLY
47	L/R	BATTERY POWER SUPPLY (MEMORY BACK-UP)
48	Y	IGNITION POWER SUPPLY

Connector No.	F123
Connector Name	WIRE TO WIRE
Connector Type	TK16FGY-1V

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	–
3	G/R	–
4	G/B	–
5	R	–
6	L/R	–
7	P	–
8	P	–
10	Y/B	–
11	BR/W	–
12	BR	–
13	G	–
14	B	–

Connector No.	M1
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS06FW-M2

Terminal No.	Color Of Wire	Signal Name [Specification]
1A	Y	–
2A	G	–
3A	L	–
4A	GR	–
5A	V	–
6A	R	–
7A	GR	–
8A	L	–

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS12FW-CS

Terminal No.	Color Of Wire	Signal Name [Specification]
10C	LG	–
11C	V	–
12C	Y	–
6C	GR	–
7C	B/R	–
8C	G	–
9C	Y	–

Connector No.	M4
Connector Name	DATA LINK CONNECTOR
Connector Type	BD16FW

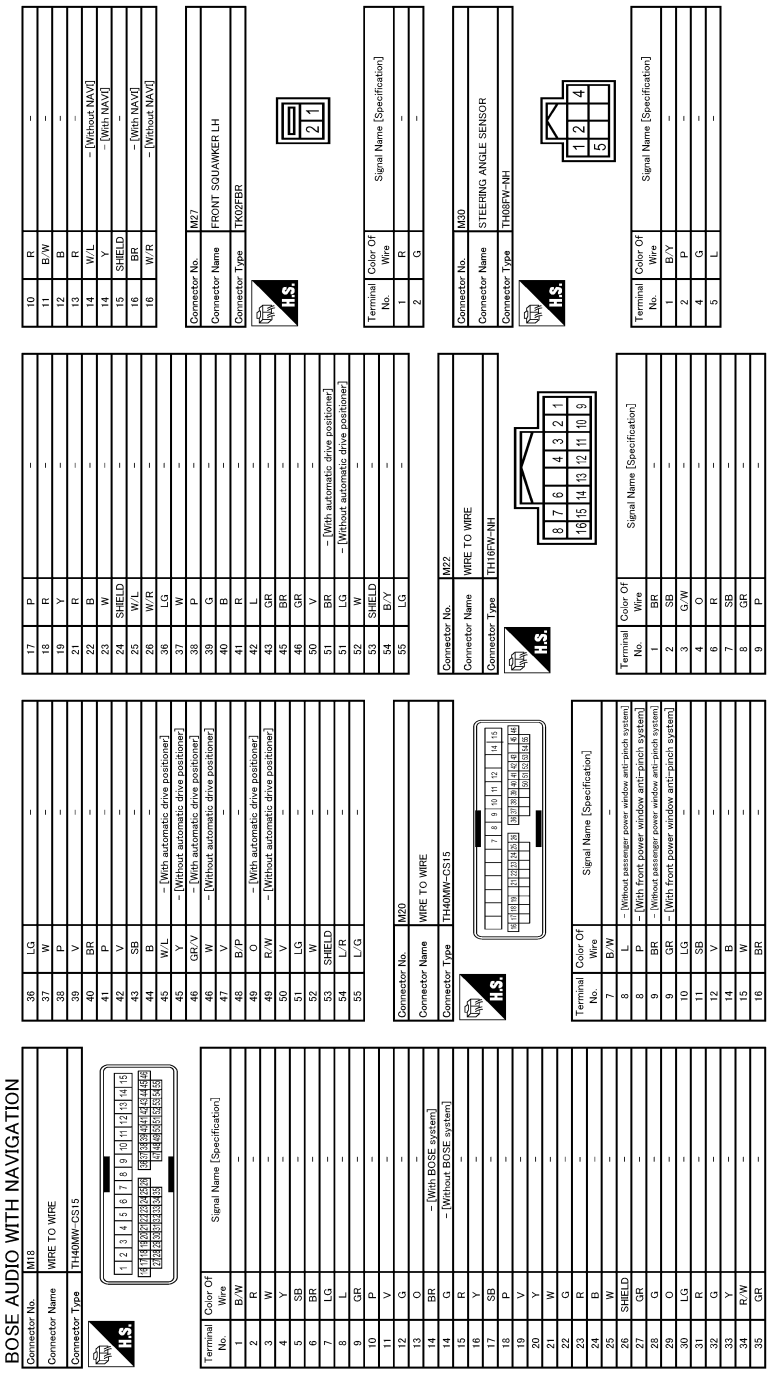
Terminal No.	Color Of Wire	Signal Name [Specification]
3	LG	–
4	B/R	–
5	B/R	–
6	L	–
7	R	–
8	G	–
11	SB	–
14	P	–
16	O	–

Connector No.	M11
Connector Name	WIRE TO WIRE
Connector Type	TH70FW-CS10-M3

Terminal No.	Color Of Wire	Signal Name [Specification]
1	SHIELD	–
2	W	–
3	B	–
4	R	–
6	O	–
7	G	–
8	G	–
9	B	–
10	R	–
11	W	–
12	LG	–

Terminal No.	Color Of Wire	Signal Name [Specification]
13	Y	–
14	L	–
15	P	–
31	R	–
32	V	–
33	Y	–
37	BR	–
38	BR	–
39	Y	–
40	P	–
41	L	–
42	G	–
43	W	–
45	LG	–
46	V	–
47	LG	–
49	G	–
51	SB	–
52	GR	–
53	B	–
54	R	–
55	L	–
56	SHIELD	–
61	BR	–
62	LG	–
63	W/L	–
64	W/R	–
66	O	–
67	SB	–
69	Y	–
70	R	–
71	R	–
72	L	–
73	R	–
74	Y	–
75	G	–
76	V	–
77	P	–
78	W	–
80	Y	–
81	W	–
82	L	–
83	R	–

JRNWC6796GB



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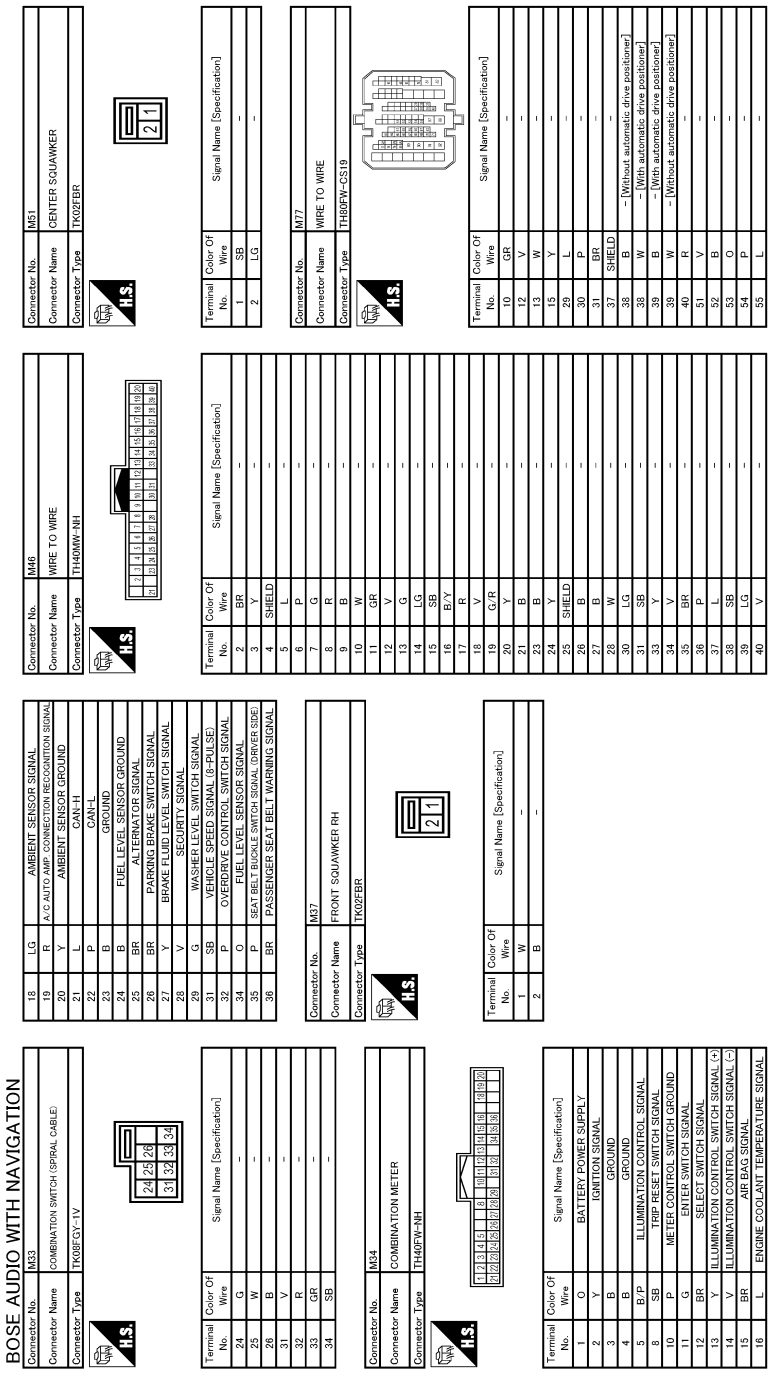

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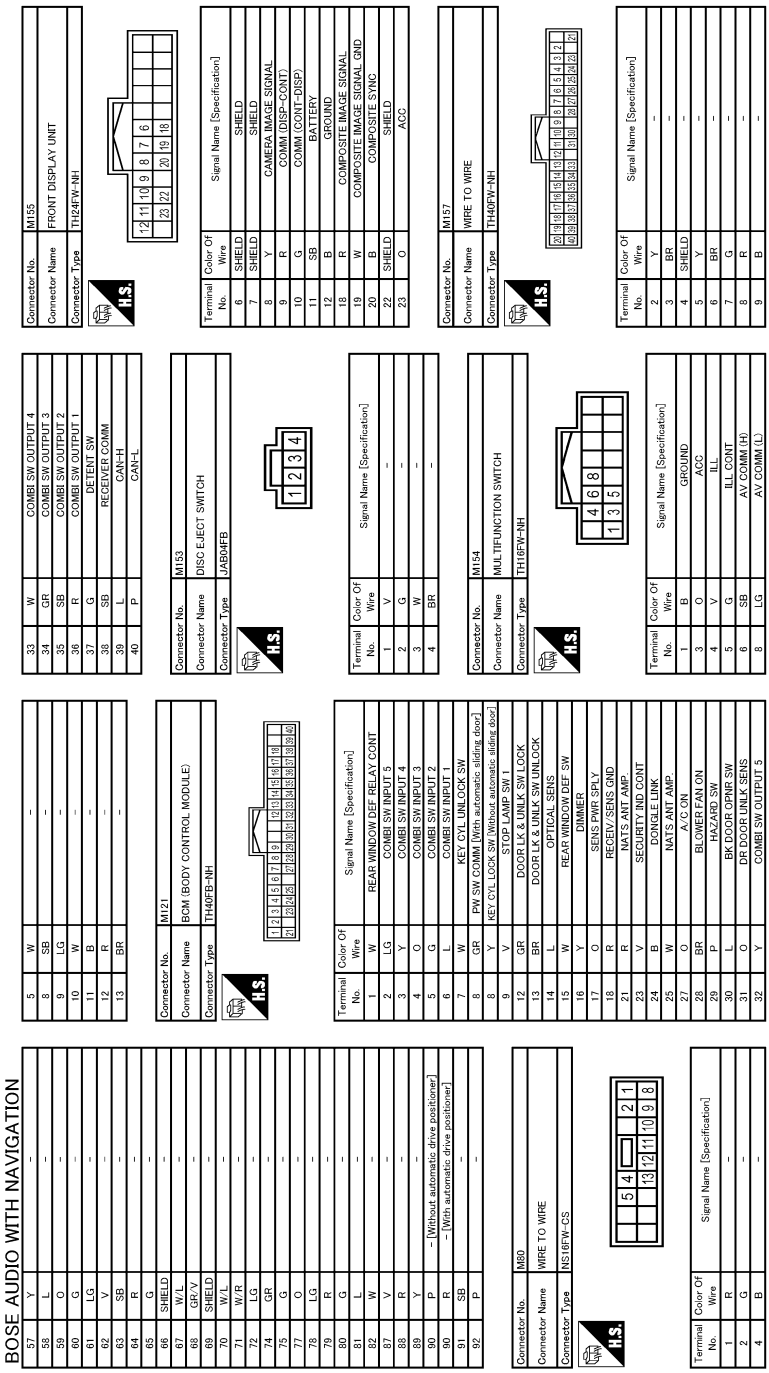

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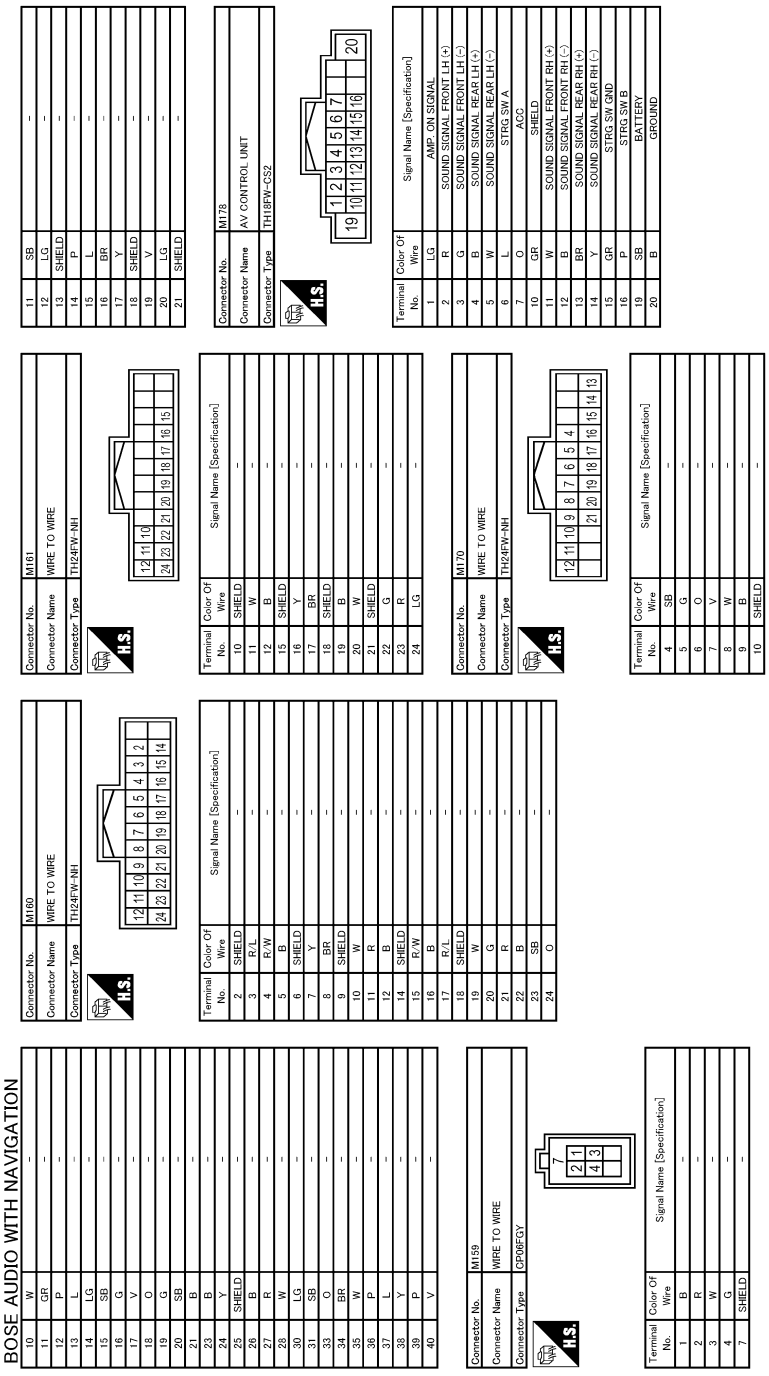
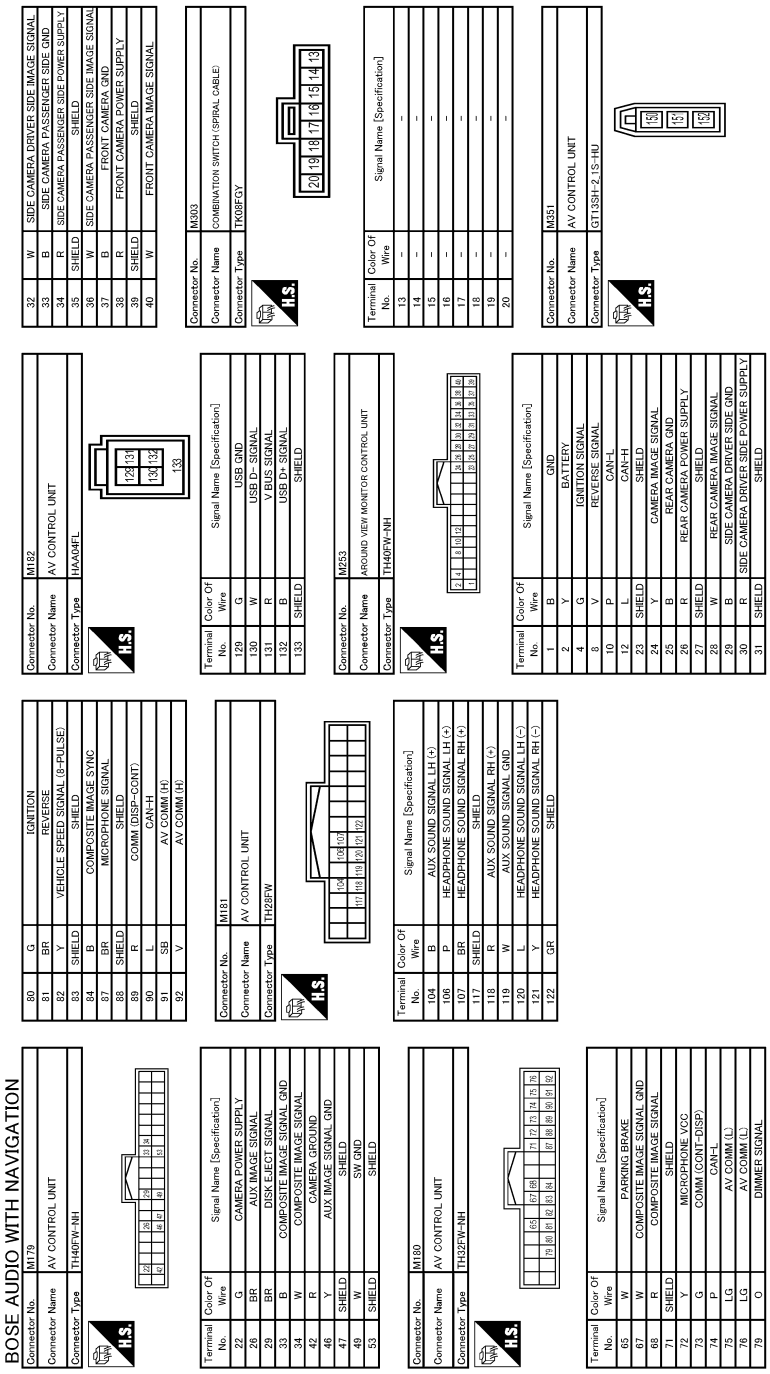
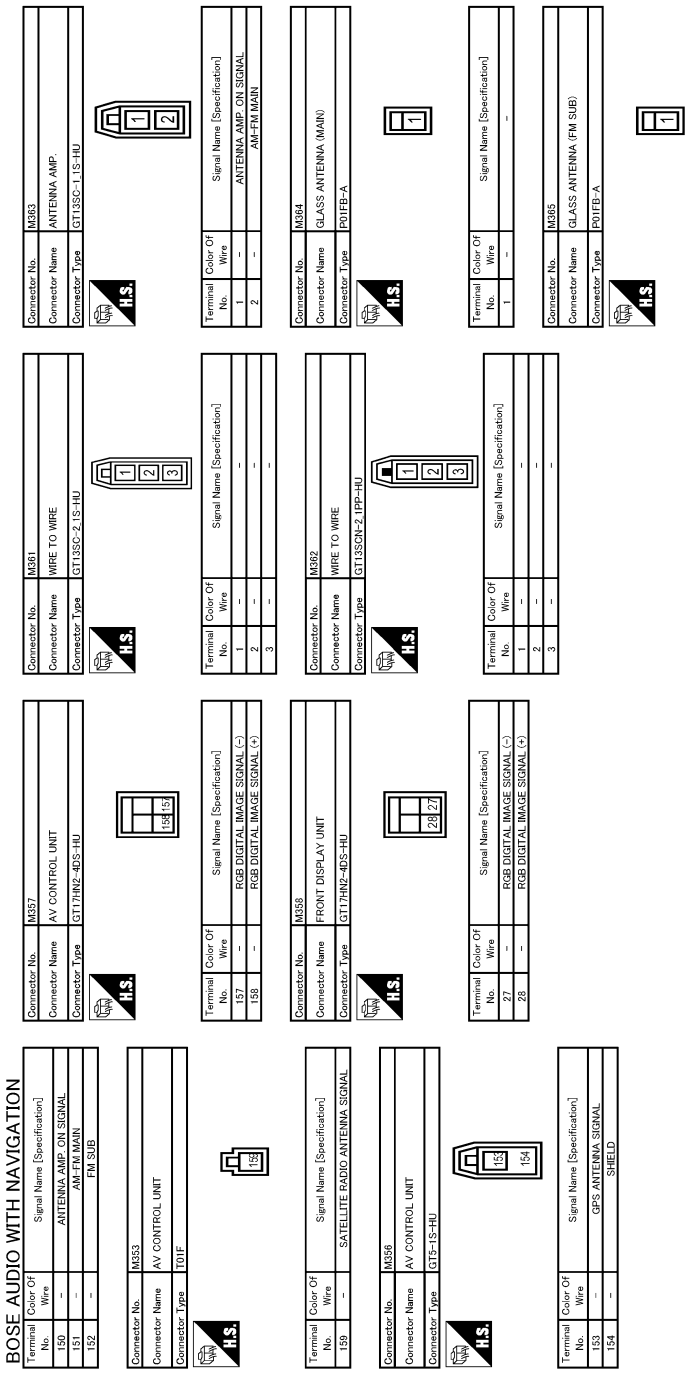


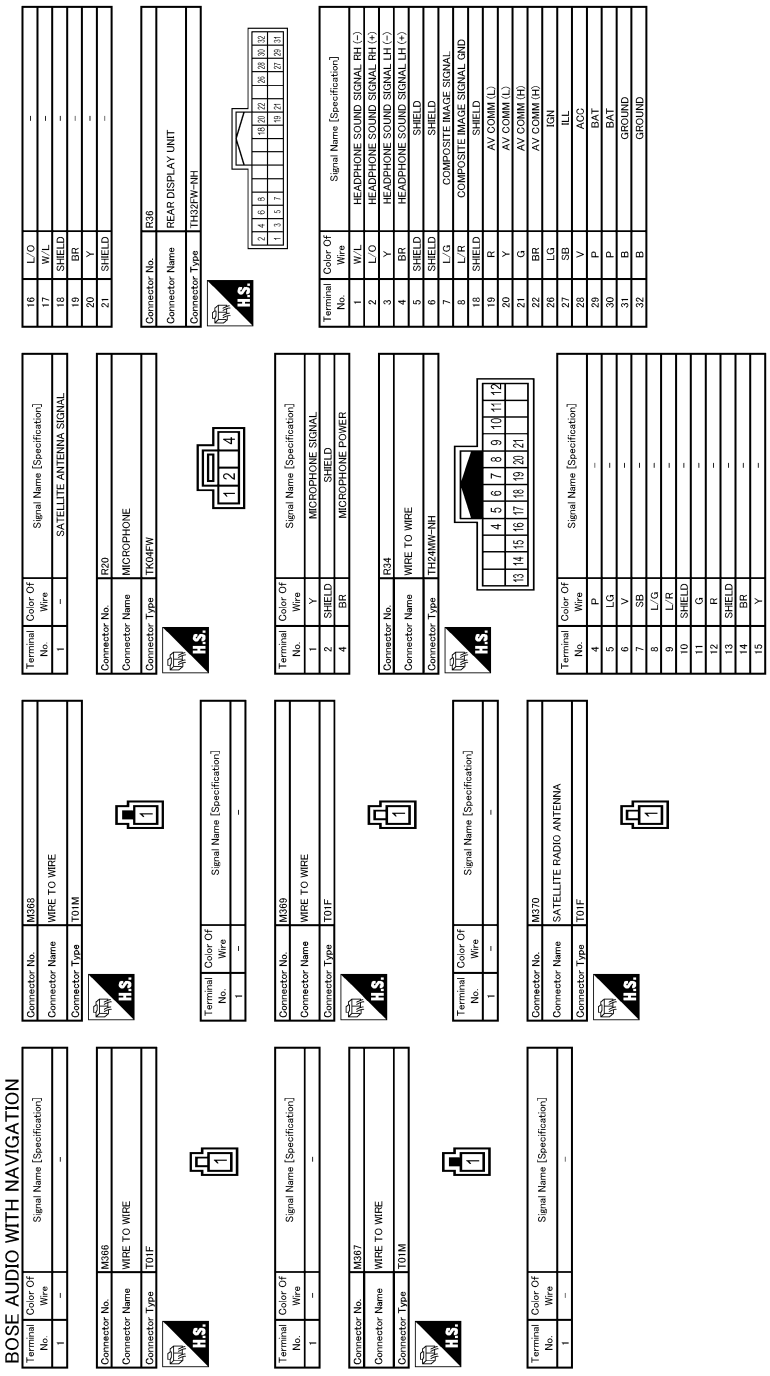
JRNWC6800GB



JRNWC6801GB



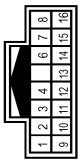
JRNWC6802GB



JRNWC6803GB

BOSE AUDIO WITH NAVIGATION

Connector No.	R106
Connector Name	WIRE TO WIRE
Connector Type	TH16MW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	-
2	SB	-
3	P	-
4	LG	-
6	O	-
7	W	-
8	BR	-
9	L	-
10	LG	-
11	B	-
12	V	-
13	Y	-
14	Y	-
15	SHIELD	-
16	BR	-

JRNWC6804GB

BASIC INSPECTION

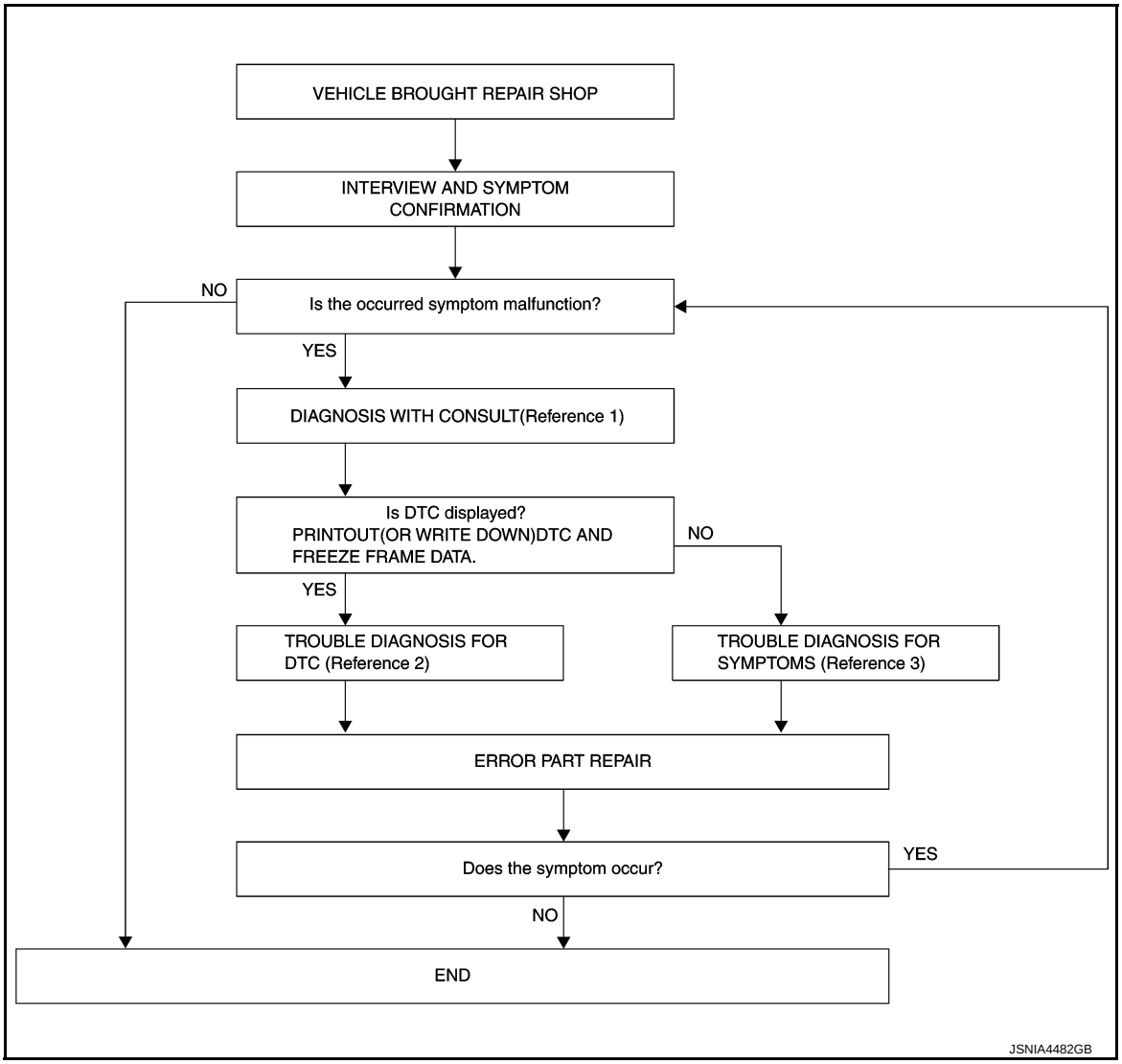
DIAGNOSIS AND REPAIR WORK FLOW

MULTI AV SYSTEM

MULTI AV SYSTEM : Work Flow

INFOID:0000000009652288

OVERALL SEQUENCE



- Reference 1··· Refer to AV-474, "CONSULT Function".
- Reference 2··· Refer to AV-486, "DTC Index".
- Reference 3··· Refer to AV-598, "Symptom Table".

DETAILED FLOW

1.INTERVIEW AND SYMPTOM CONFIRMATION

Check the malfunction symptoms by performing the following items.
- Interview the customer to obtain the malfunction information (conditions and environment when the malfunction occurred).
- Check the symptom.

Is the occurred symptom malfunction?

YES >> GO TO 2.
NO >> INSPECTION END

2.DIAGNOSIS WITH CONSULT

1. Connect CONSULT and perform a self-diagnosis for “MULTI AV”. Refer to AV-474, "CONSULT Function".
   NOTE:
   Skip to step 4 of the diagnosis procedure if “MULTI AV” is not displayed.
2. When DTC is detected, follow the instructions below:

- Record DTC and Freeze Frame Data.

Is DTC displayed?

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

3.TROUBLE DIAGNOSIS FOR DTC

1. Check the DTC indicated in the self-diagnosis results.
2. Perform the relevant diagnosis referring to the DTC Index. Refer to AV-486, "DTC Index".

>> GO TO 5.

4.TROUBLE DIAGNOSIS FOR SYMPTOMS

Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to AV-598, "Symptom Table".

>> GO TO 5.

5.ERROR PART REPAIR

1. Repair or replace the identified malfunctioning parts.
2. Perform a self-diagnosis for “MULTI AV” with CONSULT.
   NOTE:
   Erase the stored self-diagnosis results after repairing or replacing the relevant components if any DTC has been indicated in the self-diagnosis results.
3. Check that the symptom does not occur.

Does the symptom occur?

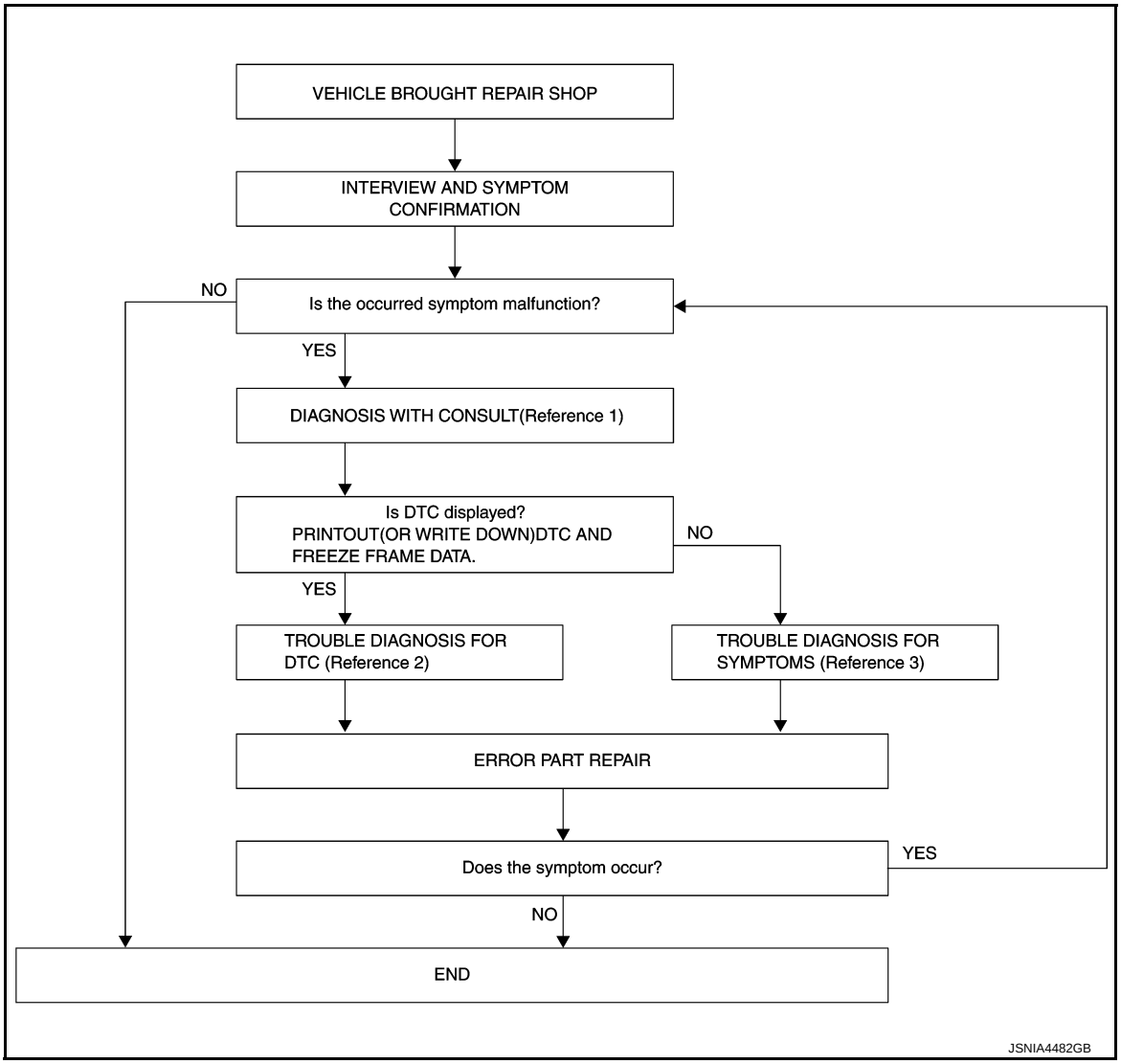
YES >> GO TO 1.
NO >> INSPECTION END

AROUND VIEW MONITOR SYSTEM

AROUND VIEW MONITOR SYSTEM : Work Flow

INFOID:0000000009652289

OVERALL SEQUENCE



- Reference 1··· Refer to AV-478, "CONSULT Function".
- Reference 2··· Refer to AV-495, "DTC Index".
- Reference 3··· Refer to AV-598, "Symptom Table".

DETAILED FLOW

1. INTERVIEW AND SYMPTOM CONFIRMATION

Check the malfunction symptoms by performing the following items.
- Interview the customer to obtain the malfunction information (conditions and environment when the malfunction occurred).
- Check the symptom.

Is the occurred symptom malfunction?

YES >> GO TO 2.
NO >> INSPECTION END

2. DIAGNOSIS WITH CONSULT

1. Connect CONSULT and perform a self-diagnosis for “AVM”. Refer to AV-478, "CONSULT Function".
   NOTE:
   Skip to step 4 of the diagnosis procedure if “AVM” is not displayed.
2. When DTC is detected, follow the instructions below:

- Record DTC and Freeze Frame Data.

Is DTC displayed?

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

3. TROUBLE DIAGNOSIS FOR DTC

1. Check the DTC indicated in the self-diagnosis results.
2. Perform the relevant diagnosis referring to the DTC Index. Refer to AV-495, "DTC Index".

>> GO TO 5.

4. TROUBLE DIAGNOSIS FOR SYMPTOMS

Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to AV-598, "Symptom Table".

>> GO TO 5.

5. ERROR PART REPAIR

1. Repair or replace the identified malfunctioning parts.
2. Perform a self-diagnosis for “AVM” with CONSULT.
   NOTE:
   Erase the stored self-diagnosis results after repairing or replacing the relevant components if any DTC has been indicated in the self-diagnosis results.
3. Check that the symptom does not occur.

Does the symptom occur?

YES >> GO TO 1.
NO >> INSPECTION END

INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Description

INFOID:0000000009652290

BEFORE REPLACEMENT

When replacing AV control unit, save or print current vehicle specification with CONSULT configuration before replacement.

AFTER REPLACEMENT

CAUTION:

When replacing AV control unit, you must perform “After Replace ECU” or “Manual Configuration” with CONSULT.

- **Complete the procedure of “After Replace ECU” or “Manual Configuration” in order.**
- **If you set incorrect “After Replace ECU” or “Manual Configuration”, incidents might occur.**
- **Configuration is different for each vehicle model. Confirm configuration of each vehicle model.**

ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Work Procedure

INFOID:0000000009652291

1. SAVING VEHICLE SPECIFICATION

CONSULT Configuration

Perform “Before Replace ECU” to save or print current vehicle specification. Refer to AV-526, "CONFIGURATION (AV CONTROL UNIT) : Description".

NOTE:

If “Before Replace ECU” can not be used, use the “Manual Configuration”.

>> GO TO 2.

2. REPLACE AV CONTROL UNIT

Replace AV control unit. Refer to AV-610, "Removal and Installation".

>> GO TO 3.

3. WRITING VEHICLE SPECIFICATION

CONSULT Configuration

Perform “After Replace ECU” or “Manual Configuration” to write vehicle specification. Refer to AV-526, "CONFIGURATION (AV CONTROL UNIT) : Work Procedure".

>> GO TO 4.

4. OPERATION CHECK

Check that the operation of the AV control unit and camera images (fixed guide lines and predictive course lines) are normal.

>> WORK END

ADDITIONAL SERVICE WHEN REPLACING AROUND VIEW MONITOR CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING AROUND VIEW MONITOR CONTROL UNIT : Description

INFOID:0000000009942942

Perform the calibrating camera image when replacing around view monitor control unit. Refer to AV-528, "CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Work Procedure".

CONFIGURATION (AV CONTROL UNIT)

CONFIGURATION (AV CONTROL UNIT) : Description

INFOID:0000000009652293

- Since vehicle specifications are not included in the AV control unit after replacement, it is required to write vehicle specifications with CONSULT.
- Configuration has three functions as follows.

Function		Description
Read/Write Configuration	Before Replace ECU	Allows the reading of vehicle specification written in AV control unit to store the specification in CONSULT.
	After Replace ECU	Allows the writing of the vehicle information stored in CONSULT into the AV control unit.
Manual Configuration		Allows the writing of the vehicle specification into the AV control unit by hand.

CONFIGURATION (AV CONTROL UNIT) : Work Procedure

INFOID:0000000009652294

1.WRITE VEHICLE SPECIFICATION

CONSULT Configuration
Write vehicle specification into AV control unit.

To write vehicle specification stored in CONSULT into the AV control unit>>GO TO 2.
To write vehicle specification into the AV control unit by hand>>GO TO 3.

2.WRITE STORED DATA

CONSULT Configuration
Select “After Replace ECU” in “Read/Write Configuration.” Write data stored in CONSULT with the “Before Replace ECU” function into the AV control unit.

>> GO TO 4.

3.MANUALLY WRITE VEHICLE SPECIFICATION

CONSULT Configuration
Perform “Manual Configuration.” Refer to the Configuration List to write vehicle specification into the AV control unit. Refer to AV-526, "CONFIGURATION (AV CONTROL UNIT) : Configuration List".
NOTE:
If selection items are not displayed on the CONSULT screen, touch “NEXT.”

>> GO TO 4.

4.OPERATION CHECK

Check that the operation of the AV control unit and camera images (fixed guide lines and predictive course lines) are normal.

>> WORK END

CONFIGURATION (AV CONTROL UNIT) : Configuration List

INFOID:0000000009652295

CAUTION:
Grasp vehicle specifications precisely. The control of ECU may not function normally if the specifications are misread.
NOTE:
- The items shown in this list depend on vehicle specifications.
- The config list may not be displayed depending on vehicle specifications. This is not a malfunction.

MANUAL SETTING ITEM		Detail
Items	Setting value	
STEERING	LHD	LHD models
	RHD	RHD models
CAMERA SYSTEM	NONE/AVM	Without camera system or with around view monitor system
	REAR CAMERA	With rear view monitor system
	REAR+SIDE	With rear view monitor system and front-side view monitor function
SOUND SYSTEM	BASE	Without BOSE system
	BOSE	With BOSE system

NOTE:
AVM: Around view monitor

CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT)

CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT) : Work Procedure

INFOID:0000000009942945

1.SAVING VEHICLE SPECIFICATION

CONSULT Configuration
Perform “Before Replace ECU”, and save the current vehicle specification in CONSULT.
Is the vehicle specification saved normally?

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

2.REPLACE AROUND VIEW MONITOR CONTROL UNIT

Replace around view monitor control unit. Refer to AV-631, "Removal and Installation".

>> GO TO 3.

3.WRITING VEHICLE SPECIFICATION

CONSULT Configuration
Select “Configuration” or “After Replace ECU”, and write the vehicle specification saved in CONSULT to around view monitor control unit.

>> GO TO 6.

4.REPLACE AROUND VIEW MONITOR CONTROL UNIT

Replace around view monitor control unit. Refer to AV-631, "Removal and Installation".

>> GO TO 5.

5.WRITE VEHICLE SPECIFICATION

CONSULT Configuration
Select “Manual Configuration”, and write the vehicle specification to around view monitor control unit.
NOTE:
Around view monitor control unit does not have any setting items. Selection of items on “Manual Configuration” screen is not required.

>> GO TO 6.

6.PERFORM SELF-DIAGNOSIS

CONSULT Self Diagnostic Result
Perform self-diagnosis of CONSULT, and check whether or not DTC U1305 is detected.
Is DTC U1305 detected?

>> GO TO 5.
>> GO TO 7.

7.OPERATION CHECK

Check that the operation of the around view monitor control unit and camera images (fixed guide lines and predictive course lines) are normal.

>> WORK END

PREDICTIVE COURSE LINE CENTER POSITION ADJUSTMENT

PREDICTIVE COURSE LINE CENTER POSITION ADJUSTMENT : Description

INFOID:0000000009942946

Adjust the center position of the predictive course line of the rear view monitor if it is shifted.

PREDICTIVE COURSE LINE CENTER POSITION ADJUSTMENT : Work Procedure

INFOID:0000000009942947

1.DRIVING

Drive the vehicle straight ahead 100 m (328.1 ft) or more at a speed of 30 km/h (18.6 MPH) or more.

>> END

CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR)

CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Description

INFOID:0000000009942948

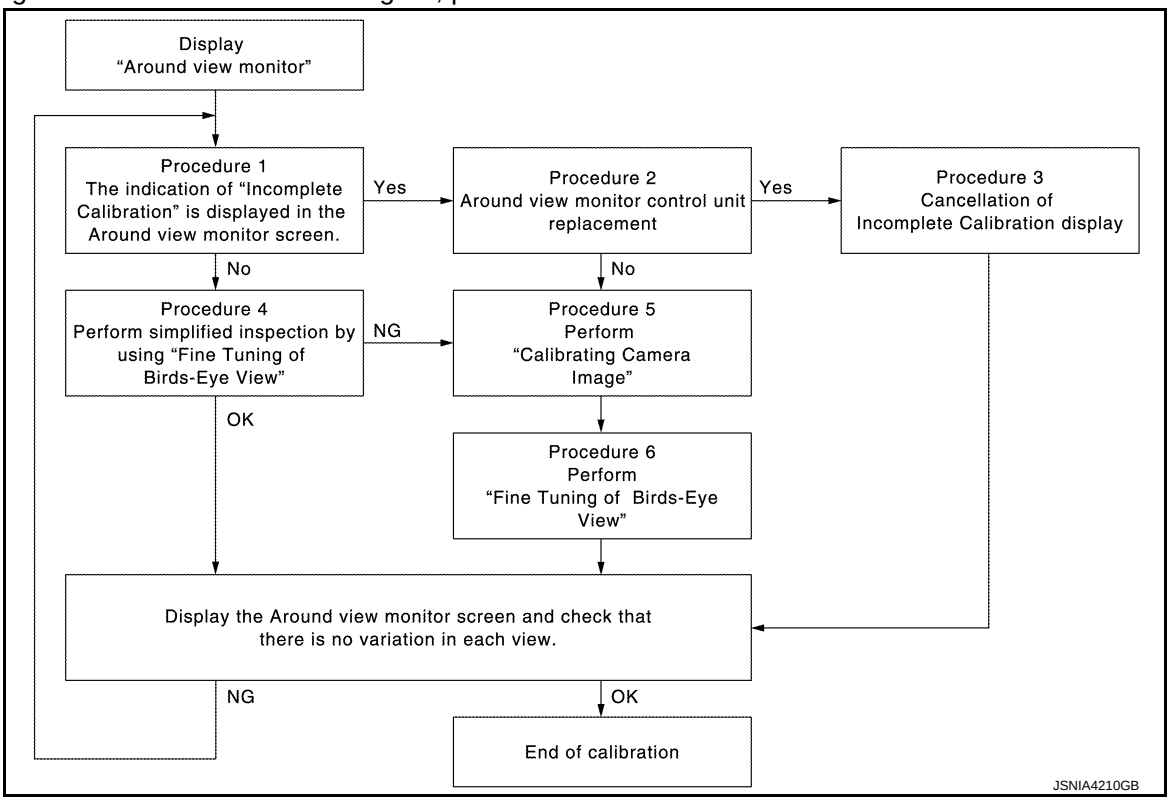
- Calibration must be performed after removing/replacing the cameras, removing parts (e.g. front grille, door mirror, and others) mounted on the cameras, or replacing the Around view monitor control unit.
- The use of CONSULT is required to perform calibration or writing of calibration results to the Around view monitor control unit.
- Align the white lines on the road near the vehicle at the boundary of each camera image by this camera calibration. The white lines far from the vehicle may not be aligned at the boundary of each camera image. The farther the line, the greater the difference is.

CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Work Procedure

INFOID:0000000009942949

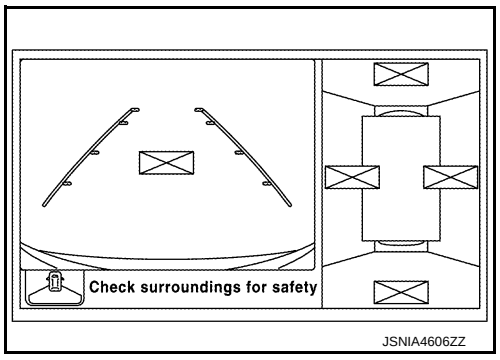
CALIBRATION FLOWCHART

Following the flowchart shown in the figure, perform the calibration.



NOTE:

View in the incomplete calibration state is indicated by “⊠” on the around view monitor.



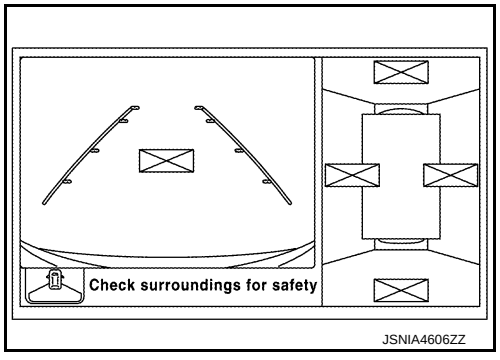
CALIBRATION PROCEDURE

1. AROUND VIEW MONITOR SCREEN CONFIRMATION

Check that there is no indication of “Incomplete calibration”.

Is the “Incomplete calibration” display visible?

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



2. CHECK THAT AROUND VIEW MONITOR CONTROL UNIT IS REPLACED

Check that the around view monitor control unit is replaced.

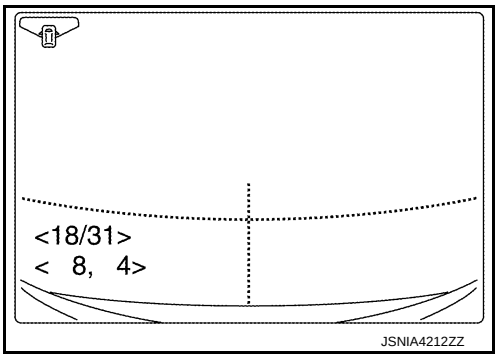
Is the around view monitor control unit replaced?

YES >> GO TO 3.
NO >> GO TO 5.

3. CANCEL THE INDICATION OF INCOMPLETE CALIBRATION (PERFORM THIS ONLY AFTER REPLACING AROUND VIEW MONITOR CONTROL UNIT.)

CONSULT work support

1. On the CONSULT screen, touch “CALIBRATING CAMERA IMAGE (FRONT CAMERA)”, “CALIBRATING CAMERA IMAGE (PASS-SIDE CAMERA)”, “CALIBRATING CAMERA IMAGE (DR-SIDE CAMERA)”, or “CALIBRATING CAMERA IMAGE (REAR CAMERA)” to accept the selection.
   NOTE:
   To cancel the indication of Incomplete calibration, select items based on the target camera.
2. On the adjustment screen of each camera, touch “APPLY” button. After this, touch “OK” button.
   CAUTION:
   - **Never perform operations other than those mentioned above.**
   - **Never perform “Initialize Camera Image Calibration”.**
3. Display the around view monitor screen to check that there is no errors, such as deviations among the camera images.



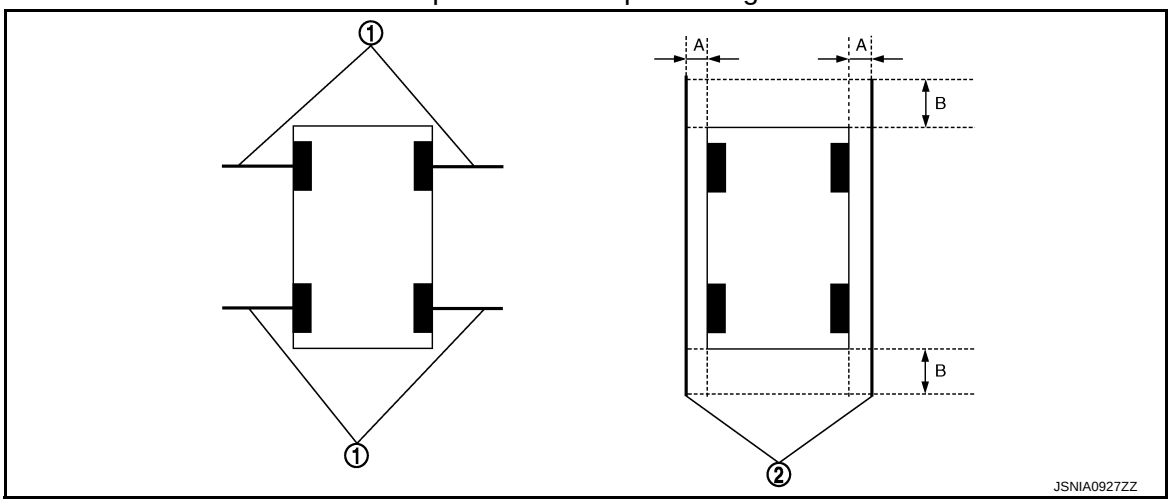
Is there a malfunction?

YES >> Calibration end
NO >> GO TO 1.

4. PERFORM SIMPLIFIED CONFIRMATION/ADJUSTMENT BY “FINE TUNING OF BIRDS-EYE VIEW”

1. Put target line 1 on the ground beside each axle using packing tape, etc.
2. Put target lines 2 equal to the vehicle total length + approximately 1.0 m (39.3 in) from the vehicle side (right and left) at approximately 30 cm (11.8 in) away from the vehicle (make the line as parallel with the vehicle as possible)

Preparation of simplified target line



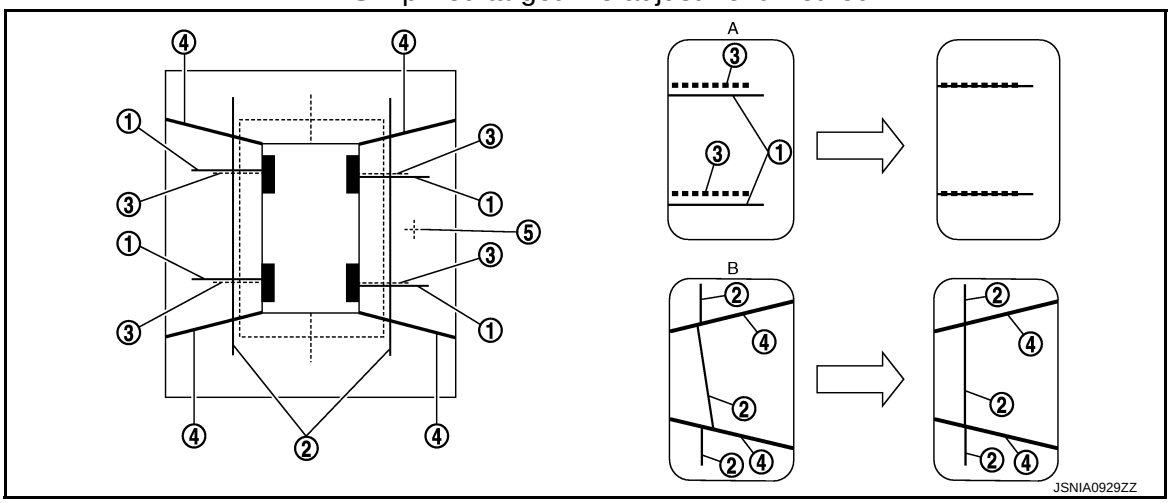
1. Target lines 1
2. Target lines 2
A. Approx. 30 cm (11.8 in)
B. Approx. 1.0 m (39.3 in)

3. CONSULT work support
   Touch “FINE TUNING OF BIRDS-EYE VIEW” on the CONSULT screen.
4. On the CONSULT screen, touch “SELECT” button to select right or left camera and perform camera calibration as instructed below:

- If the marker on the screen deviates from Target line 1, touch “AXIS X” button and “AXIS Y” button to adjust so that the marker is placed on the Target line 1.
- If Target line 2 is misaligned among the cameras, adjust each camera image to bring Target line 2 into a straight line.

CAUTION:
Never adjust the front camera and rear camera. Only adjust the right and left cameras.

Simplified target line adjustment method



1.	Target lines 1	2.	Target lines 2	3.	Marker for target line 1
4.	Boundary between cameras	5.	Crosshairs cursor (mark indicated the selected camera)		
A.	Adjustment method for target lines 1 (right)	B.	Adjustment method for target lines 2 (right)		

5. Adjust right and left cameras. Touch "APPLY" on the CONSULT screen to display adjustment results.
6. After adjusting right and left cameras, check that the marker is properly placed on the screen and there is no deviation in Target line 1.
   NOTE:
   - It can be initialized to the NISSAN factory default condition with “Initialize Camera Image Calibration”.
   - The adjustment value is cancelled on this mode by performing “Initialize Camera Image Calibration”.

Is the difference corrected?

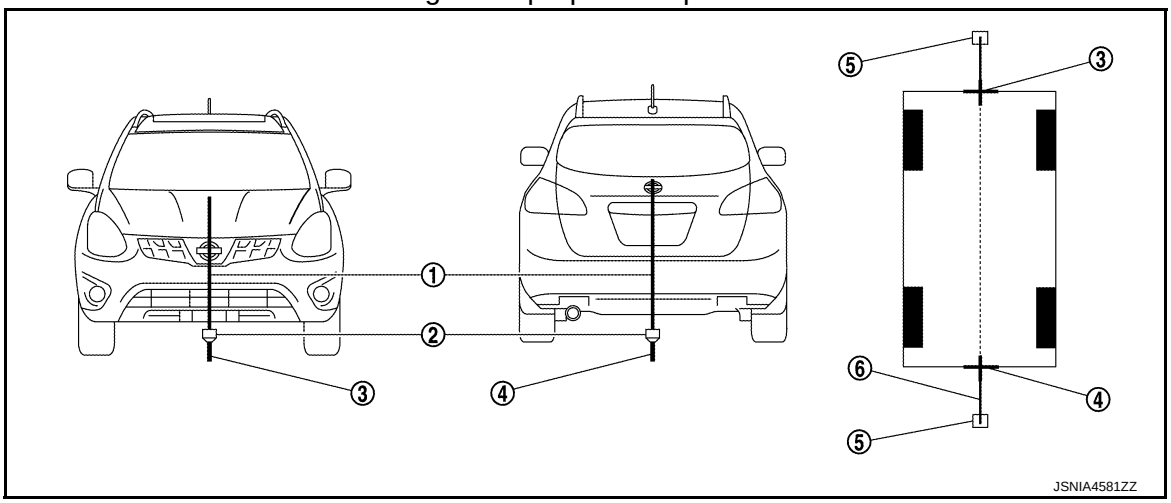
YES >> On the CONSULT screen, touch “OK” button to complete writing to the around view monitor control unit.
NO >> GO TO 5.

5. PERFORM “CALIBRATING CAMERA IMAGE”

Preparation of target line

1. Hang a string with a weight as shown in the figure. Put the points FM0, RM0 (mark) on the ground at the center of the vehicle front end and rear end with white packing tape or a pen.
2. Route the vinyl string under the vehicle, and then pull and fix it on the point approximately 1.0 m (39.9 in) to the front and rear of the vehicle through the points FM0 and RM0 using packing tape.

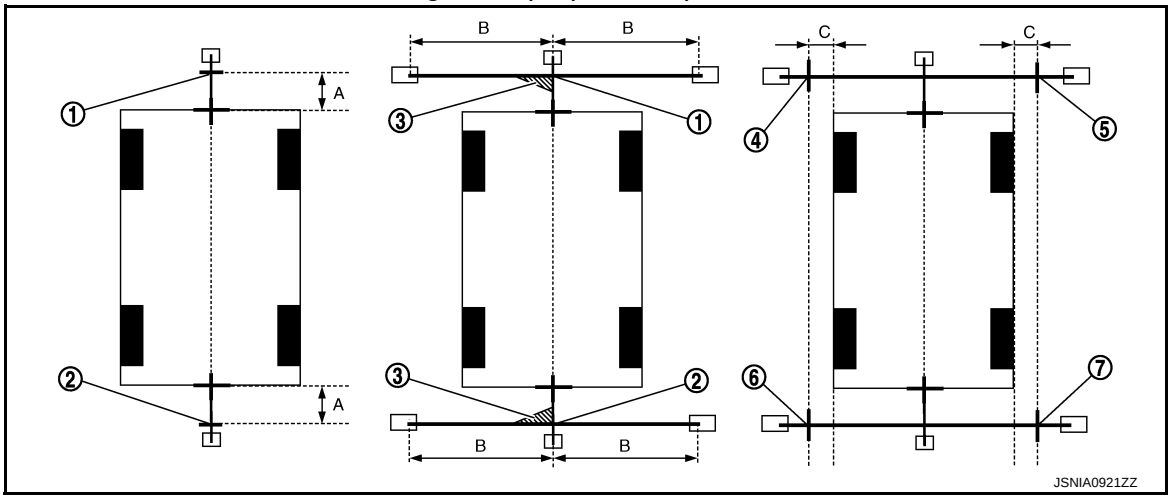
Target line preparation procedure 1



1. Thread
2. Weight
3. Point FM0 (mark)
4. Point RM0 (mark)
5. Packing tape (to fix the vinyl string)
6. Vinyl string

3. Put the points FM and RM (mark) 75 cm (29.5 in) from the points FM0 and RM0 individually.
4. Route the vinyl string through the points FM and RM using a triangle scale, and then fix it at approximately 1.5 m (59 in) on both sides with packing tape.
5. Put the points FL, FR, RL, and RR (mark) to both right and left [vehicle width / 2 + 30 cm (11.8 in)] from the points FM and RM.

Target line preparation procedure 2

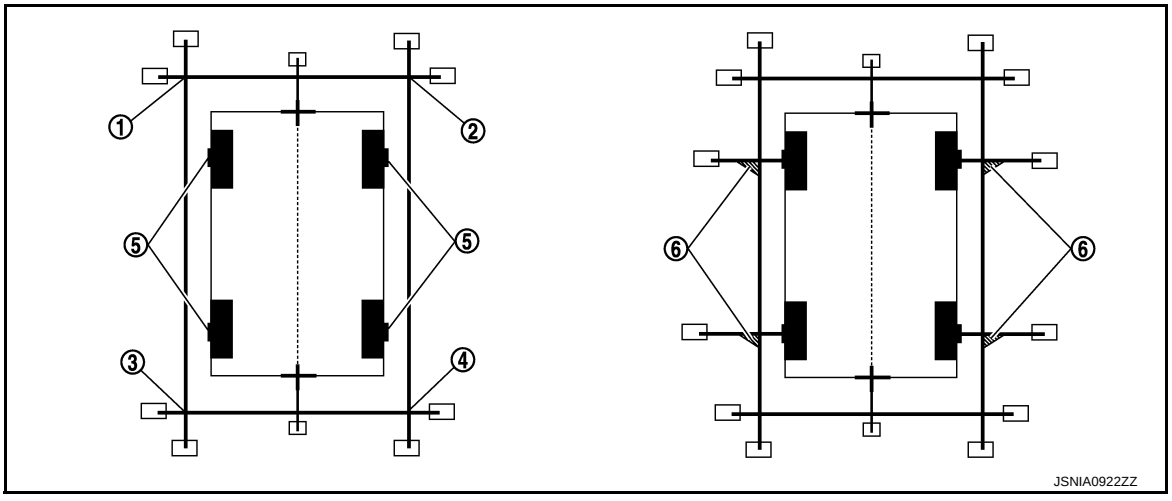


1. Point FM
2. Point RM
3. Triangle scale
4. Point FL (mark)
5. Point FR (mark)
6. Point RL (mark)
7. Point RR (mark)

A. 75 cm (29.5 in)
B. Approx. 1.5 m (59 in)
C. 30 cm (11.8 in) [Vehicle width/ 2 + 30 cm (11.8 in) from the points FM and RM]

6. Draw the lines of the points FL – RL and FR – RR with vinyl string, and fix it with packing tape.
7. Put a mark on the center of each axle, draw vertical lines to the lines of the points FL – RL and FR – RR from the marks on the center of the axle using a triangle scale, and then fix the lines using packing tape.

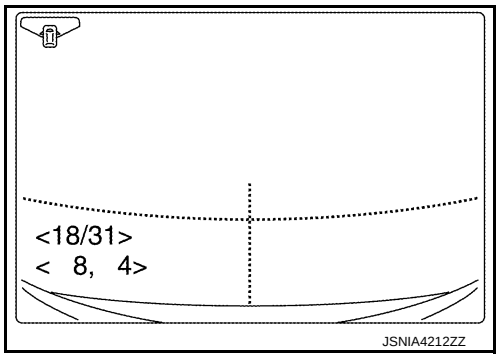
Target line preparation procedure 3



1. Point FL
2. Point FR
3. Point RL
4. Point RR
5. Center position of axle
6. Triangle scale

Perform “Calibrating Camera Image”
CONSULT work support

1. On the CONSULT screen, touch “CALIBRATING CAMERA IMAGE (FRONT CAMERA)”, “CALIBRATING CAMERA IMAGE (PASS-SIDE CAMERA)”, “CALIBRATING CAMERA IMAGE (DR-SIDE CAMERA)”, or “CALIBRATING CAMERA IMAGE (REAR CAMERA)” to accept the selection.
NOTE:
To cancel the indication of Incomplete calibration, select items based on the target camera.
2. On the adjustment screen of each camera, adjust the parameter by touching the “AXIS X” button, “AXIS Y” button, and “ROTATE” button to place the calibration marker shown on the camera screen on the target line drawn on the ground.



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Adjustment range	
Rotation direction (Center dial)	: 31 patterns (16 on the center)
Upper/lower direction (upper/lower switch)	: –22 – 22
Left/right direction (left/right switch)	: –22 – 22

3. Touch “APPLY” button on the CONSULT screen. “PRCSNG” is displayed and adjustment results are shown on the camera screen.
CAUTION:
Check that “PRCSNG” is displayed. Do never perform other operations while “PRCSNG” is displayed.
4. Touch “OK” button on the CONSULT screen. “PRCSNG” is displayed and adjustment results are written to the around view monitor control unit.
CAUTION:
Check that “PRCSNG” is displayed. Do never perform other operations while “PRCSNG” is displayed.

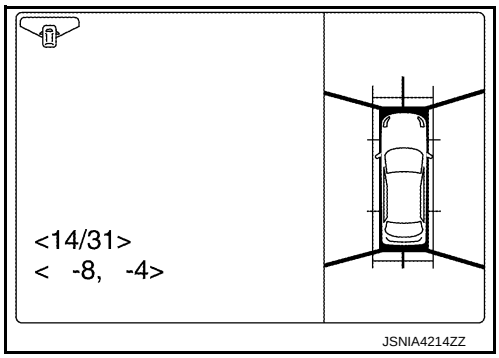
>> GO TO 6.

6. PERFORM “FINE TUNING OF BIRDS-EYE VIEW”

This mode is designed to align the boundary between each camera image that could not be aligned in the “Calibrating Camera Image” mode.

CONSULT work support

1. Select “FINE TUNING OF BIRDS-EYE VIEW” by touching CONSULT screen.
2. On the adjustment screen of each camera, adjust the parameter by touching the “AXIS X” button, “AXIS Y” button”, and “ROTATE” button to place the calibration marker shown on the camera screen on the target line drawn on the ground.
NOTE:
Touch “SELECT” button on the CONSULT screen to select the target camera.



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3. Touch “APPLY” button on the CONSULT screen. “PRCSNG” is displayed and adjustment results are shown on the camera screen.
CAUTION:
Check that “PRCSNG” is displayed. Do never perform other operations while “PRCSNG” is displayed.
4. Touch “OK” button on the CONSULT screen. “PRCSNG” is displayed and adjustment results are written to the around view monitor control unit.
CAUTION:
- **Check that “PRCSNG” is displayed. Never perform other operations while “PRCSNG” is displayed.**
- **After pressing the “OK” button, never press buttons other than the “BACK” button.**

NOTE:
- It can be initialized to the NISSAN factory default condition with “Initialize Camera Image Calibration”.
- The adjustment value is cancelled in this mode by performing “Initialize Camera Image Calibration”.

>> Calibration end

DTC/CIRCUIT DIAGNOSIS

U0428 STEERING ANGLE SENSOR

DTC Logic

INFOID:0000000009942950

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U0428	ST ANGLE SENSOR CALIBRATION [U0428]	The neutral position adjustment of the steering angle sensor is incomplete.	Adjust neutral position of the steering angle sensor.

Diagnosis Procedure

INFOID:0000000009942951

1.ADJUST THE NEUTRAL POSITION OF THE STEERING ANGLE SENSOR

When U1232 is detected, adjust the neutral position of the steering angle sensor.

>> Perform adjustment of the neutral position of the steering angle sensor. Refer to AV-478, "CONSULT Function".

U1000 CAN COMM CIRCUIT

AV CONTROL UNIT

AV CONTROL UNIT : Description

INFOID:0000000009652303

CAN (Controller Area Network) is a serial communication line for real-time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independently). In CAN communication, control units are connected with 2 communication lines (CAN-H, CAN-L) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.
CAN Communication Signal Chart. Refer to LAN-32, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart".

AV CONTROL UNIT : DTC Logic

INFOID:0000000009652304

DTC DETECTION LOGIC

DTC	Display contents of CONSULT	DTC detection condition	Probable malfunction location
U1000	CAN COMM CIRCUIT [U1000]	AV control unit is not transmitting or receiving CAN communication signal for 2 seconds or more.	CAN communication system.

AV CONTROL UNIT : Diagnosis Procedure

INFOID:0000000009652305

1.PERFORM SELF-DIAGNOSTIC

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Check “Self Diagnostic Result” of “MULTI AV”.

Is “CAN COMM CIRCUIT” displayed?

YES >> Refer to LAN-17, "Trouble Diagnosis Procedure".
NO >> Refer to GI-42, "Intermittent Incident".

AROUND VIEW MONITOR CONTROL UNIT

AROUND VIEW MONITOR CONTROL UNIT : Description

INFOID:0000000009942952

CAN (Controller Area Network) is a serial communication line for real-time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independently). In CAN communication, control units are connected with 2 communication lines (CAN-H, CAN-L) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.
CAN Communication Signal Chart. Refer to LAN-32, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart".

AROUND VIEW MONITOR CONTROL UNIT : DTC Logic

INFOID:0000000009942953

DTC DETECTION LOGIC

DTC	Display contents of CONSULT	DTC detection condition	Probable malfunction location
U1000	CAN COMM CIRCUIT [U1000]	Around view monitor control unit is not transmitting or receiving CAN communication signal for 2 seconds or more.	CAN communication system.

AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure

INFOID:0000000009942954

1.PERFORM SELF-DIAGNOSTIC

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Check “Self Diagnostic Result” of “AVM”.

Is “CAN COMM CIRCUIT” displayed?

YES >> Refer to LAN-17, "Trouble Diagnosis Flow Chart".
NO >> Refer to GI-42, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

AV CONTROL UNIT

AV CONTROL UNIT : DTC Logic

INFOID:0000000009652309

DTC DETECTION LOGIC

DTC	Display contents of CONSULT	DTC detection condition	Probable malfunction factor
U1010	CONTROL UNIT (CAN) [U1010]	CAN initial diagnosis malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-610, "Removal and Installation".

AROUND VIEW MONITOR CONTROL UNIT

AROUND VIEW MONITOR CONTROL UNIT : DTC Logic

INFOID:0000000009942955

DTC DETECTION LOGIC

DTC	Display contents of CONSULT	DTC detection condition	Probable malfunction factor
U1010	CONTROL UNIT (CAN) [U1010]	CAN initial diagnosis malfunction is detected.	Replace the around view monitor control unit if the malfunction occurs constantly. Refer to AV-631, "Removal and Installation".

U111A REAR CAMERA IMAGE SIGNAL CIRCUIT

DTC Logic

INFOID:0000000009942956

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U111A	REAR CAMERA IMAGE SIGNAL	Rear camera image signal circuit is open or shorted.	Check rear camera image signal circuit between rear camera and around view monitor control unit.

Diagnosis Procedure

INFOID:0000000009942957

1.CHECK CONTINUITY REAR CAMERA POWER SUPPLY AND GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector and rear camera connector.
3. Check continuity between around view monitor control unit harness connector and rear camera harness connector.

Around view monitor control unit		Rear camera		Continuity
Connector	Terminals	Connector	Terminals	
M253	26	D197	1	Existed
	25		2	

4. Check continuity between around view monitor control unit harness connector and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M253	26		Not existed

Is inspection result normal?

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

2.CHECK VOLTAGE REAR CAMERA POWER SUPPLY

1. Connect around view monitor control unit connector and rear camera connector.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit harness connector and ground.

(+)		(–)	Condition	Voltage (Approx.)
Around view monitor control unit				
Connector	Terminal			
M253	26	Ground	“CAMERA” switch is ON or shift position is “R”.	6.2 V

Is inspection result normal?

YES >> GO TO 3.
NO >> Replace around view monitor control unit. Refer to AV-631, "Removal and Installation".

3.CHECK CONTINUITY REAR CAMERA IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector and rear camera connector.
3. Check continuity between around view monitor control unit harness connector and rear camera harness connector.

Around view monitor control unit		Rear camera		Continuity
Connector	Terminals	Connector	Terminals	
M253	28	D197	3	Existed
	27		4	

4. Check continuity between around view monitor control unit harness connector and ground.

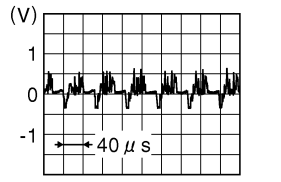
Around view monitor control unit		Ground	Continuity
Connector	Terminals		
M253	27, 28		Not existed

Is inspection result normal?

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

4. CHECK REAR CAMERA IMAGE SIGNAL

1. Connect around view monitor control unit connector and rear camera connector.
2. Turn ignition switch ON.
3. Check signal between around view monitor control unit harness connector.

(+)		(–)		Condition	Reference value
Around view monitor control unit					
Connector	Terminal	Connector	Terminal		
M253	28	M253	27	“CAMERA” switch is ON or shift position is “R”.	

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Is inspection result normal?

YES >> Replace around view monitor control unit. Refer to AV-631, "Removal and Installation".
NO >> Replace rear camera. Refer to AV-633, "Removal and Installation".

U111B SIDE CAMERA RH IMAGE SIGNAL CIRCUIT

DTC Logic

INFOID:0000000009652313

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U111B	SIDE CAMERA RH IMAGE SIGNAL	Side camera RH image signal circuit is open or shorted.	Check side camera RH image signal circuit between side camera RH and around view monitor control unit.

Diagnosis Procedure

INFOID:0000000009652314

1.CHECK CONTINUITY SIDE CAMERA RH POWER SUPPLY AND GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector and door mirror (passenger side) connector.
3. Check continuity between around view monitor control unit harness connector and door mirror (passenger side) harness connector.

Around view monitor control unit		Door mirror (passenger side)		Continuity
Connector	Terminals	Connector	Terminals	
M253	34	D3	6	Existed
	33		13	

4. Check continuity between around view monitor control unit harness connector and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M253	34		Not existed

Is inspection result normal?

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

2.CHECK VOLTAGE SIDE CAMERA RH POWER SUPPLY

1. Connect around view monitor control unit connector and door mirror (passenger side) connector.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit harness connector and ground.

(+)		(–)	Condition	Voltage (Approx.)
Around view monitor control unit				
Connector	Terminal			
M253	34	Ground	“CAMERA” switch is ON or shift position is “R”.	6.2 V

Is inspection result normal?

YES >> GO TO 3.
NO >> Replace around view monitor control unit. Refer to AV-631, "Removal and Installation".

3.CHECK CONTINUITY SIDE CAMERA RH IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector and door mirror (passenger side) connector.
3. Check continuity between around view monitor control unit harness connector and door mirror (passenger side) harness connector.

Around view monitor control unit		Door mirror (passenger side)		Continuity
Connector	Terminals	Connector	Terminals	
M253	36	D3	5	Existed
	35		17	

4. Check continuity between around view monitor control unit harness connector and ground.

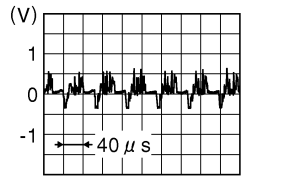
Around view monitor control unit		Ground	Continuity
Connector	Terminals		
M253	36, 35		Not existed

Is inspection result normal?

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

4. CHECK SIDE CAMERA RH IMAGE SIGNAL

1. Connect around view monitor control unit connector and door mirror (passenger side) connector.
2. Turn ignition switch ON.
3. Check signal between around view monitor control unit harness connector.

(+)		(–)		Condition	Reference value
Around view monitor control unit					
Connector	Terminal	Connector	Terminal		
M253	36	M253	35	“CAMERA” switch is ON or shift position is “R”.	

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Is inspection result normal?

YES >> Replace around view monitor control unit. Refer to AV-631, "Removal and Installation".
NO >> Replace side camera RH. Refer to AV-634, "Removal and Installation".

U111C FRONT CAMERA IMAGE SIGNAL CIRCUIT

DTC Logic

INFOID:0000000009652315

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U111C	FRONT CAMERA IMAGE SIGNAL	Front camera image signal circuit is open or shorted.	Check front camera image signal circuit between front camera and around view monitor control unit.

Diagnosis Procedure

INFOID:0000000009652316

1.CHECK CONTINUITY FRONT CAMERA POWER SUPPLY AND GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector and front camera connector.
3. Check continuity between around view monitor control unit harness connector and front camera harness connector.

Around view monitor control unit		Front camera		Continuity
Connector	Terminals	Connector	Terminals	
M253	38	E404	1	Existed
	37		2	

4. Check continuity between around view monitor control unit harness connector and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M253	38		Not existed

Is inspection result normal?

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

2.CHECK VOLTAGE FRONT CAMERA POWER SUPPLY

1. Connect around view monitor control unit connector and front camera connector.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit harness connector.

(+)		(–)	Condition	Voltage (Approx.)
Around view monitor control unit				
Connector	Terminal			
M253	38	Ground	“CAMERA” switch is ON or shift position is “R”.	6.2 V

Is inspection result normal?

YES >> GO TO 3.
NO >> Replace around view monitor control unit. Refer to AV-631, "Removal and Installation".

3.CHECK CONTINUITY FRONT CAMERA IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector and front camera connector.
3. Check continuity between around view monitor control unit harness connector and front camera harness connector.

Around view monitor control unit		Front camera		Continuity
Connector	Terminals	Connector	Terminals	
M253	40	E404	3	Existed
	39		4	

4. Check continuity between around view monitor control unit harness connector and ground.

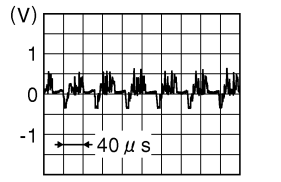
Around view monitor control unit		Ground	Continuity
Connector	Terminals		
M253	39, 40		Not existed

Is inspection result normal?

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

4. CHECK FRONT CAMERA IMAGE SIGNAL

1. Connect around view monitor control unit connector and front camera connector.
2. Turn ignition switch ON.
3. Check signal between around view monitor control unit harness connector.

(+)		(–)		Condition	Reference value
Around view monitor control unit					
Connector	Terminal	Connector	Terminal		
M253	40	M253	39	“CAMERA” switch is ON or shift position is “R”.	

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Is inspection result normal?

YES >> Replace around view monitor control unit. Refer to AV-631, "Removal and Installation".
NO >> Replace front camera. Refer to AV-632, "Removal and Installation".

U111D SIDE CAMERA LH IMAGE SIGNAL CIRCUIT

DTC Logic

INFOID:0000000009652317

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U111D	SIDE CAMERA LH IMAGE SIGNAL	Side camera LH image signal circuit is open or shorted.	Check side camera LH image signal circuit between side camera LH and around view monitor control unit.

Diagnosis Procedure

INFOID:0000000009652318

1.CHECK CONTINUITY SIDE CAMERA LH POWER SUPPLY AND GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector and door mirror (driver side) connector.
3. Check continuity between around view monitor control unit harness connector and door mirror (driver side) harness connector.

Around view monitor control unit		Door mirror (driver side)		Continuity
Connector	Terminals	Connector	Terminals	
M253	30	D43	6	Existed
	29		18	

4. Check continuity between around view monitor control unit harness connector and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M253	30		Not existed

Is inspection result normal?

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

2.CHECK VOLTAGE SIDE CAMERA LH POWER SUPPLY

1. Connect around view monitor control unit connector and door mirror (driver side) connector.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit harness connector and ground.

(+)		(–)	Condition	Voltage (Approx.)
Around view monitor control unit				
Connector	Terminal			
M253	30	Ground	“CAMERA” switch is ON or shift position is “R”.	6.2 V

Is inspection result normal?

YES >> GO TO 3.
NO >> Replace around view monitor control unit. Refer to AV-631, "Removal and Installation".

3.CHECK CONTINUITY SIDE CAMERA LH IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector and door mirror (driver side) connector.
3. Check continuity between around view monitor control unit harness connector and door mirror (driver side) harness connector.

Around view monitor control unit		Door mirror (driver side)		Continuity
Connector	Terminals	Connector	Terminals	
M253	32	D43	5	Existed
	31		17	

4. Check continuity between around view monitor control unit harness connector and ground.

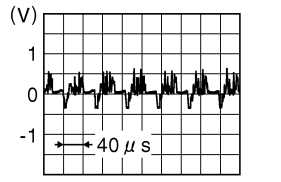
Around view monitor control unit		Ground	Continuity
Connector	Terminals		
M253	32, 31		Not existed

Is inspection result normal?

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

4. CHECK SIDE CAMERA LH IMAGE SIGNAL

1. Connect around view monitor control unit connector and door mirror (driver side) connector.
2. Turn ignition switch ON.
3. Check signal between around view monitor control unit harness connector.

(+)		(–)		Condition	Reference value
Around view monitor control unit					
Connector	Terminal	Connector	Terminal		
M253	32	M253	31	“CAMERA” switch is ON or shift position is “R”.	

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Is inspection result normal?

YES >> Replace around view monitor control unit. Refer to AV-631, "Removal and Installation".
NO >> Replace side camera LH. Refer to AV-634, "Removal and Installation".

U1200 AV CONTROL UNIT

DTC Logic

INFOID:0000000009652319

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1200	Cont Unit [U1200]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-610, "Removal and Installation".

U1201 AV CONTROL UNIT

DTC Logic

INFOID:0000000009652320

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1201	GYRO NO CONN [U1201]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-610, "Removal and Installation".

U1202 AV CONTROL UNIT

DTC Logic

INFOID:0000000009652321

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1202	G-SENSOR NO CONN [U1202]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-610, "Removal and Installation".

U1204 AV CONTROL UNIT

Description

INFOID:0000000009652322

An intermittent error caused by strong radio interference may be detected unless any symptoms (GPS reception error, etc.) occur. Replace the AV control unit if the malfunction occurs constantly. Refer to AV-610, "Removal and Installation".

DTC Logic

INFOID:0000000009652323

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1204	GPS CONN [U1204]	GPS malfunction is detected.	• An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs. • Replace the AV control unit if the malfunction occurs constantly. Refer to AV-610, "Removal and Installation".

Diagnosis Procedure

INFOID:0000000009652324

1.PERFORM THE SELF-DIAGNOSIS

1. Delete the “Self Diagnostic Results” of “MULTI AV”. Turn ignition switch OFF.
2. Turn ignition switch ON. Perform the self-diagnosis again.
3. Check that the DTC is detected again.

Is any DTC detected?

YES >> Replace AV control unit. Refer to AV-610, "Removal and Installation".
NO >> An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs.

U1205 AV CONTROL UNIT

Description

INFOID:0000000009652325

An intermittent error caused by strong radio interference may be detected unless any symptoms (GPS reception error, etc.) occur. Replace the AV control unit if the malfunction occurs constantly. Refer to AV-610, "Removal and Installation".

DTC Logic

INFOID:0000000009652326

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1205	GPS ROM [U1205]	GPS malfunction is detected.	• An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs. • Replace the AV control unit if the malfunction occurs constantly. Refer to AV-610, "Removal and Installation".

Diagnosis Procedure

INFOID:0000000009652327

1.PERFORM THE SELF-DIAGNOSIS

1. Delete the “Self Diagnostic Results” of “MULTI AV”. Turn ignition switch OFF.
2. Turn ignition switch ON. Perform the self-diagnosis again.
3. Check that the DTC is detected again.

Is any DTC detected?

YES >> Replace AV control unit. Refer to AV-610, "Removal and Installation".
NO >> An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs.

U1206 AV CONTROL UNIT

Description

INFOID:0000000009652328

An intermittent error caused by strong radio interference may be detected unless any symptoms (GPS reception error, etc.) occur. Replace the AV control unit if the malfunction occurs constantly. Refer to AV-610, "Removal and Installation".

DTC Logic

INFOID:0000000009652329

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1206	GPS RAM [U1206]	GPS malfunction is detected.	• An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs. • Replace the AV control unit if the malfunction occurs constantly. Refer to AV-610, "Removal and Installation".

Diagnosis Procedure

INFOID:0000000009652330

1.PERFORM THE SELF-DIAGNOSIS

1. Delete the “Self Diagnostic Results” of “MULTI AV”. Turn ignition switch OFF.
2. Turn ignition switch ON. Perform the self-diagnosis again.
3. Check that the DTC is detected again.

Is any DTC detected?

YES >> Replace AV control unit. Refer to AV-610, "Removal and Installation".
NO >> An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs.

U1207 AV CONTROL UNIT

Description

INFOID:0000000009652331

An intermittent error caused by strong radio interference may be detected unless any symptoms (GPS reception error, etc.) occur. Replace the AV control unit if the malfunction occurs constantly. Refer to AV-610, "Removal and Installation".

DTC Logic

INFOID:0000000009652332

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1207	GPS RTC [U1207]	GPS malfunction is detected.	• An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs. • Replace the AV control unit if the malfunction occurs constantly. Refer to AV-610, "Removal and Installation".

Diagnosis Procedure

INFOID:0000000009652333

1.PERFORM THE SELF-DIAGNOSIS

1. Delete the “Self Diagnostic Results” of “MULTI AV”. Turn ignition switch OFF.
2. Turn ignition switch ON. Perform the self-diagnosis again.
3. Check that the DTC is detected again.

Is any DTC detected?

YES >> Replace AV control unit. Refer to AV-610, "Removal and Installation".
NO >> An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs.

U1216 AV CONTROL UNIT

DTC Logic

INFOID:0000000009652334

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1216	CAN CONT [U1216]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-610, "Removal and Installation".

U1217 AV CONTROL UNIT

DTC Logic

INFOID:0000000009652335

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1217	BLUETOOTH MODULE [U1217]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-610, "Removal and Installation".

U1218 AV CONTROL UNIT

DTC Logic

INFOID:0000000009652336

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1218	HDD CONN [U1218]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-610, "Removal and Installation".

U1219 AV CONTROL UNIT

DTC Logic

INFOID:0000000009652337

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1219	HDD READ [U1219]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-610, "Removal and Installation".

U121A AV CONTROL UNIT

DTC Logic

INFOID:0000000009652338

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U121A	HDD WRITE [U121A]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-610, "Removal and Installation".

U121B AV CONTROL UNIT

DTC Logic

INFOID:0000000009652339

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U121B	HDD COMM [U121B]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-610, "Removal and Installation".

U121C AV CONTROL UNIT

DTC Logic

INFOID:0000000009652340

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U121C	HDD ACCESS [U121C]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-610, "Removal and Installation".

U121D AV CONTROL UNIT

DTC Logic

INFOID:0000000009652341

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U121D	DSP CONN [U121D]	AV control unit malfunction is detected.	• If a disc can be played, then there is a possibility of the detection of a temporary malfunction. • Replace the AV control unit if the malfunction occurs constantly. Refer to AV-610, "Removal and Installation".

Diagnosis Procedure

INFOID:0000000009652342

1.CHECK PLAYBACK OF A DISK (CD)

Can a disk (CD) be played?

YES >> Malfunction may be detected transitory.
NO >> Replace AV control unit. Refer to AV-610, "Removal and Installation".

U121E AV CONTROL UNIT

DTC Logic

INFOID:0000000009652343

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U121E	DSP COMM [U121E]	AV control unit malfunction is detected.	• If a disc can be played, then there is a possibility of the detection of a temporary malfunction. • Replace the AV control unit if the malfunction occurs constantly. Refer to AV-610, "Removal and Installation".

Diagnosis Procedure

INFOID:0000000009652344

1.CHECK PLAYBACK OF A DISK (CD)

Can a disk (CD) be played?

YES >> Malfunction may be detected transitory.
NO >> Replace AV control unit. Refer to AV-610, "Removal and Installation".

U1225 AV CONTROL UNIT

DTC Logic

INFOID:0000000009652345

DTC DETECTION LOGIC

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1225	USB CONTROLLER [U1225]	USB connection malfunction is detected.	Check that the connection to the USB connector is normal.

U1227 AV CONTROL UNIT

DTC Logic

INFOID:0000000009652346

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1227	DVD COMM [U1227]	AV control unit malfunction is detected.	• If DVD can be played, then there is a possibility of the detection of a temporary malfunction. • Replace the AV control unit if the malfunction occurs constantly. Refer to AV-610, "Removal and Installation".

Diagnosis Procedure

INFOID:0000000009652347

1.CHECK PLAYBACK OF A DISK (DVD)

Can a disc (DVD) be played?

YES >> Malfunction may be detected transitory.
NO >> Replace AV control unit. Refer to AV-610, "Removal and Installation".

U1228 AV CONTROL UNIT

DTC Logic

INFOID:0000000009652348

DTC DETECTION LOGIC

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1228	SUB CPU CONN [U1228]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-610, "Removal and Installation".

U1229 AV CONTROL UNIT

DTC Logic

INFOID:0000000009652349

DTC DETECTION LOGIC

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1229	iPod CERTIFICATION [U1229]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-610, "Removal and Installation".

U122A AV CONTROL UNIT

DTC Logic

INFOID:0000000009652350

DTC	Display contents of CONSULT	DTC detection condition	Action to take
U122A	CONFIG UNFINISH [U122A]	The writing of configuration data is incomplete.	Write configuration data with CONSULT.

Diagnosis Procedure

INFOID:0000000009652351

1.PERFORM THE SELF-DIAGNOSIS

When U122A is detected, write configuration data with CONSULT.

>> Write configuration data with CONSULT. Refer to AV-526, "CONFIGURATION (AV CONTROL UNIT) : Work Procedure".

U122E AV CONTROL UNIT

DTC Logic

INFOID:0000000009652352

DTC DETECTION LOGIC

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U122E	Built-in AUDIO CONN [U122E]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-610, "Removal and Installation".

U1232 STEERING ANGLE SENSOR

AV CONTROL UNIT

AV CONTROL UNIT : DTC Logic

INFOID:0000000009652353

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1232	ST ANGLE SEN CALIB [1232]	Neutral position adjustment of the steering angle sensor is incomplete.	Adjust neutral position of the steering angle sensor.

AV CONTROL UNIT : Diagnosis Procedure

INFOID:0000000009652354

1.ADJUST THE NEUTRAL POSITION OF THE STEERING ANGLE SENSOR

When U1232 is detected, adjust the neutral position of the steering angle sensor.

>> Adjusts the steering angle sensor neutral position on ABS actuator and electrical unit (control unit) side. Refer to BRC-49, "Work Procedure".

AROUND VIEW MONITOR CONTROL UNIT

AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure

INFOID:0000000009942958

1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	35

Is inspection result normal?

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

2.CHECK POWER SUPPLY CIRCUITS

Check voltage between around view monitor control unit harness connector and ground.

Signal name	Connector	Terminal	Ignition switch position	Value (Approx.)
Battery power supply	M253	2	OFF	Battery voltage

Is inspection result normal?

YES >> GO TO 3.
NO >> Check harness between around view monitor control unit and fuse.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector.
3. Check continuity between around view monitor control unit harness connector and ground.

Signal name	Connector	Terminal	Ignition switch position	Continuity
Ground	M253	1	OFF	Existed

Is inspection result normal?

YES >> INSPECTION END
NO >> Repair harness or connector.

U1243 FRONT DISPLAY UNIT

DTC Logic

INFOID:0000000009652356

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1243	FRONT DISP CONN [U1243]	When either one of the following items are detected: • front display unit power supply and ground circuits are malfunctioning. • serial communication circuits between front display unit and AV control unit are malfunctioning.	• Front display unit power supply and ground circuits. • Serial communication circuits between front display unit and AV control unit.

Diagnosis Procedure

INFOID:0000000009652357

1.CHECK FRONT DISPLAY UNIT POWER SUPPLY AND GROUND CIRCUIT

Check front display unit power supply and ground circuit. Refer to AV-580, "AV CONTROL UNIT : Diagnosis Procedure".

Is the inspection result normal?

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

2.CHECK CONTINUITY COMMUNICATION CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect front display unit connector and AV control unit connector.
3. Check continuity between front display unit harness connector and AV control unit harness connector.

Front display unit		AV control unit		Continuity
Connector	Terminals	Connector	Terminals	
M155	9	M180	89	Existed
	10		73	

4. Check continuity between front display unit harness connector and ground.

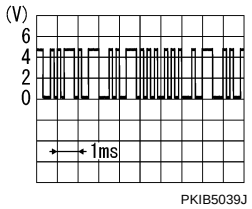
Front display unit		Ground	Continuity
Connector	Terminals		
M155	9		Not existed
	10		

Is the inspection result normal?

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

3.CHECK COMMUNICATION SIGNAL

1. Connect front display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between front display unit harness connector and ground.

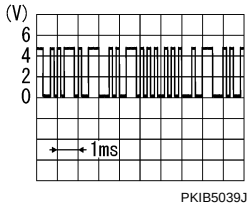
Probe				Condition	Standard	Reference value
(+)		(–)				
Front display unit						
Connector	Terminal	Connector	Terminal			
M155	9	M155	12	When adjusting display brightness.	Waveform of 1.5 V or less - 3.5 V or more is output.	 PKIB5039J

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace AV control unit. Refer to AV-610, "Removal and Installation".

4. CHECK COMMUNICATION SIGNAL

Check signal between front display unit harness connector and ground.

Probe				Condition	Standard	Reference value
(+)		(–)				
Front display unit						
Connector	Terminal	Connector	Terminal			
M155	10	M155	12	When adjusting display brightness.	Waveform of 1.5 V or less - 3.5 V or more is input.	 PKIB5039J

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace front display unit. Refer to AV-611, "Removal and Installation".

U1244 GPS ANTENNA

DTC Logic

INFOID:0000000009652358

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1244	GPS ANTENNA CONN [U1244]	GPS antenna connection malfunction is detected.	Check the connection of the GPS antenna connector.

Diagnosis Procedure

INFOID:0000000009652359

1.GPS ANTENNA CHECK

Visually check GPS antenna and antenna feeder.

Is the inspection result normal?

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

2.CHECK AV CONTROL UNIT VOLTAGE

1. Disconnect GPS antenna connector.
2. Turn ignition switch ON.
3. Check voltage between AV control unit and ground.

Probe		Standard	Voltage (Approx.)
(+)	(–)		
AV control unit			
Terminal	Terminal		
153	20	4.5 - 5.25 V	5.0 V

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace AV control unit. Refer to AV-610, "Removal and Installation".

U1258 SATELLITE RADIO ANTENNA

DTC Logic

INFOID:0000000009652360

DTC	Display contents of CONSULT	DTC Detection Condition	Possible causes
U1258	XM ANTENNA CONN [U1258]	Satellite radio antenna connection malfunction is detected.	Satellite radio antenna disconnection.

Diagnosis Procedure

INFOID:0000000009652361

1. SATELLITE RADIO ANTENNA CHECK

Visually check satellite radio antenna and antenna feeder.

Is the inspection result normal?

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

2. CHECK AV CONTROL UNIT VOLTAGE

1. Disconnect satellite radio antenna connector.
2. Turn ignition switch ON.
3. Check voltage between AV control unit and ground.

Probe			Standard	Voltage (Approx.)
(+)	(–)	(–)		
AV control unit				
Terminal	Terminal			
159	20	Ground	–	5.0 V

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace AV control unit. Refer to AV-610, "Removal and Installation".

U1263 USB

DTC Logic

INFOID:0000000009652362

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1263	USB OVERCURRENT [U1263]	Detection of overcurrent in USB connector.	Check USB harness between the AV control unit and USB connector.

Diagnosis Procedure

INFOID:0000000009652363

1.CHECK USB HARNESS

Visually check USB harness.

Is the inspection result normal?

YES >> Replace AV control unit. Refer to AV-610, "Removal and Installation".
NO >> Replace USB harness.

U1264 ANTENNA AMP.

DTC Logic

INFOID:0000000009652364

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1264	ANTENNA AMP TERMINAL [U1264]	Radio antenna amp. ON circuit is open or shorted.	Check antenna amp. ON signal circuit between the AV control unit and radio antenna amp.

Diagnosis Procedure

INFOID:0000000009652365

1.CHECK CONTINUITY BETWEEN AV CONTROL UNIT AND ANTENNA AMP.

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector and antenna amp. connector.
3. Check continuity between AV control unit harness connector and antenna amp. harness connector.

AV control unit		Antenna amp.		Continuity
Connector	Terminals	Connector	Terminals	
M351	150	M363	1	Existed

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

AV control unit		Ground	Continuity
Connector	Terminals		
M351	150		Not existed

Is the inspection result normal?

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

2.CHECK VOLTAGE AV CONTROL UNIT

1. Connect AV control unit connector.
2. Turn ignition switch ON.
3. Check voltage between AV control unit harness connector and ground.

Probe				Standard	Voltage (Approx.)
(+)		(–)			
AV control unit					
Connector	Terminal	Connector	Terminal		
M351	150	M178	20	9.0 V - 16.0 V	12.0 V

Is the inspection result normal?

YES >> Replace antenna amp. Refer to AV-627, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-610, "Removal and Installation".

U1265 BOSE AMP.

DTC Logic

INFOID:0000000009652366

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1265	AMP ON TERMINAL [U1265]	BOSE amp. ON signal circuit is open or shorted.	Check BOSE amp. ON signal circuit between the AV control unit and BOSE amp.

Diagnosis Procedure

INFOID:0000000009652367

1. CHECK CONTINUITY BETWEEN AV CONTROL UNIT AND BOSE AMP.

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector and BOSE amp. connector.
3. Check continuity between AV control unit harness connector and BOSE amp. harness connector.

AV control unit		BOSE amp.		Continuity
Connector	Terminals	Connector	Terminals	
M178	1	B252	20	Existed

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

AV control unit		Ground	Continuity
Connector	Terminals		
M178	1		Not existed

Is the inspection result normal?

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

2. CHECK VOLTAGE AV CONTROL UNIT

1. Connect AV control unit connector.
2. Turn ignition switch ON.
3. Check voltage between AV control unit harness connector and ground.

Probe				Standard	Voltage (Approx.)
(+)		(–)			
AV control unit					
Connector	Terminal	Connector	Terminal		
M178	1	M178	20	9.0 V - 16.0 V	12.0 V

Is the inspection result normal?

YES >> Replace BOSE amp. Refer to AV-613, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-610, "Removal and Installation".

U1300 AV COMM CIRCUIT

Description

INFOID:0000000009652368

U1300 is indicated when malfunction occurs in communication signal of multi AV system. Indicated simultaneously, without fail, with the malfunction of control units connected to AV control unit with communication line. Determine the possible malfunction cause from the table below.

SELF-DIAGNOSIS RESULTS DISPLAY ITEM

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1300 U1240	• AV COMM CIRCUIT [U1300] • SWITCH CONN [U1240]	When either one of the following items are detected: • multifunction switch power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and multifunction switch are malfunctioning.	• Multifunction switch power supply and ground circuits. • AV communication circuits between AV control unit and multifunction switch.
U1300 U1246 U1247	• AV COMM CIRCUIT [U1300] • VIDEO DIST CONN [U1246] • REAR DISP CONN [U1247]	When either one of the following items are detected: • video distributor power supply and ground circuits are malfunctioning. • AV communication circuits between AV control unit and video distributor are malfunctioning.	• Video distributor power supply and ground circuits. • AV communication circuits between AV control unit and video distributor.
U1300 U1240 U1246 U1247	• AV COMM CIRCUIT [U1300] • SWITCH CONN [U1240] • VIDEO DIST CONN [U1246] • REAR DISP CONN [U1247]	AV communication circuits between AV control unit and multifunction switch are malfunctioning.	AV communication circuits between AV control unit and multifunction switch.

U1304 CAMERA IMAGE CALIBRATION

DTC Logic

INFOID:0000000009652369

DTC	Display contents of CONSULT	DTC detection condition	Action to take
U1304	CAMERA IMAGE CALIB [U1304]	Camera image calibration is incomplete.	Perform calibration of camera image with CONSULT.

Diagnosis Procedure

INFOID:0000000009652370

1.PERFORM THE SELF-DIAGNOSIS

When U1304 is detected, perform calibration of camera image with CONSULT.

>> Perform calibration of camera image. Refer to AV-528, "CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Work Procedure".

U1305 CONFIG UNFINISH

DTC Logic

INFOID:0000000009942964

DTC	Display contents of CONSULT	DTC detection condition	Action to take
U1305	CONFIG UNFINISH [U1305]	Configuration of around view monitor control unit is in-complete.	Perform configuration of around view monitor control unit with CONSULT.

Diagnosis Procedure

INFOID:0000000009942965

1.PERFORM THE SELF-DIAGNOSIS

When U1305 is detected, perform configuration of around view monitor control unit with CONSULT.

>> Perform configuration of around view monitor control unit. Refer to AV-527, "CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT) : Work Procedure".

U1310 AV CONTROL UNIT

DTC Logic

INFOID:0000000009652373

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1310	CONTROL UNIT (AV) [U1310]	An initial diagnosis error is detected in AV communication circuit.	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-610, "Removal and Installation".

POWER SUPPLY AND GROUND CIRCUIT

AV CONTROL UNIT

AV CONTROL UNIT : Diagnosis Procedure

INFOID:0000000009652374

1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	35
Ignition switch ACC or ON	19

Is the inspection result normal?

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

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between AV control unit harness connectors and ground.

Signal name	AV control unit	Probe		Condition	Standard	Reference value
		Terminal				
	Connector	(+)	(–)	Ignition switch		
Battery power supply	M178	19	20	OFF	9.0 - 15.6 V	Battery voltage
ACC power supply		7		ACC	7.0 V - Battery voltage	

Is the inspection result normal?

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

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit connectors.
3. Check continuity between AV control unit harness connectors and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	M178	20	OFF	Existed

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair harness or connector.

FRONT DISPLAY UNIT

FRONT DISPLAY UNIT : Diagnosis Procedure

INFOID:0000000009652375

1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	35
Ignition switch ACC or ON	19

Is the inspection result normal?

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

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between front display unit harness connector and ground.

Signal name	Front display unit	Probe		Condition	Standard	Reference value
		Terminal				
	Connector	(+)	(–)	Ignition switch		
Battery power supply	M155	11	12	OFF	9.0 - 16.0 V	Battery voltage
ACC power supply		23		ACC	6.0 - 16.0 V	

Is the inspection result normal?

YES >> GO TO 3.
NO >> Check harness between front display unit and fuse.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect front display unit connector.
3. Check continuity between front display unit harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	M155	12	OFF	Existed

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair harness or connector.

REAR DISPLAY UNIT

REAR DISPLAY UNIT : Diagnosis Procedure

INFOID:0000000009652376

1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	35
Ignition switch ACC or ON	19

Is the inspection result normal?

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

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between rear display unit harness connector and ground.

Signal name	Rear display unit	Probe		Condition	Standard	Reference value
		Terminal				
	Connector	(+)	(–)	Ignition switch		
Battery power supply	R36	29	31 32	OFF	9.0 - 16.0 V	Battery voltage
		30				
ACC power supply		28		ACC	7.6 V - Battery voltage	

Is the inspection result normal?

YES >> GO TO 3.
NO >> Check harness between rear display unit and fuse.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect rear display unit connector.
3. Check continuity between rear display unit harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	R36	31	OFF	Existed
		32		

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair harness or connector.

BOSE AMP.

BOSE AMP. : Diagnosis Procedure

INFOID:0000000009652377

1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	26
	27

Is the inspection result normal?

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

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between BOSE amp. harness connector and ground.

Signal name	BOSE amp.	Probe		Condition	Standard	Reference value
		Terminal				
	Connector	(+)	(–)	Ignition switch		
Battery power supply	B251	10	7 12	OFF	9.0 - 16.0 V	Battery voltage
		11				

Is the inspection result normal?

YES >> GO TO 3.
NO >> Check harness between BOSE amp. and fuse.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BOSE amp. connector.
3. Check continuity between BOSE amp. harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	B251	7	OFF	Existed
		12		

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair harness or connector.

AROUND VIEW MONITOR CONTROL UNIT

AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure

INFOID:0000000009942968

1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	35

Is inspection result normal?

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

2.CHECK POWER SUPPLY CIRCUITS

Check voltage between around view monitor control unit harness connector and ground.

Signal name	Connector	Terminal	Ignition switch position	Value (Approx.)
Battery power supply	M253	2	OFF	Battery voltage

Is inspection result normal?

YES >> GO TO 3.
NO >> Check harness between around view monitor control unit and fuse.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector.
3. Check continuity between around view monitor control unit harness connector and ground.

Signal name	Connector	Terminal	Ignition switch position	Continuity
Ground	M253	1	OFF	Existed

Is inspection result normal?

YES >> INSPECTION END
NO >> Repair harness or connector.

COMPOSITE IMAGE SIGNAL CIRCUIT (AV CONTROL UNIT TO FRONT DISPLAY UNIT)

Description

INFOID:0000000009652379

The AV control unit outputs image signal (DVD, USB memory-stored video data, and auxiliary input) to the front display unit and rear display unit by composite image signal.

Diagnosis Procedure

INFOID:0000000009652380

1.CHECK CONTINUITY COMPOSITE IMAGE SIGNAL CIRCUIT (AV CONTROL UNIT TO FRONT DISPLAY UNIT)

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector and front display unit connector.
3. Check continuity between AV control unit harness connector and front display unit harness connector.

AV control unit		Front display unit		Continuity
Connector	Terminal	Connector	Terminal	
M180	67	M155	19	Existed
	68		18	

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

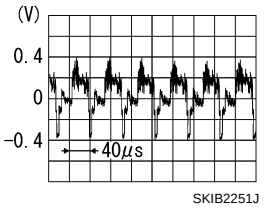
AV control unit		Ground	Continuity
Connector	Terminal		
M180	67		Not existed
	68		

Is the inspection result normal?

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

2.CHECK COMPOSITE IMAGE SIGNAL (AV CONTROL UNIT TO FRONT DISPLAY UNIT)

1. Connect AV control unit connector and front display unit connector.
2. Turn ignition switch ON.
3. Check signal between front display unit harness connector.

Probe				Condition	Standard	Reference value
(+)		(+)				
Front display unit						
Connector	Terminal	Connector	Terminal			
M155	18	M155	19	When DVD, USB or AUX image is displayed.	Waveform according to composite image is input.	

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Is the inspection result normal?

YES >> Replace front display unit. Refer to AV-611, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-610, "Removal and Installation".

COMPOSITE IMAGE SIGNAL CIRCUIT (AV CONTROL UNIT TO REAR DISPLAY UNIT)

Description

INFOID:0000000009652381

The AV control unit outputs image signal (DVD, USB memory-stored video data, and auxiliary input) to the front display unit and rear display unit by composite image signal.

Diagnosis Procedure

INFOID:0000000009652382

1.CHECK CONTINUITY COMPOSITE IMAGE SIGNAL CIRCUIT (AV CONTROL UNIT TO REAR DISPLAY UNIT)

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector and rear display unit connector.
3. Check continuity between AV control unit harness connector and rear display unit harness connector.

AV control unit		Rear display unit		Continuity
Connector	Terminal	Connector	Terminal	
M179	34	R36	7	Existed
	33		8	

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

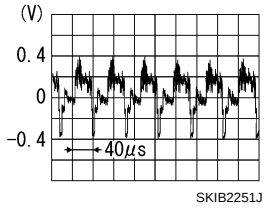
AV control unit		Ground	Continuity
Connector	Terminal		
M179	34		Not existed
	33		

Is the inspection result normal?

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

2.CHECK COMPOSITE IMAGE SIGNAL (AV CONTROL UNIT TO REAR DISPLAY UNIT)

1. Connect AV control unit and rear display unit connector.
2. Turn ignition switch ON.
3. Check signal between rear display unit harness connector.

Probe				Condition	Standard	Reference value
(+)		(–)				
Rear display unit						
Connector	Terminal	Connector	Terminal			
R36	7	R36	8	When DVD, USB or AUX image is displayed.	Waveform according to composite image is input.	

SKIB2251J

Is the inspection result normal?

YES >> Replace rear display unit. Refer to AV-612, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-610, "Removal and Installation".

RGB DIGITAL IMAGE SIGNAL CIRCUIT

Description

INFOID:0000000009652383

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

Diagnosis Procedure

INFOID:0000000009652384

1.CHECK CONTINUITY RGB DIGITAL IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector and front display unit connector.
3. Check continuity between AV control unit harness connector and front display unit harness connector.

AV control unit		Front display unit		Continuity
Connector	Terminals	Connector	Terminals	
M357	157	M358	27	Existed
	158		28	

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

AV control unit		Ground	Continuity
Connector	Terminals		
M357	157		Not existed
	158		

Is the inspection result normal?

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

2.CHECK RGB DIGITAL IMAGE SIGNAL

1. Connect AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between front display unit harness connector and ground.

Probe			Voltage (Approx.)
(+)		(–)	
AV control unit			
Connector	Terminal		
M357	157	Ground	3.0 V
	158		

Is the inspection result normal?

YES >> Replace front display unit. Refer to AV-611, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-610, "Removal and Installation".

AUX IMAGE SIGNAL CIRCUIT

Description

INFOID:0000000009652385

- Transmits the image signal of AUX (auxiliary input) device from auxiliary input jacks to AV control unit.
- The AV control unit transmits the AUX image signal to the front display unit by composite image signal.

Diagnosis Procedure

INFOID:0000000009652386

1.CHECK CONTINUITY AUX IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector and auxiliary input jacks connector.
3. Check continuity between AV control unit harness connector and auxiliary input jacks harness connector.

AV control unit		Auxiliary input jacks		Continuity
Connector	Terminal	Connector	Terminal	
M179	26	B273	7	Existed
	46		8	

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

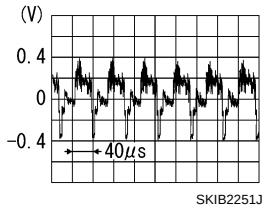
AV control unit		Ground	Continuity
Connector	Terminal		
M179	26		Not existed
	46		

Is the inspection result normal?

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

2.CHECK AUX IMAGE SIGNAL

1. Connect AV control unit connector and auxiliary input jacks connector.
2. Turn ignition switch ON.
3. Check signal between AV control unit harness connector and ground.

Probe				Condition	Standard	Reference value
(+)		(–)				
AV control unit						
Connector	Terminal	Connector	Terminal			
M179	26	M179	46	When AUX image is displayed on front or rear display unit.	Waveform according to AUX image is input.	

SKIB2251J

Is the inspection result normal?

YES >> Replace AV control unit. Refer to AV-610, "Removal and Installation".
NO >> Check that there is no malfunction in the external device.

CAMERA IMAGE SIGNAL CIRCUIT

Description

INFOID:0000000009652387

Around view monitor control unit supplies to the front camera, rear camera and side camera. And then it superimpose the images from each camera and outputs then to the front display unit.

Diagnosis Procedure

INFOID:0000000009652388

1.CHECK CONTINUITY CAMERA IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect front display unit connector and around view monitor control unit connector.
3. Check continuity between front display unit harness connector and around view monitor control unit harness connector.

Front display unit		Around view monitor control unit		Continuity
Connector	Terminal	Connector	Terminal	
M155	8	M253	24	Existed

4. Check continuity between front display unit harness connector and ground.

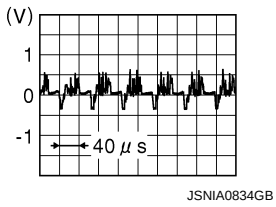
Front display unit		Ground	Continuity
Connector	Terminal		
M155	8		Not existed

Is inspection result normal?

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

2.CHECK CAMERA IMAGE SIGNAL

1. Connect front display unit connector and around view monitor control unit connector.
2. Turn ignition switch ON.
3. Check signal between front display unit harness connector and ground.

(+)		(–)	Condition	Standard	Reference value (Approx.)
Front display unit					
Connector	Terminal				
M155	8	Ground	At camera image is displayed.	Waveform according to camera image is input.	

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Is inspection result normal?

YES >> Replace front display unit. Refer to AV-611, "Removal and Installation".
NO >> Replace around view monitor control unit. Refer to AV-631, "Removal and Installation".

DISK EJECT SIGNAL CIRCUIT

Description

INFOID:0000000009652389

The disk eject switch outputs disk eject signal to the AV control unit when the switch of disk eject switch is pressed.

Diagnosis Procedure

INFOID:0000000009652390

1.CHECK CONTINUITY DISK EJECT SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector and disk eject switch connector.
3. Check continuity between AV control unit harness connector and disk eject switch harness connector.

AV control unit		Disk eject switch		Continuity
Connector	Terminal	Connector	Terminal	
M179	29	M153	4	Existed
	49		3	

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

AV control unit		Ground	Continuity
Connector	Terminal		
M179	29		Not existed
	49		

Is the inspection result normal?

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

2.CHECK AV CONTROL UNIT VOLTAGE

1. Connect AV control unit connector.
2. Turn ignition switch ON.
3. Check voltage between disk eject switch harness connector and ground.

Probe				Standard	Voltage (Approx.)
(+)		(–)			
Disk eject switch					
Connector	Terminal	Connector	Terminal		
M153	4	M153	3	5.0 V or more	5.0 V

Is the inspection result normal?

YES >> Replace disk eject switch. Refer to AV-623, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-610, "Removal and Installation".

MICROPHONE SIGNAL CIRCUIT

Description

INFOID:0000000009652391

Supply power from AV control unit to microphone. The microphone transmits the sound/voice to the AV control unit.

Diagnosis Procedure

INFOID:0000000009652392

1.CHECK CONTINUITY BETWEEN AV CONTROL UNIT AND MICROPHONE CIRCUIT

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

AV control unit		Microphone		Continuity
Connector	Terminals	Connector	Terminals	
M180	71	R20	2	Existed
	72		4	
	87		1	

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

AV control unit		Ground	Continuity
Connector	Terminals		
M180	72		Not existed
	87		

Is the inspection result normal?

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

2.CHECK VOLTAGE MICROPHONE VCC

1. Connect AV control unit connector.
2. Turn ignition switch ON.
3. Check voltage between AV control unit harness connector.

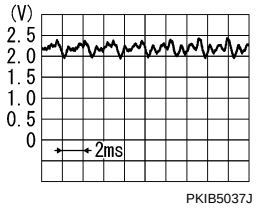
Probe				Standard	Voltage (Approx.)
(+)		(–)			
AV control unit					
Connector	Terminal	Connector	Terminal		
M180	72	M178	20	4.18 - 5.3 V	5.0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace AV control unit. Refer to AV-610, "Removal and Installation".

3.CHECK MICROPHONE SIGNAL

1. Connect microphone connector.
2. Check signal between AV control unit harness connector.

Probe				Condition	Standard	Reference value
(+)		(–)				
AV control unit						
Connector	Terminal	Connector	Terminal			
M180	87	M180	71	Give a voice.	Waveform according to voice is input.	

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Is the inspection result normal?

YES >> Replace AV control unit. Refer to AV-610, "Removal and Installation".
NO >> Replace microphone. Refer to AV-626, "Removal and Installation".

STEERING SWITCH SIGNAL A CIRCUIT

Description

INFOID:0000000009652393

Transmits the steering switch signal to AV control unit.

Diagnosis Procedure

INFOID:0000000009652394

1.CHECK STEERING SWITCH SIGNAL A CIRCUIT

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

AV control unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M178	6	M33	24	Existed

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

AV control unit		Ground	Continuity
Connector	Terminal		
M178	6		Not existed

Is the inspection result normal?

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

2.CHECK SPIRAL CABLE

Check spiral cable.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace spiral cable. Refer to SR-15, "Removal and Installation".

3.CHECK AV CONTROL UNIT VOLTAGE

1. Connect AV control unit connector and spiral cable connector.
2. Turn ignition switch ON.
3. Check voltage between AV control unit harness connector.

Probe				Standard	Voltage (Approx.)
(+)		(–)			
AV control unit					
Connector	Terminal	Connector	Terminal		
M178	6	M178	15	0 - 5.5 V	5.0 V

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace AV control unit. Refer to AV-610, "Removal and Installation".

4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to AV-592, "Component Inspection".

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace steering wheel. Refer to ST-12, "Removal and Installation".

Component Inspection

INFOID:0000000009652395

Measure the resistance between the steering switch connector terminals 14 to 17 and 15 to 17.

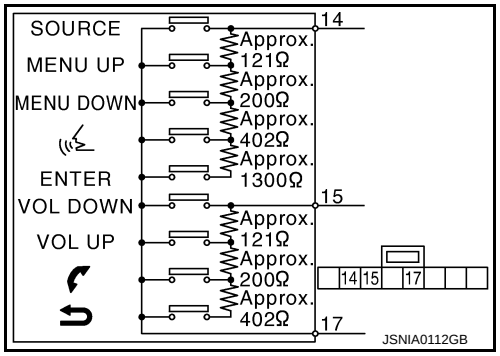
Standard

Between terminals 14 and 17

ENTER switch ON	: 1982 – 2063 Ω
switch ON	: 708 – 737 Ω
MENU DOWN switch ON	: 314 – 327 Ω
MENU UP switch ON	: 118 – 123 Ω
SOURCE switch ON	: Less than 1Ω

Between terminals 15 and 17

switch ON	: 708 – 737 Ω
switch ON	: 314 – 327 Ω
VOL UP switch ON	: 118 – 123 Ω
VOL DOWN switch ON	: Less than 1Ω



STEERING SWITCH SIGNAL B CIRCUIT

Description

INFOID:0000000009652396

Transmits the steering switch signal to AV control unit.

Diagnosis Procedure

INFOID:0000000009652397

1.CHECK STEERING SWITCH SIGNAL B CIRCUIT

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

AV control unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M178	16	M33	31	Existed

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

AV control unit		Ground	Continuity
Connector	Terminal		
M178	16		Not existed

Is the inspection result normal?

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

2.CHECK SPIRAL CABLE

Check spiral cable.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace spiral cable. Refer to SR-15, "Removal and Installation".

3.CHECK AV CONTROL UNIT VOLTAGE

1. Connect AV control unit connector and spiral cable connector.
2. Turn ignition switch ON.
3. Check voltage between AV control unit harness connector.

Probe				Standard	Voltage (Approx.)
(+)		(–)			
AV control unit					
Connector	Terminal	Connector	Terminal		
M178	16	M178	15	0 - 5.5 V	5.0 V

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace AV control unit. Refer to AV-610, "Removal and Installation".

4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to AV-594, "Component Inspection".

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace steering wheel. Refer to ST-12, "Removal and Installation".

Component Inspection

INFOID:0000000009652398

Measure the resistance between the steering switch connector terminals 14 to 17 and 15 to 17.

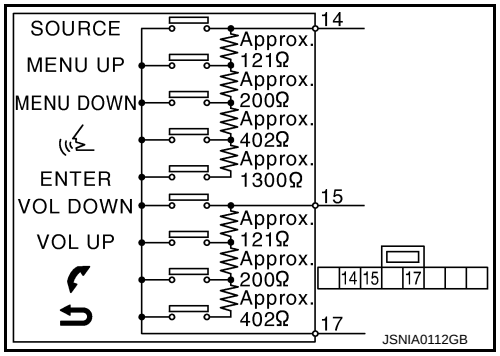
Standard

Between terminals 14 and 17

ENTER switch ON	: 1982 – 2063 Ω
switch ON	: 708 – 737 Ω
MENU DOWN switch ON	: 314 – 327 Ω
MENU UP switch ON	: 118 – 123 Ω
SOURCE switch ON	: Less than 1Ω

Between terminals 15 and 17

switch ON	: 708 – 737 Ω
switch ON	: 314 – 327 Ω
VOL UP switch ON	: 118 – 123 Ω
VOL DOWN switch ON	: Less than 1Ω



STEERING SWITCH GROUND CIRCUIT

Description

INFOID:0000000009652399

Transmits the steering switch signal to AV control unit.

Diagnosis Procedure

INFOID:0000000009652400

1.CHECK STEERING SWITCH SIGNAL GROUND CIRCUIT

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

AV control unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M178	15	M33	33	Existed

Is the inspection result normal?

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

2.CHECK SPIRAL CABLE

Check spiral cable.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace spiral cable. Refer to SR-15, "Removal and Installation".

3.CHECK GROUND CIRCUIT

1. Connect AV control unit connector.
2. Check continuity between AV control unit harness connector and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M178	15		Existed

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace AV control unit. Refer to AV-610, "Removal and Installation".

4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to AV-596, "Component Inspection".

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace steering wheel. Refer to ST-12, "Removal and Installation".

Component Inspection

INFOID:0000000009652401

Measure the resistance between the steering switch connector terminals 14 to 17 and 15 to 17.

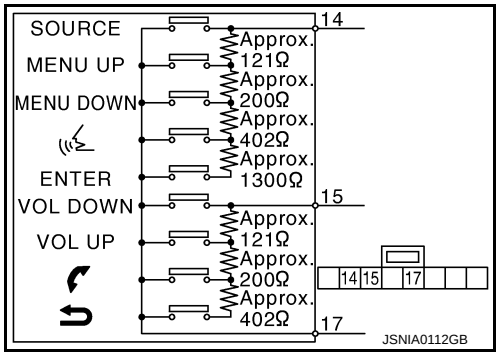
Standard

Between terminals 14 and 17

ENTER switch ON	: 1982 – 2063 Ω
switch ON	: 708 – 737 Ω
MENU DOWN switch ON	: 314 – 327 Ω
MENU UP switch ON	: 118 – 123 Ω
SOURCE switch ON	: Less than 1Ω

Between terminals 15 and 17

switch ON	: 708 – 737 Ω
switch ON	: 314 – 327 Ω
VOL UP switch ON	: 118 – 123 Ω
VOL DOWN switch ON	: Less than 1Ω



SYMPTOM DIAGNOSIS

MULTI AV SYSTEM SYMPTOMS

Symptom Table

INFOID:0000000009652402

RELATED TO NAVIGATION

Symptoms	Check items	Probable malfunction location
Multifunction switch and preset switch operation does not work.	• All switches cannot be operated. • “MULTI AV” is displayed on system selection screen when the CONSULT is started.	• Multifunction switch power supply and ground circuit malfunction. • AV communication circuit between AV control unit and multifunction switch. Perform “Self Diagnostic Result” of “MULTI AV” with CONSULT. Refer to AV-474, "CONSULT Function".
	• All switches cannot be operated. • “MULTI AV” is not displayed on system selection screen when the CONSULT is started.	AV control unit power supply and ground circuit malfunction. Refer to AV-580, "AV CONTROL UNIT : Diagnosis Procedure".
	Only specified switch cannot be operated.	Multifunction switch or preset switch malfunction. Perform multifunction switch and preset switch self-diagnosis function. Refer to AV-464, "On Board Diagnosis Function".
Fuel economy display is abnormal.	There is malfunction in the CONSULT “self-diagnosis result” of “MULTI AV”.	Perform detected DTC diagnosis. Refer to AV-486, "DTC Index".
	There is no malfunction in the CONSULT “self-diagnosis results” of “MULTI AV”.	Ignition signal circuit malfunction.
Guide sound is not heard or too low.	On the setting display select “system sound (guide sound volume, etc.),” and confirm that guide sound is ON.	AV control unit malfunction. Replace AV control unit. Refer to AV-610, "Removal and Installation".

RELATED TO HANDS-FREE PHONE

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

Check Compatibility

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

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

b. If the customer's phone is NOT on the approved list:

   Stop diagnosis here. The customer needs to obtain a Bluetooth® phone that is on the approved list before any further action.

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

d. If the feature related to the customer's concern shows as “Y” (compatible):

Perform diagnosis as per the following table.

Symptoms	Check items	Probable malfunction location
Does not recognize cellular phone connection. (no connection is displayed on the display at the guide.)	Repeat the registration of cellular phone.	AV control unit malfunction. Replace AV control unit. Refer to AV-610, "Removal and Installation".
Hands-free phone cannot be established.	• Hands-free phone operation can be made, but the communication cannot be established. • Hands-free phone operation can be performed, however, voice between each other cannot be heard during the conversation.	
The other party's voice cannot be heard by hands-free phone.	Check the “microphone speaker” in Inspection & Adjustment Mode if sound is heard.	
Originating sound is not heard by the other party with hands-free phone communication.	Sound operation function is normal.	
	Sound operation function does not work.	Microphone signal circuit malfunction. Refer to AV-590, "Diagnosis Procedure".
The system cannot be operated.	• The voice recognition can be controlled. • Steering switch's ”VOL UP”, “VOL DOWN” and “↩” switch works, but “📞” it does not work.	Steering switch malfunction. Replace steering wheel. Refer to ST-12, "Removal and Installation".
	Steering switch's “📞”, ”VOL UP”, “VOL DOWN” and “↩” switches do not work.	Steering switch signal B circuit malfunction. Refer to AV-594, "Diagnosis Procedure".
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to AV-596, "Diagnosis Procedure".

RELATED TO CAMERA

Symptoms	Check items	Probable malfunction location / Action to take
The screen switches when pressing the “CAMERA” switch or the shift position is in “R”, however, all views are not displayed.	—	Camera image signal circuit. Refer to AV-588, "Diagnosis Procedure".
It cannot be switched to rear view monitor even when the shift position is in “R”.	The front view image is normal.	Reverse signal circuit (around view monitor control unit).

Symptoms	Check items	Probable malfunction location / Action to take
The predictive course line display in front view and rear view is malfunctioning.	—	Perform “Self Diagnostic Result” of “AVM” with CONSULT. Refer to AV-478, "CONSULT Function".
• The front view screen is not displayed. • The front of Birds-Eye view screen is not displayed.	—	
• The rear view screen is not displayed. • The rear of Birds-Eye view screen is not displayed.	—	
• The front-side screen is not displayed. • The passenger side of Birds-Eye view screen is not displayed.	—	
The driver side of Birds-eye view screen is not displayed.	—	
When shift position is in other than “R”, the front-side and front screen or the Birds-Eye view and front screen remain displaying even if the vehicle speed increases.	—	

RELATED TO VOICE CONTROL

Symptoms	Check items	Probable malfunction location
The voice cannot be controlled even if the voice control screen is displayed.	Voice sounds at “Voice Microphone Test” of Confirmation/Adjustment mode.	AV control unit malfunction. Replace AV control unit. Refer to AV-610, "Removal and Installation".
	Voice does not sound at “Voice Microphone Test” of Confirmation/Adjustment mode.	Microphone signal circuit malfunction. Refer to AV-590, "Diagnosis Procedure".
The voice cannot be controlled (Voice control screen is not displayed).	• Hands-free phone system can be operated. • Steering switch's “SOURCE”, “MENU UP”, “MENU DOWN” and “ENTER” switch works, but “ ” it does not work.	Steering switch malfunction. Replace steering wheel. Refer to ST-12, "Removal and Installation".
	Steering switch's “SOURCE”, “MENU UP”, “MENU DOWN”, “ ” and “ENTER” switches do not work.	Steering switch signal A circuit malfunction. Refer to AV-592, "Diagnosis Procedure".
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to AV-596, "Diagnosis Procedure".

RELATED TO RGB IMAGE

Symptoms	Check items	Probable malfunction location
RGB image is not shown.	—	RGB digital image signal circuit malfunction. Refer to AV-586, "Diagnosis Procedure".

RELATED TO AUDIO

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	—	Disk eject signal circuit malfunction. Refer to AV-589, "Diagnosis Procedure".
No sound comes out or the level of the sound is low.	No sound from all speakers.	• BOSE amp. ON signal circuit malfunction. • BOSE amp. power supply and ground circuits malfunction. Refer to AV-582, "BOSE AMP. : Diagnosis Procedure".
	Sound is not heard from woofer.	Sound signal (woofer) circuit malfunction.
	Only a certain speaker (front right, front left, rear right, or rear left, etc.) does not output sound.	• Poor connector connection of speaker. • Sound signal circuit malfunction between AV control unit and BOSE amp. • Sound signal circuit malfunction between BOSE amp. and speaker. • Malfunction in speaker. • Malfunction in AV control unit. • Malfunction in BOSE amp.
Noise is mixed with audio.	Noise comes out from all speakers.	• Malfunction in AV control unit. • Malfunction in BOSE amp.
	Noise comes out only from a certain speaker (front right, front left, rear right, or rear left, etc.).	• Poor connector connection of speaker. • Sound signal circuit malfunction between AV control unit and BOSE amp. • Sound signal circuit malfunction between BOSE amp. and speaker. • Malfunction in speaker. • Poor installation of speaker (e.g. backlash and looseness) • Malfunction in AV control unit. • Malfunction in BOSE amp.
	Noise is mixed with radio only (when the car hits a bump or while driving over bad roads).	Poor connector connection of antenna or antenna feeder.
Radio is not received or poor reception.	• Other audio sounds are normal. • Any radio cannot be received or poor reception is caused even after moving to a service area with good reception (e.g. a place with clear view and no obstacles generating external noises).	• Antenna amp. ON signal circuit malfunction. • Poor connector connection of antenna or antenna feeder.
Satellite radio is not received.	There is malfunction in the CONSULT self-diagnosis result. Refer to AV-474, "CONSULT Function".	• Malfunction in antenna, antenna feeder, or AV control unit. Perform DTC diagnosis. Refer to AV-486, "DTC Index". • Poor continuity in antenna feeder. • Poor connector connection of antenna or antenna feeder.
	There is no malfunction in the CONSULT self-diagnosis result. Refer to AV-474, "CONSULT Function".	• Poor continuity in antenna feeder. • Poor connector connection of antenna or antenna feeder. • Loose satellite radio antenna mounting nut. Refer to AV-628, "Exploded View".

RELATED TO STEERING SWITCH

Symptoms	Probable malfunction location
None of the steering switch operations work.	Steering switch ground circuit malfunction. Refer to AV-596, "Diagnosis Procedure".
Only specified switch cannot be operated.	Steering switch malfunction. Replace steering wheel. Refer to ST-12, "Removal and Installation".

Symptoms	Probable malfunction location
Steering switch's “SOURCE”, “MENU UP”, “MENU DOWN”, “ ” and “ENTER” switches do not work.	Steering switch signal A circuit malfunction. Refer to AV-592, "Diagnosis Procedure".
Steering switch's “ ”, “VOL UP”, “VOL DOWN” and “ ” switches do not work.	Steering switch signal B circuit malfunction. Refer to AV-594, "Diagnosis Procedure".

RELATED TO USB

NOTE:

Check that there is no malfunction of USB equipment main body before performing a diagnosis.

Symptoms	Check items	Possible malfunction location / Action to take
iPod® or USB memory can not be recognized.	—	• USB harness malfunction. • USB connector malfunction.

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

RELATED TO DVD MODE

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	—	Disk eject signal circuit malfunction. Refer to AV-589, "Diagnosis Procedure".
DVD image is not displayed.	Front display unit and rear display unit are not displayed.	Perform “Self Diagnostic Result” of “MULTI AV” with CONSULT. Refer to AV-474, "CONSULT Function".
	Rear display unit is normal.	Composite image signal circuit between AV control unit and front display unit. Refer to AV-584, "Diagnosis Procedure".
	Front display unit is normal.	Composite image signal circuit between AV control unit and rear display unit. Refer to AV-585, "Diagnosis Procedure".
DVD sound is not heard.	No sound from all speakers.	• Amp. ON signal circuit malfunction. • BOSE amp. power supply and ground circuits malfunction. Refer to AV-582, "BOSE AMP. : Diagnosis Procedure".
	Sound is not heard from woofer.	• Woofer power supply and ground circuit malfunction. • Sound signal (woofer) circuit malfunction. • Woofer amp. ON signal circuit malfunction.
	Sound is heard only from specific places.	Sound signals circuit of suspect system.

RELATED TO AUXILIARY INPUT

NOTE:

Check that there is no malfunction of AUX equipment main body before performing a diagnosis.

Symptoms	Check items	Probable malfunction location
No voice sound is heard when AUX mode is selected.	Voice sound is heard when other modes are selected.	AUX sound signal circuit.
Image is not displayed when AUX mode is selected.	Front display unit and rear display unit are not displayed.	Perform “Self Diagnostic Result” of “MULTI AV” with CONSULT. Refer to AV-474, "CONSULT Function".
	DVD image is displayed on front display unit and rear display unit.	AUX image signal circuit malfunction. Refer to AV-587, "Diagnosis Procedure".
	Rear display unit is normal.	Composite image signal circuit between AV control unit and front display unit. Refer to AV-584, "Diagnosis Procedure".
	Front display unit is normal.	Composite image signal circuit between AV control unit and rear display unit. Refer to AV-585, "Diagnosis Procedure".

RELATED TO HEADPHONE

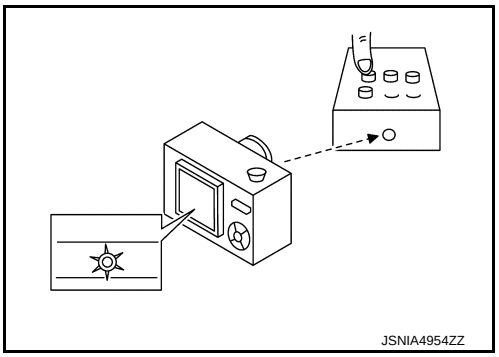
Symptom	Check Item		Possible malfunction location / Action to take
Audio cannot be heard from headphone.	Turn ON the rear display.	Audio cannot be heard.	Check power supply of headphone.
Headphone cannot be turned ON.	• Battery polarity. • Battery poor contact • Battery replacement	Power is ON. (Power indicator lamp: ON)	This is not a malfunction.
		Power cannot be turned ON. (Power indicator lamp: OFF)	Replace headphone.

RELATED TO REAR DISPLAY

Perform the diagnosis of the following items before starting diagnosis by symptom.
- Self-diagnosis: Refer to AV-474, "CONSULT Function".
- Self-diagnosis mode: Refer to AV-464, "On Board Diagnosis Function".
- Power supply system: Refer to AV-581, "REAR DISPLAY UNIT : Diagnosis Procedure".

Symptom	Check Item		Possible malfunction location / Action to take
Rear display cannot be opened.	Use the touch button in the front display to open/close the rear display.	Operable.	Operate with the remote to see if rear display opens.
		Inoperative.	Replace rear display.
Inoperative with the remote.	All keys inoperative.	• Check by touching and check battery polarity. • Replace battery.	• Check with a remote from the same vehicle family. • Check infrared* of the luminescent part (LED) of the remote.
	Some keys inoperative.	• Check with a remote from the same vehicle family. • Check infrared* of the luminescent part (LED) of the remote.	The function corresponding to the remote operation is not included. (This is not a malfunction.)
Rear display screen is black.	Play a DVD.	Screen is dark.	Adjust screen for image quality. (This is not a malfunction.)
		Screen is black	Replace rear display.
Video shown on rear display screen becomes distorted or rolls up/down.	Adjust the color and image settings using the display screen menu items.		If the symptom does not change, replace rear display.
Rear display screen is blue.	—		Replace rear display.

*: To check infrared, check light of the luminescent part (LED) through the lens of digital camera when operating the remote.



NORMAL OPERATING CONDITION

Description

INFOID:0000000009652403

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

BASIC OPERATIONS

Symptom	Possible cause	Possible solution
No image is displayed.	The brightness is at the lowest setting.	Adjust the brightness of the display.
	The systems in the video mode.	Press “DISC-AUX” to change the mode.
	The display is turned off.	Press “☀/☽” to turn on the display.
	The interior of the vehicle becomes the a little less than 80°C (176°F) or high temperature, and the protection of the display acts, and a display is turned off.	Wait until the interior of the vehicle has cooled down.
Screen not clear.	Contrast setting is not appropriate.	Adjust the contrast of the display.
No voice guidance is available. Or The volume is too high or too low.	The volume is not set correctly, or it is turned off.	Adjust the volume of voice guidance.
	Voice guidance is not provided for certain streets (roads displayed in gray).	This is not a malfunction.
No map is displayed on the screen.	A screen other than map screen is displayed.	Press “MAP”.
The screen is too dim. The movement is slow.	The temperature in the interior of the vehicle is low.	Wait until the interior of the vehicle has warmed up.
Some pixels in the display are darker or brighter than others.	This condition is an inherent characteristic of liquid crystal displays.	This is not a malfunction.
Some menu items cannot be selected.	Some menu items become unavailable while the vehicle is driven.	Park the vehicle in a safe location, and then operate the navigation system.

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

RELATED TO VOICE RECOGNITION

The system should respond correctly to all voice commands without difficulty. If problems are encountered, follow the solutions given in this guide for the appropriate error. Where the solutions are listed by number, try each solution in turn, starting with number one, until the problem is resolved.

Symptom	Cause and Counter measure
Displays “COMMAND NOT RECOGNIZED” or the system fails to interpret the command correctly.	1. Ensure that the command format is valid, refer to “Command List” in the Owner’s manual.
	2. Speak clearly without pausing between words and at a level appropriate to the ambient noise level.
	3. Ensure that the ambient noise level is not excessive, for example, windows open or defrost on. **NOTE:** If it is too noisy to use the phone, it is likely that voice commands will not be recognized.
	4. If optional words of the command have been omitted, then the command should be tried with these in place.
	If there is a mixture of music CD files (CD-DA data) and MP3/WMA/AAC files on a CD, only the music CD files (CD-DA data) will be played.
The system consistently selects the wrong voicetag in the phonebook.	1. Ensure that the voicetag requested matches what was originally stored. Refer to “HANDSFREE PHONE SYSTEM (models with navigation system)” in Owner's manual.
	2. Replace one of the voicetags being confused with a different voicetag.

RELATED TO AUDIO

- The majority of the audio malfunctions are the result of outside causes (bad CD, electromagnetic interference, etc.). Check the symptoms below to diagnose the malfunction.

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

NOTE:

- CD-R is not guaranteed to play because they can contain compressed audio (MP3, WMA, AAC, M4A) or could be incorrectly mastered by the customer on a computer.
- Check if the CDs carry the Compact Disc Logo. If not, the disc is not mastered to the “red book” Compact Disc Standard and may not play.

Symptom	Cause and Counter measure
Cannot play	Check if the CD was inserted correctly.
	Check if the CD is scratched or dirty.
	Check if there is condensation inside the player, and if there is, wait until the condensation is gone (about 1 hour) before using the player.
	If there is a temperature increase error, the player will play correctly after it returns to the normal temperature.
	If there is a mixture of music CD files (CD-DA data) and MP3/WMA/AAC files on a CD, only the music CD files (CD-DA data) will be played.
	Files with extensions other than “.MP3 (.mp3)”, “.WMA (.wma)”, “.AAC (.aac)” or “.M4A (.m4a)” cannot be played. In addition, the character codes and number of characters for folder names and file names should be in compliance with the specifications.
	Check if the disc or the file is generated in an irregular format, This may occur depending on the variation or the setting of MP3/WMA/AAC/M4A writing applications or other text editing applications.
	Check if the finalization process, such as session close and disc close, is done for the disc.
	Check if the CD is protected by copyright.
	Disks recorded in live file system format are not supported. (For Microsoft Windows® Vista, check the settings.)
Poor sound quality.	Check if the CD is scratched or dirty.
It takes a relatively long time before the music starts playing.	If there are many folder or file levels on the MP3/WMA/AAC CD, or if it is a multisession disc, some time may be required before the music starts playing.
Music cuts off or skips	The writing software and hardware combination might not match, or the writing speed, writing depth, writing width might not match the specifications. Try using the slowest writing speed.
Skipping with high bit rate files	Skipping may occur with large quantities if data such as for high bit rate data.
Move immediately to the next song when playing	When a non-MP3/WMA/AAC file has been given an extension of “.MP3 (.mp3)”, “.WMA (.wma)”, “.AAC (.aac)” or “.M4A (.m4a)” or when play is prohibited by copyright protection, the player will skip to the next song.
The songs do not play back in the desired order.	The playback order is the order in which the files were written by the software, so the files might not play in the desired order.
Poor reception only from a certain radio broadcast station.	Check incoming radio wave signal strength of applicable broadcast station.
Buzz/rattle sound from speaker	The majority of rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the rattle.

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

NOTE:

- Fading noise: This noise occurs because of variations in the field strength in a narrow range due to mountains or buildings blocking the signal.
- Multi-path noise: This noise results from a time difference between the broadcast waves directly from the station arriving at the antenna and the waves reflected by mountains or buildings.

RELATED TO DVD

Symptom	Possible cause	Possible solution
Not working as operated	Some operations may be rejected or may not function as intended because of the manufacturer's intent, depending on DVD.	This is not a malfunction.
Operation not accepted	If a requested operation is prohibited, then a message is displayed on the screen. (Message display depends on DVD.)	This is not a malfunction.
DVD can not be played	Check that the DVD is inserted in the right place.	Upturn the DVD (facing the title upward).
	Check that there is no condensation inside the player.	Wait until the condensation evaporates (approximately one hour).
	DVD menu is displayed.	Select item to touch “ENTER”.
	Insertion of a DVD with a different region code.	DVDs with a different region code can not be played. Check DVD.
	Some DVD softwares may not be played because not all DVD softwares fully comply in the standard.	This is not a malfunction.
Interruption during playback or flicker in the display	Check that the DVD has no scratches and dirt.	Errors may not be corrected depending on the size of scratches.
		Wipe and clean the dirt on the disc.
Subtitles not shown	Subtitle setting is OFF.	Set subtitle.
	Subtitle is not included in the software.	Check DVD.
Not played in set language	If a language is not included in the DVD, then the DVD is played in a recommended language.	Check DVD.
Not played with set subtitle	If a set subtitle is not included in the DVD, then the DVD is played with a recommended subtitle.	Check DVD.
Angle unchangeable	Plural angles are not recorded in the software.	Check if the DVD is multi–angle capable.
Unusual screen display	Display mode to the output aspect ratio for the DVD software is inappropriate.	Switch to the appropriate display mode.
Distortion in picture	In the process of fast–forward or fast–reverse.	This is not a malfunction.
Low sound quality	Check that the DVD has no scratches and dirt.	Wipe and clean the dirt on the disc.
Subtitle and language not selectable (not played with set subtitle or in set language)	The DVD is not multilanguage–capable.	The inclusion of the number of languages depends on DVD. Languages may be selectable on the Menu screen. Check DVD.
	The DVD has a priority language or setting.	If the DVD has a priority language or settings, then settings changed with this device are not reflected.
Playback time is indicated, but no sound comes out.	Playback of Mix mode Truck 1. (Mix mode: Format including Truck 1 with data other than music and Trucks from Truck 2 with music data.)	Play music data included in trucks from Truck 2.

RELATED TO VEHICLE ICON

Symptom	Possible cause	Possible solution
Names of roads differ between Plan View and Birdview®.	This is because the quantity of the displayed information is reduced so that the screen does not become too crowded. There is also a chance that names of the roads may be displayed multiple times, and the names appearing on the screen may be different because of a processing procedure.	This is not a malfunction.

Symptom	Possible cause	Possible solution
The vehicle icon is not displayed in the correct position.	The vehicle was transported after the ignition switch was pressed off, for example, by a ferry or car transporter.	Drive the vehicle for a while on a road where GPS signals can be received.
	The position and direction of the vehicle icon may be incorrect depending on the driving environments and the levels of positioning accuracy of the navigation system.	This is not a malfunction. Drive the vehicle for a while to automatically correct the position and direction of the vehicle icon.
When the vehicle is traveling on a new road, the vehicle icon is located on another road nearby.	Because the new road is not stored in the map data, the system automatically places the vehicle icon on the nearest road available.	Updated road information will be included in the next version of the map data.
The screen does not switch to the night screen even after turning on the headlights.	The daytime screen was set the last time the headlights were turned on.	Set the screen to the night screen mode using <Day/Night> when you turn on the headlights.
The map does not scroll even when the vehicle is moving.	The current location map screen is not displayed.	Press “MAP”.
The vehicle icon is not displayed.	The current location map screen is not displayed.	Press “MAP”.
The location of the vehicle icon is misaligned from the actual position.	When using tire chains or replacing the tires, speed calculations based on the speed sensor may be incorrect.	Drive the vehicle for a while [at approximately 30 km/h (19 MPH) for about 30 minutes] to automatically correct the vehicle icon position. If this does not correct the vehicle icon position, contact an INFINITI dealer.
	The map data has a mistake or is incomplete (the vehicle icon position is always misaligned in the same area).	Updated road information will be included in the next version of the map data.

RELATED TO ROUTE CALCULATION AND VISUAL GUIDANCE

Symptom	Possible cause	Possible solution
Waypoints are not included in the auto reroute calculation.	Waypoints that you have already passed are not included in the auto reroute calculation.	If you want to go to that waypoint again, you need to edit the route.
Route information is not displayed.	Route calculation has not yet been performed.	Set the destination and perform route calculation.
	You are not driving on the suggested route.	Drive on the suggested route.
	Route guidance is set to off.	Turn on route guidance.
	Route information is not provided for certain types of roads (roads displayed in gray).	This is not a malfunction.
The auto reroute calculation (or detour calculation) suggests the same route as the one previously suggested.	Route calculations took priority conditions into consideration, but the same route was calculated.	This is not a malfunction.
A waypoint cannot be added.	Five waypoints are already set on the route, including ones that you have already passed.	A maximum of 5 waypoints can be set on the route. If you want to go to 6 or more waypoints, perform route calculations multiple times as necessary.
The suggested route is not displayed.	Roads near the destination cannot be calculated.	Reset the destination to a main or ordinary road, and recalculate the route.
	The starting point and destination are too close.	Set a more distant destination.
	The starting point and destination are too far away.	Divide your trip by selecting one or two intermediate destinations, and perform route calculations multiple times.
	There are time restricted roads (by the day of the week, by time) near the current vehicle location or destination.	Set [Use Time Restricted Roads] to off.

Symptom	Possible cause	Possible solution
The part of the route that you have already passed is deleted.	A route is managed by sections between waypoints. If you passed the first waypoint, the section between the starting point and the waypoint is deleted. (It may not be deleted depending on the area.)	This is not a malfunction.
An indirect route is suggested.	If there are restrictions (such as one-way streets) on roads close to the starting point or destination, the system may suggest an indirect route.	Adjust the location of the starting of the starting point or destination.
	The system may suggest an indirect route because route calculation does not take into consideration some areas such as narrow streets (gray roads.)	Reset the destination to a main or ordinary road, and recalculate the route.
The landmark information does not correspond to the actual information.	This may be caused by insufficient or incorrect map data.	Updated information will be included in the next version of the data.
The suggested route does not exactly connect to the starting point, waypoints, or destination.	There is no data for route calculation closes to these locations.	Set the starting point, waypoints and destination on a main road, and perform route calculation.

RELATED TO VOICE GUIDANCE

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

RELATED TO TRAFFIC INFORMATION

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

RELATED TO HANDS-FREE PHONE

Symptom	Cause and Counter measure
Does not recognize cellular phone connection. (No connection is displayed on the display at the guide.)	Some Bluetooth® enabled cellular phones may not be recognized by the in-vehicle phone module. Refer to “RELATED TO HANDS-FREE PHONE (Check Compatibility)” of MULTI AV SYSTEM SYMPTOM.
Cannot use hands-free phone	Customer will not be able to use a hands-free phone under the following conditions. • The vehicle is outside of the telephone service area. • The vehicle is in an area where it is difficult to receive radio waves; such as in a tunnel, in an underground parking garage, near a tall building or in a mountainous area. • The cellular phone is locked to prevent it from being dialed. **NOTE:** While a cellular phone is connected through the Bluetooth® wireless connection, the battery power of the cellular phone may discharge quicker than usual. The Bluetooth® Hands-Free Phone System cannot charge cellular phones.
The other party's voice cannot be heard by hands-free phone.	When the radio wave condition is not ideal or ambient sound is too loud, it may be difficult to hear the other person's voice during a call.
Poor sound quality	Do not place the cellular phone in an area surrounded by metal or far away from the in-vehicle phone module to prevent tone quality degradation and wireless connection disruption.

REMOVAL AND INSTALLATION

AV CONTROL UNIT

Removal and Installation

INFOID:0000000009652404

REMOVAL

CAUTION:

- **Before replacing AV control unit, perform “Read/Write Configuration” to save or print current vehicle specification. For details, refer to AV-525, "ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Work Procedure".**
- **Remove battery terminal and AV control unit after a lapse of 30 seconds or more after turning the ignition switch OFF.**

NOTE:

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

1. Remove disk eject switch. Refer to AV-623, "Removal and Installation".
2. Remove two harness clips mounted to the bracket.
3. Remove four mounting screws and pull the AV control unit together with the brackets.
4. Disconnect connectors to remove AV control unit and bracket from the vehicle as a single unit.
5. Remove bracket screws to remove AV control unit.

INSTALLATION

Note the following, and install in the reverse order of removal.

CAUTION:

Be sure to perform “Read/Write Configuration” when replacing AV control unit. For details, refer to AV-526, "CONFIGURATION (AV CONTROL UNIT) : Work Procedure".

FRONT DISPLAY UNIT

Removal and Installation

INFOID:0000000009652405

REMOVAL

1. Remove cluster lid D. Refer to IP-14, "Removal and Installation".
2. Remove front display unit mounting screws.
3. Disconnect front display unit connectors to remove front display unit.

INSTALLATION

Install in the reverse order of removal.

REAR DISPLAY UNIT

Removal and Installation

INFOID:0000000009652406

REMOVAL

1. Remove roof console. Refer to INT-35, "Removal and Installation".
2. Disconnect rear display unit connector, remove rear display unit mounting bolts and remove the rear display unit.
   NOTE:
   To prevent rear display unit from dropping, securely support the rear display unit during the removal/installation.

INSTALLATION

Install in the reverse order of removal.

BOSE AMP.

Removal and Installation

INFOID:0000000009652407

REMOVAL

1. Remove luggage floor box. Refer to INT-45, "LUGGAGE FLOOR BOX : Removal and Installation".
2. Remove BOSE amp. mounting screws.
3. Disconnect connectors to remove BOSE amp.

INSTALLATION

Install in the reverse order of removal.

FRONT DOOR WOOFER

Removal and Installation

INFOID:0000000009652408

REMOVAL

1. Remove front door finisher. Refer to INT-14, "Removal and Installation".
2. Remove front door woofer screws and disconnect front door woofer connector.

INSTALLATION

Install in the reverse order of removal.

FRONT SQUAWKER

Removal and Installation

INFOID:0000000009652409

REMOVAL

1. Remove speaker grille from instrument panel. Refer to IP-14, "Removal and Installation".
2. Remove screws and disconnect connector, and remove the front squawker.

WARNING:
Never damage wind shield glass.

INSTALLATION

Install in the reverse order of removal.

SLIDE DOOR SPEAKER

Removal and Installation

INFOID:0000000009652410

REMOVAL

1. Remove slide door finisher. Refer to INT-17, "Removal and Installation".
2. Remove screws and disconnect connector, and remove slide door speaker.

INSTALLATION

Install in the reverse order of removal.

SLIDE DOOR SQUAWKER

Removal and Installation

INFOID:0000000009652411

REMOVAL

1. Remove slide door finisher. Refer to INT-17, "Removal and Installation".
2. Remove screws to remove slide door squawker.

INSTALLATION

Install in the reverse order of removal.

LUGGAGE SQUAWKER

Removal and Installation

INFOID:0000000009652412

REMOVAL

1. Remove luggage side lower finisher. Refer to INT-43, "LUGGAGE SIDE LOWER FINISHER : Removal and Installation".
2. Remove screws to remove luggage squawker.

INSTALLATION

Install in the reverse order of removal.

CENTER SQUAWKER

Removal and Installation

INFOID:0000000009652413

REMOVAL

1. Remove speaker grille from instrument panel. Refer to IP-14, "Removal and Installation".
2. Remove screws and disconnect connector, and remove the center squawker.

CAUTION:
Never damage wind shield glass.

INSTALLATION

Install in the reverse order of removal.

WOOFER

Removal and Installation

INFOID:0000000009652414

REMOVAL

1. Remove luggage floor box. Refer to INT-45, "LUGGAGE FLOOR BOX : Removal and Installation".
2. Remove woofer clamp and disconnect connector, and remove woofer.

INSTALLATION

Install in the reverse order of removal.

MULTIFUNCTION SWITCH

Removal and Installation

INFOID:0000000009652415

REMOVAL

1. Remove cluster lid C. Refer to IP-14, "Removal and Installation".
2. Remove multifunction switch mounting screws.
3. Remove bracket and disconnect harness connectors connected to preset switch.
4. Unhook pawl to remove multifunction switch from cluster lid C.

CAUTION:

Carefully handle the pawl fixing the multifunction switch to prevent damage to the pawl.

INSTALLATION

Install in the reverse order of removal.

PRESET SWITCH

Removal and Installation

INFOID:0000000009652416

REMOVAL

1. Remove cluster lid C. Refer to IP-14, "Removal and Installation".
2. Remove preset switch mounting screws and disconnect preset switch connector.
3. Unhook pawl by using a remover tool to remove preset switch from cluster lid C.

CAUTION:
Carefully handle the pawl fixing the preset switch to prevent damage to the pawl.

INSTALLATION

Install in the reverse order of removal.

DISK EJECT SWITCH

Removal and Installation

INFOID:0000000009652417

REMOVAL

1. Remove instrument lower center cover. Refer to IP-14, "Removal and Installation".
2. Remove screws and unhook two pawls of AV control unit to remove disk eject switch.

CAUTION:

Carefully handle the pawl fixing the disk eject switch to prevent damage to the pawl.

INSTALLATION

Install in the reverse order of removal.

AUXILIARY INPUT JACKS

Removal and Installation

INFOID:0000000009652418

REMOVAL

1. Remove center console body assembly. Refer to IP-28, "Removal and Installation".
2. Remove screws to remove auxiliary input jacks from center console body assembly.

INSTALLATION

Install in the reverse order of removal.

USB CONNECTOR

Removal and Installation

INFOID:0000000009652419

REMOVAL

1. Remove center console upper finisher. Refer to IP-29, "Disassembly and Assembly".
2. Unhook pawl to remove USB connector from center console upper finisher.

INSTALLATION

Install in the reverse order of removal.

MICROPHONE

Removal and Installation

INFOID:0000000009652420

REMOVAL

1. Remove map lamp assembly. Refer to INL-67, "Removal and Installation".
2. Unhook pawls to remove microphone from map lamp assembly.

CAUTION:
Carefully handle the pawl fixing the microphone to prevent damage to the pawl.

INSTALLATION

Install in the reverse order of removal.

NOTE:
After installing microphone, check that it is securely installed with no backlash.

ANTENNA AMP.

Removal and Installation

INFOID:0000000009652421

REMOVAL

1. Remove rear pillar garnish RH. Refer to INT-27, "REAR PILLAR GARNISH : Removal and Installation".
2. Remove screw and disconnect connector, and remove antenna amp.

INSTALLATION

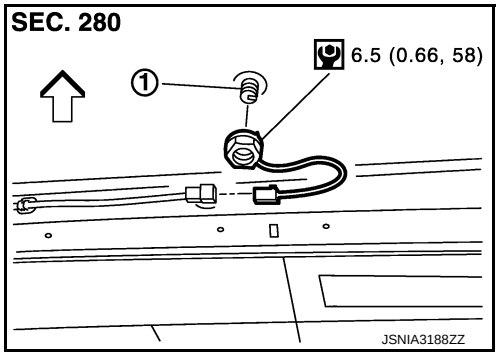
Install in the reverse order of removal.

SATELLITE RADIO ANTENNA

Exploded View

INFOID:0000000009652422

REMOVAL

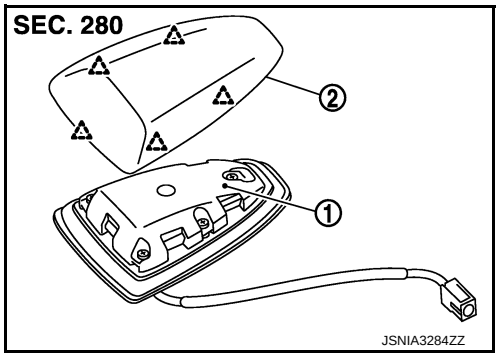


1. Satellite radio antenna

⇦ : Vehicle front

: N·m (kg-m, in-fb)

DISASSEMBLY



1. Satellite radio antenna
2. Cover

: Pawl

Removal and Installation

INFOID:0000000009652423

REMOVAL

1. Remove rear upper ventilator duct 2. Refer to HA-56, "Exploded View".
2. Disconnect antenna feeder connector.
3. Remove nut, and remove satellite radio antenna and the cover from the vehicle as a single unit.

INSTALLATION

Install in the reverse order of removal.

CAUTION:

If the satellite radio antenna mounting nut is tightened looser than the specified torque, then this will lower the sensitivity of the antenna. On the other hand, if the nut is tightened tighter than the specified torque, then this will deform the roof panel.

Disassembly and Assembly

INFOID:0000000009652424

DISASSEMBLY

Insert cloth-covered driver into gaps between satellite radio antenna and the cover, and remove the cover from satellite radio antenna.

ASSEMBLY

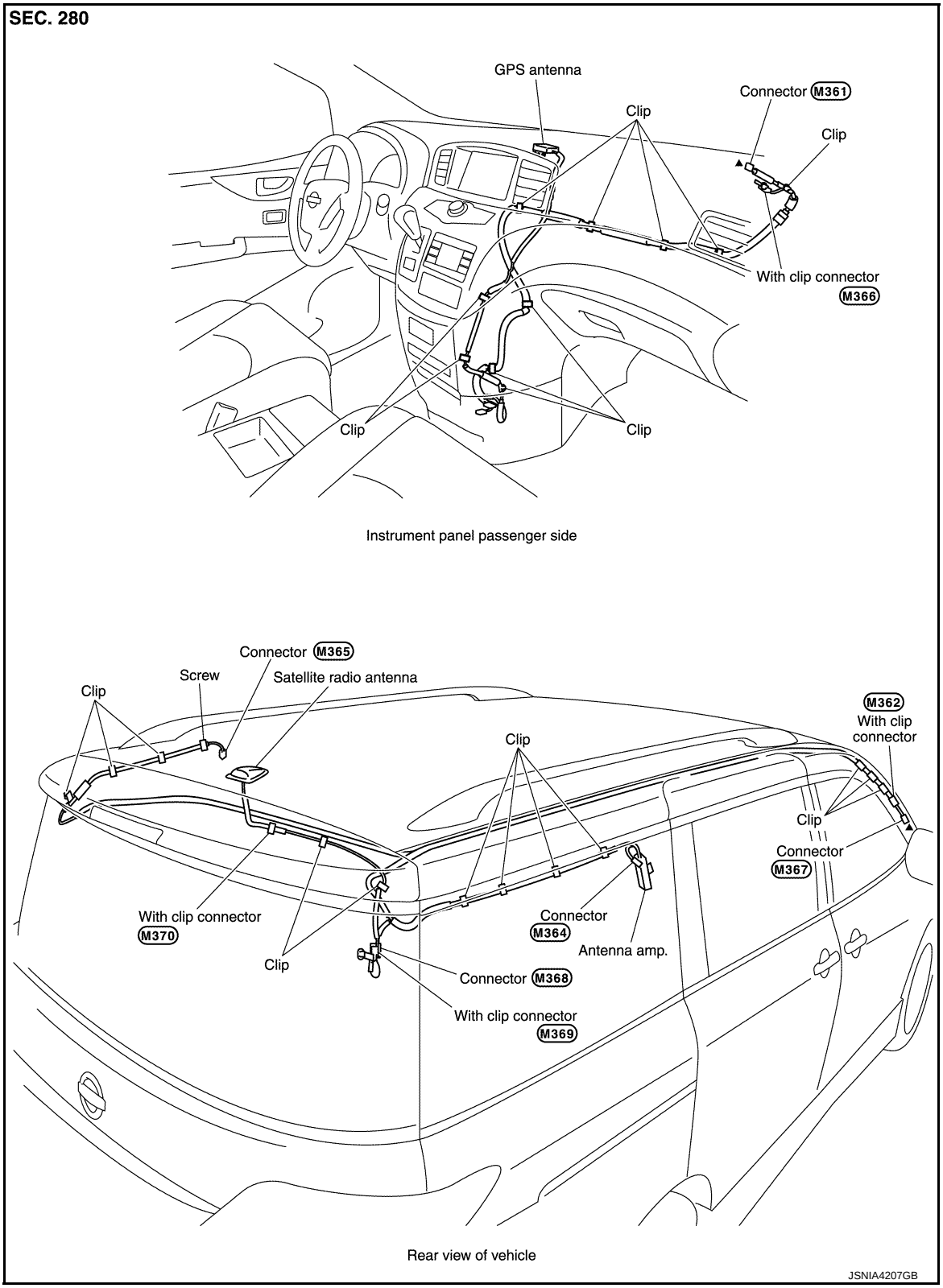
Assemble in the reverse order of disassembly.

GPS ANTENNA

Feeder Layout

INFOID:0000000009652425

SEC. 280



▲: Indicates that the part is connected at points with same symbol in actual vehicle.

Removal and Installation

INFOID:0000000009652426

REMOVAL

1. Remove AV control unit. Refer to AV-610, "Removal and Installation".
2. Remove front display unit. Refer to AV-611, "Removal and Installation".
3. Remove cup holder assembly. Refer to IP-14, "Removal and Installation".
4. Remove GPS antenna feeder clips.
5. Remove screw to remove GPS antenna.

INSTALLATION

Install in the reverse order of removal.

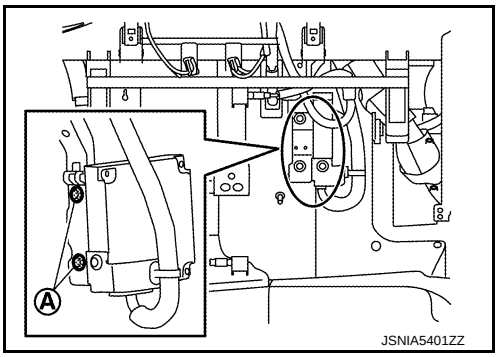
AROUND VIEW MONITOR CONTROL UNIT

Removal and Installation

INFOID:0000000009652427

REMOVAL

1. Remove globe box assembly. Refer to IP-14, "Removal and Installation".
2. Remove harness clip mounted to the bracket.
3. Remove two mounting screws (A) and pull the around view monitor control unit together with the brackets.



4. Disconnect connectors to remove around view monitor control unit and brackets from the vehicle as a single unit.
5. Remove bracket screws to remove around view monitor control unit.

INSTALLATION

1. Install in the reverse order of removal.
2. Perform camera image calibration. Refer to AV-528, "CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Work Procedure".

CAUTION:

Perform the calibration and perform the writing to the around view monitor control unit when removing and replacing each camera, removing the camera mounting parts (front grille, door mirror, etc.) and replacing the around view monitor control unit.

FRONT CAMERA

Removal and Installation

INFOID:0000000009652428

REMOVAL

1. Remove front grille. Refer to EXT-18, "Removal and Installation".
2. Remove front camera mounting screws to remove front camera from front grille.

INSTALLATION

1. Install in the reverse order of removal.
2. Perform camera image calibration. Refer to AV-528, "CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Work Procedure".

CAUTION:

Perform the calibration and perform the writing to the around view monitor control unit when removing and replacing each camera, removing the camera mounting parts (front grille, door mirror, etc.) and replacing the around view monitor control unit.

REAR CAMERA

Removal and Installation

INFOID:0000000009942969

REMOVAL

1. Remove back door finisher. Refer to EXT-47, "Removal and Installation".
2. Remove screws to remove rear camera from back door finisher.

INSTALLATION

1. Install in the reverse order of removal.
2. Perform camera image calibration. Refer to AV-528, "CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Work Procedure".

CAUTION:

Perform the calibration and perform the writing to the around view monitor control unit when removing and replacing each camera, removing the camera mounting parts (front grille, door mirror, etc.) and replacing the around view monitor control unit.

SIDE CAMERA

Removal and Installation

INFOID:0000000009652430

REMOVAL

1. Remove door mirror under cover from door mirror. Refer to MIR-35, "DOOR MIRROR ASSEMBLY : Disassembly and Assembly".
2. Remove screws to remove side camera from door mirror under cover.

INSTALLATION

1. Install in the reverse order of removal.
2. Perform camera image calibration. Refer to AV-528, "CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Work Procedure".

CAUTION:

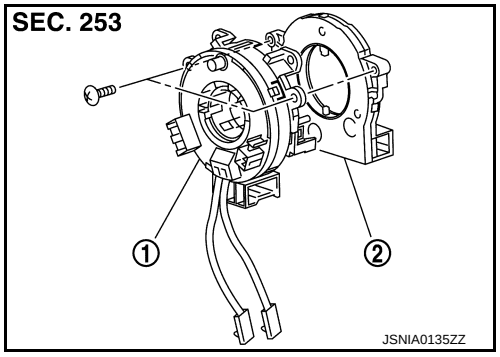
Perform the calibration and perform the writing to the around view monitor control unit when removing and replacing each camera, removing the camera mounting parts (front grille, door mirror, etc.) and replacing the around view monitor control unit.

STEERING ANGLE SENSOR

Exploded View

INFOID:0000000009652431

DISASSEMBLY



1. Spiral cable
2. Steering angle sensor

Removal and Installation

INFOID:0000000009652432

REMOVAL

1. Remove spiral cable. Refer to SR-15, "Removal and Installation".
2. Remove steering angle sensor from spiral cable.

INSTALLATION

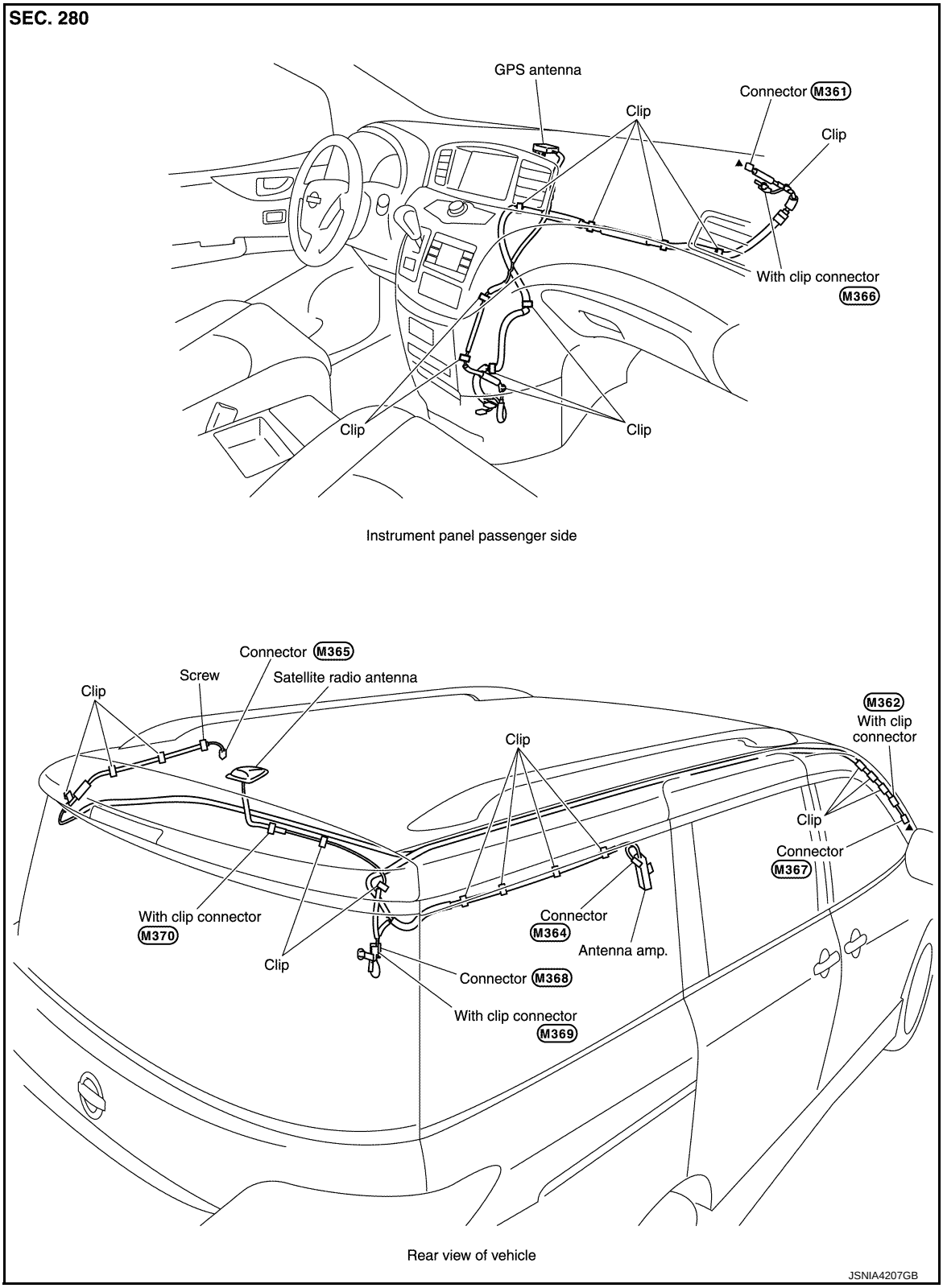
1. Install in the reverse order of removal.
2. Perform steering angle sensor neutral position adjustment. Refer to BRC-49, "Work Procedure".

ANTENNA FEEDER

Feeder Layout

INFOID:0000000009652433

SEC. 280



▲: Indicates that the part is connected at points with same symbol in actual vehicle.