

# SECTION **AV**

## AUDIO, VISUAL & NAVIGATION SYSTEM

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## PRECAUTION

### PRECAUTIONS

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

INFOID:000000005246872

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

#### **WARNING:**

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

#### Precaution for Trouble Diagnosis

INFOID:000000005246873

#### AV COMMUNICATION SYSTEM

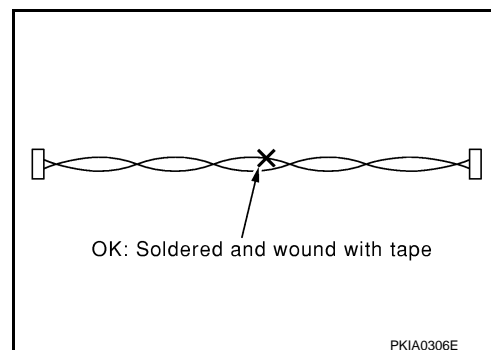
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

#### Precaution for Harness Repair

INFOID:000000005246874

#### AV COMMUNICATION SYSTEM

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



PKIA0306E

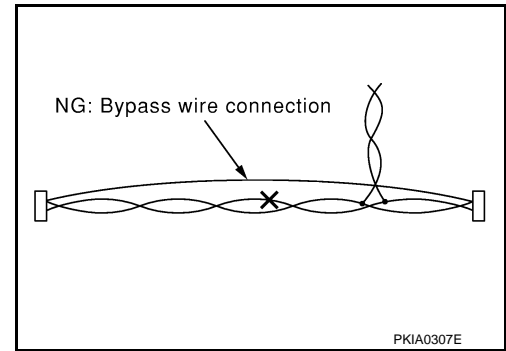


## PRECAUTIONS

### < PRECAUTION >

[WITHOUT NAVIGATION]

- 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.)



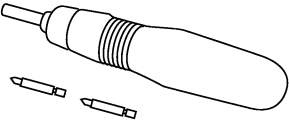
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## PREPARATION

### PREPARATION

#### Commercial Service Tools

INFOID:000000005246875

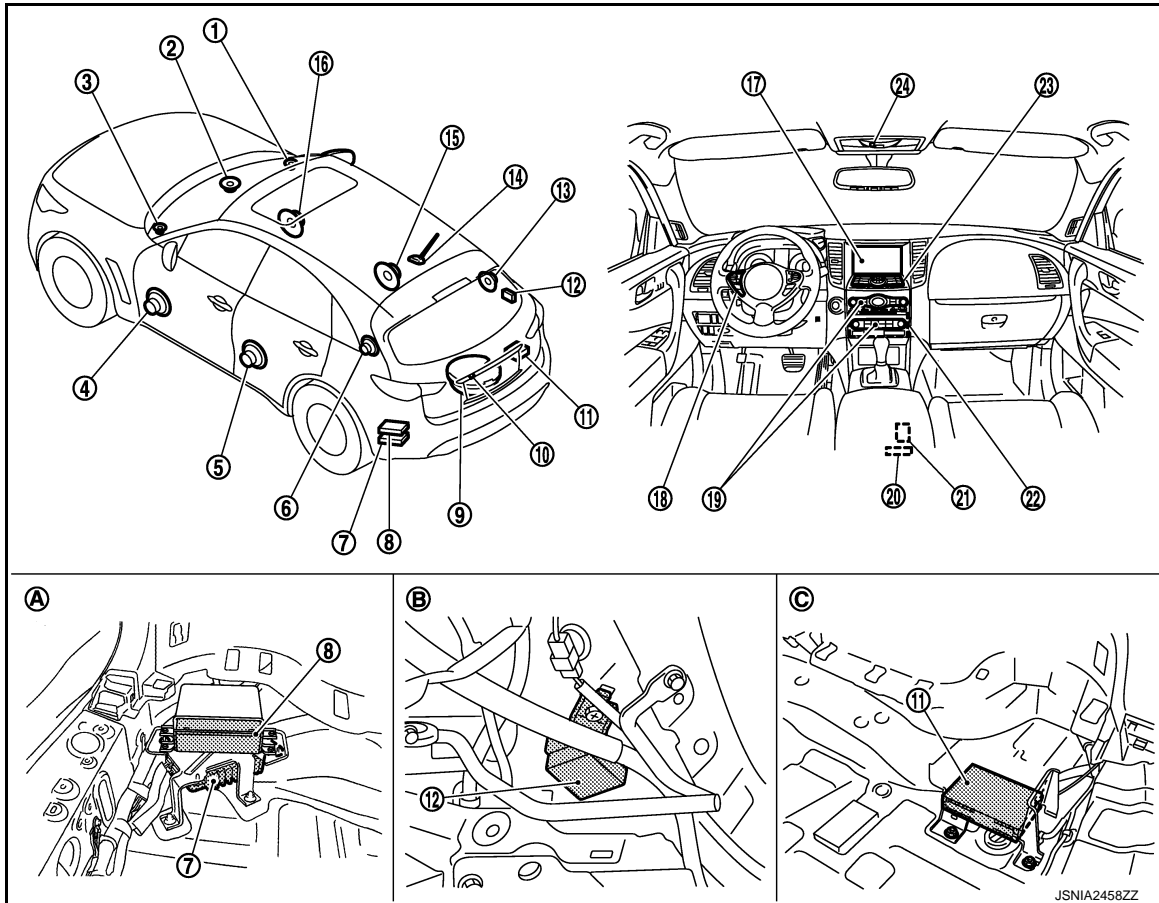
Tool name	Description
<p>Power tool</p>  <p>PBIC0191E</p>	<p>Loosening screws</p>

## SYSTEM DESCRIPTION

### COMPONENT PARTS

#### Component Parts Location

INFOID:000000005527807



- |                            |   |  |
|----------------------------|---|--|
| 1. Front squawker RH       | 2. Center speaker                                     | 3. Front squawker LH                         |
| 4. Front door speaker LH   | 5. Rear door speaker LH                               | 6. Rear squawker LH                          |
| 7. BOSE amp.               | 8. TEL adapter unit                                   | 9. Woofer                                    |
| 10. Rear view camera       | 11. Satellite radio tuner                             | 12. TEL antenna                              |
| 13. Rear squawker RH       | 14. Antenna base (antenna amp. and satellite antenna) | 15. Rear door speaker RH                     |
| 16. Front door speaker RH  | 17. Front display unit                                | 18. Steering switch                          |
| 19. Preset switch          | 20. Auxiliary input jacks                             | 21. USB connector                            |
| 22. AV control unit        | 23. Multifunction switch                              | 24. Microphone                               |
| A. Luggage floor (LH side) | B. Luggage side RH                                    | C. Console pocket assembly removed condition |

# COMPONENT PARTS

< SYSTEM DESCRIPTION >

[WITHOUT NAVIGATION]

## Component Description

INFOID:00000000527808

Part name	Description
AV control unit	<ul style="list-style-type: none"> <li>Integrates flash memory allowing music data to be stored.</li> <li>It is the master unit of the MULTI AV system, and it is connected to each control unit by communication. It operates each system according to communication signals from the AV control unit.</li> <li>The AV control unit includes the audio, USB connection and vehicle information functions.</li> <li>It is connected to ECM and unified meter and A/C amp. via CAN communication to obtain necessary information for the vehicle information function.</li> <li>It is connected to BCM via CAN communication transmitting/receiving for the vehicle settings function.</li> <li>It inputs the illumination signals that are required for the display dimming control.</li> <li>It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).</li> <li>TEL voice signal and voice guidance signal are input from TEL adapter unit.</li> </ul>
Front display unit	<ul style="list-style-type: none"> <li>Front display image is controlled by the serial communication from AV control unit.</li> <li>It receives the power (signal VCC and inverter VCC) from the AV control unit and operates.</li> <li>RGB image signal is input from AV control unit (RGB, RGB area and RGB synchronizing).</li> <li>Composite image signals (auxiliary and camera images) are input from AV control unit.</li> <li>Synchronizing signal (HP, VP) is output to AV control unit.</li> </ul>
BOSE amp.	<ul style="list-style-type: none"> <li>Inputs sound signal from AV control unit, and outputs sound signal to each speaker.</li> <li>Inputs mode change signal from AV control unit.</li> </ul>
Front door speaker	<ul style="list-style-type: none"> <li>Outputs sound signal from BOSE amp.</li> <li>Outputs high, mid and low range sounds.</li> </ul>
Rear door speaker	<ul style="list-style-type: none"> <li>Outputs sound signal from BOSE amp.</li> <li>Outputs high, mid and low range sounds.</li> </ul>
Front squawker	<ul style="list-style-type: none"> <li>Outputs sound signal from BOSE amp.</li> <li>Outputs mid range sounds.</li> </ul>
Rear squawker	<ul style="list-style-type: none"> <li>Outputs sound signal from BOSE amp.</li> <li>Outputs mid range sounds.</li> </ul>
Center speaker	<ul style="list-style-type: none"> <li>Outputs sound signal from BOSE amp.</li> <li>Outputs high and mid range sounds.</li> </ul>
Woofer	<ul style="list-style-type: none"> <li>Inputs power (woofer amp. ON signal) and sound signal from BOSE amp.</li> <li>Outputs low range sound.</li> </ul>
Multifunction switch	<ul style="list-style-type: none"> <li>Operation panel is equipped with the centralized switch where audio and auxiliary input, etc. operations are integrated.</li> <li>Connected with preset switch via cable, and operation signal is transmitted to AV control unit via AV communication.</li> </ul>
Preset switch	<ul style="list-style-type: none"> <li>Operation panel is equipped with the centralized switch where audio and air conditioner, etc. operations are integrated.</li> <li>Connected with multifunction switch via cable, and operation signal is transmitted to AV control unit via AV communication.</li> <li>The disk ejection operating signal is performed by hardwire.</li> </ul>
Rear view camera	<ul style="list-style-type: none"> <li>Camera power supply is input from AV control unit.</li> <li>The image of vehicle rear view is transmitted to AV control unit.</li> </ul>
Steering switch	<ul style="list-style-type: none"> <li>Operations for audio and hands-free phone are possible.</li> <li>Steering switch signal (operation signal) is output to AV control unit.</li> </ul>
Microphone	<ul style="list-style-type: none"> <li>Used for hands-free phone operation.</li> <li>Microphone signal is transmitted to TEL adapter unit.</li> <li>Power (Microphone VCC) is supplied from TEL adapter unit.</li> </ul>

# COMPONENT PARTS

< SYSTEM DESCRIPTION >

[WITHOUT NAVIGATION]

Part name	Description
Auxiliary input jacks	Image signal and sound signals of auxiliary input are transmitted to AV control unit.
USB connector	Sound signal of USB input is transmitted to AV control unit.
Antenna base	<p>An antenna base integrated with radio antenna amp. and satellite radio antenna is adopted.</p> <p>ANTENNA AMP.</p> <ul style="list-style-type: none"> <li>Radio signal received by rod antenna is amplified and transmitted to AV control unit.</li> <li>Power (antenna amp. ON signal) is supplied from AV control unit.</li> </ul> <p>SATELLITE RADIO ANTENNA</p> <ul style="list-style-type: none"> <li>Receives the satellite radio waves and outputs it to satellite radio tuner.</li> </ul>
Satellite radio tuner	<ul style="list-style-type: none"> <li>Inputs the satellite radio signal from satellite radio antenna and outputs the sound signal to the AV control unit.</li> <li>It is controlled with the AV control unit and serial communication (communication signal and request signal).</li> </ul>
TEL adapter unit	<ul style="list-style-type: none"> <li>Inputs the TEL voice signal from TEL antenna and outputs it to the AV control unit.</li> <li>It is connected with the AV control unit via AV communication and controlled with the AV control unit.</li> </ul>
TEL antenna	Receives the TEL voice signal and outputs it to the TEL adapter unit.

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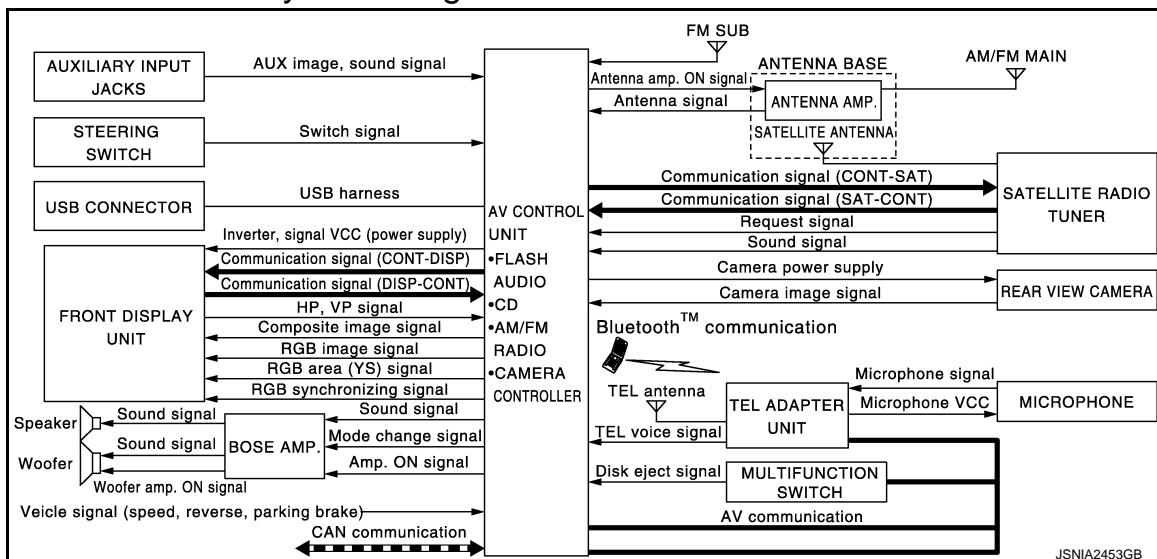
AV

## SYSTEM

### MULTI AV SYSTEM

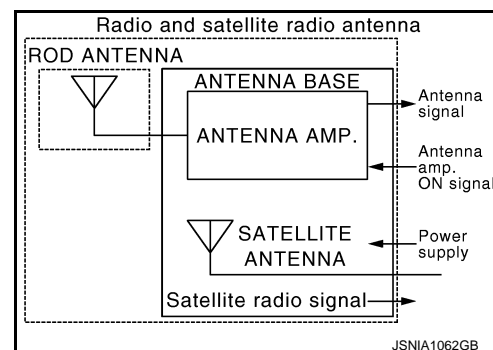
#### MULTI AV SYSTEM : System Diagram

INFOID:000000005527809



#### NOTE:

- The name MULTIFUNCTION SWITCH indicates the integration of PRESET SWITCH and MULTIFUNCTION SWITCH virtually.
- An antenna base integrated with radio antenna and satellite radio antenna is adopted.



#### MULTI AV SYSTEM : System Description

INFOID:000000005527810

Multi AV system means that the following systems are integrated.

FUNCTION NAME
Audio function
Hands-free phone function
Rear view monitor function
Auxiliary input function
Vehicle information function

#### COMMUNICATION SIGNAL

- AV control unit function by transmitting/receiving data one by one with each unit (slave unit) that configures them completely as a master unit by connecting between units that configure MULTI AV system with two AV communication lines (H, L).
- Two AV communication lines (H, L) adopt a twisted pair line that is resistant to noise.
- AV control unit is connected by CAN communication, and it receives data signal from ECM, unified meter and A/C amp. It computes and displays fuel economy information value with the obtained information. Transmitting/receiving of data signal is performed by BCM. Also, it transmits the required signal of vehicle setting and receives the response signal.

# SYSTEM

## < SYSTEM DESCRIPTION >

[WITHOUT NAVIGATION]

- AV control unit is connected with front display unit and serial communication, and it transmits the required signal of front display unit and display control and receives the response signal from front display unit.

## AUDIO FUNCTION

The audio system is equipped with the following functions. Each function is operated with multifunction switch, preset switch, steering switch. Operation status of audio is indicated at front display.

FUNCTION
AM/FM radio
Satellite radio
CD
Music Box (flash memory)
USB connection function
Driver's Audio Stage

### Operating Signal

Audio system operation can be performed with multifunction switch, preset switch or steering switch.

- Operating signal is transmitted to AV control unit with AV communication when it is operated by multifunction switch or preset switch. The disk ejection operating signal is performed by hardwire.
- Operating signal is transmitted to AV control unit with steering switch signal when it is operated by steering switch.

### Screen Display

- Switching of front display is performed with serial communication between front display unit and AV control unit.
- The image signal to display operating condition is performed with RGB image signal, RGB area signal and RGB image synchronizing signal.

### AM/FM Radio Mode

- AM/FM radio tuner is built into AV control unit.
- Audio signal is received by rod antenna, next it is amplified by antenna amp., and finally it is input to AV control unit. Audio signal is input to BOSE amp., and BOSE amp. outputs to each speaker.

### Satellite Radio Mode

- Satellite radio tuner is controlled by communication signal and request signal with AV control unit.
- Sound signal (satellite radio) is received by satellite antenna and transmitted to AV control unit. AV control unit outputs sound signal (satellite radio) to BOSE amp. The signal is also outputted from BOSE amp. to both woofer and each speaker.

### CD Mode

- CD function is built into AV control unit.
- AV control unit outputs audio signal to BOSE amp., and BOSE amp. outputs to each speaker when CD is inserted to AV control unit.

### Music Box Mode

- Music CD data is stored on flash memory that is built into AV control unit, and it can be played.
- AV control unit outputs music (sound signal) that is stored on flash memory to BOSE amp., and BOSE amp. outputs to each speaker.

### USB Connection Function

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

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

### NOTE:

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

### Driver's Audio Stage

- Driver's Audio Stage controls the speaker's output characteristic by BOSE amp. so that the driver's seat is to be the center of sounds.

- ON/OFF signals of Driver's Audio Stage are transmitted from AV control unit to BOSE amp. using mode change signal.

## HANDS-FREE PHONE SYSTEM

- TEL adapter unit is controlled with AV communication from AV control unit.
- The connection between cellular phone and TEL adapter unit is performed with Bluetooth™ communication.
- The voice guidance signal is input from the TEL adapter unit to the AV control unit and output via BOSE amp. to the front speaker when operating the cellular phone.
- TEL adapter unit has the on board self-diagnosis function. Refer to [AV-34, "On Board Diagnosis Function"](#).

### When A Call Is Originated

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

### When Receiving A Call

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

## AUXILIARY INPUT FUNCTION

- Image and sound can be output from an external device by connecting a device with auxiliary input jacks.
- AUX image signals are transmitted to the front display unit through AV control unit.
- AUX sound signals are transmitted to each speaker through AV control unit and BOSE amp.

## REAR VIEW MONITOR FUNCTION

- The AV control unit supplies power to the rear view camera when receiving a reverse signal.
- The rear view camera transmits camera images to the AV control unit when power is supplied from the AV control unit.
- The AV control unit transmits a warning message, fixed guide lines, and predictive course lines to the front display unit by RGB image signals. Rear view monitor images are displayed by combining the RGB image signals and the camera image signals from the rear view camera.
- Predictive course lines are controlled by a steering angle sensor signal received the AV control unit via CAN communication.

## VEHICLE INFORMATION FUNCTION

- Status of audio, climate control system, fuel economy and maintenance are displayed.
- AV control unit displays the fuel consumption status while receiving data signal through CAN communication from ECM, unified meter and A/C amp.
- AV control unit is connected to BCM via CAN communication transmitting/receiving for the vehicle settings function.



# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[WITHOUT NAVIGATION]

## DIAGNOSIS SYSTEM (AV CONTROL UNIT)

### On Board Diagnosis Function

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#### MULTIFUNCTION SWITCH AND PRESET SWITCH SELF-DIAGNOSIS FUNCTION

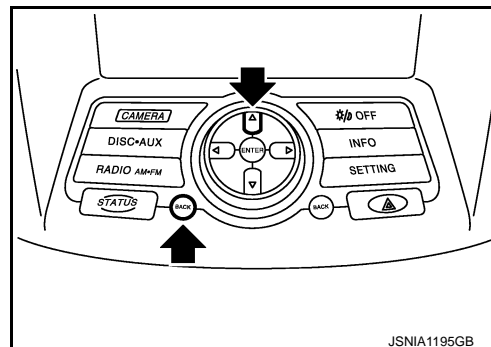
The ON/OFF operation (continuity) of each switch in the multifunction switch and preset switch can be checked.

##### Self-diagnosis Mode

- Press the “BACK” switch and the “UP” switch of the 8-direction switches within 10 seconds after turning the ignition switch from OFF to ACC and hold them for 3 seconds or more. Then the buzzer sounds, all indicators of the preset switch illuminate, and the self-diagnosis mode starts.
- The continuity of each switch at the ON position can be checked by pressing the switch. The buzzer sounds if the switch is normal.

##### NOTE:

The hazard switch and disk eject switch cannot be checked.



##### Finishing Self-diagnosis Mode

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

#### MULTI AV SYSTEM ON BOARD DIAGNOSIS FUNCTION

- The AV control unit diagnosis function starts up with multifunction switch operation and the AV control unit performs a diagnosis for each unit in the system during the on board diagnosis.
- Perform a CONSULT-III 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

##### Description

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

##### On Board Diagnosis Item

Mode	Description
Self Diagnosis	<ul style="list-style-type: none"><li>AV control unit diagnosis.</li><li>Diagnoses the connections across system components, between AV control unit and each unit.</li></ul>

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

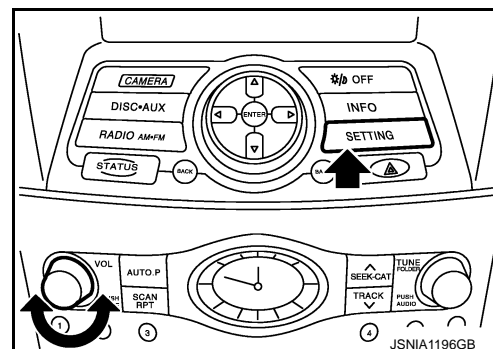
< SYSTEM DESCRIPTION >

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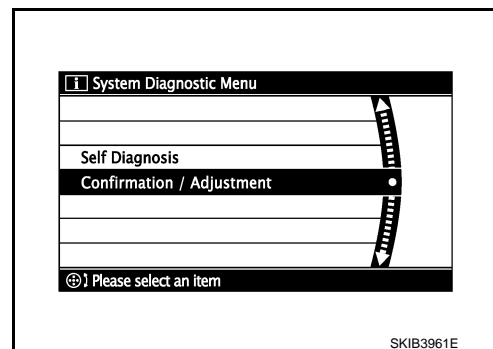
	Mode	Description
Confirmation/ Adjustment	Display Diagnosis	The following check functions are available: color tone check by color bar display and white display, light and shade check by gray scale display.
	Vehicle Signals	Diagnosis of signals can be performed for vehicle speed, parking brake, lights, ignition and reverse.
	Speaker Test	The connection of a speaker can be confirmed by test tone.
	Climate Control	Start auto air conditioner system self-diagnosis.
	Error History	The system malfunction and the frequency when occurring in the past are displayed. When the malfunctioning item is selected, the time and place that the selected malfunction last occurred are displayed.
	Camera Cont.	<ul style="list-style-type: none"> <li>Guiding line position that overlaps rear view camera image can be adjusted.</li> <li>Configuration stored in the AV control unit can be checked.</li> </ul>
	Vehicle CAN Diagnosis	The transmitting/receiving of CAN communication can be monitored.
	AV COMM Diagnosis	The communication condition of each unit of Multi AV system can be monitored.
	Delete Unit Connection Log	Erase the connection history of unit and error history.
	Initialize Settings	Initializes the AV control unit memory.

## STARTING PROCEDURE

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



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



## SELF-DIAGNOSIS MODE

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

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

## < SYSTEM DESCRIPTION >

[WITHOUT NAVIGATION]

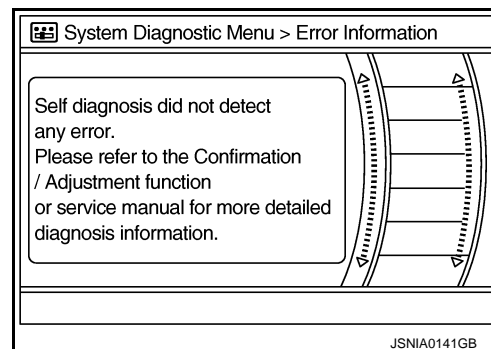
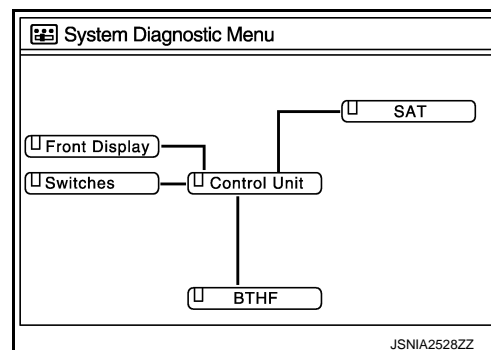
- Diagnosis results are displayed after the self-diagnosis is completed. The unit names and the connection lines are color-coded according to the diagnostic results.

Diagnosis results	Unit	Connection line
Normal	Green	Green
Connection malfunction	Gray	Yellow
Unit malfunction <sup>Note</sup>	Red	Green

### NOTE:

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

- Replace AV control unit if "Self-Diagnosis did not run because of a control unit malfunction" is indicated. The symptom is AV control unit internal error. Refer to [AV-136. "Exploded View"](#).
- If multiple errors occur at the same time for a single unit, the screen switch colors are determined according to the following order of priority: red > gray.
- The comments of the self-diagnosis results can be viewed with a component in the diagnosis result screen.



### Detection Range of Self-diagnosis Mode

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

### SELF-DIAGNOSIS RESULTS

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

Only Unit Part Is Displayed In Red.

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

A Connecting Cable Between Units Is Displayed In Yellow.

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

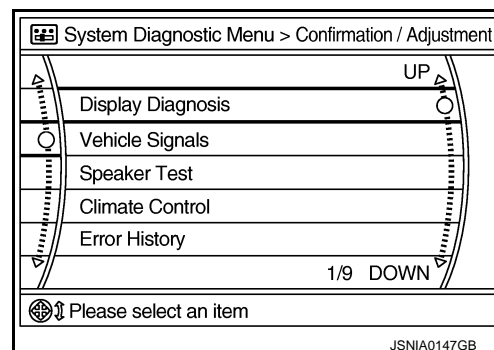
< SYSTEM DESCRIPTION >

[WITHOUT NAVIGATION]

Area with yellow connection lines	Description	Possible malfunction location / Action to take
Control unit ↔ Front Display	Malfunction is detected in serial communication circuits between AV control unit and front display unit.	Serial communication circuits between AV control unit and front display unit.
Control unit ↔ SAT	When either one of the following items is detected: <ul style="list-style-type: none"> <li>• satellite radio tuner power supply and ground circuit malfunction is detected.</li> <li>• malfunction is detected in communication circuits between AV control unit and satellite radio tuner.</li> <li>• malfunction is detected in request signal circuit between AV control unit and satellite radio tuner.</li> </ul>	<ul style="list-style-type: none"> <li>• Satellite radio tuner power supply and ground circuit.</li> <li>• Communication circuit between AV control unit and satellite radio tuner.</li> <li>• Request signal circuit between AV control unit and satellite radio tuner.</li> </ul>
Control unit ↔ BTHF	When either one of the following items is detected: <ul style="list-style-type: none"> <li>• TEL adapter unit power supply and ground circuits are malfunctioning.</li> <li>• AV communication circuits between AV control unit and TEL adapter unit are malfunctioning.</li> </ul>	<ul style="list-style-type: none"> <li>• TEL adapter unit power supply and ground circuits.</li> <li>• AV communication circuits between AV control unit and TEL adapter unit are malfunctioning.</li> </ul>

## CONFIRMATION/ADJUSTMENT MODE

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

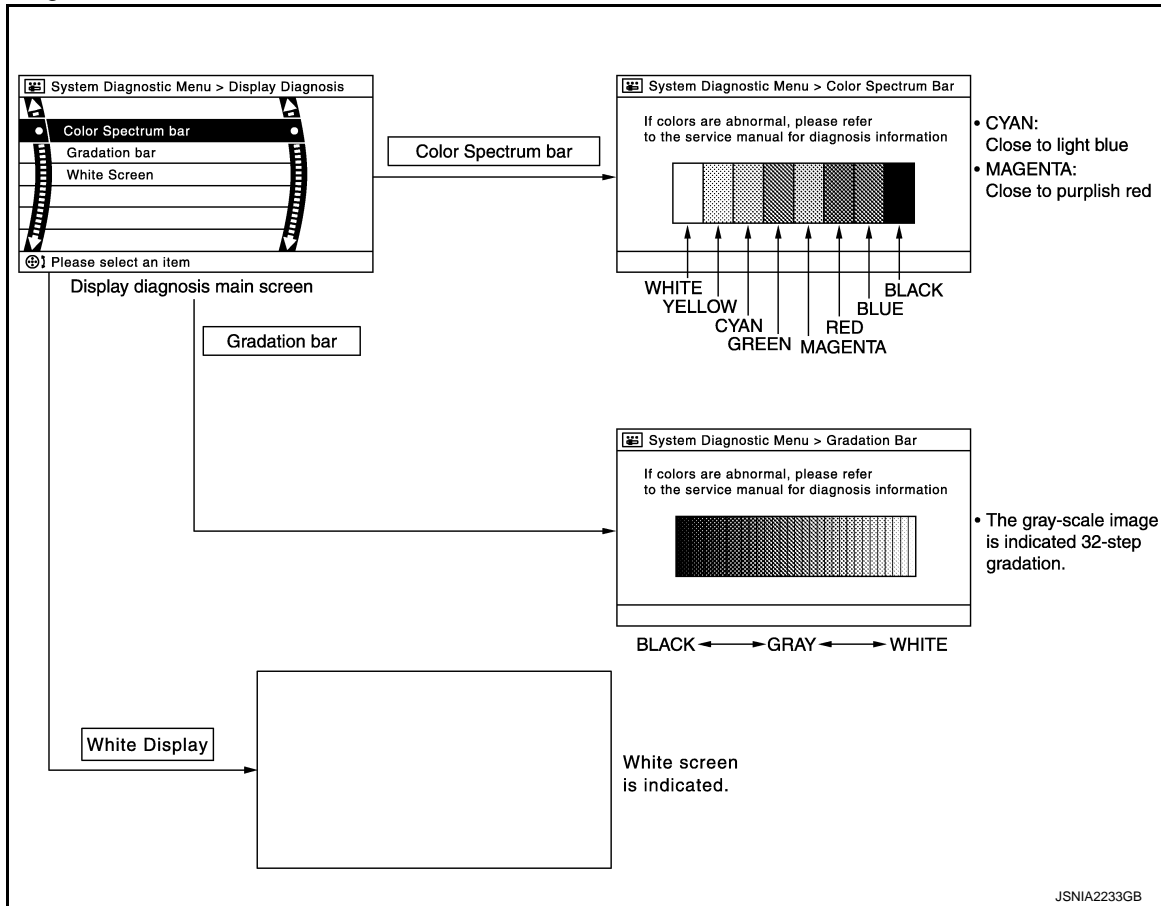


# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[WITHOUT NAVIGATION]

## Display Diagnosis



## Vehicle Signals

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

System Diagnostic Menu > Vehicle Signals	
Vehicle speed	OFF
Parking brake	ON
Lights	OFF
Ignition	ON
Reverse	OFF

JSNIA0149GB

Diagnosis item	Display	Vehicle status	Remarks
Vehicle speed	ON	Vehicle speed > 0 km/h (0 MPH)	Changes in indication may be delayed. This is normal.
	OFF	Vehicle speed = 0 km/h (0 MPH)	
Parking brake	ON	Parking brake is applied.	
	OFF	Parking brake is released.	
Lights	ON	Light switch ON	—
	OFF	Light switch OFF	
Ignition	ON	Ignition switch ON	—
	OFF	Ignition switch in ACC position	

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

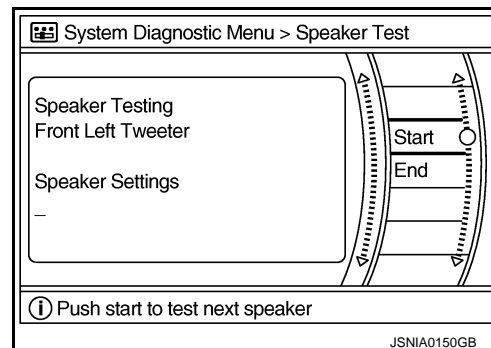
< SYSTEM DESCRIPTION >

[WITHOUT NAVIGATION]

Diagnosis item	Display	Vehicle status	Remarks
Reverse	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. Press "Start" to generate a test tone in a speaker. Press "Start" again to generate a test tone in the next speaker. Press "End" to stop the test tones.



## Climate Control

Refer to "HEATER & AIR CONDITIONING CONTROL SYSTEM" for details.

## Error History

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

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

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

### Count up method A

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

### Count up method B

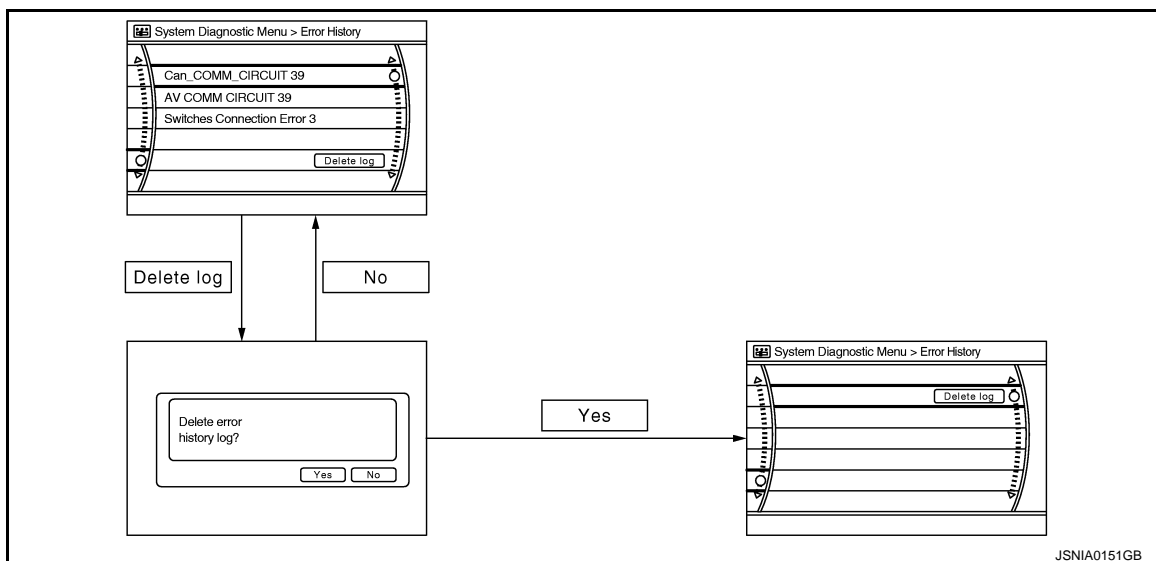
- The counter increases by 1 if an error occurs when ignition switch is ON. The counter will not decrease even if the condition is normal at the next ignition ON cycle.
- The counter upper limit is 50. Any counts exceeding 50 are ignored. The counter can be reset (no error record display) with the "Delete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

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

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[WITHOUT 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	Description	Possible malfunction factor/Action to take
CAN COMM CIRCUIT	CAN communication malfunction is detected.	Perform diagnosis with CONSULT-III, and then repair the malfunctioning parts according to the diagnosis results. Refer to <a href="#">AV-30, "CONSULT - III Function (MULTI AV)".</a>
CONTROL UNIT (CAN)	CAN initial diagnosis malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly.
CONTROL UNIT (AV)	AV communication circuit initial diagnosis malfunction is detected.	
FLASH-ROM Error Of Control Unit	AV control unit malfunction is detected.	
CAN Controller Memory Error		
Sub CPU Connection Error		
iPod authentication chip error		
Audio connection error		
DSP Connection Error	AV control unit malfunction is detected.	<ul style="list-style-type: none"><li>• If a disc can be played, then there is a possibility of the detection of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly.</li></ul>
DSP Communication Error		
Unfinished configuration	The writing of configuration data is incomplete.	Write configuration data with CONSULT-III.
USB Controller Communication Error	USB connection malfunction is detected.	Check that the connection to the USB connector is normal.
Steer. Angle Sensor Calibration	Predictive course line center position adjustment of the steering angle sensor is incomplete.	Adjust the predictive course line center position of the steering angle sensor. Refer to <a href="#">AV-30, "CONSULT - III Function (MULTI AV)".</a>
Front Display Connection Error	When either one of the following items is detected: <ul style="list-style-type: none"><li>• front display unit power supply and ground circuits malfunction is detected.</li><li>• malfunction is detected in communication circuits between AV control unit and front display unit.</li></ul>	<ul style="list-style-type: none"><li>• Front display unit power supply and ground circuits.</li><li>• Communication circuits between AV control unit and front display unit.</li></ul>

AV

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

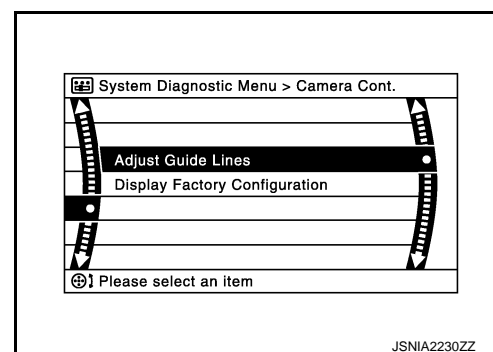
< SYSTEM DESCRIPTION >

[WITHOUT NAVIGATION]

Error item	Description	Possible malfunction factor/Action to take
XM Connection Error	When either one of the following items is detected: <ul style="list-style-type: none"> <li>• satellite radio tuner power supply and ground circuit malfunction is detected.</li> <li>• malfunction is detected in communication circuits between AV control unit and satellite radio tuner.</li> <li>• malfunction is detected in request signal circuit between AV control unit and satellite radio tuner.</li> </ul>	<ul style="list-style-type: none"> <li>• Satellite radio tuner power supply and ground circuit.</li> <li>• Communication circuit between AV control unit and satellite radio tuner.</li> <li>• Request signal circuit between AV control unit and satellite radio tuner.</li> </ul>
USB electric current Error	Detection of overcurrent in USB connector.	Check USB harness between the AV control unit and USB connector.
<ul style="list-style-type: none"> <li>• AV COMM CIRCUIT</li> <li>• Switches Connection Error</li> </ul>	When either one of the following items is detected: <ul style="list-style-type: none"> <li>• multifunction switch power supply and ground circuits are malfunctioning.</li> <li>• AV communication circuits between AV control unit and multifunction switch are malfunctioning.</li> </ul>	<ul style="list-style-type: none"> <li>• Multifunction switch power supply and ground circuits.</li> <li>• AV communication circuits between AV control unit and multifunction switch.</li> </ul>
<ul style="list-style-type: none"> <li>• AV COMM CIRCUIT</li> <li>• H/F Unit Connection Error</li> </ul>	When either one of the following items is detected: <ul style="list-style-type: none"> <li>• TEL adapter unit power supply and ground circuits are malfunctioning.</li> <li>• AV communication circuits between AV control unit and TEL adapter unit are malfunctioning.</li> </ul>	<ul style="list-style-type: none"> <li>• TEL adapter unit power supply and ground circuits.</li> <li>• AV communication circuits between AV control unit and TEL adapter unit.</li> </ul>
<ul style="list-style-type: none"> <li>• AV COMM CIRCUIT</li> <li>• Switches Connection Error</li> <li>• H/F Unit Connection Error</li> </ul>	Malfunction is detected in AV communication circuits between AV control unit and multifunction switch.	AV communication circuits between AV control unit and multifunction switch.

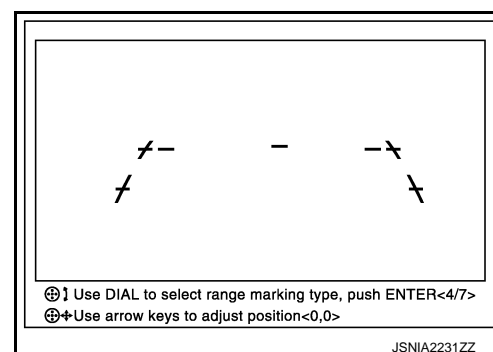
Camera Cont.

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



Adjust Offset of Rear view Camera

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



Factory Configuration Confirmation

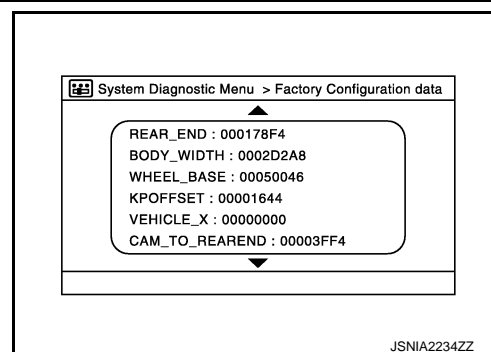


# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

## < SYSTEM DESCRIPTION >

[WITHOUT NAVIGATION]

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



## Vehicle CAN Diagnosis

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

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

### NOTE:

"???" indicates UNKWN.

## AV COMM Diagnosis

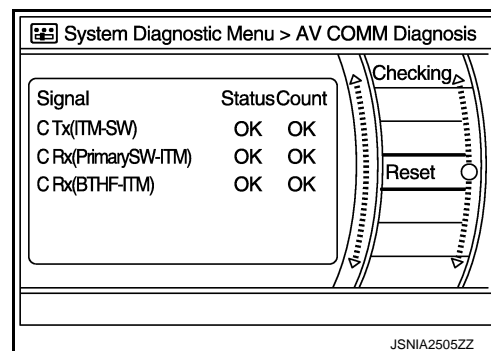
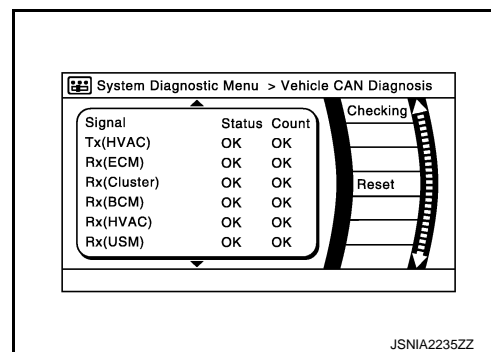
- Displays the communication status between AV control unit (master unit) and each unit.
- The error counter displays "OK" if any malfunction was not detected in the past and displays "0" if a malfunction is detected. It increases by 1 if the condition is normal at the next ignition switch ON cycle.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

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

### NOTE:

"???" indicates UNKWN.

## Delete Unit Connection Log



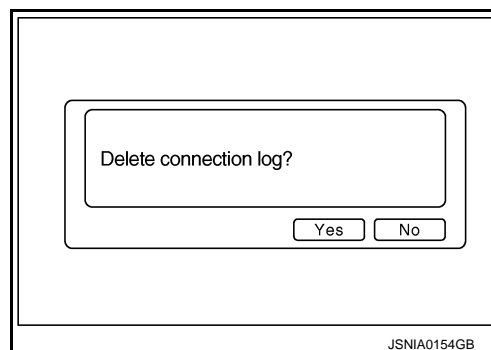
AV

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

## < SYSTEM DESCRIPTION >

[WITHOUT NAVIGATION]

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

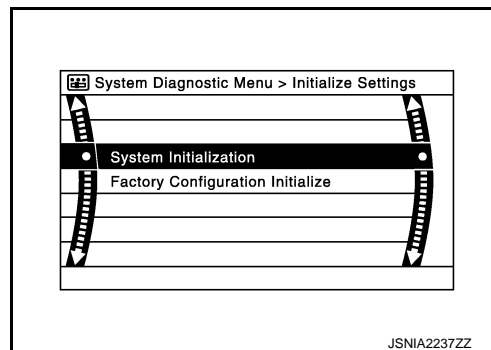


### Initialize Settings

“User Data Initialization” and “Accessory Number Initialization” are possible.

#### CAUTION:

- **Never perform Accessory Number Initialization except when configuration is unsuccessful.**
- **Accessory Number Initialization requires configuration. For details, refer to [AV-79, "CONFIGURATION \(AV CONTROL UNIT\) : Description"](#).**



## CONSULT - III Function (MULTI AV)

INFOID:000000005527812

### CONSULT-III FUNCTIONS

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

Diagnosis mode	Description
Ecu Identification	The part number of AV control unit can be checked.
Self Diagnostic Result	Performs a diagnosis on the AV control unit and a connection diagnosis for the communication circuit of the Multi AV system, and displays the current and past malfunctions collectively.
Data Monitor	The diagnosis of vehicle signal that is input to the AV control unit can be performed.
Work Support	Steering angle sensor can be adjusted.
Configuration	<ul style="list-style-type: none"> <li>• Read and save the vehicle specification.</li> <li>• Write the vehicle specification when replacing AV control unit.</li> </ul>

### AV COMMUNICATION

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

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

### ECU IDENTIFICATION

The part number of AV control unit is displayed.

### SELF DIAGNOSIS RESULT

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

Self-diagnosis Results Display Item

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[WITHOUT NAVIGATION]

Error item	Description	Possible malfunction factor/Action to take
CAN COMM CIRCUIT [U1000]	CAN communication malfunction is detected.	Refer to <a href="#">AV-82, "Diagnosis Procedure"</a> .
CONTROL UNIT (CAN) [U1010]	CAN initial diagnosis malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly.
CONTROL UNIT (AV) [U1310]	AV communication circuit initial diagnosis malfunction is detected.	
Cont Unit [U1200]	AV control unit malfunction is detected.	
CAN CONT [U1216]		
SUB CPU CONN [U1228]		
iPod CERTIFICATION [U1229]		
Built-in AUDIO CONN [U122E]		
USB CONTROLLER [U1225]	USB connection malfunction is detected.	Check that the connection to the USB connector is normal.
DSP CONN [U121D]	AV control unit malfunction is detected.	<ul style="list-style-type: none"><li>If a disc can be played, then there is a possibility of the detection of a temporary malfunction.</li><li>Replace the AV control unit if the malfunction occurs constantly.</li></ul>
DSP COMM [U121E]		
CONFIG UNFINISH [U122A]	The writing of configuration data is incomplete.	Write configuration data with CONSULT-III.
ST ANGLE SEN CALIB [U1232]	Predictive course line center position adjustment of the steering angle sensor is incomplete.	Adjust the predictive course line center position of the steering angle sensor. Refer to <a href="#">BRC-9, "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION : Special Repair Requirement"</a> .
FRONT DISP CONN [U1243]	When either one of the following items is detected: <ul style="list-style-type: none"><li>Front display unit power supply and ground circuits malfunction is detected.</li><li>Communication circuits between AV control unit and front display unit.</li></ul>	<ul style="list-style-type: none"><li>Front display unit power supply and ground circuits.</li><li>Communication circuits between AV control unit and front display unit.</li></ul>
SAT CONN [U1255]	When either one of the following items is detected: <ul style="list-style-type: none"><li>satellite radio tuner power supply and ground circuit malfunction is detected.</li><li>malfunction is detected in communication circuits between AV control unit and satellite radio tuner.</li><li>malfunction is detected in request signal circuit between AV control unit and satellite radio tuner.</li></ul>	<ul style="list-style-type: none"><li>Satellite radio tuner power supply and ground circuit.</li><li>Communication circuit between AV control unit and satellite radio tuner.</li><li>Request signal circuit between AV control unit and satellite radio tuner.</li></ul>
USB OVERCURRENT [U1263]	Detection of overcurrent in USB connector.	Check USB harness between the AV control unit and USB connector.
<ul style="list-style-type: none"><li>AV COMM CIRCUIT [U1300]</li><li>SWITCH CONN [U1240]</li></ul>	When either one of the following items is detected: <ul style="list-style-type: none"><li>multifunction switch power supply and ground circuits are malfunctioning.</li><li>AV communication circuits between AV control unit and multifunction switch are malfunctioning.</li></ul>	<ul style="list-style-type: none"><li>Multifunction switch power supply and ground circuits.</li><li>AV communication circuits between AV control unit and multifunction switch.</li></ul>

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# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[WITHOUT NAVIGATION]

Error item	Description	Possible malfunction factor/Action to take
<ul style="list-style-type: none"> <li>AV COMM CIRCUIT [U1300]</li> <li>HAND FREE CONN [U1256]</li> </ul>	When either one of the following items is detected: <ul style="list-style-type: none"> <li>TEL adapter unit power supply and ground circuits are malfunctioning.</li> <li>AV communication circuits between AV control unit and TEL adapter unit are malfunctioning.</li> </ul>	<ul style="list-style-type: none"> <li>TEL adapter unit power supply and ground circuits.</li> <li>AV communication circuits between AV control unit and TEL adapter unit.</li> </ul>
<ul style="list-style-type: none"> <li>AV COMM CIRCUIT [U1300]</li> <li>SWITCH CONN [U1240]</li> <li>HAND FREE CONN [U1256]</li> </ul>	Malfunction is detected in AV communication circuits between AV control unit and multifunction switch.	AV communication circuits between AV control unit and multifunction switch.

## DATA MONITOR

### ALL SIGNALS

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

Display Item	Display	Vehicle status	Remarks
VHCL SPD SIG	On	Vehicle speed >0 km/h (0 MPH)	Changes in indication may be delayed. This is normal.
	Off	Vehicle speed =0 km/h (0 MPH)	
PKB SIG	On	Parking brake is applied.	
	Off	Parking brake is released.	
ILLUM SIG	On	Block the light beam from the auto light optical sensor when the light SW is ON.	—
	Off	Expose the auto light optical sensor to light when the light SW is OFF or ON.	
IGN SIG	On	Ignition switch ON	
	Off	Ignition switch in ACC position	
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	

### SELECTION FROM MENU

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

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

## WORK SUPPORT

Adjusts the neutral position of the steering angle sensor.

### CAUTION:

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

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

## DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[WITHOUT NAVIGATION]

### CONFIGURATION

Configuration has three functions as follows.

Function	Description
READ CONFIGURATION	<ul style="list-style-type: none"><li>• Reads the vehicle configuration of current AV control unit.</li><li>• Saves the read vehicle configuration.</li></ul>
WRITE CONFIGURATION-Manual selection	Writes the vehicle configuration with manual selection.
WRITE CONFIGURATION-Config file	Writes the vehicle configuration with saved data.

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## DIAGNOSIS SYSTEM (TEL ADAPTER UNIT)

## On Board Diagnosis Function

INFOID:00000000527813

## HANDS-FREE PHONE SYSTEM ON BOARD DIAGNOSIS

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

## ON BOARD DIAGNOSIS ITEM

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

**CAUTION:**

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

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

## Self-diagnosis results

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

**NOTE:**

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

## Self-diagnosis results

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

## The Details of Error Count

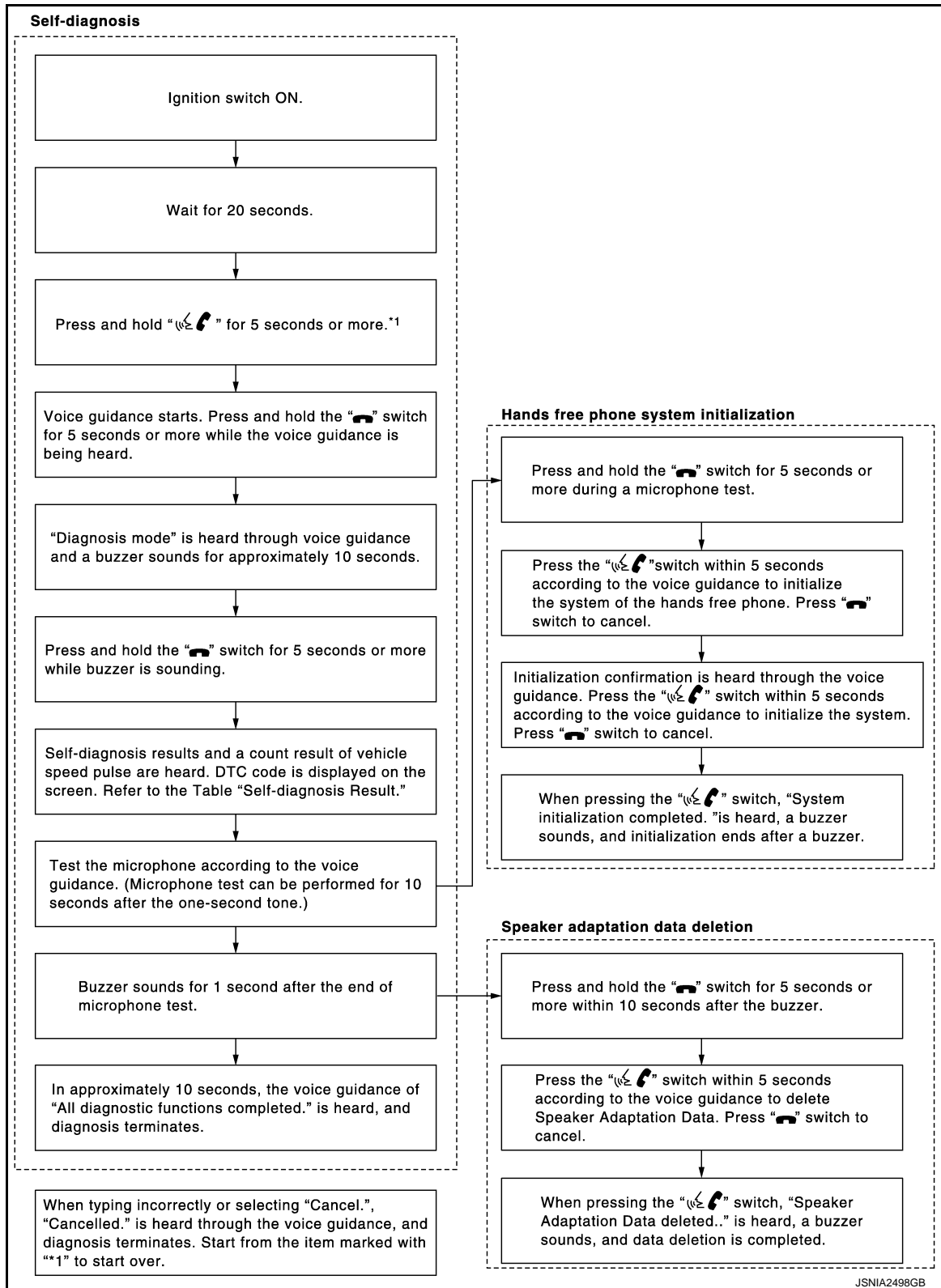
The error count guides "0" when the error occurs. The next time it counts up "1" if it is normal with the ignition switch ON. It continues the count up unless the initialization of hands-free phone system is performed.

# DIAGNOSIS SYSTEM (TEL ADAPTER UNIT)

< SYSTEM DESCRIPTION >

[WITHOUT NAVIGATION]

## FLOW CHART OF TROUBLE DIAGNOSIS



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# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[WITHOUT NAVIGATION]

## ECU DIAGNOSIS INFORMATION

### AV CONTROL UNIT

#### Reference Value

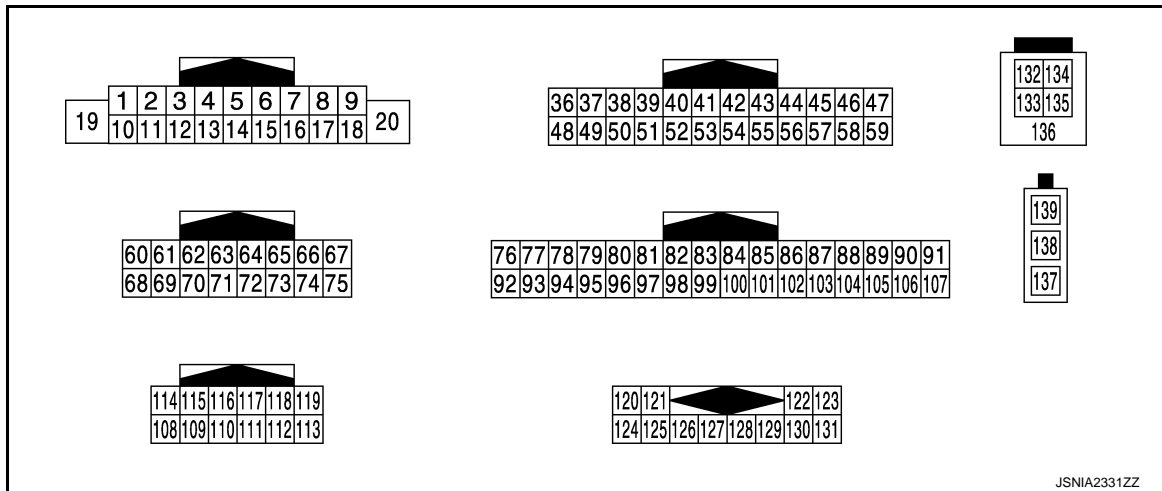
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#### VALUES ON THE DIAGNOSIS TOOL

##### CONSULT-III MONITOR ITEM

Monitor Item	Condition		Value/Status
VHCL SPD SIG	Ignition switch ON	Vehicle speed > 0 km/h (0 MPH)	On
		Vehicle speed = 0 km/h (0 MPH)	Off
PKB SIG	Ignition switch ON	Parking brake is applied.	On
		Parking brake is released.	Off
ILLUM SIG	Ignition switch ON	Light switch ON	On
		Light switch OFF	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



JSNIA2331ZZ

#### PHYSICAL VALUES


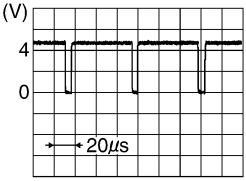
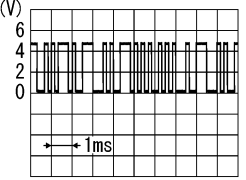
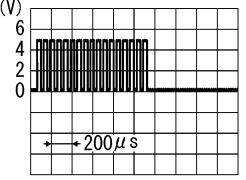
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output			
6 (P)	15 (B)	Steering switch signal A	Input	Ignition switch ON	Keep pressing SOURCE switch.	0 V
					Keep pressing MENU UP switch.	0.7 V
					Keep pressing MENU DOWN switch.	1.3 V
					Keep pressing  switch	2.0 V
					Except for above.	3.3 V



# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[WITHOUT NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output			
7 (V)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
9 (R)	Ground	Illumination signal	Input	Ignition switch OFF	Lighting switch is OFF.	0 V
					Lighting switch is ON.	12.0 V
16 (L)	15 (B)	Steering switch signal B	Input	Ignition switch ON	Keep pressing VOL DOWN switch.	0 V
					Keep pressing VOL UP switch.	0.7 V
					Keep pressing  switch.	1.3 V
					Except for above.	3.3 V
19 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
20 (B)	Ground	Ground	—	Ignition switch ON	—	0 V
36 (O)	Ground	Signal VCC	Output	Ignition switch ACC	—	8.8 V
37 (LG)	Ground	Signal ground	—	Ignition switch OFF	—	0 V
38 (R)	Ground	Horizontal synchronizing (HP) signal	Input	Ignition switch ON	—	 SKIB3601E
39 (BR)	Ground	Communication signal (DISP→CONT)	Input	Ignition switch ON	When adjusting display brightness.	 PKIB5039J
40 (B)	Ground	RGB area (YS) signal	Output	Ignition switch ON	At RGB image is displayed.	5.0 V
					At AUX image is displayed.	 PKIB4948J
41	—	Shield	—	—	—	—

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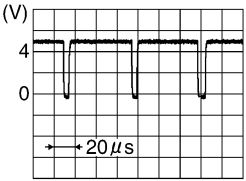
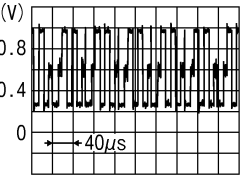
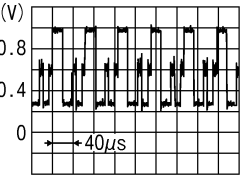
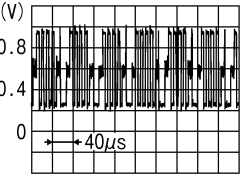
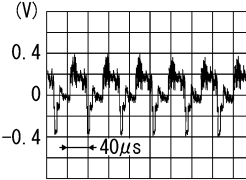
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# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

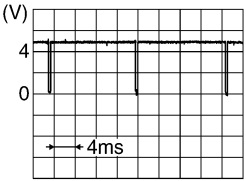
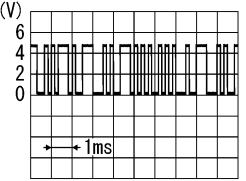
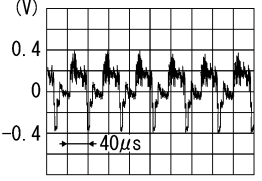
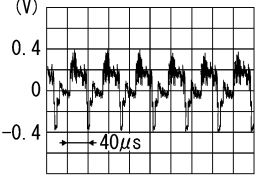
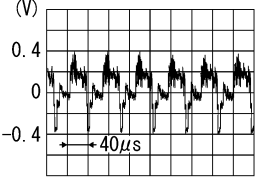
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Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output			
42 (G)	Ground	RGB synchronizing signal	Output	Ignition switch ON	—	 SKIB3603E
43 (B)	Ground	RGB signal (R: red)	Output	Ignition switch ON	Start Confirmation/Adjustment mode, and then display color bar by selecting "Color Spectrum Bar" on Display Diagnosis screen.	 JSNIA1029ZZ
44 (W)	Ground	RGB signal (G: green)	Output	Ignition switch ON	Start Confirmation/Adjustment mode, and then display color bar by selecting "Color Spectrum Bar" on Display Diagnosis screen.	 JSNIA1030ZZ
45 (R)	Ground	RGB signal (B: blue)	Output	Ignition switch ON	Start Confirmation/Adjustment mode, and then display color bar by selecting "Color Spectrum Bar" on Display Diagnosis screen.	 JSNIA1031ZZ
46 (V)	Ground	Composite image signal ground	—	Ignition switch ON	—	0 V
47 (SB)	Ground	Composite image signal	Output	Ignition switch ON	At camera image is displayed.	 SKIB2251J
48 (Y)	Ground	Inverter VCC	Output	Ignition switch ACC	—	8.8 V
49 (BR)	Ground	Inverter ground	—	Ignition switch OFF	—	0 V

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[WITHOUT NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
50 (W)	Ground	Vertical synchronizing (VP) signal	Input	Ignition switch ON	—	 SKIB3598E
51 (Y)	Ground	Communication signal (CONT→DISP)	Output	Ignition switch ON	When adjusting display brightness.	 PKIB5039J
52	—	Shield	—	—	—	—
57	—	Shield	—	—	—	—
58	—	Shield	—	—	—	—
61 (Y)	Ground	AUX image signal	Input	Ignition switch ON	At AUX image is displayed.	 SKIB2251J
62 (W)	Ground	Camera image signal	Input	Ignition switch ON	At camera image is displayed.	 SKIB2251J
63	—	Shield	—	—	—	—
69 (BR)	Ground	AUX image signal ground	—	Ignition switch ON	—	0 V
70	—	Shield	—	—	—	—
72 (B)	—	Camera ground	—	Ignition switch ON	—	0 V
73 (R)	Ground	Camera power supply	Output	Ignition switch ON	At camera image is displayed.	 SKIB2251J
76 (LG)	—	AV communication signal (L)	Input/ Output	—	—	—

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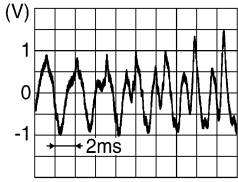
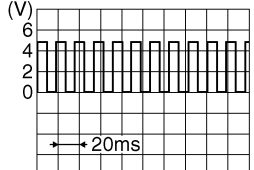
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# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

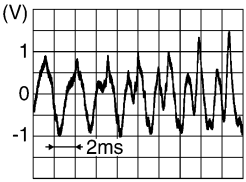
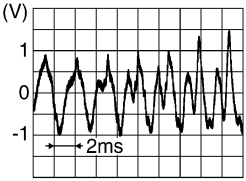
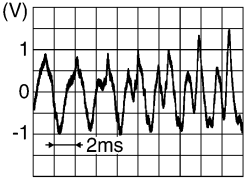
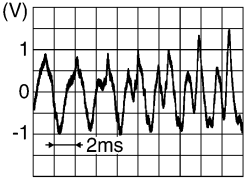
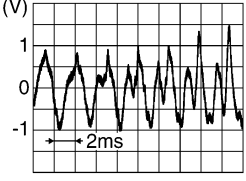
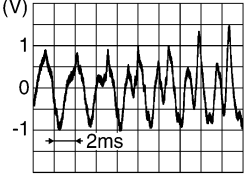
[WITHOUT NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output			
77 (SB)	—	AV communication signal (H)	Input/ Output	—	—	—
78 (LG)	—	AV communication signal (L)	Input/ Output	—	—	—
79 (SB)	—	AV communication signal (H)	Input/ Output	—	—	—
80 (P)	—	CAN—L	Input/ Output	—	—	—
81 (L)	—	CAN—H	Input/ Output	—	—	—
82 (BR)	Ground	Switch ground	—	Ignition switch ON	—	0 V
86	—	Shield	—	—	—	—
87 (L)	88 (P)	TEL voice signal	Input	Ignition switch ON	During voice guide output with the  switch pressed.	 SKIB3609E
92 (R)	Ground	Vehicle speed signal (8- pulse)	Input	Ignition switch ON	When vehicle speed is ap- prox. 40 km/h (25 MPH)	<b>NOTE:</b> Maximum voltage may be 12.0 V due to specifications (connected units).  SKIA6649J
93 (V)	Ground	Parking brake signal	Input	Ignition switch ON	Parking brake is ON.	4.5 V
					Parking brake is OFF.	0 V
94 (O)	Ground	Reverse signal	Input	Ignition switch ON	Shift the selector lever to R position.	12.0 V
					Shift the selector lever oth- er than R position.	0 V
95 (G)	Ground	Ignition signal	Input	Ignition switch ON	—	Battery voltage
96 (SB)	Ground	Disk eject signal	Input	Ignition switch ON	Pressing the eject switch.	0 V
					Except for above.	5.0 V

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[WITHOUT NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output			
103 (W)	102 (B)	AUX sound signal LH	Input	Ignition switch ON	When AUX mode is select- ed.	 SKIB3609E
104 (R)	102 (B)	AUX sound signal RH	Input	Ignition switch ON	When AUX mode is select- ed.	 SKIB3609E
108 (BR)	114 (Y)	Sound signal rear RH	Output	Ignition switch ON	Sound output.	 SKIB3609E
109 (R)	115 (G)	Sound signal front RH	Output	Ignition switch ON	Sound output.	 SKIB3609E
110 (V)	Ground	Amp. ON signal	Output	Ignition switch ACC	—	12.0 V
111 (B)	—	Shield	—	—	—	—
112 (V)	118 (LG)	Sound signal rear LH	Output	Ignition switch ON	Sound output.	 SKIB3609E
113 (P)	119 (L)	Sound signal front LH	Output	Ignition switch ON	Sound output.	 SKIB3609E

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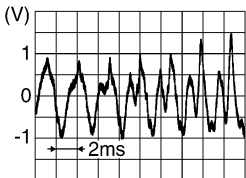
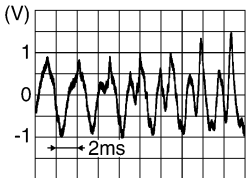
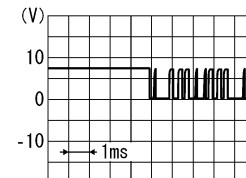
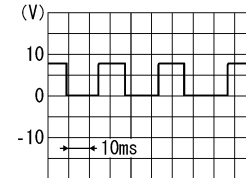
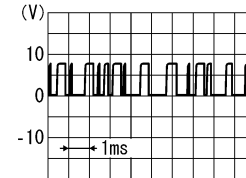
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# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[WITHOUT NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output			
120 (B)	124 (W)	Satellite radio sound signal LH	Input	Ignition switch ON	When satellite radio mode is selected.	 SKIB3609E
121 (G)	125 (R)	Satellite radio sound signal RH	Input	Ignition switch ON	When satellite radio mode is selected	 SKIB3609E
122 (R)	Ground	Communication signal (CONT→SAT)	Output	Ignition switch ON	When satellite radio mode is selected.	 SKIA9301J
126	—	Shield	—	—	—	—
127	—	Shield	—	—	—	—
128 (SB)	Ground	Mode change signal	Output	Ignition switch ON	Driver's Audio Stage ON	0 V
					Driver's Audio Stage OFF	8.5 V
129 (W)	Ground	Request signal (SAT→CONT)	Input	Ignition switch ON	When satellite radio mode is selected.	 SKIA9299J
130 (B)	Ground	Communication signal (SAT→CONT)	Input	Ignition switch ON	When satellite radio mode is selected.	 SKIA9300J
132 (G)	—	USB ground	—	—	—	—
133 (R)	—	USB D- signal	—	—	—	—
134 (W)	—	V BUS signal	—	—	—	—
135 (L)	—	USB D+ signal	—	—	—	—

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[WITHOUT NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output			
136	—	Shield	—	—	—	—
137	—	FM sub	Input	—	—	—
138	—	AM-FM main	Input	—	—	—
139	Ground	Antenna amp. ON signal	Input	Ignition switch ACC	—	12.0 V

## DTC Index

INFOID:000000005527818

## SELF-DIAGNOSIS RESULTS DISPLAY ITEM

DTC	Display item	Refer to
U1000	CAN COMM CIRCUIT [U1000]	<a href="#">AV-82, "Diagnosis Procedure"</a>
U1010	CONTROL UNIT (CAN) [1010]	<a href="#">AV-83, "DTC Logic"</a>
U1200	Cont Unit [U1200]	<a href="#">AV-84, "DTC Logic"</a>
U1216	CAN CONT [U1216]	<a href="#">AV-85, "DTC Logic"</a>
U121D	DSP CONN [U121D]	<a href="#">AV-86, "Diagnosis Procedure"</a>
U121E	DSP COMM [U121E]	<a href="#">AV-87, "Diagnosis Procedure"</a>
U1225	USB CONTROLLER [U1225]	<a href="#">AV-88, "DTC Logic"</a>
U1228	SUB CPU CONN [U1228]	<a href="#">AV-89, "DTC Logic"</a>
U1229	iPod CERTIFICATION [U1229]	<a href="#">AV-90, "DTC Logic"</a>
U122A	CONFIG UNFINISH [U122A]	<a href="#">AV-91, "Diagnosis Procedure"</a>
U122E	Built-in AUDIO CONN [U122E]	<a href="#">AV-92, "DTC Logic"</a>
U1232	ST ANGLE SEN CALIB [1232]	<a href="#">AV-93, "Diagnosis Procedure"</a>
U1243	FRONT DISP CONN [U1243]	<a href="#">AV-94, "Diagnosis Procedure"</a>
U1255	SAT CONN [U1255]	<a href="#">AV-96, "Diagnosis Procedure"</a>
U1263	USB OVERCURRENT [U1263]	<a href="#">AV-98, "Diagnosis Procedure"</a>
U1310	CONTROL UNIT (AV) [U1310]	<a href="#">AV-100, "DTC Logic"</a>
U1300 U1240	<ul style="list-style-type: none"> <li>AV COMM CIRCUIT [U1300]</li> <li>SWITCH CONN [U1240]</li> </ul>	<a href="#">AV-99, "Description"</a>
U1300 U1256	<ul style="list-style-type: none"> <li>AV COMM CIRCUIT [U1300]</li> <li>HAND FREE CONN [U1256]</li> </ul>	<a href="#">AV-99, "Description"</a>
U1300 U1240 U1256	<ul style="list-style-type: none"> <li>AV COMM CIRCUIT [U1300]</li> <li>SWITCH CONN [U1240]</li> <li>HAND FREE CONN [U1256]</li> </ul>	<a href="#">AV-99, "Description"</a>

# FRONT DISPLAY UNIT

< ECU DIAGNOSIS INFORMATION >

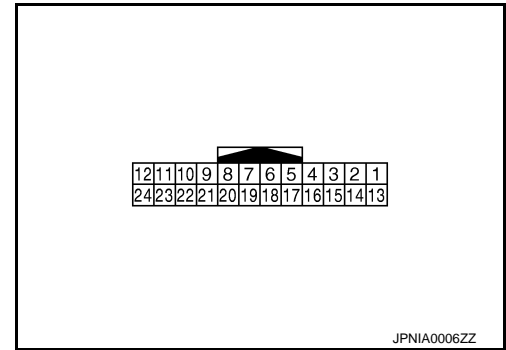
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## FRONT DISPLAY UNIT

### Reference Value

INFOID:000000005527819

### TERMINAL LAYOUT



### PHYSICAL VALUES

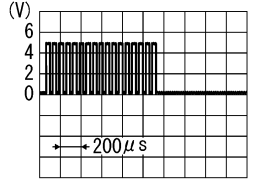
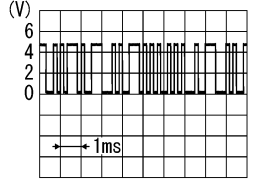
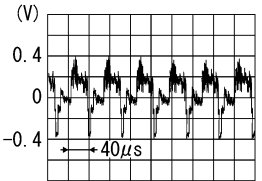
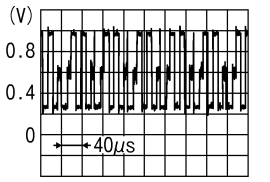
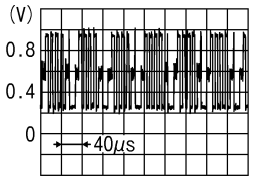
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output			
1 (B)	Ground	Ground	—	Ignition switch ON	—	0 V
2 (Y)	Ground	Inverter VCC	Input	Ignition switch ACC	—	8.8 V
3 (O)	Ground	Signal VCC	Input	Ignition switch ACC	—	8.8 V
4 (V)	Ground	Composite image signal ground	—	Ignition switch ON	—	0 V
5	—	Shield	—	—	—	—
6 (W)	Ground	RGB signal (G: green)	Input	Ignition switch ON	Start Confirmation/Adjust- ment mode, and then dis- play color bar by selecting “Color Spectrum Bar” on Display Diagnosis screen.	<p>JSNIA1030ZZ</p>
7	—	Shield	—	—	—	—
8 (R)	Ground	Horizontal synchronizing (HP) signal	Output	Ignition switch ON	—	<p>SKIB3601E</p>



# FRONT DISPLAY UNIT

< ECU DIAGNOSIS INFORMATION >

[WITHOUT NAVIGATION]

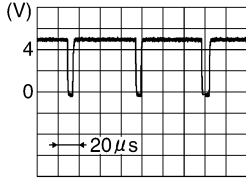
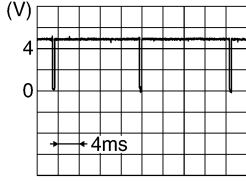
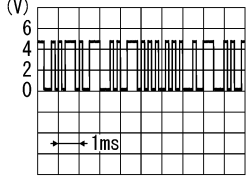
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output			
9 (B)	Ground	RGB area (YS) signal	Input	Ignition switch ON	At RGB image is displayed.	5.0 V
				Ignition switch ON	At AUX image is displayed.	 <p>PKIB4948J</p>
11 (Y)	Ground	Communication signal (CONT→DISP)	Input	Ignition switch ON	When adjusting display brightness.	 <p>PKIB5039J</p>
13 (BR)	Ground	Inverter ground	—	Ignition switch ON	—	0 V
14 (LG)	Ground	Signal ground	—	Ignition switch ON	—	0 V
15 (SB)	Ground	Composite image signal	Input	Ignition switch ON	At camera image is displayed.	 <p>SKIB2251J</p>
17 (B)	Ground	RGB signal (R: red)	Input	Ignition switch ON	Start Confirmation/Adjust- ment mode, and then dis- play color bar by selecting "Color Spectrum Bar" on Display Diagnosis screen.	 <p>JSNIA1029ZZ</p>
18 (R)	Ground	RGB signal (B: blue)	Input	Ignition switch ON	Start Confirmation/Adjust- ment mode, and then dis- play color bar by selecting "Color Spectrum Bar" on Display Diagnosis screen.	 <p>JSNIA1031ZZ</p>

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# FRONT DISPLAY UNIT

< ECU DIAGNOSIS INFORMATION >

[WITHOUT NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output			
19 (G)	Ground	RGB synchronizing signal	Input	Ignition switch ON	—	 SKIB3603E
20 (W)	Ground	Vertical synchronizing (VP) signal	Output	Ignition switch ON	—	 SKIB3598E
21	—	Shield	—	—	—	—
22 (BR)	Ground	Communication signal (DISP→CONT)	Output	Ignition switch ON	When adjusting display brightness.	 PKIB5039J
23	—	Shield	—	—	—	—

# BOSE AMP.

< ECU DIAGNOSIS INFORMATION >

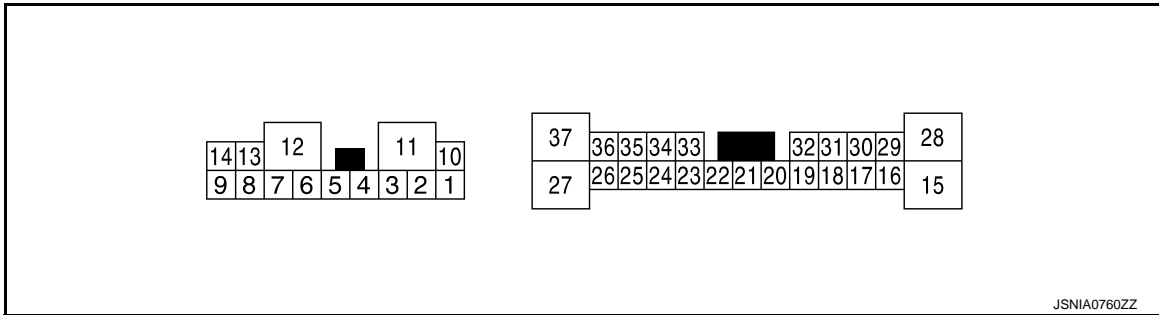
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## BOSE AMP.

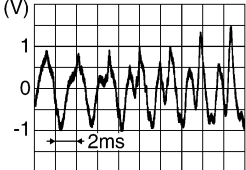
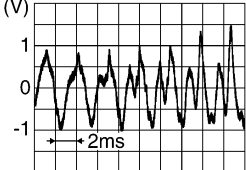
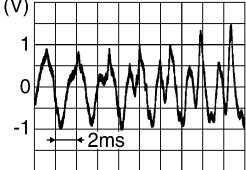
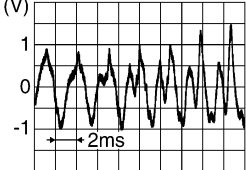
### Reference Value

INFOID:000000005527824

### TERMINAL LAYOUT



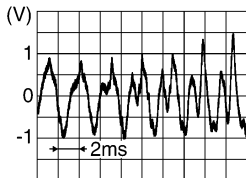
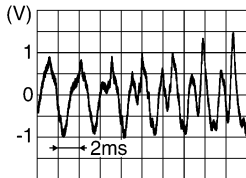
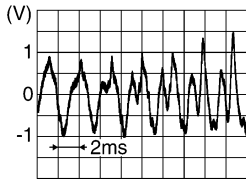
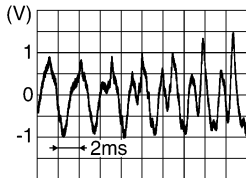
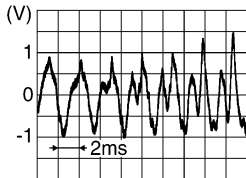
### PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
1 (Y)	10 (G)	Sound signal rear door speaker LH	Output	Ignition switch ON	Sound output	 SKIB3609E
2 (SB)	3 (V)	Sound signal rear door speaker RH	Output	Ignition switch ON	Sound output	 SKIB3609E
4 (L)	5 (P)	Sound signal front door speaker LH	Output	Ignition switch ON	Sound output	 SKIB3609E
6 (O)	7 (W)	Sound signal front squawk- er LH	Output	Ignition switch ON	Sound output	 SKIB3609E

# BOSE AMP.

< ECU DIAGNOSIS INFORMATION >

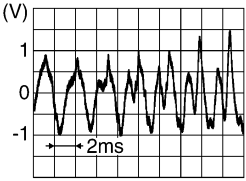
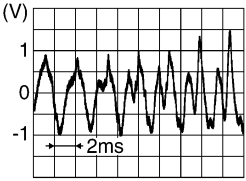
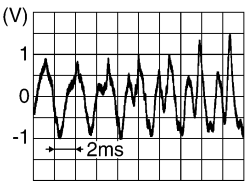
[WITHOUT NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output			
8 (LG)	13 (Y)	Sound signal front door speaker RH	Output	Ignition switch ON	Sound output	 SKIB3609E
9 (G)	14 (R)	Sound signal woofer and rear squawker	Output	Ignition switch ON	Sound output	 SKIB3609E
11 (GR)	Ground	Battery power supply	Input	Ignition switch ON	—	Battery voltage
12 (B)	Ground	Ground	—	Ignition switch ON	—	0 V
15 (Y)	28 (G)	Sound signal center speaker	Output	Ignition switch ON	Sound output	 SKIB3609E
17 (O)	Ground	Mode change signal	Input	Ignition switch ON	Driver's Audio Stage ON	0 V
					Driver's Audio Stage OFF	8.5 V
18 (P)	32 (L)	Sound signal front LH	Input	Ignition switch ON	Sound output	 SKIB3609E
19 (R)	20 (G)	Sound signal front RH	Input	Ignition switch ON	Sound output	 SKIB3609E

# BOSE AMP.

< ECU DIAGNOSIS INFORMATION >

[WITHOUT NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
21 (V)	22 (SB)	Sound signal rear LH	Input	Ignition switch ON	Sound output	 SKIB3609E
23 (BR)	33 (Y)	Sound signal rear RH	Input	Ignition switch ON	Sound output	 SKIB3609E
25 (GR)	Ground	Woofer amp. ON signal	Output	Ignition switch ON	—	12.0 V
31 (GR)	Ground	Amp. ON signal	Input	Ignition switch ON	—	12.0 V
37 (V)	27 (LG)	Sound signal front squawk- er RH	Output	Ignition switch ON	Sound output	 SKIB3609E

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# SATELLITE RADIO TUNER

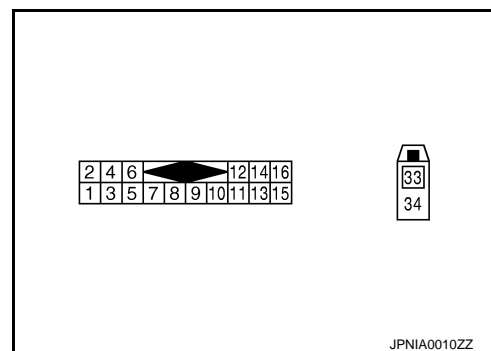
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[WITHOUT NAVIGATION]

## SATELLITE RADIO TUNER

Reference Value

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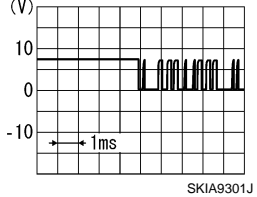
## PHYSICAL VALUES

Terminal		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/Output			
2 (B)	1 (W)	Satellite radio sound signal LH	Output	Ignition switch ON	When satellite radio mode is selected.	
4 (G)	3 (R)	Satellite radio sound signal RH	Output	Ignition switch ON	When satellite radio mode is selected	
5	—	Shield	—	—	—	—
6	—	Shield	—	—	—	—
8 (W)	Ground	Request signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected.	
9 (B)	Ground	Communication signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected.	

# SATELLITE RADIO TUNER

< ECU DIAGNOSIS INFORMATION >

[WITHOUT NAVIGATION]

Terminal		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output			
10 (R)	Ground	Communication signal (CONT→SAT)	Input	Ignition switch ON	When satellite radio mode is selected.	
12 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
16 (V)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
33	—	Satellite antenna signal	Input	—	—	—

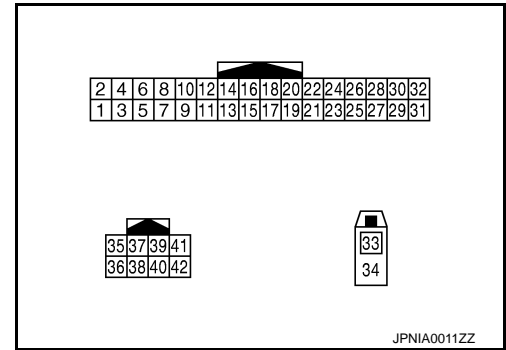
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## TEL ADAPTER UNIT

### Reference Value

INFOID:00000000527823



### PHYSICAL VALUES

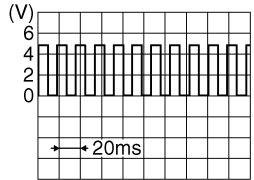
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
1 (GR)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
2 (LG)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
3 (W)	Ground	Ignition signal	Input	Ignition switch ON	—	Battery voltage
4 (B)	Ground	Ground	—	Ignition switch ON	—	0 V
5	—	Shield	—	—	—	—
7 (L)	8	Microphone signal	Input	Ignition switch ON	Give a voice.	
9 (Y)	10 (G)	TEL voice signal	Output	Ignition switch ON	During voice guide output with the  switch pressed.	
20 (B)	Ground	Control signal	Input	Ignition switch ON	—	0 V
23 (B)	Ground	Control signal	Input	Ignition switch ON	—	0 V



# TEL ADAPTER UNIT

< ECU DIAGNOSIS INFORMATION >

[WITHOUT NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output			
24 (B)	Ground	Control signal	Input	Ignition switch ON	—	0 V
28 (V)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is ap- prox. 40 km/h (25 MPH)	<b>NOTE:</b> Maximum voltage may be 12.0 V due to specifications (connected units).  <small>SKIA6649J</small>
29 (P)	8	Microphone VCC	Output	Ignition switch ON	—	5.0 V
33	—	TEL antenna signal	Input	—	—	—
34	—	Shield	—	—	—	—
35 (SB)	—	AV communication signal (H)	Input/ Output	—	—	—
36 (LG)	—	AV communication signal (L)	Input/ Output	—	—	—

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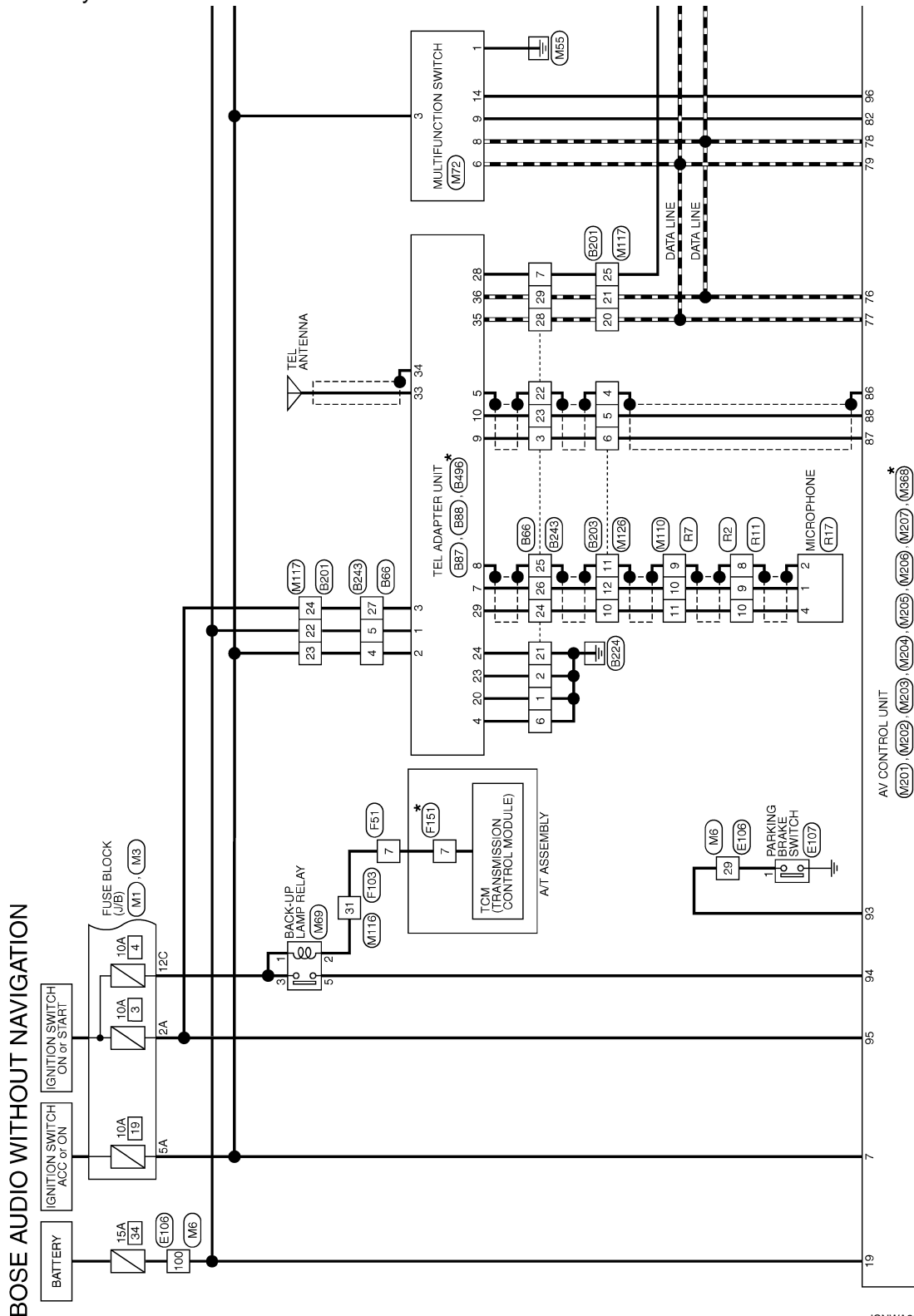
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## WIRING DIAGRAM

## Wiring Diagram

**NOTE:**

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



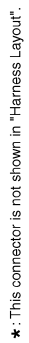
**\*:** This connector is not shown in "Harness Layout".

2009/07/29

JCNWA2831GB

[WITHOUT NAVIGATION]

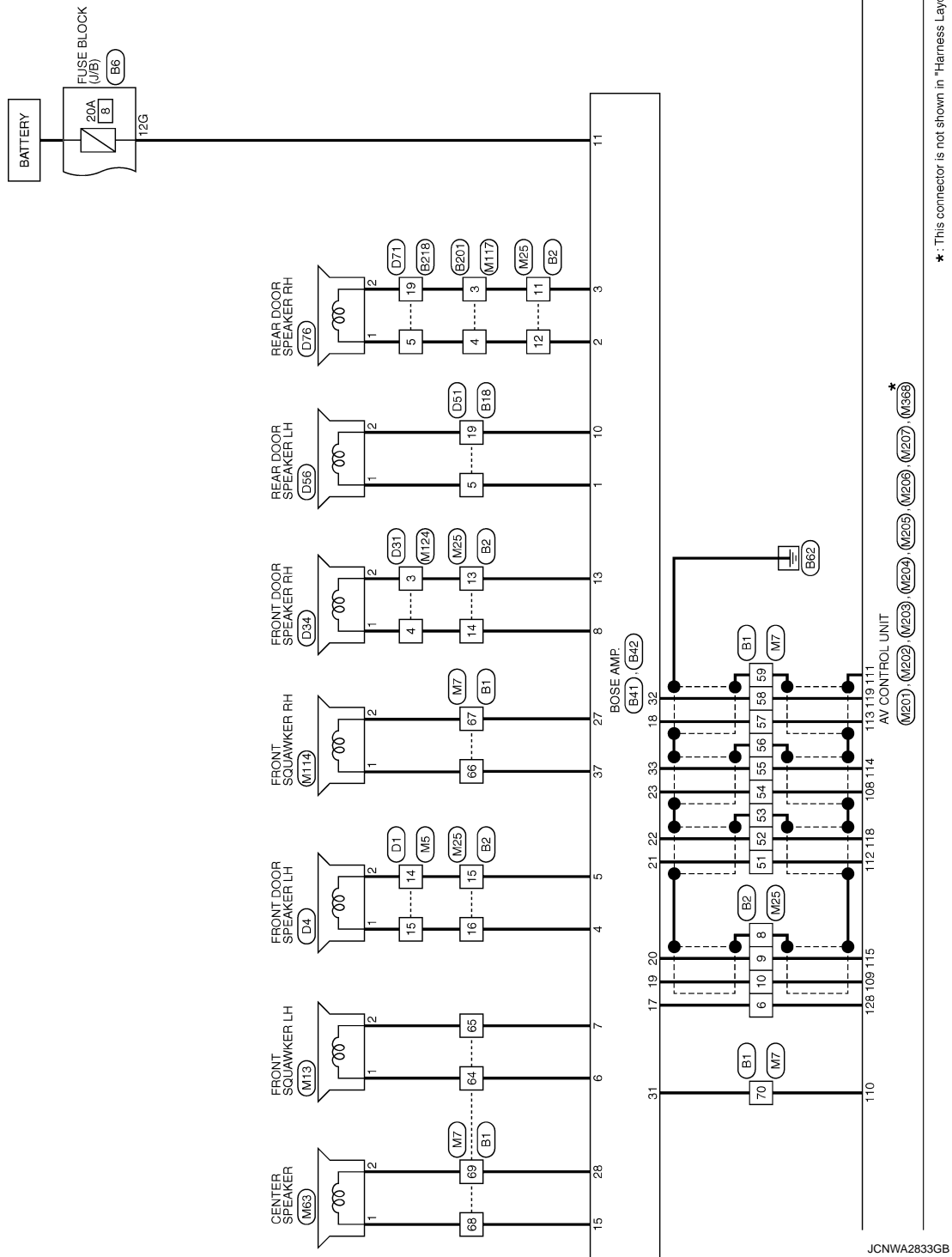
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# BOSE AUDIO WITHOUT NAVIGATION

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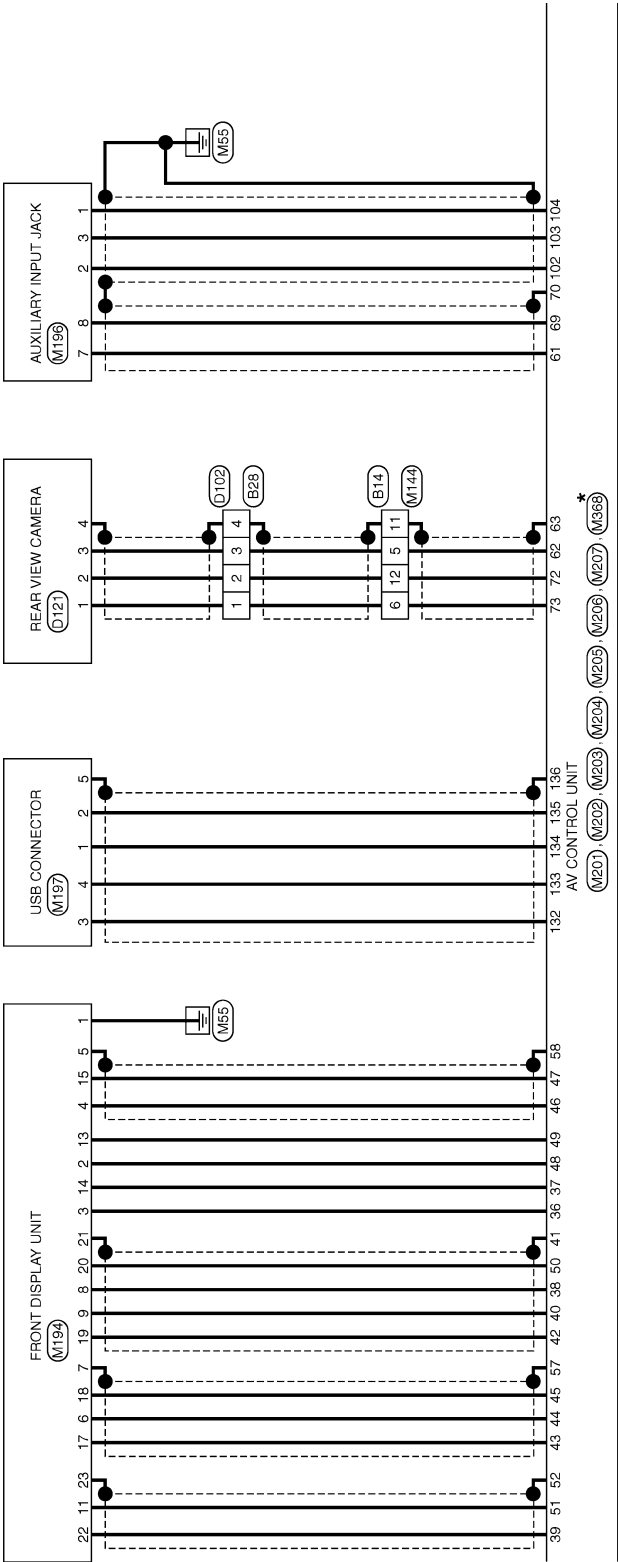
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BOSE AUDIO WITHOUT NAVIGATION

< WIRING DIAGRAM >

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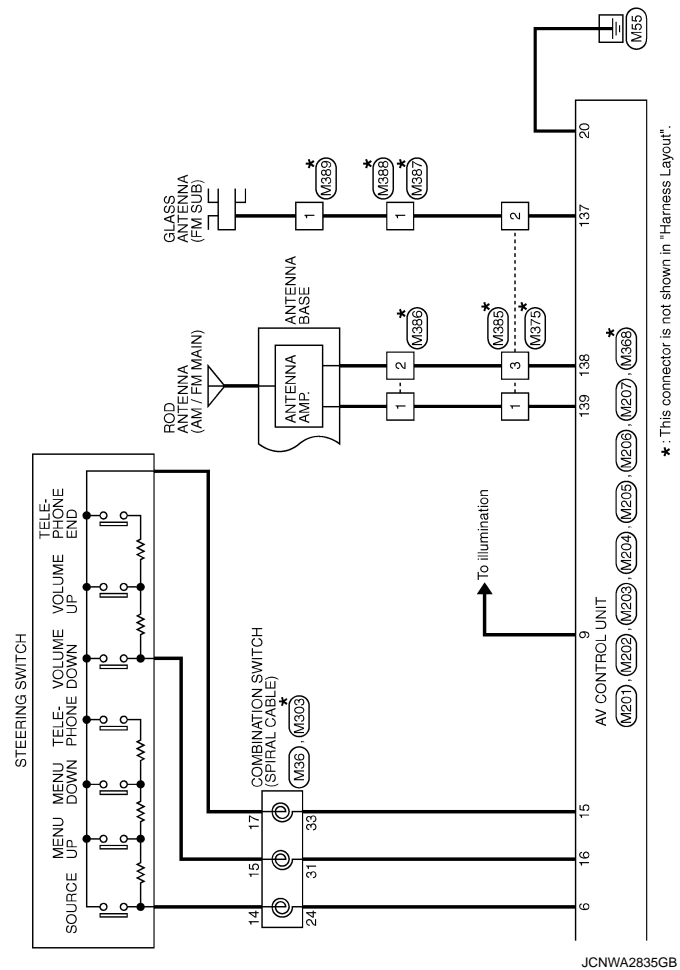
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# BOSE AUDIO WITHOUT NAVIGATION

< WIRING DIAGRAM >

[WITHOUT NAVIGATION]



BOSE AUDIO WITHOUT NAVIGATION

< WIRING DIAGRAM >

[WITHOUT NAVIGATION]

BOSE AUDIO WITHOUT NAVIGATION

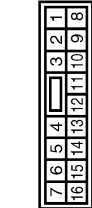
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Connector Name	WIRE TO WIRE
Connector Type	TH00FW-CS16-TM4



Terminal No.	Color of Wire	Signal Name [Specification]
1	G	-
2	L	-
3	W	-
4	G	-
5	G	-
6	G	-
7	P	-
8	O	-
9	W	-
10	SB	-
11	SB	-
12	B	-
13	G	-
14	R	-
15	W	-
16	SHIELD	-
17	L	-
18	P	-
19	G	-
20	Y	-
21	W	-
22	V	-
23	V	-
24	P	-
25	BR	-
26	GR	-
27	O	-
28	W	-
29	SHIELD	-
30	B	-
31	B	-
32	LG	-
33	G	-
34	GR	-
35	SB	-
36	V	-
37	V	-
38	GR	-
39	B	-
40	LG	-
41	G	-
42	GR	-
43	SB	-
44	V	-
45	GR	-
46	B	-
47	V	-
48	SB	-

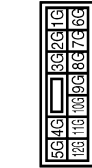
53	SHIELD	-
54	BR	-
55	Y	-
56	SHIELD	-
57	P	-
58	L	-
59	SHIELD	-
60	L	-
61	P	-
62	GR	-
63	G	-
64	O	-
65	W	-
66	V	-
67	LG	-
68	Y	-
69	G	-
70	GR	-
71	G	-
72	B	-
73	W	-
74	V	-
75	O	-
76	LG	-
77	L	-
78	GR	-
79	W	-
80	L	-
81	P	-
82	L	-
83	P	-
84	SB	-
85	R	-
86	Y	-
87	B	-
88	G	-
89	BR	-
90	W	-
91	R	-
92	O	-
93	BR	-
94	V	-
95	Y	-
96	O	-
97	W	-
98	GR	-
99	W	-

Connector No.	B2
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-CS



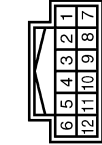
Terminal No.	Color of Wire	Signal Name [Specification]
6	O	-
7	W	-
8	SHIELD	-
9	G	-
10	R	-
11	V	-
12	SB	-
13	Y	-
14	LG	-
15	P	-
16	L	-

Connector No.	B6
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS12FBR-CS



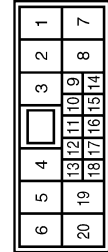
Terminal No.	Color of Wire	Signal Name [Specification]
4G	R	-
5G	LG	-
7G	O	-
10G	W	-
11G	W	-
12G	GR	-

Connector No.	B14
Connector Name	WIRE TO WIRE
Connector Type	TH12FW-NH



Terminal No.	Color of Wire	Signal Name [Specification]
1	G	-
2	LG	-
3	R	-
5	W	-
6	R	-
7	Y	-
11	SHIELD	-
12	W	-
12	B	-

Connector No.	B18
Connector Name	WIRE TO WIRE
Connector Type	NH10FW-CS10



Terminal No.	Color of Wire	Signal Name [Specification]
2	V	-
3	W	-
4	GR	-
5	Y	-
6	B	-
8	BR	-
11	Y	-
12	LG	-
13	P	-
17	L	-
18	O	-
19	G	-
20	W	-





BOSE AUDIO WITHOUT NAVIGATION

< WIRING DIAGRAM >

[WITHOUT NAVIGATION]

BOSE AUDIO WITHOUT NAVIGATION

Connector No.	B66
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-NH



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 [Specification]
1	B	-
2	B	-
3	Y	-
4	LG	-
5	GR	-
6	B	-
7	SHIELD	- [With entertainment system]
8	V	- [Without entertainment system]
9	P	-
10	L	-
11	SHIELD	-
12	Y	-
13	BR	-
14	R	-
15	G	-
16	SHIELD	-
17	Y	-
18	O	-
19	BR	-
20	B	-
21	B	-
22	SHIELD	-
23	G	-
24	P	-
25	SHIELD	-
26	L	-
27	O	- [With entertainment system]
28	W	- [Without entertainment system]
29	LG	- [With entertainment system]
30	SB	- [Without entertainment system]
31	Y	- [With entertainment system]
32	LG	- [Without entertainment system]
33	P	-
34	O	-
35	SHIELD	-

37	B	-
38	R	-
39	W	-

Connector No.	B67
Connector Name	WIRE TO WIRE
Connector Type	NS08MW-CS



1	2	3
4	5	6
7	8	

Terminal No.	Color of Wire	Signal Name [Specification]
1	G	-
4	R	-
5	GR	-
6	L	-
8	R	-

Connector No.	B67
Connector Name	TEL ADAPTER UNIT
Connector Type	TH52FW-NH



2	4	8	10
1	3	5	7
9	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	41
42	43	44	45
46	47	48	49
50	51	52	53
54	55	56	57
58	59	60	61
62	63	64	65
66	67	68	69
70	71	72	73
74	75	76	77
78	79	80	81
82	83	84	85
86	87	88	89
90	91	92	93
94	95	96	97
98	99	100	101
102	103	104	105
106	107	108	109
110	111	112	113
114	115	116	117
118	119	120	121
122	123	124	125
126	127	128	129
130	131	132	133
134	135	136	137
138	139	140	141
142	143	144	145
146	147	148	149
150	151	152	153
154	155	156	157
158	159	160	161
162	163	164	165
166	167	168	169
170	171	172	173
174	175	176	177
178	179	180	181
182	183	184	185
186	187	188	189
190	191	192	193
194	195	196	197
198	199	200	201
202	203	204	205
206	207	208	209
210	211	212	213
214	215	216	217
218	219	220	221
222	223	224	225
226	227	228	229
230	231	232	233
234	235	236	237
238	239	240	241
242	243	244	245
246	247	248	249
250	251	252	253
254	255	256	257
258	259	260	261
262	263	264	265
266	267	268	269
270	271	272	273
274	275	276	277
278	279	280	281
282	283	284	285
286	287	288	289
290	291	292	293
294	295	296	297
298	299	300	301
302	303	304	305
306	307	308	309
310	311	312	313
314	315	316	317
318	319	320	321
322	323	324	325
326	327	328	329
330	331	332	333
334	335	336	337
338	339	340	341
342	343	344	345
346	347	348	349
350	351	352	353
354	355	356	357
358	359	360	361
362	363	364	365
366	367	368	369
370	371	372	373
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382	383	384	385
386	387	388	389
390	391	392	393
394	395	396	397
398	399	400	401
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406	407	408	409
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414	415	416	417
418	419	420	421
422	423	424	425
426	427	428	429
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434	435	436	437
438	439	440	441
442	443	444	445
446	447	448	449
450	451	452	453
454	455	456	457
458	459	460	461
462	463	464	465
466	467	468	469
470	471	472	473
474	475	476	477
478	479	480	481
482	483	484	485
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502	503	504	505
506	507	508	509
510	511	512	513
514	515	516	517
518	519	520	521
522	523	524	525
526	527	528	529
530	531	532	533
534	535	536	537
538	539	540	541
542	543	544	545
546	547	548	549
550	551	552	553
554	555	556	557
558	559	560	561
562	563	564	565
566	567	568	569
570	571	572	573
574	575	576	577
578	579	580	581
582	583	584	585
586	587	588	589
590	591	592	593
594	595	596	597
598	599	600	601
602	603	604	605
606	607	608	609
610	611	612	613
614	615	616	617
618	619	620	621
622	623	624	625
626	627	628	629
630	631	632	633
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642	643	644	645
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670	671	672	673
674	675	676	677
678	679	680	681
682	683	684	685
686	687	688	689
690	691	692	693
694	695	696	697
698	699	700	701
702	703	704	705
706	707	708	709
710	711	712	713
714	715	716	717
718	719	720	721
722	723	724	725
726	727	728	729
730	731	732	733
734	735	736	737
738	739	740	741
742	743	744	745
746	747	748	749
750	751	752	753
754	755	756	757
758	759	760	761
762	763	764	765
766	767	768	769
770	771	772	773
774	775	776	777
778	779	780	781
782	783	784	785
786	787	788	789
790	791	792	793
794	795	796	797
798	799	800	801
802	803	804	805
806	807	808	809
810	811	812	813
814	815	816	817
818	819	820	821
822	823	824	825
826	827	828	829
830	831	832	833
834	835	836	837
838	839	840	841
842	843	844	845
846	847	848	849
850	851	852	853
854	855	856	857
858	859	860	861
862	863	864	865
866	867	868	869
870	871	872	873
874	875	876	877
878	879	880	881
882	883	884	885
886	887	888	889
890	891	892	893
894	895	896	897
898	899	900	901
902	903	904	905
906	907	908	909
910	911	912	913
914	915	916	917
918	919	920	921
922	923	924	925
926	927	928	929
930	931	932	933
934	935	936	937
938	939	940	941
942	943	944	945
946	947	948	949
950	951	952	953
954	955	956	957
958	959	960	961
962	963	964	965
966	967	968	969
970	971	972	973
974	975	976	977
978	979	980	981
982	983	984	985
986	987	988	989
990	991	992	993
994	995	996	997
998	999	1000	1001

28	V	VEHICLE SPEED SIGNAL (S-PULSE)
29	P	MICROPHONE VCC

Connector No.	B68
Connector Name	TEL ADAPTER UNIT
Connector Type	TH48FW-NH



35	36
37	38
39	40
41	42
43	44
45	46
47	48
49	50
51	52
53	54
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57	58
59	60
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63	64
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67	68
69	70
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141	142
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147	148
149	150
151	152
153	154
155	156
157	158

# BOSE AUDIO WITHOUT NAVIGATION

< WIRING DIAGRAM >

[WITHOUT NAVIGATION]

## BOSE AUDIO WITHOUT NAVIGATION

Connector No.	B201
Connector Name	WIRE TO WIRE
Connector Type	TH00FW-CS16-TM4



Terminal No.	Color of Wire	Signal Name [Specification]
1	G	-
2	R	-
3	BR	-
4	SB	-
6	O	-
7	GR	-
8	W	-
10	G	-
11	BR	-
12	Y	-
13	SHIELD	-
14	G	-
15	R	-
16	SHIELD	-
17	LG	-
18	GR	-
19	V	-
20	SB	-
21	LG	-
22	B	- [With entertainment system]
22	GR	- [Without entertainment system]
23	W	- [With entertainment system]
23	LG	- [Without entertainment system]
24	R	- [With entertainment system]
24	W	- [Without entertainment system]
25	SHIELD	- [With entertainment system]
25	V	- [Without entertainment system]
26	SB	-
27	V	-
28	SHIELD	-
29	O	-
30	P	-
31	W	-
32	GR	-
33	SB	-
40	LG	- [With ICC]
40	V	- [Without ICC]
41	SB	- [With ICC]

41	Y	- [Without ICC]
42	V	- [With ICC]
43	W	- [Without ICC]
43	BR	- [With ICC]
44	R	- [Without ICC]
44	R	-
45	G	-
46	O	- [With ICC]
46	SHIELD	- [Without ICC]
47	L	- [With ICC]
47	B	- [Without ICC]
48	P	- [With ICC]
48	R	- [Without ICC]
49	G	- [With ICC]
49	W	- [Without ICC]
50	SHIELD	-
51	W	-
52	R	-
53	G	-
54	L	-
55	SB	-
60	GR	-
61	LG	-
62	SB	-
63	P	-
64	BR	-
65	O	-
66	Y	-
67	W	-
68	SHIELD	-
69	G	-
71	SB	-
72	V	-
73	LG	-
74	W	-
75	BR	-
76	V	-
77	LG	-
80	O	-
81	G	-
82	P	-
83	Y	-
84	R	-
85	SB	-
86	GR	-
87	L	-
91	V	-
92	W	-
93	R	-
94	LG	-
95	GR	-
96	W	-

97	G	-
98	O	-
99	L	-
100	Y	-

Connector No.	B203
Connector Name	WIRE TO WIRE
Connector Type	TH12FW-NH



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

Terminal No.	Color of Wire	Signal Name [Specification]
4	SHIELD	-
5	G	-
6	Y	-
10	P	-
11	SHIELD	-
12	L	-

Connector No.	B218
Connector Name	WIRE TO WIRE
Connector Type	NH10FW-CS10



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

Terminal No.	Color of Wire	Signal Name [Specification]
2	GR	-
3	W	-
4	R	-
5	SB	-
6	B	-
8	G	-
11	Y	-
12	LG	-
13	P	-
17	SB	-

18	BR	-
19	BR	-
20	LG	-

Connector No.	B230
Connector Name	REAR SQUAWKER RH
Connector Type	TK02FBR



2	1
---	---

Terminal No.	Color of Wire	Signal Name [Specification]
1	G	-
2	R	-

Connector No.	B236
Connector Name	SATELLITE RADIO TUNER
Connector Type	A16FW



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

Terminal No.	Color of Wire	Signal Name [Specification]
1	W	SATELLITE RADIO SOUND SIGNAL LH (-)
2	B	SATELLITE RADIO SOUND SIGNAL LH (+)
3	R	SATELLITE RADIO SOUND SIGNAL RH (-)
4	G	SATELLITE RADIO SOUND SIGNAL RH (+)
5	SHIELD	SHIELD
6	SHIELD	SHIELD
8	W	REQUEST (SAT->CONT)
9	B	COMM (SAT->CONT)
10	R	COMM (CONT->SAT)
12	Y	BATTERY
16	V	ACC

JCNWA2839GB

BOSE AUDIO WITHOUT NAVIGATION

< WIRING DIAGRAM >

[WITHOUT NAVIGATION]

BOSE AUDIO WITHOUT NAVIGATION

Connector No.	B241
Connector Name	WIRE TO WIRE
Connector Type	NSDBFW-GS



Terminal No.	Color of Wire	Signal Name [Specification]
1	G	-
4	R	-
5	W	-
6	L	-
8	P	-

Connector No.	B243
Connector Name	WIRE TO WIRE
Connector Type	TH40FW-1H1



Terminal No.	Color of Wire	Signal Name [Specification]
1	B	-
2	B	-
3	Y	-
4	LG	-
5	GR	-
6	B	-
7	SHIELD	- [With entertainment system] - [Without entertainment system]
8	R	-
9	G	-
10	SHIELD	-
11	Y	-
12	BR	-
13	SHIELD	-
14	L	-
15	P	-
16	SHIELD	-

17	R	-
18	W	-
19	B	-
21	B	-
22	SHIELD	-
23	G	-
24	P	-
25	SHIELD	-
26	L	-
27	V	- [With entertainment system] - [Without entertainment system]
28	GR	- [With entertainment system] - [Without entertainment system]
29	LG	-
30	P	-
31	O	-
32	SHIELD	-
33	V	-
34	SB	-
35	SHIELD	-
37	B	-
38	R	-
39	W	-

Connector No.	B461
Connector Name	SATELLITE RADIO TUNER
Connector Type	FAKRA



Terminal No.	Color of Wire	Signal Name [Specification]
33	-	SATELLITE ANTENNA

Connector No.	B482
Connector Name	WIRE TO WIRE
Connector Type	GT16C-1S-HU



Terminal No.	Color of Wire	Signal Name [Specification]
1	-	-

Connector No.	B491
Connector Name	WIRE TO WIRE
Connector Type	GT16C-1PP-HU



Terminal No.	Color of Wire	Signal Name [Specification]
1	-	-

Connector No.	B492
Connector Name	ANTENNA BASE
Connector Type	GT16C-1PP-HU



Terminal No.	Color of Wire	Signal Name [Specification]
3	-	SATELLITE ANTENNA

Connector No.	B496
Connector Name	TEL ADAPTER UNIT
Connector Type	GT16C-1S-HU



Terminal No.	Color of Wire	Signal Name [Specification]
33	-	TEL ANTENNA SIGNAL
34	-	SHIELD

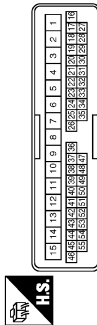
# BOSE AUDIO WITHOUT NAVIGATION

< WIRING DIAGRAM >

[WITHOUT NAVIGATION]

## BOSE AUDIO WITHOUT NAVIGATION

Connector No.	D1
Connector Name	WIRE TO WIRE
Connector Type	TH40PW-CS15



Terminal No.	Color of Wire	Signal Name [Specification]
1	B	-
3	G	-
6	GR	-
7	W	-
8	SB	-
9	BR	-
10	O	-
11	R	-
12	LG	-
13	Y	-
14	P	-
15	L	-
20	V	-
21	Y	-
22	GR	-
23	SB	-
24	LG	-
26	G	-
27	V	-
28	P	-
29	Y	-
30	LG	-
31	O	-
32	BR	-
33	L	-
34	GR	-
35	B	-
38	SHIELD	-
39	W	-
40	BR	-
41	L	-
42	Y	-
43	R	-
44	BR	-
45	V	-
46	P	-
47	W	-
48	GR	-

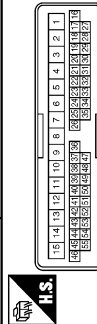
49	R	-
50	B	-
51	SB	-
52	L	-
53	G	-
54	O	-
55	GR	-

Connector No.	D4
Connector Name	FRONT DOOR SPEAKER LH
Connector Type	NS02FBR-CS



Terminal No.	Color of Wire	Signal Name [Specification]
1	L	-
2	P	-

Connector No.	D31
Connector Name	WIRE TO WIRE
Connector Type	TH40PW-CS15



Terminal No.	Color of Wire	Signal Name [Specification]
3	P	-
4	L	-
5	W	-
6	P	-
7	G	-
8	R	-
9	LG	-
13	B	-
14	V	-
15	Y	-
19	G	-

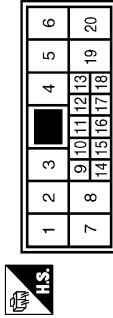
20	LG	-
21	SHIELD	-
22	W	-
23	BR	-
24	L	-
25	Y	-
26	R	-
28	LG	-
31	R	-
32	R	-
33	SB	-
34	Y	-
35	GR	-
36	O	-
37	GR	-
38	G	-
39	O	-
40	Y	-
41	L	-
42	O	-
43	BR	-
44	V	-
45	P	-
46	W	-

Connector No.	D34
Connector Name	FRONT DOOR SPEAKER RH
Connector Type	NS02FBR-CS



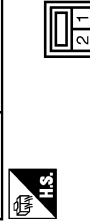
Terminal No.	Color of Wire	Signal Name [Specification]
1	L	-
2	P	-

Connector No.	D51
Connector Name	WIRE TO WIRE
Connector Type	NH10MW-CS10



Terminal No.	Color of Wire	Signal Name [Specification]
2	V	-
3	L	-
4	R	-
5	SB	-
6	B	-
8	G	-
11	LG	-
12	L	-
13	Y	-
17	O	-
18	BR	-
19	V	-
20	W	-

Connector No.	D56
Connector Name	REAR DOOR SPEAKER LH
Connector Type	NS02FBR-CS



Terminal No.	Color of Wire	Signal Name [Specification]
1	SB	-
2	V	-

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BOSE AUDIO WITHOUT NAVIGATION

< WIRING DIAGRAM >

[WITHOUT NAVIGATION]

BOSE AUDIO WITHOUT NAVIGATION

Connector No.	D71
Connector Name	WIRE TO WIRE
Connector Type	TH10MW-CS10



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 [Specification]
2	L	-
3	P	-
4	R	-
5	SB	-
6	B	-
8	G	-
11	LG	-
12	L	-
13	Y	-
17	O	-
18	BR	-
19	V	-
20	W	-

Connector No.	D76
Connector Name	REAR DOOR SPEAKER RH
Connector Type	NS02FBR-CS



21
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Terminal No.	Color of Wire	Signal Name [Specification]
1	SB	-
2	V	-

Connector No.	D102
Connector Name	WIRE TO WIRE
Connector Type	TH24FW-NH



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 [Specification]
1	G	-
2	L	-
3	Y	-
4	SHIELD	-
5	R	-
6	G	-
7	Y	-
8	L	-
9	W	-
10	SHIELD	-
11	W	-
13	W	-
14	SB	-
15	BR	-
16	R	-
17	V	-
18	LG	-
19	P	-
20	O	-
21	O	-
22	GR	-
23	L	-

Connector No.	D121
Connector Name	REAR VIEW CAMERA
Connector Type	TH04MW-NH



1	2	3	4
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Terminal No.	Color of Wire	Signal Name [Specification]
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BOSE AUDIO WITHOUT NAVIGATION

< WIRING DIAGRAM >

[WITHOUT NAVIGATION]

BOSE AUDIO WITHOUT NAVIGATION

Connector No.	E106
Connector Name	WIRE TO WIRE
Connector Type	TH00FW-CS16-TM4



Terminal No.	Color of Wire	Signal Name [Specification]
1	G	-
2	O	-
3	SB	-
4	LG	-
5	Y	-
6	W	-
7	G	-
8	V	-
9	R	-
10	BR	-
11	B	-
12	G	-
13	R	-
14	W	-
15	SHIELD	-
16	SB	-
17	L	-
18	P	-
19	G	-
20	W	- [With ICC]
21	Y	- [Without ICC]
22	R	- [With ICC]
23	G	- [Without ICC]
24	L	- [With ICC]
25	P	- [Without ICC]
26	L	- [With ICC]
27	SHIELD	-
28	G	-
29	LG	-
30	O	-
31	BR	-
32	W	-
33	Y	-
34	O	-
35	SB	-

36	P	-
37	Y	-
38	GR	-
39	LG	-
41	LG	-
42	V	-
43	R	-
44	G	-
45	GR	-
46	W	-
47	L	-
48	P	-
49	SB	-
50	BR	-
51	B	-
52	Y	-
53	O	-
54	R	-
55	SB	-
56	P	-
59	P	-
60	SB	-
61	V	-
62	P	-
63	LG	-
64	L	-
65	O	-
66	L	-
68	L	-
69	SHIELD	-
70	G	-
71	G	-
72	G	-
73	R	-
74	BR	-
76	L	-
77	W	-
78	Y	-
80	SB	-
81	L	-
82	W	-
83	LG	-
84	GR	-
85	G	-
86	P	-
87	W	-
88	O	-
89	LG	-
90	BR	-
91	GR	-
92	BR	-
93	SB	-
94	W	-

95	Y	-
96	W	-
100	Y	-

Connector No.	E107
Connector Name	PARKING BRAKE SWITCH
Connector Type	TE01FW



Terminal No.	Color of Wire	Signal Name [Specification]
1	LG	-

Connector No.	F51
Connector Name	A/T ASSEMBLY
Connector Type	RK10FG-DGY



Terminal No.	Color of Wire	Signal Name [Specification]
1	Y	-
2	R	- [With VK engine]
3	BR	- [With VQ engine]
4	V	-
5	B	-
6	Y	-
7	R	-
8	P	-
9	LG	- [With VK engine]
10	GR	- [With VQ engine]

Connector No.	F103
Connector Name	WIRE TO WIRE
Connector Type	TK38FW-NS10



Terminal No.	Color of Wire	Signal Name [Specification]
1	SHIELD	-
2	G	-
3	W	-
4	GR	- [With VK engine]
4	R	- [With VQ engine]
5	R	- [With VK engine]
5	B	- [With VQ engine]
6	SHIELD	-
7	B	-
9	W	- [With VK engine]
9	Y	- [With VQ engine]
10	L	- [With VK engine]
10	GR	- [With VQ engine]
17	GR	-
18	R	-
19	O	-
20	Y	-
26	BR	-
27	L	-
28	B	-
29	LG	-
31	R	-
34	LG	-
35	BR	-
36	W	-
37	Y	-
38	Y	-
43	P	-
44	L	-
45	Y	-
46	V	-

BOSE AUDIO WITHOUT NAVIGATION

< WIRING DIAGRAM >

[WITHOUT NAVIGATION]

BOSE AUDIO WITHOUT NAVIGATION

Connector No.	F151
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Type	SPT0F-G



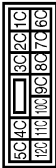
Terminal No.	Color of Wire	Signal Name [Specification]
1	W	VIGN
2	B	BATT
3	R	CAN-H
4	O	K LINE
5	G	GND
6	GR	VIGN
7	L	REV LAMP RLY
8	BR	CAN-L
9	Y	START RLY
10	W/B	GND

Connector No.	M1
Connector Name	FUSE BLOCK (J/B)
Connector Type	MS08FW-A2



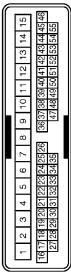
Terminal No.	Color of Wire	Signal Name [Specification]
1A	O	-
2A	G	-
3A	L	-
4A	P	-
5A	V	-
6A	Y	-
7A	R	-
8A	L	-

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS12FW-CS



Terminal No.	Color of Wire	Signal Name [Specification]
6C	P	-
7C	B	-
9C	O	-
10C	L	-
11C	LG	-
12C	R	-

Connector No.	M5
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-CS15



Terminal No.	Color of Wire	Signal Name [Specification]
1	B	-
3	SB	-
6	R	-
7	W	-
8	G	-
9	L	-
10	O	-
11	G	-
12	V	-
13	Y	-
14	P	-
15	L	-
20	O	-
21	LG	-
22	V	-
23	Y	-

24	P	-
26	SB	-
27	V	-
28	LG	-
29	R	-
30	P	-
31	O	-
32	SB	-
33	L	-
34	R	-
35	B	-
38	SHIELD	-
39	W	-
40	B	-
41	G	-
42	Y	-
43	R	-
44	G	-
45	Y	-
46	GR	-
47	W	-
48	L	-
49	R	-
50	O	-
51	SB	-
52	R	-
53	Y	-
54	LG	-
55	L	-

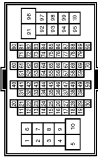
BOSE AUDIO WITHOUT NAVIGATION

< WIRING DIAGRAM >

[WITHOUT NAVIGATION]

BOSE AUDIO WITHOUT NAVIGATION

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4



Terminal No.	Color of Wire	Signal Name [Specification]
1	G	-
2	O	-
3	SB	-
4	LG	-
5	GR	-
6	W	-
7	G	-
8	W	-
9	P	-
10	BR	-
11	B	-
12	G	-
13	R	-
14	W	-
15	SHIELD	-
16	BR	-
17	L	-
18	P	-
19	G	-
20	W	- [With ICC]
20	GR	- [Without ICC]
21	BR	- [With ICC]
21	R	- [Without ICC]
22	R	- [With ICC]
22	L	- [Without ICC]
23	G	-
24	L	- [With ICC]
24	P	- [Without ICC]
25	Y	- [With ICC]
25	W	- [Without ICC]
26	SHIELD	-
28	GR	-
29	V	-
30	O	-
31	BR	-
32	W	-
33	Y	-
34	L	-

94	L	-
95	G	-
96	W	-
100	Y	-

35	L	-
36	P	-
37	G	-
38	R	-
39	G	-
41	L	-
42	W	-
43	R	-
44	LG	-
45	GR	-
46	W	-
47	L	-
48	P	-
49	O	-
50	LG	-
51	SB	-
52	Y	-
53	O	-
54	BR	-
55	SB	-
56	P	-
59	SB	-
60	SB	-
61	V	-
62	P	-
63	R	-
64	L	-
65	O	-
66	L	-
68	V	-
70	SHIELD	-
71	O	-
72	GR	-
73	W	-
74	SB	-
76	V	-
77	V	-
78	Y	-
80	O	-
81	L	-
82	W	-
83	Y	-
84	L	-
85	P	-
86	BR	-
87	P	-
88	V	-
89	G	-
90	P	-
91	R	-
92	R	-
93	GR	-



# BOSE AUDIO WITHOUT NAVIGATION

< WIRING DIAGRAM >

[WITHOUT NAVIGATION]

## BOSE AUDIO WITHOUT NAVIGATION

Connector No.	M7
Connector Name	WIRE TO WIRE
Connector Type	TH03MW-CS16-TM4



Terminal No.	Color of Wire	Signal Name [Specification]
1	G	-
2	B	-
3	W	-
5	G	-
6	P	-
7	V	-
8	O	-
9	W	-
10	W	-
11	O	-
12	B	-
13	G	-
14	R	-
15	W	-
16	SHIELD	-
17	L	-
18	P	-
19	G	-
20	R	-
21	LG	-
23	V	-
24	P	-
25	BR	-
26	GR	-
27	O	-
28	W	-
29	SHIELD	-
38	B	-
39	B	-
40	LG	-
41	G	-
42	Y	-
43	SB	-
44	W	-
45	B	-
50	B	-
51	V	-
52	LG	-

53	SHIELD	-
54	BR	-
55	Y	-
56	SHIELD	-
57	P	-
58	L	-
59	SHIELD	-
60	L	-
61	BR	-
62	R	-
63	Y	-
64	L	-
65	W	-
66	V	-
67	LG	-
68	Y	-
69	G	-
70	V	-
71	W	-
72	B	-
73	W	-
74	LG	-
75	P	-
76	LG	-
77	SB	-
78	GR	-
79	R	-
80	L	-
81	P	-
82	L	-
83	P	-
84	SB	-
85	W	-
86	Y	-
87	B	-
88	G	-
89	O	-
90	W	-
91	R	-
92	O	-
93	BR	-
94	V	-
95	Y	-
96	O	-
97	W	-
98	R	-
99	G	-
99	O	-
- [With VK engine]		
- [With VG engine]		

Connector No.	M13
Connector Name	FRONT SQUAWKER LH
Connector Type	TK02FBR



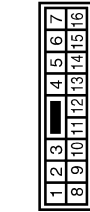
Terminal No.	Color of Wire	Signal Name [Specification]
1	L	-
2	W	-

Connector No.	M24
Connector Name	DATA LINK CONNECTOR
Connector Type	BD16FW



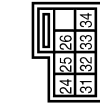
Terminal No.	Color of Wire	Signal Name [Specification]
3	LG	-
4	B	-
5	B	-
6	L	-
7	GR	-
8	G	-
11	SB	-
12	P	-
13	L	-
14	P	-
16	O	-

Connector No.	M25
Connector Name	WIRE TO WIRE
Connector Type	NS16MH-GS



Terminal No.	Color of Wire	Signal Name [Specification]
6	SB	-
7	Y	-
8	SHIELD	-
9	G	-
10	R	-
11	V	-
12	SB	-
13	Y	-
14	LG	-
15	P	-
16	L	-

Connector No.	M35
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TK08FGY-TV



Terminal No.	Color of Wire	Signal Name [Specification]
24	P	-
25	SB	-
26	B	-
31	L	-
32	V	-
33	B	-
34	G	-

# BOSE AUDIO WITHOUT NAVIGATION

< WIRING DIAGRAM >

[WITHOUT NAVIGATION]

## BOSE AUDIO WITHOUT NAVIGATION

Connector No.	M37
Connector Name	STEERING ANGLE SENSOR
Connector Type	TH08FW-NH



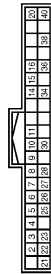
Terminal No.	Color of Wire	Signal Name [Specification]
1	L	CAN-H
2	P	CAN-L
7	B	GND
8	GR	IGN

Connector No.	M63
Connector Name	CENTER SPEAKER
Connector Type	TH02FBR



Terminal No.	Color of Wire	Signal Name [Specification]
1	Y	-
2	G	-

Connector No.	M66
Connector Name	UNIFIED METER AND A/C AMP.
Connector Type	TH40FW-NH



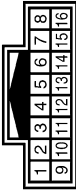
BOSE AUDIO WITHOUT NAVIGATION

< WIRING DIAGRAM >

[WITHOUT NAVIGATION]

BOSE AUDIO WITHOUT NAVIGATION

Connector No.	M110
Connector Name	WIRE TO WIRE
Connector Type	TK18MW-NH



Terminal No.	Color of Wire	Signal Name [Specification]
1	L	-
2	P	-
4	B	-
5	BR	-
6	GR	-
7	SB	-
8	LG	-
9	SHIELD	-
10	R	-
11	G	-
15	R	-
16	V	-

Connector No.	M114
Connector Name	FRONT SQUAWKER RH
Connector Type	TK02FBR



Terminal No.	Color of Wire	Signal Name [Specification]
1	V	-
2	LG	-

Connector No.	M116
Connector Name	WIRE TO WIRE
Connector Type	TK08MW-NS10



Terminal No.	Color of Wire	Signal Name [Specification]
1	B	-
2	W	-
3	L	-
4	B	- [With VK engine] - [With VG engine]
4	R	- [With VK engine] - [With VG engine]
5	R	-
5	B	- [With VG engine]
6	B	-
7	B	-
9	L	- [With VK engine] - [With VG engine]
9	R	- [With VG engine]
10	R	-
12	LG	-
18	R	-
19	O	-
20	Y	-
26	V	-
27	L	-
28	B	-
29	LG	-
31	W	-
34	LG	-
35	BR	-
36	W	-
37	Y	-
38	O	-
43	P	-
44	L	-
45	G	-
46	Y	-

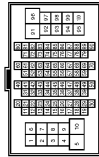
# BOSE AUDIO WITHOUT NAVIGATION

< WIRING DIAGRAM >

[WITHOUT NAVIGATION]

## BOSE AUDIO WITHOUT NAVIGATION

Connector No.	M17
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4

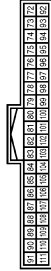


Terminal No.	Color of Wire	Signal Name [Specification]
1	GR	-
2	BR	-
3	V	-
4	SB	-
6	Y	-
7	B	-
8	W	-
10	W	-
11	BR	-
12	GR	-
13	SHIELD	-
14	SHIELD	-
15	P	-
16	SHIELD	-
17	Y	-
18	Y	-
19	LG	-
20	SB	-
21	LG	-
22	B	- [With entertainment system]
22	GR	- [Without entertainment system]
23	W	- [With entertainment system]
23	V	- [Without entertainment system]
24	R	- [With entertainment system]
24	W	- [Without entertainment system]
25	SHIELD	- [With entertainment system]
25	R	- [Without entertainment system]
26	SB	-
27	V	-
28	SHIELD	-
29	O	-
30	P	-
31	W	-
32	W	-
33	SB	-
40	V	-
41	SB	- [With ICG]
41	Y	- [Without ICG]

42	V	- [With ICG]
42	W	- [Without ICG]
43	P	- [With ICG]
43	B	- [Without ICG]
44	R	- [With ICG]
45	L	- [Without ICG]
45	G	- [With ICG]
46	O	- [Without ICG]
46	SHIELD	- [With ICG]
47	L	- [Without ICG]
47	B	- [With ICG]
48	P	- [Without ICG]
48	R	- [With ICG]
49	G	- [Without ICG]
49	W	- [With ICG]
50	SHIELD	-
51	O	-
52	GR	-
53	G	-
54	L	-
55	P	-
60	LG	-
61	R	-
62	SB	-
63	V	-
64	Y	-
65	BR	-
66	O	-
67	W	-
68	SHIELD	-
69	G	-
71	SB	-
72	V	-
73	V	-
74	LG	-
75	R	- [With VK engine]
75	BR	- [With VQ engine]
76	V	-
77	LG	-
80	R	-
81	L	-
82	Y	-
83	O	-
84	W	-
85	SB	-
86	B	-
87	P	-
91	L	-
92	L	-
93	G	-
94	W	- [With VK engine]
94	O	- [With VQ engine]

95	V	-
96	G	-
97	G	-
98	L	-
99	LG	-
100	Y	-

Connector No.	M122
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FB-NH



Terminal No.	Color of Wire	Signal Name [Specification]
72	R	ROOM ANTZ-
73	G	ROOM ANTZ+
74	SB	PASSENGER DOOR ANT-
75	BR	PASSENGER DOOR ANT+
76	V	DRIVER DOOR ANT-
77	LG	DRIVER DOOR ANT+
78	Y	ROOM ANTI-
79	BR	ROOM ANTI+
80	GR	NATS ANT AMP-
81	W	NATS ANT AMP+
82	P	IGN RELAY (F/B) CONT
83	GR	KEYLESS ENTRY RECEIVER SIGNAL
87	BR	COMBI SW INPUT 5
88	V	COMBI SW INPUT 3
89	SB	PUSH SW
90	P	GAN-L
91	L	GAN-H
92	LG	KEY SLOT ILL
93	V	ON IND
95	O	ACC RELAY CONT
96	GR	A/T SHIFT SELECTOR POWER SUPPLY
97	L	S/L CONDITION 1
98	P	S/L CONDITION 2
99	R	SHIFT P
100	G	PASSENGER DOOR REQUEST SW
101	SB	DRIVER DOOR REQUEST SW
102	O	BLOWER FAN MOTOR RELAY CONT
103	BR	KEYLESS ENTRY RECEIVER POWER SUPPLY
106	W	S/L UNIT POWER SUPPLY
107	LG	COMBI SW INPUT 1

108	R	COMBI SW INPUT 4
109	Y	COMBI SW INPUT 2
110	G	HAZARD SW
111	GR	S/L UNIT COMM

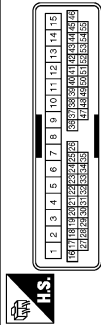
# BOSE AUDIO WITHOUT NAVIGATION

< WIRING DIAGRAM >

[WITHOUT NAVIGATION]

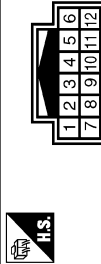
## BOSE AUDIO WITHOUT NAVIGATION

Connector No.	M124
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-CS15



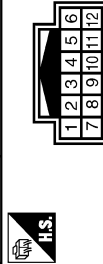
Terminal No.	Color of Wire	Signal Name [Specification]
3	Y	-
4	LG	-
5	SB	-
6	BR	-
7	G	-
8	V	-
9	LG	-
13	B	-
14	O	-
15	Y	-
19	G	-
20	LG	-
21	SHIELD	-
22	W	-
23	B	-
24	G	-
25	Y	-
26	R	-
31	O	-
32	Y	-
33	LG	-
34	SB	-
35	V	-
36	O	-
37	GR	-
38	R	- [With automatic drive positioner] - [Without automatic drive positioner]
39	G	-
40	R	-
41	P	-
42	LG	-
43	L	-
44	Y	-
45	R	-
46	W	-

Connector No.	M125
Connector Name	WIRE TO WIRE
Connector Type	TH12MW-NH



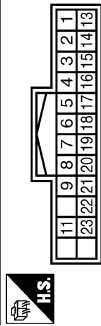
Terminal No.	Color of Wire	Signal Name [Specification]
4	SHIELD	-
5	P	-
6	L	-
10	G	-
11	SHIELD	-
12	R	-

Connector No.	M144
Connector Name	WIRE TO WIRE
Connector Type	TH12MW-NH



Terminal No.	Color of Wire	Signal Name [Specification]
1	V	-
2	Y	-
3	R	-
5	W	-
6	R	-
7	Y	-
11	SHIELD	-
12	W	-
12	B	- [With around view monitor] - [Without around view monitor]

Connector No.	M194
Connector Name	FRONT DISPLAY UNIT
Connector Type	TH24FW-NH



Terminal No.	Color of Wire	Signal Name [Specification]
1	B	GND
2	Y	INVERTER VCC
3	O	SIGNAL VCC
4	V	COMPOSITE IMAGE SIGNAL GND
5	SHIELD	-
6	W	RGB (G, GREEN) SIGNAL
7	SHIELD	-
8	R	HP
9	B	RGB AREA (YS) SIGNAL
11	Y	COMM (CONT->DISP)
13	BR	INVERTER GND
14	LG	SIGNAL GND
15	SB	COMPOSITE IMAGE SIGNAL
17	B	RGB (R, RED) SIGNAL
18	R	RGB (B, BLUE) SIGNAL
19	G	RGB SYNC SIGNAL
20	W	VP
21	SHIELD	-
22	BR	COMM (DISP->CONT)
23	SHIELD	-

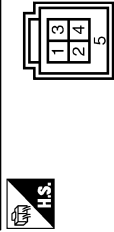
Connector No.	M196
Connector Name	AUXILIARY INPUT JACK
Connector Type	A08FW



Terminal No.	Color of Wire	Signal Name [Specification]
1	R	AUX SOUND SIGNAL RH (+)
2	B	AUX SOUND SIGNAL GND

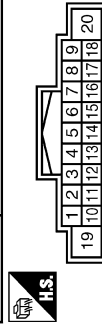
3	W	AUX SOUND SIGNAL LH (+)
7	Y	AUX IMAGE SIGNAL
8	BR	AUX IMAGE SIGNAL GND

Connector No.	M197
Connector Name	USB CONNECTOR
Connector Type	HA04FG



Terminal No.	Color of Wire	Signal Name [Specification]
1	W	-
2	L	-
3	G	-
4	R	-
5	SHIELD	-

Connector No.	M201
Connector Name	AV CONTROL UNIT
Connector Type	TH18FW-CS2



Terminal No.	Color of Wire	Signal Name [Specification]
6	P	STRG SW A
7	V	AOC
9	R	ILLUMINATION SIGNAL
15	B	STRG SW GND
16	L	STRG SW B
19	Y	BATTERY
20	B	GND

# BOSE AUDIO WITHOUT NAVIGATION

< WIRING DIAGRAM >

[WITHOUT NAVIGATION]

## BOSE AUDIO WITHOUT NAVIGATION

Connector No.	M202
Connector Name	AV CONTROL UNIT
Connector Type	TH24FW-NH



36	37	38	39	40	41	42	43	44	45	46	47
48	49	50	51	52	53					57	58

Terminal No.	Color of Wire	Signal Name [Specification]
36	O	SIGNAL VCC
37	LG	SIGNAL GND
38	R	HP
39	BR	COMM (DISP->CONT)
40	B	RGB AREA (YS) SIGNAL
41	SHIELD	SHIELD
42	G	RGB SYNC
43	B	RGB (RRED) SIGNAL
44	W	RGB (GREEN) SIGNAL
45	R	RGB (BLUE) SIGNAL
46	V	COMPOSITE IMAGE SIGNAL
47	SB	COMPOSITE IMAGE SIGNAL
48	Y	INVERTER VCC
49	BR	INVERTER GND
50	W	YP
51	Y	COMM (CONT->DISP)
52	SHIELD	SHIELD
57	SHIELD	SHIELD
58	SHIELD	SHIELD

Connector No.	M203
Connector Name	AV CONTROL UNIT
Connector Type	TH16FW-NH



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

Terminal No.	Color of Wire	Signal Name [Specification]
61	Y	AUX IMAGE SIGNAL
62	W	CAMERA IMAGE SIGNAL
63	SHIELD	SHIELD

Terminal No.	Color of Wire	Signal Name [Specification]
69	BR	AUX IMAGE SIGNAL GND
70	SHIELD	SHIELD
72	B	CAMERA GND
73	R	CAMERA POWER SUPPLY

Connector No.	M204
Connector Name	AV CONTROL UNIT
Connector Type	TH22FW-NH



76	77	78	79	80	81	82	84	85	86	87	88	89	90	91
92	93	94	95	96			99	100	101	102	103	104	105	106

Terminal No.	Color of Wire	Signal Name [Specification]
76	LG	AV COMM (L)
77	SB	AV COMM (H)
78	LG	AV COMM (L)
79	SB	AV COMM (H)
80	P	CAN-L
81	L	CAN-H
82	BR	SW GND
86	SHIELD	SHIELD
87	L	TEL VOICE SIGNAL (+)
88	P	TEL VOICE SIGNAL (-)
92	R	VEHICLE SPEED SIGNAL (8-PULSE)
93	V	PARKING BRAKE SIGNAL
94	O	REVERSE SIGNAL
95	G	IGNITION SIGNAL
96	SB	DISK EJECT SIGNAL
102	B	AUX SOUND SIGNAL GND
103	W	AUX SOUND SIGNAL LH (+)
104	R	AUX SOUND SIGNAL RH (+)

Connector No.	M205
Connector Name	AV CONTROL UNIT
Connector Type	TH12FW-NH



108	109	110	111	112	113
114	115	116	117	118	119

Terminal No.	Color of Wire	Signal Name [Specification]
108	BR	SOUND SIGNAL REAR RH (+)
109	R	SOUND SIGNAL FRONT RH (+)
110	V	AMP ON SIGNAL
111	B	SHIELD
112	V	SOUND SIGNAL REAR LH (+)
113	P	SOUND SIGNAL FRONT LH (+)
114	Y	SOUND SIGNAL REAR RH (-)
115	G	SOUND SIGNAL FRONT RH (-)
118	LG	SOUND SIGNAL REAR LH (-)
119	L	SOUND SIGNAL FRONT LH (-)

Connector No.	M206
Connector Name	AV CONTROL UNIT
Connector Type	A12FW



120	121	122	123	124	125	126	127	128	129	130
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Terminal No.	Color of Wire	Signal Name [Specification]
120	B	SATELLITE SOUND SIGNAL LH (+)
121	G	SATELLITE SOUND SIGNAL RH (+)
122	R	COMM (CONT->SAT)
124	W	SATELLITE SOUND SIGNAL LH (-)
125	R	SATELLITE SOUND SIGNAL RH (-)
126	SHIELD	SHIELD
127	SHIELD	SHIELD
128	SB	MODE CHANGE SIGNAL
129	W	REQUEST (SAT->CONT)
130	B	COMM (SAT->CONT)

Connector No.	M207
Connector Name	AV CONTROL UNIT
Connector Type	HAAGFL



132	133	134	135	136
-----	-----	-----	-----	-----

Terminal No.	Color of Wire	Signal Name [Specification]
132	G	USB GND
133	R	USB D+ SIGNAL
134	W	YBUS SIGNAL
135	L	USB D- SIGNAL
136	SHIELD	SHIELD

Connector No.	M303
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TK08FGY



137	138	139	140	141	142	143
-----	-----	-----	-----	-----	-----	-----

Terminal No.	Color of Wire	Signal Name [Specification]
137	R	-
14	W	-
15	L	-
16	B	-
17	BR	-
18	G	-
19	P	-
20	Y	-

Connector No.	M368
Connector Name	AV CONTROL UNIT
Connector Type	GT13SH-2/1S-HU



137	138	139
-----	-----	-----

Terminal No.	Color of Wire	Signal Name [Specification]
137	-	FM SUB
138	-	AM-FM MAIN
139	-	ANTENNA AMP ON SIGNAL

JCNWA2851GB

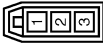
BOSE AUDIO WITHOUT NAVIGATION

< WIRING DIAGRAM >

[WITHOUT NAVIGATION]

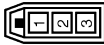
BOSE AUDIO WITHOUT NAVIGATION

Connector No.	M375
Connector Name	WIRE TO WIRE
Connector Type	GT13SC-2/IS-HU



Terminal No.	Color of Wire	Signal Name [Specification]
1	-	-
2	-	-
3	-	-

Connector No.	M385
Connector Name	WIRE TO WIRE
Connector Type	GT13SCN-2/IPP-HU



Terminal No.	Color of Wire	Signal Name [Specification]
1	-	-
2	-	-
3	-	-

Connector No.	M388
Connector Name	ANTENNA BASE
Connector Type	GT13SSN-1/IPP-HU



Terminal No.	Color of Wire	Signal Name [Specification]
1	-	-
2	-	-

1	-	ANTENNA AMP. ON SIGNAL
2	-	AM-FM MAIN

Connector No.	M387
Connector Name	WIRE TO WIRE
Connector Type	JASO JACK



Terminal No.	Color of Wire	Signal Name [Specification]
1	-	-

Connector No.	M388
Connector Name	WIRE TO WIRE
Connector Type	JASO PLUG



Terminal No.	Color of Wire	Signal Name [Specification]
1	-	-

Connector No.	M389
Connector Name	GLASS ANTENNA (FM SUB)
Connector Type	POIFB-A



Terminal No.	Color of Wire	Signal Name [Specification]
1	-	-

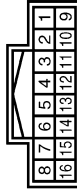
1	-	-
---	---	---

Connector No.	R2
Connector Name	WIRE TO WIRE
Connector Type	TH24FW-NH



Terminal No.	Color of Wire	Signal Name [Specification]
1	P	-
2	GR	-
8	SHIELD	-
9	R	-
10	G	-
11	B	-
12	V	-
17	Y	-
18	G	-
19	R	-
20	L	-
21	P	-
22	R	-
23	BR	-
24	B	-

Connector No.	R7
Connector Name	WIRE TO WIRE
Connector Type	TH16FW-NH



Terminal No.	Color of Wire	Signal Name [Specification]
1	L	-
4	B	-
5	BR	-

6	GR	-
7	SB	-
8	Y	-
9	SHIELD	-
10	R	-
11	G	-
13	R	-
16	V	-

Connector No.	R11
Connector Name	WIRE TO WIRE
Connector Type	TH24MW-NH



Terminal No.	Color of Wire	Signal Name [Specification]
1	LG	-
2	GR	-
8	SHIELD	-
9	L	-
10	R	-
11	B	-
12	V	-
17	Y	-
18	G	-
19	SB	-
20	P	-
21	L	-
22	R	-
23	BR	-
24	O	-

BOSE AUDIO WITHOUT NAVIGATION

Connector No.	R17
Connector Name	MICROPHONE
Connector Type	TK04FW



Terminal No.	Color of Wire	Signal Name [Specification]
1	R	MICROPHONE SIGNAL
2	SHIELD	MICROPHONE GND
4	L	MICROPHONE VCC

JCNWA2853GB



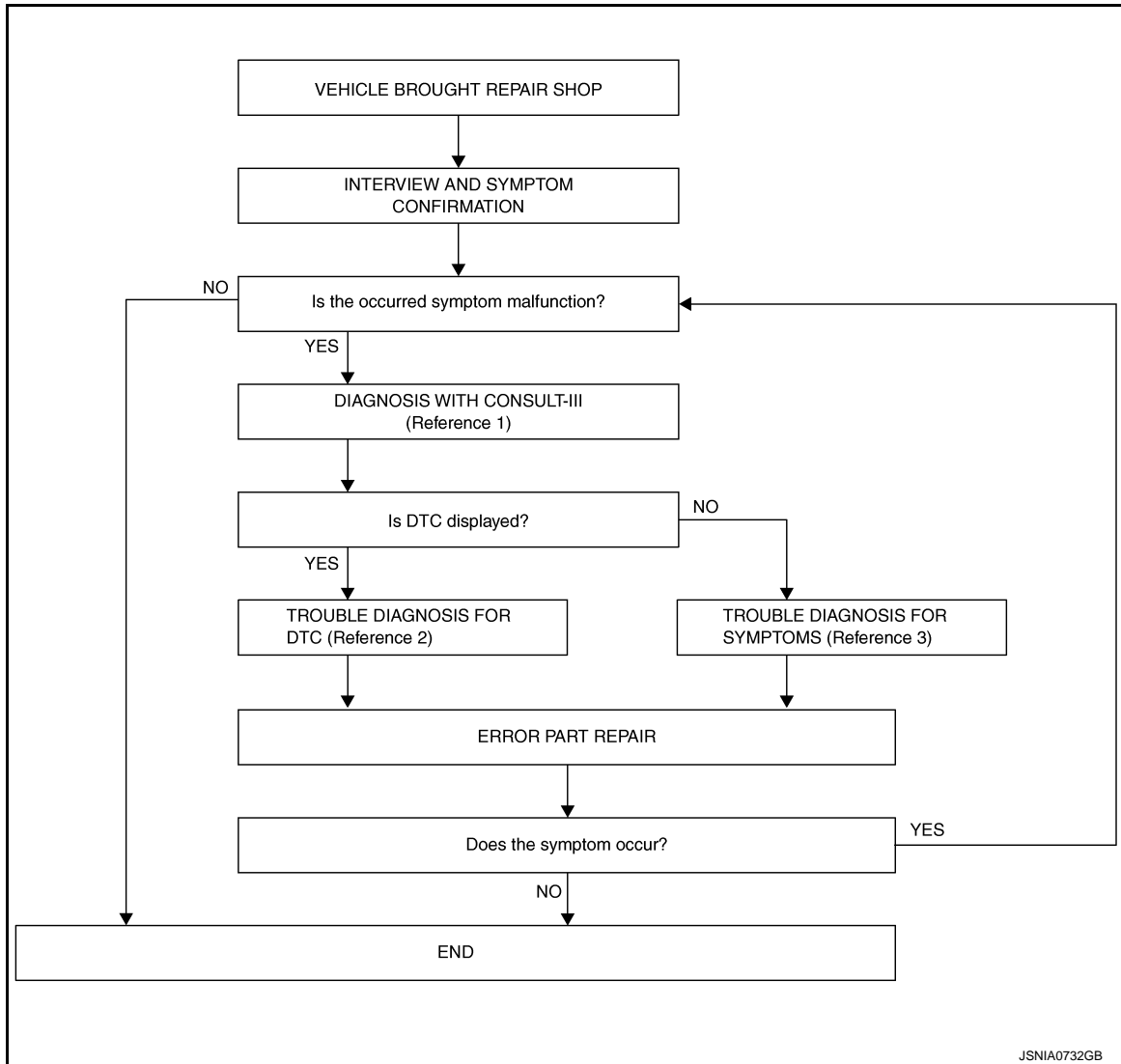
## BASIC INSPECTION

### DIAGNOSIS AND REPAIR WORKFLOW

#### Work Flow

INFOID:000000005528225

#### OVERALL SEQUENCE



- Reference 1... Refer to [AV-30. "CONSULT - III Function \(MULTI AV\)"](#).
- Reference 2... Refer to [AV-43. "DTC Index"](#).
- Reference 3... Refer to [AV-130. "Symptom Table"](#).

#### DETAILED FLOW

##### 1. INTERVIEW AND SYMPTOM CONFIRMATION

Check the malfunction symptoms by performing the following items.

- Interview the customer to obtain the malfunction information (conditions and environment when the malfunction occurred).
- Check the symptom.

Is the occurred symptom malfunction?

YES >> GO TO 2.

NO >> INSPECTION END

##### 2. DIAGNOSIS WITH CONSULT-III

## DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[WITHOUT NAVIGATION]

1. Connect CONSULT-III and perform a self-diagnosis for "MULTI AV". Refer to [AV-30, "CONSULT - III Function \(MULTI AV\)"](#).

**NOTE:**

Skip to step 4 of the diagnosis procedure if "MULTI AV" is not displayed.

2. Check if any DTC is displayed in the self-diagnosis results.

Is DTC displayed?

YES >> GO TO 3.

NO >> GO TO 4.

### 3. TROUBLE DIAGNOSIS FOR DTC

---

1. Check the DTC indicated in the self-diagnosis results.
2. Perform the relevant diagnosis referring to the DTC Index. Refer to [AV-43, "DTC Index"](#).

>> GO TO 5.

### 4. TROUBLE DIAGNOSIS FOR SYMPTOMS

---

Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to [AV-130, "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-III.

**NOTE:**

Erase the stored self-diagnosis results after repairing or replacing the relevant components if any DTC has been indicated in the self-diagnosis results.

3. Check that the symptom does not occur.

Does the symptom occur?

YES >> GO TO 1.

NO >> INSPECTION END

## INSPECTION AND ADJUSTMENT

## ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT

## ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Description

INFOID:0000000005528249

## BEFORE REPLACEMENT

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

## AFTER REPLACEMENT

**CAUTION:**

When replacing AV control unit, you must perform "WRITE CONFIGURATION" with CONSULT-III.

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

## ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Work Procedure

INFOID:0000000005528250

## 1. SAVING VEHICLE SPECIFICATION

## ④-CONSULT-III Configuration

Perform "READ CONFIGURATION" to save or print current vehicle specification. Refer to [AV-79, "CONFIGURATION \(AV CONTROL UNIT\) : Description"](#).

**NOTE:**

If "READ CONFIGURATION" can not be used, use the "WRITE CONFIGURATION - Manual selection".

>> GO TO 2.

## 2. REPLACE AV CONTROL UNIT

Replace AV control unit. Refer to [AV-136, "Exploded View"](#).

>> GO TO 3.

## 3. WRITING VEHICLE SPECIFICATION

## ④-CONSULT-III Configuration

Perform "WRITE CONFIGURATION - Config file" or "WRITE CONFIGURATION - Manual selection" to write vehicle specification. Refer to [AV-80, "CONFIGURATION \(AV CONTROL UNIT\) : Work Procedure"](#).

>> GO TO 4.

## 4. OPERATION CHECK

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

>> WORK END

## CONFIGURATION (AV CONTROL UNIT)

## CONFIGURATION (AV CONTROL UNIT) : Description

INFOID:0000000005528251

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

# INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[WITHOUT NAVIGATION]

Function	Description
READ CONFIGURATION	<ul style="list-style-type: none"><li>• Reads the vehicle configuration of current AV control unit.</li><li>• Saves the read vehicle configuration.</li></ul>
WRITE CONFIGURATION-Manual selection	Writes the vehicle configuration with manual selection.
WRITE CONFIGURATION-Config file	Writes the vehicle configuration with saved data.

## CONFIGURATION (AV CONTROL UNIT) : Work Procedure

INFOID:0000000005528252

### NOTE:

If "WRITE CONFIGURATION" is unsuccessful, perform "Accessory Number Initialization". For details, refer to [AV-21, "On Board Diagnosis Function"](#).

After performing "Accessory Number Initialization", reboot the AV control unit to perform "WRITE CONFIGURATION".

### 1. WRITING MODE SELECTION

CONSULT-III Configuration

Select "CONFIGURATION" of "MULTI AV".

When writing saved data>>GO TO 2.

When writing manually>>GO TO 3.

### 2. PERFORM "WRITE CONFIGURATION-CONFIG FILE"

CONSULT-III Configuration

Perform "WRITE CONFIGURATION-Config file".

>> WORK END

### 3. PERFORM "WRITE CONFIGURATION-MANUAL SELECTION"

CONSULT-III Configuration

Select "WRITE CONFIGURATION-Manual selection" to write vehicle specifications into the AV control unit. For data to write, refer to [AV-80, "CONFIGURATION \(AV CONTROL UNIT\) : Configuration List"](#).

>> GO TO 4.

### 4. OPERATION CHECK

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

>> WORK END

## CONFIGURATION (AV CONTROL UNIT) : Configuration List

INFOID:0000000005528253

### CAUTION:

Check vehicle specifications before servicing.

MANUAL SETTING ITEM	
Items	Setting value
STEERING	LHD
	RHD
CAMERA SYSTEM	NONE/AVM
	REAR CAMERA
	REAR+SIDE
SOUND SYSTEM	BASE
	BOSE

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[WITHOUT NAVIGATION]

**NOTE:**  
AVM: Around view monitor

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

## DTC/CIRCUIT DIAGNOSIS

### U1000 CAN COMM CIRCUIT

#### Description

INFOID:000000005528898

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-30, "CAN Communication Signal Chart"](#).

#### DTC Logic

INFOID:000000005528899

#### DTC DETECTION LOGIC

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

#### Diagnosis Procedure

INFOID:000000005528900

##### 1.PERFORM SELF-DIAGNOSTIC

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

##### Is "CAN COMM CIRCUIT" displayed?

- YES >> Refer to "LAN system". Refer to [LAN-20, "Trouble Diagnosis Procedure"](#).
- NO >> Refer to GI section. Refer to [GI-36, "Intermittent Incident"](#).

## U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

### U1010 CONTROL UNIT (CAN)

#### DTC Logic

INFOID:000000005528901

#### DTC DETECTION LOGIC

DTC	Display contents of CONSULT-III	DTC detection condition	Probable malfunction factor
U1010	CONTROL UNIT (CAN) [U1010]	CAN initial diagnosis malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly.

A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

P

## U1200 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

### U1200 AV CONTROL UNIT

#### DTC Logic

INFOID:000000005528902

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1200	Cont Unit [U1200]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly.



U1216 AV CONTROL UNIT

DTC Logic

INFOID:0000000005528917

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1216	CAN CONT [U1216]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly.

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

AV

## U121D AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

### U121D AV CONTROL UNIT

#### DTC Logic

INFOID:000000005528967

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U121D	DSP CONN [U121D]	AV control unit malfunction is detected.	<ul style="list-style-type: none"><li>• If a disc can be played, then there is a possibility of the detection of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly.</li></ul>

#### Diagnosis Procedure

INFOID:000000005528968

#### 1. CHECK PLAYBACK OF A DISK (CD)

##### Can a disk (CD) be played?

- YES    >> Malfunction may be detected transitory.  
NO     >> Replace AV control unit. Refer to [AV-136. "Exploded View"](#).

# U121E AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

## U121E AV CONTROL UNIT

### DTC Logic

INFOID:000000000528969

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U121E	DSP COMM [U121E]	AV control unit malfunction is detected.	<ul style="list-style-type: none"><li>• If a disc can be played, then there is a possibility of the detection of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly.</li></ul>

### Diagnosis Procedure

INFOID:000000000528970

#### 1. CHECK PLAYBACK OF A DISK (CD)

##### Can a disk (CD) be played?

- YES >> Malfunction may be detected transitory.  
NO >> Replace AV control unit. Refer to [AV-136. "Exploded View"](#).

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

AV

## U1225 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

### U1225 AV CONTROL UNIT

#### DTC Logic

INFOID:000000005528966

#### DTC DETECTION LOGIC

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1225	USB CONTROLLER [U1225]	USB connection malfunction is detected.	Check that the connection to the USB connector is normal.

U1228 AV CONTROL UNIT

DTC Logic

INFOID:000000000528936

DTC DETECTION LOGIC

DTC	Display contents of CON-SULT-III	DTC detection condition	Possible malfunction factor
U1228	SUB CPU CONN [U1228]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly.

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

AV

## U1229 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

### U1229 AV CONTROL UNIT

#### DTC Logic

INFOID:00000000528937

#### DTC DETECTION LOGIC

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1229	iPod CERTIFICATION [U1229]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly.

# U122A AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

## U122A AV CONTROL UNIT

### DTC Logic

INFOID:0000000005528971

DTC	Display contents of CONSULT-III	DTC detection condition	Action to take
U122A	CONFIG UNFINISH [U122A]	The writing of configuration data is incomplete.	Write configuration data with CONSULT-III.

### Diagnosis Procedure

INFOID:0000000005528972

#### 1.PERFORM THE SELF-DIAGNOSIS

When U122A is detected, write configuration data with CONSULT-III.

>> Write configuration data with CONSULT-III. Refer to [AV-80, "CONFIGURATION \(AV CONTROL UNIT\) : Work Procedure"](#).

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AV

## U122E AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

### U122E AV CONTROL UNIT

#### DTC Logic

INFOID:00000000528940

#### DTC DETECTION LOGIC

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U122E	Built-in AUDIO CONN [U122E]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly.



## U1232 STEERING ANGLE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

### U1232 STEERING ANGLE SENSOR

#### DTC Logic

INFOID:0000000005528941

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1232	ST ANGLE SEN CALIB [1232]	Predictive course line center position adjustment of the steering angle sensor is incomplete.	Adjust the predictive course line center position of the steering angle sensor.

#### Diagnosis Procedure

INFOID:0000000005528942

#### 1. ADJUST THE PREDICTIVE COURSE LINE CENTER POSITION OF THE STEERING ANGLE SENSOR

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

>> Adjusts the steering angle sensor neutral position on ABS actuator and electrical unit (control unit) side. Refer to [BRC-9. "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION : Special Repair Requirement"](#).

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# U1243 FRONT DISPLAY UNIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

## U1243 FRONT DISPLAY UNIT

### DTC Logic

INFOID:000000005528943

DTC	Display contents of CONSULT-III	DTC Detection Condition	Possible causes
U1243	FRONT DISP CONN [U1243]	When either one of the following items is detected. <ul style="list-style-type: none"><li>front display unit power supply and ground circuit malfunction is detected.</li><li>malfunction is detected in communication circuits between front display unit and AV control unit.</li></ul>	<ul style="list-style-type: none"><li>Front display unit power supply and ground circuit.</li><li>Communication circuits between front display unit and AV control unit.</li></ul>

### Diagnosis Procedure

INFOID:000000005528944

#### 1.CHECK FRONT DISPLAY UNIT POWER SUPPLY AND GROUND CIRCUITS

Check front display unit power supply and ground circuits. Refer to [AV-101, "FRONT DISPLAY UNIT : Diagnosis Procedure"](#).

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair malfunctioning parts.

#### 2.CHECK CONTINUITY COMMUNICATION CIRCUITS

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

Front display unit		AV control unit		Continuity
Connector	Terminals	Connector	Terminals	
M194	11	M202	70	Existed
	22		71	

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

Front display unit		Ground	Continuity
Connector	Terminals		
M194	11		Not existed
	12		

Is inspection result normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

#### 3.CHECK COMMUNICATION SIGNAL

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

# U1243 FRONT DISPLAY UNIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

(+)		(-)	Condition	Reference value
Front display unit				
Connector	Terminal			
M194	11	Ground	When adjusting display bright- ness.	<div><div><div>(V)</div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div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Is inspection result normal?

YES >> GO TO 4.

NO >> Replace AV control unit.

## 4.CHECK COMMUNICATION SIGNAL

Check signal between front display unit harness connector and ground.

(+)		(-)	Condition	Reference value
Front display unit				
Connector	Terminal			
M194	22	Ground	When adjusting display brightness.	<div><div><div>(V)</div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></di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Is inspection result normal?

YES >> INSPECTION END

NO >> Replace front display unit.

AV

# U1255 SATELLITE RADIO TUNER

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

## U1255 SATELLITE RADIO TUNER

### DTC Logic

INFOID:000000005528974

DTC	Display contents of CONSULT-III	DTC Detection Condition	Possible causes
U1255	SAT CONN [U1255]	When either one of the following items is detected: <ul style="list-style-type: none"><li>• satellite radio tuner power supply and ground circuits malfunction is detected.</li><li>• malfunction is detected in communication circuits between AV control unit and satellite radio tuner.</li><li>• malfunction is detected in request signal circuit between AV control unit and satellite radio tuner.</li></ul>	<ul style="list-style-type: none"><li>• Satellite radio tuner power supply and ground circuits.</li><li>• Communication circuits between AV control unit and satellite radio tuner.</li><li>• Request signal circuit between AV control unit and satellite radio tuner.</li></ul>

### Diagnosis Procedure

INFOID:000000005528975

#### 1.CHECK SATELLITE RADIO TUNER POWER SUPPLY AND GROUND CIRCUIT

Check satellite radio tuner power supply and ground circuit. Refer to [AV-103. "SATELLITE RADIO TUNER : Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair malfunctioning parts.

#### 2.CHECK CONTINUITY COMMUNICATION CIRCUIT AND REQUEST SIGNAL CIRCUIT

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

AV control unit		Satellite radio tuner		Continuity
Connector	Terminals	Connector	Terminals	
M206	129	B236	8	Existed
	130		9	
	122		10	

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

AV control unit		Ground	Continuity
Connector	Terminals		
M206	129		Not existed
	130		
	122		

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

#### 3.CHECK AV CONTROL UNIT VOLTAGE

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

(+)		(-)	Voltage (Approx.)
AV control unit			
Connector	Terminals		

## U1255 SATELLITE RADIO TUNER

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

M206	129	Ground	7.5 V
	130		7.0 V

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace AV control unit.

### 4.CHECK SATELLITE RADIO TUNER

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

(+) Satellite radio tuner		(-)	Voltage (Approx.)
Connector	Terminal		
B236	10	Ground	7.0 V

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace satellite radio tuner.

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AV

## U1263 USB

## DTC Logic

INFOID:000000005528951

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1263	USB OVERCURRENT [U1263]	Detection of overcurrent in USB connector.	Check USB harness between the AV control unit and USB connector.

## Diagnosis Procedure

INFOID:000000005528952

**1**.CHECK USB HARNESS

Visually check USB harness.

Is the inspection result normal?

- YES    >> Replace AV control unit. Refer to [AV-136, "Exploded View"](#).  
NO     >> Replace USB harness.

## U1300 AV COMM CIRCUIT

### Description

INFOID:000000005246803

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

### SELF-DIAGNOSIS RESULTS DISPLAY ITEM

DTC	Display contents of CONSULT-III	DTC Detection Condition	Possible causes
U1300 U1240	<ul style="list-style-type: none"> <li>AV COMM CIRCUIT [U1300]</li> <li>SWITCH CONN [U1240]</li> </ul>	When either one of the following items is detected: <ul style="list-style-type: none"> <li>multifunction switch power supply and ground circuits are malfunctioning.</li> <li>AV communication circuits between AV control unit and multifunction switch are malfunctioning.</li> </ul>	<ul style="list-style-type: none"> <li>Multifunction switch power supply and ground circuits.</li> <li>AV communication circuits between AV control unit and multifunction switch.</li> </ul>
U1300 U1256	<ul style="list-style-type: none"> <li>AV COMM CIRCUIT [U1300]</li> <li>HAND FREE CONN [U1256]</li> </ul>	When either one of the following items is detected: <ul style="list-style-type: none"> <li>TEL adapter unit power supply and ground circuits are malfunctioning.</li> <li>AV communication circuits between AV control unit and TEL adapter unit are malfunctioning.</li> </ul>	<ul style="list-style-type: none"> <li>TEL adapter unit power supply and ground circuits.</li> <li>AV communication circuits between AV control unit and TEL adapter unit.</li> </ul>
U1300 U1240 U1256	<ul style="list-style-type: none"> <li>AV COMM CIRCUIT [U1300]</li> <li>SWITCH CONN [U1240]</li> <li>HAND FREE CONN [U1256]</li> </ul>	Malfunction is detected in AV communication circuits between AV control unit and multifunction switch.	AV communication circuits between AV control unit and multifunction switch.

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AV

## U1310 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

### U1310 AV CONTROL UNIT

#### DTC Logic

INFOID:000000005528961

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



# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

## POWER SUPPLY AND GROUND CIRCUIT

### AV CONTROL UNIT

#### AV CONTROL UNIT : Diagnosis Procedure

INFOID:000000005528981

#### 1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	34
Ignition switch ACC or ON	19

Is the inspection result normal?

YES >> GO TO 2.

NO >> Be sure to eliminate cause of malfunction before installing new fuse.

#### 2.CHECK POWER SUPPLY CIRCUIT

Check voltage between AV control unit harness connectors and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Battery power supply	M201	19	OFF	Battery voltage
ACC power supply	M201	7	ACC	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.

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

#### 3.CHECK GROUND CIRCUIT

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

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	M201	20	OFF	Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

### FRONT DISPLAY UNIT

#### FRONT DISPLAY UNIT : Diagnosis Procedure

INFOID:000000005528982

#### 1.CHECK POWER SUPPLY CIRCUIT (DISPLAY SIDE)

Check voltage between display unit harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Inverter VCC	M194	2	ACC	8.8 V
Signal VCC		3		

Is the inspection result normal?

YES >> GO TO 4.

NO >> GO TO 2.

#### 2.CHECK POWER SUPPLY CIRCUIT (CONTINUITY)

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

# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

Front display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M194	2	M202	48	Existed
	3		36	Existed

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

Front display unit		Ground	Continuity
Connector	Terminal		
M194	2		Not existed
	3		Not existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

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

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

(+)AV control unit		(-)	Ignition switch position	Voltage (Approx.)
Connector	Terminal			
M202	48	Ground	ACC	8.8 V
	36			8.8 V

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replacement of AV control unit.

## 4.CHECK GROUND CIRCUIT

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

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	M194	1	OFF	Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

## BOSE AMP.

### BOSE AMP. : Diagnosis Procedure

INFOID:0000000005528980

## 1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	8

Is the inspection result normal?

YES >> GO TO 2.

NO >> Be sure to eliminate cause of malfunction before installing new fuse.

## POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

### 2.CHECK POWER SUPPLY CIRCUIT

Check voltage between BOSE amp. harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Battery power supply	B42	11	OFF	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check harness between BOSE amp. and fuse.

### 3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BOSE amp. connector.
3. Check continuity between BOSE amp. harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	B42	12	OFF	Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

## SATELLITE RADIO TUNER

### SATELLITE RADIO TUNER : Diagnosis Procedure

INFOID:000000005246809

#### 1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	34
Ignition switch ACC or ON	19

Is the inspection result normal?

YES >> GO TO 2.

NO >> Be sure to eliminate cause of malfunction before installing new fuse.

#### 2.CHECK POWER SUPPLY CIRCUIT

Check voltage between satellite radio tuner harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Battery power supply	B236	12	OFF	Battery voltage
ACC power supply	B236	16	ACC	Battery voltage

Is the inspection result normal?

YES >> INSPECTION END

NO >> Check harness between satellite radio tuner and fuse.

## TEL ADAPTER UNIT

### TEL ADAPTER UNIT : Diagnosis Procedure

INFOID:000000005246811

#### 1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	34
Ignition switch ACC or ON	19

## POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

Is the inspection result normal?

YES >> GO TO 2.

NO >> Be sure to eliminate cause of malfunction before installing new fuse.

### 2.CHECK POWER SUPPLY CIRCUIT

Check voltage between TEL adapter unit harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Battery power supply	B87	1	OFF	Battery voltage
ACC power supply	B87	2	ACC	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check harness between TEL adapter unit and fuse.

### 3.CHECK GROUND CIRCUIT

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

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	B87	4	OFF	Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

# RGB (R: RED) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

## RGB (R: RED) SIGNAL CIRCUIT

### Description

INFOID:000000005246812

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

### Diagnosis Procedure

INFOID:000000005246813

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

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

Front display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M194	17	M202	43	Existed

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

Front display unit		Ground	Continuity
Connector	Terminal		
M194	17		Not existed

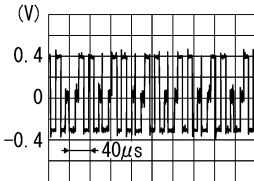
Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK RGB (R: RED) SIGNAL

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

(+) Front display unit		(-)	Condition	Reference value
Connector	Terminal			
M194	17	Ground	Start confirmation/adjustment mode, and then display color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	 SKIB2238J

Is the inspection result normal?

YES >> Replace front display unit. Refer to [AV-138. "Exploded View"](#).

NO >> Replace AV control unit. Refer to [AV-136. "Exploded View"](#).

# RGB (G: GREEN) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

## RGB (G: GREEN) SIGNAL CIRCUIT

### Description

INFOID:000000005246814

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

### Diagnosis Procedure

INFOID:000000005246815

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

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

Front display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M194	6	M202	44	Existed

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

Front display unit		Ground	Continuity
Connector	Terminal		
M194	6		Not existed

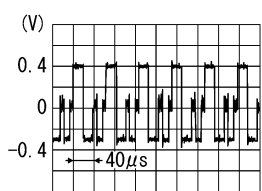
Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK RGB (G: GREEN) SIGNAL

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

(+) Front display unit		(-)	Condition	Reference value
Connector	Terminal			
M194	6	Ground	Start confirmation/adjustment mode, and then display color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	 SKI B2236J

Is the inspection result normal?

YES >> Replace front display unit. Refer to [AV-138. "Exploded View"](#).

NO >> Replace AV control unit. Refer to [AV-136. "Exploded View"](#).

# RGB (B: BLUE) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

## RGB (B: BLUE) SIGNAL CIRCUIT

### Description

INFOID:000000005246816

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

### Diagnosis Procedure

INFOID:000000005246817

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

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

Front display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M194	18	M202	45	Existed

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

Front display unit		Ground	Continuity
Connector	Terminal		
M194	18		Not existed

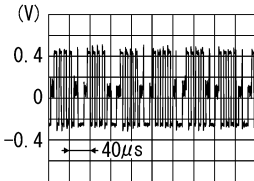
Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK RGB (B: BLUE) SIGNAL

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

(+) Front display unit		(-)	Condition	Reference value
Connector	Terminal			
M194	18	Ground	Start confirmation/adjustment mode, and then display color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	 SKIB2237J

Is the inspection result normal?

YES >> Replace front display unit. Refer to [AV-138. "Exploded View"](#).

NO >> Replace AV control unit. Refer to [AV-136. "Exploded View"](#).

# RGB SYNCHRONIZING SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

## RGB SYNCHRONIZING SIGNAL CIRCUIT

### Description

INFOID:000000005246818

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

### Diagnosis Procedure

INFOID:000000005246819

#### 1.CHECK CONTINUITY RGB SYNCHRONIZING SIGNAL CIRCUIT

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

Front display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M194	19	M202	42	Existed

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

Front display unit		Ground	Continuity
Connector	Terminal		
M194	19		Not existed

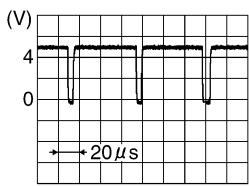
Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK RGB SYNCHRONIZING SIGNAL

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

(+) Front display unit		(-)	Reference value
Connector	Terminal		
M194	19	Ground	

SKIB3603E

Is the inspection result normal?

YES >> Replace front display unit. Refer to [AV-138, "Exploded View"](#).

NO >> Replace AV control unit. Refer to [AV-136, "Exploded View"](#).



# RGB AREA (YS) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

## RGB AREA (YS) SIGNAL CIRCUIT

### Description

INFOID:000000005246820

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

### Diagnosis Procedure

INFOID:000000005246821

#### 1.CHECK CONTINUITY RGB AREA (YS) SIGNAL CIRCUIT

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

Front display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M194	9	M202	40	Existed

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

Front display unit		Ground	Continuity
Connector	Terminal		
M194	9		Not existed

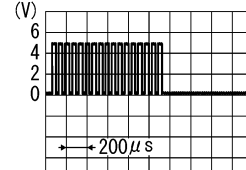
Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK RGB AREA (YS) SIGNAL

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

(+) Front display unit		(-)	Condition	Reference value (Approx.)
Connector	Terminal			
M194	9	Ground	At RGB image is displayed	5.0 V
			At AUX image is displayed	

PKIB4948J

Is the inspection result normal?

YES >> Replace front display unit. Refer to [AV-138, "Exploded View"](#).

NO >> Replace AV control unit. Refer to [AV-136, "Exploded View"](#).

# HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

## HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

### Description

INFOID:000000005246822

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

### Diagnosis Procedure

INFOID:000000005246823

#### 1.CHECK CONTINUITY HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

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

Front display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M194	8	M202	38	Existed

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

Front display unit		Ground	Continuity
Connector	Terminal		
M194	8		Not existed

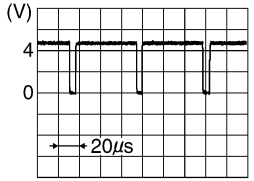
Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK HORIZONTAL SYNCHRONIZING (HP) SIGNAL

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

(+) Front display unit		(-)	Reference value
Connector	Terminal		
M194	8	Ground	

Is the inspection result normal?

YES >> Replace AV control unit. Refer to [AV-136, "Exploded View"](#).

NO >> Replace front display unit. Refer to [AV-136, "Exploded View"](#).

# VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

## VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

### Description

INFOID:000000005246824

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

### Diagnosis Procedure

INFOID:000000005246825

#### 1.CHECK CONTINUITY VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

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

Front display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M194	20	M202	50	Existed

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

Front display unit		Ground	Continuity
Connector	Terminal		
M194	20		Not existed

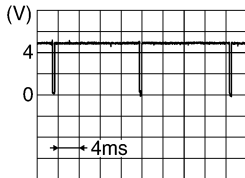
Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK VERTICAL SYNCHRONIZING (VP) SIGNAL

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

(+) Front display unit		(-)	Reference value
Connector	Terminal		
M194	20	Ground	

Is the inspection result normal?

YES >> Replace AV control unit. Refer to [AV-136, "Exploded View"](#).

NO >> Replace front display unit. Refer to [AV-136, "Exploded View"](#).

## CAMERA IMAGE SIGNAL CIRCUIT

## Description

INFOID:000000005528978

- AV control unit outputs camera power supply to rear view camera and inputs rear view camera image signal from rear view camera when the reverse signal is input.
- The AV control unit that inputs the camera image signal transmits the camera image signal to the front display unit.

## Diagnosis Procedure

INFOID:000000005528979

**1.CHECK CONTINUITY CAMERA POWER SUPPLY CIRCUIT**

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

AV control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M203	73	D121	1	Existed

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

AV control unit		Ground	Continuity
Connector	Terminal		
M203	73		Not existed

Is inspection result normal?

YES &gt;&gt; GO TO 2.

NO &gt;&gt; Repair harness or connector.

**2.CHECK VOLTAGE CAMERA POWER SUPPLY**

1. Connect AV control unit connector and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever to "R".
4. Check voltage between AV control unit harness connector and ground.

(+)		(-)	Condition	Voltage (Approx.)
AV control unit				
Connector	Terminal			
M203	73	Ground	Shift position is "R".	6.0 V

Is inspection result normal?

YES &gt;&gt; GO TO 3.

NO >> Replace AV control unit. Refer to [AV-136. "Exploded View"](#).**3.CHECK CONTINUITY CAMERA IMAGE SIGNAL CIRCUIT**

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

AV control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M203	62	D121	3	Existed

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

# CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

AV control unit		Ground	Continuity
Connector	Terminal		
M203	62		Not existed

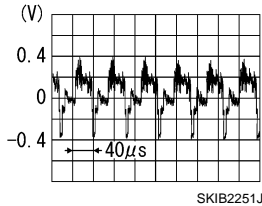
Is inspection result normal?

YES >> GO TO 4.

NO >> Repair harness or connector.

## 4.CHECK CAMERA IMAGE SIGNAL

1. Connect AV control unit connector and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever to "R".
4. Check signal between AV control unit harness connector and ground.

(+) AV control unit		(-)	Condition	Reference value
Connector	Terminal			
M203	62	Ground	At rear view camera image is displayed.	

Is inspection result normal?

YES >> Replace AV control unit. Refer to [AV-136. "Exploded View"](#).

NO >> Replace rear view camera. Refer to [AV-153. "Exploded View"](#).

AV

# AUX IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

## AUX IMAGE SIGNAL CIRCUIT

### Description

INFOID:000000005246826

- Transmits the image signal of AUX device from auxiliary input jacks to AV control unit.
- AV control unit transmits the image signal that is inputted to the front display unit.

### Diagnosis Procedure

INFOID:000000005246827

#### 1. CHECK CONTINUITY AUX IMAGE SIGNAL CIRCUIT (AUX INPUT JACKS AND AV CONTROL UNIT)

1. Turn ignition switch OFF.
2. Disconnect auxiliary input jacks connector and AV control unit connector.
3. Check continuity between auxiliary input jacks harness connector and AV control unit harness connector.

Auxiliary input jacks		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M196	7	M203	61	Existed

4. Check continuity between auxiliary input jacks harness connector and ground.

Auxiliary input jacks		Ground	Continuity
Connector	Terminal		
M196	7		Not existed

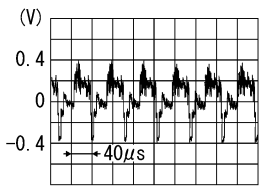
Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2. CHECK AUX IMAGE SIGNAL (AUX INPUT JACKS TO AV CONTROL UNIT)

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

(+) Auxiliary input jacks		(-)	Condition	Reference value
Connector	Terminal			
M196	7	Ground	At AUX image is displayed.	 SKIB2251J

Is the inspection result normal?

YES >> Replace AV control unit. Refer to [AV-136. "Exploded View"](#).

NO >> Check that there is no malfunction in the external device.

# DISK EJECT SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

## DISK EJECT SIGNAL CIRCUIT

### Description

INFOID:000000005246828

The disk eject signal is output to AV control unit when the eject switch of multifunction switch is pressed.

### Diagnosis Procedure

INFOID:000000005246829

#### 1.CHECK CONTINUITY DISK EJECT SIGNAL CIRCUIT

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

Multifunction switch		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M72	14	M204	96	Existed

4. Check continuity between multifunction switch harness connector and ground.

Multifunction switch		Ground	Continuity
Connector	Terminal		
M72	14		Not existed

Is the inspection result normal?

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

#### 2.CHECK AV CONTROL UNIT VOLTAGE

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

(+) AV control unit		(-)	Reference value (Approx.)
Connector	Terminal		
M204	96	Ground	3.3 V

Is the inspection result normal?

- YES >> Replace preset switch. Refer to [AV-149, "Exploded View"](#).  
NO >> Replace AV control unit. Refer to [AV-136, "Exploded View"](#).

AV

# COMPOSITE IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

## COMPOSITE IMAGE SIGNAL CIRCUIT

### Description

INFOID:000000005246834

AV control unit that inputs the camera image signal and AUX image signal transmits the composite image signal to the front display unit.

### Diagnosis Procedure

INFOID:000000005246835

#### 1. CHECK CONTINUITY COMPOSITE IMAGE SIGNAL CIRCUIT (AV CONTROL UNIT TO FRONT DISPLAY UNIT)

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

AV control unit		Front display unit		Continuity
Connector	Terminal	Connector	Terminal	
M202	47	M194	15	Existed

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

AV control unit		Ground	Continuity
Connector	Terminal		
M202	47		Not existed

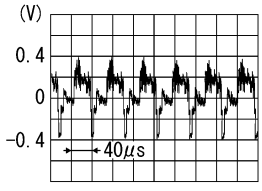
Is inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2. CHECK COMPOSITE IMAGE SIGNAL (AV CONTROL UNIT TO FRONT DISPLAY UNIT)

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

(+) (V)		(-)	Condition	Reference value
Connector	Terminal			
M202	47	Ground	At rear view camera image is displayed.	 SKIB2251J

Is inspection result normal?

YES >> Replace front display unit. Refer to [AV-138. "Exploded View"](#).

NO >> Replace AV control unit. Refer to [AV-136. "Exploded View"](#).



# MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

## MICROPHONE SIGNAL CIRCUIT

### Description

INFOID:000000005246836

Supply power from TEL adapter unit to microphone. The microphone transmits the sound/voice to the microphone.

### Diagnosis Procedure

INFOID:000000005246837

#### 1.CHECK CONTINUITY BETWEEN TEL ADAPTER UNIT AND MICROPHONE CIRCUIT

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

TEL adapter unit		Microphone		Continuity
Connector	Terminals	Connector	Terminals	
B87	7	R17	1	Existed
	8		2	
	29		4	

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

TEL adapter unit		Ground	Continuity
Connector	Terminals		
B87	7		Not existed
	29		

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK VOLTAGE MICROPHONE VCC

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

(+) (TEL adapter unit)		(-) (TEL adapter unit)		Voltage (Approx.)
Connector	Terminal	Connector	Terminal	
B87	29	B87	8	5.0 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace TEL adapter unit. Refer to [AV-155, "Exploded View"](#).

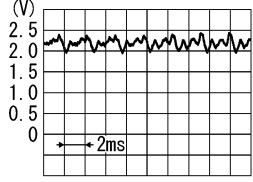
#### 3.CHECK MICROPHONE SIGNAL

1. Turn ignition switch OFF.
2. Connect microphone connector.
3. Turn ignition switch ON.
4. Check signal between TEL adapter unit harness connector.

# MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

(+) TEL adapter unit		(-) TEL adapter unit		Condition	Reference value
Connector	Terminal	Connector	Terminal		
B87	7	B87	8	Give a voice.	 <p>PKIB5037J</p>

Is the inspection result normal?

- YES >> Replace TEL adapter unit. Refer to [AV-155, "Exploded View"](#).  
 NO >> Replace microphone. Refer to [AV-152, "Exploded View"](#).

CONTROL SIGNAL CIRCUIT

Description

INFOID:0000000005246838

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

Diagnosis Procedure

INFOID:0000000005246839

1.CHECK CONTINUITY CONTROL SIGNAL CIRCUIT

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

TEL adapter unit		Ground	Continuity
Connector	Terminals		
B87	20		Existed
	23		
	24		

Is the inspection result normal?

- YES >> Replace TEL adapter unit.  
NO >> Repair harness or connector.

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

# MODE CHANGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

## MODE CHANGE SIGNAL CIRCUIT

### Description

INFOID:000000005530051

- AV control unit transmits the mode change signal to BOSE amp.
- Driver's Audio Stage controls the speaker's output characteristic by BOSE amp. so that the driver's seat is to be the center of sounds.

### Diagnosis Procedure

INFOID:000000005530052

#### 1.CHECK CONTINUITY MODE CHANGE SIGNAL CIRCUIT

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

BOSE amp.		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
B41	17	M206	128	Existed

4. Check continuity between BOSE amp. harness connector and ground.

BOSE amp.		Ground	Continuity
Connector	Terminal		
B41	17		Not existed

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK MODE CHANGE SIGNAL

1. Connect BOSE amp. connector.
2. Turn ignition switch ON.
3. Check signal between BOSE amp. harness connector and ground.

(+) BOSE amp.		(-)	Condition	Voltage (Approx.)
Connector	Terminal			
B41	17	Ground	Driver's Audio Stage ON	0 V
			Driver's Audio Stage OFF	8.5 V

Is the inspection result normal?

YES >> Replace AV control unit. Refer to [AV-136, "Exploded View"](#).

NO >> Replace BOSE amp. Refer to [AV-145, "Exploded View"](#).

# COMMUNICATION SIGNAL CIRCUIT (CONT-SAT)

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

## COMMUNICATION SIGNAL CIRCUIT (CONT-SAT)

### Description

INFOID:000000005246842

Satellite radio tuner and AV control unit are connected with a serial communication. They transmit the operation signal from AV control unit to satellite radio tuner, and transmit the display signal from satellite radio tuner to AV control unit.

### Diagnosis Procedure

INFOID:000000005246843

#### 1.CHECK CONTINUITY COMMUNICATION SIGNAL CIRCUIT

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

Satellite radio tuner		AV control unit		Continuity
Connector	Terminals	Connector	Terminals	
B236	9	M206	130	Existed
	10		122	

4. Check continuity between satellite radio tuner harness connector and ground.

Satellite radio tuner		Ground	Continuity
Connector	Terminals		
B236	9		Not existed
	10		

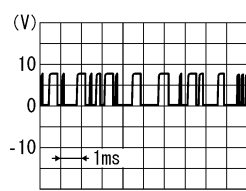
Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK COMMUNICATION SIGNAL (SAT→CONT)

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

(+) (Satellite radio tuner)		(-)	Condition	Reference value
Connector	Terminal			
B236	9	Ground	When satellite radio mode is selected.	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace satellite radio tuner. Refer to [AV-146. "Exploded View"](#).

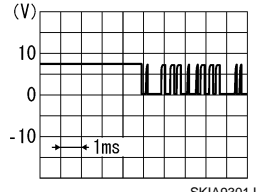
#### 3.CHECK COMMUNICATION SIGNAL (CONT→SAT)

Check signal between satellite radio tuner harness connector and ground.

# COMMUNICATION SIGNAL CIRCUIT (CONT-SAT)

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

(+) <div>Satellite radio tuner</div>		(-)	Condition	Reference value
Connector	Terminal			
B236	10	Ground	When satellite radio mode is selected.	

Is the inspection result normal?

- YES >> Replace satellite radio tuner. Refer to [AV-146, "Exploded View"](#).  
 NO >> Replace AV control unit. Refer to [AV-136, "Exploded View"](#).

# REQUEST SIGNAL CIRCUIT (SAT→CONT)

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

## REQUEST SIGNAL CIRCUIT (SAT→CONT)

### Description

INFOID:000000005246844

Request signal transmits the signal to recognize the connection of satellite radio tuner from satellite radio tuner to AV control unit.

### Diagnosis Procedure

INFOID:000000005246845

#### 1.CHECK CONTINUITY REQUEST SIGNAL CIRCUIT

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

Satellite radio tuner		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
B236	8	M206	129	Existed

4. Check continuity between satellite radio tuner harness connector and ground.

Satellite radio tuner		Ground	Continuity
Connector	Terminal		
B236	8		Not existed

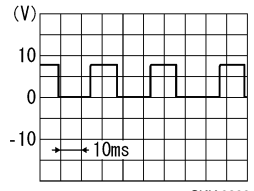
Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK COMMUNICATION SIGNAL

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

(+) (Satellite radio tuner)		(-)	Condition	Reference value
Connector	Terminal			
B236	8	Ground	When satellite radio mode is selected.	

Is the inspection result normal?

YES >> Replace AV control unit. Refer to [AV-136, "Exploded View"](#).

NO >> Replace satellite radio tuner. Refer to [AV-146, "Exploded View"](#).

# STEERING SWITCH SIGNAL A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

## STEERING SWITCH SIGNAL A CIRCUIT

### Description

INFOID:000000005530041

Transmits the steering switch signal to AV control unit.

### Diagnosis Procedure

INFOID:000000005530042

#### 1.CHECK STEERING SWITCH SIGNAL A CIRCUIT

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

AV control unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M201	6	M36	24	Existed

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

AV control unit		Ground	Continuity
Connector	Terminal		
M201	6		Not existed

Is the inspection result normal?

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

#### 2.CHECK SPIRAL CABLE

Check spiral cable.

Is the inspection result normal?

- YES >> GO TO 3.  
NO >> Replace spiral cable. Refer to [SR-14, "Exploded View"](#).

#### 3.CHECK AV CONTROL UNIT VOLTAGE

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

(+)AV control unit		(-)AV control unit		Voltage (Approx.)
Connector	Terminal	Connector	Terminal	
M201	6	M201	15	3.3 V

Is the inspection result normal?

- YES >> GO TO 4.  
NO >> Replace AV control unit. Refer to [AV-136, "Exploded View"](#).

#### 4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to [AV-124, "Component Inspection"](#).

Is the inspection result normal?

- YES >> INSPECTION END  
NO >> Replace steering switch. Refer to [SR-11, "Exploded View"](#).

### Component Inspection

INFOID:000000005530059

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



# STEERING SWITCH SIGNAL A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

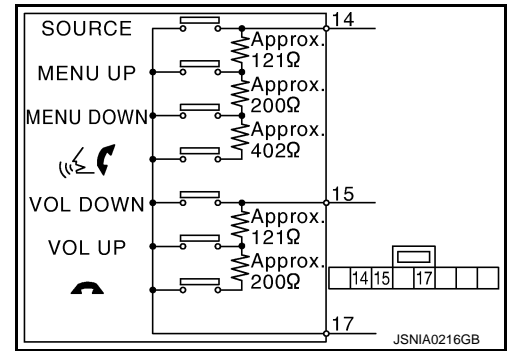
Standard

Between terminals 14 and 17

 switch ON	: Approx. 716 – 730 Ω
MENU DOWN switch ON	: Approx. 318 – 324 Ω
MENU UP switch ON	: Approx. 120 – 122 Ω
SOURCE switch ON	: Approx. 0 Ω

Between terminals 15 and 17

 switch ON	: Approx. 318 – 324 Ω
VOL UP switch ON	: Approx. 120 – 122 Ω
VOL DOWN switch ON	: Approx. 0 Ω



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AV

# STEERING SWITCH SIGNAL B CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

## STEERING SWITCH SIGNAL B CIRCUIT

### Description

INFOID:000000005530044

Transmits the steering switch signal to AV control unit.

### Diagnosis Procedure

INFOID:000000005530045

#### 1.CHECK STEERING SWITCH SIGNAL B CIRCUIT

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

AV control unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M201	16	M36	31	Existed

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

AV control unit		Ground	Continuity
Connector	Terminal		
M201	16		Not existed

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK SPIRAL CABLE

Check spiral cable.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace spiral cable. Refer to [SR-14, "Exploded View"](#).

#### 3.CHECK AV CONTROL UNIT VOLTAGE

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

(+) (+)		(-) (-)		Voltage (Approx.)
AV control unit		AV control unit		
Connector	Terminal	Connector	Terminal	
M201	16	M201	15	3.3 V

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace AV control unit. Refer to [AV-136, "Exploded View"](#).

#### 4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to [AV-126, "Component Inspection"](#).

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace steering switch. Refer to [SR-11, "Exploded View"](#).

### Component Inspection

INFOID:000000005530061

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

# STEERING SWITCH SIGNAL B CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

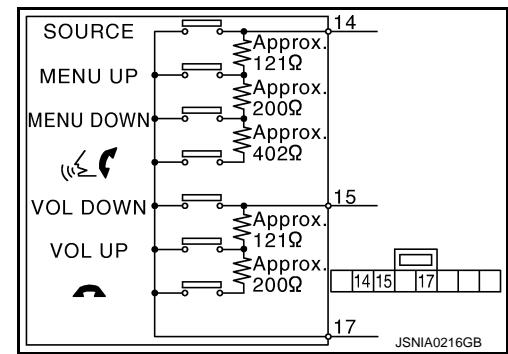
Standard

Between terminals 14 and 17

 switch ON	: Approx. 716 – 730 Ω
MENU DOWN switch ON	: Approx. 318 – 324 Ω
MENU UP switch ON	: Approx. 120 – 122 Ω
SOURCE switch ON	: Approx. 0 Ω

Between terminals 15 and 17

 switch ON	: Approx. 318 – 324 Ω
VOL UP switch ON	: Approx. 120 – 122 Ω
VOL DOWN switch ON	: Approx. 0 Ω



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# STEERING SWITCH GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

## STEERING SWITCH GROUND CIRCUIT

### Description

INFOID:000000005530047

Transmits the steering switch signal to AV control unit.

### Diagnosis Procedure

INFOID:000000005530048

#### 1.CHECK STEERING SWITCH SIGNAL GND CIRCUIT

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

AV control unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M201	15	M36	33	Existed

3. Connect AV control unit connector.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK SPIRAL CABLE

Check spiral cable.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace spiral cable. Refer to [SR-14, "Exploded View"](#).

#### 3.CHECK GROUND CIRCUIT

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

AV control unit		Ground	Continuity
Connector	Terminal		
M201	15		Not existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace AV control unit. Refer to [AV-136, "Exploded View"](#).

#### 4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to [AV-128, "Component Inspection"](#).

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace steering switch. Refer to [SR-11, "Exploded View"](#).

### Component Inspection

INFOID:000000005530062

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

# STEERING SWITCH GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT NAVIGATION]

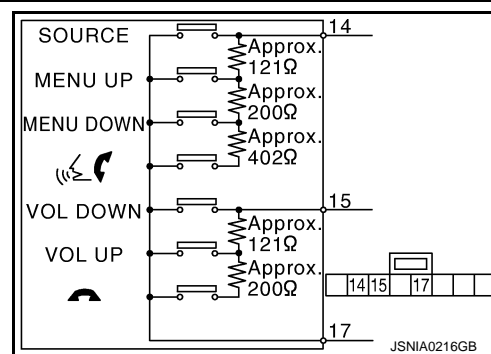
Standard

Between terminals 14 and 17

 switch ON	: Approx. 716 – 730 Ω
MENU DOWN switch ON	: Approx. 318 – 324 Ω
MENU UP switch ON	: Approx. 120 – 122 Ω
SOURCE switch ON	: Approx. 0 Ω

Between terminals 15 and 17

 switch ON	: Approx. 318 – 324 Ω
VOL UP switch ON	: Approx. 120 – 122 Ω
VOL DOWN switch ON	: Approx. 0 Ω



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## SYMPTOM DIAGNOSIS

### MULTI AV SYSTEM SYMPTOMS

#### Symptom Table

INFOID:000000005528292

#### OPERATION

Symptoms	Check items	Probable malfunction location
Multifunction switch and preset switch operation does not work.	<ul style="list-style-type: none"> <li>All switches cannot be operated.</li> <li>"MULTI AV" is displayed on system selection screen when the CONSULT-III is started.</li> </ul>	<ul style="list-style-type: none"> <li>Multifunction switch power supply and ground circuit.</li> <li>AV communication circuit between AV control unit and multifunction switch.</li> </ul> Perform CONSULT-III self-diagnosis. Refer to <a href="#">AV-30, "CONSULT - III Function (MULTI AV)"</a> .
	<ul style="list-style-type: none"> <li>All switches cannot be operated.</li> <li>"MULTI AV" is not displayed on system selection screen when the CONSULT-III is initialized.</li> </ul>	AV control unit power supply and ground circuit malfunction. Refer to <a href="#">AV-101, "AV CONTROL UNIT : Diagnosis Procedure"</a> .
	Only specified switch cannot be operated.	Multifunction switch or preset switch malfunction. Perform multifunction switch and preset switch self-diagnosis function. Refer to <a href="#">AV-21, "On Board Diagnosis Function"</a> .
Fuel economy display is abnormal.	There is malfunction in the CONSULT-III "self-diagnosis result" of "MULTI AV". Refer to <a href="#">AV-30, "CONSULT - III Function (MULTI AV)"</a> .	Perform detected DTC diagnosis. Refer to <a href="#">AV-43, "DTC Index"</a> .
	There is no malfunction in the CONSULT-III "self-diagnosis result" of "MULTI AV". Refer to <a href="#">AV-30, "CONSULT - III Function (MULTI AV)"</a> .	Ignition signal circuit malfunction. (AV control unit)

#### RELATED TO HANDS-FREE PHONE

##### Simple Check for Bluetooth™ Communication

If cellular phone and TEL adapter unit cannot be connected with Bluetooth™ communication, following procedure allows the technician to judge which device has malfunction.

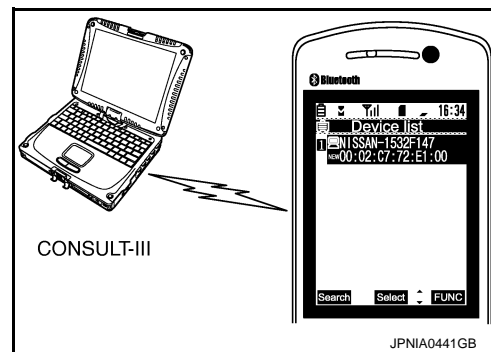
- Turn ON cellular phone, not connecting Bluetooth™ communication.
- Start CONSULT-III, then start Windows®.
- Set CONSULT-III near a cellular phone.
- When operated Bluetooth™ registration by cellular phone, check if CONSULT-III\* would be displayed on the device name.  
(If other Bluetooth™ device is located near cellular phone, a name of the device would be displayed also.)

##### NOTE:

\*:Displayed device name is "NISSAN-\*\*\*\*\*".

- If no device name is displayed, cellular phone is malfunctioning. Repair the cellular phone first, then perform diagnosis.
- If CONSULT-III is displayed on device name, cellular phone is normal\*. Perform diagnosis as per the following table.

\*: There is no 100% guarantee that cellular phone operates all functions on AV control unit. Different phone manufacturers implement Bluetooth™ in different ways. Phones on Supported Phone List are tested and any minor exceptions are listed.



# MULTI AV SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[WITHOUT NAVIGATION]

Symptoms	Check items	Probable malfunction location
Does not recognize cellular phone connection. (No connection is displayed on the display at the guide.)	Repeat the registration of cellular phone.	TEL adapter unit malfunction. Refer to <a href="#">AV-155, "Exploded View"</a> .
Hands-free phone cannot be established.	Both the reception and the speech cannot be performed	<ul style="list-style-type: none"> <li>Perform CONSULT-III self-diagnosis. Refer to <a href="#">AV-30, "CONSULT - III Function (MULTI AV)"</a>.</li> <li>No malfunction. TEL adapter unit malfunction. Refer to <a href="#">AV-155, "Exploded View"</a>.</li> <li>Malfunction is detected. Perform detected DTC self-diagnosis. Refer to <a href="#">AV-43, "DTC Index"</a>.</li> </ul>
The other party's voice cannot be heard by hands-free phone.	The operation of the "☞" switch can be performed.	TEL voice signal circuit malfunction between TEL adapter unit and AV control unit.
	The operation of the "☞" switch cannot be performed.	Control signal circuit.
Originating sound is not heard by the other party with hands-free phone communication.	Sound operation function is normal.	TEL adapter unit. Refer to <a href="#">AV-155, "Exploded View"</a> .
	Sound operation function does not work.	Microphone signal circuit malfunction. Refer to <a href="#">AV-117, "Diagnosis Procedure"</a> .
The system cannot be operated.	<ul style="list-style-type: none"> <li>The retractable hard top is fully closed.</li> <li>"SOURCE", "MENU UP", and "MENU DOWN", but "☞" switches is not operated.</li> </ul>	Steering switch malfunction. Replace steering switch. Refer to <a href="#">SR-11, "Exploded View"</a> .
	<ul style="list-style-type: none"> <li>The retractable hard top is fully closed.</li> <li>"SOURCE", "MENU UP", "MENU DOWN", and "☞" switches of steering switch are not operated.</li> </ul>	Steering switch signal B circuit malfunction. Refer to <a href="#">AV-126, "Diagnosis Procedure"</a> .
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to <a href="#">AV-128, "Diagnosis Procedure"</a> .

## RELATED TO CAMERA

Symptoms	Check items	Probable malfunction location
Camera image is not shown. (Vehicle width and possible route line is displayed.)	AUX image is displayed.	Camera image signal circuit. Refer to <a href="#">AV-112, "Diagnosis Procedure"</a> .
	AUX image is not displayed.	Composite image signal circuit. Refer to <a href="#">AV-116, "Diagnosis Procedure"</a> .
Camera image is not shown. (displayed in black and nothing can be displayed)	—	<ul style="list-style-type: none"> <li>Horizontal synchronizing (HP) signal circuit malfunction between AV control unit and front display unit. Refer to <a href="#">AV-110, "Diagnosis Procedure"</a>.</li> <li>Vertical synchronizing (VP) signal circuit malfunction between AV control unit and front display unit. Refer to <a href="#">AV-111, "Diagnosis Procedure"</a>.</li> </ul>
Camera image does not switch.	"Reverse" is not turned ON on "Vehicle Signals" screen of "Confirmation/Adjustment".	Reverse signal circuit malfunction.
	"Reverse" is turned ON on "Vehicle Signals" screen of "Confirmation/Adjustment".	AV control unit malfunction. Replace AV control unit. Refer to <a href="#">AV-136, "Exploded View"</a> .

## RELATED TO RGB IMAGE

# MULTI AV SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[WITHOUT NAVIGATION]

Symptoms	Check items	Possible malfunction location / Action to take
RGB image is not shown.	There is malfunction in the CONSULT-III "self-diagnosis result" of "MULTI AV". Refer to <a href="#">AV-30, "CONSULT - III Function (MULTI AV)".</a>	Perform detected DTC diagnosis. Refer to <a href="#">AV-43, "DTC Index".</a>
	There is no malfunction in CONSULT-III "self-diagnosis results" of "MULTI AV". Refer to <a href="#">AV-30, "CONSULT - III Function (MULTI AV)".</a>	Vertical synchronizing (VP) signal circuit. Refer to <a href="#">AV-111, "Diagnosis Procedure".</a>
Color of RGB image is not proper.	Light blue (Cyan) tint.	RGB signal (R: red) circuit. Refer to <a href="#">AV-105, "Diagnosis Procedure".</a>
	Purple (Magenta) tint.	RGB signal (G: green) circuit. Refer to <a href="#">AV-106, "Diagnosis Procedure".</a>
	Screen looks yellowish.	RGB signal (B: blue) circuit. Refer to <a href="#">AV-107, "Diagnosis Procedure".</a>
RGB screen is rolling.	—	RGB synchronizing signal circuit. Refer to <a href="#">AV-108, "Diagnosis Procedure".</a>
Fuel economy display is malfunctioning.	There is malfunction in the CONSULT-III "self-diagnosis result" of "MULTI AV". Refer to <a href="#">AV-30, "CONSULT - III Function (MULTI AV)".</a>	Perform detected DTC diagnosis. Refer to <a href="#">AV-43, "DTC Index".</a>
	There is no malfunction in CONSULT-III "self-diagnosis results" of "MULTI AV". Refer to <a href="#">AV-30, "CONSULT - III Function (MULTI AV)".</a>	Ignition signal circuit malfunction. (AV control unit)

## RELATED TO AUDIO

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	—	Disk eject signal circuit malfunction. Refer to <a href="#">AV-115, "Diagnosis Procedure".</a>
Audio sound is not heard.	No sound from all speakers.	<ul style="list-style-type: none"> <li>Amp. ON signal circuit malfunction.</li> <li>BOSE amp. power supply and ground circuits malfunction.</li> </ul> Refer to <a href="#">AV-102, "BOSE AMP. : Diagnosis Procedure".</a>
	Sound is not heard from woofer.	<ul style="list-style-type: none"> <li>Woofer power supply and ground circuit malfunction.</li> <li>Sound signal (woofer) circuit malfunction.</li> <li>Woofer amp. ON signal circuit malfunction.</li> </ul>
	Sound is heard only from specific places.	Sound signals circuit of suspect system.
It does not change to "Driver's Audio Stage" mode.	—	Mode change signal circuit. Refer to <a href="#">AV-120, "Diagnosis Procedure".</a>
Satellite radio is not received.	There is malfunction in the CONSULT-III self-diagnosis result. Refer to <a href="#">AV-30, "CONSULT - III Function (MULTI AV)".</a>	Perform detected DTC diagnosis. Refer to <a href="#">AV-43, "DTC Index".</a>
	There is no malfunction in the CONSULT-III self-diagnosis result.	Perform the following inspection procedure. <ol style="list-style-type: none"> <li>Check satellite radio antenna (antenna base) mounting nut for looseness.</li> </ol> <b>NOTE:</b> Tightening torque: 6.5 N·m (0.66 kg·m, 58 in·lb) <ol style="list-style-type: none"> <li>Visually check for satellite radio antenna feeder.</li> </ol>
The sound of satellite radio is not heard.	Other audio sounds are normal.	Satellite radio sound signal circuit between AV control unit and satellite radio tuner.



# MULTI AV SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[WITHOUT NAVIGATION]

Symptoms	Check items	Probable malfunction location
It does not change to satellite radio mode.	There is malfunction in the CONSULT-III self-diagnosis result. Refer to <a href="#">AV-30, "CONSULT - III Function (MULTI AV)"</a> .	Perform detected DTC diagnosis. Refer to <a href="#">AV-43, "DTC Index"</a> .
AM/FM radio is not received.	Other audio sounds are normal.	<ul style="list-style-type: none"> <li>Antenna amp. ON signal circuit.</li> <li>Antenna feeder.</li> </ul>

## RELATED TO USB

### NOTE:

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

Symptoms	Check items	Possible malfunction location / Action to take
iPod® or USB memory can not be recognized.	—	<ul style="list-style-type: none"> <li>USB harness malfunction.</li> <li>USB connector malfunction.</li> </ul>

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

## RELATED TO STEERING SWITCH

Symptoms	Probable malfunction location
None of the steering switch operations work.	Steering switch ground circuit malfunction. Refer to <a href="#">AV-128, "Diagnosis Procedure"</a> .
Only specified switch cannot be operated.	Steering switch malfunction. Replace steering switch. Refer to <a href="#">SR-11, "Exploded View"</a> .
"SOURCE", "MENU UP", "MENU DOWN", "⏮" switches of steering switch are not operated.	Steering switch signal A circuit. Refer to <a href="#">AV-124, "Diagnosis Procedure"</a> .
"VOL UP", "VOL DOWN", "⏭" switches of steering switch are not operated.	Steering switch signal B circuit. Refer to <a href="#">AV-126, "Diagnosis Procedure"</a> .

## RELATED TO AUXILIARY INPUT

### NOTE:

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

Symptoms	Check items	Probable malfunction location
No voice sound is heard when AUX mode is selected.	Voice sound is heard when other modes are selected.	AUX sound signal circuit.
Image is not displayed when AUX mode is selected.	Camera image is displayed.	AUX image signal circuit malfunction. Refer to <a href="#">AV-114, "Diagnosis Procedure"</a> .
	Camera image is not displayed.	Composite image signal circuit malfunction. Refer to <a href="#">AV-116, "Diagnosis Procedure"</a> .

AV

## NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[WITHOUT NAVIGATION]

### NORMAL OPERATING CONDITION

#### Description

INFOID:000000005528293

#### BASIC OPERATIONS

Symptom	Possible cause	Possible solution
No image is displayed.	The brightness is at the lowest setting.	Adjust the brightness of the display.
	The systems in the video mode.	Press "DISC-AUX" to change the mode.
	The display is turned off.	Press "☀/☾ OFF" to turn on the display.
The screen is too dim. The movement is slow.	The temperature in the interior of the vehicle is low.	Wait until the interior of the vehicle has warmed up.
Some pixels in the display are darker or brighter than others.	This condition is an inherent characteristic of liquid crystal displays.	This is not a malfunction.
Some menu items cannot be selected.	Some menu items become unavailable while the vehicle is driven.	Park the vehicle in a safe location, and then operate the multi AV system.

#### RELATED TO VOICE RECOGNITION

##### Related to Telephone

The system should respond correctly to all voice commands without difficulty. If problems are encountered, try the following solutions.

Where the solutions are listed by number, try each solution in turn, starting with number 1, until the problem is resolved.

Symptom	Solution
System fails to interpret the command correctly.	1. Ensure that the command is valid.
	2. Ensure that the command is spoken after the tone.
	3. Speak clearly without pausing between words and at level appropriate to the ambient noise level in the vehicle.
	4. Ensure that the ambient noise level is not excessive (for example, windows open or defroster on). <b>NOTE:</b> 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" earlier in this section. Refer to "OWNER'S MANUAL".
The system consistently selects the wrong voicetag	1. Ensure that the phone book entry name requested matches what was originally stored. This can be confirmed by using the "List Names" command.
	2. Replace one of the names being confused with a new name.

#### RELATED TO AUDIO

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

##### NOTE:

- CD-R is not guaranteed to play because they can contain compressed audio (MP3, WMA, 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 >

[WITHOUT NAVIGATION]

Symptom	Cause and Counter measure
Cannot play	Check if the CD was inserted correctly.
	Check if the CD is scratched or dirty.
	Check if there is condensation inside the player, and if there is, wait until the condensation is gone (about 1 hour) before using the player.
	If there is a temperature increase error, the player will play correctly after it returns to the normal temperature.
	If there is a mixture of music CD files (CD-DA data) and MP3/WMA/AAC/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 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.
	Discs recorded in live file system format are not supported. (For Microsoft Windows Vista, check the settings.)
Poor sound quality	Check if the CD is scratched or dirty.
It takes a relatively long time before the music starts playing.	If there are many folder or file levels on the MP3/WMA/AAC/M4A CD, or if it is a multisession disc, some time may be required before the music starts playing.
Music cuts off or skips	The writing software and hardware combination might not match, or the writing speed, writing depth, writing width might not match the specifications. Try using the slowest writing speed.
Skipping with high bit rate files	Skipping may occur with large quantities if data such as for high bit rate data.
Move immediately to the next song when playing	When a non-MP3/WMA/AAC file has been given an extension of ".MP3", ".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 back in the desired order.	The playback order is the order in which the files were written by the software, so the files might not play in the desired order.

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

## NOTE:

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

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AV

## REMOVAL AND INSTALLATION

### AV CONTROL UNIT

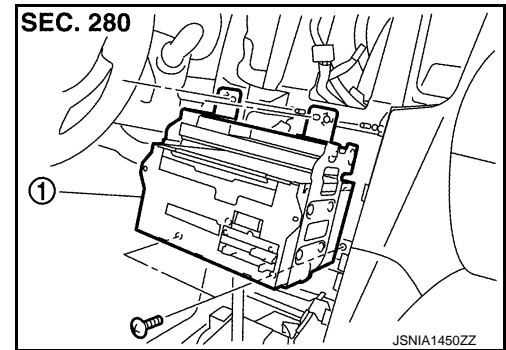
#### Exploded View

INFOID:000000005528264

#### CAUTION:

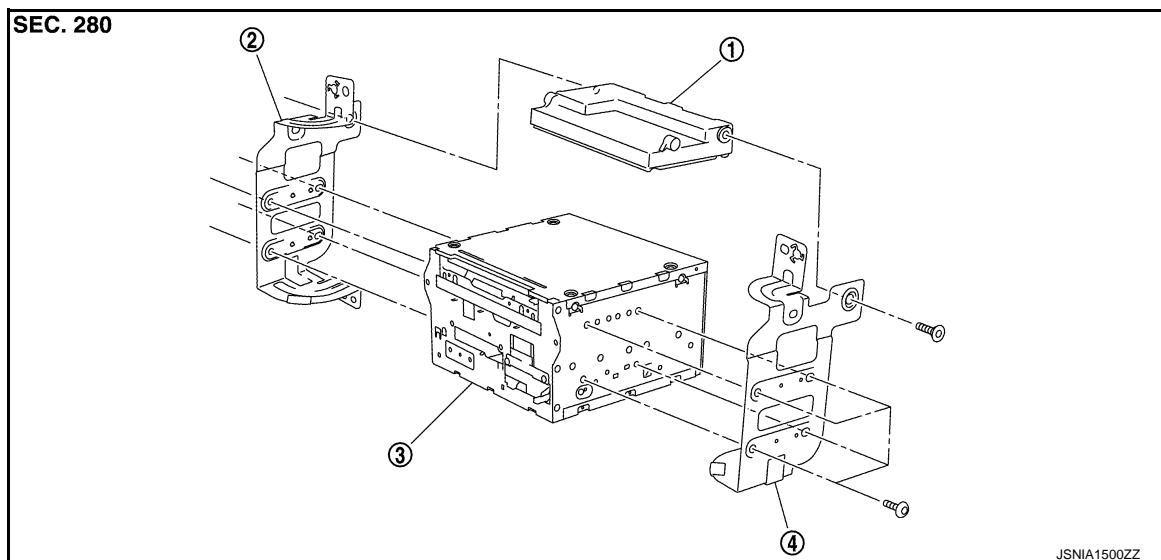
Before replacing AV control unit, perform "READ CONFIGURATION" to save or print current vehicle specification. For details, refer to [AV-79. "ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Description"](#).

#### REMOVAL



1: AV control unit

#### DISASSEMBLY



1. Unified meter and A/C amp.

2. Bracket LH

3. AV control unit

4. Bracket RH

#### Removal and Installation

INFOID:000000005528265

#### CAUTION:

Before replacing AV control unit, perform "READ CONFIGURATION" to save or print current vehicle specification. For details, refer to [AV-79. "ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Description"](#).

#### REMOVAL

1. Remove front display unit. Refer to [AV-138. "Exploded View"](#).
2. Remove AV control unit with a unified meter and A/C amp. as a single unit from the body.
3. Remove bracket screws, and then remove AV control unit.

## INSTALLATION

Installation is the reverse order of removal.

### CAUTION:

- Since AV control unit connector and unified meter and A/C amp. connector have the same form, be careful not to insert them wrongly.
- Be sure to perform "WRITE CONFIGURATION" when replacing AV control unit.

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## FRONT DISPLAY UNIT

### Exploded View

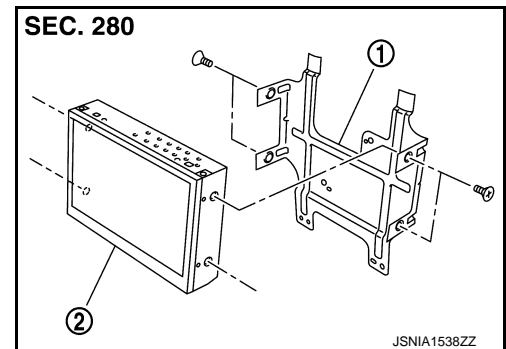
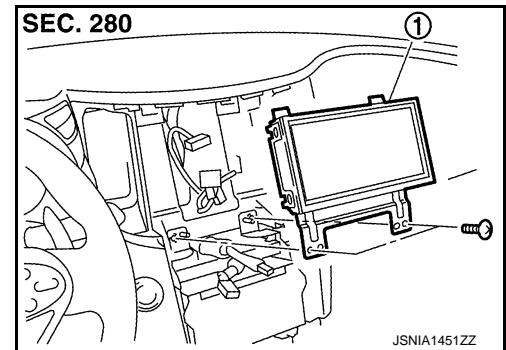
INFOID:000000005528266

### REMOVAL

1. Front display unit

### DISASSEMBLY

1. Bracket
2. Front display unit



## Removal and Installation

INFOID:000000005528267

### REMOVAL

1. Remove cluster lid D. Refer to [IP-11, "Exploded View"](#).
2. Remove front display unit mounting screws.
3. Disconnect connector, and remove front display unit.

### INSTALLATION

Installation is the reverse order of removal.

# FRONT DOOR SPEAKER

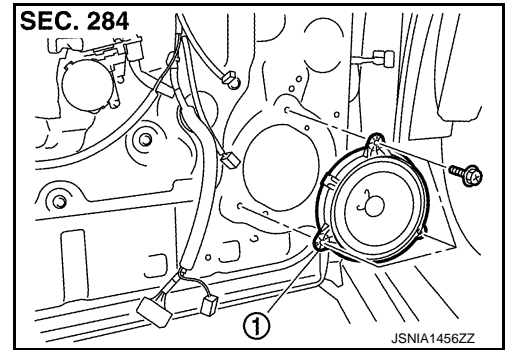
< REMOVAL AND INSTALLATION >

[WITHOUT NAVIGATION]

## FRONT DOOR SPEAKER

### Exploded View

INFOID:0000000005528268



1. Front door speaker

### Removal and Installation

INFOID:0000000005528269

#### REMOVAL

1. Remove front door finisher. Refer to [INT-11. "Exploded View"](#).
2. Remove front door speaker mounting bolts.
3. Disconnect connector and remove front door speaker.

#### INSTALLATION

Installation is the reverse order of removal.

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AV

## REAR DOOR SPEAKER

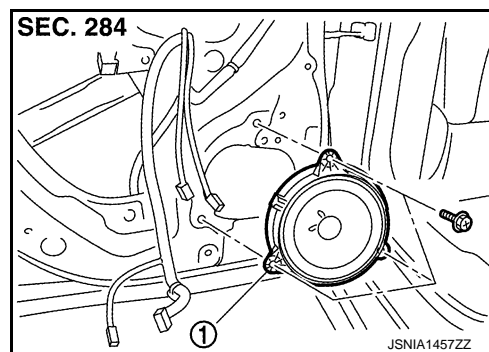
< REMOVAL AND INSTALLATION >

[WITHOUT NAVIGATION]

### REAR DOOR SPEAKER

#### Exploded View

INFOID:000000005528270



1. Rear door speaker

#### Removal and Installation

INFOID:000000005528271

##### REMOVAL

1. Remove rear door finisher. Refer to [INT-14, "Exploded View"](#).
2. Remove rear door speaker mounting bolts.
3. Disconnect connector and remove rear door speaker.

##### INSTALLATION

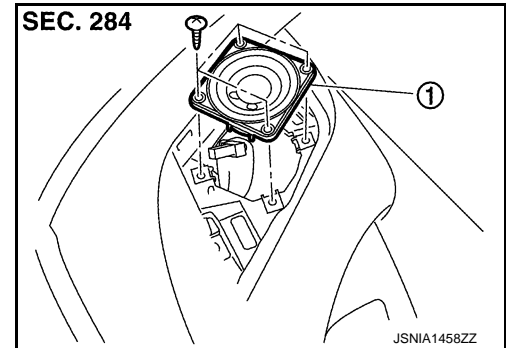
Installation is the reverse order of removal.



## FRONT SQUAWKER

### Exploded View

INFOID:0000000005528272



1. Front squawker

### Removal and Installation

INFOID:0000000005528273

#### REMOVAL

1. Remove speaker grille. Refer to [IP-11, "Exploded View"](#).
2. Remove front squawker mounting screws.
3. Disconnect connector and remove front squawker.

#### INSTALLATION

Installation is the reverse order of removal.

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AV

## REAR SQUAWKER

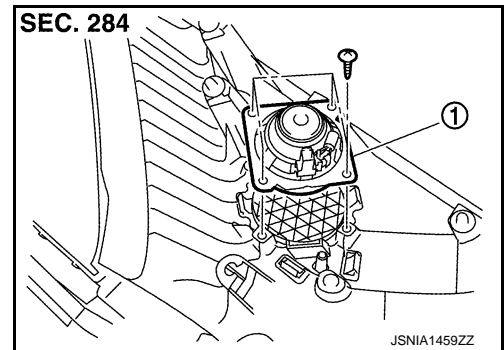
< REMOVAL AND INSTALLATION >

[WITHOUT NAVIGATION]

### REAR SQUAWKER

#### Exploded View

INFOID:000000005528274



1. Rear squawker

#### Removal and Installation

INFOID:000000005528275

##### REMOVAL

1. Remove luggage side finisher upper. Refer to [INT-28, "Exploded View"](#).
2. Remove rear squawker mounting screws.
3. Remove rear squawker.

##### INSTALLATION

Installation is the reverse order of removal.

# CENTER SPEAKER

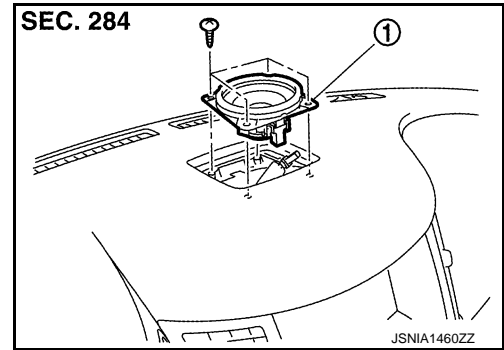
< REMOVAL AND INSTALLATION >

[WITHOUT NAVIGATION]

## CENTER SPEAKER

### Exploded View

INFOID:0000000005528276



1. Center speaker

### Removal and Installation

INFOID:0000000005528277

#### REMOVAL

1. Remove center speaker grille. Refer to [IP-11, "Exploded View"](#).
2. Remove center speaker mounting screws, lift up the center speaker and disconnect connector.
3. Remove center speaker.

#### INSTALLATION

Installation is the reverse order of removal.

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AV

# WOOFER

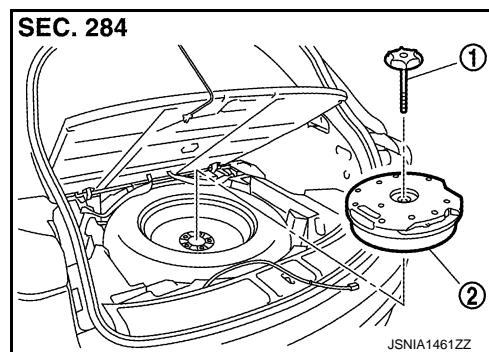
< REMOVAL AND INSTALLATION >

[WITHOUT NAVIGATION]

## WOOFER

### Exploded View

INFOID:000000005528278



1. Woofer clamp
2. Woofer

### Removal and Installation

INFOID:000000005528279

#### REMOVAL

1. Pull up luggage finisher cover and hang the strap to upper body.
2. Remove woofer clamp.
3. Remove harness clip and connector.
4. Remove woofer.

#### INSTALLATION

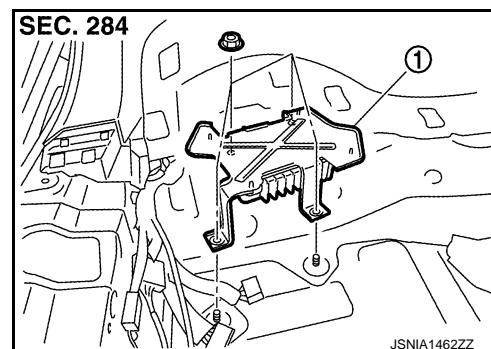
Installation is the reverse order of removal.

## BOSE AMP.

## Exploded View

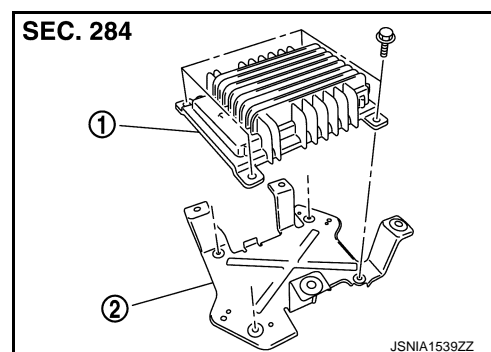
INFOID:000000005528280

## REMOVAL



1. BOSE amp.

## DISASSEMBLY



1. BOSE amp.
2. Bracket

## Removal and Installation

INFOID:000000005528281

## REMOVAL

1. Remove luggage floor spacer (LH). Refer to [INT-28, "Exploded View"](#).
2. Remove BOSE amp. mounting nuts.
3. Disconnect connector and remove BOSE amp.

## INSTALLATION

Installation is the reverse order of removal.

AV

# SATELLITE RADIO TUNER

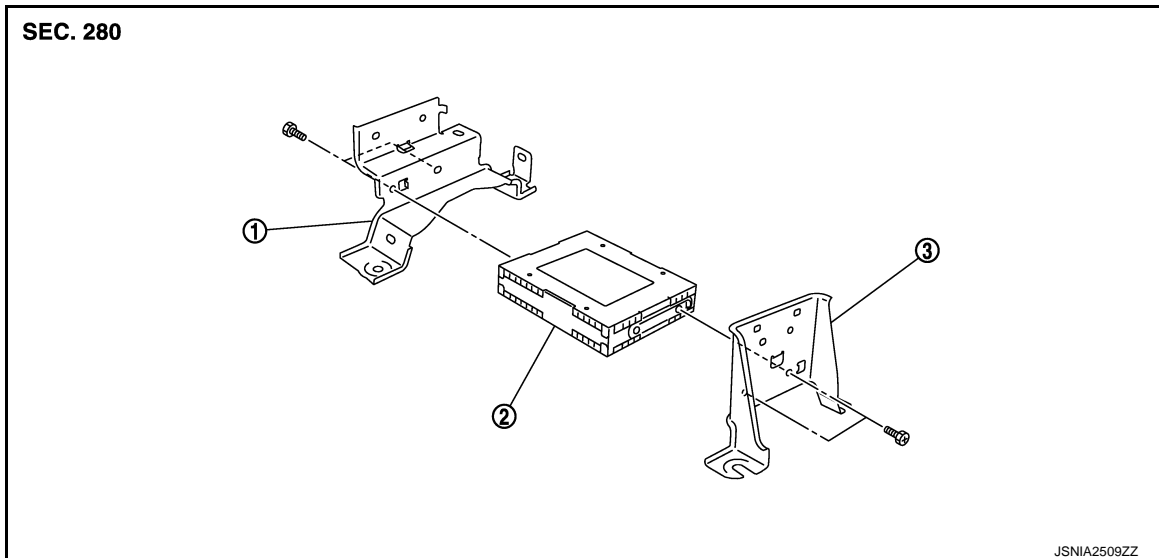
< REMOVAL AND INSTALLATION >

[WITHOUT NAVIGATION]

## SATELLITE RADIO TUNER

### Exploded View

INFOID:000000005246894



1. Bracket (front)

2. Satellite radio tuner

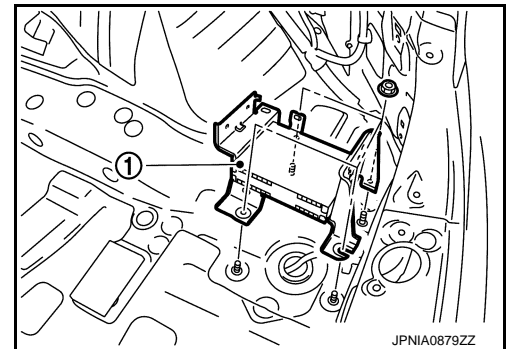
3. Bracket (rear)

### Removal and Installation

INFOID:000000005246895

#### REMOVAL

1. Remove luggage floor spacer (RH). Refer to [INT-28, "Exploded View"](#).
2. Remove nuts, and then satellite radio tuner (1).



#### INSTALLATION

Install in the reverse order of removal.

# ANTENNA BASE

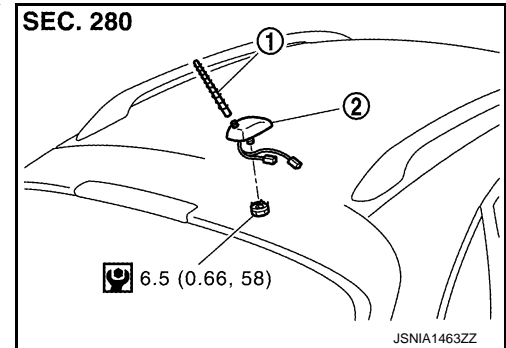
< REMOVAL AND INSTALLATION >

[WITHOUT NAVIGATION]

## ANTENNA BASE

### Exploded View

INFOID:000000005246896



1. Antenna rod
2. Antenna base

Refer to [GI-4, "Components"](#) for symbols in the figure.

### Removal and Installation

INFOID:000000005246897

#### REMOVAL

1. Remove headlining (rear). Keep a service area. Refer to [INT-23, "Exploded View"](#).
2. Remove antenna base mounting nut.
3. Disconnect connector and remove antenna base.

#### INSTALLATION

Installation is the reverse order of removal.

#### **CAUTION:**

**Be careful about tightening torque. Antenna sensitivity becomes poor, and when it is excessive, roof panel may be deformed, when antenna base mounting nut tightening torque is loose.**

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AV

## MULTIFUNCTION SWITCH

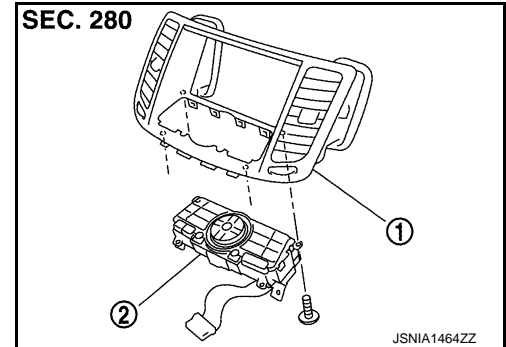
### Exploded View

INFOID:000000005528282

#### REMOVAL

Refer to [IP-11, "Exploded View"](#).

#### DISASSEMBLY



1. Cluster lid D
2. Multifunction switch

### Removal and Installation

INFOID:000000005528283

#### REMOVAL

1. Remove cluster lid D. Refer to [IP-11, "Exploded View"](#).
2. Remove multifunction switch mounting screws.
3. Disconnect connector and remove multifunction switch.

#### INSTALLATION

Installation is the reverse order of removal.



# PRESET SWITCH

< REMOVAL AND INSTALLATION >

[WITHOUT NAVIGATION]

## PRESET SWITCH

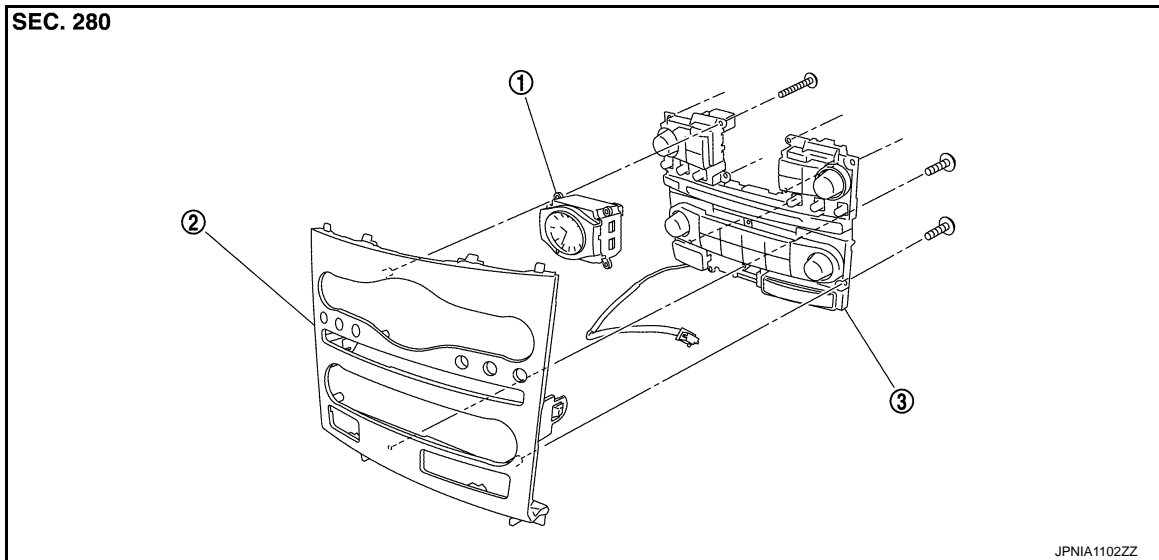
### Exploded View

INFOID:000000005528284

#### REMOVAL

Refer to [IP-11, "Exploded View"](#).

#### DISASSEMBLY



1. Clock

2. Cluster lid C

3. Preset switch

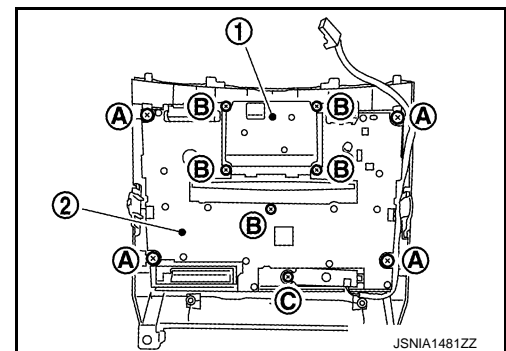
### Removal and Installation

INFOID:000000005528285

#### REMOVAL

1. Remove cluster lid C. Refer to [IP-11, "Exploded View"](#).
2. Remove preset switch mounting screws (A), (B) and (C).
3. Disconnect connector and remove preset switch (2).

1. Clock



#### INSTALLATION

Installation is the reverse order of removal.

#### NOTE:

When installing preset switch, do not allow the print wire that connects preset switch and multifunction switch to get caught in between AV control unit and preset switch.

## AUXILIARY INPUT JACKS

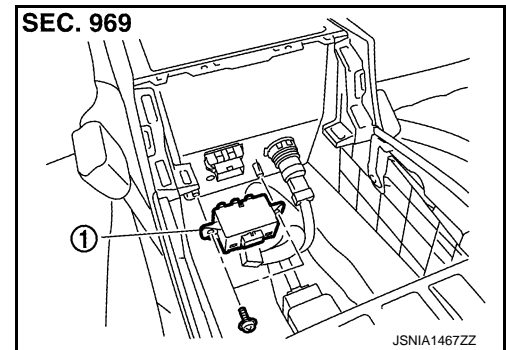
< REMOVAL AND INSTALLATION >

[WITHOUT NAVIGATION]

### AUXILIARY INPUT JACKS

#### Exploded View

INFOID:000000005528286



1. Auxiliary input jacks

#### Removal and Installation

INFOID:000000005528287

##### REMOVAL

1. Remove console box assembly. Refer to [JP-22, "Exploded View"](#).
2. Remove auxiliary mounting screws.
3. Disconnect connector and remove auxiliary input jacks.

##### INSTALLATION

Installation is the reverse order of removal.

# USB CONNECTOR

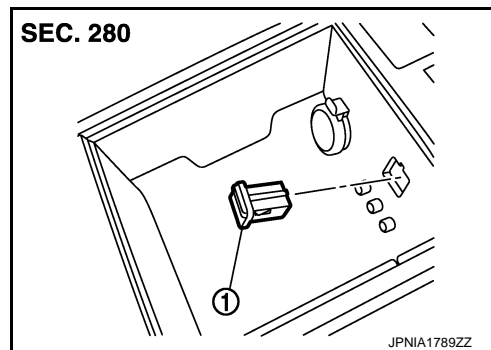
< REMOVAL AND INSTALLATION >

[WITHOUT NAVIGATION]

## USB CONNECTOR

### Exploded View

INFOID:0000000005528288



1. USB connector

### Removal and Installation

INFOID:0000000005528289

#### REMOVAL

1. Remove console box assembly. Refer to [JP-22, "Exploded View"](#).
2. Press the pawl from the back of console box assembly to remove USB connector.

#### INSTALLATION

Install in the reverse order of removal.

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AV

## MICROPHONE

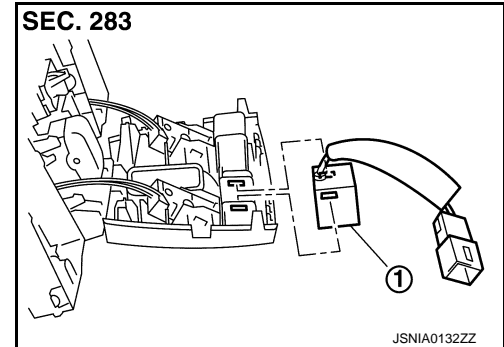
### Exploded View

INFOID:000000005528290

#### REMOVAL

Refer to [INT-23, "Exploded View"](#).

#### DISASSEMBLY



1. Microphone

### Removal and Installation

INFOID:000000005528291

#### REMOVAL

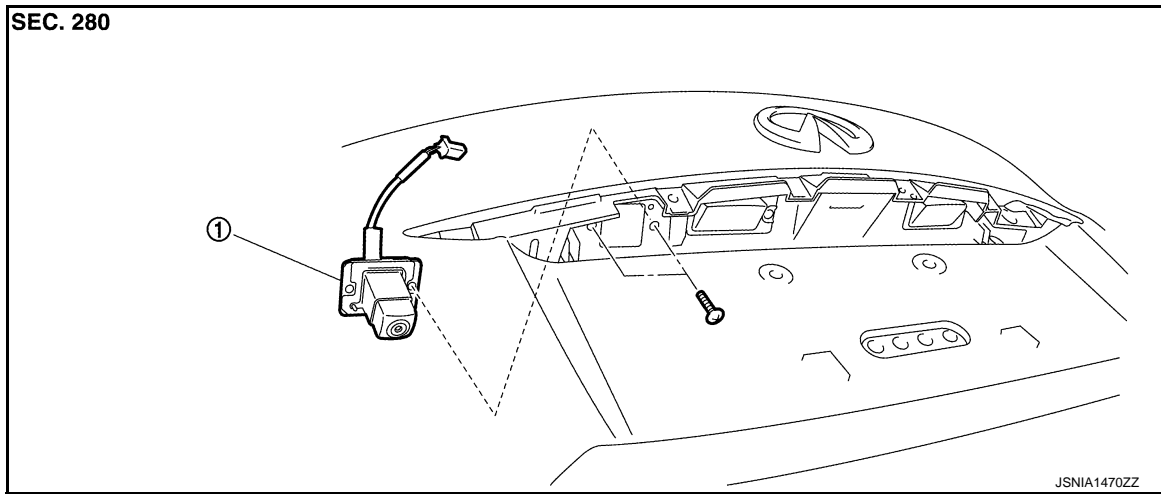
1. Remove map lamp assembly. Refer to [INT-23, "Exploded View"](#).
2. Remove microphone, stretching pawls of map lamp assembly.

#### INSTALLATION

Installation is the reverse order of removal.

## REAR VIEW CAMERA

### Exploded View



1. Rear view camera

### Removal and Installation

INFOID:000000005246913

#### REMOVAL

1. Remove back door outside finisher upper. Refer to [EXT-49, "Exploded View"](#).
2. Remove door handle cover. Refer to [EXT-49, "Exploded View"](#).
3. Remove rear view camera mounting screws and rear view camera harness connector.
4. Remove rear view camera.

#### INSTALLATION

1. Installation is the reverse order of removal.
2. Adjust the guide line position if the guide line position is shifted after installing the rear view camera. Refer to [AV-154, "Adjustment"](#).

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AV

# REAR VIEW CAMERA

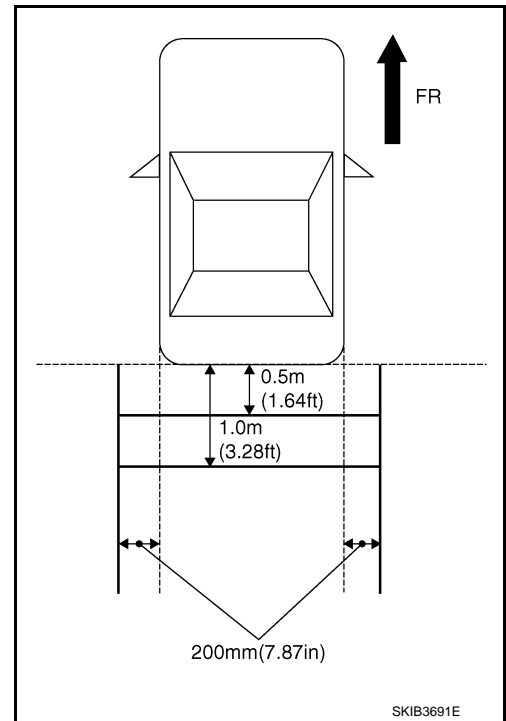
< REMOVAL AND INSTALLATION >

[WITHOUT NAVIGATION]

INFOID:000000005246914

## Adjustment

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



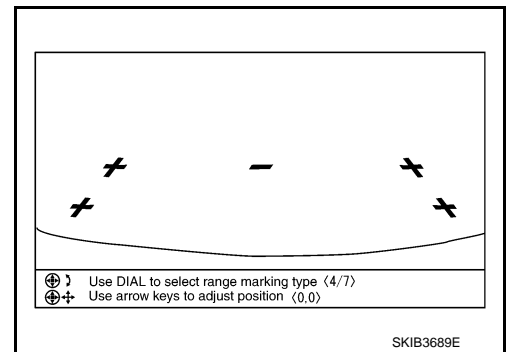
3. Rotate the center dial, and then select the guiding line pattern so that its angle is aligned with the correction line of the rear of the vehicle.

**Selected pattern : 7**

4. Fine adjust the guiding line so that its position is aligned to the correction line by pressing the up/down/left/right switches. Pressing "ENTER" enable the camera control unit to memory the adjusted guiding line position.

**Up/Down adjustment range : -20 - 20**

**Left/Right adjustment range : -20 - 20**



### CAUTION:

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

If Confirmation/Adjustment mode does not function in the above procedure, perform one of the following service to adjust the index again.

- Remove battery for five min. Then reconnect battery.
- Remove camera control unit connector for five min. Then reconnect camera control unit connector.

## TEL ADAPTER UNIT

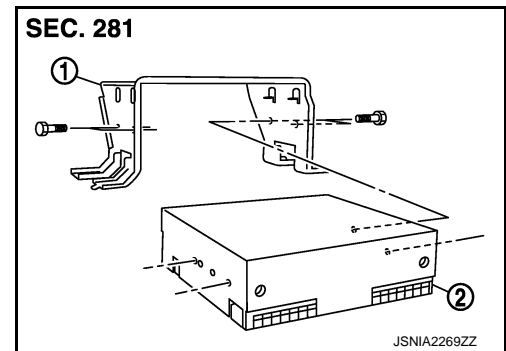
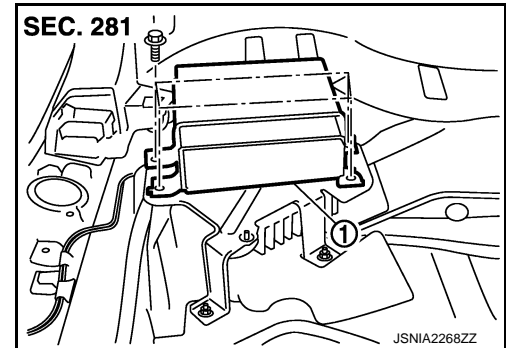
### Exploded View

INFOID:000000005530329

### REMOVAL

1. TEL adapter unit

### DISASSEMBLY



1. Bracket
2. TEL adapter unit

### Removal and Installation

INFOID:000000005530330

### REMOVAL

1. Remove luggage floor spacer (LH). Refer to [INT-28, "Exploded View"](#).
2. Remove TEL adapter unit screws, disconnect TEL adapter unit connector and remove the TEL adapter unit.

### INSTALLATION

Install in the reverse order of removal.

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AV

# ANTENNA FEEDER

< REMOVAL AND INSTALLATION >

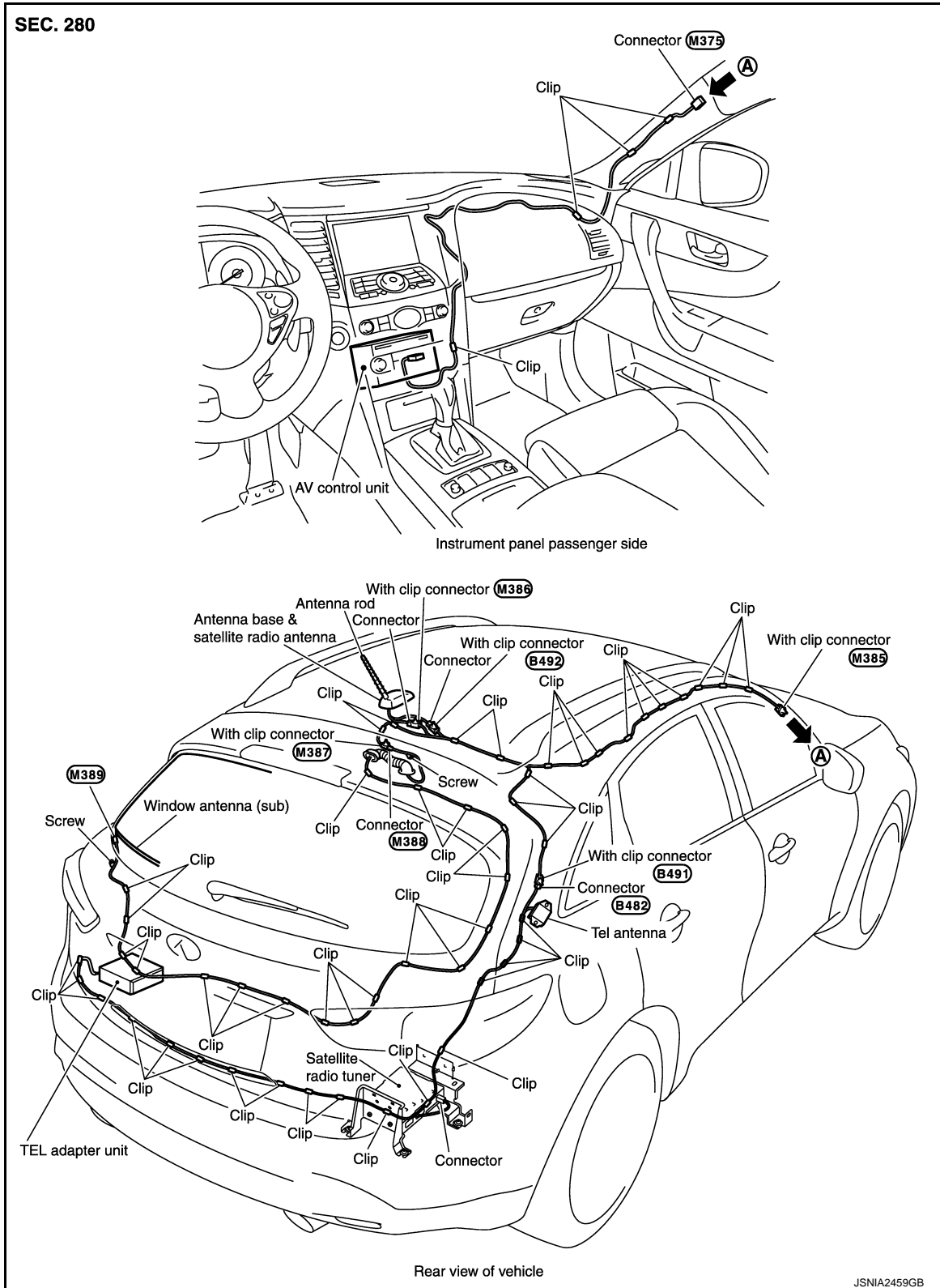
[WITHOUT NAVIGATION]

## ANTENNA FEEDER

### Feeder Layout

INFOID:000000005246919

#### SEC. 280





## PRECAUTION

### PRECAUTIONS

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

INFOID:000000005475449

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

#### **WARNING:**

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

#### Precaution for Trouble Diagnosis

INFOID:000000005475450

#### AV COMMUNICATION SYSTEM

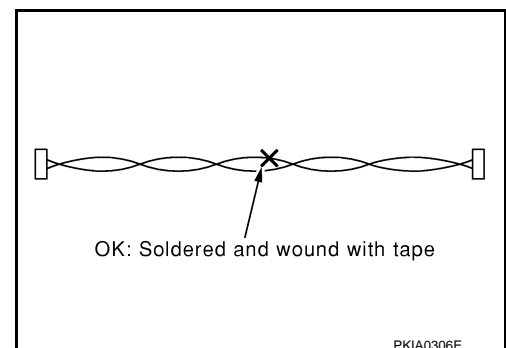
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

#### Precaution for Harness Repair

INFOID:000000005475451

#### AV COMMUNICATION SYSTEM

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



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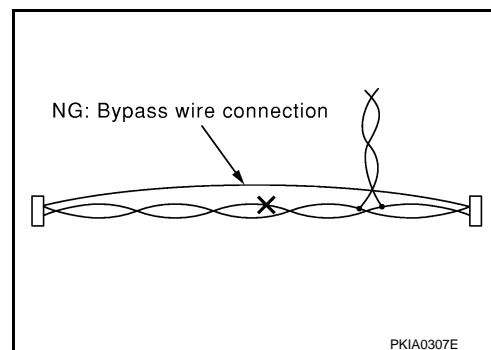
P

## PRECAUTIONS

### < PRECAUTION >

### [NAVIGATION (SINGLE MONITOR)]

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

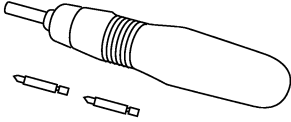


## PREPARATION

### PREPARATION

#### Commercial Service Tools

INFOID:000000005475452

Tool name	Description
<p>Power tool</p>  <p>PBIC0191E</p>	<p>Loosening screws</p>

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# COMPONENT PARTS

< SYSTEM DESCRIPTION >

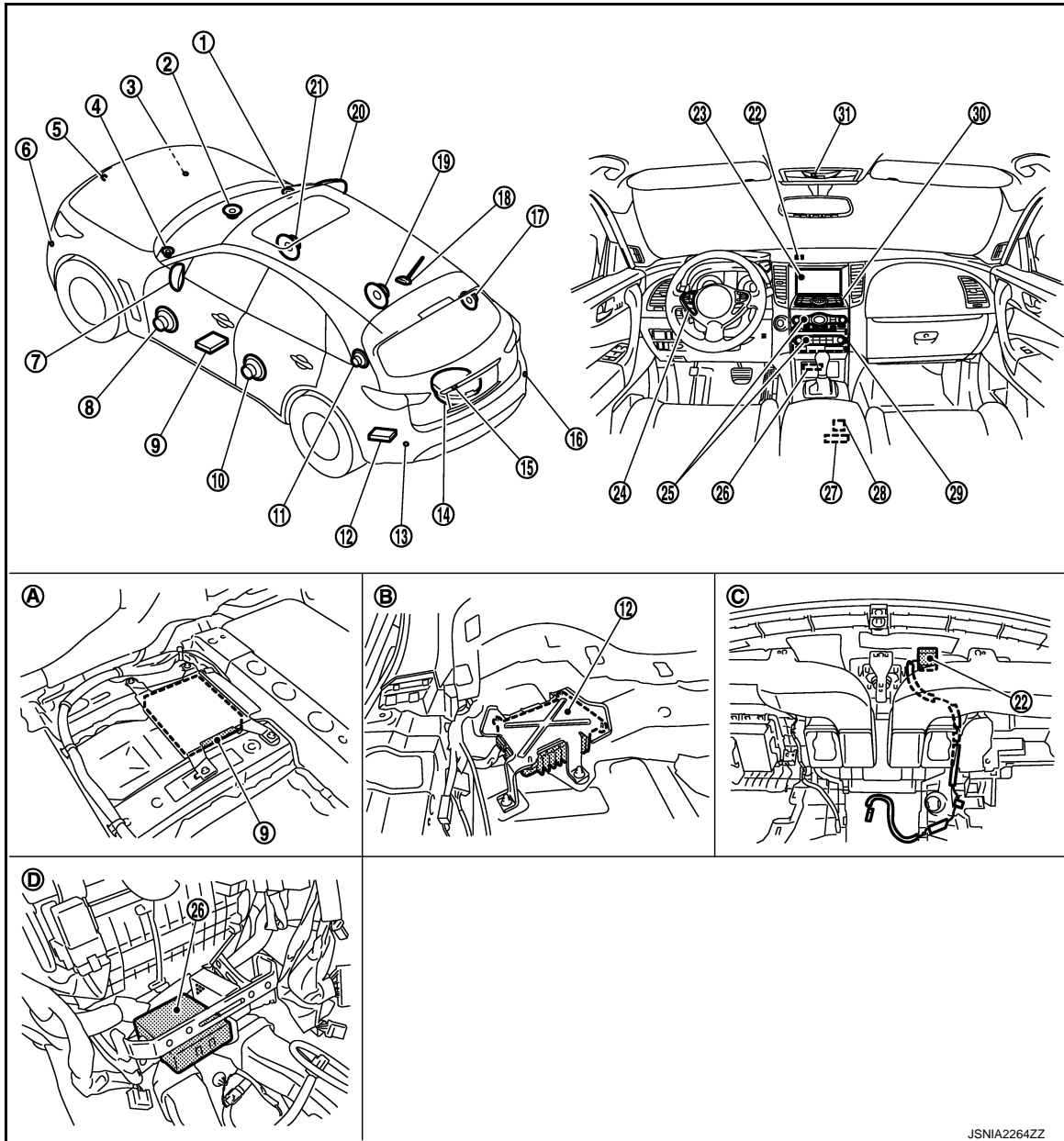
[NAVIGATION (SINGLE MONITOR)]

## SYSTEM DESCRIPTION

### COMPONENT PARTS

#### Component Parts Location

INFOID:000000005475010



- |                           |  |   |
|---------------------------|--|---|
| 1. Front squawker RH      | 2. Center speaker  | 3. Corner sensor front RH                             |
| 4. Front squawker LH      | 5. Front camera  | 6. Corner sensor front LH                             |
| 7. Side camera LH         | 8. Front door speaker LH                                 | 9. Around view monitor control unit                   |
| 10. Rear door speaker LH  | 11. Rear squawker LH                                     | 12. BOSE amp.   |
| 13. Corner sensor rear LH | 14. Woofer   | 15. Rear camera                                       |
| 16. Corner sensor rear RH | 17. Rear squawker RH                                     | 18. Antenna base (antenna amp. and satellite antenna) |
| 19. Rear door speaker RH  | 20. Side camera RH and infrared LED (auxiliary lighting) | 21. Front door speaker RH                             |
| 22. GPS antenna           | 23. Front display unit                                   | 24. Steering switch                                   |

JSNIA2264ZZ

# COMPONENT PARTS

< SYSTEM DESCRIPTION >

[NAVIGATION (SINGLE MONITOR)]

- |  |   |                               |
|--|---|-------------------------------|
| 25. Preset switch                            | 26. Sonar control unit (with around view monitor) | 27. Auxiliary input jack      |
| 28. USB connector                            | 29. AV control unit                               | 30. Multifunction switch      |
| 31. Microphone                               |   |                               |
| A. Under front seat (LH side)                | B. Luggage floor (LH side)                        | C. Instrument panel rear side |
| D. Console pocket assembly removed condition |   |                               |

## Component Description

INFOID:000000005475011

Part name	Description
AV control unit	<ul style="list-style-type: none"> <li>Integrates hard disk drive (HDD) allowing map data and music data to be stored.</li> <li>It is the master unit of the MULTI AV system, and it is connected to each control unit by communication. It operates each system according to communication signals from the AV control unit.</li> <li>The AV control unit includes the audio, hands-free phone, voice control, navigation, USB connection, DVD play, satellite radio and vehicle information functions.</li> <li>It is connected to ECM and unified meter and A/C amp. via CAN communication to obtain necessary information for the vehicle information function.</li> <li>It inputs the illumination signals that are required for the display dimming control.</li> <li>It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).</li> <li>The RGB digital image signal and composite image signal are output to front display unit.</li> <li>Amp. ON signal, sound signal and mode change signal transmitted to BOSE amp.</li> <li>Update of map data is performed with the DVD-ROM.</li> </ul>
Front display unit	<ul style="list-style-type: none"> <li>Front display image is controlled by the serial communication from AV control unit.</li> <li>RGB digital image signal is input from AV control unit.</li> <li>Composite image signal is input from AV control unit.</li> <li>Camera image signal is input from around view monitor control unit.</li> <li>Touch panel function can be operated for each system by touching a display directly.</li> </ul>
BOSE amp.	<ul style="list-style-type: none"> <li>Inputs sound signal from AV control unit, and outputs sound signal to each speaker.</li> <li>Input mode change signal from AV control unit.</li> </ul>
Front door speaker	<ul style="list-style-type: none"> <li>Outputs sound signal from BOSE amp.</li> <li>Outputs high, mid and low range sounds.</li> </ul>
Rear door speaker	<ul style="list-style-type: none"> <li>Outputs sound signal from BOSE amp.</li> <li>Outputs high, mid and low range sounds.</li> </ul>
Front squawker	<ul style="list-style-type: none"> <li>Outputs sound signal from BOSE amp.</li> <li>Outputs mid range sounds.</li> </ul>
Rear squawker	<ul style="list-style-type: none"> <li>Outputs sound signal from BOSE amp.</li> <li>Outputs mid range sounds.</li> </ul>
Center speaker	<ul style="list-style-type: none"> <li>Outputs sound signal from BOSE amp.</li> <li>Outputs high and mid range sounds.</li> </ul>
Woofer	<ul style="list-style-type: none"> <li>Inputs power (woofer amp. ON) and sound signal from BOSE amp.</li> <li>Outputs low range sounds.</li> </ul>
Multifunction switch	<ul style="list-style-type: none"> <li>Operation panel is equipped with the centralized switch where audio, auxiliary input and navigation, etc. operations are integrated.</li> <li>Connected with preset switch via cable, and operation signal is transmitted to AV control unit via AV communication.</li> </ul>
Preset switch	<ul style="list-style-type: none"> <li>Operation panel is equipped with the centralized switch where audio and air conditioner, etc. operations are integrated.</li> <li>Connected with multifunction switch via cable, and operation signal is transmitted to AV control unit via AV communication.</li> <li>The disk ejection operating signal is performed by hardwire.</li> </ul>

# COMPONENT PARTS

< SYSTEM DESCRIPTION >

[NAVIGATION (SINGLE MONITOR)]

Part name	Description
Around view monitor control unit	<ul style="list-style-type: none"> <li>It supplies power to front camera, rear camera, and side camera. And then it superimposes the images from each camera and outputs them to front display unit.</li> <li>Superimpose the guiding line, predicted course line and sonar indicator to the camera image that outputs to front display unit.</li> <li>It performs the reception/transmission of communication signal with each camera.</li> <li>It transmits the sonar operation signal from sonar control unit and receives the sonar information from sonar control unit via AV communication.</li> <li>It transmits the information received/transmitted with sonar control unit via AV communication to AV control unit.</li> </ul>
Front camera	<ul style="list-style-type: none"> <li>It inputs the power supply from around view monitor control unit and outputs the image of the vehicle front to around view monitor control unit.</li> <li>It performs the reception/transmission of the communication signal with around view monitor control unit.</li> </ul>
Rear camera	<ul style="list-style-type: none"> <li>It inputs the power supply from around view monitor control unit and outputs the image of the vehicle rear to around view monitor control unit.</li> <li>It performs the reception/transmission of the communication signal with around view monitor control unit.</li> </ul>
Side camera LH	<ul style="list-style-type: none"> <li>It inputs the power supply from around view monitor control unit and outputs the image of the vehicle LH to around view monitor control unit.</li> <li>It performs the reception/transmission of the communication signal with around view monitor control unit.</li> </ul>
Side camera RH	<ul style="list-style-type: none"> <li>It inputs the power supply from around view monitor control unit and outputs the image of the vehicle RH to around view monitor control unit.</li> <li>It performs the reception/transmission of the communication signal with around view monitor control unit.</li> </ul>
Infrared LED (Auxiliary lighting)	<ul style="list-style-type: none"> <li>It illuminates around the front RH wheel by the power supply from around view monitor control unit to improve nighttime visibility of front-side view.</li> <li>The infrared LED is an invisible light ray.</li> </ul>
Sonar control unit	<ul style="list-style-type: none"> <li>It is connected with around view monitor control unit via AV communication and receives the sonar operation signal from around view monitor control unit.</li> <li>It transmits the sonar detection status to around view monitor control unit via AV communication.</li> <li>It judges the warning level according to the signal from corner sensor.</li> </ul>
Corner sensor	The obstacle distance is detected. The signal is transmitted to sonar control unit.
Steering switch	<ul style="list-style-type: none"> <li>Operations for audio, hands-free phone, voice control and navigation, etc. are possible.</li> <li>Steering switch signal (operation signal) is output to AV control unit.</li> </ul>
Microphone	<ul style="list-style-type: none"> <li>Used for hands-free phone operation and voice recognition.</li> <li>Microphone signal is transmitted to AV control unit.</li> <li>Power (Microphone VCC) is supplied from AV control unit.</li> </ul>
Auxiliary input jacks	Image signal and sound signal of auxiliary input is transmitted to AV control unit.
GPS antenna	GPS signal is received and transmitted to AV control unit.
Antenna base	<p>A radio antenna base integrated with radio antenna amp. and satellite radio antenna is adopted.</p> <p>ANTENNA AMP.</p> <ul style="list-style-type: none"> <li>Radio signal received by rod antenna is amplified and transmitted to AV control unit.</li> <li>Power (antenna amp. ON signal) is supplied from AV control unit.</li> </ul> <p>SATELLITE RADIO ANTENNA</p> <ul style="list-style-type: none"> <li>Receives satellite radio waves and outputs it to AV control unit.</li> </ul>
USB connector	Image signal*1 and sound signal of USB input is transmitted to AV control unit.

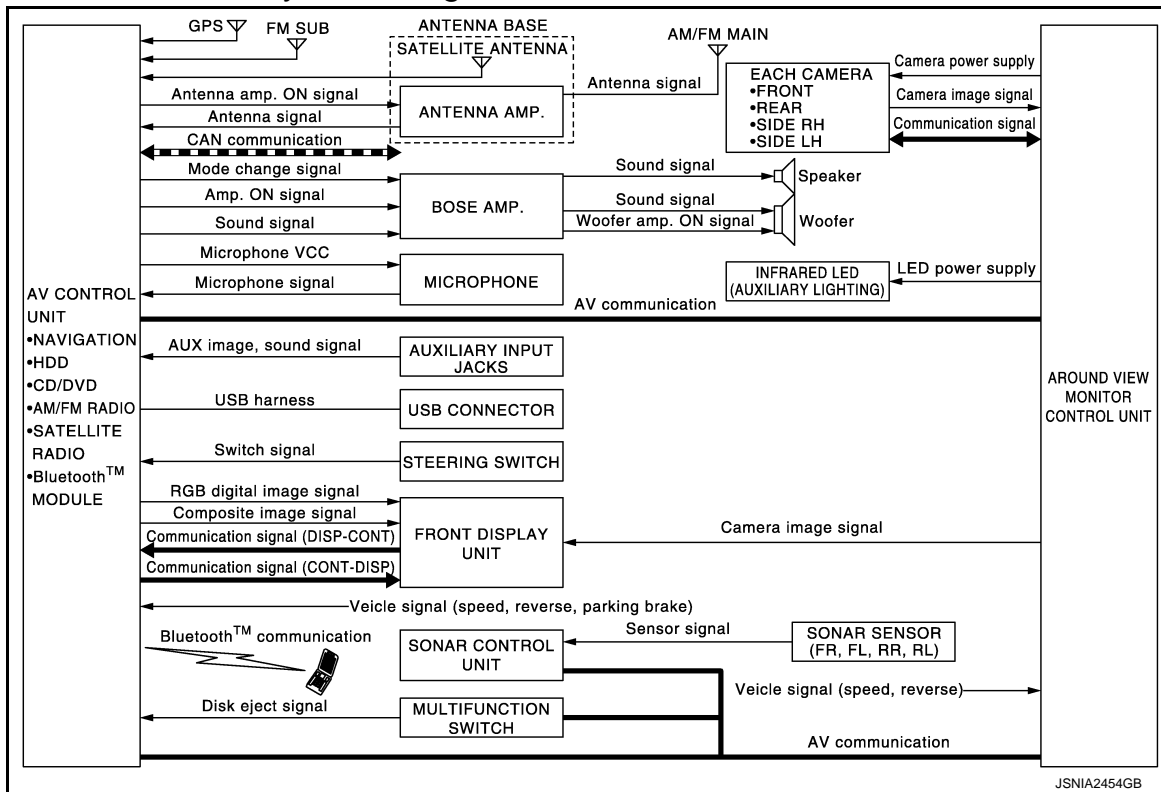
\*1: Image signals cannot be received from iPod®.

## SYSTEM

## MULTI AV SYSTEM

## MULTI AV SYSTEM : System Diagram

INFOID:000000005475008



## NOTE:

- The name MULTIFUNCTION SWITCH indicates the integration of PRESET SWITCH and MULTIFUNCTION SWITCH virtually.
- An antenna base integrated with antenna amp. is adopted.

## MULTI AV SYSTEM : System Description

INFOID:000000005475009

Multi AV system means that the following systems are integrated.

FUNCTION NAME
Navigation system function
Audio function
DVD play function
Hands-free phone function
Auxiliary input function
USB connection function
Voice recognition function
Touch panel function
Around view monitor function
Camera assistance sonar system
Vehicle information function

## COMMUNICATION SIGNAL

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

# SYSTEM

## < SYSTEM DESCRIPTION >

## [NAVIGATION (SINGLE MONITOR)]

- AV control unit is connected by CAN communication, and it receives data signal from ECM, unified meter and A/C amp. It computes and displays fuel economy information value with the obtained information.
- AV control unit is connected with display and serial communication, and it transmits the required signal of display and display control and receives the response signal from display.

### NAVIGATION SYSTEM FUNCTION

#### Description

- The AV control unit controls navigation function while GPS tuner has built-in map data, GYRO (angle speed sensor), on the HDD (Hard Disk Drive).
- The AV control unit inputs operation signal with communication signal, through display (touch panel) and multifunction switch and steering switch.
- Guide sound is output to front speaker through BOSE amp. from AV control unit when operating navigation system.
- A vehicle position is calculated with the GYRO (angle speed sensor), vehicle sensor, signal from GPS satellite and map data stored on HDD (Hard Disk Drive), and transmits the map image signal (RGB image, RGB area, RGB image synchronizing) to the display.

#### Position Detection Principle

The navigation system periodically calculates the current vehicle position according to the following three types of signals.

- Travel distance of the vehicle as determined by the vehicle speed sensor
- Vehicle turning angle determined by the gyroscope (angular speed sensor)
- The travel direction of the vehicle determined by the GPS antenna (GPS information)

The current position of the vehicle is then identified by comparing the calculated vehicle position with map data, which is stored in the HDD (Hard Disk Drive) (map-matching), and indicated on the screen with a current location mark. More accurate data is used by comparing position detection results from GPS to the map-matching.

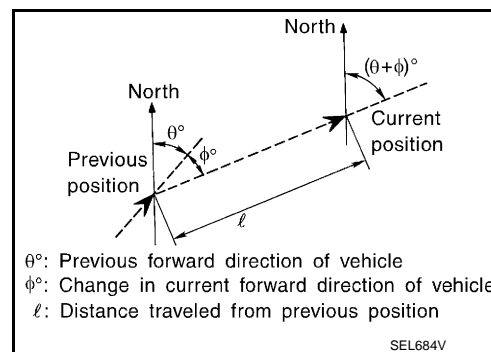
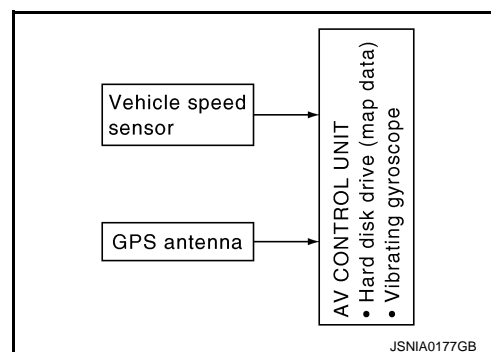
The current position is calculated by detecting the travel distance from the previous calculation point, and its direction change.

- Travel distance

The travel distance is generated from the vehicle speed sensor input signal. The automatic distance correction function is adopted for preventing a miss-detection of the travel distance because of tire wear etc.

- Travel direction

The gyroscope (angular velocity sensor) and GPS antenna (GPS information) generate the change of the travel direction. Both have advantages and disadvantages as per the following descriptions.



Type	Advantage	Disadvantage
Gyroscope (angular velocity sensor)	The turning angle is precisely detected.	Errors are accumulated when driving a long distance without stopping.
GPS antenna (GPS information)	The travel direction (North/South/East/West) is detected.	The travel direction is not precisely detected when driving slowly.

Input signals are prioritized in each situation. However, this order of priority may change in accordance with more detailed travel conditions so that the travel direction is detected more accurately.

#### Map-matching

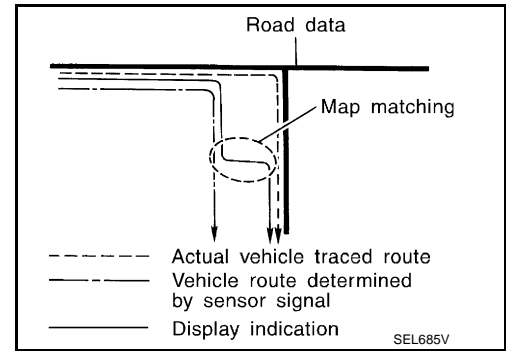


# SYSTEM

## < SYSTEM DESCRIPTION >

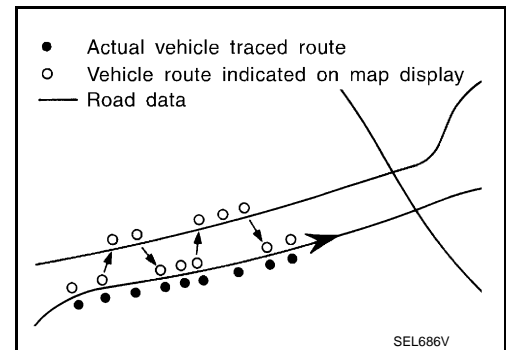
## [NAVIGATION (SINGLE MONITOR)]

Map-matching repositions the vehicle on the road map when a new location is judged to be more accurate. This is done by comparing the current vehicle position (calculated by the normal position detection method) from the map data stored in the HDD (Hard Disk Drive).



There is a possibility that the vehicle position may not be corrected in the following case, and when vehicle is driven over a certain distance or time in which GPS information is hard to receive. Correct manually the current location mark on the screen.

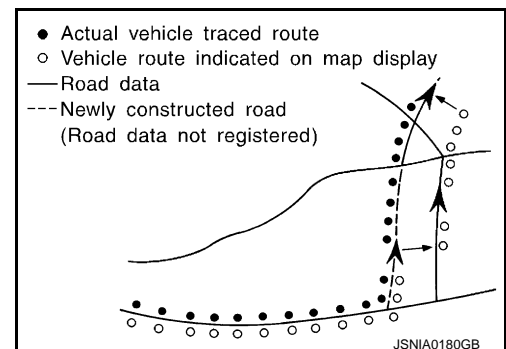
- In map-matching, several alternative routes are prepared and prioritized in addition to the road judged as currently driving on. Therefore, due to errors in the distance and/or direction, an incorrect road may be prioritized, and the current location mark may be repositioned to the incorrect road. If two roads are running in parallel, they are of the same priority. Therefore, the current location mark may appear on either of them alternately, depending on maneuvering of the steering wheel and configuration of the road, etc.



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

Therefore, the map-matching function judges other road as a currently driving road if the road is not in the map, and displays the current location mark on it. Later, the current location mark may be repositioned to the road if the correct road is detected.

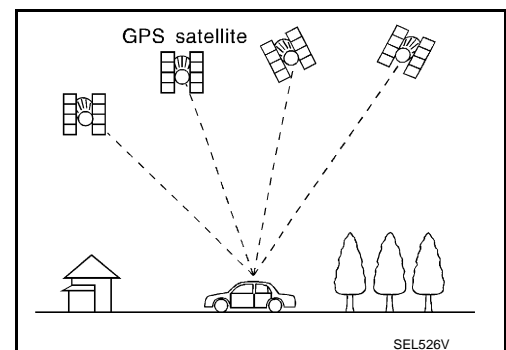
- Effective range for comparing the vehicle position and travel direction calculated by the distance and direction with the road data is limited. Therefore, correction by map-matching is not possible when there is an excessive gap between current vehicle position and the position on the map.



### GPS (Global Positioning System)

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

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



Accuracy of the GPS will deteriorate under the following conditions:

- In two-dimensional positioning, GPS accuracy will deteriorate when altitude of the vehicle position changes.
- The position of GPS satellite affects GPS detection precision. The position detection may not be precisely performed.

- The position detection is not performed if GPS receiver does not receive radio waves from GPS satellites. (Inside a tunnel, parking in a building, under an elevated highway etc.) GPS receiver may not receive radio waves from GPS satellites if any object is placed on the GPS antenna.

### NOTE:

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

## AUDIO FUNCTION

The audio system is equipped with the following functions. Each function is operated with multifunction switch, preset switch, touch panel, steering switch or audio recognition. Operation status of audio is indicated at display.

FUNCTION
AM/FM radio
Satellite radio
CD
Bluetooth™ audio
Music Box (Hard Disk Drive)
Driver's Audio Stage

### Operating Signal

Audio system operation can be performed with multifunction switch, preset switch, steering switch, touch panel function or voice recognition function.

- Operating signal is transmitted to AV control unit with AV communication when it is operated by multifunction switch or preset switch. The disk ejection operating signal is performed by hardwire.
- Operating signal is transmitted to AV control unit with steering switch signal when it is operated by steering switch.

### Screen Display

Switching of display is performed with serial communication between display unit and AV control unit.

### AM/FM Radio Mode

- AM/FM radio tuner is built into AV control unit.
- Audio signal is received by rod antenna, next it is amplified by antenna amp., and finally it is input to AV control unit. Audio signal is input to BOSE amp., and BOSE amp. outputs to each speaker.

### Satellite Radio Mode

- Satellite radio tuner is built into AV control unit.
- Audio signal (satellite radio) is received by satellite antenna, and it is input to AV control unit. AV control unit outputs audio signal to BOSE amp. The signal is also outputted from BOSE amp. to both woofer and each speaker.

### CD Mode

- CD function is built into AV control unit.
- AV control unit outputs audio signal to BOSE amp., and BOSE amp. outputs to each speaker when CD is inserted to AV control unit.

### Bluetooth™ Audio Mode

- Bluetooth™ audio function is built into AV control unit.
- Bluetooth™ audio can play music data in the portable audio by means of Bluetooth™ communications between the portable audio and the AV control unit.
- AV control unit outputs audio signal to BOSE amp., and BOSE amp. outputs to each speaker.

### Music Box Mode

- Music CD data is stored on HDD that is built into AV control unit, and it can be played.
- AV control unit outputs music (sound signal) that is stored on HDD to BOSE amp., and BOSE amp. outputs to each speaker.

### Driver's Audio Stage

# SYSTEM

## < SYSTEM DESCRIPTION >

## [NAVIGATION (SINGLE MONITOR)]

- Driver's Audio Stage controls the speaker's output characteristic by BOSE amp. so that the driver's seat is to be the center of sounds.
- ON/OFF signals of Driver's Audio Stage are transmitted from AV control unit to BOSE amp. using mode change signal.

### DVD PLAY FUNCTION

- DVD is played by inserting DVD into the AV control unit.
- DVD image signals are transmitted to the display unit and DVD sound signals are transmitted to each speaker via BOSE amp.

### HANDS-FREE PHONE FUNCTION

- AV control unit includes hands-free phone function.
- Hands-free communication can be operated by connecting using Bluetooth™ communication with cellular phone.
- Operation is performed by steering switch, and operating condition is indicated on display.
- Guide sound that is heard during operation is input from AV control unit to BOSE amp., and is output from front speaker and center speaker.

#### When A Call Is Originated

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

#### When Receiving A Call

Voice sound is input to own cellular phone from the other party. TEL voice signal is output to door speaker, and the signal is input to BOSE amp. via AV control unit by establishing Bluetooth™ communication from cellular phone.

### AUXILIARY INPUT FUNCTION

- Image and sound can be output from an external device by connecting a device with auxiliary input jacks.
- AUX image signals are transmitted to the display unit and AUX sound signals are transmitted to each speaker via BOSE amp.

### USB CONNECTION FUNCTION

- Connecting iPod® or USB memory allows the driver to play iPod® music files or USB memory-stored music files, video data, and image viewer data.
- Sound signals of music files stored in iPod® or USB memory are transmitted from the USB connector to the AV control unit. The AV control unit transmits the sound signals to the woofer and each speaker via BOSE amp.
- Video signals and image viewer file signals are transmitted from the USB connector to the AV control unit. The data and files are displayed on the front display unit screen.
- iPod® is recharged when connected to USB connector.
- Only files that meet the following conditions will be played.

	Music file	Video file	Image viewer file
File format	"MP3", "WMA", "AAC", "M4A"	"DivX", "MPEG4 (ASF)"	"JPEG"
File extension	".mp3", ".wma", ".aac", ".m4a"	".divx", ".afs", ".avi"	".jpg", ".jpeg"
Maximum file size	2 GB	2 GB	2 MB

#### NOTE:

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

### VOICE RECOGNITION FUNCTION

- Each operation of multi AV system can be performed by inputting sound to microphone.
- Start of sound recognition system can be performed by steering switch.

### TOUCH PANEL SYSTEM

Each operation of multi AV system can be performed by directly touching a display.

### AROUND VIEW MONITOR FUNCTION

# SYSTEM

## < SYSTEM DESCRIPTION >

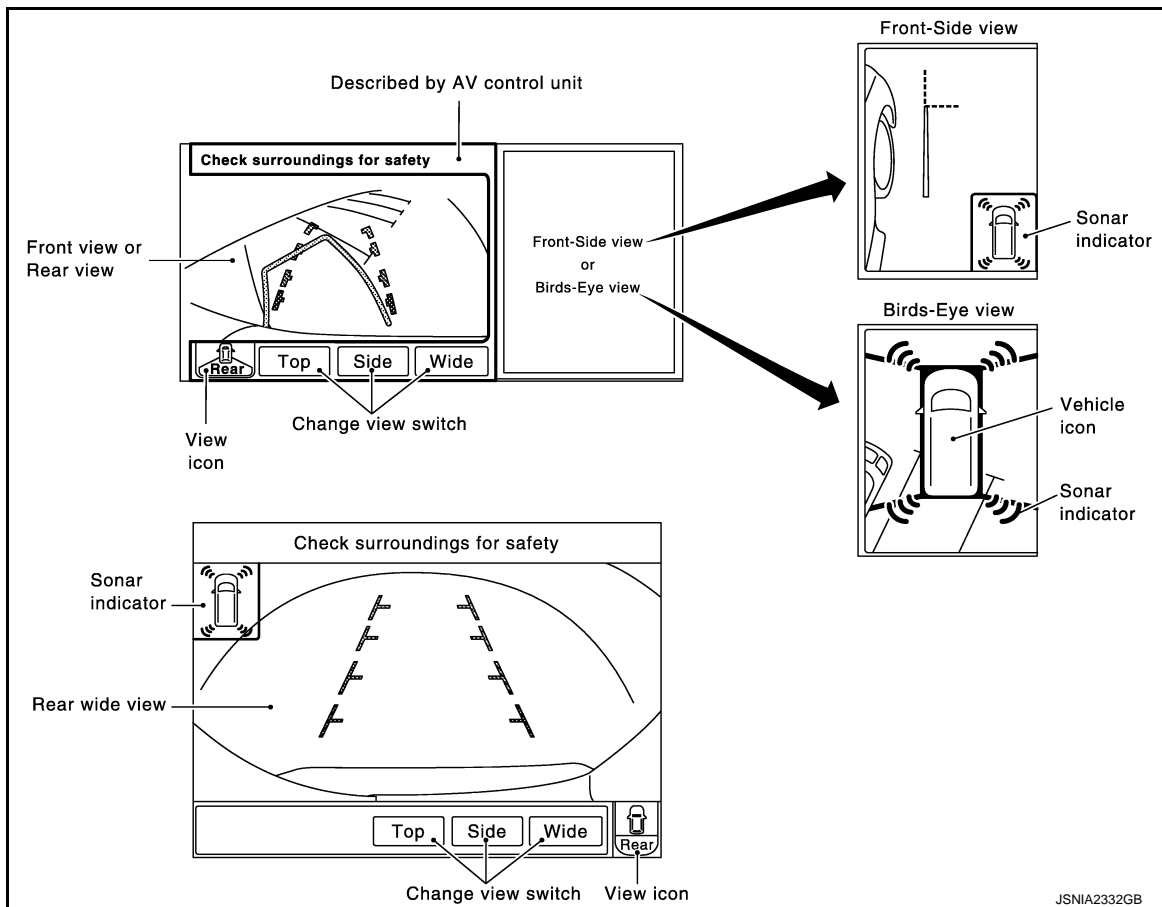
## [NAVIGATION (SINGLE MONITOR)]

- This system is equipped with wide-angle high-resolution cameras on the front and rear of the vehicle and on both right and left door mirrors. The images from front view, rear view, front-side view (RH side), and birds-eye view that shows the view from the top of the vehicle are displayed to monitor the vehicle surroundings.
- Around view monitor control unit cuts out and expands the image received from each camera to create each view.
- The sonar indicator is displayed on display (superimposed on the camera image) in combination with the camera assistance sonar system to warn of the approach of an obstacle.
- In front view and rear view, the vehicle width, distance lines and predictive course lines are superimposed and displayed. In front-side view, the vehicle distance guiding line and vehicle width guiding line are displayed.
- The Birds-Eye view converts the images from 4 cameras into the overhead view and displays the status of the vehicle on display. The vehicle icon and sonar indicator that are displayed on the Birds-Eye view display are rendered by around view monitor control unit.

### Around View Monitor Screen

- Around view monitor combines and displays the travel direction view and “Birds-Eye view”, “Front-Side view” and then it displays the sonar indicator on the “Birds-Eye view”, “Front-Side view” “Rear wide view”.
- AV control unit renders the “Change View” switch, view icon, warning message on display.

### Screen constitution



### Operation Description

- Around view monitor operates by pressing the “CAMERA” switch of multifunction switch and shifting the selector switch to the reverse position.
- When the selector lever is in any position other than the reverse position, the screen is switched to the around view monitor by pressing the “CAMERA” switch.
- The screen is switched to the around view monitor by shifting the selector lever to the reverse position.
- In the around view monitor, Birds-Eye view, Front-side view and rear wide view (rear only) can be switched by pressing the “CAMERA” switch.
- The around view monitor is cancelled 3 minutes after pressing the “CAMERA” switch, and then the screen returns to the screen before displaying the around view monitor when selector lever is in a position other than the reverse position.
- ON/OFF setting of sonar indicator display on the Front-Side view screen can be performed.

# SYSTEM

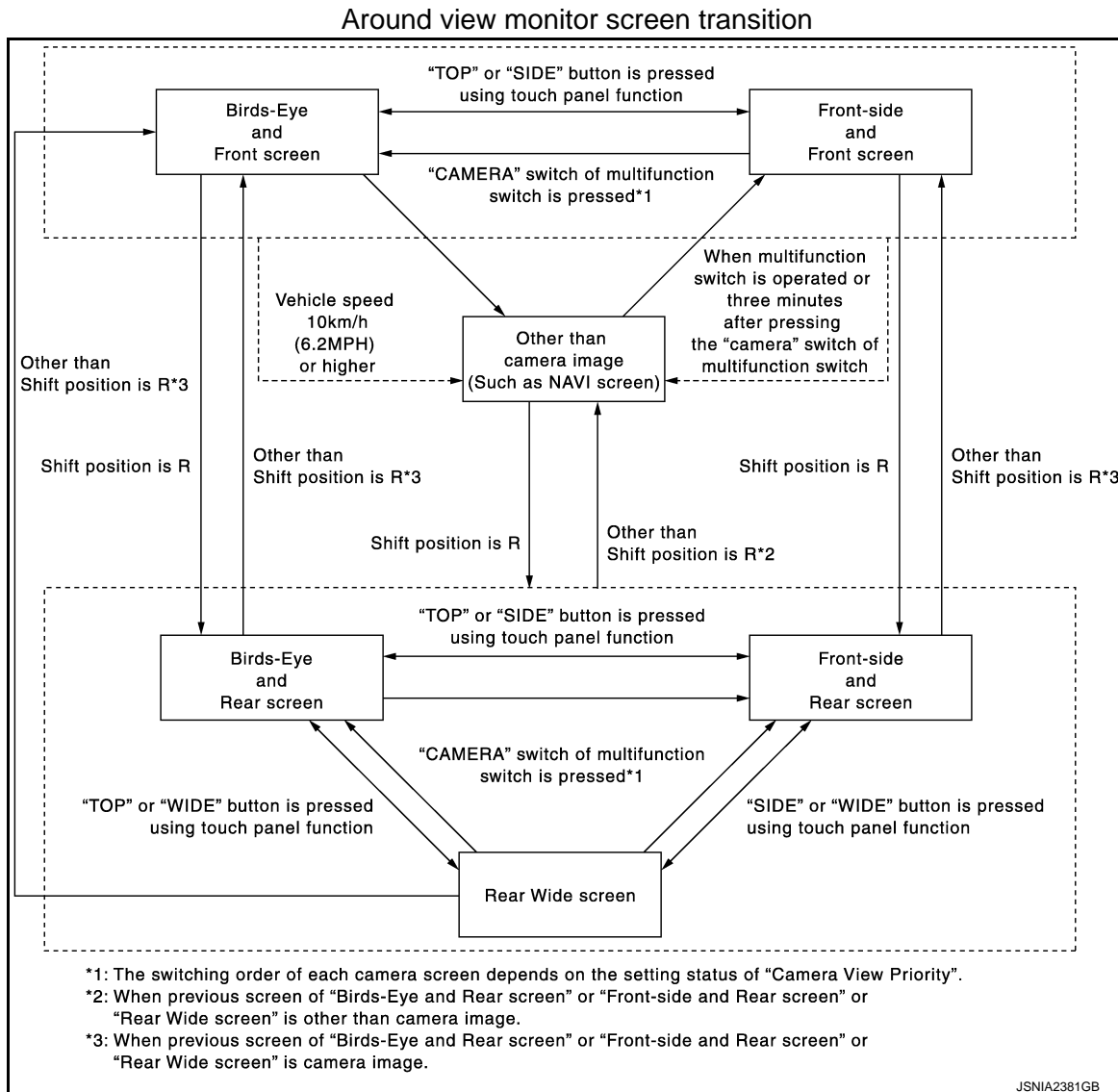
## < SYSTEM DESCRIPTION >

## [NAVIGATION (SINGLE MONITOR)]

- In the Birds-Eye view, the invisible area is displayed on the image to specify the boundary of the 4 cameras. The invisible area is displayed in yellow in the Birds-Eye view after turning the ignition switch ON.
- The sonar (both of buzzer and indicator) operates only when the camera screen is displayed.

### NOTE:

The first, second, and third camera image displayed when switched to the camera image display depends on the settings of "Camera View Priority".



### FRONT VIEW

- The front view image is from the front camera.
- When the selector lever is in any position other than the reverse position, the front view is displayed by pressing the "CAMERA" switch. It improves the visibility of obstacles in front of the vehicle and helps driving by the images displayed from Birds-Eye view and Front-Side view.
- Display the vehicle width guiding line and vehicle distance guiding line in front view and display the predictive course line according to the steering angle.
- If the steering angle is within approximately 90 degrees, the predictive course lines on the left/right side are displayed. If the steering angle is exceeding approximately 90 degrees, only the predictive course line on the outside (in the opposite side of steering direction) is displayed.
- AV control unit is connected to the steering angle sensor and receives the steering angle signal via CAN communication. AV control unit transmits steering angle signal to around view monitor control unit via AV 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.

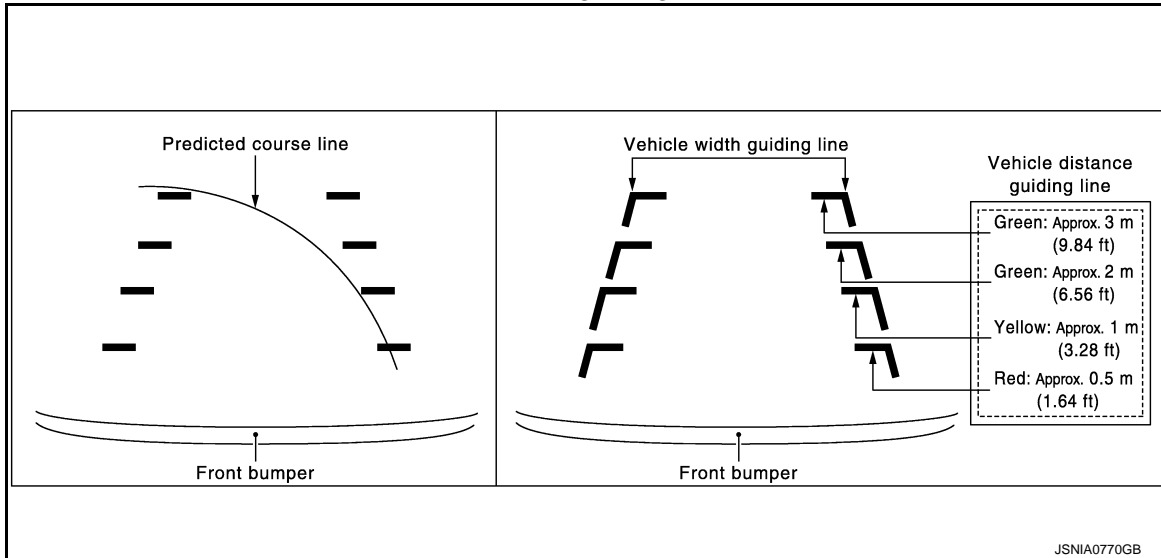
AV

# SYSTEM

## < SYSTEM DESCRIPTION >

## [NAVIGATION (SINGLE MONITOR)]

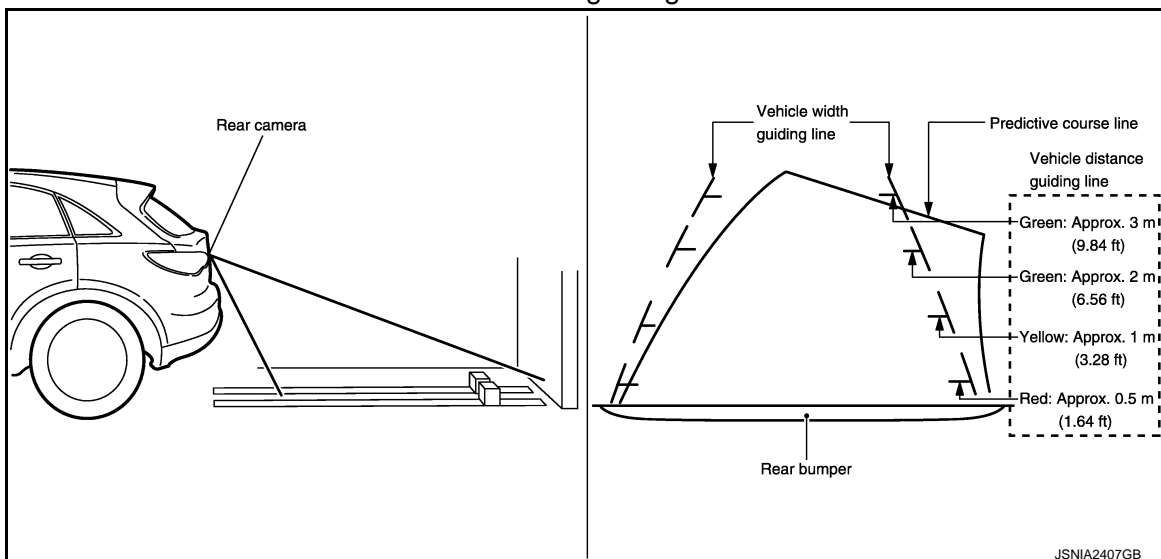
Front view guiding lines



### REAR VIEW

- The rear view image is from the rear camera.
- When the selector lever is in the reverse position, the rear view is displayed. Backing and parking are improved by the images from Birds-Eye view and Front-Side view. The rear wide view function allows the display of an image with a 180° horizontal angle.
- Display the vehicle width guiding line and vehicle distance guiding line in Rear view and display the predictive course line according to the steering angle (except when using the rear wide view function).
- The predictive course line is not displayed at the steering neutral position.
- AV control unit is connected to the steering angle sensor and receives the steering angle signal via CAN communication. AV control unit transmits steering angle signal to around view monitor control unit via AV communication.
- Around view monitor control unit controls the direction and distance of predictive course line according to the sensor signal from steering angle sensor.

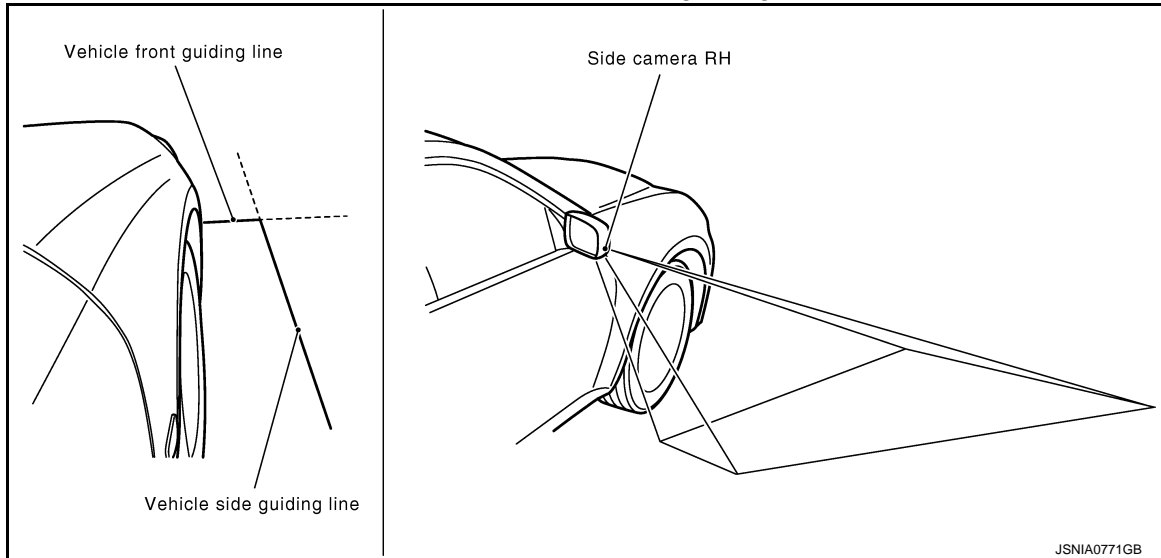
Rear view guiding lines



### FRONT-SIDE VIEW

- The front-side view image is from the side camera RH.
- In Front-Side view, display the vehicle distance guiding line and vehicle width guiding line.
- The infrared LED illumination is installed on the door mirror RH to illuminate around the front wheels.

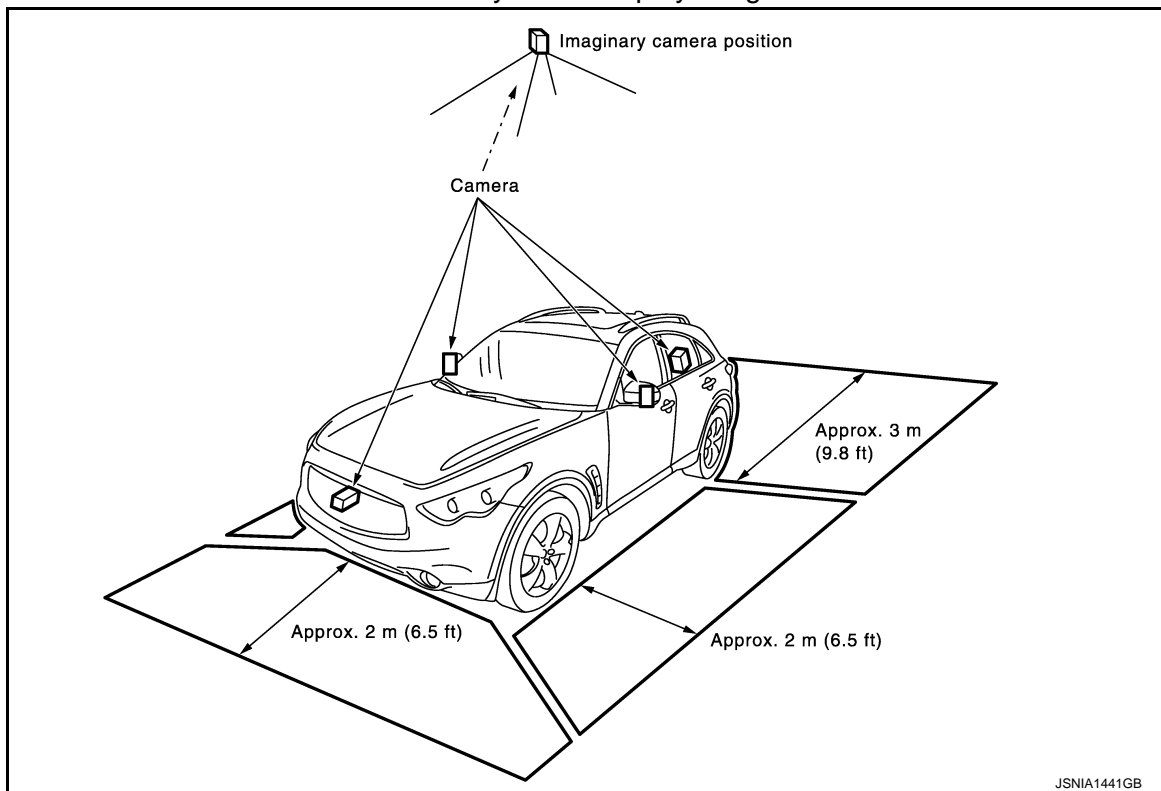
Front-side view area and guiding line



## BIRDS-EYE VIEW

- The image from the 4 cameras is cut out and converted into the overhead view, and the surroundings of the vehicle is displayed in birds-eye view.
- In Birds-Eye view, the invisible area is displayed on the image to specify the boundary of the 4 cameras.
- The invisible area is displayed in yellow in the Birds-Eye view after turning the ignition switch ON as an information for the user. (OFF setting can be performed)

Birds-Eye view display image



A

B

C

D

E

F

G

H

I

J

K

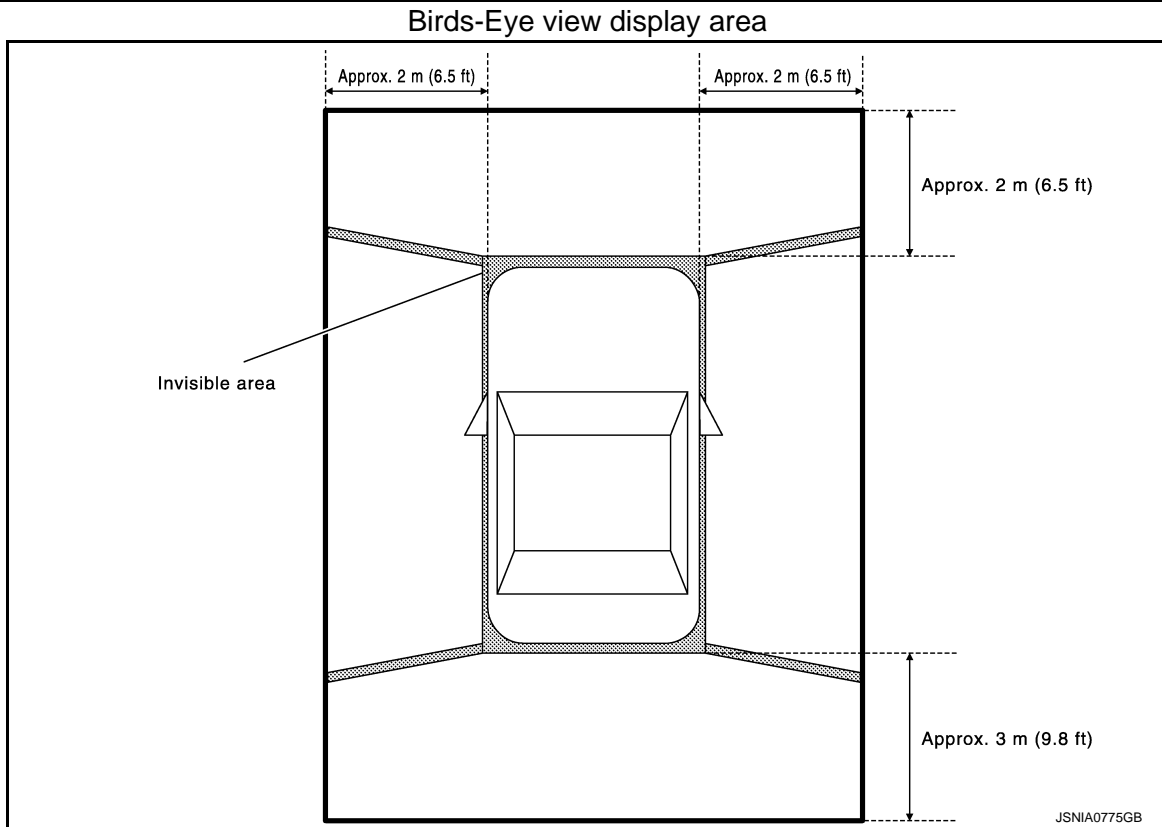
L

M

AV

O

P



## Camera Image Operation Principle

- If the information writing to around view monitor control unit and the information from the camera are not matched, 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 AV communication by pressing the “CAMERA” switch of multifunction switch.
- Around view monitor control unit that receives the camera switch signal supplies the power to each camera and inputs the camera image from each camera.
- When the selector lever is in the reverse position, around view monitor control unit receives the reverse signal, supplies the power to each camera, and inputs the camera image from each camera.
- Around view monitor control unit that receives the camera image signal from each camera cuts out the required screen for each view, superimposes the camera image, vehicle icon, guiding lines, sonar indicator, and outputs them to the display unit.

## CAMERA ASSISTANCE SONAR FUNCTION

- Install the corner sensor on the front bumper and rear bumper. It detects the obstacles around the vehicle when the around view monitor is displayed. It warns of the approach to the obstacles with the buzzer and indicator in the display linked with the around view monitor system.
- It displays the distance between the bumper and obstacle with the color of sonar indicator in the display and the blinking cycle of indicator in 3 stages.
- The buzzer warns of the distance to the obstacles with the cycle in 3 stages.

## System Operation Description

- Around view monitor control unit transmits the sonar operation signal via AV communication to sonar control unit to control the operation of sonar indicator and sonar buzzer.
- Sonar control unit that receives the sonar operation signal from around view monitor control unit transmits the detection signal and detection distance signal according to the signal from corner sensor via AV communication to around view monitor control unit. Around view monitor control unit operates the applicable sonar indicator.
- When receiving a sonar operation signal from the around view monitor control unit, the sonar control unit converts a signal transmitted from the corner sensor into a detection distance signal and transmits it to the AV control unit via AV communication. When receiving the detection signal, the AV control unit activates each speaker via BOSE amp.



# SYSTEM

## < SYSTEM DESCRIPTION >

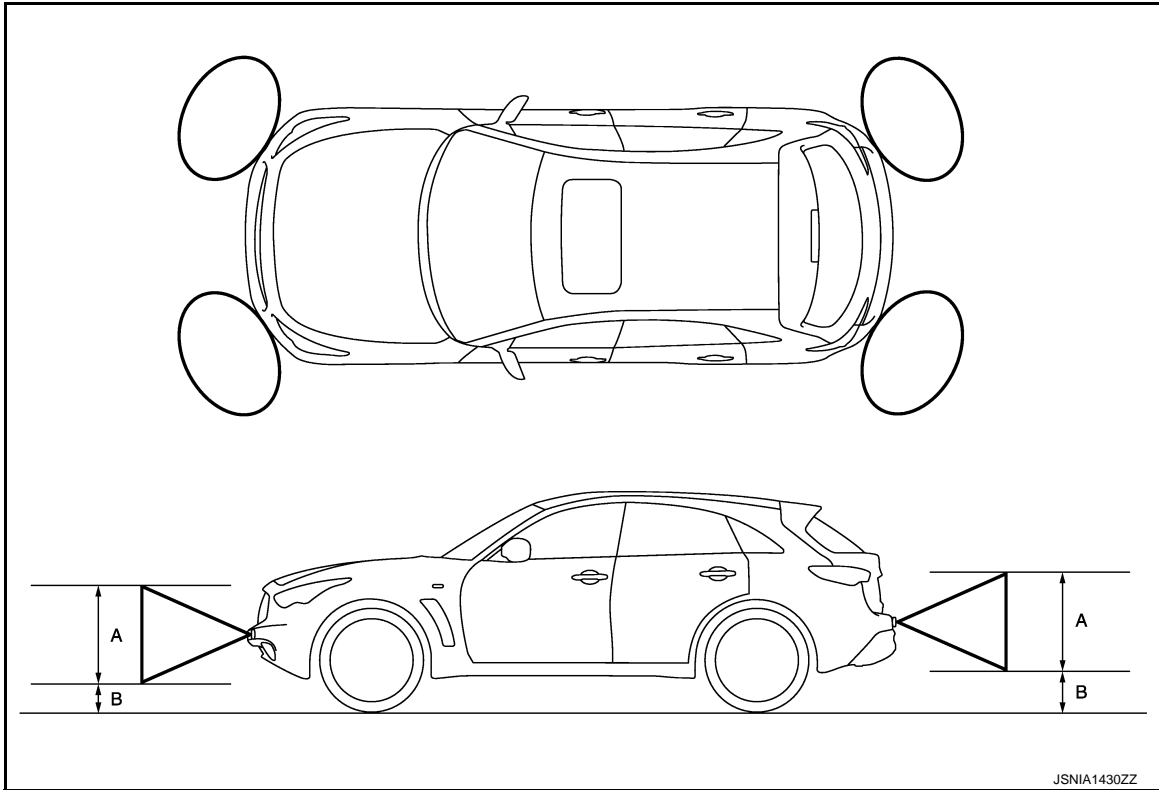
## [NAVIGATION (SINGLE MONITOR)]

- Sonar control unit has the diagnosis function. It can detect the corner sensor malfunction or sensor harness open circuit. It transmits the diagnosis results to around view monitor control unit and always displays the sonar indicator in red to inform the user.

### Obstacle Detection Distance

- Sonar control unit changes the outputs of the sonar indicator and warning buzzer in 3 stages according to the obstacle detection distance from the corner sensor.
- The sonar control unit can change the setting of obstacle detection distance in 4 stages.

Obstacle detection image



A. Approx. 50 cm (19.6 in)

B. Approx. 15 cm (5.9 in)

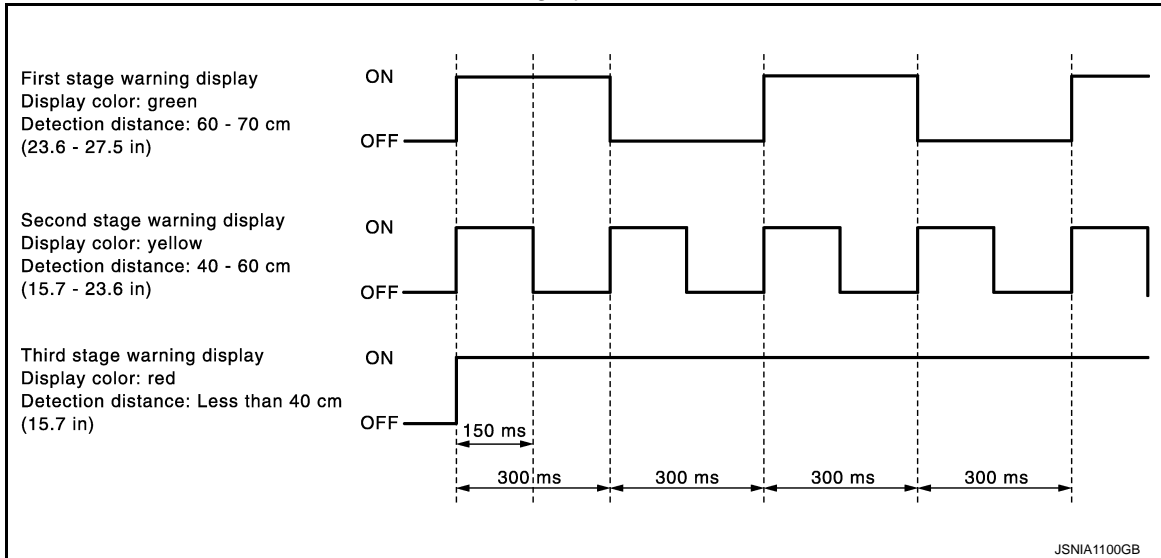
### Detection distance

Warning item	Sensitivity level 1 (Faster warning)	Sensitivity level 2 (Default value)	Sensitivity level 3 (Slower warning)	Sensitivity level 4 (Slowest warning)
First stage warning	70 – 80 cm (27.5 – 31.4 in)	60 – 70 cm (23.6 – 27.5 in)	50 – 60 cm (19.6 – 23.6 in)	40 – 50 cm (15.7 – 19.6 in)
Second stage warning	50 – 70 cm (19.6 – 27.5 in)	40 – 60 cm (15.7 – 23.6 in)	30 – 50 cm (11.8 – 19.6 in)	30 – 40 cm (11.8 – 15.7 in)
Third stage warning	Less than 50 cm (19.6 in)	Less than 40 cm (15.7 in)	Less than 30 cm (11.8 in)	Less than 30 cm (11.8 in)

### Sonar Indicator Display

- Around view monitor control unit that receives the detection signal and detection distance signal from sonar control unit displays the sonar indicator on display.
- Around view monitor control unit changes the color or blinking cycle of the indicator according to the detection distance.

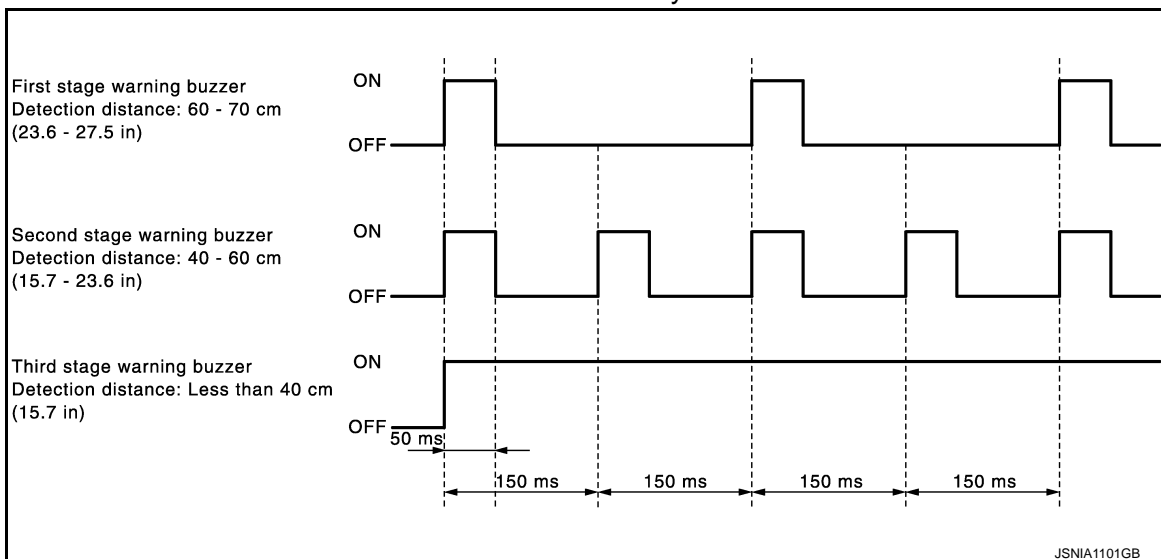
## Color and blinking cycle of sonar indicator



### Sonar Buzzer Operation

- Each sonar sensor transmits a sensor signal to the sonar control unit when detecting an obstacle.
- The sonar control unit converts a signal received from each sonar sensor into distance and transmits detection distance signal to the AV control unit via AV communication.
- The AV control unit transmits a buzzer signal to the BOSE amp. corresponding to each sonar sensor based on the received signal.
- When receiving a buzzer signal, the BOSE amp. transmits the buzzer signal to the each speaker. When each speaker receives a buzzer signal, a buzzer sounds.
- When the front corner sensor detects an obstacle, a buzzer is heard from the speakers on the front side.
- When the rear corner sensor detects an obstacle, a buzzer is heard from the speakers on the rear side.
- It changes the buzzer cycle in 3 stages according to the detection distance.

## Sonar buzzer cycle



### VEHICLE INFORMATION FUNCTION

- Status of audio, climate control system, fuel economy, maintenance and navigation are displayed.
- AV control unit displays the fuel consumption status while receiving data signal through CAN communication from ECM, unified meter and A/C amp.
- AV control unit is connected to BCM via CAN communication transmitting/receiving for the vehicle settings function.

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION (SINGLE MONITOR)]

## DIAGNOSIS SYSTEM (AV CONTROL UNIT)

### On Board Diagnosis Function

INFOID:000000005475012

#### MULTIFUNCTION SWITCH AND PRESET SWITCH SELF-DIAGNOSIS FUNCTION

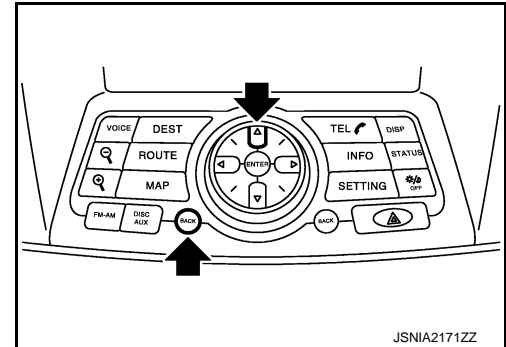
The ON/OFF operation (continuity) of each switch in the multifunction switch and preset switch can be checked.

##### Self-diagnosis Mode

- Press the "BACK" switch and the "UP" switch of the 8-direction switches within 10 seconds after turning the ignition switch from OFF to ACC and hold them for 3 seconds or more. Then the buzzer sounds, all indicators of the preset switch illuminate, and the self-diagnosis mode starts.
- The continuity of each switch at the ON position can be checked by pressing the switch. The buzzer sounds if the switch is normal.

##### NOTE:

The hazard switch and disk eject switch cannot be checked.



##### Finishing Self-diagnosis Mode

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

#### MULTI AV SYSTEM ON BOARD DIAGNOSIS FUNCTION

- The AV control unit diagnosis function starts up with multifunction switch operation and the AV control unit performs a diagnosis for each unit in the system during the on board diagnosis.
- Perform a CONSULT-III 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

##### Description

- The trouble diagnosis function has a self-diagnosis mode for conducting trouble diagnosis automatically and a confirmation/adjustment mode for operating manually.
- The self-diagnosis mode performs diagnoses on the AV control unit, connections between system components as well as connections between AV control unit and GPS antenna. Then it displays the diagnosis results on the display.
- The confirmation/adjustment mode allows the technician to check, modify or adjust the vehicle signals and set values, as well as to monitor the system error records and system communication status. The checking, modifying or adjusting generally require human intervention and judgment (the system cannot make judgment automatically).

##### On Board Diagnosis Item

Mode	Description
Self Diagnosis	<ul style="list-style-type: none"><li>AV control unit diagnosis.</li><li>Diagnoses the connections across system components, between AV control unit and GPS antenna.</li></ul>

AV

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

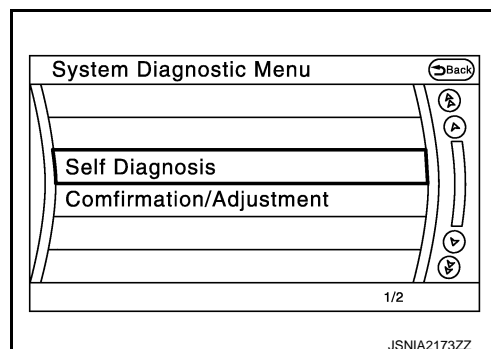
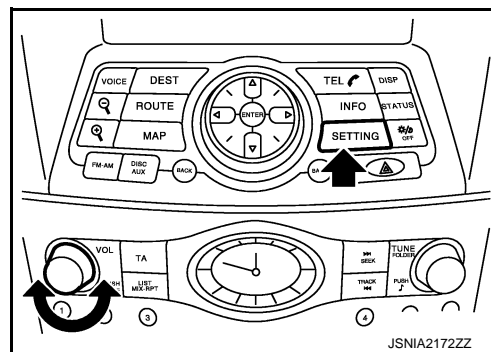
< SYSTEM DESCRIPTION >

[NAVIGATION (SINGLE MONITOR)]

Mode		Description
Confirmation/ Adjustment	Display Diagnosis	The following check functions are available: color tone check by color bar display and white display, light and shade check by gray scale display and touch panel calibration response check.
	Vehicle Signals	Diagnosis of signals can be performed for vehicle speed, parking brake, lights, ignition, reverse, side view switch and room lamp.
	Climate Control	Start auto air conditioner system self-diagnosis.
	Navigation	Steering Angle Adjustment When there is a difference between the actual turning angle and the vehicle mark turning angle, it can be adjusted.
		Speed Calibration When there is a difference between the current location mark and the actual location, it can be adjusted.
	Error History	The system malfunction and the frequency when occurring in the past are displayed. When the malfunctioning item is selected, the time and place that the selected malfunction last occurred are displayed.
	Synchronizer FES Clock	—
	Speaker Test	The connection of a speaker can be confirmed by test tone.
	Vehicle CAN Diagnosis	The transmitting/receiving of CAN communication can be monitored.
	AV COMM Diagnosis	The communication condition of each unit of Multi AV system can be monitored.
	Hands-free Phone	The received volume adjustment of hands-free phone, microphone speaker check, and erase memory can be performed.
	Camera Cont.	It can perform the confirmation of a signal connection to around view monitor control unit, the calibration of each camera, Correct Draw Line of Camera Image, and Fine Tuning of Birds-Eye View.
	Delete Unit Connection Log	Erase the connection history of unit and error history.
	Initialize Settings	Initializes the AV control unit memory.
	Version Information	Version information of the AV control unit is displayed.

## STARTING PROCEDURE

1. Start the engine.
2. Turn the audio system OFF.
3. While pressing the “SETTING” button, turn the volume control dial clockwise or counterclockwise for 40 clicks or more. (When the self-diagnosis mode is started, a short beep will be heard.)
  - Shifting from current screen to previous screen is performed by pressing “BACK” button.
4. The trouble diagnosis initial screen is displayed, and then the items of “Self Diagnosis” and “Confirmation/Adjustment” can be selected.



## SELF-DIAGNOSIS MODE

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION (SINGLE MONITOR)]

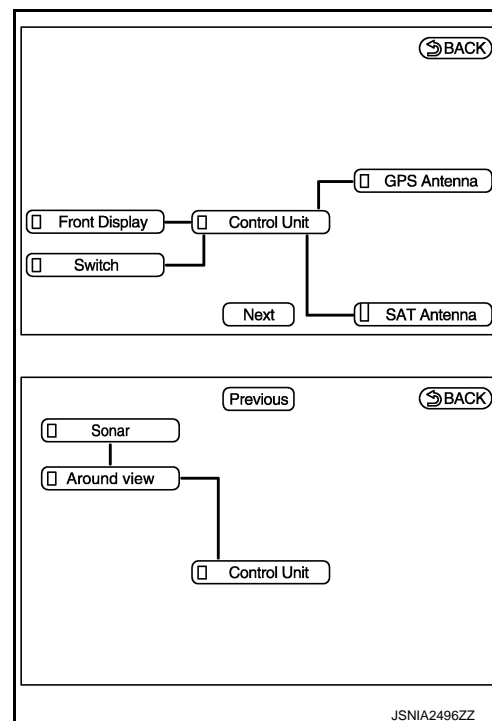
1. Start the self-diagnosis function and select "Self Diagnosis".
  - Self-diagnosis subdivision screen is displayed, and the self-diagnosis mode starts.
  - The bar graph visible on the center of the self-diagnosis subdivision screen indicates progress of the trouble diagnosis.
2. Diagnosis results 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 <sup>Note</sup>	Red	Green

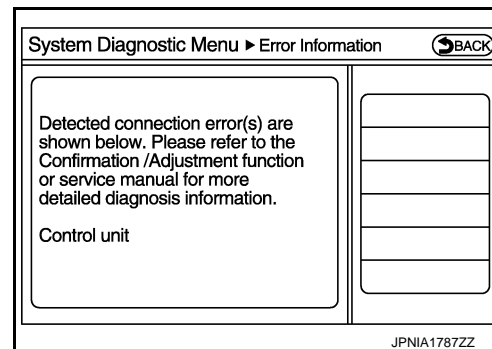
## NOTE:

Control unit (AV control unit) is displayed in red.

- Replace AV control unit if "Self-Diagnosis did not run because of a control unit malfunction" is indicated. The symptom is AV control unit internal error. Refer to [AV-333, "Exploded View"](#).
- If multiple errors occur at the same time for a single unit, the screen switch colors are determined according to the following order of priority: red > gray.



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



## Detection Range of Self-diagnosis Mode

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

## SELF-DIAGNOSIS RESULTS

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

Only Unit Part Is Displayed In Red.

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

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

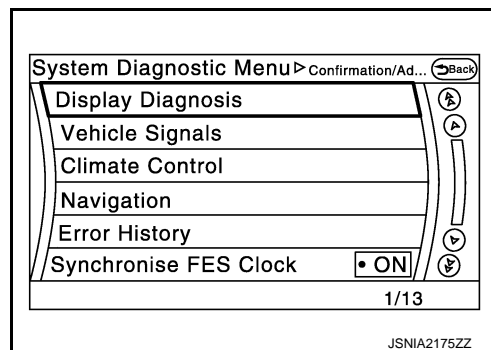
[NAVIGATION (SINGLE MONITOR)]

A Connecting Cable Between Units Is Displayed In Yellow.

Area with yellow connection lines	Description	Possible malfunction location / Action to take
Control unit ↔ Front Display	Malfunction is detected in serial communication circuits between AV control unit and front display unit.	Serial communication circuits between AV control unit and front display unit.
Control unit ↔ GPS Antenna	GPS antenna connection malfunctions detected.	GPS antenna
Control unit ↔ Around view	When either one of the following items are detected: <ul style="list-style-type: none"> <li>• around view monitor control unit power supply and ground circuits are malfunctioning.</li> <li>• AV communication circuits between around view monitor control unit and multifunction switch are malfunctioning.</li> </ul>	<ul style="list-style-type: none"> <li>• Around view monitor control unit power supply and ground circuits.</li> <li>• AV communication circuits between around view monitor control unit and multifunction switch.</li> </ul>
Control unit ↔ SAT Antenna	Satellite radio antenna connection malfunction is detected.	Satellite radio antenna disconnection
Around view ↔ Sonar	When either one of the following items are detected: <ul style="list-style-type: none"> <li>• sonar control unit power supply and ground circuits are malfunctioning.</li> <li>• AV communication circuits between AV control unit and sonar control unit are malfunctioning.</li> </ul>	<ul style="list-style-type: none"> <li>• Sonar control unit power supply and ground circuits.</li> <li>• AV communication circuits between AV control unit and sonar control unit.</li> </ul>

## CONFIRMATION/ADJUSTMENT MODE

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

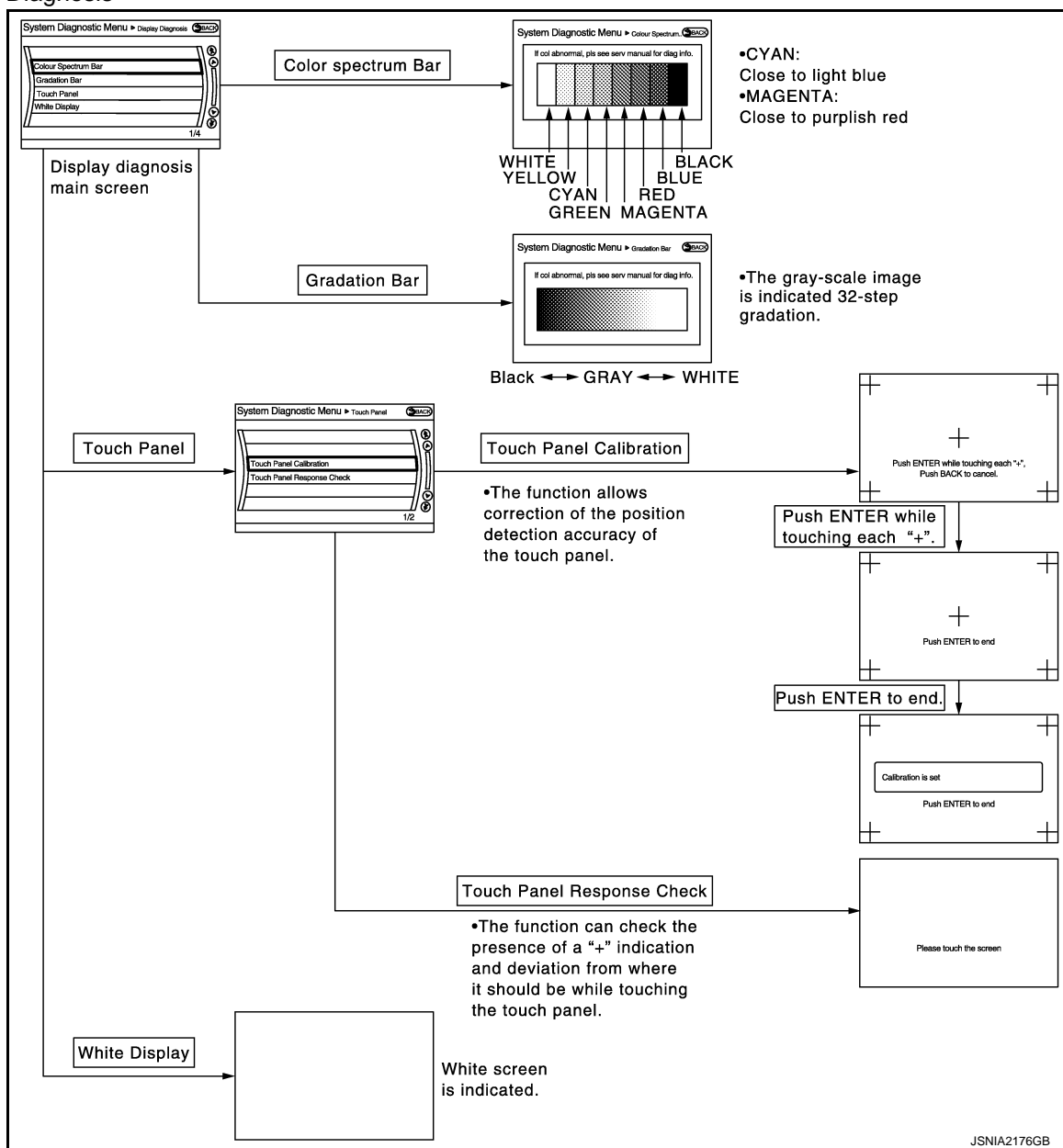


# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION (SINGLE MONITOR)]

## Display Diagnosis



## Vehicle Signals

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

System Diagnostic Menu > Vehicle Signals	
Vehicle speed	OFF
Parking brake	ON
Lights	OFF
Ignition	ON
Reverse	OFF
Side view Switch	-
Room Lamp	OFF

JSNIA2177ZZ

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION (SINGLE MONITOR)]

Diagnosis item	Display	Vehicle status	Remarks
Vehicle speed	ON	Vehicle speed > 0 km/h (0 MPH)	Changes in indication may be delayed. This is normal.
	OFF	Vehicle speed = 0 km/h (0 MPH)	
Parking brake	ON	Parking brake is applied.	
	OFF	Parking brake is released.	
Lights	ON	Light switch ON	—
	OFF	Light switch OFF	
Ignition	ON	Ignition switch ON	—
	OFF	Ignition switch in ACC position	
Reverse	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	
SIDE VIEW SW	—	—	This item is displayed, but cannot be monitored.
ROOM LAMP	ON	After opening any door; 5 seconds.	Check 10 seconds later, after closing all doors.
	OFF	Except for above.	

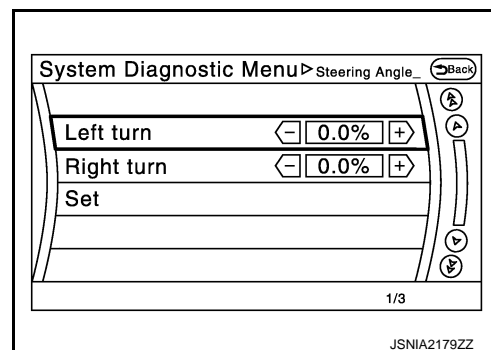
## Climate Control

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

## Navigation

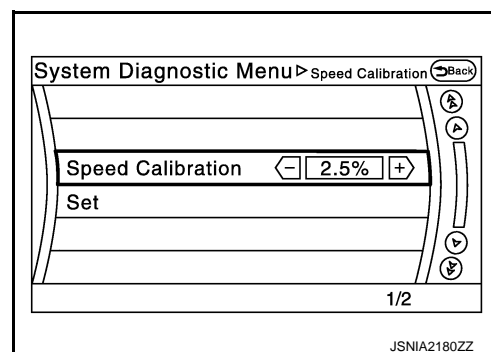
### STEERING ANGLE ADJUSTMENT

The steering angle output value detected with the gyroscope is adjusted.



### SPEED CALIBRATION

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



## Error History

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

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

The error record displays the time and place of the most recent occurrence of that error. However, take note of the following points.



# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

## < SYSTEM DESCRIPTION >

## [NAVIGATION (SINGLE MONITOR)]

- If there is a malfunction with the GPS antenna circuit board in the AV control unit, the correct date and time of occurrence may not be able to be displayed.
- Place of the error occurrence is represented by the position of the current location mark at the time an error occurred. If current location mark has deviated from the correct position, then the place of the error occurrence cannot be located correctly.
- The frequency of occurrence is displayed in a count up manner. The actual count up method differs depending on the error item.

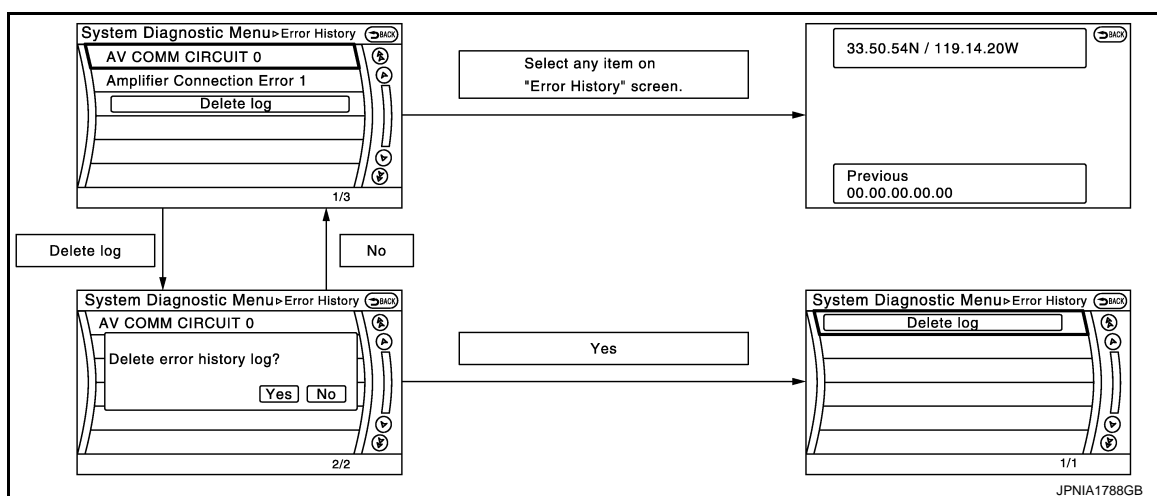
### Count up method A

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

### Count up method B

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

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



### Error item

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

Error item	Description	Possible malfunction factor/Action to take
CAN COMM CIRCUIT	CAN communication malfunction is detected.	Perform diagnosis with CONSULT-III, and then repair the malfunctioning parts according to the diagnosis results. Refer to <a href="#">AV-185, "CONSULT - III Function (MULTI AV)"</a> .

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

## < SYSTEM DESCRIPTION >

## [NAVIGATION (SINGLE MONITOR)]

Error item	Description	Possible malfunction factor/Action to take
CONTROL UNIT (CAN)	CAN initial diagnosis malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly.
CONTROL UNIT (AV)	AV communication circuit initial diagnosis malfunction is detected.	
FLASH-ROM Error Of Control Unit	AV control unit malfunction is detected.	
Connection Of Gyro		
Connection of G Sensor		
CAN Controller Memory Error		
Bluetooth Module Connection Error		
Sub CPU Connection Error		
iPod authentication chip error		
Audio connection error		
DSP Connection Error	AV control unit malfunction is detected.	<ul style="list-style-type: none"><li>• If a disc can be played, then there is a possibility of the detection of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly.</li></ul>
DSP Communication Error		
HDD Connection Error	AV control unit malfunction is detected.	<ul style="list-style-type: none"><li>• If the music box function has no malfunctions, then there is a possibility of the detection of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly.</li></ul>
HDD Read Error		
HDD Write Error		
HDD Communication Error		
HDD Access Error		
GPS Communication Error	GPS malfunction is detected.	An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs. Replace the AV control unit if the malfunction occurs constantly.
GPS ROM Error		
GPS RAM Error		
GPS RTC Error		
Unfinished configuration	The writing of configuration data is incomplete.	Write configuration data with CONSULT-III.
USB Controller Communication Error	USB connection malfunction is detected.	Check that the connection to the USB connector is normal.
DVD Mechanism Communication Error	AV control unit malfunction is detected.	<ul style="list-style-type: none"><li>• If DVD can be played, then there is a possibility of the detection of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly.</li></ul>
Steer. Angle Sensor Calibration	Predictive course line center position adjustment of the steering angle sensor is incomplete.	Adjust the predictive course line center position of the steering angle sensor. Refer to <a href="#">AV-185. "CONSULT - III Function (MULTI AV)".</a>
Front Display Connection Error	When either one of the following items are detected: <ul style="list-style-type: none"><li>• front display unit power supply and ground circuits malfunction is detected.</li><li>• malfunction is detected in communication circuits between AV control unit and front display unit.</li></ul>	<ul style="list-style-type: none"><li>• Front display unit power supply and ground circuits.</li><li>• Communication circuits between AV control unit and front display unit.</li></ul>
GPS Antenna Error	GPS antenna connection malfunction is detected.	Check the connection of the GPS antenna connector.
XM Antenna Connection Error	Satellite radio antenna connection malfunction is detected.	Satellite radio antenna disconnection.
USB electric current Error	Detection of overcurrent in USB connector.	Check USB harness between the AV control unit and USB connector.

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

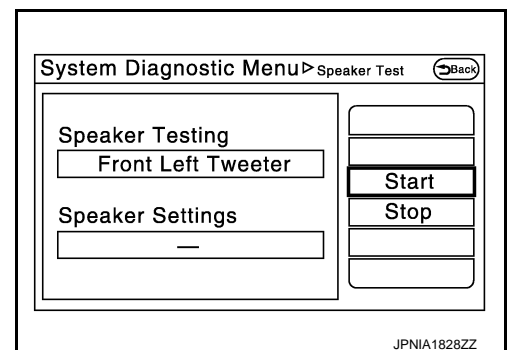
< SYSTEM DESCRIPTION >

[NAVIGATION (SINGLE MONITOR)]

Error item	Description	Possible malfunction factor/Action to take
<ul style="list-style-type: none"> <li>• AV COMM CIRCUIT</li> <li>• Switches Connection Error</li> </ul>	When either one of the following items are detected: <ul style="list-style-type: none"> <li>• multifunction switch power supply and ground circuits are malfunctioning.</li> <li>• AV communication circuits between AV control unit and multifunction switch are malfunctioning.</li> </ul>	<ul style="list-style-type: none"> <li>• Multifunction switch power supply and ground circuits.</li> <li>• AV communication circuits between AV control unit and multifunction switch.</li> </ul>
<ul style="list-style-type: none"> <li>• AV COMM CIRCUIT</li> <li>• AVM Connection Error</li> </ul>	When either one of the following items are detected: <ul style="list-style-type: none"> <li>• around view monitor control unit power supply and ground circuits are malfunctioning.</li> <li>• AV communication circuits between multifunction switch and around view monitor control unit are malfunctioning.</li> </ul>	<ul style="list-style-type: none"> <li>• Around view monitor control unit power supply and ground circuits.</li> <li>• AV communication circuits between multifunction switch and around view monitor control unit.</li> </ul>
<ul style="list-style-type: none"> <li>• AV COMM CIRCUIT</li> <li>• AVM Sonar Connection Error</li> </ul>	When either one of the following items are detected: <ul style="list-style-type: none"> <li>• sonar control unit power supply and ground circuits are malfunctioning.</li> <li>• AV communication circuits between AV control unit and sonar control unit are malfunctioning.</li> </ul>	<ul style="list-style-type: none"> <li>• Sonar control unit power supply and ground circuits.</li> <li>• AV communication circuits between AV control unit and sonar control unit.</li> </ul>
<ul style="list-style-type: none"> <li>• AV COMM CIRCUIT</li> <li>• Switches Connection Error</li> <li>• AVM Connection Error</li> </ul>	AV communication circuits between AV control unit and multifunction switch are malfunctioning.	AV communication circuits between AV control unit and multifunction switch.

## Speaker Test

Select "SPEAKER DIAGNOSIS" to display the Speaker Diagnosis screen. Press "Start" to generate a test tone in a speaker. Press "Start" to generate a test tone in the next speaker. Press "Stop" to stop the test tones.

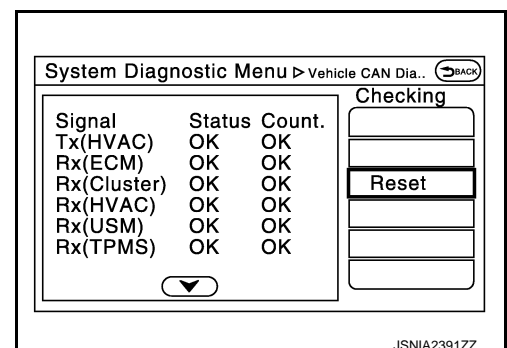


## Vehicle CAN Diagnosis

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

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

**NOTE:**



# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

## < SYSTEM DESCRIPTION >

## [NAVIGATION (SINGLE MONITOR)]

“???” indicates UNKWN.

### AV COMM Diagnosis

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

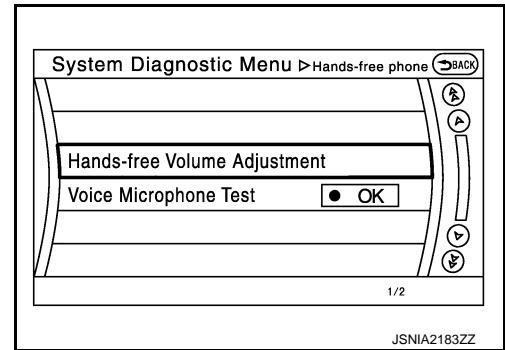
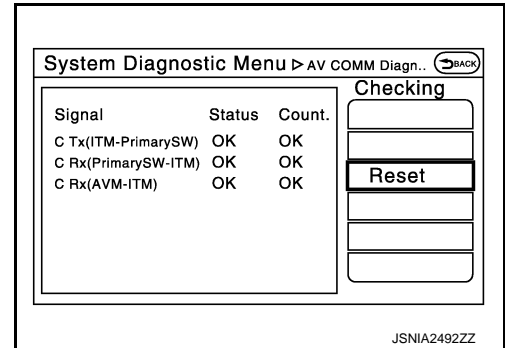
Items	Status (Current)	Counter (Past)
C Tx(ITM-PrimarySW)	OK / ???	OK / 0 – 39
C Rx(PrimarySW-ITM)	OK / ???	OK / 0 – 39
C Rx(AVM-ITM)	OK / ???	OK / 0 – 39

### NOTE:

“???” indicates UNKWN

### Hands-Free Phone

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

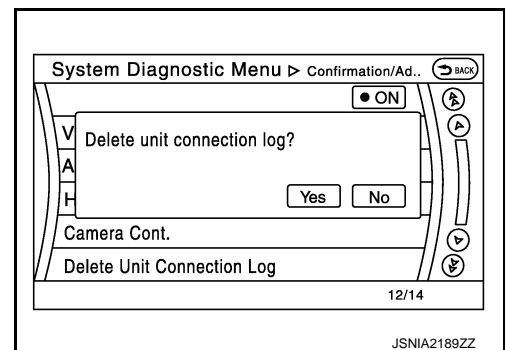


### Camera Cont.

Refer to [AV-189. "On Board Diagnosis Function"](#).

### 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.)



# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

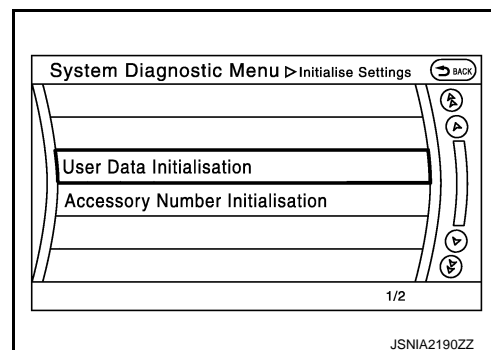
## < SYSTEM DESCRIPTION >

## [NAVIGATION (SINGLE MONITOR)]

“User Data Initialization” and “Accessory Number Initialization” are possible.

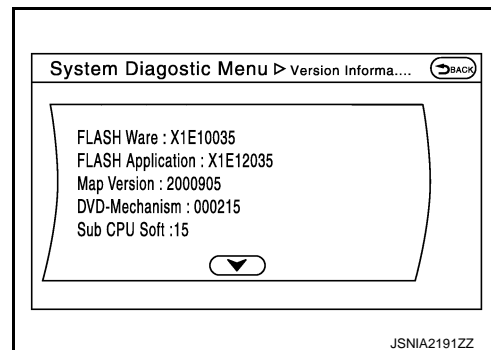
### CAUTION:

- **Never perform Accessory Number Initialization except when configuration is unsuccessful.**
- **Accessory Number Initialization requires configuration. For details, refer to [AV-243, "ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Description"](#).**



### Version Information

Version information of the AV control unit is displayed.



## CONSULT - III Function (MULTI AV)

INFOID:000000005475013

### CONSULT-III FUNCTIONS

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

Diagnosis mode	Description
Ecu Identification	The part number of AV control unit can be checked.
Self Diagnostic Result	Performs a diagnosis on the AV control unit and a connection diagnosis for the communication circuit of the Multi AV system, and displays the current and past malfunctions collectively.
Data Monitor	The diagnosis of vehicle signal that is input to the AV control unit can be performed.
Work Support	Steering angle sensor can be adjusted.
Configuration	<ul style="list-style-type: none"><li>• Read and save the vehicle specification.</li><li>• Write the vehicle specification when replacing AV control unit.</li></ul>

### AV COMMUNICATION

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

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

### ECU IDENTIFICATION

The part number of AV control unit is displayed.

### SELF DIAGNOSIS RESULT

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

Self-diagnosis Results Display Item

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION (SINGLE MONITOR)]

Error item	Description	Possible malfunction factor/Action to take
CAN COMM CIRCUIT [U1000]	CAN communication malfunction is detected.	Refer to <a href="#">AV-251, "Diagnosis Procedure"</a> .
CONTROL UNIT (CAN) [U1010]	CAN initial diagnosis malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly.
CONTROL UNIT (AV) [U1310]	AV communication circuit initial diagnosis malfunction is detected.	
Cont Unit [U1200]	AV control unit malfunction is detected.	
GYRO NO CONN [U1201]		
G-SENSOR NO CONN [U1202]		
CAN CONT [U1216]		
BLUETOOTH MODULE [U1217]		
SUB CPU CONN [U1228]		
iPod CERTIFICATION [U1229]		
Built-in AUDIO CONN [U122E]		
HDD CONN [U1218]	AV control unit malfunction is detected.	<ul style="list-style-type: none"><li>• If the music box function has no malfunctions, then there is a possibility of the detection of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly.</li></ul>
HDD READ [U1219]		
HDD WRITE [U121A]		
HDD COMM [U121B]		
HDD ACCESS [U121C]		
GPS COMM [U1204]	GPS malfunction is detected.	An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs. Replace the AV control unit if the malfunction occurs constantly.
GPS ROM [U1205]		
GPS RAM [U1206]		
GPS RTC [U1207]		
USB CONTROLLER [U1225]	USB connection malfunction is detected.	Check that the connection to the USB connector is normal.
DSP CONN [U121D]	AV control unit malfunction is detected.	<ul style="list-style-type: none"><li>• If a disc can be played, then there is a possibility of the detection of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly.</li></ul>
DSP COMM [U121E]		
DVD COMM [U1227]	AV control unit malfunction is detected.	<ul style="list-style-type: none"><li>• If DVD can be played, then there is a possibility of the detection of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly.</li></ul>
CONFIG UNFINISH [U122A]	The writing of configuration data is incomplete.	Write configuration data with CONSULT-III.
ST ANGLE SEN CALIB [U1232]	Predictive course line center position adjustment of the steering angle sensor is incomplete.	Adjust the predictive course line center position of the steering angle sensor. Refer to <a href="#">BRC-9, "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION : Special Repair Requirement"</a> .
FRONT DISP CONN [U1243]	When either one of the following items are detected: <ul style="list-style-type: none"><li>• front display unit power supply and ground circuits malfunction is detected.</li><li>• communication circuits between AV control unit and front display unit.</li></ul>	<ul style="list-style-type: none"><li>• Front display unit power supply and ground circuits.</li><li>• Communication circuits between AV control unit and AV front display unit.</li></ul>
GPS ANTENNA CONN [U1244]	GPS antenna connection malfunction is detected.	Check the connection of the GPS antenna connector.

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION (SINGLE MONITOR)]

Error item	Description	Possible malfunction factor/Action to take
XM ANTENNA CONN [U1258]	Satellite radio antenna connection malfunction is detected.	Satellite radio antenna disconnection.
USB OVERCURRENT [U1263]	Detection of overcurrent in USB connector.	Check USB harness between the AV control unit and USB connector.
<ul style="list-style-type: none"> <li>AV COMM CIRCUIT [U1300]</li> <li>SWITCH CONN [U1240]</li> </ul>	When either one of the following items are detected: <ul style="list-style-type: none"> <li>multifunction switch power supply and ground circuits are malfunctioning.</li> <li>AV communication circuits between AV control unit and multifunction switch are malfunctioning.</li> </ul>	<ul style="list-style-type: none"> <li>Multifunction switch power supply and ground circuits.</li> <li>AV communication circuits between AV control unit and multifunction switch.</li> </ul>
<ul style="list-style-type: none"> <li>AV COMM CIRCUIT [U1300]</li> <li>AROUND CAMERA CONN [U125B]</li> </ul>	When either one of the following items are detected: <ul style="list-style-type: none"> <li>around view monitor control unit power supply and ground circuits are malfunctioning.</li> <li>AV communication circuits between multifunction switch and around view monitor control unit are malfunctioning.</li> </ul>	<ul style="list-style-type: none"> <li>Around view monitor control unit power supply and ground circuits.</li> <li>AV communication circuits between multifunction switch and around view monitor control unit.</li> </ul>
<ul style="list-style-type: none"> <li>AV COMM CIRCUIT [U1300]</li> <li>SONAR CONN [U125C]</li> </ul>	When either one of the following items are detected: <ul style="list-style-type: none"> <li>sonar control unit power supply and ground circuits are malfunctioning.</li> <li>AV communication circuits between AV control unit and sonar control unit are malfunctioning.</li> </ul>	<ul style="list-style-type: none"> <li>Sonar control unit power supply and ground circuits.</li> <li>AV communication circuits between AV control unit and sonar control unit.</li> </ul>
<ul style="list-style-type: none"> <li>AV COMM CIRCUIT [U1300]</li> <li>SWITCH CONN [U1240]</li> <li>AROUND CAMERA CONN [U125B]</li> </ul>	AV communication circuits between AV control unit and multifunction switch are malfunctioning.	AV communication circuits between AV control unit and multifunction switch.

## DATA MONITOR

### ALL SIGNALS

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

Display Item	Display	Vehicle status	Remarks
VHCL SPD SIG	On	Vehicle speed >0 km/h (0 MPH)	Changes in indication may be delayed. This is normal.
	Off	Vehicle speed =0 km/h (0 MPH)	
PKB SIG	On	Parking brake is applied.	
	Off	Parking brake is released.	
ILLUM SIG	On	Block the light beam from the auto light optical sensor when the light SW is ON.	—
	Off	Expose the auto light optical sensor to light when the light SW is OFF or ON.	
IGN SIG	On	Ignition switch ON	
	Off	Ignition switch in ACC position	
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	
SIDE VIEW SW	Off	This item is displayed, but cannot be monitored.	—

## DIAGNOSIS SYSTEM (AV CONTROL UNIT)

### < SYSTEM DESCRIPTION >

### [NAVIGATION (SINGLE MONITOR)]

Display Item	Display	Vehicle status	Remarks
ROOM LAMP	On	After opening any door; 5 seconds.	Check 10 seconds later, after closing all doors.
	Off	Except for above.	

### SELECTION FROM MENU

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

Item to be selected	Description
VHCL SPD SIG	The same as when "ALL SIGNALS" is selected.
PKB SIG	
ILLUM SIG	
IGN SIG	
REV SIG	
SIDE VIEW SW	
ROOM LAMP	

### WORK SUPPORT

Adjusts the neutral position of the steering angle sensor.

#### **CAUTION:**

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

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

### CONFIGURATION

Configuration has three functions as follows.

Function	Description
READ CONFIGURATION	<ul style="list-style-type: none"><li>• Reads the vehicle configuration of current AV control unit.</li><li>• Saves the read vehicle configuration.</li></ul>
WRITE CONFIGURATION-Manual selection	Writes the vehicle configuration with manual selection.
WRITE CONFIGURATION-Config file	Writes the vehicle configuration with saved data.



# DIAGNOSIS SYSTEM (AROUND VIEW MONITOR CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION (SINGLE MONITOR)]

## DIAGNOSIS SYSTEM (AROUND VIEW MONITOR CONTROL UNIT)

### On Board Diagnosis Function

INFOID:000000005511924

The diagnosis function of around view monitor control unit is displayed when selecting "Camera Cont." of Confirmation/Adjustment mode in the multi AV system.

Around view monitor control unit diagnosis item

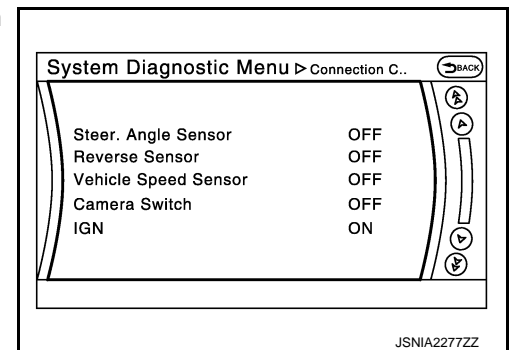
AV control unit Confirmation/Adjustment mode			Function
Camera Cont.	Connection Confirmation		The status of signals input to around view monitor control unit can be checked.
	Calibrating Camera Image	Rear Camera	Performs the calibration of rear camera.
		Pass-Side Camera	Performs the calibration of side camera RH.
		Front Camera	Performs the calibration of front camera.
		Dr-Side Camera	Performs the calibration of side camera LH.
		Initialize Camera Image Calibration*	The calibration can be initialized to NISSAN factory shipment condition.
	Fine Tuning of Birds-Eye View		<ul style="list-style-type: none"> <li>The confirmation and adjustment of the difference between each camera can be performed.</li> <li>The system changes to the ZOOM function by the operation of shift and the ZOOM ratio of each camera can be changed.</li> </ul>
	Correct Draw Line of Wide View	Rear-Wide View	The position of rear wide view guideline can be changed.

### CAUTION:

\*: Never perform other operations for approximately 10 seconds after performing "Initialize Camera Image Calibration".

### Connection Confirmation

The status of signals inputted to around view monitor control unit can be checked.



Connection Confirmation item list

Diagnosis item	Display	Description
Steer. Angle Sensor	ON/OFF	<ul style="list-style-type: none"> <li>Input status of steering angle sensor is displayed by ON/OFF.</li> <li>When all of steering signals 1, 2, and 3 are input, it is turned ON. It remains ON until connection confirmation mode is stopped.</li> </ul>
Reverse Sensor	ON/OFF	Input status of reverse signal inputted to around view monitor control unit is displayed by ON/OFF in real time.
Vehicle Speed Sensor	ON/OFF	<ul style="list-style-type: none"> <li>Input status of vehicle speed signal inputted to around view monitor control unit is displayed by ON/OFF.</li> <li>When the vehicle speed signal is input, it is turned ON. It remains ON until connection confirmation mode is stopped.</li> </ul>
Camera Switch	ON/OFF	<ul style="list-style-type: none"> <li>The status of camera switch signal received via AV communication from NAVI control unit is displayed by ON/OFF.</li> <li>When the camera switch signal is received once, it is turned ON. It remains ON until connection confirmation mode is stopped.</li> </ul>
IGN	ON/OFF	Input status of ignition signal inputted to around view monitor control unit is displayed by ON/OFF in real time.

# DIAGNOSIS SYSTEM (AROUND VIEW MONITOR CONTROL UNIT)

## < SYSTEM DESCRIPTION >

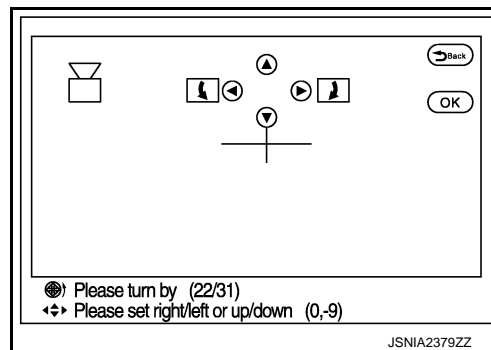
## [NAVIGATION (SINGLE MONITOR)]

Diagnosis item	Display	Description
ILL	ON/OFF	Input status of illumination signal inputted to around view monitor control unit is displayed by ON/OFF in real time.
Type of Steer. Angle Sensor	Abslt.	The input type of steering angle sensor is displayed. ("Abslt." is displayed on this model.)
Type of Steer. Gear ratio	1	The type of steering gear ratio is displayed. ("1" is displayed on this model.)
Left or Right Steer.	Right/Left	The steering position is displayed.
Rear Camera Image Output signal	OK/NG	The input status of rear camera image signal is displayed by OK/NG in real time.
Rear Camera COMM Status	OK/NG	The communication status with rear camera is displayed by OK/NG in real time.
Rear Camera COMM Line	OK/NG	The status of communication line with rear camera is displayed by OK/NG in real time.
Front Camera Image Output signal	OK/NG	The input status of front camera image signal is displayed by OK/NG in real time.
Front Camera COMM Status	OK/NG	The communication status with front camera is displayed by OK/NG in real time.
Front Camera COMM Line	OK/NG	The status of communication line with front camera is displayed by OK/NG in real time.
Pass-Side Camera Image Output signal	OK/NG	The input status of side camera RH image signal is displayed by OK/NG in real time.
Pass-Side Camera COMM Status	OK/NG	The communication status with side camera RH is displayed by OK/NG in real time.
Pass-Side Camera COMM Line	OK/NG	The status of communication line with side camera RH is displayed by OK/NG in real time.
Dr-Side Camera Image Output signal	OK/NG	The input status of side camera LH image signal is displayed by OK/NG in real time.
Dr-Side Camera COMM Status	OK/NG	The communication status with side camera LH is displayed by OK/NG in real time.
Dr-Side Camera COMM Line	OK/NG	The status of communication line with side camera LH is displayed by OK/NG in real time.

### Calibrating Camera Image

- Perform the calibration of camera image caused by the incorrect mounting position of each camera, etc. Always perform calibration after performing the following work.
  - When each camera or each camera mount (door mirror, front grille, etc.) is removed
  - When replacing around view monitor control unit
- When performing the calibration initialization, it can be set to the NISSAN factory shipment condition.

Refer to [AV-245. "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Work Procedure"](#) for the calibration procedure.



Adjustment range	
Rotating direction	: 31 patterns (16 on the center)
Upper/lower direction	: -99 – 99
Left/right direction	: -99 – 99

### Calibrating Camera Image item

Items	Description
Rear Camera	Performs the calibration of rear camera.
Pass-Side Camera	Performs the calibration of side camera RH.
Front Camera	Performs the calibration of front camera.
Dr-Side Camera	Performs the calibration of side camera LH.
Initialize Camera Image Calibration*	The calibration can be initialized to the factory shipment setting.

# DIAGNOSIS SYSTEM (AROUND VIEW MONITOR CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION (SINGLE MONITOR)]

## CAUTION:

\*: Never perform other operations for approximately 10 seconds after performing "Initialize Camera Image Calibration".

## Fine Tuning of Birds-Eye View

- The fine adjustment function of camera calibration can check and adjust the difference between each camera.
- Fine adjustments can be performed for each camera. Move the "+"-mark to select the camera by pressing the "CAMERA" switch.
- Perform the adjustment with the center dial and upper/lower/left/right switches.

## CAUTION:

Operate the center dial slowly because the changing of the screen takes approximately 1 second.

## NOTE:

- It can be initialized to the NISSAN factory shipment setting with "Initialize Camera Image Calibration" of "Calibrating Camera Image".
- The adjustment value is cancelled in this mode by performing "Initialize Camera Image Calibration".

Adjustment range	
Rotating direction	: 31 patterns (16 on the center)
Upper/lower direction	: -99 - 99
Left/right direction	: -99 - 99

## ZOOM function

- The ZOOM ratio of camera can be changed when calibrating the camera.
- It shifts to ZOOM function mode by shifting the selector lever to a position other than the "R" position → "R" position → other than "R" position in the "Fine Tuning of Birds-Eye View" mode.
- The changing of ZOOM ratio can be performed for each camera. Move the "+"-mark to select the camera by pressing "CAMERA" switch and press the left/right switch to change the ZOOM ratio.

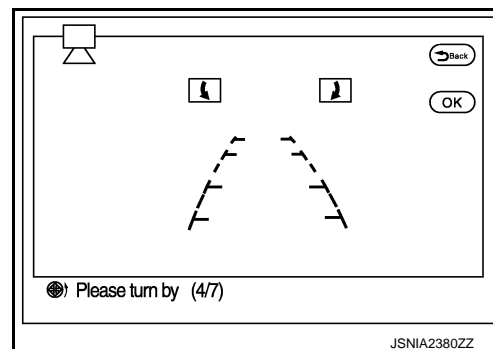
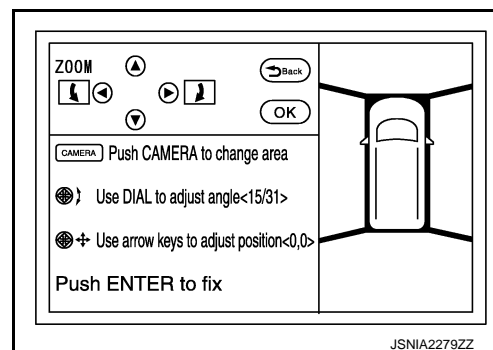
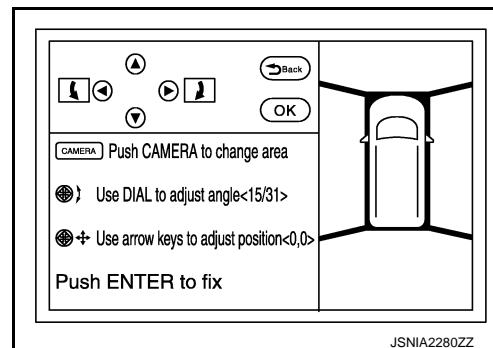
## NOTE:

- When the position is not correct in "Fine Tuning of Birds-Eye View" mode, use this "ZOOM" function to adjust it.
- If this function is used, always adjust the upper/lower/left/right position again on the "Fine Tuning of Birds-Eye View" screen.

## Correct Draw Line of Wide View

The display position of guiding lines when displayed on the rear-wide view can be changed.

Adjustment range	
Rotating direction	: 7 patterns



## Correct Draw Line of Camera Image item

Items	Description
Rear-Wide View	The position of rear wide view guideline can be changed.

# DIAGNOSIS SYSTEM (SONAR CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION (SINGLE MONITOR)]

## DIAGNOSIS SYSTEM (SONAR CONTROL UNIT)

### CONSULT-III Function (SONAR)

INFOID:000000005511925

#### DESCRIPTION

CONSULT-III can display each diagnostic item using the diagnostic test modes shown as follows:

Test mode	Function
Ecu Identification	Sonar control unit part number can be read.
Self Diagnostic Result	Sonar control unit checks the conditions and displays memorized error.
Data Monitor	Sonar control unit input/output data in real time.
Active Test	Gives a drive signal to a load to check the operation.
Work support	Changes setting of each function.

#### ECU IDENTIFICATION

Displays the part number of sonar control unit.

#### SELF-DIAGNOSTIC RESULTS

For details, refer to [AV-213, "DTC Index"](#).

#### DATA MONITOR

Monitor Item	Display	Description
SONAR OPE	On	Around view monitor is ON. (sonar system is ON)
	Off	Around view monitor is OFF. (sonar system is OFF)
BUZZER OUTPUT	On	Buzzer is output condition.
	Off	Buzzer is not output condition.
CR SEN [FL] CR SEN [FR] CR SEN [RL] CR SEN [RR]	ERROR	When a sensor is abnormal.
	LV.0	When a sensor is not detection.
	LV.2	The distance between the corner sensor and an obstacle is 60 cm (23.6 in) or more and less than 70 cm (27.5 in).
	LV.3	The distance between the corner sensor and an obstacle is 40 cm (15.7 in) or more and less than 60 cm (23.6 in).
	LV.4	The distance between corner sensor and an obstacle less than 40 cm (15.7 in).

#### ACTIVE TEST

Active test item	Function
BUZZER	This test is able to check buzzer operation.
SONAR SENSOR	This test is able to check each sonar sensor operation.

#### WORK SUPPORT

Work support item	Function
CORNER SEN DISTANCE SET	Corner sensor warning buzzer distance is adjustable to 4 phases.

#### CORNER SEN DISTANCE SET

Corner sensor warning buzzer distance can be set to 4 phases as follows.

Warning item	FARTHER	FAR	NORMAL	NEAR
Second warning	70 – 80 cm (27.5 – 31.4 in)	60 – 70 cm (23.6 – 27.5 in)	50 – 60 cm (19.6 – 23.6 in)	40 – 50 cm (15.7 – 19.6 in)
Third warning	50 – 70 cm (19.6 – 27.5 in)	40 – 60 cm (15.7 – 23.6 in)	30 – 50 cm (11.8 – 19.6 in)	30 – 40 cm (11.8 – 15.7 in)
Fourth warning	Less than 50 cm (19.6 in)	Less than 40 cm (15.7 in)	Less than 30 cm (11.8 in)	Less than 30 cm (11.8 in)

DIAGNOSIS SYSTEM (SONAR CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION (SINGLE MONITOR)]

The default of this model is "FAR".

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

AV

## ECU DIAGNOSIS INFORMATION

### AV CONTROL UNIT

#### Reference Value

INFOID:000000005475065

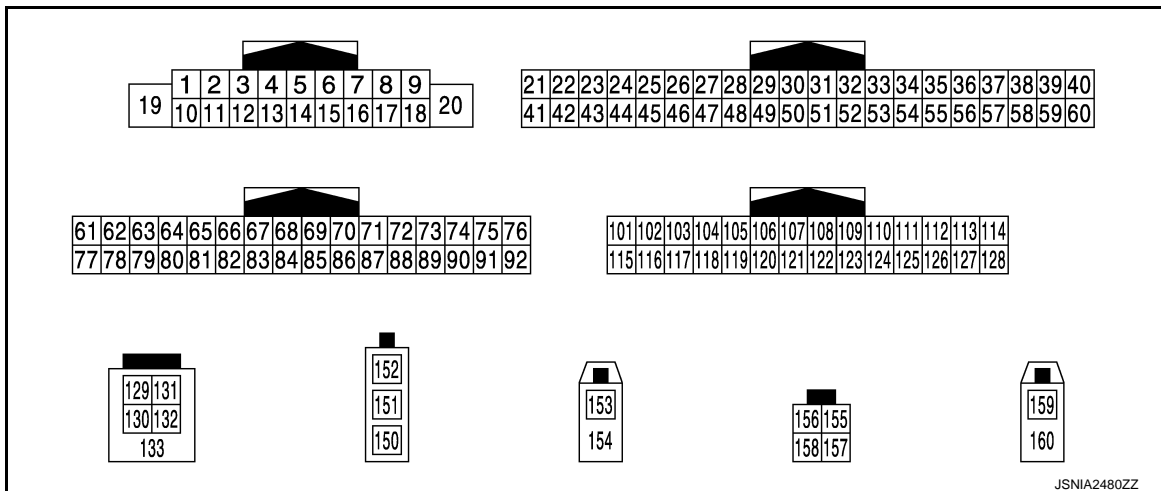
#### VALUES ON THE DIAGNOSIS TOOL

##### CONSULT-III MONITOR ITEM

Monitor Item	Condition		Value/Status
VHCL SPD SIG	Ignition switch ON	Vehicle speed > 0 km/h (0 MPH)	On
		Vehicle speed = 0 km/h (0 MPH)	Off
PKB SIG	Ignition switch ON	Parking brake is applied.	On
		Parking brake is released.	Off
ILLUM SIG	Ignition switch ON	Light switch ON	On
		Light switch OFF	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
SIDE VIEW SW	Ignition switch ON	This item is displayed, but cannot be monitored.	Off
ROOM LAMP*	Ignition switch ON	After opening any door; 5 seconds	On
		Except for above.	Off

\*: Check 10 seconds later, after closing all doors.

#### TERMINAL LAYOUT

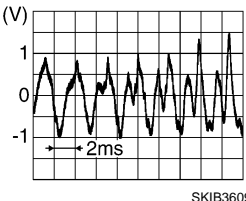
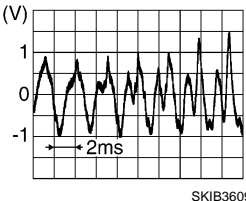

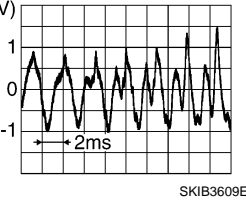
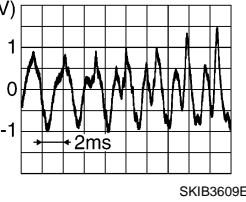


#### PHYSICAL VALUES

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION (SINGLE MONITOR)]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output			
1 (V)	Ground	AMP. ON signal	Input	Ignition switch ON	—	12.0 V
2 (P)	3 (L)	Sound signal front LH	Output	Ignition switch ON	Sound output	
4 (V)	5 (LG)	Sound signal rear LH	Output	Ignition switch ON	Sound output	
6 (P)	15 (B)	Steering switch signal A	Input	Ignition switch ON	Keep pressing SOURCE switch.	0 V
					Keep pressing MENU UP switch.	1.0 V
					Keep pressing MENU DOWN switch.	2.0 V
					Keep pressing  switch	3.0 V
					Keep pressing ENTER switch.	4.0 V
					Except for above.	5.0 V
7 (V)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
10 (B)	—	Shield	—	—	—	—
11 (R)	12 (G)	Sound signal front RH	Output	Ignition switch ON	Sound output	
13 (BR)	14 (Y)	Sound signal rear RH	Output	Ignition switch ON	Sound output	

A

B

C

D

E

F

G

H

I

J

K

L

M

AV



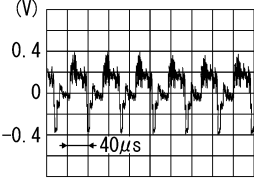
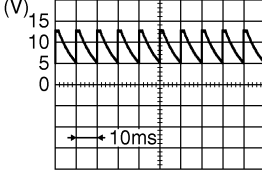
O

P

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION (SINGLE MONITOR)]

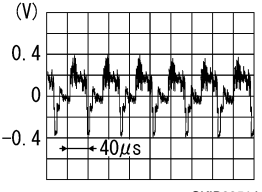
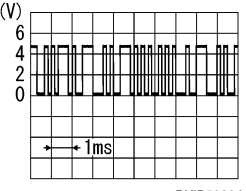
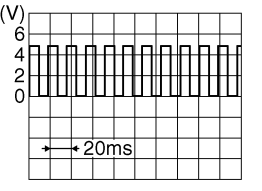
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output			
16 (L)	15 (B)	Steering switch signal B	Input	Ignition switch ON	Keep pressing VOL DOWN switch.	0 V
					Keep pressing VOL UP switch.	1.0 V
					Keep pressing  switch.	2.0 V
					Keep pressing  switch.	3.0 V
					Except for above.	5.0 V
19 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
20 (B)	Ground	Ground	—	Ignition switch ON	—	0 V
26 (Y)	Ground	AUX image signal	Input	Ignition switch ON	At AUX image is displayed.	 SKIB2251J
29 (SB)	Ground	Disk eject signal	Input	Ignition switch ON	Pressing the eject switch.	0 V
					Except for above.	5.0 V
30 (SB)	Ground	Mode change signal	Output	Ignition switch ON	Driver's Audio Stage ON	0 V
					Driver's Audio Stage OFF	8.5 V
46 (BR)	Ground	AUX image signal ground	—	Ignition switch ON	—	0 V
47	—	Shield	—	—	—	—
49 (BR)	Ground	Switch ground	—	Ignition switch ON	—	0 V
64 (GR)	Ground	Driver door switch signal	Input	Ignition switch ON	Door open (driver side)	0 V
					Door close (driver side)	 JPMIA0594GB
65 (V)	Ground	Parking brake signal	Input	Ignition switch ON	Parking brake is ON.	4.5 V
					Parking brake is OFF.	0 V
67 (B)	Ground	Composite image ground	—	Ignition switch ON	—	0 V



# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION (SINGLE MONITOR)]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output			
68 (R)	Ground	Composite image signal	Output	Ignition switch ON	At DVD image is displayed.	 SKIB2251J
71	—	Microphone shield	—	—	—	—
72 (G)	Ground	Microphone VCC	Output	Ignition switch ON	—	5.0 V
73 (R)	Ground	Communication signal (CONT→DISP)	Output	Ignition switch ON	When adjusting display brightness.	 PKIB5039J
74 (P)	—	CAN—L	Input/ Output	—	—	—
75 (LG)	—	AV communication signal (L)	Input/ Output	—	—	—
76 (LG)	—	AV communication signal (L)	Input/ Output	—	—	—
79 (R)	Ground	Illumination signal	Input	Ignition switch OFF	Lighting switch is OFF.	0 V
					Lighting switch is ON.	12.0 V
80 (G)	Ground	Ignition signal	Input	Ignition switch ON	—	Battery voltage
81 (O)	Ground	Reverse signal	Input	Ignition switch ON	R position	12.0 V
					Other than R position	0 V
82 (R)	Ground	Vehicle speed signal (8- pulse)	Input	Ignition switch ON	When vehicle speed is ap- prox. 40 km/h (25 MPH)	<b>NOTE:</b> Maximum voltage may be 12.0 V due to specifications (connected units).  SKIA6649J
83	—	Shield	—	—	—	—

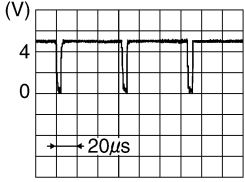
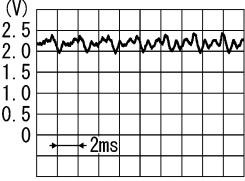
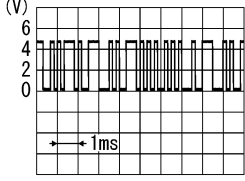
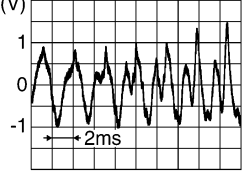
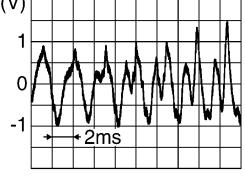
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AV

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION (SINGLE MONITOR)]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output			
84 (W)	Ground	Composite image synchronizing signal	Output	Ignition switch ON	—	 SKIB0825E
87 (R)	71	Microphone signal	Input	Ignition switch ON	Give a voice	 PKIB5037J
88	—	Shield	—	—	—	—
89 (G)	Ground	Communication signal (DISP→CONT)	Input	Ignition switch ON	When adjusting display brightness.	 PKIB5039J
90 (L)	—	CAN-H	Input/ Output	—	—	—
91 (SB)	—	AV communication signal (H)	Input/ Output	—	—	—
92 (SB)	—	AV communication signal (H)	Input/ Output	—	—	—
104 (W)	119 (B)	AUX sound signal LH	Input	Ignition switch ON	When AUX mode is selected.	 SKIB3609E
117	—	Shield	—	—	—	—
118 (R)	119 (B)	AUX sound signal RH	Input	Ignition switch ON	When AUX mode is selected.	 SKIB3609E
129 (G)	—	USB ground	—	—	—	—
130 (R)	—	USB D- signal	Input/ Output	—	—	—

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION (SINGLE MONITOR)]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output			
131 (W)	—	V BUS signal	Output	—	—	—
132 (L)	—	USB D+ signal	Input/ Output	—	—	—
133	—	Shield	—	—	—	—
150	—	FM sub	Input	—	—	—
151	—	AM-FM main	Input	—	—	—
152	Ground	Antenna amp. ON signal	Input	Ignition switch ON	—	12.0 V
153	Ground	GPS antenna signal	Input	Ignition switch ACC	Not connected GPS antenna connector.	5.0 V
154	—	Shield	—	—	—	—
157	Ground	RGB digital image signal (-)	Output	Ignition switch ON	Not connected connector.	3.0 V
158	Ground	RGB digital image signal (+)	Output	Ignition switch ON	Not connected connector.	3.0 V
159	Ground	Satellite antenna signal	Input	Ignition switch ACC	Not connected to satellite antenna connector.	4.0 V

## Fail-Safe

INFOID:000000005475066

When the ambience temperature becomes extremely low or extremely high, AV control unit displays the message and limits the AV control unit function.

### FAIL-SAFE CONDITIONS

When the ambience temperature is -20°C (-4°F) or lower, or when it is 70°C (158°F) or higher

Display

The messages displayed on fail-safe conditions are as shown below:

Fail-safe mode	Display (display of the fail-safe condition)
When HDD temperature is low	HDD system is experiencing problems due to extreme low temperature. Normal operation will resume when temperature rises.
When HDD temperature is high	HDD system is experiencing problems due to extreme high temperature. Normal operation will resume when temperature drops.

## DESCRIPTION OF CONTROLS

Function		When Fail-safe Function is activated
Air conditioner	Operation	Only multifunction switch (preset switch) can be operated.
	Display	<ul style="list-style-type: none"> <li>LED of multifunction switch (preset switch) illuminates.</li> <li>Aimed temperature, blow angle, and flow rate are displayed in simplified mode.</li> </ul>
Audio	Operation	Only ON/OFF and volume control operations by multifunction switch (preset switch) are possible.
	Display	No display ("Fail-safe mode" is displayed)
Camera	Operation	Image tone cannot be controlled.
	Display	Cannot be superimposed. (warning display, tone control display)
Hands-free phone	Operation	Cannot be operated.

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION (SINGLE MONITOR)]

Function		When Fail-safe Function is activated
Navigation	Operation	Cannot be operated.
Self diagnosis		The display in simplified mode of fail-safe condition
CONSULT-III diagnosis		Cannot be operated.

## Ability Operation Mode

There is an ability operation mode for Fail-saves due to low or high ambient temperature.

If HDD data can be read, fail-safe is shown, then normal displays are displayed only for functions which can be operated.

## RELEASE CONDITIONS OF FAIL-SAFE

Fail-safe is released on following conditions and normal mode is restored.

When The Temperature of HDD Is Low or High

If the ambient temperature becomes out of fail-safe condition range, normal mode is restored.

## DTC Index

INFOID:000000005474747

## SELF-DIAGNOSIS RESULTS DISPLAY ITEM

DTC	Display item	Refer to
U1000	CAN COMM CIRCUIT [U1000]	<a href="#">AV-251, "Diagnosis Procedure"</a>
U1010	CONTROL UNIT (CAN) [1010]	<a href="#">AV-252, "DTC Logic"</a>
U1200	Cont Unit [U1200]	<a href="#">AV-253, "DTC Logic"</a>
U1201	GYRO NO CONN [U1201]	<a href="#">AV-254, "DTC Logic"</a>
U1202	G-SENSOR NO CONN [U1202]	<a href="#">AV-255, "DTC Logic"</a>
U1204	GPS COMM [U1204]	<a href="#">AV-256, "Diagnosis Procedure"</a>
U1205	GPS ROM [U1205]	<a href="#">AV-257, "Diagnosis Procedure"</a>
U1206	GPS RAM [U1206]	<a href="#">AV-258, "Diagnosis Procedure"</a>
U1207	GPS RTC [U1207]	<a href="#">AV-259, "Diagnosis Procedure"</a>
U1216	CAN CONT [U1216]	<a href="#">AV-260, "DTC Logic"</a>
U1217	BLUETOOTH MODULE [U1217]	<a href="#">AV-261, "DTC Logic"</a>
U1218	HDD CONN [U1218]	<a href="#">AV-262, "Diagnosis Procedure"</a>
U1219	HDD READ [U1219]	<a href="#">AV-263, "Diagnosis Procedure"</a>
U121A	HDD WRITE [U121A]	<a href="#">AV-264, "Diagnosis Procedure"</a>
U121B	HDD COMM [U121B]	<a href="#">AV-265, "Diagnosis Procedure"</a>
U121C	HDD ACCESS [U121C]	<a href="#">AV-266, "Diagnosis Procedure"</a>
U121D	DSP CONN [U121D]	<a href="#">AV-267, "Diagnosis Procedure"</a>
U121E	DSP COMM [U121E]	<a href="#">AV-268, "Diagnosis Procedure"</a>
U1225	USB CONTROLLER [U1225]	<a href="#">AV-269, "DTC Logic"</a>
U1227	DVD COMM [U1227]	<a href="#">AV-270, "Diagnosis Procedure"</a>
U1228	SUB CPU CONN [U1228]	<a href="#">AV-271, "DTC Logic"</a>
U1229	iPod CERTIFICATION [U1229]	<a href="#">AV-272, "DTC Logic"</a>
U122A	CONFIG UNFINISH [U122A]	<a href="#">AV-273, "Diagnosis Procedure"</a>
U122E	Built-in AUDIO CONN [U122E]	<a href="#">AV-274, "DTC Logic"</a>
U1232	ST ANGLE SEN CALIB [1232]	<a href="#">AV-275, "Diagnosis Procedure"</a>
U1243	FRONT DISP CONN [U1243]	<a href="#">AV-276, "Diagnosis Procedure"</a>
U1244	GPS ANTENNA CONN [U1244]	<a href="#">AV-278, "Diagnosis Procedure"</a>
U1258	XM ANTENNA CONN [U1258]	<a href="#">AV-279, "Diagnosis Procedure"</a>
U1263	USB OVERCURRENT [U1263]	<a href="#">AV-280, "Diagnosis Procedure"</a>

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION (SINGLE MONITOR)]

DTC	Display item	Refer to
U1310	CONTROL UNIT (AV) [U1310]	<a href="#">AV-282, "DTC Logic"</a>
U1300 U1240	<ul style="list-style-type: none"> <li>• AV COMM CIRCUIT [U1300]</li> <li>• SWITCH CONN [U1240]</li> </ul>	<a href="#">AV-281, "Description"</a>
U1300 U125B	<ul style="list-style-type: none"> <li>• AV COMM CIRCUIT [U1300]</li> <li>• AROUND CAMERA CONN [U125B]</li> </ul>	<a href="#">AV-281, "Description"</a>
U1300 U125C	<ul style="list-style-type: none"> <li>• AV COMM CIRCUIT [U1300]</li> <li>• SONAR CONN [U125C]</li> </ul>	<a href="#">AV-281, "Description"</a>
U1300 U1240 U125B	<ul style="list-style-type: none"> <li>• AV COMM CIRCUIT [U1300]</li> <li>• SWITCH CONN [U1240]</li> <li>• AROUND CAMERA CONN [U125B]</li> </ul>	<a href="#">AV-281, "Description"</a>

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# FRONT DISPLAY UNIT

< ECU DIAGNOSIS INFORMATION >

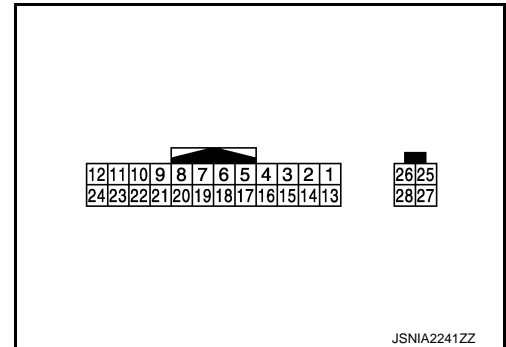
[NAVIGATION (SINGLE MONITOR)]

## FRONT DISPLAY UNIT

Reference Value

INFOID:000000005475067

### TERMINAL LAYOUT



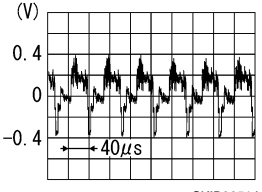
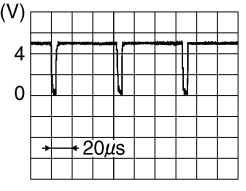
### PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output			
6	—	Shield	—	—	—	—
7	—	Shield	—	—	—	—
8 (W)	Ground	Camera image signal	Input	Ignition switch ON	At camera image is displayed.	<p>SKIB2251J</p>
9 (G)	Ground	Communication signal (DISP→CONT)	Output	Ignition switch ON	When adjusting display brightness.	<p>PKIB5039J</p>
10 (R)	Ground	Communication signal (CONT→DISP)	Input	Ignition switch ON	When adjusting display brightness.	<p>PKIB5039J</p>
11 (P)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
12 (B)	Ground	Ground	—	Ignition switch ON	—	0 V

# FRONT DISPLAY UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION (SINGLE MONITOR)]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output			
18 (R)	Ground	Composite image signal	Input	Ignition switch ON	At DVD image is displayed.	
19 (B)	Ground	Composite image signal ground	—	Ignition switch ON	—	0 V
20 (W)	Ground	Composite image synchro- nizing signal	Input	Ignition switch ON	—	
22	—	Shield	—	—	—	—
23 (L)	Ground	ACC power supply	Input	—	—	—
27	—	RGB digital image signal (—)	Input	—	—	—
28	—	RGB digital image signal (+)	Input	—	—	—

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# BOSE AMP.

< ECU DIAGNOSIS INFORMATION >

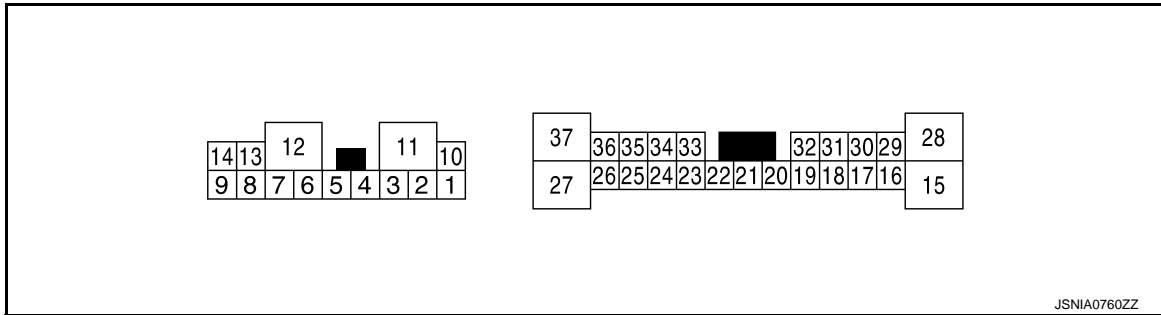
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## BOSE AMP.

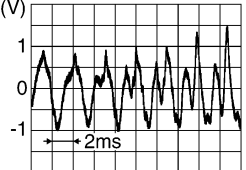
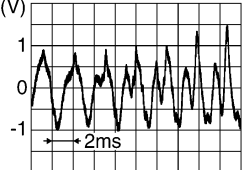
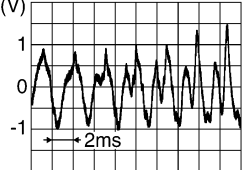
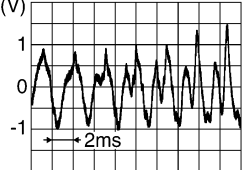
### Reference Value

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### TERMINAL LAYOUT



### PHYSICAL VALUES

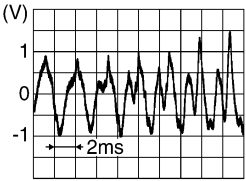
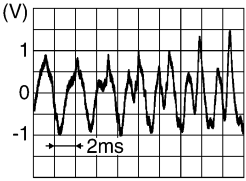
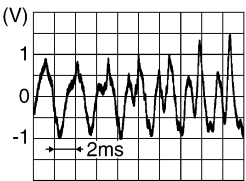
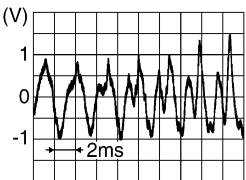
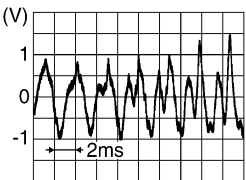
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
1 (Y)	10 (G)	Sound signal rear door speaker LH	Output	Ignition switch ON	Sound output	 <p>SKIB3609E</p>
2 (SB)	3 (V)	Sound signal rear door speaker RH	Output	Ignition switch ON	Sound output	 <p>SKIB3609E</p>
4 (L)	5 (P)	Sound signal front door speaker LH	Output	Ignition switch ON	Sound output	 <p>SKIB3609E</p>
6 (O)	7 (W)	Sound signal front squawk- er LH	Output	Ignition switch ON	Sound output	 <p>SKIB3609E</p>



# BOSE AMP.

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION (SINGLE MONITOR)]

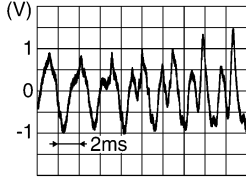
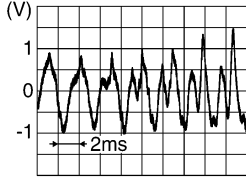
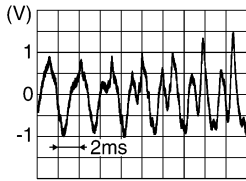
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
8 (LG)	13 (Y)	Sound signal front door speaker RH	Output	Ignition switch ON	Sound output	 SKIB3609E
9 (G)	14 (R)	Sound signal woofer and rear squawker	Output	Ignition switch ON	Sound output	 SKIB3609E
11 (GR)	Ground	Battery power supply	Input	Ignition switch ON	—	Battery voltage
12 (B)	Ground	Ground	—	Ignition switch ON	—	0 V
15 (Y)	28 (G)	Sound signal center speak- er	Output	Ignition switch ON	Sound output	 SKIB3609E
17 (O)	Ground	Mode change signal	Input	Ignition switch ON	Driver's Audio Stage ON	0 V
					Driver's Audio Stage OFF	8.5 V
18 (P)	32 (L)	Sound signal front LH	Input	Ignition switch ON	Sound output	 SKIB3609E
19 (R)	20 (G)	Sound signal front RH	Input	Ignition switch ON	Sound output	 SKIB3609E

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# BOSE AMP.

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION (SINGLE MONITOR)]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output			
21 (V)	22 (SB)	Sound signal rear LH	Input	Ignition switch ON	Sound output	 SKIB3609E
23 (BR)	33 (Y)	Sound signal rear RH	Input	Ignition switch ON	Sound output	 SKIB3609E
25 (GR)	Ground	Woofer amp. ON signal	Output	Ignition switch ON	—	12.0 V
31 (GR)	Ground	Amp. ON signal	Input	Ignition switch ON	—	12.0 V
37 (V)	27 (LG)	Sound signal front squawk- er RH	Output	Ignition switch ON	Sound output	 SKIB3609E

# AROUND VIEW MONITOR CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

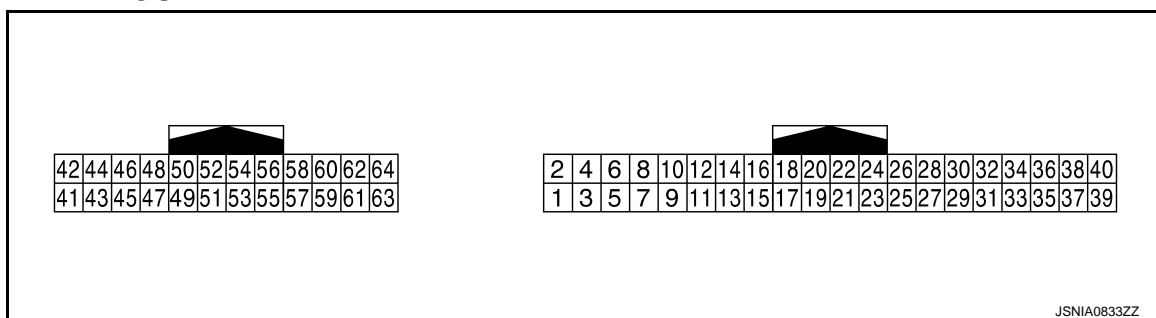
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## AROUND VIEW MONITOR CONTROL UNIT

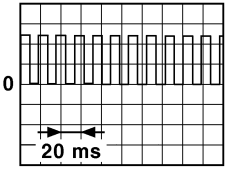
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### TERMINAL LAYOUT



### PHYSICAL VALUES

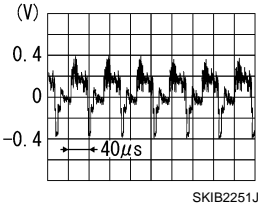
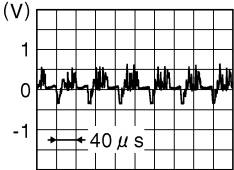
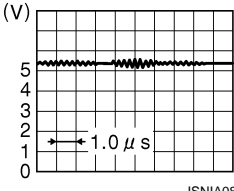
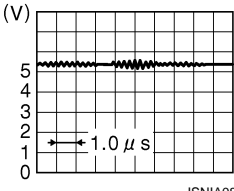
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
1 (B)	Ground	Ground	—	Ignition switch ON	—	0 V
2 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
3 (G)	Ground	Ignition signal	Input	Ignition switch ON	—	Battery voltage
4 (LG)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
5 (R)	Ground	Illumination signal	Input	Ignition switch OFF	Lighting switch is OFF.	0 V
					Lighting switch is ON.	12.0 V
6 (V)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is ap- prox. 40 km/h (25 MPH)	<b>NOTE:</b> The maximum voltage varies de- pending on the specification (destination unit). 
7 (O)	Ground	Reverse signal	Input	Ignition switch ON	R position	12.0 V
					Other than R position	0 V
9 (B)	Ground	Control signal	—	Ignition switch ON	—	0 V
13 (B)	Ground	Control signal	—	Ignition switch ON	—	0 V

JSNIA0012GB

# AROUND VIEW MONITOR CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

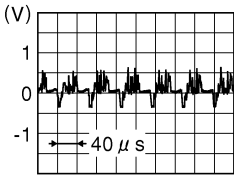
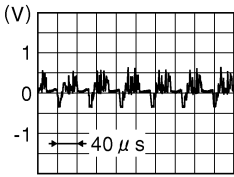
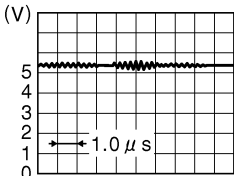
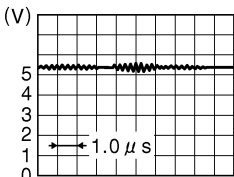
[NAVIGATION (SINGLE MONITOR)]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
17 (SB)	—	AV communication signal (H)	Input/ Output	—	—	—
18 (LG)	—	AV communication signal (L)	Input/ Output	—	—	—
21 (SB)	—	AV communication signal (H)	Input/ Output	—	—	—
22 (LG)	—	AV communication signal (L)	Input/ Output	—	—	—
23 (LG)	24 (G)	Auxiliary infrared LED power supply	Output	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	5.5 V
27 (W)	Ground	Camera image signal	Output	Ignition switch ON	At camera image display	
28	—	Shield	—	—	—	—
29 (R)	30 (Y)	Side camera passenger side image signal	Input	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	
31	—	Shield	—	—	—	—
32 (W)	Ground	Side camera passenger side ground	—	Ignition switch ON	—	0 V
33 (BR)	Ground	Side camera passenger side communication signal	Input/ Output	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	
34 (L)	Ground	Side camera passenger side power supply	Output	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	6.0 V
35 (W)	Ground	Rear camera communication signal	Input/ Output	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	

# AROUND VIEW MONITOR CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION (SINGLE MONITOR)]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
36 (G)	Ground	Rear camera power supply	Output	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	6.0 V
37	—	Shield	—	—	—	—
38 (L)	Ground	Rear camera ground	—	Ignition switch ON	—	0 V
39 (Y)	40 (BR)	Rear camera image signal	Input	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	
41 (L)	42 (BR)	Front camera image signal	Input	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	
43	—	Shield	—	—	—	—
44 (Y)	Ground	Front camera ground	—	Ignition switch ON	—	0 V
45 (W)	Ground	Front camera communication signal	Input/ Output	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	
46 (G)	Ground	Front camera power supply	Output	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	6.0 V
47 (BR)	Ground	Side camera driver side com- munication signal	Input/ Output	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	
48 (L)	Ground	Side camera driver side power supply	Output	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	6.0 V
49	—	Shield	—	—	—	—

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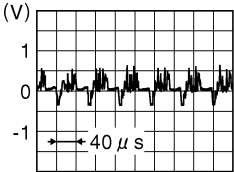
O

P

# AROUND VIEW MONITOR CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION (SINGLE MONITOR)]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
50 (W)	Ground	Side camera driver side ground	—	Ignition switch ON	—	0 V
51 (R)	52 (Y)	Side camera driver side image signal	Input	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	 <p>(V)</p> <p>1</p> <p>0</p> <p>-1</p> <p>40 μs</p> <p>JSNIA0834GB</p>

# SONAR CONTROL UNIT (WITH AROUND VIEW MONITOR)

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION (SINGLE MONITOR)]

## SONAR CONTROL UNIT (WITH AROUND VIEW MONITOR)

### Reference Value

INFOID:000000005475081

### VALUES ON THE DIAGNOSIS TOOL

#### CONSULT-III MONITOR ITEM

Monitor Item	Condition		Value/Status
SONAR OPE	Ignition switch ON	Around view monitor operating (sonar operating).	On
		Around view monitor non-operating (sonar non-operating).	Off
BUZZER OUTPUT	Ignition switch ON	Buzzer is output condition.	On
		Buzzer is not output condition.	Off
CR SEN [FL]	Ignition switch ON	When a sensor is abnormal.	ERROR
		When a sensor is not detection.	LV.0
		The distance between the corner sensor and an obstacle is 60 cm (23.6 in) or more and less then 70 cm (27.5 in).	LV.2
		The distance between the corner sensor and an obstacle is 40 cm (15.7 in) or more and less then 60 cm (23.6 in).	LV.3
		The distance between corner sensor and an obstacle less than 40 cm (15.7 in).	LV.4
CR SEN [FR]	Ignition switch ON	When a sensor is abnormal.	ERROR
		When a sensor is not detection.	LV.0
		The distance between the corner sensor and an obstacle is 60 cm (23.6 in) or more and less then 70 cm (27.5 in).	LV.2
		The distance between the corner sensor and an obstacle is 40 cm (15.7 in) or more and less then 60 cm (23.6 in).	LV.3
		The distance between corner sensor and an obstacle less than 40 cm (15.7 in).	LV.4
CR SEN [RL]	Ignition switch ON	When a sensor is abnormal.	ERROR
		When a sensor is not detection.	LV.0
		The distance between the corner sensor and an obstacle is 60 cm (23.6 in) or more and less then 70 cm (27.5 in).	LV.2
		The distance between the corner sensor and an obstacle is 40 cm (15.7 in) or more and less then 60 cm (23.6 in).	LV.3
		The distance between corner sensor and an obstacle less than 40 cm (15.7 in).	LV.4
CR SEN [RR]	Ignition switch ON	When a sensor is abnormal.	ERROR
		When a sensor is not detection.	LV.0
		The distance between the corner sensor and an obstacle is 60 cm (23.6 in) or more and less then 70 cm (27.5 in).	LV.2
		The distance between the corner sensor and an obstacle is 40 cm (15.7 in) or more and less then 60 cm (23.6 in).	LV.3
		The distance between corner sensor and an obstacle less than 40 cm (15.7 in).	LV.4

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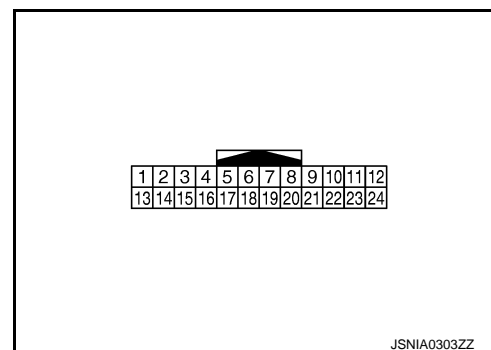
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# SONAR CONTROL UNIT (WITH AROUND VIEW MONITOR)

< ECU DIAGNOSIS INFORMATION >

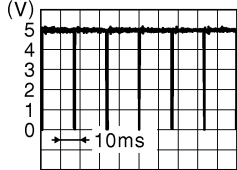
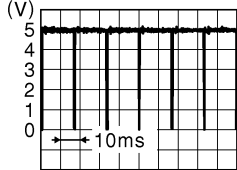
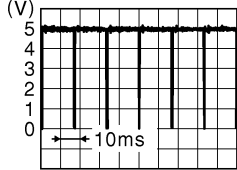
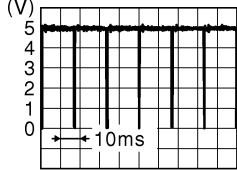
[NAVIGATION (SINGLE MONITOR)]

## TERMINAL LAYOUT



JSNIA0303ZZ

## PHYSICAL VALUES

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	—	Signal name	Input/ Output			
3 (W)	12 (B)	Corner sensor signal front LH	Input	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	 JSNIA0837GB
4 (R)	12 (B)	Corner sensor signal front RH	Input	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	 JSNIA0837GB
5 (W)	12 (B)	Corner sensor signal rear LH	Input	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	 JSNIA0837GB
6 (R)	12 (B)	Corner sensor signal rear RH	Input	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	 JSNIA0837GB
12 (B)	Ground	Sensor ground	—	Ignition switch ON	—	0 V
13 (V)	Ground	ACC power supply	Input	Ignition switch ACC	—	12.0 V
18 (P)	—	K-line (CONSULT-III)	—	—	—	—



# SONAR CONTROL UNIT (WITH AROUND VIEW MONITOR)

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION (SINGLE MONITOR)]

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	—	Signal name	Input/ Output			
19 (G)	—	AV communication (H)	Input/ Output	—	—	—
20 (R)	—	AV communication (L)	Input/ Output	—	—	—
24 (B)	Ground	Ground	—	Ignition switch ON	—	0 V

## Fail-Safe

INFOID:000000005475084

- Sonar control unit has diagnosis function which can detect corner sensor malfunction and sensor harness disconnection.
- It transmits the malfunction status to around view monitor control unit and informs the malfunction to the user by displaying continuously red sonar indicator.

## DTC Index

INFOID:000000005475085

DTC	Display item	Malfunction is detected when...	Reference
B2700	CORNER SENSOR [FL] [B2700]	Corner sensor (FL) is malfunctioning.	<a href="#">AV-283, "DTC Logic"</a>
B2701	SENSOR HARNESS OPEN [CR-FL] [B2701]	Corner sensor (FL) harness circuit is open.	<a href="#">AV-284, "Diagnosis Procedure"</a>
B2702	CORNER SENSOR [FR] [B2702]	Corner sensor (FR) is malfunctioning.	<a href="#">AV-285, "DTC Logic"</a>
B2703	SENSOR HARNESS OPEN [CR-FR] [B2703]	Corner sensor (FR) harness circuit is open.	<a href="#">AV-286, "Diagnosis Procedure"</a>
B2704	CORNER SENSOR [RL] [B2704]	Corner sensor (RL) is malfunctioning.	<a href="#">AV-287, "DTC Logic"</a>
B2705	SENSOR HARNESS OPEN [CR-RL] [B2705]	Corner sensor (RL) harness circuit is open.	<a href="#">AV-288, "Diagnosis Procedure"</a>
B2706	CORNER SENSOR [RR] [B2706]	Corner sensor (RR) is malfunctioning.	<a href="#">AV-289, "DTC Logic"</a>
B2707	SENSOR HARNESS OPEN [CR-RR] [B2707]	Corner sensor (RR) harness circuit is open.	<a href="#">AV-290, "Diagnosis Procedure"</a>

### NOTE:

"TIME" means the following.

- 0: Means detected malfunction at present. (From malfunction detection to turning ignition switch OFF)
- 1–39: Means detected malfunction in past.

# BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (SINGLE MONITOR)]

## WIRING DIAGRAM

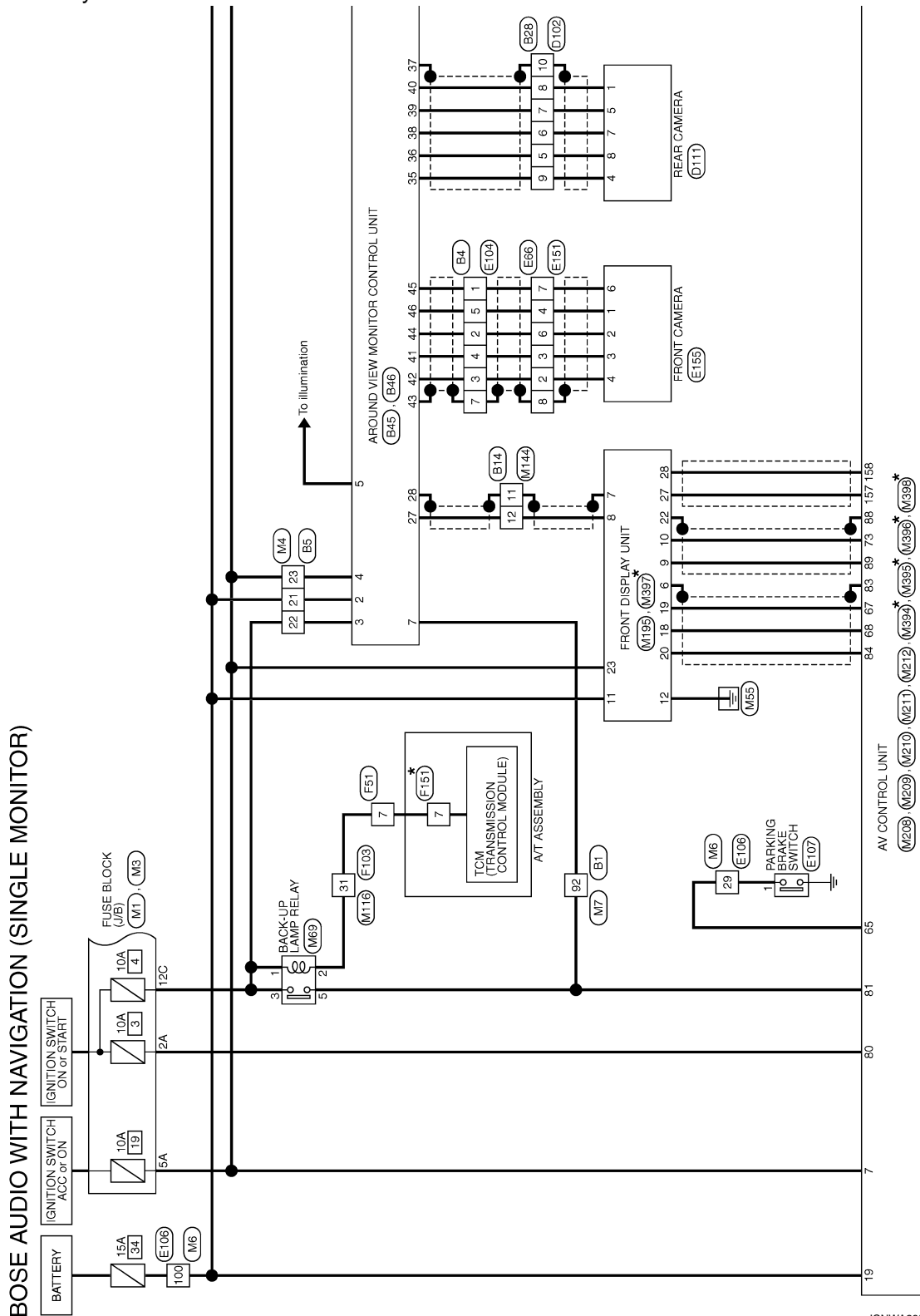
### BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

#### Wiring Diagram

INFOID:000000005474742

#### NOTE:

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



\*: This connector is not shown in "Harness Layout".

2009/07/29

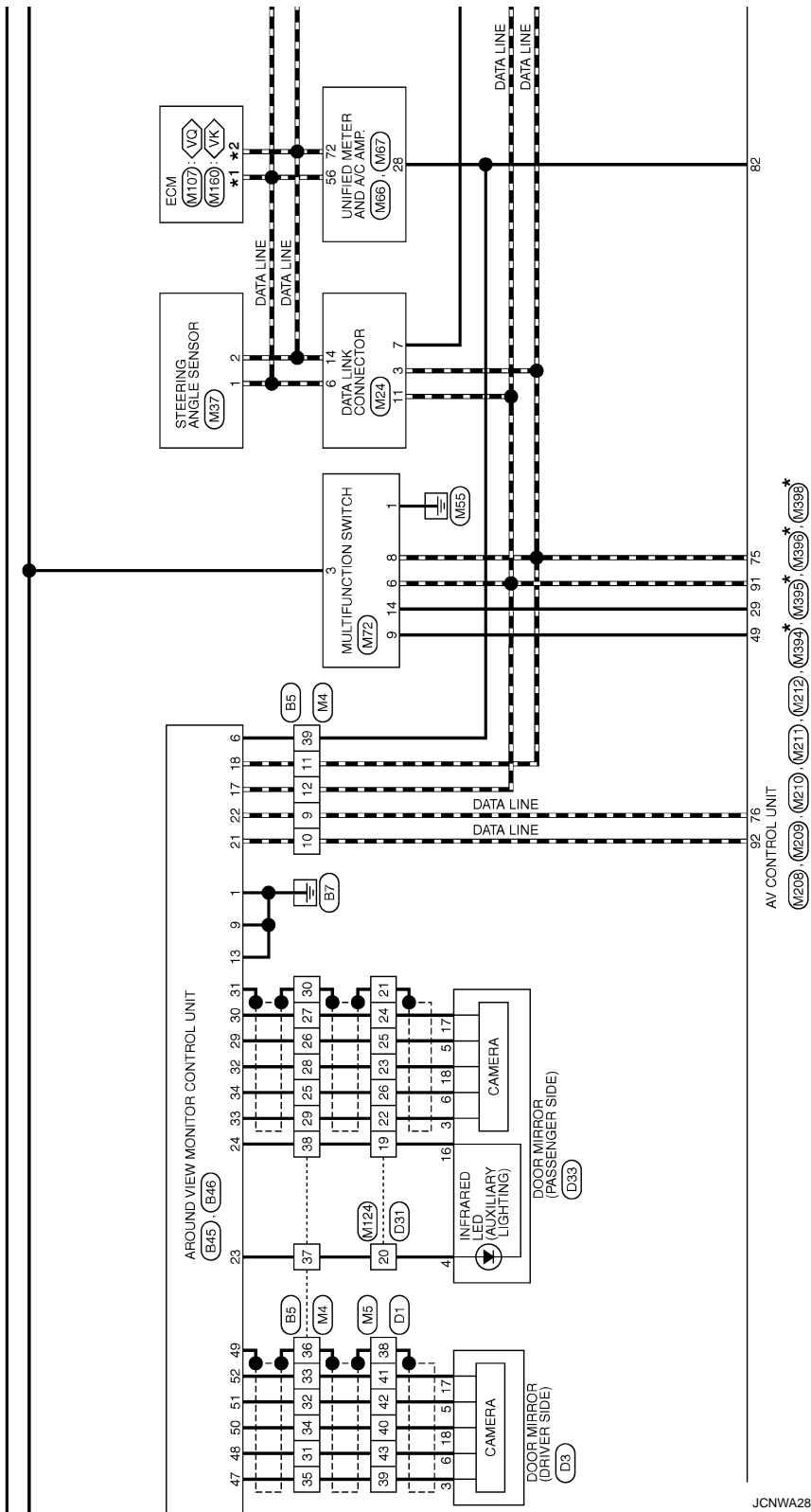
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# BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (SINGLE MONITOR)]

(VQ) : With VQ engine  
 (VK) : With VK engine  
 \*1 114 (VQ) 105 (VK)  
 \*2 113 (VQ) 101 (VK)



\*: This connector is not shown in "Harness Layout".

JCNWA2855GB

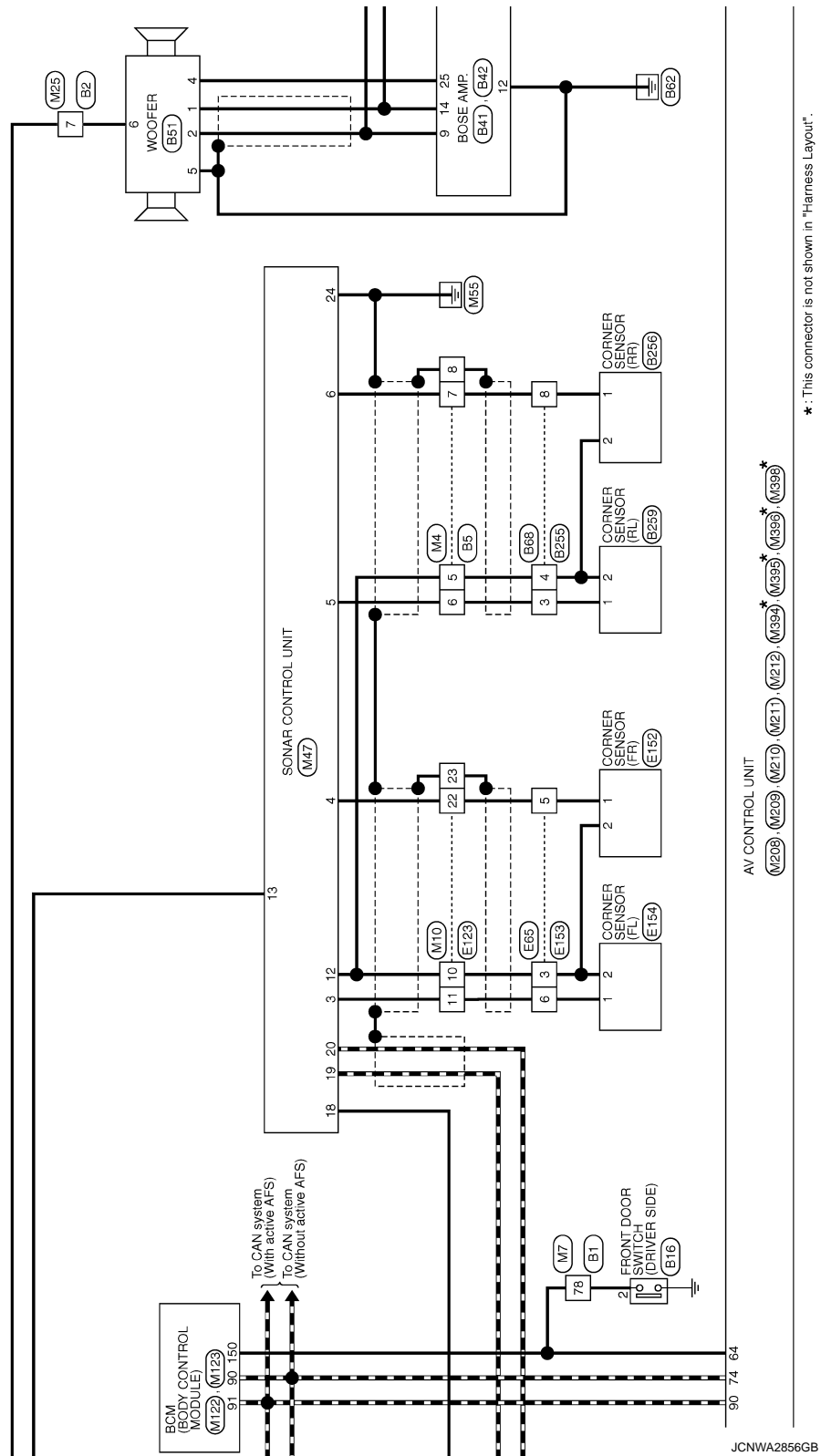
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# BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (SINGLE MONITOR)]

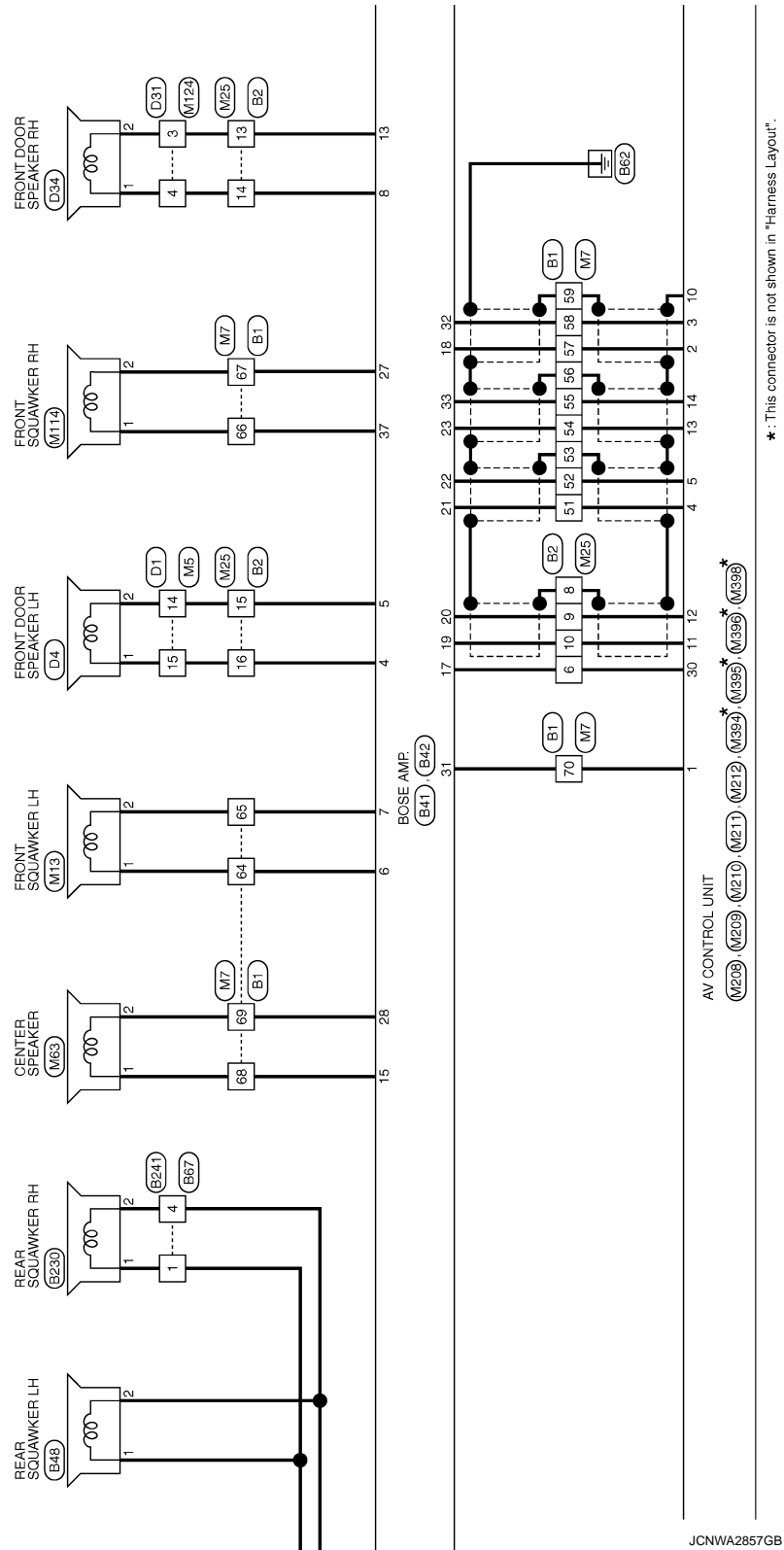


\*: This connector is not shown in "Harness Layout".

# BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (SINGLE MONITOR)]



\*: This connector is not shown in "Harness Layout".

JCNWA2857GB

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## < WIRING DIAGRAM >

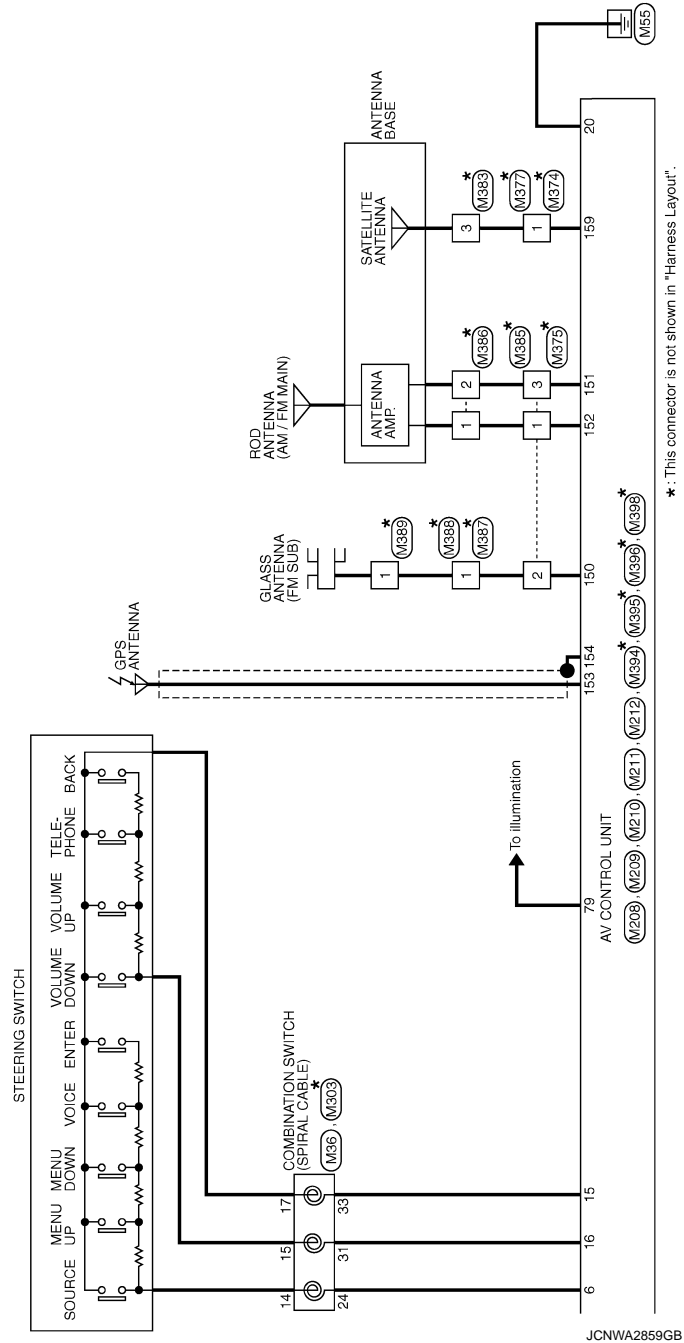
## < WIRING DIAGRAM >



# BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (SINGLE MONITOR)]



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# BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (SINGLE MONITOR)]

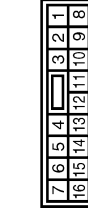
## BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Type	TH00PW-CS16-TM4



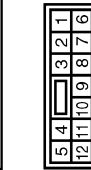
Terminal No.	Color of Wire	Signal Name [Specification]
1	G	-
2	L	-
3	W	-
5	G	-
6	G	-
7	P	-
8	O	-
9	W	-
10	SB	-
11	SB	-
12	B	-
13	G	-
14	R	-
15	W	-
16	SHIELD	-
17	L	-
18	P	-
19	G	-
20	Y	-
21	W	-
23	V	-
24	P	-
25	BR	-
26	GR	-
27	O	-
28	W	-
29	SHIELD	-
38	B	-
39	B	-
40	LG	-
41	G	-
42	GR	-
43	SB	-
44	V	-
45	GR	-
50	B	-
51	V	-
52	SB	-

Connector No.	B2
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-CS



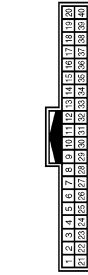
Terminal No.	Color of Wire	Signal Name [Specification]
6	O	-
7	W	-
8	SHIELD	-
9	G	-
10	R	-
11	V	-
12	SB	-
13	Y	-
14	LG	-
15	P	-
16	L	-

Connector No.	B4
Connector Name	WIRE TO WIRE
Connector Type	NS12FW-CS



Terminal No.	Color of Wire	Signal Name [Specification]
1	W	-
2	Y	-
3	BR	-
4	L	-
5	G	-
7	SHIELD	-
8	R	-
9	LG	-
10	BR	-
11	O	-
12	GR	-

Connector No.	B5
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-NH



Terminal No.	Color of Wire	Signal Name [Specification]
5	B	-
6	W	-
7	R	-
8	SHIELD	-
9	LG	-
10	SB	-
11	LG	-
12	SB	-
21	Y	-
22	G	-
23	LG	-
24	R	-
25	L	-
26	R	-
27	Y	-
28	W	-
29	BR	-
30	SHIELD	-
31	L	-
32	R	-
33	Y	-
34	W	-
35	BR	-
36	SHIELD	-
37	LG	-
38	G	-
39	V	-

JCNWA2860GB



# BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (SINGLE MONITOR)]

## BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

Connector No.	B16
Connector Name	FUSE BLOCK (U/B)
Connector Type	HS/2BR-CS



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

Terminal No.	Color of Wire	Signal Name [Specification]
4G	R	-
5G	LG	-
7G	O	-
10G	W	-
11G	W	-
12G	GR	-

Connector No.	B14
Connector Name	WIRE TO WIRE
Connector Type	TH/2FW-NH



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

Terminal No.	Color of Wire	Signal Name [Specification]
1	G	-
2	LG	-
3	R	-
5	W	-
6	R	-
7	Y	-
11	SHIELD	-
12	W	- [With around view monitor]
12	B	- [Without around view monitor]

Connector No.	B28
Connector Name	WIRE TO WIRE
Connector Type	TH/2MM-NH



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 [Specification]
1	R	-
2	B	-
3	W	-
4	SHIELD	-
5	G	-
6	L	-
7	Y	-
8	BR	-
9	W	-
10	SHIELD	-
11	W	-
13	O	-
14	V	-
15	W	-
16	B	-
17	G	-
18	LG	-
19	R	-
20	O	-
21	BR	-
22	GR	-
23	L	-

Connector No.	B41
Connector Name	BOSE AMP.
Connector Type	SCA19BR-SGA4



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Terminal No.	Color of Wire	Signal Name [Specification]
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15	Y	SOUND SIGNAL CENTER SPEAKER (+)
17	O	MODE CHANGE SIGNAL
18	P	SOUND SIGNAL FRONT LH (+)
19	R	SOUND SIGNAL FRONT RH (+)
20	G	SOUND SIGNAL FRONT RH (-)
21	V	SOUND SIGNAL REAR LH (+)
22	SB	SOUND SIGNAL REAR LH (-)
23	BR	SOUND SIGNAL REAR RH (+)
25	GR	WOOFER AMP. ON SIGNAL
27	LG	SOUND SIGNAL FRONT SQUAWKER RH (-)
28	G	SOUND SIGNAL CENTER SPEAKER (-)
31	GR	AMP. ON SIGNAL
32	L	SOUND SIGNAL FRONT LH (-)
33	Y	SOUND SIGNAL REAR RH (-)
37	V	SOUND SIGNAL FRONT SQUAWKER RH (+)

Connector No.	B42
Connector Name	BOSE AMP.
Connector Type	SGA12BR-SJA2



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

Terminal No.	Color of Wire	Signal Name [Specification]
1	Y	SOUND SIGNAL REAR DOOR SPEAKER LH (+)
2	SB	SOUND SIGNAL REAR DOOR SPEAKER RH (+)
3	V	SOUND SIGNAL REAR DOOR SPEAKER RH (-)
4	L	SOUND SIGNAL FRONT DOOR SPEAKER LH (+)
5	P	SOUND SIGNAL FRONT DOOR SPEAKER LH (-)
6	O	SOUND SIGNAL FRONT SQUAWKER LH (+)
7	W	SOUND SIGNAL FRONT SQUAWKER LH (-)
8	LG	SOUND SIGNAL FRONT DOOR SPEAKER RH (+)
9	G	SOUND SIGNAL WOOFER AND REAR SQUAWKER (+)
10	G	SOUND SIGNAL REAR DOOR SPEAKER LH (-)
11	GR	BATTERY
12	B	GND
13	Y	SOUND SIGNAL FRONT DOOR SPEAKER RH (-)
14	R	SOUND SIGNAL WOOFER AND REAR SQUAWKER (-)

# BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (SINGLE MONITOR)]

## BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

Connector No.	B45
Connector Name	AROUND VIEW MONITOR CONTROL UNIT
Connector Type	TH4FW-NH



42	44	46	48	50	52	54	56	58
41	43	45	47	49	51	53	55	57

Terminal No.	Color of Wire	Signal Name [Specification]
41	L	FRONT CAMERA IMAGE SIGNAL
42	BR	FRONT CAMERA IMAGE GND
43	SHIELD	SHIELD
44	Y	FRONT CAMERA GND
45	W	FRONT CAMERA COMM
46	G	FRONT CAMERA POWER SUPPLY
47	BR	SIDE CAMERA LH COMM
48	L	SIDE CAMERA LH POWER SUPPLY
49	SHIELD	SHIELD
50	W	SIDE CAMERA LH GND
51	R	SIDE CAMERA LH IMAGE SIGNAL
52	Y	SIDE CAMERA LH IMAGE GND

Connector No.	B46
Connector Name	AROUND VIEW MONITOR CONTROL UNIT
Connector Type	TH4FW-NH



42	44	46	48	50	52	54	56	58
41	43	45	47	49	51	53	55	57

Terminal No.	Color of Wire	Signal Name [Specification]
1	B	GND
2	Y	BATTERY
3	G	IGNITION SIGNAL
4	LG	ACC
5	R	ILLUMINATION SIGNAL
6	V	VEHICLE SPEED SIGNAL (8-PULSE)
7	O	REVERSE SIGNAL
8	B	CONTROL SIGNAL
13	B	CONTROL SIGNAL
17	SB	AV COMM (H)

18	LG	AV COMM (L)
21	SB	AV COMM (H)
22	LG	AV COMM (L)
23	LG	AUXILIARY INFRARED LED (+)
24	G	AUXILIARY INFRARED LED (-)
27	W	CAMERA IMAGE SIGNAL
28	SHIELD	SHIELD
29	R	SIDE CAMERA RH IMAGE SIGNAL
30	Y	SIDE CAMERA RH IMAGE GND
31	SHIELD	SHIELD
32	W	SIDE CAMERA RH GND
33	BR	SIDE CAMERA RH COMM
34	L	SIDE CAMERA RH POWER SUPPLY
35	W	REAR CAMERA COMM
36	G	REAR CAMERA POWER SUPPLY
37	SHIELD	SHIELD
38	L	REAR CAMERA GND
39	Y	REAR CAMERA IMAGE SIGNAL
40	BR	REAR CAMERA IMAGE GND

Connector No.	B48
Connector Name	REAR SQUAWKER LH
Connector Type	TK02FBR



21	21
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Terminal No.	Color of Wire	Signal Name [Specification]
1	G	-
2	R	-

Connector No.	B51
Connector Name	WOOFER
Connector Type	RS06FGY-PR



2	4	6
1	5	1

Terminal No.	Color of Wire	Signal Name [Specification]
1	R	SOUND SIGNAL WOOFER (-)
2	G	SOUND SIGNAL WOOFER (+)
4	GB	WOOFER AMP ON SIGNAL
5	B	GND
6	W	BATTERY

Connector No.	B67
Connector Name	WIRE TO WIRE
Connector Type	NS08MM-OS



1	2	3
4	5	6
7	8	8

Terminal No.	Color of Wire	Signal Name [Specification]
1	G	-
4	R	-
5	GR	-
6	L	-
8	R	-

Connector No.	B68
Connector Name	WIRE TO WIRE
Connector Type	RS08MGY



1	2	3	4
5	6	7	8

Terminal No.	Color of Wire	Signal Name [Specification]
3	W	-
4	B	-
8	R	-

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# BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (SINGLE MONITOR)]

## BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

Connector No.	B201
Connector Name	WIRE TO WIRE
Connector Type	TH00FW-CS16-TM4



Terminal No.	Color of Wire	Signal Name [Specification]
1	G	-
2	R	-
3	BR	-
4	SB	-
6	O	-
7	GR	-
8	W	-
10	G	-
11	BR	-
12	Y	-
13	SHIELD	-
14	G	-
15	R	-
16	SHIELD	-
17	LG	-
18	GR	-
19	V	-
20	SB	-
21	LG	-
22	B	- [With entertainment system] - [Without entertainment system]
23	GR	- [With entertainment system] - [Without entertainment system]
24	R	- [With entertainment system] - [Without entertainment system]
25	SHIELD	- [With entertainment system] - [Without entertainment system]
26	SB	- [With entertainment system] - [Without entertainment system]
27	V	-
28	SHIELD	-
29	O	-
30	P	-
31	W	-
32	GR	-
33	SB	-
40	LG	- [With ICC] - [Without ICC]
41	SB	- [With ICC]

41	Y	- [Without ICC] - [With ICC]
42	W	- [Without ICC] - [With ICC]
43	BR	- [Without ICC] - [With ICC]
44	R	-
45	G	-
46	O	- [With ICC] - [Without ICC]
47	L	- [With ICC] - [Without ICC]
48	P	- [With ICC] - [Without ICC]
49	G	- [With ICC] - [Without ICC]
50	SHIELD	- [With ICC] - [Without ICC]
51	W	-
52	R	-
53	G	-
54	L	-
55	SB	-
60	GR	-
61	LG	-
62	SB	-
63	P	-
64	BR	-
65	R	-
66	Y	-
67	W	-
68	SHIELD	-
69	G	-
71	SB	-
72	V	-
73	LG	-
74	W	-
75	BR	-
76	V	-
77	LG	-
80	O	-
81	G	-
82	P	-
83	Y	-
84	R	-
85	SB	-
86	GR	-
87	L	-
91	V	-
92	W	-
93	R	-
94	LG	-
95	GR	-
96	W	-

97	G	-
98	O	-
99	L	-
100	Y	-

Connector No.	B218
Connector Name	WIRE TO WIRE
Connector Type	NH10FW-CS10

6	5	4	3	2	1
20	19	18	17	16	15
14	13	12	11	10	9
8	7	6	5	4	3
2	1	0	9	8	7



Terminal No.	Color of Wire	Signal Name [Specification]
2	GR	-
3	W	-
4	R	-
5	SB	-
6	B	-
8	G	-
11	Y	-
12	LG	-
13	P	-
17	SB	-
18	BR	-
19	BR	-
20	LG	-

Connector No.	B230
Connector Name	REAR SQUAWKER PH
Connector Type	TK02FBR



2	1
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Terminal No.	Color of Wire	Signal Name [Specification]
1	G	-
2	R	-

Connector No.	B241
Connector Name	WIRE TO WIRE
Connector Type	NS06FW-CS



3	2	1
8	7	6
5	4	3

Terminal No.	Color of Wire	Signal Name [Specification]
1	G	-
4	R	-
5	W	-
6	L	-
8	P	-

Connector No.	B255
Connector Name	WIRE TO WIRE
Connector Type	RS08FGY



4	3	2	1
8	7	6	5

Terminal No.	Color of Wire	Signal Name [Specification]
3	W	-
4	B	-
8	R	-

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# BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (SINGLE MONITOR)]

## BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

Connector No.	B256
Connector Name	CORNER SENSOR (RR)
Connector Type	YDX02FB



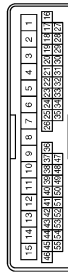
Terminal No.	Color of Wire	Signal Name [Specification]
1	R	-
2	B	-

Connector No.	B259
Connector Name	CORNER SENSOR (RL)
Connector Type	YDX02FB



Terminal No.	Color of Wire	Signal Name [Specification]
1	W	-
2	B	-

Connector No.	D1
Connector Name	WIRE TO WIRE
Connector Type	TH40TW-CS15



Terminal No.	Color of Wire	Signal Name [Specification]
1	B	-
3	G	-

6	GR	-
7	W	-
8	SB	-
9	BR	-
10	O	-
11	R	-
12	LG	-
13	Y	-
14	P	-
15	L	-
20	V	-
21	Y	-
22	GR	-
23	SB	-
24	LG	-
26	G	-
27	V	-
28	P	-
29	Y	-
30	LG	-
31	O	-
32	BR	-
33	L	-
34	GR	-
35	B	-
38	SHIELD	-
39	W	-
40	BR	-
41	L	-
42	Y	-
43	R	-
44	BR	-
45	V	-
46	P	-
47	W	-
48	GR	-
49	R	-
50	B	-
51	SB	-
52	L	-
53	G	-
54	O	-
55	GR	-

Connector No.	D3
Connector Name	DOOR MIRROR (DRIVER SIDE)
Connector Type	TH2AMH-NH



Terminal No.	Color of Wire	Signal Name [Specification]
2	R	-
3	W	SIDE CAMERA LH COMM
5	Y	SIDE CAMERA LH IMAGE SIGNAL
6	R	SIDE CAMERA LH POWER SUPPLY
7	GR	-
8	SB	-
9	L	-
10	G	-
11	GR	-
12	O	-
14	B	-
17	L	SIDE CAMERA LH IMAGE GND
18	BR	SIDE CAMERA LH GND
19	B	-
21	P	-
22	BR	-
23	W	-
24	V	-

Connector No.	D4
Connector Name	FRONT DOOR SPEAKER LH
Connector Type	NS02FBR-CS



Terminal No.	Color of Wire	Signal Name [Specification]
1	L	-
2	P	-

Connector No.	D31
Connector Name	WIRE TO WIRE
Connector Type	TH40FW-CS15



Terminal No.	Color of Wire	Signal Name [Specification]
3	P	-
4	L	-
5	W	-
6	P	-
7	G	-
8	R	-
9	LG	-
13	B	-
14	V	-
15	Y	-
19	G	-
20	LG	-
21	SHIELD	-
22	W	-
23	BR	-
24	L	-
25	Y	-
26	R	-
31	LG	-
32	R	-
33	SB	-
34	Y	-
35	GR	-
36	O	-
37	GR	-
38	G	-
39	O	-
40	Y	-
41	L	-
42	O	-
43	BR	-
44	V	-
45	P	-
46	W	-

JCNWA2864GB

# BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (SINGLE MONITOR)]

## BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

Connector No.	D33
Connector Name	DOOR MIRROR (PASSENGER SIDE)
Connector Type	TH24MW-NH

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



Connector No.	D51
Connector Name	WIRE TO WIRE
Connector Type	NH10MM-CS10

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



Connector No.	D71
Connector Name	WIRE TO WIRE
Connector Type	NH10MM-CS10

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



Connector No.	D102
Connector Name	WIRE TO WIRE
Connector Type	TH24FW-NH

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 [Specification]
2	Y	-
3	W	SIDE CAMERA RH COMM
4	LG	SIDE CAMERA RH IMAGE SIGNAL
5	Y	SIDE CAMERA RH POWER SUPPLY
6	R	-
7	LG	-
8	O	-
9	L	-
10	G	-
11	GR	-
12	O	-
14	O	-
16	G	-
17	L	SIDE CAMERA RH IMAGE GND
18	BR	SIDE CAMERA RH GND
19	B	-
21	P	-
22	BR	-
23	W	-
24	V	-



Connector No.	D34
Connector Name	FRONT DOOR SPEAKER RH
Connector Type	NS02FBR-CS



Terminal No.	Color of Wire	Signal Name [Specification]
1	L	-
2	P	-

Terminal No.	Color of Wire	Signal Name [Specification]
2	V	-
3	L	-
4	R	-
5	SB	-
6	B	-
8	G	-
11	LG	-
12	L	-
13	Y	-
17	O	-
18	BR	-
19	V	-
20	W	-



Connector No.	D56
Connector Name	REAR DOOR SPEAKER LH
Connector Type	NS02FBR-CS



Terminal No.	Color of Wire	Signal Name [Specification]
1	SB	-
2	V	-

Terminal No.	Color of Wire	Signal Name [Specification]
2	L	-
3	P	-
4	R	-
5	SB	-
6	B	-
8	G	-
11	LG	-
12	L	-
13	Y	-
17	O	-
18	BR	-
19	V	-
20	W	-



Connector No.	D76
Connector Name	REAR DOOR SPEAKER RH
Connector Type	NS02FBR-CS



Terminal No.	Color of Wire	Signal Name [Specification]
1	SB	-
2	V	-

Terminal No.	Color of Wire	Signal Name [Specification]
1	G	-
2	L	-
3	Y	-
4	SHIELD	-
5	R	-
6	G	-
7	Y	-
8	L	-
9	W	-
10	SHIELD	-
11	W	-
13	W	-
14	SB	-
15	BR	-
16	R	-
17	V	-
18	LG	-
19	P	-
20	O	-
21	O	-
22	GR	-
23	L	-

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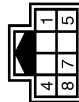
# BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (SINGLE MONITOR)]

## BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

Connector No.	D111
Connector Name	REAR CAMERA
Connector Type	TH08MW-RH



Connector No.	E66
Connector Name	WIRE TO WIRE
Connector Type	RS08FB-PR



Terminal No.	Color of Wire	Signal Name [Specification]
1	L	REAR CAMERA IMAGE GND
4	W	REAR CAMERA COMM
5	Y	REAR CAMERA IMAGE SIGNAL
7	G	REAR CAMERA GND
8	R	REAR CAMERA POWER SUPPLY

Connector No.	E65
Connector Name	WIRE TO WIRE
Connector Type	RS08FB-PR



Terminal No.	Color of Wire	Signal Name [Specification]
1	GR	-
2	L	-
3	Y	-
4	R	-
5	B/W	-
6	BR	-
7	W	-
8	SHIELD	-

Connector No.	E104
Connector Name	WIRE TO WIRE
Connector Type	NS12MW-CS



Terminal No.	Color of Wire	Signal Name [Specification]
1	Y	-
3	BR	-
4	L	-
5	R	-
6	W	-

Terminal No.	Color of Wire	Signal Name [Specification]
1	W	-
2	BR	-
3	L	-
4	Y	-
5	R	-
7	SHIELD	-
8	SB	-
9	LG	-
10	BR	-
11	O	-
12	GR	-

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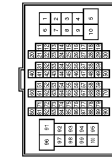
# BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (SINGLE MONITOR)]

## BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

Connector No.	E106
Connector Name	WIRE TO WIRE
Connector Type	TH00FW-CS16-TM4



36	P	-
37	Y	-
38	GR	-
39	LG	-
40	LG	-
41	LG	-
42	V	-
43	R	-
44	G	-
45	GR	-
46	W	-
47	L	-
48	P	-
49	SB	-
50	BR	-
51	B	-
52	O	-
53	O	-
54	R	-
55	SB	-
56	P	-
57	P	-
58	SB	-
59	V	-
60	SB	-
61	V	-
62	P	-
63	LG	-
64	L	-
65	O	-
66	L	-
67	L	-
68	SHIELD	-
69	G	-
70	G	-
71	G	-
72	G	-
73	R	-
74	BR	-
75	L	-
76	L	-
77	W	-
78	Y	-
79	SB	-
80	SB	-
81	L	-
82	W	-
83	LG	-
84	GR	-
85	G	-
86	P	-
87	W	-
88	O	-
89	LG	-
90	BR	-
91	GR	-
92	BR	-
93	SB	-
94	W	-

Terminal No.	Color of Wire	Signal Name [Specification]
1	G	-
2	O	-
3	SB	-
4	LG	-
5	Y	-
6	W	-
7	G	-
8	V	-
9	R	-
10	BR	-
11	B	-
12	G	-
13	R	-
14	W	-
15	SHIELD	-
16	SB	-
17	L	-
18	P	-
19	G	-
20	W	-
21	BR	-
22	R	-
23	G	-
24	L	-
25	P	-
26	L	-
27	SHIELD	-
28	G	-
29	LG	-
30	O	-
31	BR	-
32	W	-
33	Y	-
34	O	-
35	SB	-

95	Y	-
96	W	-
100	Y	-

Connector No.	E107
Connector Name	PARKING BRAKE SWITCH
Connector Type	TE01FW



Terminal No.	Color of Wire	Signal Name [Specification]
1	LG	-

Connector No.	E123
Connector Name	WIRE TO WIRE
Connector Type	TH24MM-NH



Terminal No.	Color of Wire	Signal Name [Specification]
1	SB	-
2	G	-
3	B	-
4	W	-
5	R	-
6	SHIELD	-
7	Y	-
8	GR	-
9	LG	-
10	BR	-
11	W	-
12	Y	-
13	O	-
14	R	-
15	W	-
16	G	-

17	B	-
18	SHIELD	-
19	V	-
20	O	-
21	BR	-
22	R	-
23	SHIELD	-
24	L	-

Connector No.	E151
Connector Name	WIRE TO WIRE
Connector Type	RS08MB-FR



Terminal No.	Color of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	Y	-
4	R	-
5	GR	-
6	BR	-
7	W	-
8	SHIELD	-

Connector No.	E152
Connector Name	CORNER SENSOR (FR)
Connector Type	YDX02FB



Terminal No.	Color of Wire	Signal Name [Specification]
1	R	-
2	B	-

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# BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (SINGLE MONITOR)]

## BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

Connector No.	E153
Connector Name	WIRE TO WIRE
Connector Type	RS08MB



Terminal No.	Color of Wire	Signal Name [Specification]
3	B	—
5	R	—
6	W	—

Connector No.	E154
Connector Name	CORNER SENSOR (FL)
Connector Type	YD402FB



Terminal No.	Color of Wire	Signal Name [Specification]
1	W	—
2	B	—

Connector No.	E155
Connector Name	FRONT CAMERA
Connector Type	RH05FB



Terminal No.	Color of Wire	Signal Name [Specification]
1	R	FRONT CAMERA POWER SUPPLY

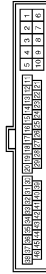
Connector No.	BR
Connector Name	FRONT CAMERA GND
Connector Type	FRONT CAMERA IMAGE SIGNAL
Connector No.	L
Connector Name	FRONT CAMERA IMAGE GND
Connector Type	FRONT CAMERA COMM

Connector No.	F51
Connector Name	A/T ASSEMBLY
Connector Type	PK10FG-DGY



Terminal No.	Color of Wire	Signal Name [Specification]
1	Y	—
2	R	— [With VK engine]
3	BR	— [With VK engine]
4	V	—
5	B	—
6	Y	—
7	P	—
8	P	—
9	LG	— [With VK engine]
10	GR	— [With VK engine]

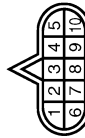
Connector No.	F103
Connector Name	WIRE TO WIRE
Connector Type	TK38FW-NS10



Terminal No.	Color of Wire	Signal Name [Specification]
1	SHIELD	—
2	G	—
3	W	—
4	GR	— [With VK engine]

4	R	— [With VQ engine]
5	R	— [With VK engine]
6	B	— [With VQ engine]
7	SHIELD	—
8	B	—
9	W	— [With VK engine]
10	Y	— [With VQ engine]
11	L	— [With VK engine]
12	GR	— [With VQ engine]
13	GR	—
14	R	—
15	O	—
16	Y	—
17	BR	—
18	L	—
19	B	—
20	Y	—
21	BR	—
22	L	—
23	B	—
24	LG	—
25	R	—
26	LG	—
27	W	—
28	Y	—
29	P	—
30	Y	—
31	P	—
32	Y	—
33	P	—
34	L	—
35	Y	—
36	Y	—
37	Y	—
38	Y	—
39	P	—
40	L	—
41	Y	—
42	Y	—
43	Y	—
44	Y	—
45	Y	—
46	Y	—

Connector No.	F51
Connector Name	TGM (TRANSMISSION CONTROL MODULE)
Connector Type	SP10FG



Terminal No.	Color of Wire	Signal Name [Specification]
1	W	VIGN
2	B	BATT
3	R	CAN-H
4	O	K LINE
5	G	GND
6	GR	VIGN
7	L	REV LAMP RLY
8	BR	CAN-L
9	Y	START RLY

10	W/B	GND
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Connector No.	M1
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS06FH-M2



Terminal No.	Color of Wire	Signal Name [Specification]
1A	O	—
2A	G	—
3A	L	—
4A	P	—
5A	V	—
6A	Y	—
7A	R	—
8A	L	—

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS12FH-CS



Terminal No.	Color of Wire	Signal Name [Specification]
6C	P	—
7C	B	—
9C	O	—
10C	L	—
11C	LG	—
12C	R	—

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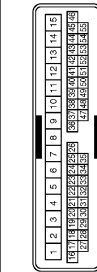
# BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (SINGLE MONITOR)]

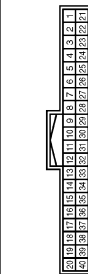
49	R	-
50	O	-
51	SB	-
52	R	-
53	Y	-
54	LG	-
55	L	-

Connector No.	M5
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-CS15



## BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

Connector No.	M4
Connector Name	WIRE TO WIRE
Connector Type	TH40FW-1H



Terminal No.	Color of Wire	Signal Name [Specification]
1	B	-
3	SB	-
6	R	-
7	W	-
8	G	-
9	L	-
10	O	-
11	G	-
12	V	-
13	Y	-
14	P	-
15	L	-
20	O	-
21	LG	-
22	V	-
23	Y	-
24	P	-
26	SB	-
27	V	-
28	LG	-
29	R	-
30	P	-
31	O	-
32	SB	-
33	L	-
34	R	-
35	B	-
36	SHIELD	-
39	W	-
40	B	-
41	G	-
42	Y	-
43	R	-
44	G	-
45	Y	-
46	GR	-
47	W	-
48	L	-

Terminal No.	Color of Wire	Signal Name [Specification]
5	B	-
6	W	-
7	R	-
8	SHIELD	-
9	LG	-
10	SB	-
11	LG	-
12	SB	-
21	Y	-
22	R	-
23	V	-
24	R	-
25	R	-
26	Y	-
27	G	-
28	B	-
29	W	-
30	SHIELD	-
31	R	-
32	Y	-
33	G	-
34	B	-
35	W	-
36	SHIELD	-
37	LG	-
38	G	-
39	V	-

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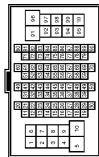
# BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (SINGLE MONITOR)]

## BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4



Terminal No.	Color of Wire	Signal Name [Specification]
1	G	-
2	O	-
3	SB	-
4	LG	-
5	GR	-
6	W	-
7	G	-
8	W	-
9	P	-
10	BR	-
11	B	-
12	G	-
13	R	-
14	W	-
15	SHIELD	-
16	BR	-
17	L	-
18	P	-
19	G	-
20	W	- [With ICC]
20	GR	- [Without ICC]
21	BR	- [With ICC]
21	R	- [Without ICC]
22	R	- [With ICC]
22	L	- [Without ICC]
23	G	-
24	L	- [With ICC]
24	P	- [Without ICC]
25	Y	- [With ICC]
25	W	- [Without ICC]
26	SHIELD	-
28	GR	-
29	V	-
30	O	-
31	BR	-
32	W	-
33	Y	-
34	L	-

94	L	-
95	G	-
96	W	-
100	Y	-

35	L	-
36	P	-
37	G	-
38	R	-
39	G	-
41	L	-
42	W	-
43	R	-
44	LG	-
45	GR	-
46	W	-
47	L	-
48	P	-
49	O	-
50	LG	-
51	SB	-
52	Y	-
53	O	-
54	BR	-
55	SB	-
56	P	-
59	SB	-
60	SB	-
61	V	-
62	P	-
63	R	-
64	L	-
65	O	-
66	L	-
68	V	-
69	SHIELD	-
70	O	-
71	GR	-
72	W	-
73	SB	-
74	V	-
76	V	-
77	Y	-
78	O	-
80	L	-
81	W	-
82	W	-
83	Y	-
84	L	-
85	P	-
86	BR	-
87	P	-
88	V	-
89	G	-
90	P	-
91	R	-
92	R	-
93	Gx	-

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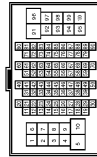
# BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (SINGLE MONITOR)]

## BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

Connector No.	M7
Connector Name	WIRE TO WIRE
Connector Type	TH03MW-CS16-TM4

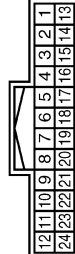


Terminal No.	Color of Wire	Signal Name [Specification]
1	G	-
2	B	-
3	W	-
5	G	-
6	P	-
7	V	-
8	O	-
9	W	-
10	W	-
11	O	-
12	B	-
13	G	-
14	R	-
15	W	-
16	SHIELD	-
17	L	-
18	P	-
19	G	-
20	R	-
21	LG	-
23	V	-
24	P	-
25	BR	-
26	GR	-
27	O	-
28	W	-
29	SHIELD	-
38	B	-
39	B	-
40	LG	-
41	G	-
42	Y	-
43	SB	-
44	W	-
45	B	-
50	B	-
51	V	-
52	LG	-

53	SHIELD	-
54	BR	-
55	Y	-
56	SHIELD	-
57	P	-
58	L	-
59	SHIELD	-
60	L	-
61	BR	-
62	R	-
63	Y	-
64	L	-
65	W	-
66	V	-
67	LG	-
68	Y	-
69	G	-
70	V	-
71	W	-
72	B	-
73	W	-
74	LG	-
75	P	-
76	LG	-
77	SB	-
78	GR	-
79	R	-
80	L	-
81	P	-
82	L	-
83	P	-
84	SB	-
85	W	-
86	Y	-
87	B	-
88	G	-
89	O	-
90	W	-
91	R	-
92	O	-
93	BR	-
94	V	-
95	Y	-
96	O	-
97	W	-
98	R	-
99	G	-
99	O	-

- [With VK engine]  
- [With VG engine]

Connector No.	M10
Connector Name	WIRE TO WIRE
Connector Type	TH24FW-NH



Terminal No.	Color of Wire	Signal Name [Specification]
1	SB	-
2	G	-
3	B	-
4	W	-
5	R	-
6	SHIELD	-
7	Y	-
8	GR	-
9	LG	-
10	B	-
11	W	-
13	O	-
14	G	-
15	B	-
16	W	-
17	R	-
18	SHIELD	-
19	V	-
20	O	-
21	BR	-
22	R	-
23	SHIELD	-

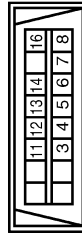
Connector No.	M13
Connector Name	FRONT SQUAWKER LH
Connector Type	TK02FBR



Terminal No.	Color of Wire	Signal Name [Specification]
21	-	-

1	L
2	W

Connector No.	M24
Connector Name	DATA LINK CONNECTOR
Connector Type	BD16FW



Terminal No.	Color of Wire	Signal Name [Specification]
3	LG	-
4	B	-
5	B	-
6	L	-
7	GR	-
8	G	-
11	SB	-
12	P	-
13	L	-
14	P	-
16	O	-

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# BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (SINGLE MONITOR)]

## BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

Connector No.	M25
Connector Name	WIRE TO WIRE
Connector Type	HS16MW-CS



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

Connector No.	M37
Connector Name	STEERING ANGLE SENSOR
Connector Type	TH08FW-NH



7	2	3	8
1	4	5	

Terminal No.	Color of Wire	Signal Name [Specification]
6	SB	-
7	Y	-
8	SHIELD	-
9	G	-
10	R	-
11	V	-
12	SB	-
13	Y	-
14	LG	-
15	P	-
16	L	-

Terminal No.	Color of Wire	Signal Name [Specification]
1	L	CAN-H
2	P	CAN-L
7	B	GND
8	GR	IGN

Connector No.	M47
Connector Name	SONAR CONTROL UNIT
Connector Type	TH24FW-NH



1	3	4	5	6	7	8	9	10	12
13				18	19	20	23	24	

1	3	4	5	6	7	8	9	10	12
13				18	19	20	23	24	

Connector No.	M36
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TK08GV-IV



24	25	26	
31	32	33	34

Terminal No.	Color of Wire	Signal Name [Specification]
24	P	-
25	SB	-
26	B	-
31	L	-
32	V	-
33	B	-
34	G	-

Terminal No.	Color of Wire	Signal Name [Specification]
3	W	CORNER SENSOR FRONT LH
4	R	CORNER SENSOR FRONT RH
5	W	CORNER SENSOR REAR LH
6	R	CORNER SENSOR REAR RH
12	B	SENSOR GND
13	V	ACC
18	P	K LINE
19	G	AV COMM (H)
20	R	AV COMM (L)
24	B	GND

Connector No.	M63
Connector Name	CENTER SPEAKER
Connector Type	TK02FBR



2	1
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Terminal No.	Color of Wire	Signal Name [Specification]
1	Y	-
2	G	-

Connector No.	M66
Connector Name	UNIFIED METER AND A/C AMP.
Connector Type	TH40FW-NH



2	3	4	5	6	7	8	10	11
12	13	15	16	17	18	19	24	25

Terminal No.	Color of Wire	Signal Name [Specification]
4	P	STOP LAMP SWITCH SIGNAL
5	L	MANUAL MODE SHIFT UP SIGNAL
6	O	PADDLE SHIFTER UP SIGNAL
7	GR	COMMUNICATION SIGNAL (AMP->METER)
8	L	VEHICLE SPEED SIGNAL (2-PULSE)
9	SB	FRONT SEAT BELT BUCKLE SWITCH SIGNAL DRIVER SIDE
10	W	MANUAL MODE SIGNAL
11	G	NON-MANUAL MODE SIGNAL
14	BR	COMMUNICATION SIGNAL (LCD->AMP)
20	L	ION SENSOR SIGNAL
23	Y	AT SNOW SWITCH SIGNAL
25	V	MANUAL MODE SHIFT DOWN SIGNAL
26	G	PADDLE SHIFTER DOWN SIGNAL
27	LG	COMMUNICATION SIGNAL (METER->AMP)
28	R	VEHICLE SPEED SIGNAL (6-PULSE)
30	V	PARKING BRAKE SWITCH SIGNAL
34	Y	COMMUNICATION SIGNAL (AMP->LCD)
38	L	BLOWER MOTOR CONTROL SIGNAL

Connector No.	M67
Connector Name	UNIFIED METER AND A/C AMP.
Connector Type	TH32FW-NH



41	42	43	44	45	46	47				53	54	55	56
57	58	59	60	61	62	63	65			69	70	71	72

Terminal No.	Color of Wire	Signal Name [Specification]
41	V	ACC POWER SUPPLY
42	Y	FUEL LEVEL SENSOR SIGNAL
43	R	INTAKE SENSOR SIGNAL
44	LG	IN-VEHICLE SENSOR SIGNAL
45	P	AMBIENT SENSOR SIGNAL
46	O	SUNLOAD SENSOR SIGNAL
47	V	GAS SENSOR SIGNAL
53	G	IGNITION POWER SUPPLY
54	O	BATTERY POWER SUPPLY
55	B	GROUND
56	L	CAN-H
57	W	BRAKE FLUID LEVEL SWITCH SIGNAL
58	B	FUEL LEVEL SENSOR GROUND
59	GR	INTAKE SENSOR GROUND
60	U	IN-VEHICLE SENSOR GROUND
61	BR	AMBIENT SENSOR GROUND
62	SB	SUNLOAD SENSOR GROUND
63	R	ION MODE SIGNAL
65	O	ECV SIGNAL
69	L	A/C LAMP SIGNAL
70	R	EACH DOOR MOTOR POWER SUPPLY
71	B	GROUND
72	P	CAN-L

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# BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (SINGLE MONITOR)]

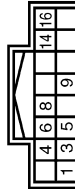
## BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

Connector No.	M69
Connector Name	BACK-UP LAMP RELAY
Connector Type	MS2EL-M2-LC



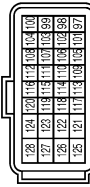
Terminal No.	Color of Wire	Signal Name [Specification]
1	R	-
2	W	-
3	R	-
5	O	-

Connector No.	M72
Connector Name	MULTIFUNCTION SWITCH
Connector Type	TH16FW-NH



Terminal No.	Color of Wire	Signal Name [Specification]
1	B	GND
3	V	ACC
4	R	ILL
5	R	ILL CONT
6	SB	AV COMM (H)
8	LG	AV COMM (L)
9	BR	SW GND
14	SB	DISK EJECT SIGNAL
16	G	HAZARD ON

Connector No.	M107
Connector Name	ECM
Connector Type	RK24FG-R26-R-LH-Z



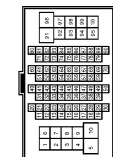
# BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (SINGLE MONITOR)]

## BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

Connector No.	M17
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4



Terminal No.	Color of Wire	Signal Name [Specification]
1	GR	-
2	BR	-
3	V	-
4	SB	-
6	Y	-
7	B	-
8	W	-
10	W	-
11	BR	-
12	GR	-
13	SHIELD	-
14	Y	-
15	P	-
16	SHIELD	-
17	Y	-
18	Y	-
19	LG	-
20	SB	-
21	LG	-
22	B	- [With entertainment system] - [Without entertainment system]
23	W	- [With entertainment system] - [Without entertainment system]
24	R	- [With entertainment system] - [Without entertainment system]
25	SHIELD	- [With entertainment system] - [Without entertainment system]
26	R	- [With entertainment system] - [Without entertainment system]
27	V	-
28	SHIELD	-
29	O	-
30	P	-
31	W	-
32	W	-
33	SB	-
40	V	-
41	SB	- [With ICG] - [Without ICG]
41	Y	-

42	V	- [With ICG] - [Without ICG]
43	P	- [With ICG] - [Without ICG]
44	R	- [With ICG] - [Without ICG]
45	L	- [With ICG] - [Without ICG]
46	O	- [With ICG] - [Without ICG]
47	L	- [With ICG] - [Without ICG]
48	P	- [With ICG] - [Without ICG]
49	G	- [With ICG] - [Without ICG]
50	SHIELD	-
51	O	-
52	GR	-
53	G	-
54	L	-
55	P	-
60	LG	-
61	R	-
62	SB	-
63	V	-
64	Y	-
65	BR	-
66	O	-
67	W	-
68	SHIELD	-
69	G	-
71	SB	-
72	V	-
73	V	-
74	LG	-
75	R	- [With VK engine] - [With VQ engine]
76	BR	- [With VQ engine]
77	LG	-
80	R	-
81	L	-
82	Y	-
83	O	-
84	W	-
85	SB	-
86	B	-
87	P	-
91	L	-
92	L	-
93	W	-
94	W	- [With VK engine] - [With VQ engine]
94	O	-

95	V	-
96	G	-
97	G	-
98	L	-
99	LG	-
100	Y	-

Connector No.	M122
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FB-NH



Terminal No.	Color of Wire	Signal Name [Specification]
72	R	ROOM ANT2-
73	G	ROOM ANT2+
74	SB	PASSENGER DOOR ANT-
75	BR	PASSENGER DOOR ANT+
76	V	DRIVER DOOR ANT-
77	LG	DRIVER DOOR ANT+
78	V	ROOM ANT1-
79	BR	ROOM ANT1+
80	GR	NATS ANT AMP-
81	W	NATS ANT AMP+
82	P	IGN RELAY F/B) CONT
83	GR	KEYLESS ENTRY RECEIVER SIGNAL
87	BR	COMBI SW INPUT 5
88	V	COMBI SW INPUT 3
89	SB	PUSH SW
90	P	GAIN-L
91	L	GAIN-H
92	LG	KEY SLOT ILL
93	V	ON IND
95	O	ACC RELAY CONT
96	GR	A/T SHIFT SELECTOR POWER SUPPLY
97	L	S/L CONDITION 1
98	P	S/L CONDITION 2
99	R	SHIFT P
100	G	PASSENGER DOOR REQUEST SW
101	SB	DRIVER DOOR REQUEST SW
102	O	BLOWER FAN MOTOR RELAY CONT
103	BR	KEYLESS ENTRY RECEIVER POWER SUPPLY
106	W	S/L UNIT POWER SUPPLY
107	LG	COMBI SW INPUT 1

108	R	COMBI SW INPUT 4
109	Y	COMBI SW INPUT 2
110	G	HAZARD SW
111	GR	S/L UNIT COMM

Connector No.	M123
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FG-NH



Terminal No.	Color of Wire	Signal Name [Specification]
112	GR	RAIN SENSOR SERIAL LINK
113	P	OPTICAL SENSOR
116	BR	STOP LAMP SW 1
118	P	STOP LAMP SW 2
119	SB	DR DOOR UNLOCK SENSOR
121	BR	KEY SLOT SW
123	W	IGN F/B
124	LG	PASSENGER DOOR SW
132	O	POWER WINDOW SW COMM
134	GR	LOCK IND
137	B	RECEIVER SENSOR GND
138	Y	SENSOR POWER SUPPLY
140	R	SHIFT N/P
141	G	SECURITY INDICATOR OUTPUT
142	O	COMBI SW OUTPUT 5
143	P	COMBI SW OUTPUT 1
144	G	COMBI SW OUTPUT 2
145	L	COMBI SW OUTPUT 3
146	SB	COMBI SW OUTPUT 4
150	GR	DRIVER DOOR SW
151	G	REAR WINDOW DEFOGGER RELAY CONT

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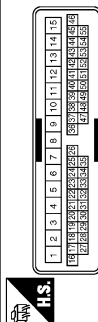
# BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (SINGLE MONITOR)]

## BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

Connector No.	M124
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-CS15



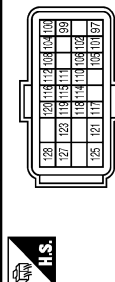
Connector No.	M144
Connector Name	WIRE TO WIRE
Connector Type	TH12MW-NH



Terminal No.	Color of Wire	Signal Name [Specification]
3	Y	-
4	LG	-
5	SB	-
6	BR	-
7	G	-
8	V	-
9	LG	-
13	B	-
14	O	-
15	Y	-
19	G	-
20	LG	-
21	SHIELD	-
22	W	-
23	B	-
24	G	-
25	Y	-
26	R	-
31	O	-
32	Y	-
33	LG	-
34	SB	-
35	V	-
36	O	-
37	GR	-
38	R	- [With automatic drive positioner]
39	G	- [Without automatic drive positioner]
40	R	-
41	P	-
42	LG	-
43	L	-
44	Y	-
45	R	-
46	W	-

Terminal No.	Color of Wire	Signal Name [Specification]
1	V	-
2	Y	-
3	R	-
5	W	-
6	R	-
7	Y	-
11	SHIELD	-
12	W	- [With around view monitor]
12	B	- [Without around view monitor]

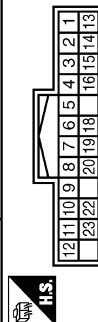
Connector No.	M160
Connector Name	ECM
Connector Type	RH24FGY-R28-R-LH-Z



Terminal No.	Color of Wire	Signal Name [Specification]
97	R	TACHO
99	L	AVCC2-APSS2 [With ICG]
99	G	AVCC2-APSS2 [Without ICG]
100	G	AVCC-APSS1 [With ICG]
100	L	AVCC-APSS1 [Without ICG]
101	P	VEHCAN-L
102	SB	ASCDSW
104	R	APSS1
105	L	VEHCAN-H
106	L	IGNSW
108	Y	APSS2 [With ICG]
108	P	APSS2 [Without ICG]
110	P	BRAKE

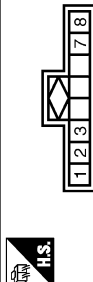
111	V	GND4-ASCDSW
112	LG	FFCMCK
114	GR	K-LINE
115	BR	GND4-APSS2 [With ICG]
115	GR	GND4-APSS2 [Without ICG]
116	G	NEUT-H
117	GR	ENCSW
118	R	BATT1
119	W	GND4-APSS1
120	W	TF
121	GR	VEH
123	B	GND
125	R	FFCM
127	LG	ODCV
128	B	GND

Connector No.	M195
Connector Name	FRONT DISPLAY UNIT
Connector Type	TH42FW-NH



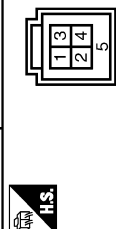
Terminal No.	Color of Wire	Signal Name [Specification]
6	SHIELD	SHIELD
7	SHIELD	SHIELD
8	W	CAMERA IMAGE SIGNAL
9	G	COMM (DISP->CONT)
10	R	COMM (CONT->DISP)
11	P	BATTERY
12	B	GND
18	R	COMPOSITE IMAGE SIGNAL
19	B	COMPOSITE IMAGE SIGNAL GND
20	W	COMPOSITE IMAGE SYNC SIGNAL
22	SHIELD	SHIELD
23	L	ACC

Connector No.	M196
Connector Name	AUXILIARY INPUT JACK
Connector Type	HA08FW



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

Connector No.	M197
Connector Name	USB CONNECTOR
Connector Type	HA404FG



Terminal No.	Color of Wire	Signal Name [Specification]
1	W	-
2	L	-
3	G	-
4	R	-
5	SHIELD	-

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## [NAVIGATION (SINGLE MONITOR)]

Terminal No.	Color of Wire	Signal Name [Specification]
1		



# BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (SINGLE MONITOR)]

## BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

Connector No.	M375
Connector Name	WIRE TO WIRE
Connector Type	GT13SC-2/IS-HU



Terminal No.	Color of Wire	Signal Name [Specification]
1	-	-
2	-	-
3	-	-

Connector No.	M377
Connector Name	WIRE TO WIRE
Connector Type	GT16C-1PP-HU



Terminal No.	Color of Wire	Signal Name [Specification]
1	-	-

Connector No.	M383
Connector Name	ANTENNA BASE
Connector Type	GT16C-1PP-HU



Terminal No.	Color of Wire	Signal Name [Specification]
3	-	SATELLITE ANTENNA

Connector No.	M385
Connector Name	WIRE TO WIRE
Connector Type	GT13SCH-2/1PP-HU



Terminal No.	Color of Wire	Signal Name [Specification]
1	-	-
2	-	-
3	-	-

Connector No.	M386
Connector Name	ANTENNA BASE
Connector Type	GT13SSH-1/1PP-HU



Terminal No.	Color of Wire	Signal Name [Specification]
1	-	ANTENNA AMP. ON SIGNAL
2	-	AM-FM MAIN

Connector No.	M387
Connector Name	WIRE TO WIRE
Connector Type	JASO JACK



Terminal No.	Color of Wire	Signal Name [Specification]
1	-	-

Connector No.	M388
Connector Name	WIRE TO WIRE
Connector Type	JASO PLUG



Terminal No.	Color of Wire	Signal Name [Specification]
1	-	-

Connector No.	M389
Connector Name	GLASS ANTENNA (FM SUB)
Connector Type	POIFB-A



Terminal No.	Color of Wire	Signal Name [Specification]
1	-	-

Connector No.	M394
Connector Name	AV CONTROL UNIT
Connector Type	GT13SH-2/IS-HU



Terminal No.	Color of Wire	Signal Name [Specification]
150	-	FM SUB
151	-	AM-FM MAIN
152	-	ANTENNA AMP. ON SIGNAL

Connector No.	M395
Connector Name	AV CONTROL UNIT
Connector Type	GT5-1S-HU



Terminal No.	Color of Wire	Signal Name [Specification]
153	-	GPS ANTENNA SIGNAL
154	-	SHIELD

Connector No.	M396
Connector Name	AV CONTROL UNIT
Connector Type	GT17HN-4DS-HU



Terminal No.	Color of Wire	Signal Name [Specification]
157	-	RGB DIGITAL IMAGE SIGNAL (-)
158	-	RGB DIGITAL IMAGE SIGNAL (+)

Connector No.	M397
Connector Name	FRONT DISPLAY UNIT
Connector Type	GT17HN2-4DS-HU



Terminal No.	Color of Wire	Signal Name [Specification]
27	-	RGB DIGITAL IMAGE SIGNAL (-)
28	-	RGB DIGITAL IMAGE SIGNAL (+)

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

AV

# BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (SINGLE MONITOR)]

## BOSE AUDIO WITH NAVIGATION (SINGLE MONITOR)

Connector No.	M398
Connector Name	AV CONTROL UNIT
Connector Type	FAKBA JACK



Terminal No.	Color of Wire	Signal Name [Specification]
159	-	SATELLITE ANTENNA

Connector No.	R2
Connector Name	WIRE TO WIRE
Connector Type	TH24FW-NH



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.	R7
Connector Name	WIRE TO WIRE
Connector Type	TH16FW-NH



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

Terminal No.	Color of Wire	Signal Name [Specification]
1	L	-
2	P	-
4	B	-
5	BR	-
6	GR	-
7	SB	-
8	Y	-
9	SHIELD	-
10	R	-
11	G	-
15	R	-
16	V	-

Connector No.	R11
Connector Name	WIRE TO WIRE
Connector Type	TH24MW-NH



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 [Specification]
1	LG	-
2	GR	-
8	SHIELD	-
9	L	-
10	R	-
11	B	-
12	V	-
17	Y	-
18	G	-
19	SB	-

20	P	-
21	L	-
22	R	-
23	BR	-
24	O	-

Connector No.	R17
Connector Name	MICROPHONE
Connector Type	TH04FW



1	2	3	4
---	---	---	---

Terminal No.	Color of Wire	Signal Name [Specification]
1	R	MICROPHONE SIGNAL
2	SHIELD	MICROPHONE GND
4	L	MICROPHONE VCC

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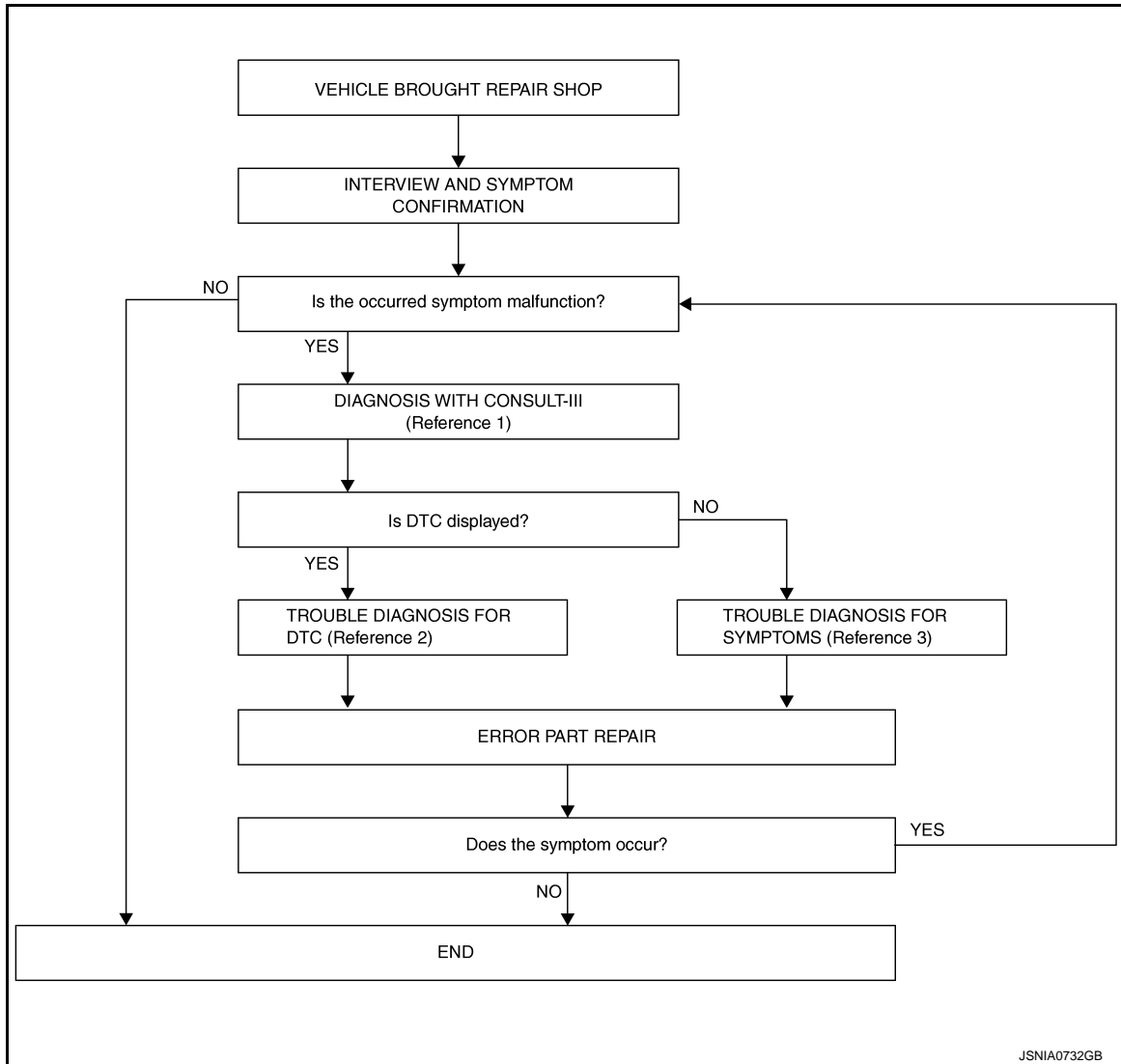
## BASIC INSPECTION

### DIAGNOSIS AND REPAIR WORK FLOW

Work Flow (Multi AV)

INFOID:000000005475086

#### OVERALL SEQUENCE



- Reference 1... Refer to [AV-393, "CONSULT - III Function \(MULTI AV\)"](#).
- Reference 2... Refer to [AV-408, "DTC Index"](#).
- Reference 3... Refer to [AV-549, "Symptom Table"](#).

#### DETAILED FLOW

##### 1. INTERVIEW AND SYMPTOM CONFIRMATION

Check the malfunction symptoms by performing the following items.

- Interview the customer to obtain the malfunction information (conditions and environment when the malfunction occurred).
- Check the symptom.

Is the occurred symptom malfunction?

YES >> GO TO 2.

NO >> INSPECTION END

##### 2. DIAGNOSIS WITH CONSULT-III

## DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[NAVIGATION (SINGLE MONITOR)]

1. Connect CONSULT-III and perform a self-diagnosis for "MULTI AV". Refer to [AV-393. "CONSULT - III Function \(MULTI AV\)".](#)

**NOTE:**

Skip to step 4 of the diagnosis procedure if "MULTI AV" is not displayed.

2. Check if any DTC is displayed in the self-diagnosis results.

Is DTC displayed?

YES >> GO TO 3.

NO >> GO TO 4.

### 3. TROUBLE DIAGNOSIS FOR DTC

---

1. Check the DTC indicated in the self-diagnosis results.
2. Perform the relevant diagnosis referring to the DTC Index. Refer to [AV-408. "DTC Index".](#)

>> GO TO 5.

### 4. TROUBLE DIAGNOSIS FOR SYMPTOMS

---

Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to [AV-549. "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-III.

**NOTE:**

Erase the stored self-diagnosis results after repairing or replacing the relevant components if any DTC has been indicated in the self-diagnosis results.

3. Check that the symptom does not occur.

Does the symptom occur?

YES >> GO TO 1.

NO >> INSPECTION END

# DIAGNOSIS AND REPAIR WORK FLOW

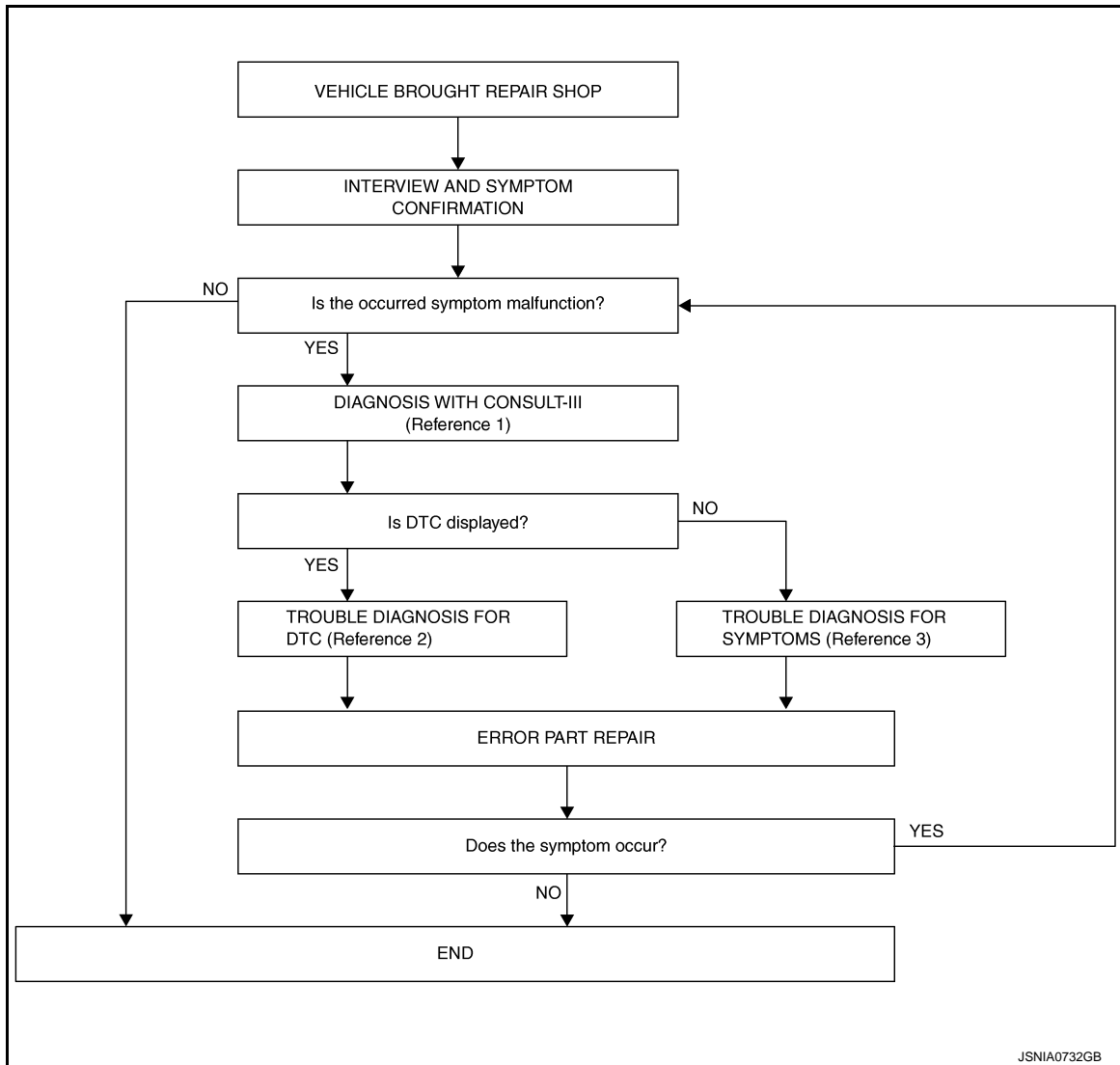
< BASIC INSPECTION >

[NAVIGATION (SINGLE MONITOR)]

## Work Flow (Camera Assistance Sonar)

INFOID:000000005475087

### OVERALL SEQUENCE



- Reference 1... Refer to [AV-192, "CONSULT-III Function \(SONAR\)"](#).
- Reference 2... Refer to [AV-213, "DTC Index"](#).
- Reference 3... Refer to [AV-549, "Symptom Table"](#).

### DETAILED FLOW

#### 1. INTERVIEW AND SYMPTOM CONFIRMATION

Check the malfunction symptoms by performing the following items.

- Interview the customer to obtain the malfunction information (conditions and environment when the malfunction occurred).
- Check the symptom.

Is the occurred symptom malfunction?

YES >> GO TO 2.

NO >> INSPECTION END

#### 2. DIAGNOSIS WITH CONSULT-III

1. Connect CONSULT-III and perform a self-diagnosis for "SONAR". Refer to [AV-192, "CONSULT-III Function \(SONAR\)"](#).

#### NOTE:

Skip to step 4 of the diagnosis procedure if "SONAR" is not displayed.

## DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[NAVIGATION (SINGLE MONITOR)]

- 
2. Check if any DTC is displayed in the self-diagnosis results.

Is DTC displayed?

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

### 3. TROUBLE DIAGNOSIS FOR DTC

---

1. Check the DTC indicated in the self-diagnosis results.
2. Perform the relevant diagnosis referring to the DTC Index. Refer to [AV-213. "DTC Index"](#).

>> GO TO 5.

### 4. TROUBLE DIAGNOSIS FOR SYMPTOMS

---

Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to [AV-549. "Symptom Table"](#).

>> GO TO 5.

### 5. ERROR PART REPAIR

---

1. Repair or replace the identified malfunctioning parts.
2. Perform a self-diagnosis for "SONAR" with CONSULT-III.

**NOTE:**

Erase the stored self-diagnosis results after repairing or replacing the relevant components if any DTC has been indicated in the self-diagnosis results.

3. Check that the symptom does not occur.

Does the symptom occur?

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

# INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[NAVIGATION (SINGLE MONITOR)]

## INSPECTION AND ADJUSTMENT

### ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT

#### ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Description

INFOID:000000005475088

#### BEFORE REPLACEMENT

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

#### AFTER REPLACEMENT

##### **CAUTION:**

When replacing AV control unit, you must perform "WRITE CONFIGURATION" with CONSULT-III.

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

#### ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Work Procedure

INFOID:000000005475089

### 1.SAVING VEHICLE SPECIFICATION

#### -CONSULT-III Configuration

Perform "READ CONFIGURATION" to save or print current vehicle specification. Refer to [AV-243, "CONFIGURATION \(AV CONTROL UNIT\) : Description"](#).

##### **NOTE:**

If "READ CONFIGURATION" can not be used, use the "WRITE CONFIGURATION - Manual selection".

>> GO TO 2.

### 2.REPLACE AV CONTROL UNIT

Replace AV control unit. Refer to [AV-333, "Exploded View"](#).

>> GO TO 3.

### 3.WRITING VEHICLE SPECIFICATION

#### -CONSULT-III Configuration

Perform "WRITE CONFIGURATION - Config file" or "WRITE CONFIGURATION - Manual selection" to write vehicle specification. Refer to [AV-244, "CONFIGURATION \(AV CONTROL UNIT\) : Work Procedure"](#).

>> GO TO 4.

### 4.OPERATION CHECK

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

>> WORK END

## CONFIGURATION (AV CONTROL UNIT)

### CONFIGURATION (AV CONTROL UNIT) : Description

INFOID:000000005475090

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

# INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[NAVIGATION (SINGLE MONITOR)]

Function	Description
READ CONFIGURATION	<ul style="list-style-type: none"><li>• Reads the vehicle configuration of current AV control unit.</li><li>• Saves the read vehicle configuration.</li></ul>
WRITE CONFIGURATION-Manual selection	Writes the vehicle configuration with manual selection.
WRITE CONFIGURATION-Config file	Writes the vehicle configuration with saved data.

## CONFIGURATION (AV CONTROL UNIT) : Work Procedure

INFOID:000000005475091

### NOTE:

If "WRITE CONFIGURATION" is unsuccessful, perform "Accessory Number Initialization". For details, refer to [AV-175. "On Board Diagnosis Function"](#).

After performing "Accessory Number Initialization", reboot the AV control unit to perform "WRITE CONFIGURATION".

### 1. WRITING MODE SELECTION

④CONSULT-III Configuration

Select "CONFIGURATION" of "MULTI AV".

When writing saved data>>GO TO 2.

When writing manually>>GO TO 3.

### 2. PERFORM "WRITE CONFIGURATION-CONFIG FILE"

④CONSULT-III Configuration

Perform "WRITE CONFIGURATION-Config file".

>> WORK END

### 3. PERFORM "WRITE CONFIGURATION-MANUAL SELECTION"

④CONSULT-III Configuration

Select "WRITE CONFIGURATION-Manual selection" to write vehicle specifications into the AV control unit. For data to write, refer to [AV-244. "CONFIGURATION \(AV CONTROL UNIT\) : Configuration List"](#).

>> GO TO 4.

### 4. OPERATION CHECK

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

>> WORK END

## CONFIGURATION (AV CONTROL UNIT) : Configuration List

INFOID:000000005475092

### CAUTION:

**Check vehicle specifications before servicing.**

MANUAL SETTING ITEM	
Items	Setting value
STEERING	LHD
	RHD
CAMERA SYSTEM	NONE/AVM
	REAR CAMERA
	REAR+SIDE
SOUND SYSTEM	BASE
	BOSE



**NOTE:**

AVM: Around view monitor

**PREDICTIVE COURSE LINE CENTER POSITION ADJUSTMENT****PREDICTIVE COURSE LINE CENTER POSITION ADJUSTMENT : Description**

INFOID:0000000005527063

Adjust the center position of the predictive course line of the rear view monitor if it is shifted.

**PREDICTIVE COURSE LINE CENTER POSITION ADJUSTMENT : Work Procedure**

INFOID:0000000005527064

**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.

&gt;&gt; END

**CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR)****CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Description**

INFOID:0000000005475095

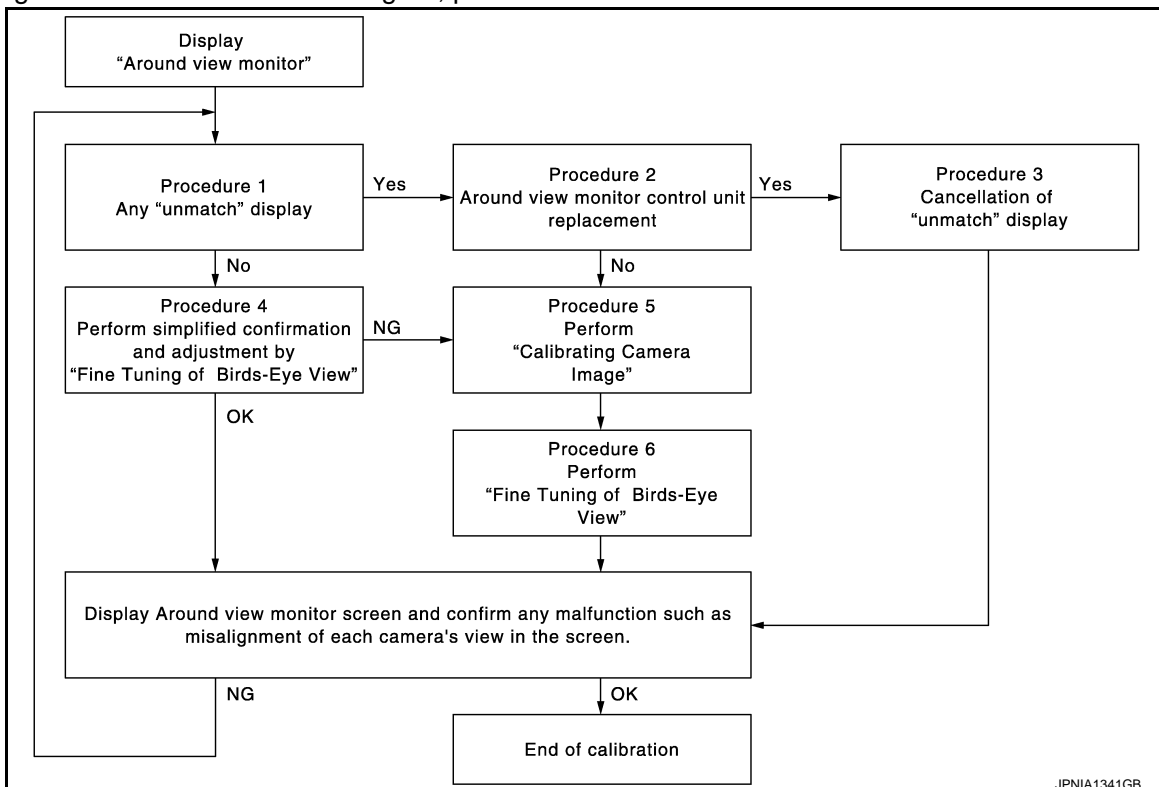
- Perform the calibration and perform the writing to the around view monitor control unit when removing and replacing each camera, removing the camera mounting parts (front grille, door mirror, etc.) and replacing the around view monitor control unit.
- Align the white lines on the road near the vehicle at the boundary of each camera image by this camera calibration. The white lines far from the vehicle may not be aligned at the boundary of each camera image. The farther the line, the greater the difference is.

**CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Work Procedure**

INFOID:0000000005475096

**Calibration flowchart**

Following the flowchart shown in the figure, perform the calibration.

**NOTE:**

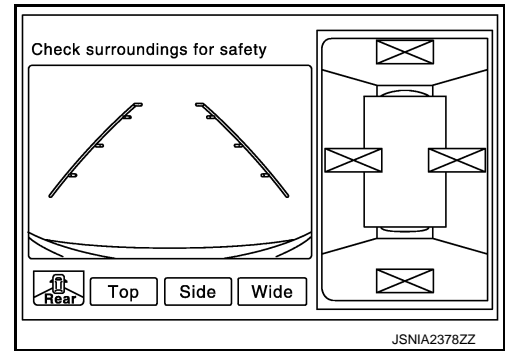
JPNIA1341GB

# INSPECTION AND ADJUSTMENT

## < BASIC INSPECTION >

## [NAVIGATION (SINGLE MONITOR)]

In the un-match display, the un-match camera position is indicated as "⊠" on the birds-eye view.



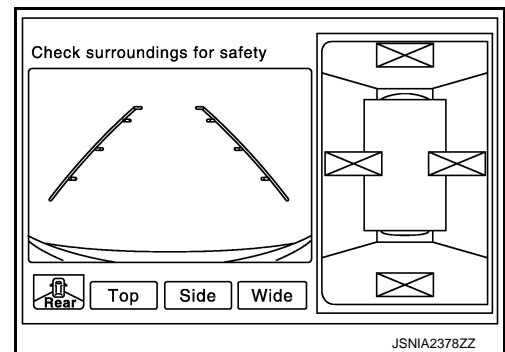
### Calibration procedure

#### 1. AROUND VIEW MONITOR SCREEN CONFIRMATION

Check that there is the un-match display in any camera.

Is the un-match display visible?

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



#### 2. CHECK THAT AROUND VIEW MONITOR CONTROL UNIT IS REPLACED

Check that the around view monitor control unit is replaced.

Is the around view monitor control unit replaced?

- YES >> GO TO 3.  
NO >> GO TO 5.

#### 3. RELEASE UN-MATCH DISPLAY (PERFORM ONLY WHEN THE AROUND VIEW MONITOR CONTROL UNIT IS REPLACED)

1. Select "Camera Cont." of Confirmation/ Adjustment mode, and then set to "Calibrating Camera Image" mode.
2. Press the "ENTER" switch of the multifunction switch on each screen of "Rear Camera", "Front Camera", "Dr-Side Camera", "Pass-Side Camera".

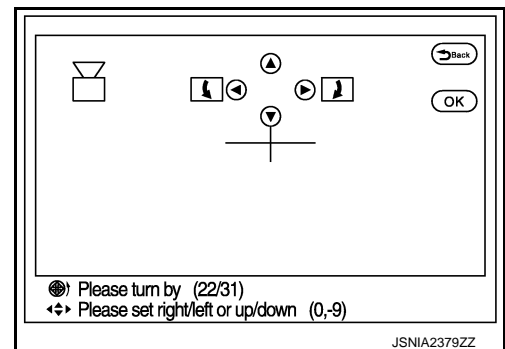
#### **CAUTION:**

- Do never operate the center dial and up/down/left/right switches. Only press the "ENTER" switch.
- Never perform "Initialize Camera Image Calibration".

3. Display the around view monitor screen, and check that there is no malfunction such as a difference between each camera image.

Is there a malfunction?

- YES >> Calibration end  
NO >> GO TO 1.



#### 4. PERFORM SIMPLIFIED CONFIRMATION/ADJUSTMENT BY "FINE TUNING OF BIRDS-EYE VIEW"

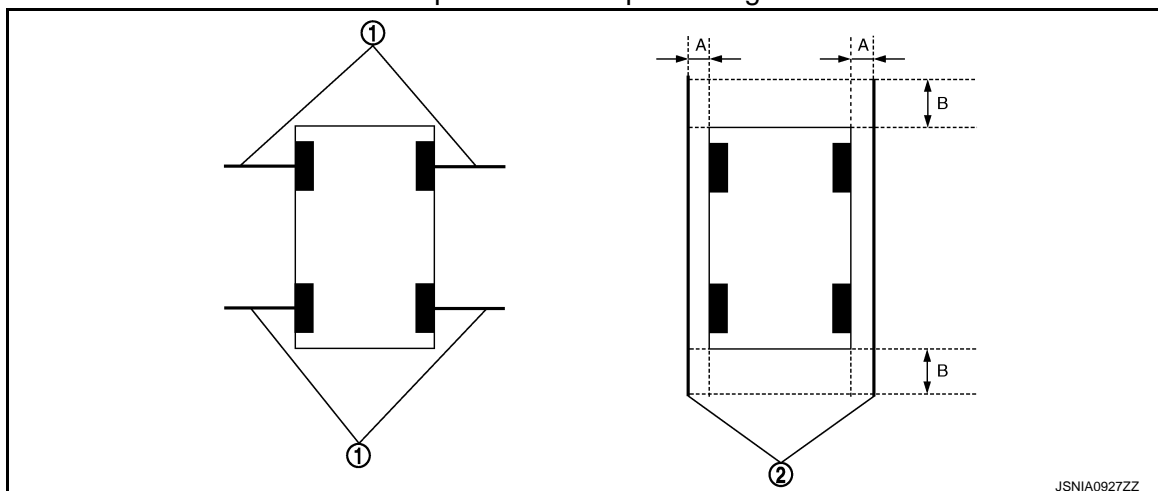
1. Put target line 1 on the ground beside each axle using packing tape, etc.
2. Put target lines 2 equal to the vehicle total length + approximately 1.0 m (39.3 in) from the vehicle side (right and left) at approximately 30 cm (11.8 in) away from the vehicle (make the line as parallel with the vehicle as possible)

# INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[NAVIGATION (SINGLE MONITOR)]

## Preparation of simplified target line



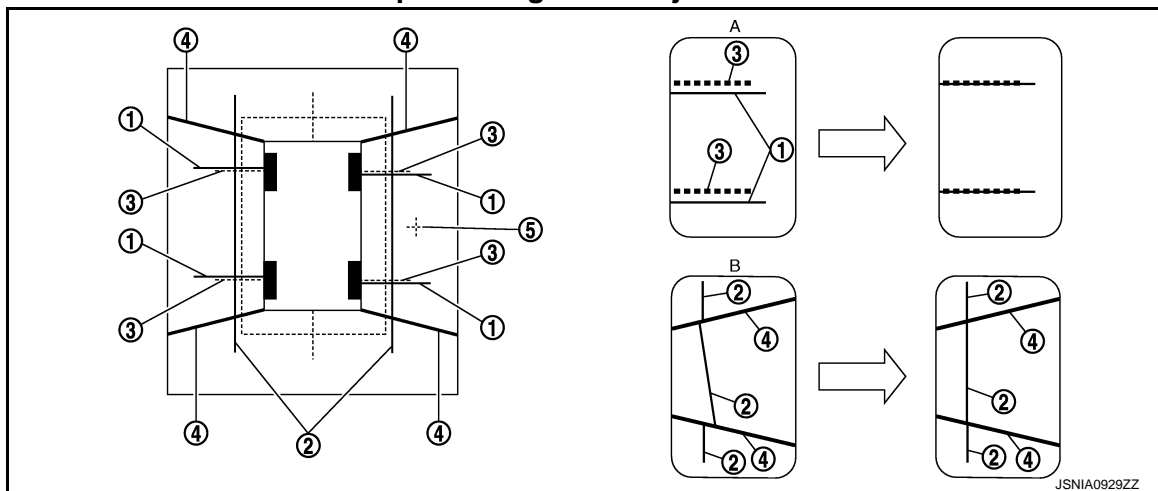
- |                            |                            |
|----------------------------|----------------------------|
| 1. Target lines 1          | 2. Target lines 2          |
| A. Approx. 30 cm (11.8 in) | B. Approx. 1.0 m (39.3 in) |

3. Select "Camera Cont." of Confirmation/ Adjustment mode, and then set to "Fine Tuning of Birds-Eye View" mode.
4. Select left and right cameras by pressing the "CAMERA" switch, and perform the following confirmation.
  - Check that target line 1 is aligned with the marker on the screen. Overlap the line aligned to the marker with the upper/lower switches if necessary.
  - Check if there is a difference between target lines 2 between cameras. Adjust target lines 2 to be straight lines by operating the center dial and left/right switches if necessary.

### CAUTION:

- Never adjust the front camera and rear camera. Only adjust the right and left cameras.
- Operate the center dial slowly because the changing of the screen takes approximately 1 second.

## Simplified target line adjustment method



- |   |   |                             |
|---|---|-----------------------------|
| 1. Target lines 1                               | 2. Target lines 2   | 3. Marker for target line 1 |
| 4. Boundary between cameras                     | 5. Crosshairs cursor (mark indicated the selected camera) |                             |
| A. Adjustment method for target lines 1 (right) | B. Adjustment method for target lines 2 (right)           |                             |

5. Adjust left and right cameras. Check that the difference between target line 1 and the marker on the screen, and between target lines 2 is solved.

### NOTE:

- It can be initialized to the NISSAN factory default condition with "Initialize Camera Image Calibration" of "Calibrating Camera Image".

# INSPECTION AND ADJUSTMENT

## < BASIC INSPECTION >

## [NAVIGATION (SINGLE MONITOR)]

- The adjustment value is cancelled on this mode by performing "Initialize Camera Image Calibration".

### Is the difference corrected?

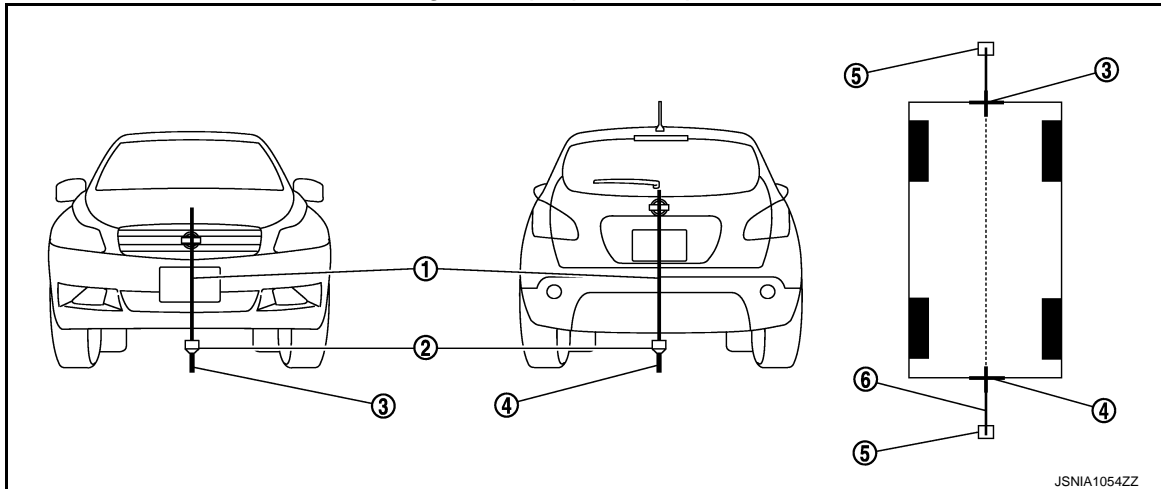
- YES >> Finish the writing to around view monitor control unit by pressing "ENTER" switch.  
NO >> GO TO 5.

## 5.PERFORM "CALIBRATING CAMERA IMAGE"

### Preparation of target line

- Hang a string with a weight as shown in the figure. Put the points FM0, RM0 (mark) on the ground at the center of the vehicle front end and rear end with white packing tape or a pen.
- Route the vinyl string under the vehicle, and then pull and fix it on the point approximately 1.0 m (39.9 in) to the front and rear of the vehicle through the points FM0 and RM0 using packing tape.

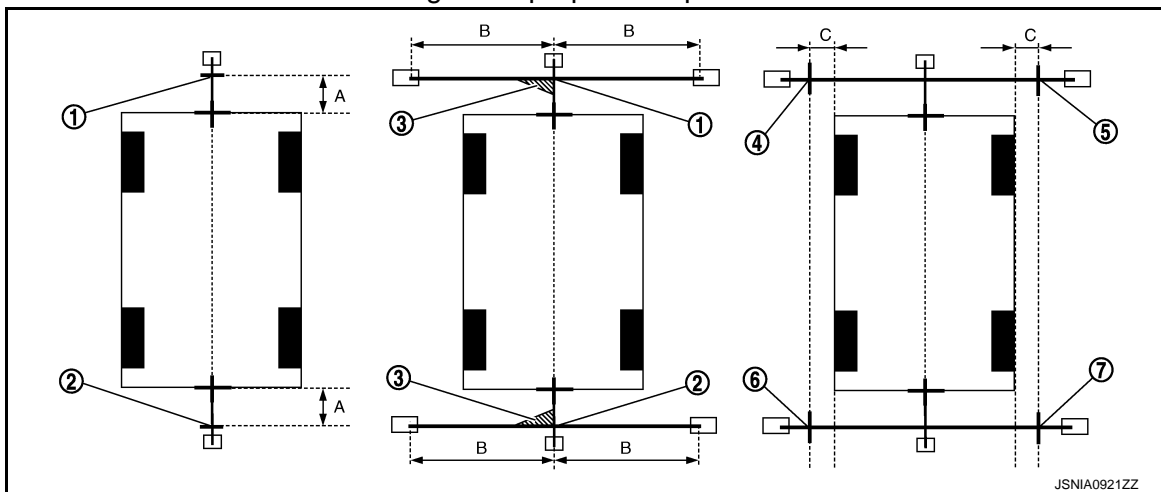
Target line preparation procedure 1



- |                     |   |                     |
|---------------------|---|---------------------|
| 1. Thread           | 2. Weight                                 | 3. Point FM0 (mark) |
| 4. Point RM0 (mark) | 5. Packing tape (to fix the vinyl string) | 6. Vinyl string     |

- Put the points FM and RM (mark) 75 cm (29.5 in) from the points FM0 and RM0 individually.
- Route the vinyl string through the points FM and RM using a triangle scale, and then fix it at approximately 1.5 m (59 in) on both sides with packing tape.
- Put the points FL, FR, RL, and RR (mark) to both right and left [vehicle width / 2 + 30 cm (11.8 in)] from the points FM and RM.

Target line preparation procedure 2



- |                    |                    |                    |
|--------------------|--------------------|--------------------|
| 1. Point FM        | 2. Point RM        | 3. Triangle scale  |
| 4. Point FL (mark) | 5. Point FR (mark) | 6. Point RL (mark) |

# INSPECTION AND ADJUSTMENT

## < BASIC INSPECTION >

## [NAVIGATION (SINGLE MONITOR)]

7. Point RR (mark)

A. 75 cm (29.5 in)

B. Approx. 1.5 m (59 in)

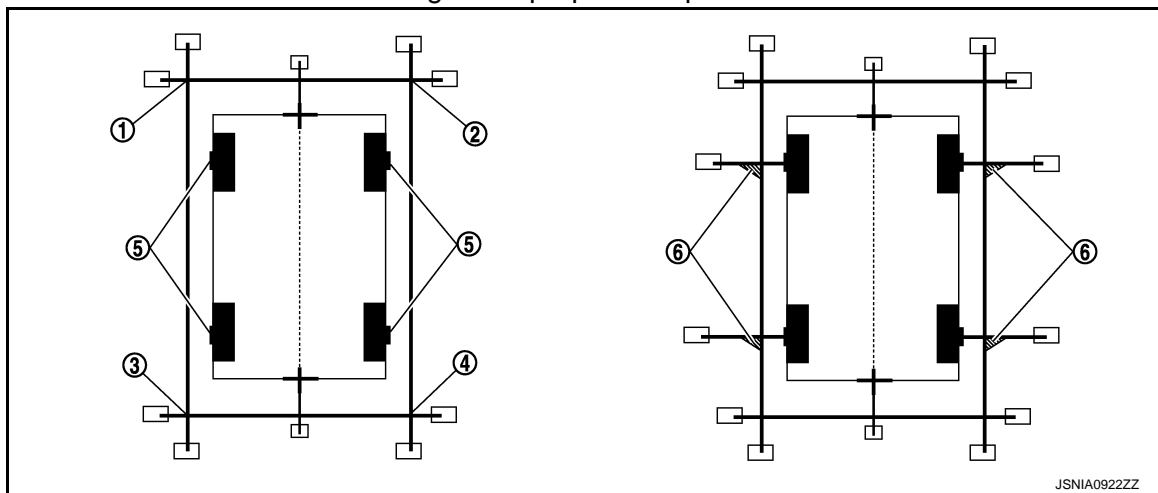
30 cm (11.8 in)

C. [Vehicle width/ 2 + 30 cm (11.8 in)  
from the points FM and RM]

6. Draw the lines of the points FL – RL and FR – RR with vinyl string, and fix it with packing tape.

7. Put a mark on the center of each axle, draw vertical lines to the lines of the points FL – RL and FR – RR from the marks on the center of the axle using a triangle scale, and then fix the lines using packing tape.

Target line preparation procedure 3



1. Point FL

2. Point FR

3. Point RL

4. Point RR

5. Center position of axle

6. Triangle scale

Perform "Calibrating Camera Image"

1. Select "Camera Cont." of "Confirmation/ Adjustment" mode, and then set to "Calibrating Camera Image" mode.

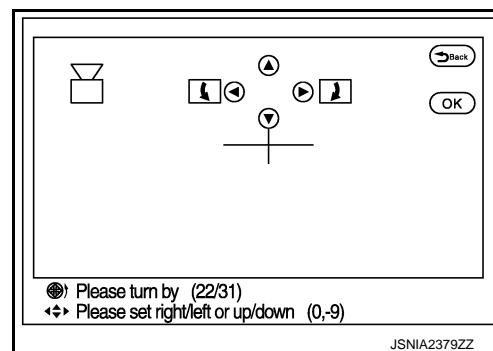
2. Overlap the target lines drawn on the ground with the calibration marker on the screen by operating the center dial and upper/lower/left/right switches of multifunction switch on each screen of "Rear Camera", "Pass-Side Camera", "Front Camera", "Dr-Side Camera".

Adjustment range

Rotation direction (Center dial) : 31 patterns (16 on the center)

Upper/lower direction (upper/lower switch) : -99 - 99

Left/right direction (left/right switch) : -99 - 99



3. "Writing..." is displayed by pressing the "ENTER" switch, and then the adjustment result is written to the around view monitor control unit.

**CAUTION:**

Check that "Writing..." is displayed. Do 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 could not be aligned in the "Calibrating Camera Image" mode.

1. Select "Camera Cont." of "Confirmation/ Adjustment" mode, and then set to "Fine Tuning of Birds-Eye View" mode.

## INSPECTION AND ADJUSTMENT

### < BASIC INSPECTION >

### [NAVIGATION (SINGLE MONITOR)]

2. Operate the center dial and upper/lower/left/right switch to overlap the marker on the screen and the target lines on the ground.

**NOTE:**

Move the “+”- mark on the camera position to adjustment by pressing the “CAMERA” switch.

3. When the target line is overlapped on the marker, press the “ENTER” switch to write the adjustment result to the around view monitor control unit.

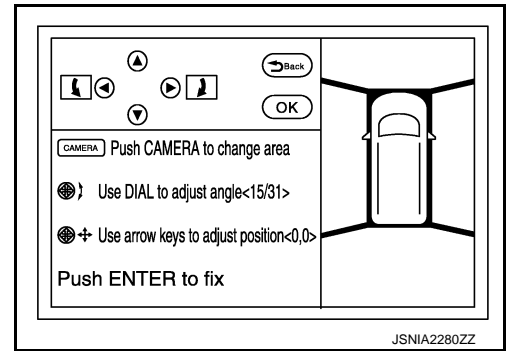
**CAUTION:**

**Check that “Writing...” is displayed. Do never perform other operations while “Writing...” is displayed.**

**NOTE:**

- It can be initialized to the NISSAN factory default condition with “Initialize Camera Image Calibration” of “Calibrating Camera Image”.
- The adjustment value is cancelled on this mode by performing “Initialize Camera Image Calibration”.

>> Calibration end



## DTC/CIRCUIT DIAGNOSIS

### U1000 CAN COMM CIRCUIT

#### Description

INFOID:000000005475625

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-30, "CAN Communication Signal Chart"](#).

#### DTC Logic

INFOID:000000005475626

#### DTC DETECTION LOGIC

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

#### Diagnosis Procedure

INFOID:000000005475627

#### 1.PERFORM SELF-DIAGNOSTIC

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

#### Is "CAN COMM CIRCUIT" displayed?

- YES >> Refer to "LAN system". Refer to [LAN-20, "Trouble Diagnosis Procedure"](#).
- NO >> Refer to GI section. Refer to [GI-36, "Intermittent Incident"](#).

## U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

### U1010 CONTROL UNIT (CAN)

#### DTC Logic

INFOID:000000005475629

#### DTC DETECTION LOGIC

DTC	Display contents of CONSULT-III	DTC detection condition	Probable malfunction factor
U1010	CONTROL UNIT (CAN) [U1010]	CAN initial diagnosis malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly.



U1200 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

U1200 AV CONTROL UNIT

DTC Logic

INFOID:000000005475631

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1200	Cont Unit [U1200]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly.

A  
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AV

## U1201 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

### U1201 AV CONTROL UNIT

#### DTC Logic

INFOID:000000005475633

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1201	GYRO NO CONN [U1201]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly.

U1202 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

U1202 AV CONTROL UNIT

DTC Logic

INFOID:000000005475635

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1202	G-SENSOR NO CONN [U1202]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly.

A  
B  
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AV

## U1204 AV CONTROL UNIT

## Description

INFOID:000000005475636

An intermittent error caused by strong radio interference may be detected unless any symptoms (GPS reception error, etc.) occur. Replace the AV control unit if the malfunction occurs constantly. Refer to [AV-333. "Exploded View"](#).

## DTC Logic

INFOID:000000005475637

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1204	GPS CONN [U1204]	GPS malfunction is detected.	An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs. Replace the AV control unit if the malfunction occurs constantly.

## Diagnosis Procedure

INFOID:000000005475638

## 1.PERFORM THE SELF-DIAGNOSIS

1. Delete the self-diagnosis results. Turn ignition switch OFF.
2. Turn ignition switch ON. Perform the self-diagnosis again.
3. Check that the DTC is detected again.

Is any DTC detected?

- YES >> Replace AV control unit. Refer to [AV-333. "Exploded View"](#).
- NO >> An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs.

# U1205 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

## U1205 AV CONTROL UNIT

### Description

INFOID:00000000527095

An intermittent error caused by strong radio interference may be detected unless any symptoms (GPS reception error, etc.) occur. Replace the AV control unit if the malfunction occurs constantly. Refer to [AV-333. "Exploded View"](#).

### DTC Logic

INFOID:000000005475640

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1205	GPS ROM [U1205]	GPS malfunction is detected.	An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs. Replace the AV control unit if the malfunction occurs constantly.

### Diagnosis Procedure

INFOID:000000005475641

#### 1.PERFORM THE SELF-DIAGNOSIS

1. Delete the self-diagnosis results. Turn ignition switch OFF.
2. Turn ignition switch ON. Perform the self-diagnosis again.
3. Check that the DTC is detected again.

#### Is any DTC detected?

- YES >> Replace AV control unit. Refer to [AV-333. "Exploded View"](#).
- NO >> An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs.

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AV

# U1206 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

## U1206 AV CONTROL UNIT

### Description

INFOID:00000000527096

An intermittent error caused by strong radio interference may be detected unless any symptoms (GPS reception error, etc.) occur. Replace the AV control unit if the malfunction occurs constantly. Refer to [AV-333, "Exploded View"](#).

### DTC Logic

INFOID:000000005475643

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1206	GPS RAM [U1206]	GPS malfunction is detected.	An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs. Replace the AV control unit if the malfunction occurs constantly.

### Diagnosis Procedure

INFOID:000000005475644

#### 1.PERFORM THE SELF-DIAGNOSIS

1. Delete the self-diagnosis results. Turn ignition switch OFF.
2. Turn ignition switch ON. Perform the self-diagnosis again.
3. Check that the DTC is detected again.

#### Is any DTC detected?

- YES >> Replace AV control unit. Refer to [AV-333, "Exploded View"](#).
- NO >> An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs.

# U1207 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

## U1207 AV CONTROL UNIT

### Description

INFOID:000000005527097

An intermittent error caused by strong radio interference may be detected unless any symptoms (GPS reception error, etc.) occur. Replace the AV control unit if the malfunction occurs constantly. Refer to [AV-333. "Exploded View"](#).

### DTC Logic

INFOID:000000005475646

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1207	GPS RTC [U1207]	GPS malfunction is detected.	An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs. Replace the AV control unit if the malfunction occurs constantly.

### Diagnosis Procedure

INFOID:000000005475647

#### 1.PERFORM THE SELF-DIAGNOSIS

1. Delete the self-diagnosis results. Turn ignition switch OFF.
2. Turn ignition switch ON. Perform the self-diagnosis again.
3. Check that the DTC is detected again.

#### Is any DTC detected?

- YES >> Replace AV control unit. Refer to [AV-333. "Exploded View"](#).
- NO >> An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs.

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AV

## U1216 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

### U1216 AV CONTROL UNIT

#### DTC Logic

INFOID:000000005475649

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1216	CAN CONT [U1216]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly.



U1217 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

U1217 AV CONTROL UNIT

DTC Logic

INFOID:000000005475651

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1217	BLUETOOTH MODULE [U1217]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly.

A  
B  
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I  
J  
K  
L  
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AV

## U1218 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

### U1218 AV CONTROL UNIT

#### DTC Logic

INFOID:000000005475653

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1218	HDD CONN [U1218]	AV control unit malfunction is detected.	<ul style="list-style-type: none"><li>• If the music box function has no malfunctions, then there is a possibility of the detection of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly.</li></ul>

#### Diagnosis Procedure

INFOID:000000005475654

#### 1.CHECK MUSIC BOX FUNCTION

##### Is music box function normal?

- YES >> Malfunction may be detected transitory.  
NO >> Replace AV control unit. Refer to [AV-333. "Exploded View"](#).

# U1219 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

## U1219 AV CONTROL UNIT

### DTC Logic

INFOID:000000005475656

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1219	HDD READ [U1219]	AV control unit malfunction is detected.	<ul style="list-style-type: none"><li>If the music box function has no malfunctions, then there is a possibility of the detection of a temporary malfunction.</li><li>Replace the AV control unit if the malfunction occurs constantly.</li></ul>

### Diagnosis Procedure

INFOID:000000005475657

#### 1.CHECK MUSIC BOX FUNCTION

##### Is music box function normal?

- YES >> Malfunction may be detected transitory.  
NO >> Replace AV control unit. Refer to [AV-333. "Exploded View"](#).

A  
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AV

## U121A AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

### U121A AV CONTROL UNIT

#### DTC Logic

INFOID:000000005475659

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U121A	HDD WRITE [U121A]	AV control unit malfunction is detected.	<ul style="list-style-type: none"><li>• If the music box function has no malfunctions, then there is a possibility of the detection of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly.</li></ul>

#### Diagnosis Procedure

INFOID:000000005475660

#### 1.CHECK MUSIC BOX FUNCTION

##### Is music box function normal?

- YES >> Malfunction may be detected transitory.  
NO >> Replace AV control unit. Refer to [AV-333. "Exploded View"](#).

# U121B AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

## U121B AV CONTROL UNIT

### DTC Logic

INFOID:000000005475662

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U121B	HDD COMM [U121B]	AV control unit malfunction is detected.	<ul style="list-style-type: none"><li>If the music box function has no malfunctions, then there is a possibility of the detection of a temporary malfunction.</li><li>Replace the AV control unit if the malfunction occurs constantly.</li></ul>

### Diagnosis Procedure

INFOID:000000005475663

#### 1.CHECK MUSIC BOX FUNCTION

##### Is music box function normal?

- YES >> Malfunction may be detected transitory.  
NO >> Replace AV control unit. Refer to [AV-333. "Exploded View"](#).

A  
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AV

## U121C AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

### U121C AV CONTROL UNIT

#### DTC Logic

INFOID:000000005475665

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U121C	HDD ACCESS [U121C]	AV control unit malfunction is detected.	<ul style="list-style-type: none"><li>• If the music box function has no malfunctions, then there is a possibility of the detection of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly.</li></ul>

#### Diagnosis Procedure

INFOID:000000005475666

#### 1.CHECK MUSIC BOX FUNCTION

##### Is music box function normal?

- YES >> Malfunction may be detected transitory.  
NO >> Replace AV control unit. Refer to [AV-333. "Exploded View"](#).

# U121D AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

## U121D AV CONTROL UNIT

### DTC Logic

INFOID:0000000005475668

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U121D	DSP CONN [U121D]	AV control unit malfunction is detected.	<ul style="list-style-type: none"><li>• If a disc can be played, then there is a possibility of the detection of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly.</li></ul>

### Diagnosis Procedure

INFOID:0000000005475669

#### 1.CHECK PLAYBACK OF A DISK (CD)

##### Can a disk (CD) be played?

- YES >> Malfunction may be detected transitory.  
NO >> Replace AV control unit. Refer to [AV-333. "Exploded View"](#).

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AV

## U121E AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

### U121E AV CONTROL UNIT

#### DTC Logic

INFOID:000000005475671

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U121E	DSP COMM [U121E]	AV control unit malfunction is detected.	<ul style="list-style-type: none"><li>• If a disc can be played, then there is a possibility of the detection of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly.</li></ul>

#### Diagnosis Procedure

INFOID:000000005475672

#### 1. CHECK PLAYBACK OF A DISK (CD)

##### Can a disk (CD) be played?

- YES >> Malfunction may be detected transitory.  
NO >> Replace AV control unit. Refer to [AV-333. "Exploded View"](#).



U1225 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

U1225 AV CONTROL UNIT

DTC Logic

INFOID:000000005475674

DTC DETECTION LOGIC

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1225	USB CONTROLLER [U1225]	USB connection malfunction is detected.	Check that the connection to the USB connector is normal.

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AV

## U1227 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

### U1227 AV CONTROL UNIT

#### DTC Logic

INFOID:000000005475676

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1227	DVD COMM [U1227]	AV control unit malfunction is detected.	<ul style="list-style-type: none"><li>• If DVD can be played, then there is a possibility of the detection of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly.</li></ul>

#### Diagnosis Procedure

INFOID:000000005475677

#### 1. CHECK PLAYBACK OF A DISK (DVD)

##### Can a disc (DVD) be played?

- YES    >> Malfunction may be detected transitory.  
NO     >> Replace AV control unit. Refer to [AV-333. "Exploded View"](#).

U1228 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

U1228 AV CONTROL UNIT

DTC Logic

INFOID:000000005475679

DTC DETECTION LOGIC

DTC	Display contents of CON-SULT-III	DTC detection condition	Possible malfunction factor
U1228	SUB CPU CONN [U1228]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly.

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AV

## U1229 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

### U1229 AV CONTROL UNIT

#### DTC Logic

INFOID:000000005475681

#### DTC DETECTION LOGIC

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1229	iPod CERTIFICATION [U1229]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly.

# U122A AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

## U122A AV CONTROL UNIT

### DTC Logic

INFOID:000000005475683

DTC	Display contents of CONSULT-III	DTC detection condition	Action to take
U122A	CONFIG UNFINISH [U122A]	The writing of configuration data is incomplete.	Write configuration data with CONSULT-III.

### Diagnosis Procedure

INFOID:000000005475684

#### 1.PERFORM THE SELF-DIAGNOSIS

When U122A is detected, write configuration data with CONSULT-III.

>> Write configuration data with CONSULT-III. Refer to [AV-244, "CONFIGURATION \(AV CONTROL UNIT\) : Work Procedure"](#).

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AV

## U122E AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

### U122E AV CONTROL UNIT

#### DTC Logic

INFOID:000000005475686

#### DTC DETECTION LOGIC

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U122E	Built-in AUDIO CONN [U122E]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly.

# U1232 STEERING ANGLE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

## U1232 STEERING ANGLE SENSOR

### DTC Logic

INFOID:000000005475688

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1232	ST ANGLE SEN CALIB [1232]	Predictive course line center position adjustment of the steering angle sensor is incomplete.	Adjust the predictive course line center position of the steering angle sensor.

### Diagnosis Procedure

INFOID:000000005475689

#### 1. ADJUST THE PREDICTIVE COURSE LINE CENTER POSITION OF THE STEERING ANGLE SENSOR

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

>> Adjusts the steering angle sensor neutral position on ABS actuator and electrical unit (control unit) side. Refer to [BRC-9. "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION : Special Repair Requirement"](#).

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# U1243 FRONT DISPLAY UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

## U1243 FRONT DISPLAY UNIT

### DTC Logic

INFOID:000000005475745

DTC	Display contents of CONSULT-III	DTC Detection Condition	Possible causes
U1243	FRONT DISP CONN [U1243]	When either one of the following items is detected. <ul style="list-style-type: none"><li>front display unit power supply and ground circuit malfunction is detected.</li><li>malfunction is detected in communication circuits between front display unit and AV control unit.</li></ul>	<ul style="list-style-type: none"><li>Front display unit power supply and ground circuit.</li><li>Communication circuits between front display unit and AV control unit.</li></ul>

### Diagnosis Procedure

INFOID:000000005475746

#### 1.CHECK FRONT DISPLAY UNIT POWER SUPPLY AND GROUND CIRCUITS

Check front display unit power supply and ground circuits. Refer to [AV-291, "FRONT DISPLAY UNIT : Diagnosis Procedure"](#).

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair malfunctioning parts.

#### 2.CHECK CONTINUITY COMMUNICATION CIRCUITS

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

Front display unit		AV control unit		Continuity
Connector	Terminals	Connector	Terminals	
M195	9	M210	89	Existed
	10		73	

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

Front display unit		Ground	Continuity
Connector	Terminals		
M195	9		Not existed
	10		

Is inspection result normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

#### 3.CHECK COMMUNICATION SIGNAL

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



# U1243 FRONT DISPLAY UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

(+)Front display unit		(-)	Condition	Reference value
Connector	Terminal			
M195	9	Ground	When adjusting display brightness.	<div><div><div>(V)</div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></di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Is inspection result normal?

YES >> GO TO 4.

NO >> Replace AV control unit.

## 4.CHECK COMMUNICATION SIGNAL

Check signal between front display unit harness connector and ground.

(+)		(-)	Condition	Reference value
Front display unit				
Connector	Terminal			
M195	10	Ground	When adjusting display brightness.	<div><div><div>(V)</div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></di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Is inspection result normal?

YES >> INSPECTION END

NO >> Replace front display unit.

AV

# U1244 GPS ANTENNA

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

## U1244 GPS ANTENNA

### DTC Logic

INFOID:000000005475748

DTC	Display contents of CONSULT-III	DTC Detection Condition	Possible causes
U1244	GPS ANTENNA CONN [U1244]	GPS antenna connection malfunction is detected.	GPS antenna disconnection

### Diagnosis Procedure

INFOID:000000005475749

#### 1.GPS ANTENNA CHECK

Visually check GPS antenna and antenna feeder.

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair malfunctioning parts.

#### 2.CHECK AV CONTROL UNIT VOLTAGE

1. Disconnect GPS antenna connector.
2. Turn ignition switch ON.
3. Check voltage between AV control unit terminal and ground.

(+)	(-)	Voltage (Approx.)
AV control unit		
Terminal		
153	Ground	5.0 V

Is inspection result normal?

YES >> INSPECTION END

NO >> Replace AV control unit.

# U1258 SATELLITE RADIO ANTENNA

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

## U1258 SATELLITE RADIO ANTENNA

### DTC Logic

INFOID:000000005475754

DTC	Display contents of CONSULT-III	DTC Detection Condition	Possible causes
U1258	XM ANTENNA CONN [U1258]	Satellite radio antenna connection malfunction is detected.	Satellite radio antenna disconnection

### Diagnosis Procedure

INFOID:000000005475755

#### 1.SATELLITE RADIO ANTENNA CHECK

Visually check satellite radio antenna and antenna feeder.

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair malfunctioning parts.

#### 2.CHECK AV CONTROL UNIT VOLTAGE

1. Disconnect satellite radio antenna connector.
2. Turn ignition switch ON.
3. Check voltage between AV control unit terminal and ground.

(+)	(-)	Voltage (Approx.)
AV control unit		
Terminal		
159	Ground	4.0 V

Is inspection result normal?

YES >> INSPECTION END

NO >> Replace AV control unit.

AV

## U1263 USB

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

### U1263 USB

#### DTC Logic

INFOID:000000005475757

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1263	USB OVERCURRENT [U1263]	Detection of overcurrent in USB connector.	Check USB harness between the AV control unit and USB connector.

#### Diagnosis Procedure

INFOID:000000005475758

#### 1.CHECK USB HARNESS

Visually check USB harness.

Is the inspection result normal?

- YES >> Replace AV control unit. Refer to [AV-333, "Exploded View"](#).
- NO >> Replace USB harness.

# U1300 AV COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

## U1300 AV COMM CIRCUIT

### Description

INFOID:000000005475947

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

### SELF-DIAGNOSIS RESULTS DISPLAY ITEM

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1300 U1240	<ul style="list-style-type: none"><li>• AV COMM CIRCUIT [U1300]</li><li>• SWITCH CONN [U1240]</li></ul>	When either one of the following items are detected: <ul style="list-style-type: none"><li>• multifunction switch power supply and ground circuits are malfunctioning.</li><li>• AV communication circuits between AV control unit and multifunction switch are malfunctioning.</li></ul>	<ul style="list-style-type: none"><li>• Multifunction switch power supply and ground circuits.</li><li>• AV communication circuits between AV control unit and multifunction switch.</li></ul>
U1300 U125B	<ul style="list-style-type: none"><li>• AV COMM CIRCUIT [U1300]</li><li>• AROUND CAMERA CONN [U125B]</li></ul>	When either one of the following items are detected: <ul style="list-style-type: none"><li>• around view monitor control unit power supply and ground circuits are malfunctioning.</li><li>• AV communication circuits between AV control unit and around view monitor control unit are malfunctioning.</li></ul>	<ul style="list-style-type: none"><li>• Around view monitor control unit power supply and ground circuits.</li><li>• AV communication circuits between AV control unit and around view monitor control unit.</li></ul>
U1300 U125C	<ul style="list-style-type: none"><li>• AV COMM CIRCUIT [U1300]</li><li>• SONAR CONN [U125C]</li></ul>	When either one of the following items are detected: <ul style="list-style-type: none"><li>• sonar control unit power supply and ground circuits are malfunctioning.</li><li>• AV communication circuits between AV control unit and sonar control unit are malfunctioning.</li></ul>	<ul style="list-style-type: none"><li>• Sonar control unit power supply and ground circuits.</li><li>• AV communication circuits between AV control unit and sonar control unit.</li></ul>
U1300 U1240 U125B	<ul style="list-style-type: none"><li>• AV COMM CIRCUIT [U1300]</li><li>• SWITCH CONN [U1240]</li><li>• AROUND CAMERA CONN [U125B]</li></ul>	AV communication circuits between AV control unit and multifunction switch are malfunctioning.	AV communication circuits between AV control unit and multifunction switch.

A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

P

## U1310 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

### U1310 AV CONTROL UNIT

#### DTC Logic

INFOID:000000005475761

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

B2700 CORNER SENSOR [FL]

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

B2700 CORNER SENSOR [FL]

DTC Logic

INFOID:000000005475763

DTC DETECTION LOGIC

DTC No.	CONSULT-III indication	DTC detection condition	Troubleshooting
B2700	CORNER SENSOR [FL] [B2700]	Corner sensor (FL) is malfunctioning.	Replace corner sensor (FL).

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

# B2701 SENSOR HARNESS OPEN [CR-FL]

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

## B2701 SENSOR HARNESS OPEN [CR-FL]

### DTC Logic

INFOID:000000005475765

### DTC DETECTION LOGIC

DTC No.	CONSULT-III indication	DTC detection condition	Troubleshooting
B2701	SENSOR HARNESS OPEN [CR-FL] [B2701]	Corner sensor (FL) harness circuit is open.	Check corner sensor (FL) circuit.

### Diagnosis Procedure

INFOID:000000005475766

#### 1.CHECK HARNESS CORNER SENSOR (FL) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect sonar control unit connector and corner sensor (FL) connector.
3. Check continuity between sonar control unit harness connector and corner sensor (FL) harness connector.

Sonar control unit		Corner sensor (FL)		Continuity
Connector	Terminal	Connector	Terminal	
M47	3	E154	1	Existed

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

Sonar control unit		Ground	Continuity
Connector	Terminal		
M47	3		Not existed

#### Is the inspection result normal?

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

#### 2.CHECK HARNESS CORNER SENSOR (FL) GROUND CIRCUIT

Check continuity between sonar control unit harness connector and corner sensor (FL) harness connector.

Sonar control unit		Corner sensor (FL)		Continuity
Connector	Terminal	Connector	Terminal	
M47	12	E154	2	Existed

#### Is the inspection result normal?

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



B2702 CORNER SENSOR [FR]

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

B2702 CORNER SENSOR [FR]

DTC Logic

INFOID:0000000005475768

DTC DETECTION LOGIC

DTC No.	CONSULT-III indication	DTC detection condition	Troubleshooting
B2702	CORNER SENSOR [FR] [B2702]	Corner sensor (FR) is malfunctioning.	Replace corner sensor (FR).

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

## B2703 SENSOR HARNESS OPEN [CR-FR]

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

### B2703 SENSOR HARNESS OPEN [CR-FR]

#### DTC Logic

INFOID:000000005475770

#### DTC DETECTION LOGIC

DTC No.	CONSULT-III indication	DTC detection condition	Troubleshooting
B2703	SENSOR HARNESS OPEN [CR-FR] [B2703]	Corner sensor (FR) harness circuit is open.	Check corner sensor (FR) circuit.

#### Diagnosis Procedure

INFOID:000000005475771

#### 1.CHECK HARNESS CORNER SENSOR (FR) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect sonar control unit connector and corner sensor (FR) connector.
3. Check continuity between sonar control unit harness connector and corner sensor (FR) harness connector.

Sonar control unit		Corner sensor (FR)		Continuity
Connector	Terminal	Connector	Terminal	
M47	4	E152	1	Existed

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

Sonar control unit		Ground	Continuity
Connector	Terminal		
M47	4		Not existed

#### Is the inspection result normal?

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

#### 2.CHECK HARNESS CORNER SENSOR (FR) GROUND CIRCUIT

Check continuity between sonar control unit harness connector and corner sensor (FR) harness connector.

Sonar control unit		Corner sensor (FR)		Continuity
Connector	Terminal	Connector	Terminal	
M47	12	E152	2	Existed

#### Is the inspection result normal?

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

B2704 CORNER SENSOR [RL]

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

B2704 CORNER SENSOR [RL]

DTC Logic

INFOID:000000005475773

DTC DETECTION LOGIC

DTC No.	CONSULT-III indication	DTC detection condition	Troubleshooting
B2704	CORNER SENSOR [RL] [B2704]	Corner sensor (RL) is malfunctioning.	Replace corner sensor (RL).

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## B2705 SENSOR HARNESS OPEN [CR-RL]

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

### B2705 SENSOR HARNESS OPEN [CR-RL]

#### DTC Logic

INFOID:000000005475775

#### DTC DETECTION LOGIC

DTC No.	CONSULT-III indication	DTC detection condition	Troubleshooting
B2705	SENSOR HARNESS OPEN [CR-RL] [B2705]	Corner sensor (RL) harness circuit is open.	Check corner sensor (RL) circuit.

#### Diagnosis Procedure

INFOID:000000005475776

#### 1.CHECK HARNESS CORNER SENSOR (RL) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect sonar control unit connector and corner sensor (RL) connector.
3. Check continuity between sonar control unit harness connector and corner sensor (RL) harness connector.

Sonar control unit		Corner sensor (RL)		Continuity
Connector	Terminal	Connector	Terminal	
M47	5	B259	1	Existed

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

Sonar control unit		Ground	Continuity
Connector	Terminal		
M47	5		Not existed

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK HARNESS CORNER SENSOR (RL) GROUND CIRCUIT

Check continuity between sonar control unit harness connector and corner sensor (RL) harness connector.

Sonar control unit		Corner sensor (RL)		Continuity
Connector	Terminal	Connector	Terminal	
M47	12	B259	2	Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

B2706 CORNER SENSOR [RR]

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

B2706 CORNER SENSOR [RR]

DTC Logic

INFOID:000000005475778

DTC DETECTION LOGIC

DTC No.	CONSULT-III indication	DTC detection condition	Troubleshooting
B2706	CORNER SENSOR [RR] [B2706]	Corner sensor (RR) is malfunctioning.	Replace corner sensor (RR).

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## B2707 SENSOR HARNESS OPEN [CR-RR]

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

### B2707 SENSOR HARNESS OPEN [CR-RR]

#### DTC Logic

INFOID:000000005475780

#### DTC DETECTION LOGIC

DTC No.	CONSULT-III indication	DTC detection condition	Troubleshooting
B2707	SENSOR HARNESS OPEN [CR-RR] [B2707]	Corner sensor (RR) harness circuit is open.	Check corner sensor (RR) circuit.

#### Diagnosis Procedure

INFOID:000000005475781

#### 1.CHECK HARNESS CORNER SENSOR (RR) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect sonar control unit connector and corner sensor (RR) connector.
3. Check continuity between sonar control unit harness connector and corner sensor (RR) harness connector.

Sonar control unit		Corner sensor (RR)		Continuity
Connector	Terminal	Connector	Terminal	
M47	6	B256	1	Existed

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

Sonar control unit		Ground	Continuity
Connector	Terminal		
M47	6		Not existed

#### Is the inspection result normal?

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

#### 2.CHECK HARNESS CORNER SENSOR (RR) GROUND CIRCUIT

Check continuity between sonar control unit harness connector and corner sensor (RR) harness connector.

Sonar control unit		Corner sensor (RR)		Continuity
Connector	Terminal	Connector	Terminal	
M47	12	B256	2	Existed

#### Is the inspection result normal?

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

# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

## POWER SUPPLY AND GROUND CIRCUIT

### AV CONTROL UNIT

#### AV CONTROL UNIT : Diagnosis Procedure

INFOID:000000005475804

#### 1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	34
Ignition switch ACC or ON	19

Is the inspection result normal?

YES >> GO TO 2.

NO >> Be sure to eliminate cause of malfunction before installing new fuse.

#### 2.CHECK POWER SUPPLY CIRCUIT

Check voltage between AV control unit harness connectors and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Battery power supply	M208	19	OFF	Battery voltage
ACC power supply	M208	7	ACC	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.

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

#### 3.CHECK GROUND CIRCUIT

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

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	M208	20	OFF	Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

### FRONT DISPLAY UNIT

#### FRONT DISPLAY UNIT : Diagnosis Procedure

INFOID:000000005475805

#### 1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	34
Ignition switch ACC or ON	19

Is the inspection result normal?

YES >> GO TO 2.

NO >> Be sure to eliminate cause of malfunction before installing new fuse.

#### 2.CHECK POWER SUPPLY CIRCUIT

Check voltage between display unit harness connector and ground.

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## POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Battery power supply	M195	11	OFF	Battery voltage
ACC power supply	M195	23	ACC	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check harness between display unit and fuse.

### 3.CHECK GROUND CIRCUIT

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

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	M195	12	OFF	Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

### BOSE AMP.

#### BOSE AMP. : Diagnosis Procedure

INFOID:000000005475815

### 1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	8

Is the inspection result normal?

YES >> GO TO 2.

NO >> Be sure to eliminate cause of malfunction before installing new fuse.

### 2.CHECK POWER SUPPLY CIRCUIT

Check voltage between BOSE amp. harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Battery power supply	B42	11	OFF	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check harness between BOSE amp. and fuse.

### 3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BOSE amp. connector.
3. Check continuity between BOSE amp. harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	B42	12	OFF	Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

### AROUND VIEW MONITOR CONTROL UNIT



# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

## AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure

INFOID:000000005475816

### 1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	34
Ignition switch ACC	19

Is inspection result normal?

YES >> GO TO 2.

NO >> Be sure to eliminate cause of malfunction before installing new fuse.

### 2.CHECK POWER SUPPLY CIRCUITS

Check voltage between around view monitor control unit harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Battery power supply	B46	2	OFF	Battery voltage
ACC power supply	B46	4	ACC	Battery voltage

Is inspection result normal?

YES >> GO TO 3.

NO >> Check harness between around view monitor control unit and fuse.

### 3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector.
3. Check continuity between around view monitor control unit harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	B46	1	OFF	Existed

Is inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

## SONAR CONTROL UNIT (WITH AROUND VIEW MONITOR)

## SONAR CONTROL UNIT (WITH AROUND VIEW MONITOR) : Diagnosis Procedure

INFOID:000000005475817

### 1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Ignition switch ACC or ON	19

Is the inspection result normal?

YES >> GO TO 2.

NO >> Be sure to eliminate cause of malfunction before installing new fuse.

### 2.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch ON.
2. Check voltage between sonar control unit harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Battery power supply	M47	13	ACC	Battery voltage

Is the inspection result normal?

## POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

YES >> GO TO 3.

NO >> Repair or replace sonar control unit power supply harness.

### 3.CHECK GROUND CIRCUIT

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

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	M47	24	OFF	Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair or replace sonar control unit ground harness.

# RGB DIGITAL IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

## RGB DIGITAL IMAGE SIGNAL CIRCUIT

### Description

INFOID:000000005475900

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

### Diagnosis Procedure

INFOID:000000005475901

#### 1.CHECK CONTINUITY RGB DIGITAL IMAGE SIGNAL CIRCUIT

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

Front display unit		AV control unit		Continuity
Connector	Terminals	Connector	Terminals	
M397	27	M396	157	Existed
	28		158	

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

Front display unit		Ground	Continuity
Connector	Terminals		
M397	27		Not existed
	28		

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK RGB DIGITAL IMAGE SIGNAL

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

(+) Front display unit		(-)	Condition	Voltage (Approx.)
Connector	Terminal			
M397	27	Ground	—	3.0 V
	28			

Is the inspection result normal?

YES >> Replace front display unit. Refer to [AV-335, "Exploded View"](#).

NO >> Replace AV control unit. Refer to [AV-333, "Exploded View"](#).

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# COMPOSITE IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

## COMPOSITE IMAGE SIGNAL CIRCUIT

### Description

INFOID:000000005475902

- DVD is played by inserting DVD into the AV control unit.
- DVD image signals are transmitted to the front display unit.
- AV control unit receives the image signal from the auxiliary input jacks and USB (video data) and then transmits it to the front display unit.

### Diagnosis Procedure

INFOID:000000005475903

#### 1. CHECK CONTINUITY COMPOSITE IMAGE SIGNAL CIRCUIT

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

AV control unit		Front display unit		Continuity
Connector	Terminal	Connector	Terminal	
M210	68	M195	18	Existed

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

AV control unit		Ground	Continuity
Connector	Terminal		
M210	68		Not existed

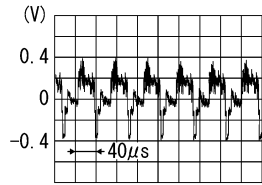
Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2. CHECK AUX COMPOSITE SIGNAL

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

(+) AV control unit		(-)	Condition	Reference value
Connector	Terminal			
M210	68	Ground	At DVD image is displayed.	 SKIB2251J

Is the inspection result normal?

YES >> Replace front display unit. Refer to [AV-335. "Exploded View"](#).

NO >> Replace AV control unit. Refer to [AV-333. "Exploded View"](#).

# AUX IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

## AUX IMAGE SIGNAL CIRCUIT

### Description

INFOID:000000005475904

- Transmits the image signal of AUX device from auxiliary input jacks to AV control unit.
- AV control unit transmits the image signal that is input to the display unit.

### Diagnosis Procedure

INFOID:000000005475905

#### 1.CHECK CONTINUITY AUX IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect auxiliary input jacks connector and AV control unit connector.
3. Check continuity between auxiliary input jacks harness connector and AV control unit harness connector.

Auxiliary input jacks		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M196	7	M209	26	Existed

4. Check continuity between auxiliary input jacks harness connector and ground.

Auxiliary input jacks		Ground	Continuity
Connector	Terminal		
M196	7		Not existed

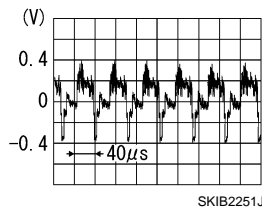
Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK AUX IMAGE SIGNAL

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

(+) Auxiliary input jacks		(-)	Condition	Reference value
Connector	Terminal			
M196	7	Ground	At AUX image is displayed.	

Is the inspection result normal?

YES >> Replace AV control unit. Refer to [AV-333, "Exploded View"](#).

NO >> Check that there is no malfunction in the external device.

# DISK EJECT SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

## DISK EJECT SIGNAL CIRCUIT

### Description

INFOID:000000005475906

The eject signal is output to AV control unit when the eject switch of multifunction switch is pressed.

### Diagnosis Procedure

INFOID:000000005475907

#### 1.CHECK CONTINUITY DISK EJECT SIGNAL CIRCUIT

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

Multifunction switch		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M72	14	M209	29	Existed

4. Check continuity between multifunction switch harness connector and ground.

Multifunction switch		Ground	Continuity
Connector	Terminal		
M72	14		Not existed

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK AV CONTROL UNIT VOLTAGE

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

(+)AV control unit		(-)	Condition	Voltage (Approx.)
Connector	Terminal			
M209	29	Ground	Pressing the eject switch	0 V
			Except for above	5.0 V

Is the inspection result normal?

YES >> Replace preset switch. Refer to [AV-345, "Exploded View"](#).

NO >> Replace AV control unit. Refer to [AV-333, "Exploded View"](#).

# MODE CHANGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

## MODE CHANGE SIGNAL CIRCUIT

### Description

INFOID:000000005475908

- AV control unit transmits the mode change signal to BOSE amp.
- Driver's Audio Stage controls the speaker's output characteristic by BOSE amp. so that the driver's seat is to be the center of sounds.

### Diagnosis Procedure

INFOID:000000005475909

#### 1.CHECK CONTINUITY MODE CHANGE SIGNAL CIRCUIT

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

BOSE amp.		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
B41	17	M209	30	Existed

4. Check continuity between BOSE amp. harness connector and ground.

BOSE amp.		Ground	Continuity
Connector	Terminal		
B41	17		Not existed

Is the inspection result normal?

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

#### 2.CHECK MODE CHANGE SIGNAL

1. Connect BOSE amp. connector.
2. Turn ignition switch ON.
3. Check signal between BOSE amp. harness connector and ground.

(+) BOSE amp.		(-)	Condition	Voltage (Approx.)
Connector	Terminal			
B41	17	Ground	Driver's Audio Stage ON	0 V
			Driver's Audio Stage OFF	8.5 V

Is the inspection result normal?

- YES >> Replace AV control unit. Refer to [AV-333, "Exploded View"](#).  
NO >> Replace BOSE amp. Refer to [AV-342, "Exploded View"](#).

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AV

# MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

## MICROPHONE SIGNAL CIRCUIT

### Description

INFOID:000000005475910

Supply power from AV control unit to microphone. The microphone transmits the sound/voice to the AV control unit.

### Diagnosis Procedure

INFOID:000000005475911

#### 1.CHECK CONTINUITY BETWEEN AV CONTROL UNIT AND MICROPHONE CIRCUIT

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

AV control unit		Microphone		Continuity
Connector	Terminals	Connector	Terminals	
M210	71	R17	2	Existed
	72		4	
	87		1	

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

AV control unit		Ground	Continuity
Connector	Terminals		
M210	72		Not existed
	87		

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK VOLTAGE MICROPHONE VCC

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

(+) (−)		Ground	Voltage (Approx.)
AV control unit			
Connector	Terminal		
M210	72		5.0 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace AV control unit. Refer to [AV-333. "Exploded View"](#).

#### 3.CHECK MICROPHONE SIGNAL

1. Connect microphone connector.
2. Check signal between AV control unit harness connector.



MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

(+)		(-)		Condition	Reference value
AV control unit		AV control unit			
Connector	Terminal	Connector	Terminal		
M210	87	M210	71	Give a voice.	<div><div><div>(V)</div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><di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Is the inspection result normal?

- YES >> Replace AV control unit. Refer to [AV-333. "Exploded View"](#).
- NO >> Replace microphone. Refer to [AV-348. "Exploded View"](#).

AV

# CAMERA IMAGE SIGNAL CIRCUIT (AROUND VIEW MONITOR CONTROL UNIT TO DISPLAY UNIT)

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

## CAMERA IMAGE SIGNAL CIRCUIT (AROUND VIEW MONITOR CONTROL UNIT TO DISPLAY UNIT)

### Description

INFOID:000000005475912

Around view monitor control unit supplies to the front camera, rear camera and side camera. And then it superimpose the images from each camera and outputs then to the front display unit.

### Diagnosis Procedure

INFOID:000000005475913

#### 1.CHECK CONTINUITY CAMERA IMAGE SIGNAL CIRCUIT

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

Front display unit		Around view monitor control unit		Continuity
Connector	Terminal	Connector	Terminal	
M195	8	B46	27	Existed

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

Front display unit		Ground	Continuity
Connector	Terminal		
M195	8		Not existed

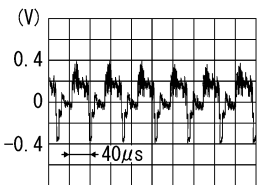
Is inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK CAMERA IMAGE SIGNAL

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

(+) Front display unit		(-)	Condition	Reference value
Connector	Terminal			
M195	8	Ground	At camera image is displayed.	

Is inspection result normal?

YES >> Replace front display unit. Refer to [AV-335, "Exploded View"](#).

NO >> Replace around view monitor control unit. Refer to [AV-351, "Exploded View"](#).

# FRONT CAMERA COMMUNICATION SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

## FRONT CAMERA COMMUNICATION SIGNAL CIRCUIT

### Description

INFOID:000000005525414

- Around view monitor control unit supplies to the front camera, rear camera and side camera. And then it superimpose the images from each camera and outputs then to the display unit.
- Superimpose the guiding lines, predicted course line and sonar indicator to the camera image that outputs to the front display unit.
- Around view monitor control unit performs the reception/transmission of communication signal with each camera.

### Diagnosis Procedure

INFOID:000000005475915

#### 1.CHECK CONTINUITY COMMUNICATION SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector and front camera connector.
3. Check continuity between around view monitor control unit harness connector and front camera harness connector.

Around view monitor control unit		Front camera		Continuity
Connector	Terminal	Connector	Terminal	
B45	45	E155	6	Existed

4. Check continuity between around view monitor control unit harness connector and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
B45	45		Not existed

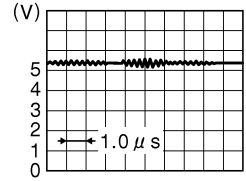
Is inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK COMMUNICATION SIGNAL

1. Connect around view monitor control unit connector and front camera connector.
2. Turn ignition switch ON.
3. Check signal between around view monitor control unit harness connector and ground.

(+) Around view monitor control unit		(-)	Condition	Reference value
Connector	Terminal			
B45	45	Ground	"CAMERA" switch is ON or shift position is "R".	 JSNIA0836GB

Is inspection result normal?

YES >> Replace around view monitor control unit. Refer to [AV-351, "Exploded View"](#).

NO >> Replace front camera. Refer to [AV-352, "Exploded View"](#).

# FRONT CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

## FRONT CAMERA IMAGE SIGNAL CIRCUIT

### Description

INFOID:000000005525432

- Around view monitor control unit supplies to the front camera, rear camera and side camera. And then it superimpose the images from each camera and outputs then to the display unit.
- Superimpose the guiding lines, predicted course line and sonar indicator to the camera image that outputs to the front display unit.
- Around view monitor control unit performs the reception/transmission of communication signal with each camera.

### Diagnosis Procedure

INFOID:000000005475917

#### 1.CHECK CONTINUITY FRONT CAMERA POWER SUPPLY AND GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector and front camera connector.
3. Check continuity between around view monitor control unit harness connector and front camera harness connector.

Around view monitor control unit		Front camera		Continuity
Connector	Terminals	Connector	Terminals	
B45	44	E155	2	Existed
	46		1	

4. Check continuity between around view monitor control unit harness connector and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
B45	46		Not existed

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK VOLTAGE FRONT CAMERA POWER SUPPLY

1. Connect around view monitor control unit connector and front camera connector.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit harness connector.

(+) Around view monitor control unit		(-)	Condition	Voltage (Approx.)
Connector	Terminal			
B45	46	Ground	"CAMERA" switch is ON or shift position is "R".	6.0 V

Is inspection result normal?

YES >> GO TO 3.

NO >> Replace around view monitor control unit. Refer to [AV-351, "Exploded View"](#).

#### 3.CHECK CONTINUITY FRONT CAMERA IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector and front camera connector.
3. Check continuity between around view monitor control unit harness connector and front camera harness connector.

# FRONT CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

Around view monitor control unit		Front camera		Continuity
Connector	Terminals	Connector	Terminals	
B45	41	E155	3	Existed
	42		4	

4. Check continuity between around view monitor control unit harness connector and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminals		
B45	41, 42		Not existed

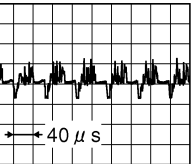
Is inspection result normal?

YES >> GO TO 4.

NO >> Repair harness or connector.

## 4.CHECK FRONT CAMERA IMAGE SIGNAL

1. Connect around view monitor control unit connector and front camera connector.
2. Turn ignition switch ON.
3. Check signal between around view monitor control unit harness connector.

(+)		(-)		Condition	Reference value
Around view monitor control unit		Around view monitor control unit			
Connector	Terminal	Connector	Terminal		
B45	41	B45	42	“CAMERA” switch is ON or shift position is “R”.	<div><div>(V)</div><div></div><div>JSNIA0834GB</div></div>

Is inspection result normal?

YES >> Replace around view monitor control unit. Refer to [AV-351, "Exploded View"](#).

NO >> Replace front camera. Refer to [AV-352, "Exploded View"](#).

AV

# REAR CAMERA COMMUNICATION SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

## REAR CAMERA COMMUNICATION SIGNAL CIRCUIT

### Description

INFOID:000000005525433

- Around view monitor control unit supplies to the front camera, rear camera and side camera. And then it superimpose the images from each camera and outputs then to the display unit.
- Superimpose the guiding lines, predicted course line and sonar indicator to the camera image that outputs to the front display unit.
- Around view monitor control unit performs the reception/transmission of communication signal with each camera.

### Diagnosis Procedure

INFOID:000000005475919

#### 1.CHECK CONTINUITY COMMUNICATION SIGNAL CIRCUIT

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

Around view monitor control unit		Rear camera		Continuity
Connector	Terminal	Connector	Terminal	
B46	35	D111	4	Existed

4. Check continuity between around view monitor control unit harness connector and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
B46	35		Not existed

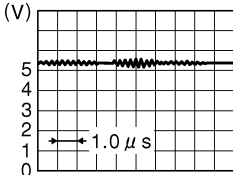
Is inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK COMMUNICATION SIGNAL

1. Connect around view monitor control unit connector and rear camera connector.
2. Turn ignition switch ON.
3. Check signal between around view monitor control unit harness connector and ground.

(+) Around view monitor control unit		(-)	Condition	Reference value
Connector	Terminal			
B46	35	Ground	"CAMERA" switch is ON or shift position is "R".	 JSNIA0836GB

Is inspection result normal?

YES >> Replace around view monitor control unit. Refer to [AV-351, "Exploded View"](#).

NO >> Replace rear camera. Refer to [AV-353, "Exploded View"](#).

# REAR CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

## REAR CAMERA IMAGE SIGNAL CIRCUIT

### Description

INFOID:000000005525434

- Around view monitor control unit supplies to the front camera, rear camera and side camera. And then it superimpose the images from each camera and outputs then to the display unit.
- Superimpose the guiding lines, predicted course line and sonar indicator to the camera image that outputs to the front display unit.
- Around view monitor control unit performs the reception/transmission of communication signal with each camera.

### Diagnosis Procedure

INFOID:000000005475921

#### 1.CHECK CONTINUITY REAR CAMERA POWER SUPPLY AND GROUND CIRCUIT

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

Around view monitor control unit		Rear camera		Continuity
Connector	Terminals	Connector	Terminals	
B46	36	D111	8	Existed
	38		7	

4. Check continuity between around view monitor control unit harness connector and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
B46	36		Not existed

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK VOLTAGE REAR CAMERA POWER SUPPLY

1. Connect around view monitor control unit connector and rear camera connector.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit harness connector and ground.

(+) Around view monitor control unit		(-)	Condition	Voltage (Approx.)
Connector	Terminal			
B46	36	Ground	"CAMERA" switch is ON or shift position is "R".	6.0 V

Is inspection result normal?

YES >> GO TO 3.

NO >> Replace around view monitor control unit. Refer to [AV-351, "Exploded View"](#).

#### 3.CHECK CONTINUITY REAR CAMERA IMAGE SIGNAL CIRCUIT

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

A  
B  
C  
D  
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AV

# REAR CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

Around view monitor control unit		Rear camera		Continuity
Connector	Terminals	Connector	Terminals	
B46	39	D111	5	Existed
	40		1	

4. Check continuity between around view monitor control unit harness connector and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminals		
B46	39, 40		Not existed

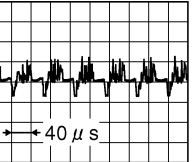
Is inspection result normal?

YES >> GO TO 4.

NO >> Repair harness or connector.

## 4. CHECK REAR CAMERA IMAGE SIGNAL

1. Connect around view monitor control unit connector and rear camera connector.
2. Turn ignition switch ON.
3. Check signal between around view monitor control unit harness connector.

(+)		(-)		Condition	Reference value
Around view monitor control unit		Around view monitor control unit			
Connector	Terminal	Connector	Terminal		
B46	39	B46	40	“CAMERA” switch is ON or shift position is “R”.	<div><div>(V)</div><div></div><div>JSNIA0834GB</div></div>

Is inspection result normal?

YES >> Replace around view monitor control unit. Refer to [AV-351, "Exploded View"](#).

NO >> Replace rear camera. Refer to [AV-353, "Exploded View"](#).



# SIDE CAMERA LH COMMUNICATION SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

## SIDE CAMERA LH COMMUNICATION SIGNAL CIRCUIT

### Description

INFOID:000000005525435

- Around view monitor control unit supplies to the front camera, rear camera and side camera. And then it superimpose the images from each camera and outputs then to the display unit.
- Superimpose the guiding lines, predicted course line and sonar indicator to the camera image that outputs to the front display unit.
- Around view monitor control unit performs the reception/transmission of communication signal with each camera.

### Diagnosis Procedure

INFOID:000000005475923

#### 1.CHECK CONTINUITY COMMUNICATION SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector and door mirror (driver side) connector.
3. Check continuity between around view monitor control unit harness connector and door mirror (driver side) harness connector.

Around view monitor control unit		Door mirror (driver side)		Continuity
Connector	Terminal	Connector	Terminal	
B45	47	D3	3	Existed

4. Check continuity between around view monitor control unit harness connector and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
B45	47		Not existed

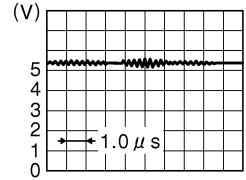
Is inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK COMMUNICATION SIGNAL

1. Connect around view monitor control unit connector and door mirror (driver side) connector.
2. Turn ignition switch ON.
3. Check signal between around view monitor control unit harness connector and ground.

(+) Around view monitor control unit		(-)	Condition	Reference value
Connector	Terminal			
B45	47	Ground	"CAMERA" switch is ON or shift position is "R".	 JSNIA0836GB

Is inspection result normal?

YES >> Replace around view monitor control unit. Refer to [AV-351, "Exploded View"](#).

NO >> Replace side camera LH. Refer to [AV-354, "Exploded View"](#).

# SIDE CAMERA LH IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

## SIDE CAMERA LH IMAGE SIGNAL CIRCUIT

### Description

INFOID:000000005525436

- Around view monitor control unit supplies to the front camera, rear camera and side camera. And then it superimpose the images from each camera and outputs then to the display unit.
- Superimpose the guiding lines, predicted course line and sonar indicator to the camera image that outputs to the front display unit.
- Around view monitor control unit performs the reception/transmission of communication signal with each camera.

### Diagnosis Procedure

INFOID:000000005475927

#### 1.CHECK CONTINUITY SIDE CAMERA LH POWER SUPPLY AND GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector and door mirror (driver side) connector.
3. Check continuity between around view monitor control unit harness connector and door mirror (driver side) harness connector.

Around view monitor control unit		Door mirror (driver side)		Continuity
Connector	Terminals	Connector	Terminals	
B45	48	D3	6	Existed
	50		18	

4. Check continuity between around view monitor control unit harness connector and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
B45	48		Not existed

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK VOLTAGE SIDE CAMERA LH POWER SUPPLY

1. Connect around view monitor control unit connector and door mirror (driver side) connector.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit harness connector and ground.

(+) Around view monitor control unit		(-)	Condition	Voltage (Approx.)
Connector	Terminal			
B45	48	Ground	"CAMERA" switch is ON or shift position is "R".	6.0 V

Is inspection result normal?

YES >> GO TO 3.

NO >> Replace around view monitor control unit. Refer to [AV-351, "Exploded View"](#).

#### 3.CHECK CONTINUITY SIDE CAMERA LH IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector and door mirror (driver side) connector.
3. Check continuity between around view monitor control unit harness connector and door mirror (driver side) harness connector.

# SIDE CAMERA LH IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

Around view monitor control unit		Door mirror (driver side)		Continuity
Connector	Terminals	Connector	Terminals	
B45	51	D3	5	Existed
	52		17	

4. Check continuity between around view monitor control unit harness connector and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminals		
B45	51, 52		Not existed

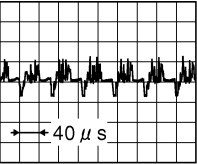
Is inspection result normal?

YES >> GO TO 4.

NO >> Repair harness or connector.

## 4.CHECK SIDE CAMERA LH IMAGE SIGNAL

1. Connect around view monitor control unit connector and door mirror (driver side) connector.
2. Turn ignition switch ON.
3. Check signal between around view monitor control unit harness connector.

(+)		(-)		Condition	Reference value
Around view monitor control unit		Around view monitor control unit			
Connector	Terminal	Connector	Terminal		
B45	51	B45	52	“CAMERA” switch is ON or shift position is “R”.	<div><div><div>(V)</div><div></div></div><div>JSNIA0834GB</div></div>

Is inspection result normal?

YES >> Replace around view monitor control unit. Refer to [AV-351, "Exploded View"](#).

NO >> Replace side camera LH. Refer to [AV-354, "Exploded View"](#).

AV

# SIDE CAMERA RH COMMUNICATION SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

## SIDE CAMERA RH COMMUNICATION SIGNAL CIRCUIT

### Description

INFOID:000000005525437

- Around view monitor control unit supplies to the front camera, rear camera and side camera. And then it superimpose the images from each camera and outputs then to the display unit.
- Superimpose the guiding lines, predicted course line and sonar indicator to the camera image that outputs to the front display unit.
- Around view monitor control unit performs the reception/transmission of communication signal with each camera.

### Diagnosis Procedure

INFOID:000000005475931

#### 1.CHECK CONTINUITY COMMUNICATION SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector and door mirror (passenger side) connector.
3. Check continuity between around view monitor control unit harness connector and door mirror (passenger side) harness connector.

Around view monitor control unit		Door mirror (passenger side)		Continuity
Connector	Terminal	Connector	Terminal	
B46	33	D33	3	Existed

4. Check continuity between around view monitor control unit harness connector and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
B46	33		Not existed

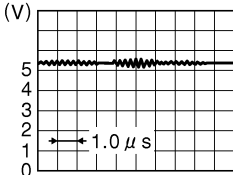
Is inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK COMMUNICATION SIGNAL

1. Connect around view monitor control unit connector and door mirror (passenger side) connector.
2. Turn ignition switch ON.
3. Check signal between around view monitor control unit harness connector and ground.

(+) Around view monitor control unit		(-)	Condition	Reference value
Connector	Terminal			
B46	33	Ground	"CAMERA" switch is ON or shift position is "R".	 JSNIA0836GB

Is inspection result normal?

YES >> Replace around view monitor control unit. Refer to [AV-351, "Exploded View"](#).

NO >> Replace side camera RH. Refer to [AV-356, "Exploded View"](#).

# SIDE CAMERA RH IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

## SIDE CAMERA RH IMAGE SIGNAL CIRCUIT

### Description

INFOID:000000005525438

- Around view monitor control unit supplies to the front camera, rear camera and side camera. And then it superimpose the images from each camera and outputs then to the display unit.
- Superimpose the guiding lines, predicted course line and sonar indicator to the camera image that outputs to the front display unit.
- Around view monitor control unit performs the reception/transmission of communication signal with each camera.

### Diagnosis Procedure

INFOID:000000005475935

#### 1.CHECK CONTINUITY SIDE CAMERA RH POWER SUPPLY AND GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect control unit connector and door mirror (passenger side) connector.
3. Check continuity between around view monitor control unit harness connector and door mirror (passenger side) harness connector.

Around view monitor control unit		Door mirror (passenger side)		Continuity
Connector	Terminals	Connector	Terminals	
B46	32	D33	18	Existed
	34		6	

4. Check continuity between around view monitor control unit harness connector and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
B46	34		Not existed

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK VOLTAGE SIDE CAMERA RH POWER SUPPLY

1. Connect around view monitor control unit connector and door mirror (passenger side) connector.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit harness connector and ground.

(+) Around view monitor control unit		(-)	Condition	Voltage (Approx.)
Connector	Terminal			
B46	34	Ground	"CAMERA" switch is ON or shift position is "R".	6.0 V

Is inspection result normal?

YES >> GO TO 3.

NO >> Replace around view monitor control unit. Refer to [AV-351, "Exploded View"](#).

#### 3.CHECK CONTINUITY SIDE CAMERA RH IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector and door mirror (passenger side) connector.
3. Check continuity between around view monitor control unit harness connector and door mirror (passenger side) harness connector.

# SIDE CAMERA RH IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

Around view monitor control unit		Door mirror (passenger side)		Continuity
Connector	Terminals	Connector	Terminals	
B46	29	D33	5	Existed
	30		17	

4. Check continuity between around view monitor control unit harness connector and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminals		
B46	29, 30		Not existed

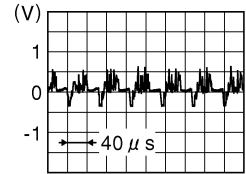
Is inspection result normal?

YES >> GO TO 4.

NO >> Repair harness or connector.

## 4.CHECK SIDE CAMERA RH IMAGE SIGNAL

1. Connect around view monitor control unit connector and door mirror (passenger side) connector.
2. Turn ignition switch ON.
3. Check signal between around view monitor control unit harness connector.

(+) Around view monitor control unit		(-) Around view monitor control unit		Condition	Reference value
Connector	Terminal	Connector	Terminal		
B46	29	B46	30	“CAMERA” switch is ON or shift position is “R”.	<div><div>(V)</div><div></div><div>JSNIA0834GB</div></div>

Is inspection result normal?

YES >> Replace around view monitor control unit. Refer to [AV-351, "Exploded View"](#).

NO >> Replace side camera RH. Refer to [AV-356, "Exploded View"](#).

# STEERING SWITCH SIGNAL A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

## STEERING SWITCH SIGNAL A CIRCUIT

### Description

INFOID:000000005475938

Transmits the steering switch signal to AV control unit.

### Diagnosis Procedure

INFOID:000000005475939

#### 1.CHECK STEERING SWITCH SIGNAL A CIRCUIT

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

AV control unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M208	6	M36	24	Existed

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

AV control unit		Ground	Continuity
Connector	Terminal		
M208	6		Not existed

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK SPIRAL CABLE

Check spiral cable.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace spiral cable. Refer to [SR-14. "Exploded View"](#).

#### 3.CHECK AV CONTROL UNIT VOLTAGE

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

(+)AV control unit		(-)AV control unit		Voltage (Approx.)
Connector	Terminal	Connector	Terminal	
M208	6	M208	15	5.0 V

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace AV control unit. Refer to [AV-333. "Exploded View"](#).

#### 4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to [AV-315. "Component Inspection"](#).

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace steering switch. Refer to [SR-11. "Exploded View"](#).

### Component Inspection

INFOID:000000005475940

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

# STEERING SWITCH SIGNAL A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

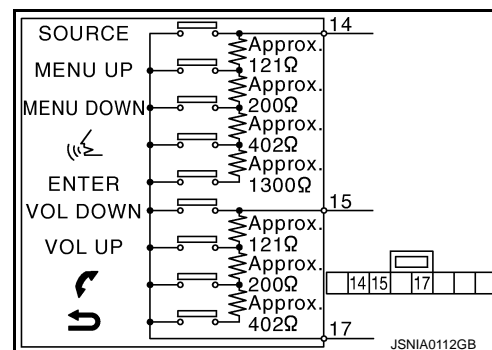
Standard

Between terminals 14 and 17

ENTER switch ON	: 2003 – 2043 $\Omega$
 switch ON	: 716 – 730 $\Omega$
MENU DOWN switch ON	: 318 – 324 $\Omega$
MENU UP switch ON	: 120 – 122 $\Omega$
SOURCE switch ON	: 0 $\Omega$

Between terminals 15 and 17

 switch ON	: 716 – 730 $\Omega$
 switch ON	: 318 – 324 $\Omega$
VOL UP switch ON	: 120 – 122 $\Omega$
VOL DOWN switch ON	: 0 $\Omega$





# STEERING SWITCH SIGNAL B CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

## STEERING SWITCH SIGNAL B CIRCUIT

### Description

INFOID:000000005475941

Transmits the steering switch signal to AV control unit.

### Diagnosis Procedure

INFOID:000000005475942

#### 1.CHECK STEERING SWITCH SIGNAL B CIRCUIT

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

AV control unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M208	16	M36	31	Existed

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

AV control unit		Ground	Continuity
Connector	Terminal		
M208	16		Not existed

Is the inspection result normal?

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

#### 2.CHECK SPIRAL CABLE

Check spiral cable.

Is the inspection result normal?

- YES >> GO TO 3.  
NO >> Replace spiral cable. Refer to [SR-14. "Exploded View"](#).

#### 3.CHECK AV CONTROL UNIT VOLTAGE

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

(+)AV control unit		(-)AV control unit		Voltage (Approx.)
Connector	Terminal	Connector	Terminal	
M208	16	M208	15	5.0 V

Is the inspection result normal?

- YES >> GO TO 4.  
NO >> Replace AV control unit. Refer to [AV-333. "Exploded View"](#).

#### 4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to [AV-317. "Component Inspection"](#).

Is the inspection result normal?

- YES >> INSPECTION END  
NO >> Replace steering switch. Refer to [SR-11. "Exploded View"](#).

### Component Inspection

INFOID:000000005475943

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

# STEERING SWITCH SIGNAL B CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >



[NAVIGATION (SINGLE MONITOR)]

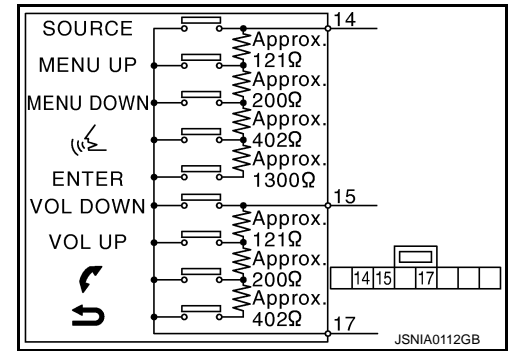
Standard

Between terminals 14 and 17

ENTER switch ON	: 2003 – 2043 Ω
 switch ON	: 716 – 730 Ω
MENU DOWN switch ON	: 318 – 324 Ω
MENU UP switch ON	: 120 – 122 Ω
SOURCE switch ON	: 0 Ω

Between terminals 15 and 17

 switch ON	: 716 – 730 Ω
 switch ON	: 318 – 324 Ω
VOL UP switch ON	: 120 – 122 Ω
VOL DOWN switch ON	: 0 Ω



# STEERING SWITCH GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

## STEERING SWITCH GROUND CIRCUIT

### Description

INFOID:000000005475944

Transmits the steering switch signal to AV control unit.

### Diagnosis Procedure

INFOID:000000005475945

#### 1.CHECK STEERING SWITCH SIGNAL GND CIRCUIT

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

AV control unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M208	15	M36	33	Existed

3. Connect AV control unit connector.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK SPIRAL CABLE

Check spiral cable.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace spiral cable. Refer to [SR-14, "Exploded View"](#).

#### 3.CHECK GROUND CIRCUIT

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

AV control unit		Ground	Continuity
Connector	Terminal		
M208	15		Not existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace AV control unit. Refer to [AV-333, "Exploded View"](#).

#### 4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to [AV-319, "Component Inspection"](#).

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace steering switch. Refer to [SR-11, "Exploded View"](#).

### Component Inspection

INFOID:000000005475946

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

# STEERING SWITCH GROUND CIRCUIT

## < DTC/CIRCUIT DIAGNOSIS >



## [NAVIGATION (SINGLE MONITOR)]

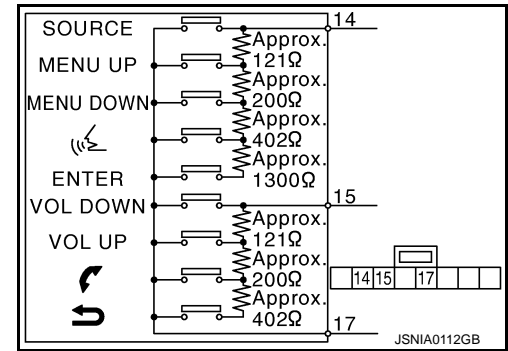
### Standard

Between terminals 14 and 17

ENTER switch ON	: 2003 – 2043 $\Omega$
 switch ON	: 716 – 730 $\Omega$
MENU DOWN switch ON	: 318 – 324 $\Omega$
MENU UP switch ON	: 120 – 122 $\Omega$
SOURCE switch ON	: 0 $\Omega$

Between terminals 15 and 17

 switch ON	: 716 – 730 $\Omega$
 switch ON	: 318 – 324 $\Omega$
VOL UP switch ON	: 120 – 122 $\Omega$
VOL DOWN switch ON	: 0 $\Omega$



# MULTI AV SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

## SYMPTOM DIAGNOSIS

### MULTI AV SYSTEM SYMPTOMS

#### Symptom Table

INFOID:000000005474739

#### RELATED TO NAVIGATION

Symptoms	Check items	Probable malfunction location
Multifunction switch and preset switch operation does not work.	<ul style="list-style-type: none"> <li>All switches cannot be operated.</li> <li>"MULTI AV" is displayed on system selection screen when the CONSULT-III is started.</li> </ul>	<ul style="list-style-type: none"> <li>Multifunction switch power supply and ground circuit malfunction.</li> <li>AV communication circuit between AV control unit and multifunction switch. Perform CONSULT-III self-diagnosis. Refer to <a href="#">AV-185, "CONSULT - III Function (MULTI AV)"</a>.</li> </ul>
	<ul style="list-style-type: none"> <li>All switches cannot be operated.</li> <li>"MULTI AV" is not displayed on system selection screen when the CONSULT-III is initialized.</li> </ul>	AV control unit power supply and ground circuit malfunction. Refer to <a href="#">AV-291, "AV CONTROL UNIT : Diagnosis Procedure"</a> .
	Only specified switch cannot be operated.	Multifunction switch or preset switch malfunction. Perform multifunction switch and preset switch self-diagnosis function. Refer to <a href="#">AV-175, "On Board Diagnosis Function"</a> .
Fuel economy display is abnormal.	There is malfunction in the CONSULT-III "self-diagnosis result" of "MULTI AV". Refer to <a href="#">AV-185, "CONSULT - III Function (MULTI AV)"</a> .	Perform detected DTC diagnosis. Refer to <a href="#">AV-200, "DTC Index"</a> .
	There is no malfunction in the CONSULT-III "self-diagnosis results" of "MULTI AV". Refer to <a href="#">AV-185, "CONSULT - III Function (MULTI AV)"</a> .	Ignition signal circuit malfunction.
Start of the AV control unit takes time.	—	Front door switch signal circuit malfunction.
Guide sound is not heard or too low.	On the setting display select "system sound (guide sound volume, etc.)," and confirm that guide sound is ON.	AV control unit malfunction. Replace AV control unit. Refer to <a href="#">AV-333, "Exploded View"</a> .

#### RELATED TO HANDS-FREE PHONE

##### Simple Check for Bluetooth™ Communication

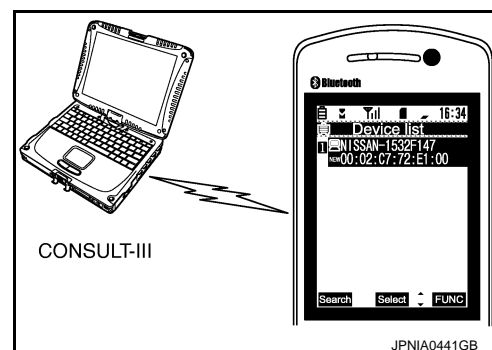
If cellular phone and AV control unit cannot be connected with Bluetooth™ communication, following procedure allows the technician to judge which device has malfunction.

- Turn ON cellular phone, not connecting Bluetooth™ communication.
- Start CONSULT-III, then start Windows®.
- Set CONSULT-III near a cellular phone.
- When operated Bluetooth™ registration by cellular phone, check if CONSULT-III\* would be displayed on the device name.  
(If other Bluetooth™ device is located near cellular phone, a name of the device would be displayed also.)

##### NOTE:

\*:Displayed device name is "NISSAN-\*\*\*\*\*".

- If no device name is displayed, cellular phone is malfunctioning. Repair the cellular phone first, then perform diagnosis.
- If CONSULT-III is displayed on device name, cellular phone is normal. Perform diagnosis as per the following table.



# MULTI AV SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

Symptoms	Check items	Probable malfunction location
Does not recognize cellular phone connection. (no connection is displayed on the display at the guide.)	Repeat the registration of cellular phone.	AV control unit malfunction. Replace AV control unit. Refer to <a href="#">AV-333, "Exploded View"</a> .
Hands-free phone cannot be established.	<ul style="list-style-type: none"> <li>Hands-free phone operation can be made, but the communication cannot be established.</li> <li>Hands-free phone operation can be performed, however, voice between each other cannot be heard during the conversation.</li> </ul>	AV control unit malfunction. Replace AV control unit. Refer to <a href="#">AV-333, "Exploded View"</a> .
The other party's voice cannot be heard by hands-free phone.	Check the "microphone speaker" in Inspection & Adjustment Mode if sound is heard.	AV control unit malfunction. Replace AV control unit. Refer to <a href="#">AV-333, "Exploded View"</a> .
Originating sound is not heard by the other party with hands-free phone communication.	Sound operation function is normal.	AV control unit malfunction. Replace AV control unit. Refer to <a href="#">AV-333, "Exploded View"</a> .
	Sound operation function does not work.	Microphone signal circuit malfunction. Refer to <a href="#">AV-300, "Diagnosis Procedure"</a> .
The system cannot be operated.	Steering switch's "VOL UP", "VOL DOWN", "↶" switch works, but "↷" it does not work.	Steering switch malfunction. Replace steering switch. Refer to <a href="#">SR-11, "Exploded View"</a> .
	Steering switch's "↷", "VOL UP", "VOL DOWN", "↶" switches do not work.	Steering switch signal B circuit malfunction. Refer to <a href="#">AV-317, "Diagnosis Procedure"</a> .
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to <a href="#">AV-319, "Diagnosis Procedure"</a> .

## RELATED TO AROUND VIEW MONITOR

Symptoms	Check items	Probable malfunction location / Action to take
It does not switch to camera image even when the "CAMERA" switch is pressed or the selector lever is in the reverse position.	"Camera Cont." of "Confirmation/Adjustment" can be selected.	Ignition signal circuit malfunction (around view monitor control unit).
	"Camera Cont." of "Confirmation/Adjustment" cannot be selected.	<ul style="list-style-type: none"> <li>Around view monitor control unit power supply and ground circuits malfunction. Refer to <a href="#">AV-293, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure"</a>.</li> <li>AV communication circuits malfunction. Refer to <a href="#">AV-185, "CONSULT - III Function (MULTI AV)"</a>.</li> </ul>
The screen switches when pressing the "CAMERA" switch or shifting the selector lever to the reverse position, however, all views are not displayed.	Only superimposing is displayed. (Only the image displayed by AV control unit is displayed)	Camera image signal circuit between around view monitor control unit and display unit malfunction. Refer to <a href="#">AV-302, "Diagnosis Procedure"</a> .
	Superimposing is not displayed.	Communication circuit between AV control unit and display unit malfunction. Refer to <a href="#">AV-185, "CONSULT - III Function (MULTI AV)"</a> .
Camera image is rolling.	—	Communication circuit between AV control unit and display unit malfunction. Refer to <a href="#">AV-185, "CONSULT - III Function (MULTI AV)"</a> .

# MULTI AV SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

Symptoms	Check items		Probable malfunction location / Action to take
It cannot be switched to rear view screen even when the selector lever is in the reverse position.	The front view is displayed normally.		Reverse signal circuit malfunction. (AV control unit)
<ul style="list-style-type: none"> <li>The front view screen is not displayed.</li> <li>The front of Birds-Eye view screen is not displayed.</li> </ul>	Check the item Front Camera in "Connection Confirmation" mode of "Camera Cont."	<ul style="list-style-type: none"> <li>Image Output Signal: NG</li> <li>COMM Status: NG</li> <li>COMM Line: NG</li> </ul>	<ul style="list-style-type: none"> <li>Front camera image signal circuit malfunction.</li> <li>Front camera power supply and ground circuits malfunction.</li> </ul> Refer to <a href="#">AV-304, "Diagnosis Procedure"</a> .
		<ul style="list-style-type: none"> <li>Image Output Signal: OK</li> <li>COMM Status: NG</li> <li>COMM Line: NG</li> </ul>	Front camera communication signal circuit malfunction. Refer to <a href="#">AV-303, "Diagnosis Procedure"</a> .
<ul style="list-style-type: none"> <li>The rear view screen is not displayed.</li> <li>The rear of Birds-Eye view screen is not displayed.</li> </ul>	Check the item Rear Camera in "Connection Confirmation" mode of "Camera Cont."	<ul style="list-style-type: none"> <li>Image Output Signal: NG</li> <li>COMM Status: NG</li> <li>COMM Line: NG</li> </ul>	<ul style="list-style-type: none"> <li>Rear camera image signal circuit malfunction.</li> <li>Rear camera power supply and ground circuits malfunction.</li> </ul> Refer to <a href="#">AV-307, "Diagnosis Procedure"</a> .
		<ul style="list-style-type: none"> <li>Image Output Signal: OK</li> <li>COMM Status: NG</li> <li>COMM Line: NG</li> </ul>	Rear camera communication signal circuits malfunction. Refer to <a href="#">AV-306, "Diagnosis Procedure"</a> .
<ul style="list-style-type: none"> <li>The front-side screen is not displayed.</li> <li>The passenger side of Birds-Eye view screen is not displayed.</li> </ul>	Check the item Pass-Side Camera in "Connection Confirmation" mode of "Camera Cont."	<ul style="list-style-type: none"> <li>Image Output Signal: NG</li> <li>COMM Status: NG</li> <li>COMM Line: NG</li> </ul>	<ul style="list-style-type: none"> <li>Side camera RH image signal circuit malfunction.</li> <li>Side camera RH power supply and ground circuits malfunction.</li> </ul> Refer to <a href="#">AV-313, "Diagnosis Procedure"</a> .
		<ul style="list-style-type: none"> <li>Image Output Signal: OK</li> <li>COMM Status: NG</li> <li>COMM Line: NG</li> </ul>	Side camera RH communication circuit malfunction. Refer to <a href="#">AV-312, "Diagnosis Procedure"</a> .
The driver side of Birds-eye view screen is not displayed.	Check the item Dr-Side Camera at "Connection Confirmation" mode of "Camera Cont."	<ul style="list-style-type: none"> <li>Image Output Signal: NG</li> <li>COMM Status: NG</li> <li>COMM Line: NG</li> </ul>	<ul style="list-style-type: none"> <li>Side camera LH image signal circuit malfunction.</li> <li>Side camera LH power supply and ground circuits malfunction.</li> </ul> Refer to <a href="#">AV-310, "Diagnosis Procedure"</a> .
		<ul style="list-style-type: none"> <li>Image Output Signal: OK</li> <li>COMM Status: NG</li> <li>COMM Line: NG</li> </ul>	Side camera LH communication circuit malfunction. Refer to <a href="#">AV-309, "Diagnosis Procedure"</a> .
When shift position is other than "R" the front-side and front screen or the Birds-Eye view and front screen remain displaying even if the vehicle speed increases.	—		Vehicle speed signal circuit malfunction (around view monitor control unit).

RELATED TO CAMERA ASSISTANCE SONAR

# MULTI AV SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

Symptoms	Check items	Probable malfunction location / Action to take
The malfunction is detected in the sonar indicator (Always displayed in red)	The malfunction is detected in only 1 indicator (Always displayed in red).	<ul style="list-style-type: none"> <li>Corner sensor malfunction in corresponding area.</li> <li>Corner sensor harness circuit in corresponding area.</li> </ul> Perform CONSULT-III "self-diagnosis" of "SONAR". Refer to <a href="#">AV-192, "CONSULT-III Function (SONAR)"</a> .
	The malfunction is detected in all 4 indicators (Always displayed in red).	<ul style="list-style-type: none"> <li>Corner sensor ground circuit malfunction.</li> <li>Sonar control unit power supply and ground circuits malfunction.</li> <li>AV communication circuits malfunction.</li> </ul> Perform CONSULT-III "self-diagnosis" of "MULTI AV". Refer to <a href="#">AV-185, "CONSULT-III Function (MULTI AV)"</a> .
The sonar indicator is normal, but the buzzer does not sound	—	Replace sonar control unit. Refer to <a href="#">AV-358, "Exploded View"</a> .

## RELATED TO RGB IMAGE

Symptoms	Check items	Probable malfunction location
RGB image is not shown.	—	RGB digital image signal circuit malfunction. Refer to <a href="#">AV-295, "Diagnosis Procedure"</a> .

## RELATED TO VOICE CONTROL

Symptoms	Check items	Probable malfunction location
The voice cannot be controlled even if the voice control screen is displayed.	Voice sounds at "Voice Microphone Test" of Confirmation/Adjustment mode.	AV control unit malfunction. Replace AV control unit. Refer to <a href="#">AV-333, "Exploded View"</a> .
	Voice does not sound at "Voice Microphone Test" of Confirmation/Adjustment mode.	Microphone circuit malfunction. Refer to <a href="#">AV-300, "Diagnosis Procedure"</a> .
The voice cannot be controlled (Voice control screen is not displayed).	Steering switch's "SOURCE", "MENU UP", "MENU DOWN", "ENTER" switch works, but "↖" it does not work.	Steering switch malfunction. Replace steering switch. Refer to <a href="#">SR-11, "Exploded View"</a> .
	Steering switch's "SOURCE", "MENU UP", "MENU DOWN", "↖", "ENTER" switches do not work.	Steering switch signal A circuit malfunction. Refer to <a href="#">AV-315, "Diagnosis Procedure"</a> .
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to <a href="#">AV-319, "Diagnosis Procedure"</a> .

## RELATED TO AUDIO

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	—	Disk eject signal circuit malfunction. Refer to <a href="#">AV-298, "Diagnosis Procedure"</a> .





# MULTI AV SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

Symptoms	Check items	Probable malfunction location
Audio sound is not heard.	No sound from all speakers.	<ul style="list-style-type: none"> <li>Amp. ON signal circuit malfunction.</li> <li>BOSE amp. power supply and ground circuits malfunction.</li> </ul> Refer to <a href="#">AV-292, "BOSE AMP. : Diagnosis Procedure"</a> .
	Sound is not heard from woofer.	<ul style="list-style-type: none"> <li>Woofer power supply and ground circuit malfunction.</li> <li>Sound signal (woofer) circuit malfunction.</li> <li>Woofer amp. ON signal circuit malfunction.</li> </ul>
	Sound is heard only from specific places.	Sound signals circuit of suspect system.
It does not change to "Driver's Audio Stage" mode.	—	Mode change signal circuit malfunction. Refer to <a href="#">AV-299, "Diagnosis Procedure"</a> .
Satellite radio is not received.	There is malfunction in the CONSULT-III self-diagnosis result. Refer to <a href="#">AV-185, "CONSULT - III Function (MULTI AV)"</a> .	Perform detected DTC diagnosis. Refer to <a href="#">AV-200, "DTC Index"</a> .
	There is no malfunction in the CONSULT-III self-diagnosis result. Refer to <a href="#">AV-185, "CONSULT - III Function (MULTI AV)"</a> .	Perform the following inspection procedure. <ol style="list-style-type: none"> <li>Check satellite radio antenna (antenna base) mounting nut for looseness.</li> </ol> <b>NOTE:</b> Tightening torque: 6.5 N·m (0.66 kg·m, 58 in·lb) <ol style="list-style-type: none"> <li>Visually check for satellite radio antenna feeder.</li> </ol>
AM/FM radio is not received.	Other audio sounds are normal.	<ul style="list-style-type: none"> <li>Antenna amp. ON signal circuit malfunction.</li> <li>Antenna feeder malfunction.</li> </ul>

## RELATED TO STEERING SWITCH

Symptoms	Probable malfunction location
None of the steering switch operations work.	Steering switch ground circuit malfunction. Refer to <a href="#">AV-319, "Diagnosis Procedure"</a> .
Only specified switch cannot be operated.	Steering switch malfunction. Replace steering switch. Refer to <a href="#">SR-11, "Exploded View"</a> .
Steering switch's "SOURCE", "MENU UP", "MENU DOWN", "  <td>Steering switch signal A circuit malfunction. Refer to <a href="#">AV-315, "Diagnosis Procedure"</a>.</td>	Steering switch signal A circuit malfunction. Refer to <a href="#">AV-315, "Diagnosis Procedure"</a> .
Steering switch's "  <td>Steering switch signal B circuit malfunction. Refer to <a href="#">AV-317, "Diagnosis Procedure"</a>.</td>	Steering switch signal B circuit malfunction. Refer to <a href="#">AV-317, "Diagnosis Procedure"</a> .

## RELATED TO USB

### NOTE:

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

Symptoms	Check items	Possible malfunction location / Action to take
iPod® or USB memory can not be recognized.	—	<ul style="list-style-type: none"> <li>USB harness malfunction.</li> <li>USB connector malfunction.</li> </ul>

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

## RELATED TO DVD MODE

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	—	Disk eject signal circuit malfunction. Refer to <a href="#">AV-298, "Diagnosis Procedure"</a> .
DVD image is not displayed.	—	Perform CONSULT-III self-diagnosis. Refer to <a href="#">AV-185, "CONSULT - III Function (MULTI AV)"</a> . When detecting no malfunction in those components, the following items are a possible cause. <ul style="list-style-type: none"> <li>Composite image signal circuits malfunction.</li> </ul> Refer to <a href="#">AV-296, "Diagnosis Procedure"</a> .

## MULTI AV SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

Symptoms	Check items	Probable malfunction location
DVD sound is not heard.	No sound from all speakers.	<ul style="list-style-type: none"> <li>• Amp. ON signal circuit malfunction.</li> <li>• BOSE amp. power supply and ground circuits malfunction.</li> </ul> Refer to <a href="#">AV-292, "BOSE AMP. : Diagnosis Procedure"</a> .
	Sound is not heard from woofer.	<ul style="list-style-type: none"> <li>• Woofer power supply and ground circuit malfunction.</li> <li>• Sound signal (woofer) circuit malfunction.</li> <li>• Woofer amp. ON signal circuit malfunction.</li> </ul>
	Sound is heard only from specific places.	Sound signals circuit of suspect system.

### RELATED TO AUXILIARY INPUT

#### NOTE:

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

Symptoms	Check items	Probable malfunction location
No voice sound is heard when AUX mode is selected.	Voice sound is heard when other modes are selected.	AUX sound signal circuit.
Image is not displayed when AUX mode is selected.	DVD image is displayed.	AUX image signal circuit malfunction. Refer to <a href="#">AV-297, "Diagnosis Procedure"</a> .
	DVD image is not displayed.	Composite image signal circuits malfunction. Refer to <a href="#">AV-296, "Diagnosis Procedure"</a> .

## NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

### NORMAL OPERATING CONDITION

#### Description

INFOID:000000005474740

#### NOTE:

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

#### BASIC OPERATIONS

Symptom	Possible cause	Possible solution
No image is displayed.	The brightness is at the lowest setting.	Adjust the brightness of the display.
	The systems in the video mode.	Press "DISC-AUX" to change the mode.
	The display is turned off.	Press "☀/☾" to turn on the display.
	The interior of the vehicle becomes the a little less than 80°C (176°F) or high temperature, and the protection of the display acts, and a display is turned off.	Wait until the interior of the vehicle has cooled down.
Screen not clear.	Contrast setting is not appropriate.	Adjust the contrast of the display.
No voice guidance is available. Or The volume is too high or too low.	The volume is not set correctly, or it is turned off.	Adjust the volume of voice guidance.
	Voice guidance is not provided for certain streets (roads displayed in gray).	This is not a malfunction.
No map is displayed on the screen.	A screen other than map screen is displayed.	Press "MAP".
The screen is too dim. The movement is slow.	The temperature in the interior of the vehicle is low.	Wait until the interior of the vehicle has warmed up.
Some pixels in the display are darker or brighter than others.	This condition is an inherent characteristic of liquid crystal displays.	This is not a malfunction.
Some menu items cannot be selected.	Some menu items become unavailable while the vehicle is driven.	Park the vehicle in a safe location, and then operate the navigation system.

#### NOTE:

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

#### RELATED TO VOICE RECOGNITION

##### 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 if 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.

## NORMAL OPERATING CONDITION

### < SYMPTOM DIAGNOSIS >

### [NAVIGATION (SINGLE MONITOR)]

Where the solutions are listed by number, try each solution in turn, starting with number one, until the problem is resolved.

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. <b>NOTE:</b> 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 voicetag	1. Ensure that the voicetag requested matches what was originally stored. This can be confirmed by giving the "Addressbook" Directory or Phone Directory command.
	2. Replace one of the voicetags being confused with a different voicetag.

#### Related to Telephone

The system should respond correctly to all voice commands without difficulty. If problems are encountered, try the following solutions.

Where the solutions are listed by number, try each solution in turn, starting with number 1, until the problem is resolved.

Symptom	Solution
System fails to interpret the command correctly.	1. Ensure that the command is valid.
	2. Ensure that the command is spoken after the tone.
	3. Speak clearly without pausing between words and at level appropriate to the ambient noise level in the vehicle.
	4. Ensure that the ambient noise level is not excessive (for example, windows open or defroster on). <b>NOTE:</b> 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" earlier in this section. Refer to "OWNER'S MANUAL".
The system consistently selects the wrong voicetag	1. Ensure that the phone book entry name requested matches what was originally stored. This can be confirmed by using the "List Names" command.
	2. Replace one of the names being confused with a new name.

#### RELATED TO AUDIO

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

#### NOTE:

- CD-R is not guaranteed to play because they can contain compressed audio (MP3, WMA, AAC, M4A) or could be incorrectly mastered by the customer on a computer.
- Check if the CDs carry the Compact Disc Logo. If not, the disc is not mastered to the "red book" Compact Disc Standard and may not play.

# NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

Symptom	Cause and Counter measure
Cannot play	Check if the CD was inserted correctly.
	Check if the CD is scratched or dirty.
	Check if there is condensation inside the player, and if there is, wait until the condensation is gone (about 1 hour) before using the player.
	If there is a temperature increase error, the player will play correctly after it returns to the normal temperature.
	If there is a mixture of music CD files (CD-DA data) and MP3/WMA/AAC/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. (For Microsoft Windows Vista, check the settings.)
Poor sound quality	Check if the CD is scratched or dirty.
It takes a relatively long time before the music starts playing.	If there are many folder or file levels on the MP3/WMA/AAC/M4A CD, or if it is a multisession disc, some time may be required before the music starts playing.
Music cuts off or skips	The writing software and hardware combination might not match, or the writing speed, writing depth, writing width might not match the specifications. Try using the slowest writing speed.
Skipping with high bit rate files	Skipping may occur with large quantities if data such as for high bit rate data.
Move immediately to the next song when playing	When a non-MP3/WMA/AAC/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 back in the desired order.	The playback order is the order in which the files were written by the software, so the files might not play in the desired order.

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

## NOTE:

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

## RELATED TO DVD

Symptom	Possible cause	Possible solution
Not working as operated	Some operations may be rejected or may not function as intended because of the manufacturer's intent, depending on DVD.	This is not a malfunction.
Operation not accepted	If a requested operation is prohibited, then a message is displayed on the screen. (Message display depends on DVD.)	This is not a malfunction.

# NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

Symptom	Possible cause	Possible solution
DVD can not be played	Check that the DVD is inserted in the right place.	Upturn the DVD (facing the title upward).
	Check that there is no condensation inside the player.	Wait until the condensation evaporates (approximately one hour).
	DVD menu is displayed.	Select item to touch "ENTER".
	Insertion of a DVD with a different region code.	DVDs with a different region code can not be played. Check DVD.
	Some DVD softwares may not be played because not all DVD softwares fully comply in the standard.	This is not a malfunction.
Interruption during playback or flicker in the display	Check that the DVD has no scratches and dirt.	Errors may not be corrected depending on the size of scratches.
		Wipe and clean the dirt on the disc.
Subtitles not shown	Subtitle setting is OFF.	Set subtitle.
	Subtitle is not included in the software.	Check DVD.
Not played in set language	If a language is not included in the DVD, then the DVD is played in a recommended language.	Check DVD.
Not played with set subtitle	If a set subtitle is not included in the DVD, then the DVD is played with a recommended subtitle.	Check DVD.
Angle unchangeable	Plural angles are not recorded in the software.	Check if the DVD is multi-angle capable.
Unusual screen display	Display mode to the output aspect ratio for the DVD software is inappropriate.	Switch to the appropriate display mode.
Distortion in picture	In the process of fast-forward or fast-reverse.	This is not a malfunction.
Low sound quality	Check that the DVD has no scratches and dirt.	Wipe and clean the dirt on the disc.
Subtitle and language not selectable (not played with set subtitle or in set language)	The DVD is not multilanguage-capable.	The inclusion of the number of languages depends on DVD. Languages may be selectable on the Menu screen. Check DVD.
	The DVD has a priority language or setting.	If the DVD has a priority language or settings, then settings changed with this device are not reflected.
Playback time is indicated, but no sound comes out.	Playback of Mix mode Truck 1. (Mix mode: Format including Truck 1 with data other than music and Trucks from Truck 2 with music data.)	Play music data included in trucks from Truck 2.

## RELATED TO 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.
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.

# NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

Symptom	Possible cause	Possible solution
The screen does not switch to the night screen even after turning on the headlights.	The daytime screen was set the last time the headlights were turned on.	Set the screen to the night screen mode using <Day/Night> when you turn on the headlights.
The map does not scroll even when the vehicle is moving.	The current location map screen is not displayed.	Press "MAP".
The vehicle icon is not displayed.	The current location map screen is not displayed.	Press "MAP".
The location of the vehicle icon is misaligned from the actual position.	When using tire chains or replacing the tires, speed calculations based on the speed sensor may be incorrect.	Drive the vehicle for a while [at approximately 30 km/h (19 MPH) for about 30 minutes] to automatically correct the vehicle icon position. If this does not correct the vehicle icon position, contact an INFINITI dealer.
	The map data has a mistake or is incomplete (the vehicle icon position is always misaligned in the same area).	Updated road information will be included in the next version of the map data.

## RELATED TO ROUTE CALCULATION AND VISUAL GUIDANCE

Symptom	Possible cause	Possible solution
Waypoints are not included in the auto reroute calculation.	Waypoints that you have already passed are not included in the auto reroute calculation.	If you want to go to that waypoint again, you need to edit the route.
Route information is not displayed.	Route calculation has not yet been performed.	Set the destination and perform route calculation.
	You are not driving on the suggested route.	Drive on the suggested route.
	Route guidance is set to off.	Turn on route guidance.
	Route information is not provided for certain types of roads (roads displayed in gray).	This is not a malfunction.
The auto reroute calculation (or detour calculation) suggests the same route as the one previously suggested.	Route calculations took priority conditions into consideration, but the same route was calculated.	This is not a malfunction.
A waypoint cannot be added.	Five waypoints are already set on the route, including ones that you have already passed.	A maximum of 5 waypoints can be set on the route. If you want to go to 6 or more waypoints, perform route calculations multiple times as necessary.
The suggested route is not displayed.	Roads near the destination cannot be calculated.	Reset the destination to a main or ordinary road, and recalculate the route.
	The starting point and destination are too close.	Set a more distant destination.
	The starting point and destination are too far away.	Divide your trip by selecting one or two intermediate destinations, and perform route calculations multiple times.
	There are time restricted roads (by the day of the week, by time) near the current vehicle location or destination.	Set [Use Time Restricted Roads] to off.
The part of the route that you have already passed is deleted.	A route is managed by sections between waypoints. If you passed the first waypoint, the section between the starting point and the waypoint is deleted. (It may not be deleted depending on the area.)	This is not a malfunction.
An indirect route is suggested.	If there are restrictions (such as one-way streets) on roads close to the starting point or destination, the system may suggest an indirect route.	Adjust the location of the starting of the starting point or destination.
	The system may suggest an indirect route because route calculation does not take into consideration some areas such as narrow streets (gray roads.)	Reset the destination to a main or ordinary road, and recalculate the route.

## NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION (SINGLE MONITOR)]

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

### RELATED TO VOICE GUIDANCE

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



# AV CONTROL UNIT

< REMOVAL AND INSTALLATION >

[NAVIGATION (SINGLE MONITOR)]

## REMOVAL AND INSTALLATION

### AV CONTROL UNIT

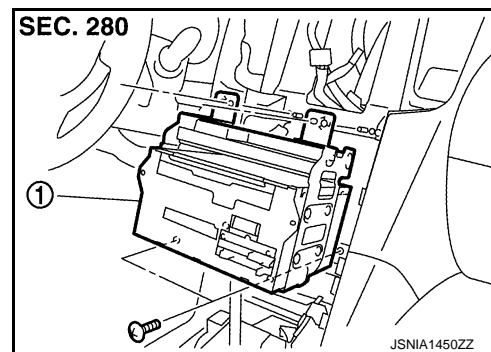
#### Exploded View

INFOID:000000005475540

#### CAUTION:

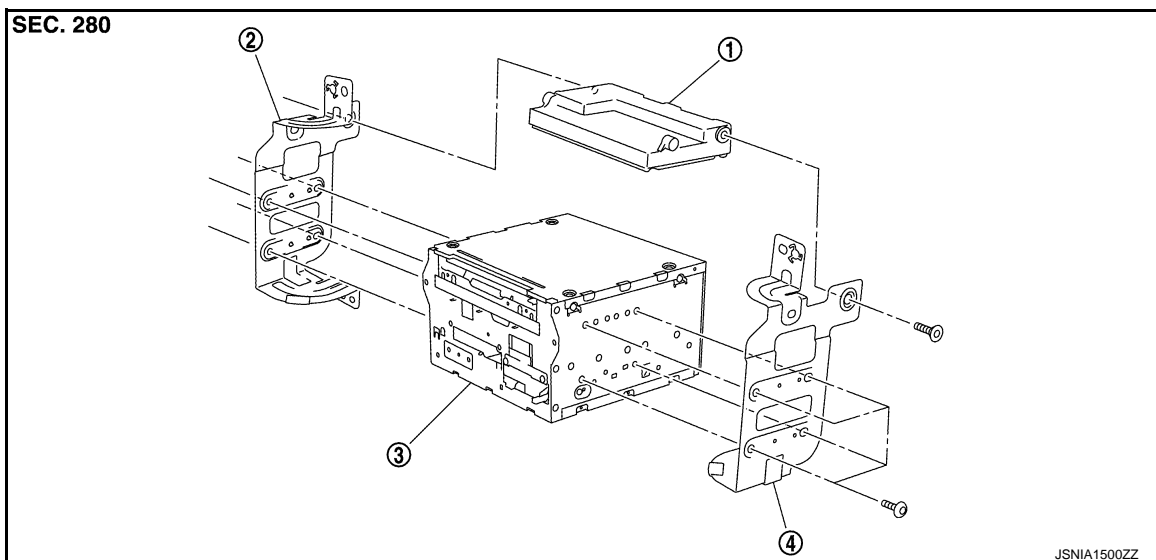
Before replacing AV control unit, perform "READ CONFIGURATION" to save or print current vehicle specification. For details, refer to [AV-243, "ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Description"](#).

#### REMOVAL



1: AV control unit

#### DISASSEMBLY



1. Unified meter and A/C amp.

2. Bracket LH

3. AV control unit

4. Bracket RH

#### Removal and Installation

INFOID:000000005475541

#### CAUTION:

Before replacing AV control unit, perform "READ CONFIGURATION" to save or print current vehicle specification. For details, refer to [AV-243, "ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Description"](#).

#### REMOVAL

1. Remove front display unit. Refer to [AV-335, "Exploded View"](#).
2. Remove AV control unit with a unified meter and A/C amp. as a single unit from the body.
3. Remove bracket screws, and then remove AV control unit.

## AV CONTROL UNIT

< REMOVAL AND INSTALLATION >

[NAVIGATION (SINGLE MONITOR)]

---

### INSTALLATION

Installation is the reverse order of removal.

#### **CAUTION:**

- Since AV control unit connector and unified meter and A/C amp. connector have the same form, be careful not to insert them wrongly.
- Be sure to perform “WRITE CONFIGURATION” when replacing AV control unit.

# FRONT DISPLAY UNIT

< REMOVAL AND INSTALLATION >

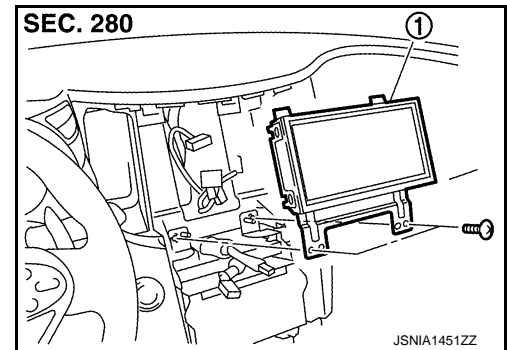
[NAVIGATION (SINGLE MONITOR)]

## FRONT DISPLAY UNIT

### Exploded View

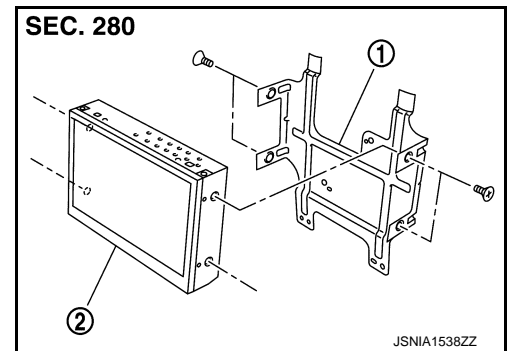
INFOID:000000005475542

#### REMOVAL



1. Front display unit

#### DISASSEMBLY



1. Bracket
2. Front display unit

### Removal and Installation

INFOID:000000005475543

#### REMOVAL

1. Remove cluster lid D. Refer to [IP-11, "Exploded View"](#).
2. Remove front display unit mounting screws.
3. Disconnect connector, and remove front display unit.

#### INSTALLATION

Installation is the reverse order of removal.

A  
B  
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AV

## FRONT DOOR SPEAKER

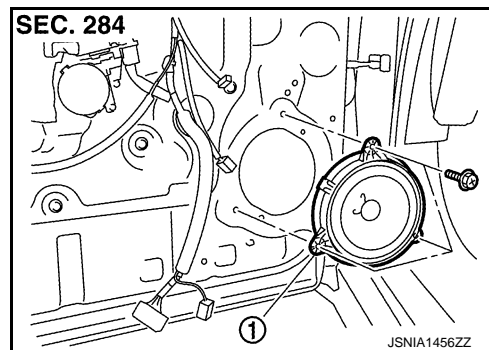
< REMOVAL AND INSTALLATION >

[NAVIGATION (SINGLE MONITOR)]

### FRONT DOOR SPEAKER

#### Exploded View

INFOID:000000005475550



1. Front door speaker

#### Removal and Installation

INFOID:000000005475551

##### REMOVAL

1. Remove front door finisher. Refer to [INT-11, "Exploded View"](#).
2. Remove front door speaker mounting bolts.
3. Disconnect connector and remove front door speaker.

##### INSTALLATION

Installation is the reverse order of removal.

## REAR DOOR SPEAKER

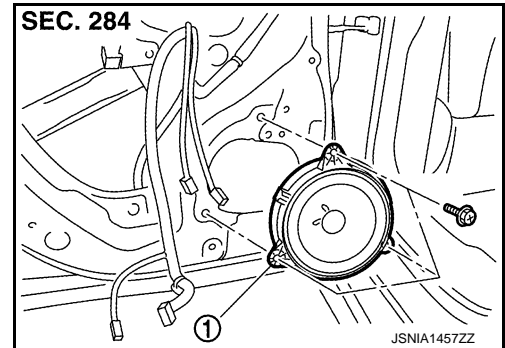
< REMOVAL AND INSTALLATION >

[NAVIGATION (SINGLE MONITOR)]

### REAR DOOR SPEAKER

#### Exploded View

INFOID:000000005475552



1. Rear door speaker

#### Removal and Installation

INFOID:000000005475553

##### REMOVAL

1. Remove rear door finisher. Refer to [INT-14. "Exploded View"](#).
2. Remove rear door speaker mounting bolts.
3. Disconnect connector and remove rear door speaker.

##### INSTALLATION

Installation is the reverse order of removal.

A  
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AV

## FRONT SQUAWKER

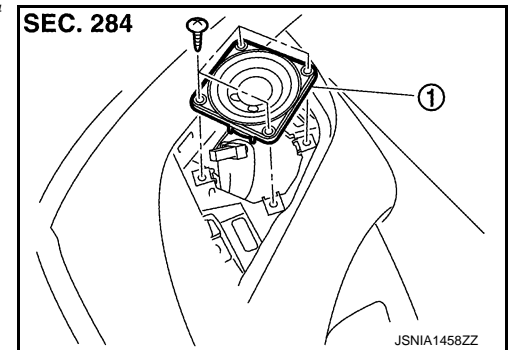
< REMOVAL AND INSTALLATION >

[NAVIGATION (SINGLE MONITOR)]

### FRONT SQUAWKER

#### Exploded View

INFOID:000000005475554



1. Front squawker

#### Removal and Installation

INFOID:000000005475555

##### REMOVAL

1. Remove speaker grille. Refer to [IP-11, "Exploded View"](#).
2. Remove front squawker mounting screws.
3. Disconnect connector and remove front squawker.

##### INSTALLATION

Installation is the reverse order of removal.

# REAR SQUAWKER

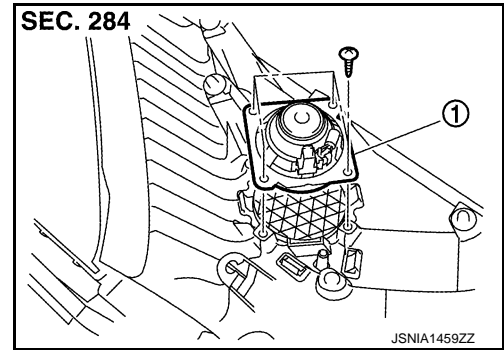
< REMOVAL AND INSTALLATION >

[NAVIGATION (SINGLE MONITOR)]

## REAR SQUAWKER

### Exploded View

INFOID:000000005475556



1. Rear squawker

### Removal and Installation

INFOID:000000005475557

#### REMOVAL

1. Remove luggage side finisher upper. Refer to [INT-28, "Exploded View"](#).
2. Remove rear squawker mounting screws.
3. Remove rear squawker.

#### INSTALLATION

Installation is the reverse order of removal.

A  
B  
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AV

## CENTER SPEAKER

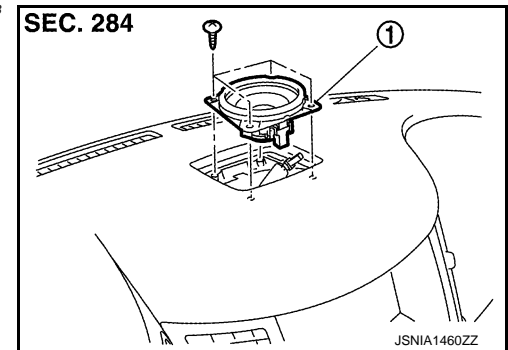
< REMOVAL AND INSTALLATION >

[NAVIGATION (SINGLE MONITOR)]

### CENTER SPEAKER

#### Exploded View

INFOID:000000005475558



1. Center speaker

#### Removal and Installation

INFOID:000000005475559

##### REMOVAL

1. Remove center speaker grille. Refer to [JP-11, "Exploded View"](#).
2. Remove center speaker mounting screws, lift up the center speaker and disconnect connector.
3. Remove center speaker.

##### INSTALLATION

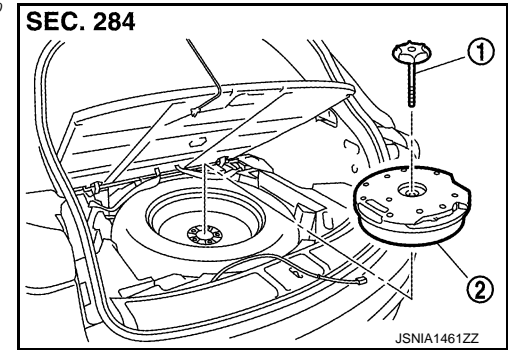
Installation is the reverse order of removal.



## WOOFER

### Exploded View

INFOID:0000000005475560



1. Woofer clamp
2. Woofer

### Removal and Installation

INFOID:0000000005475561

#### REMOVAL

1. Pull up luggage finisher cover and hang the strap to upper body.
2. Remove woofer clamp.
3. Remove harness clip and connector.
4. Remove woofer.

#### INSTALLATION

Installation is the reverse order of removal.

A  
B  
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AV

## BOSE AMP.

< REMOVAL AND INSTALLATION >

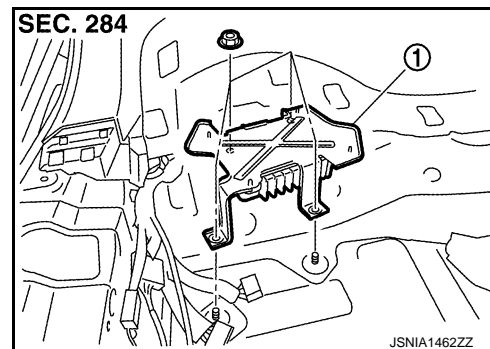
[NAVIGATION (SINGLE MONITOR)]

### BOSE AMP.

#### Exploded View

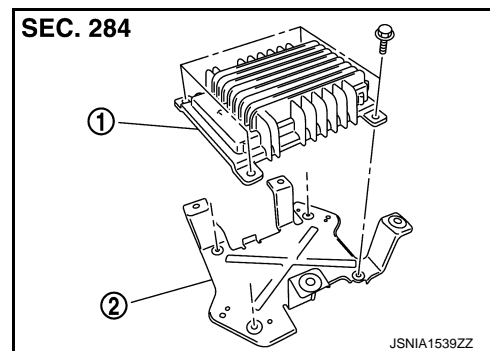
INFOID:000000005475562

#### REMOVAL



1. BOSE amp.

#### DISASSEMBLY



1. BOSE amp.
2. Bracket

### Removal and Installation

INFOID:000000005475563

#### REMOVAL

1. Remove luggage floor spacer (LH). Refer to [INT-28, "Exploded View"](#).
2. Remove BOSE amp. mounting nuts.
3. Disconnect connector and remove BOSE amp.

#### INSTALLATION

Installation is the reverse order of removal.

# ANTENNA BASE

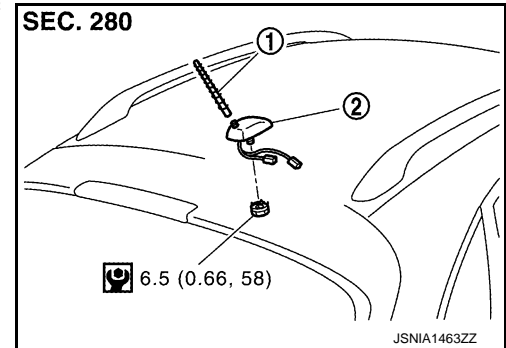
< REMOVAL AND INSTALLATION >

[NAVIGATION (SINGLE MONITOR)]

## ANTENNA BASE

### Exploded View

INFOID:0000000005475564



1. Antenna rod
2. Antenna base

Refer to [GI-3, "Contents"](#) for symbols in the figure.

### Removal and Installation

INFOID:0000000005475565

#### REMOVAL

1. Remove headlining (rear). Keep a service area. Refer to [INT-23, "Exploded View"](#).
2. Remove antenna base mounting nut.
3. Disconnect connector and remove antenna base.

#### INSTALLATION

Installation is the reverse order of removal.

#### **CAUTION:**

**Be careful about tightening torque. Antenna sensitivity becomes poor, and when it is excessive, roof panel may be deformed, when antenna base mounting nut tightening torque is loose.**

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AV

# MULTIFUNCTION SWITCH

< REMOVAL AND INSTALLATION >

[NAVIGATION (SINGLE MONITOR)]

## MULTIFUNCTION SWITCH

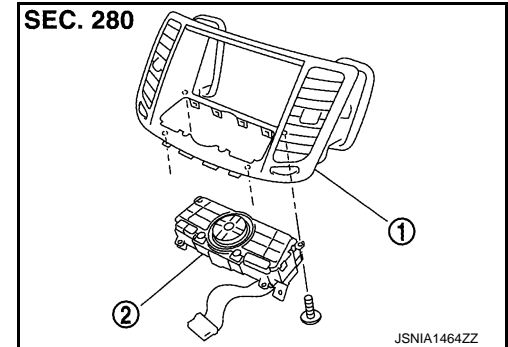
### Exploded View

INFOID:000000005475566

#### REMOVAL

Refer to [IP-11, "Exploded View"](#).

#### DISASSEMBLY



1. Cluster lid D
2. Multifunction switch

### Removal and Installation

INFOID:000000005475567

#### REMOVAL

1. Remove cluster lid D. Refer to [IP-11, "Exploded View"](#).
2. Remove multifunction switch mounting screws.
3. Disconnect connector and remove multifunction switch.

#### INSTALLATION

Installation is the reverse order of removal.

# PRESET SWITCH

< REMOVAL AND INSTALLATION >

[NAVIGATION (SINGLE MONITOR)]

## PRESET SWITCH

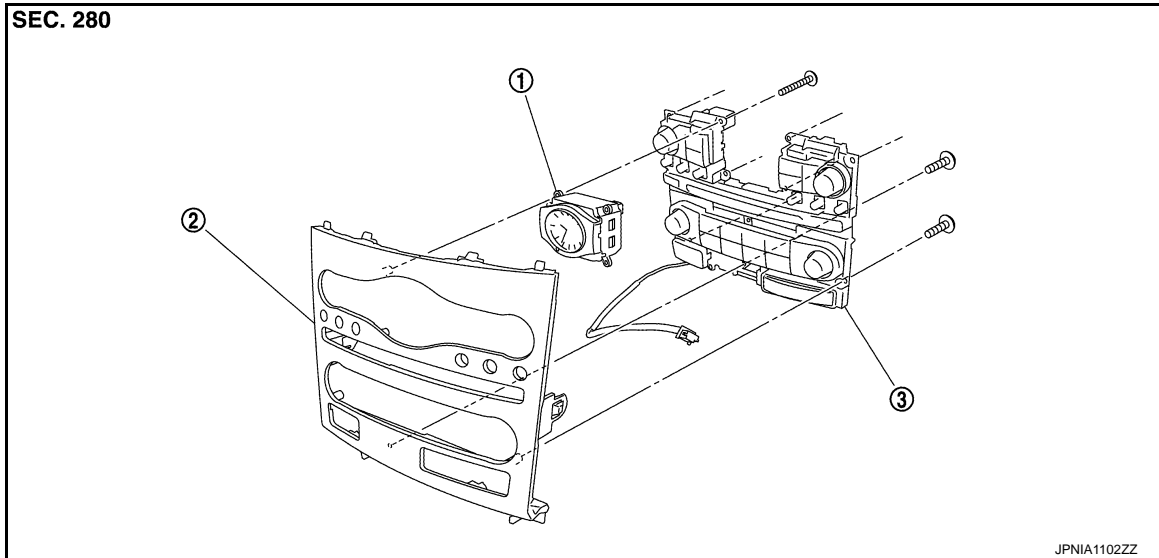
### Exploded View

INFOID:000000005475568

#### REMOVAL

Refer to [IP-11, "Exploded View"](#).

#### DISASSEMBLY



1. Clock

2. Cluster lid C

3. Preset switch

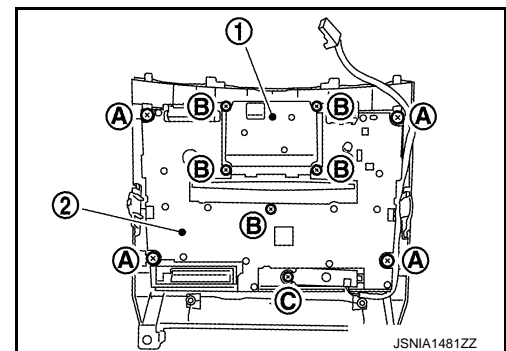
### Removal and Installation

INFOID:000000005475569

#### REMOVAL

1. Remove cluster lid C. Refer to [IP-11, "Exploded View"](#).
2. Remove preset switch mounting screws (A), (B) and (C).
3. Disconnect connector and remove preset switch (2).

1. Clock



#### INSTALLATION

Installation is the reverse order of removal.

#### NOTE:

When installing preset switch, do not allow the print wire that connects preset switch and multifunction switch to get caught in between AV control unit and preset switch.

## AUXILIARY INPUT JACKS

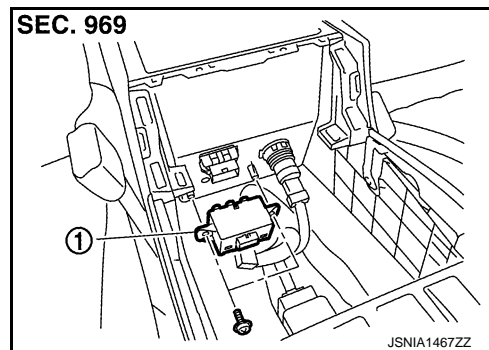
< REMOVAL AND INSTALLATION >

[NAVIGATION (SINGLE MONITOR)]

### AUXILIARY INPUT JACKS

#### Exploded View

INFOID:000000005475574



1. Auxiliary input jacks

#### Removal and Installation

INFOID:000000005475575

##### REMOVAL

1. Remove console box assembly. Refer to [JP-22, "Exploded View"](#).
2. Remove auxiliary mounting screws.
3. Disconnect connector and remove auxiliary input jacks.

##### INSTALLATION

Installation is the reverse order of removal.

# USB CONNECTOR

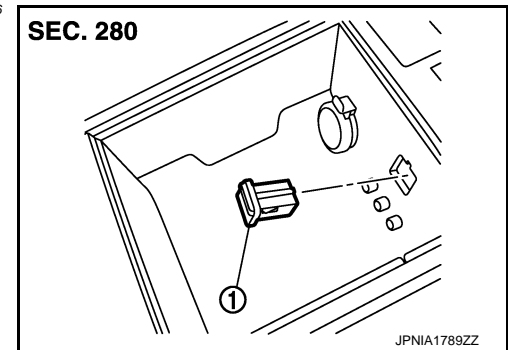
< REMOVAL AND INSTALLATION >

[NAVIGATION (SINGLE MONITOR)]

## USB CONNECTOR

### Exploded View

INFOID:0000000005475576



1. USB connector

### Removal and Installation

INFOID:0000000005475577

#### REMOVAL

1. Remove console box assembly. Refer to [JP-22, "Exploded View"](#).
2. Press the pawl from the back of console box assembly to remove USB connector.

#### INSTALLATION

Install in the reverse order of removal.

A  
B  
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AV

## MICROPHONE

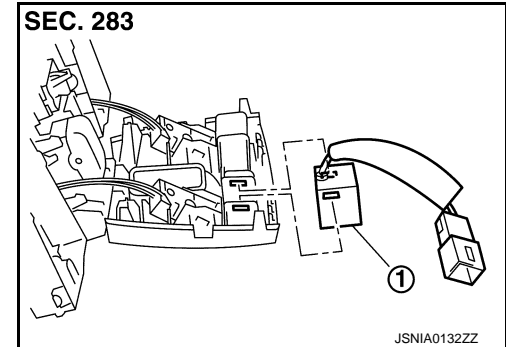
### Exploded View

INFOID:000000005475595

#### REMOVAL

Refer to [INT-23, "Exploded View"](#).

#### DISASSEMBLY



1. Microphone

### Removal and Installation

INFOID:000000005475596

#### REMOVAL

1. Remove map lamp assembly. Refer to [INT-23, "Exploded View"](#).
2. Remove microphone, stretching pawls of map lamp assembly.

#### INSTALLATION

Installation is the reverse order of removal.



# GPS ANTENNA

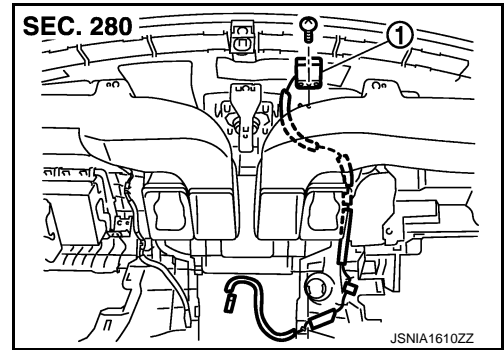
< REMOVAL AND INSTALLATION >

[NAVIGATION (SINGLE MONITOR)]

## GPS ANTENNA

### Exploded View

INFOID:000000005475597



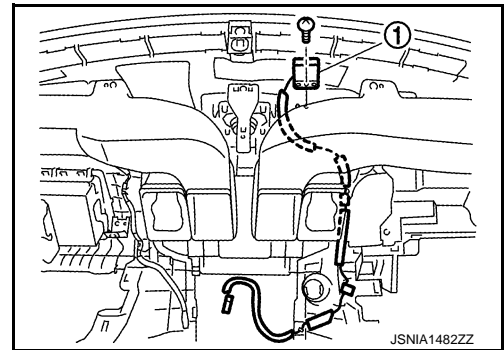
1. GPS antenna

### Removal and Installation

INFOID:000000005475598

#### REMOVAL

1. Remove instrument panel. Refer to [IP-11, "Exploded View"](#).
2. Remove GPS antenna mounting screw.
3. Remove GPS antenna (1).



#### INSTALLATION

Installation is the reverse order of removal.

A  
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AV

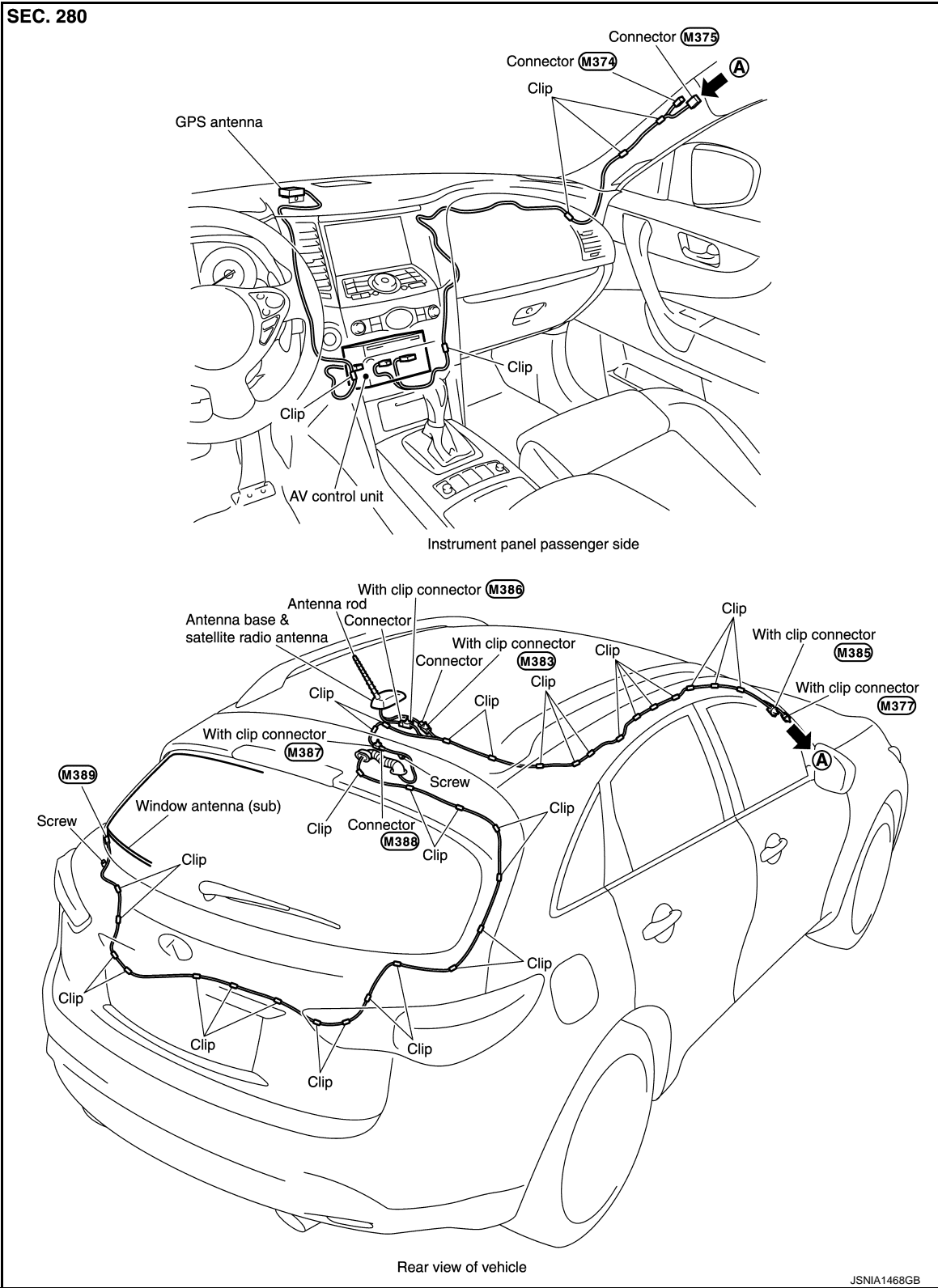
## GPS ANTENNA

## < REMOVAL AND INSTALLATION >

## [NAVIGATION (SINGLE MONITOR)]

INFOID:0000000005475599

## Feeder Layout

**SEC. 280**

# AROUND VIEW MONITOR CONTROL UNIT

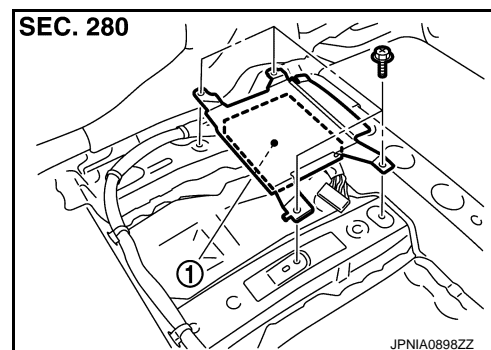
< REMOVAL AND INSTALLATION >

[NAVIGATION (SINGLE MONITOR)]

## AROUND VIEW MONITOR CONTROL UNIT

### Exploded View

INFOID:0000000005475600



1. Around view monitor control unit

### Removal and Installation

INFOID:0000000005475601

#### REMOVAL

1. Remove front seat (LH side). Refer to [SE-81, "Exploded View"](#).
2. Remove floor carpet. Keep a service area.
3. Remove around view monitor control unit mounting screws.
4. Disconnect connector and remove around view monitor control unit.

#### INSTALLATION

1. Installation is the reverse order of removal.
2. Perform camera image calibration. Refer to [AV-245, "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Work Procedure"](#).
3. Perform predictive course line center position adjustment. Refer to [AV-245, "PREDICTIVE COURSE LINE CENTER POSITION ADJUSTMENT : Work Procedure"](#).

#### CAUTION:

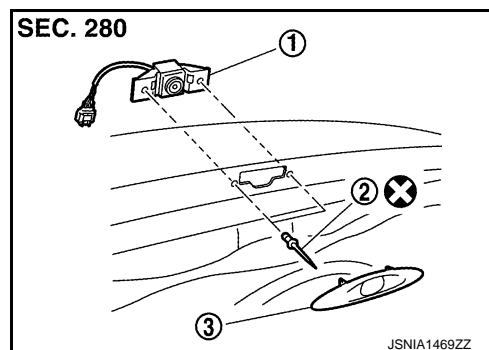
Perform the calibration and perform the writing to the around view monitor control unit when removing and replacing each camera, removing the camera mounting parts (front grille, door mirror, etc.) and replacing the around view monitor control unit.

AV

## FRONT CAMERA

### Exploded View

INFOID:000000005475602



1. Front camera
2. Rivet
3. Front camera finisher

Refer to [GI-3, "Contents"](#) for symbols in the figure.

### Removal and Installation

INFOID:000000005475603

#### REMOVAL

1. Remove front camera finisher.
2. Remove front camera mounting rivet.
3. Remove front camera.

#### INSTALLATION

1. Installation is the reverse order of removal.
2. Perform camera image calibration. Refer to [AV-245, "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Work Procedure"](#).

#### CAUTION:

Perform the calibration and perform the writing to the around view monitor control unit when removing and replacing each camera, removing the camera mounting parts (front grille, door mirror, etc.) and replacing the around view monitor control unit.

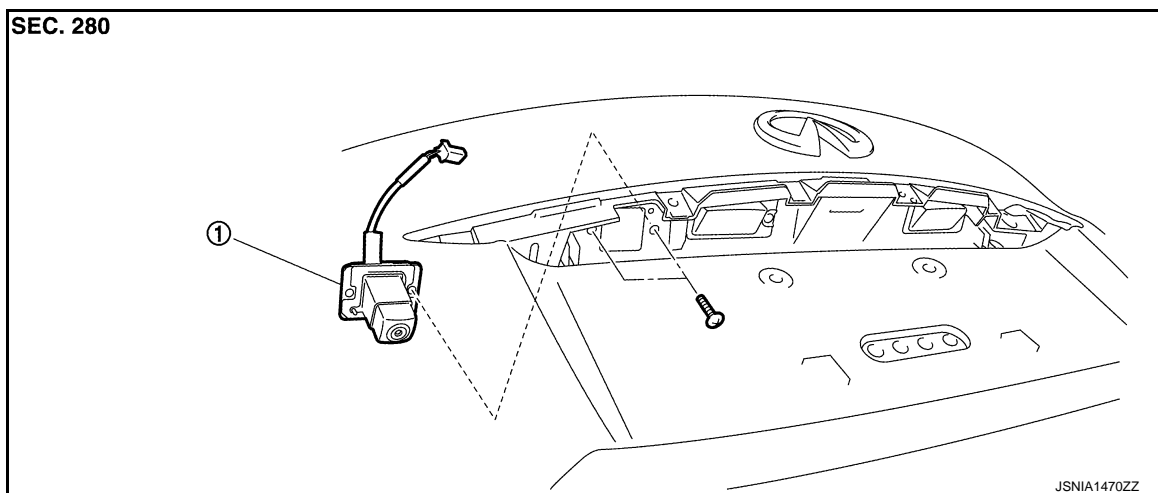
## REAR CAMERA

< REMOVAL AND INSTALLATION >

[NAVIGATION (SINGLE MONITOR)]

### REAR CAMERA

#### Exploded View



#### Removal and Installation

INFOID:000000005475605

##### REMOVAL

1. Remove door handle cover upper. Refer to [EXT-49, "Exploded View"](#).
2. Remove rear camera mounting screws and rear camera harness connector.
3. Remove rear camera.

##### INSTALLATION

1. Installation is the reverse order of removal.
2. Perform camera image calibration. Refer to [AV-245, "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Work Procedure"](#).

##### **CAUTION:**

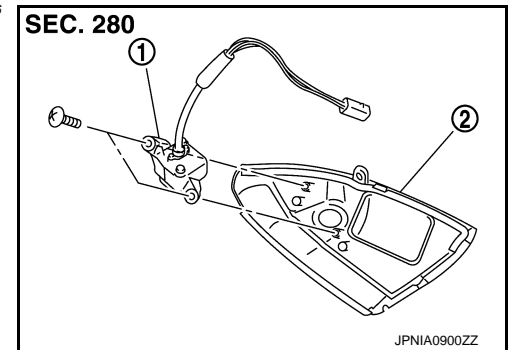
Perform the calibration and perform the writing to the around view monitor control unit when removing and replacing each camera, removing the camera mounting parts (front grille, door mirror, etc.) and replacing the around view monitor control unit.

AV

## SIDE CAMERA LH

### Exploded View

INFOID:000000005475606



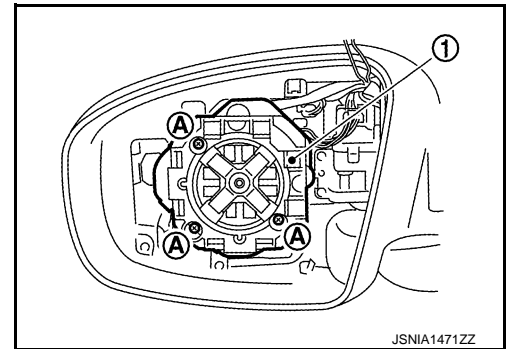
1. Side camera (LH)
2. Side camera finisher assembly

### Removal and Installation

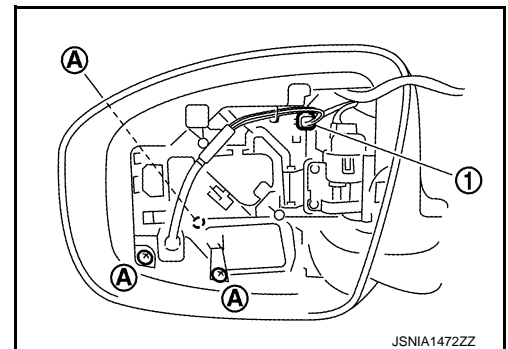
INFOID:000000005475607

#### REMOVAL

1. Remove glass mirror (driver side). Refer to [MIR-100. "DOOR MIRROR ASSEMBLY : Exploded View"](#) (without ADP), [MIR-78. "DOOR MIRROR ASSEMBLY : Exploded View"](#) (with ADP).
2. Remove screws (A), and actuator connector, and then actuator (1).



3. Remove door mirror cover. Refer to [MIR-100. "DOOR MIRROR ASSEMBLY : Exploded View"](#) (without ADP), [MIR-78. "DOOR MIRROR ASSEMBLY : Exploded View"](#) (with ADP).
4. Remove screws (A) and connector (1), and then remove side camera finisher assembly (LH).



5. Remove side camera (LH) mounting screws
6. Remove side camera (LH).

#### INSTALLATION

1. Installation is the reverse order of removal.
2. Perform camera image calibration. Refer to [AV-245. "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Work Procedure"](#).

**CAUTION:**

## SIDE CAMERA LH

< REMOVAL AND INSTALLATION >

[NAVIGATION (SINGLE MONITOR)]

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.

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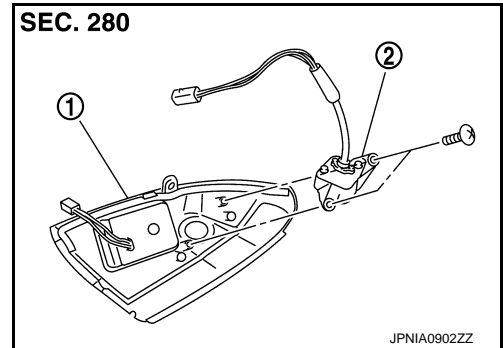
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## SIDE CAMERA RH

### Exploded View

INFOID:000000005475610



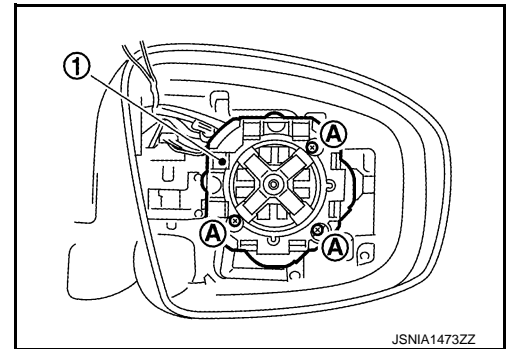
1. Side camera finisher assembly
2. Side camera (RH)

### Removal and Installation

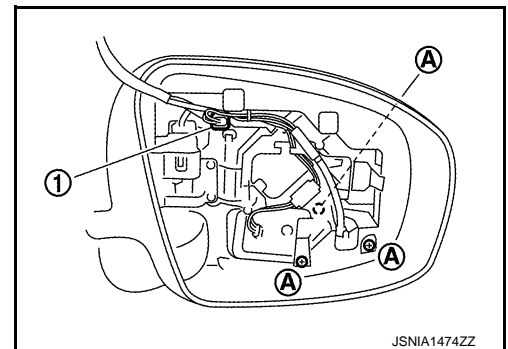
INFOID:000000005475611

#### REMOVAL

1. Remove glass mirror (passenger side). Refer to [MIR-100. "DOOR MIRROR ASSEMBLY : Exploded View"](#) (without ADP), [MIR-78. "DOOR MIRROR ASSEMBLY : Exploded View"](#) (with ADP).
2. Remove screws (A) and actuator connector, and then actuator (1).



3. Remove door mirror cover. Refer to [MIR-100. "DOOR MIRROR ASSEMBLY : Exploded View"](#) (without ADP), [MIR-78. "DOOR MIRROR ASSEMBLY : Exploded View"](#) (with ADP).
4. Remove screws (A) and connector (1), and then remove side camera finisher assembly (RH).



5. Remove side camera (RH) screws.
6. Remove side camera (RH).

#### INSTALLATION

1. Installation is the reverse order of removal.
2. Perform camera image calibration. Refer to [AV-245. "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Work Procedure"](#).

**CAUTION:**



## SIDE CAMERA RH

< REMOVAL AND INSTALLATION >

[NAVIGATION (SINGLE MONITOR)]

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.

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# SONAR CONTROL UNIT

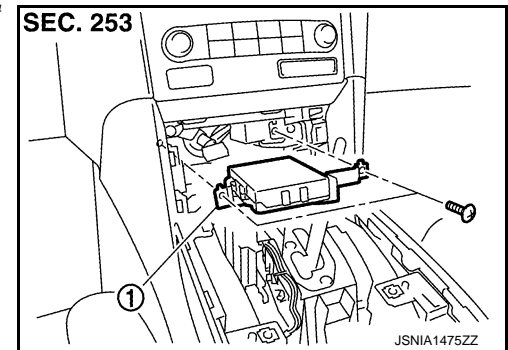
< REMOVAL AND INSTALLATION >

[NAVIGATION (SINGLE MONITOR)]

## SONAR CONTROL UNIT

### Exploded View

INFOID:000000005475614



1. Sonar control unit

### Removal and Installation

INFOID:000000005475615

#### REMOVAL

1. Remove AV control unit. Refer to [AV-333. "Exploded View"](#).
2. Remove screws and connector, and then sonar control unit.

#### INSTALLATION

Install in the reverse order of removal.

# SONAR SENSOR

< REMOVAL AND INSTALLATION >

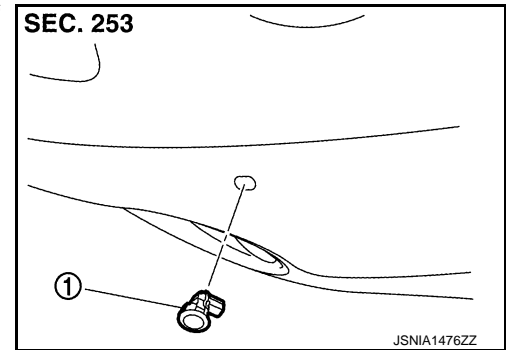
[NAVIGATION (SINGLE MONITOR)]

## SONAR SENSOR

### FRONT

#### FRONT : Exploded View

INFOID:000000005475616



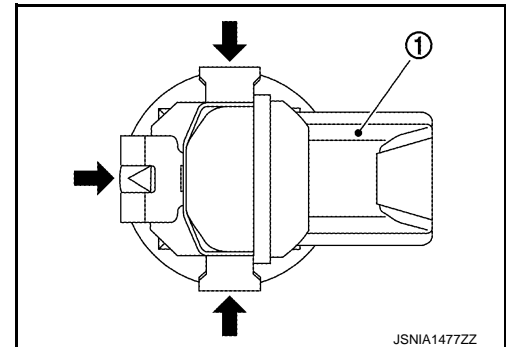
1. Sonar sensor (front)

#### FRONT : Removal and Installation

INFOID:000000005475617

##### REMOVAL

1. Remove fender protector. Keep a service area. Refer to [EXT-25, "FENDER PROTECTOR : Exploded View"](#).
2. Remove sonar sensor connector.
3. Press the sonar sensor (1) outside the front bumper, pressing the metal clips on the back to the direction of black arrows.



##### INSTALLATION

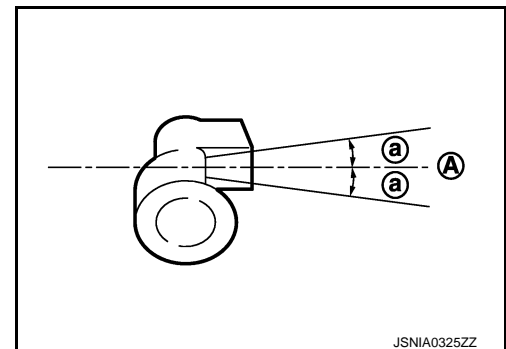
Install the bumper when the pawl engages.

##### CAUTION:

The connector direction is within  $\pm 10^\circ$  from the horizontal position when assembling the bumper.

**A** : Horizontal position

**a** :  $10^\circ$



### REAR

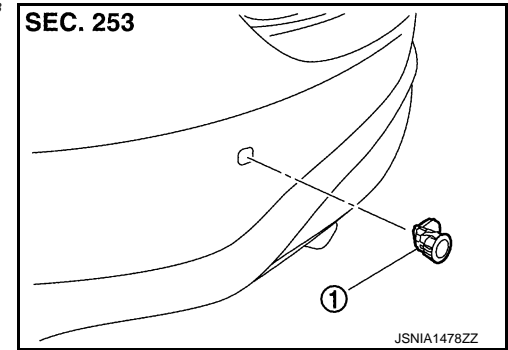
# SONAR SENSOR

< REMOVAL AND INSTALLATION >

[NAVIGATION (SINGLE MONITOR)]

## REAR : Exploded View

INFOID:000000005475618



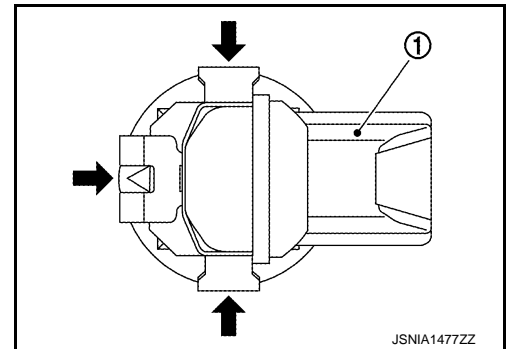
1. Sonar sensor (rear)

## REAR : Removal and Installation

INFOID:000000005475619

### REMOVAL

1. Remove sonar sensor connector.
2. Press the sonar sensor (1) outside the front bumper, pressing the metal clips on the back to the direction of black arrows.



### INSTALLATION

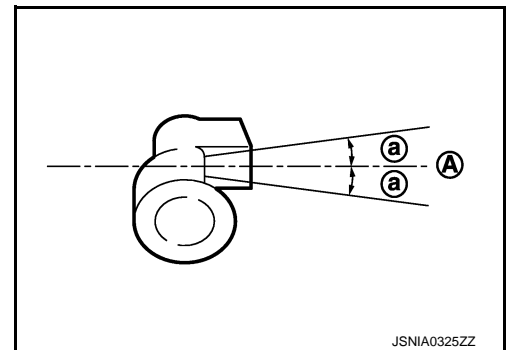
Install the bumper when the pawl engages.

#### CAUTION:

The connector direction is within  $\pm 10^\circ$  from the horizontal position when assembling the bumper.

**A** : Horizontal position

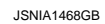
**a** :  $10^\circ$



## [NAVIGATION (SINGLE MONITOR)]

## Harness Layout

SEC. 280



## PRECAUTION

### PRECAUTIONS

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

INFOID:000000005247394

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

#### **WARNING:**

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

#### Precaution for Trouble Diagnosis

INFOID:000000005247395

#### AV COMMUNICATION SYSTEM

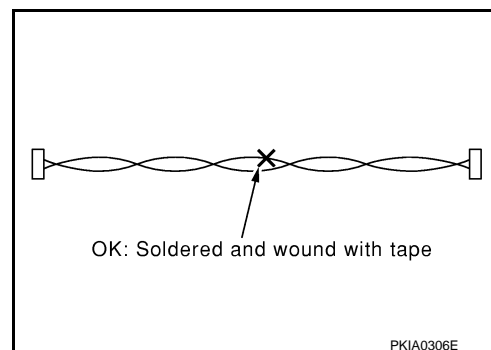
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

#### Precaution for Harness Repair

INFOID:000000005247396

#### AV COMMUNICATION SYSTEM

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



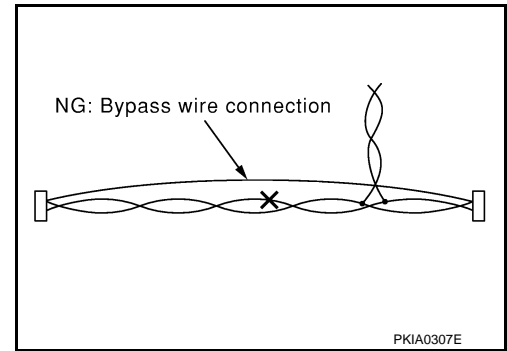
PKIA0306E

## PRECAUTIONS

### < PRECAUTION >

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

### [NAVIGATION (TWIN MONITOR)]



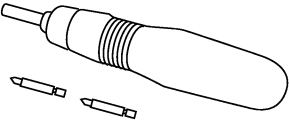
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## PREPARATION

### PREPARATION

#### Commercial Service Tools

INFOID:000000005247397

Tool name	Description
<p>Power tool</p>  <p>PBIC0191E</p>	<p>Loosening screws</p>



# COMPONENT PARTS

< SYSTEM DESCRIPTION >

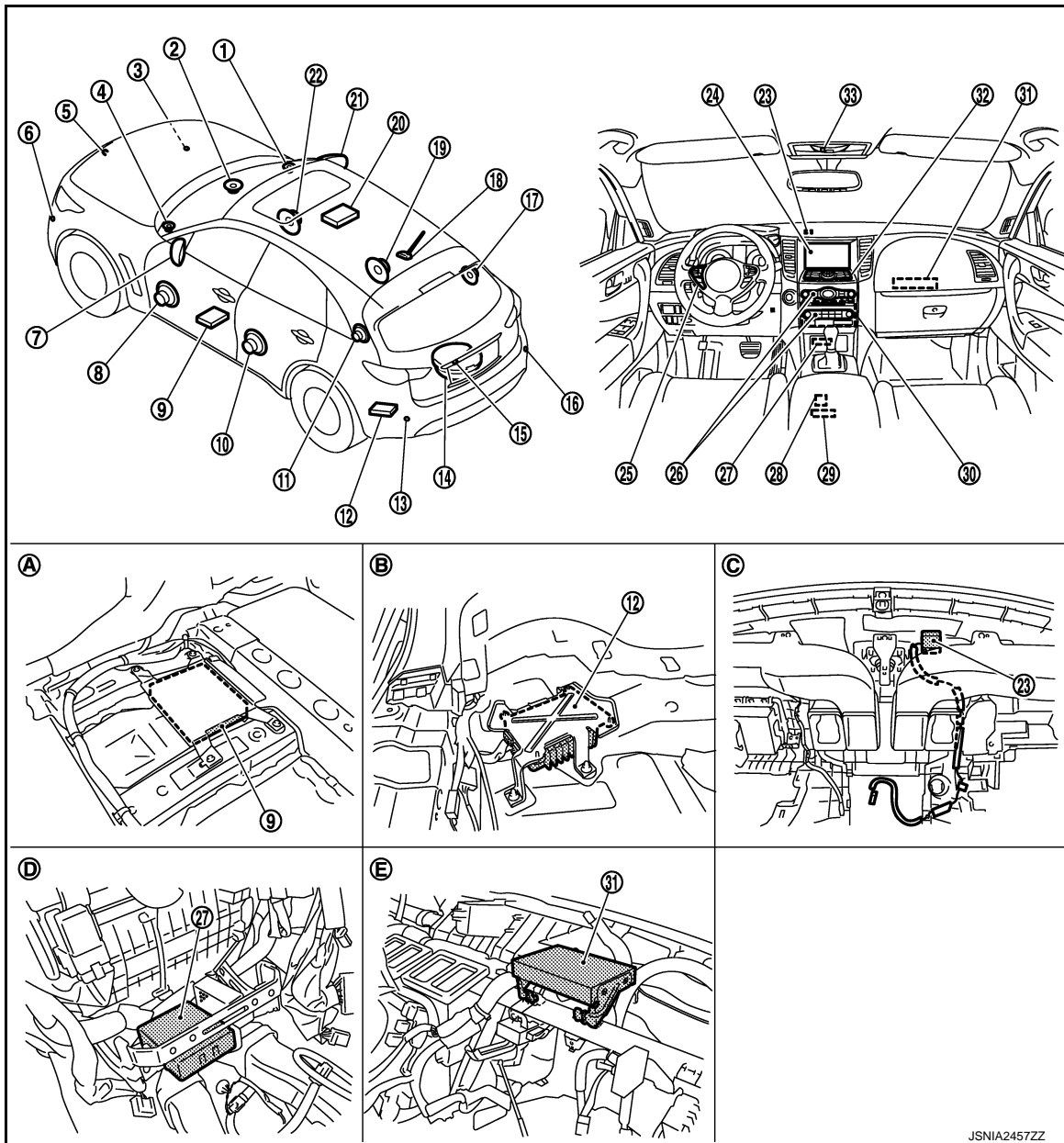
[NAVIGATION (TWIN MONITOR)]

## SYSTEM DESCRIPTION

### COMPONENT PARTS

#### Component Parts Location

INFOID:000000005503169



- |                           |                          |  |
|---------------------------|--------------------------|--|
| 1. Front squawker RH      | 2. Center speaker        | 3. Corner sensor front RH                                |
| 4. Front squawker LH      | 5. Front camera          | 6. Corner sensor front LH                                |
| 7. Side camera LH         | 8. Front door speaker LH | 9. Around view monitor control unit                      |
| 10. Rear door speaker LH  | 11. Rear squawker LH     | 12. BOSE amp.  |
| 13. Corner sensor rear LH | 14. Woofer               | 15. Rear camera  |
| 16. Corner sensor rear RH | 17. Rear squawker RH     | 18. Antenna base (antenna amp. and satellite antenna)    |
| 19. Rear door speaker RH  | 20. Rear display unit    | 21. Side camera RH and infrared LED (auxiliary lighting) |
| 22. Front door speaker RH | 23. GPS antenna          | 24. Front display unit                                   |
| 25. Steering switch       | 26. Preset switch        | 27. Sonar control unit                                   |

JSNIA2457ZZ

# COMPONENT PARTS

## < SYSTEM DESCRIPTION >

## [NAVIGATION (TWIN MONITOR)]

- |  |  |                               |
|--|--|-------------------------------|
| 28. USB connector                            | 29. Auxiliary input jacks                      | 30. AV control unit           |
| 31. Video distributor                        | 32. Multifunction switch                       | 33. Microphone                |
| A. Under front seat (LH side)                | B. Luggage floor (LH side)                     | C. Instrument panel rear side |
| D. Console pocket assembly removed condition | E. Instrument panel assembly removed condition |                               |

## Component Description

INFOID:000000005503170

Part name	Description
AV control unit	<ul style="list-style-type: none"> <li>Integrates hard disk drive (HDD) allowing map data and music data to be stored.</li> <li>It is the master unit of the MULTI AV system, and it is connected to each control unit by communication. It operates each system according to communication signals from the AV control unit.</li> <li>The AV control unit includes the audio, hands-free phone, voice control, navigation, USB connection, DVD play, satellite radio and vehicle information functions.</li> <li>It is connected to ECM and unified meter and A/C amp. via CAN communication to obtain necessary information for the vehicle information function.</li> <li>It inputs the illumination signals that are required for the front display dimming control.</li> <li>It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).</li> <li>The RGB digital image signal and composite image signal are output to front display unit.</li> <li>Amp. ON signal, sound signal and mode change signal transmitted to BOSE amp.</li> <li>Update of map data is performed with the DVD-ROM.</li> </ul>
Front display unit	<ul style="list-style-type: none"> <li>Front display image is controlled by the serial communication from AV control unit.</li> <li>RGB digital image signal is input from AV control unit.</li> <li>Composite image signal is input from AV control unit.</li> <li>Camera image signal is input from around view monitor control unit.</li> <li>Touch panel function can be operated for each system by touching a display directly.</li> </ul>
Rear display unit	<ul style="list-style-type: none"> <li>Rear display image is controlled by the serial communication from video distributor.</li> <li>RGB image signal is input from video distributor (RGB image and RGB area).</li> <li>Composite image signal [USB (video data), DVD and auxiliary images] is input from the video distributor.</li> <li>Synchronize signal (HP, VP) is output to video distributor.</li> <li>It receives the DVD/AUX/USB sound signal from the AV control unit, and then transmits it to the headphones.</li> <li>It operates by receiving the headphone ON signal from the video distributor.</li> </ul>
Video distributor	<ul style="list-style-type: none"> <li>It receives the image signal from the AV control unit and then transmits it to the rear display unit.</li> <li>It transmits headphone ON signal to rear display unit.</li> </ul>
BOSE amp.	<ul style="list-style-type: none"> <li>Inputs sound signal from AV control unit, and outputs sound signal to each speaker.</li> <li>Input mode change signal from AV control unit.</li> </ul>
Front door speaker	<ul style="list-style-type: none"> <li>Outputs sound signal from BOSE amp.</li> <li>Outputs high, mid and low range sounds.</li> </ul>
Rear door speaker	<ul style="list-style-type: none"> <li>Outputs sound signal from BOSE amp.</li> <li>Outputs high, mid and low range sounds.</li> </ul>
Front squawker	<ul style="list-style-type: none"> <li>Outputs sound signal from BOSE amp.</li> <li>Outputs mid range sounds.</li> </ul>
Rear squawker	<ul style="list-style-type: none"> <li>Outputs sound signal from BOSE amp.</li> <li>Outputs mid range sounds.</li> </ul>
Center speaker	<ul style="list-style-type: none"> <li>Outputs sound signal from BOSE amp.</li> <li>Outputs high and mid range sounds.</li> </ul>
Woofer	<ul style="list-style-type: none"> <li>Inputs power (woofer amp. ON) and sound signal from BOSE amp.</li> <li>Outputs low range sounds.</li> </ul>

# COMPONENT PARTS

< SYSTEM DESCRIPTION >

[NAVIGATION (TWIN MONITOR)]

Part name	Description
Multifunction switch	<ul style="list-style-type: none"> <li>Operation panel is equipped with the centralized switch where audio, auxiliary input and navigation, etc. operations are integrated.</li> <li>Connected with preset switch via cable, and operation signal is transmitted to AV control unit via AV communication.</li> </ul>
Preset switch	<ul style="list-style-type: none"> <li>Operation panel is equipped with the centralized switch where audio and air conditioner, etc. operations are integrated.</li> <li>Connected with multifunction switch via cable, and operation signal is transmitted to AV control unit via AV communication.</li> <li>The disk ejection operating signal is performed by hardwire.</li> </ul>
Around view monitor control unit	<ul style="list-style-type: none"> <li>It supplies power to front camera, rear camera, and side camera. And then it superimposes the images from each camera and outputs them to front display unit.</li> <li>Superimpose the guiding line, predicted course line and sonar indicator to the camera image that outputs to front display unit.</li> <li>It performs the reception/transmission of communication signal with each camera.</li> <li>It transmits the sonar operation signal from sonar control unit and receives the sonar information from sonar control unit via AV communication.</li> <li>It transmits the information received/transmitted with sonar control unit via AV communication to AV control unit.</li> </ul>
Front camera	<ul style="list-style-type: none"> <li>It inputs the power supply from around view monitor control unit and outputs the image of the vehicle front to around view monitor control unit.</li> <li>It performs the reception/transmission of the communication signal with around view monitor control unit.</li> </ul>
Rear camera	<ul style="list-style-type: none"> <li>It inputs the power supply from around view monitor control unit and outputs the image of the vehicle rear to around view monitor control unit.</li> <li>It performs the reception/transmission of the communication signal with around view monitor control unit.</li> </ul>
Side camera LH	<ul style="list-style-type: none"> <li>It inputs the power supply from around view monitor control unit and outputs the image of the vehicle LH to around view monitor control unit.</li> <li>It performs the reception/transmission of the communication signal with around view monitor control unit.</li> </ul>
Side camera RH	<ul style="list-style-type: none"> <li>It inputs the power supply from around view monitor control unit and outputs the image of the vehicle RH to around view monitor control unit.</li> <li>It performs the reception/transmission of the communication signal with around view monitor control unit.</li> </ul>
Infrared LED (Auxiliary lighting)	<ul style="list-style-type: none"> <li>It illuminates around the front RH wheel by the power supply from around view monitor control unit to improve nighttime visibility of front-side view.</li> <li>The infrared LED is an invisible light ray.</li> </ul>
Sonar control unit	<ul style="list-style-type: none"> <li>It is connected with around view monitor control unit via AV communication and receives the sonar operation signal from around view monitor control unit.</li> <li>It transmits the sonar detection status to around view monitor control unit via AV communication.</li> <li>It judges the warning level according to the signal from corner sensor.</li> </ul>
Corner sensor	The obstacle distance is detected. The signal is transmitted to sonar control unit.
Steering switch	<ul style="list-style-type: none"> <li>Operations for audio, hands-free phone, voice control and navigation, etc. are possible.</li> <li>Steering switch signal (operation signal) is output to AV control unit.</li> </ul>
Microphone	<ul style="list-style-type: none"> <li>Used for hands-free phone operation and voice recognition.</li> <li>Microphone signal is transmitted to AV control unit.</li> <li>Power (Microphone VCC) is supplied from AV control unit.</li> </ul>
Auxiliary input jacks	Image signal and sound signal of auxiliary input is transmitted to AV control unit.
GPS antenna	GPS signal is received and transmitted to AV control unit.

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## COMPONENT PARTS

< SYSTEM DESCRIPTION >

[NAVIGATION (TWIN MONITOR)]

Part name	Description
Antenna base	<p>A radio antenna base integrated with radio antenna amp. and satellite radio antenna is adopted.</p> <p>ANTENNA AMP.</p> <ul style="list-style-type: none"><li>• Radio signal received by rod antenna is amplified and transmitted to AV control unit.</li><li>• Power (antenna amp. ON signal) is supplied from AV control unit.</li></ul> <p>SATELLITE RADIO ANTENNA</p> <ul style="list-style-type: none"><li>• Receives satellite radio waves and outputs it to AV control unit.</li></ul>
USB connector	Image signal <sup>*1</sup> and sound signal of USB input is transmitted to AV control unit.

\*1: Image signals cannot be received from iPod<sup>®</sup>.

# SYSTEM

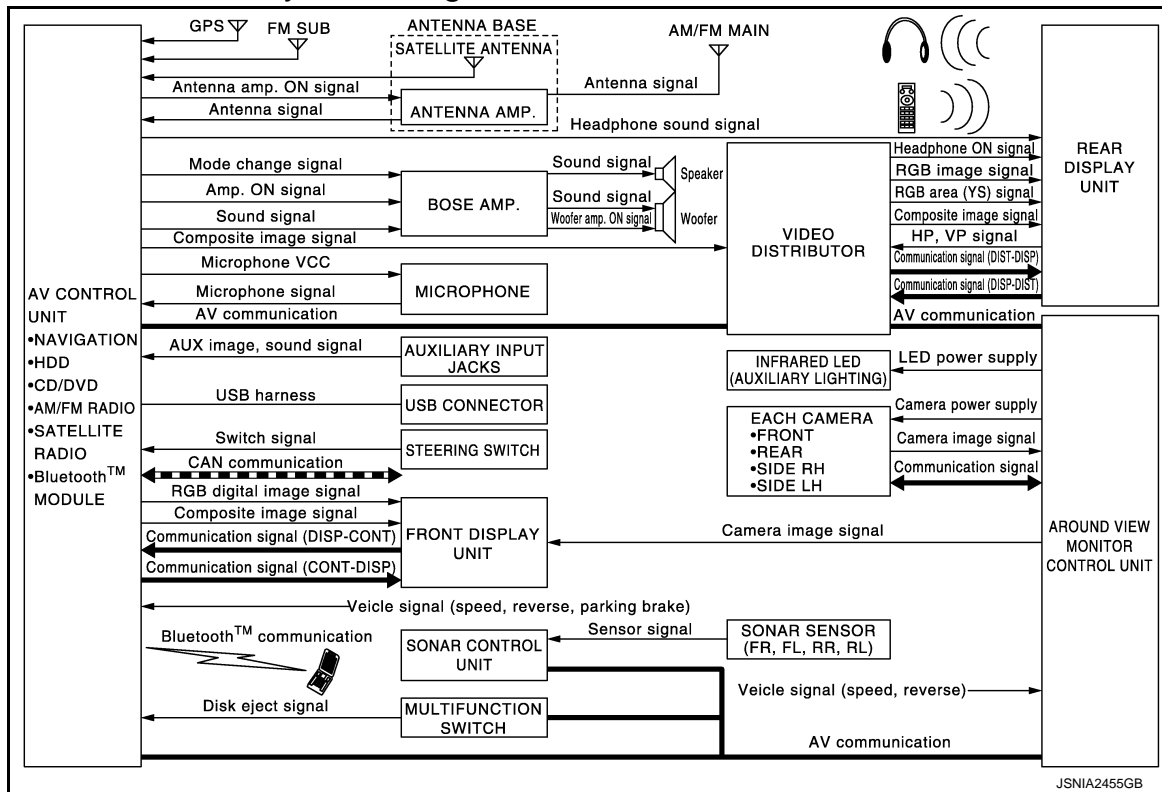
< SYSTEM DESCRIPTION >

[NAVIGATION (TWIN MONITOR)]

## SYSTEM

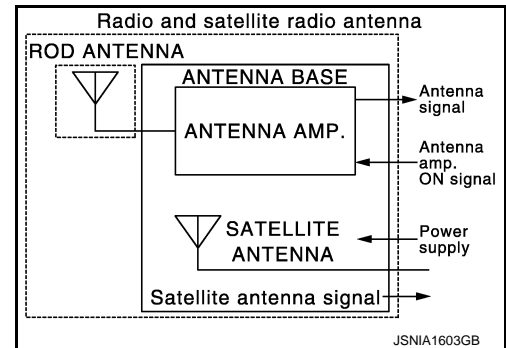
### MULTI AV SYSTEM

### MULTI AV SYSTEM : System Diagram



#### NOTE:

- The name MULTIFUNCTION SWITCH indicates the integration of PRESET SWITCH and MULTIFUNCTION SWITCH virtually.
- An antenna base integrated with antenna amp. is adopted.



### MULTI AV SYSTEM : System Description

Multi AV system means that the following systems are integrated.

FUNCTION NAME
Navigation system function
Audio function
DVD play function
Hands-free phone function
Mobile entertainment system
Auxiliary input function
USB connection function

FUNCTION NAME
Voice recognition function
Touch panel function
Around view monitor function
Camera assistance sonar system
Vehicle information function

### COMMUNICATION SIGNAL

- AV control unit function by transmitting/receiving data one by one with each unit (slave unit) that configures them completely as a master unit by connecting between units that configure MULTI AV system with two AV communication lines (H, L).
- Two AV communication lines (H, L) adopt a twisted pair line that is resistant to noise.
- AV control unit is connected by CAN communication, and it receives data signal from ECM, unified meter and A/C amp. It computes and displays fuel economy information value with the obtained information.
- AV control unit is connected with display and serial communication, and it transmits the required signal of display and display control and receives the response signal from display.

### NAVIGATION SYSTEM FUNCTION

#### Description

- The AV control unit controls navigation function while GPS tuner has built-in map data, GYRO (angle speed sensor), on the HDD (Hard Disk Drive).
- The AV control unit inputs operation signal with communication signal, through display (touch panel) and multifunction switch and steering switch.
- Guide sound is output to front speaker through BOSE amp. from AV control unit when operating navigation system.
- A vehicle position is calculated with the GYRO (angle speed sensor), vehicle sensor, signal from GPS satellite and map data stored on HDD (Hard Disk Drive), and transmits the map image signal (RGB image, RGB area, RGB image synchronizing) to the display.

#### Position Detection Principle

The navigation system periodically calculates the current vehicle position according to the following three types of signals.

- Travel distance of the vehicle as determined by the vehicle speed sensor
- Vehicle turning angle determined by the gyroscope (angular speed sensor)
- The travel direction of the vehicle determined by the GPS antenna (GPS information)

The current position of the vehicle is then identified by comparing the calculated vehicle position with map data, which is stored in the HDD (Hard Disk Drive) (map-matching), and indicated on the screen with a current location mark. More accurate data is used by comparing position detection results from GPS to the map-matching.

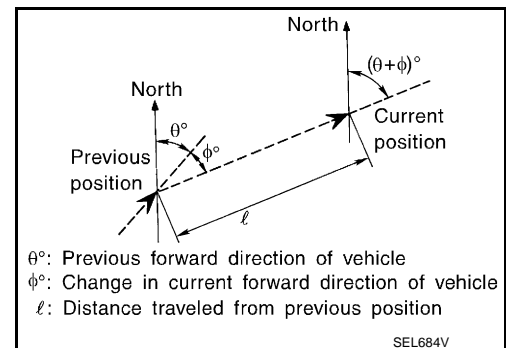
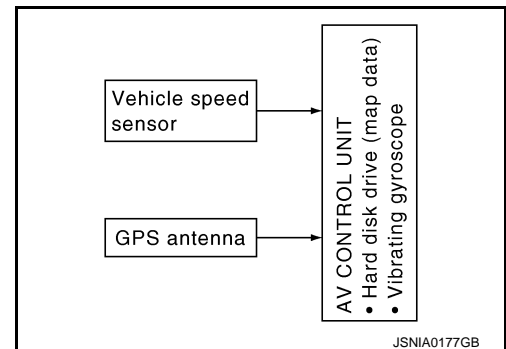
The current position is calculated by detecting the travel distance from the previous calculation point, and its direction change.

#### • Travel distance

The travel distance is generated from the vehicle speed sensor input signal. The automatic distance correction function is adopted for preventing a miss-detection of the travel distance because of tire wear etc.

#### • Travel direction

The gyroscope (angular velocity sensor) and GPS antenna (GPS information) generate the change of the travel direction. Both have advantages and disadvantages as per the following descriptions.



# SYSTEM

## < SYSTEM DESCRIPTION >

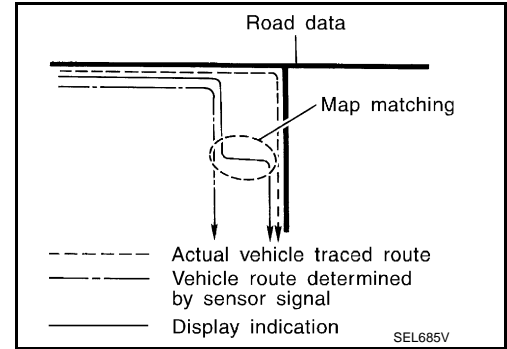
## [NAVIGATION (TWIN MONITOR)]

Type	Advantage	Disadvantage
Gyroscope (angular velocity sensor)	The turning angle is precisely detected.	Errors are accumulated when driving a long distance without stopping.
GPS antenna (GPS information)	The travel direction (North/South/East/West) is detected.	The travel direction is not precisely detected when driving slowly.

Input signals are prioritized in each situation. However, this order of priority may change in accordance with more detailed travel conditions so that the travel direction is detected more accurately.

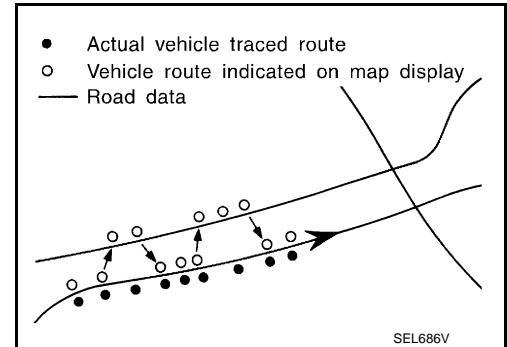
### Map-matching

Map-matching repositions the vehicle on the road map when a new location is judged to be more accurate. This is done by comparing the current vehicle position (calculated by the normal position detection method) from the map data stored in the HDD (Hard Disk Drive).



There is a possibility that the vehicle position may not be corrected in the following case, and when vehicle is driven over a certain distance or time in which GPS information is hard to receive. Correct manually the current location mark on the screen.

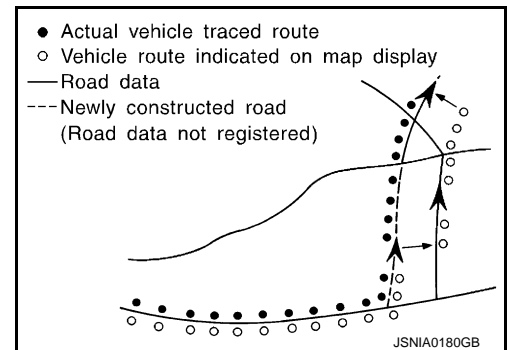
- In map-matching, several alternative routes are prepared and prioritized in addition to the road judged as currently driving on. Therefore, due to errors in the distance and/or direction, an incorrect road may be prioritized, and the current location mark may be repositioned to the incorrect road. If two roads are running in parallel, they are of the same priority. Therefore, the current location mark may appear on either of them alternately, depending on maneuvering of the steering wheel and configuration of the road, etc.



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

Therefore, the map-matching function judges other road as a currently driving road if the road is not in the map, and displays the current location mark on it. Later, the current location mark may be repositioned to the road if the correct road is detected.

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



GPS (Global Positioning System)

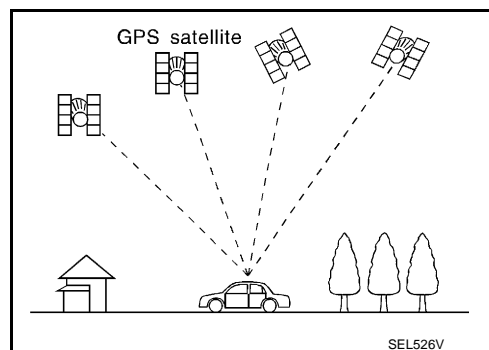
# SYSTEM

## < SYSTEM DESCRIPTION >

## [NAVIGATION (TWIN MONITOR)]

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

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



Accuracy of the GPS will deteriorate under the following conditions:

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

### NOTE:

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

## AUDIO FUNCTION

The audio system is equipped with the following functions. Each function is operated with multifunction switch, preset switch, touch panel, steering switch or audio recognition. Operation status of audio is indicated at display.

FUNCTION
AM/FM radio
Satellite radio
CD
Bluetooth™ audio
Music Box (Hard Disk Drive)
Driver's Audio Stage

### Operating Signal

Audio system operation can be performed with multifunction switch, preset switch, steering switch, touch panel function or voice recognition function.

- Operating signal is transmitted to AV control unit with AV communication when it is operated by multifunction switch or preset switch. The disk ejection operating signal is performed by hardware.
- Operating signal is transmitted to AV control unit with steering switch signal when it is operated by steering switch.

### Screen Display

Switching of display is performed with serial communication between front display unit and AV control unit.

### AM/FM Radio Mode

- AM/FM radio tuner is built into AV control unit.
- Audio signal is received by rod antenna, next it is amplified by antenna amp., and finally it is input to AV control unit. Audio signal is input to BOSE amp., and BOSE amp. outputs to each speaker.

### Satellite Radio Mode

- Satellite radio tuner is built into AV control unit.



- Audio signal (satellite radio) is received by satellite antenna, and it is input to AV control unit. AV control unit outputs audio signal to BOSE amp. The signal is also outputted from BOSE amp. to both woofer and each speaker.

### CD Mode

- CD function is built into AV control unit.
- AV control unit outputs audio signal to BOSE amp., and BOSE amp. outputs to each speaker when CD is inserted to AV control unit.

### Bluetooth™ Audio Mode

- Bluetooth™ audio function is built into AV control unit.
- Bluetooth™ audio can play music data in the portable audio by means of Bluetooth™ communications between the portable audio and the AV control unit.
- AV control unit outputs audio signal to BOSE amp., and BOSE amp. outputs to each speaker.

### Music Box Mode

- Music CD data is stored on HDD that is built into AV control unit, and it can be played.
- AV control unit outputs music (sound signal) that is stored on HDD to BOSE amp., and BOSE amp. outputs to each speaker.

### Driver's Audio Stage

- Driver's Audio Stage controls the speaker's output characteristic by BOSE amp. so that the driver's seat is to be the center of sounds.
- ON/OFF signals of Driver's Audio Stage are transmitted from AV control unit to BOSE amp. using mode change signal.

### DVD PLAY FUNCTION

- DVD is played by inserting DVD into the AV control unit.
- DVD image signals are transmitted to the front display unit and video distributor, and DVD sound signals are transmitted to BOSE amp. and rear display unit.
- DVD image signals are transmitted to rear display unit via video distributor.

### MOBILE ENTERTAINMENT SYSTEM

The passengers can enjoy watching DVD in the rear seat with the rear display unit. They can also listen to a DVD and AUX in the rear seat independently by cordless headphones.

### Operating Signal

The mobile entertainment system can be controlled by the rear seat remote controller.

It receives the operation signal of the rear seat remote controller by the remote control receiver and rear display unit, and then transmits it to the video distributor.

### Headphone Sound

- Headphone sound signals are transmitted to rear display unit via AV control unit.
- Headphone sound signals are transmitted to wireless communication between rear display unit and headphone.

### Screen Rear Display

- Switching of display is performed with serial communication between rear display unit and video distributor.
- The rear display unit receives the DVD/AUX/USB (video data) image signal and RGB image signal from the video distributor.

### Screen Front Display

- Switching of display is performed with serial communication between front display unit and AV control unit.
- The front display unit receives the DVD/AUX/USB (video data) image signal from the AV control unit.
- The front display unit receives the RGB image signal from the AV control unit.

### HANDS-FREE PHONE FUNCTION

- AV control unit includes hands-free phone function.
- Hands-free communication can be operated by connecting using Bluetooth™ communication with cellular phone.
- Operation is performed by steering switch, and operating condition is indicated on display.
- Guide sound that is heard during operation is input from AV control unit to BOSE amp., and is output from front speaker and center speaker.

### When A Call Is Originated

A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

P

# SYSTEM

## < SYSTEM DESCRIPTION >

## [NAVIGATION (TWIN MONITOR)]

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

### When Receiving A Call

Voice sound is input to own cellular phone from the other party. TEL voice signal is output to door speaker, and the signal is input to BOSE amp. via AV control unit by establishing Bluetooth™ communication from cellular phone.

## AUXILIARY INPUT FUNCTION

- Image and sound can be output from an external device by connecting a device with auxiliary input jacks.
- AUX image signals are transmitted to the front display unit and video distributor via the AV control unit, and AUX sound signals are transmitted to BOSE amp via AV control unit.

## USB CONNECTION FUNCTION

- Connecting iPod® or USB memory allows the driver to play iPod® music files or USB memory-stored music files, video data, and image viewer data.
- Sound signals of music files stored in iPod® or USB memory are transmitted from the USB connector to the AV control unit. The AV control unit transmits the sound signals to the woofer and each speaker via BOSE amp.
- Video signals and image viewer file signals are transmitted from the USB connector to the AV control unit. The data and files are displayed on the front display unit screen.
- iPod® is recharged when connected to USB connector.
- Only files that meet the following conditions will be played.

	Music file	Video file	Image viewer file
File format	"MP3", "WMA", "AAC", "M4A"	"DivX", "MPEG4 (ASF)"	"JPEG"
File extension	".mp3", ".wma", ".aac", ".m4a"	".divx", ".afs", ".avi"	".jpg", ".jpeg"
Maximum file size	2 GB	2 GB	2 MB

### NOTE:

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

## VOICE RECOGNITION FUNCTION

- Each operation of multi AV system can be performed by inputting sound to microphone.
- Start of sound recognition system can be performed by steering switch.

## TOUCH PANEL SYSTEM

Each operation of multi AV system can be performed by directly touching a front display.

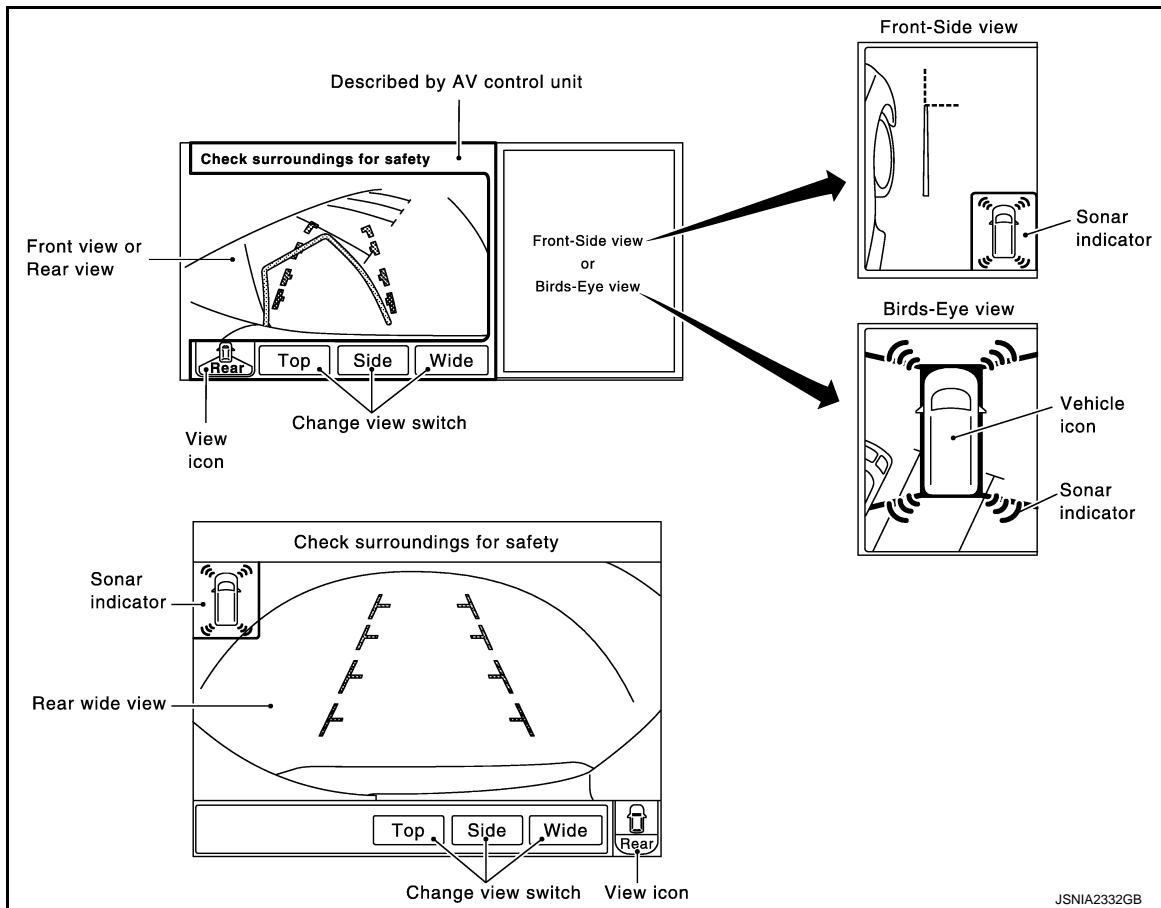
## AROUND VIEW MONITOR FUNCTION

- This system is equipped with wide-angle high-resolution cameras on the front and rear of the vehicle and on both right and left door mirrors. The images from front view, rear view, front-side view (RH side), and birds-eye view that shows the view from the top of the vehicle are displayed to monitor the vehicle surroundings.
- Around view monitor control unit cuts out and expands the image received from each camera to create each view.
- The sonar indicator is displayed on display (superimposed on the camera image) in combination with the camera assistance sonar system to warn of the approach of an obstacle.
- In front view and rear view, the vehicle width, distance lines and predictive course lines are superimposed and displayed. In front-side view, the vehicle distance guiding line and vehicle width guiding line are displayed.
- The Birds-Eye view converts the images from 4 cameras into the overhead view and displays the status of the vehicle on display. The vehicle icon and sonar indicator that are displayed on the Birds-Eye view display are rendered by around view monitor control unit.

### Around View Monitor Screen

- Around view monitor combines and displays the travel direction view and "Birds-Eye view", "Front-Side view" and then it displays the sonar indicator on the "Birds-Eye view", "Front-Side view" "Rear wide view" .
- AV control unit renders the "Change View" switch, view icon, warning message on display.

### Screen constitution



### Operation Description

- Around view monitor operates by pressing the “CAMERA” switch of multifunction switch and shifting the selector switch to the reverse position.
- When the selector lever is in any position other than the reverse position, the screen is switched to the around view monitor by pressing the “CAMERA” switch.
- The screen is switched to the around view monitor by shifting the selector lever to the reverse position.
- In the around view monitor, Birds-Eye view, Front-side view and rear wide view (rear only) can be switched by pressing the “CAMERA” switch.
- The around view monitor is cancelled 3 minutes after pressing the “CAMERA” switch, and then the screen returns to the screen before displaying the around view monitor when selector lever is in a position other than the reverse position.
- ON/OFF setting of sonar indicator display on the Front-Side view screen can be performed.
- In the Birds-Eye view, the invisible area is displayed on the image to specify the boundary of the 4 cameras. The invisible area is displayed in yellow in the Birds-Eye view after turning the ignition switch ON.
- The sonar (both of buzzer and indicator) operates only when the camera screen is displayed.

### NOTE:

The first, second, and third camera image displayed when switched to the camera image display depends on the settings of “Camera View Priority”.

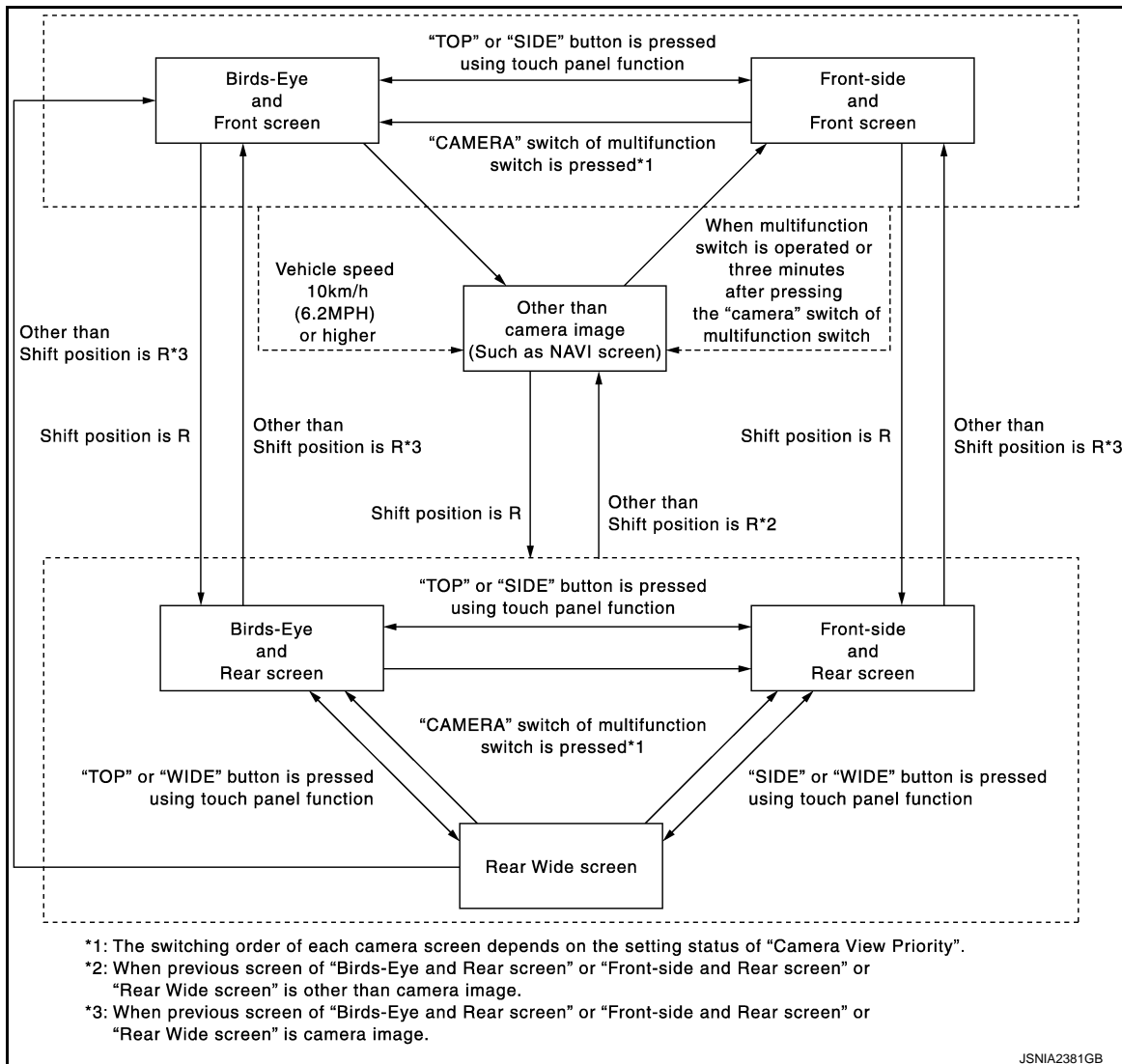
AV

# SYSTEM

< SYSTEM DESCRIPTION >

[NAVIGATION (TWIN MONITOR)]

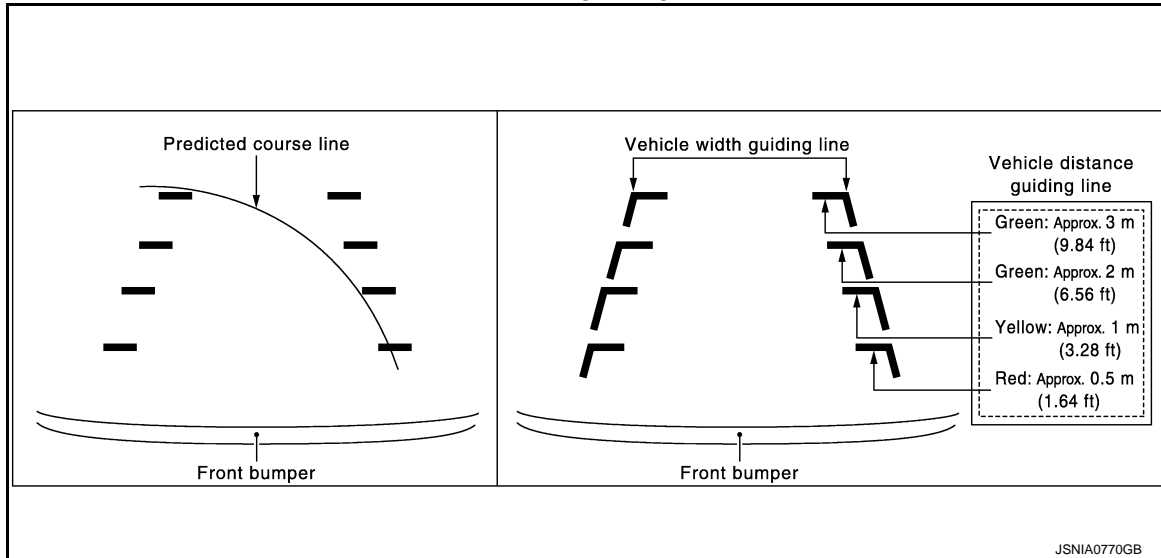
## Around view monitor screen transition



### FRONT VIEW

- The front view image is from the front camera.
- When the selector lever is in any position other than the reverse position, the front view is displayed by pressing the "CAMERA" switch. It improves the visibility of obstacles in front of the vehicle and helps driving by the images displayed from Birds-Eye view and Front-Side view.
- Display the vehicle width guiding line and vehicle distance guiding line in front view and display the predictive course line according to the steering angle.
- If the steering angle is within approximately 90 degrees, the predictive course lines on the left/right side are displayed. If the steering angle is exceeding approximately 90 degrees, only the predictive course line on the outside (in the opposite side of steering direction) is displayed.
- AV control unit is connected to the steering angle sensor and receives the steering angle signal via CAN communication. AV control unit transmits steering angle signal to around view monitor control unit via AV 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.

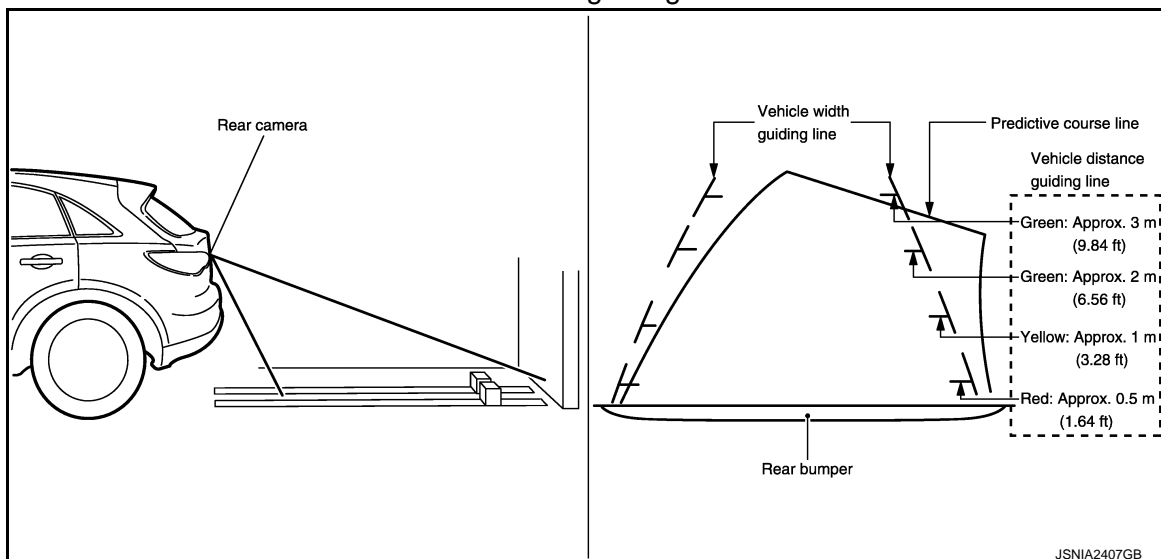
Front view guiding lines



## 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 Birds-Eye view and Front-Side view. The rear wide view function allows the display of an image with a 180° horizontal angle.
- Display the vehicle width guiding line and vehicle distance guiding line in Rear view and display the predictive course line according to the steering angle (except when using the rear wide view function).
- The predictive course line is not displayed at the steering neutral position.
- AV control unit is connected to the steering angle sensor and receives the steering angle signal via CAN communication. AV control unit transmits steering angle signal to around view monitor control unit via AV communication.
- Around view monitor control unit controls the direction and distance of predictive course line according to the sensor signal from steering angle sensor.

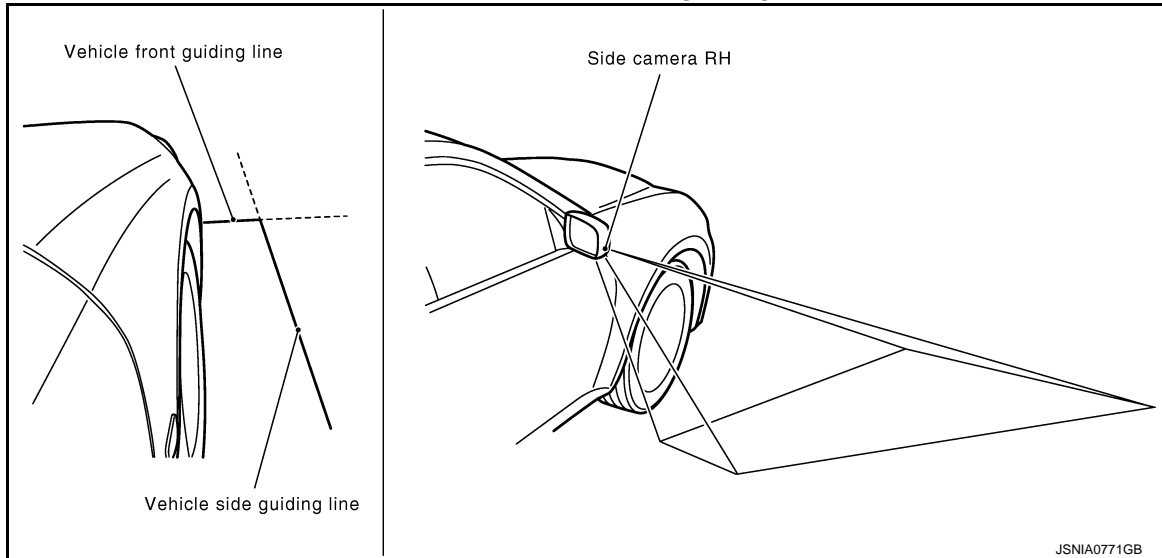
Rear view guiding lines



## FRONT-SIDE VIEW

- The front-side view image is from the side camera RH.
- In Front-Side view, display the vehicle distance guiding line and vehicle width guiding line.
- The infrared LED illumination is installed on the door mirror RH to illuminate around the front wheels.

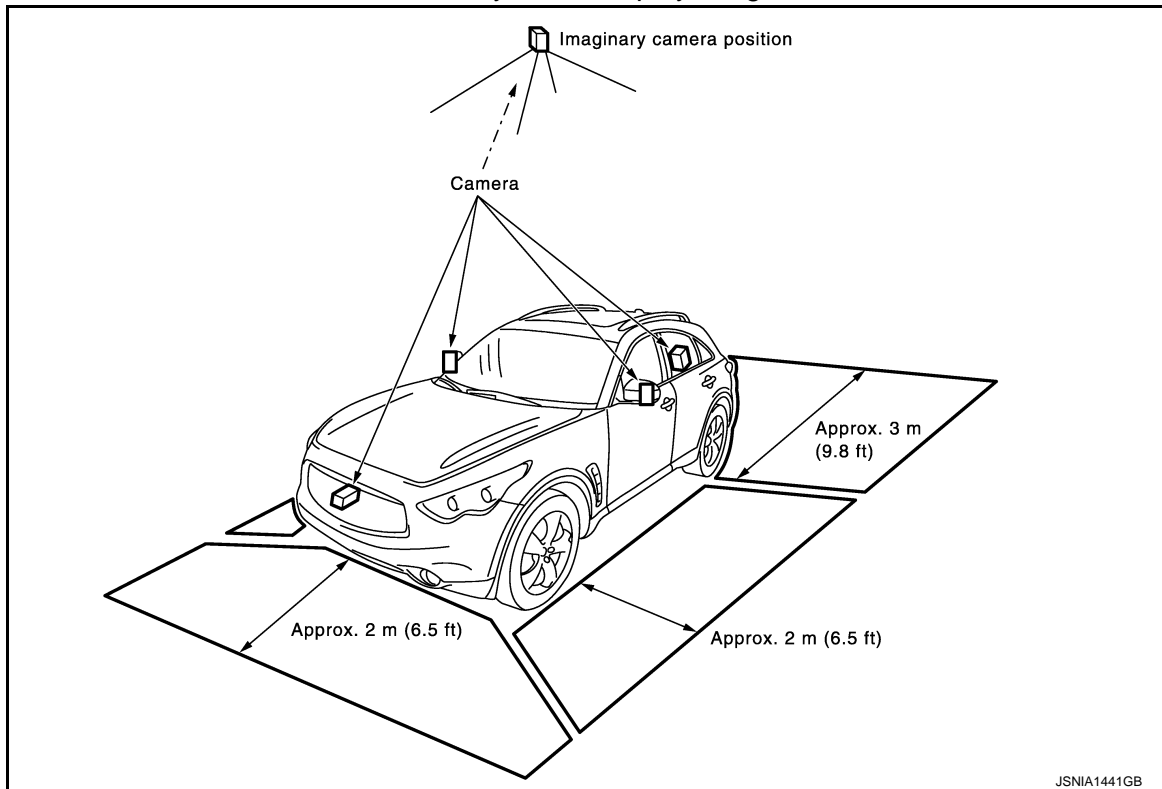
Front-side view area and guiding line

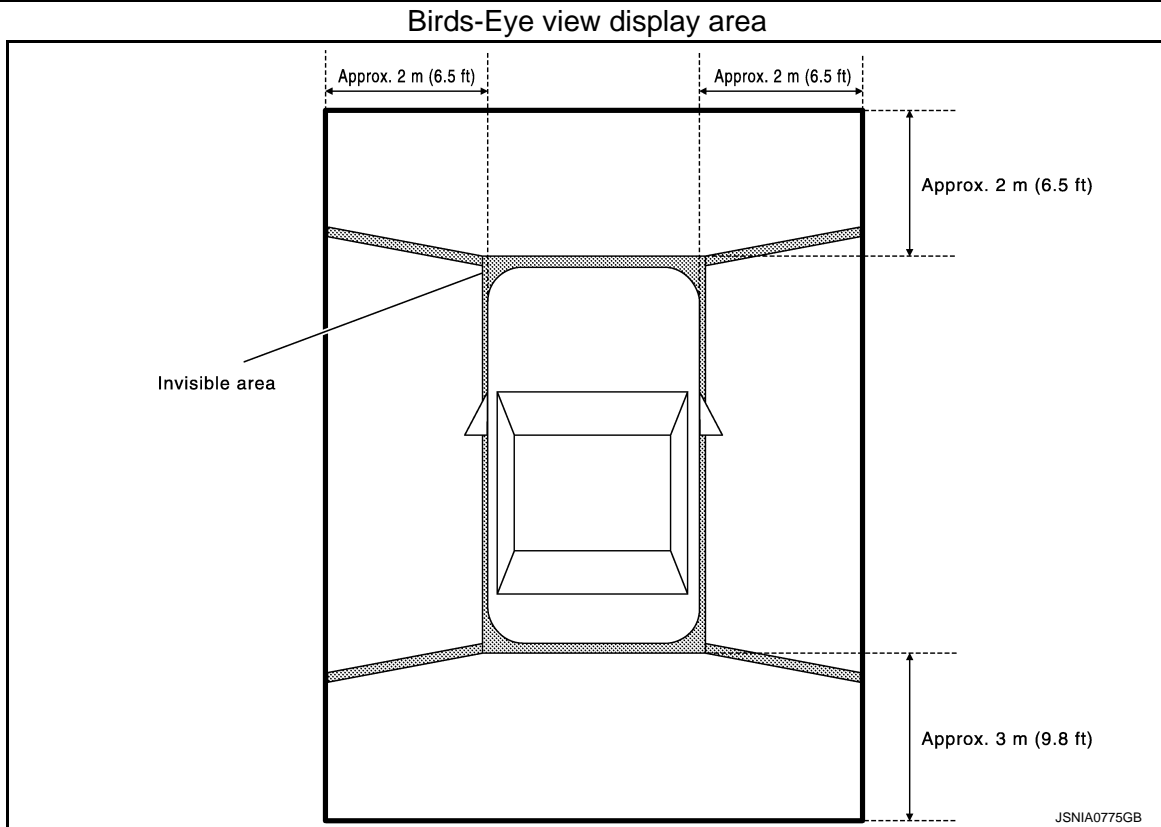


## BIRDS-EYE VIEW

- The image from the 4 cameras is cut out and converted into the overhead view, and the surroundings of the vehicle is displayed in birds-eye view.
- In Birds-Eye view, the invisible area is displayed on the image to specify the boundary of the 4 cameras.
- The invisible area is displayed in yellow in the Birds-Eye view after turning the ignition switch ON as an information for the user. (OFF setting can be performed)

Birds-Eye view display image





### Camera Image Operation Principle

- If the information writing to around view monitor control unit and the information from the camera are not matched, 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 AV communication by pressing the "CAMERA" switch of multifunction switch.
- Around view monitor control unit that receives the camera switch signal supplies the power to each camera and inputs the camera image from each camera.
- When the selector lever is in the reverse position, around view monitor control unit receives the reverse signal, supplies the power to each camera, and inputs the camera image from each camera.
- Around view monitor control unit that receives the camera image signal from each camera cuts out the required screen for each view, superimposes the camera image, vehicle icon, guiding lines, sonar indicator, and outputs them to the front display unit.

### CAMERA ASSISTANCE SONAR FUNCTION

- Install the corner sensor on the front bumper and rear bumper. It detects the obstacles around the vehicle when the around view monitor is displayed. It warns of the approach to the obstacles with the buzzer and indicator in the display linked with the around view monitor system.
- It displays the distance between the bumper and obstacle with the color of sonar indicator in the display and the blinking cycle of indicator in 3 stages.
- The buzzer warns of the distance to the obstacles with the cycle in 3 stages.

### System Operation Description

- Around view monitor control unit transmits the sonar operation signal via AV communication to sonar control unit to control the operation of sonar indicator and sonar buzzer.
- Sonar control unit that receives the sonar operation signal from around view monitor control unit transmits the detection signal and detection distance signal according to the signal from corner sensor via AV communication to around view monitor control unit. Around view monitor control unit operates the applicable sonar indicator.
- When receiving a sonar operation signal from the around view monitor control unit, the sonar control unit converts a signal transmitted from the corner sensor into a detection distance signal and transmits it to the AV control unit via AV communication. When receiving the detection signal, the AV control unit activates each speaker via BOSE amp.

# SYSTEM

## < SYSTEM DESCRIPTION >

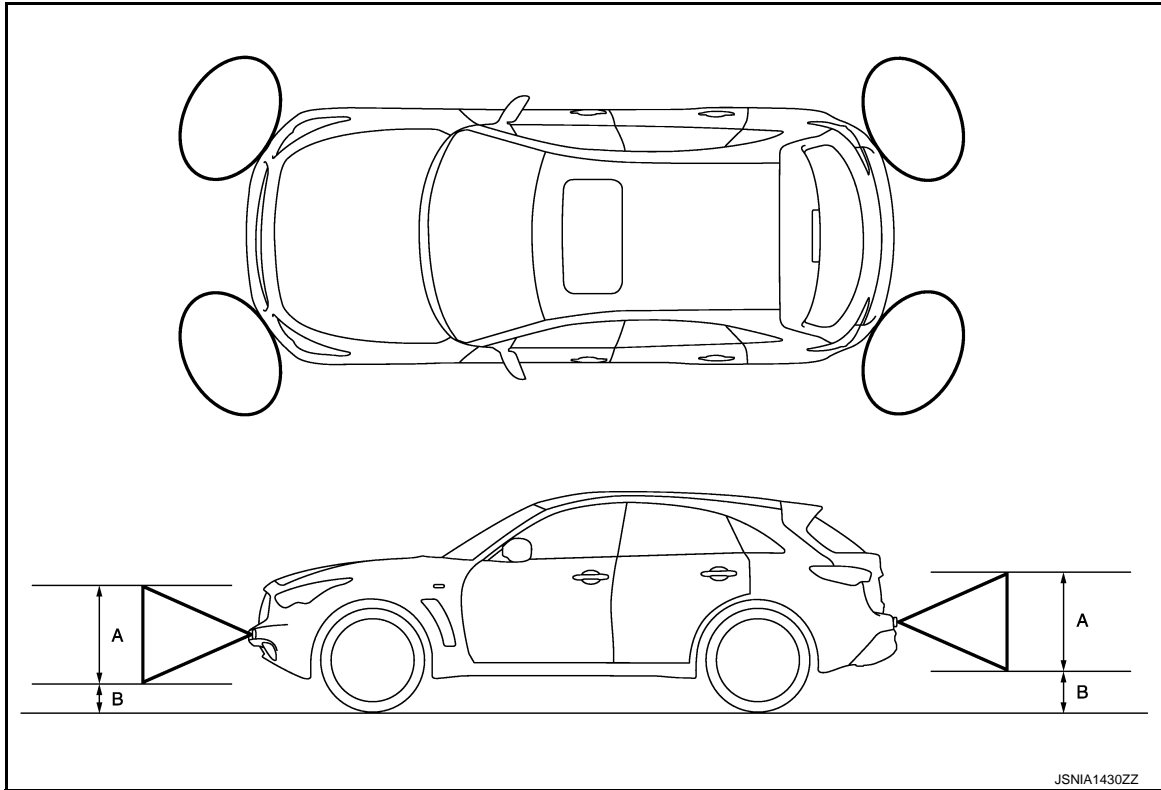
## [NAVIGATION (TWIN MONITOR)]

- Sonar control unit has the diagnosis function. It can detect the corner sensor malfunction or sensor harness open circuit. It transmits the diagnosis results to around view monitor control unit and always displays the sonar indicator in red to inform the user.

### Obstacle Detection Distance

- Sonar control unit changes the outputs of the sonar indicator and warning buzzer in 3 stages according to the obstacle detection distance from the corner sensor.
- The sonar control unit can change the setting of obstacle detection distance in 4 stages.

Obstacle detection image



A. Approx. 50 cm (19.6 in)

B. Approx. 15 cm (5.9 in)

### Detection distance

Warning item	Sensitivity level 1 (Faster warning)	Sensitivity level 2 (Default value)	Sensitivity level 3 (Slower warning)	Sensitivity level 4 (Slowest warning)
First stage warning	70 – 80 cm (27.5 – 31.4 in)	60 – 70 cm (23.6 – 27.5 in)	50 – 60 cm (19.6 – 23.6 in)	40 – 50 cm (15.7 – 19.6 in)
Second stage warning	50 – 70 cm (19.6 – 27.5 in)	40 – 60 cm (15.7 – 23.6 in)	30 – 50 cm (11.8 – 19.6 in)	30 – 40 cm (11.8 – 15.7 in)
Third stage warning	Less than 50 cm (19.6 in)	Less than 40 cm (15.7 in)	Less than 30 cm (11.8 in)	Less than 30 cm (11.8 in)

### Sonar Indicator Display

- Around view monitor control unit that receives the detection signal and detection distance signal from sonar control unit displays the sonar indicator on display.
- Around view monitor control unit changes the color or blinking cycle of the indicator according to the detection distance.

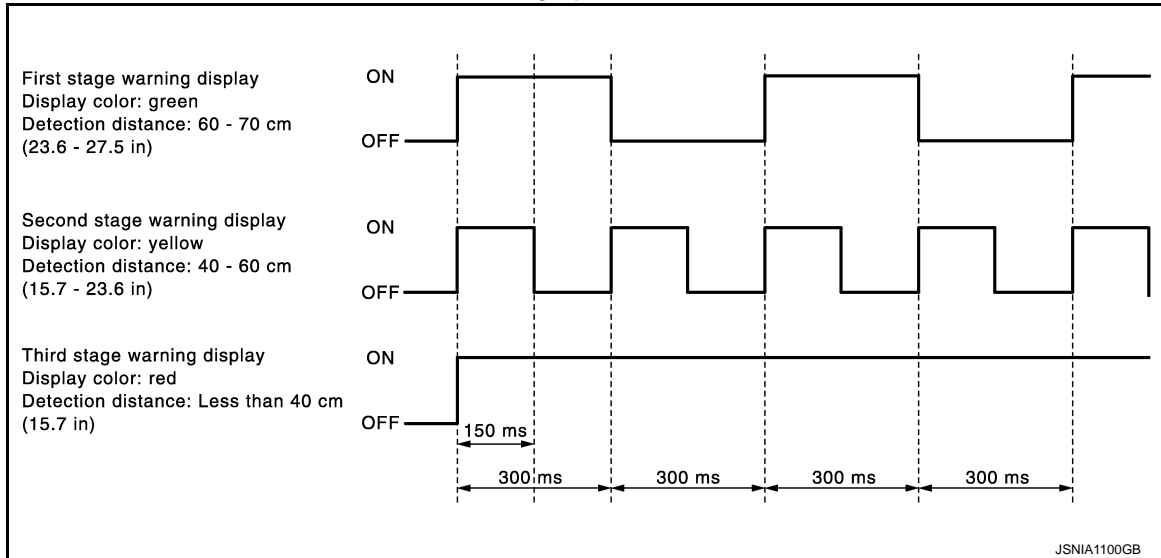


# SYSTEM

< SYSTEM DESCRIPTION >

[NAVIGATION (TWIN MONITOR)]

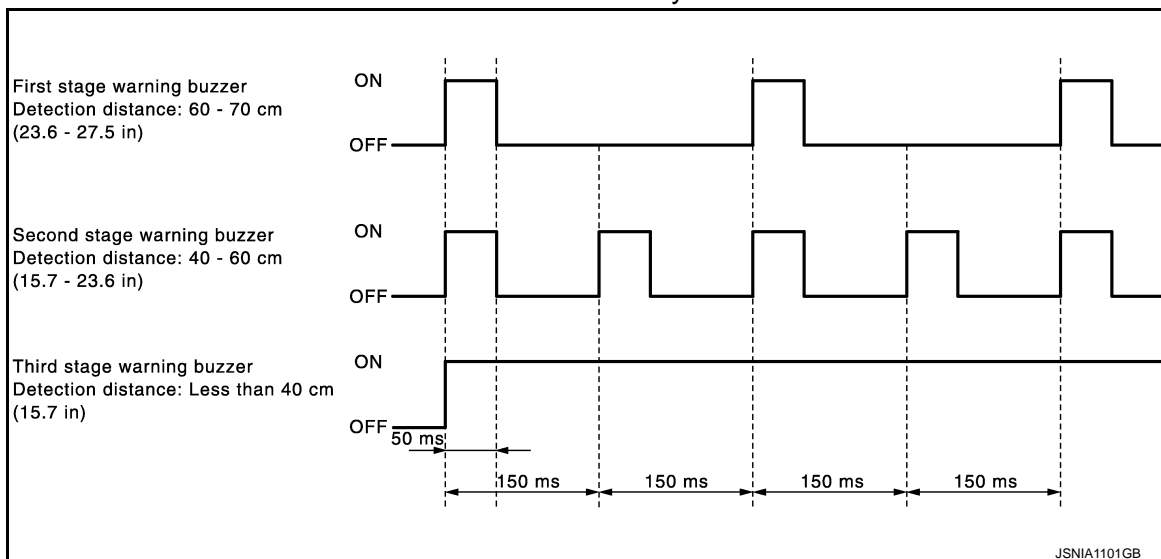
Color and blinking cycle of sonar indicator



## Sonar Buzzer Operation

- Each sonar sensor transmits a sensor signal to the sonar control unit when detecting an obstacle.
- The sonar control unit converts a signal received from each sonar sensor into distance and transmits detection distance signal to the AV control unit via AV communication.
- The AV control unit transmits a buzzer signal to the BOSE amp. corresponding to each sonar sensor based on the received signal.
- When receiving a buzzer signal, the BOSE amp. transmits the buzzer signal to the each speaker. When each speaker receives a buzzer signal, a buzzer sounds.
- When the front corner sensor detects an obstacle, a buzzer is heard from the speakers on the front side.
- When the rear corner sensor detects an obstacle, a buzzer is heard from the speakers on the rear side.
- It changes the buzzer cycle in 3 stages according to the detection distance.

Sonar buzzer cycle



## VEHICLE INFORMATION FUNCTION

- Status of audio, climate control system, fuel economy, maintenance and navigation are displayed.
- AV control unit displays the fuel consumption status while receiving data signal through CAN communication from ECM, unified meter and A/C amp.
- AV control unit is connected to BCM via CAN communication transmitting/receiving for the vehicle settings function.

## DIAGNOSIS SYSTEM (AV CONTROL UNIT)

### On Board Diagnosis Function

INFOID:000000005503171

#### MULTIFUNCTION SWITCH AND PRESET SWITCH SELF-DIAGNOSIS FUNCTION

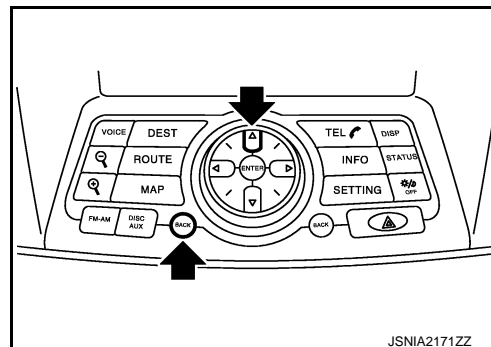
The ON/OFF operation (continuity) of each switch in the multifunction switch and preset switch can be checked.

##### Self-diagnosis Mode

- Press the “BACK” switch and the “UP” switch of the 8-direction switches within 10 seconds after turning the ignition switch from OFF to ACC and hold them for 3 seconds or more. Then the buzzer sounds, all indicators of the preset switch illuminate, and the self-diagnosis mode starts.
- The continuity of each switch at the ON position can be checked by pressing the switch. The buzzer sounds if the switch is normal.

##### NOTE:

The hazard switch and disk eject switch cannot be checked.



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##### Finishing Self-diagnosis Mode

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

#### MULTI AV SYSTEM ON BOARD DIAGNOSIS FUNCTION

- The AV control unit diagnosis function starts up with multifunction switch operation and the AV control unit performs a diagnosis for each unit in the system during the on board diagnosis.
- Perform a CONSULT-III 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

##### Description

- The trouble diagnosis function has a self-diagnosis mode for conducting trouble diagnosis automatically and a confirmation/adjustment mode for operating manually.
- The self-diagnosis mode performs diagnoses on the AV control unit, connections between system components as well as connections between AV control unit and GPS antenna. Then it displays the diagnosis results on the display.
- The confirmation/adjustment mode allows the technician to check, modify or adjust the vehicle signals and set values, as well as to monitor the system error records and system communication status. The checking, modifying or adjusting generally require human intervention and judgment (the system cannot make judgment automatically).

##### On Board Diagnosis Item

Mode	Description
Self Diagnosis	<ul style="list-style-type: none"> <li>AV control unit diagnosis.</li> <li>Diagnoses the connections across system components, between AV control unit and GPS antenna.</li> </ul>

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

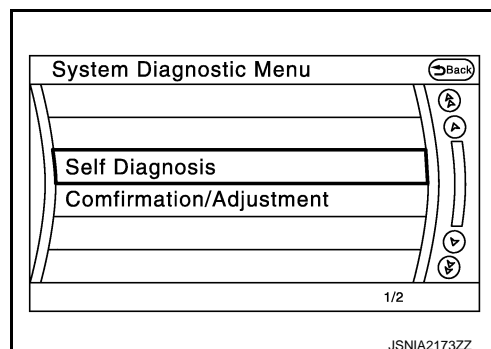
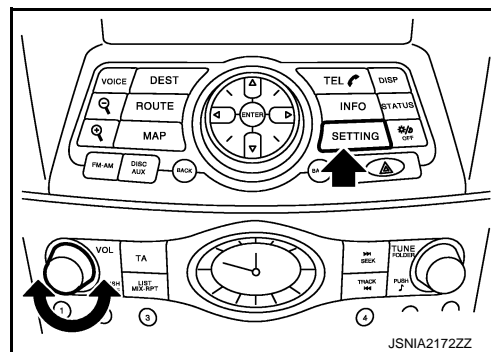
< SYSTEM DESCRIPTION >

[NAVIGATION (TWIN MONITOR)]

Mode		Description
Confirmation/ Adjustment	Display Diagnosis	The following check functions are available: color tone check by color bar display and white display, light and shade check by gray scale display and touch panel calibration response check.
	Vehicle Signals	Diagnosis of signals can be performed for vehicle speed, parking brake, lights, ignition, reverse, side view switch and room lamp.
	Climate Control	Start auto air conditioner system self-diagnosis.
	Navigation	Steering Angle Adjustment When there is a difference between the actual turning angle and the vehicle mark turning angle, it can be adjusted.
		Speed Calibration When there is a difference between the current location mark and the actual location, it can be adjusted.
	Error History	The system malfunction and the frequency when occurring in the past are displayed. When the malfunctioning item is selected, the time and place that the selected malfunction last occurred are displayed.
	Synchronizer FES Clock	—
	Speaker Test	The connection of a speaker can be confirmed by test tone.
	Vehicle CAN Diagnosis	The transmitting/receiving of CAN communication can be monitored.
	AV COMM Diagnosis	The communication condition of each unit of Multi AV system can be monitored.
	Hands-free Phone	The received volume adjustment of hands-free phone, microphone speaker check, and erase memory can be performed.
	Camera Cont.	It can perform the confirmation of a signal connection to around view monitor control unit, the calibration of each camera, Correct Draw Line of Camera Image, and Fine Tuning of Birds-Eye View.
	Delete Unit Connection Log	Erase the connection history of unit and error history.
	Initialize Settings	Initializes the AV control unit memory.
	Version Information	Version information of the AV control unit is displayed.

## STARTING PROCEDURE

1. Start the engine.
2. Turn the audio system OFF.
3. While pressing the “SETTING” button, turn the volume control dial clockwise or counterclockwise for 40 clicks or more. (When the self-diagnosis mode is started, a short beep will be heard.)
  - Shifting from current screen to previous screen is performed by pressing “BACK” button.
4. The trouble diagnosis initial screen is displayed, and then the items of “Self Diagnosis” and “Confirmation/Adjustment” can be selected.



## SELF-DIAGNOSIS MODE

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

## < SYSTEM DESCRIPTION >

## [NAVIGATION (TWIN MONITOR)]

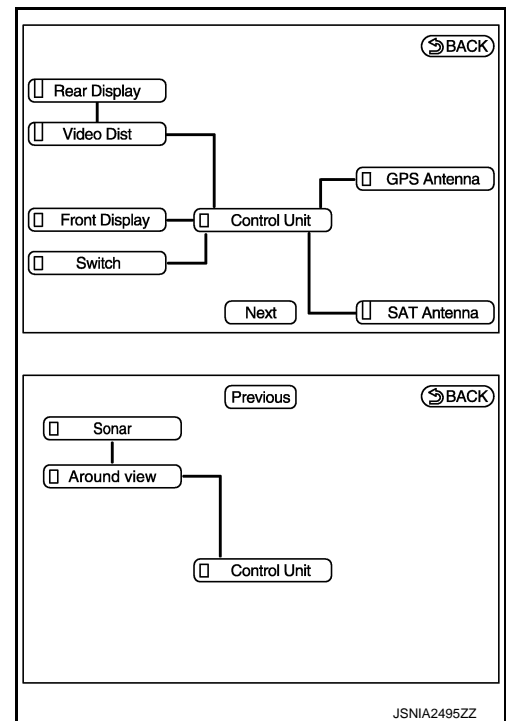
1. Start the self-diagnosis function and select "Self Diagnosis".
  - Self-diagnosis subdivision screen is displayed, and the self-diagnosis mode starts.
  - The bar graph visible on the center of the self-diagnosis subdivision screen indicates progress of the trouble diagnosis.
2. Diagnosis results 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 <sup>Note</sup>	Red	Green

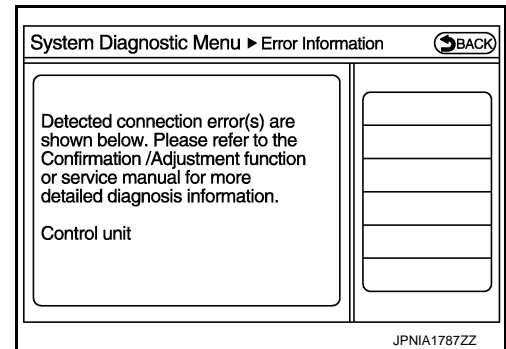
### NOTE:

Control unit (AV control unit) is displayed in red.

- Replace AV control unit if "Self-Diagnosis did not run because of a control unit malfunction" is indicated. The symptom is AV control unit internal error. Refer to [AV-562, "Exploded View"](#).
- If multiple errors occur at the same time for a single unit, the screen switch colors are determined according to the following order of priority: red > gray.



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



### Detection Range of Self-diagnosis Mode

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

### SELF-DIAGNOSIS RESULTS

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

Only Unit Part Is Displayed In Red.

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION (TWIN MONITOR)]

Screen switch	Description	Possible malfunction location / Action to take
Control Unit	Malfunction is detected in AV control unit power supply and ground circuits.	Check AV control unit power supply and ground circuits. When detecting no malfunction in those components, replace AV control unit.
Rear Display	When either one of the following items are detected: <ul style="list-style-type: none"> <li>rear display unit power supply and ground circuits are malfunctioning.</li> <li>serial communication circuits between around view monitor control unit and video distributor are malfunctioning.</li> </ul>	<ul style="list-style-type: none"> <li>Rear display unit power supply and ground circuits are malfunctioning.</li> <li>serial communication circuits between around view monitor control unit and video distributor are malfunctioning.</li> </ul>

A Connecting Cable Between Units Is Displayed In Yellow.

Area with yellow connection lines	Description	Possible malfunction location / Action to take
Control unit ⇔ Front Display	Malfunction is detected in serial communication circuits between AV control unit and front display unit.	Serial communication circuits between AV control unit and front display unit.
Control unit ⇔ GPS Antenna	GPS antenna connection malfunctions detected.	GPS antenna
Control unit ⇔ SAT Antenna	Satellite antenna connection malfunctions detected.	Satellite radio antenna
Control unit ⇔ Around view	<ul style="list-style-type: none"> <li>around view monitor control unit power supply and ground circuits are malfunctioning.</li> </ul>	Around view monitor control unit power supply and ground circuits.
Around view ⇔ Sonar	When either one of the following items are detected: <ul style="list-style-type: none"> <li>sonar control unit power supply and ground circuits are malfunctioning.</li> <li>AV communication circuits between AV control unit and sonar control unit are malfunctioning.</li> </ul>	<ul style="list-style-type: none"> <li>Sonar control unit power supply and ground circuits.</li> <li>AV communication circuits between AV control unit and sonar control unit.</li> </ul>
Control unit ⇔ Video Dist	When either one of the following items are detected: <ul style="list-style-type: none"> <li>video distributor power supply and ground circuits are malfunctioning.</li> <li>AV communication circuits between around view monitor control unit and video distributor are malfunctioning.</li> </ul>	<ul style="list-style-type: none"> <li>Video distributor power supply and ground circuits.</li> <li>AV communication circuits between around view monitor and video distributor.</li> </ul>
Control unit ⇔ Around view Control unit ⇔ Video Dist	AV communication circuits between around view monitor control unit and multifunction switch are malfunctioning.	AV communication circuits between around view monitor control unit and multifunction switch.

## CONFIRMATION/ADJUSTMENT MODE

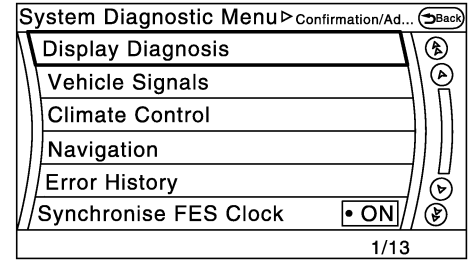
- Start the diagnosis function and select "Confirmation/Adjustment". The confirmation/adjustment mode indicates where each item can be checked or adjusted.

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

[NAVIGATION (TWIN MONITOR)]

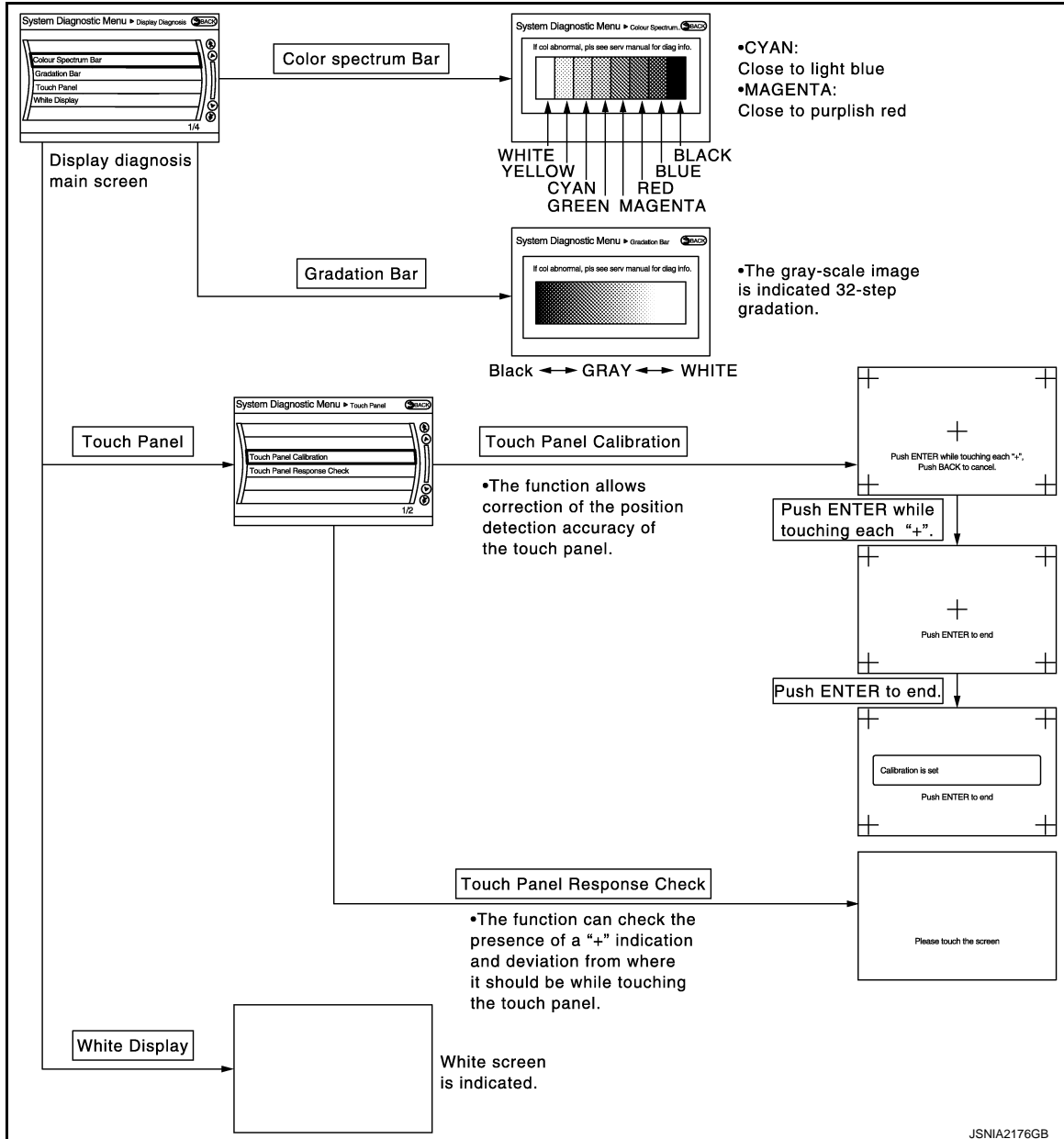
## < SYSTEM DESCRIPTION >

- Select each switch on the "Confirmation/Adjustment Mode" screen to display the relevant trouble diagnosis screen. Press the "Back" switch to return to the initial Confirmation/Adjustment Mode screen.



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## Display Diagnosis



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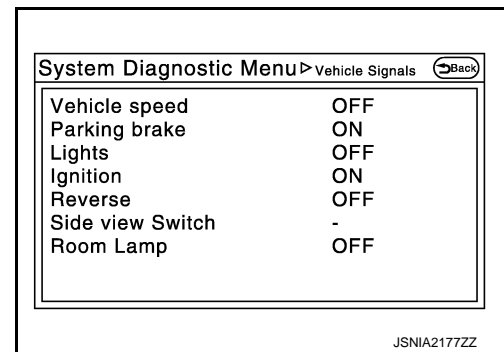
## Vehicle Signals

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

## < SYSTEM DESCRIPTION >

## [NAVIGATION (TWIN MONITOR)]

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



Diagnosis item	Display	Vehicle status	Remarks
Vehicle speed	ON	Vehicle speed > 0 km/h (0 MPH)	Changes in indication may be delayed. This is normal.
	OFF	Vehicle speed = 0 km/h (0 MPH)	
Parking brake	ON	Parking brake is applied.	
	OFF	Parking brake is released.	
Lights	ON	Light switch ON	—
	OFF	Light switch OFF	
Ignition	ON	Ignition switch ON	—
	OFF	Ignition switch in ACC position	
Reverse	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	
SIDE VIEW SW	—	—	This item is displayed, but cannot be monitored.
ROOM LAMP	ON	After opening any door; 5 seconds.	Check 10 seconds later, after closing all doors.
	OFF	Except for above.	

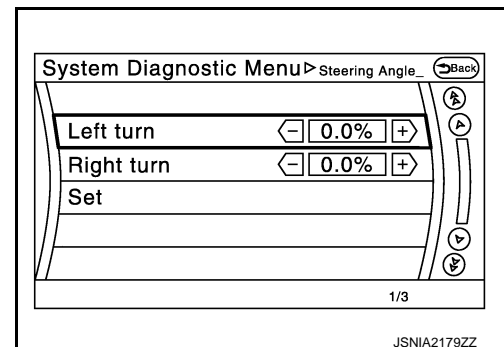
### Climate Control

Refer to "HEATER & AIR CONDITIONING CONTROL SYSTEM" for details.

### Navigation

#### STEERING ANGLE ADJUSTMENT

The steering angle output value detected with the gyroscope is adjusted.



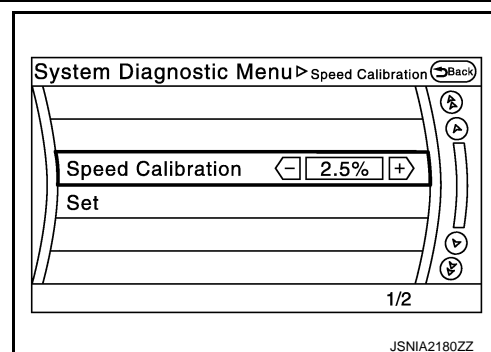
### SPEED CALIBRATION

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

## < SYSTEM DESCRIPTION >

## [NAVIGATION (TWIN MONITOR)]

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



### Error History

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

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

The error record displays the time and place of the most recent occurrence of that error. However, take note of the following points.

- If there is a malfunction with the GPS antenna circuit board in the AV control unit, the correct date and time of occurrence may not be able to be displayed.
- Place of the error occurrence is represented by the position of the current location mark at the time an error occurred. If current location mark has deviated from the correct position, then the place of the error occurrence cannot be located correctly.
- The frequency of occurrence is displayed in a count up manner. The actual count up method differs depending on the error item.

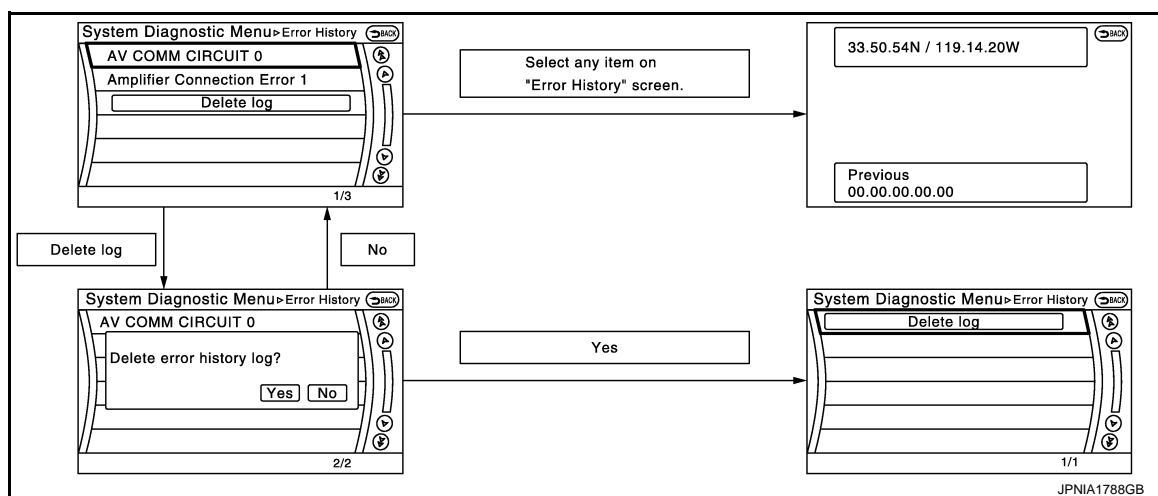
### Count up method A

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

### Count up method B

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

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



Error item



# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

## < SYSTEM DESCRIPTION >

## [NAVIGATION (TWIN MONITOR)]

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

Error item	Description	Possible malfunction factor/Action to take
CAN COMM CIRCUIT	CAN communication malfunction is detected.	Perform diagnosis with CONSULT-III, and then repair the malfunctioning parts according to the diagnosis results. Refer to <a href="#">AV-393, "CONSULT - III Function (MULTI AV)"</a> .
CONTROL UNIT (CAN)	CAN initial diagnosis malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly.
CONTROL UNIT (AV)	AV communication circuit initial diagnosis malfunction is detected.	
FLASH-ROM Error Of Control Unit	AV control unit malfunction is detected.	
Connection Of Gyro		
Connection of G Sensor		
CAN Controller Memory Error		
Bluetooth Module Connection Error		
Sub CPU Connection Error		
iPod authentication chip error		
Audio connection error		
DSP Connection Error	AV control unit malfunction is detected.	<ul style="list-style-type: none"><li>• If a disc can be played, then there is a possibility of the detection of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly.</li></ul>
DSP Communication Error		
HDD Connection Error	AV control unit malfunction is detected.	<ul style="list-style-type: none"><li>• If the music box function has no malfunctions, then there is a possibility of the detection of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly.</li></ul>
HDD Read Error		
HDD Write Error		
HDD Communication Error		
HDD Access Error		
GPS Communication Error	GPS malfunction is detected.	An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs. Replace the AV control unit if the malfunction occurs constantly.
GPS ROM Error		
GPS RAM Error		
GPS RTC Error		
Unfinished configuration	The writing of configuration data is incomplete.	Write configuration data with CONSULT-III.
USB Controller Communication Error	USB connection malfunction is detected.	Check that the connection to the USB connector is normal.
DVD Mechanism Communication Error	AV control unit malfunction is detected.	<ul style="list-style-type: none"><li>• If DVD can be played, then there is a possibility of the detection of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly.</li></ul>
Steer. Angle Sensor Calibration	Predictive course line center position adjustment of the steering angle sensor is incomplete.	Adjust the predictive course line center position of the steering angle sensor. Refer to <a href="#">AV-393, "CONSULT - III Function (MULTI AV)"</a> .

A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

P

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

## < SYSTEM DESCRIPTION >

## [NAVIGATION (TWIN MONITOR)]

Error item	Description	Possible malfunction factor/Action to take
Front Display Connection Error	When either one of the following items are detected: <ul style="list-style-type: none"> <li>front display unit power supply and ground circuits malfunction is detected.</li> <li>malfunction is detected in communication circuits between AV control unit and front display unit.</li> </ul>	<ul style="list-style-type: none"> <li>Front display unit power supply and ground circuits.</li> <li>Communication circuits between AV control unit and front display unit.</li> </ul>
Rear Display Connection Error	When either one of the following items are detected: <ul style="list-style-type: none"> <li>rear display unit power supply and ground circuits malfunction is detected.</li> <li>malfunction is detected in communication circuits between AV control unit and rear display unit.</li> </ul>	<ul style="list-style-type: none"> <li>Rear display unit power supply and ground circuits.</li> <li>Communication circuits between AV control unit and rear display unit.</li> </ul>
GPS Antenna Error	GPS antenna connection malfunction is detected.	Check the connection of the GPS antenna connector.
XM Antenna Connection Error	Satellite radio antenna connection malfunction is detected.	Satellite radio antenna disconnection.
USB electric current Error	Detection of overcurrent in USB connector.	Check USB harness between the AV control unit and USB connector.
<ul style="list-style-type: none"> <li>AV COMM CIRCUIT</li> <li>Switches Connection Error</li> </ul>	When either one of the following items are detected: <ul style="list-style-type: none"> <li>multifunction switch power supply and ground circuits are malfunctioning.</li> <li>AV communication circuits between AV control unit and multifunction switch are malfunctioning.</li> </ul>	<ul style="list-style-type: none"> <li>Multifunction switch power supply and ground circuits.</li> <li>AV communication circuits between AV control unit and multifunction switch.</li> </ul>
<ul style="list-style-type: none"> <li>AV COMM CIRCUIT</li> <li>AVM Connection Error</li> </ul>	Around view monitor control unit power supply and ground circuits are malfunctioning.	Around view monitor control unit power supply and ground circuits.
<ul style="list-style-type: none"> <li>AV COMM CIRCUIT</li> <li>AVM Sonar Connection Error</li> </ul>	When either one of the following items are detected: <ul style="list-style-type: none"> <li>sonar control unit power supply and ground circuits are malfunctioning.</li> <li>AV communication circuits between AV control unit and sonar control unit are malfunctioning.</li> </ul>	<ul style="list-style-type: none"> <li>Sonar control unit power supply and ground circuits.</li> <li>AV communication circuits between AV control unit and sonar control unit.</li> </ul>
<ul style="list-style-type: none"> <li>AV COMM CIRCUIT</li> <li>Video Distributor Connection Error</li> <li>Rear Display Connection Error</li> </ul>	When either one of the following items are detected: <ul style="list-style-type: none"> <li>video distributor power supply and ground circuits are malfunctioning.</li> <li>AV communication circuits between around view monitor control unit and video distributor are malfunctioning.</li> </ul>	<ul style="list-style-type: none"> <li>Video distributor power supply and ground circuits.</li> <li>AV communication circuits between around view monitor control unit and video distributor.</li> </ul>
<ul style="list-style-type: none"> <li>AV COMM CIRCUIT</li> <li>Video Distributor Connection Error</li> <li>Rear Display Connection Error</li> <li>AVM Connection Error</li> </ul>	AV communication circuits between multifunction switch and around view monitor control unit are malfunctioning.	AV communication circuits between multifunction switch and around view monitor control unit.
<ul style="list-style-type: none"> <li>AV COMM CIRCUIT</li> <li>Switches Connection Error</li> <li>Video Distributor Connection Error</li> <li>Rear Display Connection Error</li> <li>AVM Connection Error</li> </ul>	AV communication circuits between AV control unit and multifunction switch are malfunctioning.	AV communication circuits between AV control unit and multifunction switch.

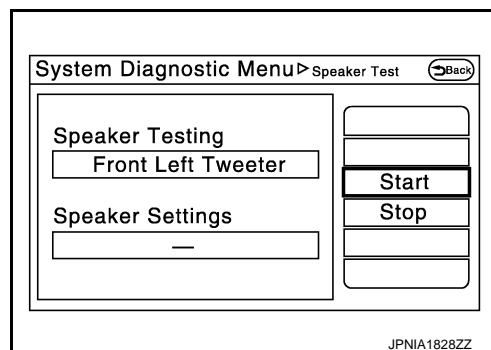
### Speaker Test

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

## < SYSTEM DESCRIPTION >

## [NAVIGATION (TWIN MONITOR)]

Select "SPEAKER DIAGNOSIS" to display the Speaker Diagnosis screen. Press "Start" to generate a test tone in a speaker. Press "Start" to generate a test tone in the next speaker. Press "Stop" to stop the test tones.



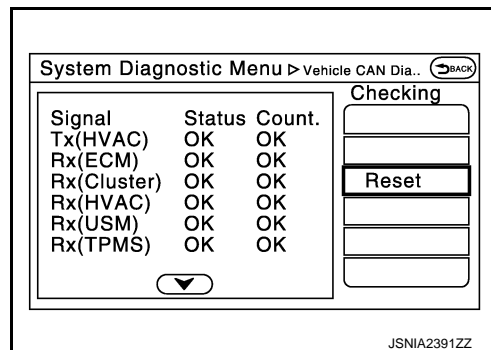
### Vehicle CAN Diagnosis

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

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

### NOTE:

"???" indicates UNKWN.



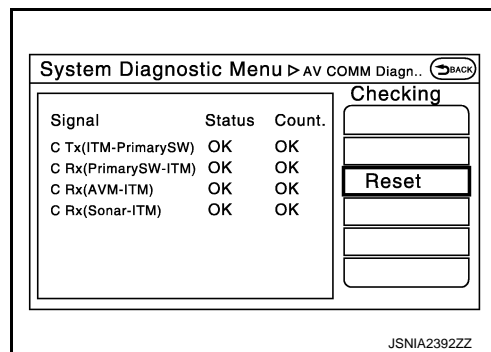
### AV COMM Diagnosis

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

Items	Status (Current)	Counter (Past)
C Tx(ITM-PrimarySW)	OK / ???	OK / 0 – 39
C Rx(PrimarySW-ITM)	OK / ???	OK / 0 – 39
C Rx(AVM-ITM)	OK / ???	OK / 0 – 39
C Rx(Sonar-ITM)	OK / ???	OK / 0 – 39

### NOTE:

"???" indicates UNKWN



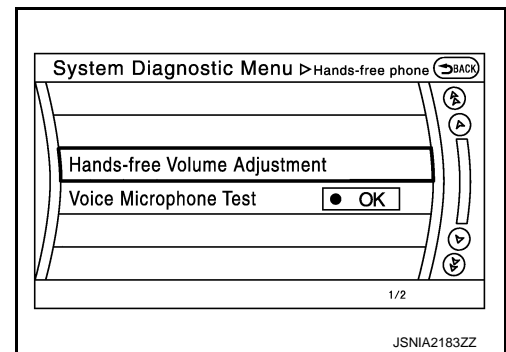
### Hands-Free Phone

## DIAGNOSIS SYSTEM (AV CONTROL UNIT)

### < SYSTEM DESCRIPTION >

### [NAVIGATION (TWIN MONITOR)]

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

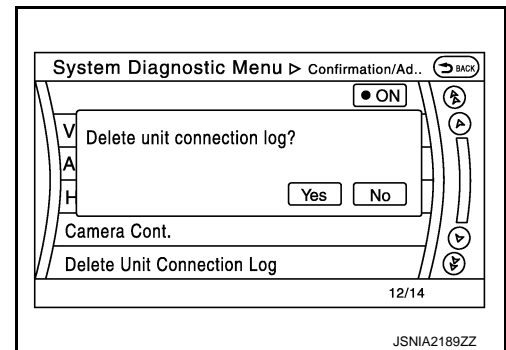


Camera Cont.

Refer to [AV-397, "On Board Diagnosis Function"](#).

Delete Unit Connection Log

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

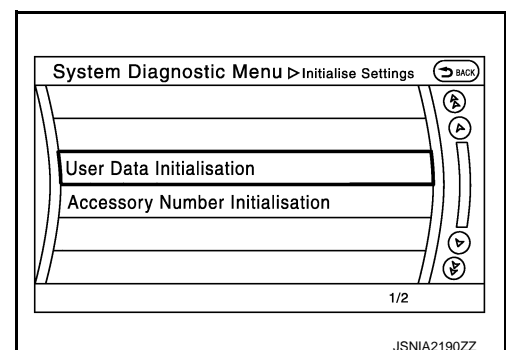


Initialize Settings

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

#### **CAUTION:**

- **Never perform Accessory Number Initialization except when configuration is unsuccessful.**
- **Accessory Number Initialization requires configuration. For details, refer to [AV-460, "CONFIGURATION \(AV CONTROL UNIT\) : Description"](#).**



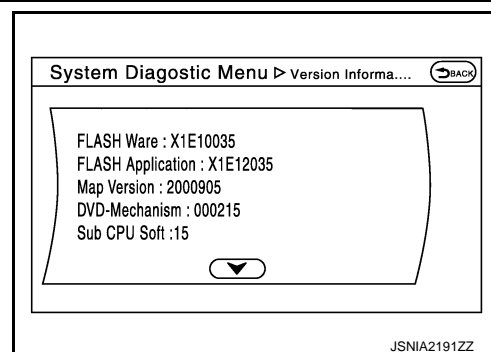
Version Information

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION (TWIN MONITOR)]

Version information of the AV control unit is displayed.



## CONSULT - III Function (MULTI AV)

INFOID:000000005503172

### CONSULT-III FUNCTIONS

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

Diagnosis mode	Description
Ecu Identification	The part number of AV control unit can be checked.
Self Diagnostic Result	Performs a diagnosis on the AV control unit and a connection diagnosis for the communication circuit of the Multi AV system, and displays the current and past malfunctions collectively.
Data Monitor	The diagnosis of vehicle signal that is input to the AV control unit can be performed.
Work Support	Steering angle sensor can be adjusted.
Configuration	<ul style="list-style-type: none"><li>Read and save the vehicle specification.</li><li>Write the vehicle specification when replacing AV control unit.</li></ul>

### AV COMMUNICATION

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

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

### ECU IDENTIFICATION

The part number of AV control unit is displayed.

### SELF DIAGNOSIS RESULT

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

#### Self-diagnosis Results Display Item

Error item	Description	Possible malfunction factor/Action to take
CAN COMM CIRCUIT [U1000]	CAN communication malfunction is detected.	Refer to <a href="#">AV-468, "Diagnosis Procedure"</a> .

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

## < SYSTEM DESCRIPTION >

## [NAVIGATION (TWIN MONITOR)]

Error item	Description	Possible malfunction factor/Action to take
CONTROL UNIT (CAN) [U1010]	CAN initial diagnosis malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly.
CONTROL UNIT (AV) [U1310]	AV communication circuit initial diagnosis malfunction is detected.	
Cont Unit [U1200]	AV control unit malfunction is detected.	
GYRO NO CONN [U1201]		
G-SENSOR NO CONN [U1202]		
CAN CONT [U1216]		
BLUETOOTH MODULE [U1217]		
SUB CPU CONN [U1228]		
iPod CERTIFICATION [U1229]		
Built-in AUDIO CONN [U122E]		
HDD CONN [U1218]	AV control unit malfunction is detected.	<ul style="list-style-type: none"><li>If the music box function has no malfunctions, then there is a possibility of the detection of a temporary malfunction.</li><li>Replace the AV control unit if the malfunction occurs constantly.</li></ul>
HDD READ [U1219]		
HDD WRITE [U121A]		
HDD COMM [U121B]		
HDD ACCESS [U121C]		
GPS COMM [U1204]	GPS malfunction is detected.	An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs. Replace the AV control unit if the malfunction occurs constantly.
GPS ROM [U1205]		
GPS RAM [U1206]		
GPS RTC [U1207]		
USB CONTROLLER [U1225]	USB connection malfunction is detected.	Check that the connection to the USB connector is normal.
DSP CONN [U121D]	AV control unit malfunction is detected.	<ul style="list-style-type: none"><li>If a disc can be played, then there is a possibility of the detection of a temporary malfunction.</li><li>Replace the AV control unit if the malfunction occurs constantly.</li></ul>
DSP COMM [U121E]		
DVD COMM [U1227]	AV control unit malfunction is detected.	<ul style="list-style-type: none"><li>If DVD can be played, then there is a possibility of the detection of a temporary malfunction.</li><li>Replace the AV control unit if the malfunction occurs constantly.</li></ul>
CONFIG UNFINISH [U122A]	The writing of configuration data is incomplete.	Write configuration data with CONSULT-III.
ST ANGLE SEN CALIB [U1232]	Predictive course line center position adjustment of the steering angle sensor is incomplete.	Adjust the predictive course line center position of the steering angle sensor. Refer to <a href="#">BRC-9, "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION : Special Repair Requirement"</a> .
FRONT DISP CONN [U1243]	When either one of the following items are detected: <ul style="list-style-type: none"><li>front display unit power supply and ground circuits malfunction is detected.</li><li>communication circuits between AV control unit and front display unit.</li></ul>	<ul style="list-style-type: none"><li>front display unit power supply and ground circuits.</li><li>Communication circuits between AV control unit and front display unit.</li></ul>
GPS ANTENNA CONN [U1244]	GPS antenna connection malfunction is detected.	Check the connection of the GPS antenna connector.
XM ANTENNA CONN [U1258]	Satellite radio antenna connection malfunction is detected.	Satellite radio antenna disconnection.

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

## < SYSTEM DESCRIPTION >

## [NAVIGATION (TWIN MONITOR)]

Error item	Description	Possible malfunction factor/Action to take
REAR DISP CONN [U1247]	When either one of the following items are detected: <ul style="list-style-type: none"> <li>rear display unit power supply and ground circuits malfunction is detected.</li> <li>malfunction is detected in communication circuits between AV control unit and rear display unit.</li> </ul>	<ul style="list-style-type: none"> <li>Rear display unit power supply and ground circuits.</li> <li>Communication circuits between AV control unit and rear display unit.</li> </ul>
USB OVERCURRENT [U1263]	Detection of overcurrent in USB connector.	Check USB harness between the AV control unit and USB connector.
<ul style="list-style-type: none"> <li>AV COMM CIRCUIT [U1300]</li> <li>SWITCH CONN [U1240]</li> </ul>	When either one of the following items are detected: <ul style="list-style-type: none"> <li>multifunction switch power supply and ground circuits are malfunctioning.</li> <li>AV communication circuits between AV control unit and multifunction switch are malfunctioning.</li> </ul>	<ul style="list-style-type: none"> <li>Multifunction switch power supply and ground circuits.</li> <li>AV communication circuits between AV control unit and multifunction switch.</li> </ul>
<ul style="list-style-type: none"> <li>AV COMM CIRCUIT [U1300]</li> <li>AROUND CAMERA CONN [U125B]</li> </ul>	Around view monitor control unit power supply and ground circuits are malfunctioning.	Around view monitor control unit power supply and ground circuits.
<ul style="list-style-type: none"> <li>AV COMM CIRCUIT [U1300]</li> <li>SONAR CONN [U125C]</li> </ul>	When either one of the following items are detected: <ul style="list-style-type: none"> <li>sonar control unit power supply and ground circuits are malfunctioning.</li> <li>AV communication circuits between AV control unit and sonar control unit are malfunctioning.</li> </ul>	<ul style="list-style-type: none"> <li>Sonar control unit power supply and ground circuits.</li> <li>AV communication circuits between AV control unit and sonar control unit.</li> </ul>
<ul style="list-style-type: none"> <li>AV COMM CIRCUIT [U1300]</li> <li>VIDEO DIST CONN [U1246]</li> <li>REAR DISP CONN [U1247]</li> </ul>	When either one of the following items are detected: <ul style="list-style-type: none"> <li>video distributor power supply and ground circuits are malfunctioning.</li> <li>AV communication circuits between around view monitor control unit and video distributor are malfunctioning.</li> </ul>	<ul style="list-style-type: none"> <li>Video distributor power supply and ground circuits.</li> <li>AV communication circuits between around view monitor control unit and video distributor.</li> </ul>
<ul style="list-style-type: none"> <li>AV COMM CIRCUIT [U1300]</li> <li>VIDEO DIST CONN [U1246]</li> <li>REAR DISP CONN [U1247]</li> <li>AROUND CAMERA CONN [U125B]</li> </ul>	AV communication circuits between multifunction switch and around view monitor control unit are malfunctioning.	AV communication circuits between multifunction switch and around view monitor control unit.
<ul style="list-style-type: none"> <li>AV COMM CIRCUIT [U1300]</li> <li>SWITCH CONN [U1240]</li> <li>VIDEO DIST CONN [U1246]</li> <li>REAR DISP CONN [U1247]</li> <li>AROUND CAMERA CONN [U125B]</li> </ul>	AV communication circuits between AV control unit and multifunction switch are malfunctioning.	AV communication circuits between AV control unit and multifunction switch.

## DATA MONITOR

### ALL SIGNALS

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

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

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

## < SYSTEM DESCRIPTION >

## [NAVIGATION (TWIN MONITOR)]

Display Item	Display	Vehicle status	Remarks
ILLUM SIG	On	Block the light beam from the auto light optical sensor when the light SW is ON.	—
	Off	Expose the auto light optical sensor to light when the light SW is OFF or ON.	
IGN SIG	On	Ignition switch ON	
	Off	Ignition switch in ACC position	
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	
SIDE VIEW SW	Off	This item is displayed, but cannot be monitored.	—
ROOM LAMP	On	After opening any door; 5 seconds.	Check 10 seconds later, after closing all doors.
	Off	Except for above.	

### SELECTION FROM MENU

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

Item to be selected	Description
VHCL SPD SIG	The same as when "ALL SIGNALS" is selected.
PKB SIG	
ILLUM SIG	
IGN SIG	
REV SIG	
SIDE VIEW SW	
ROOM LAMP	

### WORK SUPPORT

Adjusts the neutral position of the steering angle sensor.

#### **CAUTION:**

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

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

### CONFIGURATION

Configuration has three functions as follows.

Function	Description
READ CONFIGURATION	<ul style="list-style-type: none"> <li>Reads the vehicle configuration of current AV control unit.</li> <li>Saves the read vehicle configuration.</li> </ul>
WRITE CONFIGURATION-Manual selection	Writes the vehicle configuration with manual selection.
WRITE CONFIGURATION-Config file	Writes the vehicle configuration with saved data.



# DIAGNOSIS SYSTEM (AROUND VIEW MONITOR CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION (TWIN MONITOR)]

## DIAGNOSIS SYSTEM (AROUND VIEW MONITOR CONTROL UNIT)

### On Board Diagnosis Function

INFOID:000000005503173

The diagnosis function of around view monitor control unit is displayed when selecting "Camera Cont." of Confirmation/Adjustment mode in the multi AV system.

Around view monitor control unit diagnosis item

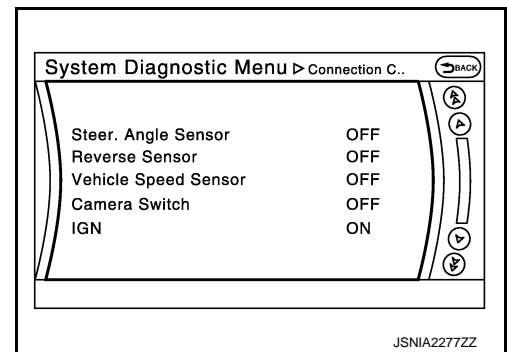
AV control unit Confirmation/Adjustment mode			Function
Camera Cont.	Connection Confirmation		The status of signals input to around view monitor control unit can be checked.
	Calibrating Camera Image	Rear Camera	Performs the calibration of rear camera.
		Pass-Side Camera	Performs the calibration of side camera RH.
		Front Camera	Performs the calibration of front camera.
		Dr-Side Camera	Performs the calibration of side camera LH.
		Initialize Camera Image Calibration*	The calibration can be initialized to NISSAN factory shipment condition.
	Fine Tuning of Birds-Eye View		<ul style="list-style-type: none"><li>The confirmation and adjustment of the difference between each camera can be performed.</li><li>The system changes to the ZOOM function by the operation of shift and the ZOOM ratio of each camera can be changed.</li></ul>
	Correct Draw Line of Wide View	Rear-Wide View	The position of rear wide view guideline can be changed.

#### CAUTION:

\*: Never perform other operations for approximately 10 seconds after performing "Initialize Camera Image Calibration".

#### Connection Confirmation

The status of signals inputted to around view monitor control unit can be checked.



Connection Confirmation item list

Diagnosis item	Display	Description
Steer. Angle Sensor	ON/OFF	<ul style="list-style-type: none"><li>Input status of steering angle sensor is displayed by ON/OFF.</li><li>When all of steering signals 1, 2, and 3 are input, it is turned ON. It remains ON until connection confirmation mode is stopped.</li></ul>
Reverse Sensor	ON/OFF	Input status of reverse signal inputted to around view monitor control unit is displayed by ON/OFF in real time.
Vehicle Speed Sensor	ON/OFF	<ul style="list-style-type: none"><li>Input status of vehicle speed signal inputted to around view monitor control unit is displayed by ON/OFF.</li><li>When the vehicle speed signal is input, it is turned ON. It remains ON until connection confirmation mode is stopped.</li></ul>
Camera Switch	ON/OFF	<ul style="list-style-type: none"><li>The status of camera switch signal received via AV communication from NAVI control unit is displayed by ON/OFF.</li><li>When the camera switch signal is received once, it is turned ON. It remains ON until connection confirmation mode is stopped.</li></ul>
IGN	ON/OFF	Input status of ignition signal inputted to around view monitor control unit is displayed by ON/OFF in real time.

# DIAGNOSIS SYSTEM (AROUND VIEW MONITOR CONTROL UNIT)

## < SYSTEM DESCRIPTION >

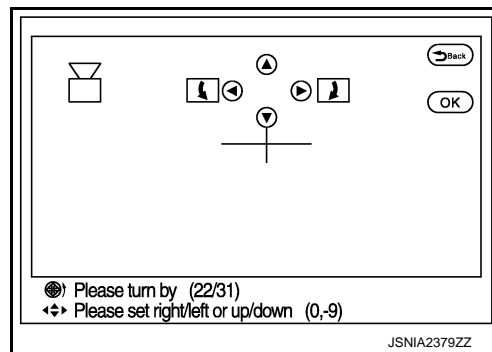
## [NAVIGATION (TWIN MONITOR)]

Diagnosis item	Display	Description
ILL	ON/OFF	Input status of illumination signal inputted to around view monitor control unit is displayed by ON/OFF in real time.
Type of Steer. Angle Sensor	Abslt.	The input type of steering angle sensor is displayed. ("Abslt." is displayed on this model.)
Type of Steer. Gear ratio	1	The type of steering gear ratio is displayed. ("1" is displayed on this model.)
Left or Right Steer.	Right/Left	The steering position is displayed.
Rear Camera Image Output signal	OK/NG	The input status of rear camera image signal is displayed by OK/NG in real time.
Rear Camera COMM Status	OK/NG	The communication status with rear camera is displayed by OK/NG in real time.
Rear Camera COMM Line	OK/NG	The status of communication line with rear camera is displayed by OK/NG in real time.
Front Camera Image Output signal	OK/NG	The input status of front camera image signal is displayed by OK/NG in real time.
Front Camera COMM Status	OK/NG	The communication status with front camera is displayed by OK/NG in real time.
Front Camera COMM Line	OK/NG	The status of communication line with front camera is displayed by OK/NG in real time.
Pass-Side Camera Image Output signal	OK/NG	The input status of side camera RH image signal is displayed by OK/NG in real time.
Pass-Side Camera COMM Status	OK/NG	The communication status with side camera RH is displayed by OK/NG in real time.
Pass-Side Camera COMM Line	OK/NG	The status of communication line with side camera RH is displayed by OK/NG in real time.
Dr-Side Camera Image Output signal	OK/NG	The input status of side camera LH image signal is displayed by OK/NG in real time.
Dr-Side Camera COMM Status	OK/NG	The communication status with side camera LH is displayed by OK/NG in real time.
Dr-Side Camera COMM Line	OK/NG	The status of communication line with side camera LH is displayed by OK/NG in real time.

### Calibrating Camera Image

- Perform the calibration of camera image caused by the incorrect mounting position of each camera, etc. Always perform calibration after performing the following work.
  - When each camera or each camera mount (door mirror, front grille, etc.) is removed
  - When replacing around view monitor control unit
- When performing the calibration initialization, it can be set to the NISSAN factory shipment condition.

Refer to [AV-462, "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Work Procedure"](#) for the calibration procedure.



Adjustment range	
Rotating direction	: 31 patterns (16 on the center)
Upper/lower direction	: -99 – 99
Left/right direction	: -99 – 99

### Calibrating Camera Image item

Items	Description
Rear Camera	Performs the calibration of rear camera.
Pass-Side Camera	Performs the calibration of side camera RH.
Front Camera	Performs the calibration of front camera.
Dr-Side Camera	Performs the calibration of side camera LH.
Initialize Camera Image Calibration*	The calibration can be initialized to the factory shipment setting.

# DIAGNOSIS SYSTEM (AROUND VIEW MONITOR CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION (TWIN MONITOR)]

## CAUTION:

\*: Never perform other operations for approximately 10 seconds after performing "Initialize Camera Image Calibration".

### Fine Tuning of Birds-Eye View

- The fine adjustment function of camera calibration can check and adjust the difference between each camera.
- Fine adjustments can be performed for each camera. Move the "+"-mark to select the camera by pressing the "CAMERA" switch.
- Perform the adjustment with the center dial and upper/lower/left/right switches.

## CAUTION:

Operate the center dial slowly because the changing of the screen takes approximately 1 second.

## NOTE:

- It can be initialized to the NISSAN factory shipment setting with "Initialize Camera Image Calibration" of "Calibrating Camera Image".
- The adjustment value is cancelled in this mode by performing "Initialize Camera Image Calibration".

Adjustment range	
Rotating direction	: 31 patterns (16 on the center)
Upper/lower direction	: -99 - 99
Left/right direction	: -99 - 99

### ZOOM function

- The ZOOM ratio of camera can be changed when calibrating the camera.
- It shifts to ZOOM function mode by shifting the selector lever to a position other than the "R" position → "R" position → other than "R" position in the "Fine Tuning of Birds-Eye View" mode.
- The changing of ZOOM ratio can be performed for each camera. Move the "+"-mark to select the camera by pressing "CAMERA" switch and press the left/right switch to change the ZOOM ratio.

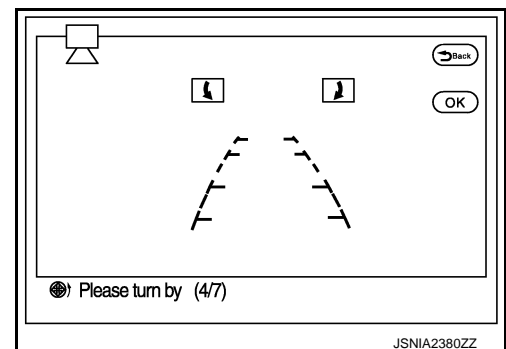
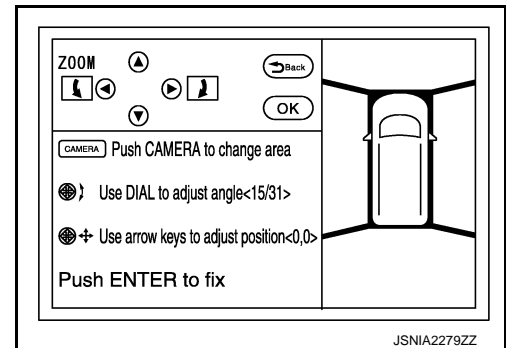
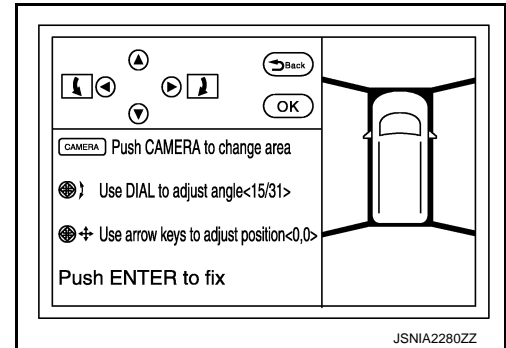
## NOTE:

- When the position is not correct in "Fine Tuning of Birds-Eye View" mode, use this "ZOOM" function to adjust it.
- If this function is used, always adjust the upper/lower/left/right position again on the "Fine Tuning of Birds-Eye View" screen.

### Correct Draw Line of Wide View

The display position of guiding lines when displayed on the rear-wide view can be changed.

Adjustment range	
Rotating direction	: 7 patterns



### Correct Draw Line of Camera Image item

Items	Description
Rear-Wide View	The position of rear wide view guideline can be changed.

# DIAGNOSIS SYSTEM (SONAR CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION (TWIN MONITOR)]

## DIAGNOSIS SYSTEM (SONAR CONTROL UNIT)

### CONSULT-III Function (SONAR)

INFOID:000000005503174

#### DESCRIPTION

CONSULT-III can display each diagnostic item using the diagnostic test modes shown as follows:

Test mode	Function
Ecu Identification	Sonar control unit part number can be read.
Self Diagnostic Result	Sonar control unit checks the conditions and displays memorized error.
Data Monitor	Sonar control unit input/output data in real time.
Active Test	Gives a drive signal to a load to check the operation.
Work support	Changes setting of each function.

#### ECU IDENTIFICATION

Displays the part number of sonar control unit.

#### SELF-DIAGNOSTIC RESULTS

For details, refer to [AV-428, "DTC Index"](#).

#### DATA MONITOR

Monitor Item	Display	Description
SONAR OPE	On	Around view monitor is ON. (sonar system is ON)
	Off	Around view monitor is OFF. (sonar system is OFF)
BUZZER OUTPUT	On	Buzzer is output condition.
	Off	Buzzer is not output condition.
CR SEN [FL] CR SEN [FR] CR SEN [RL] CR SEN [RR]	ERROR	When a sensor is abnormal.
	LV.0	When a sensor is not detection.
	LV.2	The distance between the corner sensor and an obstacle is 60 cm (23.6 in) or more and less than 70 cm (27.5 in).
	LV.3	The distance between the corner sensor and an obstacle is 40 cm (15.7 in) or more and less than 60 cm (23.6 in).
	LV.4	The distance between corner sensor and an obstacle less than 40 cm (15.7 in).

#### ACTIVE TEST

Active test item	Function
BUZZER	This test is able to check buzzer operation.
SONAR SENSOR	This test is able to check each sonar sensor operation.

#### WORK SUPPORT

Work support item	Function
CORNER SEN DISTANCE SET	Corner sensor warning buzzer distance is adjustable to 4 phases.

#### CORNER SEN DISTANCE SET

Corner sensor warning buzzer distance can be set to 4 phases as follows.

Warning item	FARTHER	FAR	NORMAL	NEAR
Second warning	70 – 80 cm (27.5 – 31.4 in)	60 – 70 cm (23.6 – 27.5 in)	50 – 60 cm (19.6 – 23.6 in)	40 – 50 cm (15.7 – 19.6 in)
Third warning	50 – 70 cm (19.6 – 27.5 in)	40 – 60 cm (15.7 – 23.6 in)	30 – 50 cm (11.8 – 19.6 in)	30 – 40 cm (11.8 – 15.7 in)
Fourth warning	Less than 50 cm (19.6 in)	Less than 40 cm (15.7 in)	Less than 30 cm (11.8 in)	Less than 30 cm (11.8 in)

DIAGNOSIS SYSTEM (SONAR CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION (TWIN MONITOR)]

The default of this model is "FAR".

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AV

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION (TWIN MONITOR)]

## ECU DIAGNOSIS INFORMATION

### AV CONTROL UNIT

#### Reference Value

INFOID:000000005474741

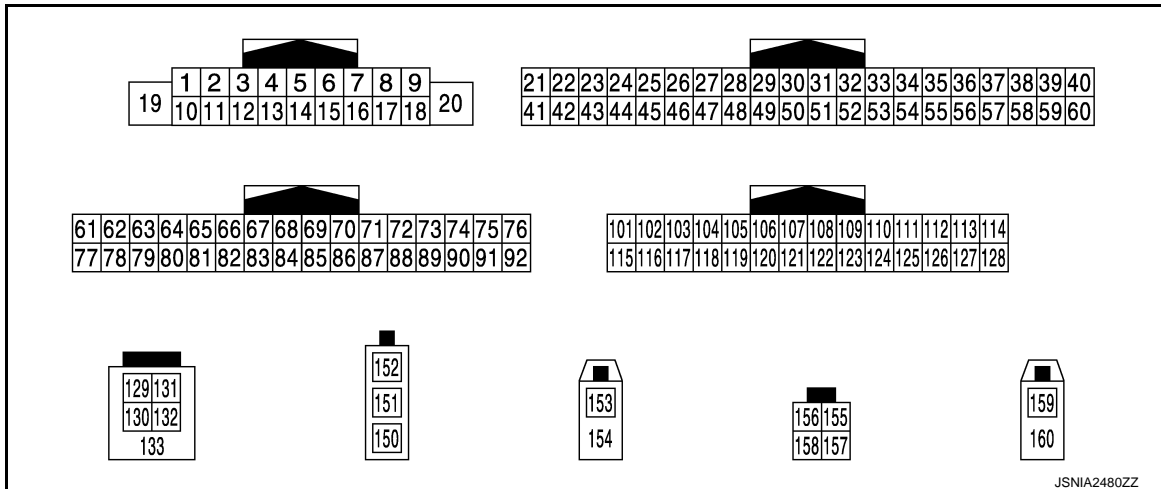
#### VALUES ON THE DIAGNOSIS TOOL

##### CONSULT-III MONITOR ITEM

Monitor Item	Condition		Value/Status
VHCL SPD SIG	Ignition switch ON	Vehicle speed > 0 km/h (0 MPH)	On
		Vehicle speed = 0 km/h (0 MPH)	Off
PKB SIG	Ignition switch ON	Parking brake is applied.	On
		Parking brake is released.	Off
ILLUM SIG	Ignition switch ON	Light switch ON	On
		Light switch OFF	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
SIDE VIEW SW	Ignition switch ON	This item is displayed, but cannot be monitored.	Off
ROOM LAMP*	Ignition switch ON	After opening any door; 5 seconds	On
		Except for above.	Off

\*: Check 10 seconds later, after closing all doors.

#### TERMINAL LAYOUT

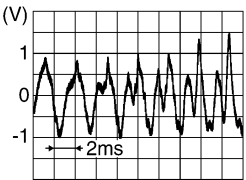
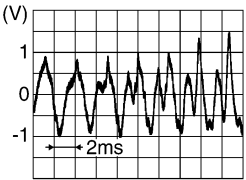

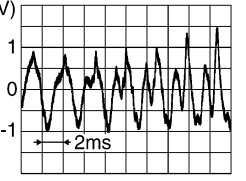
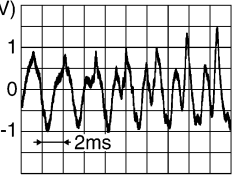


#### PHYSICAL VALUES

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION (TWIN MONITOR)]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output			
1 (V)	Ground	AMP. ON signal	Input	Ignition switch ON	—	12.0 V
2 (P)	3 (L)	Sound signal front LH	Output	Ignition switch ON	Sound output	
4 (V)	5 (LG)	Sound signal rear LH	Output	Ignition switch ON	Sound output	
6 (P)	15 (B)	Steering switch signal A	Input	Ignition switch ON	Keep pressing SOURCE switch.	0 V
					Keep pressing MENU UP switch.	1.0 V
					Keep pressing MENU DOWN switch.	2.0 V
					Keep pressing  switch	3.0 V
					Keep pressing ENTER switch.	4.0 V
					Except for above.	5.0 V
7 (V)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
10 (B)	—	Shield	—	—	—	—
11 (R)	12 (G)	Sound signal front RH	Output	Ignition switch ON	Sound output	
13 (BR)	14 (Y)	Sound signal rear RH	Output	Ignition switch ON	Sound output	

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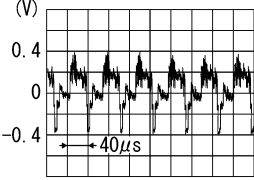
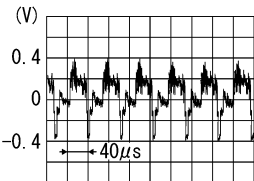
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# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION (TWIN MONITOR)]

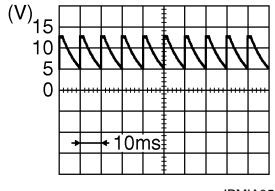
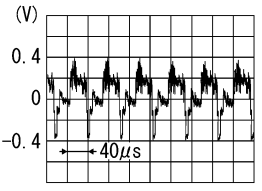
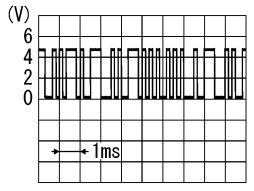
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output			
16 (L)	15 (B)	Steering switch signal B	Input	Ignition switch ON	Keep pressing VOL DOWN switch.	0 V
					Keep pressing VOL UP switch.	1.0 V
					Keep pressing  switch.	2.0 V
					Keep pressing  switch.	3.0 V
					Except for above.	5.0 V
19 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
20 (B)	Ground	Ground	—	Ignition switch ON	—	0 V
26 (Y)	Ground	AUX image signal	Input	Ignition switch ON	At AUX image is displayed.	 SKIB2251J
29 (SB)	Ground	Disk eject signal	Input	Ignition switch ON	Pressing the eject switch.	0 V
					Except for above.	5.0 V
30 (SB)	Ground	Mode change signal	Output	Ignition switch ON	Driver's Audio Stage ON	0 V
					Driver's Audio Stage OFF	8.5 V
33 (G)	Ground	Composite image ground	—	Ignition switch ON	—	0 V
34 (R)	Ground	Composite image signal	Output	Ignition switch ON	At DVD image is displayed.	 SKIB2251J
46 (BR)	Ground	AUX image signal ground	—	Ignition switch ON	—	0 V
47	—	Shield	—	—	—	—
49 (BR)	Ground	Switch ground	—	Ignition switch ON	—	0 V
53	—	Shield	—	—	—	—



# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION (TWIN MONITOR)]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output			
64 (GR)	Ground	Driver door switch signal	Input	Ignition switch ON	Door open (driver side)	0 V
					Door close (driver side)	
65 (V)	Ground	Parking brake signal	Input	Ignition switch ON	Parking brake is ON.	4.5 V
					Parking brake is OFF.	0 V
67 (B)	Ground	Composite image ground	—	Ignition switch ON	—	0 V
68 (R)	Ground	Composite image signal	Output	Ignition switch ON	At DVD image is displayed.	
71	—	Microphone shield	—	—	—	—
72 (G)	Ground	Microphone VCC	Output	Ignition switch ON	—	5.0 V
73 (R)	Ground	Communication signal (CONT→DISP)	Output	Ignition switch ON	When adjusting display brightness.	
74 (P)	—	CAN-L	Input/ Output	—	—	—
75 (LG)	—	AV communication signal (L)	Input/ Output	—	—	—
76 (LG)	—	AV communication signal (L)	Input/ Output	—	—	—
79 (R)	Ground	Illumination signal	Input	Ignition switch OFF	Lighting switch is OFF.	0 V
					Lighting switch is ON.	12.0 V
80 (G)	Ground	Ignition signal	Input	Ignition switch ON	—	Battery voltage
81 (O)	Ground	Reverse signal	Input	Ignition switch ON	R position	12.0 V
					Other than R position	0 V

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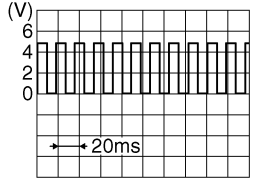
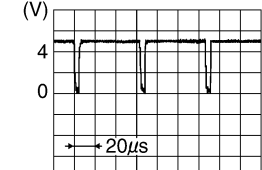
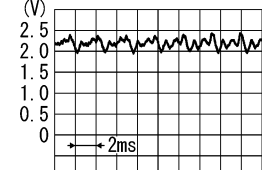
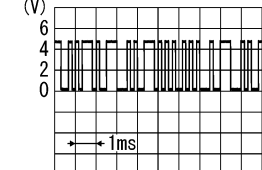
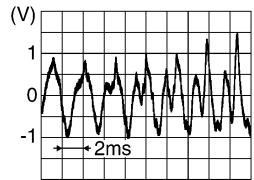
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# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

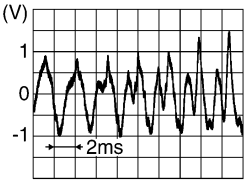
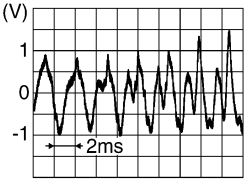
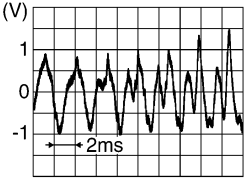
[NAVIGATION (TWIN MONITOR)]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output			
82 (R)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	<b>NOTE:</b> Maximum voltage may be 12.0 V due to specifications (connected units).  SKIA6649J
83	—	Shield	—	—	—	—
84 (W)	Ground	Composite image synchronizing signal	Output	Ignition switch ON	—	 SKIB0825E
87 (R)	71	Microphone signal	Input	Ignition switch ON	Give a voice	 PKIB5037J
88	—	Shield	—	—	—	—
89 (G)	Ground	Communication signal (DISP→CONT)	Input	Ignition switch ON	When adjusting display brightness.	 PKIB5039J
90 (L)	—	CAN-H	Input/ Output	—	—	—
91 (SB)	—	AV communication signal (H)	Input/ Output	—	—	—
92 (SB)	—	AV communication signal (H)	Input/ Output	—	—	—
104 (W)	119 (B)	AUX sound signal LH	Input	Ignition switch ON	When AUX mode is selected.	 SKIB3609E

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION (TWIN MONITOR)]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output			
106 (L)	120 (P)	Headphone sound signal LH	output	Ignition switch ON	Headphone sound output.	 SKIB3609E
107 (BR)	121 (GR)	Headphone sound signal RH	output	Ignition switch ON	Headphone sound output.	 SKIB3609E
117	—	Shield	—	—	—	—
118 (R)	119 (B)	AUX sound signal RH	Input	Ignition switch ON	When AUX mode is select- ed.	 SKIB3609E
122 (B)	—	Shield	—	—	—	—
129 (G)	—	USB ground	—	—	—	—
130 (R)	—	USB D— signal	Input/ Output	—	—	—
131 (W)	—	V BUS signal	Output	—	—	—
132 (L)	—	USB D+ signal	Input/ Output	—	—	—
133	—	Shield	—	—	—	—
150	—	FM sub	Input	—	—	—
151	—	AM-FM main	Input	—	—	—
152	Ground	Antenna amp. ON signal	Input	Ignition switch ON	—	12.0 V
153	Ground	GPS antenna signal	Input	Ignition switch ACC	Not connected GPS anten- na connector.	5.0 V
154	—	Shield	—	—	—	—
157	Ground	RGB digital image signal (—)	Output	Ignition switch ON	Not connected connector.	3.0 V

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# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION (TWIN MONITOR)]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
158	Ground	RGB digital image signal (+)	Output	Ignition switch ON	Not connected connector.	3.0 V
159	Ground	Satellite antenna signal	Input	Ignition switch ACC	Not connected to satellite antenna connector.	4.0 V

## Fail-Safe

INFOID:000000005474746

When the ambience temperature becomes extremely low or extremely high, AV control unit displays the message and limits the AV control unit function.

### FAIL-SAFE CONDITIONS

When the ambience temperature is  $-20^{\circ}\text{C}$  ( $-4^{\circ}\text{F}$ ) or lower, or when it is  $70^{\circ}\text{C}$  ( $158^{\circ}\text{F}$ ) or higher

Display

The messages displayed on fail-safe conditions are as shown below:

Fail-safe mode	Display (display of the fail-safe condition)
When HDD temperature is low	HDD system is experiencing problems due to extreme low temperature. Normal operation will resume when temperature rises.
When HDD temperature is high	HDD system is experiencing problems due to extreme high temperature. Normal operation will resume when temperature drops.

## DESCRIPTION OF CONTROLS

Function		When Fail-safe Function is activated
Air conditioner	Operation	Only multifunction switch (preset switch) can be operated.
	Display	<ul style="list-style-type: none"> <li>LED of multifunction switch (preset switch) illuminates.</li> <li>Aimed temperature, blow angle, and flow rate are displayed in simplified mode.</li> </ul>
Audio	Operation	Only ON/OFF and volume control operations by multifunction switch (preset switch) are possible.
	Display	No display ("Fail-safe mode" is displayed)
Camera	Operation	Image tone cannot be controlled.
	Display	Cannot be superimposed. (warning display, tone control display)
Hands-free phone	Operation	Cannot be operated.
Navigation	Operation	Cannot be operated.
Self diagnosis		The display in simplified mode of fail-safe condition
CONSULT-III diagnosis		Cannot be operated.

### Ability Operation Mode

There is an ability operation mode for Fail-safes due to low or high ambience temperature.

If HDD data can be read, fail-safe is shown, then normal displays are displayed only for functions which can be operated.

### RELEASE CONDITIONS OF FAIL-SAFE

Fail-safe is released on following conditions and normal mode is restored.

When The Temperature of HDD Is Low or High

If the ambient temperature becomes out of fail-safe condition range, normal mode is restored.

## DTC Index

INFOID:000000005511847

## SELF-DIAGNOSIS RESULTS DISPLAY ITEM

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION (TWIN MONITOR)]

DTC	Display item	Refer to
U1000	CAN COMM CIRCUIT [U1000]	<a href="#">AV-468, "Diagnosis Procedure"</a>
U1010	CONTROL UNIT (CAN) [1010]	<a href="#">AV-469, "DTC Logic"</a>
U1200	Cont Unit [U1200]	<a href="#">AV-470, "DTC Logic"</a>
U1201	GYRO NO CONN [U1201]	<a href="#">AV-471, "DTC Logic"</a>
U1202	G-SENSOR NO CONN [U1202]	<a href="#">AV-472, "DTC Logic"</a>
U1204	GPS COMM [U1204]	<a href="#">AV-473, "Diagnosis Procedure"</a>
U1205	GPS ROM [U1205]	<a href="#">AV-474, "Diagnosis Procedure"</a>
U1206	GPS RAM [U1206]	<a href="#">AV-475, "Diagnosis Procedure"</a>
U1207	GPS RTC [U1207]	<a href="#">AV-476, "Diagnosis Procedure"</a>
U1216	CAN CONT [U1216]	<a href="#">AV-477, "DTC Logic"</a>
U1217	BLUETOOTH MODULE [U1217]	<a href="#">AV-478, "DTC Logic"</a>
U1218	HDD CONN [U1218]	<a href="#">AV-479, "Diagnosis Procedure"</a>
U1219	HDD READ [U1219]	<a href="#">AV-480, "Diagnosis Procedure"</a>
U121A	HDD WRITE [U121A]	<a href="#">AV-481, "Diagnosis Procedure"</a>
U121B	HDD COMM [U121B]	<a href="#">AV-482, "Diagnosis Procedure"</a>
U121C	HDD ACCESS [U121C]	<a href="#">AV-483, "Diagnosis Procedure"</a>
U121D	DSP CONN [U121D]	<a href="#">AV-484, "Diagnosis Procedure"</a>
U121E	DSP COMM [U121E]	<a href="#">AV-485, "Diagnosis Procedure"</a>
U1225	USB CONTROLLER [U1225]	<a href="#">AV-486, "DTC Logic"</a>
U1227	DVD COMM [U1227]	<a href="#">AV-487, "Diagnosis Procedure"</a>
U1228	SUB CPU CONN [U1228]	<a href="#">AV-488, "DTC Logic"</a>
U1229	iPod CERTIFICATION [U1229]	<a href="#">AV-489, "DTC Logic"</a>
U122A	CONFIG UNFINISH [U122A]	<a href="#">AV-490, "Diagnosis Procedure"</a>
U122E	Built-in AUDIO CONN [U122E]	<a href="#">AV-491, "DTC Logic"</a>
U1232	ST ANGLE SEN CALIB [1232]	<a href="#">AV-492, "Diagnosis Procedure"</a>
U1243	FRONT DISP CONN [U1243]	<a href="#">AV-493, "Diagnosis Procedure"</a>
U1244	GPS ANTENNA CONN [U1244]	<a href="#">AV-495, "Diagnosis Procedure"</a>
U1247	REAR DISP CONN [U1247]	<a href="#">AV-496, "Diagnosis Procedure"</a>
U1258	XM ANTENNA CONN [U1258]	<a href="#">AV-498, "Diagnosis Procedure"</a>
U1263	USB OVERCURRENT [U1263]	<a href="#">AV-499, "Diagnosis Procedure"</a>
U1310	CONTROL UNIT (AV) [U1310]	<a href="#">AV-501, "DTC Logic"</a>
U1300 U1240	<ul style="list-style-type: none"> <li>AV COMM CIRCUIT [U1300]</li> <li>SWITCH CONN [U1240]</li> </ul>	<a href="#">AV-500, "Description"</a>
U1300 U125B	<ul style="list-style-type: none"> <li>AV COMM CIRCUIT [U1300]</li> <li>AROUND CAMERA CONN [U125B]</li> </ul>	<a href="#">AV-500, "Description"</a>
U1300 U125C	<ul style="list-style-type: none"> <li>AV COMM CIRCUIT [U1300]</li> <li>SONAR CONN [U125C]</li> </ul>	<a href="#">AV-500, "Description"</a>
U1300 U1246 U1247	<ul style="list-style-type: none"> <li>AV COMM CIRCUIT [U1300]</li> <li>VIDEO DIST CONN [U1246]</li> <li>REAR DISP CONN [U1247]</li> </ul>	<a href="#">AV-500, "Description"</a>

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## AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION (TWIN MONITOR)]

DTC	Display item	Refer to
U1300 U1246 U1247 U125B	<ul style="list-style-type: none"><li>• AV COMM CIRCUIT [U1300]</li><li>• VIDEO DIST CONN [U1246]</li><li>• REAR DISP CONN [U1247]</li><li>• AROUND CAMERA CONN [U125B]</li></ul>	<a href="#">AV-500, "Description"</a>
U1300 U1240 U1246 U1247 U125B	<ul style="list-style-type: none"><li>• AV COMM CIRCUIT [U1300]</li><li>• SWITCH CONN [U1240]</li><li>• VIDEO DIST CONN [U1246]</li><li>• REAR DISP CONN [U1247]</li><li>• AROUND CAMERA CONN [U125B]</li></ul>	<a href="#">AV-500, "Description"</a>

# FRONT DISPLAY UNIT

< ECU DIAGNOSIS INFORMATION >

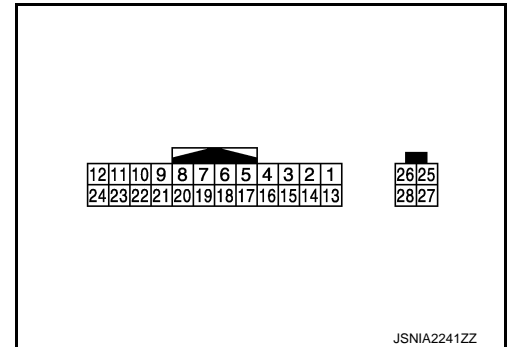
[NAVIGATION (TWIN MONITOR)]

## FRONT DISPLAY UNIT

Reference Value

INFOID:000000005474748

TERMINAL LAYOUT



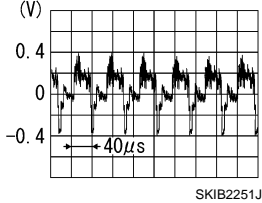
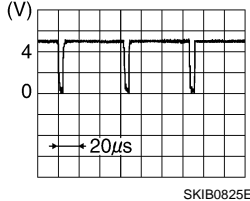
## PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output			
6	—	Shield	—	—	—	—
7	—	Shield	—	—	—	—
8 (W)	Ground	Camera image signal	Input	Ignition switch ON	At camera image is displayed.	
9 (G)	Ground	Communication signal (DISP→CONT)	Output	Ignition switch ON	When adjusting display brightness.	
10 (R)	Ground	Communication signal (CONT→DISP)	Input	Ignition switch ON	When adjusting display brightness.	
11 (P)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
12 (B)	Ground	Ground	—	Ignition switch ON	—	0 V

# FRONT DISPLAY UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION (TWIN MONITOR)]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output			
18 (R)	Ground	Composite image signal	Input	Ignition switch ON	At DVD image is displayed.	
19 (B)	Ground	Composite image signal ground	—	Ignition switch ON	—	0 V
20 (W)	Ground	Composite image synchro- nizing signal	Input	Ignition switch ON	—	
22	—	Shield	—	—	—	—
23 (L)	Ground	ACC power supply	Input	—	—	—
27	—	RGB digital image signal (—)	Input	—	—	—
28	—	RGB digital image signal (+)	Input	—	—	—



# REAR DISPLAY UNIT

< ECU DIAGNOSIS INFORMATION >

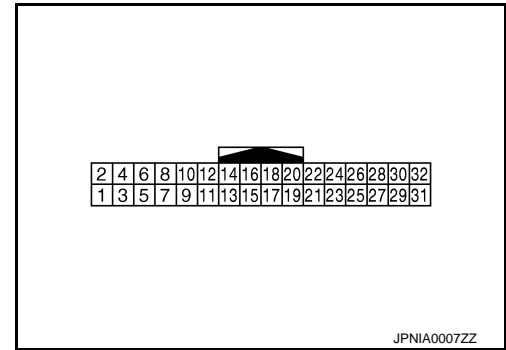
[NAVIGATION (TWIN MONITOR)]

## REAR DISPLAY UNIT

### Reference Value

INFOID:000000005247376

### TERMINAL LAYOUT



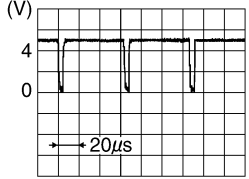
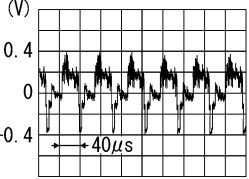
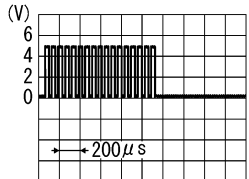
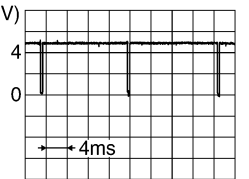
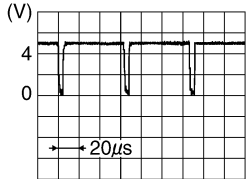
### PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output			
1 (B)	Ground	Ground	—	Ignition switch ON	—	0 V
2 (B)	Ground	Ground	—	Ignition switch ON	—	0 V
3 (Y)	Ground	Battery power supply	Input	Ignition switch ON	—	Battery voltage
4 (LG)	Ground	Battery power supply	Input	Ignition switch ON	—	Battery voltage
5 (P)	Ground	Headphone ON signal	Input	Ignition switch ON	Headphone mode is ON.	4.0 V
					Headphone mode is OFF.	0 V
6 (O)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
8	—	Shield	—	—	—	—
9 (V)	Ground	Communication signal (DISP→DIST)	Output	Ignition switch ON	Rear seat remote controller operation when AUX or DVD image is displayed on rear displayed.	 PKIB5039J
10 (SB)	Ground	Communication signal (DIST→DISP)	Input	Ignition switch ON	Rear seat remote controller operation when AUX or DVD image is displayed on rear displayed.	 PKIB5039J

# REAR DISPLAY UNIT

< ECU DIAGNOSIS INFORMATION >

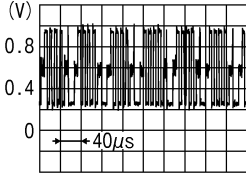
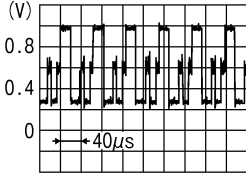
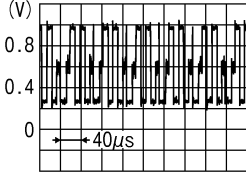
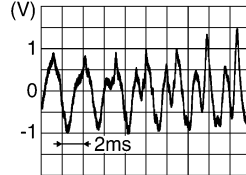
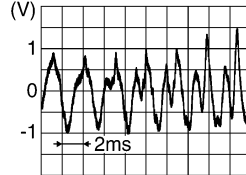
[NAVIGATION (TWIN MONITOR)]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
11 (O)	Ground	Ignition signal	Input	Ignition switch ON	—	0 V
				Ignition switch ACC	—	5.0 V
12	—	Shield	—	—	—	—
13 (G)	Ground	Composite synchronizing signal	Input	Ignition switch ON	When AUX or DVD image is displayed on rear display unit.	 SKIB0825E
14 (R)	Ground	Composite image signal	Input	Ignition switch ON	When AUX or DVD image is displayed on rear display unit.	 SKIB2251J
15 (BR)	Ground	RGB area (YS) signal	Input	Ignition switch ON	When AUX or DVD image is displayed.	0 V
				Ignition switch ON	Rear seat remote controller operation when AUX or DVD image is displayed on rear display.	 PKIB4948J
16	—	Shield	—	—	—	—
17 (Y)	Ground	Vertical synchronizing (VP) signal	Output	Ignition switch ON	—	 SKIB3598E
18 (O)	Ground	Horizontal synchronizing (HP) signal	Output	Ignition switch ON	—	 SKIB0825E
19	—	Shield	—	—	—	—

# REAR DISPLAY UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION (TWIN MONITOR)]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output			
20 (B)	Ground	RGB signal (B: blue) for rear display unit	Input	Ignition switch ON	Rear seat remote controller operation when AUX or DVD image is displayed on rear display unit.	 <p>JSNIA1031ZZ</p>
21 (R)	Ground	RGB signal (G: green) for rear display unit	Input	Ignition switch ON	Rear seat remote controller operation when AUX or DVD image is displayed on rear display unit.	 <p>JSNIA1030ZZ</p>
22 (W)	Ground	RGB signal (R: red) for rear display unit	Input	Ignition switch ON	Rear seat remote controller operation when AUX or DVD image is displayed on rear display unit.	 <p>JSNIA1029ZZ</p>
24 (BR)	—	Shield	—	—	—	—
27 (BR)	25 (Y)	Headphone sound signal RH	Input	Ignition switch ON	Headphone sound output	 <p>SKIB3609E</p>
28 (L)	26 (P)	Headphone sound signal LH	Input	Ignition switch ON	Headphone sound output	 <p>SKIB3609E</p>

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# VIDEO DISTRIBUTOR

< ECU DIAGNOSIS INFORMATION >

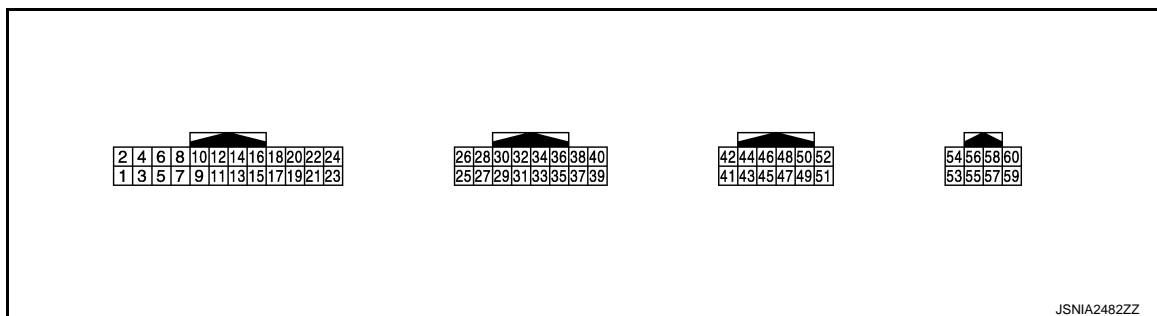
[NAVIGATION (TWIN MONITOR)]

## VIDEO DISTRIBUTOR

### Reference Value

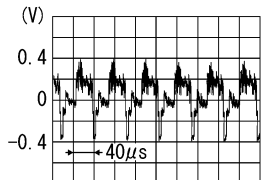
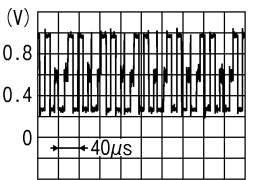
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### TERMINAL LAYOUT



JSNIA2482ZZ

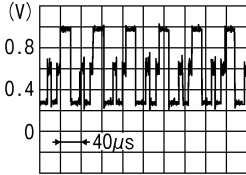
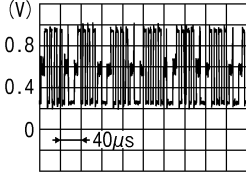
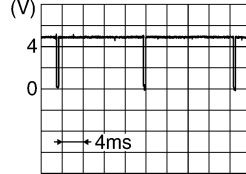
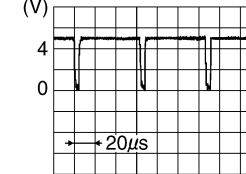
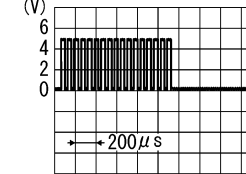
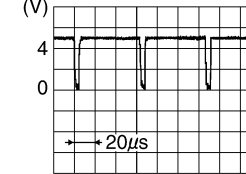
### PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output			
1 (SB)	—	AV communication signal (H)	Input/ Output	—	—	—
2 (LG)	—	AV communication signal (L)	Input/ Output	—	—	—
3 (SB)	—	AV communication signal (H)	Input/ Output	—	—	—
4 (LG)	—	AV communication signal (L)	Input/ Output	—	—	—
15 (B)	—	Ground	—	—	—	—
16 (B)	—	Ground	—	—	—	—
21	—	Shield	—	—	—	—
22 (G)	Ground	Composite image ground	—	Ignition switch ON	—	0 V
23 (R)	Ground	Composite image signal	Input	Ignition switch ON	When AUX or DVD image is displayed.	 <p>SKIB2251J</p>
25 (W)	Ground	RGB signal (R: red) for rear display unit	Output	Ignition switch ON	Rear seat remote controller operation when AUX or DVD image is displayed on rear display unit.	 <p>JSNIA1029ZZ</p>

# VIDEO DISTRIBUTOR

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION (TWIN MONITOR)]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output			
26 (R)	Ground	RGB signal (G: green) for rear display unit	Output	Ignition switch ON	Rear seat remote controller operation when AUX or DVD image is displayed on rear display unit.	 JSNIA1030ZZ
27	Ground	Shield	—	—	—	—
28 (B)	Ground	RGB signal (B: blue) for rear display unit	Output	Ignition switch ON	Rear seat remote controller operation when AUX or DVD image is displayed on rear display unit.	 JSNIA1031ZZ
29 (R)	Ground	Vertical synchronizing (VP) signal	Input	Ignition switch ON	—	 SKIB3598E
30 (W)	Ground	Horizontal synchronizing (HP) signal	Input	Ignition switch ON	—	 SKIB0825E
31	—	Shield	—	—	—	—
32 (B)	Ground	RGB area (YS) signal	Output	Ignition switch ON	When AUX or DVD image is displayed on rear display unit.	0 V
					Rear seat remote controller operation when AUX or DVD image is displayed on rear display unit.	 PKIB4948J
33 (G)	Ground	Composite synchronizing signal	Output	Ignition switch ON	When AUX or DVD image is displayed on rear display unit.	 SKIB0825E

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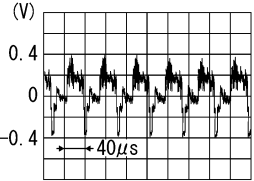
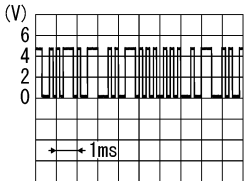
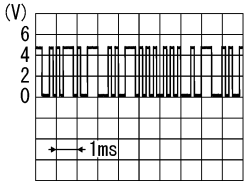
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# VIDEO DISTRIBUTOR

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION (TWIN MONITOR)]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output			
34 (R)	Ground	Composite image signal	Output	Ignition switch ON	When AUX or DVD image is displayed on rear display unit.	 SKIB2251J
35	—	Shield	—	—	—	—
36 (O)	Ground	Ignition signal	Output	Ignition switch ON	—	0 V
				Ignition switch ACC	—	5.0 V
38	—	Shield	—	—	—	—
39 (V)	Ground	Communication signal (DISP→DIST)	Input	Ignition switch ON	Rear seat remote controller operation when AUX or DVD image is displayed on rear display unit.	 PKIB5039J
40 (SB)	Ground	Communication signal (DIST→DISP)	Output	Ignition switch ON	Rear seat remote controller operation when AUX or DVD image is displayed on rear display unit.	 PKIB5039J
51 (B)	Ground	Ground	—	Ignition switch ON	—	0 V
53 (B)	Ground	Ground	—	Ignition switch ON	—	0 V
54 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
55 (SB)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
56 (G)	Ground	Ignition signal	Input	Ignition switch ON	—	Battery voltage
60 (P)	Ground	Headphone ON signal	Output	Ignition switch ON	Headphone mode is ON.	4.0 V
					Headphone mode is OFF.	0 V

# BOSE AMP.

< ECU DIAGNOSIS INFORMATION >

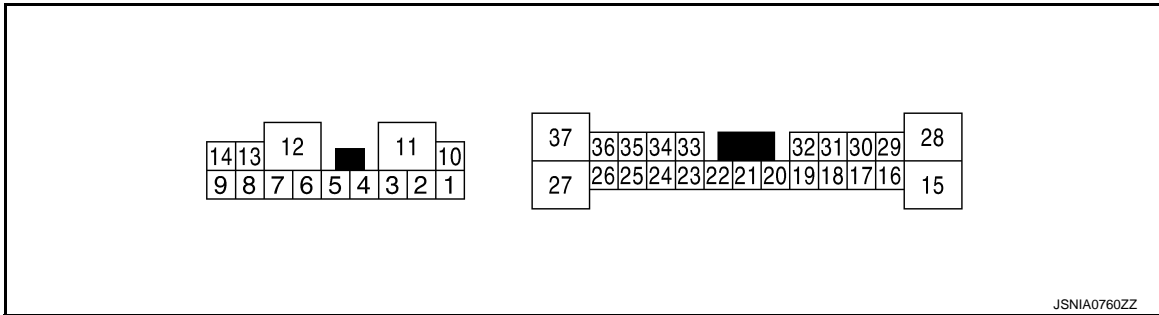
[NAVIGATION (TWIN MONITOR)]

## BOSE AMP.

### Reference Value

INFOID:000000005474753

### TERMINAL LAYOUT



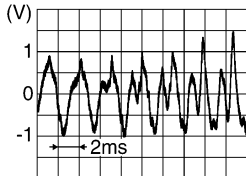
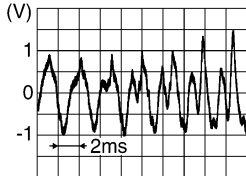
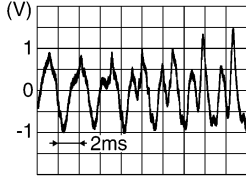
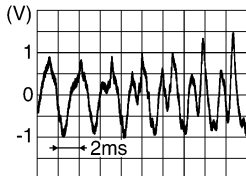
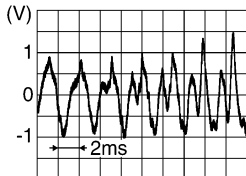
### PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
1 (Y)	10 (G)	Sound signal rear door speaker LH	Output	Ignition switch ON	Sound output	<p>SKIB3609E</p>
2 (SB)	3 (V)	Sound signal rear door speaker RH	Output	Ignition switch ON	Sound output	<p>SKIB3609E</p>
4 (L)	5 (P)	Sound signal front door speaker LH	Output	Ignition switch ON	Sound output	<p>SKIB3609E</p>
6 (O)	7 (W)	Sound signal front squawk- er LH	Output	Ignition switch ON	Sound output	<p>SKIB3609E</p>

# BOSE AMP.

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION (TWIN MONITOR)]

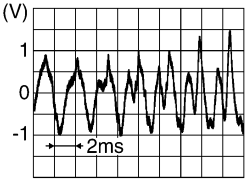
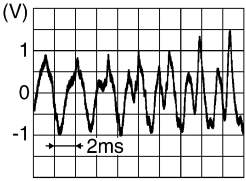
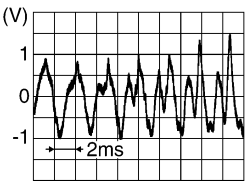
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output			
8 (LG)	13 (Y)	Sound signal front door speaker RH	Output	Ignition switch ON	Sound output	 SKIB3609E
9 (G)	14 (R)	Sound signal woofer and rear squawker	Output	Ignition switch ON	Sound output	 SKIB3609E
11 (GR)	Ground	Battery power supply	Input	Ignition switch ON	—	Battery voltage
12 (B)	Ground	Ground	—	Ignition switch ON	—	0 V
15 (Y)	28 (G)	Sound signal center speaker	Output	Ignition switch ON	Sound output	 SKIB3609E
17 (O)	Ground	Mode change signal	Input	Ignition switch ON	Driver's Audio Stage ON	0 V
					Driver's Audio Stage OFF	8.5 V
18 (P)	32 (L)	Sound signal front LH	Input	Ignition switch ON	Sound output	 SKIB3609E
19 (R)	20 (G)	Sound signal front RH	Input	Ignition switch ON	Sound output	 SKIB3609E



# BOSE AMP.

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION (TWIN MONITOR)]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
21 (V)	22 (SB)	Sound signal rear LH	Input	Ignition switch ON	Sound output	 SKIB3609E
23 (BR)	33 (Y)	Sound signal rear RH	Input	Ignition switch ON	Sound output	 SKIB3609E
25 (GR)	Ground	Woofer amp. ON signal	Output	Ignition switch ON	—	12.0 V
31 (GR)	Ground	Amp. ON signal	Input	Ignition switch ON	—	12.0 V
37 (V)	27 (LG)	Sound signal front squawk- er RH	Output	Ignition switch ON	Sound output	 SKIB3609E

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# AROUND VIEW MONITOR CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

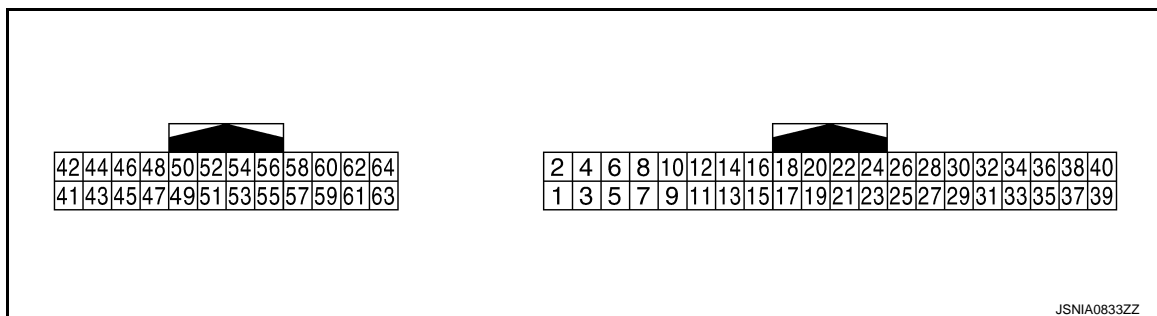
[NAVIGATION (TWIN MONITOR)]

## AROUND VIEW MONITOR CONTROL UNIT

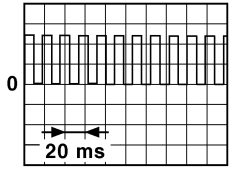
### Reference Value

INFOID:000000005474759

### TERMINAL LAYOUT



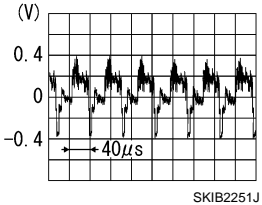
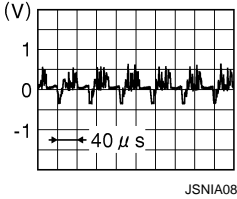
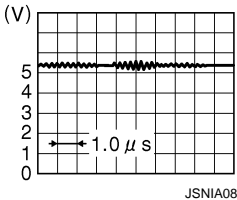
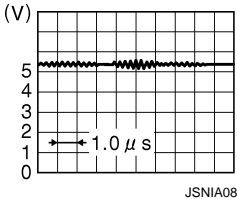
### PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
1 (B)	Ground	Ground	—	Ignition switch ON	—	0 V
2 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
3 (G)	Ground	Ignition signal	Input	Ignition switch ON	—	Battery voltage
4 (LG)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
5 (R)	Ground	Illumination signal	Input	Ignition switch OFF	Lighting switch is OFF.	0 V
					Lighting switch is ON.	12.0 V
6 (V)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is ap- prox. 40 km/h (25 MPH)	<b>NOTE:</b> The maximum voltage varies de- pending on the specification (destination unit). 
7 (O)	Ground	Reverse signal	Input	Ignition switch ON	R position	12.0 V
					Other than R position	0 V
9 (B)	Ground	Control signal	—	Ignition switch ON	—	0 V
13 (B)	Ground	Control signal	—	Ignition switch ON	—	0 V

# AROUND VIEW MONITOR CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION (TWIN MONITOR)]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
17 (SB)	—	AV communication signal (H)	Input/ Output	—	—	—
18 (LG)	—	AV communication signal (L)	Input/ Output	—	—	—
21 (SB)	—	AV communication signal (H)	Input/ Output	—	—	—
22 (LG)	—	AV communication signal (L)	Input/ Output	—	—	—
23 (LG)	24 (G)	Auxiliary infrared LED power supply	Output	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	5.5 V
27 (W)	Ground	Camera image signal	Output	Ignition switch ON	At camera image display	
28	—	Shield	—	—	—	—
29 (R)	30 (Y)	Side camera passenger side image signal	Input	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	
31	—	Shield	—	—	—	—
32 (W)	Ground	Side camera passenger side ground	—	Ignition switch ON	—	0 V
33 (BR)	Ground	Side camera passenger side communication signal	Input/ Output	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	
34 (L)	Ground	Side camera passenger side power supply	Output	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	6.0 V
35 (W)	Ground	Rear camera communication signal	Input/ Output	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	

A

B

C

D

E

F

G

H

I

J

K

L

M

AV

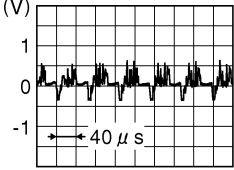
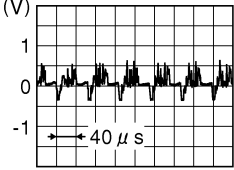
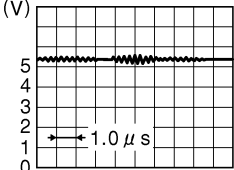
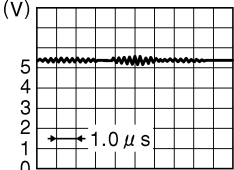
O

P

# AROUND VIEW MONITOR CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

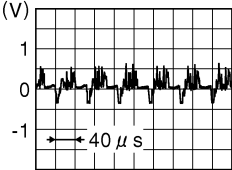
[NAVIGATION (TWIN MONITOR)]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
36 (G)	Ground	Rear camera power supply	Output	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	6.0 V
37	—	Shield	—	—	—	—
38 (L)	Ground	Rear camera ground	—	Ignition switch ON	—	0 V
39 (Y)	40 (BR)	Rear camera image signal	Input	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	 JSNIA0834GB
41 (L)	42 (BR)	Front camera image signal	Input	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	 JSNIA0834GB
43	—	Shield	—	—	—	—
44 (Y)	Ground	Front camera ground	—	Ignition switch ON	—	0 V
45 (W)	Ground	Front camera communication signal	Input/ Output	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	 JSNIA0836GB
46 (G)	Ground	Front camera power supply	Output	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	6.0 V
47 (BR)	Ground	Side camera driver side com- munication signal	Input/ Output	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	 JSNIA0836GB
48 (L)	Ground	Side camera driver side power supply	Output	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	6.0 V
49	—	Shield	—	—	—	—

# AROUND VIEW MONITOR CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION (TWIN MONITOR)]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output			
50 (W)	Ground	Side camera driver side ground	—	Ignition switch ON	—	0 V
51 (R)	52 (Y)	Side camera driver side image signal	Input	Ignition switch ON	“CAMERA” switch is ON or shift position is “R”.	 <p>JSNIA0834GB</p>

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

# SONAR CONTROL UNIT (WITH AROUND VIEW MONITOR)

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION (TWIN MONITOR)]

## SONAR CONTROL UNIT (WITH AROUND VIEW MONITOR)

### Reference Value

INFOID:000000005474762

### VALUES ON THE DIAGNOSIS TOOL

#### CONSULT-III MONITOR ITEM

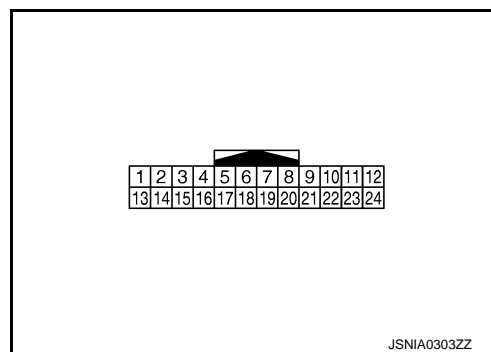
Monitor Item	Condition		Value/Status
SONAR OPE	Ignition switch ON	Around view monitor operating (sonar operating).	On
		Around view monitor non-operating (sonar non-operating).	Off
BUZZER OUTPUT	Ignition switch ON	Buzzer is output condition.	On
		Buzzer is not output condition.	Off
CR SEN [FL]	Ignition switch ON	When a sensor is abnormal.	ERROR
		When a sensor is not detection.	LV.0
		The distance between the corner sensor and an obstacle is 60 cm (23.6 in) or more and less then 70 cm (27.5 in).	LV.2
		The distance between the corner sensor and an obstacle is 40 cm (15.7 in) or more and less then 60 cm (23.6 in).	LV.3
		The distance between corner sensor and an obstacle less than 40 cm (15.7 in).	LV.4
CR SEN [FR]	Ignition switch ON	When a sensor is abnormal.	ERROR
		When a sensor is not detection.	LV.0
		The distance between the corner sensor and an obstacle is 60 cm (23.6 in) or more and less then 70 cm (27.5 in).	LV.2
		The distance between the corner sensor and an obstacle is 40 cm (15.7 in) or more and less then 60 cm (23.6 in).	LV.3
		The distance between corner sensor and an obstacle less than 40 cm (15.7 in).	LV.4
CR SEN [RL]	Ignition switch ON	When a sensor is abnormal.	ERROR
		When a sensor is not detection.	LV.0
		The distance between the corner sensor and an obstacle is 60 cm (23.6 in) or more and less then 70 cm (27.5 in).	LV.2
		The distance between the corner sensor and an obstacle is 40 cm (15.7 in) or more and less then 60 cm (23.6 in).	LV.3
		The distance between corner sensor and an obstacle less than 40 cm (15.7 in).	LV.4
CR SEN [RR]	Ignition switch ON	When a sensor is abnormal.	ERROR
		When a sensor is not detection.	LV.0
		The distance between the corner sensor and an obstacle is 60 cm (23.6 in) or more and less then 70 cm (27.5 in).	LV.2
		The distance between the corner sensor and an obstacle is 40 cm (15.7 in) or more and less then 60 cm (23.6 in).	LV.3
		The distance between corner sensor and an obstacle less than 40 cm (15.7 in).	LV.4

# SONAR CONTROL UNIT (WITH AROUND VIEW MONITOR)

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION (TWIN MONITOR)]

## TERMINAL LAYOUT



## PHYSICAL VALUES

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	—	Signal name	Input/ Output			
3 (W)	12 (B)	Corner sensor signal front LH	Input	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	<p>JSNIA0837GB</p>
4 (R)	12 (B)	Corner sensor signal front RH	Input	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	<p>JSNIA0837GB</p>
5 (W)	12 (B)	Corner sensor signal rear LH	Input	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	<p>JSNIA0837GB</p>
6 (R)	12 (B)	Corner sensor signal rear RH	Input	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	<p>JSNIA0837GB</p>
12 (B)	Ground	Sensor ground	—	Ignition switch ON	—	0 V
13 (V)	Ground	ACC power supply	Input	Ignition switch ACC	—	12.0 V
18 (P)	—	K-line (CONSULT-III)	—	—	—	—

# SONAR CONTROL UNIT (WITH AROUND VIEW MONITOR)

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION (TWIN MONITOR)]

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	—	Signal name	Input/ Output			
19 (G)	—	AV communication (H)	Input/ Output	—	—	—
20 (R)	—	AV communication (L)	Input/ Output	—	—	—
24 (B)	Ground	Ground	—	Ignition switch ON	—	0 V

## Fail-Safe

INFOID:000000005474765

- Sonar control unit has diagnosis function which can detect corner sensor malfunction and sensor harness disconnection.
- It transmits the malfunction status to around view monitor control unit and informs the malfunction to the user by displaying continuously red sonar indicator.

## DTC Index

INFOID:000000005474766

DTC	Display item	Malfunction is detected when...	Reference
B2700	CORNER SENSOR [FL] [B2700]	Corner sensor (FL) is malfunctioning.	<a href="#">AV-502, "DTC Logic"</a>
B2701	SENSOR HARNESS OPEN [CR-FL] [B2701]	Corner sensor (FL) harness circuit is open.	<a href="#">AV-503, "Diagnosis Procedure"</a>
B2702	CORNER SENSOR [FR] [B2702]	Corner sensor (FR) is malfunctioning.	<a href="#">AV-504, "DTC Logic"</a>
B2703	SENSOR HARNESS OPEN [CR-FR] [B2703]	Corner sensor (FR) harness circuit is open.	<a href="#">AV-505, "Diagnosis Procedure"</a>
B2704	CORNER SENSOR [RL] [B2704]	Corner sensor (RL) is malfunctioning.	<a href="#">AV-506, "DTC Logic"</a>
B2705	SENSOR HARNESS OPEN [CR-RL] [B2705]	Corner sensor (RL) harness circuit is open.	<a href="#">AV-507, "Diagnosis Procedure"</a>
B2706	CORNER SENSOR [RR] [B2706]	Corner sensor (RR) is malfunctioning.	<a href="#">AV-508, "DTC Logic"</a>
B2707	SENSOR HARNESS OPEN [CR-RR] [B2707]	Corner sensor (RR) harness circuit is open.	<a href="#">AV-509, "Diagnosis Procedure"</a>

### NOTE:

"TIME" means the following.

- 0: Means detected malfunction at present. (From malfunction detection to turning ignition switch OFF)
- 1–39: Means detected malfunction in past.



# BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (TWIN MONITOR)]

## WIRING DIAGRAM

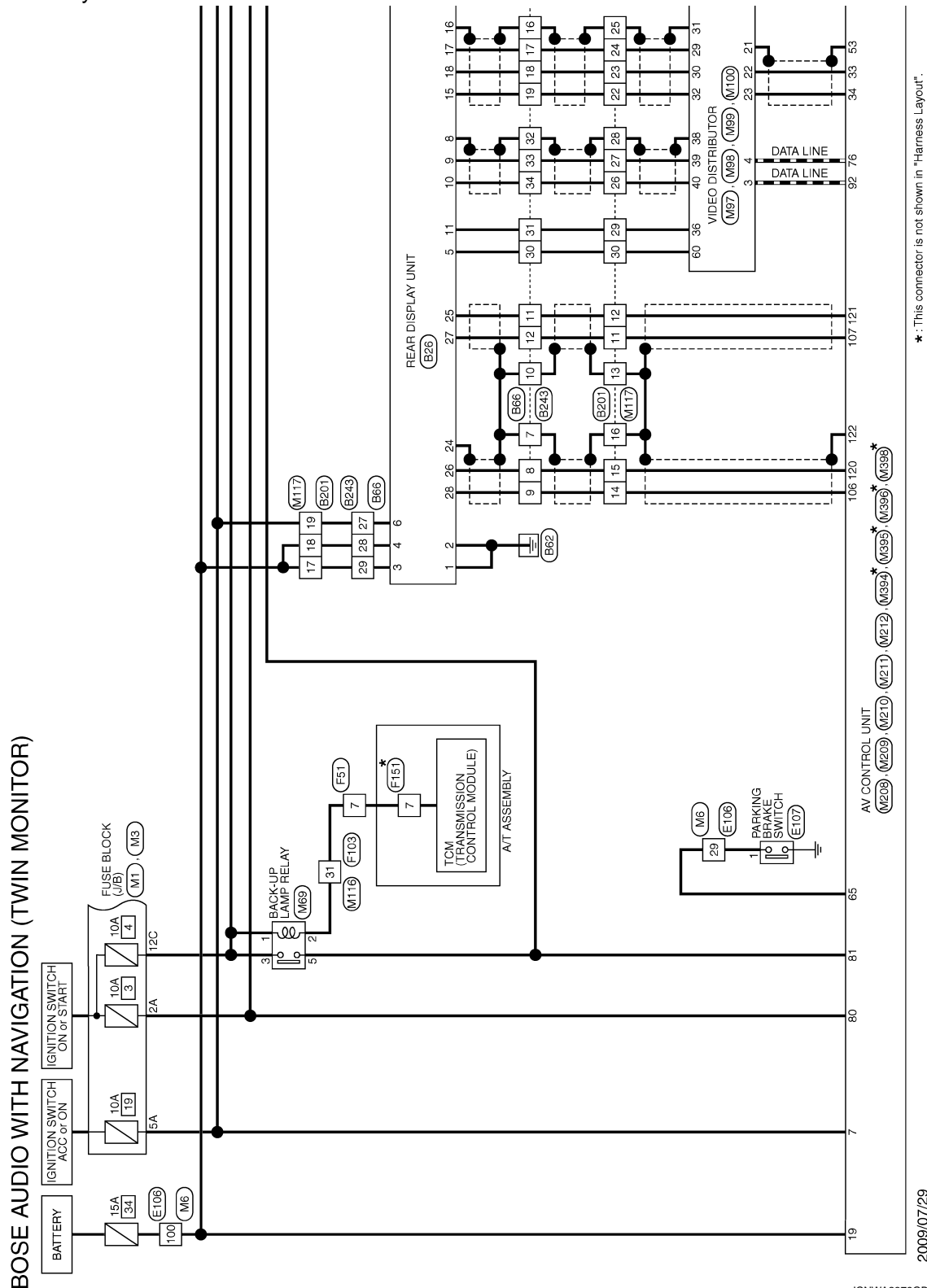
### BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

#### Wiring Diagram - BOSE AUDIO WITH NAVIGATION (TWIN MONITOR) -

INFOID:0000000005247371

#### NOTE:

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

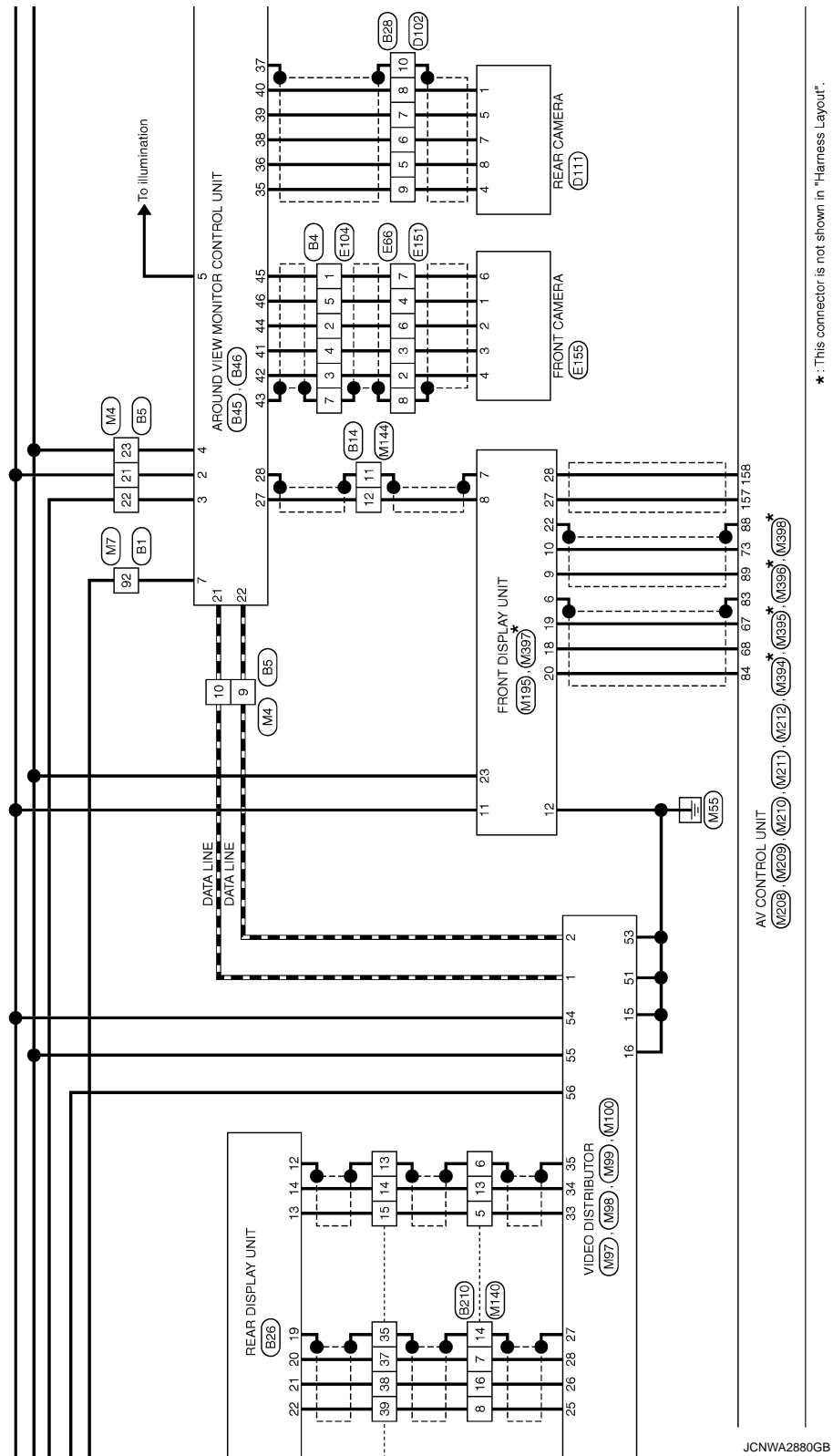


\*: This connector is not shown in "Harness Layout".

# BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (TWIN MONITOR)]



\*: This connector is not shown in "Harness Layout".

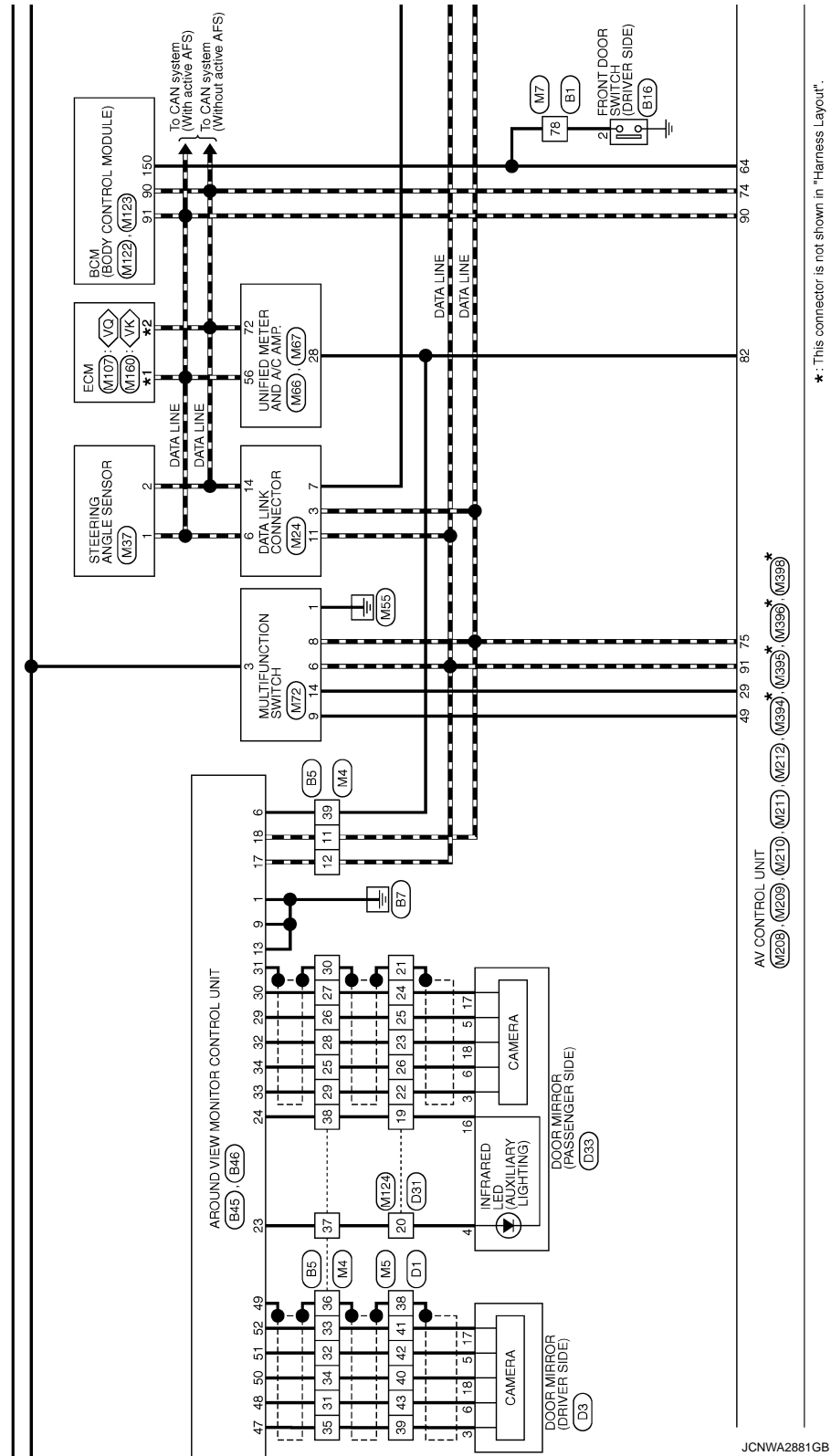
JCNWA2880GB

# BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (TWIN MONITOR)]

<VQ> : With VQ engine  
 <VK> : With VK engine  
 \*1 114 : <VQ>  
 105 : <VK>  
 \*2 113 : <VQ>  
 101 : <VK>



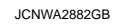
\*: This connector is not shown in "Harness Layout".

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

AV

**[NAVIGATION (TWIN MONITOR)]**

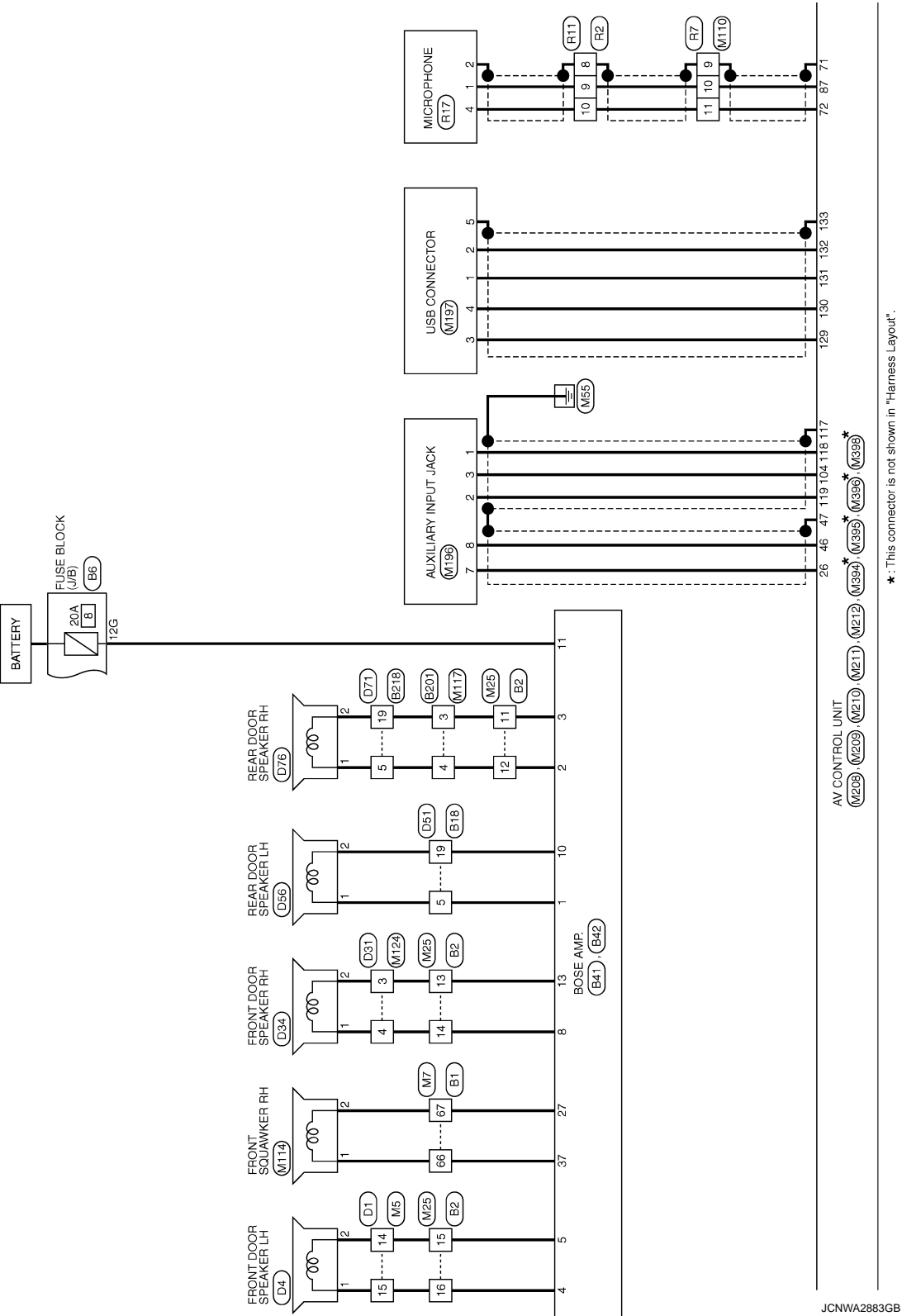
\*: This connector is not shown in "Harness Layout".



BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (TWIN MONITOR)]



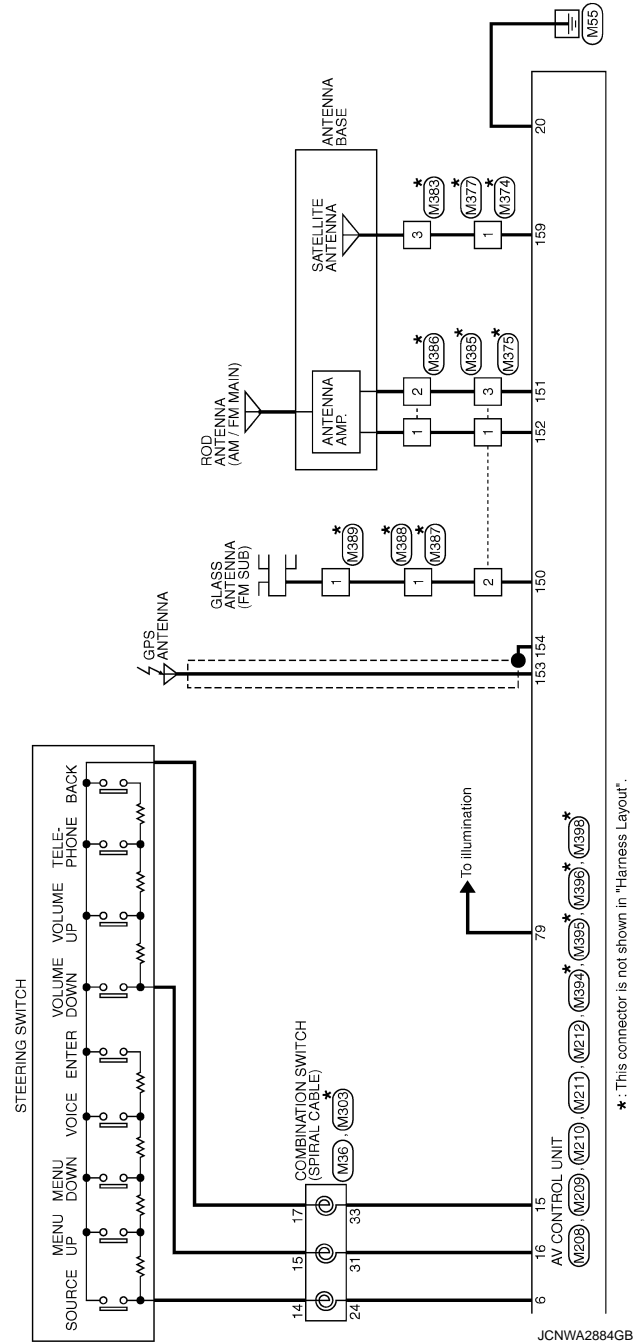
\*: This connector is not shown in "Harness Layout".

JCNWA2883GB

# BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (TWIN MONITOR)]



\*: This connector is not shown in "Harness Layout".

JCNWA2884GB

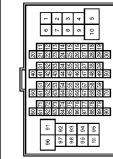
# BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (TWIN MONITOR)]

## BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

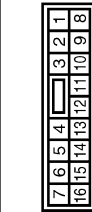
Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Type	TH00FW-CS16-TM4



53	SHIELD	-
54	BR	-
55	Y	-
56	SHIELD	-
57	P	-
58	L	-
59	SHIELD	-
60	L	-
61	P	-
62	GR	-
63	G	-
64	O	-
65	W	-
66	V	-
67	LG	-
68	Y	-
69	G	-
70	GR	-
71	G	-
72	B	-
73	W	-
74	V	-
75	O	-
76	LG	-
77	L	-
78	GR	-
79	W	-
80	L	-
81	P	-
82	L	-
83	P	-
84	SB	-
85	R	-
86	Y	-
87	B	-
88	G	-
89	BR	-
90	W	-
91	R	-
92	O	-
93	BR	-
94	V	-
95	Y	-
96	O	-
97	W	-
98	GR	-
99	W	-

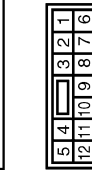
Terminal No.	Color of Wire	Signal Name [Specification]
1	G	-
2	L	-
3	W	-
5	G	-
6	G	-
7	P	-
8	O	-
9	W	-
10	SB	-
11	SB	-
12	B	-
13	G	-
14	R	-
15	W	-
16	SHIELD	-
17	L	-
18	P	-
19	G	-
20	Y	-
21	W	-
23	V	-
24	P	-
25	BR	-
26	GR	-
27	O	-
28	W	-
29	SHIELD	-
38	B	-
39	B	-
40	LG	-
41	G	-
42	GR	-
43	SB	-
44	V	-
45	GR	-
50	B	-
51	V	-
52	SB	-

Connector No.	B2
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-CS



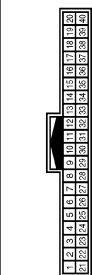
Terminal No.	Color of Wire	Signal Name [Specification]
6	O	-
7	W	-
8	SHIELD	-
9	G	-
10	R	-
11	V	-
12	SB	-
13	Y	-
14	LG	-
15	P	-
16	L	-

Connector No.	B4
Connector Name	WIRE TO WIRE
Connector Type	NS12FW-CS



Terminal No.	Color of Wire	Signal Name [Specification]
1	W	-
2	Y	-
3	BR	-
4	L	-
5	G	-
7	SHIELD	-
8	R	-
9	LG	-
10	BR	-
11	O	-
12	GR	-

Connector No.	B5
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-NH



Terminal No.	Color of Wire	Signal Name [Specification]
5	B	-
6	W	-
7	R	-
8	SHIELD	-
9	LG	-
10	SB	-
11	LG	-
12	SB	-
21	Y	-
22	G	-
23	LG	-
24	R	-
25	L	-
26	R	-
27	Y	-
28	W	-
29	BR	-
30	SHIELD	-
31	L	-
32	R	-
33	Y	-
34	W	-
35	BR	-
36	SHIELD	-
37	LG	-
38	G	-
39	V	-

JCNWA2885GB

# BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (TWIN MONITOR)]

## BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

Connector No.	B16
Connector Name	FUSE BLOCK (J/B)
Connector Type	HS/2BR-CS



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

Connector No.	B16
Connector Name	FRONT DOOR SWITCH (DRIVER SIDE)
Connector Type	A08FW



2
---

Terminal No.	Color of Wire	Signal Name [Specification]
4G	R	-
5G	LG	-
7G	O	-
10G	W	-
11G	W	-
12G	GR	-

Connector No.	B14
Connector Name	WIRE TO WIRE
Connector Type	TH12FW-NH



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

Terminal No.	Color of Wire	Signal Name [Specification]
1	G	-
2	LG	-
3	R	-
5	W	-
6	R	-
7	Y	-
11	SHIELD	-
12	W	- [With around view monitor] - [Without around view monitor]
12	B	-

Connector No.	B26
Connector Name	REAR DISPLAY UNIT
Connector Type	TH32FW-NH



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

Connector No.	B28
Connector Name	WIRE TO WIRE
Connector Type	TH2MM-NH



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 [Specification]
1	B	GND
2	B	GND
3	Y	BATTERY
4	LG	BATTERY
5	P	HEADPHONE ON SIGNAL
6	O	ACC
8	SHIELD	SHIELD
9	V	COMM (DISP->DISP)
10	SB	COMM (DIST->DISP)
11	O	IGNITION
12	SHIELD	SHIELD
13	G	COMPOSITE SYNCHRONIZING SIGNAL
14	R	COMPOSITE IMAGE SIGNAL
15	BR	RGB AREA C/S SIGNAL
16	SHIELD	SHIELD
17	Y	VP
18	O	HP
19	SHIELD	SHIELD
20	B	RGB (B) BLUE SIGNAL
21	R	RGB (G) GREEN SIGNAL
22	W	RGB (R) RED SIGNAL
24	BR	SHIELD
25	Y	HEADPHONE SOUNDSIGNAL SIGNAL RH (-)
26	P	HEADPHONE SOUNDSIGNAL SIGNAL LH (-)
27	BR	HEADPHONE SOUNDSIGNAL SIGNAL RH (+)
28	L	HEADPHONE SOUNDSIGNAL SIGNAL LH (+)

Terminal No.	Color of Wire	Signal Name [Specification]
1	R	-
2	B	-
3	W	-
4	SHIELD	-
5	G	-
6	L	-
7	Y	-
8	BR	-
9	W	-
10	SHIELD	-
11	W	-
13	O	-
14	V	-
15	W	-
16	B	-
17	G	-
18	LG	-
19	R	-
20	O	-
21	BR	-
22	GR	-
23	L	-

JCNWA2886GB



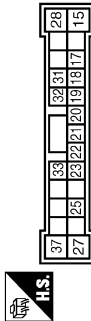
# BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (TWIN MONITOR)]

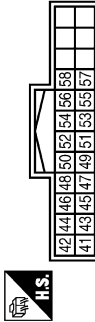
## BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

Connector No.	B41
Connector Name	BOSE AMP.
Connector Type	SCA1PFR-SGA4



8	LG	SOUND SIGNAL FRONT DOOR SPEAKER RH (+)
9	G	SOUND SIGNAL WOODER AND REAR SQUAWKER (+)
10	G	SOUND SIGNAL REAR DOOR SPEAKER LH (-)
11	GR	BATTERY
12	B	GND
13	Y	SOUND SIGNAL FRONT DOOR SPEAKER RH (-)
14	R	SOUND SIGNAL WOODER AND REAR SQUAWKER (-)

Connector No.	B45
Connector Name	AROUND VIEW MONITOR CONTROL UNIT
Connector Type	TH24FW-NH



Terminal No.	Color of Wire	Signal Name [Specification]
41	L	FRONT CAMERA IMAGE SIGNAL
42	BR	FRONT CAMERA IMAGE GND
43	SHIELD	SHIELD
44	Y	FRONT CAMERA GND
45	W	FRONT CAMERA COMM
46	G	FRONT CAMERA POWER SUPPLY
47	BR	SIDE CAMERA LH COMM
48	L	SIDE CAMERA LH POWER SUPPLY
49	SHIELD	SHIELD
50	W	SIDE CAMERA LH GND
51	R	SIDE CAMERA LH IMAGE SIGNAL
52	Y	SIDE CAMERA LH IMAGE GND

Connector No.	B46
Connector Name	AROUND VIEW MONITOR CONTROL UNIT
Connector Type	TH40FW-NH



Terminal No.	Color of Wire	Signal Name [Specification]
1	B	GND

2	Y	BATTERY
3	G	IGNITION SIGNAL
4	LG	ACC
5	R	ILLUMINATION SIGNAL
6	V	VEHICLE SPEED SIGNAL (G-PULSE)
7	O	REVERSE SIGNAL
9	B	CONTROL SIGNAL
13	B	AV COMM (H)
17	SB	AV COMM (L)
18	LG	AV COMM (H)
21	SB	AV COMM (L)
22	LG	AUXILIARY INFARED LED (+)
23	LG	AUXILIARY INFARED LED (-)
24	G	CAMERA IMAGE SIGNAL
27	W	SHIELD
28	SHIELD	SHIELD
29	R	SIDE CAMERA RH IMAGE SIGNAL
30	Y	SIDE CAMERA RH IMAGE GND
31	SHIELD	SHIELD
32	W	SIDE CAMERA RH GND
33	BR	SIDE CAMERA RH COMM
34	L	SIDE CAMERA RH POWER SUPPLY
35	W	REAR CAMERA COMM
36	G	REAR CAMERA POWER SUPPLY
37	SHIELD	SHIELD
38	L	REAR CAMERA GND
39	Y	REAR CAMERA IMAGE SIGNAL
40	BR	REAR CAMERA IMAGE GND

Connector No.	B48
Connector Name	REAR SQUAWKER LH
Connector Type	TK02FBR



Terminal No.	Color of Wire	Signal Name [Specification]
1	G	-
2	R	-

Connector No.	B51
Connector Name	WOOFER
Connector Type	RS06FGY-PR



Terminal No.	Color of Wire	Signal Name [Specification]
1	R	SOUND SIGNAL WOOFER (-)
2	G	SOUND SIGNAL WOOFER (+)
4	GR	WOOFER AMP. ON SIGNAL
5	B	GND
6	W	BATTERY

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

AV

# BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (TWIN MONITOR)]

## BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

Connector No.	B66
Connector Name	WIRE TO WIRE
Connector Type	TH00MW-HH



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
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

37	B	-
38	R	-
39	W	-

Connector No.	B67
Connector Name	WIRE TO WIRE
Connector Type	NS08MW-CS



1	2	3
4	5	6
7	8	9

Terminal No.	Color of Wire	Signal Name [Specification]
1	B	-
2	B	-
3	Y	-
4	LG	-
5	GR	-
6	B	-
7	SHIELD	- [With entertainment system]
8	V	- [Without entertainment system]
9	P	-
10	L	-
11	SHIELD	-
12	Y	-
13	BR	-
14	SHIELD	-
15	R	-
16	G	-
17	SHIELD	-
18	Y	-
19	O	-
20	BR	-
21	B	-
22	SHIELD	-
23	G	-
24	P	-
25	SHIELD	-
26	L	-
27	O	- [With entertainment system]
28	W	- [Without entertainment system]
29	LG	- [With entertainment system]
30	SB	- [Without entertainment system]
31	Y	- [With entertainment system]
32	LG	- [Without entertainment system]
33	P	- [With entertainment system]
34	O	- [Without entertainment system]
35	SHIELD	-
36	V	-
37	SB	-
38	SHIELD	-

Terminal No.	Color of Wire	Signal Name [Specification]
1	G	-
4	R	-
5	GR	-
6	L	-
8	R	-

Connector No.	B68
Connector Name	WIRE TO WIRE
Connector Type	PS08MGY



1	2	3	4
5	6	7	8

Terminal No.	Color of Wire	Signal Name [Specification]
3	W	-
4	B	-
8	R	-

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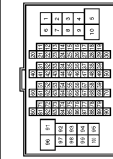
# BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (TWIN MONITOR)]

## BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

Connector No.	B201
Connector Name	WIRE TO WIRE
Connector Type	TH00FW-CS16-TM4

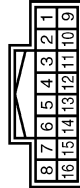


Terminal No.	Color of Wire	Signal Name [Specification]
1	G	-
2	R	-
3	BR	-
4	SB	-
6	O	-
7	GR	-
8	W	-
10	G	-
11	BR	-
12	Y	-
13	SHIELD	-
14	G	-
15	R	-
16	SHIELD	-
17	LG	-
18	GR	-
19	V	-
20	SB	-
21	LG	-
22	B	- [With entertainment system] - [Without entertainment system]
23	GR	- [With entertainment system] - [Without entertainment system]
24	R	- [With entertainment system] - [Without entertainment system]
25	SHIELD	- [With entertainment system] - [Without entertainment system]
26	SB	-
27	V	-
28	SHIELD	-
29	O	-
30	P	-
31	W	-
32	GR	-
33	SB	-
40	LG	- [With ICC] - [Without ICC]
41	SB	- [With ICC]

41	Y	- [Without ICC] - [With ICC]
42	V	- [Without ICC] - [With ICC]
43	W	- [Without ICC] - [With ICC]
44	B	- [Without ICC] - [With ICC]
45	R	-
46	O	- [With ICC]
47	L	- [Without ICC] - [With ICC]
48	P	- [Without ICC] - [With ICC]
49	G	- [Without ICC] - [With ICC]
50	SHIELD	-
51	W	-
52	R	-
53	G	-
54	L	-
55	SB	-
60	GR	-
61	LG	-
62	SB	-
63	P	-
64	BR	-
65	Y	-
66	W	-
67	SHIELD	-
68	G	-
71	SB	-
72	V	-
73	LG	-
74	W	-
75	BR	-
76	V	-
77	LG	-
80	O	-
81	G	-
82	P	-
83	Y	-
84	R	-
85	SB	-
86	GR	-
87	L	-
91	V	-
92	W	-
93	R	-
94	LG	-
95	GR	-
96	W	-

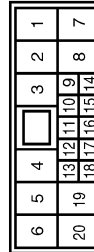
97	G	-
98	O	-
99	L	-
100	Y	-

Connector No.	B210
Connector Name	WIRE TO WIRE
Connector Type	TH16FW-NH



Terminal No.	Color of Wire	Signal Name [Specification]
5	P	-
6	SHIELD	-
7	B	-
8	W	-
13	L	-
14	SHIELD	-
16	R	-

Connector No.	B218
Connector Name	WIRE TO WIRE
Connector Type	NH10FW-CS10



Terminal No.	Color of Wire	Signal Name [Specification]
2	GR	-
3	W	-
4	R	-
5	SB	-
6	B	-
8	G	-
11	Y	-
12	LG	-
13	P	-

17	SB	-
18	BR	-
19	L	-
20	LG	-

Connector No.	B230
Connector Name	REAR SQUAWKER RH
Connector Type	TK02FBR



Terminal No.	Color of Wire	Signal Name [Specification]
1	G	-
2	R	-

Connector No.	B241
Connector Name	WIRE TO WIRE
Connector Type	NS00FW-CS



Terminal No.	Color of Wire	Signal Name [Specification]
1	G	-
4	R	-
5	W	-
6	L	-
8	P	-

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# BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (TWIN MONITOR)]

## BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

Connector No.	B243
Connector Name	WIRE TO WIRE
Connector Type	TH40FW-NH



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

# BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (TWIN MONITOR)]

## BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

Connector No.	D3
Connector Name	DOOR MIRROR (DRIVER SIDE)
Connector Type	TH24MW-NH



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.	D31
Connector Name	WIRE TO WIRE
Connector Type	TH40FW-CS15



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 [Specification]
2	R	-
3	W	SIDE CAMERA LH COMM
5	Y	SIDE CAMERA LH IMAGE SIGNAL
6	R	SIDE CAMERA LH POWER SUPPLY
7	GR	-
8	SB	-
9	L	-
10	G	-
11	GR	-
12	O	-
14	B	-
17	L	SIDE CAMERA LH IMAGE GND
18	BR	SIDE CAMERA LH GND
19	B	-
21	P	-
22	BR	-
23	W	-
24	V	-

Connector No.	D4
Connector Name	FRONT DOOR SPEAKER LH
Connector Type	NS02FBR-CS



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 [Specification]
1	L	-
2	P	-

Connector No.	D33
Connector Name	DOOR MIRROR (PASSENGER SIDE)
Connector Type	TH24MW-NH



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 [Specification]
2	Y	-
3	W	SIDE CAMERA RH COMM
4	LG	SIDE CAMERA RH IMAGE SIGNAL
5	Y	SIDE CAMERA RH POWER SUPPLY
6	R	-
7	LG	-
8	O	-
9	L	-
10	G	-
11	GR	-
12	O	-
14	O	-
16	G	-
17	L	SIDE CAMERA RH IMAGE GND
18	BR	SIDE CAMERA RH GND
19	B	-
21	P	-
22	BR	-
23	W	-
24	V	-

Connector No.	D34
Connector Name	FRONT DOOR SPEAKER RH
Connector Type	NS02FBR-CS



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 [Specification]
1	L	-
2	P	-

Connector No.	D51
Connector Name	WIRE TO WIRE
Connector Type	NH10MH-CS10



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 [Specification]
2	V	-
3	L	-
4	R	-
5	SB	-
6	B	-
8	G	-
11	LG	-
12	L	-
13	Y	-
17	O	-
18	BR	-
19	V	-
20	W	-

Connector No.	D56
Connector Name	REAR DOOR SPEAKER LH
Connector Type	NS02FBR-CS



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 [Specification]
1	SB	-
2	V	-

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

AV

# BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (TWIN MONITOR)]

## BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

Connector No.	D71
Connector Name	WIRE TO WIRE
Connector Type	NH10MW-CS10



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

Connector No.	D102
Connector Name	WIRE TO WIRE
Connector Type	TH24FW-NH



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

Terminal No.	Color of Wire	Signal Name [Specification]
2	L	-
3	P	-
4	R	-
5	SB	-
6	B	-
8	G	-
11	LG	-
12	L	-
13	Y	-
17	O	-
18	BR	-
19	V	-
20	W	-

Connector No.	D76
Connector Name	REAR DOOR SPEAKER RH
Connector Type	NS02FBR-CS



2	1
---	---

Terminal No.	Color of Wire	Signal Name [Specification]
1	SB	-
2	V	-

1	L	REAR CAMERA IMAGE GND
4	W	REAR CAMERA COMM
5	Y	REAR CAMERA IMAGE SIGNAL
7	G	REAR CAMERA GND
8	R	REAR CAMERA POWER SUPPLY

Connector No.	E65
Connector Name	WIRE TO WIRE
Connector Type	RS06FB-FR



3	2	1
6	5	4

Terminal No.	Color of Wire	Signal Name [Specification]
1	Y	-
3	BR	-
4	L	-
5	R	-
6	W	-

Connector No.	E66
Connector Name	WIRE TO WIRE
Connector Type	RS08FB-FR



4	3	2	1
8	7	6	5

Terminal No.	Color of Wire	Signal Name [Specification]
1	GR	-
2	L	-
3	Y	-
4	R	-
5	B/W	-
6	BR	-
7	W	-
8	SHIELD	-

Connector No.	E104
Connector Name	WIRE TO WIRE
Connector Type	NS12MH-CS



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

Terminal No.	Color of Wire	Signal Name [Specification]
1	W	-
2	BR	-
3	L	-
4	Y	-
5	R	-
7	SHIELD	-
8	SB	-
9	LG	-
10	BR	-
11	O	-
12	GR	-

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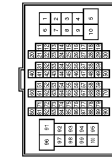
# BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (TWIN MONITOR)]

## BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

Connector No.	E106
Connector Name	WIRE TO WIRE
Connector Type	TH00FW-CS16-TM4



36	P	-
37	Y	-
38	GR	-
39	LG	-
40	LG	-
41	LG	-
42	V	-
43	R	-
44	G	-
45	GR	-
46	W	-
47	L	-
48	P	-
49	SB	-
50	BR	-
51	B	-
52	O	-
53	O	-
54	R	-
55	SB	-
56	P	-
57	P	-
58	SB	-
59	V	-
60	SB	-
61	V	-
62	P	-
63	LG	-
64	L	-
65	O	-
66	L	-
67	L	-
68	L	-
69	L	-
70	SHIELD	-
71	G	-
72	G	-
73	R	-
74	BR	-
75	L	-
76	L	-
77	W	-
78	Y	-
79	SB	-
80	SB	-
81	L	-
82	W	-
83	LG	-
84	GR	-
85	G	-
86	P	-
87	W	-
88	O	-
89	LG	-
90	BR	-
91	GR	-
92	GR	-
93	SB	-
94	W	-

Terminal No.	Color of Wire	Signal Name [Specification]
1	G	-
2	O	-
3	SB	-
4	LG	-
5	Y	-
6	W	-
7	G	-
8	V	-
9	R	-
10	BR	-
11	B	-
12	G	-
13	R	-
14	W	-
15	SHIELD	-
16	SB	-
17	L	-
18	P	-
19	G	-
20	W	-
21	BR	-
22	R	-
23	V	-
24	L	-
25	P	-
26	L	-
27	SHIELD	-
28	G	-
29	LG	-
30	O	-
31	BR	-
32	W	-
33	Y	-
34	O	-
35	SB	-

95	Y	-
96	W	-
100	Y	-

Connector No.	E107
Connector Name	PARKING BRAKE SWITCH
Connector Type	TE01FW



Terminal No.	Color of Wire	Signal Name [Specification]
1	LG	-

Connector No.	E123
Connector Name	WIRE TO WIRE
Connector Type	TH24MM-NH



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 [Specification]
1	SB	-
2	G	-
3	B	-
4	W	-
5	R	-
6	SHIELD	-
7	Y	-
8	GR	-
9	LG	-
10	BR	-
11	W	-
12	Y	-
13	O	-
14	R	-
15	W	-
16	G	-

17	B	-
18	SHIELD	-
19	V	-
20	O	-
21	BR	-
22	R	-
23	SHIELD	-
24	L	-

Connector No.	E151
Connector Name	WIRE TO WIRE
Connector Type	RS08MB-FR



1	2	3	4
5	6	7	8

Terminal No.	Color of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	Y	-
4	R	-
5	GR	-
6	BR	-
7	W	-
8	SHIELD	-

Connector No.	E152
Connector Name	CORNER SENSOR (FR)
Connector Type	YDX02FB



Terminal No.	Color of Wire	Signal Name [Specification]
1	R	-
2	B	-

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# BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (TWIN MONITOR)]

## BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

Connector No.	E153
Connector Name	WIRE TO WIRE
Connector Type	RS08MB



Terminal No.	Color of Wire	Signal Name [Specification]
3	B	-
5	R	-
6	W	-

Connector No.	E154
Connector Name	CORNER SENSOR (FL)
Connector Type	YD402FB



Terminal No.	Color of Wire	Signal Name [Specification]
1	W	-
2	B	-

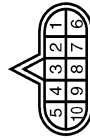
Connector No.	E155
Connector Name	FRONT CAMERA
Connector Type	RH05FB



Terminal No.	Color of Wire	Signal Name [Specification]
1	R	FRONT CAMERA POWER SUPPLY

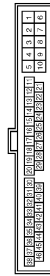
2	BR	FRONT CAMERA GND
3	Y	FRONT CAMERA IMAGE SIGNAL
4	L	FRONT CAMERA IMAGE GND
6	W	FRONT CAMERA COMM

Connector No.	F51
Connector Name	A/T ASSEMBLY
Connector Type	RK10FG-DGY



Terminal No.	Color of Wire	Signal Name [Specification]
1	Y	-
2	R	- [With VK engine]
3	BR	- [With VQ engine]
4	V	-
5	B	-
6	Y	-
7	P	-
8	P	-
9	LG	- [With VK engine]
10	GR	- [With VQ engine]
10	B	-

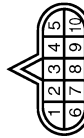
Connector No.	F103
Connector Name	WIRE TO WIRE
Connector Type	TK38FW-NS10



Terminal No.	Color of Wire	Signal Name [Specification]
1	SHIELD	-
2	G	-
3	W	-
4	GR	- [With VK engine]

4	R	- [With VQ engine]
5	R	- [With VK engine]
6	B	- [With VQ engine]
7	SHIELD	-
8	B	-
9	W	- [With VK engine]
10	Y	- [With VQ engine]
10	GR	- [With VK engine]
17	GR	-
18	R	-
19	O	-
20	Y	-
26	BR	-
27	L	-
28	B	-
29	LG	-
31	R	-
34	LG	-
35	BR	-
36	W	-
37	Y	-
38	Y	-
43	P	-
44	L	-
45	Y	-
46	Y	-

Connector No.	F51
Connector Name	TOM (TRANSMISSION CONTROL MODULE)
Connector Type	SP10FG



Terminal No.	Color of Wire	Signal Name [Specification]
1	W	VIGN
2	B	BATT
3	R	CAN-H
4	O	K LINE
5	G	GND
6	GR	VIGN
7	L	REV LAMP RLY
8	BR	CAN-L
9	Y	START RLY

10	W/B	GND
----	-----	-----

Connector No.	M1
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS06FH-M2



Terminal No.	Color of Wire	Signal Name [Specification]
1A	O	-
2A	G	-
3A	L	-
4A	P	-
5A	V	-
6A	Y	-
7A	R	-
8A	L	-

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS12FH-CS



Terminal No.	Color of Wire	Signal Name [Specification]
6C	P	-
7C	B	-
9C	O	-
10C	L	-
11C	LG	-
12C	R	-

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BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (TWIN MONITOR)]

BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

Connector No.	M4
Connector Name	WIRE TO WIRE
Connector Type	TH40FW-1H



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	41	42	43	44	45	46	47	48
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Connector No.	M5
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-CS15



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	41	42	43	44	45	46	47	48
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49	R	-
50	O	-
51	SB	-
52	R	-
53	Y	-
54	LG	-
55	L	-

Terminal No.	Color of Wire	Signal Name [Specification]
5	B	-
6	W	-
7	R	-
8	SHIELD	-
9	LG	-
10	SB	-
11	LG	-
12	SB	-
21	Y	-
22	R	-
23	V	-
24	R	-
25	R	-
26	Y	-
27	G	-
28	B	-
29	W	-
30	SHIELD	-
31	R	-
32	Y	-
33	G	-
34	B	-
35	W	-
36	SHIELD	-
37	LG	-
38	G	-
39	V	-

Terminal No.	Color of Wire	Signal Name [Specification]
1	B	-
3	SB	-
6	R	-
7	W	-
8	G	-
9	L	-
10	O	-
11	G	-
12	V	-
13	Y	-
14	P	-
15	L	-
20	O	-
21	LG	-
22	V	-
23	Y	-
24	P	-
26	SB	-
27	V	-
28	LG	-
29	R	-
30	P	-
31	O	-
32	SB	-
33	L	-
34	R	-
35	B	-
36	SHIELD	-
39	W	-
40	B	-
41	G	-
42	Y	-
43	R	-
44	G	-
45	Y	-
46	GR	-
47	W	-
48	L	-

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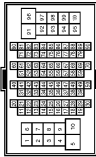
BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (TWIN MONITOR)]

BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4



Terminal No.	Color of Wire	Signal Name [Specification]
1	G	-
2	O	-
3	SB	-
4	LG	-
5	GR	-
6	W	-
7	G	-
8	W	-
9	P	-
10	BR	-
11	B	-
12	G	-
13	R	-
14	W	-
15	SHIELD	-
16	BR	-
17	L	-
18	P	-
19	G	-
20	W	- [With ICC]
20	GR	- [Without ICC]
21	BR	- [With ICC]
21	R	- [Without ICC]
22	R	- [With ICC]
22	L	- [Without ICC]
23	G	-
24	L	- [With ICC]
24	P	- [Without ICC]
25	Y	- [With ICC]
25	W	- [Without ICC]
26	SHIELD	-
28	GR	-
29	V	-
30	O	-
31	BR	-
32	W	-
33	Y	-
34	L	-

35	L	-
36	P	-
37	G	-
38	R	-
39	G	-
41	L	-
42	W	-
43	R	-
44	LG	-
45	GR	-
46	W	-
47	L	-
48	P	-
49	O	-
50	LG	-
51	SB	-
52	Y	-
53	O	-
54	BR	-
55	SB	-
56	P	-
59	SB	-
60	SB	-
61	V	-
62	P	-
63	R	-
64	L	-
65	O	-
66	L	-
68	V	-
70	SHIELD	-
71	O	-
72	GR	-
73	W	-
74	SB	-
76	V	-
77	V	-
78	Y	-
80	O	-
81	L	-
82	W	-
83	Y	-
84	L	-
85	P	-
86	BR	-
87	P	-
88	V	-
89	G	-
90	P	-
91	R	-
92	R	-
93	GR	-

94	L	-
95	G	-
96	W	-
100	Y	-

# BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (TWIN MONITOR)]

## BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

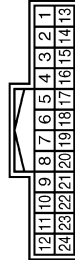
Connector No.	M7
Connector Name	WIRE TO WIRE
Connector Type	TH03MW-CS16-TM4



Terminal No.	Color of Wire	Signal Name [Specification]
1	G	-
2	B	-
3	W	-
5	G	-
6	P	-
7	V	-
8	O	-
9	W	-
10	W	-
11	O	-
12	B	-
13	G	-
14	R	-
15	W	-
16	SHIELD	-
17	L	-
18	P	-
19	G	-
20	R	-
21	LG	-
23	V	-
24	P	-
25	BR	-
26	GR	-
27	O	-
28	W	-
29	SHIELD	-
38	B	-
39	B	-
40	LG	-
41	G	-
42	Y	-
43	SB	-
44	W	-
45	B	-
50	B	-
51	V	-
52	LG	-

53	SHIELD	-
54	BR	-
55	Y	-
56	SHIELD	-
57	P	-
58	L	-
59	SHIELD	-
60	L	-
61	BR	-
62	R	-
63	Y	-
64	L	-
65	W	-
66	V	-
67	LG	-
68	Y	-
69	G	-
70	V	-
71	W	-
72	B	-
73	W	-
74	LG	-
75	P	-
76	LG	-
77	SB	-
78	GR	-
79	R	-
80	L	-
81	P	-
82	L	-
83	P	-
84	SB	-
85	W	-
86	Y	-
87	B	-
88	G	-
89	O	-
90	W	-
91	R	-
92	O	-
93	BR	-
94	V	-
95	Y	-
96	O	-
97	W	-
98	R	-
99	G	-
99	O	-
- [With VK engine]		
- [With VG engine]		

Connector No.	M10
Connector Name	WIRE TO WIRE
Connector Type	TH24FW-NH



Terminal No.	Color of Wire	Signal Name [Specification]
1	SB	-
2	G	-
3	B	-
4	W	-
5	R	-
6	SHIELD	-
7	Y	-
8	GR	-
9	LG	-
10	B	-
11	W	-
13	O	-
14	G	-
15	B	-
16	W	-
17	R	-
18	SHIELD	-
19	V	-
20	O	-
21	BR	-
22	R	-
23	SHIELD	-

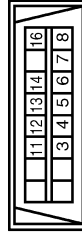
Connector No.	M13
Connector Name	FRONT SQUAWKER LH
Connector Type	TK02FBR



Terminal No.	Color of Wire	Signal Name [Specification]
21	-	-

1	L
2	W

Connector No.	M24
Connector Name	DATA LINK CONNECTOR
Connector Type	BD16FW



Terminal No.	Color of Wire	Signal Name [Specification]
3	LG	-
4	B	-
5	B	-
6	L	-
7	GR	-
8	G	-
11	SB	-
12	P	-
13	L	-
14	P	-
16	O	-

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A  
B  
C  
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F  
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AV

# BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (TWIN MONITOR)]

## BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

Connector No.	M25
Connector Name	WIRE TO WIRE
Connector Type	HS16MW-CS



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

Connector No.	M37
Connector Name	STEERING ANGLE SENSOR
Connector Type	TH08FW-NH



7	2	3	8
1	4	5	

Terminal No.	Color of Wire	Signal Name [Specification]
6	SB	-
7	Y	-
8	SHIELD	-
9	G	-
10	R	-
11	V	-
12	SB	-
13	Y	-
14	LG	-
15	P	-
16	L	-

Terminal No.	Color of Wire	Signal Name [Specification]
1	L	CAN-H
2	P	CAN-L
7	B	GND
8	GR	IGN

Connector No.	M47
Connector Name	SONAR CONTROL UNIT
Connector Type	TH24FW-NH



1	3	4	5	6	7	8	9	10	12
13				18	19	20	23	24	

Connector No.	M36
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TK08GV-IV



24	25	26	
31	32	33	34

Terminal No.	Color of Wire	Signal Name [Specification]
24	P	-
25	SB	-
26	B	-
31	L	-
32	V	-
33	B	-
34	G	-

Connector No.	M63
Connector Name	CENTER SPEAKER
Connector Type	TK02FBR



2	1
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Terminal No.	Color of Wire	Signal Name [Specification]
1	Y	-
2	G	-

Connector No.	M66
Connector Name	UNIFIED METER AND A/C AMP.
Connector Type	TH40FW-NH



2	3	4	5	6	7	8	10	11
12	13	15	16	17	18	19	24	25

Terminal No.	Color of Wire	Signal Name [Specification]
4	P	STOP LAMP SWITCH SIGNAL
5	L	MANUAL MODE SHIFT UP SIGNAL
6	O	PADDLE SHIFTER UP SIGNAL
7	GR	COMMUNICATION SIGNAL (AMP->METER)
8	L	VEHICLE SPEED SIGNAL (2-PULSE)
9	SB	FRONT SEAT BELT BUCKLE SWITCH SIGNAL DRIVER SIDE
10	W	MANUAL MODE SIGNAL
11	G	NON-MANUAL MODE SIGNAL
14	BR	COMMUNICATION SIGNAL (LCD->AMP)
20	L	ION SENSOR SIGNAL
23	Y	AT SNOW SWITCH SIGNAL
25	V	MANUAL MODE SHIFT DOWN SIGNAL
26	G	PADDLE SHIFTER DOWN SIGNAL
27	LG	COMMUNICATION SIGNAL (METER->AMP)
28	R	VEHICLE SPEED SIGNAL (6-PULSE)
30	V	PARKING BRAKE SWITCH SIGNAL
34	Y	COMMUNICATION SIGNAL (AMP->LCD)
38	L	BLOWER MOTOR CONTROL SIGNAL

Connector No.	M67
Connector Name	UNIFIED METER AND A/C AMP.
Connector Type	TH32FW-NH



41	42	43	44	45	46	47				53	54	55	56
57	58	59	60	61	62	63	65			69	70	71	72

Terminal No.	Color of Wire	Signal Name [Specification]
41	V	ACC POWER SUPPLY
42	Y	FUEL LEVEL SENSOR SIGNAL
43	R	INTAKE SENSOR SIGNAL
44	LG	IN-VEHICLE SENSOR SIGNAL
45	P	AMBIENT SENSOR SIGNAL
46	O	SUNLOAD SENSOR SIGNAL
47	V	GAS SENSOR SIGNAL
53	G	IGNITION POWER SUPPLY
54	O	BATTERY POWER SUPPLY
55	B	GROUND
56	L	CAN-H
57	W	BRAKE FLUID LEVEL SWITCH SIGNAL
58	B	FUEL LEVEL SENSOR GROUND
59	GR	INTAKE SENSOR GROUND
60	U	IN-VEHICLE SENSOR GROUND
61	BR	AMBIENT SENSOR GROUND
62	SB	SUNLOAD SENSOR GROUND
63	R	ION MODE SIGNAL
65	O	ECV SIGNAL
69	L	A/C LAMP SIGNAL
70	R	EACH DOOR MOTOR POWER SUPPLY
71	B	GROUND
72	P	CAN-L

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# BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (TWIN MONITOR)]

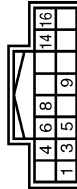
## BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

Connector No.	M69
Connector Name	BACK-UP LAMP RELAY
Connector Type	MS2FL-M2-LC



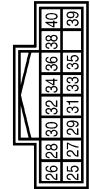
Terminal No.	Color of Wire	Signal Name [Specification]
1	R	-
2	W	-
3	R	-
5	O	-

Connector No.	M72
Connector Name	MULTIFUNCTION SWITCH
Connector Type	TH16FW-NH



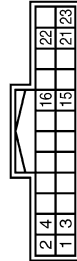
Terminal No.	Color of Wire	Signal Name [Specification]
1	B	GND
3	V	ACC
4	R	ILL
5	R	ILL CONT
6	SB	AV COMM (H)
8	LG	AV COMM (L)
9	BR	SW GND
14	SB	DISK EJECT SIGNAL
16	G	HAZARD ON

Connector No.	M87
Connector Name	VIDEO DISTRIBUTOR
Connector Type	TH16FW-NH



Terminal No.	Color of Wire	Signal Name [Specification]
25	W	RGB (R: RED) SIGNAL
26	R	RGB (G: GREEN) SIGNAL
27	SHIELD	SHIELD
28	B	RGB (B: BLUE) SIGNAL
29	R	VP
30	W	HP
31	SHIELD	SHIELD
32	B	RGB AREA (V/S) SIGNAL
33	G	COMPOSITE SYNCHRONIZING SIGNAL
34	R	COMPOSITE IMAGE SIGNAL
35	SHIELD	SHIELD
36	O	IGNITION
38	SHIELD	SHIELD
39	V	COMM (DSP-DIST)
40	SB	COMM (DIST-DISP)

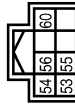
Connector No.	M88
Connector Name	VIDEO DISTRIBUTOR
Connector Type	TH24FW-NH



Terminal No.	Color of Wire	Signal Name [Specification]
1	SB	AV COMM (H)
2	LG	AV COMM (L)
3	SB	AV COMM (H)
4	LG	AV COMM (L)
15	B	GND
16	B	GND
21	SHIELD	SHIELD

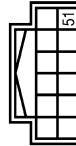
22	G	COMPOSITE IMAGE GND
23	R	COMPOSITE IMAGE SIGNAL

Connector No.	M89
Connector Name	VIDEO DISTRIBUTOR
Connector Type	TH48FW-NH



Terminal No.	Color of Wire	Signal Name [Specification]
53	B	GND
54	Y	BATTERY
55	SB	ACC
56	G	IGNITION
60	P	HEADPHONE ON SIGNAL

Connector No.	M100
Connector Name	VIDEO DISTRIBUTOR
Connector Type	TH12FW-NH



Terminal No.	51
Color of Wire	B
Signal Name [Specification]	GND

Connector No.	M107
Connector Name	ECM
Connector Type	RH24FGY-R28-R-LH-Z



Terminal No.	Color of Wire	Signal Name [Specification]
97	R	APSI
98	Y	APS2 [With ICC]
98	P	APS2 [Without ICC]
99	G	AVCC-APSI [With ICC]
99	L	AVCC-APSI [Without ICC]
100	W	GND-A(PS1)
101	SB	ASQSW
102	LG	FTPRS
103	L	AVCC-APS2 [With ICC]
103	G	AVCC-APS2 [Without ICC]
104	BR	GND-A(PS2) [With ICC]
104	GR	GND-A(PS2) [Without ICC]
105	L	PDPRESS
106	W	IF
107	BR	AVCC-FTPRS
108	V	GND-ASQD
109	G	NEUT-H
110	R	TACHO
111	O	AVCC-PDPRESS
112	V	GND-A
113	P	VEHCAN-L1
114	L	VEHCAN-H1
116	W	GND-A-PDPRES
117	GR	KLINE
121	LG	ODCV
122	P	BRAKE
123	B	GND
124	B	GND
125	GR	VBR
126	BR	BNC SW
127	B	GND
128	B	GND

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BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (TWIN MONITOR)]

BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

Connector No.	M110	Connector No.	M116
Connector Name	WIRE TO WIRE	Connector Name	WIRE TO WIRE
Connector Type	TH16MW-RH	Connector Type	TK68MW-NS10



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



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

Terminal No.	Color of Wire	Signal Name [Specification]
1	L	-
2	P	-
4	B	-
5	BR	-
6	GR	-
7	SB	-
8	LG	-
9	SHIELD	-
10	R	-
11	G	-
15	R	-
16	V	-

Terminal No.	Color of Wire	Signal Name [Specification]
1	B	-
2	W	-
3	L	-
4	B	- [With VK engine]
4	R	- [With VQ engine]
5	R	- [With VK engine]
5	B	- [With VQ engine]
6	B	-
7	B	-
9	L	- [With VK engine]
9	R	- [With VQ engine]
10	R	-
17	LG	-
18	R	-
19	O	-
20	Y	-
26	V	-
27	L	-
28	B	-
29	LG	-
31	W	-
34	LG	-
35	BR	-
36	W	-
37	Y	-
38	O	-
43	P	-
44	L	-
45	G	-
46	Y	-

Connector No.	M114
Connector Name	FRONT SQUAWKER RH
Connector Type	TK02FBR



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Terminal No.	Color of Wire	Signal Name [Specification]
1	V	-
2	LG	-

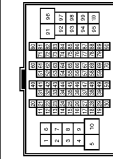
# BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (TWIN MONITOR)]

## BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

Connector No.	M117
Connector Name	WIRE TO WIRE
Connector Type	TH6DMW-CS16-TM44



Terminal No.	Color of Wire	Signal Name [Specification]
1	GR	-
2	BR	-
3	V	-
4	SB	-
6	Y	-
7	B	-
8	W	-
10	W	-
11	BR	-
12	GR	-
13	SHIELD	-
14	P	-
15	P	-
16	SHIELD	-
17	Y	-
18	Y	-
19	LG	-
20	SB	-
21	LG	-
22	B	- [With entertainment system] - [Without entertainment system]
23	GR	- [With entertainment system] - [Without entertainment system]
24	R	- [With entertainment system] - [Without entertainment system]
25	W	- [With entertainment system] - [Without entertainment system]
26	R	- [With entertainment system] - [Without entertainment system]
27	V	-
28	SHIELD	-
29	O	-
30	P	-
31	W	-
32	W	-
33	SB	-
40	V	-
41	SB	- [With ICC] - [Without ICC]
41	Y	-

42	V	- [With ICC] - [Without ICC]
43	W	- [With ICC] - [Without ICC]
44	P	- [With ICC] - [Without ICC]
45	R	- [With ICC] - [Without ICC]
46	G	- [With ICC] - [Without ICC]
47	SHIELD	- [With ICC] - [Without ICC]
48	L	- [With ICC] - [Without ICC]
49	P	- [With ICC] - [Without ICC]
50	SHIELD	- [With ICC] - [Without ICC]
51	O	-
52	GR	-
53	G	-
54	L	-
55	P	-
60	LG	-
61	R	-
62	SB	-
63	V	-
64	Y	-
65	BR	-
66	O	-
67	W	-
68	SHIELD	-
69	G	-
71	SB	-
72	V	-
73	V	-
74	LG	-
75	R	- [With VK engine] - [With VQ engine]
76	BR	-
77	LG	-
80	R	-
81	L	-
82	Y	-
83	O	-
84	W	-
85	SB	-
86	B	-
87	P	-
91	L	-
92	L	-
93	G	-
94	W	- [With VK engine] - [With VQ engine]
94	O	-

95	V	-
96	G	-
97	G	-
98	L	-
99	LG	-
100	Y	-

Connector No.	M122
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FB-NH



Terminal No.	Color of Wire	Signal Name [Specification]
72	R	ROOM ANT2+
73	G	ROOM ANT2+
74	SB	PASSENGER DOOR ANT-
75	BR	PASSENGER DOOR ANT+
76	V	DRIVER DOOR ANT-
77	LG	DRIVER DOOR ANT+
78	Y	ROOM ANT1+
79	BR	ROOM ANT1+
80	GR	NATS ANT AMP
81	W	NATS ANT AMP
82	P	IGN RELAY (F/B) CONT
83	GR	KEYLESS ENTRY RECEIVER SIGNAL
87	BR	COMBI SW INPUT 5
88	V	COMBI SW INPUT 3
89	SB	PUSH SW
90	P	GAM-L
91	L	GAM-H
92	LG	KEY SLOT ILL
93	V	ON IND
95	O	ACC RELAY CONT
96	GR	A/T SHIFT SELECTOR POWER SUPPLY
97	L	S/L CONDITION 1
98	P	S/L CONDITION 2
99	R	SHIFT P
100	G	PASSENGER DOOR REQUEST SW
101	SB	DRIVER DOOR REQUEST SW
102	O	BLOWER FAN MOTOR RELAY CONT
103	BR	KEYLESS ENTRY RECEIVER POWER SUPPLY
104	W	S/L UNIT POWER SUPPLY
107	LG	COMBI SW INPUT 1

108	R	COMBI SW INPUT 4
109	Y	COMBI SW INPUT 2
110	G	HAZARD SW
111	GR	S/L UNIT COMM

Connector No.	M123
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FG-NH



Terminal No.	Color of Wire	Signal Name [Specification]
112	GR	RAIN SENSOR SERIAL LINK
113	P	OPTICAL SENSOR
116	BR	STOP LAMP SW 1
118	P	STOP LAMP SW 2
119	SB	DR DOOR UNLOCK SENSOR
121	BR	KEY SLOT SW
123	W	IGN F/B
124	LG	PASSENGER DOOR SW
132	O	POWER WINDOW SW COMM
134	GR	LOCK IND
137	B	RECEIVER/SENSOR GND
138	Y	SENSOR POWER SUPPLY
140	R	SHIFT N/P
141	G	SECURITY INDICATOR OUTPUT
142	O	COMBI SW OUTPUT 5
143	P	COMBI SW OUTPUT 1
144	G	COMBI SW OUTPUT 2
145	L	COMBI SW OUTPUT 3
146	SB	COMBI SW OUTPUT 4
150	GR	DRIVER DOOR SW
151	G	REAR WINDOW DEFOGGER RELAY CONT

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

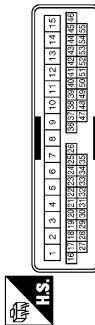
# BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (TWIN MONITOR)]

## BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

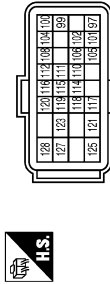
Connector No.	M124
Connector Name	WIRE TO WIRE
Connector Type	TH12MW-NH



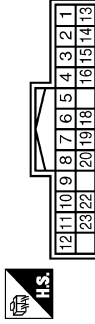
Connector No.	M140
Connector Name	WIRE TO WIRE
Connector Type	TH16MW-NH



Connector No.	M160
Connector Name	ECM
Connector Type	RH24FGY-R2Z-R-LH-Z

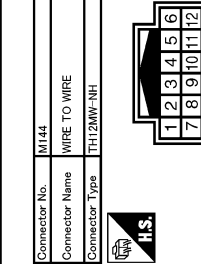


Connector No.	M195
Connector Name	FRONT DISPLAY UNIT
Connector Type	TH24FW-NH



Terminal No.	Color of Wire	Signal Name [Specification]
3	Y	-
4	LG	-
5	SB	-
6	BR	-
7	G	-
8	V	-
9	LG	-
10	B	-
11	O	-
12	W	-
13	B	-
14	O	-
15	Y	-
16	G	-
17	LG	-
18	SHIELD	-
19	W	-
20	B	-
21	G	-
22	Y	-
23	O	-
24	V	-
25	R	-
26	R	-
27	O	-
28	Y	-
29	LG	-
30	SB	-
31	V	-
32	O	-
33	GR	-
34	R	-
35	G	-
36	B	-
37	R	-
38	G	-
39	B	-
40	R	-
41	P	-
42	LG	-
43	L	-
44	Y	-
45	R	-
46	W	-

Connector No.	M144
Connector Name	WIRE TO WIRE
Connector Type	TH12MW-NH



Terminal No.	Color of Wire	Signal Name [Specification]
97	R	TACHO
98	L	AVCC2-APS2 [With ICC]
99	G	AVCC2-APS2 [Without ICC]
100	G	AVCC-APS1 [With ICC]
101	G	AVCC-APS1 [Without ICC]
102	L	VEHCAN-L
103	P	ASCDSW
104	SB	APSI
105	R	VEHCAN-H
106	L	IGNSW
107	L	APS2 [With ICC]
108	Y	APS2 [Without ICC]
109	P	APSI
110	P	APSI
111	V	GNDA-ASCDSW
112	LG	FFCMGR
113	GR	K LINE
114	BR	GNDA-APS2 [With ICC]
115	GR	GNDA-APS2 [Without ICC]
116	G	NEUT-H
117	BR	BNGSW
118	R	BATT
119	R	GNDA-APS1
120	W	TF
121	GR	VBR
122	B	GND
123	B	FFCM
124	R	FFCM
125	LG	GDCV
126	B	GND

Terminal No.	Color of Wire	Signal Name [Specification]
6	SHIELD	SHIELD
7	SHIELD	SHIELD
8	W	CAMERA IMAGE SIGNAL
9	G	COMM [DISP->CONT]
10	R	COMM [CONT->DISP]
11	P	BATTERY
12	B	GND
13	R	COMPOSITE IMAGE SIGNAL
14	B	COMPOSITE IMAGE SIGNAL GND
15	W	COMPOSITE IMAGE SYNC SIGNAL
16	SHIELD	SHIELD
17	L	ACC

Connector No.	M196
Connector Name	AUXILIARY INPUT JACK
Connector Type	ABSW



Terminal No.	Color of Wire	Signal Name [Specification]
1	R	AUX SOUND SIGNAL RH (+)
2	B	AUX SOUND SIGNAL GND
3	W	AUX SOUND SIGNAL LH (+)
4	Y	AUX IMAGE SIGNAL
5	BR	AUX IMAGE SIGNAL GND

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# BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (TWIN MONITOR)]

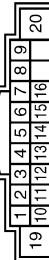
## BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

Connector No.	M197
Connector Name	USB CONNECTOR
Connector Type	HAA04FG



Terminal No.	Color of Wire	Signal Name [Specification]
1	W	-
2	L	-
3	G	-
4	R	-
5	SHIELD	-

Connector No.	M208
Connector Name	AV CONTROL UNIT
Connector Type	TH18FW-CS2



Terminal No.	Color of Wire	Signal Name [Specification]
1	V	AMP. ON SIGNAL
2	P	SOUND SIGNAL FRONT LH (+)
3	L	SOUND SIGNAL FRONT LH (-)
4	V	SOUND SIGNAL REAR LH (+)
5	LG	SOUND SIGNAL REAR LH (-)
6	P	STRG SW A
7	V	ACC
10	B	SHIELD
11	R	SOUND SIGNAL FRONT RH (+)
12	G	SOUND SIGNAL FRONT RH (-)
13	BR	SOUND SIGNAL REAR RH (+)
14	Y	SOUND SIGNAL REAR RH (-)
15	B	STRG SW GND
16	L	STRG SW B
18	Y	BATTERY
20	B	GND

Connector No.	M209
Connector Name	AV CONTROL UNIT
Connector Type	TH40FW-NH



Terminal No.	Color of Wire	Signal Name [Specification]
26	Y	AUX IMAGE SIGNAL
29	SB	DISK EJECT SIGNAL
30	SB	MODE CHANGE SIGNAL
33	G	COMPOSITE IMAGE GND
34	R	COMPOSITE IMAGE SIGNAL
46	BR	AUX IMAGE SIGNAL GND
47	SHIELD	SHIELD
49	BR	SW GND
53	SHIELD	SHIELD

Connector No.	M210
Connector Name	AV CONTROL UNIT
Connector Type	TH26FW-NH



Terminal No.	Color of Wire	Signal Name [Specification]
64	GR	DRIVER DOOR SW SIGNAL
65	V	PARKING BRAKE SIGNAL
67	B	COMPOSITE IMAGE SIGNAL GND
68	R	COMPOSITE IMAGE SIGNAL
71	SHIELD	MICROPHONE SHIELD
72	G	MICROPHONE VCC
73	R	COMM. (CONT.) >DISP
74	P	CAN-H
75	LG	AV COMM. (L)
76	LG	AV COMM. (L)
78	R	ILLUMINATION
80	G	IGNITION SIGNAL
81	O	REVERSE SIGNAL

82	R	VEHICLE SPEED SIGNAL (S-PULSE)
83	SHIELD	SHIELD
84	W	COMPOSITE IMAGE SYNC SIGNAL
87	R	MICROPHONE SIGNAL
88	SHIELD	SHIELD
89	G	COMM. (DISP.) >CONT
90	L	CAN-H
91	SB	AV COMM. (H)
92	SB	AV COMM. (H)

Connector No.	M211
Connector Name	AV CONTROL UNIT
Connector Type	TH28FW



Terminal No.	Color of Wire	Signal Name [Specification]
104	W	AUX SOUND SIGNAL LH (+)
106	L	HEADPHONE SOUND SIGNAL LH (+)
107	BR	HEADPHONE SOUND SIGNAL RH (+)
117	SHIELD	SHIELD
118	R	AUX SOUND SIGNAL RH (+)
119	B	AUX SOUND SIGNAL GND
120	P	HEADPHONE SOUND SIGNAL LH (-)
121	GR	HEADPHONE SOUND SIGNAL RH (-)
122	B	SHIELD

Connector No.	M212
Connector Name	AV CONTROL UNIT
Connector Type	HAA04FL



Terminal No.	Color of Wire	Signal Name [Specification]
129	G	USB GND
130	R	USB D- SIGNAL

131	W	V-BUS SIGNAL
132	L	USB D+ SIGNAL
133	SHIELD	SHIELD

Connector No.	M303
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TX08FGY



Terminal No.	Color of Wire	Signal Name [Specification]
13	R	-
14	W	-
15	L	-
16	B	-
17	BR	-
18	G	-
19	P	-
20	Y	-

Connector No.	M374
Connector Name	WIRE TO WIRE
Connector Type	GT16C-TS-HU



Terminal No.	Color of Wire	Signal Name [Specification]
1	-	-

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A  
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AV

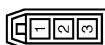
# BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (TWIN MONITOR)]

## BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

Connector No.	M375
Connector Name	WIRE TO WIRE
Connector Type	GT13SC-2/1S-HU



Terminal No.	Color of Wire	Signal Name [Specification]
1	-	-
2	-	-
3	-	-

Connector No.	M377
Connector Name	WIRE TO WIRE
Connector Type	GT18C-1PP-HU



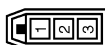
Terminal No.	Color of Wire	Signal Name [Specification]
1	-	-

Connector No.	M383
Connector Name	ANTENNA BASE
Connector Type	GT18C-1PP-HU



Terminal No.	Color of Wire	Signal Name [Specification]
3	-	SATELLITE ANTENNA

Connector No.	M385
Connector Name	WIRE TO WIRE
Connector Type	GT13SCH-2/1PP-HU



Terminal No.	Color of Wire	Signal Name [Specification]
1	-	-
2	-	-
3	-	-

Connector No.	M386
Connector Name	ANTENNA BASE
Connector Type	GT13SSH-1/1PP-HU



Terminal No.	Color of Wire	Signal Name [Specification]
1	-	ANTENNA AMP ON SIGNAL
2	-	AM-FM MAIN

Connector No.	M387
Connector Name	WIRE TO WIRE
Connector Type	JASO JACK



Terminal No.	Color of Wire	Signal Name [Specification]
1	-	-

Connector No.	M388
Connector Name	WIRE TO WIRE
Connector Type	JASO PLUG



Terminal No.	Color of Wire	Signal Name [Specification]
1	-	-

Connector No.	M389
Connector Name	GLASS ANTENNA (FM SUB)
Connector Type	P01FB-A



Terminal No.	Color of Wire	Signal Name [Specification]
1	-	-

Connector No.	M394
Connector Name	AV CONTROL UNIT
Connector Type	GT13SH-2/1S-HU



Terminal No.	Color of Wire	Signal Name [Specification]
150	-	FM SUB
151	-	AM-FM MAIN
152	-	ANTENNA AMP ON SIGNAL

Connector No.	M395
Connector Name	AV CONTROL UNIT
Connector Type	GT15-1S-HU



Terminal No.	Color of Wire	Signal Name [Specification]
153	-	GPS ANTENNA SIGNAL
154	-	SHIELD

Connector No.	M396
Connector Name	AV CONTROL UNIT
Connector Type	GT17HN-4DS-HU



Terminal No.	Color of Wire	Signal Name [Specification]
157	-	RGB DIGITAL IMAGE SIGNAL (-)
158	-	RGB DIGITAL IMAGE SIGNAL (+)

Connector No.	M397
Connector Name	FRONT DISPLAY UNIT
Connector Type	GT17HN2-4DS-HU



Terminal No.	Color of Wire	Signal Name [Specification]
27	-	RGB DIGITAL IMAGE SIGNAL (-)
28	-	RGB DIGITAL IMAGE SIGNAL (+)

JCNWA2904GB

BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

< WIRING DIAGRAM >

[NAVIGATION (TWIN MONITOR)]

BOSE AUDIO WITH NAVIGATION (TWIN MONITOR)

Connector No.	M398
Connector Name	AV CONTROL UNIT
Connector Type	FAKRA JACK



Terminal No.	Color of Wire	Signal Name [Specification]
159	-	SATELLITE ANTENNA

Connector No.	R2
Connector Name	WIRE TO WIRE
Connector Type	TH24FW-NH



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.	R7
Connector Name	WIRE TO WIRE
Connector Type	TH18FW-NH



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

Terminal No.	Color of Wire	Signal Name [Specification]
1	L	-
2	P	-
3	B	-
4	B	-
5	BR	-
6	GR	-
7	SB	-
8	Y	-
9	SHIELD	-
10	R	-
11	G	-
15	R	-
16	V	-

Connector No.	R11
Connector Name	WIRE TO WIRE
Connector Type	TH24MW-NH



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 [Specification]
1	LG	-
2	GR	-
8	SHIELD	-
9	L	-
10	R	-
11	B	-
12	V	-
17	Y	-
18	G	-
19	R	-
20	L	-
21	P	-
22	R	-
23	BR	-
24	B	-

20	P	-
21	L	-
22	R	-
23	BR	-
24	O	-

Connector No.	R17
Connector Name	MICROPHONE
Connector Type	TK04FW



1	2	3	4
---	---	---	---

Terminal No.	Color of Wire	Signal Name [Specification]
1	R	MICROPHONE SIGNAL
2	SHIELD	MICROPHONE GND
4	L	MICROPHONE VCC

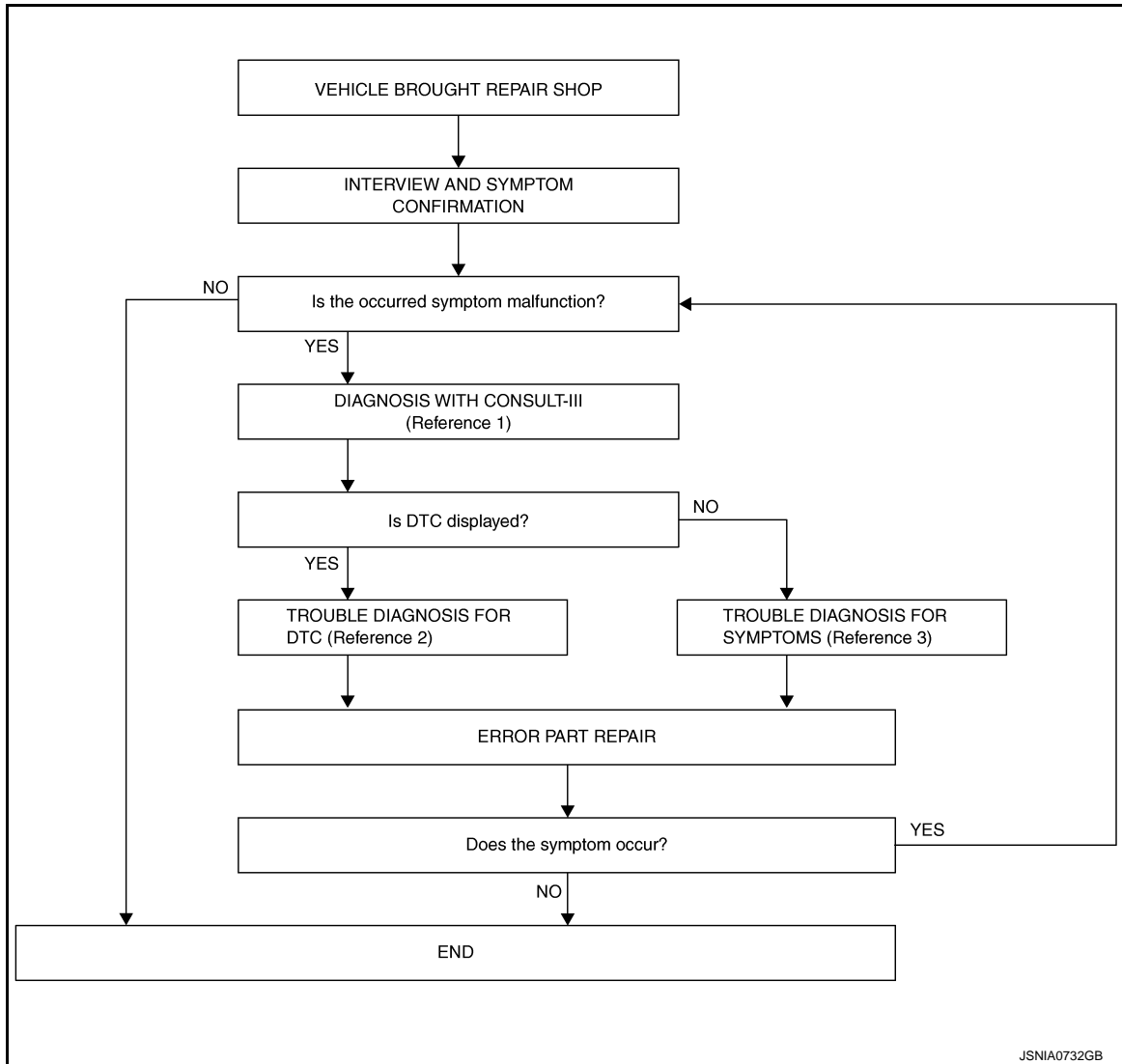
## BASIC INSPECTION

### DIAGNOSIS AND REPAIR WORK FLOW

Work Flow (Multi AV)

INFOID:000000005474972

#### OVERALL SEQUENCE



- Reference 1... Refer to [AV-393, "CONSULT - III Function \(MULTI AV\)".](#)
- Reference 2... Refer to [AV-408, "DTC Index".](#)
- Reference 3... Refer to [AV-549, "Symptom Table".](#)

#### DETAILED FLOW

##### 1. INTERVIEW AND SYMPTOM CONFIRMATION

Check the malfunction symptoms by performing the following items.

- Interview the customer to obtain the malfunction information (conditions and environment when the malfunction occurred).
- Check the symptom.

Is the occurred symptom malfunction?

YES >> GO TO 2.

NO >> INSPECTION END

##### 2. DIAGNOSIS WITH CONSULT-III

# DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[NAVIGATION (TWIN MONITOR)]

1. Connect CONSULT-III and perform a self-diagnosis for "MULTI AV". Refer to [AV-393, "CONSULT - III Function \(MULTI AV\)".](#)

**NOTE:**

Skip to step 4 of the diagnosis procedure if "MULTI AV" is not displayed.

2. Check if any DTC is displayed in the self-diagnosis results.

Is DTC displayed?

YES >> GO TO 3.

NO >> GO TO 4.

## 3.TROUBLE DIAGNOSIS FOR DTC

1. Check the DTC indicated in the self-diagnosis results.
2. Perform the relevant diagnosis referring to the DTC Index. Refer to [AV-408, "DTC Index".](#)

>> GO TO 5.

## 4.TROUBLE DIAGNOSIS FOR SYMPTOMS

Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to [AV-549, "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-III.

**NOTE:**

Erase the stored self-diagnosis results after repairing or replacing the relevant components if any DTC has been indicated in the self-diagnosis results.

3. Check that the symptom does not occur.

Does the symptom occur?

YES >> GO TO 1.

NO >> INSPECTION END

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AV

# DIAGNOSIS AND REPAIR WORK FLOW

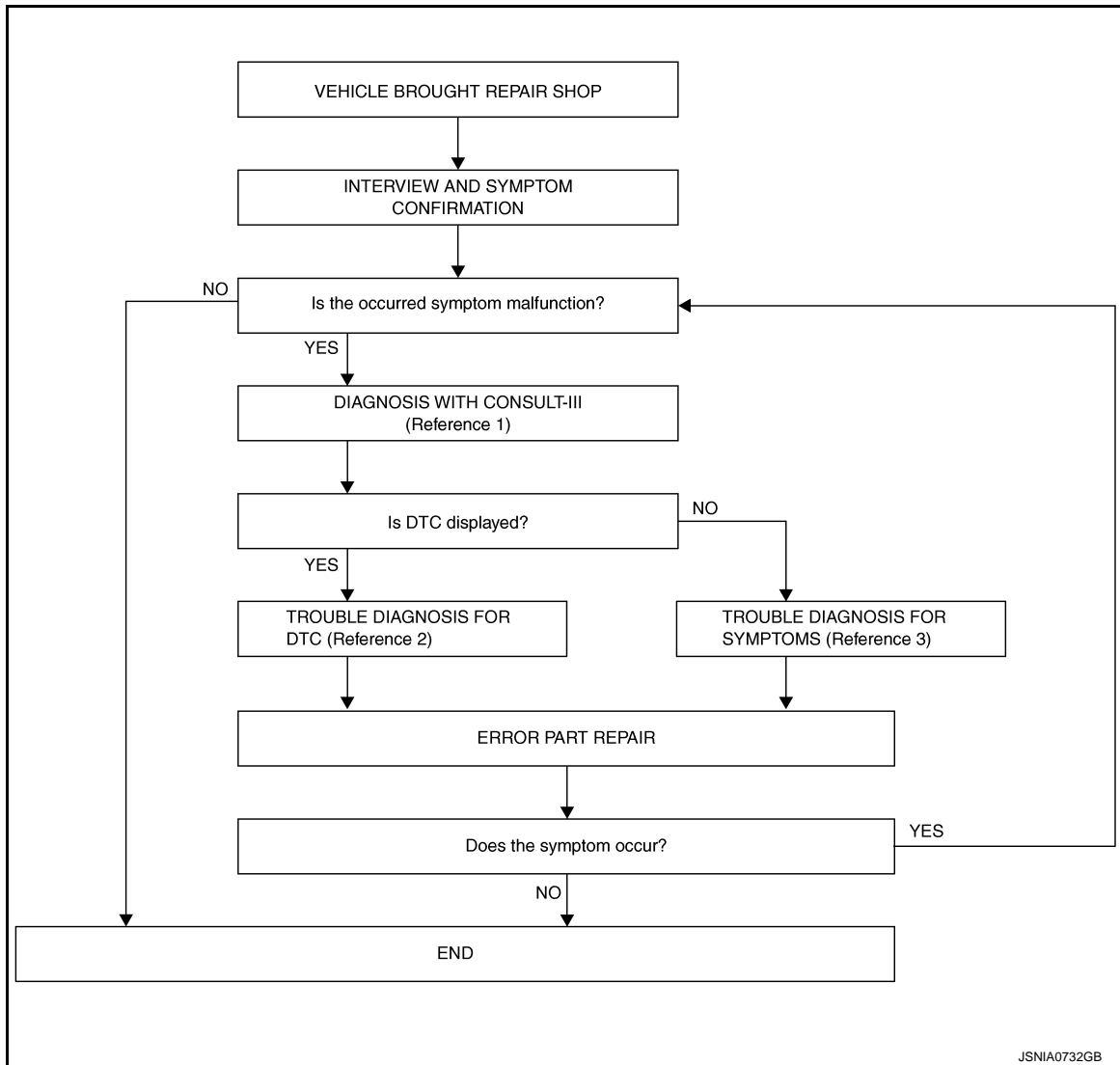
< BASIC INSPECTION >

[NAVIGATION (TWIN MONITOR)]

## Work Flow (Camera Assistance Sonar)

INFOID:000000005474973

### OVERALL SEQUENCE



- Reference 1... Refer to [AV-400, "CONSULT-III Function \(SONAR\)"](#).
- Reference 2... Refer to [AV-428, "DTC Index"](#).
- Reference 3... Refer to [AV-549, "Symptom Table"](#).

### DETAILED FLOW

#### 1. INTERVIEW AND SYMPTOM CONFIRMATION

Check the malfunction symptoms by performing the following items.

- Interview the customer to obtain the malfunction information (conditions and environment when the malfunction occurred).
- Check the symptom.

Is the occurred symptom malfunction?

YES >> GO TO 2.

NO >> INSPECTION END

#### 2. DIAGNOSIS WITH CONSULT-III

1. Connect CONSULT-III and perform a self-diagnosis for "SONAR". Refer to [AV-400, "CONSULT-III Function \(SONAR\)"](#).

##### NOTE:

Skip to step 4 of the diagnosis procedure if "SONAR" is not displayed.

# DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[NAVIGATION (TWIN MONITOR)]

2. Check if any DTC is displayed in the self-diagnosis results.

Is DTC displayed?

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

## 3.TROUBLE DIAGNOSIS FOR DTC

1. Check the DTC indicated in the self-diagnosis results.
2. Perform the relevant diagnosis referring to the DTC Index. Refer to [AV-428. "DTC Index"](#).

>> GO TO 5.

## 4.TROUBLE DIAGNOSIS FOR SYMPTOMS

Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to [AV-549. "Symptom Table"](#).

>> GO TO 5.

## 5.ERROR PART REPAIR

1. Repair or replace the identified malfunctioning parts.
2. Perform a self-diagnosis for "SONAR" with CONSULT-III.

### NOTE:

Erase the stored self-diagnosis results after repairing or replacing the relevant components if any DTC has been indicated in the self-diagnosis results.

3. Check that the symptom does not occur.

Does the symptom occur?

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

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AV

## INSPECTION AND ADJUSTMENT

## ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT

## ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Description

INFOID:000000005474974

## BEFORE REPLACEMENT

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

## AFTER REPLACEMENT

**CAUTION:**

When replacing AV control unit, you must perform "WRITE CONFIGURATION" with CONSULT-III.

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

## ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Work Procedure

INFOID:000000005474975

## 1. SAVING VEHICLE SPECIFICATION

## Ⓟ-CONSULT-III Configuration

Perform "READ CONFIGURATION" to save or print current vehicle specification. Refer to [AV-460, "CONFIGURATION \(AV CONTROL UNIT\) : Description"](#).

**NOTE:**

If "READ CONFIGURATION" can not be used, use the "WRITE CONFIGURATION - Manual selection".

>> GO TO 2.

## 2. REPLACE AV CONTROL UNIT

Replace AV control unit. Refer to [AV-562, "Exploded View"](#).

>> GO TO 3.

## 3. WRITING VEHICLE SPECIFICATION

## Ⓟ-CONSULT-III Configuration

Perform "WRITE CONFIGURATION - Config file" or "WRITE CONFIGURATION - Manual selection" to write vehicle specification. Refer to [AV-461, "CONFIGURATION \(AV CONTROL UNIT\) : Work Procedure"](#).

>> GO TO 4.

## 4. OPERATION CHECK

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

>> WORK END

## CONFIGURATION (AV CONTROL UNIT)

## CONFIGURATION (AV CONTROL UNIT) : Description

INFOID:000000005474976

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



# INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[NAVIGATION (TWIN MONITOR)]

Function	Description
READ CONFIGURATION	<ul style="list-style-type: none"> <li>Reads the vehicle configuration of current AV control unit.</li> <li>Saves the read vehicle configuration.</li> </ul>
WRITE CONFIGURATION-Manual selection	Writes the vehicle configuration with manual selection.
WRITE CONFIGURATION-Config file	Writes the vehicle configuration with saved data.

## CONFIGURATION (AV CONTROL UNIT) : Work Procedure

INFOID:000000005474977

### NOTE:

If "WRITE CONFIGURATION" is unsuccessful, perform "Accessory Number Initialization". For details, refer to [AV-382. "On Board Diagnosis Function"](#).

After performing "Accessory Number Initialization", reboot the AV control unit to perform "WRITE CONFIGURATION".

### 1. WRITING MODE SELECTION

CONSULT-III Configuration

Select "CONFIGURATION" of "MULTI AV".

When writing saved data>>GO TO 2.

When writing manually>>GO TO 3.

### 2. PERFORM "WRITE CONFIGURATION-CONFIG FILE"

CONSULT-III Configuration

Perform "WRITE CONFIGURATION-Config file".

>> WORK END

### 3. PERFORM "WRITE CONFIGURATION-MANUAL SELECTION"

CONSULT-III Configuration

Select "WRITE CONFIGURATION-Manual selection" to write vehicle specifications into the AV control unit. For data to write, refer to [AV-461. "CONFIGURATION \(AV CONTROL UNIT\) : Configuration List"](#).

>> GO TO 4.

### 4. OPERATION CHECK

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

>> WORK END

## CONFIGURATION (AV CONTROL UNIT) : Configuration List

INFOID:000000005474978

### CAUTION:

Check vehicle specifications before servicing.

AV

MANUAL SETTING ITEM	
Items	Setting value
STEERING	LHD
	RHD
CAMERA SYSTEM	NONE/AVM
	REAR CAMERA
	REAR+SIDE
SOUND SYSTEM	BASE
	BOSE

**NOTE:**

AVM: Around view monitor

## PREDICTIVE COURSE LINE CENTER POSITION ADJUSTMENT

### PREDICTIVE COURSE LINE CENTER POSITION ADJUSTMENT : Description

INFOID:000000005527061

Adjust the center position of the predictive course line of the rear view monitor if it is shifted.

### PREDICTIVE COURSE LINE CENTER POSITION ADJUSTMENT : Work Procedure

INFOID:000000005527062

## 1.DRIVING

Drive the vehicle straight ahead 100 m (328.1 ft) or more at a speed of 30 km/h (18.6 MPH) or more.

>> END

## CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR)

### CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Description

INFOID:000000005474981

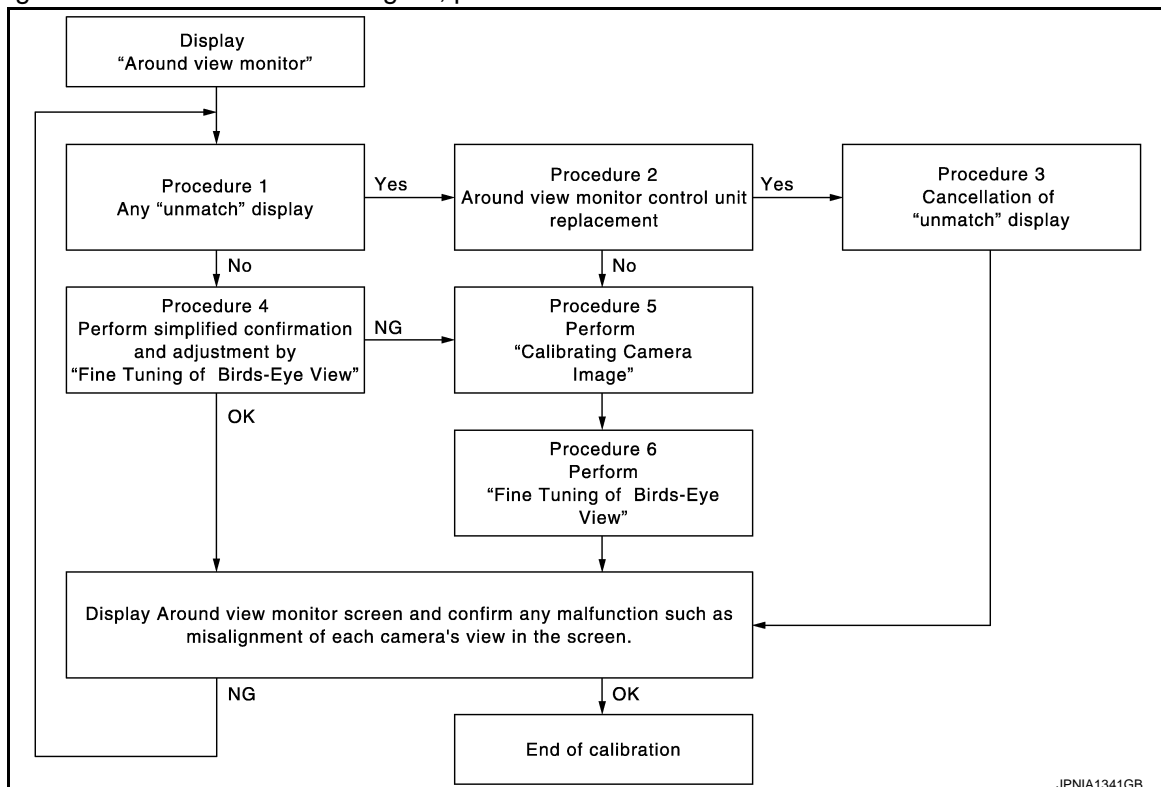
- Perform the calibration and perform the writing to the around view monitor control unit when removing and replacing each camera, removing the camera mounting parts (front grille, door mirror, etc.) and replacing the around view monitor control unit.
- Align the white lines on the road near the vehicle at the boundary of each camera image by this camera calibration. The white lines far from the vehicle may not be aligned at the boundary of each camera image. The farther the line, the greater the difference is.

### CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Work Procedure

INFOID:000000005474982

#### Calibration flowchart

Following the flowchart shown in the figure, perform the calibration.



JPNIA1341GB

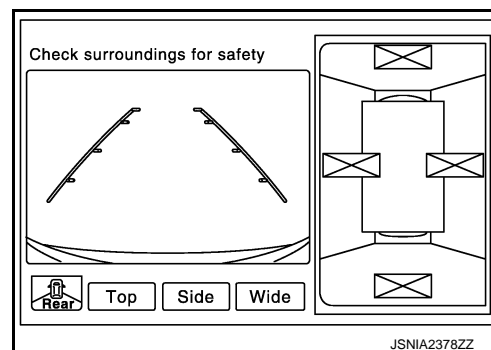
**NOTE:**

# INSPECTION AND ADJUSTMENT

## < BASIC INSPECTION >

## [NAVIGATION (TWIN MONITOR)]

In the un-match display, the un-match camera position is indicated as "⊠" on the birds-eye view.



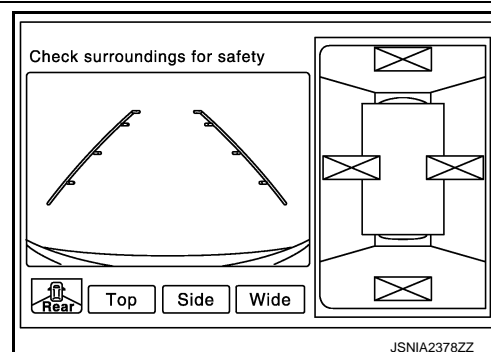
### Calibration procedure

#### 1. AROUND VIEW MONITOR SCREEN CONFIRMATION

Check that there is the un-match display in any camera.

Is the un-match display visible?

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



#### 2. CHECK THAT AROUND VIEW MONITOR CONTROL UNIT IS REPLACED

Check that the around view monitor control unit is replaced.

Is the around view monitor control unit replaced?

- YES >> GO TO 3.
- NO >> GO TO 5.

#### 3. RELEASE UN-MATCH DISPLAY (PERFORM ONLY WHEN THE AROUND VIEW MONITOR CONTROL UNIT IS REPLACED)

1. Select "Camera Cont." of Confirmation/ Adjustment mode, and then set to "Calibrating Camera Image" mode.
2. Press the "ENTER" switch of the multifunction switch on each screen of "Rear Camera", "Front Camera", "Dr-Side Camera", "Pass-Side Camera".

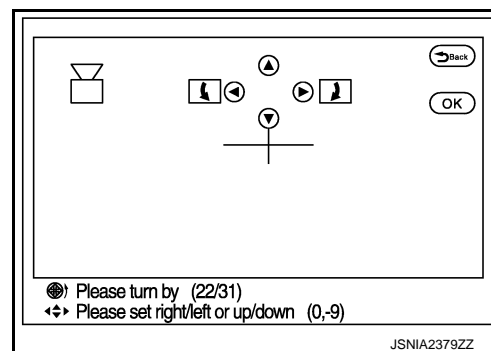
#### CAUTION:

- Do never operate the center dial and up/down/left/right switches. Only press the "ENTER" switch.
- Never perform "Initialize Camera Image Calibration".

3. Display the around view monitor screen, and check that there is no malfunction such as a difference between each camera image.

Is there a malfunction?

- YES >> Calibration end
- NO >> GO TO 1.



#### 4. PERFORM SIMPLIFIED CONFIRMATION/ADJUSTMENT BY "FINE TUNING OF BIRDS-EYE VIEW"

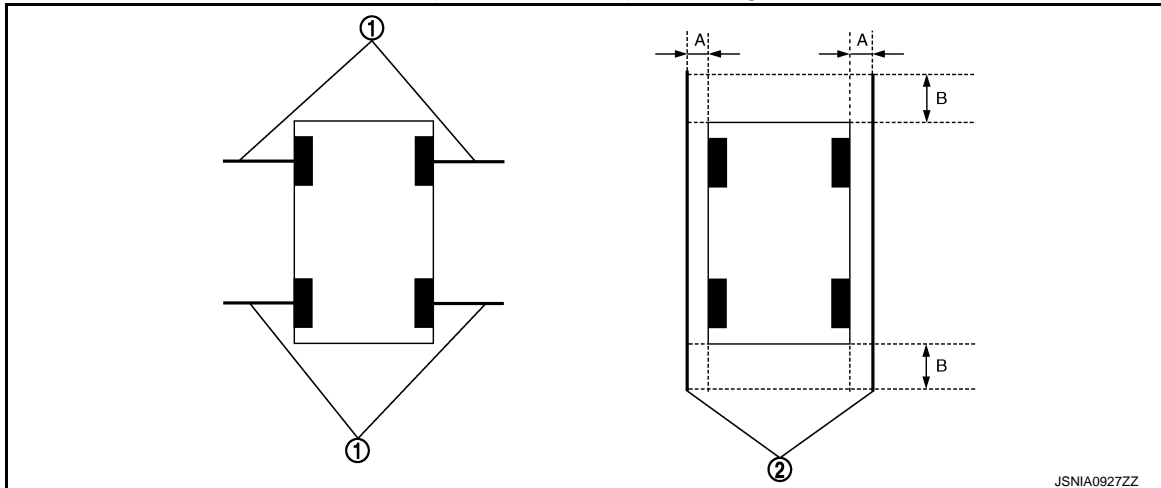
1. Put target line 1 on the ground beside each axle using packing tape, etc.
2. Put target lines 2 equal to the vehicle total length + approximately 1.0 m (39.3 in) from the vehicle side (right and left) at approximately 30 cm (11.8 in) away from the vehicle (make the line as parallel with the vehicle as possible)

# INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[NAVIGATION (TWIN MONITOR)]

## Preparation of simplified target line



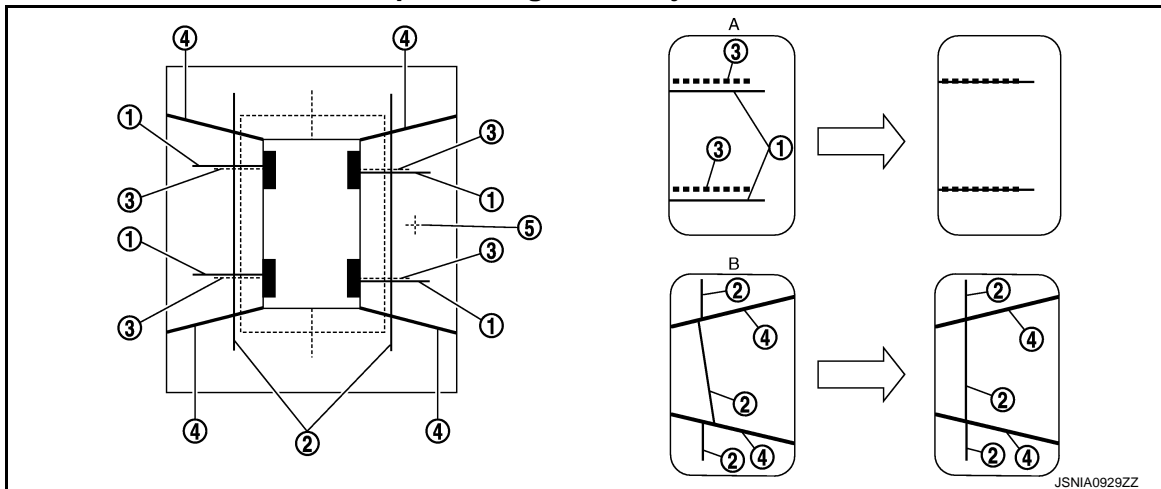
- |                            |                            |
|----------------------------|----------------------------|
| 1. Target lines 1          | 2. Target lines 2          |
| A. Approx. 30 cm (11.8 in) | B. Approx. 1.0 m (39.3 in) |

3. Select "Camera Cont." of Confirmation/ Adjustment mode, and then set to "Fine Tuning of Birds-Eye View" mode.
4. Select left and right cameras by pressing the "CAMERA" switch, and perform the following confirmation.
  - Check that target line 1 is aligned with the marker on the screen. Overlap the line aligned to the marker with the upper/lower switches if necessary.
  - Check if there is a difference between target lines 2 between cameras. Adjust target lines 2 to be straight lines by operating the center dial and left/right switches if necessary.

### CAUTION:

- **Never adjust the front camera and rear camera. Only adjust the right and left cameras.**
- **Operate the center dial slowly because the changing of the screen takes approximately 1 second.**

## Simplified target line adjustment method



- |   |   |                             |
|---|---|-----------------------------|
| 1. Target lines 1                               | 2. Target lines 2   | 3. Marker for target line 1 |
| 4. Boundary between cameras                     | 5. Crosshairs cursor (mark indicated the selected camera) |                             |
| A. Adjustment method for target lines 1 (right) | B. Adjustment method for target lines 2 (right)           |                             |

5. Adjust left and right cameras. Check that the difference between target line 1 and the marker on the screen, and between target lines 2 is solved.

### NOTE:

- It can be initialized to the NISSAN factory default condition with "Initialize Camera Image Calibration" of "Calibrating Camera Image".

# INSPECTION AND ADJUSTMENT

## < BASIC INSPECTION >

## [NAVIGATION (TWIN MONITOR)]

- The adjustment value is cancelled on this mode by performing "Initialize Camera Image Calibration".

### Is the difference corrected?

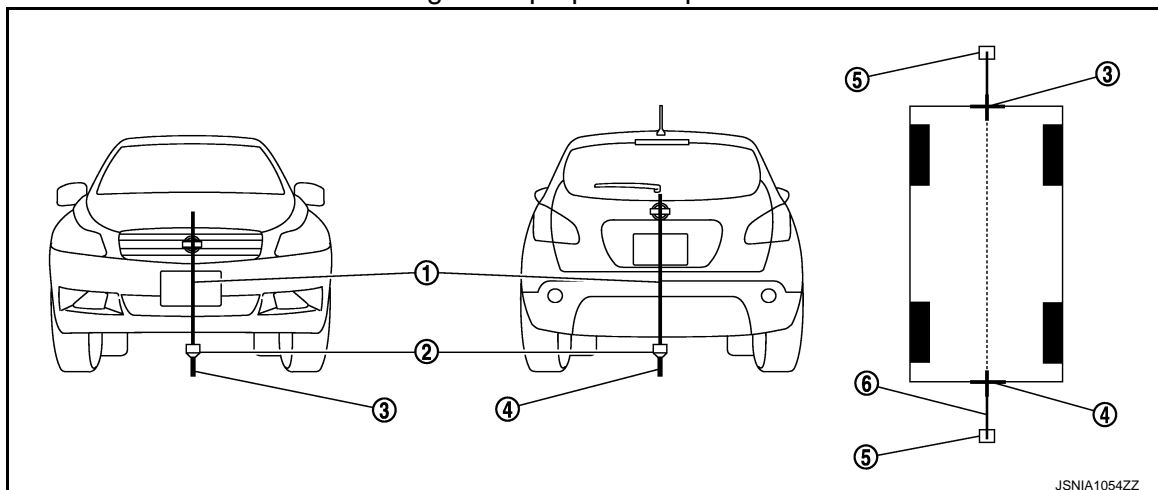
- YES >> Finish the writing to around view monitor control unit by pressing "ENTER" switch.  
NO >> GO TO 5.

## 5.PERFORM "CALIBRATING CAMERA IMAGE"

### Preparation of target line

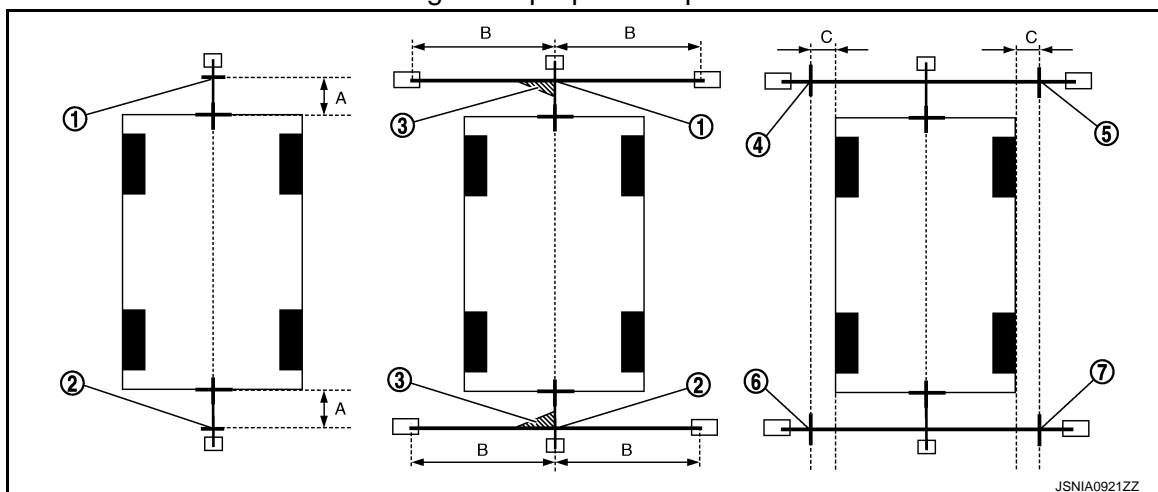
- Hang a string with a weight as shown in the figure. Put the points FM0, RM0 (mark) on the ground at the center of the vehicle front end and rear end with white packing tape or a pen.
- Route the vinyl string under the vehicle, and then pull and fix it on the point approximately 1.0 m (39.9 in) to the front and rear of the vehicle through the points FM0 and RM0 using packing tape.

Target line preparation procedure 1



- Put the points FM and RM (mark) 75 cm (29.5 in) from the points FM0 and RM0 individually.
- Route the vinyl string through the points FM and RM using a triangle scale, and then fix it at approximately 1.5 m (59 in) on both sides with packing tape.
- Put the points FL, FR, RL, and RR (mark) to both right and left [vehicle width / 2 + 30 cm (11.8 in)] from the points FM and RM.

Target line preparation procedure 2



- Point FM
- Point RM
- Triangle scale
- Point FL (mark)
- Point FR (mark)
- Point RL (mark)
- Point RR (mark)

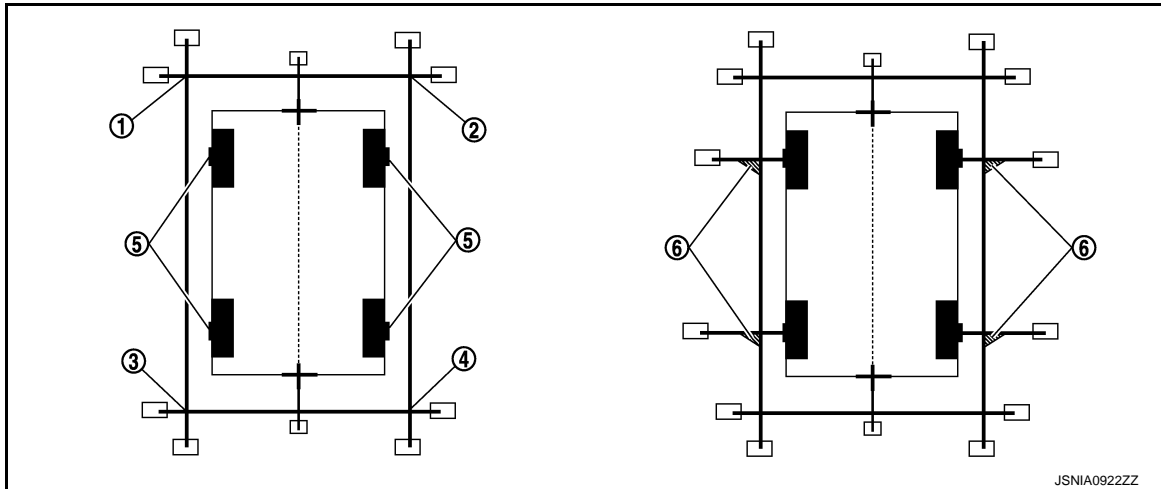
# INSPECTION AND ADJUSTMENT

## < BASIC INSPECTION >

## [NAVIGATION (TWIN MONITOR)]

7. Point RR (mark)
  - A. 75 cm (29.5 in)
  - B. Approx. 1.5 m (59 in)
  - C. 30 cm (11.8 in)  
[Vehicle width/ 2 + 30 cm (11.8 in) from the points FM and RM]
6. Draw the lines of the points FL – RL and FR – RR with vinyl string, and fix it with packing tape.
7. Put a mark on the center of each axle, draw vertical lines to the lines of the points FL – RL and FR – RR from the marks on the center of the axle using a triangle scale, and then fix the lines using packing tape.

Target line preparation procedure 3



1. Point FL
2. Point FR
3. Point RL
4. Point RR
5. Center position of axle
6. Triangle scale

### Perform “Calibrating Camera Image”

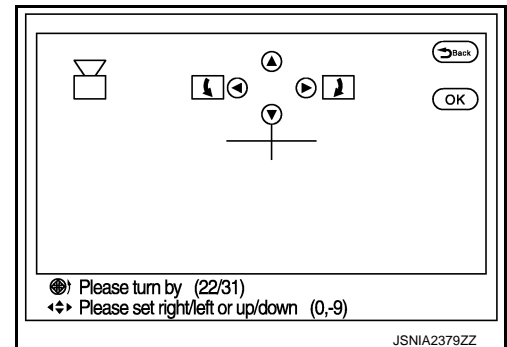
1. Select “Camera Cont.” of “Confirmation/ Adjustment” mode, and then set to “Calibrating Camera Image” mode.
2. Overlap the target lines drawn on the ground with the calibration marker on the screen by operating the center dial and upper/lower/left/right switches of multifunction switch on each screen of “Rear Camera”, “Pass-Side Camera”, “Front Camera”, “Dr-Side Camera”.

#### Adjustment range

Rotation direction (Center dial) : 31 patterns (16 on the center)

Upper/lower direction (upper/lower switch) : -99 – 99

Left/right direction (left/right switch) : -99 – 99



3. “Writing...” is displayed by pressing the “ENTER” switch, and then the adjustment result is written to the around view monitor control unit.

#### **CAUTION:**

**Check that “Writing...” is displayed. Do 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 could not be aligned in the “Calibrating Camera Image” mode.

1. Select “Camera Cont.” of “Confirmation/ Adjustment” mode, and then set to “Fine Tuning of Birds-Eye View” mode.

## INSPECTION AND ADJUSTMENT

### < BASIC INSPECTION >

### [NAVIGATION (TWIN MONITOR)]

2. Operate the center dial and upper/lower/left/right switch to overlap the marker on the screen and the target lines on the ground.

**NOTE:**

Move the “+”- mark on the camera position to adjustment by pressing the “CAMERA” switch.

3. When the target line is overlapped on the marker, press the “ENTER” switch to write the adjustment result to the around view monitor control unit.

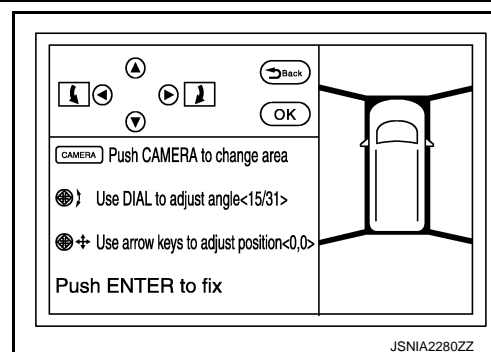
**CAUTION:**

**Check that “Writing...” is displayed. Do never perform other operations while “Writing...” is displayed.**

**NOTE:**

- It can be initialized to the NISSAN factory default condition with “Initialize Camera Image Calibration” of “Calibrating Camera Image”.
- The adjustment value is cancelled on this mode by performing “Initialize Camera Image Calibration”.

>> Calibration end



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AV

## DTC/CIRCUIT DIAGNOSIS

### U1000 CAN COMM CIRCUIT

#### Description

INFOID:000000005474768

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-30, "CAN Communication Signal Chart"](#).

#### DTC Logic

INFOID:000000005474769

#### DTC DETECTION LOGIC

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

#### Diagnosis Procedure

INFOID:000000005474770

#### 1.PERFORM SELF-DIAGNOSTIC

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

#### Is "CAN COMM CIRCUIT" displayed?

- YES >> Refer to "LAN system". Refer to [LAN-20, "Trouble Diagnosis Procedure"](#).
- NO >> Refer to GI section. Refer to [GI-36, "Intermittent Incident"](#).



## U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

### U1010 CONTROL UNIT (CAN)

#### DTC Logic

INFOID:000000005474772

#### DTC DETECTION LOGIC

DTC	Display contents of CONSULT-III	DTC detection condition	Probable malfunction factor
U1010	CONTROL UNIT (CAN) [U1010]	CAN initial diagnosis malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly.

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AV

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## U1200 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

### U1200 AV CONTROL UNIT

#### DTC Logic

INFOID:000000005474774

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1200	Cont Unit [U1200]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly.

U1201 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

U1201 AV CONTROL UNIT

DTC Logic

INFOID:000000005474776

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1201	GYRO NO CONN [U1201]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly.

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AV

## U1202 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

### U1202 AV CONTROL UNIT

#### DTC Logic

INFOID:000000005474778

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1202	G-SENSOR NO CONN [U1202]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly.

# U1204 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## U1204 AV CONTROL UNIT

### Description

INFOID:000000005474779

An intermittent error caused by strong radio interference may be detected unless any symptoms (GPS reception error, etc.) occur. Replace the AV control unit if the malfunction occurs constantly. Refer to [AV-562. "Exploded View"](#).

### DTC Logic

INFOID:000000005474780

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1204	GPS CONN [U1204]	GPS malfunction is detected.	An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs. Replace the AV control unit if the malfunction occurs constantly.

### Diagnosis Procedure

INFOID:000000005474781

#### 1.PERFORM THE SELF-DIAGNOSIS

1. Delete the self-diagnosis results. Turn ignition switch OFF.
2. Turn ignition switch ON. Perform the self-diagnosis again.
3. Check that the DTC is detected again.

#### Is any DTC detected?

- YES >> Replace AV control unit. Refer to [AV-562. "Exploded View"](#).
- NO >> An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs.

AV

## U1205 AV CONTROL UNIT

### Description

INFOID:00000000527098

An intermittent error caused by strong radio interference may be detected unless any symptoms (GPS reception error, etc.) occur. Replace the AV control unit if the malfunction occurs constantly. Refer to [AV-562, "Exploded View"](#).

### DTC Logic

INFOID:000000005474783

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1205	GPS ROM [U1205]	GPS malfunction is detected.	An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs. Replace the AV control unit if the malfunction occurs constantly.

### Diagnosis Procedure

INFOID:000000005474784

#### 1.PERFORM THE SELF-DIAGNOSIS

1. Delete the self-diagnosis results. Turn ignition switch OFF.
2. Turn ignition switch ON. Perform the self-diagnosis again.
3. Check that the DTC is detected again.

#### Is any DTC detected?

- YES >> Replace AV control unit. Refer to [AV-562, "Exploded View"](#).
- NO >> An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs.

# U1206 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## U1206 AV CONTROL UNIT

### Description

INFOID:0000000005527099

An intermittent error caused by strong radio interference may be detected unless any symptoms (GPS reception error, etc.) occur. Replace the AV control unit if the malfunction occurs constantly. Refer to [AV-562. "Exploded View"](#).

### DTC Logic

INFOID:0000000005474786

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1206	GPS RAM [U1206]	GPS malfunction is detected.	An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs. Replace the AV control unit if the malfunction occurs constantly.

### Diagnosis Procedure

INFOID:0000000005474787

#### 1.PERFORM THE SELF-DIAGNOSIS

1. Delete the self-diagnosis results. Turn ignition switch OFF.
2. Turn ignition switch ON. Perform the self-diagnosis again.
3. Check that the DTC is detected again.

#### Is any DTC detected?

- YES >> Replace AV control unit. Refer to [AV-562. "Exploded View"](#).
- NO >> An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs.

AV

## U1207 AV CONTROL UNIT

### Description

INFOID:000000005527100

An intermittent error caused by strong radio interference may be detected unless any symptoms (GPS reception error, etc.) occur. Replace the AV control unit if the malfunction occurs constantly. Refer to [AV-562. "Exploded View"](#).

### DTC Logic

INFOID:000000005474789

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1207	GPS RTC [U1207]	GPS malfunction is detected.	An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs. Replace the AV control unit if the malfunction occurs constantly.

### Diagnosis Procedure

INFOID:000000005474790

#### 1.PERFORM THE SELF-DIAGNOSIS

1. Delete the self-diagnosis results. Turn ignition switch OFF.
2. Turn ignition switch ON. Perform the self-diagnosis again.
3. Check that the DTC is detected again.

#### Is any DTC detected?

- YES >> Replace AV control unit. Refer to [AV-562. "Exploded View"](#).
- NO >> An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs.



U1216 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

U1216 AV CONTROL UNIT

DTC Logic

INFOID:000000005474792

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1216	CAN CONT [U1216]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly.

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AV

## U1217 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

### U1217 AV CONTROL UNIT

#### DTC Logic

INFOID:000000005474794

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1217	BLUETOOTH MODULE [U1217]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly.

# U1218 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## U1218 AV CONTROL UNIT

### DTC Logic

INFOID:000000005474796

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1218	HDD CONN [U1218]	AV control unit malfunction is detected.	<ul style="list-style-type: none"><li>• If the music box function has no malfunctions, then there is a possibility of the detection of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly.</li></ul>

### Diagnosis Procedure

INFOID:000000005474797

#### 1.CHECK MUSIC BOX FUNCTION

##### Is music box function normal?

- YES >> Malfunction may be detected transitory.  
NO >> Replace AV control unit. Refer to [AV-562. "Exploded View"](#).

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AV

## U1219 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

### U1219 AV CONTROL UNIT

#### DTC Logic

INFOID:000000005474799

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1219	HDD READ [U1219]	AV control unit malfunction is detected.	<ul style="list-style-type: none"><li>• If the music box function has no malfunctions, then there is a possibility of the detection of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly.</li></ul>

#### Diagnosis Procedure

INFOID:000000005474800

#### 1.CHECK MUSIC BOX FUNCTION

##### Is music box function normal?

- YES >> Malfunction may be detected transitory.  
NO >> Replace AV control unit. Refer to [AV-562. "Exploded View"](#).

# U121A AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## U121A AV CONTROL UNIT

### DTC Logic

INFOID:000000005474802

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U121A	HDD WRITE [U121A]	AV control unit malfunction is detected.	<ul style="list-style-type: none"><li>• If the music box function has no malfunctions, then there is a possibility of the detection of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly.</li></ul>

### Diagnosis Procedure

INFOID:000000005474803

#### 1.CHECK MUSIC BOX FUNCTION

##### Is music box function normal?

- YES >> Malfunction may be detected transitory.  
NO >> Replace AV control unit. Refer to [AV-562. "Exploded View"](#).

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AV

## U121B AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

### U121B AV CONTROL UNIT

#### DTC Logic

INFOID:000000005474805

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U121B	HDD COMM [U121B]	AV control unit malfunction is detected.	<ul style="list-style-type: none"><li>• If the music box function has no malfunctions, then there is a possibility of the detection of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly.</li></ul>

#### Diagnosis Procedure

INFOID:000000005474806

#### 1.CHECK MUSIC BOX FUNCTION

##### Is music box function normal?

- YES >> Malfunction may be detected transitory.  
NO >> Replace AV control unit. Refer to [AV-562. "Exploded View"](#).

# U121C AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## U121C AV CONTROL UNIT

### DTC Logic

INFOID:000000005474808

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U121C	HDD ACCESS [U121C]	AV control unit malfunction is detected.	<ul style="list-style-type: none"><li>• If the music box function has no malfunctions, then there is a possibility of the detection of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly.</li></ul>

### Diagnosis Procedure

INFOID:000000005474809

#### 1.CHECK MUSIC BOX FUNCTION

##### Is music box function normal?

- YES >> Malfunction may be detected transitory.  
NO >> Replace AV control unit. Refer to [AV-562. "Exploded View"](#).

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AV

## U121D AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

### U121D AV CONTROL UNIT

#### DTC Logic

INFOID:000000005474811

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U121D	DSP CONN [U121D]	AV control unit malfunction is detected.	<ul style="list-style-type: none"><li>• If a disc can be played, then there is a possibility of the detection of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly.</li></ul>

#### Diagnosis Procedure

INFOID:000000005474812

#### 1. CHECK PLAYBACK OF A DISK (CD)

##### Can a disk (CD) be played?

- YES    >> Malfunction may be detected transitory.  
NO     >> Replace AV control unit. Refer to [AV-562. "Exploded View"](#).



# U121E AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## U121E AV CONTROL UNIT

### DTC Logic

INFOID:000000005474814

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U121E	DSP COMM [U121E]	AV control unit malfunction is detected.	<ul style="list-style-type: none"><li>• If a disc can be played, then there is a possibility of the detection of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly.</li></ul>

### Diagnosis Procedure

INFOID:000000005474815

#### 1. CHECK PLAYBACK OF A DISK (CD)

##### Can a disk (CD) be played?

- YES >> Malfunction may be detected transitory.  
NO >> Replace AV control unit. Refer to [AV-562. "Exploded View"](#).

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AV

## U1225 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

### U1225 AV CONTROL UNIT

#### DTC Logic

INFOID:000000005474817

#### DTC DETECTION LOGIC

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1225	USB CONTROLLER [U1225]	USB connection malfunction is detected.	Check that the connection to the USB connector is normal.

# U1227 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## U1227 AV CONTROL UNIT

### DTC Logic

INFOID:000000005474819

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1227	DVD COMM [U1227]	AV control unit malfunction is detected.	<ul style="list-style-type: none"><li>• If DVD can be played, then there is a possibility of the detection of a temporary malfunction.</li><li>• Replace the AV control unit if the malfunction occurs constantly.</li></ul>

### Diagnosis Procedure

INFOID:000000005474820

#### 1.CHECK PLAYBACK OF A DISK (DVD)

##### Can a disc (DVD) be played?

- YES >> Malfunction may be detected transitory.  
NO >> Replace AV control unit. Refer to [AV-562. "Exploded View"](#).

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AV

## U1228 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

### U1228 AV CONTROL UNIT

#### DTC Logic

INFOID:000000005474822

#### DTC DETECTION LOGIC

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1228	SUB CPU CONN [U1228]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly.

U1229 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

U1229 AV CONTROL UNIT

DTC Logic

INFOID:000000005474824

DTC DETECTION LOGIC

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1229	iPod CERTIFICATION [U1229]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly.

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## U122A AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

### U122A AV CONTROL UNIT

#### DTC Logic

INFOID:000000005474826

DTC	Display contents of CONSULT-III	DTC detection condition	Action to take
U122A	CONFIG UNFINISH [U122A]	The writing of configuration data is incomplete.	Write configuration data with CONSULT-III.

#### Diagnosis Procedure

INFOID:000000005474827

#### 1.PERFORM THE SELF-DIAGNOSIS

When U122A is detected, write configuration data with CONSULT-III.

>> Write configuration data with CONSULT-III. Refer to [AV-461, "CONFIGURATION \(AV CONTROL UNIT\) : Work Procedure"](#).

## U122E AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

### U122E AV CONTROL UNIT

#### DTC Logic

INFOID:000000005474829

#### DTC DETECTION LOGIC

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U122E	Built-in AUDIO CONN [U122E]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly.

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## U1232 STEERING ANGLE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

### U1232 STEERING ANGLE SENSOR

#### DTC Logic

INFOID:000000005474831

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1232	ST ANGLE SEN CALIB [1232]	Predictive course line center position adjustment of the steering angle sensor is incomplete.	Adjust the predictive course line center position of the steering angle sensor.

#### Diagnosis Procedure

INFOID:000000005474832

#### 1. ADJUST THE PREDICTIVE COURSE LINE CENTER POSITION OF THE STEERING ANGLE SENSOR

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

>> Adjusts the steering angle sensor neutral position on ABS actuator and electrical unit (control unit) side. Refer to [BRC-9. "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION : Special Repair Requirement"](#).



# U1243 FRONT DISPLAY UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## U1243 FRONT DISPLAY UNIT

### DTC Logic

INFOID:000000005247256

DTC	Display contents of CONSULT-III	DTC Detection Condition	Possible causes
U1243	FRONT DISP CONN [U1243]	When either one of the following items is detected. <ul style="list-style-type: none"><li>front display unit power supply and ground circuit malfunction is detected.</li><li>malfunction is detected in communication circuits between front display unit and AV control unit.</li></ul>	<ul style="list-style-type: none"><li>Front display unit power supply and ground circuit.</li><li>Communication circuits between front display unit and AV control unit.</li></ul>

### Diagnosis Procedure

INFOID:000000005247257

#### 1.CHECK FRONT DISPLAY UNIT POWER SUPPLY AND GROUND CIRCUITS

Check front display unit power supply and ground circuits. Refer to [AV-510. "FRONT DISPLAY UNIT : Diagnosis Procedure"](#).

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair malfunctioning parts.

#### 2.CHECK CONTINUITY COMMUNICATION CIRCUITS

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

Front display unit		AV control unit		Continuity
Connector	Terminals	Connector	Terminals	
M195	9	M210	89	Existed
	10		73	

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

Front display unit		Ground	Continuity
Connector	Terminals		
M195	9		Not existed
	10		

Is inspection result normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

#### 3.CHECK COMMUNICATION SIGNAL

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

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# U1243 FRONT DISPLAY UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

(+)Front display unit		(-)	Condition	Reference value
Connector	Terminal			
M195	9	Ground	When adjusting display brightness.	<div><div><div>(V)</div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></di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Is inspection result normal?

YES >> GO TO 4.

NO >> Replace AV control unit.

## 4.CHECK COMMUNICATION SIGNAL

Check signal between front display unit harness connector and ground.

(+)Front display unit		(-)	Condition	Reference value
Connector	Terminal			
M195	10	Ground	When adjusting display brightness.	<div><div><div>(V)</div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></di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Is inspection result normal?

YES >> INSPECTION END

NO >> Replace front display unit.

# U1244 GPS ANTENNA

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## U1244 GPS ANTENNA

### DTC Logic

INFOID:000000005247259

DTC	Display contents of CONSULT-III	DTC Detection Condition	Possible causes
U1244	GPS ANTENNA CONN [U1244]	GPS antenna connection malfunction is detected.	GPS antenna disconnection

### Diagnosis Procedure

INFOID:000000005247260

#### 1.GPS ANTENNA CHECK

Visually check GPS antenna and antenna feeder.

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair malfunctioning parts.

#### 2.CHECK AV CONTROL UNIT VOLTAGE

1. Disconnect GPS antenna connector.
2. Turn ignition switch ON.
3. Check voltage between AV control unit terminal and ground.

(+)	(-)	Voltage (Approx.)
AV control unit		
Terminal		
153	Ground	5.0 V

Is inspection result normal?

YES >> INSPECTION END

NO >> Replace AV control unit.

AV

# U1247 REAR DISPLAY UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## U1247 REAR DISPLAY UNIT

### DTC Logic

INFOID:000000005247262

DTC	Display contents of CONSULT-III	DTC Detection Condition	Possible causes
U1247	REAR DISP CONN [U1247]	When either one of the following items is detected: <ul style="list-style-type: none"><li>rear display unit power supply and ground circuits are malfunctioning.</li><li>serial communication circuits between video distributor and rear display unit are malfunctioning.</li></ul>	<ul style="list-style-type: none"><li>Rear display unit power supply and ground circuits.</li><li>Serial communication circuits between AV control unit and rear display unit.</li></ul>

### Diagnosis Procedure

INFOID:000000005247263

#### 1.CHECK REAR DISPLAY UNIT POWER SUPPLY AND GROUND CIRCUIT

Check rear display unit power supply and ground circuits. Refer to [AV-511, "REAR DISPLAY UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair malfunctioning parts.

#### 2.CHECK CONTINUITY SERIAL COMMUNICATION CIRCUIT

- Turn ignition switch OFF.
- Disconnect rear display unit connector and video distributor connector.
- Check continuity between rear display unit harness connector and video distributor harness connector.

Rear display unit		Video distributor		Continuity
Connector	Terminals	Connector	Terminals	
B26	9	M97	39	Existed
	10		40	

- Check continuity between rear display unit harness connector and ground.

Rear display unit		Ground	Continuity
Connector	Terminals		
B26	9		Not existed
	10		

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

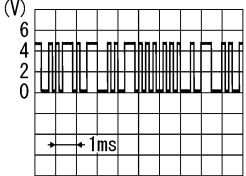
#### 3.CHECK SERIAL COMMUNICATION SIGNAL

- Connect rear display unit connector and video distributor connector.
- Turn ignition switch ON.
- Check signal between rear display unit harness connector and ground.

# U1247 REAR DISPLAY UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

(+) Rear display unit		(-)	Condition		Reference value
Connector	Terminal				
B26	9	Ground	Ignition switch ON	Rear seat remote controller operation when AUX or DVD image is displayed on rear displayed.	 <p>PKIB5039J</p>

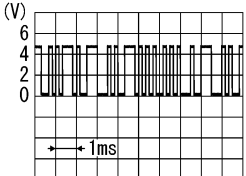
Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace rear display unit.

## 4.CHECK SERIAL COMMUNICATION SIGNAL

Check signal between rear display unit harness connector and ground.

(+) Rear display unit		(-)	Condition		Reference value
Connector	Terminal				
B26	10	Ground	Ignition switch ON	Rear seat remote controller operation when AUX or DVD image is displayed on rear displayed.	 <p>PKIB5039J</p>

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace video distributor.

AV

# U1258 SATELLITE RADIO ANTENNA

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## U1258 SATELLITE RADIO ANTENNA

### DTC Logic

INFOID:000000005247265

DTC	Display contents of CONSULT-III	DTC Detection Condition	Possible causes
U1258	XM ANTENNA CONN [U1258]	Satellite radio antenna connection malfunction is detected.	Satellite radio antenna disconnection

### Diagnosis Procedure

INFOID:000000005247266

#### 1.SATELLITE RADIO ANTENNA CHECK

Visually check satellite radio antenna and antenna feeder.

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair malfunctioning parts.

#### 2.CHECK AV CONTROL UNIT VOLTAGE

1. Disconnect satellite radio antenna connector.
2. Turn ignition switch ON.
3. Check voltage between AV control unit terminal and ground.

(+)	(-)	Voltage (Approx.)
AV control unit		
Terminal		
159	Ground	4.0 V

Is inspection result normal?

YES >> INSPECTION END

NO >> Replace AV control unit.

## U1263 USB

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

### U1263 USB

#### DTC Logic

INFOID:000000005474840

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1263	USB OVERCURRENT [U1263]	Detection of overcurrent in USB connector.	Check USB harness between the AV control unit and USB connector.

#### Diagnosis Procedure

INFOID:000000005474841

#### 1.CHECK USB HARNESS

Visually check USB harness.

Is the inspection result normal?

- YES >> Replace AV control unit. Refer to [AV-578, "Exploded View"](#).  
NO >> Replace USB harness.

A  
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P

AV

# U1300 AV COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## U1300 AV COMM CIRCUIT

### Description

INFOID:000000005511843

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

### SELF-DIAGNOSIS RESULTS DISPLAY ITEM

DTC	Display contents of CONSULT-III	DTC detection condition	Possible malfunction factor
U1300 U1240	<ul style="list-style-type: none"> <li>• AV COMM CIRCUIT [U1300]</li> <li>• SWITCH CONN [U1240]</li> </ul>	When either one of the following items are detected: <ul style="list-style-type: none"> <li>• multifunction switch power supply and ground circuits are malfunctioning.</li> <li>• AV communication circuits between AV control unit and multifunction switch are malfunctioning.</li> </ul>	<ul style="list-style-type: none"> <li>• Multifunction switch power supply and ground circuits.</li> <li>• AV communication circuits between AV control unit and multifunction switch.</li> </ul>
U1300 U125B	<ul style="list-style-type: none"> <li>• AV COMM CIRCUIT [U1300]</li> <li>• AROUND CAMERA CONN [U125B]</li> </ul>	around view monitor control unit power supply and ground circuits are malfunctioning.	Around view monitor control unit power supply and ground circuits.
U1300 U125C	<ul style="list-style-type: none"> <li>• AV COMM CIRCUIT [U1300]</li> <li>• SONAR CONN [U125C]</li> </ul>	When either one of the following items are detected: <ul style="list-style-type: none"> <li>• sonar control unit power supply and ground circuits are malfunctioning.</li> <li>• AV communication circuits between AV control unit and sonar control unit are malfunctioning.</li> </ul>	<ul style="list-style-type: none"> <li>• Sonar control unit power supply and ground circuits.</li> <li>• AV communication circuits between AV control unit and sonar control unit.</li> </ul>
U1300 U1246 U1247	<ul style="list-style-type: none"> <li>• AV COMM CIRCUIT [U1300]</li> <li>• VIDEO DIST CONN [U1246]</li> <li>• REAR DISP CONN [U1247]</li> </ul>	When either one of the following items are detected: <ul style="list-style-type: none"> <li>• video distributor power supply and ground circuits are malfunctioning.</li> <li>• AV communication circuits between around view monitor control unit and video distributor are malfunctioning.</li> </ul>	<ul style="list-style-type: none"> <li>• Video distributor power supply and ground circuits.</li> <li>• AV communication circuits between around view monitor control unit and video distributor.</li> </ul>
U1300 U1246 U1247 U125B	<ul style="list-style-type: none"> <li>• AV COMM CIRCUIT [U1300]</li> <li>• VIDEO DIST CONN [U1246]</li> <li>• REAR DISP CONN [U1247]</li> <li>• AROUND CAMERA CONN [U125B]</li> </ul>	AV communication circuits between AV control unit and around view monitor control unit are malfunctioning.	AV communication circuits between AV control unit and around view monitor control unit.
U1300 U1240 U1246 U1247 U125B	<ul style="list-style-type: none"> <li>• AV COMM CIRCUIT [U1300]</li> <li>• SWITCH CONN [U1240]</li> <li>• VIDEO DIST CONN [U1246]</li> <li>• REAR DISP CONN [U1247]</li> <li>• AROUND CAMERA CONN [U125B]</li> </ul>	AV communication circuits between AV control unit and multifunction switch are malfunctioning.	AV communication circuits between AV control unit and multifunction switch.



U1310 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

U1310 AV CONTROL UNIT

DTC Logic

INFOID:000000005474844

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

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AV

## B2700 CORNER SENSOR [FL]

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

### B2700 CORNER SENSOR [FL]

#### DTC Logic

INFOID:000000005474846

#### DTC DETECTION LOGIC

DTC No.	CONSULT-III indication	DTC detection condition	Troubleshooting
B2700	CORNER SENSOR [FL] [B2700]	Corner sensor (FL) is malfunctioning.	Replace corner sensor (FL).

# B2701 SENSOR HARNESS OPEN [CR-FL]

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## B2701 SENSOR HARNESS OPEN [CR-FL]

### DTC Logic

INFOID:000000005474848

### DTC DETECTION LOGIC

DTC No.	CONSULT-III indication	DTC detection condition	Troubleshooting
B2701	SENSOR HARNESS OPEN [CR-FL] [B2701]	Corner sensor (FL) harness circuit is open.	Check corner sensor (FL) circuit.

### Diagnosis Procedure

INFOID:000000005474849

#### 1.CHECK HARNESS CORNER SENSOR (FL) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect sonar control unit connector and corner sensor (FL) connector.
3. Check continuity between sonar control unit harness connector and corner sensor (FL) harness connector.

Sonar control unit		Corner sensor (FL)		Continuity
Connector	Terminal	Connector	Terminal	
M47	3	E154	1	Existed

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

Sonar control unit		Ground	Continuity
Connector	Terminal		
M47	3		Not existed

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK HARNESS CORNER SENSOR (FL) GROUND CIRCUIT

Check continuity between sonar control unit harness connector and corner sensor (FL) harness connector.

Sonar control unit		Corner sensor (FL)		Continuity
Connector	Terminal	Connector	Terminal	
M47	12	E154	2	Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

## B2702 CORNER SENSOR [FR]

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

### B2702 CORNER SENSOR [FR]

#### DTC Logic

INFOID:000000005474851

#### DTC DETECTION LOGIC

DTC No.	CONSULT-III indication	DTC detection condition	Troubleshooting
B2702	CORNER SENSOR [FR] [B2702]	Corner sensor (FR) is malfunctioning.	Replace corner sensor (FR).

# B2703 SENSOR HARNESS OPEN [CR-FR]

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## B2703 SENSOR HARNESS OPEN [CR-FR]

### DTC Logic

INFOID:000000005474853

### DTC DETECTION LOGIC

DTC No.	CONSULT-III indication	DTC detection condition	Troubleshooting
B2703	SENSOR HARNESS OPEN [CR-FR] [B2703]	Corner sensor (FR) harness circuit is open.	Check corner sensor (FR) circuit.

### Diagnosis Procedure

INFOID:000000005474854

#### 1.CHECK HARNESS CORNER SENSOR (FR) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect sonar control unit connector and corner sensor (FR) connector.
3. Check continuity between sonar control unit harness connector and corner sensor (FR) harness connector.

Sonar control unit		Corner sensor (FR)		Continuity
Connector	Terminal	Connector	Terminal	
M47	4	E152	1	Existed

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

Sonar control unit		Ground	Continuity
Connector	Terminal		
M47	4		Not existed

Is the inspection result normal?

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

#### 2.CHECK HARNESS CORNER SENSOR (FR) GROUND CIRCUIT

Check continuity between sonar control unit harness connector and corner sensor (FR) harness connector.

Sonar control unit		Corner sensor (FR)		Continuity
Connector	Terminal	Connector	Terminal	
M47	12	E152	2	Existed

Is the inspection result normal?

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

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## B2704 CORNER SENSOR [RL]

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

### B2704 CORNER SENSOR [RL]

#### DTC Logic

INFOID:000000005474856

#### DTC DETECTION LOGIC

DTC No.	CONSULT-III indication	DTC detection condition	Troubleshooting
B2704	CORNER SENSOR [RL] [B2704]	Corner sensor (RL) is malfunctioning.	Replace corner sensor (RL).

# B2705 SENSOR HARNESS OPEN [CR-RL]

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## B2705 SENSOR HARNESS OPEN [CR-RL]

### DTC Logic

INFOID:000000005474858

### DTC DETECTION LOGIC

DTC No.	CONSULT-III indication	DTC detection condition	Troubleshooting
B2705	SENSOR HARNESS OPEN [CR-RL] [B2705]	Corner sensor (RL) harness circuit is open.	Check corner sensor (RL) circuit.

### Diagnosis Procedure

INFOID:000000005474859

#### 1.CHECK HARNESS CORNER SENSOR (RL) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect sonar control unit connector and corner sensor (RL) connector.
3. Check continuity between sonar control unit harness connector and corner sensor (RL) harness connector.

Sonar control unit		Corner sensor (RL)		Continuity
Connector	Terminal	Connector	Terminal	
M47	5	B259	1	Existed

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

Sonar control unit		Ground	Continuity
Connector	Terminal		
M47	5		Not existed

Is the inspection result normal?

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

#### 2.CHECK HARNESS CORNER SENSOR (RL) GROUND CIRCUIT

Check continuity between sonar control unit harness connector and corner sensor (RL) harness connector.

Sonar control unit		Corner sensor (RL)		Continuity
Connector	Terminal	Connector	Terminal	
M47	12	B259	2	Existed

Is the inspection result normal?

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

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## B2706 CORNER SENSOR [RR]

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

### B2706 CORNER SENSOR [RR]

#### DTC Logic

INFOID:000000005474861

#### DTC DETECTION LOGIC

DTC No.	CONSULT-III indication	DTC detection condition	Troubleshooting
B2706	CORNER SENSOR [RR] [B2706]	Corner sensor (RR) is malfunctioning.	Replace corner sensor (RR).



# B2707 SENSOR HARNESS OPEN [CR-RR]

[NAVIGATION (TWIN MONITOR)]

< DTC/CIRCUIT DIAGNOSIS >

## B2707 SENSOR HARNESS OPEN [CR-RR]

### DTC Logic

INFOID:000000005474863

### DTC DETECTION LOGIC

DTC No.	CONSULT-III indication	DTC detection condition	Troubleshooting
B2707	SENSOR HARNESS OPEN [CR-RR] [B2707]	Corner sensor (RR) harness circuit is open.	Check corner sensor (RR) circuit.

### Diagnosis Procedure

INFOID:000000005474864

#### 1.CHECK HARNESS CORNER SENSOR (RR) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect sonar control unit connector and corner sensor (RR) connector.
3. Check continuity between sonar control unit harness connector and corner sensor (RR) harness connector.

Sonar control unit		Corner sensor (RR)		Continuity
Connector	Terminal	Connector	Terminal	
M47	6	B256	1	Existed

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

Sonar control unit		Ground	Continuity
Connector	Terminal		
M47	6		Not existed

Is the inspection result normal?

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

#### 2.CHECK HARNESS CORNER SENSOR (RR) GROUND CIRCUIT

Check continuity between sonar control unit harness connector and corner sensor (RR) harness connector.

Sonar control unit		Corner sensor (RR)		Continuity
Connector	Terminal	Connector	Terminal	
M47	12	B256	2	Existed

Is the inspection result normal?

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

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# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## POWER SUPPLY AND GROUND CIRCUIT

### AV CONTROL UNIT

#### AV CONTROL UNIT : Diagnosis Procedure

INFOID:000000005475121

#### 1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	34
Ignition switch ACC or ON	19

Is the inspection result normal?

YES >> GO TO 2.

NO >> Be sure to eliminate cause of malfunction before installing new fuse.

#### 2.CHECK POWER SUPPLY CIRCUIT

Check voltage between AV control unit harness connectors and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Battery power supply	M208	19	OFF	Battery voltage
ACC power supply	M208	7	ACC	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.

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

#### 3.CHECK GROUND CIRCUIT

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

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	M208	20	OFF	Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

### FRONT DISPLAY UNIT

#### FRONT DISPLAY UNIT : Diagnosis Procedure

INFOID:000000005475122

#### 1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	34
Ignition switch ACC or ON	19

Is the inspection result normal?

YES >> GO TO 2.

NO >> Be sure to eliminate cause of malfunction before installing new fuse.

#### 2.CHECK POWER SUPPLY CIRCUIT

Check voltage between display unit harness connector and ground.

# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Battery power supply	M195	11	OFF	Battery voltage
ACC power supply	M195	23	ACC	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check harness between display unit and fuse.

## 3.CHECK GROUND CIRCUIT

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

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	M195	12	OFF	Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

## REAR DISPLAY UNIT

### REAR DISPLAY UNIT : Diagnosis Procedure

INFOID:000000005475113

## 1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	34
Ignition switch ACC or ON	19

Is the inspection result normal?

YES >> GO TO 2.

NO >> Be sure to eliminate cause of malfunction before installing new fuse.

## 2.CHECK POWER SUPPLY CIRCUIT

Check voltage between rear display unit harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Battery power supply	B26	3	OFF	Battery voltage
		4		
ACC power supply	B26	6	ACC	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check harness between rear display unit and fuse.

## 3.CHECK GROUND CIRCUIT

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

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	B26	1	OFF	Existed
		2		

Is the inspection result normal?

YES >> INSPECTION END

# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

NO >> Repair harness or connector.

## VIDEO DISTRIBUTOR

### VIDEO DISTRIBUTOR : Diagnosis Procedure

INFOID:000000005475114

#### 1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	34
Ignition switch ACC or ON	19

Is the inspection result normal?

YES >> GO TO 2.

NO >> Be sure to eliminate cause of malfunction before installing new fuse.

#### 2.CHECK POWER SUPPLY CIRCUIT

Check voltage between video distributor harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Battery power supply	M99	54	OFF	Battery voltage
ACC power supply	M99	55	ACC	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check harness between video distributor and fuse.

#### 3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect video distributor connector.
3. Check continuity between video distributor harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	M99	53	OFF	Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

## BOSE AMP.

### BOSE AMP. : Diagnosis Procedure

INFOID:000000005475124

#### 1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	8

Is the inspection result normal?

YES >> GO TO 2.

NO >> Be sure to eliminate cause of malfunction before installing new fuse.

#### 2.CHECK POWER SUPPLY CIRCUIT

Check voltage between BOSE amp. harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Battery power supply	B42	11	OFF	Battery voltage

## POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check harness between BOSE amp. and fuse.

### 3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BOSE amp. connector.
3. Check continuity between BOSE amp. harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	B42	12	OFF	Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

## AROUND VIEW MONITOR CONTROL UNIT

### AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure

INFOID:000000005475125

### 1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	34
Ignition switch ACC	19

Is inspection result normal?

YES >> GO TO 2.

NO >> Be sure to eliminate cause of malfunction before installing new fuse.

### 2.CHECK POWER SUPPLY CIRCUITS

Check voltage between around view monitor control unit harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Battery power supply	B46	2	OFF	Battery voltage
ACC power supply	B46	4	ACC	Battery voltage

Is inspection result normal?

YES >> GO TO 3.

NO >> Check harness between around view monitor control unit and fuse.

### 3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector.
3. Check continuity between around view monitor control unit harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	B46	1	OFF	Existed

Is inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

## SONAR CONTROL UNIT (WITH AROUND VIEW MONITOR)

### SONAR CONTROL UNIT (WITH AROUND VIEW MONITOR) : Diagnosis Procedure

INFOID:000000005475126

### 1.CHECK FUSE

## POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

Check for blown fuses.

Power source	Fuse No.
Ignition switch ACC or ON	19

Is the inspection result normal?

YES >> GO TO 2.

NO >> Be sure to eliminate cause of malfunction before installing new fuse.

### 2.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch ON.
2. Check voltage between sonar control unit harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Battery power supply	M47	13	ACC	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace sonar control unit power supply harness.

### 3.CHECK GROUND CIRCUIT

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

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	M47	24	OFF	Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair or replace sonar control unit ground harness.

# RGB (G: GREEN) SIGNAL CIRCUIT (VIDEO DISTRIBUTOR TO REAR DISPLAY UNIT)

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## RGB (G: GREEN) SIGNAL CIRCUIT (VIDEO DISTRIBUTOR TO REAR DISPLAY UNIT)

### Description

INFOID:000000005247316

Transmit the image displayed with video distributor with RGB signal to the rear display unit.

### Diagnosis Procedure

INFOID:000000005247317

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

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

Rear display unit		Video distributor		Continuity
Connector	Terminal	Connector	Terminal	
B26	21	M97	26	Existed

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

Rear display unit		Ground	Continuity
Connector	Terminal		
B26	21		Not existed

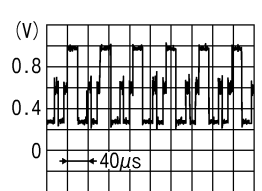
Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK RGB (G: GREEN) SIGNAL

1. Connect rear display unit connector and video distributor connector.
2. Turn ignition switch ON.
3. Check signal between rear display unit harness connector and ground using an oscilloscope.

(+) (V)		(-)	Condition	Reference value
Connector	Terminal			
B26	21	Ground	Rear seat remote controller operation when AUX or DVD image is displayed on rear display unit.	 JSNIA1030ZZ

Is the inspection result normal?

YES >> Replace rear display unit.

NO >> Replace video distributor.

# RGB (R: RED) SIGNAL CIRCUIT (VIDEO DISTRIBUTOR TO REAR DISPLAY UNIT)

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## RGB (R: RED) SIGNAL CIRCUIT (VIDEO DISTRIBUTOR TO REAR DISPLAY UNIT)

### Description

INFOID:000000005247314

Transmit the image displayed with video distributor with RGB signal to the rear display unit.

### Diagnosis Procedure

INFOID:000000005247315

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

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

Rear display unit		Video distributor		Continuity
Connector	Terminal	Connector	Terminal	
B26	22	M97	25	Existed

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

Rear display unit		Ground	Continuity
Connector	Terminal		
B26	22		Not existed

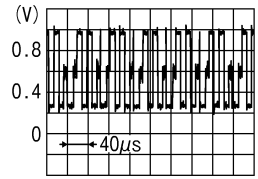
Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK RGB (R: RED) SIGNAL

1. Connect rear display unit connector and video distributor connector.
2. Turn ignition switch ON.
3. Check signal between rear display unit harness connector and ground using an oscilloscope.

(+) (V)		(-)	Condition	Reference value
Connector	Terminal			
B26	22	Ground	Rear seat remote controller operation when AUX or DVD image is displayed on rear display unit.	

JSNIA1029ZZ

Is the inspection result normal?

YES >> Replace rear display unit.

NO >> Replace video distributor.



# RGB (B: BLUE) SIGNAL CIRCUIT (VIDEO DISTRIBUTOR TO REAR DISPLAY UNIT)

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## RGB (B: BLUE) SIGNAL CIRCUIT (VIDEO DISTRIBUTOR TO REAR DISPLAY UNIT)

### Description

INFOID:000000005247318

Transmit the image displayed with video distributor with RGB signal to the rear display unit.

### Diagnosis Procedure

INFOID:000000005247319

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

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

Rear display unit		Video distributor		Continuity
Connector	Terminal	Connector	Terminal	
B26	20	M97	28	Existed

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

Rear display unit		Ground	Continuity
Connector	Terminal		
B26	20		Not existed

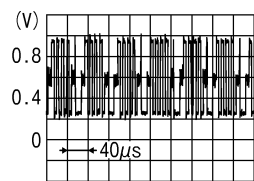
Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK RGB (B: BLUE) SIGNAL

1. Connect rear display unit connector and video distributor connector.
2. Turn ignition switch ON.
3. Check signal between rear display unit harness connector and ground using an oscilloscope.

(+) (V)		(-)	Condition	Reference value
Connector	Terminal			
B26	20	Ground	Rear seat remote controller operation when AUX or DVD image is displayed on rear display unit.	

JSNIA1031ZZ

Is the inspection result normal?

YES >> Replace rear display unit.

NO >> Replace video distributor.

# RGB AREA (YS) SIGNAL CIRCUIT (VIDEO DISTRIBUTOR TO REAR DISPLAY UNIT)

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## RGB AREA (YS) SIGNAL CIRCUIT (VIDEO DISTRIBUTOR TO REAR DISPLAY UNIT)

### Description

INFOID:000000005247320

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

### Diagnosis Procedure

INFOID:000000005247321

#### 1.CHECK CONTINUITY RGB AREA (YS) SIGNAL CIRCUIT

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

Rear display unit		Video distributor		Continuity
Connector	Terminal	Connector	Terminal	
B26	15	M97	32	Existed

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

Rear display unit		Ground	Continuity
Connector	Terminal		
B26	15		Not existed

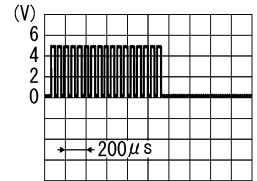
Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK RGB AREA (YS) SIGNAL

1. Connect rear display unit connector and video distributor connector.
2. Turn ignition switch ON.
3. Check signal between rear display unit harness connector and ground using an oscilloscope.

(+) (V)		(-)	Condition	Reference value
Connector	Terminal			
B26	15	Ground	When AUX or DVD image is displayed on rear display unit.	0 V
			Rear seat remote controller operation when AUX or DVD image is displayed on rear display unit.	

PKIB4948J

Is the inspection result normal?

YES >> Replace rear display unit.

NO >> Replace video distributor.

# VERTICAL SYNCHRONIZING SIGNAL CIRCUIT (REAR DISPLAY UNIT TO VIDEO DISTRIBUTOR)

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## VERTICAL SYNCHRONIZING SIGNAL CIRCUIT (REAR DISPLAY UNIT TO VIDEO DISTRIBUTOR)

### Description

INFOID:000000005247322

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

### Diagnosis Procedure

INFOID:000000005247323

#### 1.CHECK CONTINUITY VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

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

Rear display unit		Video distributor		Continuity
Connector	Terminal	Connector	Terminal	
B26	17	M97	29	Existed

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

Rear display unit		Ground	Continuity
Connector	Terminal		
B26	17		Not existed

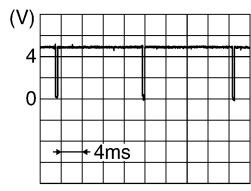
Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK VERTICAL SYNCHRONIZING (VP) SIGNAL

1. Connect rear display unit connector and video distributor connector.
2. Turn ignition switch ON.
3. Check signal between rear display unit harness connector and ground using an oscilloscope.

(+) Rear display unit		(-)	Condition	Reference value
Connector	Terminal			
B26	17	Ground	—	

Is the inspection result normal?

YES >> Replace video distributor.

NO >> Replace rear display unit.

# HORIZONTAL SYNCHRONIZING SIGNAL CIRCUIT (REAR DISPLAY UNIT TO VIDEO DISTRIBUTOR)

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## HORIZONTAL SYNCHRONIZING SIGNAL CIRCUIT (REAR DISPLAY UNIT TO VIDEO DISTRIBUTOR)

### Description

INFOID:000000005247324

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

### Diagnosis Procedure

INFOID:000000005247325

#### 1.CHECK CONTINUITY HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

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

Rear display unit		Video distributor		Continuity
Connector	Terminal	Connector	Terminal	
B26	18	M97	30	Existed

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

Rear display unit		Ground	Continuity
Connector	Terminal		
B26	18		Not existed

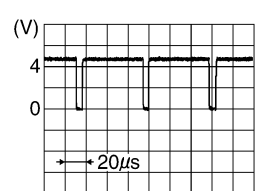
Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK HORIZONTAL SYNCHRONIZING (HP) SIGNAL

1. Connect rear display unit connector and video distributor connector.
2. Turn ignition switch ON.
3. Check signal between rear display unit harness connector and ground using an oscilloscope.

(+) (V)		(-)	Condition	Reference value
Connector	Terminal			
B26	18	Ground	—	 SKIB3601E

Is the inspection result normal?

YES >> Replace video distributor.

NO >> Replace rear display unit.

# COMPOSITE IMAGE SIGNAL CIRCUIT (VIDEO DISTRIBUTOR TO REAR DISPLAY UNIT)

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## COMPOSITE IMAGE SIGNAL CIRCUIT (VIDEO DISTRIBUTOR TO REAR DISPLAY UNIT)

### Description

INFOID:000000005550410

- DVD is played by inserting DVD into the AV control unit.
- DVD image signals are transmitted to the front display unit and video distributor.
- AV control unit receives the image signal from the auxiliary input jacks and USB (video data) and then transmits it to the video distributor.
- Video distributor receives the image signal from the AV control unit and then transmits it to the rear display unit.

### Diagnosis Procedure

INFOID:000000005247327

#### 1. CHECK CONTINUITY COMPOSITE IMAGE SIGNAL CIRCUIT

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

Video distributor		Rear display unit		Continuity
Connector	Terminal	Connector	Terminal	
M97	34	B26	14	Existed

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

Rear display unit		Ground	Continuity
Connector	Terminal		
B26	14		Not existed

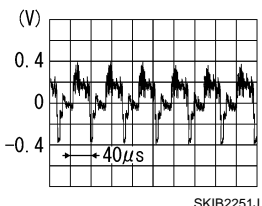
Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2. CHECK COMPOSITE IMAGE SIGNAL

1. Connect video distributor connector and rear display unit connector.
2. Turn ignition switch ON.
3. Check signal between rear display unit harness connector using an oscilloscope.

(+) (Rear display unit)		(-)	Condition	Reference value
Connector	Terminal			
B26	14	Ground	When AUX or DVD image is displayed on rear display unit.	

Is the inspection result normal?

YES >> Replace rear display unit.

NO >> Replace video distributor.

# COMPOSITE IMAGE SIGNAL CIRCUIT (VIDEO DISTRIBUTOR TO AV CONTROL UNIT)

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## COMPOSITE IMAGE SIGNAL CIRCUIT (VIDEO DISTRIBUTOR TO AV CONTROL UNIT)

### Description

INFOID:000000005550434

- DVD is played by inserting DVD into the AV control unit.
- DVD image signals are transmitted to the front display unit and video distributor.
- AV control unit receives the image signal from the auxiliary input jacks and USB (video data) and then transmits it to the video distributor.
- Video distributor receives the image signal from the AV control unit and then transmits it to the rear display unit.

### Diagnosis Procedure

INFOID:000000005550411

#### 1. CHECK CONTINUITY COMPOSITE IMAGE SIGNAL CIRCUIT

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

Video distributor		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M98	23	M209	34	Existed

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

Video distributor		Ground	Continuity
Connector	Terminal		
M98	23		Not existed

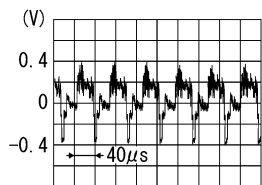
Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2. CHECK COMPOSITE IMAGE SIGNAL

1. Connect video distributor connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between video distributor harness connector using an oscilloscope.

(+) Rear display unit		(-)	Condition	Reference value
Connector	Terminal			
M98	23	Ground	When AUX or DVD image is displayed on rear display unit.	 SKIB2251J

Is the inspection result normal?

YES >> Replace video distributor.

NO >> Replace AV control unit.

# RGB DIGITAL IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## RGB DIGITAL IMAGE SIGNAL CIRCUIT

### Description

INFOID:000000005474871

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

### Diagnosis Procedure

INFOID:000000005474872

#### 1.CHECK CONTINUITY RGB DIGITAL IMAGE SIGNAL CIRCUIT

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

Front display unit		AV control unit		Continuity
Connector	Terminals	Connector	Terminals	
M397	27	M396	157	Existed
	28		158	

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

Front display unit		Ground	Continuity
Connector	Terminals		
M397	27		Not existed
	28		

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK RGB DIGITAL IMAGE SIGNAL

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

(+) Front display unit		(-)	Condition	Voltage (Approx.)
Connector	Terminal			
M397	27	Ground	—	3.0 V
	28			

Is the inspection result normal?

YES >> Replace front display unit. Refer to [AV-564, "Exploded View"](#).

NO >> Replace AV control unit. Refer to [AV-562, "Exploded View"](#).

AV

# COMPOSITE IMAGE SIGNAL CIRCUIT (AV CONTROL UNIT TO FRONT DISPLAY UNIT)

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## COMPOSITE IMAGE SIGNAL CIRCUIT (AV CONTROL UNIT TO FRONT DISPLAY UNIT)

### Description

INFOID:000000005550435

- DVD is played by inserting DVD into the AV control unit.
- DVD image signals are transmitted to the front display unit and video distributor.
- AV control unit receives the image signal from the auxiliary input jacks and USB (video data) and then transmits it to the video distributor.
- Video distributor receives the image signal from the AV control unit and then transmits it to the rear display unit.

### Diagnosis Procedure

INFOID:000000005474874

#### 1. CHECK CONTINUITY COMPOSITE IMAGE SIGNAL CIRCUIT

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

AV control unit		Front display unit		Continuity
Connector	Terminal	Connector	Terminal	
M210	68	M195	18	Existed

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

AV control unit		Ground	Continuity
Connector	Terminal		
M210	68		Not existed

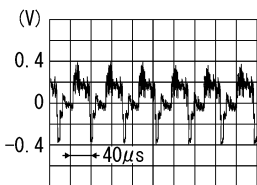
Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2. CHECK AUX COMPOSITE SIGNAL

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

(+) (V)		(-)	Condition	Reference value
Connector	Terminal			
M210	68	Ground	At DVD image is displayed.	 SKIB2251J

Is the inspection result normal?

YES >> Replace front display unit. Refer to [AV-564, "Exploded View"](#).

NO >> Replace AV control unit. Refer to [AV-562, "Exploded View"](#).



# AUX IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## AUX IMAGE SIGNAL CIRCUIT

### Description

INFOID:000000005474875

- Transmits the image signal of AUX device from auxiliary input jacks to AV control unit.
- AV control unit transmits the image signal that is input to the display unit.

### Diagnosis Procedure

INFOID:000000005474876

#### 1.CHECK CONTINUITY AUX IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect auxiliary input jacks connector and AV control unit connector.
3. Check continuity between auxiliary input jacks harness connector and AV control unit harness connector.

Auxiliary input jacks		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M196	7	M209	26	Existed

4. Check continuity between auxiliary input jacks harness connector and ground.

Auxiliary input jacks		Ground	Continuity
Connector	Terminal		
M196	7		Not existed

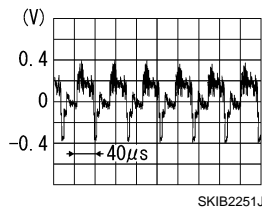
Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK AUX IMAGE SIGNAL

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

(+) Auxiliary input jacks		(-)	Condition	Reference value
Connector	Terminal			
M196	7	Ground	At AUX image is displayed.	

Is the inspection result normal?

YES >> Replace AV control unit. Refer to [AV-562. "Exploded View"](#).

NO >> Check that there is no malfunction in the external device.

# DISK EJECT SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## DISK EJECT SIGNAL CIRCUIT

### Description

INFOID:000000005474877

The eject signal is output to AV control unit when the eject switch of multifunction switch is pressed.

### Diagnosis Procedure

INFOID:000000005474878

#### 1.CHECK CONTINUITY DISK EJECT SIGNAL CIRCUIT

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

Multifunction switch		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M72	14	M209	29	Existed

4. Check continuity between multifunction switch harness connector and ground.

Multifunction switch		Ground	Continuity
Connector	Terminal		
M72	14		Not existed

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK AV CONTROL UNIT VOLTAGE

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

(+)AV control unit		(-)	Condition	Voltage (Approx.)
Connector	Terminal			
M209	29	Ground	Pressing the eject switch	0 V
			Except for above	5.0 V

Is the inspection result normal?

YES >> Replace preset switch. Refer to [AV-576. "Exploded View"](#).

NO >> Replace AV control unit. Refer to [AV-562. "Exploded View"](#).

# MODE CHANGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## MODE CHANGE SIGNAL CIRCUIT

### Description

INFOID:000000005474879

- AV control unit transmits the mode change signal to BOSE amp.
- Driver's Audio Stage controls the speaker's output characteristic by BOSE amp. so that the driver's seat is to be the center of sounds.

### Diagnosis Procedure

INFOID:000000005474880

#### 1.CHECK CONTINUITY MODE CHANGE SIGNAL CIRCUIT

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

BOSE amp.		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
B41	17	M209	30	Existed

4. Check continuity between BOSE amp. harness connector and ground.

BOSE amp.		Ground	Continuity
Connector	Terminal		
B41	17		Not existed

Is the inspection result normal?

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

#### 2.CHECK MODE CHANGE SIGNAL

1. Connect BOSE amp. connector.
2. Turn ignition switch ON.
3. Check signal between BOSE amp. harness connector and ground.

(+) BOSE amp.		(-)	Condition	Voltage (Approx.)
Connector	Terminal			
B41	17	Ground	Driver's Audio Stage ON	0 V
			Driver's Audio Stage OFF	8.5 V

Is the inspection result normal?

- YES >> Replace AV control unit. Refer to [AV-562. "Exploded View"](#).  
NO >> Replace BOSE amp. Refer to [AV-573. "Exploded View"](#).

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AV

# MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## MICROPHONE SIGNAL CIRCUIT

### Description

INFOID:000000005474881

Supply power from AV control unit to microphone. The microphone transmits the sound/voice to the AV control unit.

### Diagnosis Procedure

INFOID:000000005474882

#### 1.CHECK CONTINUITY BETWEEN AV CONTROL UNIT AND MICROPHONE CIRCUIT

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

AV control unit		Microphone		Continuity
Connector	Terminals	Connector	Terminals	
M210	71	R17	2	Existed
	72		4	
	87		1	

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

AV control unit		Ground	Continuity
Connector	Terminals		
M210	72		Not existed
	87		

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK VOLTAGE MICROPHONE VCC

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

(+) (−)		Ground	Voltage (Approx.)
AV control unit			
Connector	Terminal		
M210	72		5.0 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace AV control unit. Refer to [AV-573. "Exploded View"](#).

#### 3.CHECK MICROPHONE SIGNAL

1. Connect microphone connector.
2. Check signal between AV control unit harness connector.

# MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

(+)		(-)		Condition	Reference value
AV control unit		AV control unit			
Connector	Terminal	Connector	Terminal		
M210	87	M210	71	Give a voice.	<div><div><div>(V)</div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><di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Is the inspection result normal?

- YES >> Replace AV control unit. Refer to [AV-573. "Exploded View"](#).  
 NO >> Replace microphone. Refer to [AV-579. "Exploded View"](#).

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AV

# CAMERA IMAGE SIGNAL CIRCUIT (AROUND VIEW MONITOR CONTROL UNIT TO DISPLAY UNIT)

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## CAMERA IMAGE SIGNAL CIRCUIT (AROUND VIEW MONITOR CONTROL UNIT TO DISPLAY UNIT)

### Description

INFOID:000000005474885

Around view monitor control unit supplies to the front camera, rear camera and side camera. And then it superimpose the images from each camera and outputs then to the front display unit.

### Diagnosis Procedure

INFOID:000000005474886

#### 1.CHECK CONTINUITY CAMERA IMAGE SIGNAL CIRCUIT

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

Front display unit		Around view monitor control unit		Continuity
Connector	Terminal	Connector	Terminal	
M195	8	B46	27	Existed

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

Front display unit		Ground	Continuity
Connector	Terminal		
M195	8		Not existed

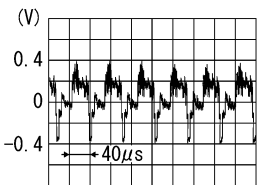
Is inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK CAMERA IMAGE SIGNAL

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

(+) Front display unit		(-)	Condition	Reference value
Connector	Terminal			
M195	8	Ground	At camera image is displayed.	

Is inspection result normal?

YES >> Replace front display unit. Refer to [AV-564, "Exploded View"](#).

NO >> Replace around view monitor control unit. Refer to [AV-582, "Exploded View"](#).

# FRONT CAMERA COMMUNICATION SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## FRONT CAMERA COMMUNICATION SIGNAL CIRCUIT

### Description

INFOID:000000005474887

- Around view monitor control unit supplies to the front camera, rear camera and side camera. And then it superimpose the images from each camera and outputs then to the display unit.
- Superimpose the guiding lines, predicted course line and sonar indicator to the camera image that outputs to the front display unit.
- Around view monitor control unit performs the reception/transmission of communication signal with each camera.

### Diagnosis Procedure

INFOID:000000005474888

#### 1.CHECK CONTINUITY COMMUNICATION SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector and front camera connector.
3. Check continuity between around view monitor control unit harness connector and front camera harness connector.

Around view monitor control unit		Front camera		Continuity
Connector	Terminal	Connector	Terminal	
B45	45	E155	6	Existed

4. Check continuity between around view monitor control unit harness connector and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
B45	45		Not existed

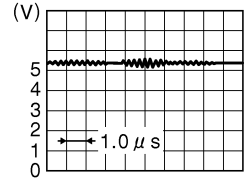
Is inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK COMMUNICATION SIGNAL

1. Connect around view monitor control unit connector and front camera connector.
2. Turn ignition switch ON.
3. Check signal between around view monitor control unit harness connector and ground.

(+) Around view monitor control unit		(-)	Condition	Reference value
Connector	Terminal			
B45	45	Ground	"CAMERA" switch is ON or shift position is "R".	 JSNIA0836GB

Is inspection result normal?

YES >> Replace around view monitor control unit. Refer to [AV-582, "Exploded View"](#).

NO >> Replace front camera. Refer to [AV-583, "Exploded View"](#).

# FRONT CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## FRONT CAMERA IMAGE SIGNAL CIRCUIT

### Description

INFOID:000000005525406

- Around view monitor control unit supplies to the front camera, rear camera and side camera. And then it superimpose the images from each camera and outputs then to the display unit.
- Superimpose the guiding lines, predicted course line and sonar indicator to the camera image that outputs to the front display unit.
- Around view monitor control unit performs the reception/transmission of communication signal with each camera.

### Diagnosis Procedure

INFOID:000000005474890

#### 1.CHECK CONTINUITY FRONT CAMERA POWER SUPPLY AND GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector and front camera connector.
3. Check continuity between around view monitor control unit harness connector and front camera harness connector.

Around view monitor control unit		Front camera		Continuity
Connector	Terminals	Connector	Terminals	
B45	44	E155	2	Existed
	46		1	

4. Check continuity between around view monitor control unit harness connector and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
B45	46		Not existed

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK VOLTAGE FRONT CAMERA POWER SUPPLY

1. Connect around view monitor control unit connector and front camera connector.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit harness connector.

(+) Around view monitor control unit		(-)	Condition	Voltage (Approx.)
Connector	Terminal			
B45	46	Ground	"CAMERA" switch is ON or shift position is "R".	6.0 V

Is inspection result normal?

YES >> GO TO 3.

NO >> Replace around view monitor control unit. Refer to [AV-582, "Exploded View"](#).

#### 3.CHECK CONTINUITY FRONT CAMERA IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector and front camera connector.
3. Check continuity between around view monitor control unit harness connector and front camera harness connector.



# FRONT CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

Around view monitor control unit		Front camera		Continuity
Connector	Terminals	Connector	Terminals	
B45	41	E155	3	Existed
	42		4	

4. Check continuity between around view monitor control unit harness connector and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminals		
B45	41, 42		Not existed

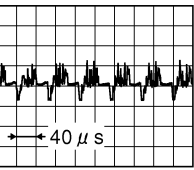
Is inspection result normal?

YES >> GO TO 4.

NO >> Repair harness or connector.

## 4.CHECK FRONT CAMERA IMAGE SIGNAL

1. Connect around view monitor control unit connector and front camera connector.
2. Turn ignition switch ON.
3. Check signal between around view monitor control unit harness connector.

(+)		(-)		Condition	Reference value
Around view monitor control unit		Around view monitor control unit			
Connector	Terminal	Connector	Terminal		
B45	41	B45	42	“CAMERA” switch is ON or shift position is “R”.	<div><div>(V)</div><div></div><div>JSNIA0834GB</div></div>

Is inspection result normal?

YES >> Replace around view monitor control unit. Refer to [AV-582, "Exploded View"](#).

NO >> Replace front camera. Refer to [AV-583, "Exploded View"](#).

AV

# REAR CAMERA COMMUNICATION SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## REAR CAMERA COMMUNICATION SIGNAL CIRCUIT

### Description

INFOID:000000005525407

- Around view monitor control unit supplies to the front camera, rear camera and side camera. And then it superimpose the images from each camera and outputs then to the display unit.
- Superimpose the guiding lines, predicted course line and sonar indicator to the camera image that outputs to the front display unit.
- Around view monitor control unit performs the reception/transmission of communication signal with each camera.

### Diagnosis Procedure

INFOID:000000005474892

#### 1.CHECK CONTINUITY COMMUNICATION SIGNAL CIRCUIT

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

Around view monitor control unit		Rear camera		Continuity
Connector	Terminal	Connector	Terminal	
B46	35	D111	4	Existed

4. Check continuity between around view monitor control unit harness connector and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
B46	35		Not existed

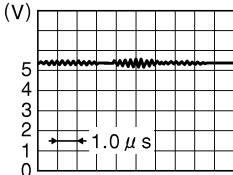
Is inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK COMMUNICATION SIGNAL

1. Connect around view monitor control unit connector and rear camera connector.
2. Turn ignition switch ON.
3. Check signal between around view monitor control unit harness connector and ground.

(+) Around view monitor control unit		(-)	Condition	Reference value
Connector	Terminal			
B46	35	Ground	"CAMERA" switch is ON or shift position is "R".	 JSNIA0836GB

Is inspection result normal?

YES >> Replace around view monitor control unit. Refer to [AV-582, "Exploded View"](#).

NO >> Replace rear camera. Refer to [AV-584, "Exploded View"](#).

# REAR CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## REAR CAMERA IMAGE SIGNAL CIRCUIT

### Description

INFOID:000000005525408

- Around view monitor control unit supplies to the front camera, rear camera and side camera. And then it superimpose the images from each camera and outputs then to the display unit.
- Superimpose the guiding lines, predicted course line and sonar indicator to the camera image that outputs to the front display unit.
- Around view monitor control unit performs the reception/transmission of communication signal with each camera.

### Diagnosis Procedure

INFOID:000000005474894

#### 1.CHECK CONTINUITY REAR CAMERA POWER SUPPLY AND GROUND CIRCUIT

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

Around view monitor control unit		Rear camera		Continuity
Connector	Terminals	Connector	Terminals	
B46	36	D111	8	Existed
	38		7	

4. Check continuity between around view monitor control unit harness connector and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
B46	36		Not existed

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK VOLTAGE REAR CAMERA POWER SUPPLY

1. Connect around view monitor control unit connector and rear camera connector.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit harness connector and ground.

(+)		(-)	Condition	Voltage (Approx.)
Around view monitor control unit				
Connector	Terminal			
B46	36	Ground	“CAMERA” switch is ON or shift position is “R”.	6.0 V

Is inspection result normal?

YES >> GO TO 3.

NO >> Replace around view monitor control unit. Refer to [AV-582, "Exploded View"](#).

#### 3.CHECK CONTINUITY REAR CAMERA IMAGE SIGNAL CIRCUIT

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

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AV

# REAR CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

Around view monitor control unit		Rear camera		Continuity
Connector	Terminals	Connector	Terminals	
B46	39	D111	5	Existed
	40		1	

4. Check continuity between around view monitor control unit harness connector and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminals		
B46	39, 40		Not existed

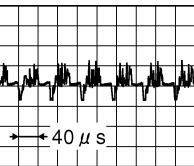
Is inspection result normal?

YES >> GO TO 4.

NO >> Repair harness or connector.

## 4. CHECK REAR CAMERA IMAGE SIGNAL

1. Connect around view monitor control unit connector and rear camera connector.
2. Turn ignition switch ON.
3. Check signal between around view monitor control unit harness connector.

(+) (+)		(-) (-)		Condition	Reference value
Around view monitor control unit		Around view monitor control unit			
Connector	Terminal	Connector	Terminal		
B46	39	B46	40	"CAMERA" switch is ON or shift position is "R".	<div><div>(V)</div><div></div><div>JSNIA0834GB</div></div>

Is inspection result normal?

YES >> Replace around view monitor control unit. Refer to [AV-582, "Exploded View"](#).

NO >> Replace rear camera. Refer to [AV-584, "Exploded View"](#).

# SIDE CAMERA LH COMMUNICATION SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## SIDE CAMERA LH COMMUNICATION SIGNAL CIRCUIT

### Description

INFOID:000000005525409

- Around view monitor control unit supplies to the front camera, rear camera and side camera. And then it superimpose the images from each camera and outputs then to the display unit.
- Superimpose the guiding lines, predicted course line and sonar indicator to the camera image that outputs to the front display unit.
- Around view monitor control unit performs the reception/transmission of communication signal with each camera.

### Diagnosis Procedure

INFOID:000000005474896

#### 1.CHECK CONTINUITY COMMUNICATION SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector and door mirror (driver side) connector.
3. Check continuity between around view monitor control unit harness connector and door mirror (driver side) harness connector.

Around view monitor control unit		Door mirror (driver side)		Continuity
Connector	Terminal	Connector	Terminal	
B45	47	D3	3	Existed

4. Check continuity between around view monitor control unit harness connector and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
B45	47		Not existed

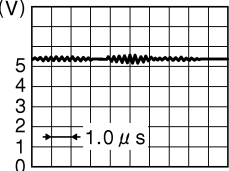
#### Is inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK COMMUNICATION SIGNAL

1. Connect around view monitor control unit connector and door mirror (driver side) connector.
2. Turn ignition switch ON.
3. Check signal between around view monitor control unit harness connector and ground.

(+)		(-)	Condition	Reference value
Around view monitor control unit				
Connector	Terminal			
B45	47	Ground	“CAMERA” switch is ON or shift position is “R”.	<div><div>(V)</div><div>JSNIA0836GB</div></div>

#### Is inspection result normal?

YES >> Replace around view monitor control unit. Refer to [AV-582, "Exploded View"](#).

NO >> Replace side camera LH. Refer to [AV-585, "Exploded View"](#).

# SIDE CAMERA LH IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## SIDE CAMERA LH IMAGE SIGNAL CIRCUIT

### Description

INFOID:000000005525410

- Around view monitor control unit supplies to the front camera, rear camera and side camera. And then it superimpose the images from each camera and outputs then to the display unit.
- Superimpose the guiding lines, predicted course line and sonar indicator to the camera image that outputs to the front display unit.
- Around view monitor control unit performs the reception/transmission of communication signal with each camera.

### Diagnosis Procedure

INFOID:000000005474900

#### 1.CHECK CONTINUITY SIDE CAMERA LH POWER SUPPLY AND GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector and door mirror (driver side) connector.
3. Check continuity between around view monitor control unit harness connector and door mirror (driver side) harness connector.

Around view monitor control unit		Door mirror (driver side)		Continuity
Connector	Terminals	Connector	Terminals	
B45	48	D3	6	Existed
	50		18	

4. Check continuity between around view monitor control unit harness connector and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
B45	48		Not existed

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK VOLTAGE SIDE CAMERA LH POWER SUPPLY

1. Connect around view monitor control unit connector and door mirror (driver side) connector.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit harness connector and ground.

(+) Around view monitor control unit		(-)	Condition	Voltage (Approx.)
Connector	Terminal			
B45	48	Ground	"CAMERA" switch is ON or shift position is "R".	6.0 V

Is inspection result normal?

YES >> GO TO 3.

NO >> Replace around view monitor control unit. Refer to [AV-582, "Exploded View"](#).

#### 3.CHECK CONTINUITY SIDE CAMERA LH IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector and door mirror (driver side) connector.
3. Check continuity between around view monitor control unit harness connector and door mirror (driver side) harness connector.

# SIDE CAMERA LH IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

Around view monitor control unit		Door mirror (driver side)		Continuity
Connector	Terminals	Connector	Terminals	
B45	51	D3	5	Existed
	52		17	

4. Check continuity between around view monitor control unit harness connector and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminals		
B45	51, 52		Not existed

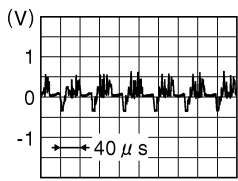
Is inspection result normal?

YES >> GO TO 4.

NO >> Repair harness or connector.

## 4.CHECK SIDE CAMERA LH IMAGE SIGNAL

1. Connect around view monitor control unit connector and door mirror (driver side) connector.
2. Turn ignition switch ON.
3. Check signal between around view monitor control unit harness connector.

(+)		(-)		Condition	Reference value
Around view monitor control unit		Around view monitor control unit			
Connector	Terminal	Connector	Terminal		
B45	51	B45	52	“CAMERA” switch is ON or shift position is “R”.	<div><div>(V)</div><div></div><div>JSNIA0834GB</div></div>

Is inspection result normal?

YES >> Replace around view monitor control unit. Refer to [AV-582, "Exploded View"](#).

NO >> Replace side camera LH. Refer to [AV-585, "Exploded View"](#).

AV

# SIDE CAMERA RH COMMUNICATION SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## SIDE CAMERA RH COMMUNICATION SIGNAL CIRCUIT

### Description

INFOID:000000005525411

- Around view monitor control unit supplies to the front camera, rear camera and side camera. And then it superimpose the images from each camera and outputs then to the display unit.
- Superimpose the guiding lines, predicted course line and sonar indicator to the camera image that outputs to the front display unit.
- Around view monitor control unit performs the reception/transmission of communication signal with each camera.

### Diagnosis Procedure

INFOID:000000005474904

#### 1.CHECK CONTINUITY COMMUNICATION SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector and door mirror (passenger side) connector.
3. Check continuity between around view monitor control unit harness connector and door mirror (passenger side) harness connector.

Around view monitor control unit		Door mirror (passenger side)		Continuity
Connector	Terminal	Connector	Terminal	
B46	33	D33	3	Existed

4. Check continuity between around view monitor control unit harness connector and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
B46	33		Not existed

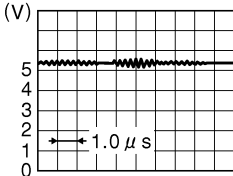
Is inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK COMMUNICATION SIGNAL

1. Connect around view monitor control unit connector and door mirror (passenger side) connector.
2. Turn ignition switch ON.
3. Check signal between around view monitor control unit harness connector and ground.

(+) Around view monitor control unit		(-)	Condition	Reference value
Connector	Terminal			
B46	33	Ground	"CAMERA" switch is ON or shift position is "R".	 JSNIA0836GB

Is inspection result normal?

YES >> Replace around view monitor control unit. Refer to [AV-582, "Exploded View"](#).

NO >> Replace side camera RH. Refer to [AV-587, "Exploded View"](#).



# SIDE CAMERA RH IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## SIDE CAMERA RH IMAGE SIGNAL CIRCUIT

### Description

INFOID:000000005525412

- Around view monitor control unit supplies to the front camera, rear camera and side camera. And then it superimpose the images from each camera and outputs then to the display unit.
- Superimpose the guiding lines, predicted course line and sonar indicator to the camera image that outputs to the front display unit.
- Around view monitor control unit performs the reception/transmission of communication signal with each camera.

### Diagnosis Procedure

INFOID:000000005474908

#### 1.CHECK CONTINUITY SIDE CAMERA RH POWER SUPPLY AND GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect control unit connector and door mirror (passenger side) connector.
3. Check continuity between around view monitor control unit harness connector and door mirror (passenger side) harness connector.

Around view monitor control unit		Door mirror (passenger side)		Continuity
Connector	Terminals	Connector	Terminals	
B46	32	D33	18	Existed
	34		6	

4. Check continuity between around view monitor control unit harness connector and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
B46	34		Not existed

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK VOLTAGE SIDE CAMERA RH POWER SUPPLY

1. Connect around view monitor control unit connector and door mirror (passenger side) connector.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit harness connector and ground.

(+)		(-)	Condition	Voltage (Approx.)
Around view monitor control unit				
Connector	Terminal			
B46	34	Ground	“CAMERA” switch is ON or shift position is “R”.	6.0 V

Is inspection result normal?

YES >> GO TO 3.

NO >> Replace around view monitor control unit. Refer to [AV-582, "Exploded View"](#).

#### 3.CHECK CONTINUITY SIDE CAMERA RH IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector and door mirror (passenger side) connector.
3. Check continuity between around view monitor control unit harness connector and door mirror (passenger side) harness connector.

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AV

# SIDE CAMERA RH IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

Around view monitor control unit		Door mirror (passenger side)		Continuity
Connector	Terminals	Connector	Terminals	
B46	29	D33	5	Existed
	30		17	

4. Check continuity between around view monitor control unit harness connector and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminals		
B46	29, 30		Not existed

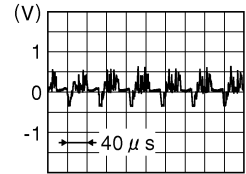
Is inspection result normal?

YES >> GO TO 4.

NO >> Repair harness or connector.

## 4.CHECK SIDE CAMERA RH IMAGE SIGNAL

1. Connect around view monitor control unit connector and door mirror (passenger side) connector.
2. Turn ignition switch ON.
3. Check signal between around view monitor control unit harness connector.

(+) Around view monitor control unit		(-) Around view monitor control unit		Condition	Reference value
Connector	Terminal	Connector	Terminal		
B46	29	B46	30	"CAMERA" switch is ON or shift position is "R".	 <small>JSNIA0834GB</small>

Is inspection result normal?

YES >> Replace around view monitor control unit. Refer to [AV-582, "Exploded View"](#).

NO >> Replace side camera RH. Refer to [AV-587, "Exploded View"](#).

# STEERING SWITCH SIGNAL A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## STEERING SWITCH SIGNAL A CIRCUIT

### Description

INFOID:000000005474911

Transmits the steering switch signal to AV control unit.

### Diagnosis Procedure

INFOID:000000005474912

#### 1.CHECK STEERING SWITCH SIGNAL A CIRCUIT

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

AV control unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M208	6	M36	24	Existed

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

AV control unit		Ground	Continuity
Connector	Terminal		
M208	6		Not existed

Is the inspection result normal?

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

#### 2.CHECK SPIRAL CABLE

Check spiral cable.

Is the inspection result normal?

- YES >> GO TO 3.  
NO >> Replace spiral cable. Refer to [SR-14. "Exploded View"](#).

#### 3.CHECK AV CONTROL UNIT VOLTAGE

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

(+)AV control unit		(-)AV control unit		Voltage (Approx.)
Connector	Terminal	Connector	Terminal	
M208	6	M208	15	5.0 V

Is the inspection result normal?

- YES >> GO TO 4.  
NO >> Replace AV control unit. Refer to [AV-562. "Exploded View"](#).

#### 4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to [AV-543. "Component Inspection"](#).

Is the inspection result normal?

- YES >> INSPECTION END  
NO >> Replace steering switch. Refer to [SR-11. "Exploded View"](#).

### Component Inspection

INFOID:000000005474913

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

# STEERING SWITCH SIGNAL A CIRCUIT

## < DTC/CIRCUIT DIAGNOSIS >

## [NAVIGATION (TWIN MONITOR)]

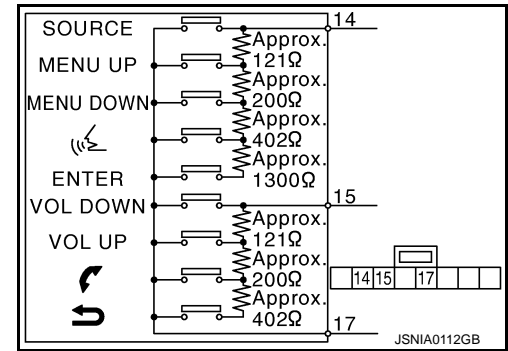
### Standard

Between terminals 14 and 17

ENTER switch ON	: 2003 – 2043 Ω
⏏ switch ON	: 716 – 730 Ω
MENU DOWN switch ON	: 318 – 324 Ω
MENU UP switch ON	: 120 – 122 Ω
SOURCE switch ON	: 0 Ω

Between terminals 15 and 17

↶ switch ON	: 716 – 730 Ω
↷ switch ON	: 318 – 324 Ω
VOL UP switch ON	: 120 – 122 Ω
VOL DOWN switch ON	: 0 Ω



# STEERING SWITCH SIGNAL B CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## STEERING SWITCH SIGNAL B CIRCUIT

### Description

INFOID:000000005474914

Transmits the steering switch signal to AV control unit.

### Diagnosis Procedure

INFOID:000000005474915

#### 1.CHECK STEERING SWITCH SIGNAL B CIRCUIT

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

AV control unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M208	16	M36	31	Existed

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

AV control unit		Ground	Continuity
Connector	Terminal		
M208	16		Not existed

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK SPIRAL CABLE

Check spiral cable.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace spiral cable. Refer to [SR-14. "Exploded View"](#).

#### 3.CHECK AV CONTROL UNIT VOLTAGE

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

(+)AV control unit		(-)AV control unit		Voltage (Approx.)
Connector	Terminal	Connector	Terminal	
M208	16	M208	15	5.0 V

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace AV control unit. Refer to [AV-562. "Exploded View"](#).

#### 4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to [AV-545. "Component Inspection"](#).

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace steering switch. Refer to [SR-11. "Exploded View"](#).

### Component Inspection

INFOID:000000005474916

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

# STEERING SWITCH SIGNAL B CIRCUIT

## < DTC/CIRCUIT DIAGNOSIS >

## [NAVIGATION (TWIN MONITOR)]

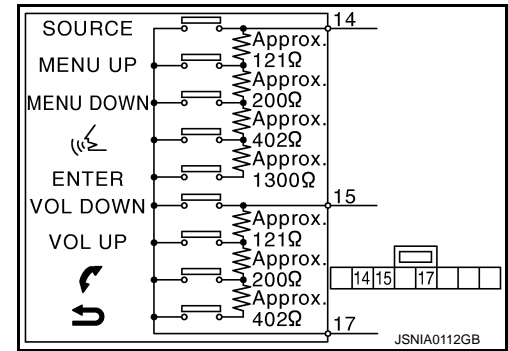
### Standard

Between terminals 14 and 17

ENTER switch ON	: 2003 – 2043 Ω
⏏ switch ON	: 716 – 730 Ω
MENU DOWN switch ON	: 318 – 324 Ω
MENU UP switch ON	: 120 – 122 Ω
SOURCE switch ON	: 0 Ω

Between terminals 15 and 17

↶ switch ON	: 716 – 730 Ω
↷ switch ON	: 318 – 324 Ω
VOL UP switch ON	: 120 – 122 Ω
VOL DOWN switch ON	: 0 Ω



# STEERING SWITCH GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## STEERING SWITCH GROUND CIRCUIT

### Description

INFOID:000000005474917

Transmits the steering switch signal to AV control unit.

### Diagnosis Procedure

INFOID:000000005474918

#### 1.CHECK STEERING SWITCH SIGNAL GND CIRCUIT

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

AV control unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M208	15	M36	33	Existed

3. Connect AV control unit connector.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK SPIRAL CABLE

Check spiral cable.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace spiral cable. Refer to [SR-14, "Exploded View"](#).

#### 3.CHECK GROUND CIRCUIT

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

AV control unit		Ground	Continuity
Connector	Terminal		
M208	15		Not existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace AV control unit. Refer to [AV-562, "Exploded View"](#).

#### 4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to [AV-547, "Component Inspection"](#).

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace steering switch. Refer to [SR-11, "Exploded View"](#).

### Component Inspection

INFOID:000000005474919

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

# STEERING SWITCH GROUND CIRCUIT

[NAVIGATION (TWIN MONITOR)]



## < DTC/CIRCUIT DIAGNOSIS >

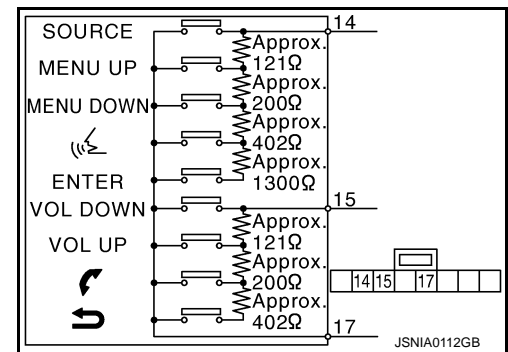
### Standard

Between terminals 14 and 17

ENTER switch ON	: 2003 – 2043 Ω
 switch ON	: 716 – 730 Ω
MENU DOWN switch ON	: 318 – 324 Ω
MENU UP switch ON	: 120 – 122 Ω
SOURCE switch ON	: 0 Ω

Between terminals 15 and 17

 switch ON	: 716 – 730 Ω
 switch ON	: 318 – 324 Ω
VOL UP switch ON	: 120 – 122 Ω
VOL DOWN switch ON	: 0 Ω





# MULTI AV SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

## SYMPTOM DIAGNOSIS

### MULTI AV SYSTEM SYMPTOMS

#### Symptom Table

INFOID:000000005475453

#### RELATED TO NAVIGATION

Symptoms	Check items	Probable malfunction location
Multifunction switch and preset switch operation does not work.	<ul style="list-style-type: none"> <li>All switches cannot be operated.</li> <li>"MULTI AV" is displayed on system selection screen when the CONSULT-III is started.</li> </ul>	<ul style="list-style-type: none"> <li>Multifunction switch power supply and ground circuit malfunction.</li> <li>AV communication circuit between AV control unit and multifunction switch. Perform CONSULT-III self-diagnosis. Refer to <a href="#">AV-393, "CONSULT - III Function (MULTI AV)"</a>.</li> </ul>
	<ul style="list-style-type: none"> <li>All switches cannot be operated.</li> <li>"MULTI AV" is not displayed on system selection screen when the CONSULT-III is initialized.</li> </ul>	AV control unit power supply and ground circuit malfunction. Refer to <a href="#">AV-510, "AV CONTROL UNIT : Diagnosis Procedure"</a> .
	Only specified switch cannot be operated.	Multifunction switch or preset switch malfunction. Perform multifunction switch and preset switch self-diagnosis function. Refer to <a href="#">AV-382, "On Board Diagnosis Function"</a> .
Fuel economy display is abnormal.	There is malfunction in the CONSULT-III "self-diagnosis result" of "MULTI AV". Refer to <a href="#">AV-393, "CONSULT - III Function (MULTI AV)"</a> .	Perform detected DTC diagnosis. Refer to <a href="#">AV-393, "CONSULT - III Function (MULTI AV)"</a> .
	There is no malfunction in the CONSULT-III "self-diagnosis results" of "MULTI AV". Refer to <a href="#">AV-393, "CONSULT - III Function (MULTI AV)"</a> .	Ignition signal circuit malfunction.
Start of the AV control unit takes time.	—	Front door switch signal circuit malfunction.
Guide sound is not heard or too low.	On the setting display select "system sound (guide sound volume, etc.)," and confirm that guide sound is ON.	AV control unit malfunction. Replace AV control unit. Refer to <a href="#">AV-562, "Exploded View"</a> .

#### RELATED TO HANDS-FREE PHONE

##### Simple Check for Bluetooth™ Communication

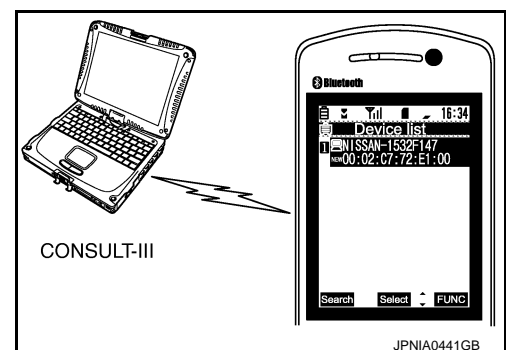
If cellular phone and AV control unit cannot be connected with Bluetooth™ communication, following procedure allows the technician to judge which device has malfunction.

- Turn ON cellular phone, not connecting Bluetooth™ communication.
- Start CONSULT-III, then start Windows®.
- Set CONSULT-III near a cellular phone.
- When operated Bluetooth™ registration by cellular phone, check if CONSULT-III\* would be displayed on the device name.  
(If other Bluetooth™ device is located near cellular phone, a name of the device would be displayed also.)

##### NOTE:

\*:Displayed device name is "NISSAN-\*\*\*\*\*".





- If no device name is displayed, cellular phone is malfunctioning. Repair the cellular phone first, then perform diagnosis.
- If CONSULT-III is displayed on device name, cellular phone is normal. Perform diagnosis as per the following table.



# MULTI AV SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

Symptoms	Check items	Probable malfunction location
Does not recognize cellular phone connection. (no connection is displayed on the display at the guide.)	Repeat the registration of cellular phone.	AV control unit malfunction. Replace AV control unit. Refer to <a href="#">AV-562, "Exploded View"</a> .
Hands-free phone cannot be established.	<ul style="list-style-type: none"> <li>Hands-free phone operation can be made, but the communication cannot be established.</li> <li>Hands-free phone operation can be performed, however, voice between each other cannot be heard during the conversation.</li> </ul>	AV control unit malfunction. Replace AV control unit. Refer to <a href="#">AV-562, "Exploded View"</a> .
The other party's voice cannot be heard by hands-free phone.	Check the "microphone speaker" in Inspection & Adjustment Mode if sound is heard.	AV control unit malfunction. Replace AV control unit. Refer to <a href="#">AV-562, "Exploded View"</a> .
Originating sound is not heard by the other party with hands-free phone communication.	Sound operation function is normal.	AV control unit malfunction. Replace AV control unit. Refer to <a href="#">AV-562, "Exploded View"</a> .
	Sound operation function does not work.	Microphone signal circuit malfunction. Refer to <a href="#">AV-528, "Diagnosis Procedure"</a> .
The system cannot be operated.	Steering switch's "VOL UP", "VOL DOWN", "  switch works, but "  it does not work.	Steering switch malfunction. Replace steering switch. Refer to <a href="#">SR-11, "Exploded View"</a> .
	Steering switch's "  ", "VOL UP", "VOL DOWN", "  switches do not work.	Steering switch signal B circuit malfunction. Refer to <a href="#">AV-545, "Diagnosis Procedure"</a> .
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to <a href="#">AV-547, "Diagnosis Procedure"</a> .

## RELATED TO AROUND VIEW MONITOR

Symptoms	Check items	Probable malfunction location / Action to take
It does not switch to camera image even when the "CAMERA" switch is pressed or the selector lever is in the reverse position.	"Camera Cont." of "Confirmation/Adjustment" can be selected.	Ignition signal circuit malfunction (around view monitor control unit).
	"Camera Cont." of "Confirmation/Adjustment" cannot be selected.	<ul style="list-style-type: none"> <li>Around view monitor control unit power supply and ground circuits malfunction. Refer to <a href="#">AV-513, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure"</a>.</li> <li>AV communication circuits malfunction. Refer to <a href="#">AV-393, "CONSULT - III Function (MULTI AV)"</a>.</li> </ul>
The screen switches when pressing the "CAMERA" switch or shifting the selector lever to the reverse position, however, all views are not displayed.	Only superimposing is displayed. (Only the image displayed by AV control unit is displayed)	Camera image signal circuit between around view monitor control unit and display unit malfunction. Refer to <a href="#">AV-530, "Diagnosis Procedure"</a> .
	Superimposing is not displayed.	Communication circuit between AV control unit and display unit malfunction. Refer to <a href="#">AV-393, "CONSULT - III Function (MULTI AV)"</a> .
Camera image is rolling.	—	Communication circuit between AV control unit and display unit malfunction. Refer to <a href="#">AV-393, "CONSULT - III Function (MULTI AV)"</a> .

# MULTI AV SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

Symptoms	Check items		Probable malfunction location / Action to take
It cannot be switched to rear view monitor even when the selector lever is in the reverse position.	The front view is displayed normally.		Reverse signal circuit malfunction. (AV control unit)
The predicted course line display in front view and rear view is malfunctioning.	The "Steer. Angle Sensor" is not turned ON at "Connection Confirmation" of "Camera Cont."		Steering angle sensor signal circuits.
<ul style="list-style-type: none"> <li>The front view screen is not displayed.</li> <li>The front of Birds-Eye view screen is not displayed.</li> </ul>	Check the item Front Camera in "Connection Confirmation" mode of "Camera Cont."	<ul style="list-style-type: none"> <li>Image Output Signal: NG</li> <li>COMM Status: NG</li> <li>COMM Line: NG</li> </ul>	<ul style="list-style-type: none"> <li>Front camera image signal circuit malfunction.</li> <li>Front camera power supply and ground circuits malfunction.</li> </ul> Refer to <a href="#">AV-532, "Diagnosis Procedure"</a> .
		<ul style="list-style-type: none"> <li>Image Output Signal: OK</li> <li>COMM Status: NG</li> <li>COMM Line: NG</li> </ul>	Front camera communication signal circuit malfunction. Refer to <a href="#">AV-531, "Diagnosis Procedure"</a> .
<ul style="list-style-type: none"> <li>The rear view screen is not displayed.</li> <li>The rear of Birds-Eye view screen is not displayed.</li> </ul>	Check the item Rear Camera in "Connection Confirmation" mode of "Camera Cont."	<ul style="list-style-type: none"> <li>Image Output Signal: NG</li> <li>COMM Status: NG</li> <li>COMM Line: NG</li> </ul>	<ul style="list-style-type: none"> <li>Rear camera image signal circuit malfunction.</li> <li>Rear camera power supply and ground circuits malfunction.</li> </ul> Refer to <a href="#">AV-535, "Diagnosis Procedure"</a> .
		<ul style="list-style-type: none"> <li>Image Output Signal: OK</li> <li>COMM Status: NG</li> <li>COMM Line: NG</li> </ul>	Rear camera communication signal circuits malfunction. Refer to <a href="#">AV-534, "Diagnosis Procedure"</a> .
<ul style="list-style-type: none"> <li>The front-side screen is not displayed.</li> <li>The passenger side of Birds-Eye view screen is not displayed.</li> </ul>	Check the item Pass-Side Camera in "Connection Confirmation" mode of "Camera Cont."	<ul style="list-style-type: none"> <li>Image Output Signal: NG</li> <li>COMM Status: NG</li> <li>COMM Line: NG</li> </ul>	<ul style="list-style-type: none"> <li>Side camera RH image signal circuit malfunction.</li> <li>Side camera RH power supply and ground circuits malfunction.</li> </ul> Refer to <a href="#">AV-541, "Diagnosis Procedure"</a> .
		<ul style="list-style-type: none"> <li>Image Output Signal: OK</li> <li>COMM Status: NG</li> <li>COMM Line: NG</li> </ul>	Side camera RH communication circuit malfunction. Refer to <a href="#">AV-540, "Diagnosis Procedure"</a> .
The driver side of Birds-eye view screen is not displayed.	Check the item Dr-Side Camera at "Connection Confirmation" mode of "Camera Cont."	<ul style="list-style-type: none"> <li>Image Output Signal: NG</li> <li>COMM Status: NG</li> <li>COMM Line: NG</li> </ul>	<ul style="list-style-type: none"> <li>Side camera LH image signal circuit malfunction.</li> <li>Side camera LH power supply and ground circuits malfunction.</li> </ul> Refer to <a href="#">AV-538, "Diagnosis Procedure"</a> .
		<ul style="list-style-type: none"> <li>Image Output Signal: OK</li> <li>COMM Status: NG</li> <li>COMM Line: NG</li> </ul>	Side camera LH communication circuit malfunction. Refer to <a href="#">AV-537, "Diagnosis Procedure"</a> .
When shift position is other than "R" the front-side and front screen or the Birds-Eye view and front screen remain displaying even if the vehicle speed increases.	—		Vehicle speed signal circuit malfunction (around view monitor control unit).

RELATED TO CAMERA ASSISTANCE SONAR

# MULTI AV SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

Symptoms	Check items	Probable malfunction location / Action to take
The malfunction is detected in the sonar indicator (Always displayed in red)	The malfunction is detected in only 1 indicator (Always displayed in red).	<ul style="list-style-type: none"> <li>Corner sensor malfunction in corresponding area.</li> <li>Corner sensor harness circuit in corresponding area.</li> </ul> Perform CONSULT-III "self-diagnosis" of "SONAR". Refer to <a href="#">AV-400, "CONSULT-III Function (SONAR)"</a> .
	The malfunction is detected in all 4 indicators (Always displayed in red).	<ul style="list-style-type: none"> <li>Corner sensor ground circuit malfunction.</li> <li>Sonar control unit power supply and ground circuits malfunction.</li> <li>AV communication circuits malfunction.</li> </ul> Perform CONSULT-III "self-diagnosis" of "MULTI AV". Refer to <a href="#">AV-400, "CONSULT-III Function (SONAR)"</a> .
The sonar indicator is normal, but the buzzer does not sound	—	Replace sonar control unit. Refer to <a href="#">AV-589, "Exploded View"</a> .

## RELATED TO RGB IMAGE

Symptoms	Check items	Probable malfunction location
RGB image is not shown.	—	RGB digital image signal circuit malfunction. Refer to <a href="#">AV-523, "Diagnosis Procedure"</a> .

## RELATED TO VOICE CONTROL

Symptoms	Check items	Probable malfunction location
The voice cannot be controlled even if the voice control screen is displayed.	Voice sounds at "Voice Microphone Test" of Confirmation/Adjustment mode.	AV control unit malfunction. Replace AV control unit. Refer to <a href="#">AV-562, "Exploded View"</a> .
	Voice does not sound at "Voice Microphone Test" of Confirmation/Adjustment mode.	Microphone circuit malfunction. Refer to <a href="#">AV-528, "Diagnosis Procedure"</a> .
The voice cannot be controlled (Voice control screen is not displayed).	Steering switch's "SOURCE", "MENU UP", "MENU DOWN", "ENTER" switch works, but "↖" it does not work.	Steering switch malfunction. Replace steering switch. Refer to <a href="#">SR-11, "Exploded View"</a> .
	Steering switch's "SOURCE", "MENU UP", "MENU DOWN", "↖", "ENTER" switches do not work.	Steering switch signal A circuit malfunction. Refer to <a href="#">AV-543, "Diagnosis Procedure"</a> .
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to <a href="#">AV-547, "Diagnosis Procedure"</a> .

## RELATED TO AUDIO

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	—	Disk eject signal circuit malfunction. Refer to <a href="#">AV-526, "Diagnosis Procedure"</a> .




# MULTI AV SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

Symptoms	Check items	Probable malfunction location
Audio sound is not heard.	No sound from all speakers.	<ul style="list-style-type: none"> <li>Amp. ON signal circuit malfunction.</li> <li>BOSE amp. power supply and ground circuits malfunction.</li> </ul> Refer to <a href="#">AV-512, "BOSE AMP. : Diagnosis Procedure"</a> .
	Sound is not heard from woofer.	<ul style="list-style-type: none"> <li>Woofer power supply and ground circuit malfunction.</li> <li>Sound signal (woofer) circuit malfunction.</li> <li>Woofer amp. ON signal circuit malfunction.</li> </ul>
	Sound is heard only from specific places.	Sound signals circuit of suspect system.
It does not change to "Driver's Audio Stage" mode.	—	Mode change signal circuit malfunction. Refer to <a href="#">AV-527, "Diagnosis Procedure"</a> .
Satellite radio is not received.	There is malfunction in the CONSULT-III self-diagnosis result. Refer to <a href="#">AV-393, "CONSULT - III Function (MULTI AV)"</a> .	Perform detected DTC diagnosis. Refer to <a href="#">AV-408, "DTC Index"</a> .
	There is no malfunction in the CONSULT-III self-diagnosis result. Refer to <a href="#">AV-393, "CONSULT - III Function (MULTI AV)"</a> .	Perform the following inspection procedure. <ol style="list-style-type: none"> <li>Check satellite radio antenna (antenna base) mounting nut for looseness. <b>NOTE:</b> Tightening torque: 6.5 N·m (0.66 kg·m, 58 in·lb)</li> <li>Visually check for satellite radio antenna feeder.</li> <li>Replace the satellite radio antenna (antenna base). Refer to <a href="#">AV-574, "Exploded View"</a>.</li> <li>Replace the AV control unit. Refer to <a href="#">AV-562, "Exploded View"</a>.</li> </ol>
AM/FM radio is not received.	Other audio sounds are normal.	<ul style="list-style-type: none"> <li>Antenna amp. ON signal circuit malfunction.</li> <li>Antenna feeder malfunction.</li> </ul>

## RELATED TO STEERING SWITCH

Symptoms	Probable malfunction location
None of the steering switch operations work.	Steering switch ground circuit malfunction. Refer to <a href="#">AV-547, "Diagnosis Procedure"</a> .
Only specified switch cannot be operated.	Steering switch malfunction. Replace steering switch. Refer to <a href="#">SR-11, "Exploded View"</a> .
Steering switch's "SOURCE", "MENU UP", "MENU DOWN", "  ", "ENTER" switches do not work.	Steering switch signal A circuit malfunction. Refer to <a href="#">AV-543, "Diagnosis Procedure"</a> .
Steering switch's "  ", "VOL UP", "VOL DOWN", "  switches do not work.	Steering switch signal B circuit malfunction. Refer to <a href="#">AV-545, "Diagnosis Procedure"</a> .

## RELATED TO USB

### NOTE:

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

Symptoms	Check items	Possible malfunction location / Action to take
iPod® or USB memory can not be recognized.	—	<ul style="list-style-type: none"> <li>USB harness malfunction.</li> <li>USB connector malfunction.</li> </ul>

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

## RELATED TO DVD MODE

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	—	Disk eject signal circuit malfunction. Refer to <a href="#">AV-526, "Diagnosis Procedure"</a> .

# MULTI AV SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

Symptoms	Check items	Probable malfunction location
DVD image is not displayed.	Front display unit and rear display unit is not displayed.	Perform CONSULT-III self-diagnosis. Refer to <a href="#">AV-393, "CONSULT - III Function (MULTI AV)"</a> .
	Rear display unit is normal.	Composite image signal circuit between AV control unit and front display unit. Refer to <a href="#">AV-524, "Diagnosis Procedure"</a> .
	Front display unit is normal.	<ul style="list-style-type: none"> <li>Composite image signal circuit between AV control unit and video distributor. Refer to <a href="#">AV-522, "Diagnosis Procedure"</a>.</li> <li>Composite image signal circuit between video distributor and rear display unit. Refer to <a href="#">AV-521, "Diagnosis Procedure"</a>.</li> </ul>
DVD sound is not heard.	No sound from all speakers.	<ul style="list-style-type: none"> <li>Amp. ON signal circuit malfunction.</li> <li>BOSE amp. power supply and ground circuits malfunction. Refer to <a href="#">AV-512, "BOSE AMP. : Diagnosis Procedure"</a>.</li> </ul>
	Sound is not heard from woofer.	<ul style="list-style-type: none"> <li>Woofer power supply and ground circuit malfunction.</li> <li>Sound signal (woofer) circuit malfunction.</li> <li>Woofer amp. ON signal circuit malfunction.</li> </ul>
	Sound is heard only from specific places.	Sound signals circuit of suspect system.

## RELATED TO AUXILIARY INPUT

### NOTE:

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

Symptoms	Check items	Probable malfunction location
No voice sound is heard when AUX mode is selected.	Voice sound is heard when other modes are selected.	AUX sound signal circuit.
Image is not displayed when AUX mode is selected.	DVD image is displayed.	AUX image signal circuit malfunction. Refer to <a href="#">AV-525, "Diagnosis Procedure"</a> .
	DVD image is not displayed.	Composite image signal circuits malfunction. Refer to <a href="#">AV-524, "Diagnosis Procedure"</a> .

## RELATED TO HEADPHONE

Symptoms	Check items	Probable malfunction location
No sound is heard from headphones.	The LED for headphones sound transmission is illuminated.	Headphones sound signal circuit.
	The LED for headphones sound transmission is not illuminated.	Headphones ON signal circuit.
No sound is heard from headphones only for RH (LH).	—	Headphones sound signal circuit RH (LH).

## RELATED TO REAR DISPLAY UNIT

Symptoms	Check items	Possible malfunction location / Action to take
The menu screen is not displayed.	For rear display unit, AUX and DVD image are normal.	<ul style="list-style-type: none"> <li>Vertical synchronizing (VP) signal circuit malfunction between video distributor and rear display unit. Refer to <a href="#">AV-519, "Diagnosis Procedure"</a>.</li> <li>Horizontal synchronizing (HP) signal circuit malfunction between video distributor and rear display unit. Refer to <a href="#">AV-520, "Diagnosis Procedure"</a>.</li> <li>RGB area (YS) signal circuit malfunction between video distributor and rear display unit. Refer to <a href="#">AV-518, "Diagnosis Procedure"</a>.</li> </ul>

# MULTI AV SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

Symptoms	Check items	Possible malfunction location / Action to take
Color of RGB image (menu display screen) is not proper.	Light blue (Cyan) tint.	RGB signal (R: red) circuit malfunction between video distributor and rear display unit. Refer to <a href="#">AV-516, "Diagnosis Procedure"</a> .
	Purple (Magenta) tint.	RGB signal (G: green) circuit malfunction between video distributor and rear display unit. Refer to <a href="#">AV-515, "Diagnosis Procedure"</a> .
	Screen looks yellowish.	RGB signal (B: blue) circuit malfunction between video distributor and rear display unit. Refer to <a href="#">AV-517, "Diagnosis Procedure"</a> .
AUX and DVD image are not displayed.	Front display unit is not displayed.	Perform CONSULT-III self-diagnosis. Refer to <a href="#">AV-393, "CONSULT - III Function (MULTI AV)"</a> .
	Front display unit is normal.	<ul style="list-style-type: none"> <li>Composite image signal circuit between AV control unit and video distributor. Refer to <a href="#">AV-522, "Diagnosis Procedure"</a>.</li> <li>Composite image signal circuit between video distributor and rear display unit. Refer to <a href="#">AV-521, "Diagnosis Procedure"</a>.</li> </ul>
Rear display unit does not open.	—	Perform CONSULT-III self-diagnosis. Refer to <a href="#">AV-393, "CONSULT - III Function (MULTI AV)"</a> .

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## NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

### NORMAL OPERATING CONDITION

#### Description

INFOID:000000005475454

#### NOTE:

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

#### BASIC OPERATIONS

Symptom	Possible cause	Possible solution
No image is displayed.	The brightness is at the lowest setting.	Adjust the brightness of the display.
	The systems in the video mode.	Press "DISC-AUX" to change the mode.
	The display is turned off.	Press "☀/☾" to turn on the display.
	The interior of the vehicle becomes the a little less than 80°C (176°F) or high temperature, and the protection of the display acts, and a display is turned off.	Wait until the interior of the vehicle has cooled down.
Screen not clear.	Contrast setting is not appropriate.	Adjust the contrast of the display.
No voice guidance is available. Or The volume is too high or too low.	The volume is not set correctly, or it is turned off.	Adjust the volume of voice guidance.
	Voice guidance is not provided for certain streets (roads displayed in gray).	This is not a malfunction.
No map is displayed on the screen.	A screen other than map screen is displayed.	Press "MAP".
The screen is too dim. The movement is slow.	The temperature in the interior of the vehicle is low.	Wait until the interior of the vehicle has warmed up.
Some pixels in the display are darker or brighter than others.	This condition is an inherent characteristic of liquid crystal displays.	This is not a malfunction.
Some menu items cannot be selected.	Some menu items become unavailable while the vehicle is driven.	Park the vehicle in a safe location, and then operate the navigation system.

#### NOTE:

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

#### RELATED TO VOICE RECOGNITION

##### 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 if 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.



## NORMAL OPERATING CONDITION

### < SYMPTOM DIAGNOSIS >

### [NAVIGATION (TWIN MONITOR)]

Where the solutions are listed by number, try each solution in turn, starting with number one, until the problem is resolved.

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. <b>NOTE:</b> 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 voicetag	1. Ensure that the voicetag requested matches what was originally stored. This can be confirmed by giving the "Addressbook" Directory or Phone Directory command.
	2. Replace one of the voicetags being confused with a different voicetag.

#### Related to Telephone

The system should respond correctly to all voice commands without difficulty. If problems are encountered, try the following solutions.

Where the solutions are listed by number, try each solution in turn, starting with number 1, until the problem is resolved.

Symptom	Solution
System fails to interpret the command correctly.	1. Ensure that the command is valid.
	2. Ensure that the command is spoken after the tone.
	3. Speak clearly without pausing between words and at level appropriate to the ambient noise level in the vehicle.
	4. Ensure that the ambient noise level is not excessive (for example, windows open or defroster on). <b>NOTE:</b> 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" earlier in this section. Refer to "OWNER'S MANUAL".
The system consistently selects the wrong voicetag	1. Ensure that the phone book entry name requested matches what was originally stored. This can be confirmed by using the "List Names" command.
	2. Replace one of the names being confused with a new name.

#### RELATED TO AUDIO

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

#### NOTE:

- CD-R is not guaranteed to play because they can contain compressed audio (MP3, WMA, AAC, M4A) or could be incorrectly mastered by the customer on a computer.
- Check if the CDs carry the Compact Disc Logo. If not, the disc is not mastered to the "red book" Compact Disc Standard and may not play.

# NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

Symptom	Cause and Counter measure
Cannot play	Check if the CD was inserted correctly.
	Check if the CD is scratched or dirty.
	Check if there is condensation inside the player, and if there is, wait until the condensation is gone (about 1 hour) before using the player.
	If there is a temperature increase error, the player will play correctly after it returns to the normal temperature.
	If there is a mixture of music CD files (CD-DA data) and MP3/WMA/AAC files on a CD, only the music CD files (CD-DA data) will be played.
	Files with extensions other than ".MP3", ".WMA", ".AAC", ".M4A", ".mp3", ".wma", ".aac", ".m4a" cannot be played. In addition, the character codes and number of characters for folder names and file names should be in compliance with the specifications.
	Check if the disc or the file is generated in an irregular format, This may occur depending on the variation or the setting of MP3/WMA/AAC/M4A writing applications or other text editing applications.
	Check if the finalization process, such as session close and disc close, is done for the disc.
	Check if the CD is protected by copyright.
	Disks recorded in live file system format are not supported. (For Microsoft Windows Vista, check the settings.)
Poor sound quality	Check if the CD is scratched or dirty.
It takes a relatively long time before the music starts playing.	If there are many folder or file levels on the MP3/WMA/AAC CD, or if it is a multisession disc, some time may be required before the music starts playing.
Music cuts off or skips	The writing software and hardware combination might not match, or the writing speed, writing depth, writing width might not match the specifications. Try using the slowest writing speed.
Skipping with high bit rate files	Skipping may occur with large quantities if data such as for high bit rate data.
Move immediately to the next song when playing	When a non-MP3/WMA/AAC file has been given an extension of ".MP3", ".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 back in the desired order.	The playback order is the order in which the files were written by the software, so the files might not play in the desired order.

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

## NOTE:

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

## RELATED TO DVD

Symptom	Possible cause	Possible solution
Not working as operated	Some operations may be rejected or may not function as intended because of the manufacturer's intent, depending on DVD.	This is not a malfunction.
Operation not accepted	If a requested operation is prohibited, then a message is displayed on the screen. (Message display depends on DVD.)	This is not a malfunction.

# NORMAL OPERATING CONDITION

## < SYMPTOM DIAGNOSIS >

## [NAVIGATION (TWIN MONITOR)]

Symptom	Possible cause	Possible solution
DVD can not be played	Check that the DVD is inserted in the right place.	Upturn the DVD (facing the title upward).
	Check that there is no condensation inside the player.	Wait until the condensation evaporates (approximately one hour).
	DVD menu is displayed.	Select item to touch "ENTER".
	Insertion of a DVD with a different region code.	DVDs with a different region code can not be played. Check DVD.
	Some DVD softwares may not be played because not all DVD softwares fully comply in the standard.	This is not a malfunction.
Interruption during playback or flicker in the display	Check that the DVD has no scratches and dirt.	Errors may not be corrected depending on the size of scratches.
		Wipe and clean the dirt on the disc.
Subtitles not shown	Subtitle setting is OFF.	Set subtitle.
	Subtitle is not included in the software.	Check DVD.
Not played in set language	If a language is not included in the DVD, then the DVD is played in a recommended language.	Check DVD.
Not played with set subtitle	If a set subtitle is not included in the DVD, then the DVD is played with a recommended subtitle.	Check DVD.
Angle unchangeable	Plural angles are not recorded in the software.	Check if the DVD is multi-angle capable.
Unusual screen display	Display mode to the output aspect ratio for the DVD software is inappropriate.	Switch to the appropriate display mode.
Distortion in picture	In the process of fast-forward or fast-reverse.	This is not a malfunction.
Low sound quality	Check that the DVD has no scratches and dirt.	Wipe and clean the dirt on the disc.
Subtitle and language not selectable (not played with set subtitle or in set language)	The DVD is not multilanguage-capable.	The inclusion of the number of languages depends on DVD. Languages may be selectable on the Menu screen. Check DVD.
	The DVD has a priority language or setting.	If the DVD has a priority language or settings, then settings changed with this device are not reflected.
Playback time is indicated, but no sound comes out.	Playback of Mix mode Truck 1. (Mix mode: Format including Truck 1 with data other than music and Trucks from Truck 2 with music data.)	Play music data included in trucks from Truck 2.

## RELATED TO 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.
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.

# NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

Symptom	Possible cause	Possible solution
The screen does not switch to the night screen even after turning on the headlights.	The daytime screen was set the last time the headlights were turned on.	Set the screen to the night screen mode using <Day/Night> when you turn on the headlights.
The map does not scroll even when the vehicle is moving.	The current location map screen is not displayed.	Press "MAP".
The vehicle icon is not displayed.	The current location map screen is not displayed.	Press "MAP".
The location of the vehicle icon is misaligned from the actual position.	When using tire chains or replacing the tires, speed calculations based on the speed sensor may be incorrect.	Drive the vehicle for a while [at approximately 30 km/h (19 MPH) for about 30 minutes] to automatically correct the vehicle icon position. If this does not correct the vehicle icon position, contact an INFINITI dealer.
	The map data has a mistake or is incomplete (the vehicle icon position is always misaligned in the same area).	Updated road information will be included in the next version of the map data.

## RELATED TO ROUTE CALCULATION AND VISUAL GUIDANCE

Symptom	Possible cause	Possible solution
Waypoints are not included in the auto reroute calculation.	Waypoints that you have already passed are not included in the auto reroute calculation.	If you want to go to that waypoint again, you need to edit the route.
Route information is not displayed.	Route calculation has not yet been performed.	Set the destination and perform route calculation.
	You are not driving on the suggested route.	Drive on the suggested route.
	Route guidance is set to off.	Turn on route guidance.
	Route information is not provided for certain types of roads (roads displayed in gray).	This is not a malfunction.
The auto reroute calculation (or detour calculation) suggests the same route as the one previously suggested.	Route calculations took priority conditions into consideration, but the same route was calculated.	This is not a malfunction.
A waypoint cannot be added.	Five waypoints are already set on the route, including ones that you have already passed.	A maximum of 5 waypoints can be set on the route. If you want to go to 6 or more waypoints, perform route calculations multiple times as necessary.
The suggested route is not displayed.	Roads near the destination cannot be calculated.	Reset the destination to a main or ordinary road, and recalculate the route.
	The starting point and destination are too close.	Set a more distant destination.
	The starting point and destination are too far away.	Divide your trip by selecting one or two intermediate destinations, and perform route calculations multiple times.
	There are time restricted roads (by the day of the week, by time) near the current vehicle location or destination.	Set [Use Time Restricted Roads] to off.
The part of the route that you have already passed is deleted.	A route is managed by sections between waypoints. If you passed the first waypoint, the section between the starting point and the waypoint is deleted. (It may not be deleted depending on the area.)	This is not a malfunction.
An indirect route is suggested.	If there are restrictions (such as one-way streets) on roads close to the starting point or destination, the system may suggest an indirect route.	Adjust the location of the starting of the starting point or destination.
	The system may suggest an indirect route because route calculation does not take into consideration some areas such as narrow streets (gray roads.)	Reset the destination to a main or ordinary road, and recalculate the route.

## NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION (TWIN MONITOR)]

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

### RELATED TO VOICE GUIDANCE

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

### RELATED TO TRAFFIC INFORMATION

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

## AV CONTROL UNIT

< REMOVAL AND INSTALLATION >

[NAVIGATION (TWIN MONITOR)]

# REMOVAL AND INSTALLATION

## AV CONTROL UNIT

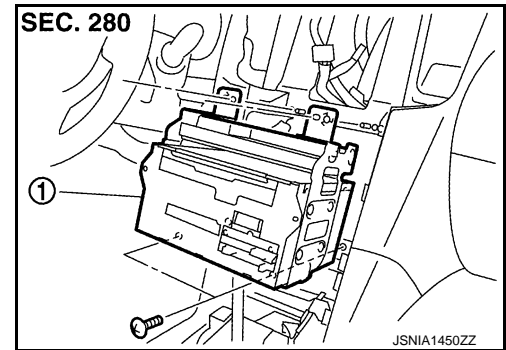
### Exploded View

INFOID:000000005247398

#### CAUTION:

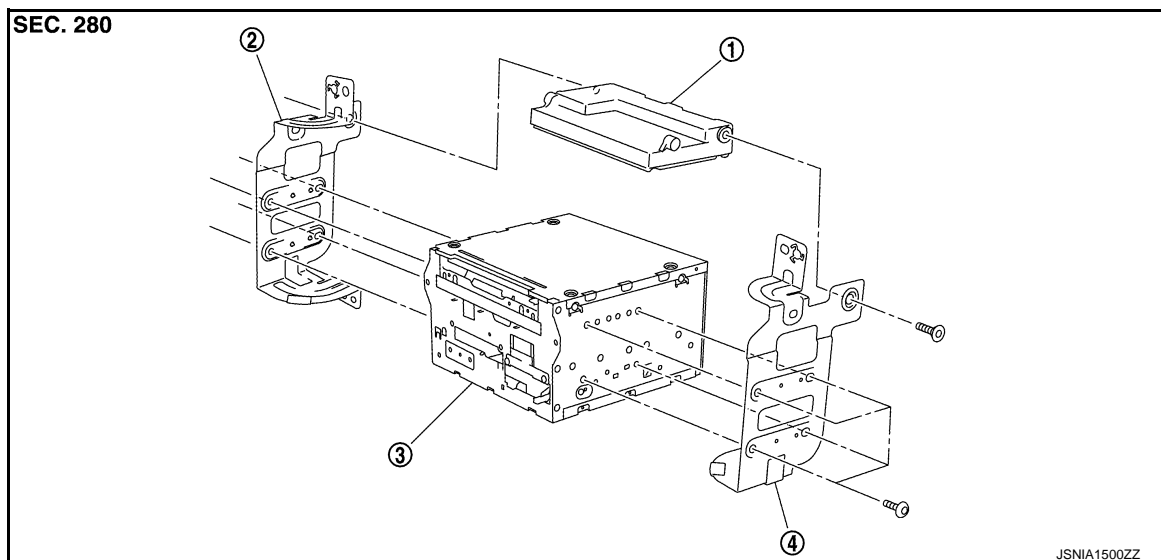
Before replacing AV control unit, perform "READ CONFIGURATION" to save or print current vehicle specification. For details, refer to [AV-460, "ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Description"](#).

### REMOVAL



1: AV control unit

### DISASSEMBLY



1. Unified meter and A/C amp.

2. Bracket LH

3. AV control unit

4. Bracket RH

## Removal and Installation

INFOID:000000005247399

#### CAUTION:

Before replacing AV control unit, perform "READ CONFIGURATION" to save or print current vehicle specification. For details, refer to [AV-460, "ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Description"](#).

### REMOVAL

1. Remove front display unit. Refer to [AV-564, "Exploded View"](#).
2. Remove AV control unit with a unified meter and A/C amp. as a single unit from the body.
3. Remove bracket screws, and then remove AV control unit.

## AV CONTROL UNIT

< REMOVAL AND INSTALLATION >

[NAVIGATION (TWIN MONITOR)]

### INSTALLATION

Installation is the reverse order of removal.

#### **CAUTION:**

- Since AV control unit connector and unified meter and A/C amp. connector have the same form, be careful not to insert them wrongly.
- Be sure to perform "WRITE CONFIGURATION" when replacing AV control unit.

A

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## FRONT DISPLAY UNIT

< REMOVAL AND INSTALLATION >

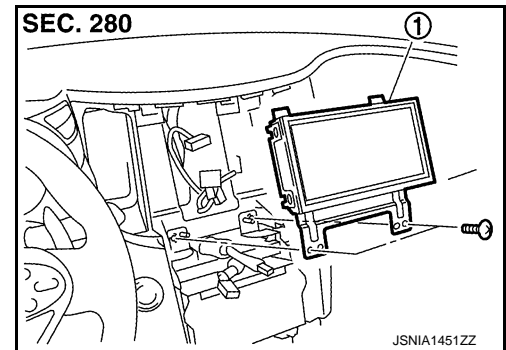
[NAVIGATION (TWIN MONITOR)]

### FRONT DISPLAY UNIT

#### Exploded View

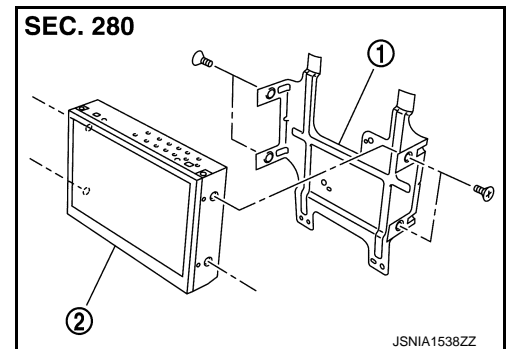
INFOID:000000005247400

#### REMOVAL



1. Front display unit

#### DISASSEMBLY



1. Bracket
2. Front display unit

#### Removal and Installation

INFOID:000000005247401

#### REMOVAL

1. Remove cluster lid D. Refer to [IP-11, "Exploded View"](#).
2. Remove front display unit mounting screws.
3. Disconnect connector, and remove front display unit.

#### INSTALLATION

Installation is the reverse order of removal.



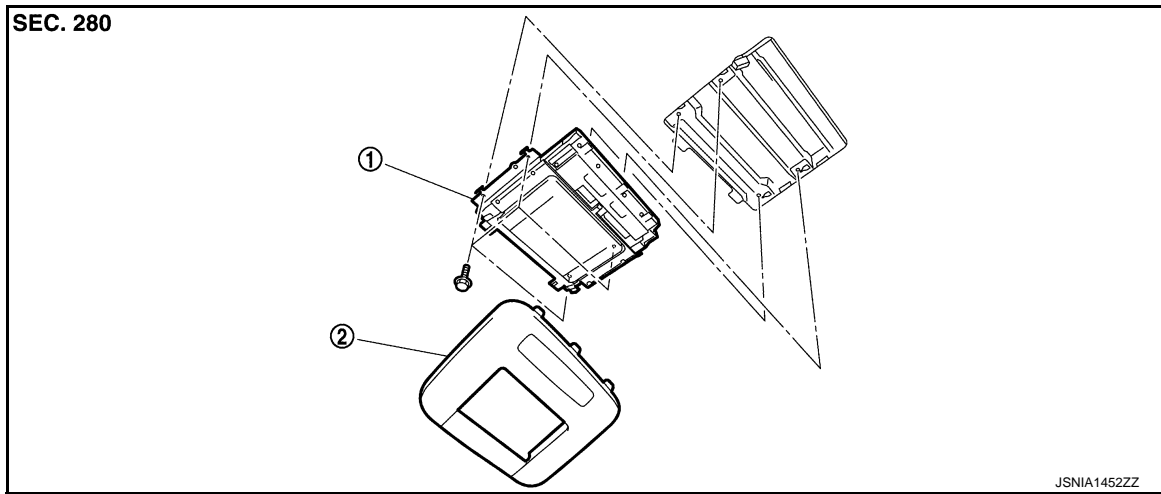
## REAR DISPLAY UNIT

< REMOVAL AND INSTALLATION >

[NAVIGATION (TWIN MONITOR)]

### REAR DISPLAY UNIT

#### Exploded View



1. Rear display unit

2. Rear display cover

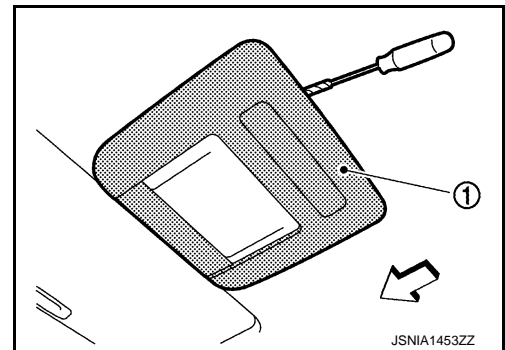
#### Removal and Installation

INFOID:000000005247403

##### REMOVAL

1. Insert cloth-covered driver into gaps between rear display cover (1) and headlining, and remove rear display cover.

← Vehicle front



2. Remove rear display unit mounting bolts.
3. Disconnect connector, and remove rear display unit.

##### INSTALLATION

Install in the reverse order of removal.

A  
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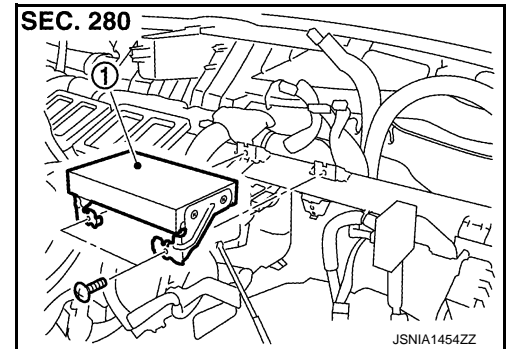
AV

## VIDEO DISTRIBUTOR

### Exploded View

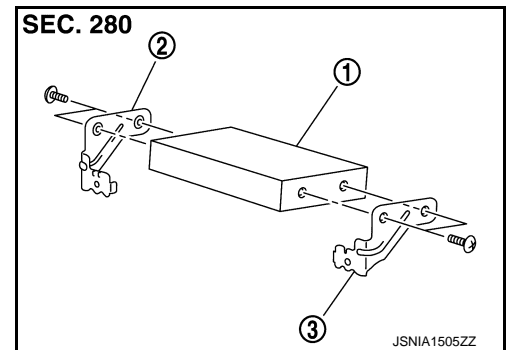
INFOID:000000005247404

#### REMOVAL



- 1: Video distributor

#### DISASSEMBLY



1. Video distributor
2. Bracket LH
3. Bracket RH

### Removal and Installation

INFOID:000000005247405

#### REMOVAL

1. Remove instrument panel. Refer to [IP-11, "Exploded View"](#).
2. Remove video distributor mounting screws.
3. Disconnect connector and remove video distributor.

#### INSTALLATION

Install in the reverse order of removal.

# FRONT DOOR SPEAKER

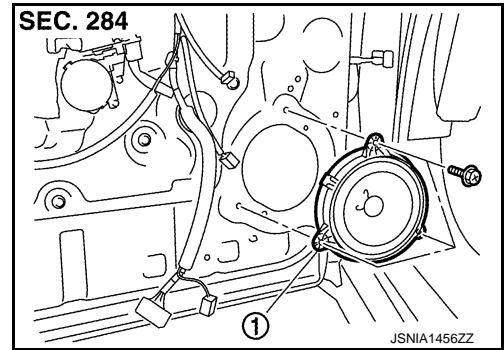
< REMOVAL AND INSTALLATION >

[NAVIGATION (TWIN MONITOR)]

## FRONT DOOR SPEAKER

### Exploded View

INFOID:0000000005247408



1. Front door speaker

### Removal and Installation

INFOID:0000000005247409

#### REMOVAL

1. Remove front door finisher. Refer to [INT-11. "Exploded View"](#).
2. Remove front door speaker mounting bolts.
3. Disconnect connector and remove front door speaker.

#### INSTALLATION

Installation is the reverse order of removal.

A  
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AV

## REAR DOOR SPEAKER

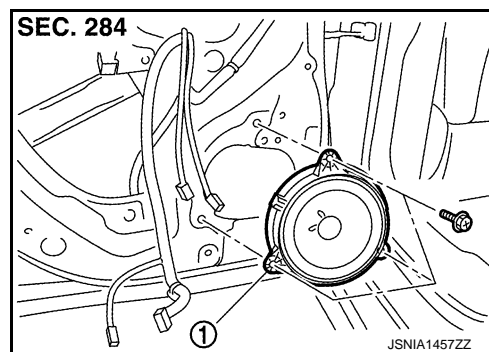
< REMOVAL AND INSTALLATION >

[NAVIGATION (TWIN MONITOR)]

### REAR DOOR SPEAKER

#### Exploded View

INFOID:000000005247410



1. Rear door speaker

#### Removal and Installation

INFOID:000000005247411

##### REMOVAL

1. Remove rear door finisher. Refer to [INT-14, "Exploded View"](#).
2. Remove rear door speaker mounting bolts.
3. Disconnect connector and remove rear door speaker.

##### INSTALLATION

Installation is the reverse order of removal.

## FRONT SQUAWKER

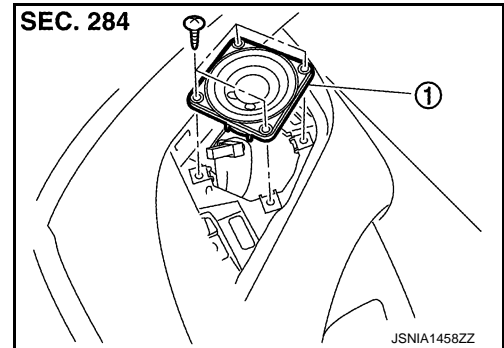
< REMOVAL AND INSTALLATION >

[NAVIGATION (TWIN MONITOR)]

### FRONT SQUAWKER

#### Exploded View

INFOID:0000000005247412



1. Front squawker

#### Removal and Installation

INFOID:0000000005247413

##### REMOVAL

1. Remove speaker grille. Refer to [IP-11, "Exploded View"](#).
2. Remove front squawker mounting screws.
3. Disconnect connector and remove front squawker.

##### INSTALLATION

Installation is the reverse order of removal.

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AV

## REAR SQUAWKER

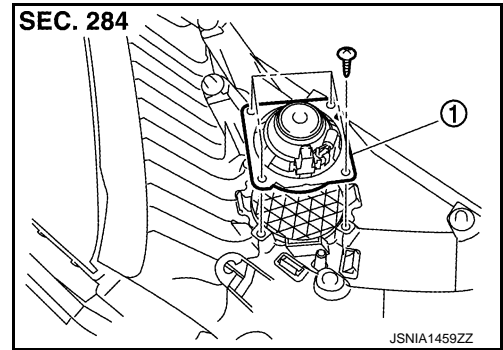
< REMOVAL AND INSTALLATION >

[NAVIGATION (TWIN MONITOR)]

### REAR SQUAWKER

#### Exploded View

INFOID:000000005247414



1. Rear squawker

#### Removal and Installation

INFOID:000000005247415

##### REMOVAL

1. Remove luggage side finisher upper. Refer to [INT-28, "Exploded View"](#).
2. Remove rear squawker mounting screws.
3. Remove rear squawker.

##### INSTALLATION

Installation is the reverse order of removal.

## CENTER SPEAKER

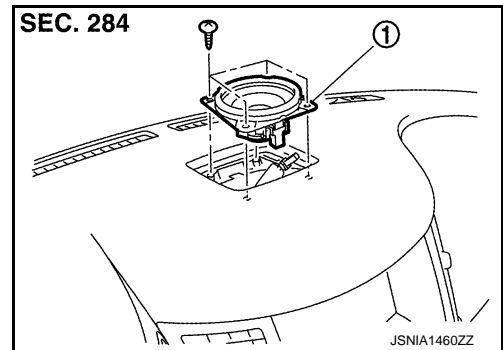
< REMOVAL AND INSTALLATION >

[NAVIGATION (TWIN MONITOR)]

### CENTER SPEAKER

#### Exploded View

INFOID:0000000005247416



1. Center speaker

#### Removal and Installation

INFOID:0000000005247417

##### REMOVAL

1. Remove center speaker grille. Refer to [IP-11, "Exploded View"](#).
2. Remove center speaker mounting screws, lift up the center speaker and disconnect connector.
3. Remove center speaker.

##### INSTALLATION

Installation is the reverse order of removal.

A  
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AV

# WOOFER

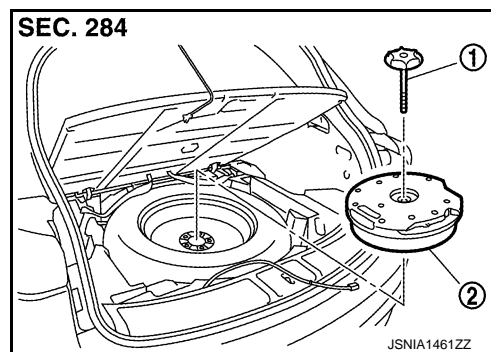
< REMOVAL AND INSTALLATION >

[NAVIGATION (TWIN MONITOR)]

## WOOFER

### Exploded View

INFOID:000000005247418



1. Woofer clamp
2. Woofer

### Removal and Installation

INFOID:000000005247419

#### REMOVAL

1. Pull up luggage finisher cover and hang the strap to upper body.
2. Remove woofer clamp.
3. Remove harness clip and connector.
4. Remove woofer.

#### INSTALLATION

Installation is the reverse order of removal.

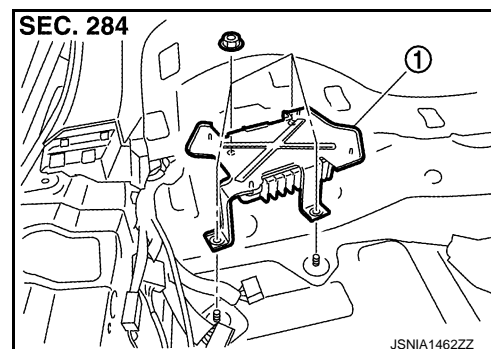


## BOSE AMP.

## Exploded View

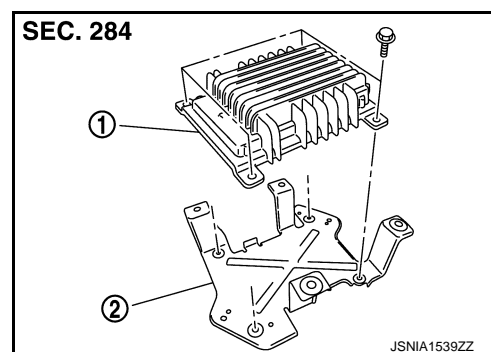
INFOID:000000005247420

## REMOVAL



1. BOSE amp.

## DISASSEMBLY



1. BOSE amp.
2. Bracket

## Removal and Installation

INFOID:000000005247421

## REMOVAL

1. Remove luggage floor spacer (LH). Refer to [INT-28, "Exploded View"](#).
2. Remove BOSE amp. mounting nuts.
3. Disconnect connector and remove BOSE amp.

## INSTALLATION

Installation is the reverse order of removal.

AV

## ANTENNA BASE

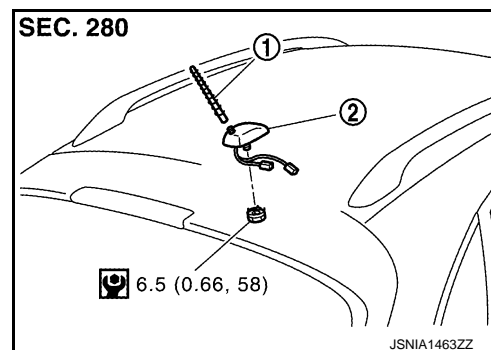
< REMOVAL AND INSTALLATION >

[NAVIGATION (TWIN MONITOR)]

### ANTENNA BASE

#### Exploded View

INFOID:000000005247422



1. Antenna rod
2. Antenna base

Refer to [GI-3, "Contents"](#) for symbols in the figure.

#### Removal and Installation

INFOID:000000005247423

##### REMOVAL

1. Remove headlining (rear). Keep a service area. Refer to [INT-23, "Exploded View"](#).
2. Remove antenna base mounting nut.
3. Disconnect connector and remove antenna base.

##### INSTALLATION

Installation is the reverse order of removal.

##### **CAUTION:**

**Be careful about tightening torque. Antenna sensitivity becomes poor, and when it is excessive, roof panel may be deformed, when antenna base mounting nut tightening torque is loose.**

# MULTIFUNCTION SWITCH

< REMOVAL AND INSTALLATION >

[NAVIGATION (TWIN MONITOR)]

## MULTIFUNCTION SWITCH

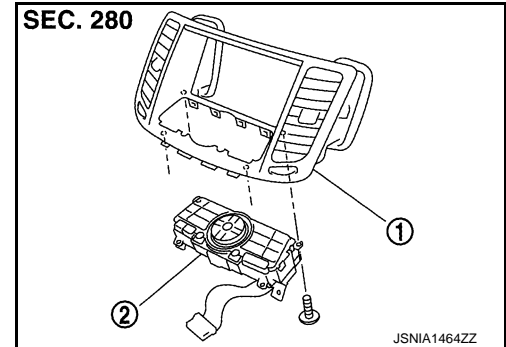
### Exploded View

INFOID:000000005247424

#### REMOVAL

Refer to [IP-11, "Exploded View"](#).

#### DISASSEMBLY



1. Cluster lid D
2. Multifunction switch

### Removal and Installation

INFOID:000000005247425

#### REMOVAL

1. Remove cluster lid D. Refer to [IP-11, "Exploded View"](#).
2. Remove multifunction switch mounting screws.
3. Disconnect connector and remove multifunction switch.

#### INSTALLATION

Installation is the reverse order of removal.

A  
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AV

# PRESET SWITCH

< REMOVAL AND INSTALLATION >

[NAVIGATION (TWIN MONITOR)]

## PRESET SWITCH

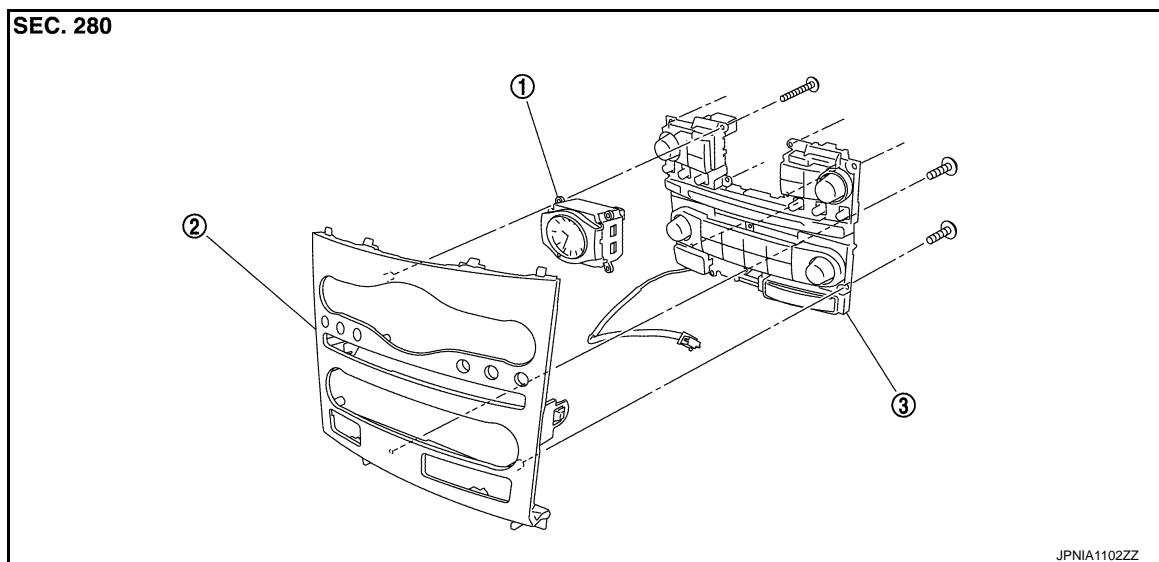
### Exploded View

INFOID:000000005247426

#### REMOVAL

Refer to [IP-11. "Exploded View"](#).

#### DISASSEMBLY



1. Clock

2. Cluster lid C

3. Preset switch

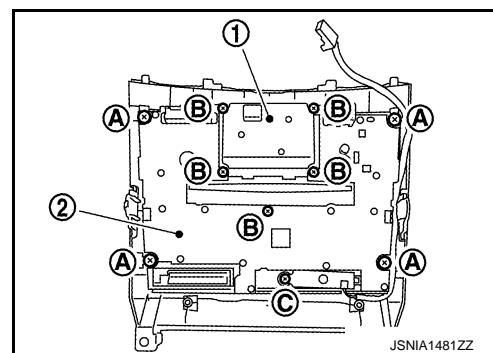
### Removal and Installation

INFOID:000000005247427

#### REMOVAL

1. Remove cluster lid C. Refer to [IP-11. "Exploded View"](#).
2. Remove preset switch mounting screws (A), (B) and (C).
3. Disconnect connector and remove preset switch (2).

1. Clock



#### INSTALLATION

Installation is the reverse order of removal.

#### NOTE:

When installing preset switch, do not allow the print wire that connects preset switch and multifunction switch to get caught in between AV control unit and preset switch.

## AUXILIARY INPUT JACKS

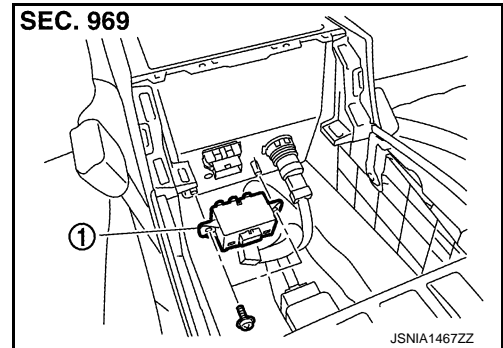
< REMOVAL AND INSTALLATION >

[NAVIGATION (TWIN MONITOR)]

### AUXILIARY INPUT JACKS

#### Exploded View

INFOID:0000000005247432



1. Auxiliary input jacks

#### Removal and Installation

INFOID:0000000005247433

##### REMOVAL

1. Remove console box assembly. Refer to [IP-22, "Exploded View"](#).
2. Remove auxiliary mounting screws.
3. Disconnect connector and remove auxiliary input jacks.

##### INSTALLATION

Installation is the reverse order of removal.

A  
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AV

## USB CONNECTOR

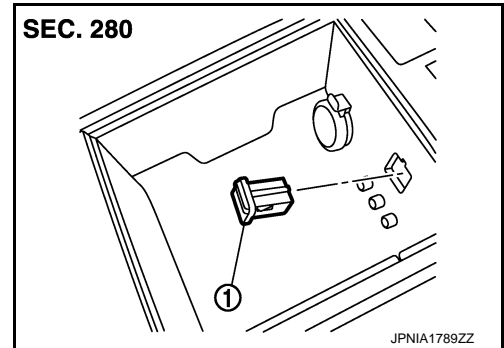
< REMOVAL AND INSTALLATION >

[NAVIGATION (TWIN MONITOR)]

### USB CONNECTOR

#### Exploded View

INFOID:000000005475029



1. USB connector

#### Removal and Installation

INFOID:000000005475030

##### REMOVAL

1. Remove console box assembly. Refer to [JP-22, "Exploded View"](#).
2. Press the pawl from the back of console box assembly to remove USB connector.

##### INSTALLATION

Install in the reverse order of removal.

## MICROPHONE

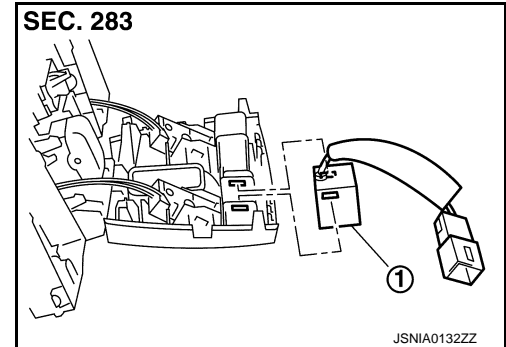
## Exploded View

INFOID:000000005475032

## REMOVAL

Refer to [INT-23. "Exploded View"](#).

## DISASSEMBLY



1. Microphone

## Removal and Installation

INFOID:000000005475033

## REMOVAL

1. Remove map lamp assembly. Refer to [INT-23. "Exploded View"](#).
2. Remove microphone, stretching pawls of map lamp assembly.

## INSTALLATION

Installation is the reverse order of removal.

A  
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AV

# GPS ANTENNA

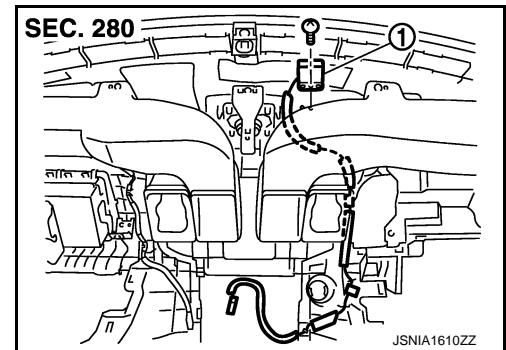
< REMOVAL AND INSTALLATION >

[NAVIGATION (TWIN MONITOR)]

## GPS ANTENNA

### Exploded View

INFOID:000000005475034



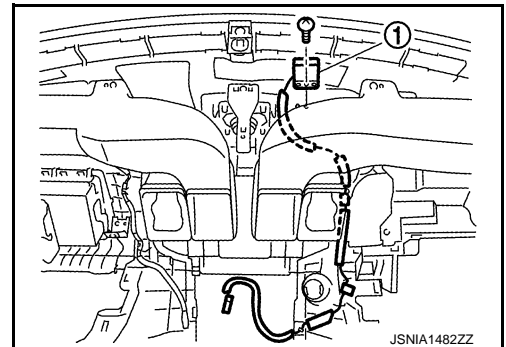
1. GPS antenna

### Removal and Installation

INFOID:000000005475035

#### REMOVAL

1. Remove instrument panel. Refer to [IP-11, "Exploded View"](#).
2. Remove GPS antenna mounting screw.
3. Remove GPS antenna (1).



#### INSTALLATION

Installation is the reverse order of removal.



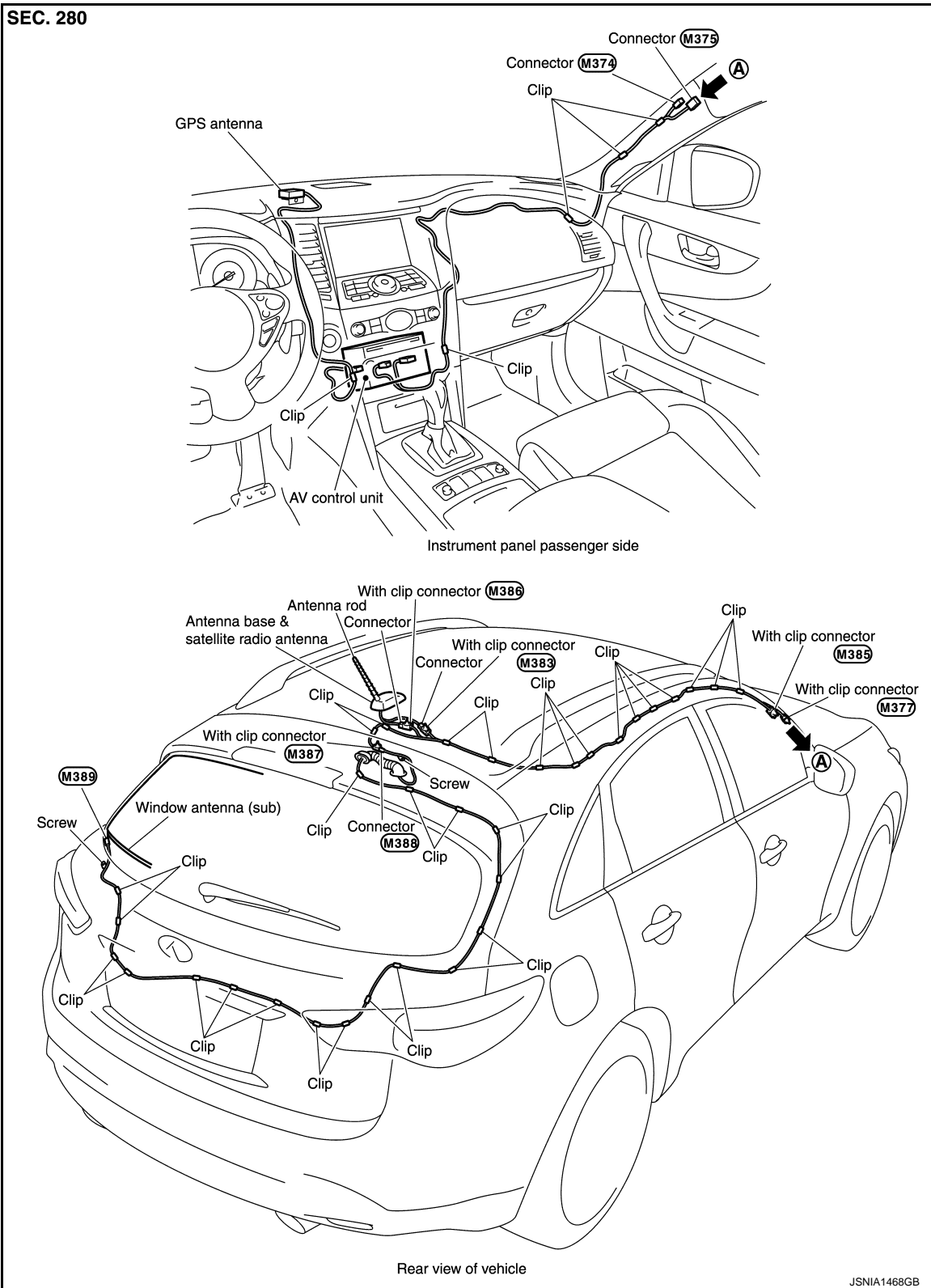
## GPS ANTENNA

## < REMOVAL AND INSTALLATION >

**[NAVIGATION (TWIN MONITOR)]**

## Feeder Layout

INFOID:0000000005475036

**SEC. 280**

JSNIA1468GB

Revision: 2009 August

**AV-581**

2010 FX35/FX50

# AROUND VIEW MONITOR CONTROL UNIT

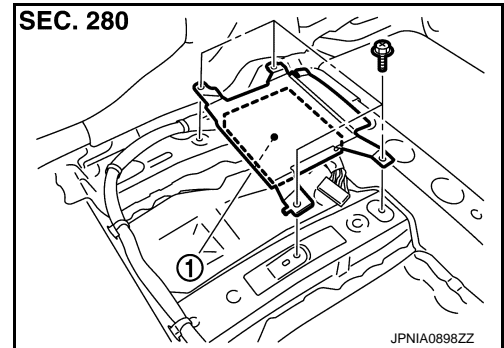
< REMOVAL AND INSTALLATION >

[NAVIGATION (TWIN MONITOR)]

## AROUND VIEW MONITOR CONTROL UNIT

### Exploded View

INFOID:000000005475037



1. Around view monitor control unit

### Removal and Installation

INFOID:000000005475038

#### REMOVAL

1. Remove front seat (LH side). Refer to [SE-81, "Exploded View"](#).
2. Remove floor carpet. Keep a service area.
3. Remove around view monitor control unit mounting screws.
4. Disconnect connector and remove around view monitor control unit.

#### INSTALLATION

1. Installation is the reverse order of removal.
2. Perform camera image calibration. Refer to [AV-462, "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Work Procedure"](#).
3. Perform predictive course line center position adjustment. Refer to [AV-462, "PREDICTIVE COURSE LINE CENTER POSITION ADJUSTMENT : Work Procedure"](#).

#### CAUTION:

Perform the calibration and perform the writing to the around view monitor control unit when removing and replacing each camera, removing the camera mounting parts (front grille, door mirror, etc.) and replacing the around view monitor control unit.

# FRONT CAMERA

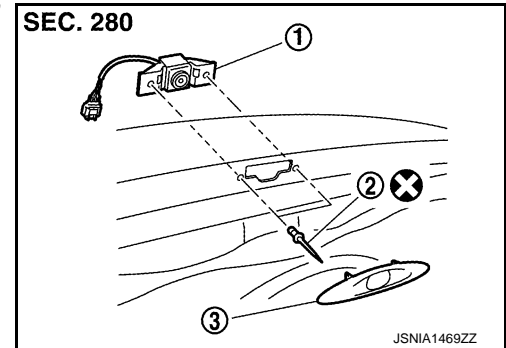
< REMOVAL AND INSTALLATION >

[NAVIGATION (TWIN MONITOR)]

## FRONT CAMERA

### Exploded View

INFOID:0000000005475039



1. Front camera
2. Rivet
3. Front camera finisher

Refer to [GI-3, "Contents"](#) for symbols in the figure.

### Removal and Installation

INFOID:0000000005475040

#### REMOVAL

1. Remove front camera finisher.
2. Remove front camera mounting rivet.
3. Remove front camera.

#### INSTALLATION

1. Installation is the reverse order of removal.
2. Perform camera image calibration. Refer to [AV-462, "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Work Procedure"](#).

#### CAUTION:

Perform the calibration and perform the writing to the around view monitor control unit when removing and replacing each camera, removing the camera mounting parts (front grille, door mirror, etc.) and replacing the around view monitor control unit.

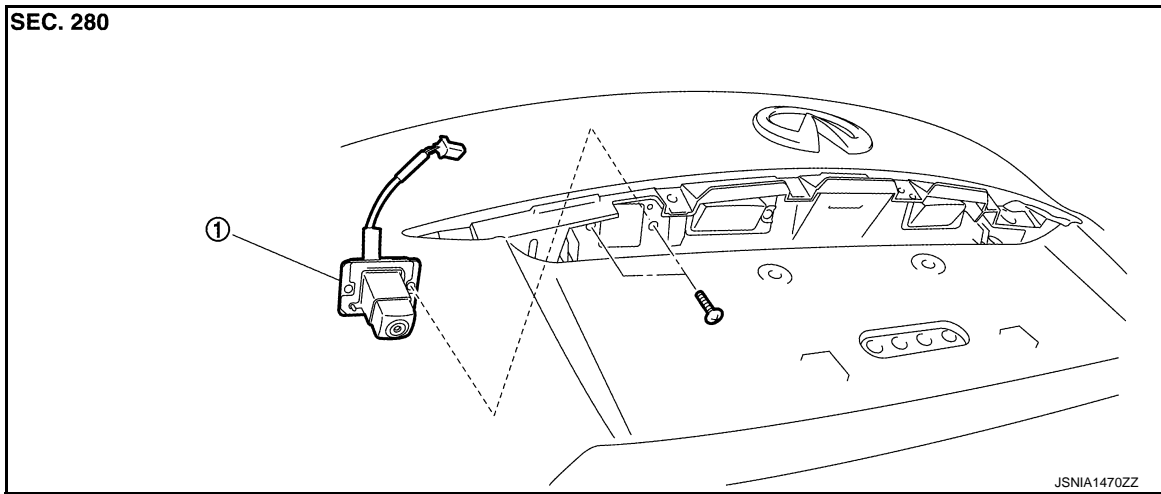
A  
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M  
O  
P

AV

## REAR CAMERA

### Exploded View

INFOID:000000005475041



1. Rear camera

### Removal and Installation

INFOID:000000005475042

#### REMOVAL

1. Remove door handle cover upper. Refer to [EXT-49, "Exploded View"](#).
2. Remove rear camera mounting screws and rear camera harness connector.
3. Remove rear camera.

#### INSTALLATION

1. Installation is the reverse order of removal.
2. Perform camera image calibration. Refer to [AV-462, "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Work Procedure"](#).

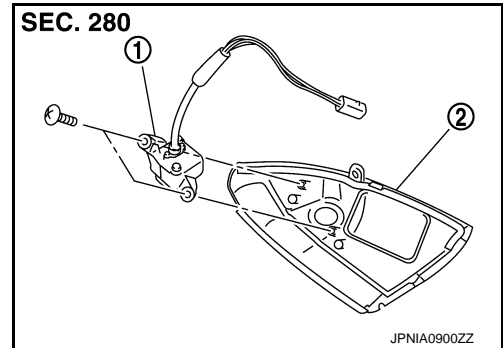
#### CAUTION:

Perform the calibration and perform the writing to the around view monitor control unit when removing and replacing each camera, removing the camera mounting parts (front grille, door mirror, etc.) and replacing the around view monitor control unit.

## SIDE CAMERA LH

### Exploded View

INFOID:000000005475043



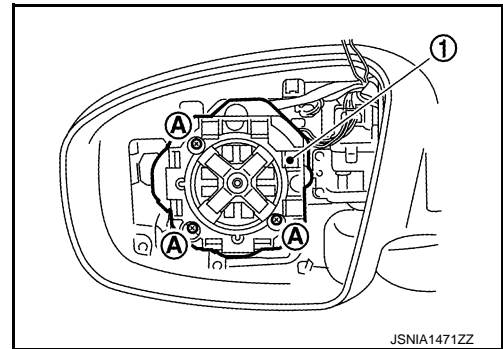
1. Side camera (LH)
2. Side camera finisher assembly

### Removal and Installation

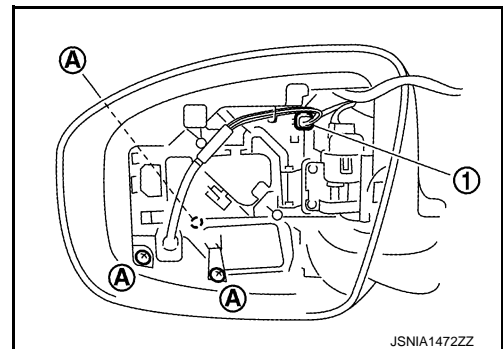
INFOID:000000005475044

#### REMOVAL

1. Remove glass mirror (driver side). Refer to [MIR-100. "DOOR MIRROR ASSEMBLY : Exploded View"](#) (without ADP), [MIR-78. "DOOR MIRROR ASSEMBLY : Exploded View"](#) (with ADP).
2. Remove screws (A), and actuator connector, and then actuator (1).



3. Remove door mirror cover. Refer to [MIR-100. "DOOR MIRROR ASSEMBLY : Exploded View"](#) (without ADP), [MIR-78. "DOOR MIRROR ASSEMBLY : Exploded View"](#) (with ADP).
4. Remove screws (A) and connector (1), and then remove side camera finisher assembly (LH).



5. Remove side camera (LH) mounting screws
6. Remove side camera (LH).

#### INSTALLATION

1. Installation is the reverse order of removal.
2. Perform camera image calibration. Refer to [AV-462. "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Work Procedure"](#).

**CAUTION:**

## **SIDE CAMERA LH**

< REMOVAL AND INSTALLATION >

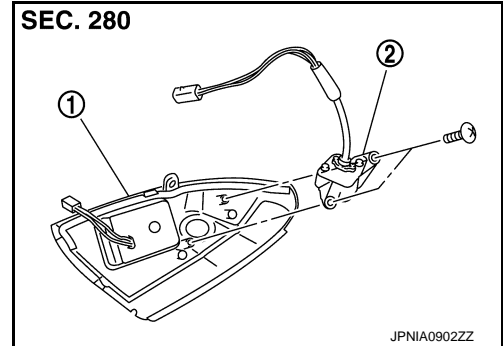
**[NAVIGATION (TWIN MONITOR)]**

**Perform the calibration and perform the writing to the around view monitor control unit when removing and replacing each camera, removing the camera mounting parts (front grille, door mirror, etc.) and replacing the around view monitor control unit.**

## SIDE CAMERA RH

### Exploded View

INFOID:000000005475047



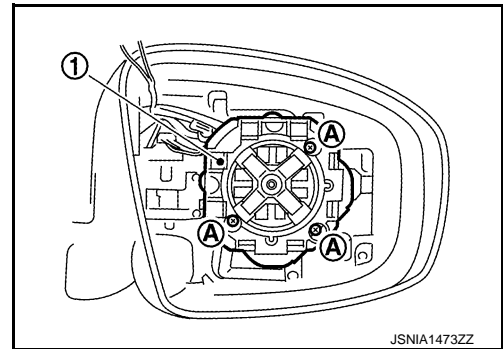
1. Side camera finisher assembly
2. Side camera (RH)

### Removal and Installation

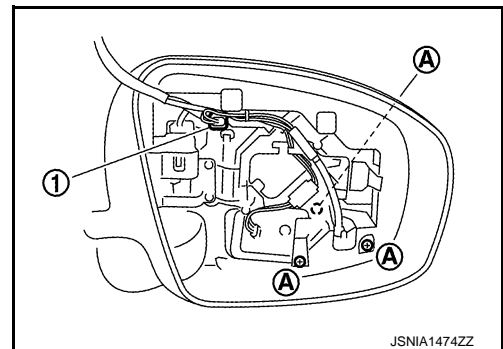
INFOID:000000005475048

#### REMOVAL

1. Remove glass mirror (passenger side). Refer to [MIR-100. "DOOR MIRROR ASSEMBLY : Exploded View"](#) (without ADP), [MIR-78. "DOOR MIRROR ASSEMBLY : Exploded View"](#) (with ADP).
2. Remove screws (A) and actuator connector, and then actuator (1).



3. Remove door mirror cover. Refer to [MIR-100. "DOOR MIRROR ASSEMBLY : Exploded View"](#) (without ADP), [MIR-78. "DOOR MIRROR ASSEMBLY : Exploded View"](#) (with ADP).
4. Remove screws (A) and connector (1), and then remove side camera finisher assembly (RH).



5. Remove side camera (RH) screws.
6. Remove side camera (RH).

#### INSTALLATION

1. Installation is the reverse order of removal.
2. Perform camera image calibration. Refer to [AV-462. "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Work Procedure"](#).

**CAUTION:**

## **SIDE CAMERA RH**

< REMOVAL AND INSTALLATION >

**[NAVIGATION (TWIN MONITOR)]**

**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.**



# SONAR CONTROL UNIT

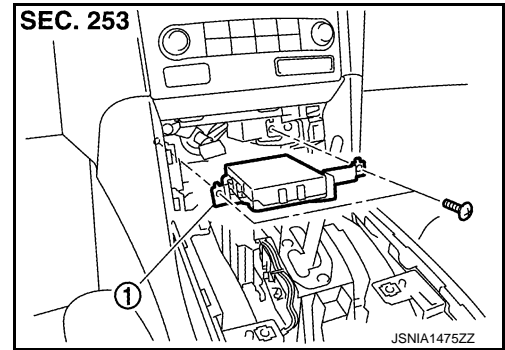
< REMOVAL AND INSTALLATION >

[NAVIGATION (TWIN MONITOR)]

## SONAR CONTROL UNIT

### Exploded View

INFOID:0000000005475051



1. Sonar control unit

### Removal and Installation

INFOID:0000000005475052

#### REMOVAL

1. Remove AV control unit. Refer to [AV-562, "Exploded View"](#).
2. Remove screws and connector, and then sonar control unit.

#### INSTALLATION

Install in the reverse order of removal.

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AV

# SONAR SENSOR

< REMOVAL AND INSTALLATION >

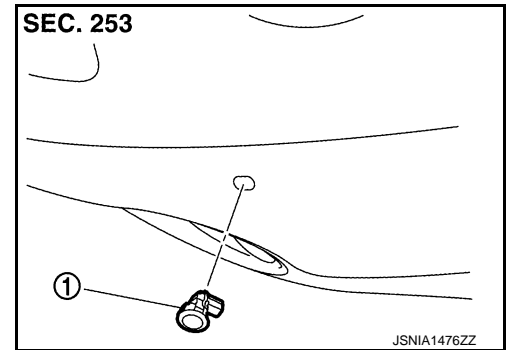
[NAVIGATION (TWIN MONITOR)]

## SONAR SENSOR

### FRONT

#### FRONT : Exploded View

INFOID:000000005247451



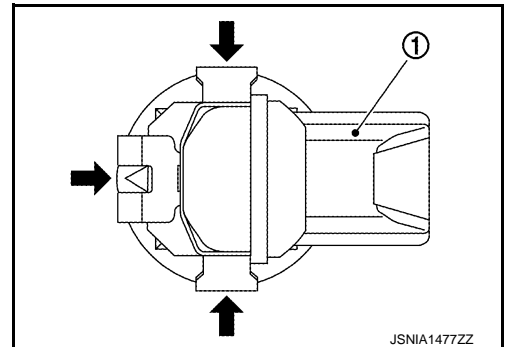
1. Sonar sensor (front)

#### FRONT : Removal and Installation

INFOID:000000005247452

##### REMOVAL

1. Remove fender protector. Keep a service area. Refer to [EXT-25, "FENDER PROTECTOR : Exploded View"](#).
2. Remove sonar sensor connector.
3. Press the sonar sensor (1) outside the front bumper, pressing the metal clips on the back to the direction of black arrows.



##### INSTALLATION

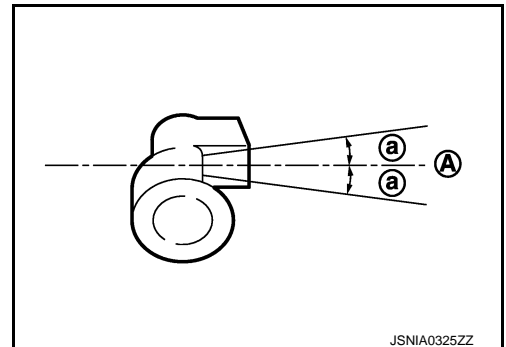
Install the bumper when the pawl engages.

##### CAUTION:

The connector direction is within  $\pm 10^\circ$  from the horizontal position when assembling the bumper.

**A** : Horizontal position

**a** :  $10^\circ$



### REAR

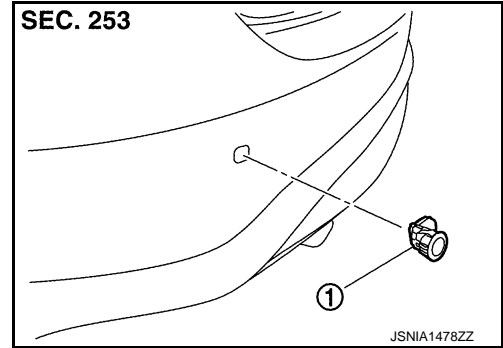
# SONAR SENSOR

< REMOVAL AND INSTALLATION >

[NAVIGATION (TWIN MONITOR)]

## REAR : Exploded View

INFOID:000000005247453



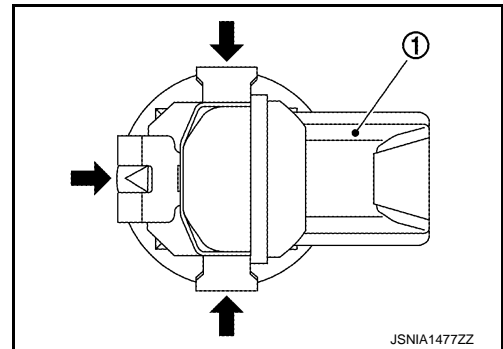
1. Sonar sensor (rear)

## REAR : Removal and Installation

INFOID:000000005247454

### REMOVAL

1. Remove sonar sensor connector.
2. Press the sonar sensor (1) outside the front bumper, pressing the metal clips on the back to the direction of black arrows.



### INSTALLATION

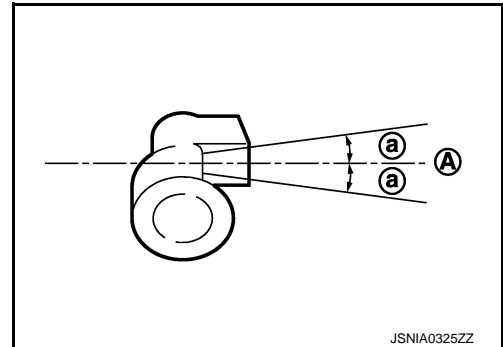
Install the bumper when the pawl engages.

#### CAUTION:

The connector direction is within  $\pm 10^\circ$  from the horizontal position when assembling the bumper.

**A** : Horizontal position

**a** :  $10^\circ$



## ANTENNA FEEDER

## < REMOVAL AND INSTALLATION >

**[NAVIGATION (TWIN MONITOR)]**

## ANTENNA FEEDER

## Harness Layout

INFOID:0000000005247459

## SEC. 280

