

SECTION **AV**

AUDIO, VISUAL & NAVIGATION SYSTEM

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PRECAUTION

PRECAUTIONS

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

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The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

WARNING:

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

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

WARNING:

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

Precaution for Trouble Diagnosis

INFOID:0000000011552762

AV COMMUNICATION SYSTEM

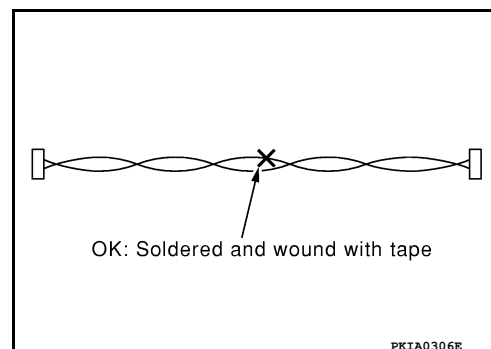
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

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AV COMMUNICATION SYSTEM

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

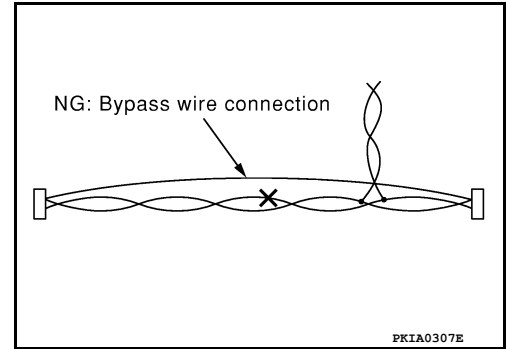


PRECAUTIONS

< PRECAUTION >

[MULTI AV (DISPLAY AUDIO)]

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



Precaution for Work

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

PREPARATION

< PREPARATION >

[MULTI AV (DISPLAY AUDIO)]

PREPARATION

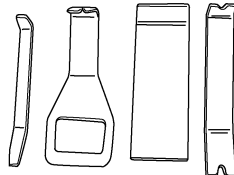
PREPARATION

Special Service Tools

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

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



AWJIA04832Z

Commercial Service Tools

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Tool name	Description
Power tool	Loosening nuts, screws and bolts



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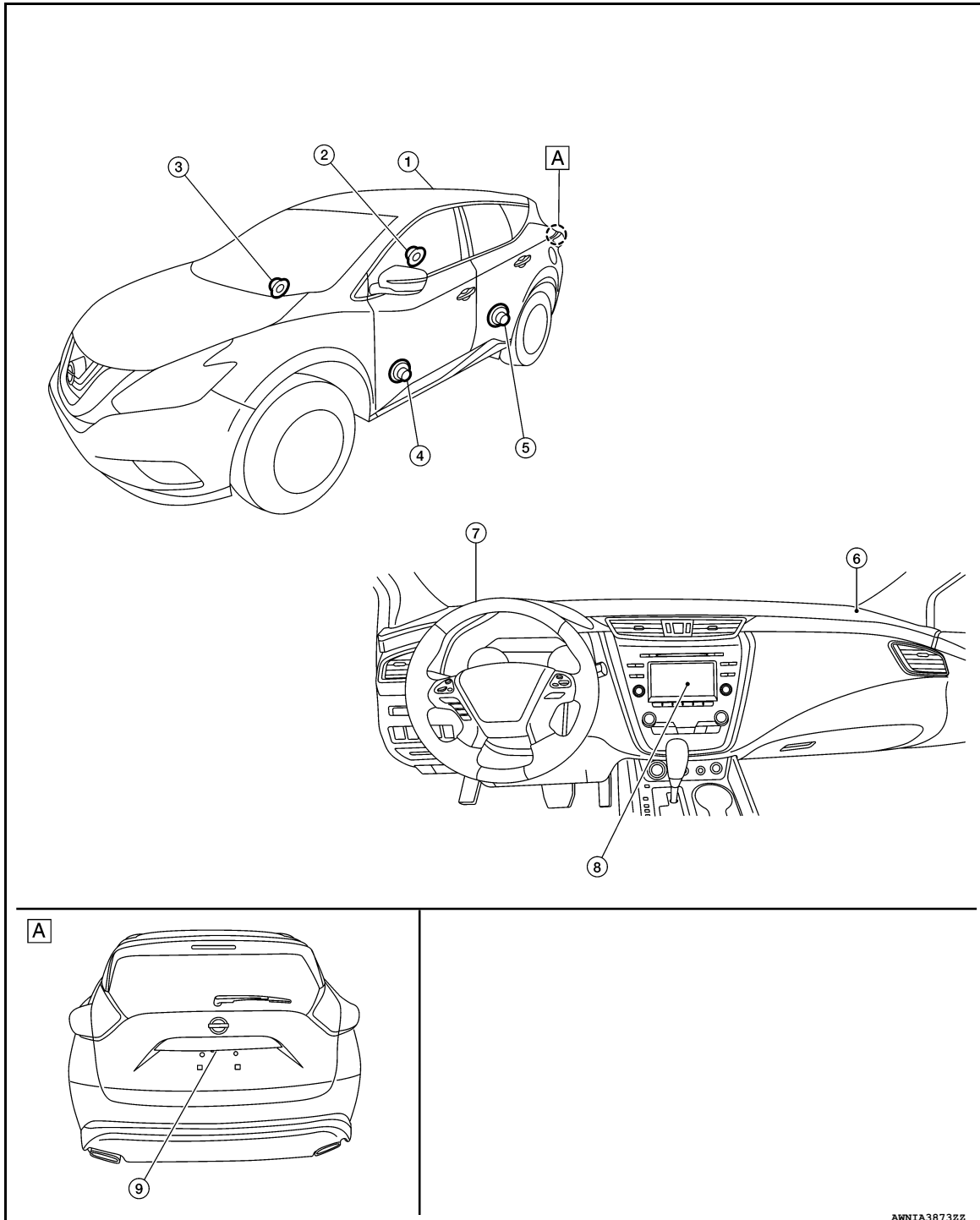
AV

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

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A. View of back door

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[MULTI AV (DISPLAY AUDIO)]

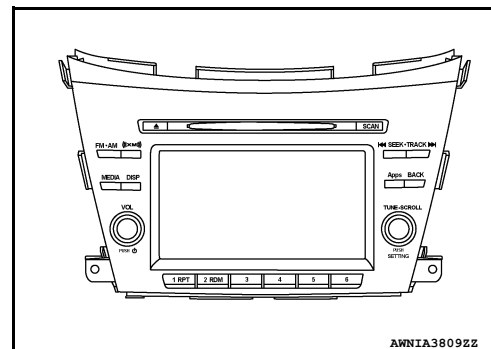
No	Component	Description
1.	Satellite antenna	Refer to AV-13, "Antenna and Antenna Feeder" .
2.	Rear door speaker RH	Refer to AV-12, "Speaker" .
3.	Front door speaker RH	Refer to AV-12, "Speaker" .
4.	Front door speaker LH	Refer to AV-12, "Speaker" .
5.	Rear door speaker LH	Refer to AV-12, "Speaker" .
6.	Instrument panel tweeter RH	Refer to AV-12, "Speaker" .
7.	Instrument panel tweeter LH	Refer to AV-12, "Speaker" .
8.	Audio unit	Refer to AV-11, "Audio Unit" .
9.	Rear view camera	Refer to AV-283, "Rear View Camera" .

Audio Unit

INFOID:0000000011590488

DESCRIPTION

- Audio unit is located in the center of the instrument panel.
- Audio unit controls the audio system of Multi AV system.
- Audio unit can store applications in the built-in memory by connecting a cell phone via Bluetooth® communication or USB communication.



SPECIFICATION

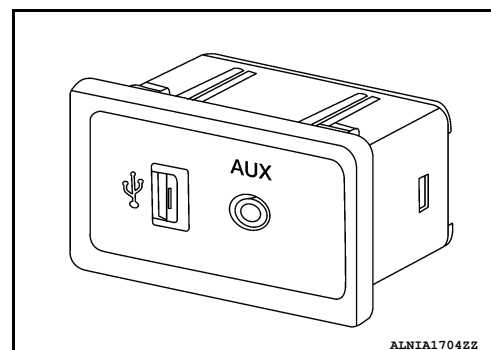
Amplifier output		40 W × 4ch
CD drive	Playable disc	CD-ROM (CD-DA)
		CD-R
		CD-RW
	Playable format	MP3
		WMA
		AAC
	Text display function	ID3/WMA/AAC tag
		Artist name
		Album title
		Song title

USB Interface

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- Front USB interface is located in front of the console box.
- USB interface supports the following inputs, and is used by audio system:

Interface
USB port
Audio jack (front USB interface only)



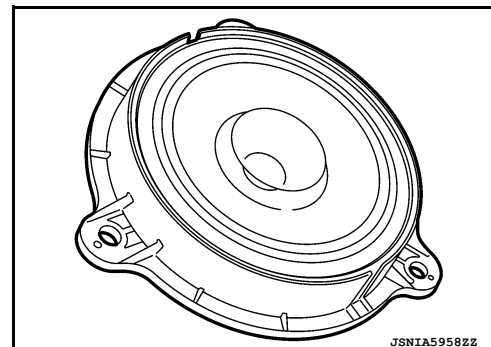
Speaker

INFOID:000000011590490

FRONT DOOR SPEAKER

- $\phi 16.0$ cm (6.5 in) speaker is installed to the lower portion of the front door.
- Sound signal is input from the AV control unit to output high, mid and low range sound.

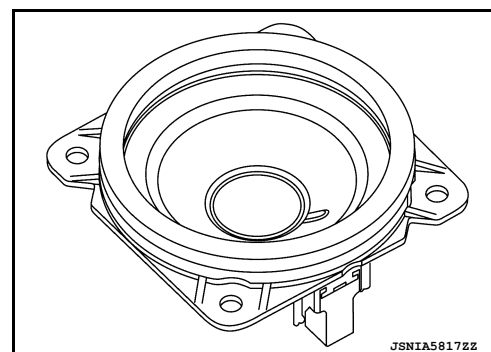
Maximum input	: 38.5 W
Rated input	: 12.9 W
Impedance	: 2.1 Ω



INSTRUMENT PANEL TWEETER

- $\phi 7.62$ cm (3 in) speaker is installed to the side of instrument panel.
- Sound signal is input from the AV control unit to output high, and mid range sound.

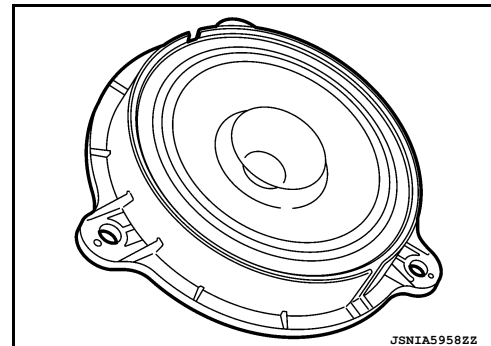
Maximum input	: 22.5 W
Rated input	: 7.5 W
Impedance	: 3.6 Ω



REAR DOOR SPEAKER

- $\phi 16.0$ cm (6.5 in) speaker is installed to the bottom of the rear door.
- Sound signal is input from the AV control unit to output high, mid and low range sound.

Maximum input	: 38.5 W
Rated input	: 12.9 W
Impedance	: 2.1 Ω

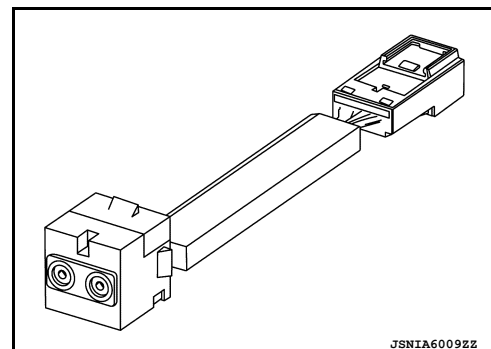


Microphone (for Hands-free Phone/Voice Recognition)

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DESCRIPTION:

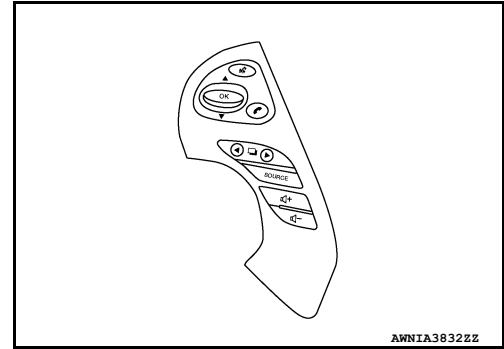
- The microphone is installed on the map lamp assembly.
- The power is supplied from the audio unit to the microphone, transmitting sound signals to the audio unit during hands-free phone communication or voice recognition.



Steering Switch

INFOID:0000000011590492

- Hands-free phone and audio operations can be performed.
- This switch is connected to combination meter, and switch operation signal is transmitted to combination meter.
- Combination meter transmits steering switch signal to audio unit via CAN communication.

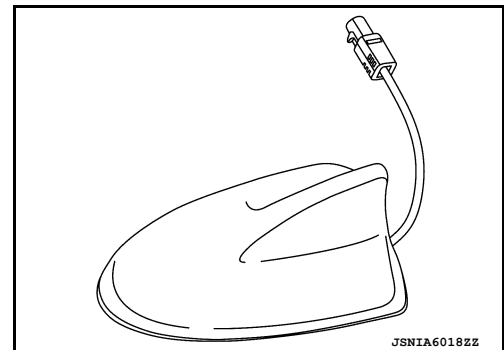


Antenna and Antenna Feeder

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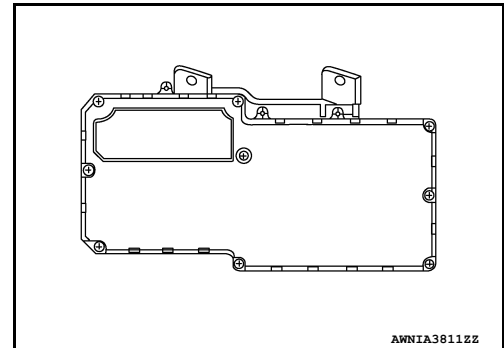
SATELLITE ANTENNA

- Satellite radio antenna is installed to the rear center of the roof.
- It receives satellite radio waves and outputs them to AV control unit.

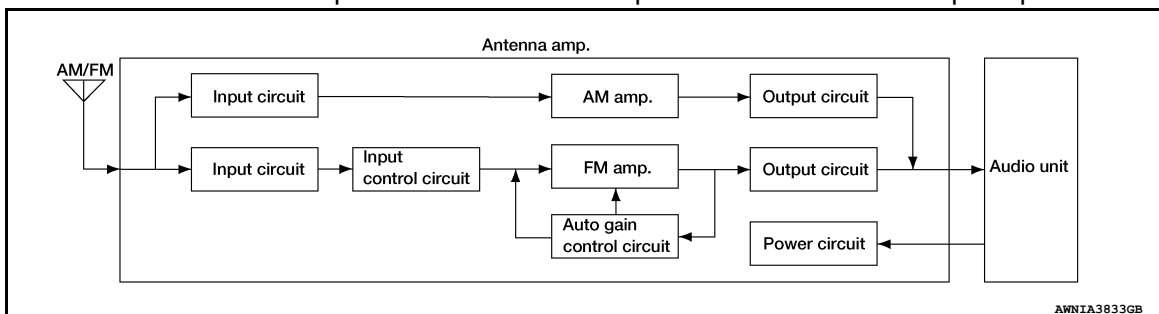


ANTENNA AMP. AND RADIO ANTENNA

- Antenna amp. is located on rear air spoiler.



- AM/FM radio main antenna and FM radio sub antenna are located on the rear 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 window glass causes a reduction in the radio receiver sensitivity.

ANTENNA FEEDER

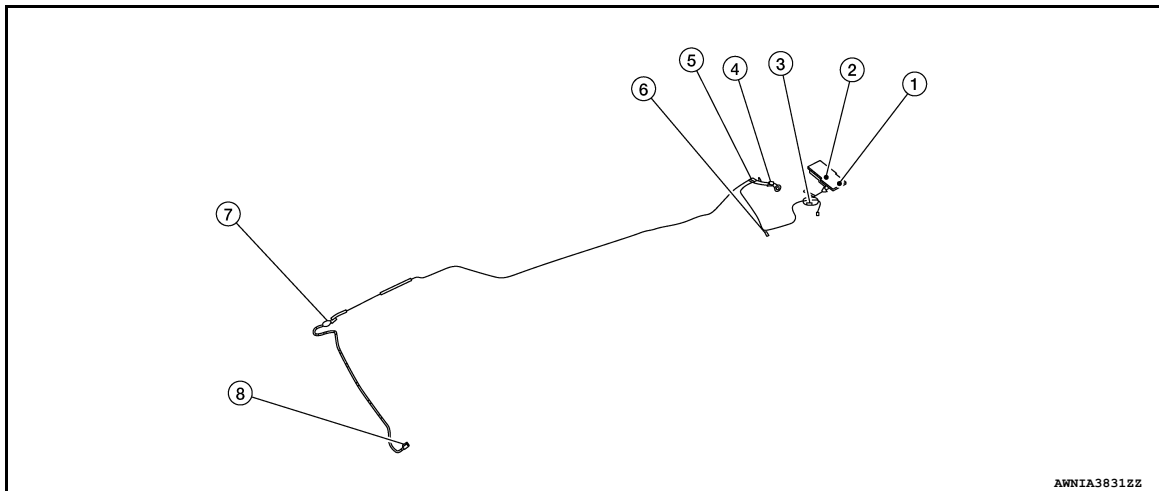
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AV

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[MULTI AV (DISPLAY AUDIO)]

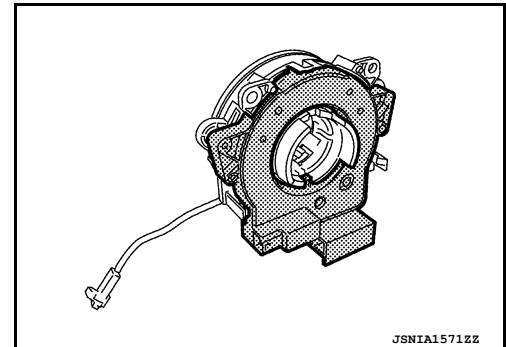


- | | | |
|-------------------------|---------------|---------------|
| 1. Antenna amp. | 2. M502 | 3. M507, M505 |
| 4. M510, M511 | 5. M506, M508 | 6. M509 |
| 7. M98, M99, M500, M501 | 8. M106, M107 | |

Steering Angle Sensor

INFOID:0000000011590494

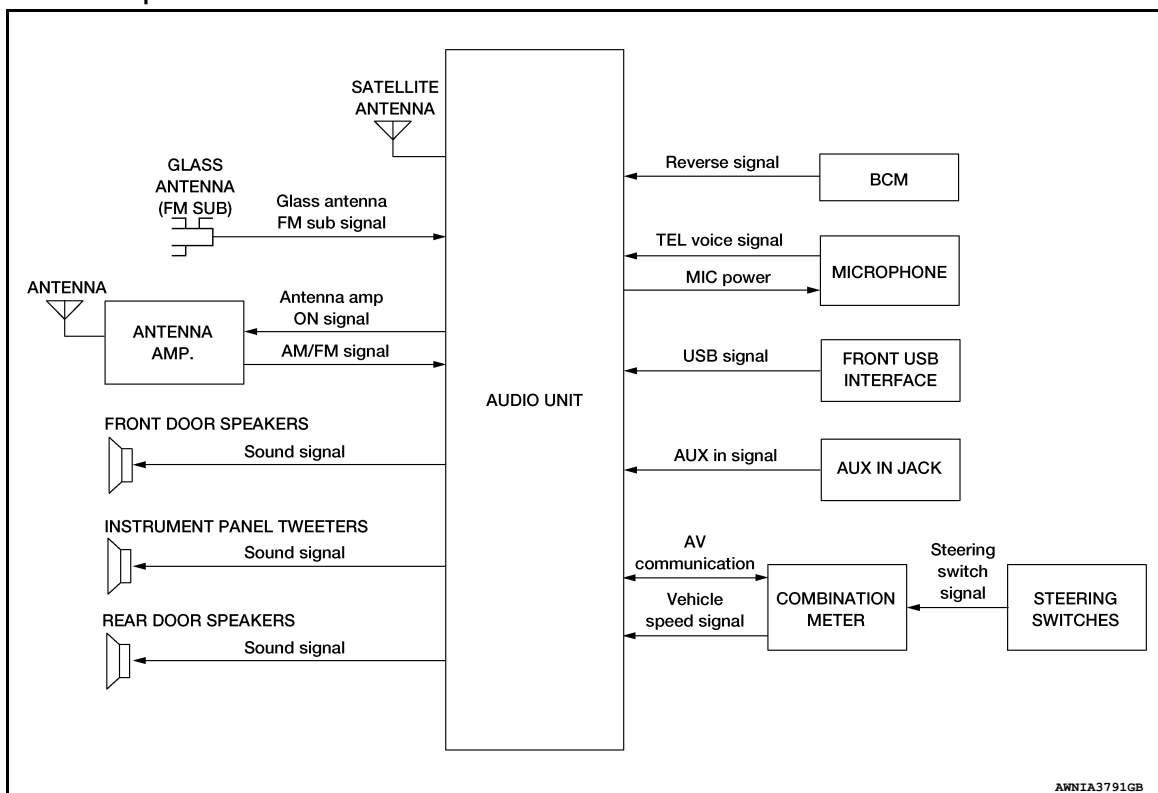
- Steering angle sensor is installed to the spiral cable.
- Steering angle sensor sends the steering angle signal necessary for predictive course line of the rear view monitor to the display control unit via CAN communication.



AUDIO SYSTEM

System Description

INFOID:0000000011552770



AUDIO SYSTEM

The audio system consists of the following components:

- AV control unit
- Front door speakers
- Front instrument panel tweeters
- Rear door speakers
- Steering switches
- Microphone
- Front USB interface and AUX in jack
- Satellite antenna
- Antenna amp.
- Antenna

When the audio system is on, AM/FM signals received by the antenna are amplified by the antenna amp. and sent to the AV control unit. The AV control unit then sends audio signals to the front door speakers, front instrument panel tweeters, and rear door speakers.

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

HANDS-FREE PHONE SYSTEM

System Operation

NOTE:

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

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

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

Audio Unit

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

Steering Switches

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

The following functions can be performed using the steering switches:

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

Microphone

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

REAR VIEW CAMERA SYSTEM

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

SATELLITE RADIO FUNCTION

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

USB INTERFACE AND AUX IN JACK FUNCTION

- Sound and data signals are transmitted from USB interface to the audio unit and outputted to each speaker and tweeter.
- Sound signals are transmitted from AUX in jack to the audio unit and outputted to each speaker and tweeter.

SPEED SENSITIVE VOLUME SYSTEM

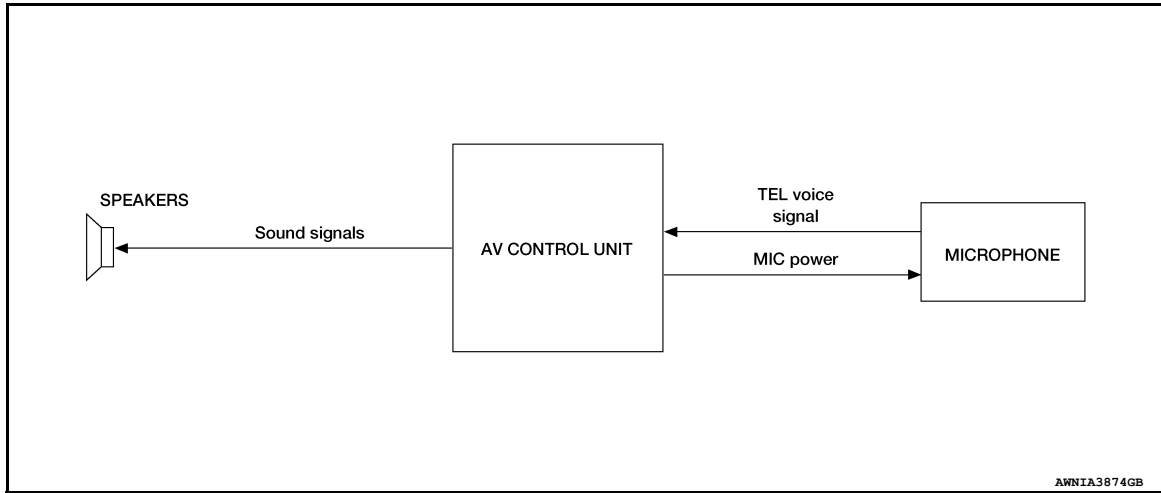
- Volume level of this system goes up and down automatically in proportion to the vehicle speed.
- The control level can be selected by the customer.

HANDS-FREE PHONE SYSTEM

System Description

INFOID:0000000011590487

SYSTEM DIAGRAM



DESCRIPTION

- Refer to Owner's Manual for hands-free phone system operating instructions.
- For further information about Bluetooth® compliant profile, refer to [AV-81, "AV Control Unit"](#).
- Simply operating the steering switch without releasing hands from the steering wheel allows the driver to 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 cell phones, can be registered to the AV control unit.
- The content of the memory (telephone book) of the cell phone can be recorded in the AV control unit.

When Receiving a Call

- When AV control unit receives the voice of the other party from a cell phone via Bluetooth® communication, it transmits the TEL voice signal to each speaker.

When a Call Is Originated

When AV control unit receives the microphone signal from microphone, it transmits the sound signal to a cell phone via Bluetooth® communication.

HANDS-FREE PHONE INDICATOR

- When a cell phone that is connected with the AV control unit via Bluetooth® communication receives a phone call, the incoming call is displayed on the information display in combination meter.
- When AV control unit recognizes an incoming call from a cell phone via Bluetooth® communication, it transmits the meter display signal to combination meter via CAN communication.
- When combination meter receives the meter display signal, it displays the incoming call of cell phone on information display.
- When an incoming call is received, the driver can operate the steering switch to answer the phone.
- When steering switch is operated, the combination meter receives the steering switch signal, and then combination meter transmits the steering switch signal to the AV control unit via CAN communication.
- When AV control unit receives the steering switch signal, it activates the hands-free phone.

SMS INDICATOR

- When a cell phone that is connected with the AV control unit via Bluetooth® communication receives an SMS, the incoming SMS is displayed on the information display located in combination meter.
- The AV control unit transmits an SMS signal to the combination meter via CAN communication when receiving SMS from a cellular phone via Bluetooth® communication.
- The combination meter indicates the reception of SMS on the information display when receiving an SMS signal.
- When an SMS is received, the SMS can be confirmed by operating the steering switch.

HANDS-FREE PHONE SYSTEM

< SYSTEM DESCRIPTION >

[MULTI AV (DISPLAY AUDIO)]

- When steering switch is operated, the combination meter receives the steering switch signal, and then combination meter transmits the steering switch signal to the AV control unit via CAN communication.
- When AV control unit receives the steering switch signal, it transmits the SMS signal to combination meter via CAN communication.
- When combination meter receives the SMS signal, it displays SMS on information display.

DIAGNOSIS SYSTEM (AUDIO UNIT)

< SYSTEM DESCRIPTION >

[MULTI AV (DISPLAY AUDIO)]

DIAGNOSIS SYSTEM (AUDIO UNIT)

Description

INFOID:0000000011552771

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

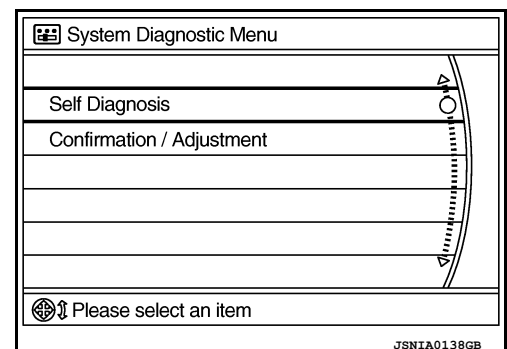
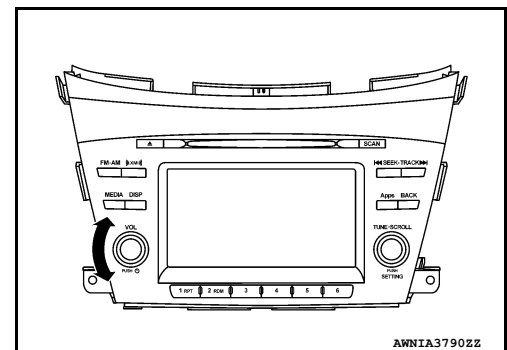
Mode		Description
Self Diagnosis		- Audio unit diagnosis. - Diagnoses the connections across system components.
Confirmation/ Adjustment	Display Diagnosis	The following check functions are available: color tone check by color bar display and white display, light and shade check by gray scale display.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

On Board Diagnosis Function

INFOID:0000000011552772

METHOD OF STARTING

- Turn the ignition ON.
- Turn the audio system OFF.
- While pressing the preset button 1, turn the volume control dial clockwise and counterclockwise quickly approximately 40 times or more. Shifting from current screen to previous screen is performed by pressing BACK button.
- The trouble diagnosis initial screen is displayed, and Self Diagnosis or Confirmation/Adjustment can be selected.



SELF DIAGNOSIS MODE

Audio Unit Self Diagnosis

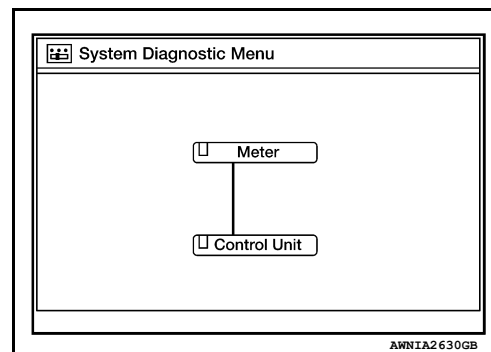
- Select Self Diagnosis.

DIAGNOSIS SYSTEM (AUDIO UNIT)

< SYSTEM DESCRIPTION >

[MULTI AV (DISPLAY AUDIO)]

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

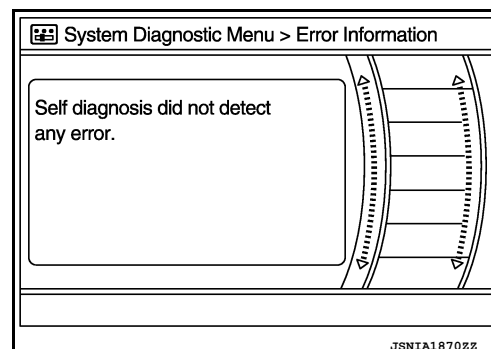


Diagnosis results	Unit	Connection line
Normal	Green	Green
Connection malfunction	Gray	Yellow
Unit malfunction ¹	Red	Green

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

- Replace audio unit if Self Diagnosis did not run because control unit malfunction is indicated. The symptom is audio unit internal error. Refer to [AV-65, "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.

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



Audio Unit Self Diagnosis Results

Only Unit Part Is Displayed In Red		
Screen switch	Description	Possible cause
Control unit	Malfunction is detected in audio unit power supply and ground circuits.	- Audio unit power supply or ground circuits. Refer to AV-47, "AUDIO UNIT : Diagnosis Procedure". - If no malfunction is detected in audio unit power supply and ground circuits, replace audio unit. Refer to AV-65, "Removal and Installation".

A Connecting Cable Between Units Is Displayed In Yellow		
Area with yellow connection lines	Description	Possible cause
Control unit ↔ Meter	When one of the following is detected: - Malfunction is detected in combination meter power supply and ground circuits. - Malfunction is detected in AV communication circuits between audio unit and combination meter.	- Combination meter power supply or ground circuits. Refer to MWI-59, "COMBINATION METER : Diagnosis Procedure". - AV communication circuits between audio unit and combination meter.

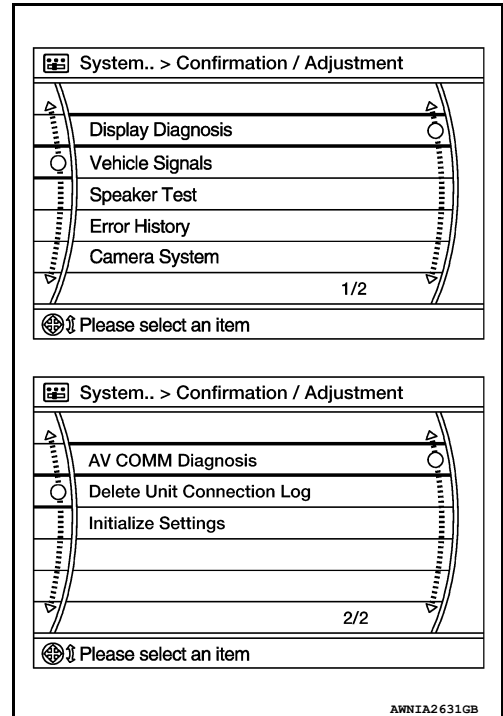
DIAGNOSIS SYSTEM (AUDIO UNIT)

< SYSTEM DESCRIPTION >

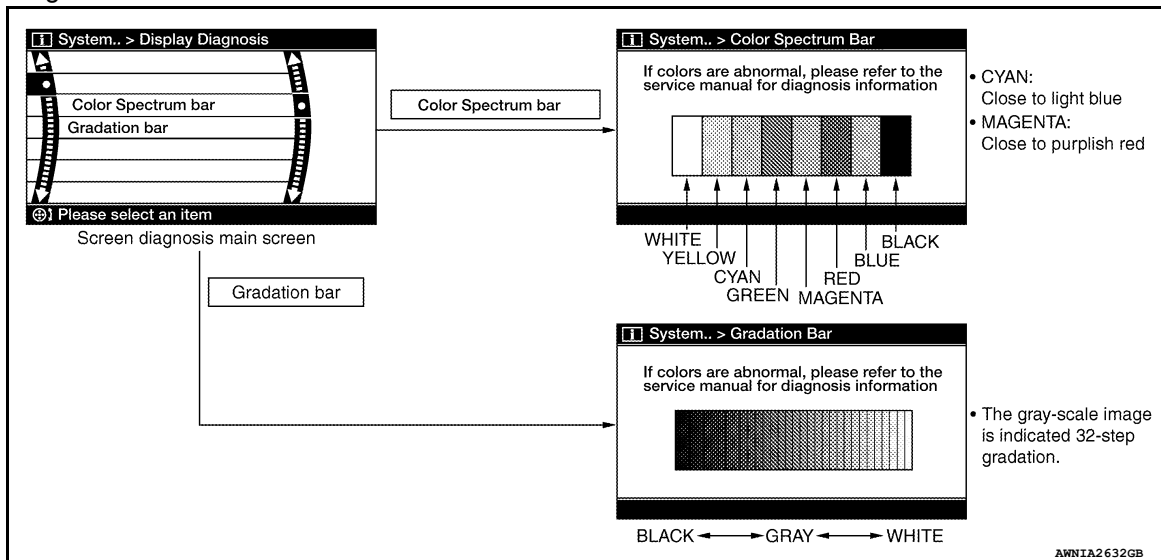
[MULTI AV (DISPLAY AUDIO)]

Audio Unit Confirmation/Adjustment

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

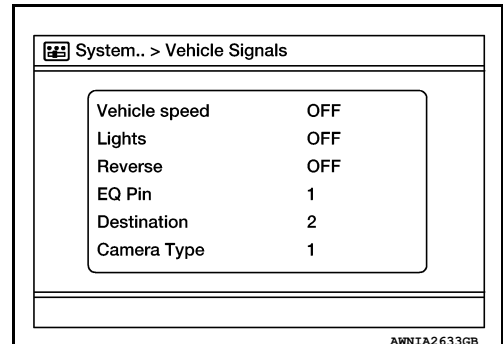


Display Diagnosis



Vehicle Signals

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



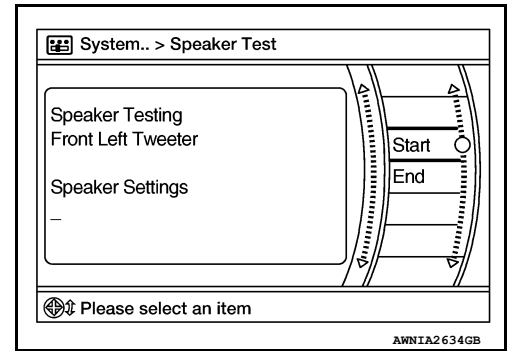
Speaker Test

DIAGNOSIS SYSTEM (AUDIO UNIT)

< SYSTEM DESCRIPTION >

[MULTI AV (DISPLAY AUDIO)]

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.

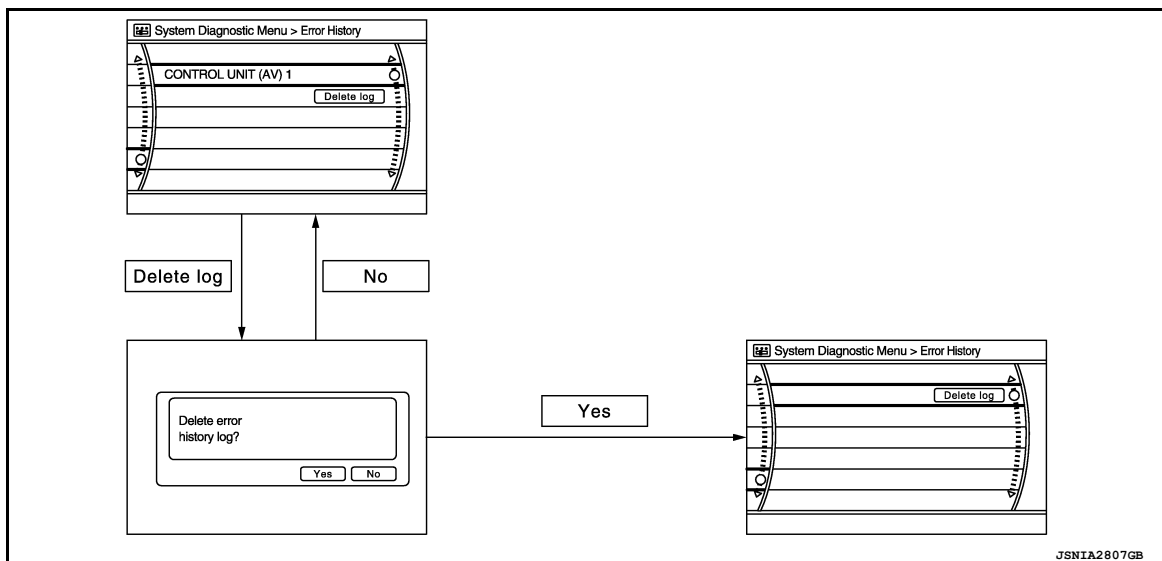
Count-up method A

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

Count-up method B

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

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



Error item

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

DIAGNOSIS SYSTEM (AUDIO UNIT)

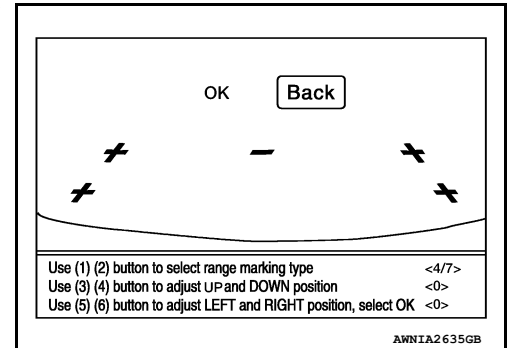
< SYSTEM DESCRIPTION >

[MULTI AV (DISPLAY AUDIO)]

Error item	Description	Possible cause
CONTROL UNIT (AV)	AV communication circuit initial diagnosis malfunction is detected.	Replace the audio unit if the malfunction occurs constantly. Refer to AV-65, "Removal and Installation" .
AV COMM CIRCUIT	When one of the following is detected: - Malfunction is detected in combination meter power supply and ground circuits. - Malfunction is detected in AV communication circuits between audio unit and combination meter.	- Combination meter power supply or ground circuits. Refer to MWI-59, "COMBINATION METER : Diagnosis Procedure". - AV communication circuits between audio unit and combination meter.

Camera System

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



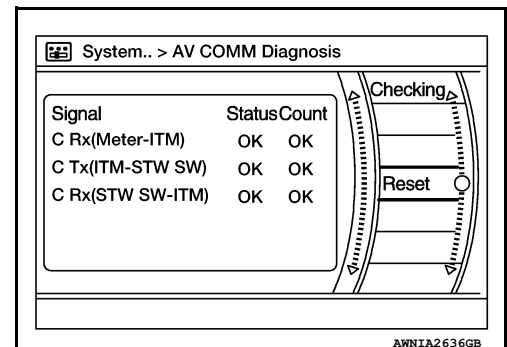
AV COMM Diagnosis

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

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

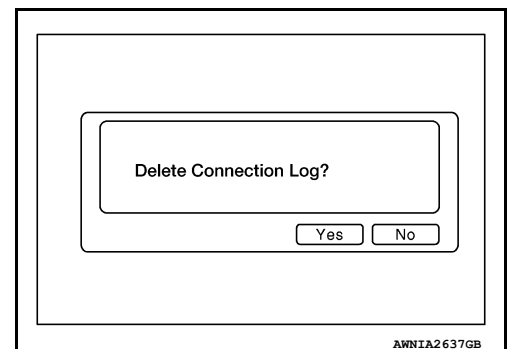
NOTE:

“???” indicates UNKWN.



Delete Unit Connection Log

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



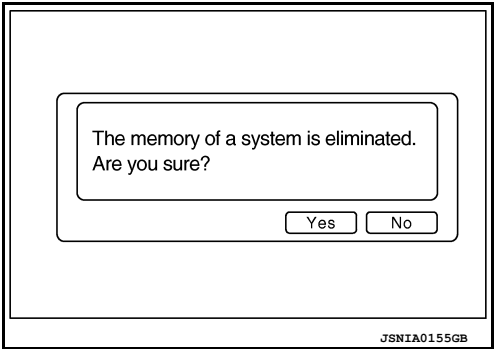
Initialize Settings

DIAGNOSIS SYSTEM (AUDIO UNIT)

< SYSTEM DESCRIPTION >

[MULTI AV (DISPLAY AUDIO)]

Deletes data stored from the audio unit.



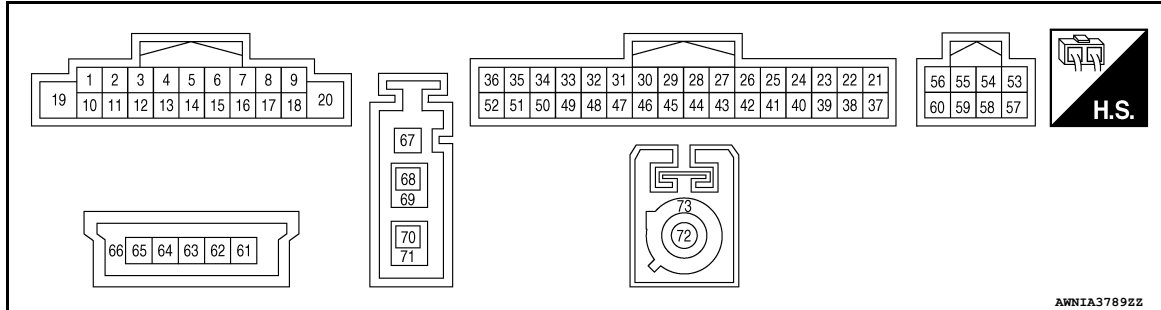
ECU DIAGNOSIS INFORMATION

AUDIO UNIT

Reference Value

INFOID:0000000011552773

TERMINAL LAYOUT



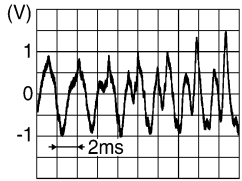
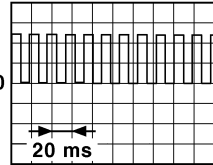
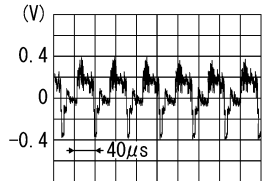
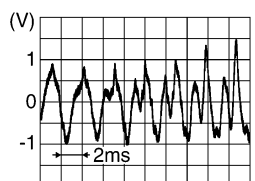
PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output	Ignition switch	Operation	
2 (P)	3 (W)	Sound signal front speaker LH	Output	ON	Sound output	 SKIB3609E
4 (G)	5 (W)	Sound signal rear door speaker LH	Output	ON	Sound output	 SKIB3609E
7 (P)	Ground	ACC power supply	Input	ACC	—	Battery voltage
9 (R)	8 (B)	Illumination control signal	Input	ON	Headlamps ON	Battery voltage
11 (G)	12 (W)	Sound signal front speaker RH	Output	ON	Sound output	 SKIB3609E

AUDIO UNIT

< ECU DIAGNOSIS INFORMATION >

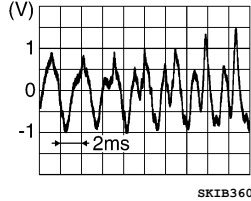
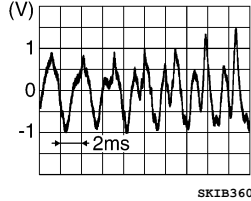
[MULTI AV (DISPLAY AUDIO)]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output	Ignition switch	Operation	
13 (R)	14 (P)	Sound signal rear door speaker RH	Output	ON	Sound output	 SKIB3609E
18 (BR)	Ground	Vehicle speed signal	Input	ON	When vehicle speed is ap- prox. 40 km/h (25 MPH)	 JSNIA0012GB
19 (G)	Ground	Battery power supply	Input	OFF	—	Battery voltage
20 (B)	Ground	Ground	—	ON	—	0 V
28 (SB)	—	M-CAN high	—	—	—	—
29 (LG)	—	M-CAN low	—	—	—	—
31 (SB)	—	M-CAN high	—	—	—	—
32 (LG)	—	M-CAN low	—	—	—	—
33 (B)	—	Camera image ground	—	—	—	—
34 (R)	Ground	Camera power supply	Output	ON	When camera image is dis- played	6.0 V
					Except for above	0 V
35 (W)	Ground	Camera image signal	Input	ON	When camera image is dis- played	 SKIB2251J
36 (Shield)	—	Camera image shield	—	—	—	—
37 (B)	39 (Shield)	Microphone signal	Input	ON	While speaking into micro- phone	 SKIB3609E
38 (W)	Ground	Microphone power supply	Output	ON	—	5.0 V

AUDIO UNIT

< ECU DIAGNOSIS INFORMATION >

[MULTI AV (DISPLAY AUDIO)]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output	Ignition switch	Operation	
44 (B)	Ground	Ground	—	ON	—	0 V
45 (B)	Ground	Ground	—	ON	—	0 V
50 (G)	Ground	Reverse signal	Input	ON	Selector lever in R (re- verse)	Battery voltage
					Selector lever in any posi- tion other than R (reverse)	0 V
53 (Shield)	—	AUX in jack shield	—	—	—	—
54 (B)	—	AUX in jack ground	—	ON	—	0 V
55 (R)	Ground	AUX in jack audio signal RH	Input	ON	AUX audio signal received	
56 (W)	Ground	AUX in jack audio signal LH	Input	ON	AUX audio signal received	
61 (R)	—	V BUS signal	—	—	—	—
62 (W)	—	USB D- signal	—	—	—	—
63 (G)	—	USB D+ signal	—	—	—	—
65 (B)	—	USB ground	—	—	—	—
66 (Shield)	—	USB shield	—	—	—	—
67 (B)	Ground	Antenna power supply	Output	ON	—	Battery voltage
68 (B)	Ground	AM/FM antenna signal	Input	ON	—	5.0 V
69 (Shield)	—	AM/FM antenna signal shield	—	—	—	—
70 (B)	—	Antenna (FM sub) signal	—	—	—	5.0 V
71 (Shield)	—	Antenna (FM sub) signal shield	—	—	—	—

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AUDIO UNIT

< ECU DIAGNOSIS INFORMATION >

[MULTI AV (DISPLAY AUDIO)]

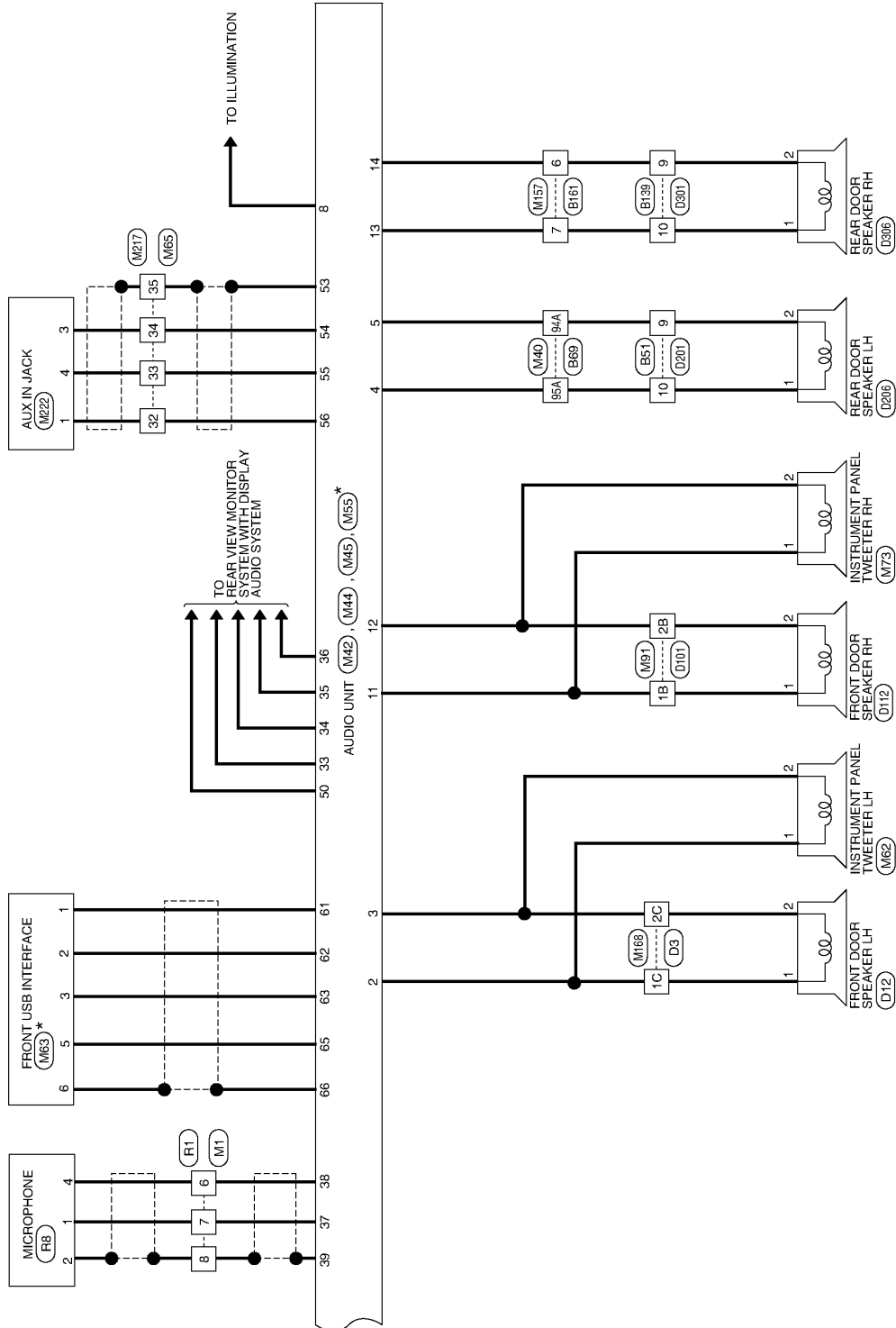
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output	Ignition switch	Operation	
72 (B)	Ground	Satellite antenna signal	Input	ON	—	5.0 V
73 (Shield)	—	Satellite antenna signal shield	—	—	—	—

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

MULTI AV SYSTEM

< WIRING DIAGRAM >

[MULTI AV (DISPLAY AUDIO)]



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

AANWA1223GB

MULTI AV (DISPLAY AUDIO SYSTEM) CONNECTORS

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



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



3	5	1
2		

Connector No.	M6
Connector Name	ACCESSORY RELAY-2
Connector Color	BLUE

Connector No.	M19
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK



60	59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41
80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	64	63	62	61

Terminal No.	Color of Wire	Signal Name
6	W	-
7	B	-
8	SHIELD	-

Terminal No.	Color of Wire	Signal Name
1	L	-
2	B	-
3	R	-
5	P	-

Terminal No.	Color of Wire	Signal Name
68	R	MR OUTPUT

Connector No.	M22
Connector Name	DATA LINK CONNECTOR
Connector Color	WHITE



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

Connector No.	M23
Connector Name	COMBINATION METER
Connector Color	WHITE



41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE



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

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

Terminal No.	Color of Wire	Signal Name
49	LG	M-CAN (LOW)
50	SB	M-CAN (HI)

Terminal No.	Color of Wire	Signal Name
21	R	GND (STRG SW INPUT)
22	P	STRG SW (INPUT1)
23	BG	STRG SW (INPUT2)
38	BR	SPEED 8 P/R

MULTI AV SYSTEM

< WIRING DIAGRAM >

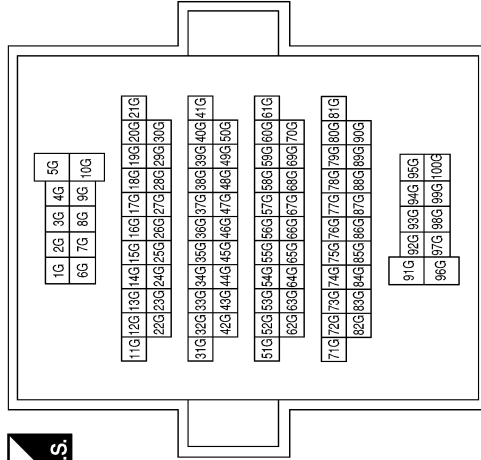
[MULTI AV (DISPLAY AUDIO)]

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



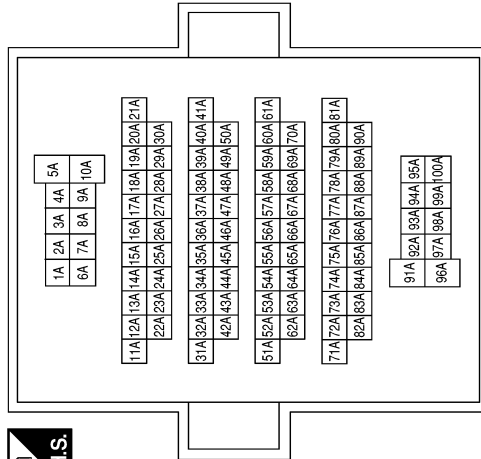
Terminal No.	Color of Wire	Signal Name
8	BG	—
9	P	—
11	R	—

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



Terminal No.	Color of Wire	Signal Name
5G	L	—

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



Terminal No.	Color of Wire	Signal Name
94A	W	—
95A	G	—

AANIA3333GB

MULTI AV SYSTEM

< WIRING DIAGRAM >

[MULTI AV (DISPLAY AUDIO)]

Terminal No.	Color of Wire	Signal Name
42	-	-
43	-	-
44	B	CAM DET
45	B	EQ1
46	-	-
47	-	-
48	-	-
49	-	-
50	G	REV
51	-	-
52	-	-

Terminal No.	Color of Wire	Signal Name
27	-	-
28	SB	MCAN2 H
29	LG	MCAN2 L
30	-	-
31	SB	MCAN1 H
32	LG	MCAN1 L
33	B	CAMERA GND
34	R	CAMERA 6.2V
35	W	COMPOSITE +
36	SHIELD	COMPOSITE -
37	B	MIC +
38	W	MICV +
39	SHIELD	MIC GND
40	-	-
41	-	-

Connector No.	M42
Connector Name	AUDIO UNIT
Connector Color	WHITE

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

Terminal No.	Color of Wire	Signal Name
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-

Connector No.	M45
Connector Name	AUDIO UNIT
Connector Color	WHITE

56	55	54	53
60	59	58	57

Terminal No.	Color of Wire	Signal Name
7	P	ACC
8	B	ILL (-)
9	R	ILL (+), LIGHT SW
10	-	-
11	G	FR SP RH (+)
12	W	FR SP RH (-)
13	R	RR SP RH (+)
14	P	RR SP RH (-)
15	-	-
16	-	-
17	-	-
18	BR	SPEED SIGNAL
19	G	+B
20	B	GND

Connector No.	M44
Connector Name	AUDIO UNIT
Connector Color	WHITE

	<table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr><tr><td>19</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>20</td></tr></table>	1	2	3	4	5	6	7	8	9	19	10	11	12	13	14	15	16	17	18	20
1	2	3	4	5	6	7	8	9													
19	10	11	12	13	14	15	16	17	18	20											

Terminal No.	Color of Wire	Signal Name
1	-	-
2	P	FR SP LH (+)
3	W	FR SP LH (-)
4	G	RR SP LH (+)
5	W	RR SP LH (-)
6	-	-

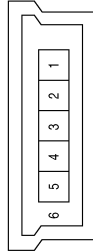
AANIA3334GB

MULTI AV SYSTEM

< WIRING DIAGRAM >

[MULTI AV (DISPLAY AUDIO)]

Connector No.	M63
Connector Name	FRONT USB INTERFACE
Connector Color	BLACK



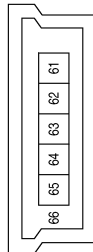
Terminal No.	Color of Wire	Signal Name
1	R	-
2	W	-
3	G	-
4	-	-
5	B	-
6	SHIELD	-

Connector No.	M62
Connector Name	INSTRUMENT PANEL TWEETER LH
Connector Color	BROWN



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

Connector No.	M55
Connector Name	AUDIO UNIT
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
61	R	VBUS
62	W	USB D-
63	G	USB D+
64	-	-
65	B	USB GND
66	SHIELD	SHIELD

Connector No.	M73
Connector Name	INSTRUMENT PANEL TWEETER RH
Connector Color	BROWN



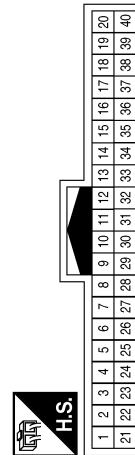
Terminal No.	Color of Wire	Signal Name
1	G	-
2	W	-

Connector No.	M68
Connector Name	FUSE BLOCK (J/B)
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
5R	G	-
6R	L	-
14R	R	-

Connector No.	M65
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
32	W	-
33	R	-
34	B	-
35	SHIELD	-

AANIA3335GB

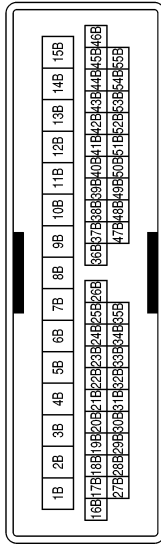
MULTI AV SYSTEM

< WIRING DIAGRAM >

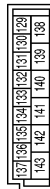
[MULTI AV (DISPLAY AUDIO)]

Terminal No.	Color of Wire	Signal Name
1B	G	—
2B	W	—

Connector No.	M91
Connector Name	WIRE TO WIRE
Connector Color	WHITE

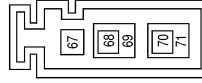


Connector No.	M81
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE

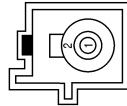


Terminal No.	Color of Wire	Signal Name
139	L	BAT POWER F/L

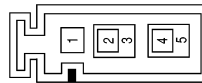
Connector No.	M106
Connector Name	AUDIO UNIT
Connector Color	GRAY



Connector No.	M99
Connector Name	WIRE TO WIRE
Connector Color	GREEN



Connector No.	M98
Connector Name	WIRE TO WIRE
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
67	B	ANT +B
68	B	MAIN ANT
69	SHIELD	MAIN GND
70	B	ANT SUB
71	SHIELD	SUB GND

Terminal No.	Color of Wire	Signal Name
1	B	—
2	SHIELD	—

Terminal No.	Color of Wire	Signal Name
1	B	—
2	B	—
3	SHIELD	—
4	B	—
5	SHIELD	—

AANIA3336GB

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AV

MULTI AV SYSTEM

< WIRING DIAGRAM >

[MULTI AV (DISPLAY AUDIO)]

Connector No.	M107
Connector Name	AUDIO UNIT
Connector Color	PINK



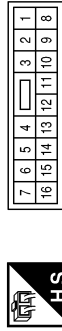
Terminal No.	Color of Wire	Signal Name
72	B	SAT ANT
73	SHIELD	SAT SHIELD

Connector No.	M149
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY



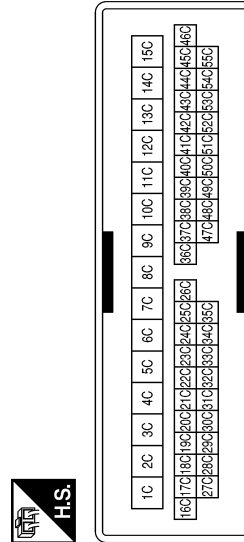
Terminal No.	Color of Wire	Signal Name
16	W	-
17	G	-
19	BR	-

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



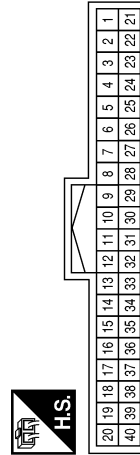
Terminal No.	Color of Wire	Signal Name
6	P	-
7	R	-

Connector No.	M168
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

Connector No.	M217
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
32	W	-
33	R	-
34	B	-
35	SHIELD	-

Connector No.	M222
Connector Name	AUX IN JACK
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	W	-
3	B	-
4	R	-

MULTI AV SYSTEM

< WIRING DIAGRAM >

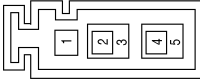
[MULTI AV (DISPLAY AUDIO)]

Connector No.	M502
Connector Name	ANTENNA AMP.
Connector Color	BLUE



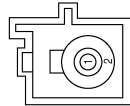
Terminal No.	Color of Wire	Signal Name
1	B	-
2	B	-
3	SHIELD	-

Connector No.	M501
Connector Name	WIRE TO WIRE
Connector Color	GRAY



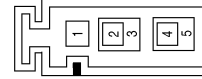
Terminal No.	Color of Wire	Signal Name
1	B	-
2	B	-
3	SHIELD	-
4	B	-
5	SHIELD	-

Connector No.	M500
Connector Name	WIRE TO WIRE
Connector Color	GREEN



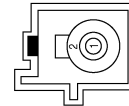
Terminal No.	Color of Wire	Signal Name
1	B	-
2	SHIELD	-

Connector No.	M506
Connector Name	WIRE TO WIRE
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
1	B	-
2	B	-
3	SHIELD	-
4	B	-
5	SHIELD	-

Connector No.	M505
Connector Name	WIRE TO WIRE
Connector Color	GREEN



Terminal No.	Color of Wire	Signal Name
1	B	-
2	SHIELD	-

Connector No.	M504
Connector Name	GLASS ANTENNA (FM SUB)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
1	B	-

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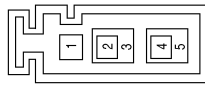
MULTI AV SYSTEM

< WIRING DIAGRAM >

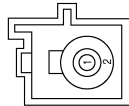
[MULTI AV (DISPLAY AUDIO)]

Terminal No.	Color of Wire	Signal Name
1	B	-
2	B	-
3	SHIELD	-
4	B	-
5	SHIELD	-

Connector No.	M508
Connector Name	WIRE TO WIRE
Connector Color	GRAY

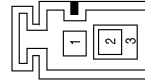


Connector No.	M507
Connector Name	WIRE TO WIRE
Connector Color	GREEN

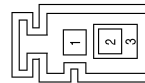


Terminal No.	Color of Wire	Signal Name
1	B	-
2	SHIELD	-

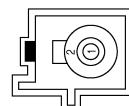
Connector No.	M511
Connector Name	WIRE TO WIRE
Connector Color	GRAY



Connector No.	M510
Connector Name	WIRE TO WIRE
Connector Color	GRAY



Connector No.	M509
Connector Name	SATELLITE ANTENNA
Connector Color	GREEN



Terminal No.	Color of Wire	Signal Name
2	B	-
3	SHIELD	-

Terminal No.	Color of Wire	Signal Name
2	B	-
3	SHIELD	-

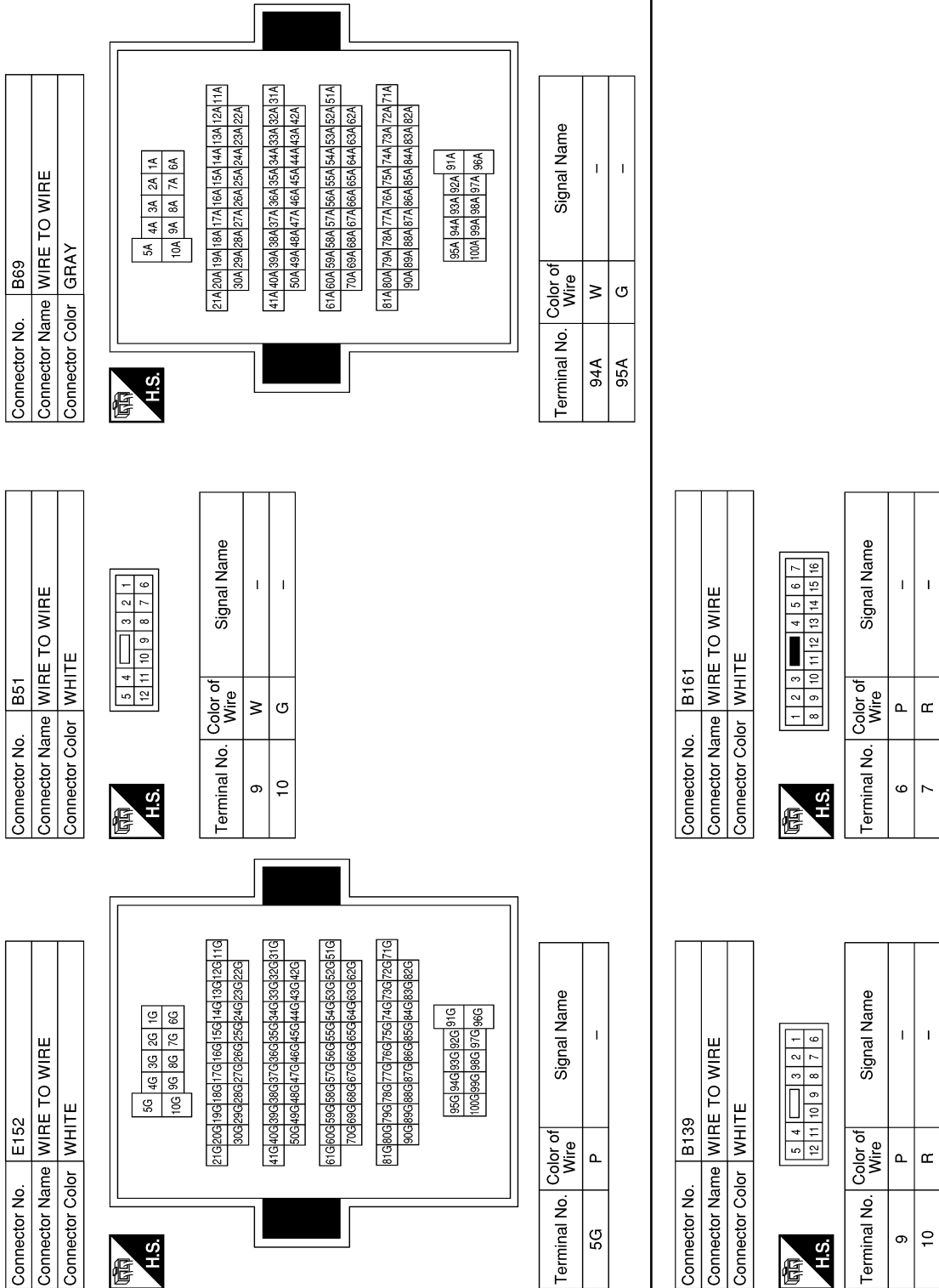
Terminal No.	Color of Wire	Signal Name
1	B	-
2	SHIELD	-

AANIA3339GB

MULTI AV SYSTEM

< WIRING DIAGRAM >

[MULTI AV (DISPLAY AUDIO)]



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

AV

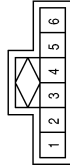
AANIA3340GB

MULTI AV SYSTEM

< WIRING DIAGRAM >

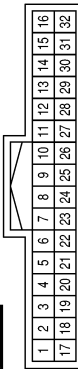
[MULTI AV (DISPLAY AUDIO)]

Connector No.	R8
Connector Name	MICROPHONE
Connector Color	WHITE



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

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



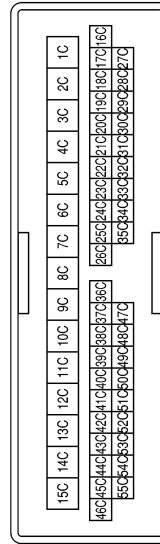
Terminal No.	Color of Wire	Signal Name
6	R	-
7	L	-
8	SHIELD	-

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

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



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



Connector No.	D3
Connector Name	WIRE TO WIRE
Connector Color	WHITE



AANIA3341GB

MULTI AV SYSTEM

< WIRING DIAGRAM >

[MULTI AV (DISPLAY AUDIO)]

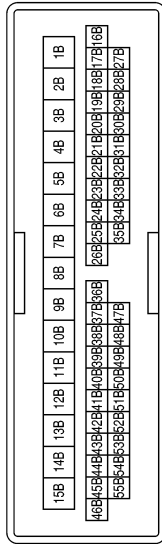
Connector No.	D112
Connector Name	FRONT DOOR SPEAKER RH
Connector Color	WHITE



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

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

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



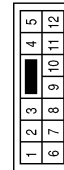
Connector No.	D301
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Connector No.	D206
Connector Name	REAR DOOR SPEAKER LH
Connector Color	WHITE



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



Terminal No.	Color of Wire	Signal Name
9	P	-
10	R	-

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

Terminal No.	Color of Wire	Signal Name
9	W	-
10	G	-

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Connector No.	D306
Connector Name	REAR DOOR SPEAKER RH
Connector Color	WHITE



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

AANIA3343GB

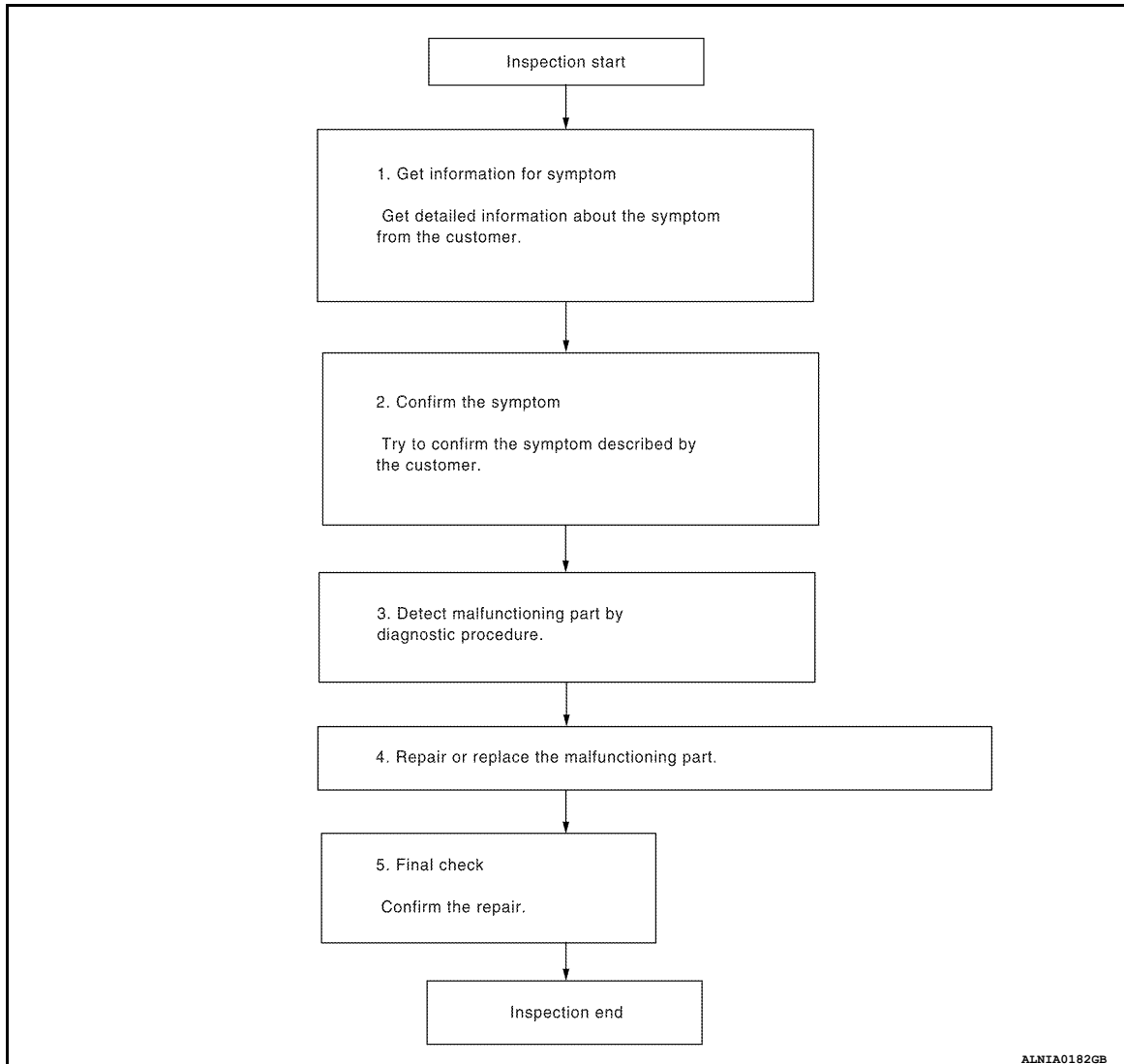
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000011552775

OVERALL SEQUENCE



DETAILED FLOW

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

2.CONFIRM THE SYMPTOM

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

>> GO TO 3.

3.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[MULTI AV (DISPLAY AUDIO)]

Is malfunctioning part detected?

YES >> GO TO 4.

NO >> GO TO 2.

4.REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 5.

5.FINAL CHECK

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

Was the repair confirmed?

YES >> Inspection End.

NO >> GO TO 2.

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[MULTI AV (DISPLAY AUDIO)]

INSPECTION AND ADJUSTMENT REGISTRATION (AUDIO UNIT)

REGISTRATION (AUDIO UNIT) : Description

INFOID:0000000011552776

AFTER REPLACEMENT

If the audio unit is replaced with a new audio unit, the new audio unit must be registered using the Bluetooth D/C(serial #).

CAUTION:

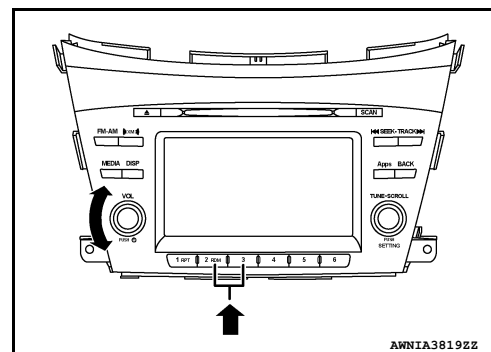
If the new audio unit Bluetooth D/C(serial #) is not registered, the “APPS” mode will not function.

REGISTRATION (AUDIO UNIT) : Work Procedure

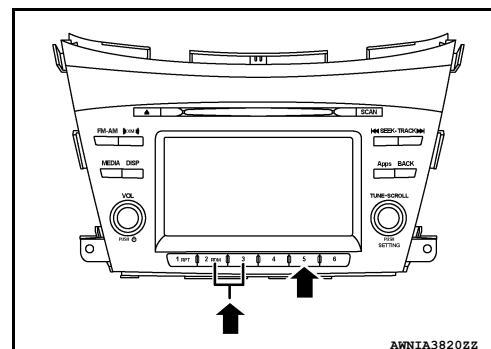
INFOID:0000000011552777

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

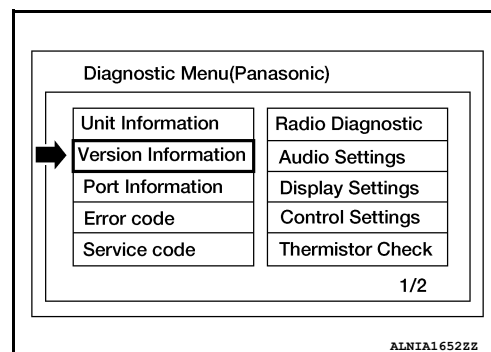
1. Turn ignition switch ON.
2. Turn audio unit OFF.
3. Access the diagnostic menu as follows:
 - Press and hold preset buttons 2 and 3.



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



4. Select Version Information from the Diagnostic Menu.

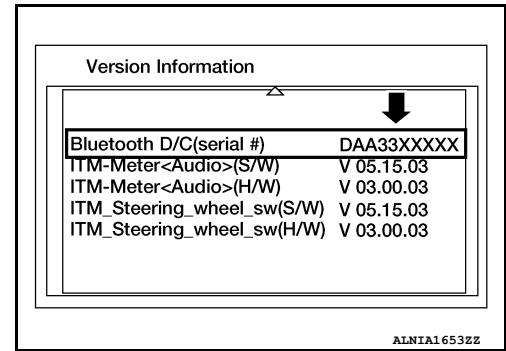


INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[MULTI AV (DISPLAY AUDIO)]

5. Scroll through the menu pages to Bluetooth D/C(serial #) and record the number displayed.



>> GO TO 2.

2. REGISTER REPLACEMENT AUDIO UNIT

Register the replacement audio unit by contacting NISSAN Owner Services. Refer to TSB.

>> GO TO 3.

3. OPERATION CHECK

Verify that the audio unit "APPS" function operates normally.

>> Work End.

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[MULTI AV (DISPLAY AUDIO)]

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID:000000011552778

Regarding Wiring Diagram information, refer to [AV-29, "Wiring Diagram"](#).

1.CHECK FUSE

Check that the following fuses are not blown:

Terminal No.	Signal name	Fuse No.
7	Battery power supply	7 (10A)
19	Battery power supply	15 (20A)

Are the fuses blown?

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

2.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M44.
3. Check voltage between audio unit connector M44 and ground.

Audio unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M44	7	—	Ignition switch: ON	Battery voltage
	19		Ignition switch: OFF	

Is the inspection result normal?

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

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M42 and M44.
3. Check continuity between audio unit connectors and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M42	45	—	Yes
M44	20		

Is the inspection result normal?

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

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[MULTI AV (DISPLAY AUDIO)]

FRONT DOOR SPEAKER

Diagnosis Procedure

INFOID:0000000011552779

Regarding Wiring Diagram information, refer to [AV-29. "Wiring Diagram"](#).

1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminals or connectors.

2.CHECK FRONT DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY

1. Disconnect audio unit connector M44 and suspected front door speaker connector.
2. Check continuity between audio unit connector M44 and suspected front door speaker connector.

Audio unit		Front door speaker		Continuity
Connector	Terminal	Connector	Terminal	
M44	2	D12 (LH)	1	Yes
	3		2	
	11	D112 (RH)	1	
	12		2	

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

Audio unit		Ground	Continuity
Connector	Terminal		
M44	2	—	No
	3		
	11		
	12		

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

3.CHECK FRONT DOOR SPEAKER SIGNAL

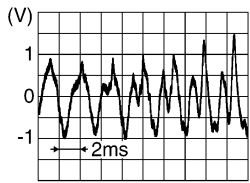
1. Connect audio unit connector M44 and suspected front door speaker connector.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between audio unit connector M44 and ground.

Audio unit connector M44		Condition	Reference value
(+)	(-)		
Terminal	Terminal		

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[MULTI AV (DISPLAY AUDIO)]

2	3	Audio signal output	 SKIB3609E
11	12		

Is the inspection result normal?

- YES >> Replace front door speaker. Refer to [AV-71. "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-65. "Removal and Installation"](#).

AV

INSTRUMENT PANEL SPEAKER/TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[MULTI AV (DISPLAY AUDIO)]

INSTRUMENT PANEL SPEAKER/TWEETER

Diagnosis Procedure

INFOID:0000000011552780

Regarding Wiring Diagram information, refer to [AV-29. "Wiring Diagram"](#).

1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminals or connectors.

2.CHECK INSTRUMENT PANEL TWEETER SIGNAL CIRCUIT CONTINUITY

1. Disconnect audio unit connector M44 and suspected instrument panel tweeter connector.
2. Check continuity between audio unit connector M44 and suspected instrument panel tweeter connector.

Audio unit		Instrument panel tweeter		Continuity
Connector	Terminal	Connector	Terminal	
M44	2	M62 (LH)	1	Yes
	3		2	
	11	M73 (RH)	1	
	12		2	

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

Audio unit		Ground	Continuity
Connector	Terminal		
M44	2	—	No
	3		
	11		
	12		

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

3.CHECK INSTRUMENT PANEL TWEETER SIGNAL

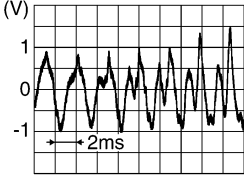
1. Connect audio unit connector M44 and suspected instrument panel tweeter connector.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between audio unit connector M44 and ground.

Audio unit connector M44		Condition	Reference value
(+)	(-)		
Terminal	Terminal		

INSTRUMENT PANEL SPEAKER/TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[MULTI AV (DISPLAY AUDIO)]

2	3	Audio signal output	(V) 
11	12		

Is the inspection result normal?

- YES >> Replace instrument panel tweeter. Refer to [AV-70. "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-65. "Removal and Installation"](#).

AV

REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[MULTI AV (DISPLAY AUDIO)]

REAR DOOR SPEAKER

Diagnosis Procedure

INFOID:0000000011552781

Regarding Wiring Diagram information, refer to [AV-29. "Wiring Diagram"](#).

1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminals or connectors.

2.CHECK REAR DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY

1. Disconnect audio unit connector M44 and suspected rear door speaker connector.
2. Check continuity between audio unit connector M44 and suspected rear door speaker connector.

Audio unit		Rear door speaker		Continuity
Connector	Terminal	Connector	Terminal	
M44	4	B206 (LH)	1	Yes
	5		2	
	13	B306 (RH)	1	
	14		2	

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

Audio unit		Ground	Continuity
Connector	Terminal		
M44	4	—	No
	5		
	13		
	14		

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

3.CHECK REAR DOOR SPEAKER SIGNAL

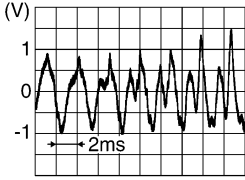
1. Connect audio unit connector M44 and suspected rear door speaker connector.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between audio unit connector M44 and ground.

Audio unit connector M44		Condition	Reference value
(+)	(-)		
Terminal	Terminal		

REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[MULTI AV (DISPLAY AUDIO)]

4	5	Audio signal output	(V)  SKIB3609E
13	14		

Is the inspection result normal?

- YES >> Replace rear door speaker. Refer to [AV-72. "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-65. "Removal and Installation"](#).

AV

MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[MULTI AV (DISPLAY AUDIO)]

MICROPHONE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000011552783

Regarding Wiring Diagram information, refer to [AV-29. "Wiring Diagram"](#).

1.CHECK MICROPHONE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M42 and microphone connector R8.
3. Check continuity between audio unit connector M42 and microphone connector R8.

Audio unit		Microphone		Continuity
Connector	Terminal	Connector	Terminal	
M42	37	R8	1	Yes
	38		4	
	39		2	

4. Check continuity between audio unit connector M42 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M42	37	—	No
	38		

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

2.CHECK MICROPHONE VCC VOLTAGE

1. Connect audio unit connector M42.
2. Turn ignition switch ON.
3. Check voltage between terminals of audio unit connector M42.

Audio unit connector M42		Voltage (Approx.)
(+)	(-)	
Terminal	Terminal	
38	39	5.0 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace audio unit. Refer to [AV-65. "Removal and Installation"](#).

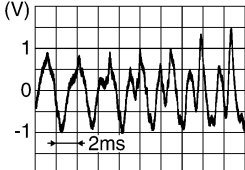
3.CHECK MICROPHONE SIGNAL

1. Connect microphone connector R8.
2. Check signal between terminals of audio unit connector M42.

MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[MULTI AV (DISPLAY AUDIO)]

Audio unit connector M42		Condition	Reference value
(+)	(-)		
Terminal	Terminal		
37	39	Speak into microphone.	 SKIB3609E

Is the inspection result normal?

- YES >> Replace audio unit. Refer to [AV-65. "Removal and Installation"](#).
- NO >> Replace microphone. Refer to [AV-75. "Removal and Installation"](#).

AV

STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[MULTI AV (DISPLAY AUDIO)]

STEERING SWITCH

Diagnosis Procedure

INFOID:0000000011552784

Regarding Wiring Diagram information, refer to [AV-29. "Wiring Diagram"](#).

1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

1. Turn ignition switch OFF.
2. Disconnect combination switch connector M149.
3. Check resistance between combination switch connector terminals.

Combination switch connector M149		Condition	Resistance Ω (Approx.)
Terminal	Terminal		
16	19	Depress SOURCE switch.	1
		Depress Δ switch.	121
		Depress ∇ switch.	321
		Depress ↔ switch.	723
		Depress ENTER switch.	2023
17		Depress - 🔊 switch.	1
		Depress 🔊+ switch.	121
		Depress 🔌 switch.	321
		Depress ↶ switch.	723
		Depress DISP switch.	2023

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace steering switches. Refer to [AV-66. "Removal and Installation"](#).

2. CHECK HARNESS BETWEEN COMBINATION SWITCH AND COMBINATION METER

1. Disconnect combination meter connector M24 and combination switch connector M30.
2. Check continuity between combination meter connector M24 and combination switch connector M30.

Combination meter		Combination switch		Continuity
Connector	Terminal	Connector	Terminal	
M24	21	M30	11	Yes
	22		9	
	23		8	

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

Combination meter		Ground	Continuity
Connector	Terminal		
M24	21	—	No
	22		
	23		

Is the inspection result normal?

STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[MULTI AV (DISPLAY AUDIO)]

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

3.CHECK COMBINATION SWITCH

Check continuity between combination switch connectors M30 and M149.

Combination switch				Continuity
Connector	Terminal	Connector	Terminal	
M30	8	M149	17	Yes
	9		16	
	11		19	

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Replace spiral cable. Refer to [SR-15, "Removal and Installation"](#).

4.CHECK HARNESS BETWEEN COMBINATION METER AND AUDIO UNIT

1. Disconnect audio connector M42.
2. Check continuity between combination meter connector M23 and audio unit connector M42.

Combination meter		Audio unit		Continuity
Connector	Terminal	Connector	Terminal	
M23	49	M42	32	Yes
	50		31	

3. Check continuity between combination meter connector M23 and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M23	49	—	No
	50		

Is the inspection result normal?

- YES >> Replace audio unit. Refer to [AV-65, "Removal and Installation"](#).
NO >> Repair or replace harness or connectors.

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AV

USB CONNECTOR

Diagnosis Procedure

INFOID:0000000011552785

Regarding Wiring Diagram information, refer to [AV-29, "Wiring Diagram"](#).

1. CHECK FRONT USB INTERFACE HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M55 and front USB interface connector M63.
3. Check continuity between audio unit connector M55 and front USB interface connector M63.

Audio unit		Front USB interface		Continuity
Connector	Terminal	Connector	Terminal	
M55	61	M63	1	Yes
	62		2	
	63		3	
	65		5	
	66		6	

4. Check continuity between audio unit connector M55 and ground.

Audio unit		—	Continuity
Connector	Terminal		
M55	62	Ground	No
	65		

Is the inspection result normal?

- YES >> Replace the front USB interface. Refer to [AV-68, "Removal and Installation"](#).
- NO >> Repair or replace harness or connectors.

AUXILIARY INPUT JACK

< DTC/CIRCUIT DIAGNOSIS >

[MULTI AV (DISPLAY AUDIO)]

AUXILIARY INPUT JACK

Diagnosis Procedure

INFOID:0000000011552786

Regarding Wiring Diagram information, refer to [AV-29. "Wiring Diagram"](#).

1. CHECK AUX IN JACK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M45 and AUX in jack connector M222.
3. Check continuity between audio unit connector M45 and AUX in jack connector M222.

Audio unit		AUX in jack		Continuity
Connector	Terminal	Connector	Terminal	
M45	54	M222	3	Yes
	55		4	
	56		1	

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

Audio unit		—	Continuity
Connector	Terminal		
M45	55	Ground	No
	56		

Is the inspection result normal?

- YES >> Replace the AUX in jack. Refer to [AV-69. "Removal and Installation"](#).
NO >> Repair or replace harness or connectors.

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:0000000011552787

RELATED TO AUDIO

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	Audio unit	Malfunction in audio unit. Refer to AV-19, "On Board Diagnosis Function" .
No sound comes out or the level of the sound is low.	No sound from all speakers.	• Speaker circuit shorted to ground. Refer to AV-29, "Wiring Diagram". • Audio unit power supply and ground circuits malfunction. Refer to AV-47, "AUDIO UNIT : Diagnosis Procedure".
	Only a certain speaker (front door speaker LH, front door speaker RH, instrument panel tweeter LH, instrument panel tweeter RH, rear door speaker LH, rear door speaker RH) does not output sound.	• Poor connector connection of speaker. • Sound signal circuit malfunction between audio unit and speaker. Refer to: - AV-48, "Diagnosis Procedure" (front door speaker). - AV-50, "Diagnosis Procedure" (instrument panel tweeter). - AV-52, "Diagnosis Procedure" (rear door speaker). • Malfunction in speaker. Refer to: - AV-71, "Removal and Installation" (front door speaker). - AV-70, "Removal and Installation" (instrument panel tweeter). - AV-72, "Removal and Installation" (rear door speaker). • Malfunction in audio unit. Refer to AV-19, "On Board Diagnosis Function".

AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[MULTI AV (DISPLAY AUDIO)]

Symptoms	Check items	Probable malfunction location
Noise is mixed with audio.	Noise comes out from all speakers.	Malfunction in audio unit. Refer to AV-19, "On Board Diagnosis Function" .
	Noise comes out only from a certain speaker (front door speaker LH, front door speaker RH, front instrument panel tweeter LH, front instrument panel tweeter RH, rear door speaker LH, rear door speaker RH).	- Poor connector connection of speaker. - Sound signal circuit malfunction between audio unit and speaker. Refer to: AV-48, "Diagnosis Procedure" (front door speaker). AV-50, "Diagnosis Procedure" (instrument panel tweeter). AV-52, "Diagnosis Procedure" (rear door speaker). - Malfunction in speaker. - Poor installation of speaker (e.g. backlash and looseness). Refer to: AV-71, "Removal and Installation" (front door speaker). AV-70, "Removal and Installation" (instrument panel tweeter). AV-72, "Removal and Installation" (rear door speaker). - Malfunction in audio unit. Refer to AV-19, "On Board Diagnosis Function".
	Noise is mixed with radio only (when the vehicle hits a bump or while driving over bad roads)	Poor connector connection of antenna or antenna feeder. Refer to AV-13, "Antenna and Antenna Feeder" .
No radio reception or poor reception.	- Other audio sounds are normal. - Any radio station cannot be received or poor reception is caused even after moving to a service area with good reception (e.g. a place with clear view and no obstacles generating external noises).	- Antenna amp. ON signal circuit malfunction. Refer to AV-25, "Reference Value". - Poor connector connection of antenna or antenna feeder. Refer to AV-13, "Antenna and Antenna Feeder".
No satellite radio reception.	Satellite radio antenna malfunction.	- Poor continuity in antenna feeder. - Poor connector connection of antenna or antenna feeder. - Loose satellite radio antenna mounting nut. Refer to AV-13, "Antenna and Antenna Feeder".
Buzz/rattle sound from speaker.	The majority of buzz/rattle sounds are not indicative of an issue with the speaker; usually something nearby the speaker is causing the buzz/rattle.	Refer to "SQUEAK AND RATTLE TROUBLE DIAGNOSIS" in the appropriate interior trim section.

RELATED TO HANDS-FREE PHONE

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

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

NOTE:

AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[MULTI AV (DISPLAY AUDIO)]

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

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

NOTE:

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

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

Symptom	Check items	Probable malfunction location
Does not recognize cellular phone connection (no connection is displayed on the display at the guide).	Repeat the registration of cellular phone.	Malfunction in audio unit. Replace audio unit. Refer to AV-65, "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.	Microphone signal circuit malfunction. Refer to AV-54, "Diagnosis Procedure" .
	Sound operation function does not work.	
The system cannot be operated.	• The voice recognition can be controlled. • Steering switches +, -, and  switch work, but  does not work.	Steering switch malfunction. Replace steering switch. Refer to AV-66, "Removal and Installation" .
	Steering switches  ,  +,  -, and  switches do not work.	Steering switch signal circuit malfunction. Refer to AV-56, "Diagnosis Procedure" .
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to AV-56, "Diagnosis Procedure" .

RELATED TO REAR VIEW CAMERA

Symptom	Check items	Probable malfunction location
Rear view camera is inoperative.	Reverse signal circuit malfunction.	Reverse signal circuit malfunction between BCM and audio unit. Refer to BCS-78, "Diagnosis Procedure" .
	Camera image signal circuit malfunction.	Camera image signal circuit malfunction between rear view camera and audio unit. Refer to AV-308, "Diagnosis Procedure" .
	Rear view camera malfunction.	Replace rear view camera. Refer to AV-313, "Removal and Installation" .

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[MULTI AV (DISPLAY AUDIO)]

NORMAL OPERATING CONDITION

Description

INFOID:0000000011552788

RELATED TO NOISE

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

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

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

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

NOTE:

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

Type of Noise and Possible Cause

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

RELATED TO HANDS-FREE PHONE

Symptom	Cause and counter measure
Does not recognize cellular phone connection (No connection is displayed on the display at the guide).	Some Bluetooth® enabled cellular phones may not be recognized by the in-vehicle phone module. Refer to "RELATED TO HANDS-FREE PHONE (Check Compatibility)" in AV-60, "Symptom Table" .
Cannot use hands-free phone.	Customer will not be able to use a hands-free phone under the following conditions: • The vehicle is outside of the telephone service area. • The vehicle is in an area where it is difficult to receive radio waves; such as in a tunnel, in an underground parking garage, near a tall building or in a mountainous area. • The cellular phone is locked to prevent it from being dialed. NOTE: While a cell phone is connected through the Bluetooth® wireless connection, the battery power of the cellular phone may discharge quicker than usual. The Bluetooth® Hands-Free Phone System cannot charge cellular phones.

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[MULTI AV (DISPLAY AUDIO)]

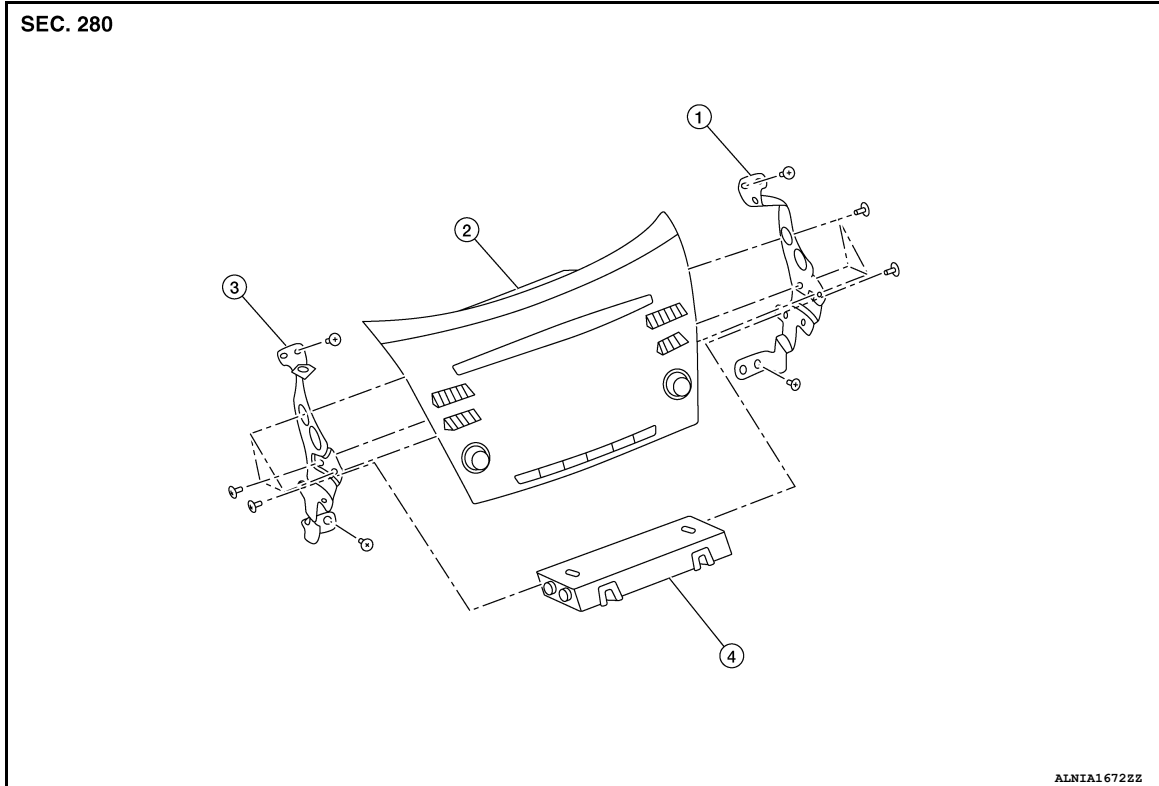
Symptom	Cause and counter measure
The other party's voice cannot be heard by hands-free phone.	When the radio wave condition is not ideal or ambient sound is too loud, it may be difficult to hear the other person's voice during a call.
Poor sound quality.	Do not place the cellular phone in an area surrounded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

REMOVAL AND INSTALLATION

AUDIO UNIT

Exploded View

INFOID:0000000011564281



- | | | |
|----------------------------|---------------|----------------------------|
| 1. Audio unit bracket (RH) | 2. Audio unit | 3. Audio unit bracket (LH) |
| 4. A/C auto amp. | | |

Removal and Installation

INFOID:0000000011564282

REMOVAL

1. Disconnect the negative battery terminal. Refer to [PG-86, "Removal and Installation"](#).
2. Remove cluster lid D. Refer to [IP-23, "Removal and Installation"](#).
3. Remove A/C switch assembly. Refer to [HAC-94, "Removal and Installation"](#).
4. Remove audio unit screws then pull out audio unit.
5. Disconnect the harness connectors from the audio unit and A/C auto amp. and remove.
6. Remove audio unit bracket (LH/RH) screws and audio unit brackets [(LH/RH) (if necessary)].

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

When replacing audio unit, the audio unit must be registered. Refer to [AV-45, "REGISTRATION \(AUDIO UNIT\) : Description"](#).

STEERING SWITCHES

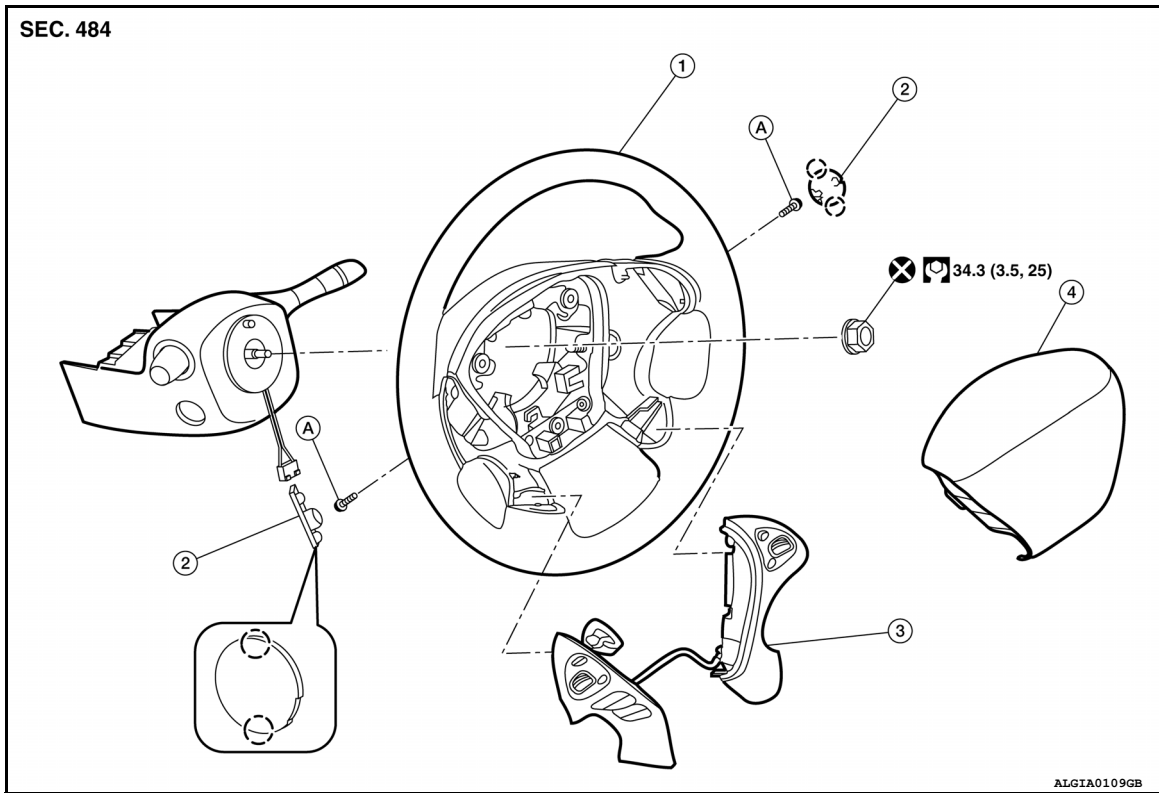
< REMOVAL AND INSTALLATION >

[MULTI AV (DISPLAY AUDIO)]

STEERING SWITCHES

Exploded View

INFOID:0000000011578437



Removal and Installation

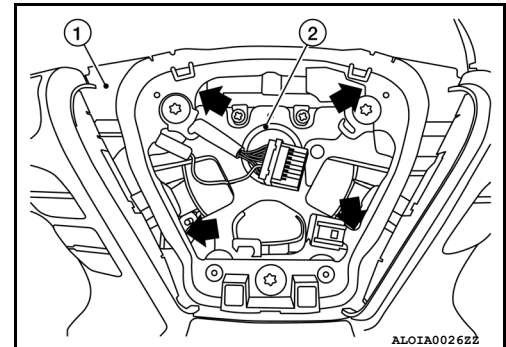
INFOID:0000000011564275

REMOVAL

NOTE:

The steering switches are serviced as an assembly.

1. Remove steering wheel. Refer to [ST-31. "Removal and Installation"](#).
2. Release pawls (➡) and remove steering wheel rear finisher (1) from steering wheel (2).

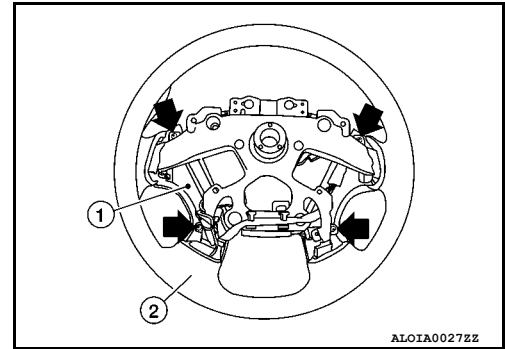


STEERING SWITCHES

< REMOVAL AND INSTALLATION >

[MULTI AV (DISPLAY AUDIO)]

3. Remove steering switch screws.
4. Remove steering switches (1) from steering wheel (2).



INSTALLATION

Installation is in the reverse order of removal.

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AV

FRONT USB INTERFACE

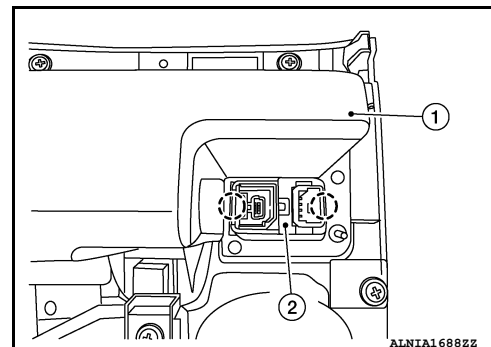
Removal and Installation

INFOID:000000011564266

REMOVAL

1. Remove shift selector finisher. Refer to [IP-19. "Exploded View"](#).
2. Release pawls and remove USB interface (2) from the back of the shift selector finisher (1).

○: Pawl



INSTALLATION

Installation is in the reverse order of removal.

AUX IN JACK

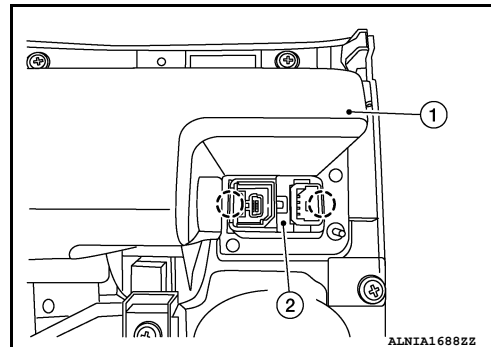
Removal and Installation

INFOID:0000000011564268

REMOVAL

1. Remove shift selector finisher. Refer to [IP-19. "Exploded View"](#).
2. Release pawls and remove AUX in jack (2) from the back of the shift selector finisher (1).

○: Pawl



INSTALLATION

Installation is in the reverse order of removal.

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AV

INSTRUMENT PANEL TWEETER

< REMOVAL AND INSTALLATION >

[MULTI AV (DISPLAY AUDIO)]

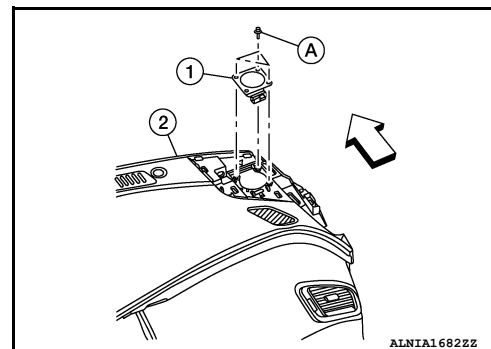
INSTRUMENT PANEL TWEETER

Removal and Installation

INFOID:000000011564269

REMOVAL

1. Remove instrument panel tweeter grille. Refer to [IP-15. "Exploded View"](#).
2. Disconnect the harness connector from instrument panel tweeter and remove screws (A) to remove instrument panel tweeter (1).
(2): Instrument panel assembly
⇐: Front



INSTALLATION

Installation is in the reverse order of removal.

FRONT DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[MULTI AV (DISPLAY AUDIO)]

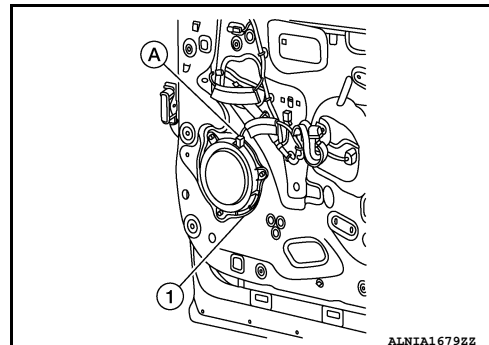
FRONT DOOR SPEAKER

Removal and Installation

INFOID:0000000011564270

REMOVAL

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



INSTALLATION

Installation is in the reverse order of removal.

A
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AV

REAR DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[MULTI AV (DISPLAY AUDIO)]

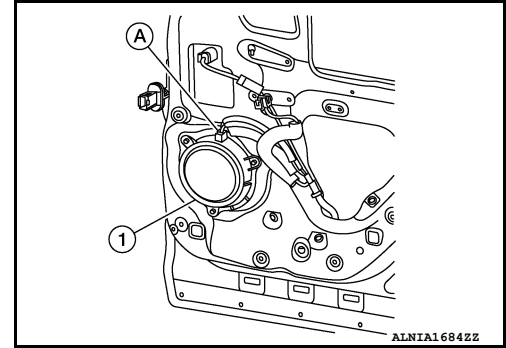
REAR DOOR SPEAKER

Removal and Installation

INFOID:000000011564271

REMOVAL

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



INSTALLATION

Installation is in the reverse order of removal.

SATELLITE RADIO ANTENNA

< REMOVAL AND INSTALLATION >

[MULTI AV (DISPLAY AUDIO)]

SATELLITE RADIO ANTENNA

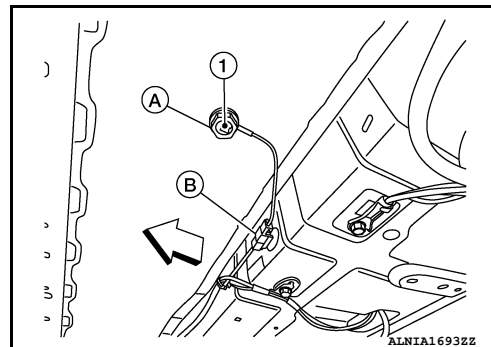
Removal and Installation

INFOID:0000000011578438

REMOVAL

1. Lower headlining (rear). Refer to [INT-26. "Exploded View"](#).
2. Disconnect harness connector (B) from antenna feeder.
3. Remove nut (A) from satellite antenna (1) and remove.

⇐: Front



INSTALLATION

Installation is in the reverse order of removal.

Satellite radio antenna nut : 6.5 N·m (0.66 kg-m, 58 in-lb)

CAUTION:

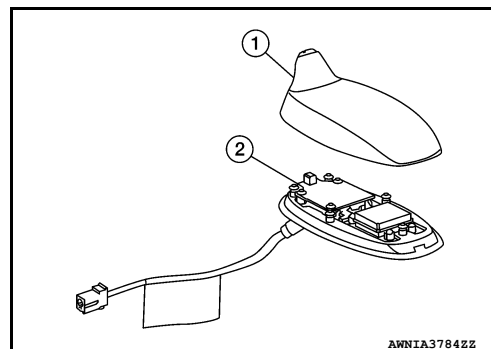
If the satellite antenna nut is not tightened to the specified torque, lower sensitivity of the antenna may be experienced. If the nut is tightened tighter than the specified torque, this will deform the roof panel.

Disassembly and Assembly

INFOID:0000000011578439

DISASSEMBLY

Insert a suitable tool into gap between satellite antenna (2) and the cover (1) then remove the cover (1) from satellite antenna (2).



ASSEMBLY

Assembly is in the reverse order of disassembly.

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AV

ANTENNA AMP.

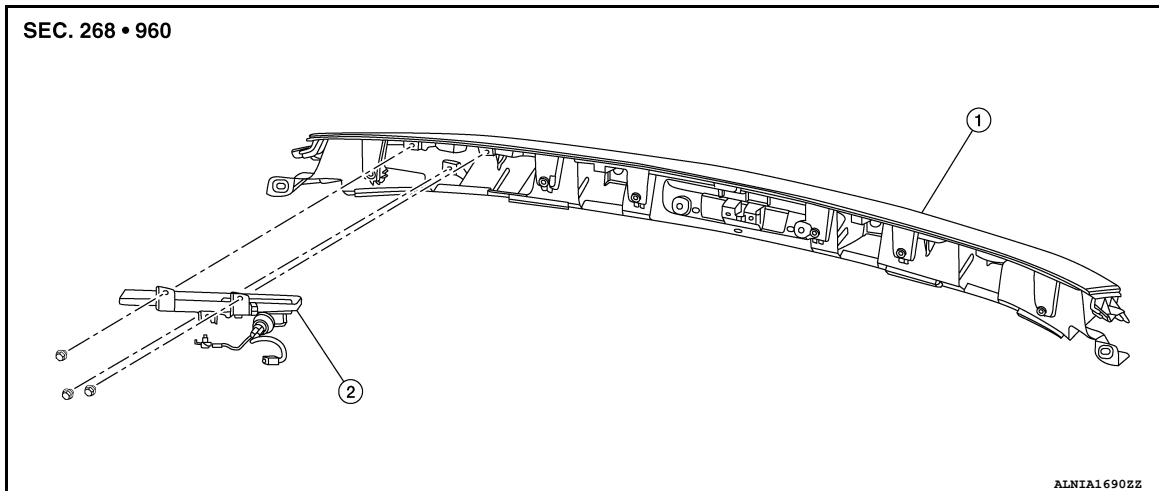
< REMOVAL AND INSTALLATION >

[MULTI AV (DISPLAY AUDIO)]

ANTENNA AMP.

Exploded View

INFOID:0000000011564278



1. Rear spoiler

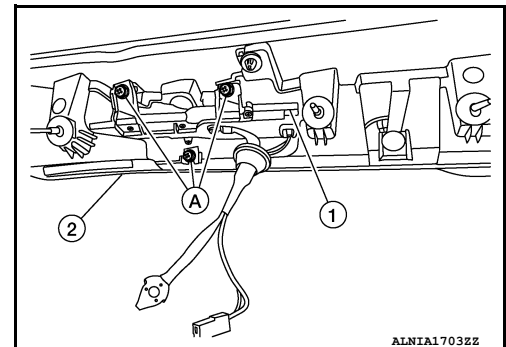
2. Antenna amp.

Removal and Installation

INFOID:0000000011564279

REMOVAL

1. Remove rear spoiler. Refer to [EXT-51, "Removal and Installation"](#).
2. Remove screws (A) and remove antenna amp (1).
(2): Rear spoiler



INSTALLATION

Installation is in the reverse order of removal.

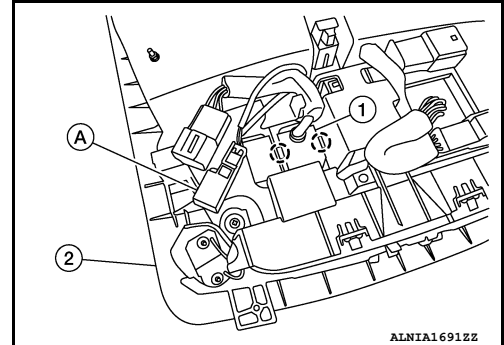
MICROPHONE

Removal and Installation

INFOID:0000000011564276

REMOVAL

1. Remove front room\map lamp assembly. Refer to [INL-56. "Removal and Installation"](#).
 2. Disconnect the harness connector (A) from front room\map lamp (2).
 3. Release pawls and remove microphone (1).
- : Pawl



INSTALLATION

Installation is in the reverse order of removal.

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AV

PRECAUTION

PRECAUTIONS

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

INFOID:0000000011565157

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

WARNING:

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

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

WARNING:

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

Cautions in Removing Battery Terminal, Display Control Unit, and AV Control Unit

INFOID:0000000011229987

CAUTION:

Remove battery terminal, display control unit, 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 display control unit, and the AV control unit continues operating for approximately 30 seconds.

Therefore, data corruption may occur if battery voltage is cut off within 30 seconds.

Precaution for Trouble Diagnosis

INFOID:0000000011229988

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:0000000011229989

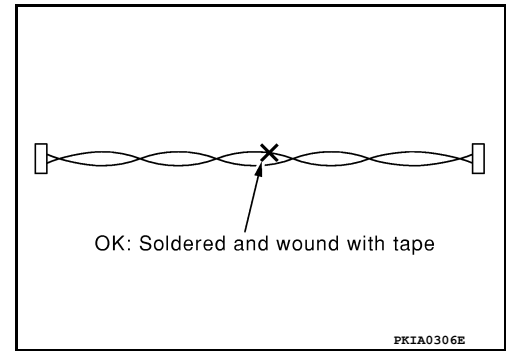
AV COMMUNICATION SYSTEM

PRECAUTIONS

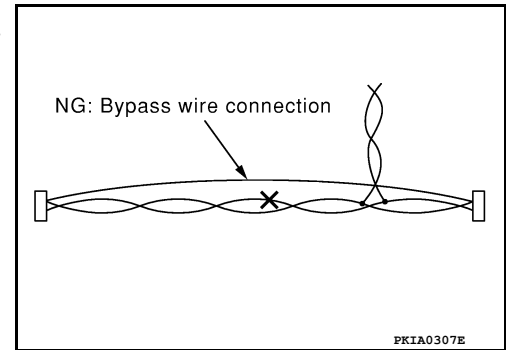
< PRECAUTION >

[MULTI AV (NAVIGATION)]

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



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



Precaution for Work

INFOID:000000011551917

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

PREPARATION

< PREPARATION >

[MULTI AV (NAVIGATION)]

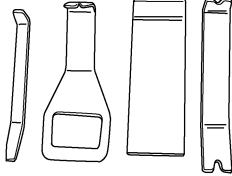
PREPARATION

PREPARATION

Special Service Tools

INFOID:0000000011578442

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

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

Commercial Service Tools

INFOID:0000000011578443

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

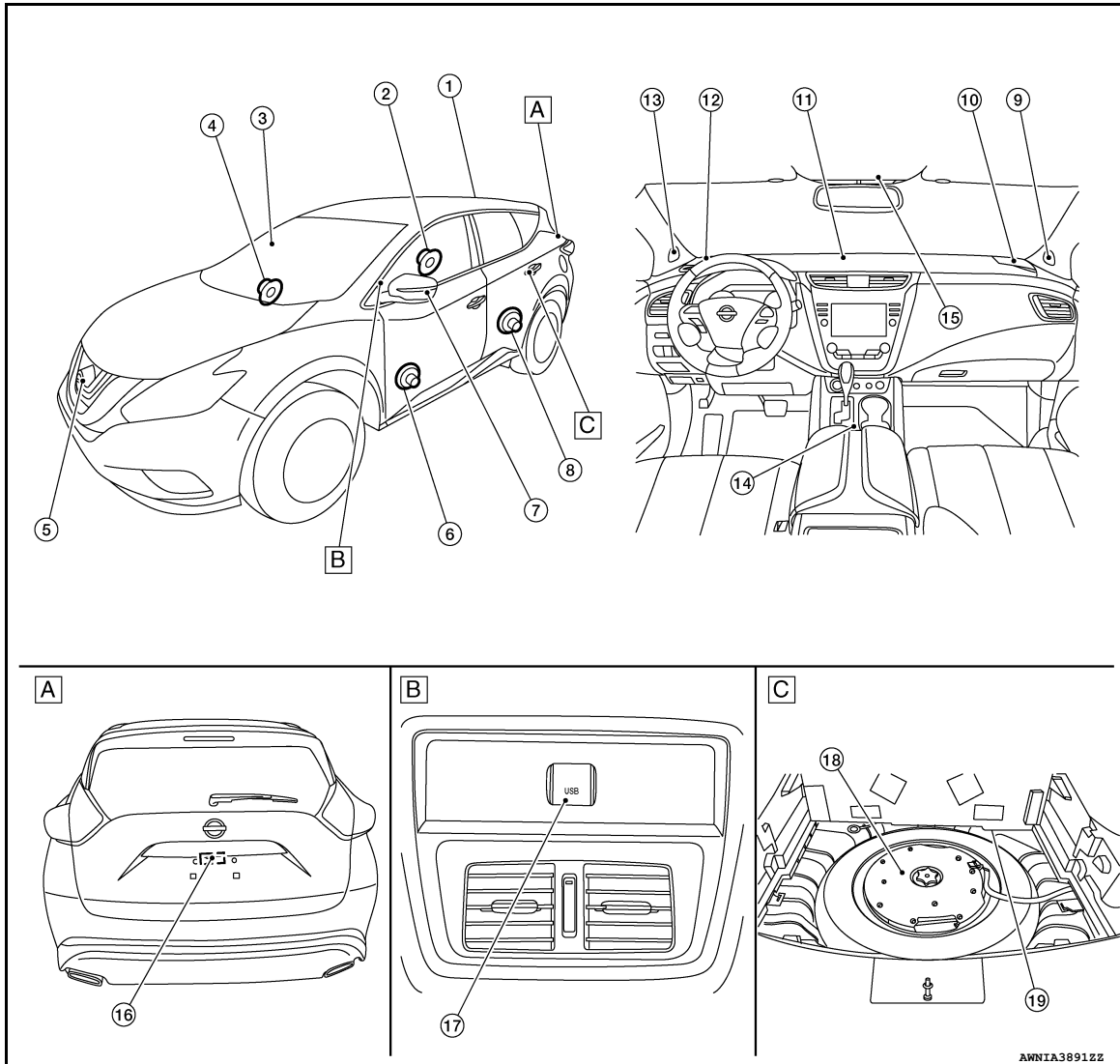
SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

WITH BOSE SYSTEM

INFOID:0000000011229991



A. Center of back door

B. Rear of center console

C. View with spare tire cover removed

No.	Component	Function
1.	Satellite antenna	Refer to AV-85, "Antenna and Antenna Feeder" .
2.	Rear door speaker RH	Refer to AV-82, "WITH BOSE SYSTEM : Speaker" .
3.	Door mirror RH	Refer to AV-201, "Side Camera" .
4.	Front door speaker RH	Refer to AV-82, "WITH BOSE SYSTEM : Speaker" .
5.	Front camera	Refer to AV-201, "Front Camera" .
6.	Front door speaker LH	Refer to AV-82, "WITH BOSE SYSTEM : Speaker" .
7.	Door mirror LH	Refer to AV-201, "Side Camera" .
8.	Rear door speaker LH	Refer to AV-82, "WITH BOSE SYSTEM : Speaker" .
9.	Front tweeter RH	Refer to AV-82, "WITH BOSE SYSTEM : Speaker" .

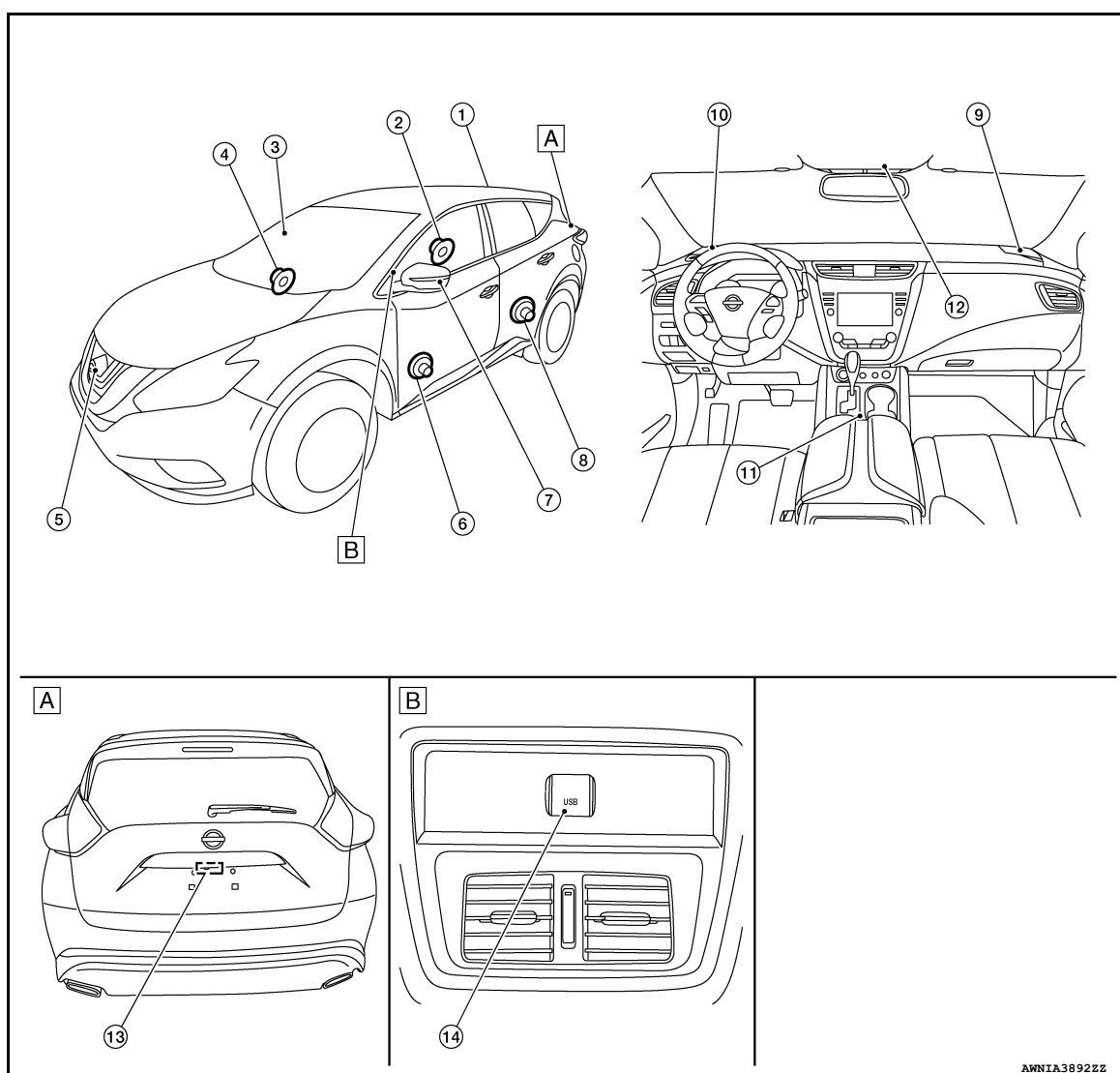
COMPONENT PARTS

< SYSTEM DESCRIPTION >

[MULTI AV (NAVIGATION)]

No.	Component	Function
10.	Instrument panel tweeter RH	Refer to AV-82, "WITH BOSE SYSTEM : Speaker" .
11.	Center speaker	Refer to AV-82, "WITH BOSE SYSTEM : Speaker" .
12.	Instrument panel tweeter LH	Refer to AV-82, "WITH BOSE SYSTEM : Speaker" .
13.	Front tweeter LH	Refer to AV-82, "WITH BOSE SYSTEM : Speaker" .
14.	Front USB interface	Refer to AV-82, "USB Interface" .
15.	Microphone	Refer to AV-84, "Microphone" .
16.	Rear view camera	Refer to AV-202, "Rear Camera" .
17.	Rear USB interface	Refer to AV-82, "USB Interface" .
18.	Subwoofer	Refer to AV-82, "WITH BOSE SYSTEM : Speaker" .
19.	BOSE speaker amp.	Refer to AV-82, "WITH BOSE SYSTEM : BOSE Amp." .

WITHOUT BOSE SYSTEM



A. Center of back door

B. Rear of center console

No.	Component	Function
1.	Satellite antenna	Refer to AV-85, "Antenna and Antenna Feeder" .
2.	Rear door speaker RH	Refer to AV-83, "WITHOUT BOSE SYSTEM : Speaker" .

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[MULTI AV (NAVIGATION)]

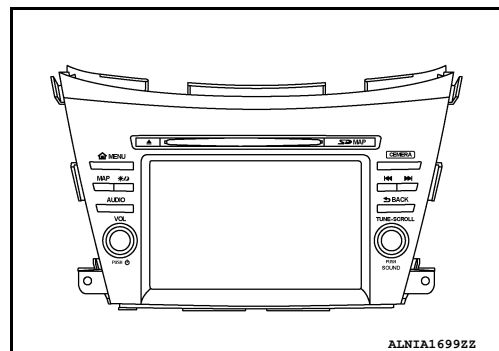
No.	Component	Function
3.	Door mirror RH	Refer to AV-201, "Side Camera" .
4.	Front door speaker RH	Refer to AV-83, "WITHOUT BOSE SYSTEM : Speaker" .
5.	Front camera	Refer to AV-201, "Front Camera" .
6.	Front door speaker LH	Refer to AV-83, "WITHOUT BOSE SYSTEM : Speaker" .
7.	Door mirror LH	Refer to AV-201, "Side Camera" .
8.	Rear door speaker LH	Refer to AV-83, "WITHOUT BOSE SYSTEM : Speaker" .
9.	Instrument panel tweeter RH	Refer to AV-82, "WITH BOSE SYSTEM : Speaker" .
10.	Instrument panel tweeter LH	Refer to AV-82, "WITH BOSE SYSTEM : Speaker" .
11.	Front USB interface	Refer to AV-82, "USB Interface" .
12.	Microphone	Refer to AV-84, "Microphone" .
13.	Rear view camera	Refer to AV-202, "Rear Camera" .
14.	Rear USB interface	Refer to AV-82, "USB Interface" .

AV Control Unit

INFOID:0000000011229994

DESCRIPTION

- AV control unit is located in the center of the instrument panel.
- AV control unit controls the audio system of Multi AV system.
- AV control unit controls the navigation system of Multi AV system.
- AV control unit can store applications in the built-in memory by connecting a cell phone via Bluetooth® communication or USB communication.



SPECIFICATION

Amplifier output (models without BOSE)			40 W × 4 ch	
CD drive	Playable disc		CD-ROM (CD-DA)	
			CD-R	
			CD-RW	
	Playable format		MP3	
			WMA	
			AAC	
	Text display function	ID3/WMA/AAC tag		Artist name
				Album title
				Song title

COMPONENT PARTS

< SYSTEM DESCRIPTION >

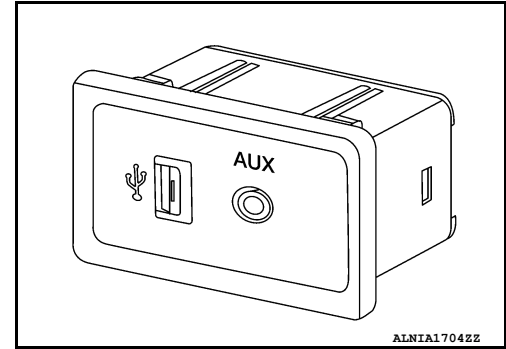
[MULTI AV (NAVIGATION)]

USB Interface

INFOID:0000000011229997

- Front USB interface is located in front of the console box.
- Rear USB interface is located on the back of the center console.
- USB interface supports the following input and is used by audio system and navigation system:

Interface
USB port
Audio jack (front USB interface only)

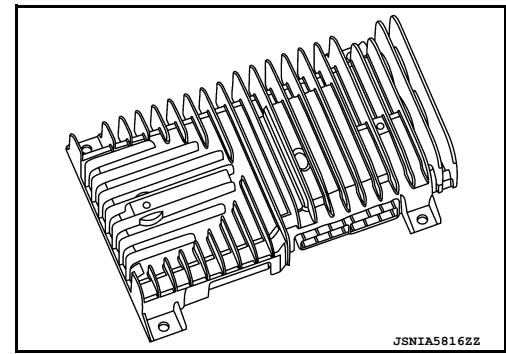


WITH BOSE SYSTEM

WITH BOSE SYSTEM : BOSE Amp.

INFOID:0000000011229998

- BOSE amp. is located in the rear cargo area.
- It receives sound signal from AV control unit and outputs sound signal to each speaker, tweeter, and subwoofer.



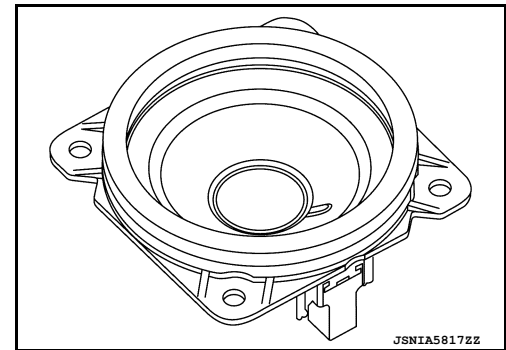
WITH BOSE SYSTEM : Speaker

INFOID:0000000011229999

INSTRUMENT PANEL TWEETER

- $\phi 7.62$ cm (3 in) speaker is installed to the side of instrument panel.
- Sound signal is inputted from the BOSE amp. to output high and mid range sound.

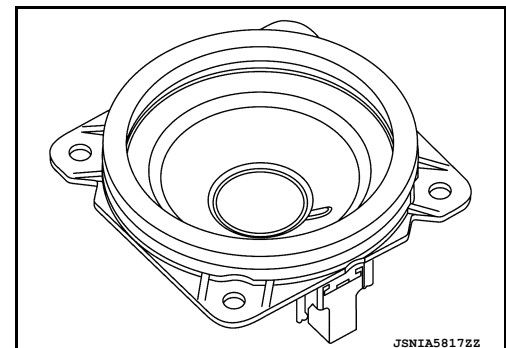
Maximum input	: 22.5 W
Rated input	: 7.5 W
Impedance	: 3.6 Ω



CENTER SPEAKER

- $\phi 7.62$ cm (3 in) speaker is installed to the center of instrument panel.
- Sound signal is inputted from the BOSE amp. to output high and mid range sound.

Maximum input	: 22.5 W
Rated input	: 7.5 W
Impedance	: 3.6 Ω



FRONT TWEETER

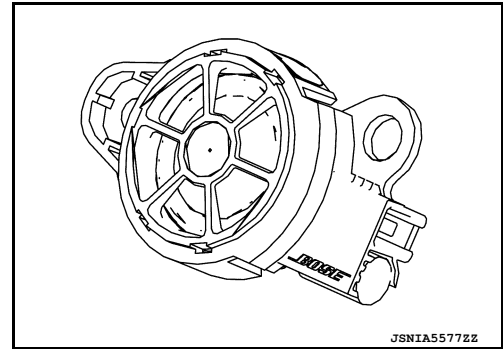
COMPONENT PARTS

< SYSTEM DESCRIPTION >

[MULTI AV (NAVIGATION)]

- $\phi 2.5$ cm (1 in) speaker is installed to the front door sash inner cover.
- Sound signal is inputted from the BOSE amp. to output high range sound.

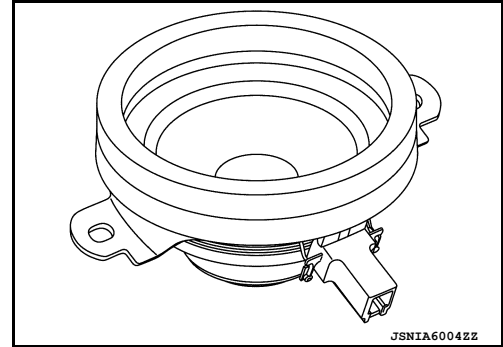
Maximum input : 22.5 W
Rated input : 7.5 W
Impedance : 3.6 Ω



FRONT DOOR SPEAKER

- $\phi 16.5$ cm (6.5 in) speaker is installed to the lower portion of the front door.
- Sound signal is inputted from the BOSE amp. to output mid range sound.

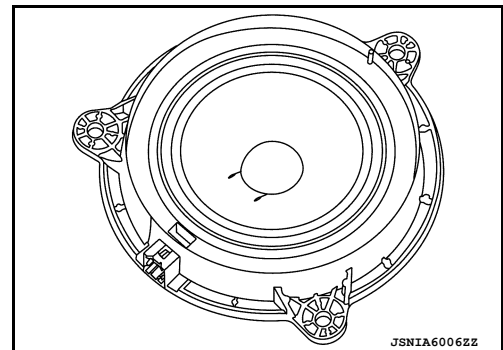
Maximum input : 22.5 W
Rated input : 7.5 W
Impedance : 3.6 Ω



REAR DOOR SPEAKER

- $\phi 16.5$ cm (6.5 in) speaker is installed to the bottom of the rear door.
- Sound signal is inputted from the BOSE amp. to output high, mid and low range sound.

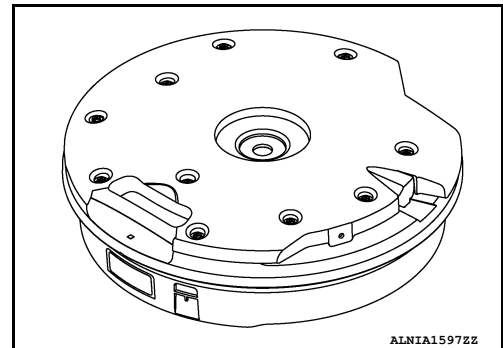
Maximum input : 21.6 W
Rated input : 7.2 W
Impedance : 3.7 Ω



REAR WOOFER

- $\phi 25.0$ cm (10 in) speaker is installed on top of the spare tire underneath the spare tire cover.
- Sound signal is inputted from the BOSE amp. to output low range sound.

Maximum input : 40.5 W
Rated input : 13.6 W
Impedance : 1.0 Ω



WITHOUT BOSE SYSTEM

WITHOUT BOSE SYSTEM : Speaker

FRONT DOOR SPEAKER

INFOID:0000000011230000

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COMPONENT PARTS

< SYSTEM DESCRIPTION >

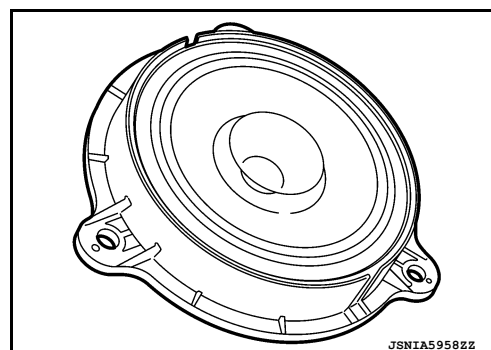
[MULTI AV (NAVIGATION)]

- $\phi 16.0$ cm (6.5 in) speaker is installed to the lower portion of the front door.
- Sound signal is inputted from the AV control unit to output high, mid and low range sound.

Maximum input : 38.5 W

Rated input : 12.9 W

Impedance : 2.1 Ω



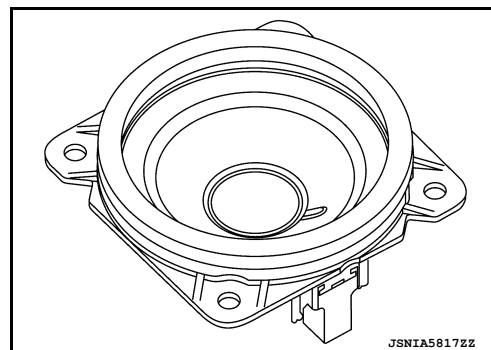
INSTRUMENT PANEL TWEETER

- $\phi 7.62$ cm (3 in) speaker is installed to the side of instrument panel.
- Sound signal is inputted from the AV control unit to output high, and mid range sound.

Maximum input : 22.5 W

Rated input : 7.5 W

Impedance : 3.6 Ω



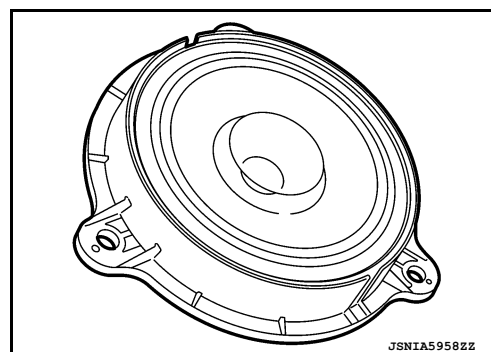
REAR DOOR SPEAKER

- $\phi 16.0$ cm (6.5 in) speaker is installed to the bottom of the rear door.
- Sound signal is inputted from the AV control unit to output high mid and low range sound.

Maximum input : 38.5 W

Rated input : 12.9 W

Impedance : 2.1 Ω

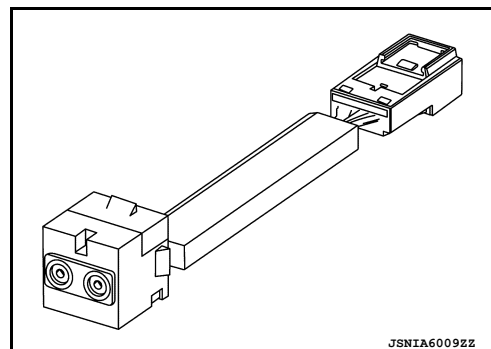


Microphone

INFOID:000000011230001

DESCRIPTION:

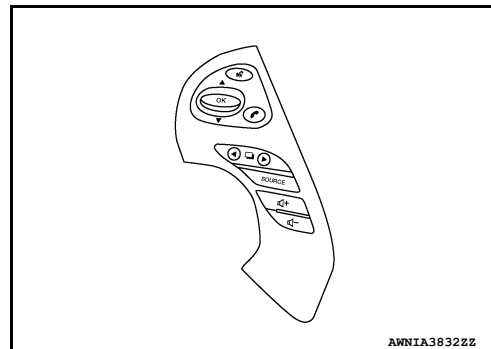
- The microphone is installed on the map lamp assembly.
- The power is supplied from the AV control unit to the microphone, transmitting sound signals to the AV control unit during hands-free phone communication, or voice recognition.



Steering Switch

INFOID:0000000011230002

- Hands-free phone, navigation, and audio operations can be performed.
- This switch is connected to combination meter, and switch operation signal is transmitted to combination meter.
- Combination meter transmits steering switch signal to display control unit via AV communication.



Antenna and Antenna Feeder

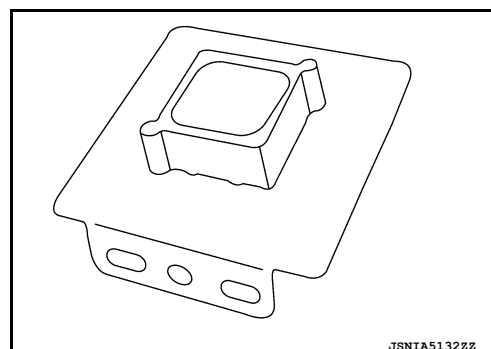
INFOID:0000000011230003

GPS ANTENNA

- GPS antenna is installed in the instrument panel.
- 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.

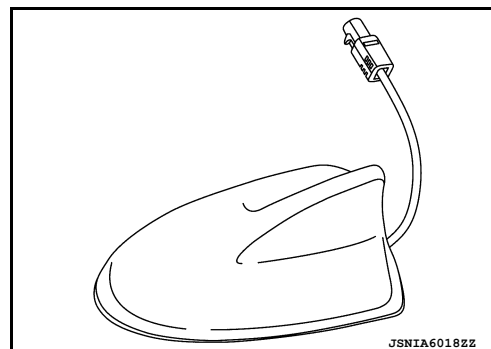
NOTE:

An object on the instrument panel may cause the reception sensitivity to be decreased.



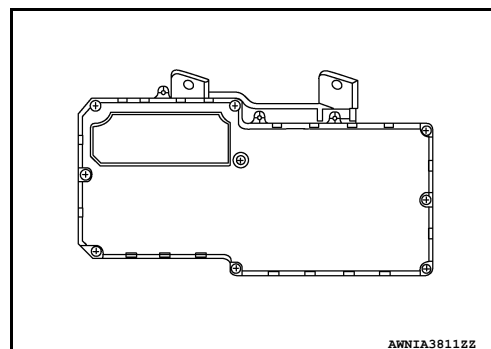
SATELLITE ANTENNA

- Satellite radio antenna is installed to the rear center of the roof.
- Receives satellite radio waves and outputs them to AV control unit.



ANTENNA AMP. AND RADIO ANTENNA

- Antenna amp. is located on rear air spoiler.



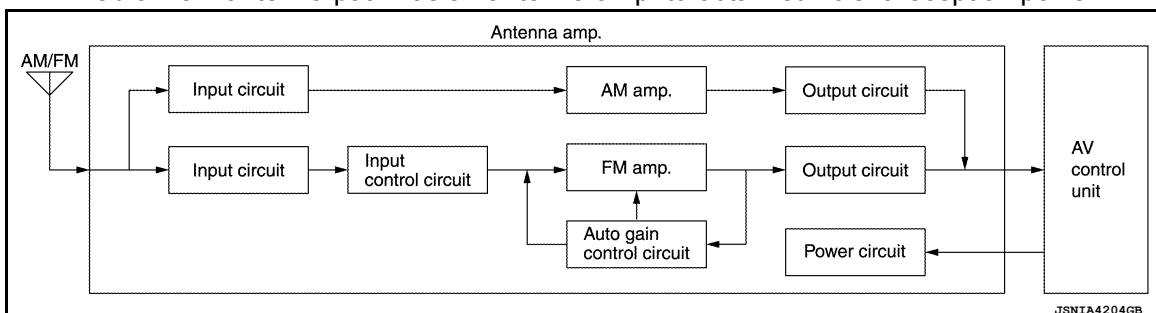
- AM/FM radio main antenna and FM radio sub antenna are located on the rear window glass.

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[MULTI AV (NAVIGATION)]

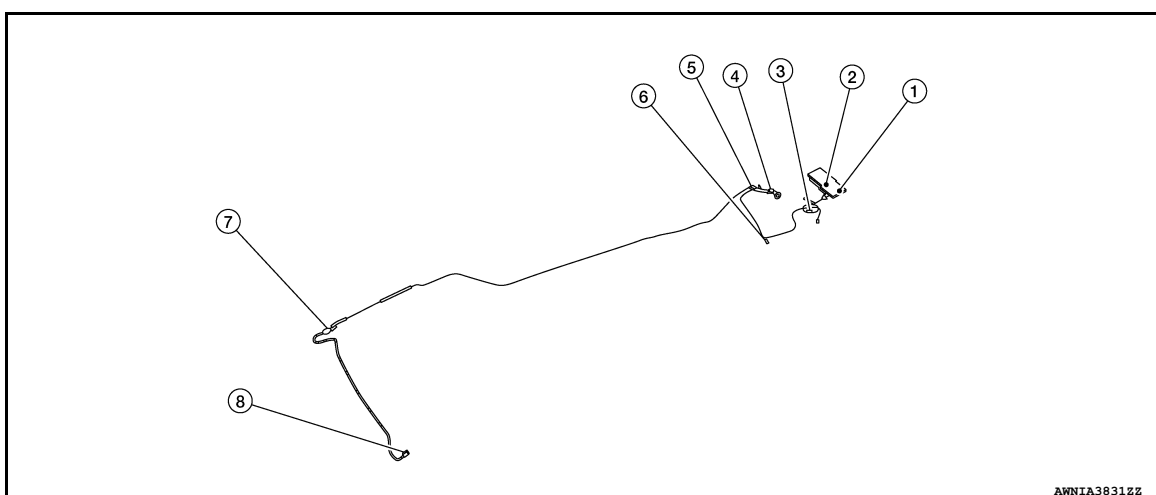
- The AM/FM radio main antenna path has an antenna amp. to obtain sufficient reception power.



CAUTION:

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

ANTENNA FEEDER



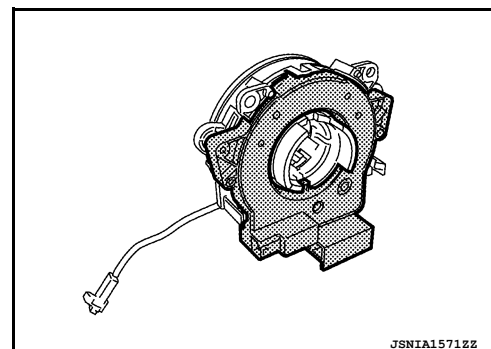
- | | | |
|-------------------------|---|---------------|
| 1. Antenna amp. | 2. M502 | 3. M507, M505 |
| 4. M510, M511 | 5. M506, M508 | 6. M509 |
| 7. M98, M99, M500, M501 | 8. M164, M165 (with BOSE speaker amp.) M125, M146 (without BOSE speaker amp.) | |

Steering Angle Sensor

INFOID:0000000011230004

WITH AROUND VIEW MONITOR

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



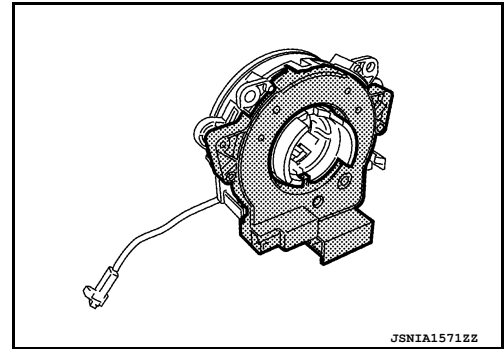
WITHOUT AROUND VIEW MONITOR

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[MULTI AV (NAVIGATION)]

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



A

B

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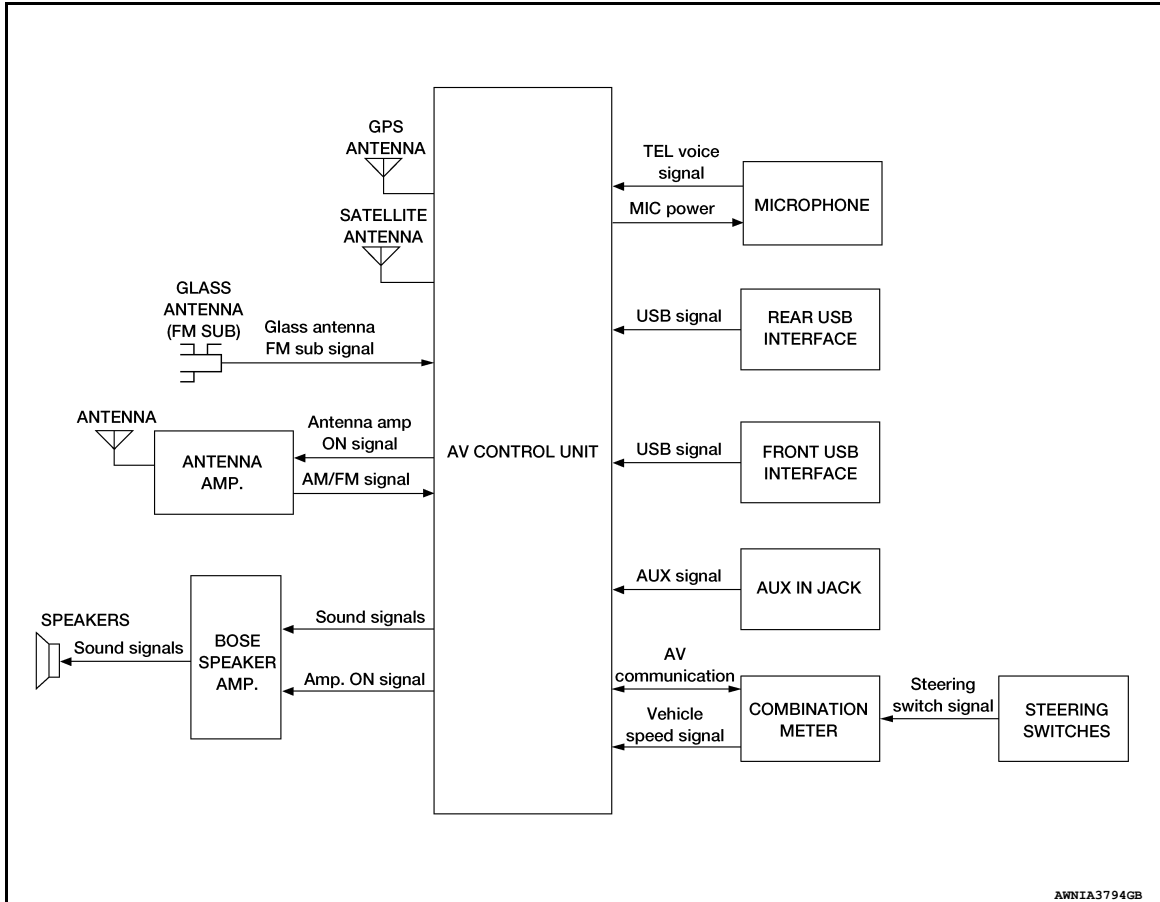
P

AUDIO SYSTEM WITH BOSE SYSTEM

WITH BOSE SYSTEM : System Description

INFOID:0000000011230016

SYSTEM DIAGRAM



DESCRIPTION

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

- Audio system consists of the following functions:

Function
Radio
CD
Front USB interface
Rear USB interface
AUX
Bluetooth® audio
Audio indicator

- Audio system is controlled by AV control unit, and BOSE amp.
- Audio system can be operated with steering switch.

AV CONTROL UNIT

AM/FM Radio

- Radio signal for AM/FM radio is received by the antenna line printed on rear window.
- There are main and sub lines for the print of antenna line. Main is used for AM and FM, and sub is used for FM.

NOTE:

- For FM radio with FM diversity function, AV control unit selects from main or sub the antenna that receives the higher signal strength.
- Antenna amp. is connected to the main antenna line, which receives the antenna amp. ON signal from the AV control unit and transmits the antenna signal to the AV control unit after amplifying the signal received from the AM and FM antennas.
- AV control unit transmits the sound signal to the BOSE amp. when the antenna signal is received from the antenna (main or sub).
- BOSE amp. transmits the sound signal received from AV control unit to each speaker.

Satellite Radio

- Satellite radio tuner is built into AV control unit.
- Sound signal (satellite radio) is received by satellite radio antenna and is transmitted to AV control unit. AV control unit outputs sound signal to BOSE amp. The signal is also outputted from BOSE amp. to each speaker.

CD

AV control unit integrates the mechanism for reading the data stored in CD.

Music playback

- When AV control unit reads the music data from CD, it transmits the sound signal to BOSE amp.
- BOSE amp. transmits the sound signal received from AV control unit to each speaker.

Display of artist, album and song title

- When AV control unit reads the text data from CD, it displays the text data (artist, album, and song title).

NOTE:

For the types of disc and music data format available for replay, refer to [AV-81, "AV Control Unit"](#).

USB INTERFACE

- USB interfaces are located in front of the center console and rear of the center console.
- When iPod® or USB memory is connected to the USB port, the USB interface transmits the music data and text data in iPod® or USB memory device to the AV control unit via USB communication.
- When the AV control unit transmits the sound signal from the display control unit, it transmits the sound signal to BOSE amp.
- BOSE amp. transmits the sound signal received from AV control unit to each speaker.
- When AV control unit receives the text data from USB interface, it displays the text data (artist, album, and song title) on the display.

AUX

- Auxiliary input jack is located in front of the center console.
- Auxiliary input jack consist of the sound input terminal.
- When sound data is inputted into the sound input terminal, the AUX in jack transmits the AUX sound signal to the AV control unit.
- When AV control unit receives the AUX in jack sound signal, it transmits the sound signal to BOSE amp.
- BOSE amp. transmits the sound signal received from AV control unit to each speaker.

BLUETOOTH® AUDIO

- Bluetooth® module is integrated into the AV control unit.
- Music data, artist, album, and song title in a portable audio device can be played/displayed via Bluetooth® communication.
- The AV control unit transmits the sound signal to the BOSE amp.
- BOSE amp. transmits the sound signal received from AV control unit to each speaker.
- When display control unit receives the text data from a portable audio device via Bluetooth® communication, it displays the text data (artist, album, and song title) on the display.
- For further information about Bluetooth® compliant profile, refer to [AV-81, "AV Control Unit"](#).

AUDIO INDICATOR

- The AV control unit transmits the meter display signal as the audio status to the combination meter via CAN communication.
- When combination meter receives the meter display signal, the audio status is displayed on the information display in combination meter.

WITHOUT BOSE SYSTEM

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AV

AUDIO SYSTEM

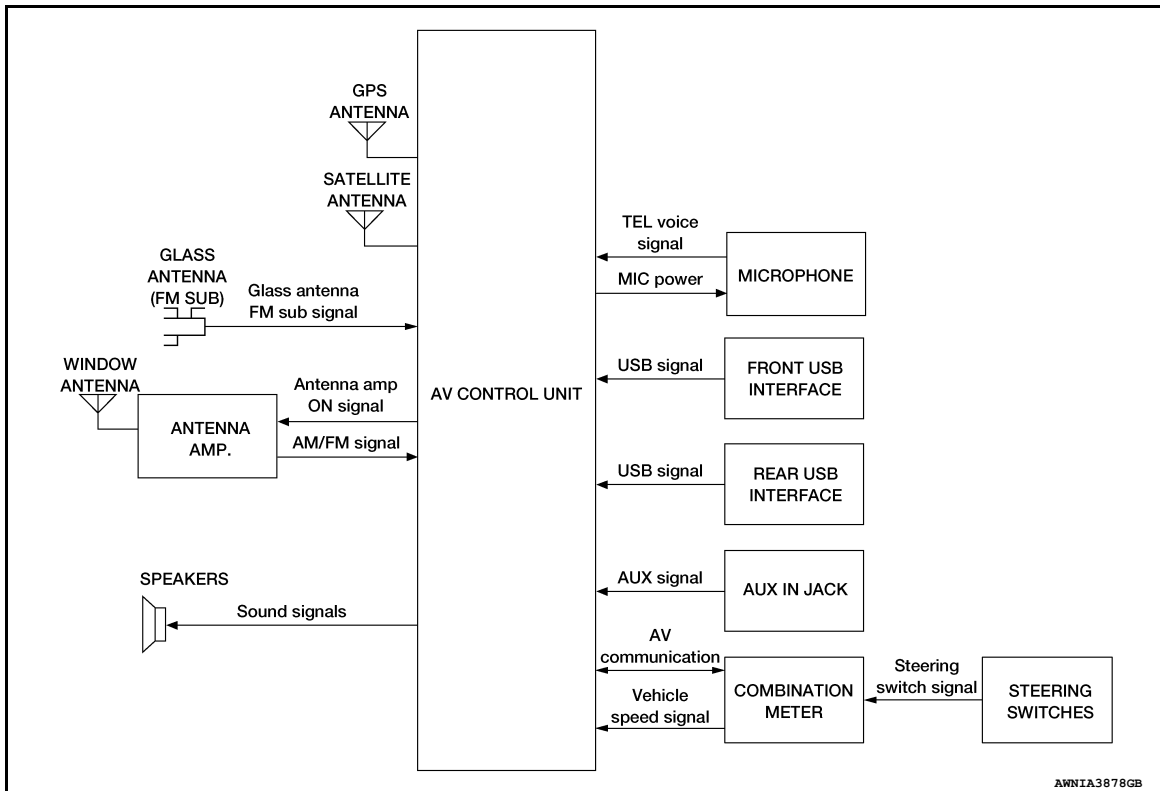
< SYSTEM DESCRIPTION >

[MULTI AV (NAVIGATION)]

WITHOUT BOSE SYSTEM : System Description

INFOID:000000011230017

SYSTEM DIAGRAM



AV Control Unit Input Signal (CAN Communication)

Transmit unit	Signal name
ABS actuator and electric unit (control unit)	Vehicle speed signal

DESCRIPTION

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

- Audio system consists of the following functions:

Function
Radio
CD
Front USB interface
Rear USB interface
AUX
Speed Sensitive Volume
Audio indicator

- Audio system is controlled by the AV control unit.
- Audio system can be operated with steering switch.

RADIO

AM/FM radio

- Radio signal for AM/FM radio is received by the antenna line printed on rear window.
- There are main and sub lines for the print of antenna line. Main is used for AM and FM, and sub is used for FM.

NOTE:

For FM radio with FM diversity function, AV control unit selects from main or sub the antenna that receives the higher signal strength.

- Antenna amp. is connected to the main antenna line, which receives the antenna amp. ON signal from the AV control unit and transmits the antenna signal to the AV control unit after amplifying the AM or FM radio signal.
- AV control unit transmits the sound signal to each speaker when the antenna signal is received from the antenna (main or sub).

Satellite Radio

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

CD

AV control unit integrates the mechanism for reading the data stored in CD.

Music playback

- When AV control unit reads the music data from CD, it transmits the sound signal to each speaker.

Display of artist, album and song title

- When AV control unit reads the text data from CD, it displays the test data (artist, album, and song title).

NOTE:

For the types of disc and music data format available for replay, refer to [AV-81, "AV Control Unit"](#).

USB INTERFACE

- USB interfaces are located in front of the center console, and rear of the center console.
- When iPod® or USB memory is connected to the USB interface, the USB interface transmits the music data and text data in iPod® or USB memory device to the AV control unit via USB communication.
- The AV control unit transmits the sound signal to each speaker.
- When AV control unit receives the text data from external data input box, it displays the text data (artist, album, and song title) on the display.

AUX

- Auxiliary input jack is located in front of the center console.
- Auxiliary input jack consist of the sound input terminal.
- When sound data is inputted into the sound input terminal, the AUX in jack transmits the AUX sound signal to the AV control unit.
- When AV control unit receives the AUX sound signal, it transmits the sound signal to each speaker.

BLUETOOTH® AUDIO

- Bluetooth® module is integrated in the AV control unit.
- Music data, artist, album, and song title in a portable audio device can be played/displayed via Bluetooth® communication.
- The AV control unit transmits the sound signal to each speaker.
- When AV control unit receives the text data from a portable audio device via Bluetooth® communication, it displays the text data (artist, album, and song title) on the display.
- For further information about Bluetooth® compliant profile, refer to [AV-81, "AV Control Unit"](#).

SPEED SENSITIVE VOLUME

- AV control unit receives the vehicle speed signal from combination meter via CAN communication and transmits the vehicle speed signal to AV control unit via CAN communication.
- AV control unit determines the volume level according to the vehicle speed signal received and transmits the sound signal to each speaker.
- The AV control unit receives the vehicle speed signal from the combination meter and changes the sound volume in conjunction with the vehicle speed.
- The control level can be selected by the customer.

AUDIO INDICATOR

- The AV control unit sends the status of audio to the display control unit via AV communication.
- The AV control unit transmits the meter display signal as the audio status to the combination meter via AV communication.
- When combination meter receives the meter display signal, the audio status is displayed on the information display in combination meter.

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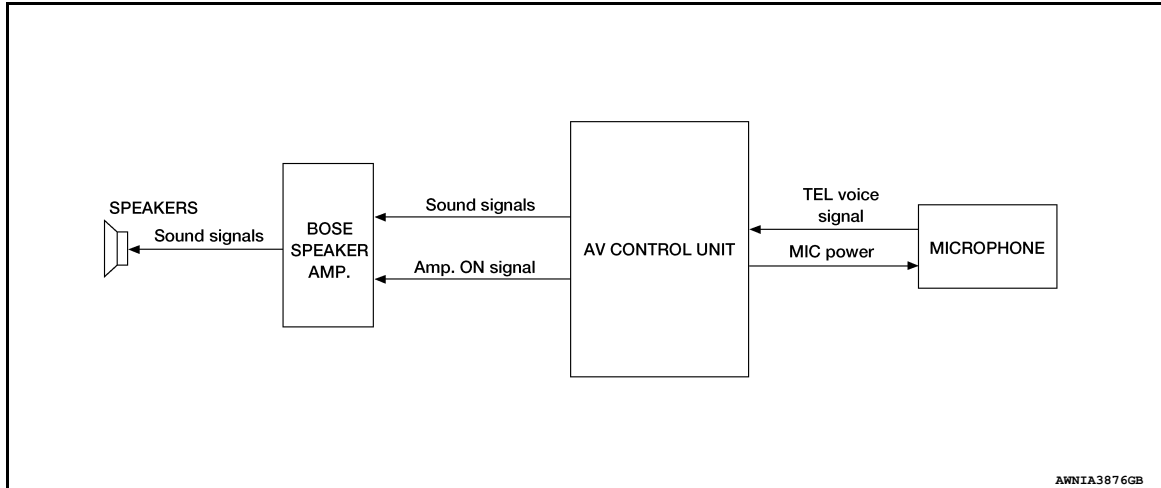
AV

HANDS-FREE PHONE SYSTEM WITH BOSE SYSTEM

WITH BOSE SYSTEM : System Description

INFOID:0000000011230018

SYSTEM DIAGRAM



DESCRIPTION

- Refer to Owner's Manual for hands-free phone system operating instructions.
- For further information about Bluetooth® compliant profile, refer to [AV-81. "AV Control Unit"](#).
- Simply operating the steering switch without releasing hands from the steering wheel allows the driver to 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 cell 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.

When Receiving a Call

- When AV control unit receives the voice of the other party from a cell phone via Bluetooth® communication, it transmits the TEL voice signal to BOSE amp.
- BOSE amp. transmits the sound signal received from AV control unit to each speaker.

When a Call Is Originated

When AV control unit receives the microphone signal from microphone, it transmits the sound signal to a cell phone via Bluetooth® communication.

HANDS-FREE PHONE INDICATOR

- When a cell phone that is connected with the display control unit via Bluetooth® communication receives a phone call, the incoming call is displayed on the information display in combination meter.
- When AV control unit recognizes an incoming call from a cell phone via Bluetooth® communication, it transmits the meter display signal to combination meter via AV communication.
- When combination meter receives the meter display signal, it displays the incoming call of cell phone on information display.
- When an incoming call is received, the driver can operate the steering switch to answer the phone.
- When steering switch is operated, the combination meter receives the steering switch signal, and then combination meter transmits the steering switch signal to the AV control unit via CAN communication.
- When AV control unit receives the steering switch signal, it activates the hands-free phone.

SMS INDICATOR

- When a cell phone that is connected with the AV control unit via Bluetooth® communication receives an SMS, the incoming SMS is displayed on the information display located in combination meter.
- The AV control unit transmits an SMS signal to the combination meter via CAN communication when receiving SMS from a cellular phone via Bluetooth® communication.

HANDS-FREE PHONE SYSTEM

< SYSTEM DESCRIPTION >

[MULTI AV (NAVIGATION)]

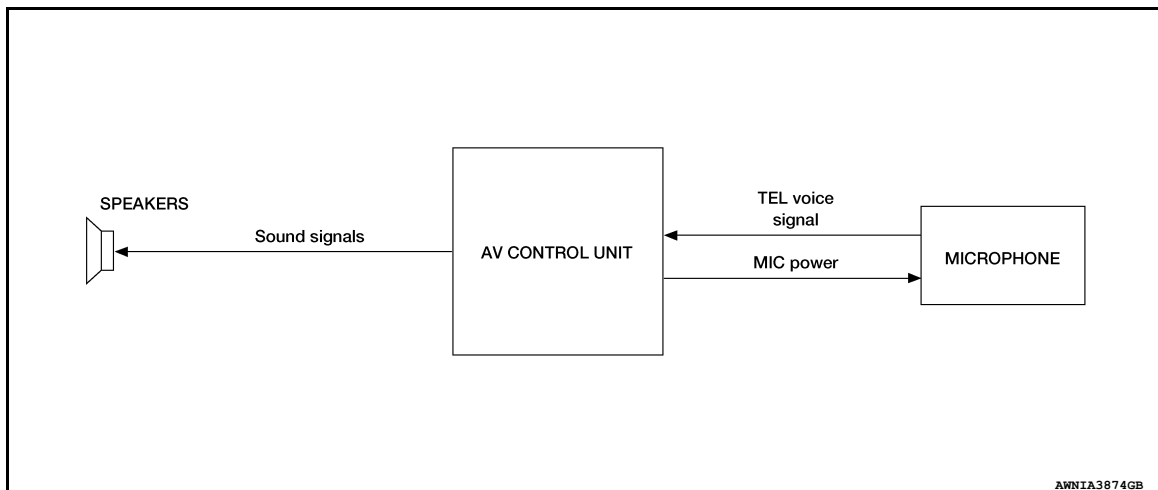
- The combination meter indicates the reception of SMS on the information display when receiving an SMS signal.
- When an SMS is received, the SMS can be confirmed by operating the steering switch.
- When steering switch is operated, the combination meter receives the steering switch signal, and then combination meter transmits the steering switch signal to the AV control unit via CAN communication.
- When AV control unit receives the steering switch signal, it transmits the SMS signal to combination meter via CAN communication.
- When combination meter receives the SMS signal, it displays SMS on information display.

WITHOUT BOSE SYSTEM

WITHOUT BOSE SYSTEM : System Description

INFOID:0000000011230019

SYSTEM DIAGRAM



DESCRIPTION

- Refer to Owner's Manual for hands-free phone system operating instructions.
- For further information about Bluetooth® compliant profile, refer to [AV-81, "AV Control Unit"](#).
- Simply operating the steering switch without releasing hands from the steering wheel allows the driver to 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 cell 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.

When Receiving a Call

- When AV control unit receives the voice of the other party from a cell phone via Bluetooth® communication, it transmits the TEL voice signal to each speaker.

When a Call Is Originated

When AV control unit receives the microphone signal from microphone, it transmits the sound signal to a cell phone via Bluetooth® communication.

HANDS-FREE PHONE INDICATOR

- When a cell phone that is connected with the AV control unit via Bluetooth® communication receives a phone call, the incoming call is displayed on the information display in combination meter.
- When AV control unit recognizes an incoming call from a cell phone via Bluetooth® communication, it transmits the meter display signal to combination meter via CAN communication.
- When combination meter receives the meter display signal, it displays the incoming call of cell phone on information display.
- When an incoming call is received, the driver can operate the steering switch to answer the phone.
- When steering switch is operated, the combination meter receives the steering switch signal, and then combination meter transmits the steering switch signal to the AV control unit via CAN communication.
- When AV control unit receives the steering switch signal, it activates the hands-free phone.

SMS INDICATOR

HANDS-FREE PHONE SYSTEM

< SYSTEM DESCRIPTION >

[MULTI AV (NAVIGATION)]

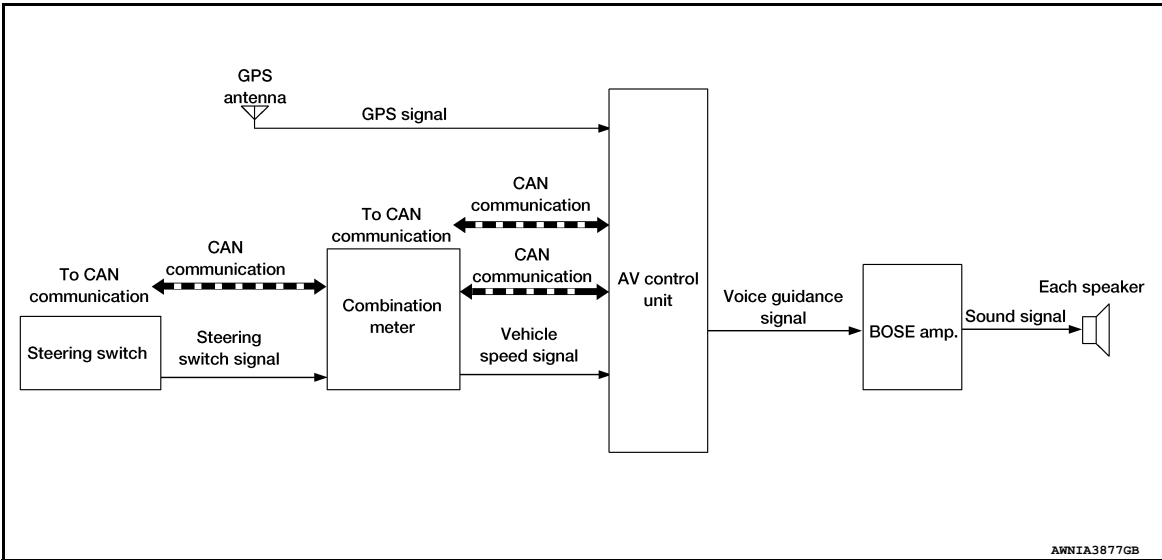
- When a cell phone that is connected with the AV control unit via Bluetooth® communication receives an SMS, the incoming SMS is displayed on the information display located in combination meter.
- The AV control unit transmits an SMS signal to the combination meter via CAN communication when receiving SMS from a cellular phone via Bluetooth® communication.
- The combination meter indicates the reception of SMS on the information display when receiving an SMS signal.
- When an SMS is received, the SMS can be confirmed by operating the steering switch.
- When steering switch is operated, the combination meter receives the steering switch signal, and then combination meter transmits the steering switch signal to the AV control unit via CAN communication.
- When AV control unit receives the steering switch signal, it transmits the SMS signal to combination meter via CAN communication.
- When combination meter receives the SMS signal, it displays SMS on information display.

NAVIGATION SYSTEM

System Description

INFOID:0000000011230020

SYSTEM DIAGRAM



Display Control Unit Input Signal (CAN Communication)

Transmit unit	Signal name
Combination meter	Parking brake switch signal
TCM	Shift position signal (Reverse signal)

DESCRIPTION

- Refer to Owner's Manual for navigation system operating instructions.
- Navigation system can be operated with the AV control unit.
- Guidance voice is outputted from the AV control unit via BOSE amp. to the front speaker.
- AV control unit calculates the vehicle location based on the signals from GYRO (angle speed sensor), vehicle sensor, and GPS satellite as well as the map data from map SD card. It is displayed on display of the AV control unit.

POSITION DETECTION PRINCIPLE

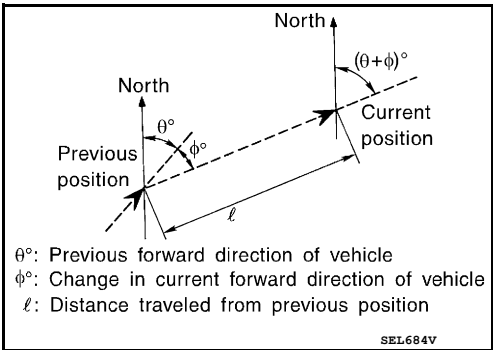
The navigation system periodically calculates the vehicle's current position according to the following three signals:

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

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

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

- Travel distance
Travel distance calculations are based on the vehicle speed sensor input signal. Therefore, the calculation may become incorrect as the tires wear down. To prevent this, an automatic distance correction function has been adopted.
- Travel direction



NAVIGATION SYSTEM

< SYSTEM DESCRIPTION >

[MULTI AV (NAVIGATION)]

Change in the travel direction of the vehicle is calculated by a gyroscope (angular velocity sensor) and a GPS antenna (GPS information). They have both advantages and disadvantages.

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

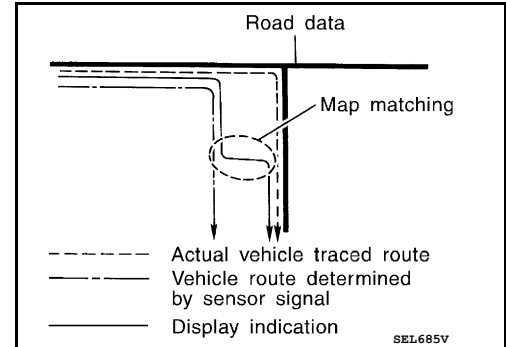
More accurate traveling direction is detected because priorities are set for the signals from these two devices according to the situation.

MAP-MATCHING

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

NOTE:

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

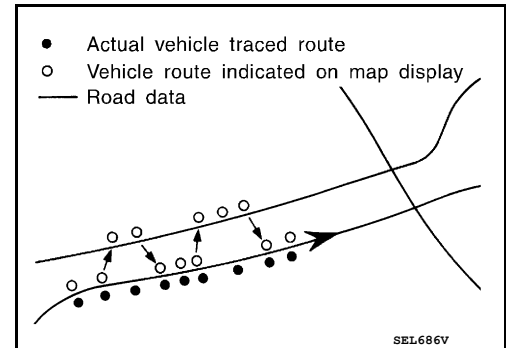


The vehicle position may not be corrected under the following circumstances and after driving for a certain time when GPS information is difficult to receive:

- In map-matching, alternative routes to reach the destination will be shown and prioritized after the road on which the vehicle is currently driven has been judged and the vehicle mark has been repositioned.

Alternative routes will be shown in different order of priority, and the incorrect road can be avoided if there is an error in distance and/or direction.

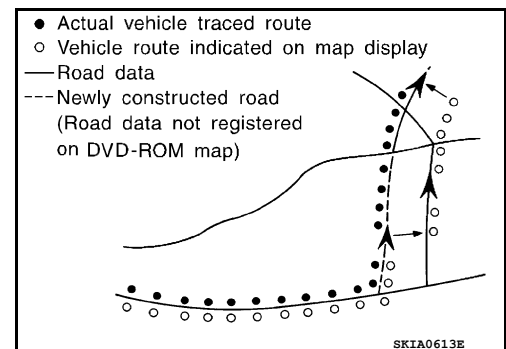
They are of the same priority if two roads are running in parallel. Therefore, the vehicle mark may appear on either of them alternately, depending on maneuvering of the steering wheel and configuration of the road.



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

The map-matching function may find another road and position the vehicle mark on it when driving on a road not present in the map. Then, the vehicle mark may change to it when the correct road is detected.

- Effective range for comparing the vehicle position and travel direction calculated by the distance and direction with the road data read from the map SD card is limited. Therefore, correction by map-matching is not possible when there is an excessive gap between current vehicle position and the position on the map.



GPS (GLOBAL POSITIONING SYSTEM)

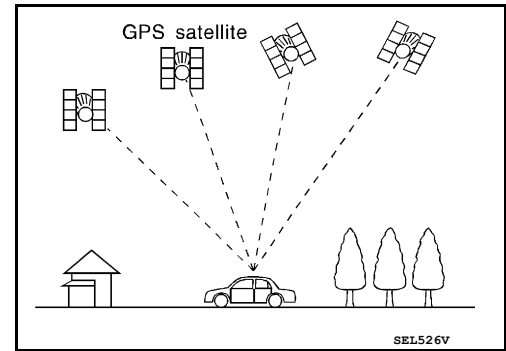
NAVIGATION SYSTEM

< SYSTEM DESCRIPTION >

[MULTI AV (NAVIGATION)]

GPS (Global Positioning System) is developed for and is controlled by the U.S. 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 miles).

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 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 U.S. Trace Control Center.

NAVIGATION INDICATOR

- When the navigation system is ON, the AV control unit transmits a meter display signal to the combination meter via CAN communication.
- The combination meter displays a navigation status on the combination meter (in the information display) when receiving a navigation indicator signal.

COMPASS

- AV control unit acquires direction information from GPS antenna.
- AV control unit transmits direction information to combination meter via CAN communication.
- When direction information is acquired, combination meter displays it on information display.

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AV

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

Description

INFOID:0000000011230026

- The AV control unit diagnosis function starts 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:0000000011230027

ON BOARD DIAGNOSIS ITEM

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. 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 requires 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.
Confirmation/ Adjustment	Display Diagnosis	The following check functions are available: • Color tone check by color bar display, white display and black display • Light and shade check by gray scale display • Touch panel check • Sensor sensitivity settings
	Vehicle Signals	Diagnosis of signals can be performed .
	Speaker Test	The connection of a speaker can be confirmed by test tone.
	Navigation*	The reception status of GPS can be confirmed. Display On/Off of the simulation menu of navigation.
	Error Location Display	The system malfunction is displayed. When the malfunctioning item is selected, the time and place that the selected malfunction last occurred are displayed.
	AV COMM Diagnosis	The communication condition of each unit of NissanConnect can be monitored.
	Camera Control Unit	The signal connected to camera control unit can be checked and the guiding line position that overlaps rear view camera image can be adjusted.
	SXM	Displays the information related to satellite radio.
	Delete Unit Connection Log	Erases the connection history of unit and error history.
	Reset Settings	Initializes the default data.
	Version Information	Version information of the following items is displayed: • AV control unit • BOSE amp. • Combination meter • Around view monitor control unit
	Program Update	Version of the display control unit can be updated.
	Hands-free Phone	The received volume adjustment of hands-free phone and microphone speaker check can be performed.

METHOD OF STARTING

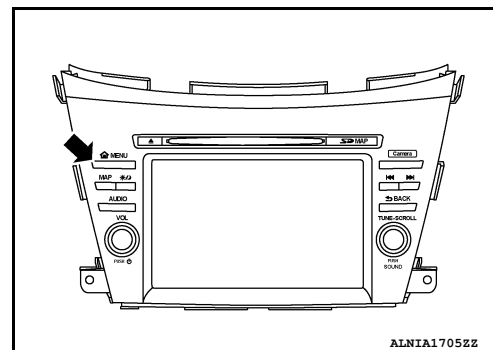
1. Start the engine.

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

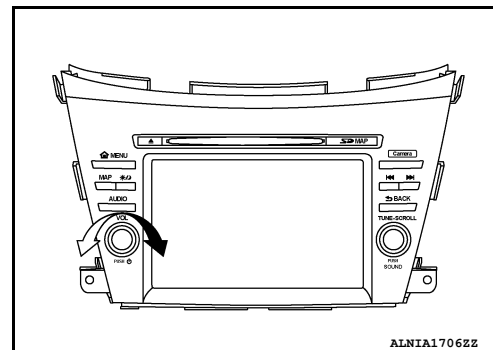
[MULTI AV (NAVIGATION)]

< SYSTEM DESCRIPTION >

2. Turn the audio system OFF.
3. Press the MENU button.



4. While menu button is pressed rotate the volume encoder left, right, and left. On each rotation, it should be at least 7 clicks.



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

NOTE:

When a diagnostic screen is not displayed, press the “MENU” switch. And then, restart from the procedure of Step 3.

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 BOSE Amp. are displayed in red.

- Replace display 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-179, "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.

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[MULTI AV (NAVIGATION)]

SELF-DIAGNOSIS RESULTS

Check the applicable display with 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
Audio Head Unit	Malfunction is detected in AV control unit power supply and ground circuits.	Check AV control unit power supply and ground circuits. Refer to AV-166, "AV CONTROL UNIT : Diagnosis Procedure" . When detecting no malfunction in those components, replace AV control unit. Refer to AV-179, "Removal and Installation" .
BOSE Amp.	When either one of the following items are detected: • Sound signal circuits between BOSE amp. and each speaker are malfunctioning. • Sound signal circuits between BOSE amp. and either front or rear microphone are malfunctioning. • BOSE amp. malfunction is detected.	• Malfunctioning speaker circuits. • Malfunctioning front or rear microphone circuits. • Replace BOSE amp. Refer to AV-192, "Removal and Installation".

Area with yellow connection lines	Description	Possible malfunction location / Action to take
Control Unit ↔ Cluster	When either one of the following items are detected: • Combination meter power supply and ground circuits are malfunctioning. • AV communication circuits between display control unit and combination meter are malfunctioning.	• Combination meter power supply and ground circuits. Refer to MWI-59, "COMBINATION METER : Diagnosis Procedure". • AV communication circuits between display control unit and combination meter are malfunctioning.
Navigation unit ↔ GPS Antenna	GPS antenna connection malfunctions detected.	GPS antenna Refer to AV-158, "Diagnosis Procedure" .
Audio Head Unit ↔ XM Antenna	Satellite antenna connection malfunctions detected.	Satellite antenna Refer to AV-159, "Diagnosis Procedure" .

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. Touch the "MAP" to return to the initial "Confirmation/Adjustment Mode" screen.

Display Diagnosis

Confirmation of the AV control unit screen.

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[MULTI AV (NAVIGATION)]

Item		Description
Display Settings	Color Spectrum Bar	• Display 8 colors of following bars: - White - Yellow - Cyan (Close to light blue) - Green - Magenta (Close to purplish red) - Red - Blue - Black
	Gradation Bar	Display 32 gradation gray-scale image to a screen.
	White Display	Display white screen.
Touch Panel Response Check		• The function can check the presence of a circle indication and deviation from where it should be while touching the touch panel. If you hit Map button you will be taken to a trace screen. Here you can check the function of continuous gesture on the screen. To back out of screen hit the map button.
Touch Panel Calibration		• Allows you to recalibrate the touch screen panel.

Vehicle Signals

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

AV control unit

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 pressed	Changes in indication may be delayed. This is normal.
	OFF	Parking brake is released	
Lights Signal	ON	Headlamp switch is ON.	Changes in indication may be delayed. This is normal.
	OFF	Headlamp switch is OFF.	
Ignition Signal	ON	Ignition switch ON.	—
	OFF	Ignition switch in ACC position.	
Reverse Signal	ON	Shift the selector lever to "R" position.	Changes in indication may be delayed. This is normal.
	OFF	Shift the selector lever to a position other than "R" position.	

Speaker Test

Select "Speaker Test" to display the speaker diagnosis screen. Touch "Start" to generate a test tone in a speaker. Touch "Next" to generate a test tone in the next speaker. Touch "End" to stop the test tones.

Navigation

Item	Description
Sensor Information	The reception status of GPS can be confirmed.

Error Location Display

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:

- Place of the error occurrence is represented by the longitude and latitude 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 up-and-down manner.

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[MULTI AV (NAVIGATION)]

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	Applicable DTC	Reference
CAN COMM CIRCUIT	U1000	AV-151
CONTROL UNIT (CAN)	U1010	AV-153
Mismatched configuration data stored	U1223	AV-154
Amplifier temperature error	U1231	AV-155
Steer. Angle Sensor calibration	U1232	AV-156
GPS Antenna error	U1244	AV-158
XM Antenna connection error : open	U1258	AV-159
XM Antenna connection error : short		
Cluster connection error	U1267	AV-161
Confirm user connection unit	U12B7	AV-163
Radio Antenna error : open	U12BE	AV-164
Radio Antenna error : short		

CAN COMM Diagnosis

CAN COMM Monitor

- 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)
CMF Send Switch	OK / UNKW	OK / 0 – 39 / —
CMF Receive Bose AMP	OK / UNKW	OK / 0 – 39 / —
CMF Receive AVM	OK / UNKW	OK / 0 – 39 / —
CMF Receive Meter	OK / UNKW	OK / 0 – 39 / —
CMF Receive Audio	OK / UNKW	OK / 0 – 39 / —

Camera Cont.

Item	Description
Correct Draw Line of Rear View Camera	The guiding lines in the rear view monitor can be adjusted.
Check/Change Configuration	Displays the current configuration data. NOTE: Refer to the following list for the items of the configuration adjustment function:
Reset Configuration	Initializes the camera system configuration.
Camera System Type	Sets the type of camera that is connected.

Configuration list

Setting item	Setting (Default value)	
	Direct adaptive steering models	Vehicle speed sensitive P/S models
Predictive Course Lines	With SBW	Without SBW
Rear Coeff. K	1.37847	1.37847
Rear Coeff. F	0.0394	0.0394
Rear Coeff. P1	–0.24463	–0.24463

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[MULTI AV (NAVIGATION)]

Setting item	Setting (Default value)	
	Direct adaptive steering models	Vehicle speed sensitive P/S models
Rear Coeff. P2	0.07005	0.07005
Rear Coeff. C1	-0.00608	-0.00608
Rear Coeff. C2	-0.00001	-0.00001
Rear Coeff. D1	130.6	130.6
Rear Coeff. D2	-35	-35
Car Width	1822.9	1822.9
Rear Offset	3835.175	3835.175
Rear Height	581.589	581.589
Rear L/R Angle	0	0
Rear Up/Dn Angle	0	0
Rear Roll Angle	0	0
Bumper Rear Dist.	0	0
Bumper Rear Ax Dist	0	0
Max. Steering Angle	31.56	31.56
Min. Turning Radius	1	1.47
Wheelbase	2850	2850
Total Length	4792	4792
Steering Gear Ratio	0.032	0.047
Tot.Width With Mirrors	0	0

SXM

SXM Mode Diagnosis

Item	Description
Diagnostic Mode Display	Display adjustment items to test satellite radio function.
External Diagnostic Mode	Set in external diagnostic mode.

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.)

Reset Settings

Item	Description
Reset User Data	Initializes the AV control unit.
Reset Configuration	Initializes the configuration data.

Version Information

Version information of each control unit and switch is displayed.

Program Update

Version of the display control unit can be updated.

Hands-Free Phone

The hands-free phone reception volume adjustment and microphone and speaker test functions are also available.

Item	Description
HF Vol. Adjustment	The reception volume can be set in three steps: "Low", "Standard" and "High".
Voice Microphone Test	The microphone audio can be directly connected to the speakers to perform a microphone test.
Onload model ID	Displays the on board unit ID.

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[MULTI AV (NAVIGATION)]

CONSULT Function

INFOID:0000000011230028

APPLICATION ITEMS

CONSULT performs the following functions via the communication with the display control unit:

Diagnosis mode	Description
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 inputted to the AV control unit can be performed.
Work Support	Steering angle sensor can be adjusted.
ECU Identification	The part number of AV control unit can be checked.
Configuration	- Read and save the vehicle specification. - Write the vehicle specification when replacing display control unit.

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, are detected. The counter increases by 1 if the condition is normal at the next ignition switch ON cycle.
- Refer to [AV-151, "Diagnosis Procedure"](#).

Freeze Frame Data (FFD)

The following vehicle status is recorded when DTC is detected and is displayed on CONSULT.

Item name	Display content
ODO/TRIP METER (km)	Total driving distance (odometer value) upon DTC detection is displayed.
TOTAL DISTANCE (km)	

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:

- 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.	
ILLUM SIG	On	Block the light beam from the auto light optical sensor when the light switch is ON.	—
	Off	Either of the following conditions: - Light switch is OFF. - Expose the auto light optical sensor to light when the light switch is ON.	
IGN SIG	On	Ignition switch ON.	
	Off	Ignition switch 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.	

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[MULTI AV (NAVIGATION)]

WORK SUPPORT

Adjust 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. Refer to [BRC-64, "Work Procedure"](#).

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

ECU IDENTIFICATION

The part number of display control unit is displayed.

A

B

C

D

E

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G

H

I

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K

L

M

AV

O

P

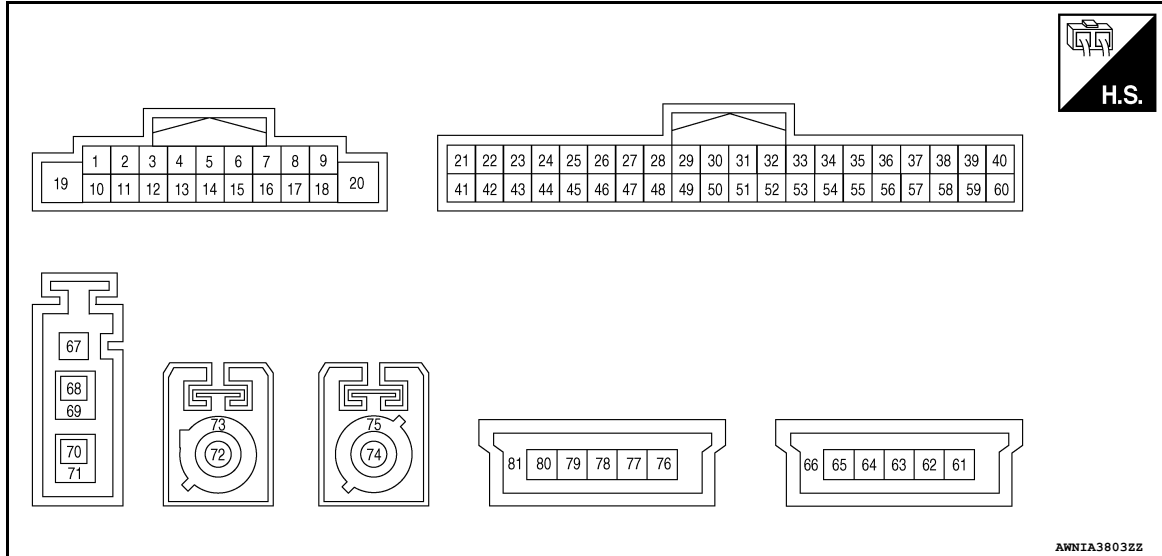
ECU DIAGNOSIS INFORMATION

AV CONTROL UNIT

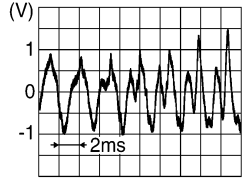
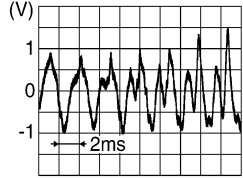
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TERMINAL LAYOUT



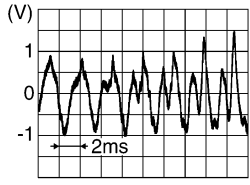
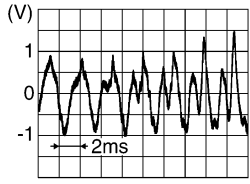
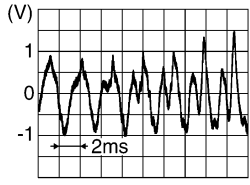
PHYSICAL VALUES

Terminal (Wire color)		Description		Condition	Reference value (Approx.)
+	—	Signal name	Input/ Output		
1 (W)	—	AMP. on enable signal	—	—	—
2 (G)	3 (R)	Sound signal front LH (+)	Output	[Ignition switch ON] • Sound output	 SKIB3609E
3 (R)	—	Sound signal front LH (—)	—	—	—
4 (B)	5 (W)	Sound signal rear LH (+)	Output	[Ignition switch ON] • Sound output	 SKIB3609E
5 (W)	—	Sound signal rear LH (—)	—	—	—
7 (P)	Ground	ACC power supply	Input	[Ignition switch ACC]	Battery voltage
9 (R)	8 (—)	Illumination control signal	Input	Headlamps ON	Battery voltage

AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

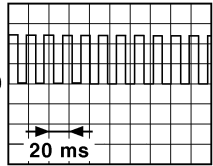
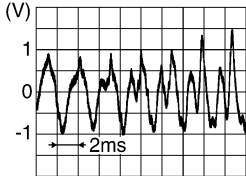
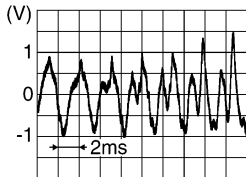
[MULTI AV (NAVIGATION)]

Terminal (Wire color)		Description		Condition	Reference value (Approx.)
+	—	Signal name	Input/ Output		
10 (—)	—	Pre-amp. shield	—	—	—
11 (B)	12 (W)	Sound signal front RH (+)	Output	[Ignition switch ON] • Sound output	
12 (W)	—	Sound signal front RH (—)	—	—	—
13 (G)	14 (R)	Sound signal rear RH (+)	Output	[Ignition switch ON] • Sound output	
14 (R)	—	Sound signal rear RH (—)	—	—	—
19 (Y)	Ground	Battery power supply	Input	—	Battery voltage
21 (LG)	—	M-CAN2 low	Input/ output	—	—
22 (LG)	—	M-CAN1 low	Input/ output	—	—
23 (P)	—	CAN low	Input/ output	—	—
25 (BR)	—	Parking brake signal	Input	[Ignition switch ON] • Pressing the parking brake	0 V
				[Ignition switch ON] • Except for above	Battery voltage
26 (LG)	Ground	Ignition power supply	Input	[Ignition switch ON]	Battery voltage
34 (W)	—	Microphone power supply	—	—	5 V
35 (W)	Ground	AUX in jack sound signal LH	Input	[Ignition switch ON] • Sound output	
36 (R)	—	AUX in jack sound signal ground	—	—	—
37 (Y)	—	AUX in jack detect signal	—	—	—
41 (SB)	—	M-CAN2 high	—	—	—

AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[MULTI AV (NAVIGATION)]

Terminal (Wire color)		Description		Condition	Reference value (Approx.)
+	—	Signal name	Input/ Output		
42 (SB)	—	M-CAN1 high	—	—	—
43 (L)	—	CAN high	—	—	—
44 (BR)	Ground	Vehicle speed signal	Input	When vehicle speed is approx. 40 km/h (25 MPH)	 JSNIA0012GB
45 (G)	—	Reverse signal	Input	Selector lever in R (reverse)	Battery voltage
				Selector lever in any position other than R (reverse)	0 V
46 (L)	—	MR output	Input	—	—
53 (B)	36 (Shield)	Microphone signal	Input	While speaking into the microphone	 SKIB3609E
54 (-)	—	Microphone signal ground	—	—	—
55 (R)	Ground	AUX in jack sound signal RH	Input	[Ignition switch ON] • Sound output	 SKIB3609E
56 (-)	—	Aux in jack shield	—	—	—
61 (R)	—	V BUS signal	—	—	—
62 (W)	—	USB D- signal	—	—	—
63 (G)	—	USB D+ signal	—	—	—
65 (B)	—	USB ground	—	—	—
66 (-)	—	USB shield	—	—	—
67 (B)	Ground	Antenna amp. ON signal	Output	AV control unit ON, FM-AM selected	Battery voltage
68 (-)	—	AM-FM main	Input	—	—

AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[MULTI AV (NAVIGATION)]

Terminal (Wire color)		Description		Condition	Reference value (Approx.)
+	—	Signal name	Input/ Output		
69 (—)	—	AM-FM ground	—	—	—
70 (—)	—	FM sub	Input	—	—
71 (—)	—	FM sub ground	—	—	—
72 (—)	Ground	Satellite radio antenna signal	Input	[Ignition switch ON] • Not connected satellite antenna connector	5.0 V
73 (—)	—	Satellite radio antenna shield	—	—	—
74 (B)	Ground	GPS antenna signal	Input	[Ignition switch ON] • Not connected GPS antenna connector	5.0 V
75 (—)	—	GPS antenna shield	—	—	—
76 (R)	—	V BUS signal	—	—	—
77 (W)	—	USB D- signal	—	—	—
78 (G)	—	USB D+ signal	—	—	—
80 (B)	—	USB ground	—	—	—
81 (—)	—	USB shield	—	—	—

A

B

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AV

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BOSE AMP.

< ECU DIAGNOSIS INFORMATION >

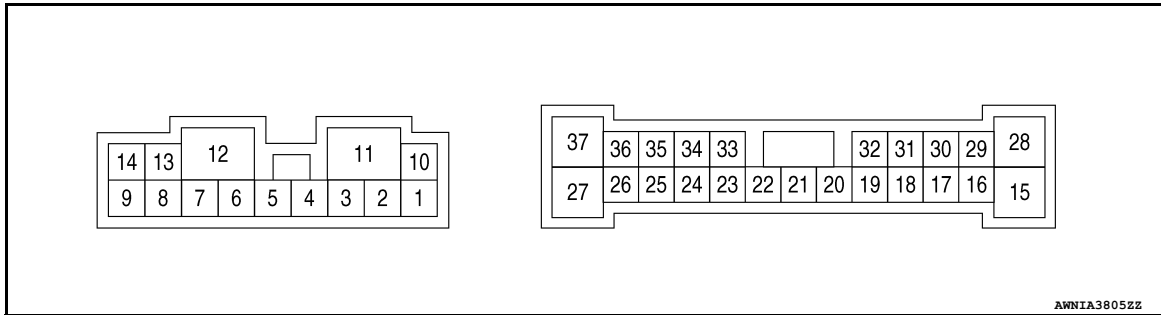
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BOSE AMP.

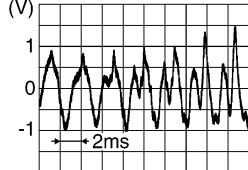
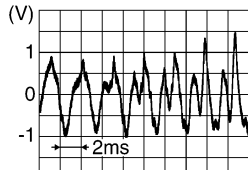
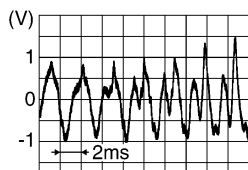
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TERMINAL LAYOUT



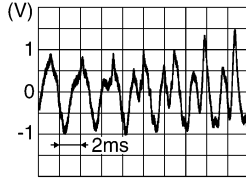
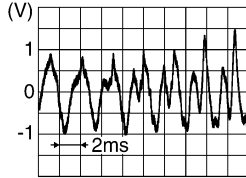
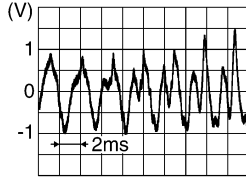
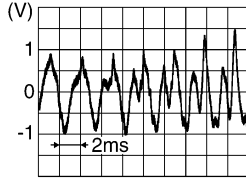
PHYSICAL VALUES

Terminal (Wire color)		Description		Condition	Reference value (Approx.)
+	-	Signal name	Input/ Output		
1 (W)	2 (V/G)	Instrument panel tweeter LH (+)	Output	[Ignition switch ON] • Sound output	 SKIB3609E
2 (V/G)	—	Instrument panel tweeter LH (-)	—	—	—
3 (G)	4 (W)	Instrument panel tweeter RH (+)	Output	[Ignition switch ON] • Sound output	 SKIB3609E
4 (W)	—	Instrument panel tweeter RH (-)	—	—	—
5 (W)	6 (B)	Sound signal subwoofer (+)	Output	[Ignition switch ON] • Sound output	 SKIB3609E
6 (B)	—	Sound signal subwoofer (-)	—	—	—
7 (GR)	—	Ground	—	[Ignition switch ON]	0 V
8 (B)	—	Sound signal subwoofer (-)	—	—	—
9 (P)	—	Sound signal rear door speaker RH (-)	—	—	—

BOSE AMP.

< ECU DIAGNOSIS INFORMATION >

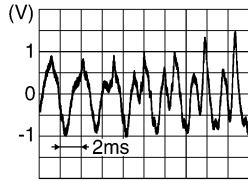
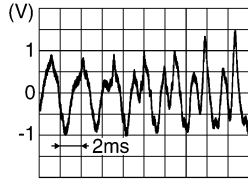
[MULTI AV (NAVIGATION)]

Terminal (Wire color)		Description		Condition	Reference value (Approx.)
+	-	Signal name	Input/ Output		
10 (SB)	7 (GR)	Battery power supply	Input	[Ignition switch OFF]	Battery voltage
11 (G)	7 (BR)	Battery power supply	Input	[Ignition switch OFF]	Battery voltage
12 (B)	—	Ground	—	[Ignition switch ON]	0 V
13 (W)	8 (B)	Sound signal subwoofer (+)	Output	[Ignition switch ON] • Sound output	 SKIB3609E
14 (R)	9 (P)	Sound signal rear door speaker RH (+)	Output	[Ignition switch ON] • Sound output	 SKIB3609E
18 (V/R)	19 (O)	Sound signal front door speaker (+)	Output	[Ignition switch ON] • Sound output	 SKIB3609E
19 (O)	—	Sound signal front door speaker (-)	—	—	—
20 (W)	—	Amp. ON signal	Output	[Ignition switch ON]	Battery voltage
23 (W)	—	Sound signal rear door speaker LH (-)	—	—	—
24 (B)	—	Sound signal rear door speaker LH (-)	—	—	—
25 (R)	—	Sound signal rear door speaker RH (-)	—	—	—
26 (B)	—	Sound signal rear door speaker RH (-)	—	—	—
28 (W/G)	15 (W)	Sound signal rear door speaker LH (+)	Output	[Ignition switch ON] • Sound output	 SKIB3609E

BOSE AMP.

< ECU DIAGNOSIS INFORMATION >

[MULTI AV (NAVIGATION)]

Terminal (Wire color)		Description		Condition	Reference value (Approx.)
+	—	Signal name	Input/ Output		
29 (W/V)	30 (W)	Sound signal center speaker (+)	Output	[Ignition switch ON] • Sound output	
30 (W)	—	Sound signal center speaker (-)	—	—	—
31 (G)	32 (W)	Sound signal front door speaker tweeter RH (+)	Output	[Ignition switch ON] • Sound output	
32 (W)	—	Sound signal front door speaker & tweeter RH (-)	—	—	—
33 (B)	—	Sound signal front door speaker and tweeter RH (-)	—	—	—
34 (W)	—	Sound signal front door speaker and tweeter RH (-)	—	—	—
35 (G)	—	Sound signal front door speaker tweeter LH (-)	—	—	—
36 (R)	—	Sound signal front door speaker tweeter LH (-)	—	—	—

MULTI AV (NAVIGATION WITHOUT BOSE AUDIO SYSTEM)

< WIRING DIAGRAM >

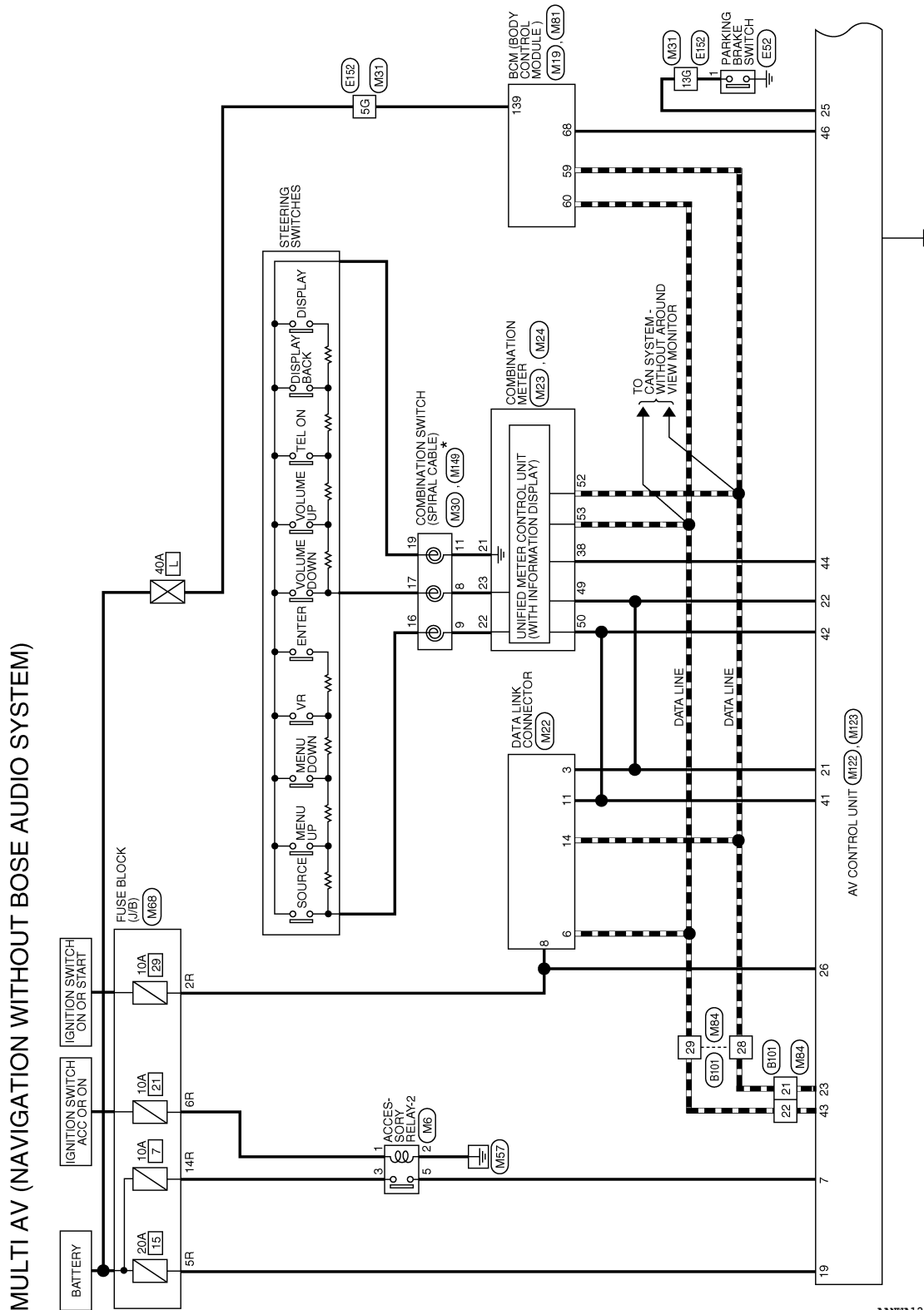
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WIRING DIAGRAM

MULTI AV (NAVIGATION WITHOUT BOSE AUDIO SYSTEM)

Wiring Diagram

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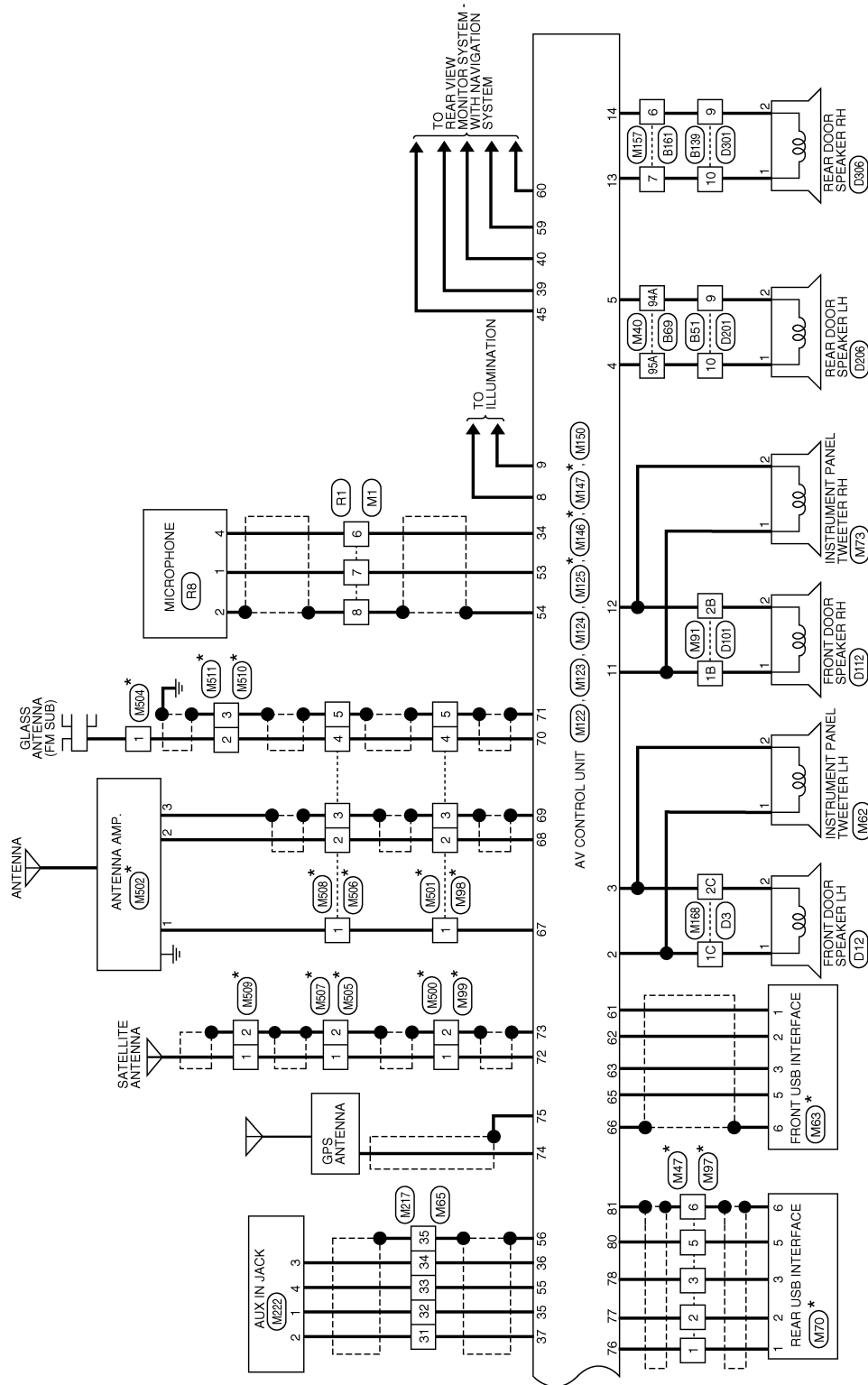
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AANWA1224GB

MULTI AV (NAVIGATION WITHOUT BOSE AUDIO SYSTEM)

< WIRING DIAGRAM >

[MULTI AV (NAVIGATION)]



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

AANWA1225GB

MULTI AV (NAVIGATION WITHOUT BOSE AUDIO SYSTEM)

< WIRING DIAGRAM >

[MULTI AV (NAVIGATION)]

MULTI AV (NAVIGATION WITHOUT BOSE AUDIO SYSTEM) CONNECTORS

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

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



3	5
2	1

Connector No.	M6
Connector Name	ACCESSORY RELAY-2
Connector Color	BLUE

Connector No.	M19
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK



60	59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41
80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	64	63	62	61

Terminal No.	Color of Wire	Signal Name
6	W	-
7	B	-
8	SHIELD	-

Terminal No.	Color of Wire	Signal Name
1	L	-
2	B	-
3	R	-
5	P	-

Terminal No.	Color of Wire	Signal Name
59	P	CAN-L
60	L	CAN-H
68	R	MR OUTPUT

Connector No.	M22
Connector Name	DATA LINK CONNECTOR
Connector Color	WHITE

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



Connector No.	M23
Connector Name	COMBINATION METER
Connector Color	WHITE

41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56



Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE



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

Terminal No.	Color of Wire	Signal Name
3	LG	-
6	L	-
8	LG	-
11	SB	-
14	P	-

Terminal No.	Color of Wire	Signal Name
49	LG	M-CAN (LOW)
50	SB	M-CAN (HI)
52	P	CAN-L
53	L	CAN-H

Terminal No.	Color of Wire	Signal Name
21	R	GND (STRG SW INPUT)
22	P	STRG SW (INPUT1)
23	BG	STRG SW (INPUT2)
38	BR	SPEED 8 P/R

AANIA3344GB

MULTI AV (NAVIGATION WITHOUT BOSE AUDIO SYSTEM)

< WIRING DIAGRAM >

[MULTI AV (NAVIGATION)]

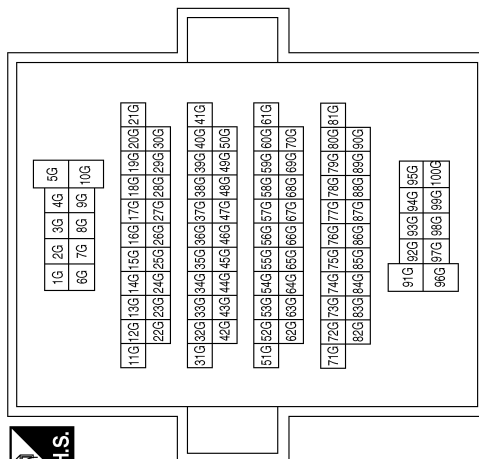
Connector No.	M30
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY

10	9	8	7
14	13	12	11



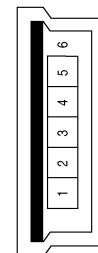
Terminal No.	Color of Wire	Signal Name
8	BG	—
9	P	—
11	R	—

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



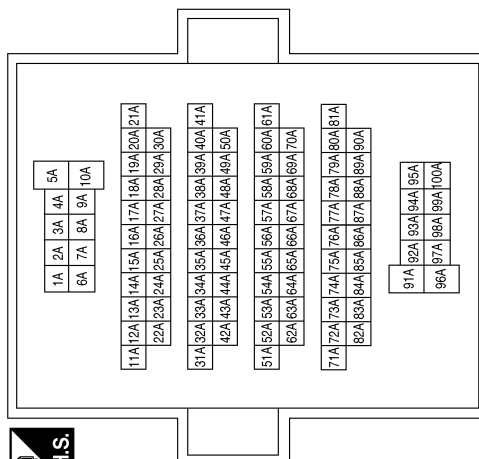
Terminal No.	Color of Wire	Signal Name
5G	L	—
13G	BR	—

Connector No.	M47
Connector Name	WIRE TO WIRE
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
1	R	—
2	W	—
3	G	—

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



Terminal No.	Color of Wire	Signal Name
94A	W	—
95A	G	—

Connector No.	M62
Connector Name	INSTRUMENT PANEL TWEETER LH
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	P	—
2	W	—

MULTI AV (NAVIGATION WITHOUT BOSE AUDIO SYSTEM)

< WIRING DIAGRAM >

[MULTI AV (NAVIGATION)]

Connector No.	M68
Connector Name	FUSE BLOCK (J/B)
Connector Color	BROWN



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

Connector No.	M65
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

Terminal No.	Color of Wire	Signal Name
2R	LG	-
5R	G	-
6R	L	-
14R	R	-

Terminal No.	Color of Wire	Signal Name
31	Y	-
32	W	-
33	R	-
34	B	-
35	SHIELD	-

Connector No.	M63
Connector Name	FRONT USB INTERFACE
Connector Color	BLACK



6	5	4	3	2	1
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Terminal No.	Color of Wire	Signal Name
1	R	-
2	W	-
3	G	-
4	-	-
5	B	-
6	SHIELD	-

Connector No.	M81
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE



137	136	135	134	133	132	131	130	129
143	142	141	140	139	138	137	136	135

Connector No.	M73
Connector Name	INSTRUMENT PANEL TWEETER RH
Connector Color	BROWN



2	1
---	---

Terminal No.	Color of Wire	Signal Name
139	L	BAT POWER F/L

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

Connector No.	M70
Connector Name	REAR USB INTERFACE
Connector Color	BLACK



6	5	4	3	2	1
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Terminal No.	Color of Wire	Signal Name
1	R	-
2	W	-
3	G	-
4	-	-
5	B	-
6	SHIELD	-

AANIA334 6GB

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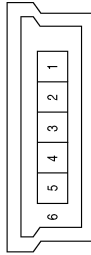
AV

MULTI AV (NAVIGATION WITHOUT BOSE AUDIO SYSTEM)

< WIRING DIAGRAM >

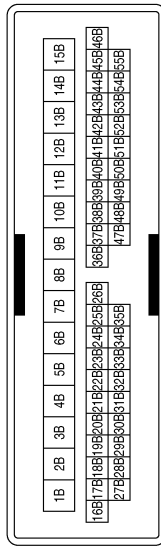
[MULTI AV (NAVIGATION)]

Connector No.	M97
Connector Name	WIRE TO WIRE
Connector Color	BLACK



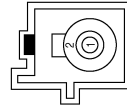
Terminal No.	Color of Wire	Signal Name
1	R	-
2	W	-
3	G	-
5	B	-
6	SHIELD	-

Connector No.	M91
Connector Name	WIRE TO WIRE
Connector Color	WHITE



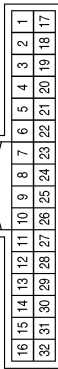
Terminal No.	Color of Wire	Signal Name
1B	G	-
2B	W	-

Connector No.	M99
Connector Name	WIRE TO WIRE
Connector Color	GREEN



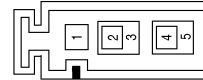
Terminal No.	Color of Wire	Signal Name
1	B	-
2	SHIELD	-

Connector No.	M84
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
21	P	-
22	L	-
28	P	-
29	L	-

Connector No.	M98
Connector Name	WIRE TO WIRE
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
1	B	-
2	B	-
3	SHIELD	-
4	B	-
5	SHIELD	-

AANIA3347GB

MULTI AV (NAVIGATION WITHOUT BOSE AUDIO SYSTEM)

< WIRING DIAGRAM >

[MULTI AV (NAVIGATION)]

Terminal No.	Color of Wire	Signal Name
43	L	CAN-H
44	BR	SPEED SIG
45	G	REVERSE
46	L	MR OUTPUT
47	-	-
48	-	-
49	-	-
50	-	-
51	-	-
52	-	-
53	B	MIC SIGNAL
54	SHIELD	MIC GND
55	R	AUX AUDIO R
56	SHIELD	AUX SHIELD
57	-	-
58	-	-
59	B	CAMERA GND
60	SHIELD	CAMERA SHIELD

Connector No.	M123
Connector Name	AV CONTROL UNIT (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE



21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60

Terminal No.	Color of Wire	Signal Name
21	LG	MCAN2 L
22	LG	MCAN1 L
23	P	CAN-L
24	-	-
25	BR	PKB SIG
26	LG	IGN
27	-	-
28	-	-
29	-	-
30	-	-
31	-	-
32	-	-
33	-	-
34	W	MIC VCC
35	W	AUX AUDIO L
36	B	AUX AUDIO GND
37	Y	AUX DET
38	-	-
39	R	CAMERA V+
40	W	CAMERA COMP+
41	SB	MCAN2 H
42	SB	MCAN1 H

Connector No.	M122
Connector Name	AV CONTROL UNIT (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE



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

Terminal No.	Color of Wire	Signal Name
1	-	-
2	P	FR SP LH (+)
3	W	FR SP LH (-)
4	G	RR SP LH (+)
5	W	RR SP LH (-)
6	-	-
7	P	ACC
8	B	ILL (-)
9	R	ILL (+)
10	-	-
11	G	FR SP RH (+)
12	W	FR SP RH (-)
13	R	RR SP RH (+)
14	P	RR SP RH (-)
15	-	-
16	-	-
17	-	-
18	-	-
19	G	+B
20	-	-

AANIA3348GB

MULTI AV (NAVIGATION WITHOUT BOSE AUDIO SYSTEM)

< WIRING DIAGRAM >

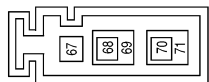
[MULTI AV (NAVIGATION)]

Connector No.	M146
Connector Name	AV CONTROL UNIT (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	PINK



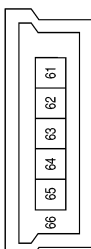
Terminal No.	Color of Wire	Signal Name
72	B	SAT ANT
73	SHIELD	SAT SHIELD

Connector No.	M125
Connector Name	AV CONTROL UNIT (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	GRAY



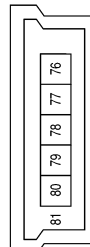
Terminal No.	Color of Wire	Signal Name
67	B	ANT +B
68	B	MAIN ANT
69	SHIELD	MAIN GND
70	B	ANT SUB
71	SHIELD	SUB GND

Connector No.	M124
Connector Name	AV CONTROL UNIT (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	BLACK



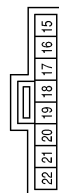
Terminal No.	Color of Wire	Signal Name
61	R	VBUS
62	W	USB D-
63	G	USB D+
64	-	-
65	B	USB GND
66	SHIELD	SHIELD

Connector No.	M150
Connector Name	AV CONTROL UNIT (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	GREEN



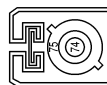
Terminal No.	Color of Wire	Signal Name
76	R	VBUS
77	W	USB D-
78	G	USB D+
79	-	-
80	B	USB GND
81	SHIELD	SHIELD

Connector No.	M149
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
16	W	-
17	G	-
19	BR	-

Connector No.	M147
Connector Name	AV CONTROL UNIT (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
74	B	GPS ANT
75	SHIELD	GPS SHIELD

AANIA3349GB

MULTI AV (NAVIGATION WITHOUT BOSE AUDIO SYSTEM)

< WIRING DIAGRAM >

[MULTI AV (NAVIGATION)]

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

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



Terminal No.	Color of Wire	Signal Name
6	P	-
7	R	-

Connector No.	M168
Connector Name	WIRE TO WIRE
Connector Color	WHITE



1C	2C	3C	4C	5C	6C	7C	8C	9C	10C	11C	12C	13C	14C	15C
16C	17C	18C	19C	20C	21C	22C	23C	24C	25C	26C	27C	28C	29C	30C
31C	32C	33C	34C	35C	36C	37C	38C	39C	40C	41C	42C	43C	44C	45C
46C	47C	48C	49C	50C	51C	52C	53C	54C	55C					

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

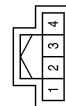
Connector No.	M217
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

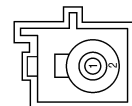
Terminal No.	Color of Wire	Signal Name
31	Y	-
32	W	-
33	R	-
34	B	-
35	SHIELD	-

Connector No.	M222
Connector Name	AUX IN JACK
Connector Color	WHITE



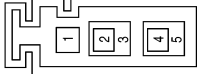
Terminal No.	Color of Wire	Signal Name
1	W	-
2	Y	-
3	B	-
4	R	-

Connector No.	M500
Connector Name	WIRE TO WIRE
Connector Color	GREEN



Terminal No.	Color of Wire	Signal Name
1	B	-
2	SHIELD	-

Connector No.	M501
Connector Name	WIRE TO WIRE
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
1	B	-
2	B	-
3	SHIELD	-
4	B	-
5	SHIELD	-

AANIA3350GB

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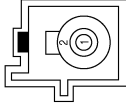
AV

MULTI AV (NAVIGATION WITHOUT BOSE AUDIO SYSTEM)

< WIRING DIAGRAM >

[MULTI AV (NAVIGATION)]

Connector No.	M505
Connector Name	WIRE TO WIRE
Connector Color	GREEN



Terminal No.	Color of Wire	Signal Name
1	B	-
2	SHIELD	-

Connector No.	M504
Connector Name	GLASS ANTENNA (FM SUB)
Connector Color	BLACK



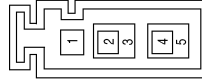
Terminal No.	Color of Wire	Signal Name
1	B	-

Connector No.	M502
Connector Name	ANTENNA AMP.
Connector Color	BLUE



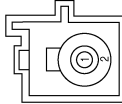
Terminal No.	Color of Wire	Signal Name
1	B	-
2	B	-
3	SHIELD	-

Connector No.	M508
Connector Name	WIRE TO WIRE
Connector Color	GRAY



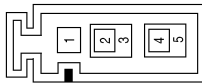
Terminal No.	Color of Wire	Signal Name
1	B	-
2	B	-
3	SHIELD	-
4	B	-
5	SHIELD	-

Connector No.	M507
Connector Name	WIRE TO WIRE
Connector Color	GREEN



Terminal No.	Color of Wire	Signal Name
1	B	-
2	SHIELD	-

Connector No.	M506
Connector Name	WIRE TO WIRE
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
1	B	-
2	B	-
3	SHIELD	-
4	B	-
5	SHIELD	-

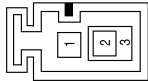
AANIA3351GB

MULTI AV (NAVIGATION WITHOUT BOSE AUDIO SYSTEM)

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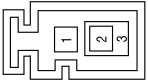
[MULTI AV (NAVIGATION)]

Connector No.	M511
Connector Name	WIRE TO WIRE
Connector Color	GRAY



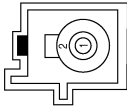
Terminal No.	Color of Wire	Signal Name
2	B	-
3	SHIELD	-

Connector No.	M510
Connector Name	WIRE TO WIRE
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
2	B	-
3	SHIELD	-

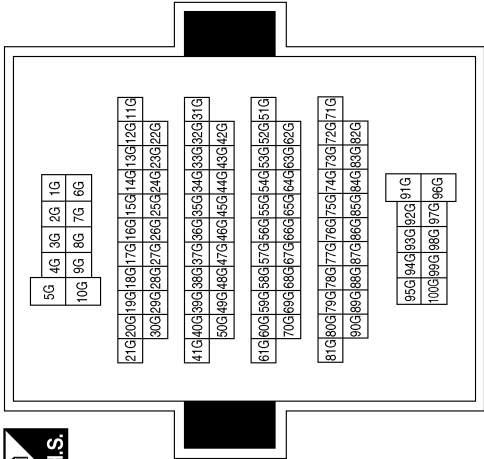
Connector No.	M509
Connector Name	SATELLITE ANTENNA
Connector Color	GREEN



Terminal No.	Color of Wire	Signal Name
1	B	-
2	SHIELD	-

Terminal No.	Color of Wire	Signal Name
5G	P	-
13G	LG	-

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



Connector No.	E52
Connector Name	PARKING BRAKE SWITCH
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
1	LG	-

AANIA3352GB

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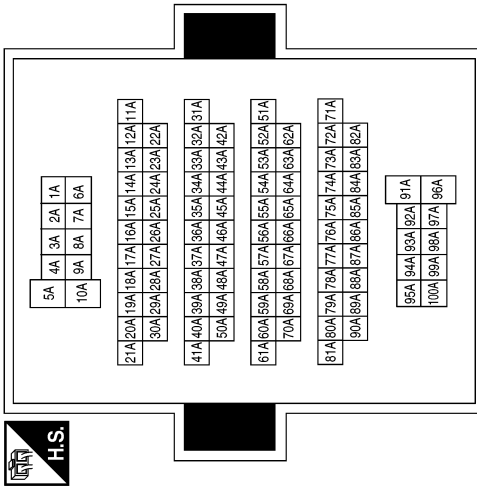
MULTI AV (NAVIGATION WITHOUT BOSE AUDIO SYSTEM)

< WIRING DIAGRAM >

[MULTI AV (NAVIGATION)]

Terminal No.	Color of Wire	Signal Name
94A	W	—
95A	G	—

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



Connector No.	B51
Connector Name	WIRE TO WIRE
Connector Color	WHITE

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



Terminal No.	Color of Wire	Signal Name
9	W	—
10	G	—

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



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

Connector No.	B139
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

Connector No.	B101
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

Terminal No.	Color of Wire	Signal Name
6	P	—
7	R	—

Terminal No.	Color of Wire	Signal Name
9	P	—
10	R	—

Terminal No.	Color of Wire	Signal Name
21	P	—
22	L	—
28	P	—
29	L	—

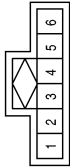
AANIA3353GB

MULTI AV (NAVIGATION WITHOUT BOSE AUDIO SYSTEM)

< WIRING DIAGRAM >

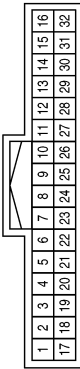
[MULTI AV (NAVIGATION)]

Connector No.	R8
Connector Name	MICROPHONE
Connector Color	WHITE



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

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



Terminal No.	Color of Wire	Signal Name
6	R	-
7	L	-
8	SHIELD	-

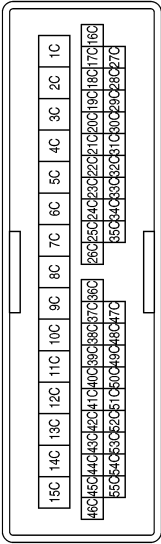
Connector No.	D12
Connector Name	FRONT DOOR SPEAKER LH
Connector Color	WHITE



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

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

Connector No.	D3
Connector Name	WIRE TO WIRE
Connector Color	WHITE



AANIA3354GB

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AV

MULTI AV (NAVIGATION WITHOUT BOSE AUDIO SYSTEM)

< WIRING DIAGRAM >

[MULTI AV (NAVIGATION)]

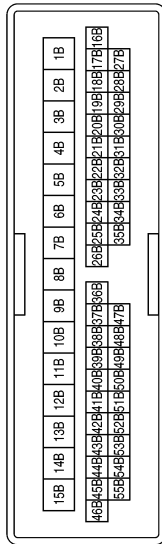
Connector No.	D112
Connector Name	FRONT DOOR SPEAKER RH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	G	—
2	W	—

Terminal No.	Color of Wire	Signal Name
1B	G	—
2B	W	—

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



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



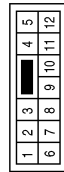
Terminal No.	Color of Wire	Signal Name
9	P	—
10	R	—

Connector No.	D206
Connector Name	REAR DOOR SPEAKER LH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	G	—
2	W	—

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



Terminal No.	Color of Wire	Signal Name
9	W	—
10	G	—

AANIA3355GB

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Connector No.	D306
Connector Name	REAR DOOR SPEAKER RH
Connector Color	WHITE



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

AANIA3356GB

MULTI AV (NAVIGATION WITH BOSE AUDIO SYSTEM)

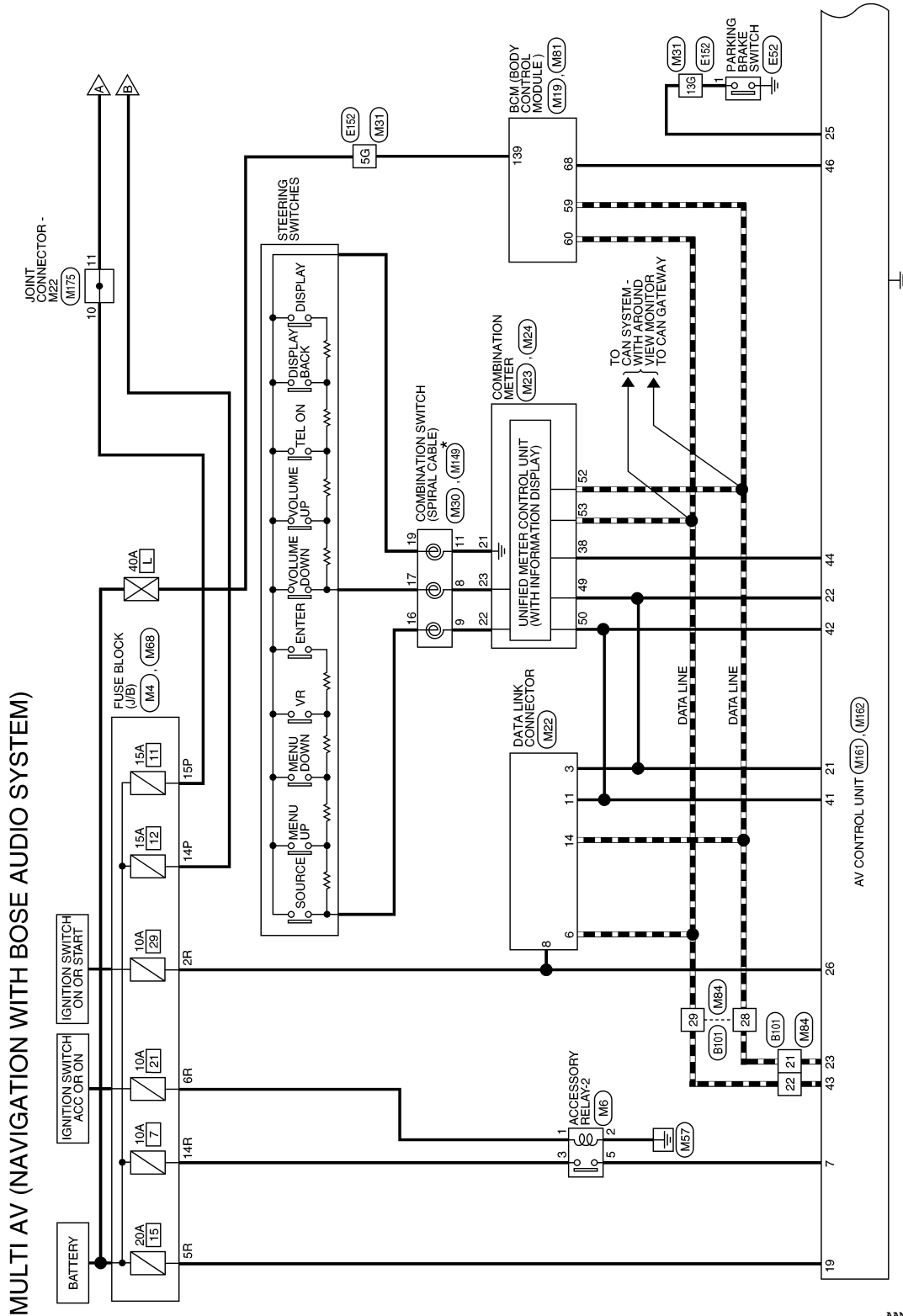
< WIRING DIAGRAM >

[MULTI AV (NAVIGATION)]

MULTI AV (NAVIGATION WITH BOSE AUDIO SYSTEM)

Wiring Diagram

INFOID:0000000011230039



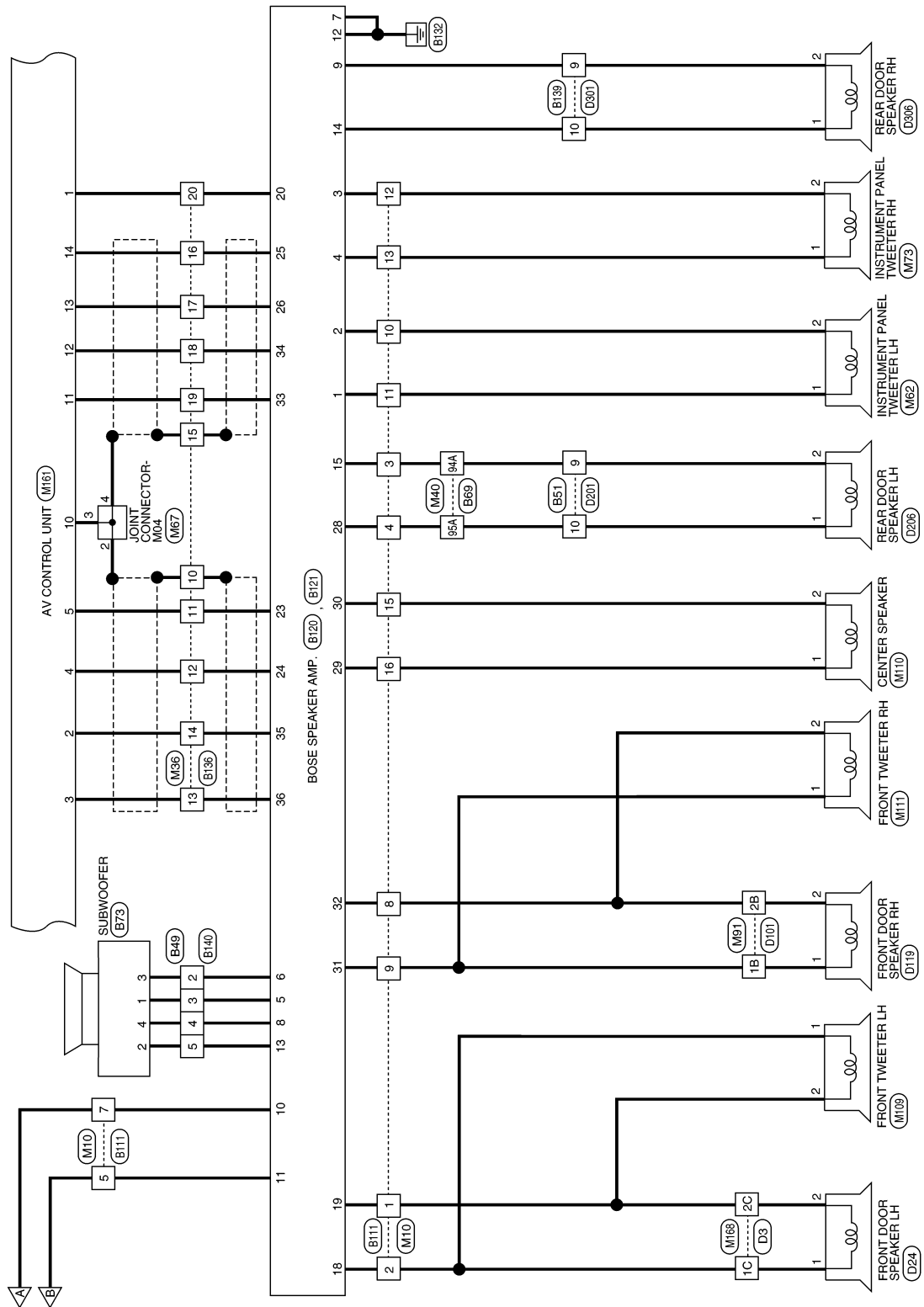
* : THIS CONNECTOR IS NOT SHOWN IN "HARNES LAYOUT" OF PG SECTION.

AANWA1227GB

MULTI AV (NAVIGATION WITH BOSE AUDIO SYSTEM)

< WIRING DIAGRAM >

[MULTI AV (NAVIGATION)]

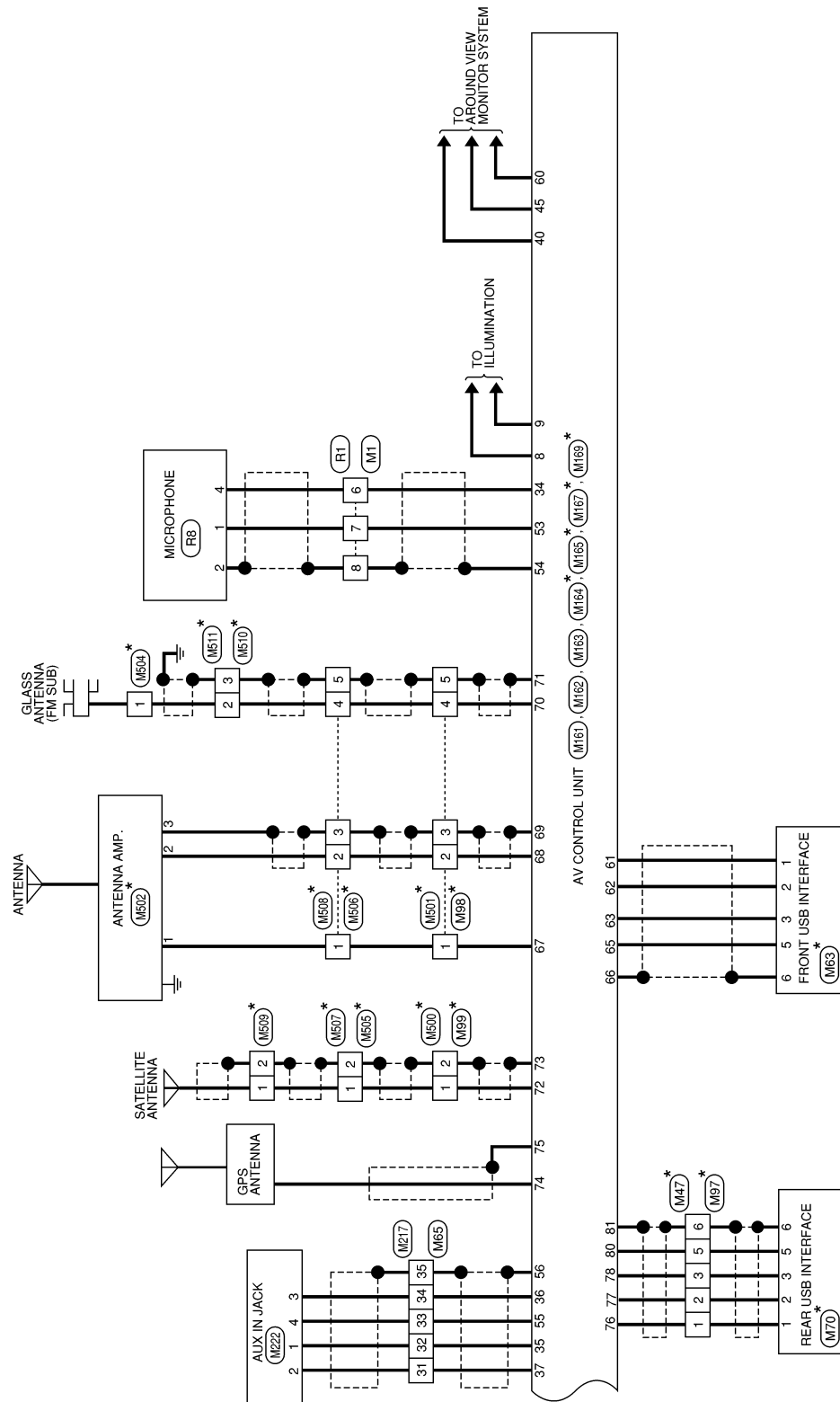


AANWA1228GB

MULTI AV (NAVIGATION WITH BOSE AUDIO SYSTEM)

< WIRING DIAGRAM >

[MULTI AV (NAVIGATION)]



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

AANWA1229GB

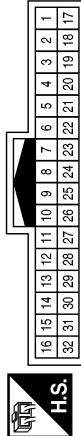
MULTI AV (NAVIGATION WITH BOSE AUDIO SYSTEM)

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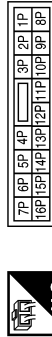
[MULTI AV (NAVIGATION)]

MULTI AV (NAVIGATION WITH BOSE AUDIO SYSTEM) CONNECTORS

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



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



Connector No.	M6
Connector Name	ACCESSORY RELAY-2
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
6	W	-
7	B	-
8	SHIELD	-

Terminal No.	Color of Wire	Signal Name
14P	G	-
15P	SB	-

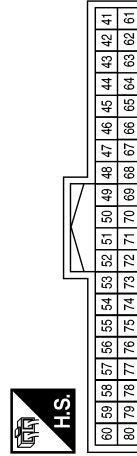
Terminal No.	Color of Wire	Signal Name
1	L	-
2	B	-
3	R	-
5	P	-

Connector No.	M10
Connector Name	WIRE TO WIRE
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
9	G	-
10	G	-
11	W	-
12	G	-
13	W	-
15	W	-
16	G	-

Connector No.	M19
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
1	W	-
2	P	-
3	W	-
4	G	-
5	G	-
7	SB	-
8	W	-

Terminal No.	Color of Wire	Signal Name
59	P	CAN-L
60	L	CAN-H
68	R	MR OUTPUT

AANIA3364GB

MULTI AV (NAVIGATION WITH BOSE AUDIO SYSTEM)

< WIRING DIAGRAM >

[MULTI AV (NAVIGATION)]

Connector No.	M22
Connector Name	DATA LINK CONNECTOR
Connector Color	WHITE

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



Terminal No.	Color of Wire	Signal Name
3	LG	—
6	L	—
8	LG	—
11	SB	—
14	P	—

Connector No.	M23
Connector Name	COMBINATION METER
Connector Color	WHITE

41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56



Terminal No.	Color of Wire	Signal Name
49	LG	M-CAN (LOW)
50	SB	M-CAN (HI)
52	P	CAN-L
53	L	CAN-H

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE



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

Terminal No.	Color of Wire	Signal Name
21	R	GND (STRG SW INPUT)
22	P	STRG SW (INPUT1)
23	BG	STRG SW (INPUT2)
38	BR	SPEED 8 P/R

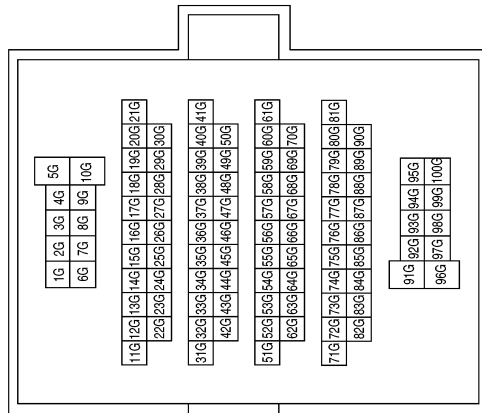
Connector No.	M30
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY

10	9	8	7
14	13	12	11



Terminal No.	Color of Wire	Signal Name
8	BG	—
9	P	—
11	R	—

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



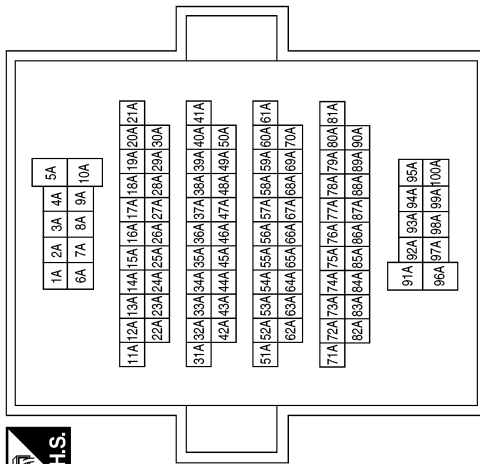
MULTI AV (NAVIGATION WITH BOSE AUDIO SYSTEM)

< WIRING DIAGRAM >

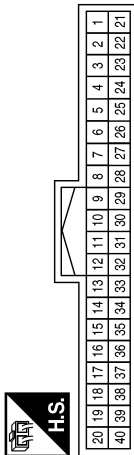
[MULTI AV (NAVIGATION)]

Terminal No.	Color of Wire	Signal Name
94A	W	—
95A	G	—

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

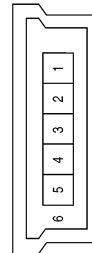


Connector No.	M36
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
10	SHIELD	—
11	W	—
12	B	—
13	R	—
14	G	—
15	SHIELD	—
16	R	—
17	G	—
18	W	—
19	B	—
20	W	—

Connector No.	M63
Connector Name	FRONT USB INTERFACE
Connector Color	BLACK



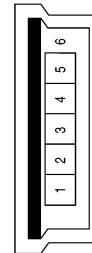
Terminal No.	Color of Wire	Signal Name
1	R	—
2	W	—
3	G	—
4	—	—
5	B	—
6	SHIELD	—

Connector No.	M62
Connector Name	INSTRUMENT PANEL TWEETER LH
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	W	—
2	G	—

Connector No.	M47
Connector Name	WIRE TO WIRE
Connector Color	BLACK



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

AANIA33366GB

MULTI AV (NAVIGATION WITH BOSE AUDIO SYSTEM)

< WIRING DIAGRAM >

[MULTI AV (NAVIGATION)]

Connector No.	M68
Connector Name	FUSE BLOCK (J/B)
Connector Color	BROWN



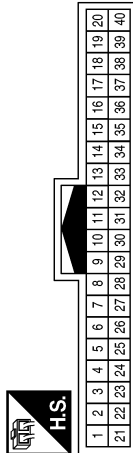
Terminal No.	Color of Wire	Signal Name
2R	LG	-
5R	G	-
6R	L	-
14R	R	-

Connector No.	M67
Connector Name	JOINT CONNECTOR-M04
Connector Color	WHITE



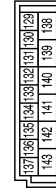
Terminal No.	Color of Wire	Signal Name
2	SHIELD	-
3	B	-
4	SHIELD	-

Connector No.	M65
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
31	Y	-
32	W	-
33	R	-
34	B	-
35	SHIELD	-

Connector No.	M81
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE



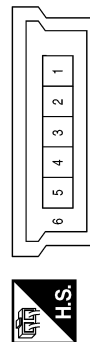
Terminal No.	Color of Wire	Signal Name
139	L	BAT POWER F/L

Connector No.	M73
Connector Name	INSTRUMENT PANEL TWEETER RH
Connector Color	BROWN



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

Connector No.	M70
Connector Name	REAR USB INTERFACE
Connector Color	BLACK



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

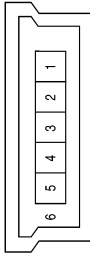
AANIA3367GB

MULTI AV (NAVIGATION WITH BOSE AUDIO SYSTEM)

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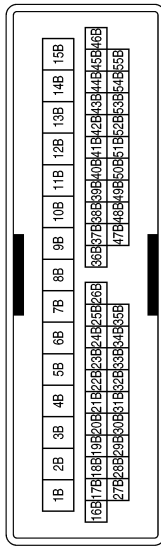
[MULTI AV (NAVIGATION)]

Connector No.	M97
Connector Name	WIRE TO WIRE
Connector Color	BLACK



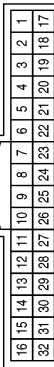
Terminal No.	Color of Wire	Signal Name
1	R	-
2	W	-
3	G	-
5	B	-
6	SHIELD	-

Connector No.	M91
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

Connector No.	M84
Connector Name	WIRE TO WIRE
Connector Color	WHITE



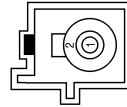
Terminal No.	Color of Wire	Signal Name
21	P	-
22	L	-
28	P	-
29	L	-

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



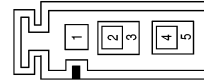
Terminal No.	Color of Wire	Signal Name
1	P	-
2	W	-

Connector No.	M99
Connector Name	WIRE TO WIRE
Connector Color	GREEN



Terminal No.	Color of Wire	Signal Name
1	B	-
2	SHIELD	-

Connector No.	M98
Connector Name	WIRE TO WIRE
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
1	B	-
2	B	-
3	SHIELD	-
4	B	-
5	SHIELD	-

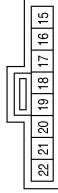
AANIA3368GB

MULTI AV (NAVIGATION WITH BOSE AUDIO SYSTEM)

< WIRING DIAGRAM >

[MULTI AV (NAVIGATION)]

Connector No.	M149
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
16	W	-
17	G	-
19	BR	-

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



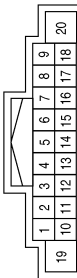
Terminal No.	Color of Wire	Signal Name
1	G	-
2	W	-

Connector No.	M110
Connector Name	CENTER SPEAKER
Connector Color	WHITE



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

Connector No.	M161
Connector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
7	P	ACC
8	B	ILL (-)
9	R	ILL (+)
10	B	PREAMP SHIELD
11	B	FR RH PRE+
12	W	FR RH PRE-
13	G	RR RH PRE+
14	R	RR RH PRE-
15	-	-
16	-	-
17	-	-
18	-	-
19	G	BAT
20	-	-

Terminal No.	Color of Wire	Signal Name
1	W	AMP ON
2	G	FR LH PRE+
3	R	FR LH PRE-
4	B	RR LH PRE+
5	W	RR LH PRE-
6	-	-

AANIA3369GB

MULTI AV (NAVIGATION WITH BOSE AUDIO SYSTEM)

< WIRING DIAGRAM >

[MULTI AV (NAVIGATION)]

Terminal No.	Color of Wire	Signal Name
44	BR	SPEED SIG
45	G	REVERSE
46	L	MR OUTPUT
47	-	-
48	-	-
49	-	-
50	-	-
51	-	-
52	-	-
53	B	MIC SIGNAL
54	SHIELD	MIC GND
55	R	AUX AUDIO R
56	SHIELD	AUX SHIELD
57	-	-
58	-	-
59	-	-
60	SHIELD	CAMERA SHIELD

Terminal No.	Color of Wire	Signal Name
28	-	-
29	-	-
30	-	-
31	-	-
32	-	-
33	-	-
34	W	MIC VCC
35	W	AUX AUDIO L
36	B	AUX AUDIO GND
37	Y	AUX DET
38	-	-
39	-	-
40	B	CAMERA COMP+
41	SB	MCAN2 H
42	SB	MCAN1 H
43	L	CAN-H

Connector No.	M162
Connector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM)
Connector Color	WHITE



21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
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Terminal No.	Color of Wire	Signal Name
21	LG	MCAN2 L
22	LG	MCAN1 L
23	P	CAN-L
24	-	-
25	BR	PKB SIG
26	LG	IGN
27	-	-

Terminal No.	Color of Wire	Signal Name
67	B	ANT +B
68	B	MAIN ANT
69	SHIELD	MAIN GND
70	B	ANT SUB
71	SHIELD	SUB GND

Connector No.	M164
Connector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM)
Connector Color	GRAY



67	68	69	70	71
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Connector No.	M163
Connector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM)
Connector Color	BLACK



66	65	64	63	62	61
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Terminal No.	Color of Wire	Signal Name
61	R	VBUS
62	W	USB D-
63	G	USB D+
64	-	-
65	B	USB GND
66	SHIELD	SHIELD

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AV

MULTI AV (NAVIGATION WITH BOSE AUDIO SYSTEM)

< WIRING DIAGRAM >

[MULTI AV (NAVIGATION)]

Connector No.	M168
Connector Name	WIRE TO WIRE
Connector Color	WHITE



1C	2C	3C	4C	5C	6C	7C	8C	9C	10C	11C	12C	13C	14C	15C
16C	17C	18C	19C	20C	21C	22C	23C	24C	25C	26C	27C	28C	29C	30C
31C	32C	33C	34C	35C	36C	37C	38C	39C	40C	41C	42C	43C	44C	45C
46C	47C	48C	49C	50C	51C	52C	53C	54C	55C	56C	57C	58C	59C	60C

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

Connector No.	M167
Connector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM)
Connector Color	BLUE





Terminal No.	Color of Wire	Signal Name
74	B	GPS ANT
75	SHIELD	GPS SHIELD

Connector No.	M165
Connector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM)
Connector Color	PINK





Terminal No.	Color of Wire	Signal Name
72	B	SAT ANT
73	SHIELD	SAT SHIELD

Connector No.	M217
Connector Name	WIRE TO WIRE
Connector Color	WHITE

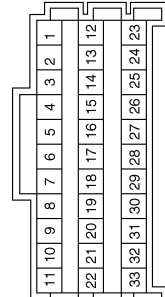


20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21

Terminal No.	Color of Wire	Signal Name
31	Y	-
32	W	-
33	R	-
34	B	-
35	SHIELD	-

Connector No.	M175
Connector Name	JOINT CONNECTOR-M22
Connector Color	WHITE

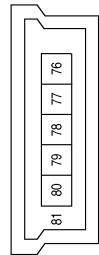




Terminal No.	Color of Wire	Signal Name
10	SB	-
11	SB	-

Connector No.	M169
Connector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM)
Connector Color	GREEN





Terminal No.	Color of Wire	Signal Name
76	R	VBUS
77	W	USB D-
78	G	USB D+
79	-	-
80	B	USB GND
81	SHIELD	SHIELD

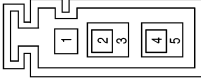
AANIA3371GB

MULTI AV (NAVIGATION WITH BOSE AUDIO SYSTEM)

< WIRING DIAGRAM >

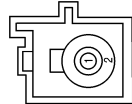
[MULTI AV (NAVIGATION)]

Connector No.	M501
Connector Name	WIRE TO WIRE
Connector Color	GRAY



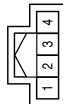
Terminal No.	Color of Wire	Signal Name
1	B	-
2	B	-
3	SHIELD	-
4	B	-
5	SHIELD	-

Connector No.	M500
Connector Name	WIRE TO WIRE
Connector Color	GREEN



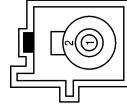
Terminal No.	Color of Wire	Signal Name
1	B	-
2	SHIELD	-

Connector No.	M222
Connector Name	AUX IN JACK
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	W	-
2	Y	-
3	B	-
4	R	-

Connector No.	M505
Connector Name	WIRE TO WIRE
Connector Color	GREEN



Terminal No.	Color of Wire	Signal Name
1	B	-
2	SHIELD	-

Connector No.	M504
Connector Name	GLASS ANTENNA (FM SUB)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
1	B	-

Connector No.	M502
Connector Name	ANTENNA AMP.
Connector Color	BLUE



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

AANIA3372GB

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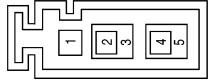
AV

MULTI AV (NAVIGATION WITH BOSE AUDIO SYSTEM)

< WIRING DIAGRAM >

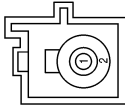
[MULTI AV (NAVIGATION)]

Connector No.	M508
Connector Name	WIRE TO WIRE
Connector Color	GRAY



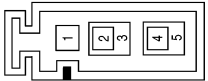
Terminal No.	Color of Wire	Signal Name
1	B	-
2	B	-
3	SHIELD	-
4	B	-
5	SHIELD	-

Connector No.	M507
Connector Name	WIRE TO WIRE
Connector Color	GREEN



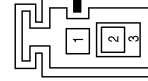
Terminal No.	Color of Wire	Signal Name
1	B	-
2	SHIELD	-

Connector No.	M506
Connector Name	WIRE TO WIRE
Connector Color	GRAY



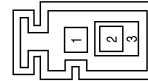
Terminal No.	Color of Wire	Signal Name
1	B	-
2	B	-
3	SHIELD	-
4	B	-
5	SHIELD	-

Connector No.	M511
Connector Name	WIRE TO WIRE
Connector Color	GRAY



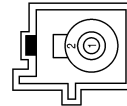
Terminal No.	Color of Wire	Signal Name
2	B	-
3	SHIELD	-

Connector No.	M510
Connector Name	WIRE TO WIRE
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
2	B	-
3	SHIELD	-

Connector No.	M509
Connector Name	SATELLITE ANTENNA
Connector Color	GREEN



Terminal No.	Color of Wire	Signal Name
1	B	-
2	SHIELD	-

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MULTI AV (NAVIGATION WITH BOSE AUDIO SYSTEM)

< WIRING DIAGRAM >

[MULTI AV (NAVIGATION)]

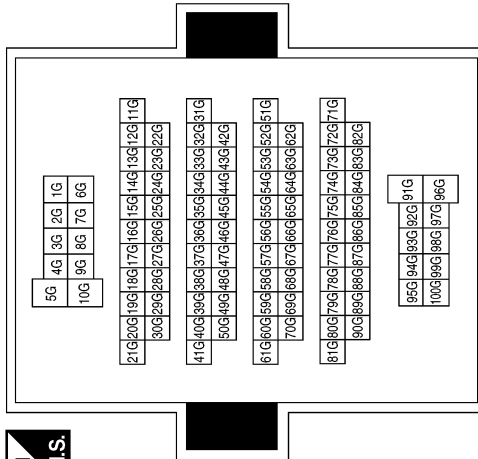
Connector No.	B49
Connector Name	WIRE TO WIRE
Connector Color	WHITE

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



Terminal No.	Color of Wire	Signal Name
2	B	-
3	W	-
4	G/BR	-
5	BR/Y	-

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



Terminal No.	Color of Wire	Signal Name
5G	P	-
13G	LG	-

Connector No.	E52
Connector Name	PARKING BRAKE SWITCH
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
1	LG	-

Connector No.	B51
Connector Name	WIRE TO WIRE
Connector Color	WHITE

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



Terminal No.	Color of Wire	Signal Name
9	W	-
10	G	-

AANIA3374GB

MULTI AV (NAVIGATION WITH BOSE AUDIO SYSTEM)

< WIRING DIAGRAM >

[MULTI AV (NAVIGATION)]

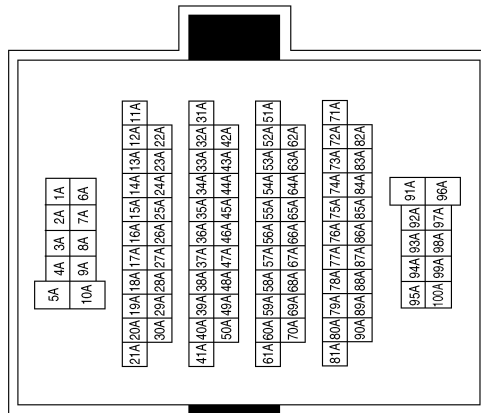
Connector No.	B73
Connector Name	SUBWOOFER
Connector Color	GRAY



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

Terminal No.	Color of Wire	Signal Name
94A	W	-
95A	G	-

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



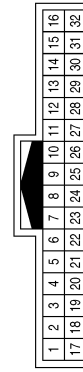
Terminal No.	Color of Wire	Signal Name
7	SB	-
8	W	-
9	G	-
10	V/G	-
11	W	-
12	G	-
13	W	-
15	W	-
16	W/V	-

Connector No.	B111
Connector Name	WIRE TO WIRE
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	O	-
2	V/R	-
3	W	-
4	W/G	-
5	G	-

Connector No.	B101
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
21	P	-
22	L	-
28	P	-
29	L	-

MULTI AV (NAVIGATION WITH BOSE AUDIO SYSTEM)

< WIRING DIAGRAM >

[MULTI AV (NAVIGATION)]

Connector No.	B136
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

Terminal No.	Color of Wire	Signal Name
10	SHIELD	-
11	W	-
12	B	-
13	R	-
14	G	-
15	SHIELD	-
16	R	-
17	G	-
18	W	-
19	B	-
20	W	-

Connector No.	B121
Connector Name	BOSE SPEAKER AMP.
Connector Color	BROWN



37	36	35	34	33	32	31	30	29	28
27	26	25	24	23	22	21	20	19	18
									17
									16
									15

Terminal No.	Color of Wire	Signal Name
15	W	-
18	V/R	-
19	O	-
20	W	-
23	W	-
24	B	-
25	R	-
26	G	-
28	W/G	-
29	W/V	-
30	W	-
31	G	-
32	W	-
33	B	-
34	W	-
35	G	-
36	R	-

Connector No.	B120
Connector Name	BOSE SPEAKER AMP.
Connector Color	BROWN



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

Terminal No.	Color of Wire	Signal Name
1	W	-
2	V/G	-
3	G	-
4	W	-
5	W	-
6	B	-
7	GR	-
8	B	-
9	P	-
10	SB	-
11	G	-
12	B	-
13	W	-
14	R	-

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AV

< WIRING DIAGRAM >

Revision: October 2014

Terminal No.	Color of Wire	Signal Name
9	P	-
10	R	-

Terminal No.	Color of Wire	Signal Name
2	B	-
3	W	-
4	B	-
5	W	-

Terminal No.	Color of Wire	Signal Name
6	R	—
7	L	—
8	SHIELD	—

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

Terminal No.	Color of Wire	Signal Name
1C	P	—
2C	O	—

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

MULTI AV (NAVIGATION WITH BOSE AUDIO SYSTEM)

< WIRING DIAGRAM >

[MULTI AV (NAVIGATION)]

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

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



Terminal No.	Color of Wire	Signal Name
9	W	—
10	G	—

Connector No.	D119
Connector Name	FRONT DOOR SPEAKER RH
Connector Color	BROWN

2	1
---	---



Terminal No.	Color of Wire	Signal Name
1	G	—
2	W	—

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



15B	14B	13B	12B	11B	10B	9B	8B	7B	6B	5B	4B	3B	2B	1B
46B45B44B43B42B41B40B39B38B37B36B	26B25B24B23B22B21B20B19B18B17B16B	15B14B13B12B11B10B9B8B7B6B5B4B3B2B1B	15B14B13B12B11B10B9B8B7B6B5B4B3B2B1B	15B14B13B12B11B10B9B8B7B6B5B4B3B2B1B	15B14B13B12B11B10B9B8B7B6B5B4B3B2B1B	15B14B13B12B11B10B9B8B7B6B5B4B3B2B1B	15B14B13B12B11B10B9B8B7B6B5B4B3B2B1B	15B14B13B12B11B10B9B8B7B6B5B4B3B2B1B	15B14B13B12B11B10B9B8B7B6B5B4B3B2B1B	15B14B13B12B11B10B9B8B7B6B5B4B3B2B1B	15B14B13B12B11B10B9B8B7B6B5B4B3B2B1B	15B14B13B12B11B10B9B8B7B6B5B4B3B2B1B	15B14B13B12B11B10B9B8B7B6B5B4B3B2B1B	15B14B13B12B11B10B9B8B7B6B5B4B3B2B1B

Terminal No.	Color of Wire	Signal Name
1B	G	—
2B	W	—

Connector No.	D306
Connector Name	REAR DOOR SPEAKER RH
Connector Color	WHITE

2	1
---	---



Terminal No.	Color of Wire	Signal Name
1	R	—
2	P	—

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

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



Terminal No.	Color of Wire	Signal Name
9	P	—
10	R	—

Connector No.	D206
Connector Name	REAR DOOR SPEAKER LH
Connector Color	WHITE

2	1
---	---



Terminal No.	Color of Wire	Signal Name
1	G	—
2	W	—

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AV

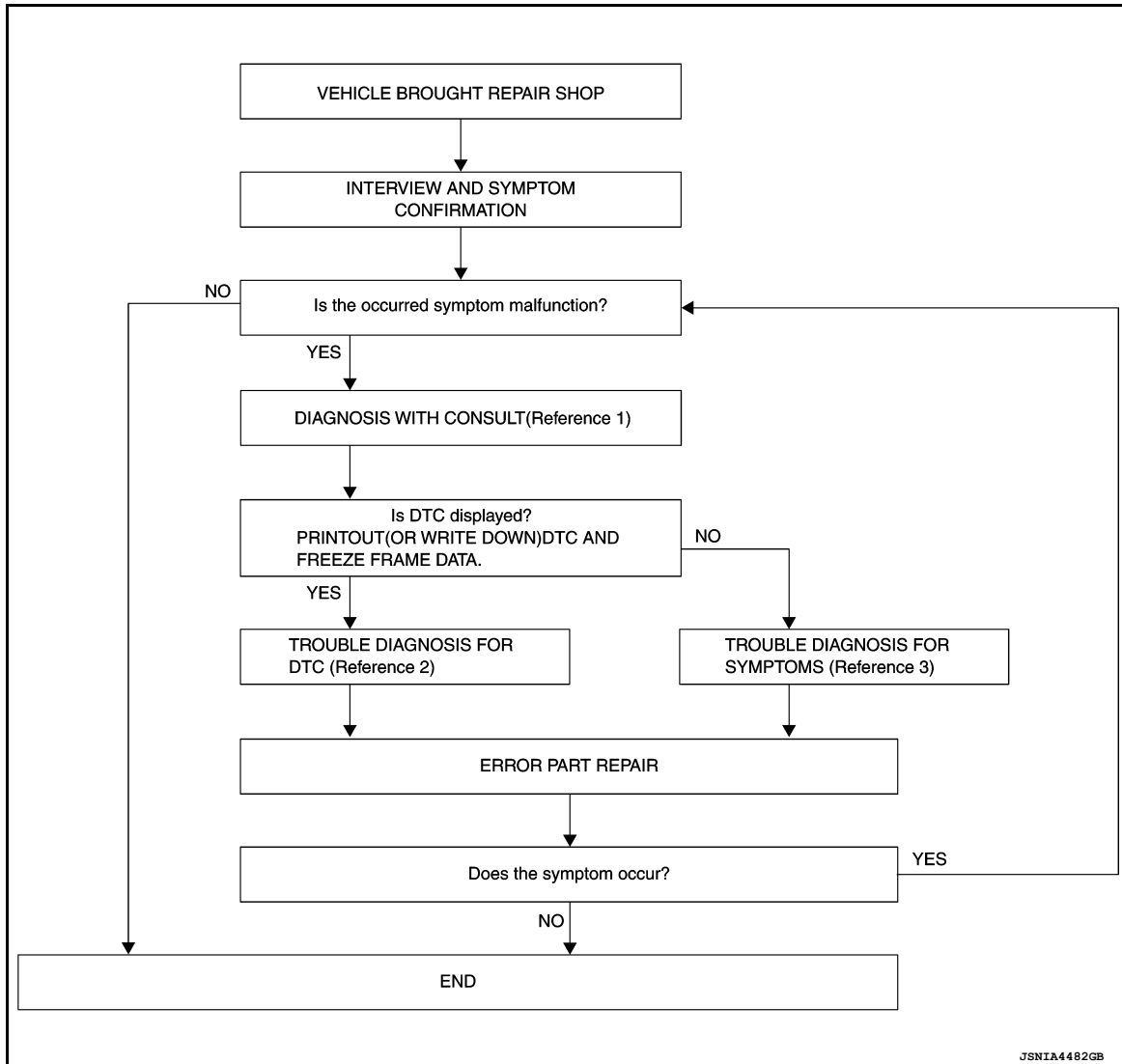
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000011230040

OVERALL SEQUENCE



- Reference 1: Refer to [AV-104, "CONSULT Function"](#).
- Reference 2: Refer to [AV-104, "CONSULT Function"](#).
- Reference 3: Refer to [AV-171, "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 a malfunction?

YES >> GO TO 2.

NO >> Inspection End.

2. DIAGNOSIS WITH CONSULT

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[MULTI AV (NAVIGATION)]

1. Connect CONSULT and perform a "Self Diagnostic Result" for "MULTI AV". Refer to [AV-104, "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 (FFD).

Is DTC displayed?

YES >> GO TO 3.

NO >> GO TO 4.

3. TROUBLE DIAGNOSIS FOR DTC

1. Check the DTC indicated in the "Self Diagnostic Result".
2. Perform the relevant diagnosis referring to the DTC Index. Refer to [AV-104, "CONSULT Function"](#).

>> GO TO 5.

4. TROUBLE DIAGNOSIS FOR SYMPTOMS

Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to [AV-171, "Symptom Table"](#).

>> GO TO 5.

5. ERROR PART REPAIR

1. Repair or replace the identified malfunctioning parts.
2. Perform a "Self Diagnostic Result" 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 Diagnostic Result".
3. Check that the symptom does not occur.

Does the symptom occur?

YES >> GO TO 1.

NO >> Inspection End.

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AV

ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT

< BASIC INSPECTION >

[MULTI AV (NAVIGATION)]

ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT

Description

INFOID:0000000011880252

BEFORE REPLACEMENT

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

NOTE:

If "READ CONFIGURATION" can not be used, use the "WRITE CONFIGURATION - Manual selection" after replacing AV control unit.

AFTER REPLACEMENT

CAUTION:

When replacing AV control unit, always perform "WRITE CONFIGURATION" with CONSULT. If not performed, automatic back door system will not operate normally.

- Complete the procedure of "WRITE CONFIGURATION" in order.
- Configuration is different for each vehicle model. Confirm configuration of each vehicle model.
- If you set incorrect "WRITE CONFIGURATION", incidents might occur.

Work Procedure

INFOID:0000000011880253

1. SAVING VEHICLE SPECIFICATION (AV CONTROL UNIT)

CONSULT Configuration

Perform "READ CONFIGURATION" to save or print current vehicle specification. Refer to [AV-149, "Description"](#).

NOTE:

If "READ CONFIGURATION" can not be used, use the "WRITE CONFIGURATION - Manual selection" after replacing AV control unit.

>> GO TO 2.

2. REPLACE AV CONTROL UNIT

Replace AV control unit. Refer to [AV-179, "Removal and Installation"](#).

>> GO TO 3.

3. WRITING VEHICLE SPECIFICATION (AV CONTROL UNIT)

CONSULT Configuration

Perform "WRITE CONFIGURATION - Config file" or "WRITE CONFIGURATION - Manual selection" to write vehicle specification. Refer to [AV-149, "Work Procedure"](#).

>> Work End.

CONFIGURATION (AV CONTROL UNIT)

Description

INFOID:0000000011880254

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

Configuration has three functions as follows.

Function		Description
Read / Write Configuration	Before Replace ECU	- Reads the vehicle configuration of current AV control unit. - Saves the read vehicle configuration.
	After Replace ECU	Writes the vehicle configuration with saved data.
Manual Configuration		Writes the vehicle configuration with manual selection.

NOTE:

Manual setting item: Items which need selection by vehicle specifications

Automatic setting item: Items which are written in automatically (Setting cannot be changed)

For some models and specifications, the automatic setting item may not be displayed.

CAUTION:

When replacing AV control unit, always perform "Re/programming, Configuration" with CONSULT. If not performed, AV control unit will not operate normally.

- Complete the procedure of "Read / Write Configuration" in order.
- Configuration is different for each vehicle model. Confirm configuration of each vehicle model.
- Never perform "Read / Write Configuration" except for new AV control unit.
- If you set incorrect "Read / Write Configuration", the AV control unit may not operate properly.

Work Procedure

INFOID:0000000011880255

1. WRITING MODE SELECTION

CONSULT Configuration

Select "Re/programming, Configuration" of MULTI AV.

When writing saved data>>GO TO 2.

When writing manually>>GO TO 3.

2. PERFORM "AFTER REPLACE ECU" OF "READ / WRITE CONFIGURATION"

CONSULT Configuration

Perform "After Replace ECU" of "Read / Write Configuration".

>> WORK END

3. PERFORM "MANUAL CONFIGURATION"

CONSULT Configuration

- Select "Manual Configuration".
- Identify the correct model and configuration list. Refer to [AV-150, "Configuration list"](#).
- Confirm and/or change setting value for each item.

CAUTION:

Thoroughly read and understand the vehicle specification. ECU control may not operate normally if the setting is not correct.

NOTE:

If items are not displayed, touch "Next". Refer to [AV-150, "Configuration list"](#) for written items and setting value.

- Touch "Next".
- Touch "OK".

CAUTION:

Make sure to select "OK" even if the indicated configuration of brand new AV control unit is the same as the desired configuration. If "OK" is not selected, configuration will not be complete.

- Check that the configuration has been successfully written and touch "End".

CONFIGURATION (AV CONTROL UNIT)

< BASIC INSPECTION >

[MULTI AV (NAVIGATION)]

>> GO TO 4.

4. OPERATION CHECK

Confirm that the AV control unit operates normally.

>> WORK END

Configuration list

INFOID:0000000011880256

CAUTION:

- Thoroughly read and understand the vehicle specification. ECU control may not operate normally if the setting is not correct.
- The “setting value” of this vehicle is as follows: Never select any other value than the setting value shown below. (If there is only 1 item in “setting value” that means that item is the only choice for this certain vehicle.)

SETTING ITEM		NOTE
Items	Setting value	
SOUND SYSTEM	BASE	Without BOSE audio system
	BOSE	With BOSE audio system
CAMERA SYSTEM	NONE/AVM	With around view monitor system
	REAR	With rear view monitor system
ENGINE TYPE	NORMAL	Except HEV models
	HYBRID	HEV models
DRIVE SYSTEM	FF TYPE 4WD	HEV models (AWD)
	FF TYPE	HEV models (FWD)
	WITHOUT	Except HEV models
TELEMATICS	WITH	With telematics system
	WITHOUT	Without telematics system

DTC/CIRCUIT DIAGNOSIS**U1000 CAN COMM CIRCUIT****DTC Description**

INFOID:0000000011230054

DESCRIPTION

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-37, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart"](#).

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
		Diagnosis condition	When ignition switch is ON.
U1000	CAN COMM CIRCUIT (CAN COMM CIRCUIT)	Signal (terminal)	–
		Threshold	–
		Diagnosis delay time	2 seconds or more

POSSIBLE CAUSE

CAN communication system

FAIL-SAFE

The system using the CAN communication signal from control unit which cannot communicate does not function

DTC CONFIRMATION PROCEDURE**1.CHECK DTC PRIORITY**

If DTC U1000 is displayed with DTC U1223, first perform the confirmation procedure (trouble diagnosis) for DTC U1223.

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable DTC. Refer to [AV-154, "DTC Description"](#).
 NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE**CONSULT**

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait at least 30 seconds.
3. Turn ignition switch ON and wait at least 30 seconds or more.
4. Select "Self Diagnostic Result" mode of "MULTI AV".
5. Check DTC.

Is DTC U1000 detected?

- YES >> Proceed to [AV-151, "Diagnosis Procedure"](#).
 NO-1 >> To check malfunction symptom before repair: Refer to [GI-42, "Intermittent Incident"](#).
 NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000011230055

1.PERFORM DTC CONFIRMATION PROCEDURE AGAIN**CONSULT**

1. Turn ignition switch ON.

U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[MULTI AV (NAVIGATION)]

2. Erase DTC.
3. Perform DTC confirmation procedure again. Refer to [AV-151, "DTC Description"](#).

Is DTC detected again?

- YES >> Perform the trouble diagnosis for CAN communication system. Refer to [LAN-21, "Trouble Diagnosis Flow Chart"](#).
- NO >> Inspection End.

U1010 CONTROL UNIT (CAN)

DTC Description

INFOID:0000000011230056

DESCRIPTION

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-37, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart"](#).

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U1010	CONTROL UNIT (CAN) [Control unit (CAN)]	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	-
		Threshold	-
		Diagnosis delay time	30 seconds or more

POSSIBLE CAUSE

CAN communication system

FAIL-SAFE

The system using the CAN communication signal does not function

DTC CONFIRMATION PROCEDURE

1. PRECONDITIONING

1. Turn ignition switch OFF and wait at least 30 seconds.
2. Turn ignition switch ON.
3. Turn ignition switch OFF and wait at least 30 seconds.

>> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Turn ignition switch ON and wait at least 30 seconds or more.
2. Select "Self Diagnostic Result" mode of "MULTI AV".
3. Check DTC.

Is DTC U1010 detected?

- YES >> Proceed to [AV-153, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-42, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000011230057

1. PERFORM DTC CONFIRMATION PROCEDURE AGAIN

CONSULT

1. Turn ignition switch ON.
2. Erase DTC.
3. Perform DTC confirmation procedure again. Refer to [AV-153, "DTC Description"](#).

Is DTC U1010 detected again?

- YES >> Replace AV control unit. Refer to [AV-179, "Removal and Installation"](#).
- NO >> Inspection End.

U1223 CONFIG UNFINISH

DTC Description

INFOID:0000000011230060

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U1223	CONFIG UNFINISH (Configuration unfinish)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	—
		Threshold	—
		Diagnosis delay time	30 seconds or more

POSSIBLE CAUSE

Configuration is incomplete

FAIL-SAFE

A function of display control unit becomes mismatched with a vehicle specification and destination

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait at least 30 seconds.
3. Turn ignition switch ON and wait at least 30 seconds or more.
4. Select "Self Diagnostic Result" mode of "MULTI AV".
5. Check DTC.

Is DTC U1223 detected?

- YES >> Proceed to [AV-154. "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-42. "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000011230061

1.PERFORM DTC CONFIRMATION PROCEDURE AGAIN

CONSULT

1. Turn ignition switch ON.
2. Erase DTC.
3. Perform DTC confirmation procedure again. Refer to [AV-154. "DTC Description"](#).

Is DTC U1223 detected again?

- YES >> Perform configuration of AV control unit. Refer to [AV-149. "Work Procedure"](#).
- NO >> Inspection End.

U1231 BOSE AMP.

DTC Description

INFOID:0000000011230062

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U1231	AMP TEMP (Amp temperature)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	–
		Threshold	–
		Diagnosis delay time	30 seconds or more

POSSIBLE CAUSE

- BOSE amp. temperature is high
- BOSE amp.

FAIL-SAFE

BOSE system does not function

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait at least 30 seconds.
3. Turn ignition switch ON and wait at least 30 seconds or more.
4. Select "Self Diagnostic Result" mode of "MULTI AV".
5. Check DTC.

Is DTC U1231 detected?

YES >> Proceed to [AV-155, "Diagnosis Procedure"](#).NO-1 >> To check malfunction symptom before repair: Refer to [GI-42, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000011230063

1.CHECK AROUND BOSE AMP.

Check whether there is any factor which causes a temperature rise near BOSE amp.

Was there any factor?

YES >> GO TO 2.

NO >> Remove factor.

2.PERFORM DTC CONFIRMATION PROCEDURE AGAIN

CONSULT

1. Turn ignition switch ON.
2. Erase DTC.
3. Perform DTC confirmation procedure again. Refer to [AV-155, "DTC Description"](#).

Is DTC U1231 detected again?

YES >> Replace BOSE amp. Refer to [AV-192, "Removal and Installation"](#).

NO >> Inspection End.

U1232 STEERING ANGLE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

[MULTI AV (NAVIGATION)]

U1232 STEERING ANGLE SENSOR

DTC Description

INFOID:0000000011230064

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U1232	ST ANGLE SEN CALIB (Steering angle sensor calibration)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	—
		Threshold	—
		Diagnosis delay time	30 seconds or more

POSSIBLE CAUSE

- Neutral position adjustment of the steering angle sensor is incomplete
- Steering angle sensor

FAIL-SAFE

Predictive course line is not displayed

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait at least 30 seconds.
3. Turn ignition switch ON and wait at least 30 seconds or more.
4. Select "Self Diagnostic Result" mode of "MULTI AV".
5. Check DTC.

Is DTC U1232 detected?

- YES >> Proceed to [AV-156, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-42, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000011230065

1.ADJUST NEUTRAL POSITION OF STEERING ANGLE SENSOR

Adjust the steering angle sensor neutral position on ABS actuator and electrical unit (control unit) side. Refer to [BRC-64, "Work Procedure"](#).

NOTE:

When U1232 is detected, adjust the predictive course line center position of the steering angle sensor.

>> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE AGAIN

Perform DTC confirmation procedure again. Refer to [AV-156, "DTC Description"](#).

Is DTC U1232 detected again?

- YES >> Replace steering angle sensor. Refer to [BRC-145, "Removal and Installation"](#).
- NO >> Inspection End.

U1234 AV CONTROL UNIT

DTC Description

INFOID:0000000011583491

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U1234	AV CONTROL UNIT (AV control unit)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	–
		Threshold	–
		Diagnosis delay time	30 seconds or more

POSSIBLE CAUSE

AV control unit

FAIL-SAFE

As an example:

- Sound is not output by a speaker
- CD is not played
- Radio does not operate

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait at least 30 seconds.
3. Turn ignition switch ON and wait at least 30 seconds or more.
4. Select "Self Diagnostic Result" mode of "MULTI AV".
5. Check DTC.

Is DTC U1234 detected?

YES >> Proceed to [AV-157. "Diagnosis Procedure"](#).NO-1 >> To check malfunction symptom before repair: Refer to [GI-42. "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000011583492

1.PERFORM DTC CONFIRMATION PROCEDURE AGAIN

CONSULT

1. Turn ignition switch ON.
2. Erase DTC.
3. Perform DTC confirmation procedure again. Refer to [AV-157. "DTC Description"](#).

Is DTC U1234 detected again?

YES >> Replace AV control unit. Refer to [AV-179. "Removal and Installation"](#).

NO >> Inspection End.

U1244 GPS ANTENNA CONN

DTC Description

INFOID:0000000011230070

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U1244	GPS ANTENNA CONN (GPS antenna connection error)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	—
		Threshold	—
		Diagnosis delay time	30 seconds or more

POSSIBLE CAUSE

- GPS antenna is not connected
- GPS antenna

FAIL-SAFE

The vehicle positions on a navigation screen differ

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait at least 30 seconds.
3. Turn ignition switch ON and wait at least 30 seconds or more.
4. Select "Self Diagnostic Result" mode of "MULTI AV".
5. Check DTC.

Is DTC U1244 detected?

- YES >> Proceed to [AV-158. "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-42. "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000011230071

1.CHECK GPS ANTENNA HARNESS CONNECTOR

1. Turn ignition switch OFF.
2. Visually check GPS antenna connection.

Is the inspection result normal?

- YES >> Replace GPS antenna. Refer to [AV-195. "Removal and Installation"](#).
- NO >> Repair connection of GPS antenna to NAVI control unit.

U1258 SATELLITE RADIO ANTENNA

< DTC/CIRCUIT DIAGNOSIS >

[MULTI AV (NAVIGATION)]

U1258 SATELLITE RADIO ANTENNA

DTC Description

INFOID:0000000011230076

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)		DTC detection condition	
U1258	XM ANTENNA CONN (Satellite radio antenna connection error)	1	Diagnosis condition	When ignition switch is ON.
			Signal (terminal)	Satellite radio antenna circuit is shorted to ground (terminal 74)
			Threshold	Satellite radio antenna circuit is shorted to ground
			Diagnosis delay time	30 seconds or more
		2	Diagnosis condition	When ignition switch is ON.
			Signal (terminal)	Satellite antenna signal is open (terminal 74)
			Threshold	Satellite radio antenna circuit is open
			Diagnosis delay time	30 seconds or more

POSSIBLE CAUSE

- Satellite radio antenna is not connected
- Harness or connector (Satellite radio antenna circuit is open or short)

FAIL-SAFE

Satellite radio is not received

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait at least 30 seconds.
3. Turn ignition switch ON and wait at least 30 seconds or more.
4. Select "Self Diagnostic Result" mode of "MULTI AV".
5. Check DTC.

Is DTC U1258 detected?

- YES >> Proceed to [AV-159, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-42, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000011230077

1.CHECK SATELLITE RADIO ANTENNA HARNESS CONNECTOR

1. Turn ignition switch OFF.
2. Visually check satellite radio antenna and antenna feeder.

Is the inspection result normal?

- YES >> GO TO 2.
- NO >> Repair or replace malfunctioning parts.

2.CHECK SATELLITE RADIO ANTENNA HARNESS CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit harness connector M146 (without BOSE) or M167 (with BOSE).
3. Check the continuity between AV control unit harness connector M146 (without BOSE), or M167 (with BOSE), and ground.

U1258 SATELLITE RADIO ANTENNA

< DTC/CIRCUIT DIAGNOSIS >

[MULTI AV (NAVIGATION)]

Terminal			Continuity
(+)		(-)	
AV control unit			
Connector	Terminal		
M146 (without BOSE speaker amp.)	74	Ground	No
M167 (with BOSE speaker amp.)			

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace malfunctioning parts.

3. CHECK AV CONTROL UNIT VOLTAGE

1. Turn ignition switch ON.
2. Check the voltage between AV control unit M146 (without BOSE), or M167 (with BOSE), and ground.

Terminal		Voltage (Approx.)
(+)	(−)	
AV control unit		
Terminal		
74	Ground	5.0 V

Is the inspection result normal?

YES >> Replace satellite radio antenna. Refer to [AV-193, "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-179, "Removal and Installation"](#).

U1267 METER CONN

DTC Description

INFOID:0000000011230086

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U1267	METER CONN (Combination meter connection error)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	AV control unit CAN circuits (terminals 21 and 41)
		Threshold	CAN communication circuits between AV control unit and combination meter are malfunctioning
		Diagnosis delay time	30 seconds or more

NOTE:

DTC U1267 is displayed with DTC U1300.

POSSIBLE CAUSE

- Combination meter
- AV communication circuit is open

FAIL-SAFE

- Audio information is not displayed by the information display in the combination meter
- Navigation indicator is not displayed by the information display in the combination meter
- Steering switch does not operate

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE CONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait at least 30 seconds.
3. Turn ignition switch ON and wait at least 30 seconds or more.
4. Select "Self Diagnostic Result" mode of "MULTI AV".
5. Check DTC.

Is DTC U1267 detected?

- YES >> Proceed to [AV-161, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-42, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000011230087

1. CHECK COMBINATION METER POWER SUPPLY AND GROUND CIRCUIT

Check combination meter power supply and ground circuit. Refer to [MWI-59, "COMBINATION METER : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES >> GO TO 2.
- NO >> Repair or replace malfunctioning parts.

2. CHECK AV COMMUNICATION CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit harness connector M123 (without BOSE), or M162 (with BOSE), and combination meter harness connector M23.
3. Check the continuity between AV control unit harness connector M123 (without BOSE), or M162 (with BOSE), and combination meter harness connector M23.

U1267 METER CONN

< DTC/CIRCUIT DIAGNOSIS >

[MULTI AV (NAVIGATION)]

AV control unit		Combination meter		Continuity
Connector	Terminal	Connector	Terminal	
M123 (without BOSE audio system)	41	M23	49	Yes
M162 (with BOSE audio system)	21		50	

Is the inspection result normal?

YES >> Replace combination meter. Refer to [MWI-78, "Removal and Installation"](#).
NO >> Repair or replace malfunctioning parts.

U12B7 USB CONN

DTC Description

INFOID:0000000011230088

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U12B7	USB CONN (USB connection error)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	–
		Threshold	–
		Diagnosis delay time	30 seconds or more

POSSIBLE CAUSE

- AV control unit
- USB harness is not connected

FAIL-SAFE

Audio equipment which is connected to USB does not operate

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait at least 30 seconds.
3. Turn ignition switch ON and wait at least 30 seconds or more.
4. Connect audio apparatuses, etc., to USB port.
5. Select "Self Diagnostic Result" mode of "MULTI AV".
6. Check DTC.

Is DTC U12B7 detected?

- YES >> Proceed to [AV-163, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-42, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000011230089

1.CHECK DTC (1)

CONSULT

1. Remove connected audio apparatus from USB port.
2. Turn ignition switch OFF and wait at least 30 seconds.
3. Turn ignition switch ON.
4. Erase DTC.
5. Turn ignition switch OFF and wait at least 30 seconds.
6. Turn ignition switch ON and wait at least 30 seconds or more.
7. Check "Self Diagnostic Result" of "MULTI AV".

Is any DTC detected?

- YES >> Replace AV control unit. Refer to [AV-179, "Removal and Installation"](#).
- NO >> GO TO 2.

2.CHECK DTC (2)

1. Connect audio apparatus to USB port again.
2. Check "Self Diagnostic Result" mode of "MULTI AV".

Is DTC U12B7 detected?

- YES >> Abnormality of audio apparatus connected to USB port.
- NO >> Inspection End.

U12BE RADIO ANTENNA CONN

< DTC/CIRCUIT DIAGNOSIS >

[MULTI AV (NAVIGATION)]

U12BE RADIO ANTENNA CONN

DTC Description

INFOID:0000000011230095

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)		DTC detection condition	
			Diagnosis condition	When ignition switch is ON.
U12BE	RADIO ANTENNA CONN (Radio antenna connection error)	1	Signal (terminal)	Radio antenna signal is shorted to ground (terminal 68)
			Threshold	Radio antenna circuit is shorted to ground
			Diagnosis delay time	2 seconds or more
			Diagnosis condition	When ignition switch is ON.
		2	Signal (terminal)	Radio antenna signal is open (terminal 68)
			Threshold	Radio antenna circuit is open
			Diagnosis delay time	2 seconds or more
			Diagnosis condition	When ignition switch is ON.

POSSIBLE CAUSE

- Radio antenna is not connected
- Harness or connector (Radio antenna circuit is open or shorted)

FAIL-SAFE

Radio is not received

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

ⒶCONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait at least 30 seconds.
3. Turn ignition switch ON and wait at least 30 seconds or more.
4. Select "Self Diagnostic Result" mode of "MULTI AV".
5. Check DTC.

Is DTC U12BE detected?

YES >> Proceed to [AV-164, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-42, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000011230096

1.CHECK WINDOW ANTENNA HARNESS CONNECTOR

1. Turn ignition switch OFF.
2. Visually check radio antenna and antenna feeder.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace malfunctioning parts.

2.CHECK ANTENNA HARNESS CIRCUIT

1. Disconnect AV control unit harness connector M125 (without BOSE), or M164 (with BOSE).
2. Check the continuity AV control unit harness connector M125 (without BOSE), or M164 (with BOSE), and ground.

U12BE RADIO ANTENNA CONN

< DTC/CIRCUIT DIAGNOSIS >

[MULTI AV (NAVIGATION)]

Terminals			Continuity
(+)		(-)	
AV control unit			
Connector	Terminal		
M125 (without BOSE speaker amp.)	68	Ground	Yes
M164 (with BOSE speaker amp.)			

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace malfunctioning parts.

3.CHECK AV CONTROL UNIT VOLTAGE

1. Turn ignition switch ON.
2. Check the voltage between AV control unit connector M125 (without BOSE), or M164 (with BOSE), and ground.

Terminal		Voltage (Approx.)
(+)	(–)	
AV control unit		
Terminal		
68	Ground	5.0 V

Is the inspection result normal?

YES >> Replace antenna. Refer to [AV-85, "Antenna and Antenna Feeder"](#).

NO >> Replace AV control unit. Refer to [AV-179, "Removal and Installation"](#).

AV

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[MULTI AV (NAVIGATION)]

POWER SUPPLY AND GROUND CIRCUIT

AV CONTROL UNIT

AV CONTROL UNIT : Diagnosis Procedure

INFOID:0000000011230124

1.CHECK FUSE

1. Turn ignition switch OFF.
2. Check that the following fuse is not blown:

Power source	Fuse No.	Capacity
Battery	15	20 A
Ignition switch ACC	7	10 A
Ignition switch ON or START	29	10 A

Is the fuse blown?

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

2.CHECK AV CONTROL UNIT BATTERY POWER SUPPLY

1. Turn ignition switch OFF.
2. Disconnect AV control unit harness connector M122 (without BOSE speaker amp.), or M161 (with BOSE speaker amp.).
3. Check the voltage between AV control unit harness connector M122 (without BOSE speaker amp.), or M161 (with BOSE speaker amp.), and ground.

Terminals			Voltage (Approx.)
(+)		(-)	
AV control unit			
Connector	Terminal		
M122 (without BOSE speaker amp.)	19	Ground	Battery voltage
M161 (with BOSE speaker amp.)			

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Perform trouble diagnosis for battery power supply circuit.

3.CHECK AV CONTROL UNIT ACCESSORY POWER SUPPLY

1. Turn ignition switch ON.
2. Check the voltage between AV control unit harness connector M122 (without BOSE speaker amp.), or M161 (with BOSE speaker amp.), and ground.

Terminal			Voltage (Approx.)
(+)		(-)	
AV control unit			
Connector	Terminal		
M122 (without BOSE speaker amp.)	7	Ground	Battery voltage
M161 (with BOSE speaker amp.)			

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Perform trouble diagnosis for accessory power supply circuit.

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[MULTI AV (NAVIGATION)]

4.CHECK AV CONTROL UNIT IGNITION POWER SUPPLY

1. Check the voltage between AV control unit harness connector M123 (without BOSE speaker amp.), or M162 (with BOSE speaker amp.), and ground.

Terminal			Voltage (Approx.)
(+)		(−)	
AV control unit			
Connector	Terminal		
M123 (without BOSE speaker amp.)	26	Ground	Battery voltage
M162 (with BOSE speaker amp.)			

Is the inspection result normal?

YES >> GO TO 4.

NO >> Perform trouble diagnosis for accessory power supply circuit.

5.CHECK CASE GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check the continuity between AV control unit case and ground.

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace malfunctioning parts.

BOSE AMP.

BOSE AMP. : Diagnosis Procedure

INFOID:0000000011230126

1.CHECK FUSE

1. Turn ignition switch OFF.
2. Check that the following fuse is not blown:

Power source	Fuse No.	Capacity
Battery	11	15 A
	12	15 A

Is the fuse blown?

YES >> Replace the blown fuse after repairing the affected circuit.

NO >> GO TO 2.

2.CHECK BOSE AMP. BATTERY POWER SUPPLY

Check the voltage between BOSE amp. harness connector B120 and ground.

Terminal			Voltage (Approx.)
(+)		(−)	
BOSE amp.			
Connector	Terminal		
B120	10	Ground	Battery voltage
	11		

Is the inspection result normal?

YES >> GO TO 3.

NO >> Perform trouble diagnosis for battery power supply circuit.

3.CHECK BOSE AMP. GROUND CIRCUIT

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[MULTI AV (NAVIGATION)]

1. Turn ignition switch OFF.
2. Disconnect BOSE amp. harness connector B120.
3. Check the continuity between BOSE amp. harness connector B120 and ground.

Terminal			Continuity
(+) BOSE amp.		(-)	
Connector	Terminal		
B120	7		
	28		
		Ground	Yes

Is the inspection result normal?

- YES >> Inspection End.
NO >> Repair or replace malfunctioning parts.

MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[MULTI AV (NAVIGATION)]

MICROPHONE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000011230132

1.CHECK MICROPHONE SIGNAL

1. Turn ignition switch ON.
2. Check the signal between AV control unit harness connector M123 (without BOSE), or M162 (with BOSE), terminal as per the following condition:

AV control unit			Condition	Reference value
Connector	(+)	(-)		
	Terminal			
M123 (without BOSE speaker amp.)	34	53	Give a voice.	(V) 2.5 2.0 1.5 1.0 0.5 0

Is the inspection result normal?

- YES >> Replace AV control unit. Refer to [AV-179, "Removal and Installation"](#).
NO >> GO TO 2.

2.CHECK VOLTAGE MICROPHONE VCC

1. Turn ignition switch OFF.
2. Disconnect microphone harness connector R8.
3. Turn ignition switch ON.
4. Check the voltage between microphone harness connector.

Microphone			Voltage (Approx.)
Connector	(+)	(-)	
	Terminal		
R8	4	1	5.0 V

Is the inspection result normal?

- YES >> Replace microphone. Refer to [AV-196, "Removal and Installation"](#).
NO >> GO TO 3.

3.CHECK MICROPHONE CIRCUIT FOR OPEN

1. Disconnect AV control unit harness connector M162, or M123.
2. Check continuity between AV control unit harness connector M123 (without BOSE), or M162 (with BOSE), and microphone harness connector R8.

Display control unit		Microphone		Continuity
Connector	Terminal	Connector	Terminal	
M123 (without BOSE speaker amp.)	34	R8	4	Yes
	53		1	
	54		2	
M162 (with BOSE speaker amp.)	34		4	
	53		1	
	54		2	

Is the inspection result normal?

MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[MULTI AV (NAVIGATION)]

YES >> GO TO 4.

NO >> Repair or replace malfunctioning parts.

4.CHECK MICROPHONE CIRCUIT FOR SHORT

Check the continuity between AV control unit harness connector M123 (without BOSE), or M162 (with BOSE), and ground.

Terminal			Continuity
(+)		(–)	
AV control unit			
Connector	Terminal	Ground	No
M123 (without BOSE speaker amp.)	34		
	53		
M162 (with BOSE speaker amp.)	34		
	53		

Is the inspection result normal?

YES >> Replace AV control unit. Refer to [AV-179, "Removal and Installation"](#).

NO >> Repair or replace malfunctioning parts.

SYMPTOM DIAGNOSIS

MULTI AV SYSTEM SYMPTOMS

Symptom Table

INFOID:0000000011230145

RELATED TO NAVIGATION

Symptom	Check items	Probable malfunction location
MAP is not displayed	"Map data cannot be read. Please confirm~" is displayed on the screen.	Check whether SD card is inserted correctly.
Fuel economy display or vehicle setting operation is abnormal.	There is a malfunction in the CONSULT "Self-Diagnostic Result" of "MULTI AV". Refer to AV-104, "CONSULT Function" .	Perform detected DTC diagnosis.
	There is no malfunction in the CONSULT "Self-diagnostic Results" of "MULTI AV". Refer to AV-104, "CONSULT Function" .	Ignition signal circuit malfunction. Refer to EC-550, "Diagnosis Procedure" .
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.	Voice guidance signal circuit malfunction.

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:

MULTI AV SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[MULTI AV (NAVIGATION)]

Symptom	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 display control unit. Refer to AV-179, "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 "Voice Microphone Test" in Confirmation/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.	Microphone signal circuit malfunction. Refer to AV-169, "Diagnosis Procedure" .
	Sound operation function does not work.	
The system cannot be operated.	Steering switches "VOL UP", "VOL DOWN" and, "↶" switches work, but "↷" switch does not work.	Steering switch signal A circuit malfunction. Refer to MWI-67, "Diagnosis Procedure" .
	- The voice recognition can be controlled. - Steering switch "↷" switch work, but "VOL UP", "VOL DOWN" and, "↶", switches do not work.	Steering switch signal B circuit malfunction. Refer to MWI-67, "Diagnosis Procedure" .

RELATED TO AUDIO

Symptom	Check items	Probable malfunction location
The disk cannot be removed.	—	Replace the AV Control Unit. Refer to AV-179, "Removal and Installation" .
No sound comes out or the level of the sound is low.	No sound from all speakers.	Without BOSE system: Sound signal circuit malfunction. Refer to AV-155, "Diagnosis Procedure".
		With BOSE system: - Sound signal circuit malfunction. Refer to AV-167, "BOSE AMP. : Diagnosis Procedure". - BOSE amp. power supply and ground circuit malfunction. Refer to AV-167, "BOSE AMP. : Diagnosis Procedure".
	Sound is not heard from woofer.	Sound signal (woofer) circuit malfunction.

MULTI AV SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[MULTI AV (NAVIGATION)]

Symptom	Check items	Probable malfunction location
Noise is mixed with audio.	Noise comes from all speakers.	Without BOSE system: • Malfunction in display control unit. • Malfunction in AV control unit.
		With BOSE system: • Malfunction in display control unit. • Malfunction in AV control unit. • Malfunction in BOSE amp.
	Noise comes only from a certain speaker (front right, front left, rear right, or rear left).	Without BOSE system: • Poor connector connection of speaker. • Sound signal circuit malfunction. • Malfunction in speaker. • Poor installation of speaker (e.g. backlash and looseness). • Malfunction in display control unit. • Malfunction in AV control unit.
		With BOSE system: • Poor connector connection of speaker. • Sound signal circuit malfunction. Refer to AV-167, "BOSE AMP. : Diagnosis Procedure" . • Malfunction in speaker. • Poor installation of speaker (e.g. backlash and looseness) • Malfunction in display control unit. • 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.

RELATED TO STEERING SWITCH

Symptom	Probable malfunction location
None of the steering switch operations work.	Steering switch malfunction. Replace steering wheel. Refer to AV-181, "Removal and Installation" .
Only specified switch cannot be operated.	
Steering switches "⤴", "MENU UP", "MENU DOWN", "⤵" and, "OK" do not work.	Steering switch signal A circuit malfunction. Refer to MWI-67, "Diagnosis Procedure" .
Steering switches "VOL UP", "VOL DOWN" and "⤴", do not work.	Steering switch signal B circuit malfunction. Refer to MWI-67, "Diagnosis Procedure" .

RELATED TO USB INTERFACE

NOTE:

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

Symptom	Probable malfunction location
No voice sound is heard when AUX mode is selected.	AUX sound signal circuit between USB interface and AV control unit.
iPod® or USB memory cannot be recognized.	- USB harness malfunction. - USB interface malfunction.

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

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[MULTI AV (NAVIGATION)]

NORMAL OPERATING CONDITION

Description

INFOID:0000000011230146

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 system is in the video mode.	Press "AUDIO" to change the mode.
	The interior of the vehicle becomes a little more than 80°C (176°F), the protection of the display reacts, 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" switch.
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

Related to Basic Operation

Symptom	Possible cause	Possible solution
The system does not recognize your command. or the system recognizes your command incorrectly	The interior of the vehicle is too noisy.	Close the windows or have other occupants quiet.
	The volume of your voice is too low.	Speak louder.
	The volume of your voice is too loud.	Speak softer.
	Your pronunciation is unclear.	Speak clearly.
	You are speaking before the voice recognition is ready.	Press and release "↖" switch on the steering switch, and speak a command after the tone sounds.
	8 seconds or more have passed after you pressed and released "↖" switch on the steering switch.	Make sure to speak a command within 8 seconds after you press and release "↖" switch on the steering switch.
	Only a limited range of voice commands is usable for each screen.	Use a correct voice command appropriate for the current screen.
	The fan of the air conditioner is too loud.	Lower the fan speed as necessary as voice command can be recognized more easily.

Related to Item Choice

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.

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[MULTI AV (NAVIGATION)]

Symptom/ Error message	Solution
Displays "COMMAND NOT RECOGNIZED" or the system fails to interpret the command correctly.	1. Ensure that the command format is valid.
	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 command should be tried with these in place.
The system consistently selects the wrong voice tag.	1. Ensure that the voice tag requested matches what was originally stored. This can be confirmed by giving the "Address Book" Directory or Phone Directory command.
	2. Replace one of the voice tags being confused with a different voice tag.

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 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. See "Speaker adaptation (SA) mode", refer to "OWNER'S MANUAL".
The system consistently selects the wrong voice tag	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, 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 are 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 it 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.

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[MULTI AV (NAVIGATION)]

Symptom	Cause and countermeasure
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/M4A files on a CD, only the music CD files (CD-DA data) will be played.
	Files with extensions other than ".MP3", ".WMA", ".AAC", ".M4A", ".mp3", ".wma", ".aac" or ".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.
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/M4A CD or if it is a multi-session disc, some time may be required before the music starts playing.
Music cuts off or skips	The writing software and hardware combination might not match, or the writing speed, writing depth, writing width might not match the specifications. Try using the slowest writing speed.
Skipping with high bit rate files	Skipping may occur with large quantities of data such as for high bit rate data.
Move immediately to the next song when playing	When a non-MP3/WMA/AAC/M4A file has been given an extension of ".MP3", ".WMA", ".AAC", ".M4A", ".mp3", ".wma", ".aac" or ".m4a" or when play is prohibited by copyright protection, the player will skip to the next song.
The songs do not play 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 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.

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[MULTI AV (NAVIGATION)]

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 Nissan 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.

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[MULTI AV (NAVIGATION)]

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 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 close 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. In some cases, voice guidance is not available even when the vehicle should make a turn.	This is not a malfunction.
	The vehicle has deviated from the suggested route.	Go back to the suggested route or request route calculation again.
	Voice guidance is set to OFF.	Turn ON voice guidance.
	Route guidance is set to OFF.	Turn ON route 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 turns are made.	Follow all traffic rules and regulations.

RELATED TO HANDS-FREE PHONE

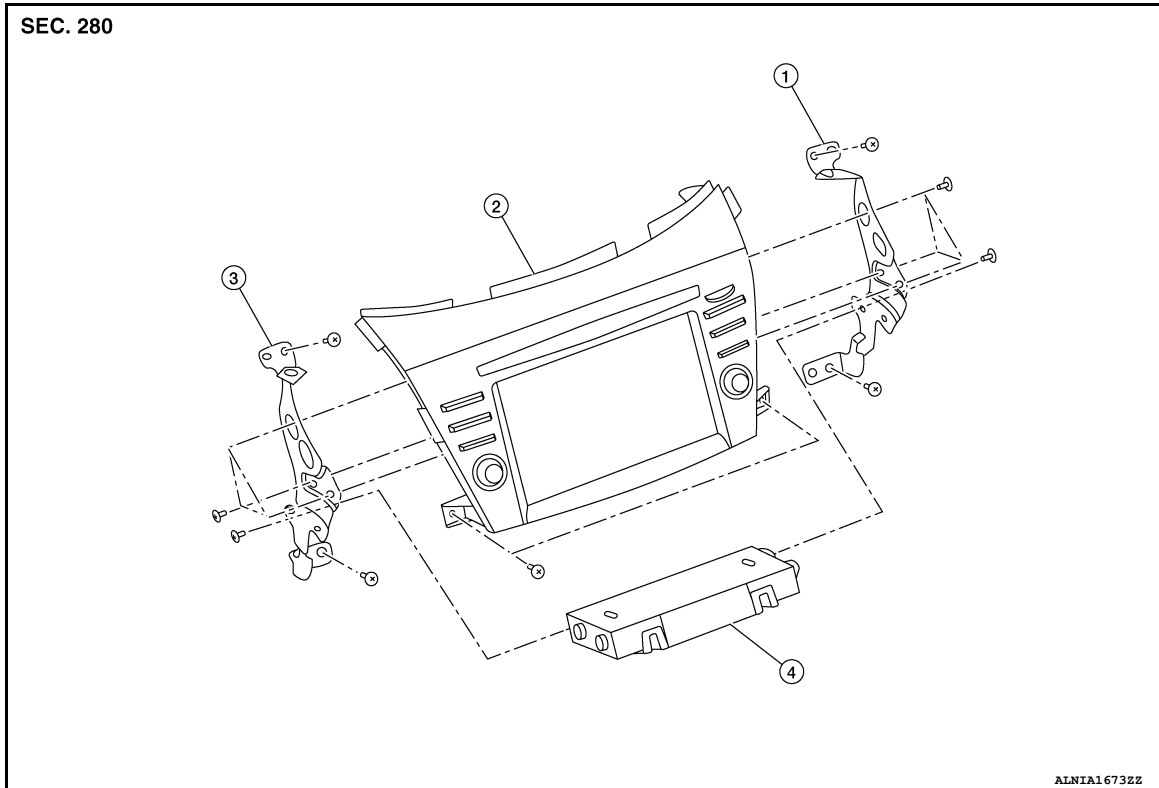
Symptom	Cause and countermeasure
Does not recognize cellular phone connection. (No connection is displayed on the display at the guide).	Some Bluetooth® enabled cellular phones may not be recognized by the in-vehicle phone module. Refer to "RELATED TO HANDS-FREE PHONE (Check Compatibility)" of MULTI 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 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

Exploded View

INFOID:0000000011491720



1. AV control unit bracket (RH)
2. AV control unit
3. AV control unit bracket (LH)
4. A/C auto amp.

Removal and Installation

INFOID:0000000011230148

REMOVAL

CAUTION:

Before disconnecting the AV control unit and battery terminals, turn the ignition switch OFF and wait at least 30 seconds.

NOTE:

- Before replacing AV control unit, perform "Before Replace ECU" of "Read / Write Configuration" to save or print current vehicle specification. Refer to [AV-148, "Description"](#).
- 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. Disconnect the negative battery terminal. Refer to [PG-86, "Removal and Installation"](#).
2. Remove cluster lid D. Refer to [IP-23, "Removal and Installation"](#).
3. Remove A/C switch assembly. Refer to [HAC-94, "Removal and Installation"](#).
4. Remove AV control unit screws then pull out AV control unit.
5. Disconnect the harness connectors from AV control unit and remove.
6. Remove AV control unit bracket (LH/RH) screws and AV control unit brackets [(LH/RH) (if necessary)].

INSTALLATION

CAUTION:

Be sure to perform "After Replace ECU" of "Read / Write Configuration" or "Manual Configuration" when replacing AV control unit. Refer to [AV-148, "Work Procedure"](#).

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AV

AV CONTROL UNIT

< REMOVAL AND INSTALLATION >

[MULTI AV (NAVIGATION)]

Installation is in the reverse order of removal.

STEERING SWITCHES

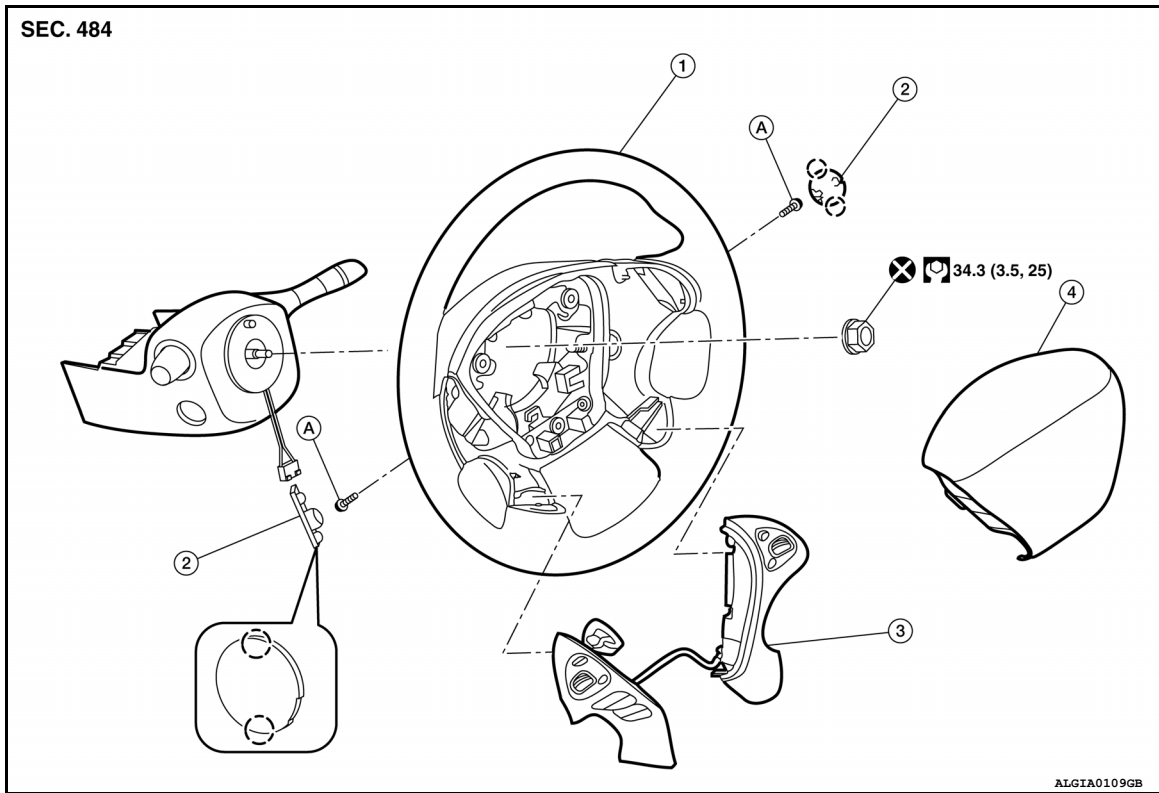
< REMOVAL AND INSTALLATION >

[MULTI AV (NAVIGATION)]

STEERING SWITCHES

Exploded View

INFOID:0000000011578170



- | | | |
|--------------------------|--|----------------------|
| 1. Steering wheel | 2. Cover | 3. Steering switches |
| 4. Driver air bag module | A. Refer to SR-12. "Exploded View" . | ⊗ Pawl |

Removal and Installation

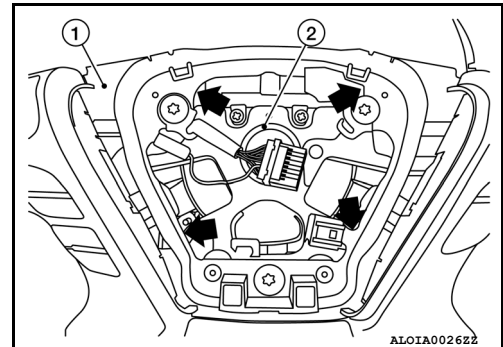
INFOID:0000000011545439

REMOVAL

NOTE:

The steering switches is serviced as an assembly.

1. Remove steering wheel. Refer to [ST-31. "Removal and Installation"](#).
2. Release pawls (⊗) and remove steering wheel rear finisher (1) from steering wheel (2).

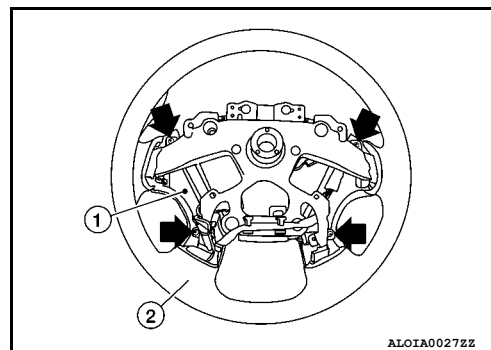


STEERING SWITCHES

< REMOVAL AND INSTALLATION >

[MULTI AV (NAVIGATION)]

3. Remove steering switch screws.
4. Remove steering switches (1) from steering wheel (2).



INSTALLATION

Installation is in the reverse order of removal.

FRONT USB INTERFACE

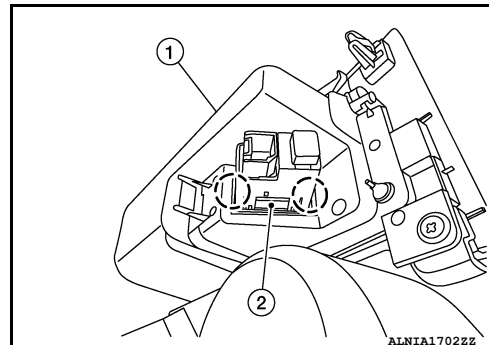
Removal and Installation

INFOID:0000000011544992

REMOVAL

1. Remove shift selector finisher. Refer to [IP-19. "Exploded View"](#).
2. Release pawls and remove USB interface (2) from the back of the shift selector finisher (1).

ⓘ: Pawl



INSTALLATION

Installation is in the reverse order of removal.

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REAR USB INTERFACE

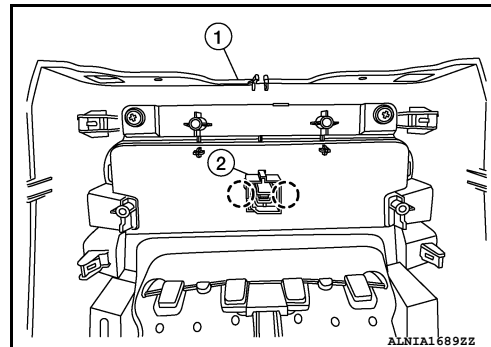
Removal and Installation

INFOID:0000000011230152

REMOVAL

1. Remove center console rear finisher. Refer to [IP-19. "Exploded View"](#).
2. Release pawls and remove rear USB interface (2) from center console rear finisher (1).

(○): Pawl



INSTALLATION

Installation is in the reverse order of removal.

AUX IN JACK

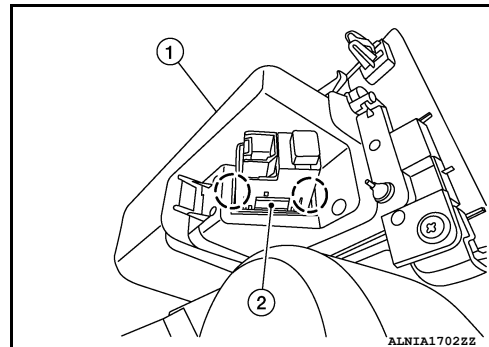
Removal and Installation

INFOID:0000000011544993

REMOVAL

1. Remove shift selector finisher. Refer to [IP-19. "Exploded View"](#).
2. Release pawls and remove AUX in jack (2) from the back of the shift selector finisher (1).

⊖: Pawl



INSTALLATION

Installation is in the reverse order of removal.

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INSTRUMENT PANEL TWEETER

< REMOVAL AND INSTALLATION >

[MULTI AV (NAVIGATION)]

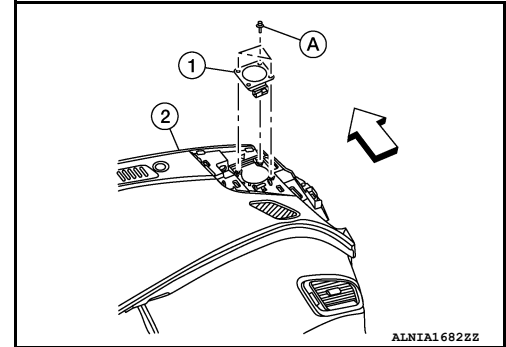
INSTRUMENT PANEL TWEETER

Removal and Installation

INFOID:0000000011230154

REMOVAL

1. Remove instrument panel tweeter grille (LH\RH). Refer to [IP-15. "Exploded View"](#).
2. Disconnect the harness connector from instrument panel tweeter and remove screws (A) to remove instrument panel tweeter (1).
(2): Instrument panel assembly
⇐: Front



INSTALLATION

Installation is in the reverse order of removal.

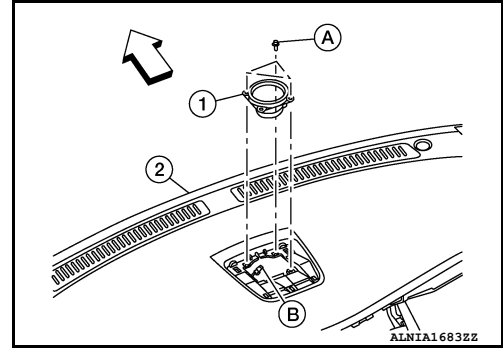
CENTER SPEAKER

Removal and Installation

INFOID:0000000011230155

REMOVAL

1. Remove center speaker grille. Refer to [IP-15. "Exploded View"](#).
2. Disconnect the connector (B) from center speaker and remove screws (A) to remove the center speaker (1).
(2): Instrument panel assembly
⇐: Front



INSTALLATION

Installation is in the reverse order of removal.

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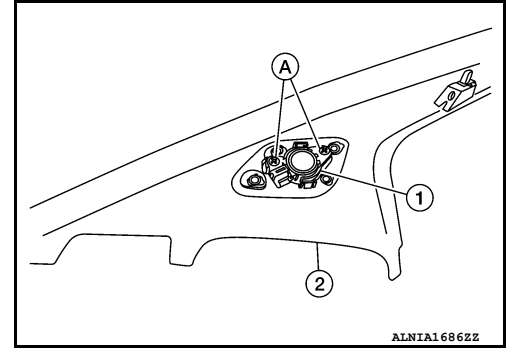
FRONT TWEETER

Removal and Installation

INFOID:000000011230156

REMOVAL

1. Remove front pillar finisher. Refer to [INT-19. "FRONT PILLAR FINISHER : Removal and Installation"](#).
2. Remove screws (A) and remove front tweeter (1) from front pillar finisher (2).



INSTALLATION

Installation is the reverse order of removal.

FRONT DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[MULTI AV (NAVIGATION)]

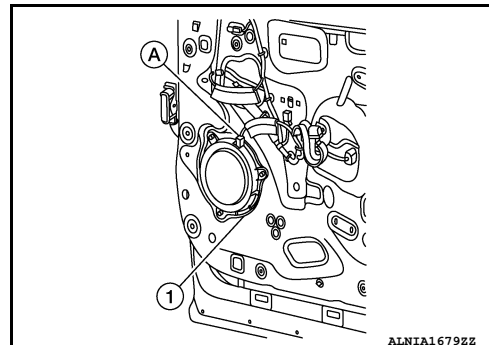
FRONT DOOR SPEAKER

Removal and Installation

INFOID:0000000011230157

REMOVAL

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



INSTALLATION

Installation is in the reverse order of removal.

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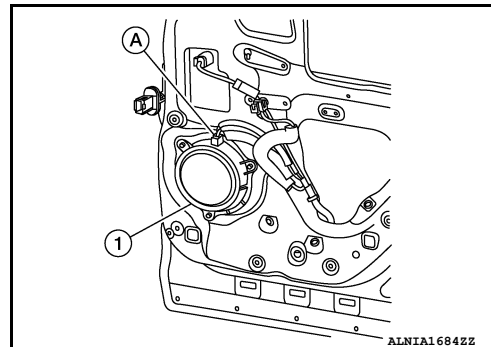
REAR DOOR SPEAKER

Removal and Installation

INFOID:000000011230159

REMOVAL

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



INSTALLATION

Installation is in the reverse order of removal.

SUBWOOFER

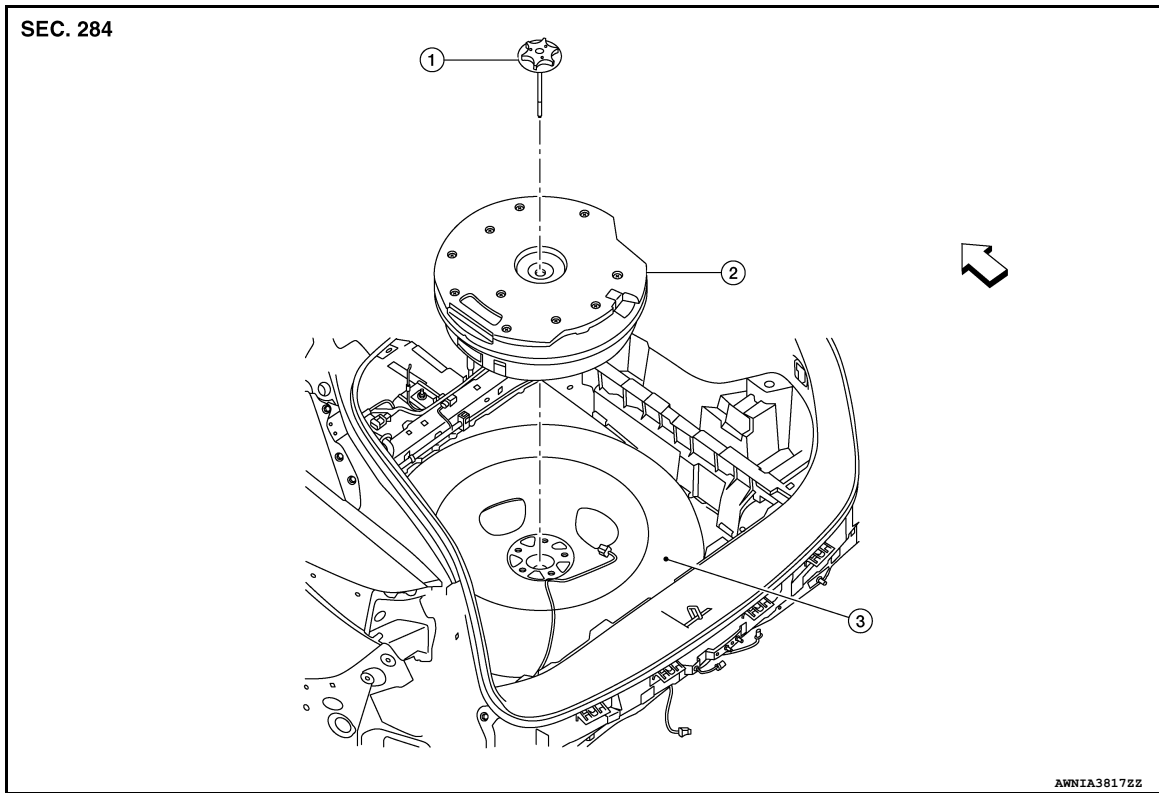
< REMOVAL AND INSTALLATION >

[MULTI AV (NAVIGATION)]

SUBWOOFER

Exploded View

INFOID:0000000011505725



Removal and Installation

INFOID:0000000011230161

REMOVAL

1. Remove storage box lid. Refer to [INT-32. "STORAGE BOX : Removal and Installation"](#).
2. Remove subwoofer clamp.
3. Disconnect the harness connector and remove subwoofer.

INSTALLATION

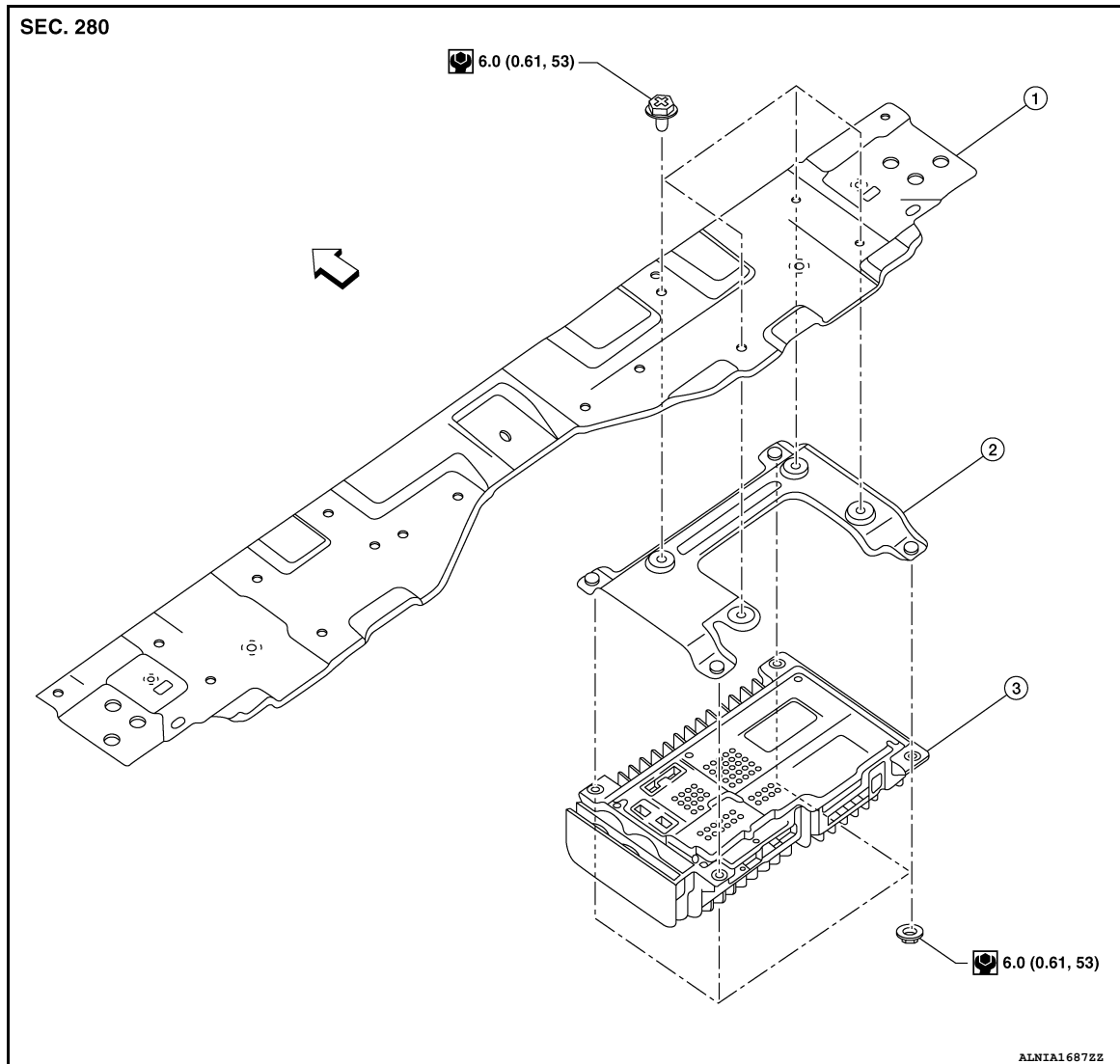
Installation is in the reverse order of removal.

AV

BOSE SPEAKER AMP

Exploded View

INFOID:0000000011545360



1. Rear seat support bracket 2. BOSE speaker amp. bracket 3. BOSE speaker amp.

← Front

Removal and Installation

INFOID:0000000011230153

REMOVAL

1. Remove luggage floor front finisher. Refer to [INT-30, "Exploded View"](#).
2. Remove luggage floor side finisher (RH). Refer to [INT-30, "Exploded View"](#).
3. Disconnect the harness connector from the BOSE speaker amp.
4. Remove BOSE speaker amp. bracket bolts to remove BOSE speaker amp. and BOSE speaker amp. bracket as an assembly.
5. Separate BOSE speaker amp. from BOSE speaker amp. bracket (if necessary).

INSTALLATION

Installation is in the reverse order of removal.

SATELLITE RADIO ANTENNA

< REMOVAL AND INSTALLATION >

[MULTI AV (NAVIGATION)]

SATELLITE RADIO ANTENNA

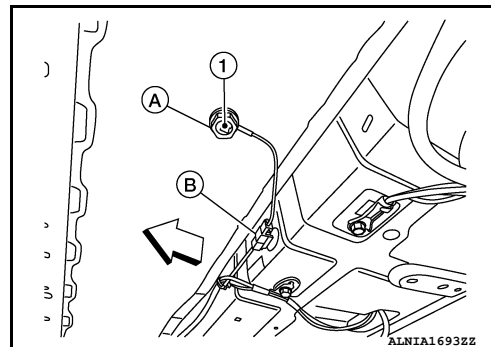
Removal and Installation

INFOID:0000000011551901

REMOVAL

1. Lower headlining (rear). Refer to [INT-26. "Exploded View"](#).
2. Disconnect harness connector (B) from antenna feeder.
3. Remove nut (A) from satellite antenna (1) and remove.

⇐: Front



INSTALLATION

Installation is in the reverse order of removal.

Satellite radio antenna nut : 6.5 N·m (0.66 kg-m, 58 in-lb)

CAUTION:

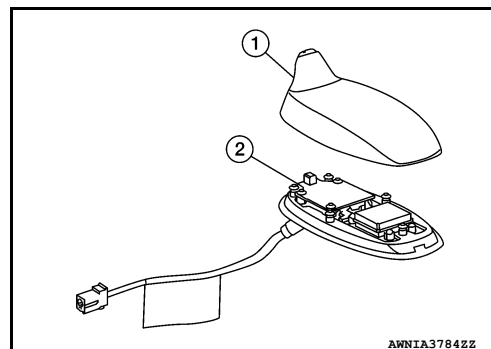
If the satellite antenna nut is not tightened to the specified torque, lower sensitivity of the antenna may be experienced. If the nut is tightened tighter than the specified torque, this will deform the roof panel.

Disassembly and Assembly

INFOID:0000000011551902

DISASSEMBLY

Insert a suitable tool into gap between satellite antenna (2) and the cover (1) then remove the cover (1) from satellite antenna (2).



ASSEMBLY

Assembly is in the reverse order of disassembly.

A

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I

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AV

O

P

ANTENNA AMP.

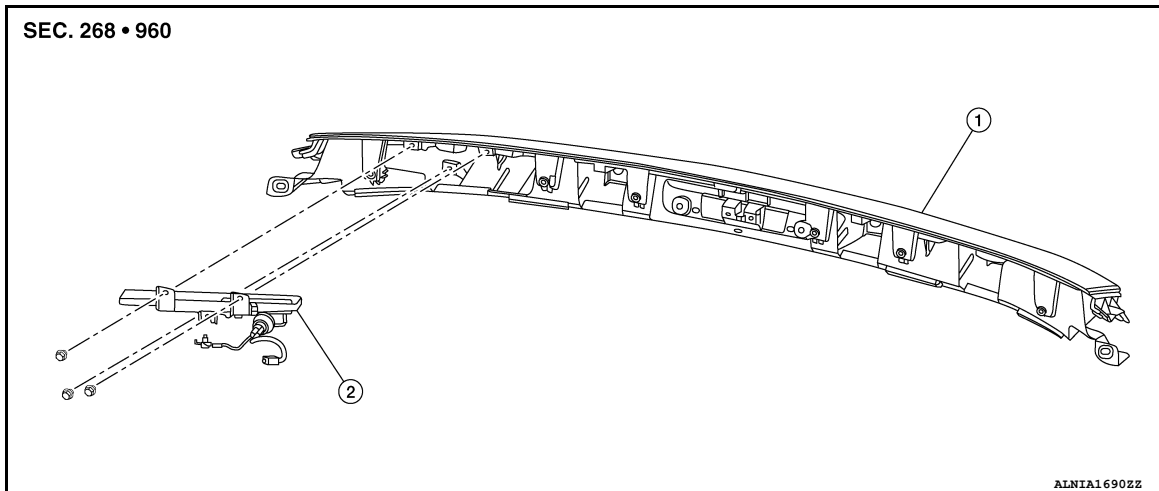
< REMOVAL AND INSTALLATION >

[MULTI AV (NAVIGATION)]

ANTENNA AMP.

Exploded View

INFOID:0000000011550458



1. Rear spoiler

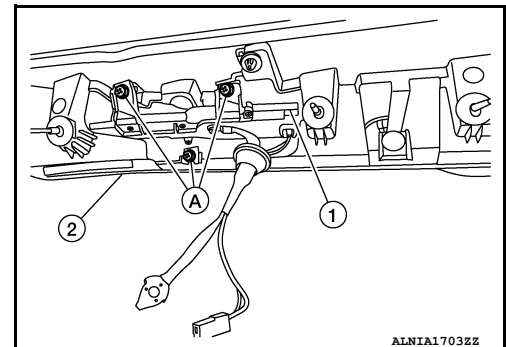
2. Antenna amp.

Removal and Installation

INFOID:0000000011230166

REMOVAL

1. Remove rear spoiler. Refer to [EXT-51, "Removal and Installation"](#).
2. Remove screw (A) and remove antenna amp (1).
(2): Rear spoiler



INSTALLATION

Installation is in the reverse order of removal.

GPS ANTENNA

Removal and Installation

INFOID:0000000011230167

REMOVAL

1. Remove instrument panel assembly. Refer to [IP-15. "INSTRUMENT PANEL ASSEMBLY : Removal and Installation"](#).
2. Remove screw to remove GPS antenna from instrument panel.

INSTALLATION

Installation is in the reverse order of removal.

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MICROPHONE

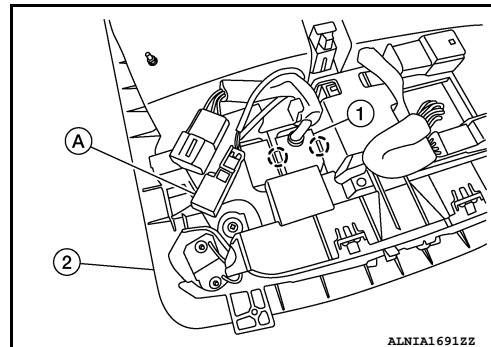
Removal and Installation

INFOID:0000000011230169

REMOVAL

1. Remove front room\map lamp assembly. Refer to [INL-56. "Removal and Installation"](#).
2. Disconnect the harness connector (A) from front room\map lamp assembly (2).
3. Release pawls and remove microphone (1).

○: Pawl



INSTALLATION

Installation is in the reverse order of removal.

PRECAUTION

PRECAUTIONS

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

INFOID:0000000011565158

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

WARNING:

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

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

WARNING:

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

Cautions in Removing Battery Terminal, Display Control Unit, and AV Control Unit

INFOID:0000000011230172

CAUTION:

Remove battery terminal, display control unit, 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 display control unit, and the AV control unit continues operating for approximately 30 seconds.

Therefore, data corruption may occur if battery voltage is cut off within 30 seconds.

Precaution for Trouble Diagnosis

INFOID:0000000011230173

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.

AV

Precaution for Harness Repair

INFOID:0000000011230174

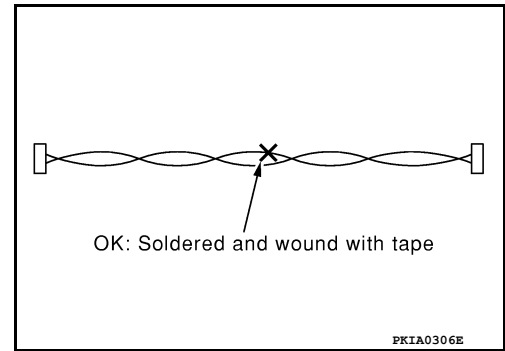
AV COMMUNICATION SYSTEM

PRECAUTIONS

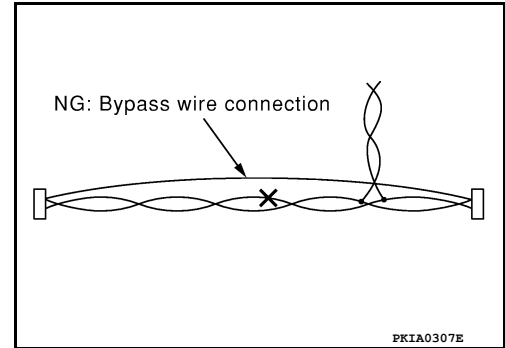
< PRECAUTION >

[AROUND VIEW MONITOR SYSTEM]

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



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



Precaution for Work

INFOID:000000011578441

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

PREPARATION

< PREPARATION >

[AROUND VIEW MONITOR SYSTEM]

PREPARATION

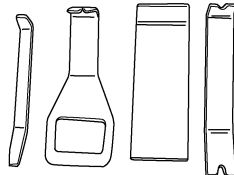
PREPARATION

Special Service Tools

INFOID:0000000011578444

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

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



AWJIA04832Z

Commercial Service Tools

INFOID:0000000011578445

Tool name	Description
Power tool	Loosening nuts, screws and bolts



PIIB1407E

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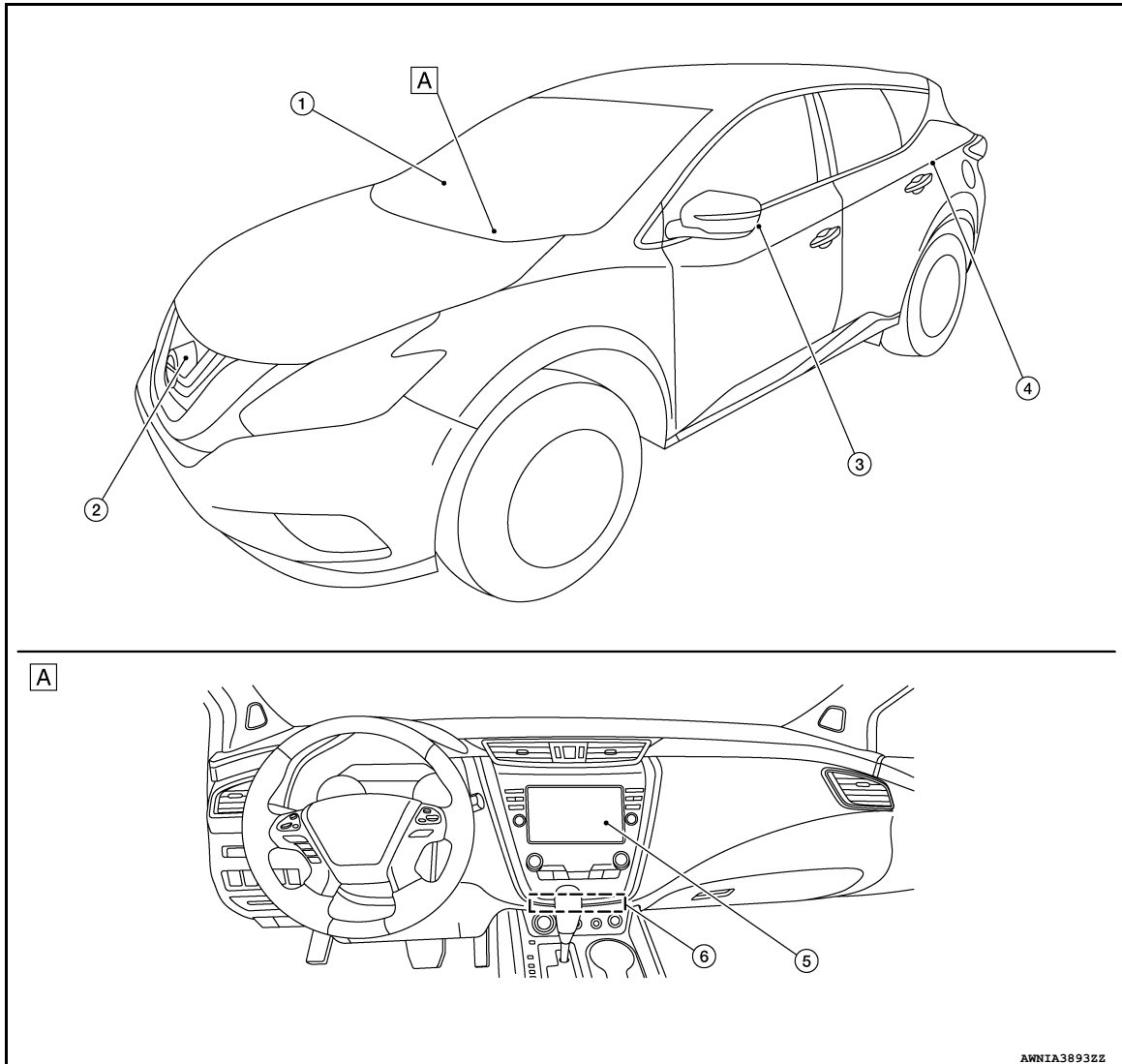
AV

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000011230177



A. View of instrument panel

No.	Component	Function
1.	Door mirror RH	Refer to AV-201, "Side Camera" .
2.	Front camera	Refer to AV-201, "Front Camera" .
3.	Door mirror LH	Refer to AV-201, "Side Camera" .
4.	Rear view camera	Refer to AV-202, "Rear Camera" .
5.	AV control unit	Refer to AV-81, "AV Control Unit" .
6.	Around view monitor control unit	Refer to AV-201, "Around View Monitor Control Unit" .

COMPONENT PARTS

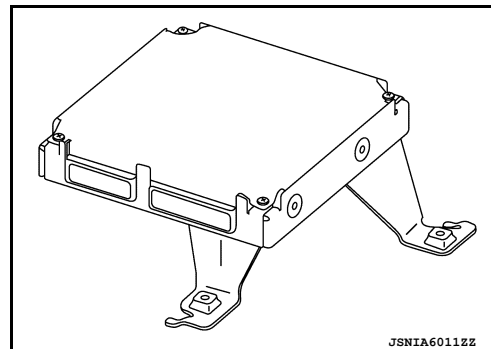
< SYSTEM DESCRIPTION >

[AROUND VIEW MONITOR SYSTEM]

Around View Monitor Control Unit

INFOID:0000000011230178

- The around view monitor control unit is installed at the lower dash.
- 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 display control unit.
- Vehicle width guide lines, predicted course line, vehicle front guiding line and vehicle side line, tire icon, and vehicle icon are rendered with the around view monitor control unit and combined with camera image.



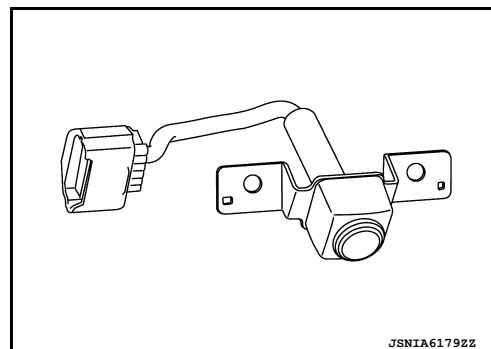
Front Camera

INFOID:0000000011230179

- The front camera is installed in 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 an abbreviation of Complementary Metal Oxide Semiconductor and features low power consumption and high speed reading rate of electric charge.



Specification

Image pickup element	1/3.8-inch CMOS image sensor
Effective number of pixels	Approx. 300,000 pixels (632 × 480)
Minimum brightness	1 lx
Angle of view	H: 190° V: 141°

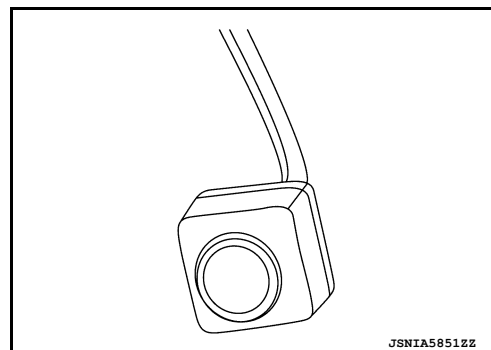
Side Camera

INFOID:0000000011230180

- The side camera is installed in 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 an abbreviation of Complementary Metal Oxide Semiconductor and features low power consumption and high speed reading rate of electric charge.



Specification

Image pickup element	1/3.8-inch CMOS image sensor
Effective number of pixels	Approx. 300,000 pixels (632 × 480)
Minimum brightness	1 lx
Angle of view	H: 190° V: 141°

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[AROUND VIEW MONITOR SYSTEM]

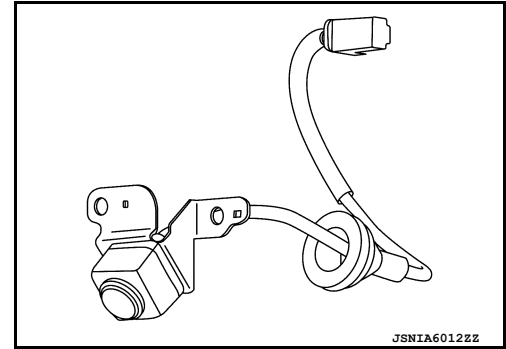
Rear Camera

INFOID:0000000011230181

- The rear camera is installed next to the license plate lamp.
- 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 an abbreviation of Complementary Metal Oxide Semiconductor and features low power consumption and high speed reading rate of electric charge.



JSNIA6012ZZ

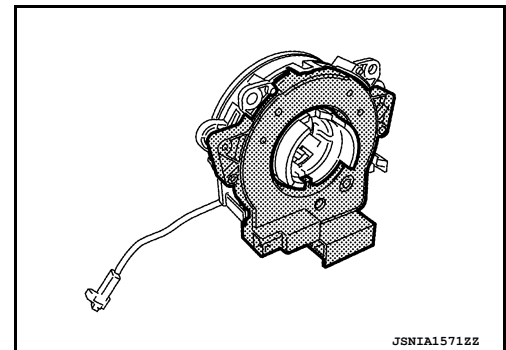
Specification

Image pickup element	1/3.8-inch CMOS image sensor
Effective number of pixels	Approx. 300,000 pixels (632 × 480)
Minimum brightness	1 lx
Angle of view	H: 190° V: 141°
Image	With the mirror processing function

Steering Angle Sensor

INFOID:0000000011230185

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



JSNIA1571ZZ

AROUND VIEW MONITOR SYSTEM

< SYSTEM DESCRIPTION >

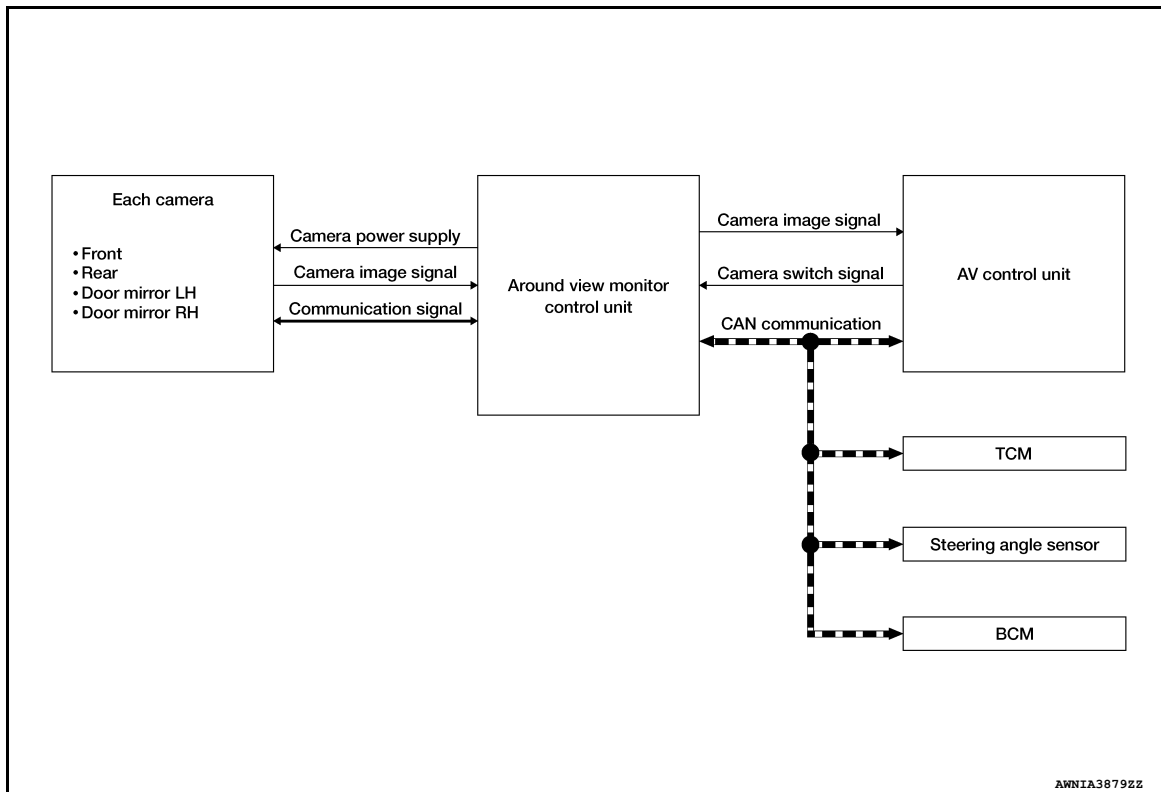
[AROUND VIEW MONITOR SYSTEM]

AROUND VIEW MONITOR SYSTEM

System Description

INFOID:0000000011230186

SYSTEM DIAGRAM



Around View Monitor Control Unit Input Signal (CAN Communication)

Transmit unit	Signal name
Steering angle sensor	Steering angle sensor signal
TCM	Shift position signal
	Vehicle speed signal
BCM	Door switch signal
	Back door switch signal
AV control unit	Camera switch signal

Around View Monitor Control Unit Output Signal (CAN Communication)

Transmit unit	Signal name
AV control unit	View change signal

DESCRIPTION

- This system is equipped with wide-angle, high-resolution cameras on the front and rear of the vehicle and on both the right and left door mirrors. The images from front view, rear view, front-side view RH side, and birds-eye view which 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.
- Camera image is displayed on the display.
- 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.

AROUND VIEW MONITOR SYSTEM

< SYSTEM DESCRIPTION >

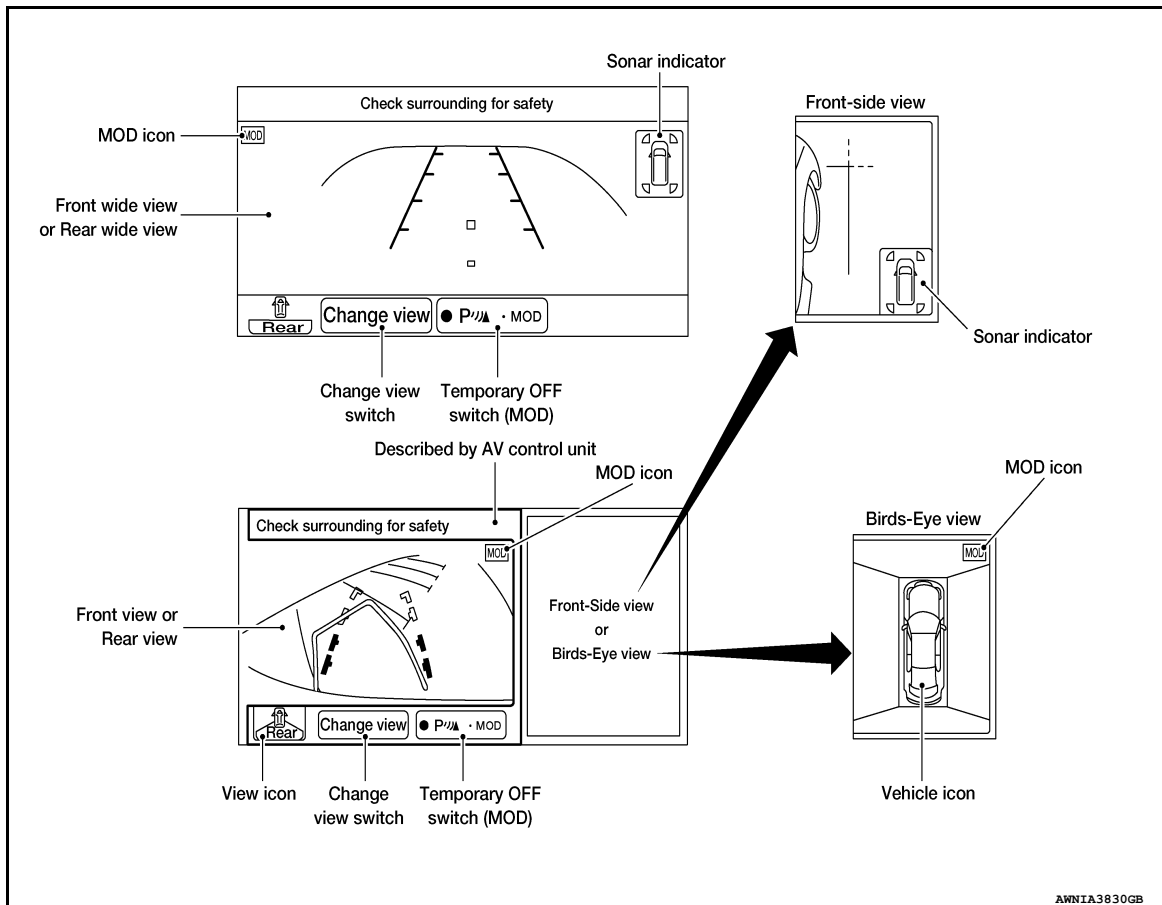
[AROUND VIEW MONITOR SYSTEM]

- The Bird's-Eye view converts the images from four cameras into the overhead view and displays the status of the vehicle on display. The vehicle icon and sonar indicator that are displayed on the Bird's-Eye view display are rendered by around view monitor control unit.
- Moving Object Detection (MOD) is adopted and detects moving objects according to camera image and notifies the detection result to the driver.
- Tire icon is adopted for Birds-Eye view image.
- Front/rear wide view function is adopted. Visibility for the left and right views that contains invisible area is improved.

AROUND VIEW MONITOR SCREEN

- Around view monitor combines and displays the travel direction view and Birds-Eye view, Front-side view, and then it displays the sonar indicator on the Bird's-Eye view, Front-side view, Rear wide view.
- AV control unit renders the "Change View" switch, view icon, and warning message on display.

Screen constitution



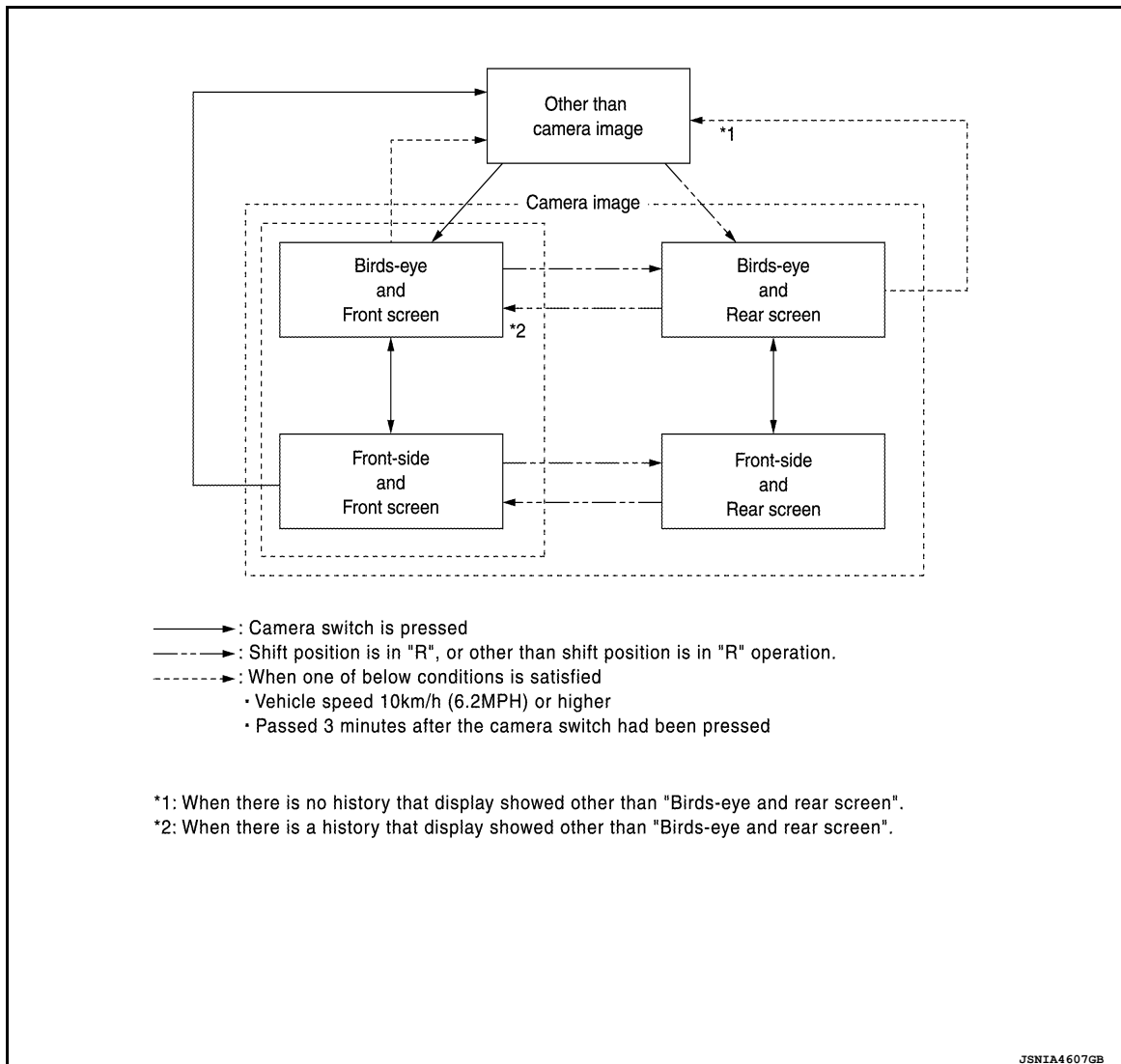
OPERATION DESCRIPTION

AROUND VIEW MONITOR SYSTEM

< SYSTEM DESCRIPTION >

[AROUND VIEW MONITOR SYSTEM]

Around view monitor screen transition



- Around view monitor is displayed on the display when "CAMERA" switch is pressed, when shifting position is reverse.
- Bird's-Eye view, Front-side view, and front/rear wide view can be switched by "Change View" switch (touch switch) or "CAMERA" switch while around view monitor is displayed.
- Priority of view to be displayed can be set by "Settings" screen.
- While shift position is other than reverse, around view monitor is canceled when approximately 3 minutes are passed after "CAMERA" switch is pressed or when vehicle speed is approximately 10 km/h (6 MPH) or more. The screen returns to the screen before displaying around view monitor.
- Setting of Moving Object Detection (MOD) can be switched ON/OFF by temporary OFF switch of AV control unit (Temporary OFF).
- In temporary OFF, around view monitor is canceled. Temporary OFF is canceled when around view monitor is displayed once again. MOD is switched to operation-ready status.
- In permanent OFF, MOD is not operative until MOD is switched to ON by "Settings" screen.
- In Bird's-Eye view, an enhanced boundary is displayed on the image indicating the invisible area and clearly indicating the boundary of the four cameras. The invisible area is displayed in yellow when Bird's-Eye view is displayed after the ignition switch is turned ON.
- If information of camera and information written to around view monitor control unit are not the same, error indicator of applicable camera position is displayed when Bird's-Eye view is displayed.
- When "CAMERA" switch is pressed, it receives camera switch signal from AV control unit via CAN communication.
- When around view monitor control unit receives camera switch signal around view monitor control unit reads the image signal from each camera.
- When around view monitor control unit receives reverse signal, while shift position is R position, around view monitor control unit reads image signal from each camera.

AROUND VIEW MONITOR SYSTEM

< SYSTEM DESCRIPTION >

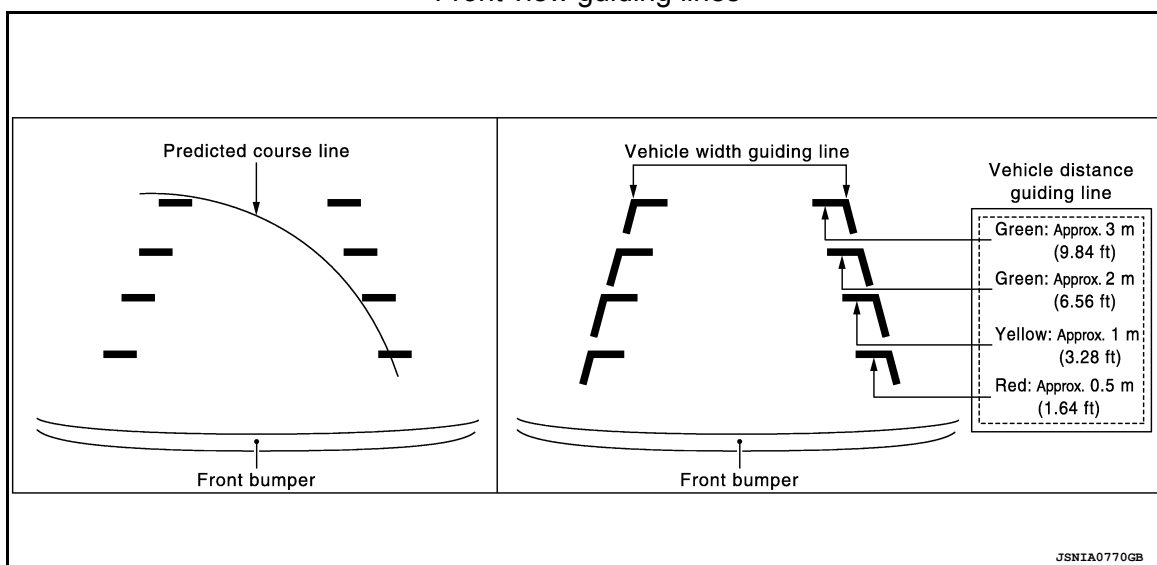
[AROUND VIEW MONITOR SYSTEM]

- When around view monitor control unit reads image signal from each camera, it cuts out the required screen for each view, superimposes camera image, vehicle icon, guiding lines, predicted course line, and "MOD" icon and then outputs them to AV control unit.

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 Bird's-Eye view and Front-side view. The front wide view function allows the display of an image with a 180° horizontal angle.
- Displays the vehicle width guiding line and vehicle distance guiding line in front view and displays 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 is connected to the steering angle sensor and receives the steering angle signal via CAN communication.
- Around view monitor control unit controls the direction and distance of the predictive course line according to the sensor signal from steering angle sensor.

Front view guiding lines



Rear View

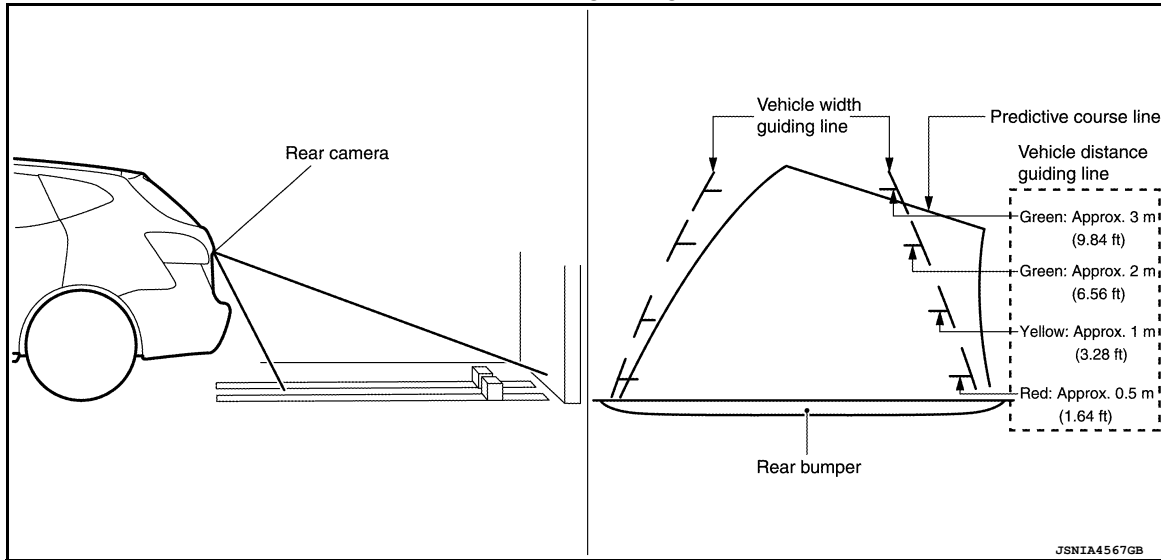
- The rear view image is from the rear camera.
- When the selector lever is in the reverse position, the rear view is displayed. Backing and parking are improved by the images from Bird's-Eye view and Front-side view. The rear wide view function allows the display of an image with a 180° horizontal angle.
- Displays the vehicle width guiding line and vehicle distance guiding line in rear view and displays the predictive course line according to the steering angle (except when using the rear wide view function).
- The predictive course line is not displayed at the steering neutral position.
- Around view monitor control unit is connected to the steering angle sensor and receives the steering angle signal via CAN communication.
- Around view monitor control unit controls the direction and distance of predictive course line according to the sensor signal from steering angle sensor.

AROUND VIEW MONITOR SYSTEM

< SYSTEM DESCRIPTION >

[AROUND VIEW MONITOR SYSTEM]

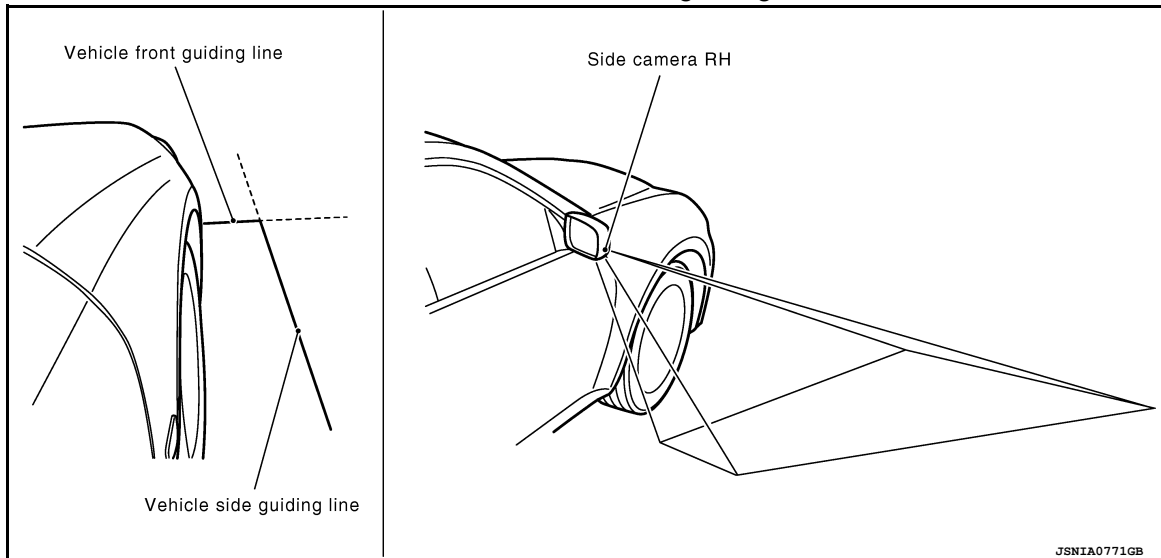
Rear view guiding lines



Front-side View

- The Front-side view image is from the side camera RH.
- In Front-side view, displays the vehicle distance guiding line and vehicle width guiding line are displayed.

Front-side view area and guiding line



Birds-eye View

- The image from the four cameras is cut out and converted into the overhead view, and the surroundings of the vehicle are displayed in birds-eye view.
- In Birds-Eye view, the invisible area is displayed on the image to specify the boundaries of the four cameras.
- The invisible area is displayed in yellow in the Bird's-Eye view after turning the ignition switch ON as an information for the user. (OFF setting can be performed)

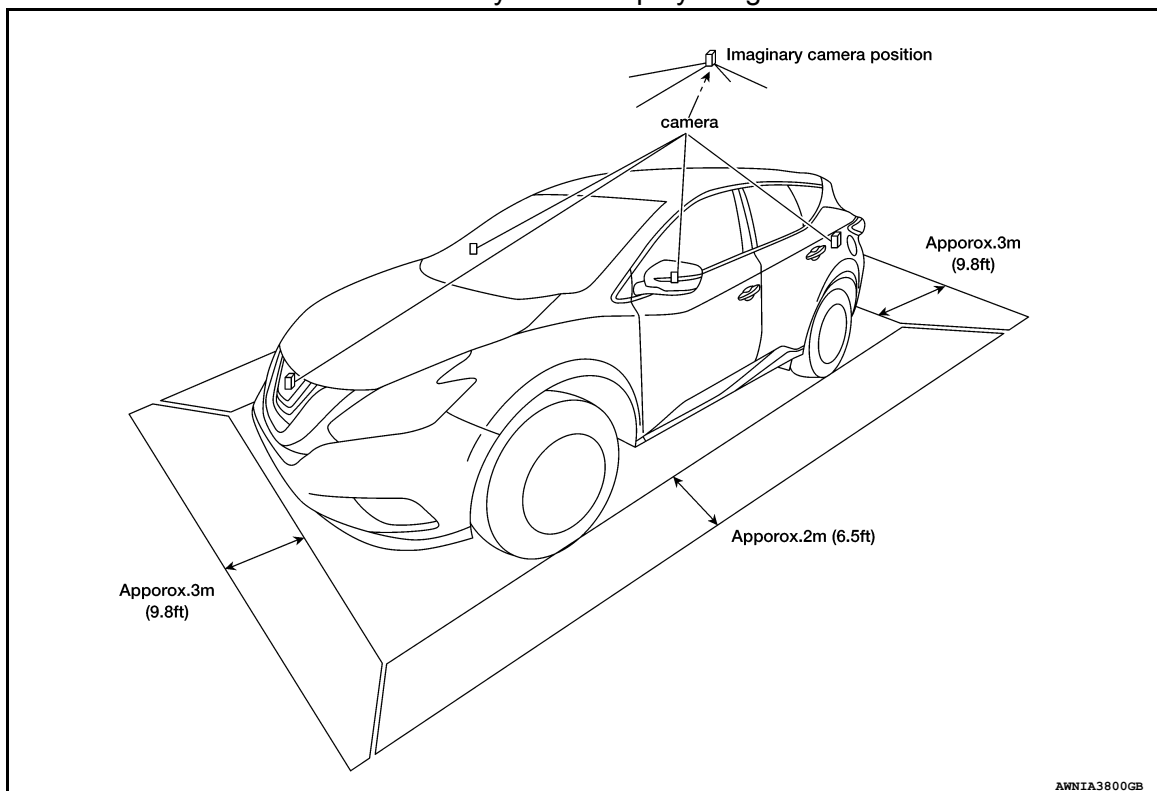
AV

AROUND VIEW MONITOR SYSTEM

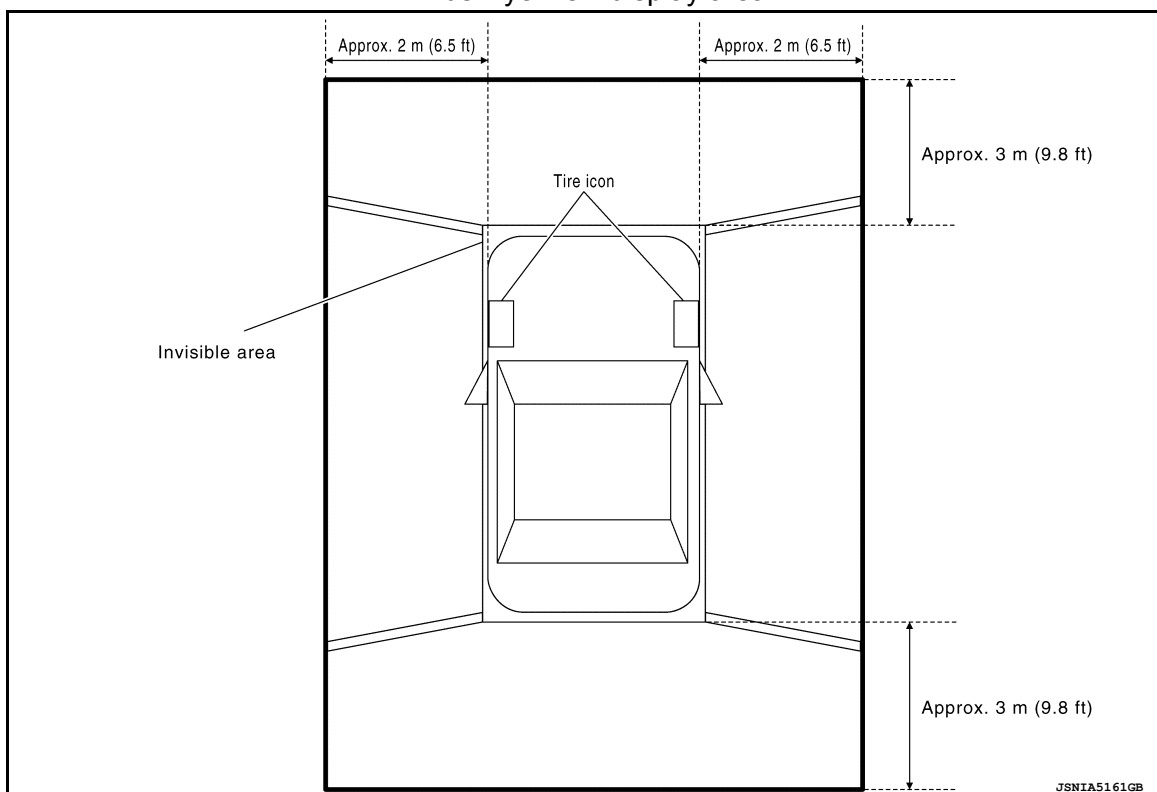
< SYSTEM DESCRIPTION >

[AROUND VIEW MONITOR SYSTEM]

Birds-Eye view display image



Birds-Eye view display area



Moving Object Detection (MOD)

- Moving Object Detection (MOD) is a function that notifies the driver of the presence of moving objects in the area around the vehicle. MOD detects moving objects from camera image, illuminates frame of view in yellow whenever "MOD" icon is displayed in blue, and sounds chime.
- MOD detects moving objects while camera image is displayed on AV control unit.
- Around view monitor control unit performs the following process when moving objects are detected:
 - Superimposes yellow frame line on camera image signal and outputs it to AV control unit.

AROUND VIEW MONITOR SYSTEM

< SYSTEM DESCRIPTION >

[AROUND VIEW MONITOR SYSTEM]

- Transmits MOD chime sound output request signal to the AV control unit via CAN communication.
- The combination meter receives the MOD beep sound output request signal from around view monitor control unit and outputs chime.
- Around view monitor control unit detects moving objects from camera image according to an image recognition method called optical flow.
- MOD does not detect a background as a moving object when the vehicle moves (when whole screen moves) but detects a moving object when an actual moving object is displayed on screen.
- MOD can be set to temporary OFF or permanent OFF by the following operations:
 - Temporary off: MOD is switched to OFF with a switch on the AV control unit (touch switch) while camera image is displayed on AV control unit.
 - Permanent off: MOD is switched to OFF by "Settings".
- Color of "MOD" icon indicates whether or not MOD is operative. "MOD" icon is displayed as shown in the following table. when MOD is operative, "MOD" icon is displayed in blue. when MOD is not operative, "MOD" icon is displayed in gray. MOD icon is not displayed when MOD is off (permanent OFF) by "Settings", or when MOD is OFF (temporary OFF) by switch of display control unit (touch switch):

View		Shift position		
		P or N position	D position	R position
		"MOD" icon display		
Birds-Eye view and rear view	Birds-Eye view	Blue	—	Gray
	Rear view	Gray		Blue
Birds-Eye view and front view	Birds-Eye view	Blue	Gray	—
	Front view	Gray	Blue	
Side view and rear view	Side view	×	—	×
	Rear view	Gray		Blue
Side view and front view	Side view	×	×	—
	Front view	Gray	Blue	
Rear wide view		Gray	—	Blue
Front wide view		Gray	Blue	—

×: Icon is not displayed.

—: View is not displayed in each shift position (D position and R position).

- MOD illuminates frame of view in yellow and sounds chime when any of the conditions in the following table are satisfied:

Operation Condition		View where MOD is operative
Shift position	Vehicle speed	
P or N position	0 km/h	Birds-Eye view
D position	0 km/h (0 MPH) or more - less than 8 km/h (5 MPH)	• Front view • Front wide view
R position	0 km/h (0 MPH) or more - less than 8 km/h (5 MPH)	• Rear view • Rear wide view

- MOD does not operate or stops operation when any of the conditions in the following table are satisfied:

Operation stop condition	Note
Door open	• MOD does not stop operation for front view and front wide view. • Operation stops for rear view and rear wide view while back door is open. • Operation stops for Bird's-Eye view when any door is open.
Door mirror expanding/retracting	Expanding/retracting status of door mirror is judged according to operation signal of door mirror motor transmitted from door mirror (driver side) to around view monitor control unit.

Tire Icon

- Tire icon is adopted for Bird's-Eye view screen.
- Tire icon is a function that notifies the steered direction of front tire to the driver and assists the driving.

AROUND VIEW MONITOR SYSTEM

< SYSTEM DESCRIPTION >

[AROUND VIEW MONITOR SYSTEM]

- In tire icon, around view monitor control unit superimposes steering angle information to camera image and outputs camera image signal to display control unit.
- Around view monitor control unit judges steering angle according to steering signal received from steering angle sensor via CAN communication.

CAMERA IMAGE OPERATION PRINCIPLE

- If the information written to around view monitor control unit and the information from the camera do not match, 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 from AV control unit via CAN communication by pressing the "CAMERA" button.
- Around view monitor control unit that receives the camera button 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, sonar indicator and "MOD" icon and outputs them to the display unit.

Fail-Safe

INFOID:0000000011230188

DTC Display contents of CONSULT	Malfunction detection condition	Fail-safe condition
U0428: ST ANGLE SENSOR CALIBRATION	Neutral position adjustment of steering angle sensor is not complete.	• Predicted course line is not displayed. • MOD (Moving Object Detection) function is stopped. • Front tire angle display is stopped. • Using "SETTING" menu display, switch each indicator of predicted course line display and MOD switch to "OFF" (turn OFF) so that switch operation cannot be performed.
U1000: CAN COMM CIRCUIT	When around view monitor control unit cannot transmit/receive CAN communication signal continuously for 2 seconds or more.	The following functions are stopped: • When communication of steering angle sensor signal is not normal: - Predicted course line is not displayed. - MOD (Moving Object Detection) function is stopped. - Front tire angle display is stopped. - Using "SETTING" menu display, switch each indicator of predicted course line display and MOD switch to "OFF" (turn OFF) so that switch operation cannot be performed. • When communication of vehicle signal, and shift signal is not normal: - Predicted course line is not displayed. - MOD (Moving Object Detection) function is stopped. - Using "SETTING" menu display, switch each indicator of predicted course line display and MOD switch to "OFF" (turn OFF) so that switch operation cannot be performed.

AROUND VIEW MONITOR SYSTEM

< SYSTEM DESCRIPTION >

[AROUND VIEW MONITOR SYSTEM]

DTC Display contents of CONSULT	Malfunction detection condition	Fail-safe condition
U111A: REAR CAMERA IMAGE SIGNAL	No-signal status of rear camera image signal is continued for 500 ms or more while ignition switch is ON. NOTE: Current malfunction is displayed only and is not saved.	Camera image is not displayed (gray screen display).
U111B: SIDE CAMERA RH IMAGE SIGNAL	No-signal status of side camera RH image signal is continued for 500 ms or more while ignition switch is ON. NOTE: Current malfunction is displayed only and is not saved.	
U111C: FRONT CAMERA IMAGE SIGNAL	No-signal status of front camera image signal is continued for 500 ms or more while ignition switch is ON. NOTE: Current malfunction is displayed only and is not saved.	
U111D: SIDE CAMERA LH IMAGE SIGNAL	No-signal status of side camera LH image signal is continued for 500 ms or more while ignition switch is ON. NOTE: Current malfunction is displayed only and is not saved.	
U1232: ST ANGLE SEN CALIB	Neutral position adjustment of steering angle sensor is performed. NG signal from steering angle sensor is received.	• Predicted course line is not displayed. • MOD (Moving Object Detection) function is stopped. • Tire icon is stopped. • Using "SETTING" menu display, switch each indicator of predicted course line display and MOD switch to "OFF" (turn OFF) so that switch operation cannot be performed.
U1302: CAMERA POWER VOLT	Camera power supply voltage does not satisfy the following conditions for 2 seconds or more when ignition switch is turned ON: • When supplemental lighting power supply output is ON: 5.9 – 6.5 V. • When OFF: 0 V by camera power supply measurement.	Camera power output is stopped.
U1304: CAMERA IMAGE CALIB	• When camera calibration is incomplete. • When camera information in around view monitor control unit and information read from camera are not the same. NOTE: Current malfunction is displayed only and is not saved.	Unmatched icon  display (red) is displayed (applicable for unmatched camera only).
U1305: CONFIG UNFINISH	The vehicle setting of around view monitor control unit is incomplete. NOTE: Current malfunction is displayed only and is not saved.	Operation is according to the vehicle setting value as default value.

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AROUND VIEW MONITOR SYSTEM

< SYSTEM DESCRIPTION >

[AROUND VIEW MONITOR SYSTEM]

DTC Display contents of CONSULT	Malfunction detection condition	Fail-safe condition
Other	When around view monitor control unit is not normal.	Switch to camera screen is not allowed.
	When communication between around view monitor control unit and each camera is not normal.	On applicable camera screen,  marking (red) is displayed.
	When communication line between around view monitor control unit and each camera image line is affected by electromagnetic noises.	On applicable camera image screen,  display (blue) is displayed.

HANDLING PRECAUTION

Display

INFOID:0000000011230189

- When the compartment temperature is low, the display images may look slower because the LCD response is deteriorated. The system will recover its normal operation when the cabin temperature increases to an appropriate level.
- When the compartment temperature is low [0°C (32°F) or less], the display images may look slower. It is characteristic of the LCD monitor and should not be considered to be a malfunction. When the temperature is at the operating temperature [0°C (32°F) to 50°C (122°F)], the display returns to normal.
- There may be small dark or bright dots in the screen or remaining display content may be found (image lag). These are inherent symptoms to any LCD monitor and should not be considered to be a malfunction.
- The image may look bright or dark when viewed obliquely from the rear. It is inherent to any LCD monitor and should not be considered to be a malfunction.
- Do not apply pressure on the LCD monitor. Doing so may cause irregularities in the screen image or render it inoperative.
- Do not use hard cloth, organic solvent (alcohol, benzene, and thinner), or chemical wipe to clean the LCD monitor. Doing so may affect the panel surface. When cleaning the LCD monitor, always wipe it with a soft cloth after shutting off the power. For severe contamination, use a soft cloth dampened with mild detergent (no droplets can be present).

Around View Monitor

INFOID:0000000011230190

PRECAUTIONS FOR THE HANDLING OF CAMERA SYSTEM

- The camera system assists the detection of obstacles. When operating the vehicle, the safety must be confirmed and ensured directly by sight, using the mirrors.
- Distance shown by vehicle width guiding lines and predicted course lines may differ from actual distance depending on the number of passengers and fuel capacity. For this reason, these lines must be used only as a guide.
- With the camera lens characteristics, a distance shown on the screen may look different from actual distance or obstacles may look deformed.
- The camera is a precision instrument. Always prevent a strong impact, such as high-pressure car wash. Failure to do this results in a malfunction.
- Adhesion of dirt, rain drops, and snow to the camera lens may lower the sharpness of camera image or cause an improper operation in MOD (Moving Object Detection) function or parking frame recognition function. These adherents must be removed with a soft wet cloth first, then with a dry soft cloth.
- Never damage the camera. Failure to do this may affect camera images.

PRECAUTIONS FOR THE HANDLING OF MOD (MOVING OBJECT DETECTION)

- MOD (Moving Object Detection) does not inform the driver of stationary objects.
- MOD (Moving Object Detection) detects a moving object by processing image data of an image shown on the display. The detection performance of a moving object is limited.
- MOD (Moving Object Detection) may not operate properly when any of the following conditions is satisfied:
 - Color and brightness of a moving object are similar to those of its background.
 - Existence of blinking light, such as turn signal lamp
 - Reflection of a strong light, such as head lamp light from other vehicles or sun light.
 - Inappropriate orientation of camera due to folded mirror.
 - Non-moving objects, such as water droplets dripping on the camera lens, white smoke from the muffler or moving shadow may be detected.
 - Detection may not be performed properly depending on the speed, direction, distance, and shape of moving object.

DIAGNOSIS SYSTEM (AROUND VIEW MONITOR CONTROL UNIT)

< SYSTEM DESCRIPTION >

[AROUND VIEW MONITOR SYSTEM]

DIAGNOSIS SYSTEM (AROUND VIEW MONITOR CONTROL UNIT)

CONSULT Function

INFOID:0000000011230191

CONSULT FUNCTIONS

CONSULT performs the following functions via the communication with the around view monitor control unit:

Diagnosis mode	Description
Self Diagnostic Result	Around view monitor control unit and CAN communication circuit connection diagnosis is performed. Current and previous malfunctions are displayed collectively.
Data Monitor	Diagnosis of vehicle signal that is received by around view monitor control unit can be performed.
Work Support	• Calibration and initialization of each camera can be performed. • Fine tuning of Birds-Eye view can be performed. • Target line calibration of front wide view and rear wide view can be performed. • Display of predicted course line can be switched to ON/OFF. • Language of warning message can be selected. • Neutral position adjustment of steering angle sensor can be performed. • Camera screen activation enhancing display can be switched to ON/OFF. • Calibration of turning radius display can be performed. • Setting change can be performed depending on the vehicle specification with/without door mirror automatic retracting function. • Camera zoom ratio can be changed and used for fine tuning.
ECU Identification	Around view monitor control unit part number, software version, and hardware version can be identified.
Configuration	• The vehicle specification that is written in around view monitor control unit can be displayed or stored. • The vehicle specification can be written when around view monitor control unit is replaced.

SELF DIAGNOSTIC RESULT

Refer to [AV-222. "DTC Index"](#).

- In CONSULT self-diagnosis, self-diagnosis results and error history are displayed collectively.
- The current malfunction indicates "CRNT". The past malfunction indicates "PAST".

Freeze Frame Data (FFD)

The following vehicle status is recorded when DTC is detected and is displayed on CONSULT:

Item name	Display content
IGN COUNTER (0 to 39)	Numerical value is displayed indicating the number of times that ignition switch is turned ON after the DTC is detected. • When "0" is displayed, it indicates that the system is presently malfunctioning. • When any numerical number other than "0" is displayed, it indicates that system malfunction in the past was detected, but the system is presently normal. NOTE: Each time when ignition switch turns OFF→ON, numerical number increases from 1→2→3...38→39. When number of times exceeds 39, numeric display does not increase and 39 is displayed until self-diagnosis is erased.

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:

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

DIAGNOSIS SYSTEM (AROUND VIEW MONITOR CONTROL UNIT)

< SYSTEM DESCRIPTION >

[AROUND VIEW MONITOR SYSTEM]

Display item	Remarks
ST ANGLE SENSOR SIGNAL [On/Off]	Receiving status of steering angle signal received from steering angle sensor is displayed by ON/OFF.
REVERSE SIGNAL [On/Off]	Receiving status of reverse signal received from display control unit is displayed by ON/OFF.
VEHICLE SPEED SIGNAL [On/Off]	Receiving status of vehicle speed signal received from ABS actuator control unit is displayed by ON/OFF.
CAMERA SWITCH SIGNAL [On/Off]	Receiving status of camera switch signal received from display control unit is displayed by ON/OFF.
CAMERA OFF SIGNAL [On/Off]	Receiving status of camera OFF signal received from display control unit is displayed by ON/OFF.
ST ANGLE SENSOR TYPE [Absolute]	Input type of steering angle sensor is displayed. NOTE: For this vehicle, "Absolute" is displayed.
STEERING GEAR RATIO TYPE [TYPE1]	Type of steering gear ratio is displayed. NOTE: For this vehicle, "TYPE 1" is displayed.
STEERING POSITION [LHD/RHD]	Steering position is displayed.
REAR CAMERA IMAGE SIGNAL [OK/NG]	Input status of rear view camera image signal is displayed by OK/NG in real time.
F-CAMERA IMAGE SIGNAL [OK/NG]	Input status of front view camera 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.
PA-SIDE CAMERA IMAGE SIG [OK/NG]	Input status of side camera RH image signal is displayed by OK/NG in real time.
ILL [ON/OFF]	Input status of illumination signal condition.
TURN SIGNAL [ON/OFF]	Input status of turn signal condition.

WORK SUPPORT

Work support items	Description
NON-VIEWABLE AREA REMINDER	ON/OFF setting of the non-viewable area reminder can be performed.
INITIALIZE CAMERA IMAGE CALIBRATION	The calibration can be initialized to factory shipment condition. NOTE: Calibration of camera image caused by misalignment of the camera installation position is 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. Refer to BRC-64, "Work Procedure" .
CALIBRATING CAMERA IMAGE (FRONT CAMERA)	Performs the calibration of front camera. NOTE: Calibration of camera image caused by misalignment of the camera installation position is performed.
CALIBRATING CAMERA IMAGE (PASS-SIDE CAMERA)	Performs the calibration of side camera RH. NOTE: Calibration of camera image caused by misalignment of the camera installation position is performed.

DIAGNOSIS SYSTEM (AROUND VIEW MONITOR CONTROL UNIT)

< SYSTEM DESCRIPTION >

[AROUND VIEW MONITOR SYSTEM]

Work support items	Description
CALIBRATING CAMERA IMAGE (DR-SIDE CAMERA)	Performs the calibration of side camera LH. NOTE: Calibration of camera image caused by misalignment of the camera installation position is performed.
CALIBRATING CAMERA IMAGE (REAR CAMERA)	Performs the calibration of rear camera. NOTE: Calibration of camera image caused by misalignment of the camera installation position is performed.
FINE TUNING OF BIRDS-EYE VIEW	The confirmation and adjustment of the difference between each camera can be performed. The fine adjustment function of camera calibration can check and adjust the difference between each camera.
REAR WIDE VIEW FIXED GUIDE LINE CORRECTION	The position of rear wide view guiding line can be changed.
CAUSE OF ENTRY CANCEL	Displays cancel cause item.
MOD FUNCTION	Allows turning ON/OFF of MOD function.
PREDICTIVE COURSE LINE DIS- PLAY	ON/OFF setting of non-viewable area can be performed.

ECU IDENTIFICATION

Around view monitor control unit part number, software version, and hardware version can be identified.

AROUND VIEW MONITOR CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[AROUND VIEW MONITOR SYSTEM]

ECU DIAGNOSIS INFORMATION

AROUND VIEW MONITOR CONTROL UNIT

Reference Value

INFOID:0000000011230197

VALUES ON THE DIAGNOSIS TOOL

NOTE:

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

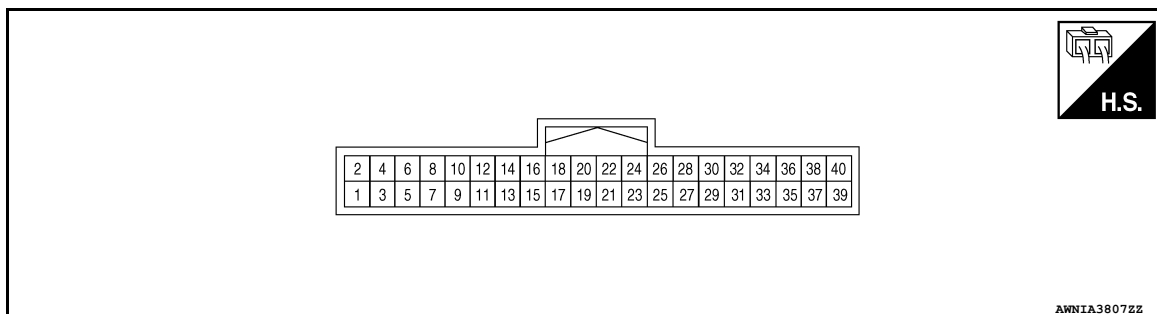
Monitor Item	Condition		Value/Status
ST ANGLE SENSOR SIGNAL [On/Off]	Ignition switch ON	When steering angle sensor signal is inputted	On
		Other than the above	Off
REVERSE SIGNAL [On/Off]	Ignition switch ON	R position	On
		Other than R position	Off
VEHICLE SPEED SIGNAL [On/Off]	Ignition switch ON	When vehicle speed is inputted	On
		Other than the above	Off
CAMERA SWITCH SIGNAL [On/Off]	Ignition switch ON	When camera switch signal is inputted	On
		Other than the above	Off
CAMERA OFF SIGNAL [On/Off]	Ignition switch ON	When camera OFF signal is inputted	On
		Other than the above	Off
ST ANGLE SENSOR TYPE [Absolute]	Ignition switch ON	—	Absolute
STEERING GEAR RATIO TYPE [TYPE1]	Ignition switch ON	—	TYPE1
STEERING POSITION [LHD]	Ignition switch ON	LHD models	LHD
REAR CAMERA IMAGE SIGNAL [OK/NG]	Ignition switch ON	When rear camera image signal input status is normal	OK
		When rear view camera image signal input status is not normal	NG
F-CAMERA IMAGE SIGNAL [OK/NG]	Ignition switch ON	When front camera image signal input status is normal	OK
		When front camera image signal input status is not normal	NG
DR-SIDE CAMERA IMAGE SIG [OK/NG]	Ignition switch ON	When side camera LH image signal input status is normal	OK
		When side camera LH image signal input status is not normal	NG
PA-SIDE CAMERA IMAGE SIG [OK/NG]	Ignition switch ON	When side camera RH image signal input status is normal	OK
		When side camera RH image signal input status is not normal	NG
ILL [ON/OFF]	Illumination ON		On
	Illumination OFF		Off

AROUND VIEW MONITOR CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[AROUND VIEW MONITOR SYSTEM]

TERMINAL LAYOUT



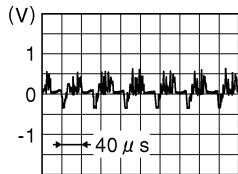
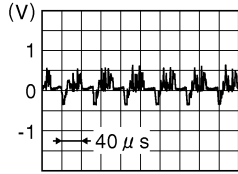
PHYSICAL VALUES

Terminal (Wire color)		Description		Condition	Reference value (Approx.)
+	—	Signal name	Input/ Output		
3 (Shield)	—	Video output shield	—	—	—
4 (B)	Ground	Video output signal	Output	[Ignition switch ON] • CAMERA switch is ON or shift position is R position	 JSNIA0834GB
5 (B)	—	Front camera ground	—	[Ignition switch ON]	0 V
6 (R)	5 (B)	Front camera power supply	Output	[Ignition switch ON]	6.0 V
7 (Shield)	—	Front camera video ground	—	[Ignition switch ON]	0 V
8 (W)	7 (Shield)	Front camera video signal	Input	[Ignition switch ON] • CAMERA switch is ON or shift position is R position	 JSNIA0834GB
9 (W)	—	Door mirror RH camera ground	—	[Ignition switch ON]	0 V
10 (R)	9 (W)	Door mirror RH camera power supply	Output	[Ignition switch ON]	6.0 V
11 (Shield)	—	Door mirror RH camera video ground	—	[Ignition switch ON]	0 V
12 (B)	11 (Shield)	Door mirror RH camera video signal	Input	[Ignition switch ON] • CAMERA switch is ON or shift position is R position	 JSNIA0834GB

AROUND VIEW MONITOR CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[AROUND VIEW MONITOR SYSTEM]

Terminal (Wire color)		Description		Condition	Reference value (Approx.)
+	—	Signal name	Input/ Output		
13 (W)	—	Door mirror LH camera ground	—	[Ignition switch ON]	0 V
14 (R)	13 (W)	Door mirror LH camera power supply	Output	[Ignition switch ON]	6.0 V
15 (Shield)	—	Door mirror LH camera video ground	—	[Ignition switch ON]	0 V
16 (B)	15 (Shield)	Door mirror LH camera video signal	Input	[Ignition switch ON] • CAMERA switch is ON or shift position is R position	
17 (B)	—	Rear view camera ground	—	[Ignition switch ON]	0 V
18 (R)	17 (B)	Rear view camera power supply	Output	[Ignition switch ON]	6.0 V
19 (Shield)	—	Rear view camera video ground	—	[Ignition switch ON]	0 V
20 (W)	19 (Shield)	Rear view camera video signal	Input	[Ignition switch ON] • CAMERA switch is ON or shift position is R position	
24 (P)	—	CAN low	Input/ Output	—	—
26 (L)	—	CAN high	Input/ Output	—	—
32 (G)	39 (B)	Reverse signal	Input	[Ignition switch ON] • R position	12.0 V
39 (B)	—	Ground	—	[Ignition switch ON]	0 V
40 (LG)	39 (B)	Ignition signal	Input	[Ignition switch ON or START]	12.0 V

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AROUND VIEW MONITOR CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[AROUND VIEW MONITOR SYSTEM]

Fail-Safe

INFOID:000000011230198

DTC Display contents of CONSULT	Malfunction detection condition	Fail-safe condition
U0428: ST ANGLE SENSOR CALIBRATION	Neutral position adjustment of steering angle sensor is not complete.	• Predicted course line is not displayed. • MOD (Moving Object Detection) function is stopped. • Front tire angle display is stopped. • Using "SETTING" menu display, switch each indicator of predicted course line display and MOD switch to "OFF" (turn OFF) so that switch operation cannot be performed.
U1000: CAN COMM CIRCUIT	When around view monitor control unit cannot transmit/receive CAN communication signal continuously for 2 seconds or more.	The following functions are stopped • When communication of steering angle sensor signal is not normal: - Predicted course line is not displayed. - MOD (Moving Object Detection) function is stopped. - Front tire angle display is stopped. - Using "SETTING" menu display, switch each indicator of predicted course line display and MOD switch to "OFF" (turn OFF) so that switch operation cannot be performed. • When communication of vehicle signal, wheel speed sensor signal, and shift signal is not normal: - Predicted course line is not displayed. - MOD (Moving Object Detection) function is stopped. - Using "SETTING" menu display, switch each indicator of predicted course line display and MOD switch to "OFF" (turn OFF) so that switch operation cannot be performed.
U111A: REAR CAMERA IMAGE SIGNAL	No-signal status of rear camera image signal is continued for 500 ms or more while ignition switch is ON. NOTE: Current malfunction is displayed only and is not saved.	Camera image is not displayed (gray screen display).
U111B: SIDE CAMERA RH IMAGE SIGNAL	No-signal status of side camera RH image signal is continued for 500 ms or more while ignition switch is ON. NOTE: Current malfunction is displayed only and is not saved.	
U111C: FRONT CAMERA IMAGE SIGNAL	No-signal status of front camera image signal is continued for 500 ms or more while ignition switch is ON. NOTE: Current malfunction is displayed only and is not saved.	
U111D: SIDE CAMERA LH IMAGE SIGNAL	No-signal status of side camera LH image signal is continued for 500 ms or more while ignition switch is ON. NOTE: Current malfunction is displayed only and is not saved.	

AROUND VIEW MONITOR CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[AROUND VIEW MONITOR SYSTEM]

DTC Display contents of CONSULT	Malfunction detection condition	Fail-safe condition
U1232: ST ANGLE SEN CALIB	Neutral position adjustment of steering angle sensor is performed. NG signal from steering angle sensor is received.	- Predicted course line is not displayed. - MOD (Moving Object Detection) function is stopped. - Tire icon is stopped. - Using "SETTING" menu display, switch each indicator of predicted course line display and MOD switch to "OFF" (turn OFF) so that switch operation cannot be performed.
U1302: CAMERA POWER VOLT	Camera power supply voltage does not satisfy the following conditions for 2 seconds or more when ignition switch is turned ON: - When supplemental lighting power supply output is ON: 5.9 – 6.5 V. - When OFF: 0 V by camera power supply measurement.	Camera power output is stopped.
U1304: CAMERA IMAGE CALIB	- When camera calibration is incomplete. - When camera information in around view monitor control unit and information read from camera are not the same. NOTE: Current malfunction is displayed only and is not saved.	Unmatched icon  display (red) is displayed (applicable for unmatched camera only).
U1305: CONFIG UNFINISH	The vehicle setting of around view monitor control unit is incomplete. NOTE: Current malfunction is displayed only and is not saved.	Operation is according to the vehicle setting value as default value.
Other	When around view monitor control unit is not normal.	Switch to camera screen is not allowed.
	When communication between around view monitor control unit and each camera is not normal.	On applicable camera screen,  marking (Red) is displayed.
	When communication line between around view monitor control unit and each camera image line is affected by electromagnetic noises.	On applicable camera image screen,  display (Blue) is displayed.

DTC Inspection Priority Chart

INFOID:0000000011230199

If multiple DTCs are detected simultaneously, check them one by one depending on the following DTC inspection priority chart:

Priority	Detected items (DTC)
1	U1305: CONFIG UNFINISH
2	- U1000: CAN COMM CIRCUIT - U1010: CONTROL UNIT (CAN)
3	- U0428: ST ANGLE SENSOR CALIBRATION - U111A: REAR CAMERA IMAGE SIGNAL - U111B: SIDE CAMERA RH IMAGE SIGNAL - U111C: FRONT CAMERA IMAGE SIGNAL - U111D: SIDE CAMERA LH IMAGE SIGNAL - U1232: ST ANGLE SEN CALIB - U1302: CAMERA POWER VOLT - U1304: CAMERA IMAGE CALIB

AROUND VIEW MONITOR CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[AROUND VIEW MONITOR SYSTEM]

DTC Index

INFOID:0000000011230200

DTC	CONSULT display	Refer to
U0428	ST ANGLE SENSOR CALIBRATION	AV-247, "DTC Description"
U1000	CAN COMM CIRCUIT	AV-249, "AROUND VIEW MONITOR CONTROL UNIT : DTC Description"
U1010	CONTROL UNIT (CAN)	AV-251, "AROUND VIEW MONITOR CONTROL UNIT : DTC Description"
U111A	REAR CAMERA IMAGE SIGNAL	AV-252, "DTC Description"
U111B	SIDE CAMERA RH IMAGE SIGNAL	AV-255, "DTC Description"
U111C	FRONT CAMERA IMAGE SIGNAL	AV-258, "DTC Description"
U111D	SIDE CAMERA LH IMAGE SIGNAL	AV-261, "DTC Description"
U1232	ST ANGLE SEN CALIB	AV-264, "DTC Description"
U1302	CAMERA POWER VOLT	AV-265, "DTC Description"
U1304	CAMERA IMAGE CALIB	AV-269, "DTC Description"
U1305	CONFIG UNFINISH	AV-270, "DTC Description"

AROUND VIEW MONITOR SYSTEM

< WIRING DIAGRAM >

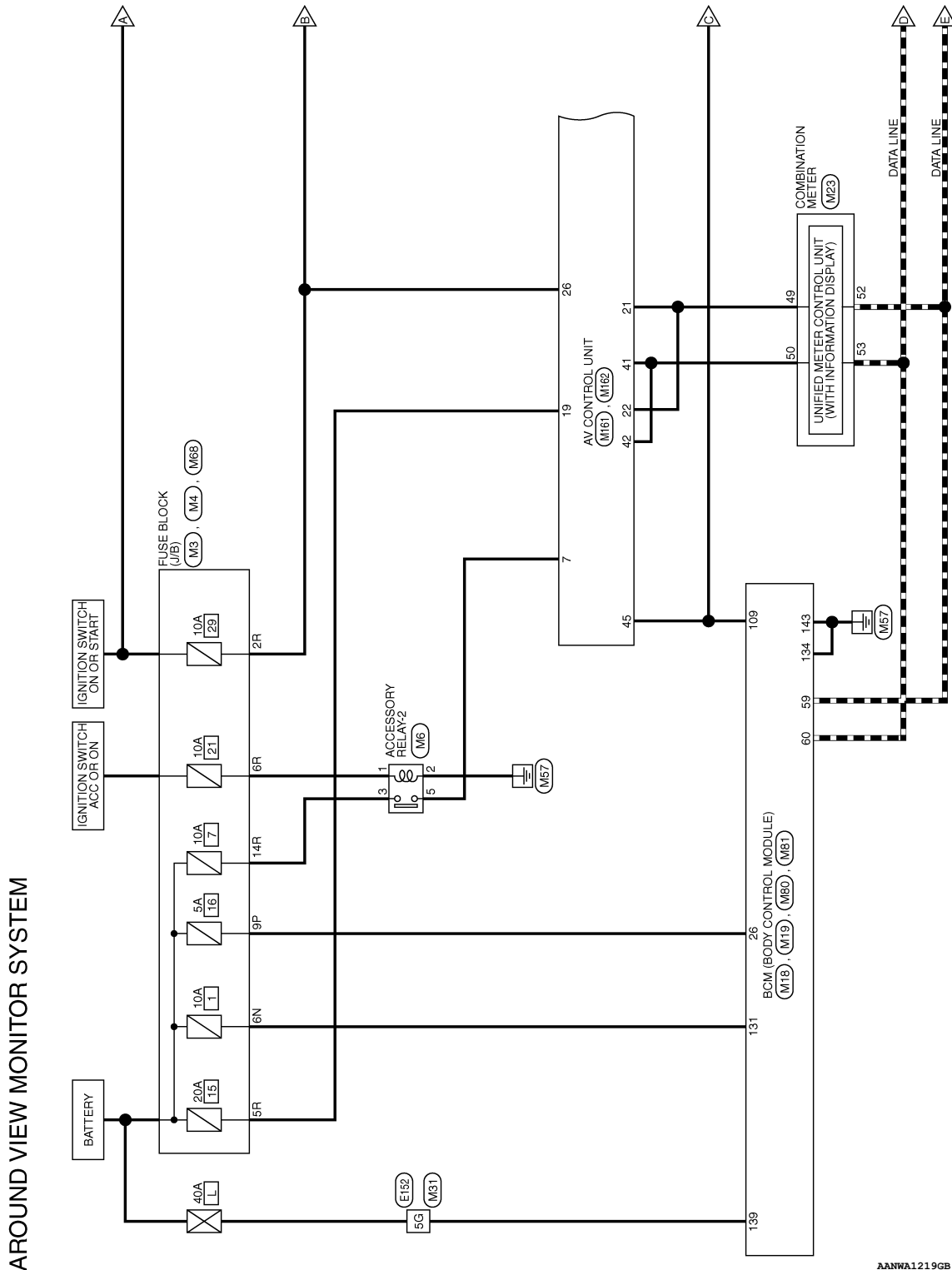
[AROUND VIEW MONITOR SYSTEM]

WIRING DIAGRAM

AROUND VIEW MONITOR SYSTEM

Wiring Diagram

INFOID:0000000011230205

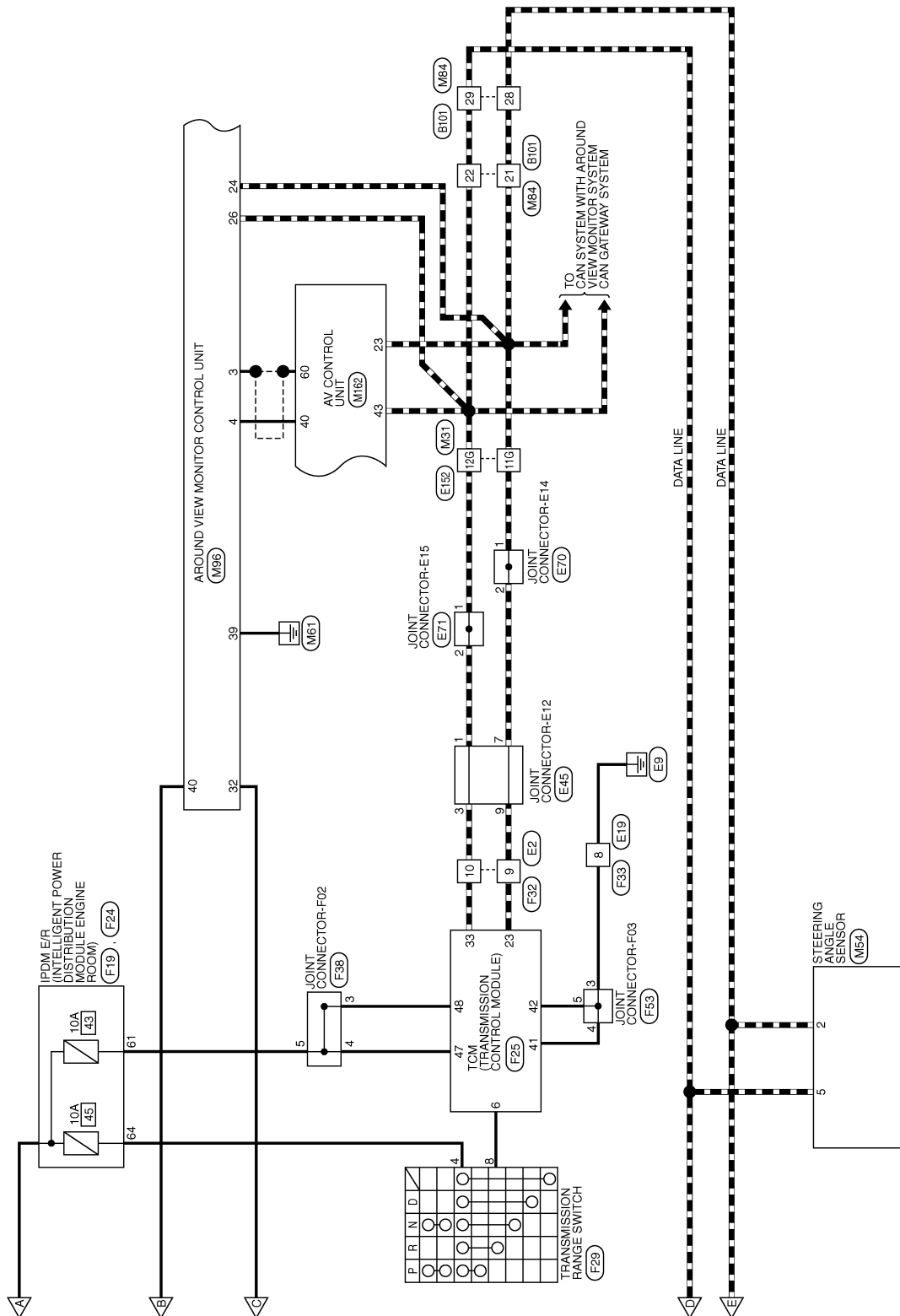


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AROUND VIEW MONITOR SYSTEM

< WIRING DIAGRAM >

[AROUND VIEW MONITOR SYSTEM]

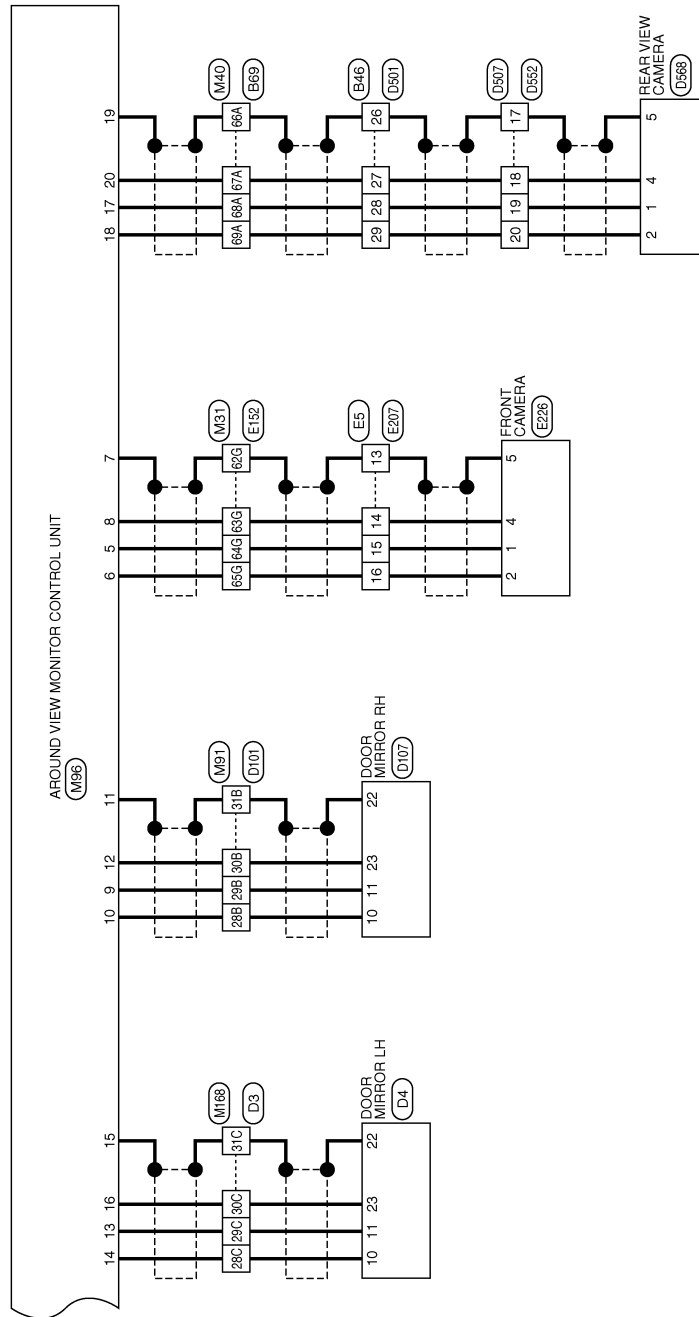


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AROUND VIEW MONITOR SYSTEM

< WIRING DIAGRAM >

[AROUND VIEW MONITOR SYSTEM]



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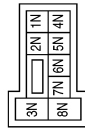
AROUND VIEW MONITOR SYSTEM

< WIRING DIAGRAM >

[AROUND VIEW MONITOR SYSTEM]

AROUND VIEW MONITOR SYSTEM CONNECTORS

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



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

Terminal No.	Color of Wire	Signal Name
6N	W	-

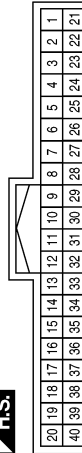
Terminal No.	Color of Wire	Signal Name
9P	L	-

Connector No.	M6
Connector Name	ACCESSORY RELAY-2
Connector Color	BLUE

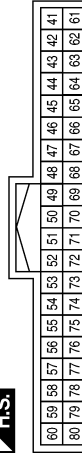


Terminal No.	Color of Wire	Signal Name
1	L	-
2	B	-
3	R	-
5	P	-

Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	GREEN



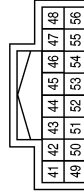
Connector No.	M19
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
26	L	SHORTING INPUT

Terminal No.	Color of Wire	Signal Name
59	P	CAN-L
60	L	CAN-H

Connector No.	M23
Connector Name	COMBINATION METER
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
49	LG	M-CAN (LOW)
50	SB	M-CAN (HI)
52	P	CAN-L
53	L	CAN-H

AROUND VIEW MONITOR SYSTEM

< WIRING DIAGRAM >

[AROUND VIEW MONITOR SYSTEM]

Connector No.	M54
Connector Name	STEERING ANGLE SENSOR
Connector Color	WHITE



1	2	3	4
5	6	7	8

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

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



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

11A	12A	13A	14A	15A	16A	17A	18A	19A	20A	21A
22A	23A	24A	25A	26A	27A	28A	29A	30A		
31A	32A	33A	34A	35A	36A	37A	38A	39A	40A	41A
42A	43A	44A	45A	46A	47A	48A	49A	50A		
51A	52A	53A	54A	55A	56A	57A	58A	59A	60A	61A
62A	63A	64A	65A	66A	67A	68A	69A	70A		
71A	72A	73A	74A	75A	76A	77A	78A	79A	80A	81A
82A	83A	84A	85A	86A	87A	88A	89A	90A		

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

Terminal No.	Color of Wire	Signal Name
66A	SHIELD	-
67A	B	- (WITH AROUND VIEW MONITOR)
68A	R	- (WITH AROUND VIEW MONITOR)
69A	W	- (WITH AROUND VIEW MONITOR)

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



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

11G	12G	13G	14G	15G	16G	17G	18G	19G	20G	21G
22G	23G	24G	25G	26G	27G	28G	29G	30G		
31G	32G	33G	34G	35G	36G	37G	38G	39G	40G	41G
42G	43G	44G	45G	46G	47G	48G	49G	50G		
51G	52G	53G	54G	55G	56G	57G	58G	59G	60G	61G
62G	63G	64G	65G	66G	67G	68G	69G	70G		
71G	72G	73G	74G	75G	76G	77G	78G	79G	80G	81G
82G	83G	84G	85G	86G	87G	88G	89G	90G		

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

Terminal No.	Color of Wire	Signal Name
5G	L	-
11G	P	-
12G	L	-
62G	SHIELD	-
63G	W	-
64G	B	-
65G	R	-

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[AROUND VIEW MONITOR SYSTEM]

[AROUND VIEW MONITOR SYSTEM]

Terminal No.	Color of Wire	Signal Name
28B	R	—
29B	W	—
30B	B	—
31B	SHIELD	—

AROUND VIEW MONITOR SYSTEM

< WIRING DIAGRAM >

[AROUND VIEW MONITOR SYSTEM]

Terminal No.	Color of Wire	Signal Name
27	-	-
28	-	-
29	-	-
30	-	-
31	-	-
32	G	REVERSE
33	-	-
34	-	-
35	-	-
36	-	-
37	-	-
38	-	-
39	B	GND
40	LG	IGN

Terminal No.	Color of Wire	Signal Name
9	W	SV1-POWER GND
10	R	SV1-POWER 6.2V
11	SHIELD	SV1-VIDEO GND
12	B	SV1-VIDEO SIGNAL
13	W	SV2-POWER GND
14	R	SV2-POWER 6.2V
15	SHIELD	SV2-VIDEO GND
16	B	SV2-VIDEO SIGNAL
17	R	RV-POWER GND
18	W	RV-POWER 6.2V
19	SHIELD	RV-VIDEO GND
20	B	RV-VIDEO SIGNAL
21	-	-
22	-	-
23	-	-
24	P	CAN-L
25	-	-
26	L	CAN-H

Connector No.	M96
Connector Name	AROUND VIEW MONITOR CONTROL UNIT
Connector Color	WHITE



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

Terminal No.	Color of Wire	Signal Name
1	-	-
2	-	-
3	SHIELD	VIDEO OUTPUT GND
4	B	VIDEO OUTPUT SIGNAL
5	B	FV-POWER GND
6	R	FV-POWER 6.2V
7	SHIELD	FV-VIDEO GND
8	W	FV-VIDEO SIGNAL

Connector No.	M162
Connector Name	AV CONTROL UNIT (WITH BOSE)
Connector Color	WHITE



21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60

Connector No.	M161
Connector Name	AV CONTROL UNIT (WITH BOSE)
Connector Color	WHITE



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

Terminal No.	Color of Wire	Signal Name
7	P	ACC
19	G	BAT

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AROUND VIEW MONITOR SYSTEM

< WIRING DIAGRAM >

[AROUND VIEW MONITOR SYSTEM]

Connector No.	E2
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

Terminal No.	Color of Wire	Signal Name
9	P	-
10	L	-

Terminal No.	Color of Wire	Signal Name
28C	R	-
29C	W	-
30C	B	-
31C	SHIELD	-



1C	2C	3C	4C	5C	6C	7C	8C	9C	10C	11C	12C	13C	14C	15C
16C	17C	18C	19C	20C	21C	22C	23C	24C	25C	26C	27C	28C	29C	30C
31C	32C	33C	34C	35C	36C	37C	38C	39C	40C	41C	42C	43C	44C	45C
46C	47C	48C	49C	50C	51C	52C	53C	54C	55C	56C	57C	58C	59C	60C

Connector No.	E45
Connector Name	JOINT CONNECTOR-E12
Connector Color	BLUE



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

Connector No.	E19
Connector Name	WIRE TO WIRE
Connector Color	BROWN



1	2	3
4	5	6
7	8	

Terminal No.	Color of Wire	Signal Name
1	L	-
3	L	-
7	P	-
9	P	-

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



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

Terminal No.	Color of Wire	Signal Name
13	SHIELD	-
14	W	-
15	B	-
16	R	-

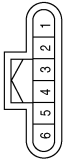
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AROUND VIEW MONITOR SYSTEM

< WIRING DIAGRAM >

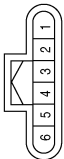
[AROUND VIEW MONITOR SYSTEM]

Connector No.	E71
Connector Name	JOINT CONNECTOR-E15
Connector Color	BLACK



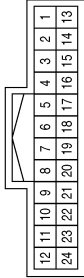
Terminal No.	Color of Wire	Signal Name
1	L	-
2	L	-

Connector No.	E70
Connector Name	JOINT CONNECTOR-E14
Connector Color	BLACK



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

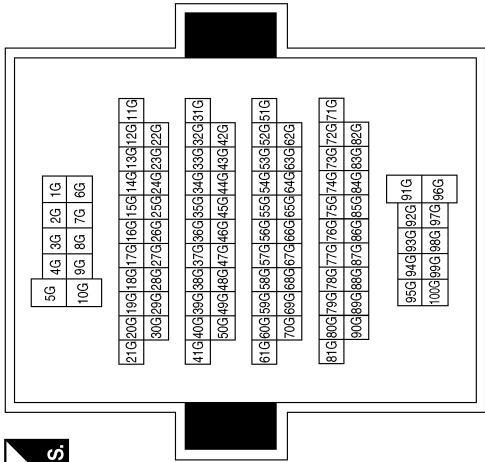
Connector No.	E207
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
13	SHIELD	-
14	W	-
15	B	-
16	R	-

Terminal No.	Color of Wire	Signal Name
5G	P	-
11G	P	-
12G	L	-
62G	SHIELD	-
63G	W	-
64G	B	-
65G	R	-

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



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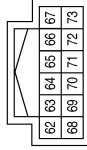
AV

AROUND VIEW MONITOR SYSTEM

< WIRING DIAGRAM >

[AROUND VIEW MONITOR SYSTEM]

Connector No.	F24
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
64	LG	START IG EGI

Connector No.	F19
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE



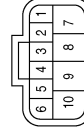
Terminal No.	Color of Wire	Signal Name
61	Y	AT ECU

Connector No.	E226
Connector Name	FRONT CAMERA
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
1	B	-
2	R	-
4	W	-
5	SHIELD	-

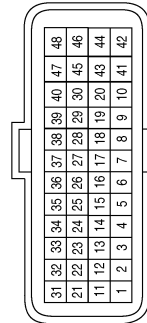
Connector No.	F29
Connector Name	TRANSMISSION RANGE SWITCH
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
4	LG	-
8	BR	-

Terminal No.	Color of Wire	Signal Name
6	BR	R RANGE SW
23	P	CAN-L
33	L	CAN-H
41	B	GND
42	B	GND
47	Y	VIGN
48	Y	VIGN

Connector No.	F25
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Color	BLACK



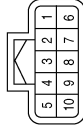
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AROUND VIEW MONITOR SYSTEM

< WIRING DIAGRAM >

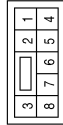
[AROUND VIEW MONITOR SYSTEM]

Connector No.	F38
Connector Name	JOINT CONNECTOR-F02
Connector Color	BLACK



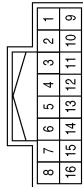
Terminal No.	Color of Wire	Signal Name
3	Y	-
4	Y	-
5	Y	-

Connector No.	F33
Connector Name	WIRE TO WIRE
Connector Color	BROWN



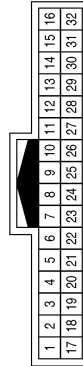
Terminal No.	Color of Wire	Signal Name
8	B	-

Connector No.	F32
Connector Name	WIRE TO WIRE
Connector Color	WHITE



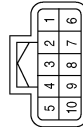
Terminal No.	Color of Wire	Signal Name
9	P	-
10	L	-

Connector No.	B46
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
26	SHIELD	-
27	R	-(WITH AROUND VIEW MONITOR)
28	B	-
29	W	-(WITH AROUND VIEW MONITOR)

Connector No.	F53
Connector Name	JOINT CONNECTOR-F03
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
3	B	-
4	B	-
5	B	-

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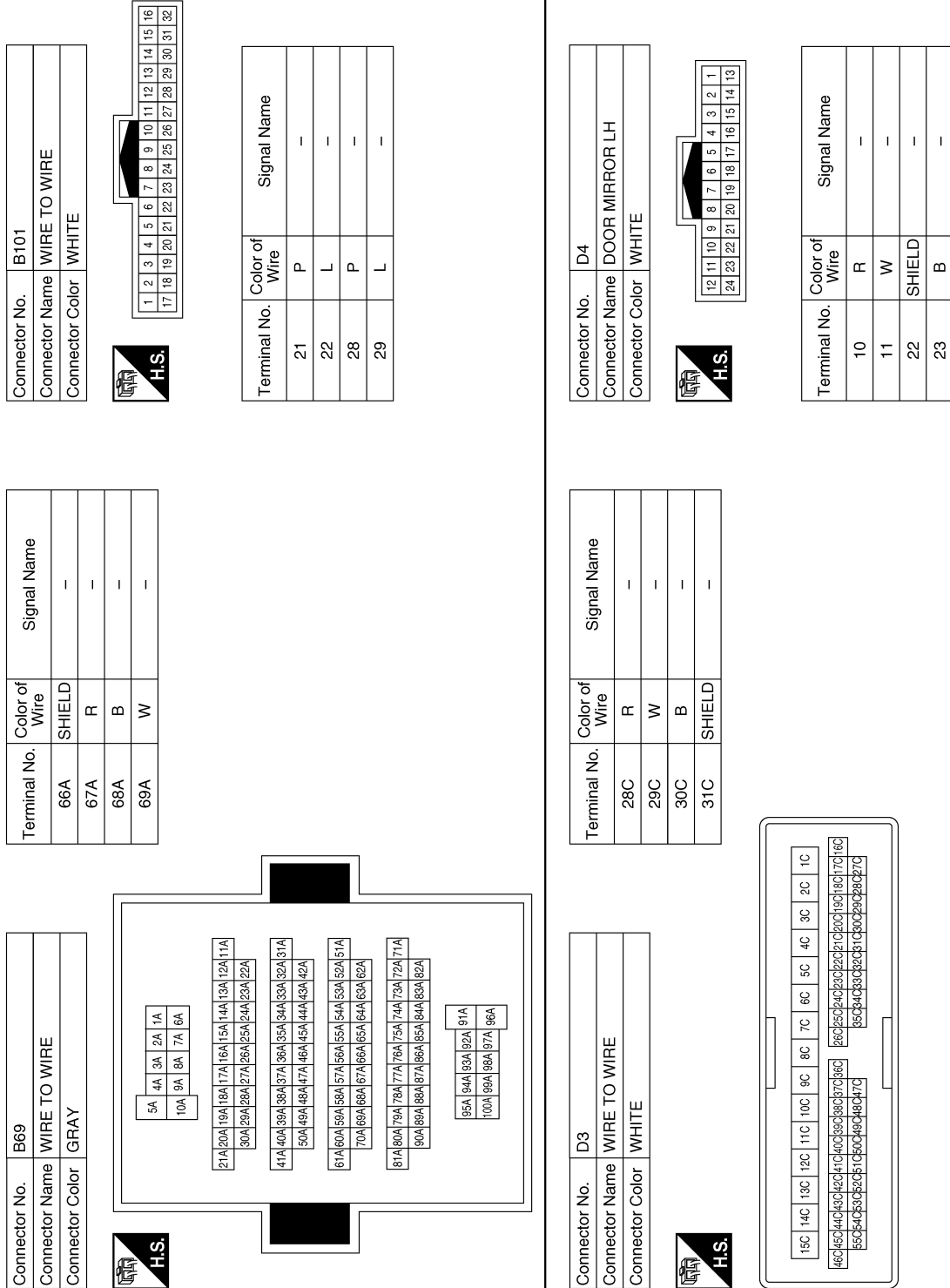
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AROUND VIEW MONITOR SYSTEM

< WIRING DIAGRAM >

[AROUND VIEW MONITOR SYSTEM]



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AROUND VIEW MONITOR SYSTEM

< WIRING DIAGRAM >

[AROUND VIEW MONITOR SYSTEM]

Connector No.	D107
Connector Name	DOOR MIRROR RH
Connector Color	WHITE



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

Terminal No.	Color of Wire	Signal Name
10	R	-
11	W	-
22	SHIELD	-
23	B	-

Terminal No.	Color of Wire	Signal Name
28B	R	-
29B	W	-
30B	B	-
31B	SHIELD	-



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

Connector No.	D552
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

Connector No.	D507
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

Connector No.	D501
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

Terminal No.	Color of Wire	Signal Name
17	SHIELD	-
18	R	-(WITH AROUND VIEW MONITOR)
19	B	-
20	W	-(WITH AROUND VIEW MONITOR)

Terminal No.	Color of Wire	Signal Name
17	SHIELD	-
18	R	-(WITH AROUND VIEW MONITOR)
19	B	-
20	W	-(WITH AROUND VIEW MONITOR)

Terminal No.	Color of Wire	Signal Name
26	SHIELD	-
27	R	-(WITH AROUND VIEW MONITOR)
28	B	-
29	W	-(WITH AROUND VIEW MONITOR)

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AROUND VIEW MONITOR SYSTEM

< WIRING DIAGRAM >

[AROUND VIEW MONITOR SYSTEM]

Connector No.	D568
Connector Name	REAR VIEW CAMERA
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
1	B	-
2	W	- (WITH AROUND VIEW MONITOR)
4	R	- (WITH AROUND VIEW MONITOR)
5	SHIELD	-

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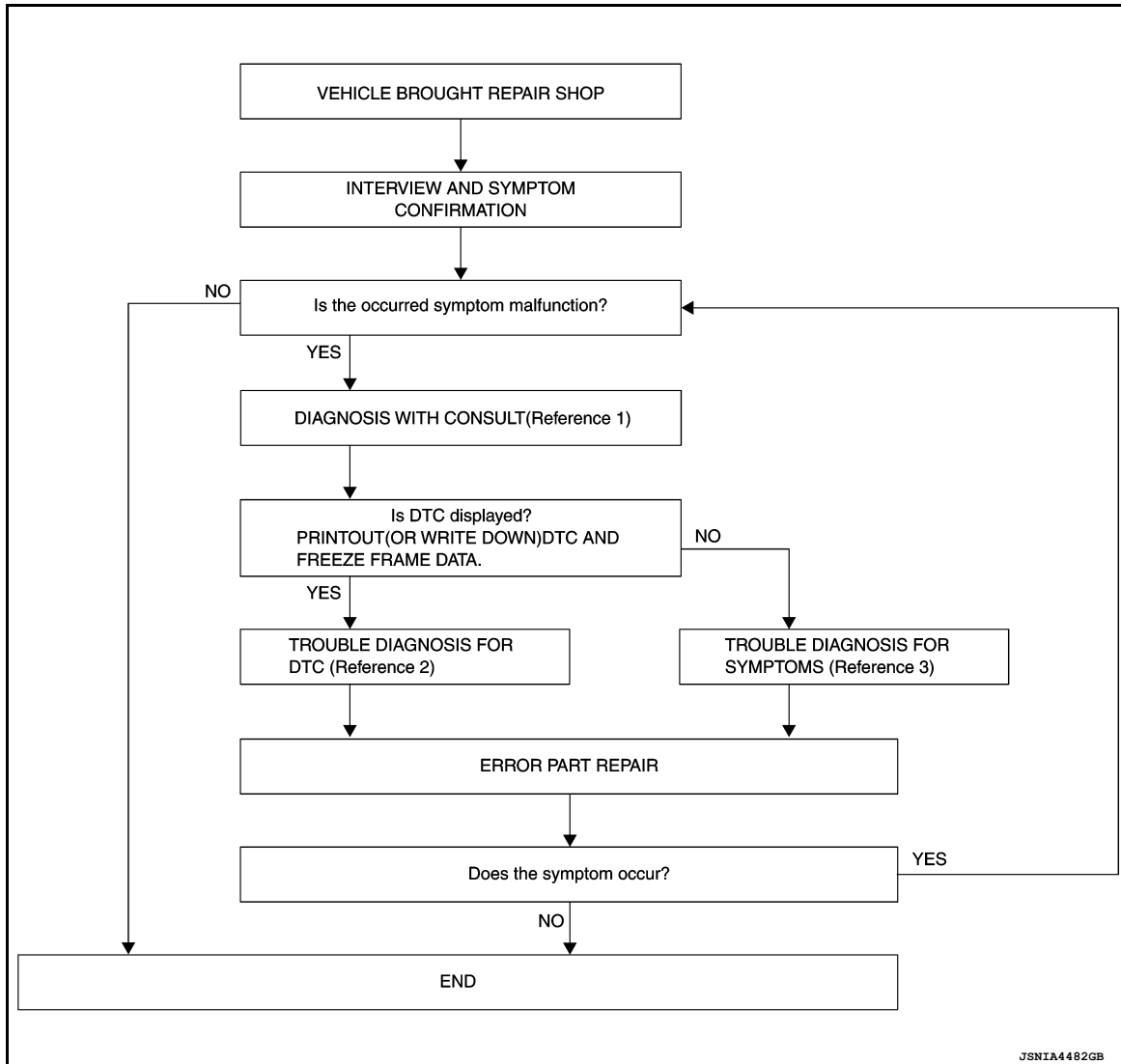
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000011230206

OVERALL SEQUENCE



- Reference 1: Refer to [AV-214. "CONSULT Function"](#).
- Reference 2: Refer to [AV-222. "DTC Index"](#).
- Reference 3: Refer to [AV-272. "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 a malfunction?

YES >> GO TO 2.

NO >> Inspection End.

2. DIAGNOSIS WITH CONSULT

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[AROUND VIEW MONITOR SYSTEM]

1. Connect CONSULT and perform a self-diagnosis for "MULTI AV". Refer to [AV-214. "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 (FFD).

Is DTC displayed?

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

3. TROUBLE DIAGNOSIS FOR DTC

1. Check the DTC indicated in the "Self Diagnostic Result".
2. Perform the relevant diagnosis referring to the DTC Index. Refer to [AV-222. "DTC Index"](#).

>> GO TO 5.

4. TROUBLE DIAGNOSIS FOR SYMPTOMS

Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to [AV-272. "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".
NOTE:
Erase the stored self-diagnosis results after repairing or replacing the relevant components if any DTC has been indicated in the "Self Diagnostic Result".
3. Check that the symptom does not occur.

Does the symptom occur?

- YES >> GO TO 1.
NO >> Inspection End.

ADDITIONAL SERVICE WHEN REPLACING AROUND VIEW MONITOR CONTROL UNIT

< BASIC INSPECTION >

[AROUND VIEW MONITOR SYSTEM]

ADDITIONAL SERVICE WHEN REPLACING AROUND VIEW MONITOR CONTROL UNIT

Description

INFOID:0000000011875487

When replacing around view monitor control unit, save or print current vehicle specification with CONSULT "Configuration" before replacement.

BEFORE REPLACEMENT

NOTE:

If "READ CONFIGURATION" can not be used, use the "MANUAL CONFIGURATION" after replacing around view monitor control unit

AFTER REPLACEMENT

CAUTION:

- When replacing around view monitor control unit, you must perform "WRITE CONFIGURATION" with CONSULT.
- Never perform "WRITE CONFIGURATION" except for new around view monitor control unit

Work Procedure

INFOID:0000000011875488

1.SAVING VEHICLE SPECIFICATION

ⓂCONSULT Configuration

Perform "READ CONFIGURATION" to save or print current vehicle specification. Refer to [AV-240, "Description"](#).

NOTE:

If "READ CONFIGURATION" can not be used, use "MANUAL CONFIGURATION" after replacing around view monitor control unit.

>> GO TO 2.

2.REPLACE AROUND VIEW MONITOR CONTROL UNIT

Replace around view monitor control unit. Refer to [AV-274, "Removal and Installation"](#).

>> GO TO 3.

3.WRITING VEHICLE SPECIFICATION

ⓂCONSULT Configuration

Perform "WRITE CONFIGURATION - Config file" or "MANUAL CONFIGURATION" to write vehicle specification. Refer to [AV-240, "Work Procedure"](#).

>> GO TO 4.

4.CALIBRATE CAMERA IMAGE

Perform calibration of camera image. Refer to [AV-241, "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Description"](#).

>> Work End.

CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT)

< BASIC INSPECTION >

[AROUND VIEW MONITOR SYSTEM]

CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT)

Description

INFOID:0000000011875489

Vehicle specification needs to be written with CONSULT because it is not written after replacing around view monitor control unit.

Configuration has three functions as follows

Function	Description
READ CONFIGURATION	• Reads the vehicle configuration of current around view monitor control unit. • Saves the read vehicle configuration.
WRITE CONFIGURATION - Manual setting	Writes the vehicle configuration with manual setting.
WRITE CONFIGURATION - Config file	Writes the vehicle configuration with saved data.

CAUTION:

- When replacing around view monitor control unit, you must perform “WRITE CONFIGURATION” with CONSULT.
- Never perform “WRITE CONFIGURATION” except for new around view monitor control unit.

Work Procedure

INFOID:0000000011875490

1. WRITING MODE SELECTION

ⓘ CONSULT Configuration

Select “CONFIGURATION” of AVM.

When writing saved data>>GO TO 2.

When writing manually>>GO TO 3.

2. PERFORM “WRITE CONFIGURATION - CONFIG FILE”

ⓘ CONSULT Configuration

Perform “WRITE CONFIGURATION - Config file”.

>> WORK END

3. PERFORM “MANUAL CONFIGURATION”

ⓘ CONSULT Configuration

Select “MANUAL CONFIGURATION” to write vehicle specifications into the around view monitor control unit.

CAUTION:

- Thoroughly read and understand the vehicle specification. Incorrect settings may result in abnormal control of ECU.
- Make sure to select “NEXT” even if the default settings displayed on the CONSULT are the desired settings. If “NEXT” is not selected, the configuration process will be incomplete.

NOTE:

If manual configuration items are not displayed, touch “NEXT”.

>> GO TO 4.

4. OPERATION CHECK

Confirm that each function controlled by around view monitor control unit operates normally.

>> WORK END

INSPECTION AND ADJUSTMENT

PREDICTIVE COURSE LINE CENTER POSITION ADJUSTMENT

PREDICTIVE COURSE LINE CENTER POSITION ADJUSTMENT : Description

INFOID:0000000011230211

Adjust the center position of the predictive course line of the front view and rear view monitor.

PREDICTIVE COURSE LINE CENTER POSITION ADJUSTMENT : Work Procedure

INFOID:0000000011230212

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.

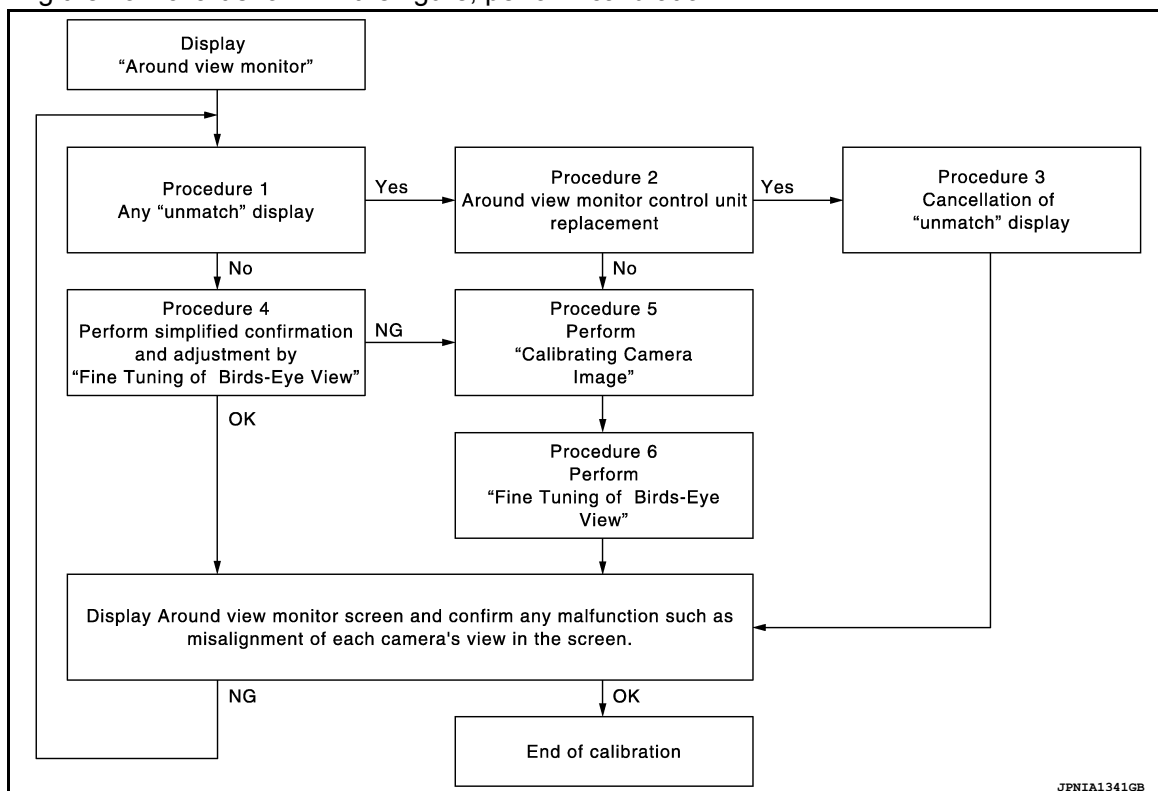
>> Work End.

CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR)

CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Description

INFOID:0000000011230213

- Perform camera calibration and perform writing to the around view monitor control unit after removal/installation or replacement of each camera or camera mounting parts (front grille, door mirror, or others) or replacement of around view monitor control unit.
- By performing this camera calibration procedure, the boundary of each camera image is aligned to the white lines on the road near the vehicle. The boundary of each camera image may not be aligned to the white lines far from the vehicle. The farther the line, the greater the difference is.
- Following the flow chart shown in the figure, perform calibration:



- For details of calibration operation, refer to [AV-241. "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Work Procedure"](#).

CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Work Procedure

INFOID:0000000011230214

CAUTION:

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[AROUND VIEW MONITOR SYSTEM]

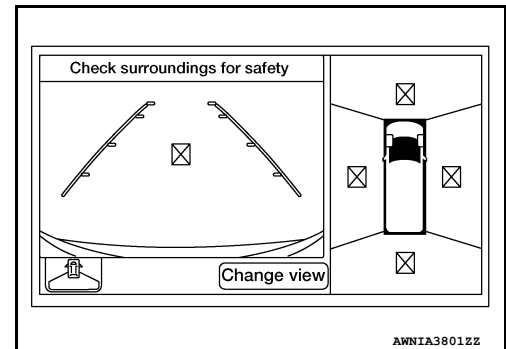
When around view monitor control unit is replaced, perform the control unit setting before performing this calibration. Refer to [AV-241, "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Description"](#).

1. CHECK AROUND VIEW MONITOR SCREEN

Check whether or not un-match display "⊠" is on screen.

Is un-match display on screen?

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



2. CHECK WHETHER OR NOT AROUND VIEW MONITOR CONTROL UNIT IS REPLACED

Check whether or not around view monitor control unit is replaced.

Is around view monitor control unit replaced?

- YES >> GO TO 3.
NO >> GO TO 5.

3. RELEASE UN-MATCH DISPLAY (PERFORM ONLY WHEN AROUND VIEW MONITOR CONTROL UNIT IS REPLACED)

④ CONSULT Work Support

1. Select "CALIBRATING CAMERA IMAGE".

NOTE:

In random order, perform the operation for all cameras for which un-match display "⊠" appears.

- Front camera: "CALIBRATING CAMERA IMAGE (FRONT CAMERA)"
 - Passenger side camera: "CALIBRATING CAMERA IMAGE (PASS-SIDE CAMERA)"
 - Driver side camera: "CALIBRATING CAMERA IMAGE (DR-SIDE CAMERA)"
 - Rear camera: "CALIBRATING CAMERA IMAGE (REAR CAMERA)"
2. On each camera calibration screen, press "APPLY", and then press "OK" button.

CAUTION:

- Never perform any operation other than selecting "APPLY" button.
- Never perform "INITIALIZE CAMERA IMAGE CALIBRATION".

3. Display the around view monitor screen. Check that images are displayed normally without any difference between images for each camera.

Is there a malfunction such as a difference between camera images?

- YES >> Calibration end.
NO >> GO TO 1.

4. PERFORM SIMPLIFIED CONFIRMATION/ADJUSTMENT BY "FINE TUNING OF BIRDS-EYE VIEW"

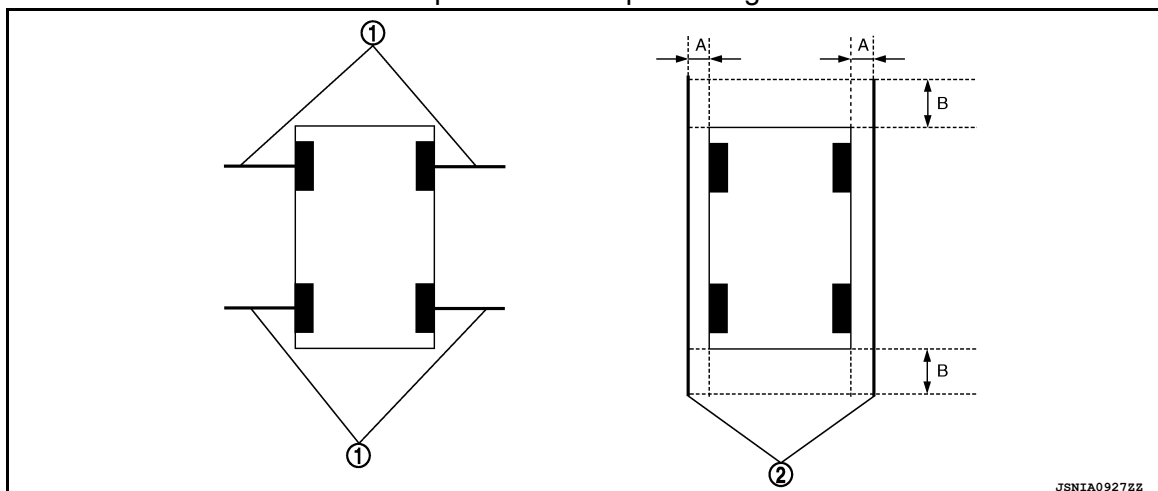
1. Put target line 1 beside each axle using packing tape, etc.
2. Put target line 2 at a position approximately 30 cm (11.81 in) away from each side of the vehicle (the left and right). Check that the target line is a length equivalent to the vehicle length plus an additional approximate length of 1.0 m (39.37 in) (parallel to the vehicle as much as possible).

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[AROUND VIEW MONITOR SYSTEM]

Preparation of simplified target line



- | | |
|-----------------------------|-----------------------------|
| 1. Target lines 1 | 2. Target lines 2 |
| A. Approx. 30 cm (11.81 in) | B. Approx. 1.0 m (39.37 in) |

3. CONSULT Work Support
Select "FINE TUNING OF BIRDS-EYE VIEW".
4. Select the left and right cameras on CONSULT screen. Perform the following calibration:
 - Check that target line 1 and marker are aligned normally on screen. If difference is detected, align marker using "+" and "-" of "AXIS X" and "AXIS Y" on CONSULT screen.
 - Check that target line 2 is aligned normally on screen without difference between images of each camera. If difference is detected, align images so that line 2 is displayed in a straight line using "+" and "-" of "AXIS X", "AXIS Y", and "ROTATE" on CONSULT screen.

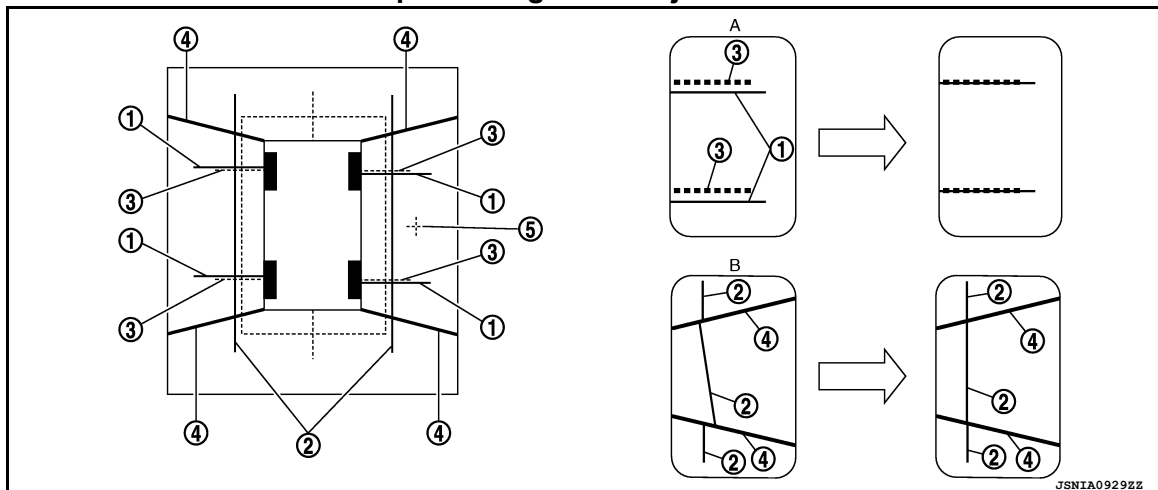
NOTE:

Press "SELECT" on CONSULT screen and select camera position for adjustment.

CAUTION:

- Never adjust the front camera and rear camera. Only adjust the side cameras LH/RH.
- Perform adjustment operation slowly because approximately 1 second is required for changing image on screen.

Simplified target line adjustment method



- | | | |
|---|---|-----------------------------|
| 1. Target lines 1 | 2. Target lines 2 | 3. Marker for target line 1 |
| 4. Boundary between cameras | 5. Crosshair cursor (mark indicated by the selected camera) | |
| A. Adjustment method for target lines 1 (right) | B. Adjustment method for target lines 2 (right) | |

5. Adjust the left and right cameras. Check that difference of images on screen between target line 1 and marker, and between target lines 2 are solved. Press "APPLY".

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[AROUND VIEW MONITOR SYSTEM]

NOTE:

- The setting can be initialized to factory default condition using "CALIBRATING CAMERA IMAGE" of Work Support.
- The adjustment value on this mode is canceled when "INITIALIZE CAMERA IMAGE CALIBRATION" is performed.

Is the difference corrected?

YES >> • Select "OK" to end calibration.

CAUTION:

After selecting "OK", never perform any operation other than "BACK" on CONSULT.

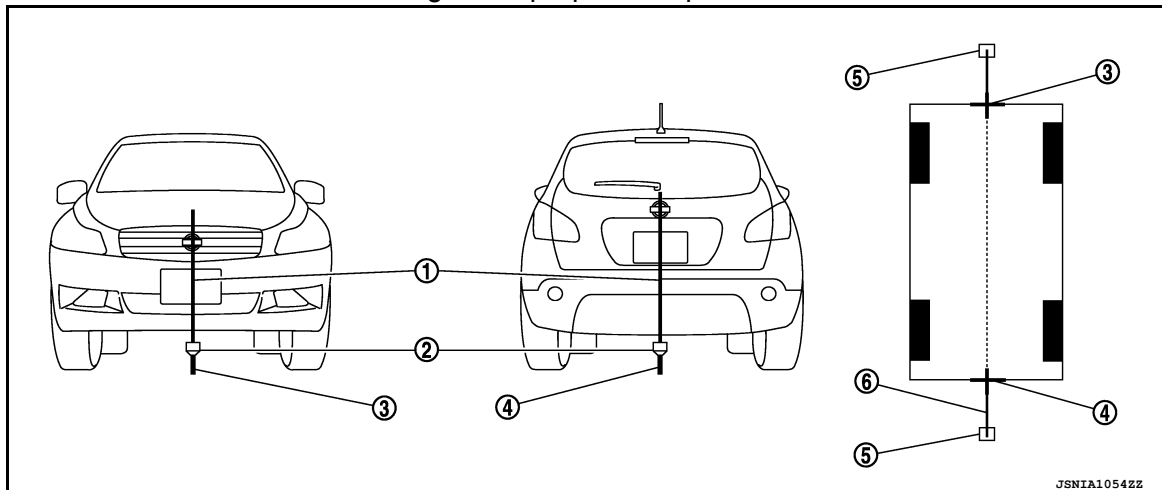
NO >> GO TO 5.

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 and RM0 (mark) on the ground at the center of the vehicle front end and rear end using white packing tape or a pen.
2. Route the vinyl string under the vehicle, and then pull and fix the vinyl string at a point approximately 1.0 m (39.37 in) at the front and rear of the vehicle through points FM0 and RM0 using packing tape.

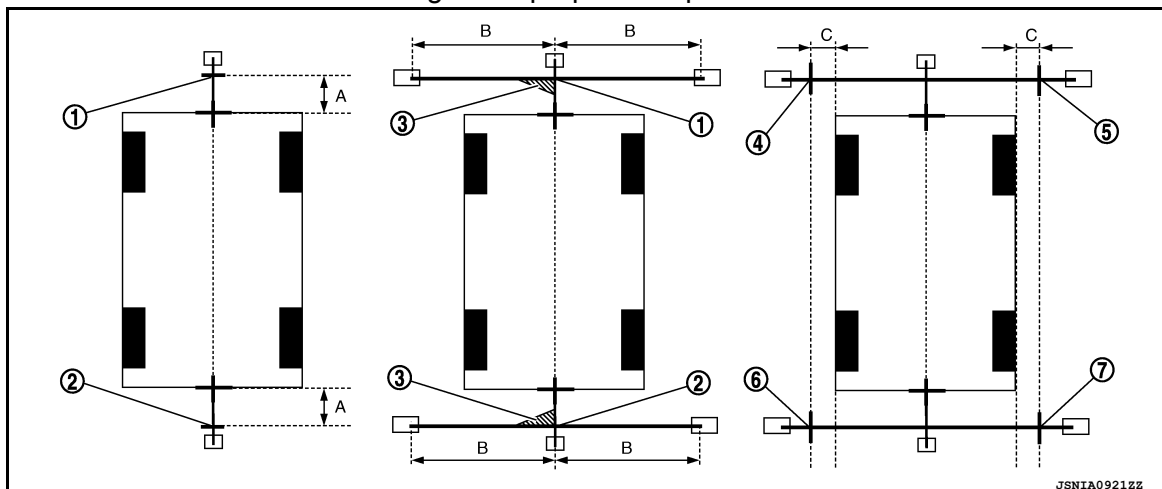
Target line preparation procedure 1



- | | | |
|---------------------|---|---------------------|
| 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 points FM and RM (mark) 75 cm (29.53 in) from the points FM0 and RM0 individually.
4. Route the vinyl string through points FM and RM using a triangle scale, and then fix it at approximately 1.5 m (59.06 in) on both sides with packing tape.
5. Put points FL, FR, RL, and RR (mark) at a distance of half the vehicle width, plus 30 cm (11.81 in) to the left and right from points FM and RM.

Target line preparation procedure 2



INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[AROUND VIEW MONITOR SYSTEM]

- | | | |
|--------------------|--------------------|--------------------|
| 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) | | |

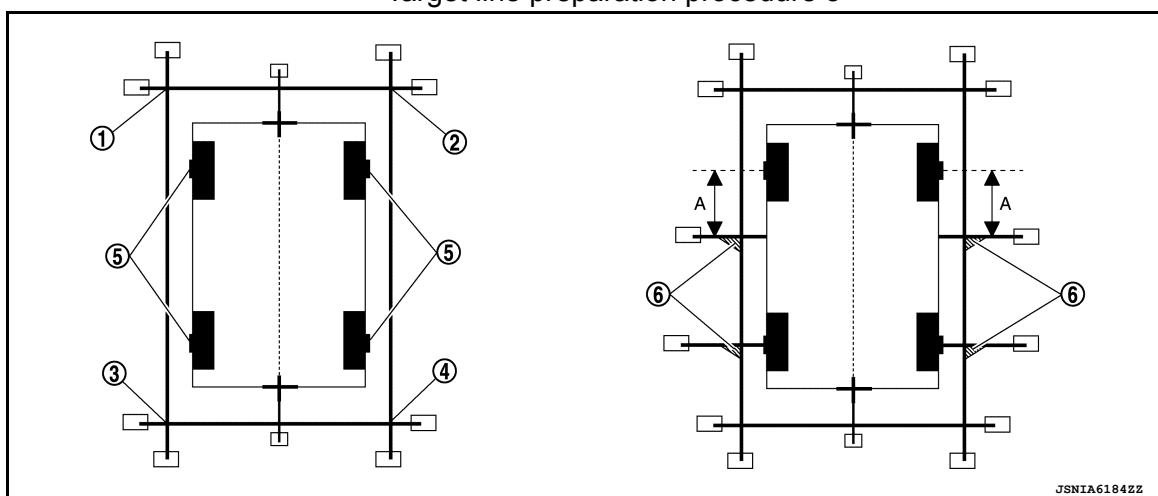
A. 75 cm (29.53 in)

B. Approximately 1.5 m (59.06 in)

30 cm (11.81 in)
C: [A half of the vehicle width plus 30 cm (11.81 in) from the points FM and RM]

- Draw the lines of the points FL – RL and FR – RR with the vinyl string, and fix them with packing tape.
- Put a mark at the center of front axle. Use a triangle ruler to draw a line at the position 1 m (39.37 in) backward from the mark placed at the center of front axle so that the line becomes perpendicular to the line drawn between point FL-RL and point FR-RR and fix with packing tape.
- Put a mark at the center of rear axle. Use a triangle ruler to draw a line at the position 1 m (39.37 in) backward from the mark placed at the center of rear axle so that the line becomes perpendicular to the line drawn between point FL-RL and point FR-RR and fix with 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 |
| A. 1 m (39.37 in) | | |

Perform “CALIBRATING CAMERA IMAGE”

CONSULT Work Support

- Select “CALIBRATING CAMERA IMAGE”.

NOTE:

In random order, perform the operation for all cameras.

- Front camera: “CALIBRATING CAMERA IMAGE (FRONT CAMERA)”
 - Passenger side camera: “CALIBRATING CAMERA IMAGE (PASS-SIDE CAMERA)”
 - Driver side camera: “CALIBRATING CAMERA IMAGE (DR-SIDE CAMERA)”
 - Rear camera: “CALIBRATING CAMERA IMAGE (REAR CAMERA)”
- On each calibration screen of “REAR CAMERA”, “FRONT CAMERA”, “DR-SIDE CAMERA”, and “PASS-SIDE CAMERA”, operate “+” and “-” of “AXIS X”, “AXIS Y”, and “ROTATE” so that images on screen of target line and calibration maker are aligned.
 - Press “APPLY” on CONSULT screen. “Writing...” is displayed, and then the adjustment result is displayed on the display.
 - Press “APPLY” on CONSULT screen. “Writing...” is displayed, and then the adjustment result is written to around view monitor control unit.

CAUTION:

Check that “Writing...” is displayed. Never perform other operations while “Writing...” is displayed.

Check that “Writing...” is displayed. Never perform other operations while “Writing...” 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 cannot be aligned in the "CALIBRATING CAMERA IMAGE" mode.

CONSULT Work Support

1. Select "FINE TUNING OF BIRDS-EYE VIEW".
2. Operate "+" and "-" of "AXIS X", "AXIS Y", and "ROTATE" so that images on screen of target line on the ground and marker are aligned between each camera.

CAUTION:

Perform adjustment operation slowly because approximately 1 second is required for changing image on screen.

NOTE:

Press "SELECT" on CONSULT screen and select camera position for adjustment.

3. Press "APPLY" on CONSULT screen. "Writing..." is displayed, and then the adjustment result is displayed on the display.

CAUTION:

Check that "Writing..." is displayed. Never perform other operations while "Writing..." is displayed.

4. Press "APPLY" on CONSULT screen. "Writing..." is displayed, and then the adjustment result is written to around view monitor control unit.

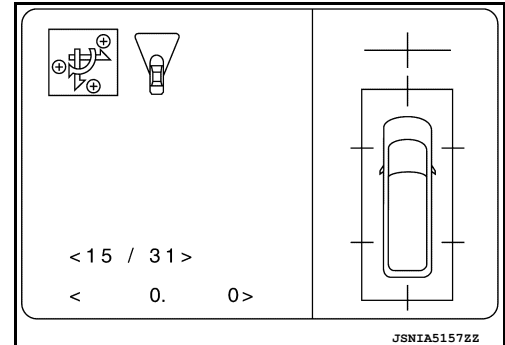
CAUTION:

• Check that "Writing..." is displayed. Never perform other operations while "Writing..." is displayed.

• After selecting "OK", never perform any operation other than "BACK" on CONSULT.

NOTE:

- The setting can be initialized to the factory default setting using "CALIBRATING CAMERA IMAGE" of Work Support.
- The adjustment value on this mode is canceled when "INITIALIZE CAMERA IMAGE CALIBRATION" is performed.



>> Calibration end.

U0428 STEERING ANGLE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

[AROUND VIEW MONITOR SYSTEM]

DTC/CIRCUIT DIAGNOSIS

U0428 STEERING ANGLE SENSOR

DTC Description

INFOID:0000000011230257

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
		Diagnosis condition	When ignition switch is ON
U0428	ST ANGLE SENSOR CALIBRATION (Steering angle sensor calibration)	Signal (terminal)	–
		Threshold	–
		Diagnosis delay time	2 seconds or more

POSSIBLE CAUSE

Neutral position adjustment of steering angle sensor is not complete

FAIL-SAFE

- Predicted course line is not displayed
- MOD (Moving Object Detection) function is stopped
- Front tire angle display is stopped
- Using "SETTING" menu display, switch each indicator of predicted course line display and MOD switch to "OFF" (turn OFF) so that switch operation cannot be performed

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC U0428 is displayed with DTC U1232, first perform the confirmation procedure (trouble diagnosis) for DTC U1232.

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable DTC. Refer to [AV-264, "DTC Description"](#).
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait at least 30 seconds.
3. Turn ignition switch ON and wait at least 30 seconds or more.
4. Select "Self Diagnostic Result" mode of "AVM" using.
5. Check DTC.

Is DTC U0428 detected?

- YES >> Proceed to [AV-247, "Diagnosis Procedure"](#).
NO-1 >> To check malfunction symptom before repair: [GI-42, "Intermittent Incident"](#).
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000011230258

1.ADJUST THE NEUTRAL POSITION OF THE STEERING ANGLE SENSOR

When U0428 is detected, adjust the neutral position of the steering angle sensor.

Perform adjustment of the neutral position of the steering angle sensor. Refer to [BRC-64, "Work Procedure"](#).

CAUTION:

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

>> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE AGAIN

A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

P

U0428 STEERING ANGLE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

[AROUND VIEW MONITOR SYSTEM]

Perform DTC confirmation procedure again. Refer to [AV-247. "DTC Description"](#).

Is DTC U0428 detected again?

YES >> Replace steering angle sensor. Refer to [BRC-145. "Removal and Installation"](#).
NO >> Inspection End.

U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[AROUND VIEW MONITOR SYSTEM]

U1000 CAN COMM CIRCUIT

AROUND VIEW MONITOR CONTROL UNIT

AROUND VIEW MONITOR CONTROL UNIT : DTC Description

INFOID:0000000011230259

DESCRIPTION

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 two 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-37, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart"](#).

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
		Diagnosis condition	When ignition switch is ON
U1000	CAN COMM CIRCUIT (CAN COMM CIRCUIT)	Signal (terminal)	—
		Threshold	—
		Diagnosis delay time	2 seconds or more

POSSIBLE CAUSE

CAN communication system

FAIL-SAFE

The following functions are stopped:

- When communication of steering angle sensor signal is not normal:
 - Predicted course line is not displayed
 - MOD (Moving Object Detection) function is stopped
 - Front tire angle display is stopped
 - Using "SETTING" menu display, switch each indicator of predicted course line display and MOD switch to "OFF" (turn OFF) so that switch operation cannot be performed
- When communication of vehicle signal, wheel speed sensor signal, and shift signal is not normal:
 - Predicted course line is not displayed
 - MOD (Moving Object Detection) function is stopped.
 - Using "SETTING" menu display, switch each indicator of predicted course line display and MOD switch to "OFF" (turn OFF) so that switch operation cannot be performed

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait at least 30 seconds.
3. Turn ignition switch ON and wait at least 2 seconds or more.
4. Select "Self Diagnostic Result" mode of "AVM".
5. Check DTC.

Is DTC U1000 detected?

- YES >> Proceed to [AV-249, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure"](#).
NO-1 >> To check malfunction symptom before repair: [GI-42, "Intermittent Incident"](#).
NO-2 >> Confirmation after repair: Inspection End.

AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure

INFOID:0000000011230260

1.PERFORM DTC CONFIRMATION PROCEDURE AGAIN

U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[AROUND VIEW MONITOR SYSTEM]

ⒷCONSULT

1. Turn ignition switch ON.
2. Erase DTC.
3. Perform DTC confirmation procedure again. Refer to [AV-249, "AROUND VIEW MONITOR CONTROL UNIT : DTC Description"](#).

Is DTC U1000 detected again?

- YES >> Perform the trouble diagnosis for CAN communication system. Refer to [LAN-21, "Trouble Diagnosis Flow Chart"](#).
- NO >> Inspection End.

U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

[AROUND VIEW MONITOR SYSTEM]

U1010 CONTROL UNIT (CAN)

AROUND VIEW MONITOR CONTROL UNIT

AROUND VIEW MONITOR CONTROL UNIT : DTC Description

INFOID:0000000011230263

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
		Diagnosis condition	When ignition switch is ON
U1010	CONTROL UNIT (CAN) [Control unit (CAN)]	Signal (terminal)	–
		Threshold	–
		Diagnosis delay time	2 seconds or more

POSSIBLE CAUSE

Around view monitor control unit

FAIL-SAFE

Around view monitor system does not function

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait at least 30 seconds.
3. Turn ignition switch ON and wait at least 2 seconds or more.
4. Select "Self Diagnostic Result" mode of "AVM".
5. Check DTC.

Is DTC U1010 detected?

YES >> Proceed to [AV-251, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: [GI-42, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: Inspection End.

AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure

INFOID:0000000011230264

1.PERFORM DTC CONFIRMATION PROCEDURE AGAIN

CONSULT

1. Turn ignition switch ON.
2. Erase DTC.
3. Perform DTC confirmation procedure again. Refer to [AV-251, "AROUND VIEW MONITOR CONTROL UNIT : DTC Description"](#).

Is DTC U1010 detected again?

YES >> Replace around view monitor control unit. Refer to [AV-274, "Removal and Installation"](#).

NO >> Inspection End.

U111A REAR CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[AROUND VIEW MONITOR SYSTEM]

U111A REAR CAMERA IMAGE SIGNAL CIRCUIT

DTC Description

INFOID:0000000011230267

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U111A	REAR CAMERA IMAGE SIGNAL (CAN COMM CIRCUIT)	Diagnosis condition	When ignition switch is ON
		Signal (terminal)	Rear camera image signal (terminal 20)
		Threshold	Rear camera image signal circuit is shorted or open
		Diagnosis delay time	30 seconds or more

POSSIBLE CAUSE

Rear camera image signal circuit

FAIL-SAFE

Camera image is not displayed (gray screen display)

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait at least 30 seconds.
3. Turn ignition switch ON and wait at least 30 seconds or more.
4. Select "Self Diagnostic Result" mode of "AVM".
5. Check DTC.

Is DTC U111A detected?

- YES >> Proceed to [AV-252, "Diagnosis Procedure"](#).
NO-1 >> To check malfunction symptom before repair: [GI-42, "Intermittent Incident"](#).
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000011230268

1.CHECK CONTINUITY OF REAR CAMERA POWER SUPPLY AND GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector M96 and rear camera connector D568.
3. Check continuity between around view monitor control unit harness connector M96 and rear camera harness connector D568.

Around view monitor control unit		Rear camera		Continuity
Connector	Terminal	Connector	Terminal	
M96	17	D568	1	Yes
	18		2	

4. Check continuity between around view monitor control unit harness connector M96 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M96	18		No

Is the inspection result normal?

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

U111A REAR CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[AROUND VIEW MONITOR SYSTEM]

2.CHECK VOLTAGE OF REAR CAMERA POWER SUPPLY

1. Connect around view monitor control unit connector M96 and rear camera connector D568.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit harness connector M96 and ground.

Terminal		Condition	Voltage (Approx.)	
(+)				(–)
Around view monitor control unit				
Connector	Terminal			
M96	18	Ground	“CAMERA” switch is ON or shift position is “R”.	6.0 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace around view monitor control unit. Refer to [AV-274, "Removal and Installation"](#).

3.CHECK CONTINUITY OF REAR CAMERA IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector M96 and rear camera connector D568.
3. Check continuity between around view monitor control unit harness connector M96 and rear camera harness connector D568.

Around view monitor control unit		Rear camera		Continuity
Connector	Terminal	Connector	Terminal	
M96	19	D568	5	Yes
	20		4	

4. Check continuity between around view monitor control unit harness connector M96 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M96	19		No
	20		

Is the 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 M96 and rear camera connector D568.
2. Turn ignition switch ON.
3. Check signal between around view monitor control unit harness connector M96.

Around view monitor control unit			Condition	Reference value
Connector	(+)	(-)		
	Terminal			
M96	20	19	“CAMERA” switch is ON or shift position is “R”.	(V)

Is the inspection result normal?

U111A REAR CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[AROUND VIEW MONITOR SYSTEM]

- YES >> Replace around view monitor control unit. Refer to [AV-274, "Removal and Installation"](#).
NO >> Replace rear camera. Refer to [AV-277, "Removal and Installation"](#).

U111B SIDE CAMERA RH IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[AROUND VIEW MONITOR SYSTEM]

U111B SIDE CAMERA RH IMAGE SIGNAL CIRCUIT

DTC Description

INFOID:0000000011230269

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U111B	SIDE CAMERA RH IMAGE SIGNAL (Side camera right image signal)	Diagnosis condition	When ignition switch is ON
		Signal (terminal)	Door mirror RH signal circuit (terminal 12)
		Threshold	Door mirror RH signal circuit is open or shorted
		Diagnosis delay time	30 seconds or more

POSSIBLE CAUSE

Side camera RH image signal circuit

FAIL-SAFE

Camera image is not displayed (gray screen display)

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait at least 30 seconds.
3. Turn ignition switch ON and wait at least 30 seconds or more.
4. Select "Self Diagnostic Result" mode of "AVM".
5. Check DTC.

Is DTC U111B detected?

- YES >> Proceed to [AV-255, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: [GI-42, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000011230270

1.CHECK CONTINUITY OF SIDE CAMERA RH POWER SUPPLY AND GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector M96 and door mirror (passenger side) connector D107.
3. Check continuity between around view monitor control unit harness connector M96 and door mirror (passenger side) harness connector D107.

Around view monitor control unit		Door mirror (passenger side)		Continuity
Connector	Terminal	Connector	Terminal	
M96	9	D107	11	Yes
	10		10	

4. Check continuity between door mirror (passenger side) harness connector D107 and ground.

Door mirror (passenger side)		Ground	Continuity
Connector	Terminal		No
D107	10		
	11		No

U111B SIDE CAMERA RH IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[AROUND VIEW MONITOR SYSTEM]

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

2.CHECK VOLTAGE OF SIDE CAMERA RH POWER SUPPLY

1. Connect around view monitor control unit connector M96 and door mirror (passenger side) connector D107.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit harness connector M96 and ground.

Terminal		Condition	Voltage (Approx.)	
(+)				(–)
Around view monitor control unit				
Connector	Terminal			
M96	10	Ground	“CAMERA” switch is ON or shift position is “R”.	6.0 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace around view monitor control unit. Refer to [AV-274, "Removal and Installation"](#).

3.CHECK CONTINUITY OF SIDE CAMERA RH IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector M96 and door mirror (passenger side) connector D107.
3. Check continuity between around view monitor control unit harness connector M96 and door mirror (passenger side) harness connector D107.

Around view monitor control unit		Door mirror (passenger side)		Continuity
Connector	Terminal	Connector	Terminal	
M96	11	D107	22	Yes
	12		23	

4. Check continuity between around view monitor control unit harness connector M96 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M96	11		No
	12		

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair harness or connector.

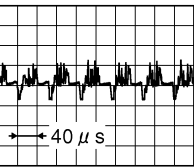
4.CHECK SIDE CAMERA RH IMAGE SIGNAL

1. Connect around view monitor control unit connector M96 and door mirror (passenger side) connector D107.
2. Turn ignition switch ON.
3. Check signal between around view monitor control unit harness connector M96.

U111B SIDE CAMERA RH IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[AROUND VIEW MONITOR SYSTEM]

Around view monitor control unit			Condition	Reference value
Connector	(+)	(-)		
	Terminal			
M96	12	11	“CAMERA” switch is ON or shift position is “R”.	(V)  JSNIA0834GB

Is the inspection result normal?

- YES >> Replace around view monitor control unit. Refer to [AV-274, "Removal and Installation"](#).
 NO >> Replace side camera RH. Refer to [AV-276, "Removal and Installation"](#).

U111C FRONT CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[AROUND VIEW MONITOR SYSTEM]

U111C FRONT CAMERA IMAGE SIGNAL CIRCUIT

DTC Description

INFOID:0000000011230271

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U111C	FRONT CAMERA IMAGE SIGNAL (Front camera image signal)	Diagnosis condition	When ignition switch is ON
		Signal (terminal)	Front view camera image signal (terminal 8)
		Threshold	Front camera image signal circuit is open or shorted
		Diagnosis delay time	30 seconds or more

POSSIBLE CAUSE

Front camera image signal circuit

FAIL-SAFE

Camera image is not displayed (gray screen display)

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait at least 30 seconds.
3. Turn ignition switch ON and wait at least 30 seconds or more.
4. Select "Self Diagnostic Result" mode of "AVM".
5. Check DTC.

Is DTC U111C detected?

- YES >> Proceed to [AV-258, "Diagnosis Procedure"](#).
NO-1 >> To check malfunction symptom before repair: [GI-42, "Intermittent Incident"](#).
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000011230272

1.CHECK CONTINUITY OF FRONT CAMERA POWER SUPPLY AND GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector M96 and front camera connector E226.
3. Check continuity between around view monitor control unit harness connector M96 and front camera harness connector E226.

Around view monitor control unit		Front camera		Continuity
Connector	Terminal	Connector	Terminal	
M96	5	E226	1	Yes
	6		2	

4. Check continuity between front camera harness connector E226 and ground.

Front camera		Ground	Continuity
Connector	Terminal		No
E226	1		
	2		

Is the inspection result normal?

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

U111C FRONT CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[AROUND VIEW MONITOR SYSTEM]

2. CHECK VOLTAGE OF FRONT CAMERA POWER SUPPLY

1. Connect around view monitor control unit connector M96 and front camera connector E226.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit harness connector M96.

Around view monitor control unit			Condition	Voltage (Approx.)
Connector	(+)	(-)		
	Terminal			
M96	5	6	“CAMERA” switch is ON or shift position is “R”.	6.0 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace around view monitor control unit. Refer to [AV-274, "Removal and Installation"](#).

3. CHECK CONTINUITY OF FRONT CAMERA IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector M96 and front camera connector E226.
3. Check continuity between around view monitor control unit harness connector M96 and front camera harness connector E226.

Around view monitor control unit		Front camera		Continuity
Connector	Terminal	Connector	Terminal	
M96	7	E226	5	Yes
	8		5	

4. Check continuity between around view monitor control unit harness connector M96 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M96	7		No
	8		

Is the 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 M96 and front camera connector E226.
2. Turn ignition switch ON.
3. Check signal between around view monitor control unit harness connector M96.

Around view monitor control unit			Condition	Reference value
Connector	(+)	(-)		
	Terminal			
M96	8	7	“CAMERA” switch is ON or shift position is “R”.	(V)

Is the inspection result normal?

YES >> Replace around view monitor control unit. Refer to [AV-274, "Removal and Installation"](#).

U111C FRONT CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[AROUND VIEW MONITOR SYSTEM]

NO >> Replace front camera. Refer to [AV-275. "Removal and Installation"](#).

U111D SIDE CAMERA LH IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[AROUND VIEW MONITOR SYSTEM]

U111D SIDE CAMERA LH IMAGE SIGNAL CIRCUIT

DTC Description

INFOID:0000000011230273

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U111D	SIDE CAMERA LH IMAGE SIGNAL (Side camera left image signal)	Diagnosis condition	When ignition switch is ON
		Signal (terminal)	Side camera LH image signal (terminal 23)
		Threshold	Side camera LH image signal circuit is open or shorted
		Diagnosis delay time	30 seconds or more

POSSIBLE CAUSE

Side camera LH image signal circuit

FAIL-SAFE

Camera image is not displayed (gray screen display)

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait at least 30 seconds.
3. Turn ignition switch ON and wait at least 30 seconds or more.
4. Select "Self Diagnostic Result" mode of "AVM".
5. Check DTC.

Is DTC U111D detected?

- YES >> Proceed to [AV-261, "Diagnosis Procedure"](#).
NO-1 >> To check malfunction symptom before repair: [GI-42, "Intermittent Incident"](#).
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000011230274

1.CHECK CONTINUITY OF SIDE CAMERA LH POWER SUPPLY AND GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector M96 and door mirror (driver side) connector D4.
3. Check continuity between around view monitor control unit harness connector M96 and door mirror (driver side) harness connector D4.

Around view monitor control unit		Door mirror (driver side)		Continuity
Connector	Terminal	Connector	Terminal	
M96	13	D4	11	Yes
	14		10	

4. Check continuity between around view monitor control unit harness connector M96 and ground.

Door mirror (driver side)		Ground	Continuity
Connector	Terminal		
M96	10		No
	11		

Is the inspection result normal?

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

U111D SIDE CAMERA LH IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[AROUND VIEW MONITOR SYSTEM]

2. CHECK VOLTAGE OF SIDE CAMERA LH POWER SUPPLY

1. Connect around view monitor control unit connector M96 and door mirror (driver side) connector D4.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit harness connector M96 and ground.

Around view monitor control unit			Condition	Voltage (Approx.)
Connector	(+)	(-)		
	Terminal			
M96	14	13	“CAMERA” switch is ON or shift position is “R”.	6.0 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace around view monitor control unit. Refer to [AV-274, "Removal and Installation"](#).

3. CHECK CONTINUITY OF SIDE CAMERA LH IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector M96 and door mirror (driver side) connector D4.
3. Check continuity between around view monitor control unit harness connector M96 and door mirror (driver side) harness connector D4.

Around view monitor control unit		Door mirror (driver side)		Continuity
Connector	Terminal	Connector	Terminal	
M96	15	D4	22	Yes
	16		23	

4. Check continuity between around view monitor control unit harness connector M96 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminals		
M96	15		No
	16		

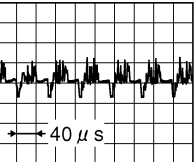
Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair harness or connector.

4. CHECK SIDE CAMERA LH IMAGE SIGNAL

1. Connect around view monitor control unit connector M96 and door mirror (driver side) connector D4.
2. Turn ignition switch ON.
3. Check signal between around view monitor control unit harness connector M96.

Around view monitor control unit			Condition	Reference value
Connector	(+)	(-)		
	Terminal			
M96	16	15	“CAMERA” switch is ON or shift position is “R”.	(V)  JSN1A0834GB

Is the inspection result normal?

YES >> Replace around view monitor control unit. Refer to [AV-274, "Removal and Installation"](#).

U111D SIDE CAMERA LH IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[AROUND VIEW MONITOR SYSTEM]

NO >> Replace side camera LH. Refer to [AV-276. "Removal and Installation"](#).

A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

P

U1232 STEERING ANGLE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

[AROUND VIEW MONITOR SYSTEM]

U1232 STEERING ANGLE SENSOR

DTC Description

INFOID:0000000011590470

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U1232	ST ANGLE SEN CALIB (Steering angle sensor calibration)	Diagnosis condition	When ignition switch is ON
		Signal (terminal)	—
		Threshold	—
		Diagnosis delay time	30 seconds or more

POSSIBLE CAUSE

- Neutral position adjustment of the steering angle sensor is incomplete
- Steering angle sensor

FAIL-SAFE

Predictive course line is not displayed

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait at least 30 seconds.
3. Turn ignition switch ON and wait at least 30 seconds or more.
4. Select "Self diagnostic result" mode of "MULTI AV".
5. Check DTC.

Is DTC U1232 detected?

- YES >> Proceed to [AV-264, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-42, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000011230276

1.ADJUST THE PREDICTIVE COURSE LINE CENTER POSITION OF THE STEERING ANGLE SENSOR

Adjust the steering angle sensor neutral position on ABS actuator and electrical unit (control unit) side. Refer to [BRC-64, "Work Procedure"](#).

NOTE:

When DTC U1232 is detected, adjust the predictive course line center position of the steering angle sensor.

>> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE AGAIN

Perform DTC confirmation procedure again. Refer to [AV-264, "DTC Description"](#).

Is DTC U1232 detected again?

- YES >> Replace steering angle sensor. Refer to [BRC-145, "Removal and Installation"](#).
- NO >> Inspection End.

U1302 CAMERA POWER VOLT

< DTC/CIRCUIT DIAGNOSIS >

[AROUND VIEW MONITOR SYSTEM]

U1302 CAMERA POWER VOLT

DTC Description

INFOID:0000000011230277

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U1302	CAMERA POWER VOLT (Camera power voltage)	Diagnosis condition	When ignition switch is ON
		Signal (terminal)	Camera power supply circuit (terminal 1)
		Threshold	Camera power supply voltage is 5.9 V-6.5 V when ON, or 0 V when OFF
		Diagnosis delay time	2 seconds or more

POSSIBLE CAUSE

- Short circuit to battery or short circuit to ground of camera power supply output circuit
- Around view monitor control unit

FAIL-SAFE

Camera power output is stopped

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait at least 30 seconds.
3. Turn ignition switch ON and wait at least 30 seconds or more.
4. Select "Self Diagnostic Result" mode of "AVM".
5. Check DTC.

Is DTC U1302 detected?

- YES >> Proceed to [AV-265, "Diagnosis Procedure"](#).
NO-1 >> To check malfunction symptom before repair: [GI-42, "Intermittent Incident"](#).
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000011230278

1.CHECK AROUND VIEW MONITOR CONTROL UNIT POWER SUPPLY AND GROUND CIRCUIT

Check around view monitor control unit power supply and ground circuit. Refer to [AV-271, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

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

2.CHECK REAR CAMERA POWER SUPPLY OUTPUT CIRCUIT (CHECK FOR SHORT CIRCUIT)

1. Disconnect around view monitor control unit connector M96 and rear camera connector D568.
2. Check whether or not continuity between around view monitor control unit harness connector M96 and ground is normal.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M96	18		No

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Repair the harnesses or connectors.

3.CHECK REAR VIEW CAMERA POWER SUPPLY "1"

U1302 CAMERA POWER VOLT

< DTC/CIRCUIT DIAGNOSIS >

[AROUND VIEW MONITOR SYSTEM]

1. Connect around view monitor control unit connector M96.
2. Turn ignition switch ON.
3. Check whether or not voltage between around view monitor control unit harness connector M96 is normal.

Around view monitor control unit			Reference value (Approx.)
Connector	(+)	(-)	
	Terminal		
M96	18	17	6.0 V

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace around view monitor control unit. Refer to [AV-274, "Removal and Installation"](#).

4.CHECK REAR CAMERA POWER SUPPLY 2

1. Turn ignition switch OFF.
2. Connect rear camera connector D568.
3. Turn ignition switch ON.
4. Check whether or not voltage between around view monitor control unit harness connector M96 is normal.

Around view monitor control unit			Reference value (Approx.)
Connector	(+)	(-)	
	Terminal		
M96	18	17	6.0 V

Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace rear camera. Refer to [AV-277, "Removal and Installation"](#).

5.CHECK FRONT CAMERA POWER SUPPLY OUTPUT CIRCUIT (CHECK FOR SHORT CIRCUIT)

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector M96 and front camera connector E226.
3. Check whether or not continuity between around view monitor control unit harness connector M96 and ground is normal.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M96	5		No

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair the harnesses or connectors.

6.CHECK FRONT CAMERA POWER SUPPLY "1"

1. Connect around view monitor control unit connector M96.
2. Turn ignition switch ON.
3. Check whether or not voltage between around view monitor control unit harness connector M96 is normal.

Around view monitor control unit			Reference value (Approx.)
Connector	(+)	(-)	
	Terminal		
M96	5	6	6.0 V

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace around view monitor control unit. Refer to [AV-274, "Removal and Installation"](#).

7.CHECK FRONT CAMERA POWER SUPPLY "2"

U1302 CAMERA POWER VOLT

< DTC/CIRCUIT DIAGNOSIS >

[AROUND VIEW MONITOR SYSTEM]

1. Turn ignition switch OFF.
2. Connect front camera connector E226.
3. Turn ignition switch ON.
4. Check whether or not voltage between around view monitor control unit harness connector M96 is normal.

Around view monitor control unit			Reference value (Approx.)
Connector	(+)	(-)	
	Terminal		
M96	5	6	6.0 V

Is the inspection result normal?

YES >> GO TO 8.

NO >> Replace front camera. Refer to [AV-275. "Removal and Installation"](#).

8.CHECK SIDE CAMERA RH POWER SUPPLY OUTPUT CIRCUIT (CHECK FOR SHORT CIRCUIT)

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector M96 and door mirror (passenger side) connector D107.
3. Check whether or not continuity between around view monitor control unit harness connector M96 and ground is normal.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M96	10		No

Is the inspection result normal?

YES >> GO TO 9.

NO >> Repair the harnesses or connectors.

9.CHECK SIDE CAMERA RH POWER SUPPLY "1"

1. Connect around view monitor control unit connector M96.
2. Turn ignition switch ON.
3. Check whether or not voltage between around view monitor control unit harness connector M96 is normal.

Around view monitor control unit			Reference value (Approx.)
Connector	(+)	(-)	
	Terminal		
M96	10	9	6.0 V

Is the inspection result normal?

YES >> GO TO 10.

NO >> Replace around view monitor control unit. Refer to [AV-274. "Removal and Installation"](#).

10.CHECK SIDE CAMERA RH POWER SUPPLY "2"

1. Turn ignition switch OFF.
2. Connect door mirror (passenger side) connector D107.
3. Turn ignition switch ON.
4. Check whether or not voltage between around view monitor control unit harness connector M96 is normal.

Around view monitor control unit			Reference value (Approx.)
Connector	(+)	(-)	
	Terminal		
M96	10	9	6.0 V

Is the inspection result normal?

YES >> GO TO 11.

NO >> Replace side camera RH. Refer to [AV-276. "Removal and Installation"](#).

U1302 CAMERA POWER VOLT

< DTC/CIRCUIT DIAGNOSIS >

[AROUND VIEW MONITOR SYSTEM]

11. CHECK SIDE CAMERA LH POWER SUPPLY OUTPUT CIRCUIT (CHECK FOR SHORT CIRCUIT)

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector M96 and door mirror (driver side) connector D4.
3. Check whether or not continuity between around view monitor control unit harness connector M96 and ground is normal.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M96	14		No

Is the inspection result normal?

YES >> GO TO 12.

NO >> Repair the harnesses or connectors.

12. CHECK SIDE CAMERA LH POWER SUPPLY "1"

1. Connect around view monitor control unit connector M96.
2. Turn ignition switch ON.
3. Check whether or not voltage between around view monitor control unit harness connector M96 is normal.

Around view monitor control unit			Reference value (Approx.)
Connector	(+)	(-)	
	Terminal		
M96	14	13	6.0 V

Is the inspection result normal?

YES >> GO TO 13.

NO >> Replace around view monitor control unit. Refer to [AV-274, "Removal and Installation"](#).

13. CHECK SIDE CAMERA LH POWER SUPPLY "2"

1. Turn ignition switch OFF.
2. Connect door mirror (driver side) connector D4.
3. Turn ignition switch ON.
4. Check whether or not voltage between around view monitor control unit harness connector M96 is normal.

Around view monitor control unit			Reference value (Approx.)
Connector	(+)	(-)	
	Terminal		
M96	14	13	6.0 V

Is the inspection result normal?

YES >> Replace around view monitor control unit. Refer to [AV-274, "Removal and Installation"](#).

NO >> Replace side camera LH. Refer to [AV-276, "Removal and Installation"](#).

U1304 CAMERA IMAGE CALIBRATION

< DTC/CIRCUIT DIAGNOSIS >

[AROUND VIEW MONITOR SYSTEM]

U1304 CAMERA IMAGE CALIBRATION

DTC Description

INFOID:0000000011230281

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
		Diagnosis condition	When ignition switch is ON
U1304	CAMERA IMAGE CALIB (Camera image calibration)	Signal (terminal)	–
		Threshold	–
		Diagnosis delay time	2 seconds or more

POSSIBLE CAUSE

Camera calibration is incomplete

FAIL-SAFE

Unmatched icon  display (red) is displayed (applicable for unmatched camera only)

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait at least 30 seconds.
3. Turn ignition switch ON and wait at least 30 seconds or more.
4. Select "Self Diagnostic Result" mode of "AVM".
5. Check DTC.

Is DTC U1304 detected?

- YES >> Proceed to [AV-269, "Diagnosis Procedure"](#).
NO-1 >> To check malfunction symptom before repair: [GI-42, "Intermittent Incident"](#).
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000011230282

1.PERFORM CALIBRATING CAMERA IMAGE

Perform camera calibration. Refer to [AV-241, "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Description"](#).

>> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE AGAIN

Perform DTC confirmation procedure again. Refer to [AV-269, "DTC Description"](#).

Is DTC U1304 detected again?

- YES >> Replace malfunctioning camera.
NO >> Inspection End.

U1305 CONFIG UNFINISH

DTC Description

INFOID:0000000011230283

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U1305	CONFIG UNFINISH (Configuration unfinish)	Diagnosis condition	When ignition switch is ON
		Signal (terminal)	—
		Threshold	—
		Diagnosis delay time	2 seconds or more

POSSIBLE CAUSE

The vehicle setting of around view monitor control unit is incomplete

FAIL-SAFE

Operation is according to the vehicle setting value as default value

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

⑧CONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait at least 30 seconds.
3. Turn ignition switch ON and wait at least 30 seconds or more.
4. Select "Self Diagnostic Result" mode of "AVM".
5. Check DTC.

Is DTC U1305 detected?

- YES >> Proceed to [AV-270, "Diagnosis Procedure"](#).
 NO-1 >> To check malfunction symptom before repair: [GI-42, "Intermittent Incident"](#).
 NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000011230284

1.PERFORM CONFIGURATION OF AROUND VIEW MONITOR CONTROL UNIT

Perform configuration of around view monitor control unit. Refer to [AV-240, "Work Procedure"](#).

>> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE AGAIN

Perform DTC confirmation procedure again. Refer to [AV-270, "DTC Description"](#).

Is DTC U1305 detected again?

- YES >> Replace around view monitor control unit. Refer to [AV-274, "Removal and Installation"](#).
 NO >> Inspection End.

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[AROUND VIEW MONITOR SYSTEM]

POWER SUPPLY AND GROUND CIRCUIT

AROUND VIEW MONITOR CONTROL UNIT

AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure

INFOID:0000000011230285

1.CHECK FUSE

1. Turn ignition switch OFF.
2. Check that the following fuse is not blown:

Power source	Fuse No.	Capacity
Battery	7	10 A
Ignition switch ON	14	10 A

Is the fuse blown?

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

2.CHECK POWER SUPPLY CIRCUITS

Check voltage between around view monitor control unit harness connector M161 and M162 and ground.

Signal name	Terminal		Ignition switch position	Reference Value (Approx.)	
	(+)				(−)
	Around view monitor control unit				
	Connector	Terminal			
Battery power supply	M161	7	OFF	Battery voltage	
Ignition signal	M162	26	ON		

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 M96.
3. Check continuity between around view monitor control unit harness connector M96 and ground.

Terminal			Continuity
(+)		(-)	
Around view monitor control unit			
Connector	Terminal		
M96	39	Ground	Yes

Is inspection result normal?

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

SYMPTOM DIAGNOSIS

AROUND VIEW MONITOR SYSTEM

Symptom Table

INFOID:0000000011230312

AROUND VIEW MONITOR SYSTEM

Symptom	Check items		Probable malfunction location
Screen is not switched to camera image when CAMERA button is pressed and when shift position is shifted to the reverse position.	"AVM" is not displayed on the system selection screen of CONSULT.		Around view monitor control unit power supply circuit • BAT power supply circuit • Ignition power supply circuit
	Check that the following Data Monitor items operate normally using CONSULT: • Camera switch signal • Reverse signal	Camera switch signal and reverse signal are normal.	Around view monitor control unit
		Camera switch signal or reverse signal is not normal.	CAN communication circuit
Screen is switched when pressing camera button or shifting selector lever to the reverse position; however, all views are not displayed.	Only superimposing is displayed (only images that AV control unit plots are displayed).		Camera image signal circuit Refer to AV-345, "Diagnosis Procedure" .
	Superimposing is not displayed.		AV control unit Refer to AV-146, "Work Flow" .
The screen is not switched to the rear view image even if the selector is shifted to the reverse position.	The front view is displayed normally.		Reverse signal circuit.
• Front view screen is not displayed. • Front of top view screen is not displayed.	Check the following Data Monitor items using CONSULT: • Front camera image signal	• Image signal: NG	Front camera power supply circuit and image signal circuit Refer to AV-258, "Diagnosis Procedure" .
• The rear view screen is not displayed. • Rear of top view screen is not displayed.	Check the following Data Monitor items using CONSULT: • Rear camera image signal	• Image signal: NG	Rear camera power supply circuit and image signal circuit Refer to AV-252, "Diagnosis Procedure" .
• The side view screen is not displayed. • Left side of top view screen is not displayed.	Check the following Data Monitor items using CONSULT: • Side camera LH image signal	• Image signal: NG	Side camera LH power supply circuit and image signal circuit Refer to AV-261, "Diagnosis Procedure" .
Right side of top view image is not displayed.	Check the following Data Monitor items using CONSULT: • Side camera RH image signal	• Image signal: NG	Side camera RH power supply circuit and image signal circuit. Refer to AV-255, "Diagnosis Procedure" .

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[AROUND VIEW MONITOR SYSTEM]

NORMAL OPERATING CONDITION

Description

INFOID:0000000011230313

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 is in the video mode.	Press "AUDIO" to change the mode.
	The interior of the vehicle is above 80°C (176°F) or high temperature, and the protection of the display reacts, 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. 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:

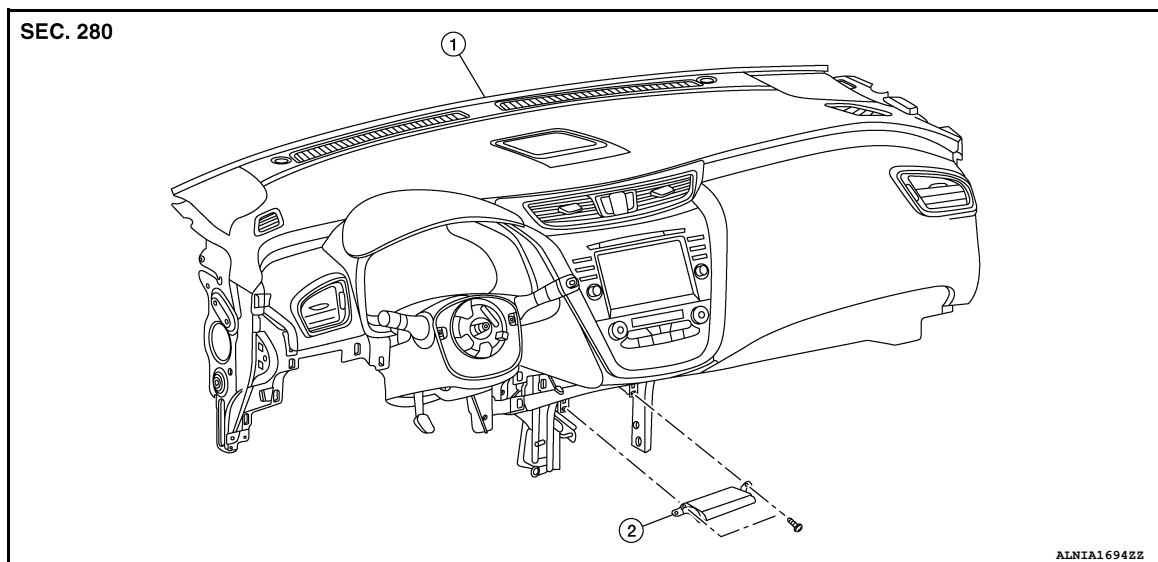
Locations stored in the Address Book and other memory functions may be lost if the vehicle's battery is disconnected or becomes discharged. If this occurs, service the vehicle's battery as necessary and re-enter the information in the Address Book.

REMOVAL AND INSTALLATION

AROUND VIEW MONITOR CONTROL UNIT

Exploded View

INFOID:0000000011551992



1. Instrument panel assembly

2. Around view monitor control unit

Removal and Installation

INFOID:0000000011230314

REMOVAL

NOTE:

Before replacing around view monitor control unit, perform "Before Replace ECU" of "Read / Write Configuration" to save or print current vehicle specification. Refer to [AV-239, "Description"](#).

1. Remove AV control unit. Refer to [AV-179, "Removal and Installation"](#).
2. Remove shift selector finisher. Refer to [IP-15, "Exploded View"](#).
3. Remove around view monitor control unit screws.
4. Disconnect the harness connectors from around view monitor control unit and remove.

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

- Be sure to perform "After Replace ECU" of "Read / Write Configuration" or "Manual Configuration" when replacing around view monitor control unit. Refer to [AV-239, "Work Procedure"](#).
- 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. Refer to [AV-241, "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Work Procedure"](#).

NOTE:

Perform predictive course line center position adjustment. Refer to [AV-241, "PREDICTIVE COURSE LINE CENTER POSITION ADJUSTMENT : Work Procedure"](#).

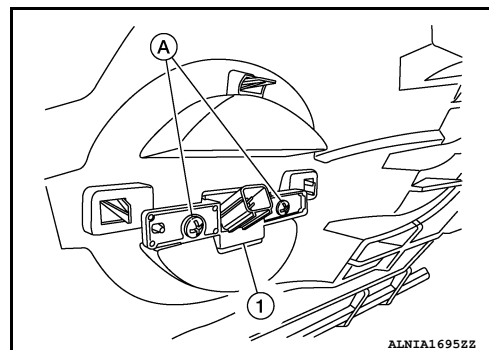
FRONT CAMERA

Removal and Installation

INFOID:0000000011230315

REMOVAL

1. Remove core support cover. Refer to [HA-36, "Exploded View"](#).
2. Remove condenser air deflector. Refer to [HA-36, "Exploded View"](#).
3. Remove hood lock. Refer to [DLK-287, "HOOD LOCK : Removal and Installation"](#).
4. Disconnect the harness connector from front camera.
5. Remove screws (A) and remove front camera (1).



INSTALLATION

Installation is in the reverse order of removal.

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. Refer to [AV-241, "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Work Procedure"](#).

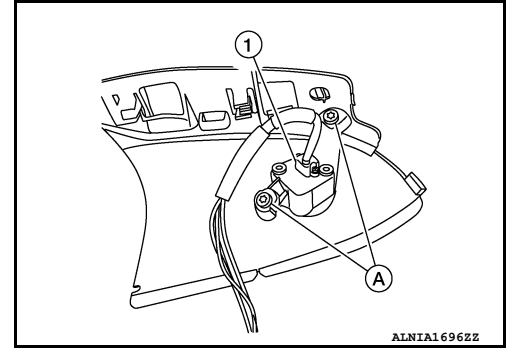
SIDE CAMERA

Removal and Installation

INFOID:000000011230316

REMOVAL

1. Remove side camera finisher. Refer to [MIR-26, "Removal and Installation"](#).
2. Remove screws (A) and remove side camera (1).



INSTALLATION

Installation is in the reverse order of removal.

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. Refer to [AV-241, "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Work Procedure"](#).

REAR CAMERA

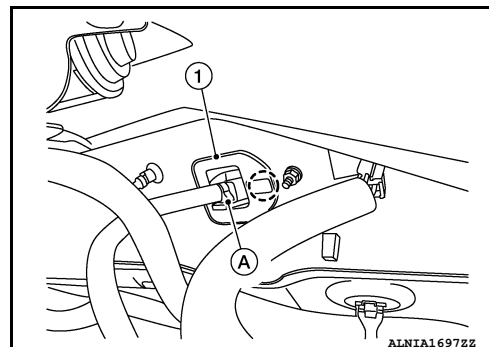
Removal and Installation

INFOID:0000000011230317

REMOVAL

1. Remove back door outer finisher. Refer to [EXT-53, "Removal and Installation"](#).
2. Disconnect the harness connector (A) from rear camera (1).
3. Release pawl then remove rear camera.

(○): Pawl



INSTALLATION

Installation is in the reverse order of removal.

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. Refer to [AV-241, "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Work Procedure"](#).

PRECAUTION

PRECAUTIONS

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

INFOID:0000000011892239

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

WARNING:

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

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

WARNING:

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

Precaution for Pop Up Engine Hood

INFOID:0000000011568156

WARNING:

Always observe the following items for preventing accidental activation.

- Before removal or installation of the pop-up engine hood and harness, always turn OFF the key switch, disconnect the battery negative terminal, and wait for 3 minutes or more. (To discharge the accumulated electricity in the pop-up engine hood control unit auxiliary power supply circuit)
- Never use pneumatic or electric tools, etc., to remove or install components of the pop-up engine hood.
- Never repair the harness for the pop-up engine hood with a solder. Also, always avoid contact or interference between the harness and other parts.
- Never use an electric tester like a circuit tester, etc., when inspecting the pop-up engine hood circuit or other individual parts. (To prevent activation due to the low voltage of the tester)
- Never allow foreign materials like a screwdriver, etc., to enter the pop-up engine hood harness connector. (To prevent activation due to static electricity)
- The yellow harness connector is used with the pop-up engine hood for identification purposes compared to other harnesses.

PRECAUTIONS

[REAR VIEW MONITOR SYSTEM (DISPLAY AUDIO)]

< PRECAUTION >

Precautions for Removing Battery Terminal

INFOID:0000000011568157

- 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.

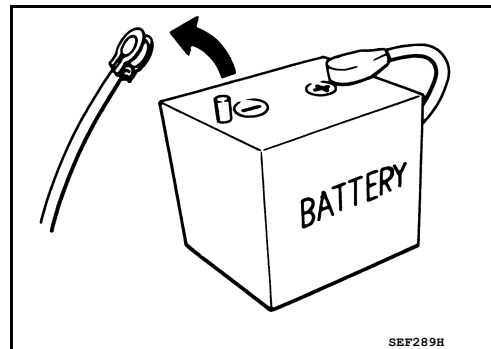
NOTE:

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:0000000011568158

AV COMMUNICATION SYSTEM

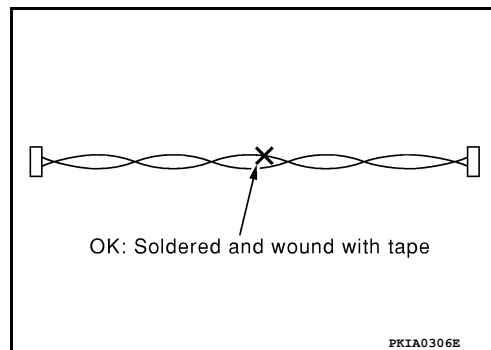
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

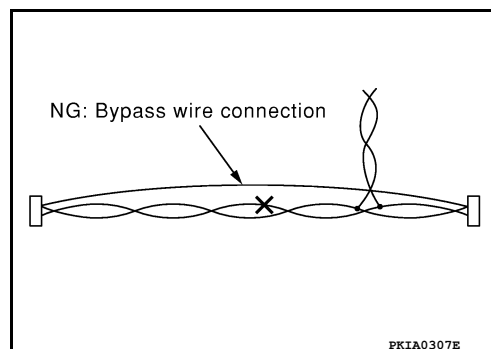
INFOID:0000000011568159

AV COMMUNICATION SYSTEM

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



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



Precaution for Work

INFOID:0000000011578451

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.

PRECAUTIONS

[REAR VIEW MONITOR SYSTEM (DISPLAY AUDIO)]

< PRECAUTION >

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

PREPARATION

[REAR VIEW MONITOR SYSTEM (DISPLAY AUDIO)]

< PREPARATION >

PREPARATION

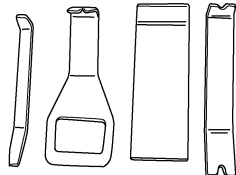
PREPARATION

Special Service Tools

INFOID:0000000011578449

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

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



AWJIA04832Z

Commercial Service Tools

INFOID:0000000011578450

Tool name	Description
Power tool	Loosening nuts, screws and bolts



PIIB1407E

A
B
C
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P

AV

COMPONENT PARTS

[REAR VIEW MONITOR SYSTEM (DISPLAY AUDIO)]

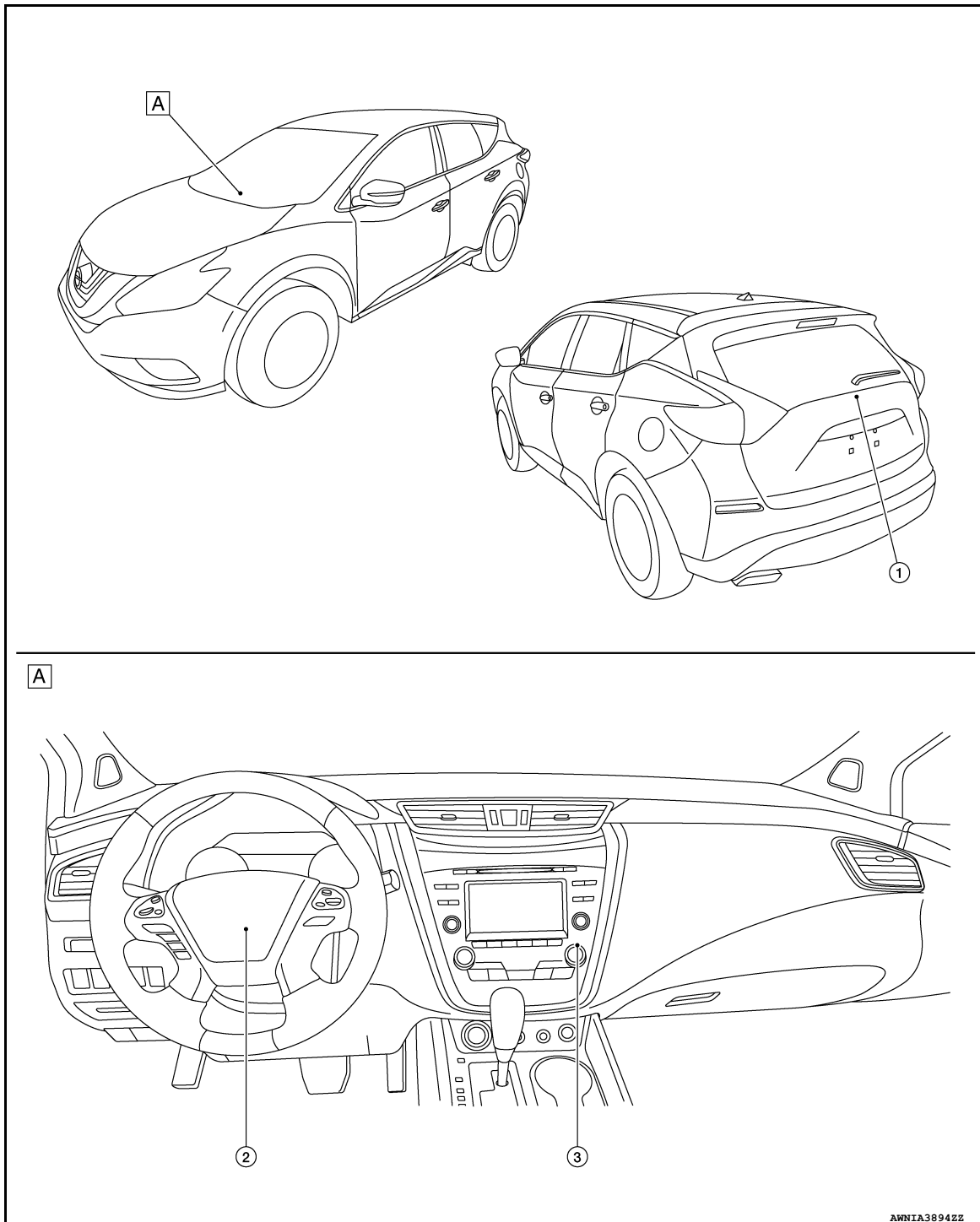
< SYSTEM DESCRIPTION >

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000011568160



A. View of instrument panel

No.	Component	Function
1.	Rear view camera	Refer to AV-283, "Rear View Camera" .
2.	Steering angle sensor	Refer to AV-283, "Steering Angle Sensor" .
3.	AV control unit	Refer to AV-283, "AV Control Unit" .

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[REAR VIEW MONITOR SYSTEM (DISPLAY AUDIO)]

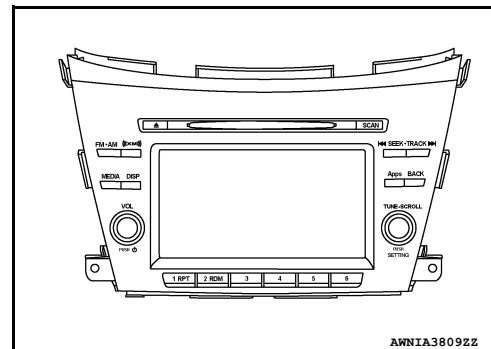
AV Control Unit

INFOID:0000000011568161

DESCRIPTION

- AV control unit is located in the center of the instrument panel assembly.
- AV control unit integrates the following functions and controls the rear view monitor system.

Unit equipped
Display
Camera controller



SPECIFICATION

Camera controller	Guideline display function	Vehicle width guide lines
	Steering signal input method	Predictive course lines
		CAN communication

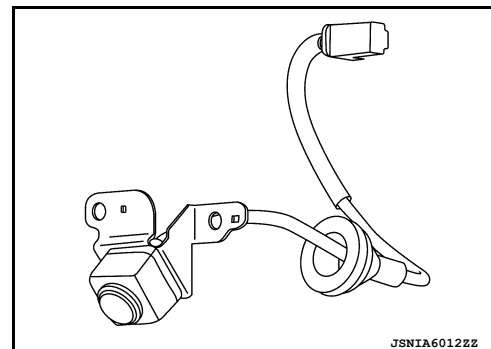
Rear View Camera

INFOID:0000000011568162

- The rear camera is installed next to the rear licence plate lamp.
- 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 AV control unit, and the image at the rear of the vehicle is sent to the AV control unit.

NOTE:

*: "CMOS" is abbreviation of Complementary Metal Oxide Semiconductor and features low power consumption and high speed reading rate of electric charge.



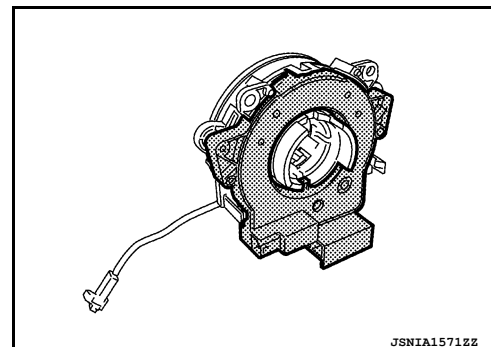
Specification

Image pickup element	1/3.8-inch CMOS image sensor
Effective number of pixels	Approx. 300,000 pixels (632 × 480)
Minimum brightness	1 lx
Angle of view	H: 190° V: 141°
Image	With the mirror processing function

Steering Angle Sensor

INFOID:0000000011568163

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



REAR VIEW MONITOR SYSTEM

< SYSTEM DESCRIPTION >

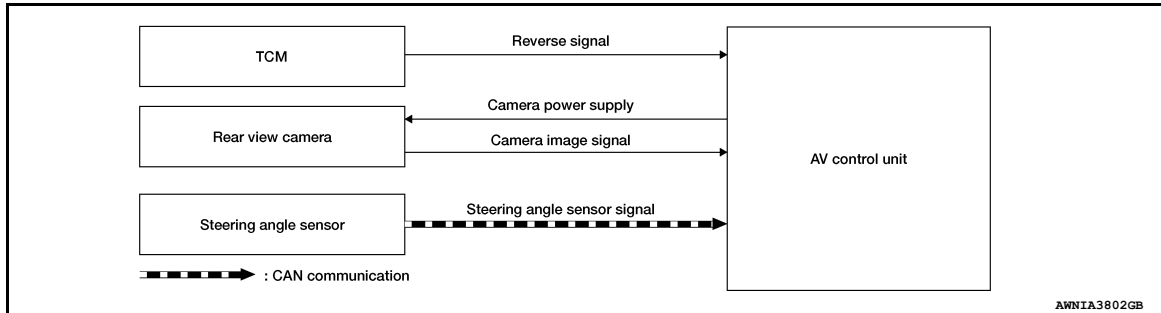
[REAR VIEW MONITOR SYSTEM (DISPLAY AUDIO)]

REAR VIEW MONITOR SYSTEM

System Description

INFOID:0000000011568164

SYSTEM DIAGRAM



Display Control Unit Input Signal (CAN Communication)

Transmit unit	Signal name
Steering angle sensor	Steering angle signal

DESCRIPTION

Operation Description

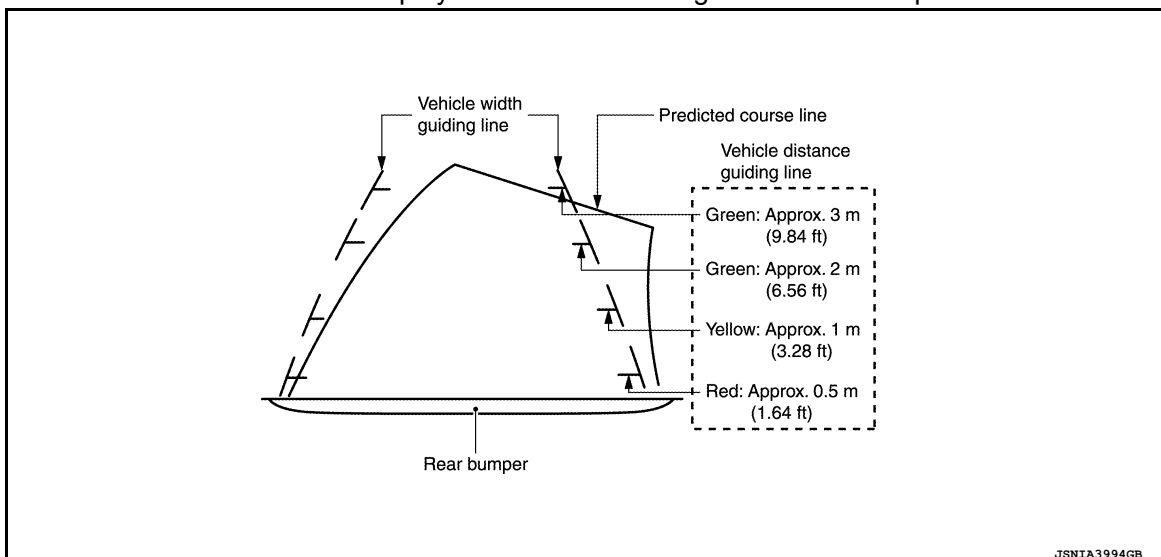
- When the selector lever is shifted to the reverse position, the rear view monitor image is displayed.
- When the selector lever is shifted to any position other than the reverse position, the original image (the image displayed before the rear view monitor image) is displayed.

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 display when the reverse signal is inputted.
- The AV control unit generates the warning message, vehicle width guide lines and the predicted course lines on the image from the rear view camera and transmits the rear view camera image signal to the front display unit.

Vehicle Width Guide Lines and Predicted Course Lines Display Function at Rear View Monitor Display

- The vehicle width guide lines and the predicted course lines that indicate the vehicle route according to the steering angle are displayed in the rear view monitor display to allow the driver to more easily judge distances between the vehicle and objects and to help the driver back into a parking space.
- The AV control unit receives the steering signal from the steering sensor via CAN communication and draws a vehicle width guide line according to the steering angle.
- When the vehicle width guide lines are displayed, the vehicle width guide lines are displayed translucently.
- The predicted course lines are not displayed when the steering is in the neutral position.



REAR VIEW MONITOR SYSTEM

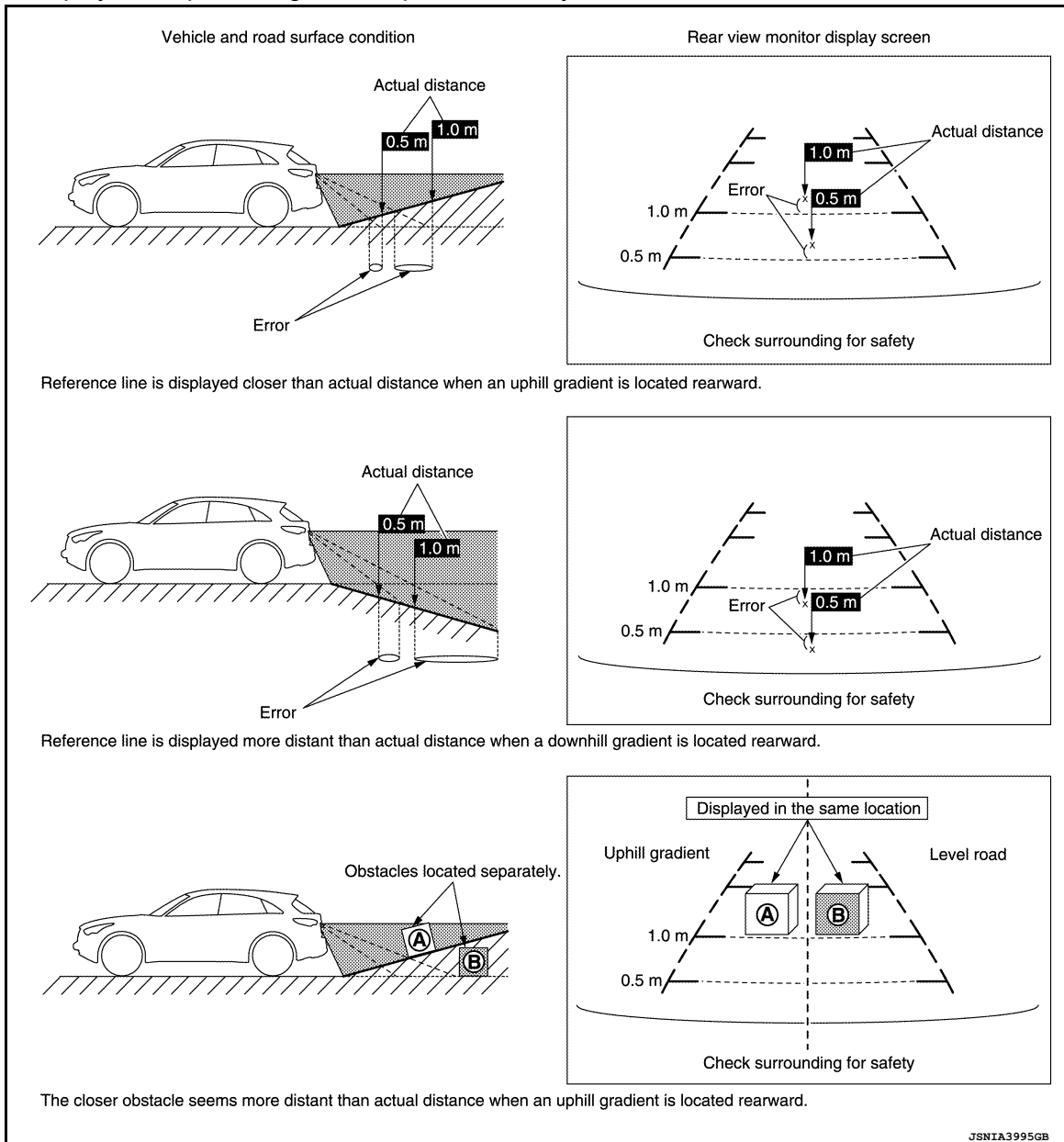
[REAR VIEW MONITOR SYSTEM (DISPLAY AUDIO)]

< SYSTEM DESCRIPTION >

Precautions for Vehicle Width Guide Lines and Predicted Course Lines Display on the Rear View Monitor Display
Vehicle width guide lines and predicted course lines on the display may be different from actual lines depending on vehicle conditions and road conditions.

Precautions for road conditions

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



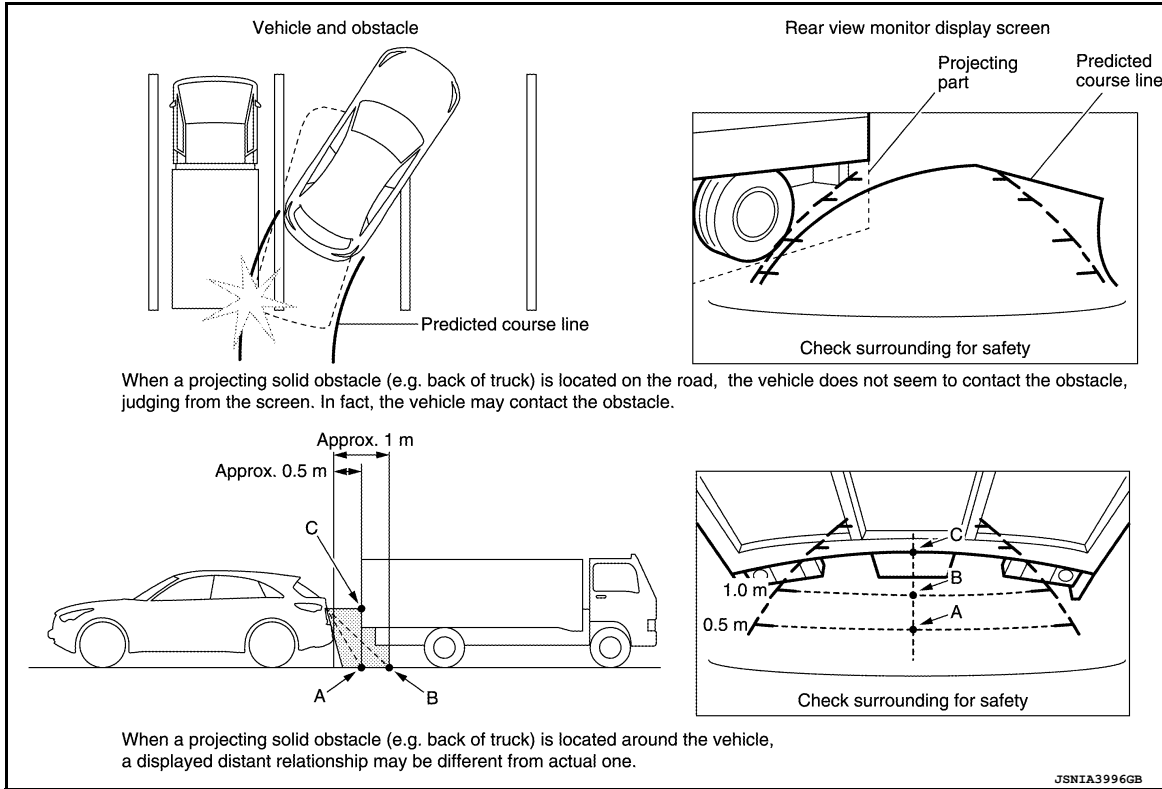
Precautions for block

REAR VIEW MONITOR SYSTEM

< SYSTEM DESCRIPTION >

[REAR VIEW MONITOR SYSTEM (DISPLAY AUDIO)]

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



DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[REAR VIEW MONITOR SYSTEM (DISPLAY AUDIO)]

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

Description

INFOID:0000000011583505

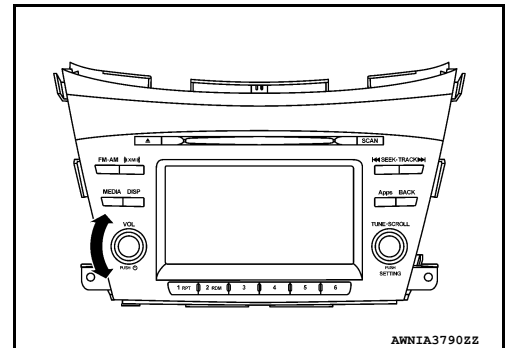
- The AV control unit diagnosis function starts up and performs a diagnosis for each unit in the system during the on board diagnosis.
- Perform a CONSULT diagnosis if the on board diagnosis does not start, e.g., the screen does not display anything.

On Board Diagnosis Function

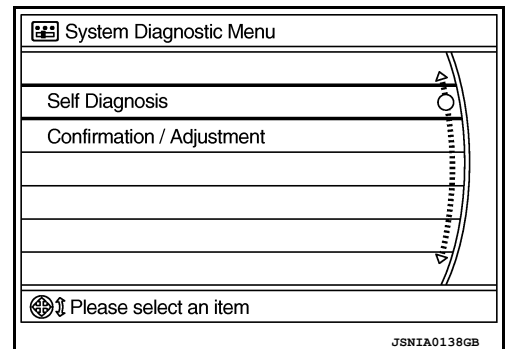
INFOID:0000000011583506

METHOD OF STARTING

1. Turn the ignition ON.
2. Turn the audio system OFF.
3. While pressing the preset button 1, turn the volume control dial clockwise and counterclockwise quickly approximately 40 times or more. Shifting from current screen to previous screen is performed by pressing BACK button.



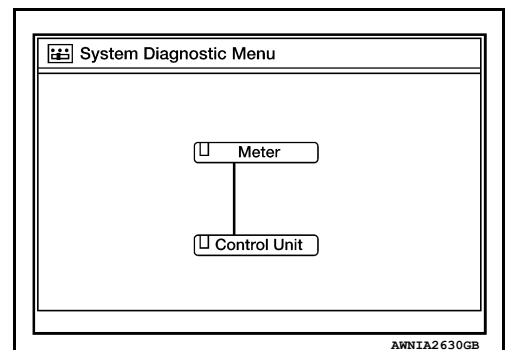
4. The trouble diagnosis initial screen is displayed, and Self Diagnosis or Confirmation/Adjustment can be selected.



SELF DIAGNOSIS MODE

Audio Unit Self Diagnosis

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



Diagnosis results	Unit	Connection line
Normal	Green	Green

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

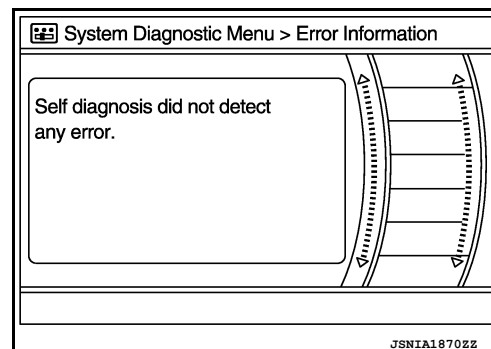
[REAR VIEW MONITOR SYSTEM (DISPLAY AUDIO)]

Connection malfunction	Gray	Yellow
Unit malfunction ¹	Red	Green

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

- Replace audio unit if Self Diagnosis did not run because control unit malfunction is indicated. The symptom is audio unit internal error. Refer to [AV-65, "Removal and Installation"](#).
- If multiple errors occur at the same time for a single unit, the screen switch colors are determined according to the following order of priority: red > gray.

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



Audio Unit Self Diagnosis Results

Only unit part is displayed in red		
Screen switch	Description	Possible cause
Control unit	Malfunction is detected in audio unit power supply and ground circuits.	• Audio unit power supply or ground circuits. Refer to AV-47, "AUDIO UNIT : Diagnosis Procedure". • If no malfunction is detected in audio unit power supply and ground circuits, replace audio unit. Refer to AV-65, "Removal and Installation".
A connecting cable between units is displayed in yellow		
Area with yellow connection lines	Description	Possible cause
Control unit ↔ Meter	When one of the following is detected: • Malfunction is detected in combination meter power supply and ground circuits. • Malfunction is detected in CAN communication circuits between audio unit and combination meter.	• Combination meter power supply or ground circuits. Refer to MWI-59, "COMBINATION METER : Diagnosis Procedure". • CAN communication circuits between audio unit and combination meter.

Audio Unit Confirmation/Adjustment

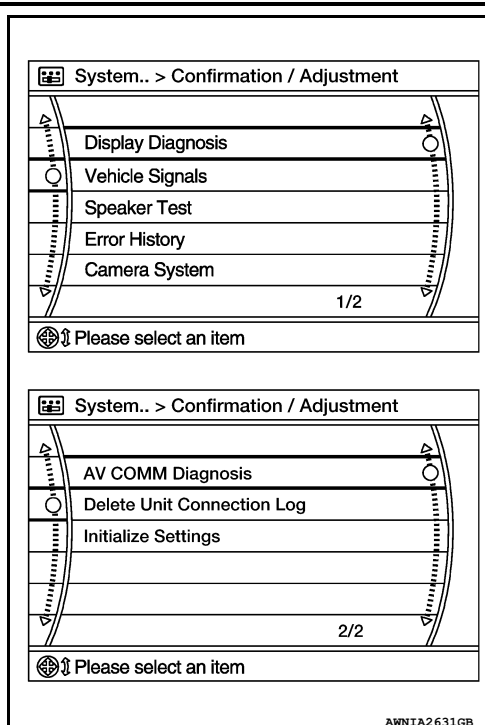
1. Select Confirmation/Adjustment.

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

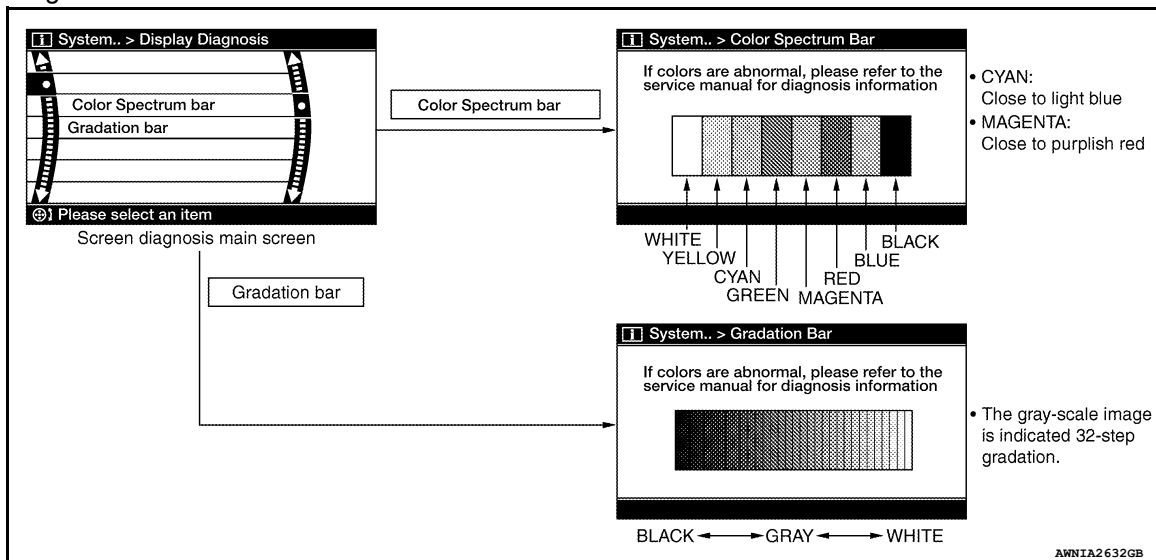
[REAR VIEW MONITOR SYSTEM (DISPLAY AUDIO)]

< SYSTEM DESCRIPTION >

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

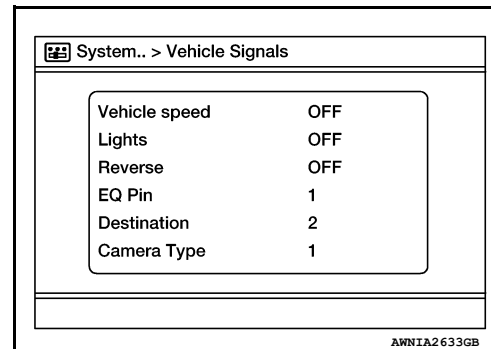


Display Diagnosis



Vehicle Signals

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



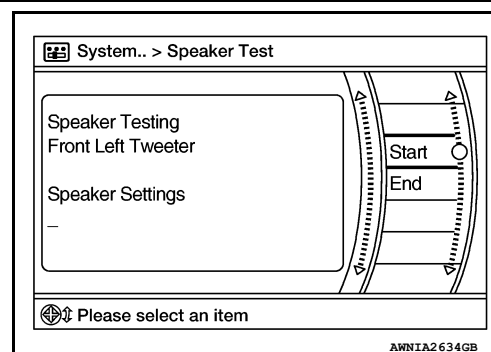
Speaker Test

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

[REAR VIEW MONITOR SYSTEM (DISPLAY AUDIO)]

< SYSTEM DESCRIPTION >

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.

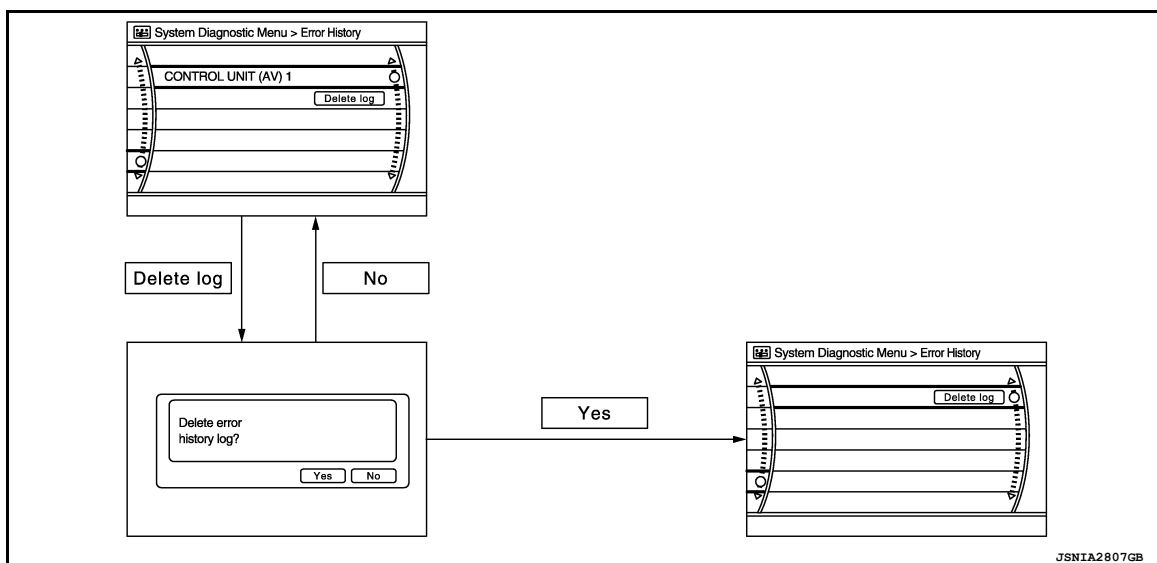
Count-up method A

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

Count-up method B

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

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



Error item

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

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

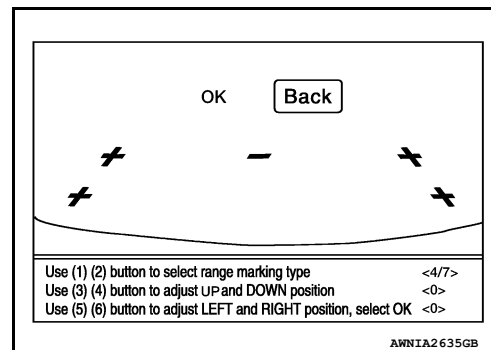
< SYSTEM DESCRIPTION >

[REAR VIEW MONITOR SYSTEM (DISPLAY AUDIO)]

Error item	Description	Possible cause
CONTROL UNIT (AV)	AV communication circuit initial diagnosis malfunction is detected.	Replace the audio unit if the malfunction occurs constantly. Refer to AV-65, "Removal and Installation" .
CAN COMM CIRCUIT	When one of the following is detected: - malfunction is detected in combination meter power supply and ground circuits. - malfunction is detected in CAN communication circuits between audio unit and combination meter.	- Combination meter power supply or ground circuits. Refer to MWI-59, "COMBINATION METER : Diagnosis Procedure". - CAN communication circuits between audio unit and combination meter.

Camera System

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



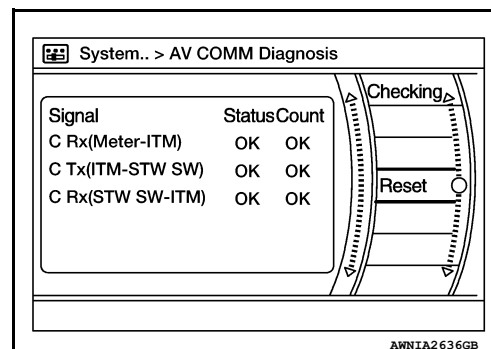
CAN COMM Diagnosis

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

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

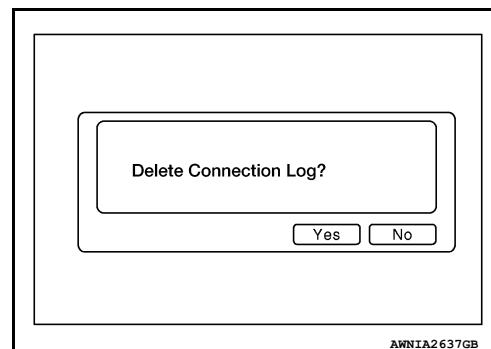
NOTE:

“???” indicates UNKWN.



Delete Unit Connection Log

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



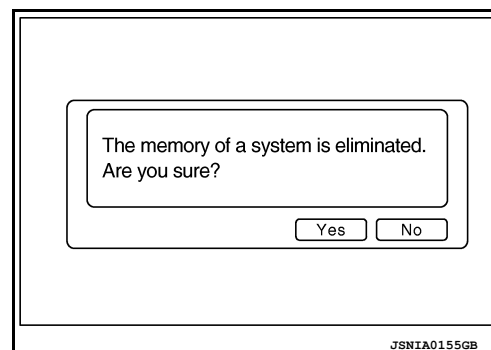
Initialize Settings

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[REAR VIEW MONITOR SYSTEM (DISPLAY AUDIO)]

Deletes data stored from the audio unit.



INFOID:000000011568170

CONSULT Function

APPLICATION ITEMS

CONSULT performs the following functions via the communication with the display control unit:

Diagnosis mode	Description
Self Diagnostic Result	Performs a diagnosis on the display 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 inputted to the display control unit can be performed.
Work Support	Steering angle sensor can be adjusted.
ECU Identification	The part number of display control unit can be checked.
Configuration	• Read and save the vehicle specification. • Write the vehicle specification when replacing display control unit.

SELF DIAGNOSTIC 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, are detected. The counter increases by 1 if the condition is normal at the next ignition switch ON cycle.

DATA MONITOR

NOTE:

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

- Displays the status of the following vehicle signals inputted into the display 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.	
ILLUM SIG	On	Block the light beam from the auto light optical sensor when the light switch is ON.	—
	Off	Either of the following conditions: • Lighting switch is OFF. • Expose the auto light optical sensor to light when the light switch is ON.	
IGN SIG	On	Ignition switch ON.	
	Off	Ignition switch in ACC position.	

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[REAR VIEW MONITOR SYSTEM (DISPLAY AUDIO)]

Display item	Display	Vehicle status	Remarks
REV SIG	On	Selector lever in R position.	Changes in indication may be delayed. This is normal.
	Off	Selector lever in any position other than R.	

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. Refer to [BRC-64, "Work Procedure"](#).

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

ECU IDENTIFICATION

The part number of display control unit is displayed.

CONFIGURATION

Configuration has three functions as follows:

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

CAUTION:

- When replacing display control unit, you must perform "Read / Write Configuration" or "Manual Configuration" with CONSULT.
- Complete the procedure of "Read / Write Configuration" or "Manual Configuration" in order.
- If you set incorrect "Read / Write Configuration" or "Manual Configuration", incidents might occur.
- Configuration is different for each vehicle model. Confirm configuration of each vehicle model.

AV

AUDIO UNIT

< ECU DIAGNOSIS INFORMATION >

[REAR VIEW MONITOR SYSTEM (DISPLAY AUDIO)]

ECU DIAGNOSIS INFORMATION

AUDIO UNIT

Reference Value

INFOID:0000000011568171

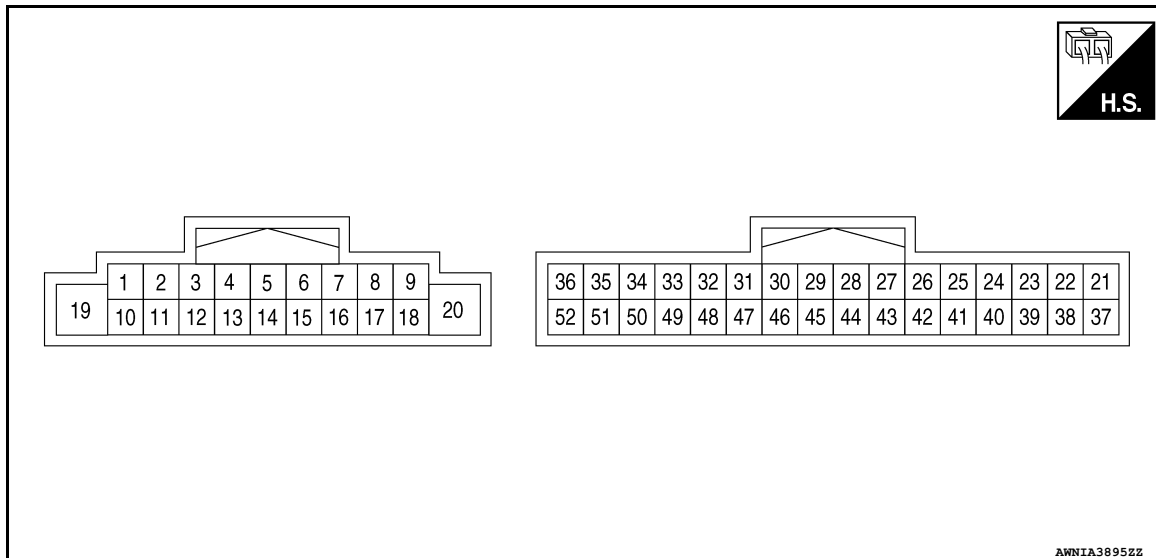
VALUES ON THE DIAGNOSIS TOOL

NOTE:

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

Monitor item	Condition		Value/Status
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 beam from the auto light optical sensor when the light switch is ON.	On
		Expose the auto light optical sensor to light when the light switch is OFF or ON.	Off
IGN SIG	Ignition switch ON		On
	Ignition switch ACC		Off
REV SIG	Ignition switch ON	Selector lever in R position	On
		Selector lever in any position other than R	Off

TERMINAL LAYOUT



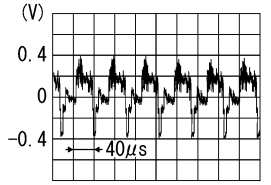
PHYSICAL VALUES

Terminal (Wire color)		Description		Condition	Standard value	Reference value (Approx.)
+	–	Signal name	Input/ Output			
7 (P)	Ground	ACC power supply	Input	Ignition switch ACC		Battery voltage
19 (G)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage

AUDIO UNIT

< ECU DIAGNOSIS INFORMATION >

[REAR VIEW MONITOR SYSTEM (DISPLAY AUDIO)]

Terminal (Wire color)		Description		Condition	Standard value	Reference value (Approx.)
+	—	Signal name	Input/ Output			
20 (B)	—	Ground	—	[Ignition switch ON]	—	0 V
28 (SB)	—	AV communication signal (H)	Input/ Output	—	—	—
29 (LG)	—	AV communication signal (L)	Input/ Output	—	—	—
31 (SB)	—	AV communication signal (H)	Input/ Output	—	—	—
32 (LG)	—	AV communication signal (L)	Input/ Output	—	—	—
33 (B)	Ground	Camera ground	—	Ignition switch ON		0V
34 (R)	Ground	Camera power supply	Output	[Ignition switch ON]	Selector lever in "R" position	6.2 V
35 (W)	36 (Shield)	Composite image signal (+)	Input	[Ignition switch ON] • Image is displayed.	Waveform according to composite image is inputted.	
36 (—)	Shield	Composite image signal (-)	—	—	—	—
44 (B)	20 (B)	Camera switch signal	Input	[Ignition switch ON] • Camera switch: ON	3.0 V or less	0 - 2.5 V
				[Ignition switch ON] • Camera switch: OFF	3.0 V or more	3.0 V
45 (B)	—	EQ1 ground	—	Ignition ON	—	—
50 (BR)	20 (B)	Reverse signal	Input	[Ignition switch ON] • R position	7.0 V or more	12.0 V
				[Ignition switch ON] • Other than R position	3.0 V or less	0 V

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REAR VIEW MONITOR SYSTEM

[REAR VIEW MONITOR SYSTEM (DISPLAY AUDIO)]

< WIRING DIAGRAM >

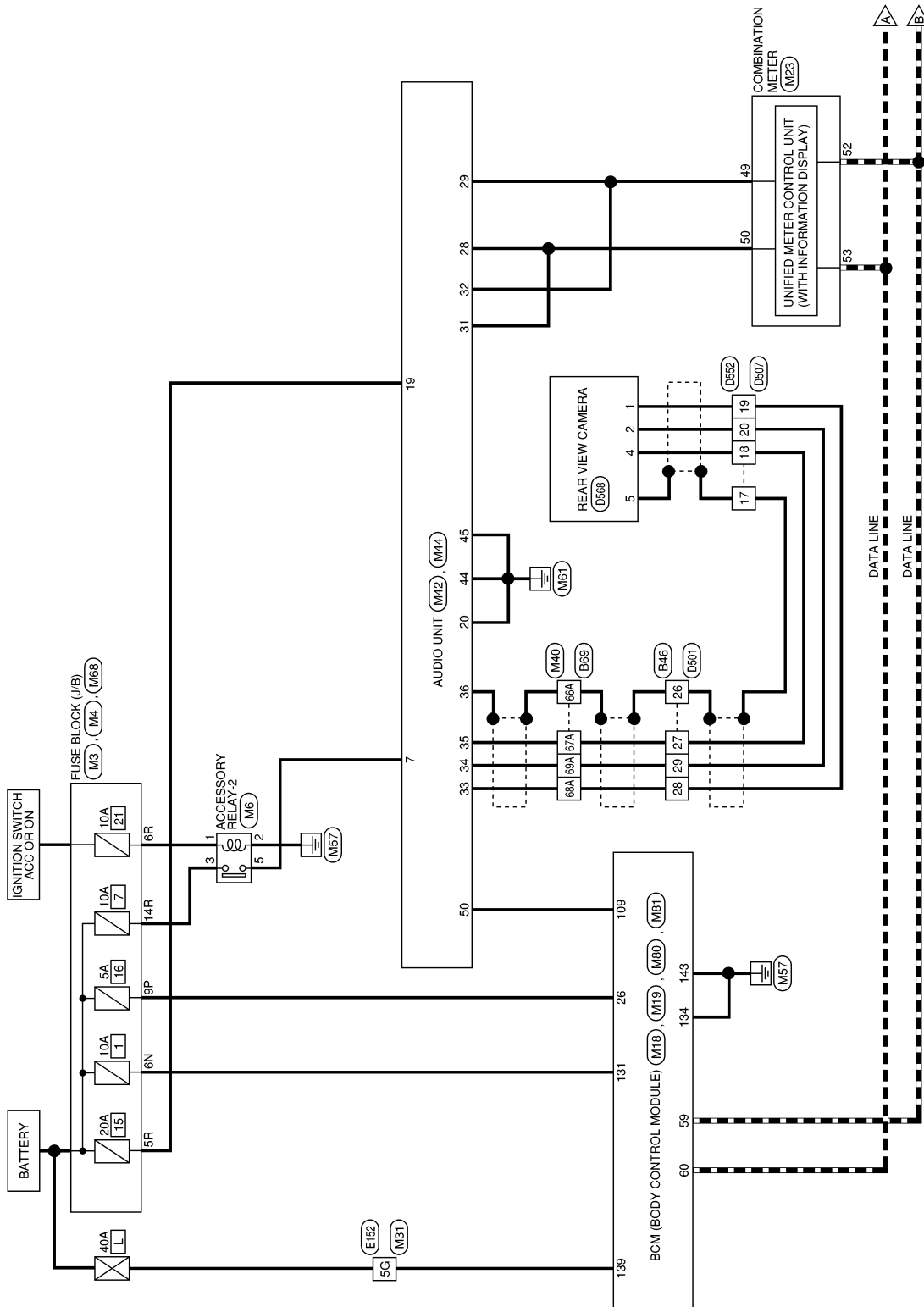
WIRING DIAGRAM

REAR VIEW MONITOR SYSTEM

Wiring Diagram

INFOID:0000000011568174

REAR VIEW MONITOR SYSTEM WITH DISPLAY AUDIO SYSTEM

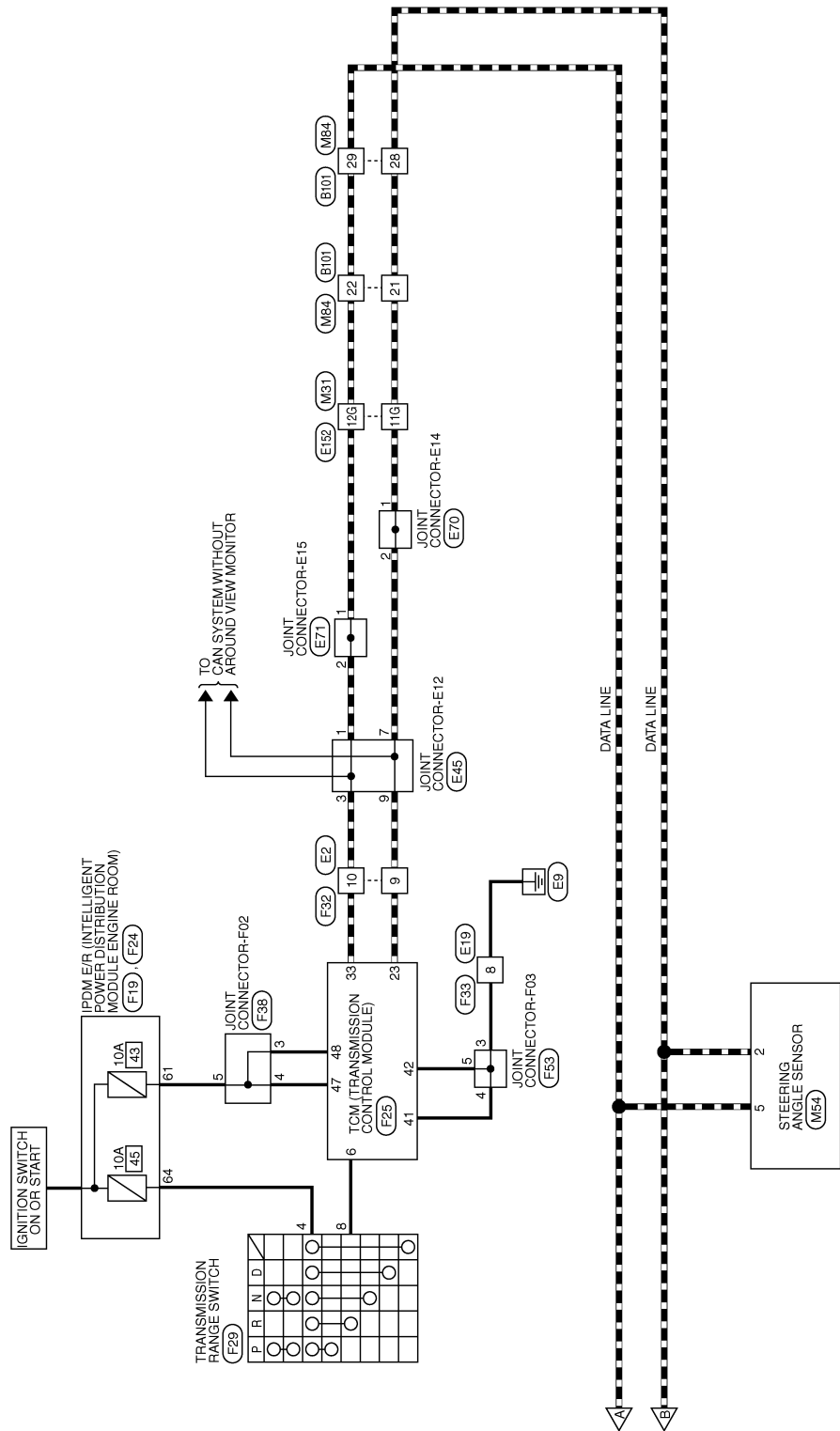


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REAR VIEW MONITOR SYSTEM

[REAR VIEW MONITOR SYSTEM (DISPLAY AUDIO)]

< WIRING DIAGRAM >



AANWA121 6GB

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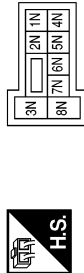
REAR VIEW MONITOR SYSTEM

[REAR VIEW MONITOR SYSTEM (DISPLAY AUDIO)]

< WIRING DIAGRAM >

REAR VIEW MONITOR SYSTEM WITH DISPLAY AUDIO SYSTEM CONNECTORS

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



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

Connector No.	M6
Connector Name	ACCESSORY RELAY-2
Connector Color	BLUE

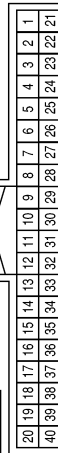


Terminal No.	Color of Wire	Signal Name
6N	W	-

Terminal No.	Color of Wire	Signal Name
9P	L	-

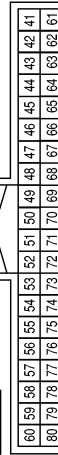
Terminal No.	Color of Wire	Signal Name
1	L	-
2	B	-
3	R	-
5	P	-

Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	GREEN



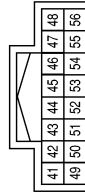
Terminal No.	Color of Wire	Signal Name
26	L	SHORTING INPUT

Connector No.	M19
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
59	P	CAN-L
60	L	CAN-H

Connector No.	M23
Connector Name	COMBINATION METER
Connector Color	WHITE



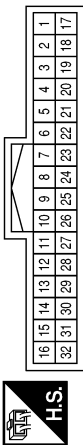
Terminal No.	Color of Wire	Signal Name
49	LG	M-CAN (LOW)
50	SB	M-CAN (HI)
52	P	CAN-L
53	L	CAN-H

REAR VIEW MONITOR SYSTEM

[REAR VIEW MONITOR SYSTEM (DISPLAY AUDIO)]

< WIRING DIAGRAM >

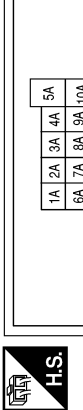
Connector No.	M42
Connector Name	AUDIO UNIT
Connector Color	WHITE



H.S.

Terminal No.	Color of Wire	Signal Name
28	SB	MCAN2 H
29	LG	MCAN2 L
31	SB	MCAN1 H
32	LG	MCAN1 L
33	B	CAM GND
34	R	CAM 6.2V
35	W	COMPOSITE+
36	SHIELD	COMPOSITE-
44	B	CAM DET
45	B	EQ1
50	G	REV

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

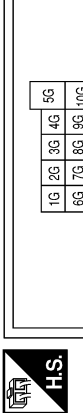


H.S.

11A 12A 13A 14A 15A 16A 17A 18A 19A 20A 21A	22A 23A 24A 25A 26A 27A 28A 29A 30A	31A 32A 33A 34A 35A 36A 37A 38A 39A 40A 41A	42A 43A 44A 45A 46A 47A 48A 49A 50A	51A 52A 53A 54A 55A 56A 57A 58A 59A 60A 61A	62A 63A 64A 65A 66A 67A 68A 69A 70A	71A 72A 73A 74A 75A 76A 77A 78A 79A 80A 81A	82A 83A 84A 85A 86A 87A 88A 89A 90A	91A 92A 93A 94A 95A	96A 97A 98A 99A 100A
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Terminal No.	Color of Wire	Signal Name
66A	SHIELD	-
67A	W	- (WITHOUT AROUND VIEW MONITOR)
68A	B	- (WITHOUT AROUND VIEW MONITOR)
69A	R	- (WITHOUT AROUND VIEW MONITOR)

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



H.S.

11G 12G 13G 14G 15G 16G 17G 18G 19G 20G 21G	22G 23G 24G 25G 26G 27G 28G 29G 30G	31G 32G 33G 34G 35G 36G 37G 38G 39G 40G 41G	42G 43G 44G 45G 46G 47G 48G 49G 50G	51G 52G 53G 54G 55G 56G 57G 58G 59G 60G 61G	62G 63G 64G 65G 66G 67G 68G 69G 70G	71G 72G 73G 74G 75G 76G 77G 78G 79G 80G 81G	82G 83G 84G 85G 86G 87G 88G 89G 90G	91G 92G 93G 94G 95G	96G 97G 98G 99G 100G
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Terminal No.	Color of Wire	Signal Name
5G	L	-
11G	P	-
12G	L	-

REAR VIEW MONITOR SYSTEM

[REAR VIEW MONITOR SYSTEM (DISPLAY AUDIO)]

< WIRING DIAGRAM >

Connector No.	M68
Connector Name	FUSE BLOCK (J/B)
Connector Color	BROWN

7R	8R	5R	4R	3R	2R	1R	6R
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Terminal No.	Color of Wire	Signal Name
5R	G	-
6R	L	-
14R	R	-

Connector No.	M54
Connector Name	STEERING ANGLE SENSOR
Connector Color	WHITE

1	2	3	4
5	6	7	8



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

Connector No.	M44
Connector Name	AUDIO UNIT
Connector Color	WHITE

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



Terminal No.	Color of Wire	Signal Name
7	P	ACC
19	G	+B
20	B	GND

Connector No.	M84
Connector Name	WIRE TO WIRE
Connector Color	WHITE

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



Terminal No.	Color of Wire	Signal Name
21	P	-
22	L	-
28	P	-
29	L	-

Connector No.	M81
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE

137	136	135	134	133	132	131	130	129
143	142	141	140	139	138			



Terminal No.	Color of Wire	Signal Name
131	W	BAT BCM FUSE
134	GR	GND2
139	L	BAT POWER F/L
143	GR	GND1

Connector No.	M80
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK

116	115	114	113	112	111	110	109	108	107	106	105
128	127	126	125	124	123	122	121	120	119	118	117



Terminal No.	Color of Wire	Signal Name
109	G	REVERSE SIGNAL

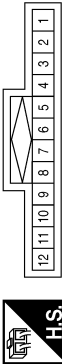
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REAR VIEW MONITOR SYSTEM

[REAR VIEW MONITOR SYSTEM (DISPLAY AUDIO)]

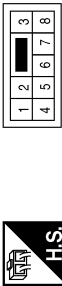
< WIRING DIAGRAM >

Connector No.	E45
Connector Name	JOINT CONNECTOR-E12
Connector Color	BLUE



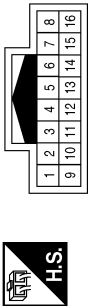
Terminal No.	Color of Wire	Signal Name
1	L	-
3	L	-
7	P	-
9	P	-

Connector No.	E19
Connector Name	WIRE TO WIRE
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
8	B	-

Connector No.	E2
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
9	P	-
10	L	-

Connector No.	E71
Connector Name	JOINT CONNECTOR-E15
Connector Color	BLACK



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

Connector No.	E70
Connector Name	JOINT CONNECTOR-E14
Connector Color	BLACK



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

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REAR VIEW MONITOR SYSTEM

[REAR VIEW MONITOR SYSTEM (DISPLAY AUDIO)]

< WIRING DIAGRAM >

Connector No.	F19
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

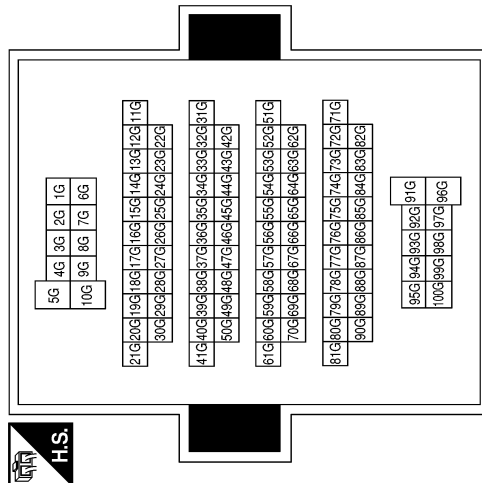
52	53	54	55
56	57	58	59
60	61		



Terminal No.	Color of Wire	Signal Name
61	Y	AT ECU

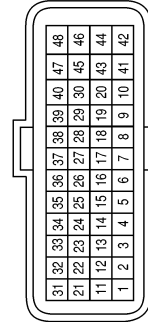
Terminal No.	Color of Wire	Signal Name
5G	P	-
11G	P	-
12G	L	-

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



Terminal No.	Color of Wire	Signal Name
6	BR	R RANGE SW
23	P	CAN-L
33	L	CAN-H
41	B	GND
42	B	GND
47	Y	VIGN
48	Y	VIGN

Connector No.	F25
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Color	BLACK



Connector No.	F24
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

62	63	64	65	66	67
68	69	70	71	72	73



Terminal No.	Color of Wire	Signal Name
64	LG	START IG EGI

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REAR VIEW MONITOR SYSTEM

[REAR VIEW MONITOR SYSTEM (DISPLAY AUDIO)]

< WIRING DIAGRAM >

Connector No.	F33
Connector Name	WIRE TO WIRE
Connector Color	BROWN



3	2	1
8	7	6
5	4	

Terminal No.	Color of Wire	Signal Name
8	B	—

Connector No.	F32
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

Terminal No.	Color of Wire	Signal Name
9	P	—
10	L	—

Connector No.	F29
Connector Name	TRANSMISSION RANGE SWITCH
Connector Color	BLACK



6	5	4	3	2	1
10	9	8	7		

Terminal No.	Color of Wire	Signal Name
4	LG	—
8	BR	—

Connector No.	B46
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

Terminal No.	Color of Wire	Signal Name
26	SHIELD	—
27	W	— (WITHOUT AROUND VIEW MONITOR)
28	B	—
29	R	— (WITHOUT AROUND VIEW MONITOR)

Connector No.	F53
Connector Name	JOINT CONNECTOR-F03
Connector Color	BLACK



5	4	3	2	1
10	9	8	7	6

Terminal No.	Color of Wire	Signal Name
3	B	—
4	B	—
5	B	—

Connector No.	F38
Connector Name	JOINT CONNECTOR-F02
Connector Color	BLACK



5	4	3	2	1
10	9	8	7	6

Terminal No.	Color of Wire	Signal Name
3	Y	—
4	Y	—
5	Y	—

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[REAR VIEW MONITOR SYSTEM (DISPLAY AUDIO)]

Revision: October 2014

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

2015 Murano

REAR VIEW MONITOR SYSTEM

[REAR VIEW MONITOR SYSTEM (DISPLAY AUDIO)]

< WIRING DIAGRAM >

Connector No.	D568
Connector Name	REAR VIEW CAMERA
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
1	B	-
2	R	-(WITHOUT AROUND VIEW MONITOR)
4	W	-(WITHOUT AROUND VIEW MONITOR)
5	SHIELD	-

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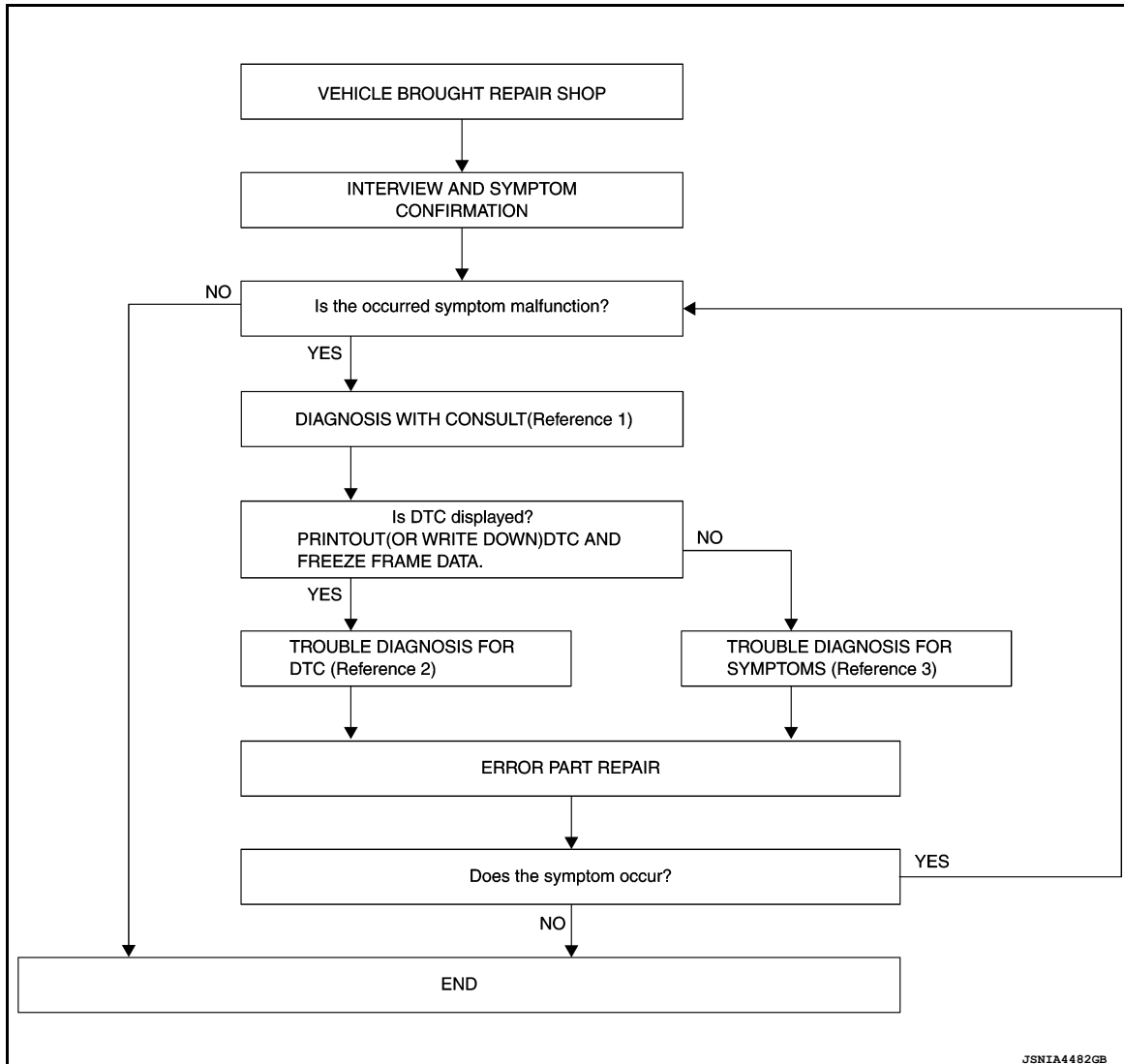
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000011568175

OVERALL SEQUENCE



- Reference 1: Refer to [AV-292, "CONSULT Function"](#).
- Reference 2: Refer to [AV-310, "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 a 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-292, "CONSULT Function"](#).

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[REAR VIEW MONITOR SYSTEM (DISPLAY AUDIO)]

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 (FFD).

Is DTC displayed?

YES >> GO TO 3.

NO >> GO TO 4.

3.TROUBLE DIAGNOSIS FOR DTC

1. Check the DTC indicated in the "Self Diagnostic Result".
2. Perform the relevant diagnosis referring to the DTC list.

>> GO TO 5.

4.TROUBLE DIAGNOSIS FOR SYMPTOMS

Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to [AV-310. "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 Diagnostic Result".

3. Check that the symptom does not occur.

Does the symptom occur?

YES >> GO TO 1.

NO >> Inspection End.

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CAMERA IMAGE SIGNAL CIRCUIT (WITH REAR VIEW MONITOR)

< DTC/CIRCUIT DIAGNOSIS >

[REAR VIEW MONITOR SYSTEM (DISPLAY AUDIO)]

DTC/CIRCUIT DIAGNOSIS

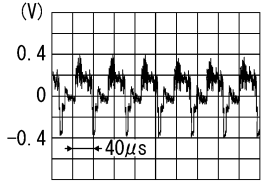
CAMERA IMAGE SIGNAL CIRCUIT (WITH REAR VIEW MONITOR)

Diagnosis Procedure

INFOID:0000000011568178

1.CHECK CAMERA IMAGE SIGNAL

1. Turn ignition switch ON.
2. Shift the selector lever to "R" position.
3. Check the signal between audio unit harness connector M42 and ground.

Audio unit			Condition	Reference value
Connector	Terminal			
	(+)	(-)		
	Terminal			
M42	35	33	When rear view camera image is displayed.	

SKIB2251J

Is the inspection result normal?

- YES >> Replace audio unit. Refer to [AV-65, "Removal and Installation"](#).
NO >> GO TO 2.

2.CHECK CAMERA IMAGE SIGNAL CIRCUIT FOR OPEN

1. Turn ignition switch OFF.
2. Disconnect audio unit connector and rear view camera harness connector M42.
3. Check the continuity between audio unit harness connector M42 and rear view camera harness connector D568.

Audio unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M42	35	D568	4	Yes

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Repair or replace malfunctioning parts.

3.CHECK CAMERA IMAGE SIGNAL CIRCUIT FOR SHORT

Check the continuity between audio unit harness connector M42 and ground.

Terminal			Continuity
(+) Audio unit		(−)	
Connector	Terminal		
M42	35		
		Ground	No

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Repair or replace malfunctioning parts.

4.CHECK CAMERA IMAGE SIGNAL GROUND CIRCUIT

CAMERA IMAGE SIGNAL CIRCUIT (WITH REAR VIEW MONITOR)

< DTC/CIRCUIT DIAGNOSIS >

[REAR VIEW MONITOR SYSTEM (DISPLAY AUDIO)]

Check the continuity between audio unit harness connector M42 and rear view camera harness connector D568.

Audio unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M42	38	D568	1	Yes

Is the inspection result normal?

YES >> Replace rear view camera. Refer to [AV-313. "Removal and Installation"](#).

NO >> Repair or replace malfunctioning parts.

AV

REAR VIEW MONITOR SYSTEM

< SYMPTOM DIAGNOSIS >

[REAR VIEW MONITOR SYSTEM (DISPLAY AUDIO)]

SYMPTOM DIAGNOSIS

REAR VIEW MONITOR SYSTEM

Symptom Table

INFOID:0000000011568182

REAR VIEW MONITOR SYSTEM

Symptom	Possible cause	Inspection item
Camera image is not shown. (Vehicle width and predictive course line are displayed.)	• Harness between rear view camera and audio unit • Rear view camera • AV control unit	Camera image signal circuit. Refer to AV-308, "Diagnosis Procedure" .
Camera image does not switch.	• Harness between TCM relay and audio unit • Ignition power supply circuit • Audio • TCM	Reverse signal circuit. Refer to TM-105, "Diagnosis Procedure" .

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[REAR VIEW MONITOR SYSTEM (DISPLAY AUDIO)]

NORMAL OPERATING CONDITION

Description

INFOID:0000000011568183

NOTE:

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

BASIC OPERATIONS

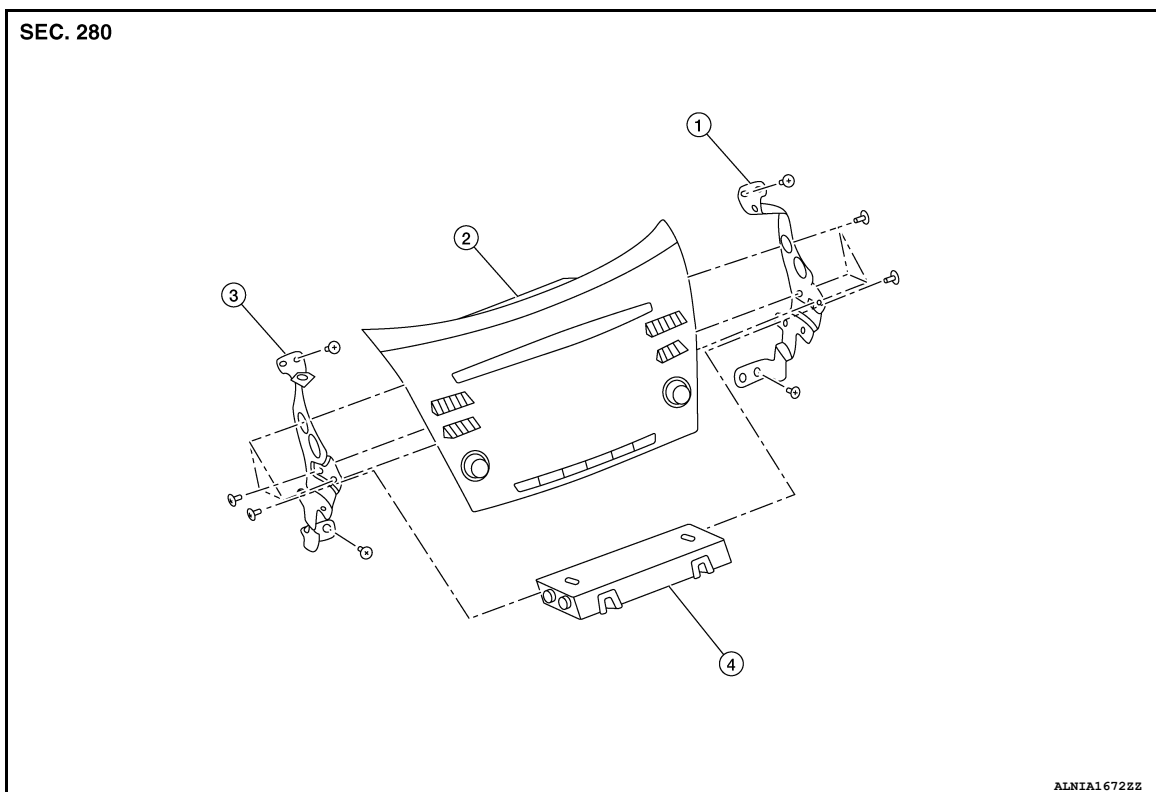
Symptom	Possible cause	Possible solution
No image is displayed.	The brightness is at the lowest setting.	Adjust the brightness of the display.
	The system is in the video mode.	Press "MEDIA" to change the mode.
	The interior of the vehicle is above 80°C (176°F) or high temperature, and the protection of the display reacts, and a display is turned off.	Wait until the interior of the vehicle has cooled down.
Screen is 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.

REMOVAL AND INSTALLATION

AUDIO UNIT

Exploded View

INFOID:0000000011578406



1. Audio unit bracket (RH)

2. Audio unit

3. Audio unit bracket (LH)

4. A/C auto amp.

Removal and Installation

INFOID:0000000011578407

REMOVAL

1. Disconnect the negative battery terminal. Refer to [PG-86, "Removal and Installation"](#).
2. Remove cluster lid D. Refer to [IP-23, "Removal and Installation"](#).
3. Remove A/C switch assembly. Refer to [HAC-94, "Removal and Installation"](#).
4. Remove the audio unit screws then pull out the audio unit.
5. Disconnect the harness connectors from the audio unit and remove.
6. Remove the audio unit bracket (LH/RH) screws and the audio unit brackets [(LH/RH) (if necessary)].

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

When replacing audio unit, the audio unit must be registered. Refer to [AV-45, "REGISTRATION \(AUDIO UNIT\) : Description"](#).

REAR VIEW CAMERA

< REMOVAL AND INSTALLATION >

[REAR VIEW MONITOR SYSTEM (DISPLAY AUDIO)]

REAR VIEW CAMERA

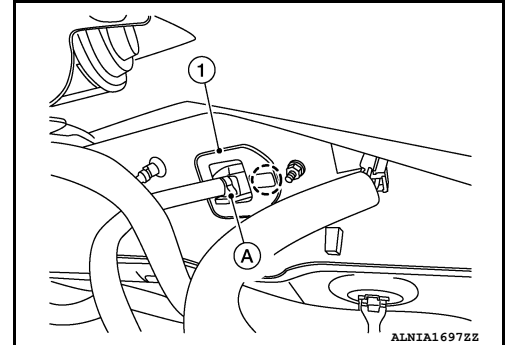
Removal and Installation

INFOID:0000000011568195

REMOVAL

1. Remove back door outer finisher. Refer to [EXT-53, "Removal and Installation"](#).
2. Disconnect the harness connector (A) from rear camera (1).
3. Release pawl then remove rear camera.

(○): Pawl



INSTALLATION

Installation is in the reverse order of removal.

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. Refer to [AV-241, "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Work Procedure"](#).

PRECAUTIONS

< PRECAUTION >

[REAR VIEW MONITOR SYSTEM (NAVIGATION)]

PRECAUTION

PRECAUTIONS

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

INFOID:0000000011565197

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

WARNING:

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

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

WARNING:

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

Cautions in Removing Battery Terminal, Display Control Unit, and AV Control Unit

INFOID:0000000011230326

CAUTION:

Remove battery terminal, display control unit, 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 display control unit, and the AV control unit continues operating for approximately 30 seconds.

Therefore, data corruption may occur if battery voltage is cut off within 30 seconds.

Precaution for Trouble Diagnosis

INFOID:0000000011230327

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:0000000011230328

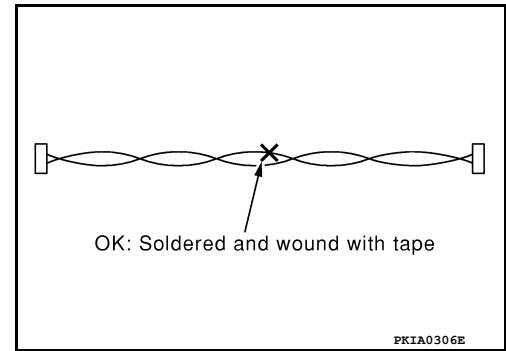
AV COMMUNICATION SYSTEM

PRECAUTIONS

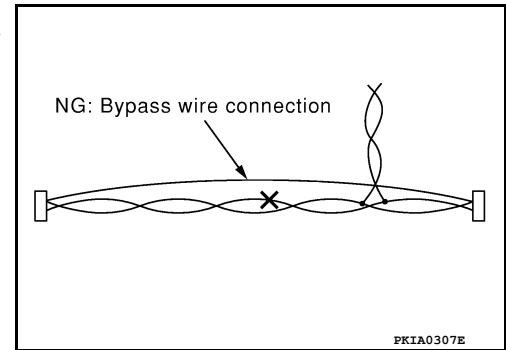
[REAR VIEW MONITOR SYSTEM (NAVIGATION)]

< PRECAUTION >

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



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



Precaution for Work

INFOID:0000000011578448

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

PREPARATION

< PREPARATION >

[REAR VIEW MONITOR SYSTEM (NAVIGATION)]

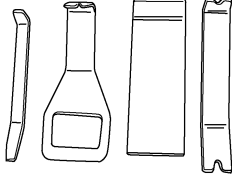
PREPARATION

PREPARATION

Special Service Tools

INFOID:0000000011578446

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

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

Commercial Service Tools

INFOID:0000000011578447

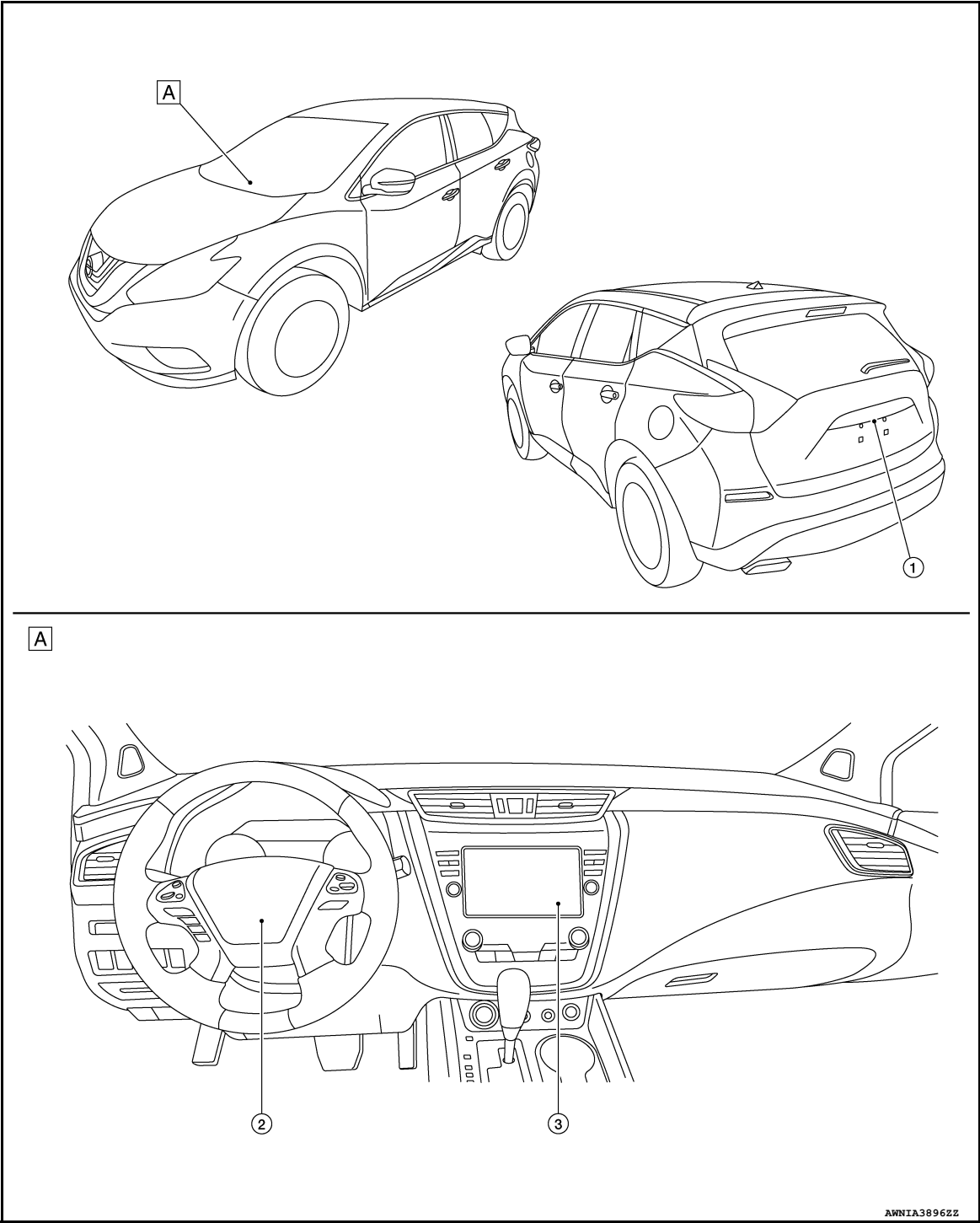
Tool name	Description
Power tool  PIIB1407E	Loosening nuts, screws and bolts

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000011230330



A. View of instrument panel

No.	Component	Function
1.	Rear view camera	Refer to AV-318, "Rear View Camera" .
2.	Steering angle sensor	Refer to AV-318, "Steering Angle Sensor" .
3.	AV control unit	Refer to AV-318, "AV Control Unit" .

AV

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[REAR VIEW MONITOR SYSTEM (NAVIGATION)]

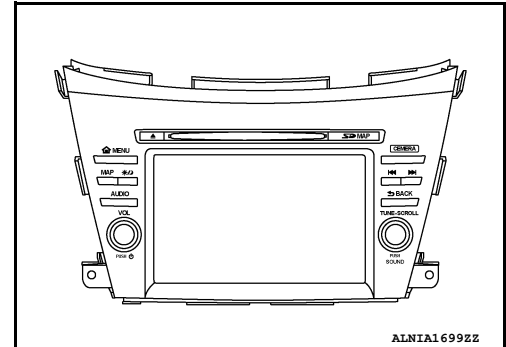
AV Control Unit

INFOID:0000000011230331

DESCRIPTION

- AV control unit is located in the center of the instrument panel assembly.
- AV control unit integrates the following functions and controls the rear view monitor system:

Unit equipped
Display
Camera controller



SPECIFICATION

Camera controller	Guide line display function	Vehicle width guide lines
		Predictive course lines
	Steering signal input method	CAN communication

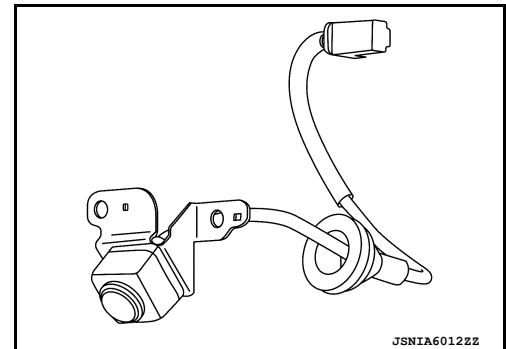
Rear View Camera

INFOID:0000000011230332

- The rear view camera is installed next to the rear license plate lamp.
- 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 AV control unit and the image at the rear of the vehicle is sent to the AV monitor control unit.

NOTE:

*: "CMOS" is an abbreviation of Complementary Metal Oxide Semiconductor and features low power consumption and high speed reading rate of electric charge.



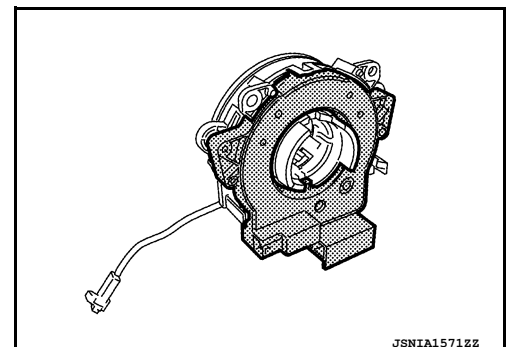
Specification

Image pickup element	1/3.8-inch CMOS image sensor
Effective number of pixels	Approx. 300,000 pixels (632 × 480)
Minimum brightness	1 lx
Angle of view	H: 190° V: 141°
Image	With the mirror processing function

Steering Angle Sensor

INFOID:0000000011230333

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



REAR VIEW MONITOR SYSTEM

< SYSTEM DESCRIPTION >

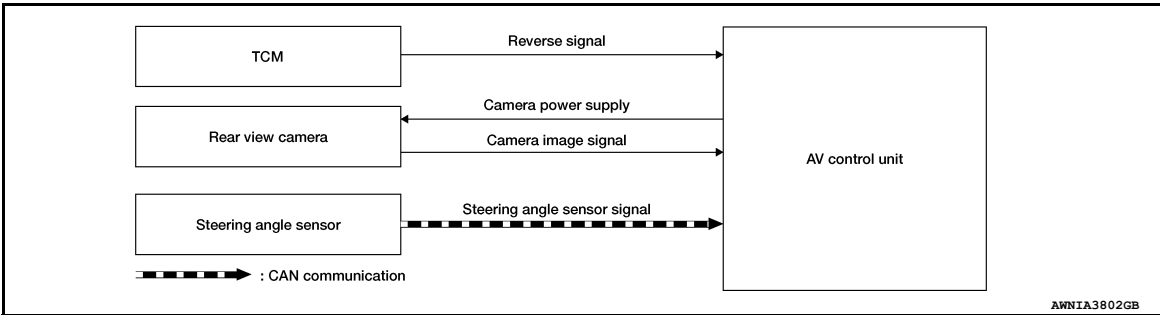
[REAR VIEW MONITOR SYSTEM (NAVIGATION)]

REAR VIEW MONITOR SYSTEM

System Description

INFOID:0000000011230334

SYSTEM DIAGRAM



Display Control Unit Input Signal (CAN Communication)

Transmit unit	Signal name
Steering angle sensor	Steering angle signal

DESCRIPTION

Operation Description

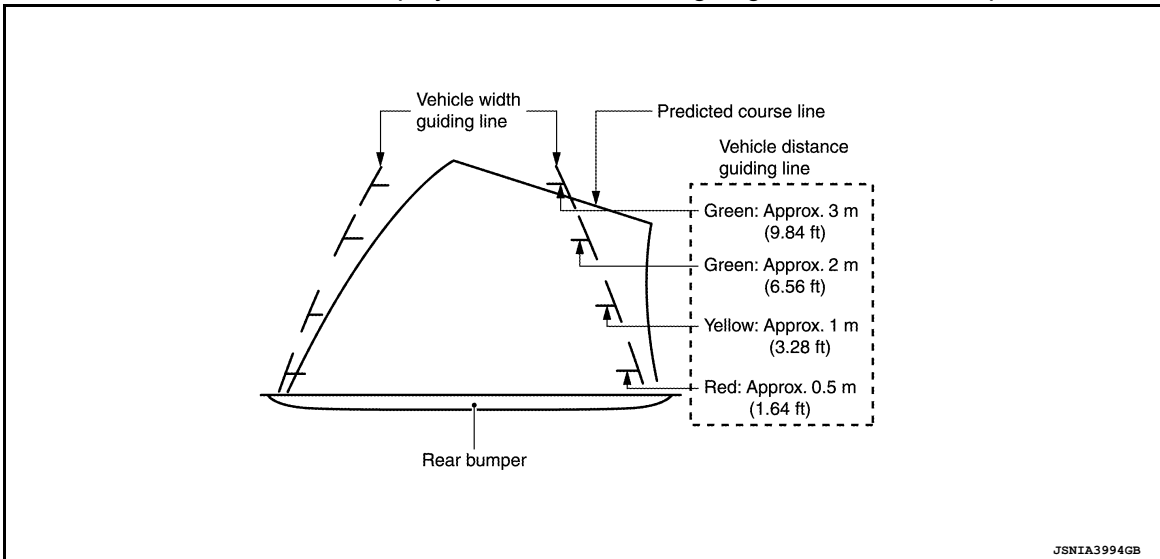
- When the selector lever is shifted to the reverse position, the rear view monitor image is displayed.
- When the selector lever is shifted to any position other than the reverse position, the original image (the image displayed before the rear view monitor image) is displayed.

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 display when the reverse signal is inputted.
- The AV control unit generates the warning message, vehicle width guide lines and the predicted course lines on the image from the rear view camera and transmits the rear view camera image signal to the front display unit.

Vehicle Width Guide Lines and Predicted Course Lines Display Function at Rear View Monitor Display

- The vehicle width guide lines and the predicted course lines that indicate the vehicle route according to the steering angle are displayed on 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 signal from the steering sensor via CAN communication and draws a vehicle width guide line according to the steering angle.
- When the vehicle width guide lines are displayed, the vehicle width guide lines are displayed translucently.
- The predicted course lines are not displayed when the steering angle is in the neutral position.



REAR VIEW MONITOR SYSTEM

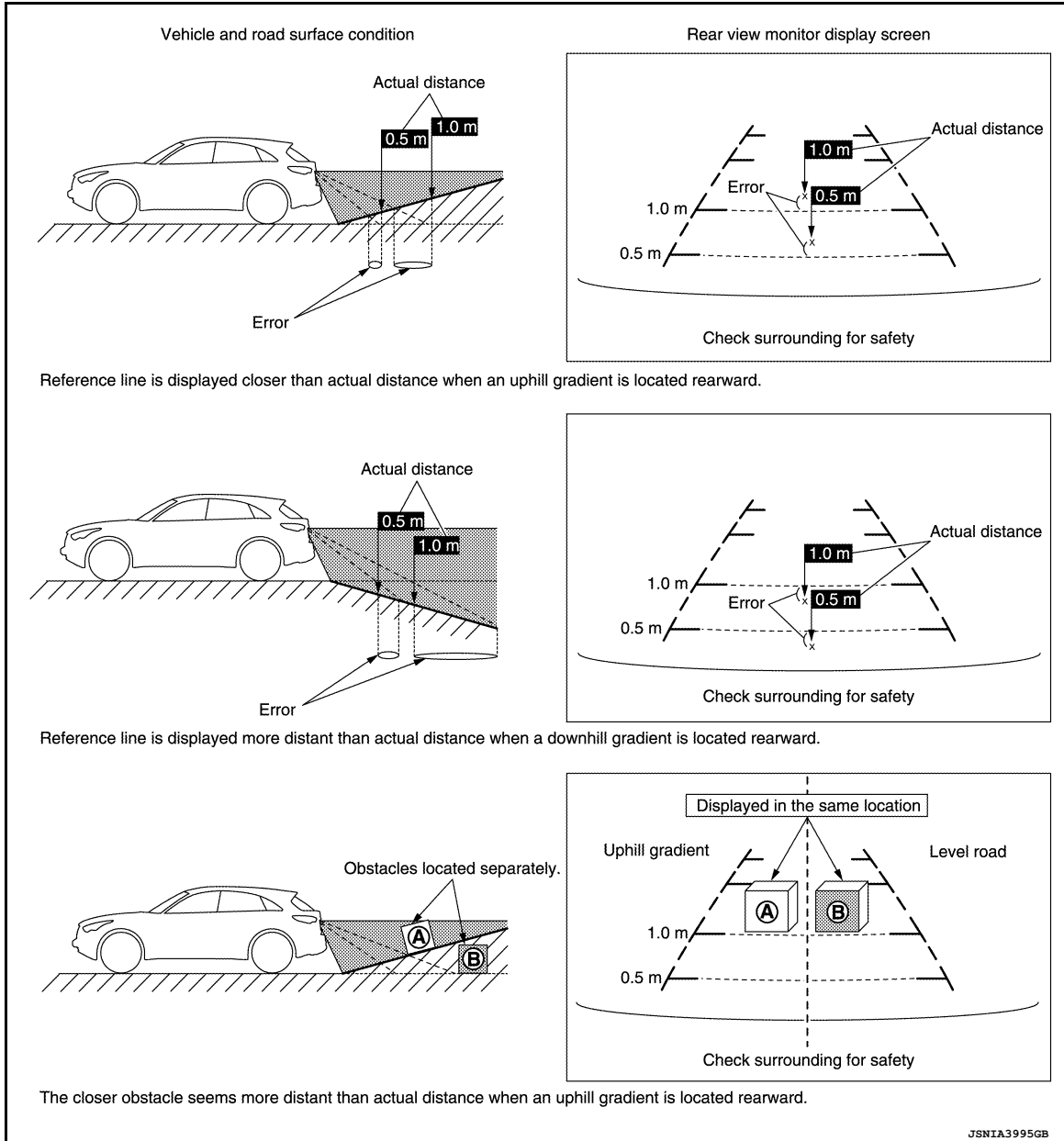
< SYSTEM DESCRIPTION >

[REAR VIEW MONITOR SYSTEM (NAVIGATION)]

Precautions for Vehicle Width Guide Lines and Predicted Course Lines Display on the Rear View Monitor Display
Vehicle width guide lines and predicted course lines on the display may be different from actual lines depending on vehicle conditions and road conditions.

Precautions for road conditions

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



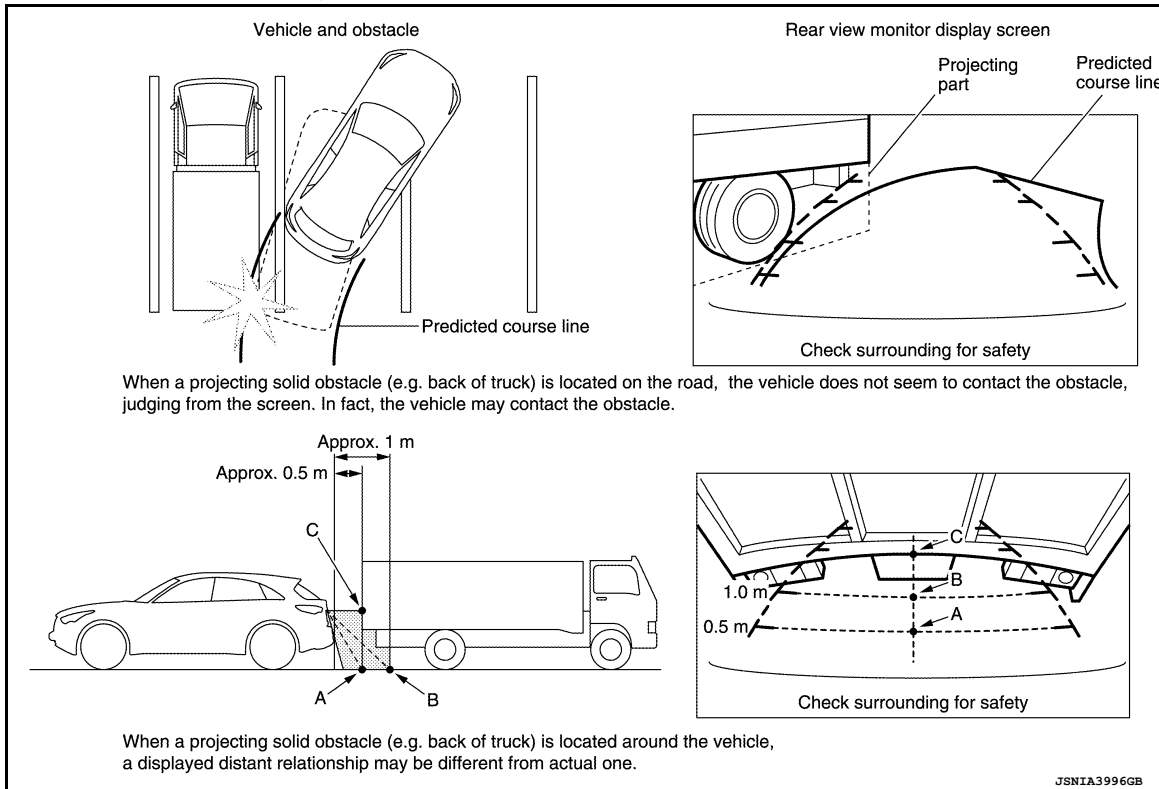
Precautions for block

REAR VIEW MONITOR SYSTEM

< SYSTEM DESCRIPTION >

[REAR VIEW MONITOR SYSTEM (NAVIGATION)]

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



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AV

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[REAR VIEW MONITOR SYSTEM (NAVIGATION)]

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

Description

INFOID:0000000011230338

- The AV control unit diagnosis function starts up and 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:0000000011230339

ON BOARD DIAGNOSIS ITEM

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 and connections between system components. 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 requires 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.
Confirmation/ Adjustment	Display Diagnosis	The following check functions are available: • Color tone check by color bar display, white display and black display • Light and shade check by gray scale display • Touch panel check
	Vehicle Signals	Diagnosis of signals can be performed.
	Speaker Test	The connection of a speaker can be confirmed by test tone.
	Navigation*	The reception status of GPS can be confirmed.
	Error History	The system malfunction is displayed. When the malfunctioning item is selected, the time and place that the selected malfunction last occurred are displayed.
	CAN COMM Diagnosis	The communication condition of each unit of Multi AV can be monitored.
	Camera Control Unit	The signal connected to camera control unit can be checked and the guiding line position that overlaps rear view camera image can be adjusted.
	SXM	Displays the information related to satellite radio.
	Delete Unit Connection Log	Erases the connection history of unit and error history.
	Reset Settings	Initializes the default data.
	Version Information	Version information of the following items is displayed: • AV control unit • BOSE amp. • Combination meter
	Program Update	Version of the AV control unit can be update.
	Hands-free Phone	The received volume adjustment of hands-free phone and microphone speaker check can be performed.

METHOD OF STARTING

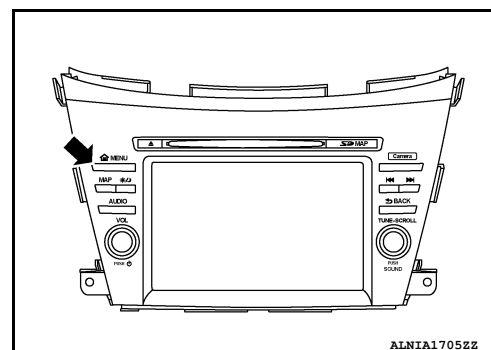
1. Start the engine.
2. Turn the audio system OFF.

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

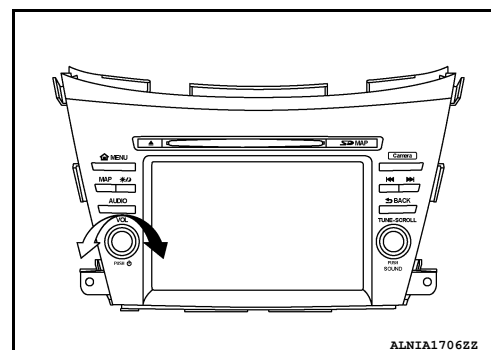
[REAR VIEW MONITOR SYSTEM (NAVIGATION)]

< SYSTEM DESCRIPTION >

- Press the MENU button.



- While the MENU button is pressed rotate the volume encoder left, right and left. On each rotation, it should be at least 7 clicks.



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

NOTE:

When a diagnostic screen is not displayed, press the "MENU" switch. And then, restart from the procedure of Step 3.

SELF-DIAGNOSIS MODE

- 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.
- 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 (display control unit) and BOSE Amp. are 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-179. "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 display control unit and each unit and the internal operation of the display control unit.

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

[REAR VIEW MONITOR SYSTEM (NAVIGATION)]

< SYSTEM DESCRIPTION >

- Because the start condition of diagnosis function is a switch operation, the on board diagnosis function cannot be started if any malfunction is detected in the communication circuit between display control unit and multifunction switch.

SELF-DIAGNOSIS RESULTS

Check the applicable display with 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
AV control unit	Malfunction is detected in AV control unit power supply and ground circuits.	Check AV control unit power supply and ground circuits. Refer to AV-166, "AV CONTROL UNIT : Diagnosis Procedure" . When detecting no malfunction in those components, replace AV control unit. Refer to AV-179, "Removal and Installation" .
BOSE Amp.	When either one of the following items is detected: - Sound signal circuits between BOSE amp. and each speaker are malfunctioning. - Sound signal circuits between BOSE amp. and either front or rear microphone are malfunctioning. - BOSE amp. malfunction is detected.	- Malfunctioning speaker circuits. - Malfunctioning front or rear microphone circuits. - Replace BOSE amp. Refer to AV-192, "Removal and Installation".

Area with yellow connection lines	Description	Possible malfunction location / Action to take
Control Unit ↔ Cluster	When either one of the following items are detected: - Combination meter power supply and ground circuits are malfunctioning. - AV communication circuits between display control unit and combination meter are malfunctioning.	- Combination meter power supply and ground circuits. Refer to WCS-28, "COMBINATION METER : Diagnosis Procedure". - AV communication circuits between display control unit and combination meter are malfunctioning.
Navigation unit ↔ GPS Antenna	GPS antenna connection malfunctions are detected.	GPS antenna Refer to AV-158, "Diagnosis Procedure" .
Audio Head Unit ↔ XM Antenna	Satellite antenna connection malfunctions are detected.	Satellite antenna Refer to AV-159, "Diagnosis Procedure" .

CONFIRMATION/ADJUSTMENT MODE

- Start the diagnosis function and select "Confirmation/Adjustment". The confirmation/adjustment mode indicates where each item can be checked or adjusted.
- Select each switch on the "Confirmation/Adjustment Mode" screen to display the relevant trouble diagnosis screen. Touch "Back" to return to the initial "Confirmation/Adjustment Mode" screen.

Display Diagnosis

Confirmation of the AV control unit screen and integral switch screen.

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[REAR VIEW MONITOR SYSTEM (NAVIGATION)]

Item		Description
Display Settings	Color Spectrum Bar	• Display 8 colors of following bars: - White - Yellow - Cyan (Close to light blue) - Green - Magenta (Close to purplish red) - Red - Blue - Black
	Gradation Bar	Display 32 gradation gray-scale image to a screen.
	White Display	Display white screen.
Touch Panel Response Check		• The function can check the presence of a circle indication and deviation from where it should be while touching the touch panel. If you hit Map button you will be taken to a trace screen. Here you can check the function of continuous gesture on the screen. To back out of screen hit the map button.
Touch Panel Calibration		• Allows you to recalibrate the touch panel screen.

Vehicle Signals

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

AV control unit

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 Signal	ON	Parking brake is applied.	
	OFF	Parking brake is released.	
Light Signal	ON	Block the light beam from the auto light optical sensor when the light switch is ON.	—
	OFF	Either of the following conditions: • Lighting switch is OFF. • Expose the auto light optical sensor to light when the light switch is ON.	
Ignition Signal	ON	Ignition switch ON.	—
	OFF	Ignition switch in ACC position.	
Reverse Signal	ON	Shift the selector lever to "R" position.	Changes in indication may be delayed. This is normal.
	OFF	Shift the selector lever other than "R" position.	

Speaker Test

Select "Speaker Test" to display the speaker diagnosis screen. Touch "Start" to generate a test tone in a speaker. Touch "Next" to generate a test tone in the next speaker. Touch "End" to stop the test tones.

Error Location Display

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:

- Place of the error occurrence is represented by the longitude and latitude 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 up-and-down manner.

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DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[REAR VIEW MONITOR SYSTEM (NAVIGATION)]

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	Applicable DTC	Reference
CAN COMM CIRCUIT	U1000	AV-151
CONTROL UNIT (CAN)	U1010	AV-153
Mismatched configuration data stored	U1223	AV-154
Amplifier temperature error	U1231	AV-155
Steer. Angle Sensor calibration	U1232	AV-156
GPS Antenna error	U1244	AV-158
XM Antenna connection error : open	U1258	AV-159
XM Antenna connection error : short		
Cluster connection error	U1267	AV-161
Confirm user connection unit	U12B7	AV-163
Radio Antenna error : open	U12BE	AV-164
Radio Antenna error : short		

CAN Diagnosis

CAN Monitor

- 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)
CMF Send Switch	OK / UNKW	OK / 0 – 39 / —
CMF Receive 2ndDisp	OK / UNKW	OK / 0 – 39 / —
CMF Receive Bose AMP	OK / UNKW	OK / 0 – 39 / —
CMF Receive AVM	OK / UNKW	OK / 0 – 39 / —
CMF Receive Meter	OK / UNKW	OK / 0 – 39 / —
CMF Receive Audio	OK / UNKW	OK / 0 – 39 / —

Camera Cont.

Item	Description
Correct Draw Line of Rear View Cam	The guiding lines in the rear view monitor can be adjusted.
Alter/Confirm Configuration	Displays the current configuration data. NOTE: Refer to the following list for the items of the configuration adjustment function:
Reset Configuration	Initializes the camera system configuration.
Camera System Type	Sets the type of camera that is connected.

Configuration list

Setting item	Setting (Default value)	
	Direct adaptive steering models	Vehicle speed sensitive P/S models
Predictive Course Lines	With SBW	Without SBW
Rear Coeff. K	1.37847	1.37847

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[REAR VIEW MONITOR SYSTEM (NAVIGATION)]

Setting item	Setting (Default value)	
	Direct adaptive steering models	Vehicle speed sensitive P/S models
Rear Coeff. F	0.0394	0.0394
Rear Coeff. P1	-0.24463	-0.24463
Rear Coeff. P2	0.07005	0.07005
Rear Coeff. C1	-0.00608	-0.00608
Rear Coeff. C2	-0.00001	-0.00001
Rear Coeff. D1	130.6	130.6
Rear Coeff. D2	-35	-35
Car Width	1822.9	1822.9
Rear Offset	3835.175	3835.175
Rear Height	581.589	581.589
Rear L/R Angle	0	0
Rear Up/Dn Angle	0	0
Rear Roll Angle	0	0
Bumper Rear Dist.	0	0
Bumper Rear Ax Dist	0	0
Max. Steering Angle	31.56	31.56
Min. Turning Radius	1	1.47
Wheelbase	2850	2850
Total Length	4792	4792
Steering Gear Ratio	0.032	0.047
Tot.Width With Mirrors	0	0

SXM

SXM Mode Diagnosis

Item	Description
Diagnostic Mode Display	Display adjustment items to test satellite radio function.
External Connection Mode	Set in external diagnostic mode.

Delete Unit Connection Log

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

Reset Settings

Item	Description
Reset User Data	Initializes the display control unit, NAVI control unit and AV control unit memory.
Reset Configuration	Initializes the configuration data.

Version Information

Version information of each control unit and switch is displayed.

Program Update

Version of the AV control unit can be updated.

Hands-Free Phone

The hands-free phone reception volume adjustment and microphone and speaker test functions are also available.

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[REAR VIEW MONITOR SYSTEM (NAVIGATION)]

Item	Description
HF Vol. Adjustment	The reception volume can be set in three steps: "Low", "Standard" and "High".
Voice Microphone Test	The microphone audio can be directly connected to the speakers to perform a microphone test.

CONSULT Function

INFOID:0000000011230340

APPLICATION ITEMS

CONSULT performs the following functions via the communication with the display control unit:

Diagnosis mode	Description
Self Diagnostic Result	Performs a diagnosis on the display 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 inputted to the display control unit can be performed.
Work Support	Steering angle sensor can be adjusted.
ECU Identification	The part number of display control unit can be checked.
Configuration	- Read and save the vehicle specification. - Write the vehicle specification when replacing display control unit.

SELF DIAGNOSTIC 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, are detected. The counter increases by 1 if the condition is normal at the next ignition switch ON cycle.
- Refer to [AV-151. "Diagnosis Procedure"](#).

Freeze Frame Data (FFD)

The following vehicle status is recorded when DTC is detected and is displayed on CONSULT:

Item name	Display content
ODO/TRIP METER (km)	Total driving distance (odometer value) upon DTC detection is displayed.
TOTAL DISTANCE (km)	

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:

- 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.	

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[REAR VIEW MONITOR SYSTEM (NAVIGATION)]

Display item	Display	Vehicle status	Remarks
ILLUM SIG	On	Block the light beam from the auto light optical sensor when the light switch is ON.	—
	Off	Either of the following conditions: • Lighting switch is OFF. • Expose the auto light optical sensor to light when the light switch is ON.	
IGN SIG	On	Ignition switch ON.	
	Off	Ignition switch 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.	

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. Refer to [BRC-64, "Work Procedure"](#).

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

ECU IDENTIFICATION

The part number of display control unit is displayed.

CAUTION:

- When replacing display control unit, you must perform "Read / Write Configuration" or "Manual Configuration" with CONSULT.
- Complete the procedure of "Read / Write Configuration" or "Manual Configuration" in order.
- If you set incorrect "Read / Write Configuration" or "Manual Configuration", incidents might occur.
- Configuration is different for each vehicle model. Confirm configuration of each vehicle model.

AV

AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[REAR VIEW MONITOR SYSTEM (NAVIGATION)]

ECU DIAGNOSIS INFORMATION

AV CONTROL UNIT

Reference Value

INFOID:0000000011230341

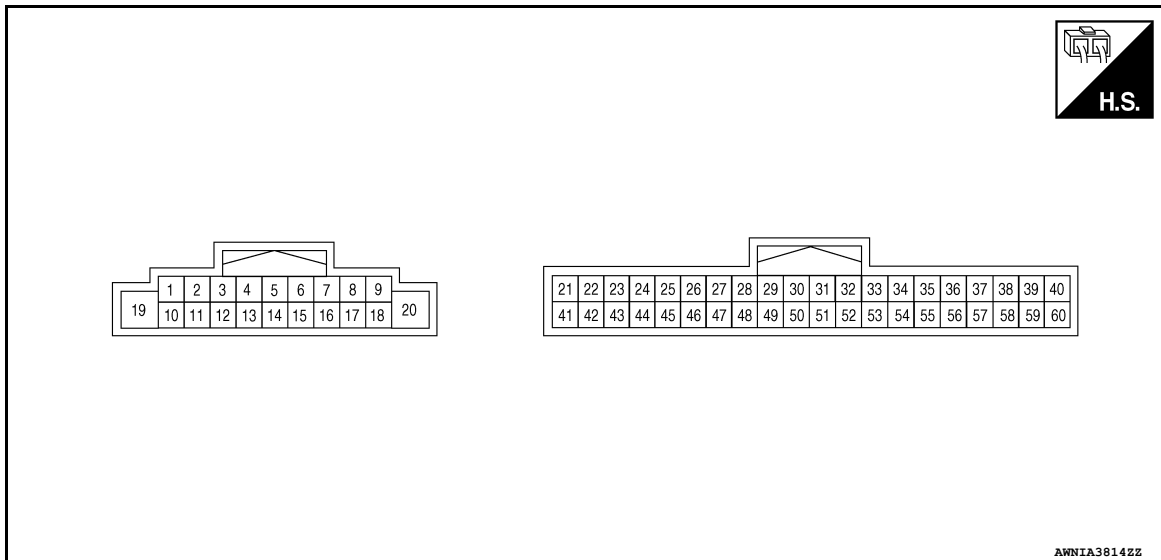
VALUES ON THE DIAGNOSIS TOOL

NOTE:

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

Monitor item	Condition		Value/Status
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 beam from the auto light optical sensor when the light switch is ON.	On
		Expose the auto light optical sensor to light when the light switch is OFF or ON.	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

TERMINAL LAYOUT



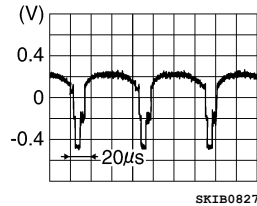
PHYSICAL VALUES

Terminal (Wire color)		Description		Condition	Reference value (Approx.)
+	-	Signal name	Input/ Output		
7 (P)	Ground	ACC power supply	Input	Ignition switch ACC	Battery voltage
19 (G)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage

AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[REAR VIEW MONITOR SYSTEM (NAVIGATION)]

Terminal (Wire color)		Description		Condition	Reference value (Approx.)
+	—	Signal name	Input/ Output		
21 (LG)	—	M-CAN low	Input/ Output	—	—
22 (LG)	—	M-CAN low	Input/ Output	—	—
23 (P)	—	CAN low	Input/ Output	—	—
26 (LG)	Ground	Ignition power supply	Input	Ignition switch ON	Battery voltage
39 (R)	Ground	Camera power supply	Output	[Ignition switch ON]	6.2 V
40 (W)	59 (B)	Camera image signal	Input	[Ignition switch ON] • Image is displayed.	
41 (SB)	—	M-CAN high	Input/ Output	—	—
42 (SB)	—	M-CAN high	Input/ Output	—	—
43 (L)	—	CAN high	Input/ Output	—	—
45 (G)	Ground	Reverse signal	Input	[Ignition switch ON] • R position	7.0 V or more
				[Ignition switch ON] • Other than R position	3.0 V or less
59 (B)	Ground	Camera ground	—	Ignition switch ON	0 V
60 (—)	—	Camera shield	—	—	—

Fail-Safe

INFOID:0000000011230342

If a malfunction occurs in the Nissan Multi AV, AV control unit performs fail-safe activation according to the detected malfunction.

Detection item	Nissan multi AV operation in fail-safe mode	DTC
CAN communication	The system using the CAN communication signal from control unit which cannot communicate does not function.	U1000
	The system using the CAN communication signal does not function.	U1010
Configuration	A function of display control unit becomes mismatched with a vehicle specification and destination.	U1223
BOSE amp.	BOSE system does not function.	U1231
Steering angle sensor	Predictive course line is not displayed.	U1232
AV control unit	- Sound is not outputted by a speaker. - CD is not played. - Radio does not operate. NOTE: Symptom other than an item may occur.	U1234

AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[REAR VIEW MONITOR SYSTEM (NAVIGATION)]

Detection item	Nissan multi AV operation in fail-safe mode		DTC
GPS antenna	The vehicle positions of a navigation screen differ.		U1244
Satellite radio antenna	Satellite radio is not received.		U1258
USB communication	External data input box	Audio equipment which is connected to USB does not operate.	U12B7
Rear view camera	Rear camera image is not displayed.		U12B8
Radio antenna	Radio is not received.		U12BE

REAR VIEW MONITOR SYSTEM

< WIRING DIAGRAM >

[REAR VIEW MONITOR SYSTEM (NAVIGATION)]

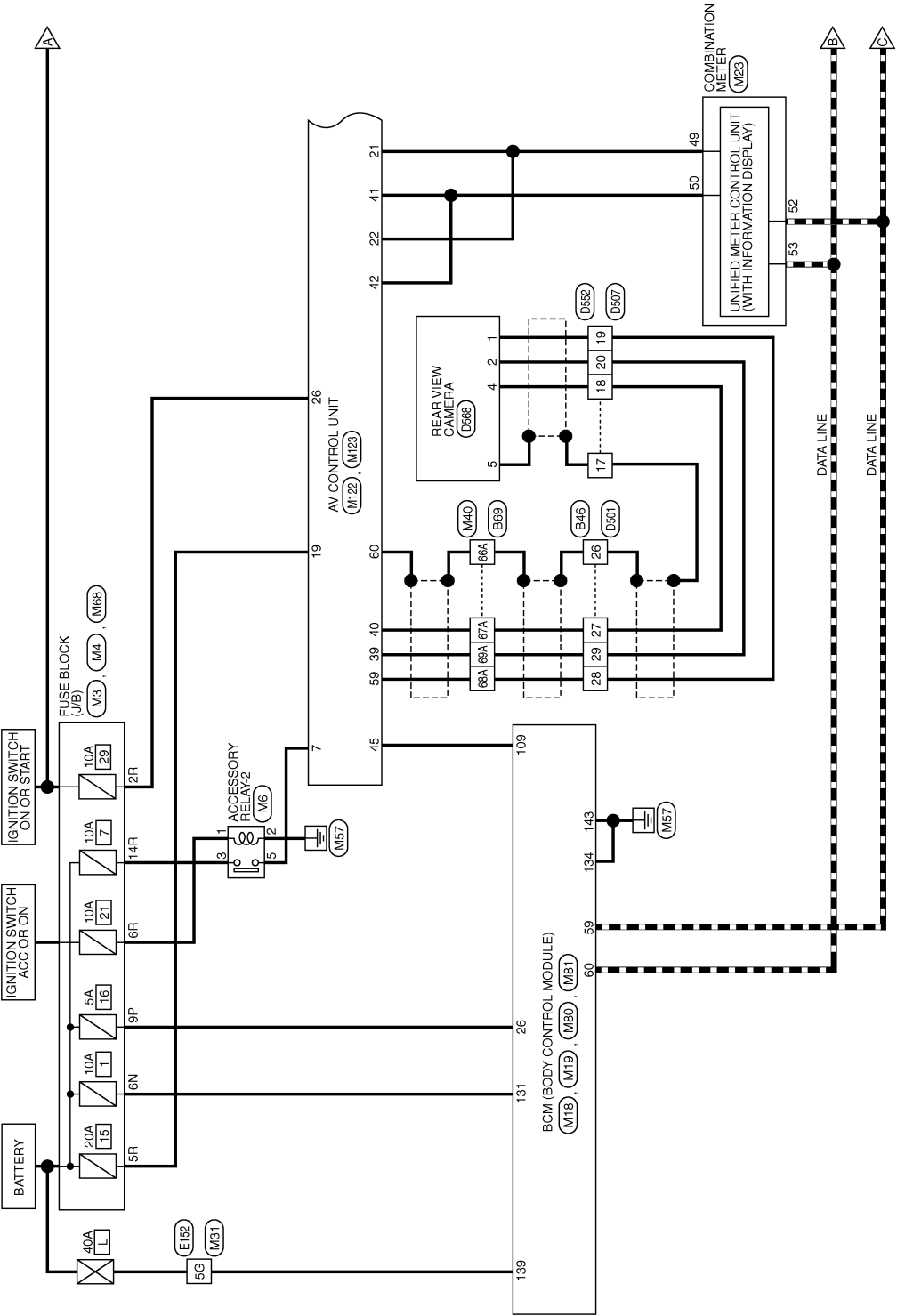
WIRING DIAGRAM

REAR VIEW MONITOR SYSTEM

Wiring Diagram

INFOID:0000000011230345

REAR VIEW MONITOR SYSTEM WITH NAVIGATION SYSTEM



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[REAR VIEW MONITOR SYSTEM (NAVIGATION)]

[REAR VIEW MONITOR SYSTEM (NAVIGATION)]



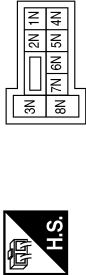
REAR VIEW MONITOR SYSTEM

[REAR VIEW MONITOR SYSTEM (NAVIGATION)]

< WIRING DIAGRAM >

REAR VIEW MONITOR SYSTEM WITH NAVIGATION SYSTEM CONNECTORS

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



Terminal No.	Color of Wire	Signal Name
6N	W	-

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



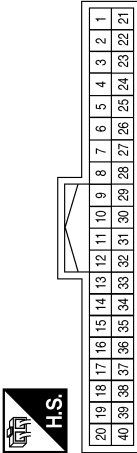
Terminal No.	Color of Wire	Signal Name
9P	L	-

Connector No.	M6
Connector Name	ACCESSORY RELAY-2
Connector Color	BLUE

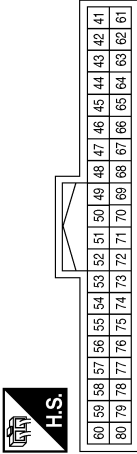


Terminal No.	Color of Wire	Signal Name
1	L	-
2	B	-
3	R	-
5	P	-

Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	GREEN

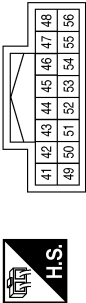


Connector No.	M19
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
26	L	SHORTING INPUT

Connector No.	M23
Connector Name	COMBINATION METER
Connector Color	WHITE



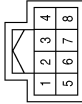
Terminal No.	Color of Wire	Signal Name
49	LG	M-CAN (LOW)
50	SB	M-CAN (HI)
52	P	CAN-L
53	L	CAN-H

REAR VIEW MONITOR SYSTEM

< WIRING DIAGRAM >

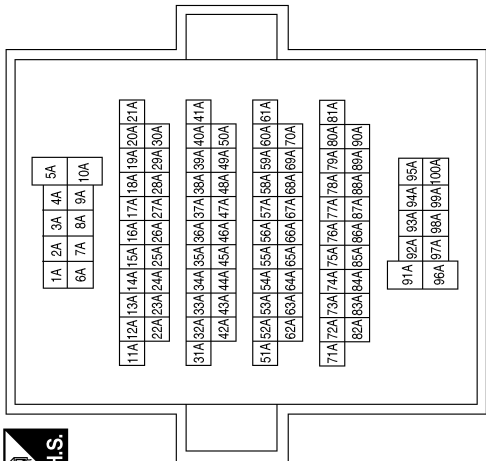
[REAR VIEW MONITOR SYSTEM (NAVIGATION)]

Connector No.	M54
Connector Name	STEERING ANGLE SENSOR
Connector Color	WHITE



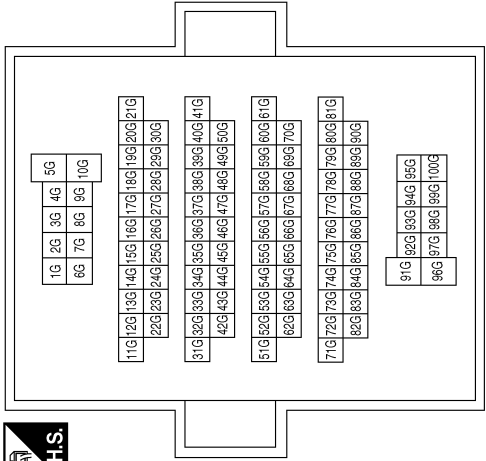
Terminal No.	Color of Wire	Signal Name
2	P	—
5	L	—

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



Terminal No.	Color of Wire	Signal Name
66A	SHIELD	—
67A	W	— (WITHOUT AROUND VIEW MONITOR)
68A	B	— (WITHOUT AROUND VIEW MONITOR)
69A	R	— (WITHOUT AROUND VIEW MONITOR)

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



Terminal No.	Color of Wire	Signal Name
5G	L	—
11G	P	—
12G	L	—

REAR VIEW MONITOR SYSTEM

< WIRING DIAGRAM >

[REAR VIEW MONITOR SYSTEM (NAVIGATION)]

Connector No.	M81
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE

137	138	139	140	141	142	143	134	135	136	131	130	129
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----



Terminal No.	Color of Wire	Signal Name
131	W	BAT BCM FUSE
134	GR	GND2
139	L	BAT POWER F/L
143	GR	GND1

Connector No.	M80
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK

116	115	114	113	112	111	110	109	108	107	106	105
128	127	126	125	124	123	122	121	120	119	118	117



Terminal No.	Color of Wire	Signal Name
109	G	REVERSE SIGNAL

Connector No.	M68
Connector Name	FUSE BLOCK (J/B)
Connector Color	BROWN

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



Terminal No.	Color of Wire	Signal Name
2R	LG	-
5R	G	-
6R	L	-
14R	R	-

Connector No.	M122
Connector Name	AV CONTROL UNIT (WITHOUT BOSE)
Connector Color	WHITE

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



Terminal No.	Color of Wire	Signal Name
7	P	ACC
19	G	BAT

Connector No.	M84
Connector Name	WIRE TO WIRE
Connector Color	WHITE

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



Terminal No.	Color of Wire	Signal Name
21	P	-
22	L	-
28	P	-
29	L	-

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

AV

REAR VIEW MONITOR SYSTEM

[REAR VIEW MONITOR SYSTEM (NAVIGATION)]

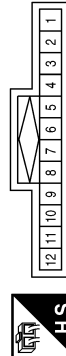
< WIRING DIAGRAM >

Connector No.	M123
Connector Name	AV CONTROL UNIT (WITHOUT BOSE)
Connector Color	WHITE



21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60

Terminal No.	Color of Wire	Signal Name
21	LG	MCAN L TRM
22	LG	MCAN L
23	P	CAN-L
26	LG	IGN
39	R	CAMERA V+
40	W	CAMERA COMP+
41	SB	MCAN H TRM
42	SB	MCAN H
43	L	CAN-H
45	G	REVERSE
59	B	CAMERA GND
60	SHIELD	CAMERA SHIELD



Terminal No.	Color of Wire	Signal Name
1	L	-
3	L	-
7	P	-
9	P	-

Connector No.	E2
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

Terminal No.	Color of Wire	Signal Name
9	P	-
10	L	-



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

Connector No.	E19
Connector Name	WIRE TO WIRE
Connector Color	BROWN



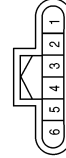
1	2	3
4	5	6
7	8	

Terminal No.	Color of Wire	Signal Name
8	B	-

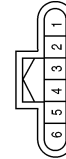


Terminal No.	Color of Wire	Signal Name
1	L	-
2	L	-

Connector No.	E71
Connector Name	JOINT CONNECTOR-E15
Connector Color	BLACK



Connector No.	E70
Connector Name	JOINT CONNECTOR-E14
Connector Color	BLACK



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REAR VIEW MONITOR SYSTEM

< WIRING DIAGRAM >

[REAR VIEW MONITOR SYSTEM (NAVIGATION)]

Connector No.	F19
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

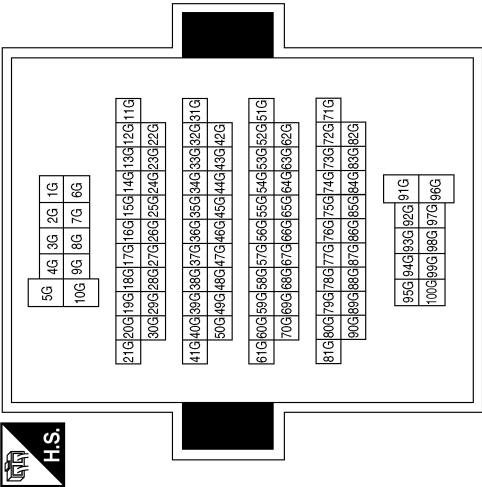
52	53	54	55
56	57	58	59
60	61		



Terminal No.	Color of Wire	Signal Name
61	Y	AT ECU

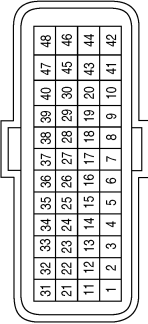
Terminal No.	Color of Wire	Signal Name
5G	P	-
11G	P	-
12G	L	-

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



Terminal No.	Color of Wire	Signal Name
6	BR	R RANGE SW
23	P	CAN-L
33	L	CAN-H
41	B	GND
42	B	GND
47	Y	VIGN
48	Y	VIGN

Connector No.	F25
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Color	BLACK



Connector No.	F24
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

62	63	64	65	66	67
68	69	70	71	72	73



Terminal No.	Color of Wire	Signal Name
64	LG	START IG EGI

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

AV

REAR VIEW MONITOR SYSTEM

[REAR VIEW MONITOR SYSTEM (NAVIGATION)]

< WIRING DIAGRAM >

Connector No.	F33
Connector Name	WIRE TO WIRE
Connector Color	BROWN



3	2	1
8	7	6
5	4	

Terminal No.	Color of Wire	Signal Name
8	B	—

Connector No.	F32
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

Terminal No.	Color of Wire	Signal Name
9	P	—
10	L	—

Connector No.	F29
Connector Name	TRANSMISSION RANGE SWITCH
Connector Color	BLACK



6	5	4	3	2	1
10	9	8	7		

Terminal No.	Color of Wire	Signal Name
4	LG	—
8	BR	—

Connector No.	B46
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

Connector No.	F53
Connector Name	JOINT CONNECTOR-F03
Connector Color	BLACK



5	4	3	2	1
10	9	8	7	6

Terminal No.	Color of Wire	Signal Name
26	SHIELD	—
27	W	— (WITHOUT AROUND VIEW MONITOR)
28	B	—
29	R	— (WITHOUT AROUND VIEW MONITOR)

Terminal No.	Color of Wire	Signal Name
3	B	—
4	B	—
5	B	—

Connector No.	F38
Connector Name	JOINT CONNECTOR-F02
Connector Color	BLACK



5	4	3	2	1
10	9	8	7	6

Terminal No.	Color of Wire	Signal Name
3	Y	—
4	Y	—
5	Y	—

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REAR VIEW MONITOR SYSTEM

[REAR VIEW MONITOR SYSTEM (NAVIGATION)]

< WIRING DIAGRAM >

Connector No.	B101
Connector Name	WIRE TO WIRE
Connector Color	WHITE

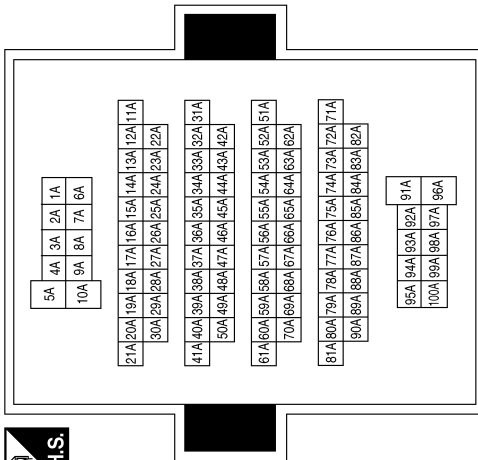


1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32

Terminal No.	Color of Wire	Signal Name
21	P	—
22	L	—
28	P	—
29	L	—

Terminal No.	Color of Wire	Signal Name
66A	SHIELD	—
67A	W	— (WITHOUT AROUND VIEW MONITOR)
68A	B	—
69A	R	— (WITHOUT AROUND VIEW MONITOR)

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



Connector No.	D552
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

Terminal No.	Color of Wire	Signal Name
17	SHIELD	—
18	W	— (WITHOUT AROUND VIEW MONITOR)
19	B	—
20	R	— (WITHOUT AROUND VIEW MONITOR)

Connector No.	D507
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

Terminal No.	Color of Wire	Signal Name
17	SHIELD	—
18	W	— (WITHOUT AROUND VIEW MONITOR)
19	B	—
20	R	— (WITHOUT AROUND VIEW MONITOR)

Connector No.	D501
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

Terminal No.	Color of Wire	Signal Name
26	SHIELD	—
27	W	— (WITHOUT AROUND VIEW MONITOR)
28	B	—
29	R	— (WITHOUT AROUND VIEW MONITOR)

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REAR VIEW MONITOR SYSTEM

< WIRING DIAGRAM >

[REAR VIEW MONITOR SYSTEM (NAVIGATION)]

Connector No.	D568
Connector Name	REAR VIEW CAMERA
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
1	B	—
2	R	— (WITHOUT AROUND VIEW MONITOR)
4	W	— (WITHOUT AROUND VIEW MONITOR)
5	SHIELD	—

AANIA3320GB

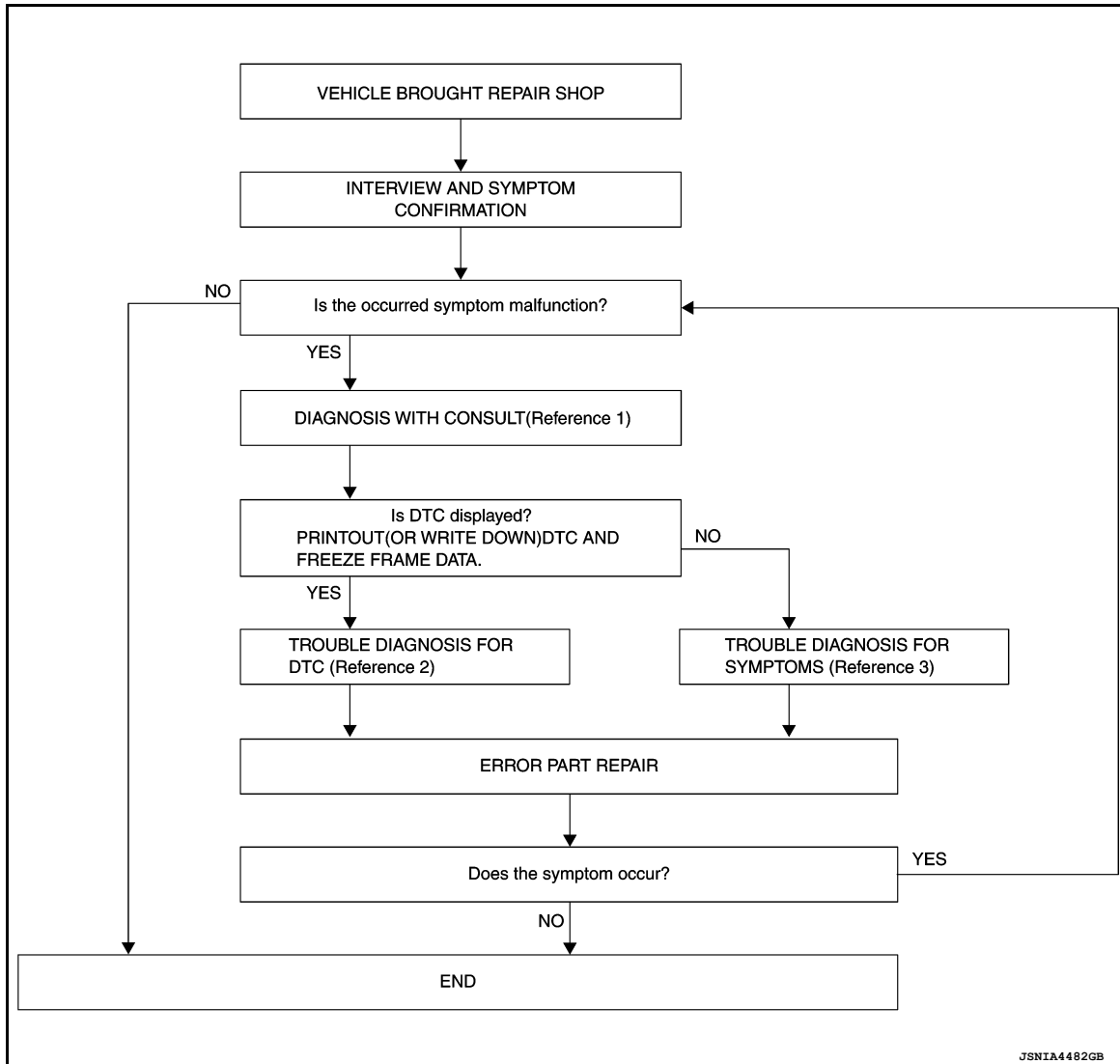
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000011230346

OVERALL SEQUENCE



- Reference 1: Refer to [AV-328, "CONSULT Function"](#).
- Reference 2: Refer to [AV-347, "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 a 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-328, "CONSULT Function"](#).

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[REAR VIEW MONITOR SYSTEM (NAVIGATION)]

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 (FFD).

Is DTC displayed?

YES >> GO TO 3.

NO >> GO TO 4.

3. TROUBLE DIAGNOSIS FOR DTC

1. Check the DTC indicated in the "Self Diagnostic Result".
2. Perform the relevant diagnosis referring to the DTC list.

>> GO TO 5.

4. TROUBLE DIAGNOSIS FOR SYMPTOMS

Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to [AV-347. "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 Diagnostic Result".

3. Check that the symptom does not occur.

Does the symptom occur?

YES >> GO TO 1.

NO >> Inspection End.

CAMERA IMAGE SIGNAL CIRCUIT (WITH REAR VIEW MONITOR)

< DTC/CIRCUIT DIAGNOSIS >

[REAR VIEW MONITOR SYSTEM (NAVIGATION)]

DTC/CIRCUIT DIAGNOSIS

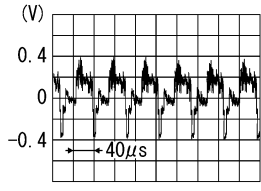
CAMERA IMAGE SIGNAL CIRCUIT (WITH REAR VIEW MONITOR)

Diagnosis Procedure

INFOID:0000000011230349

1.CHECK CAMERA IMAGE SIGNAL

1. Turn ignition switch ON.
2. Shift the selector lever to "R" position.
3. Check the signal between AV control unit harness connector M123 and ground.

AV control unit			Condition	Reference value
Connector	(+)	(-)		
	Terminal			
M123	40	59	When rear view camera image is displayed.	 SKIB2251J

Is the inspection result normal?

- YES >> Replace AV control unit. Refer to [AV-179, "Removal and Installation"](#).
NO >> GO TO 2.

2.CHECK CAMERA IMAGE SIGNAL CIRCUIT FOR OPEN

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M123 and rear view camera harness connector D568.
3. Check the continuity between AV control unit harness connector M123 and rear view camera harness connector D568.

AV control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M123	40	D568	4	Yes

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Repair or replace malfunctioning parts.

3.CHECK CAMERA IMAGE SIGNAL CIRCUIT FOR SHORT

Check the continuity between AV control unit harness connector M123 and ground.

Terminal			Continuity
(+)		(-)	
AV control unit			
Connector	Terminal		
M123	40	Ground	No

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Repair or replace malfunctioning parts.

4.CHECK CAMERA IMAGE SIGNAL GROUND CIRCUIT

Check the continuity between AV control unit harness connector and rear view camera harness connector D568.

CAMERA IMAGE SIGNAL CIRCUIT (WITH REAR VIEW MONITOR)

< DTC/CIRCUIT DIAGNOSIS >

[REAR VIEW MONITOR SYSTEM (NAVIGATION)]

AV control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M123	9	D568	1	Yes

Is the inspection result normal?

- YES >> Replace rear view camera. Refer to [AV-351, "Removal and Installation"](#).
NO >> Repair or replace malfunctioning parts.

REAR VIEW MONITOR SYSTEM

< SYMPTOM DIAGNOSIS >

[REAR VIEW MONITOR SYSTEM (NAVIGATION)]

SYMPTOM DIAGNOSIS

REAR VIEW MONITOR SYSTEM

Symptom Table

INFOID:0000000011230353

REAR VIEW MONITOR SYSTEM

Symptom	Possible cause	Inspection item
Camera image is not shown. (Vehicle width and predictive course line are displayed.)	• Harness between rear view camera and AV control unit • Rear view camera • AV control unit	Camera image signal circuit. Refer to AV-345, "Diagnosis Procedure" .
Camera image does not switch.	• Harness between TCM and AV control unit • Ignition power supply circuit • Transmission range switch • AV control unit • TCM	Reverse signal circuit. Refer to TM-105, "Diagnosis Procedure" .

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NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[REAR VIEW MONITOR SYSTEM (NAVIGATION)]

NORMAL OPERATING CONDITION

Description

INFOID:0000000011230354

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 system is in the video mode.	Press "AUDIO" to change the mode.
	The interior of the vehicle is above 80°C (176°F) or high temperature, and the protection of the display reacts, and a display is turned off.	Wait until the interior of the vehicle has cooled down.
Screen is not clear.	Contrast setting is not appropriate.	Adjust the contrast of the display.
No voice guidance is available. 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 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.

AV CONTROL UNIT

< REMOVAL AND INSTALLATION >

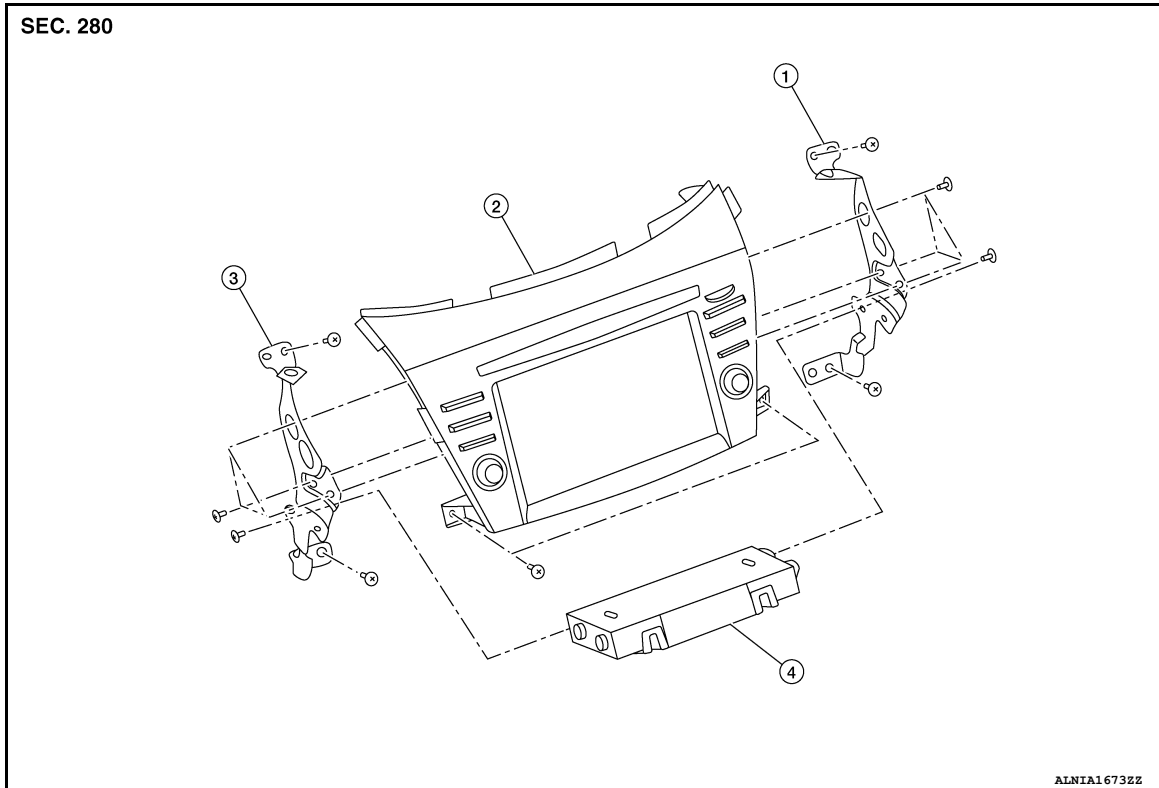
[REAR VIEW MONITOR SYSTEM (NAVIGATION)]

REMOVAL AND INSTALLATION

AV CONTROL UNIT

Exploded View

INFOID:0000000011578404



1. AV control unit bracket (RH) 2. AV control unit 3. AV control unit bracket (LH)
4. A/C auto amp.

Removal and Installation

INFOID:0000000011578405

REMOVAL

CAUTION:

Before disconnecting the AV control unit and battery terminals, turn the ignition switch OFF and wait at least 30 seconds.

NOTE:

- Before replacing AV control unit, perform "Before Replace ECU" of "Read / Write Configuration" to save or print current vehicle specification. Refer to [AV-148, "Description"](#).
- 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. Disconnect the negative battery terminal. Refer to [PG-86, "Removal and Installation"](#).
2. Remove cluster lid D. Refer to [IP-23, "Removal and Installation"](#).
3. Remove A/C switch assembly. Refer to [HAC-94, "Removal and Installation"](#).
4. Remove AV control unit screws then pull out AV control unit.
5. Disconnect the harness connectors from AV control unit and remove.
6. Remove AV control unit bracket (LH/RH) screws and AV control unit brackets [(LH/RH) (if necessary)].

INSTALLATION

CAUTION:

Be sure to perform "After Replace ECU" of "Read / Write Configuration" or "Manual Configuration" when replacing AV control unit. Refer to [AV-148, "Work Procedure"](#).

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AV CONTROL UNIT

< REMOVAL AND INSTALLATION >

[REAR VIEW MONITOR SYSTEM (NAVIGATION)]

Installation is in the reverse order of removal.

REAR VIEW CAMERA

< REMOVAL AND INSTALLATION >

[REAR VIEW MONITOR SYSTEM (NAVIGATION)]

REAR VIEW CAMERA

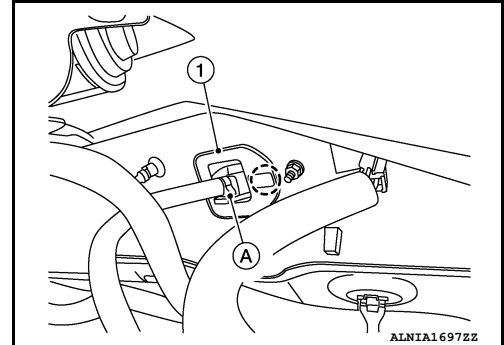
Removal and Installation

INFOID:0000000011568194

REMOVAL

1. Remove back door outer finisher. Refer to [EXT-53, "Removal and Installation"](#).
2. Disconnect the harness connector (A) from the rear camera (1).
3. Release pawl then remove rear camera.

(○): Pawl



INSTALLATION

Installation is in the reverse order of removal.

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. Refer to [AV-241, "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Work Procedure"](#).

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