

# 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:000000009061386

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

**WARNING:**

Always observe the following items for preventing accidental activation.

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see "SRS AIR BAG".
- Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

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

**WARNING:**

Always observe the following items for preventing accidental activation.

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

Precaution for Trouble Diagnosis

INFOID:000000009061387

AV COMMUNICATION SYSTEM

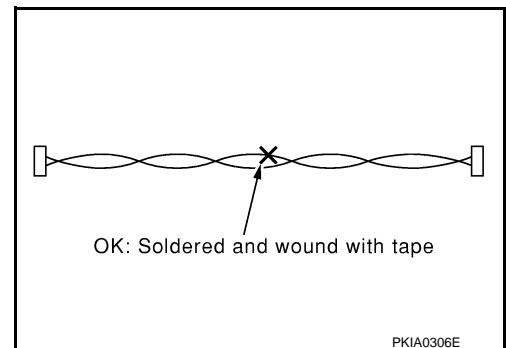
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

INFOID:000000009061388

AV COMMUNICATION SYSTEM

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



PKIA0306E

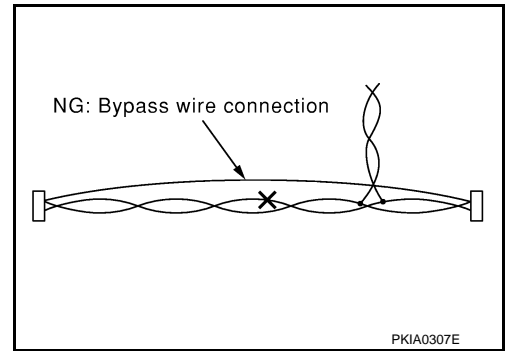


# PRECAUTIONS

< PRECAUTION >

[BASE AUDIO 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 >

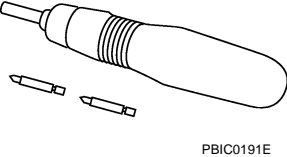
[BASE AUDIO WITHOUT NAVIGATION]

## PREPARATION

### PREPARATION

#### Commercial Service Tools

INFOID:000000009061389

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

# COMPONENT PARTS

< SYSTEM DESCRIPTION >

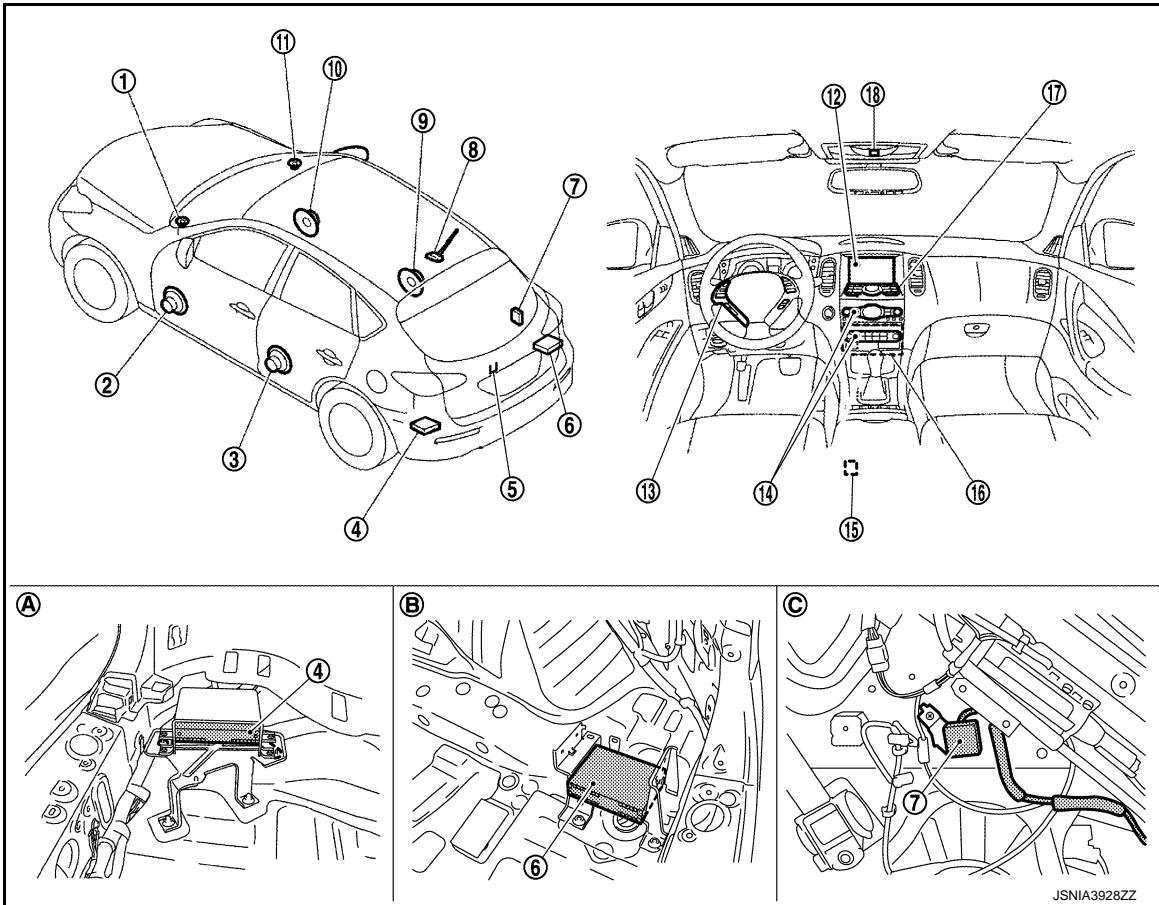
[BASE AUDIO WITHOUT NAVIGATION]

## SYSTEM DESCRIPTION

### COMPONENT PARTS

#### Component Parts Location

INFOID:000000009061390



- |                            |                                                      |                          |
|----------------------------|------------------------------------------------------|--------------------------|
| 1. Front squawker LH       | 2. Front door speaker LH                             | 3. Rear door speaker LH  |
| 4. TEL adapter unit        | 5. Rear view camera                                  | 6. Satellite radio tuner |
| 7. TEL antenna             | 8. Antenna base (antenna amp. and satellite antenna) | 9. Rear door speaker RH  |
| 10. Front door speaker RH  | 11. Front squawker RH                                | 12. Display unit         |
| 13. Steering switch        | 14. Preset switch                                    | 15. USB connector        |
| 16. AV control unit        | 17. Multifunction switch                             | 18. Microphone           |
| A. Luggage floor (LH side) | B. Luggage floor (RH side)                           | C. Luggage side RH       |

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# COMPONENT PARTS

[BASE AUDIO WITHOUT NAVIGATION]

< SYSTEM DESCRIPTION >

## Component Description

INFOID:000000009061391

Part name	Description
AV control unit	<ul style="list-style-type: none"> <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, rear view monitor, 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>Camera power supply is transmitted to rear view camera.</li> </ul>
Display unit	<ul style="list-style-type: none"> <li>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 signal (camera image) is input from AV control unit.</li> <li>Synchronizing signal (HP, VP) is output to AV control unit.</li> </ul>
Front door speaker	<ul style="list-style-type: none"> <li>Outputs sound signal from AV control unit.</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 AV control unit.</li> <li>Outputs high, mid and low range sounds.</li> </ul>
Front squawker	<ul style="list-style-type: none"> <li>Outputs sound signal from AV control unit.</li> <li>Outputs mid range sounds.</li> </ul>
Multifunction switch	<ul style="list-style-type: none"> <li>Operation panel is equipped with the centralized switch where audio, 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 is possible.</li> <li>Steering switch signal (operation signal) is output to AV control unit.</li> </ul>
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>

# COMPONENT PARTS

< SYSTEM DESCRIPTION >

[BASE AUDIO WITHOUT NAVIGATION]

Part name	Description
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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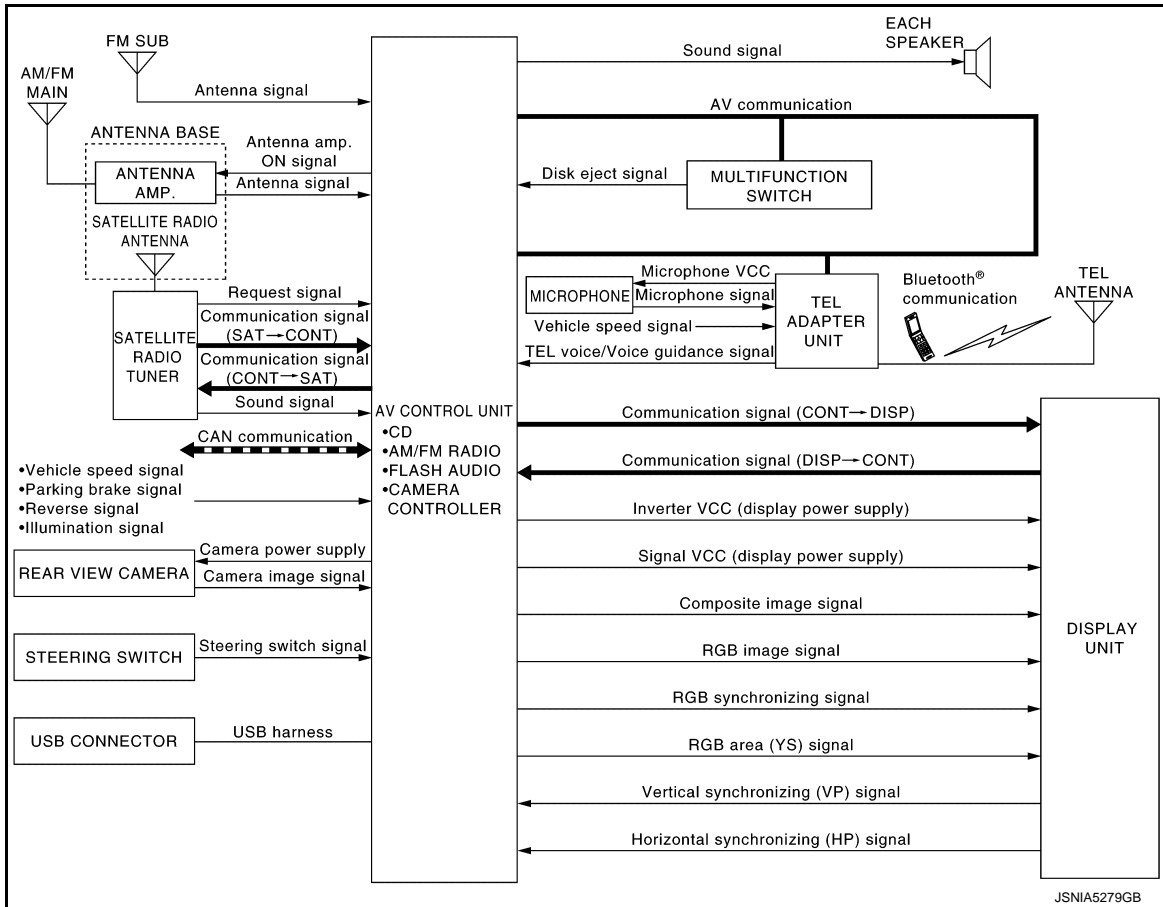
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SYSTEM

MULTI AV SYSTEM

MULTI AV SYSTEM : System Diagram

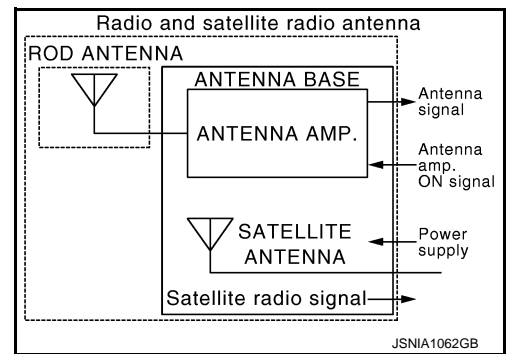
INFOID:000000009061392



JSNIA5279GB

NOTE:

- Flash audio is not used.
- 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.



JSNIA1062GB

MULTI AV SYSTEM : System Description

INFOID:000000009061393

Multi AV system means that the following systems are integrated.

FUNCTION NAME
Audio function
Hands-free phone function*1
Rear view monitor function
Vehicle information function

\*1: With Hands-free phone system

## COMMUNICATION SIGNAL

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

## 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 display.

FUNCTION
AM/FM radio
Satellite radio
CD
USB connection

### Operating Signal

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

- Operating signal is transmitted to AV control unit with AV communication when it is operated by multifunction switch or preset switch. The disk 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 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 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 is output the sound signal (satellite radio) to each speaker.

### CD Mode

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

### USB Connection Function

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

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

**NOTE:**

Use the enclosed USB harness when connecting iPod<sup>®</sup> to USB connector.

## HANDS-FREE PHONE SYSTEM

- TEL adapter unit is controlled with AV communication from AV control unit.

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< SYSTEM DESCRIPTION >

[BASE AUDIO WITHOUT NAVIGATION]

- The connection between cellular phone and TEL adapter unit is performed with Bluetooth<sup>®</sup> communication.
- The voice guidance signal is input from the TEL adapter unit to the AV control unit and output to the front speaker when operating the cellular phone.
- TEL adapter unit has the on board self-diagnosis function. Refer to [AV-34, "Diagnosis Description"](#).

## 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<sup>®</sup> 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<sup>®</sup> communication from cellular phone, and the signal is output to front speaker.

## REAR VIEW MONITOR FUNCTION

### Camera Image Operation Principle

- 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 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 >

[BASE AUDIO WITHOUT NAVIGATION]

## DIAGNOSIS SYSTEM (AV CONTROL UNIT)

### On Board Diagnosis Function

INFOID:000000009061394

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

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

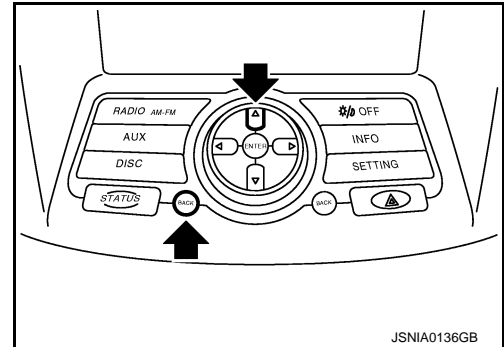
##### Self-diagnosis Mode

- Press the “BACK” switch and the “UP” switch of the 4-direction switches within 10 seconds after turning the ignition switch from OFF to ACC and hold them for 3 seconds or more. Then the buzzer sounds, all indicators of the preset switch illuminate, and the self-diagnosis mode starts.

- The continuity of each switch at the ON position can be checked by pressing the switch. The buzzer sounds if the switch is normal.

**NOTE:**

The 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 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 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>

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AV

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

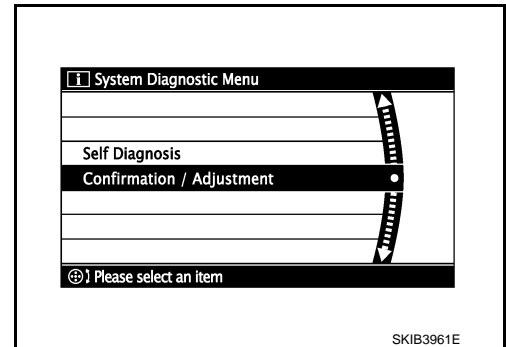
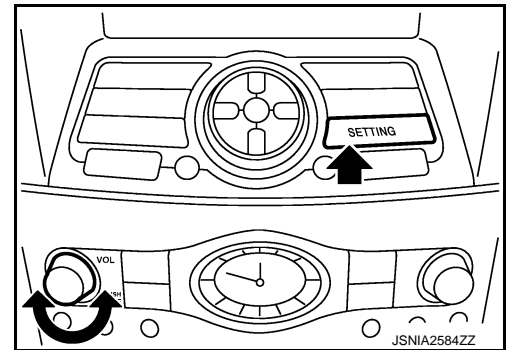
< SYSTEM DESCRIPTION >

[BASE AUDIO WITHOUT NAVIGATION]

	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)

[BASE AUDIO WITHOUT NAVIGATION]

## < SYSTEM DESCRIPTION >

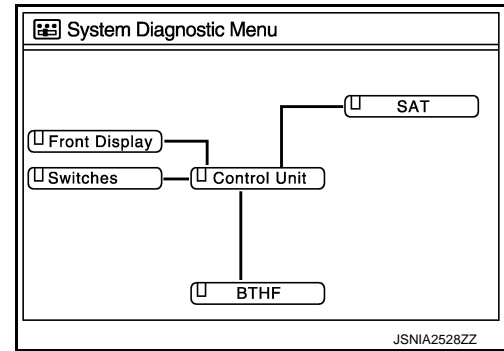
2. Diagnosis results are displayed after the self-diagnosis is completed. The unit names and the connection lines are color-coded according to the diagnostic results.

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

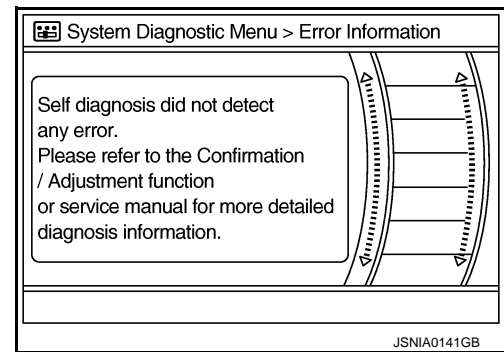
### NOTE:

Control unit (AV control unit) 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-128, "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)

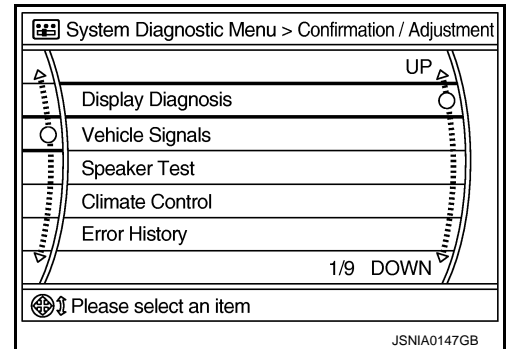
< SYSTEM DESCRIPTION >

[BASE AUDIO 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 display unit.	Serial communication circuits between AV control unit and 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 multifunction switch 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 multifunction switch and TEL adapter 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.

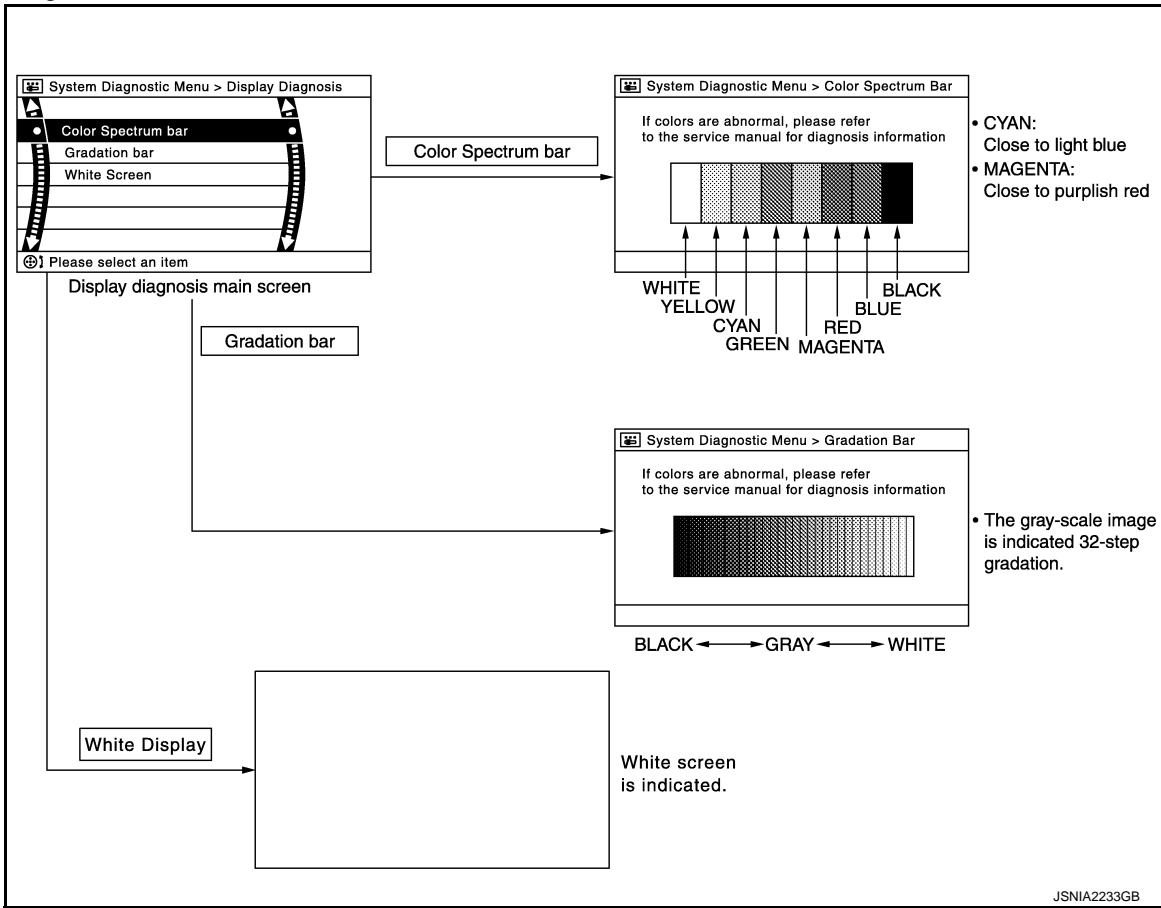


# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

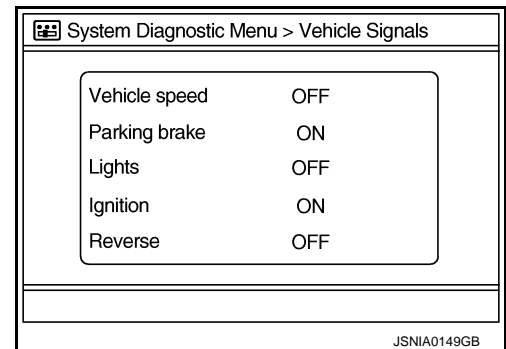
[BASE AUDIO WITHOUT NAVIGATION]

## Display Diagnosis



## Vehicle Signals

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



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

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

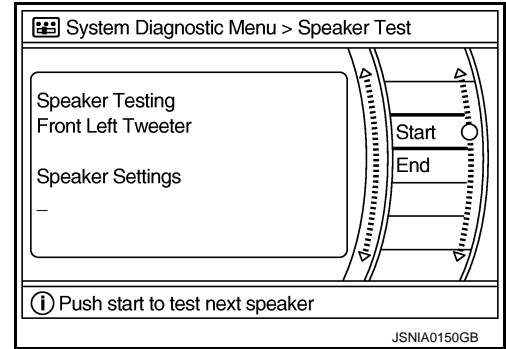
< SYSTEM DESCRIPTION >

[BASE AUDIO 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.

#### Count up method B

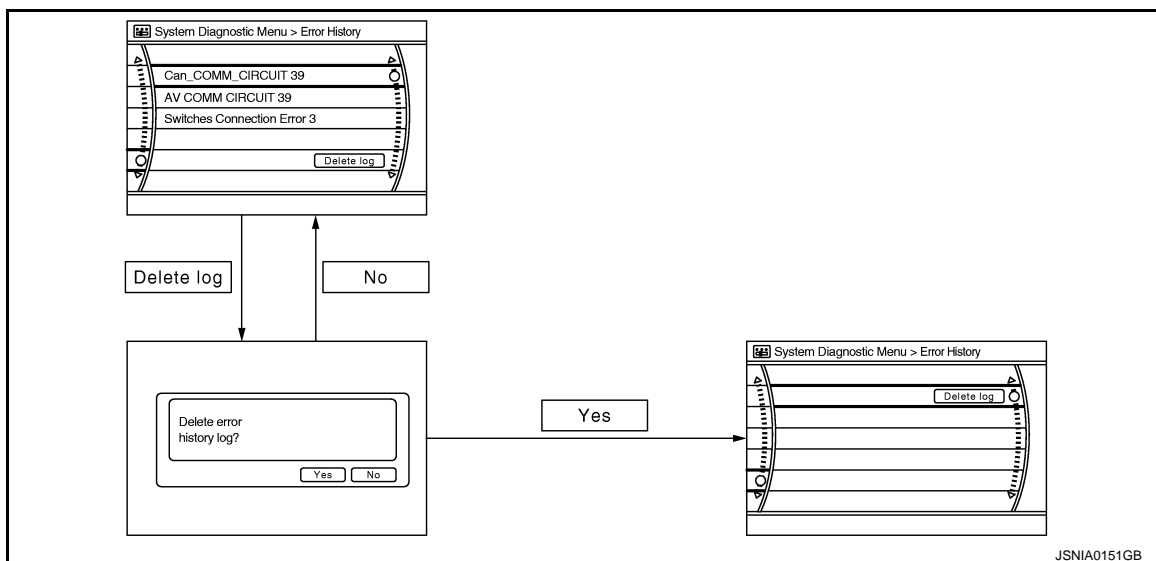
- The counter increases by 1 if an error occurs when ignition switch is ON. The counter will not decrease even if the condition is normal at the next ignition ON cycle.
- The counter upper limit is 50. Any counts exceeding 50 are ignored. The counter can be reset (no error record display) with the “Delete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

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

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[BASE AUDIO 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, and then repair the malfunctioning parts according to the diagnosis results. Refer to <a href="#">AV-30, "CONSULT 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.
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 Function (MULTI AV)".</a>
Front Display Connection Error	When either one of the following items is detected: <ul style="list-style-type: none"> <li>display unit power supply and ground circuits malfunction is detected.</li> <li>malfunction is detected in communication circuits between AV control unit and display unit.</li> </ul>	<ul style="list-style-type: none"> <li>Display unit power supply and ground circuits.</li> <li>Communication circuits between AV control unit and display unit.</li> </ul>

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

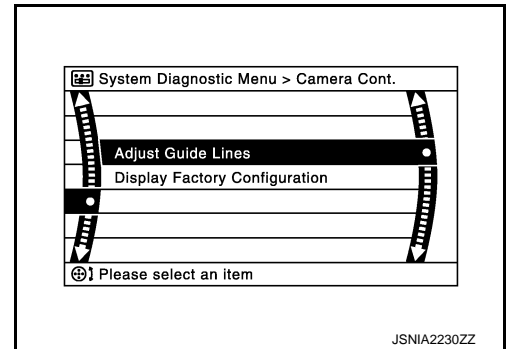
< SYSTEM DESCRIPTION >

[BASE AUDIO 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 multifunction switch 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 multifunction switch 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 are malfunctioning.	AV communication circuits between AV control unit and multifunction switch.

## Camera Cont.

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

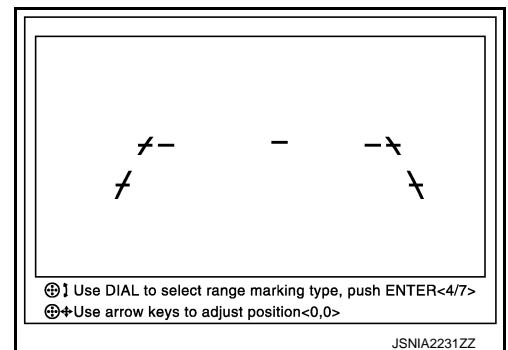


## Adjust Offset of Rear view Camera

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

### CAUTION:

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



## Factory Configuration Confirmation

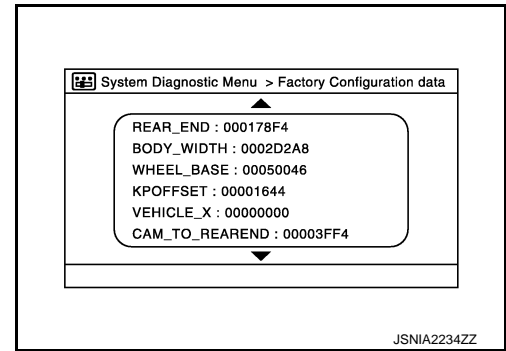


# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

[BASE AUDIO WITHOUT NAVIGATION]

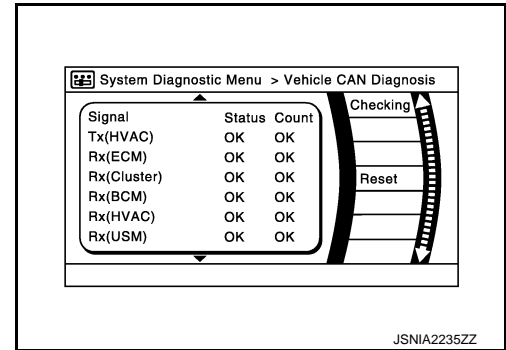
## < SYSTEM DESCRIPTION >

- 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.



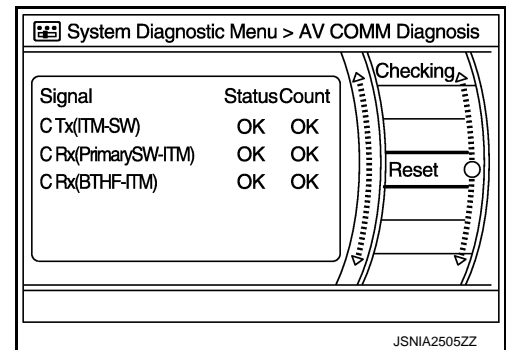
Items	Display (Current)	Malfunction counter (Past)
Tx(HVAC)	OK / ???	OK / 0 – 39
Rx(ECM)	OK / ???	OK / 0 – 39
Rx(Cluster)	OK / ???	OK / 0 – 39
Rx(BCM)	OK / ???	OK / 0 – 39
Rx(HVAC)	OK / ???	OK / 0 – 39
Rx(USM)	OK / ???	OK / 0 – 39
Rx(STRG)	OK / ???	OK / 0 – 39

#### 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-SW)	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

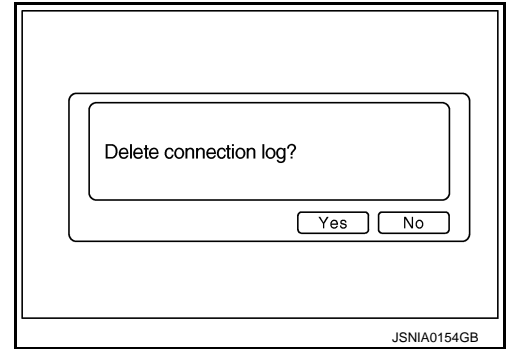
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# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

[BASE AUDIO WITHOUT NAVIGATION]

## < SYSTEM DESCRIPTION >

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

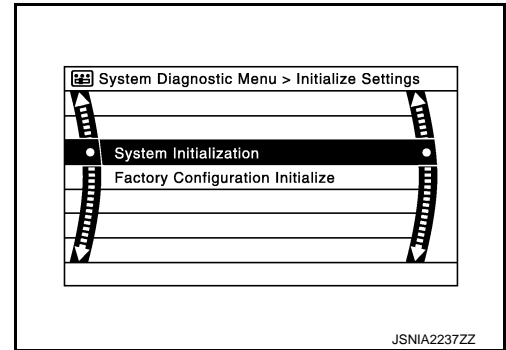


### Initialize Settings

“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-71, "CONFIGURATION \(AV CONTROL UNIT\) : Description"](#).**



## CONSULT Function (MULTI AV)

INFOID:000000009061395

### CONSULT FUNCTIONS

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

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

[BASE AUDIO WITHOUT NAVIGATION]

Error item	Description	Possible malfunction factor/Action to take	A
CAN COMM CIRCUIT [U1000]	CAN communication malfunction is detected.	Refer to <a href="#">AV-74, "Diagnosis Procedure"</a> .	A
CONTROL UNIT (CAN) [U1010]	CAN initial diagnosis malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly.	B
CONTROL UNIT (AV) [U1310]	AV communication circuit initial diagnosis malfunction is detected.		C
Cont Unit [U1200]	AV control unit malfunction is detected.		D
CAN CONT [U1216]			E
SUB CPU CONN [U1228]			F
iPod CERTIFICATION [U1229]			G
Built-in AUDIO CONN [U122E]		E	
USB CONTROLLER [U1225]	USB connection malfunction is detected.	Check that the connection to the USB connector is normal.	E
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>	F
DSP COMM [U121E]			G
CONFIG UNFINISH [U122A]	The writing of configuration data is incomplete.	Write configuration data with CONSULT.	H
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> .	H
FRONT DISP CONN [U1243]	<p>When either one of the following items is detected:</p> <ul style="list-style-type: none"> <li>display unit power supply and ground circuits malfunction is detected.</li> <li>communication circuits between AV control unit and display unit.</li> </ul>	<ul style="list-style-type: none"> <li>Display unit power supply and ground circuits.</li> <li>Communication circuits between AV control unit and AV display unit.</li> </ul>	J
SAT CONN [U1255]	<p>When either one of the following items is detected:</p> <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>	L
USB OVERCURRENT [U1263]	Detection of overcurrent in USB connector.	Check USB harness between the AV control unit and USB connector.	AV
<ul style="list-style-type: none"> <li>AV COMM CIRCUIT [U1300]</li> <li>SWITCH CONN [U1240]</li> </ul>	<p>When either one of the following items is detected:</p> <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>	O
			P

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[BASE AUDIO 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 multifunction switch 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 multifunction switch 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

### NOTE:

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

### ALL SIGNALS

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

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

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[BASE AUDIO WITHOUT NAVIGATION]

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

## CONFIGURATION

Configuration includes functions as follows.

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

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AV

# DIAGNOSIS SYSTEM (TEL ADAPTER UNIT)

< SYSTEM DESCRIPTION >

[BASE AUDIO WITHOUT NAVIGATION]

## DIAGNOSIS SYSTEM (TEL ADAPTER UNIT)

### Diagnosis Description

INFOID:000000009061396

#### 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

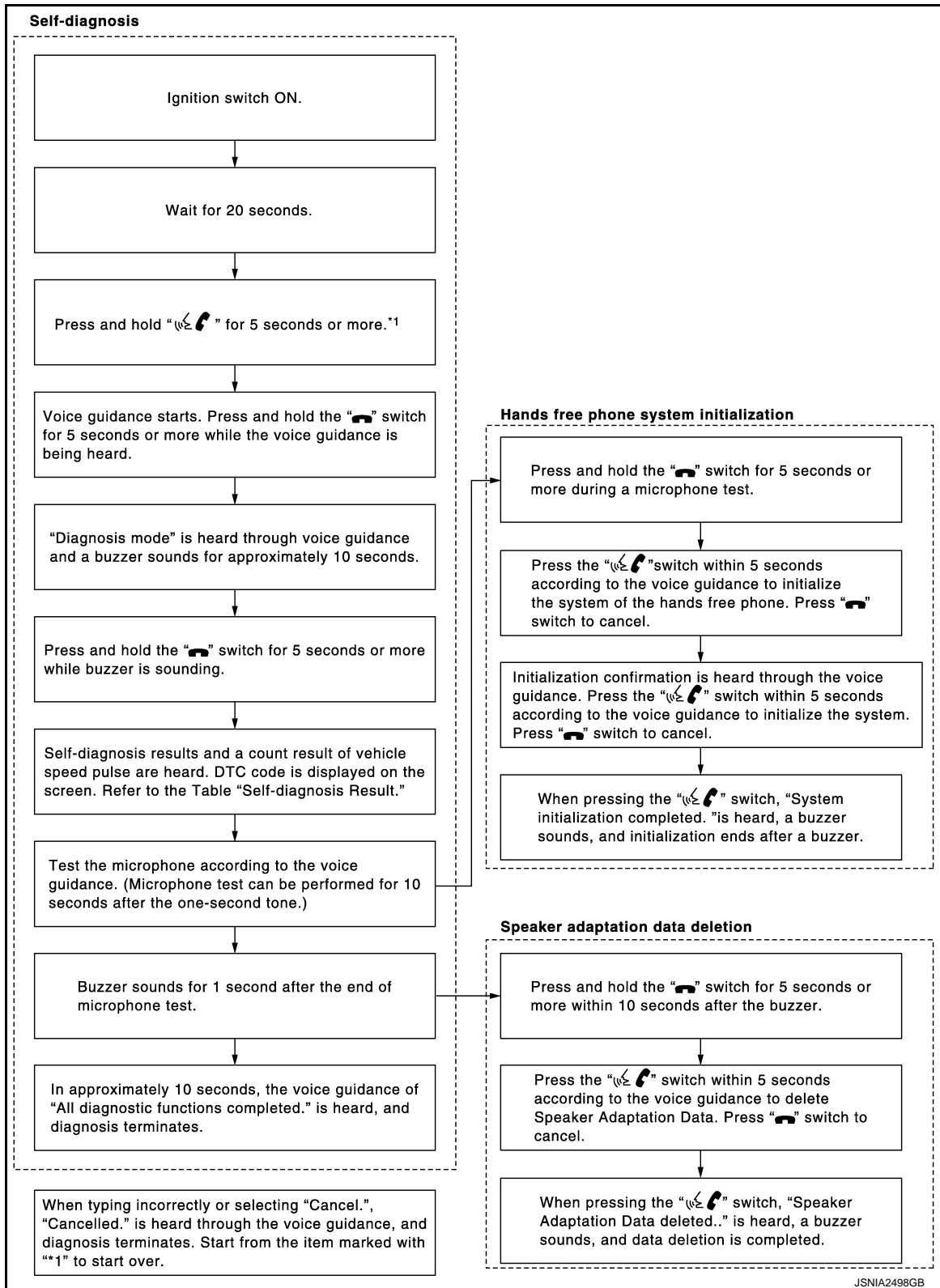
The error count guides "0" when the error occurs. The next time it counts up "1" if it is normal with the ignition switch ON. It continues the count up unless the initialization of hands-free phone system is performed.

# DIAGNOSIS SYSTEM (TEL ADAPTER UNIT)

< SYSTEM DESCRIPTION >

[BASE AUDIO WITHOUT NAVIGATION]

## FLOW CHART OF TROUBLE DIAGNOSIS



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# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[BASE AUDIO WITHOUT NAVIGATION]

## ECU DIAGNOSIS INFORMATION

### AV CONTROL UNIT

#### Reference Value

INFOID:000000009061397

#### VALUES ON THE DIAGNOSIS TOOL

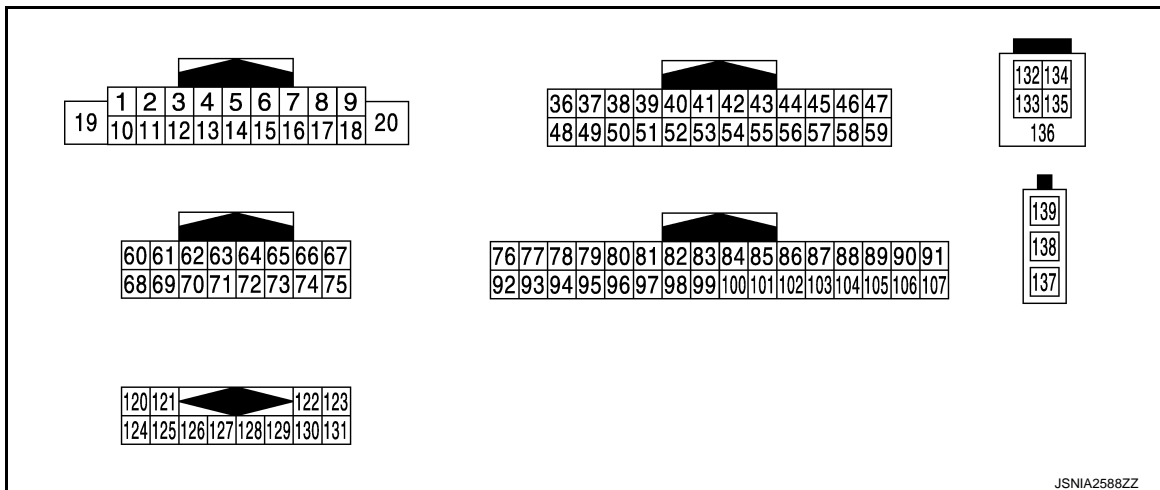
**NOTE:**

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

CONSULT MONITOR ITEM

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



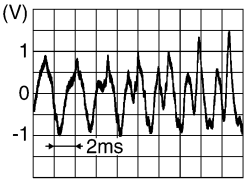
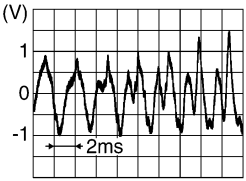

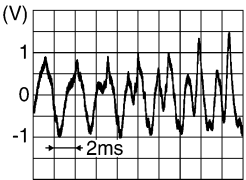
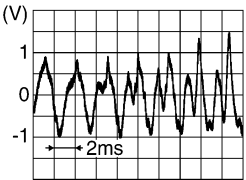
#### PHYSICAL VALUES



# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[BASE AUDIO WITHOUT NAVIGATION]

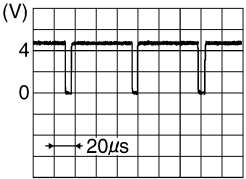
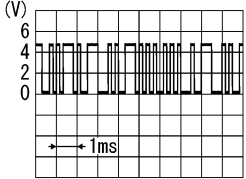
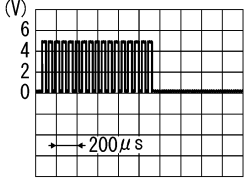
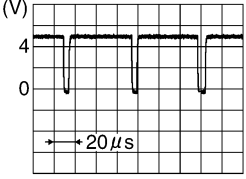
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
2 (BR)	3 (R)	Sound signal front LH	Output	Ignition switch ON	Sound output.	 <p style="text-align: right; font-size: small;">SKIB3609E</p>
4 (LG)	5 (L)	Sound signal rear door speaker LH	Output	Ignition switch ON	Sound output.	 <p style="text-align: right; font-size: small;">SKIB3609E</p>
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
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
11 (L)	12 (W)	Sound signal front RH	Output	Ignition switch ON	Sound output.	 <p style="text-align: right; font-size: small;">SKIB3609E</p>
13 (L)	14 (P)	Sound signal rear door speaker RH	Output	Ignition switch ON	Sound output.	 <p style="text-align: right; font-size: small;">SKIB3609E</p>

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# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

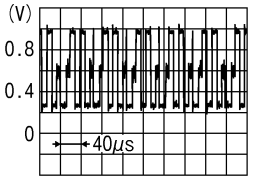
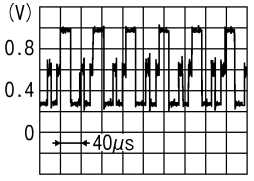
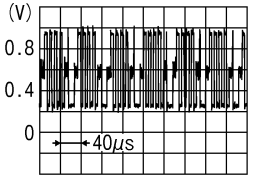
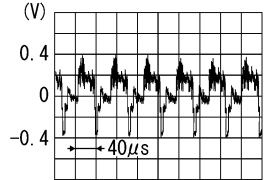
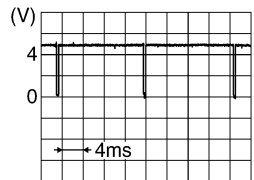
[BASE AUDIO WITHOUT NAVIGATION]

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.	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 (BG)	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	—	 <small style="display: block; text-align: right;">SKIB3601E</small>
39 (BR)	Ground	Communication signal (DISP→CONT)	Input	Ignition switch ON	When adjusting display brightness.	 <small style="display: block; text-align: right;">PKIB5039J</small>
40 (B)	Ground	RGB area (YS) signal	Output	Ignition switch ON	At RGB image is displayed.	5.0 V
					At camera image is displayed.	 <small style="display: block; text-align: right;">PKIB4948J</small>
41	—	Shield	—	—	—	—
42 (W)	Ground	RGB synchronizing signal	Output	Ignition switch ON	—	 <small style="display: block; text-align: right;">SKIB3603E</small>

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[BASE AUDIO WITHOUT NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
43 (G)	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.	 <p style="text-align: right; font-size: small;">JSNIA1029ZZ</p>
44 (L)	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.	 <p style="text-align: right; font-size: small;">JSNIA1030ZZ</p>
45 (P)	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.	 <p style="text-align: right; font-size: small;">JSNIA1031ZZ</p>
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.	 <p style="text-align: right; font-size: small;">SKIB2251J</p>
48 (Y)	Ground	Inverter VCC	Output	Ignition switch ACC	—	8.8 V
49 (BR)	Ground	Inverter ground	—	Ignition switch OFF	—	0 V
50 (G)	Ground	Vertical synchronizing (VP) signal	Input	Ignition switch ON	—	 <p style="text-align: right; font-size: small;">SKIB3598E</p>

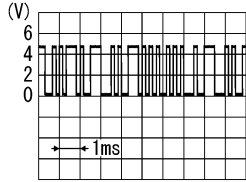
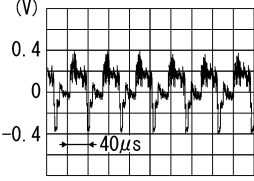

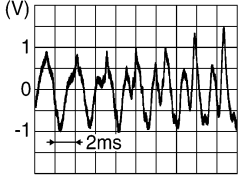
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# AV CONTROL UNIT

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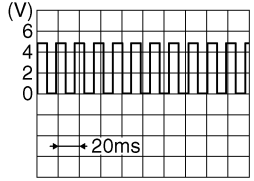
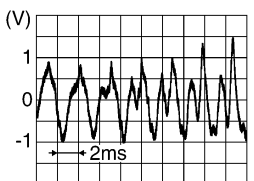
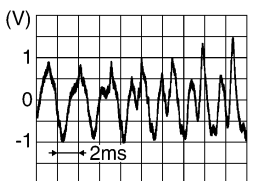
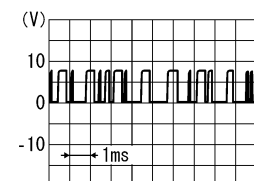
[BASE AUDIO WITHOUT NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
51 (Y)	Ground	Communication signal (CONT→DISP)	Output	Ignition switch ON	When adjusting display brightness.	 <p style="text-align: right; font-size: small;">PKIB5039J</p>
52	—	Shield	—	—	—	—
57	—	Shield	—	—	—	—
58	—	Shield	—	—	—	—
62 (W)	Ground	Camera image signal	Input	Ignition switch ON	At camera image is dis- played.	 <p style="text-align: right; font-size: small;">SKIB2251J</p>
71	—	Shield	—	—	—	—
72 (W)	Ground	Camera ground	—	Ignition switch ON	—	0 V
73 (R)	Ground	Camera power supply	Output	Ignition switch ON	At rear view camera image is displayed.	6.0 V
					Except for above.	0 V
76 (LG)	—	AV communication signal (L)	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 (B)	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.	 <p style="text-align: right; font-size: small;">SKIB3609E</p>

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[BASE AUDIO WITHOUT NAVIGATION]

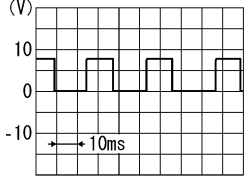
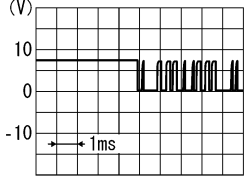
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
92 (R)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	<b>NOTE:</b> Maximum voltage may be 12.0 V due to specifications (connected units).  <small>SKIA6649J</small>
93 (V)	Ground	Parking brake signal	Input	Ignition switch ON	Parking brake is ON.	4.5 V
					Parking brake is OFF.	0 V
94 (BG)	Ground	Reverse signal	Input	Ignition switch ON	Shift the selector lever to R position.	12.0 V
					Shift the selector lever other than R position.	0 V
95 (G)	Ground	Ignition signal	Input	Ignition switch ON	—	Battery voltage
96 (Y)	Ground	Disk eject signal	Input	Ignition switch ON	Pressing the eject switch.	0 V
					Except for above.	5.0 V
120 (B)	124 (W)	Satellite radio sound signal LH	Input	Ignition switch ON	When satellite radio mode is selected.	 <small>SKIB3609E</small>
121 (G)	125 (R)	Satellite radio sound signal RH	Input	Ignition switch ON	When satellite radio mode is selected	 <small>SKIB3609E</small>
122 (B)	Ground	Communication signal (CONT→SAT)	Output	Ignition switch ON	When satellite radio mode is selected.	 <small>SKIA9300J</small>
126	—	Shield	—	—	—	—
127	—	Shield	—	—	—	—

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# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[BASE AUDIO WITHOUT NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
129 (W)	Ground	Request signal (SAT→CONT)	Input	Ignition switch ON	When satellite radio mode is selected.	 <p style="text-align: right; font-size: small;">SKIA9299J</p>
130 (R)	Ground	Communication signal (SAT→CONT)	Input	Ignition switch ON	When satellite radio mode is selected.	 <p style="text-align: right; font-size: small;">SKIA9301J</p>
132 (G)	—	USB ground	—	—	—	—
133 (R)	—	USB D- signal	—	—	—	—
134 (W)	—	V BUS signal	—	—	—	—
135 (L)	—	USB D+ signal	—	—	—	—
136	—	Shield	—	—	—	—
137	—	FM sub	Input	—	—	—
138	—	AM-FM main	Input	—	—	—
139	Ground	Antenna amp. ON signal	Input	Ignition switch ON	—	12.0 V

## DTC Index

INFOID:000000009061398

## SELF-DIAGNOSIS RESULTS DISPLAY ITEM

DTC	Display item	Refer to
U1000	CAN COMM CIRCUIT [U1000]	<a href="#">AV-74, "Diagnosis Procedure"</a>
U1010	CONTROL UNIT (CAN) [1010]	<a href="#">AV-75, "DTC Logic"</a>
U1200	Cont Unit [U1200]	<a href="#">AV-76, "DTC Logic"</a>
U1216	CAN CONT [U1216]	<a href="#">AV-77, "DTC Logic"</a>
U121D	DSP CONN [U121D]	<a href="#">AV-78, "Diagnosis Procedure"</a>
U121E	DSP COMM [U121E]	<a href="#">AV-79, "Diagnosis Procedure"</a>
U1225	USB CONTROLLER [U1225]	<a href="#">AV-80, "DTC Logic"</a>
U1228	SUB CPU CONN [U1228]	<a href="#">AV-81, "DTC Logic"</a>
U1229	iPod CERTIFICATION [U1229]	<a href="#">AV-82, "DTC Logic"</a>
U122A	CONFIG UNFINISH [U122A]	<a href="#">AV-83, "Diagnosis Procedure"</a>
U122E	Built-in AUDIO CONN [U122E]	<a href="#">AV-84, "DTC Logic"</a>
U1232	ST ANGLE SEN CALIB [1232]	<a href="#">AV-85, "Diagnosis Procedure"</a>
U1243	FRONT DISP CONN [U1243]	<a href="#">AV-86, "DTC Logic"</a>

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[BASE AUDIO WITHOUT NAVIGATION]

DTC	Display item	Refer to
U1255	SAT CONN [U1255]	<a href="#">AV-88, "DTC Logic"</a>
U1263	USB OVERCURRENT [U1263]	<a href="#">AV-90, "Diagnosis Procedure"</a>
U1310	CONTROL UNIT (AV) [U1310]	<a href="#">AV-92, "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-91, "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-91, "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-91, "Description"</a>

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# DISPLAY UNIT

< ECU DIAGNOSIS INFORMATION >

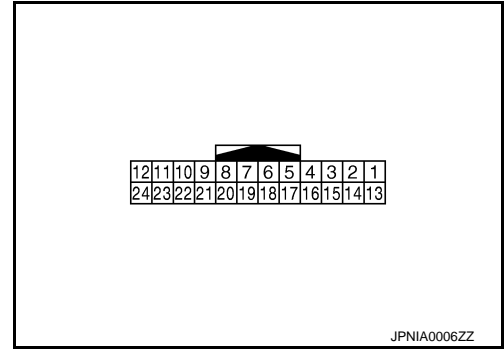
[BASE AUDIO WITHOUT NAVIGATION]

## DISPLAY UNIT

Reference Value

INFOID:000000009061399

TERMINAL LAYOUT



PHYSICAL VALUES

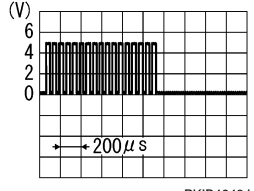
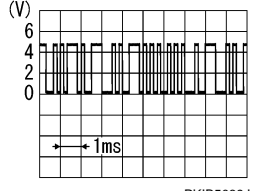
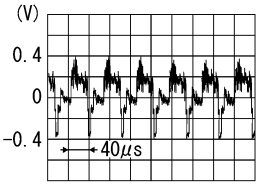
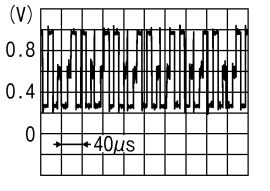
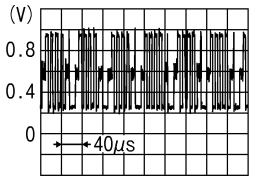
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
1 (B)	Ground	Ground	—	Ignition switch ON	—	0 V
2 (Y)	Ground	Inverter VCC	Input	Ignition switch ACC	—	8.8 V
3 (BG)	Ground	Signal VCC	Input	Ignition switch ACC	—	8.8 V
4 (V)	Ground	Composite image signal ground	—	Ignition switch ON	—	0 V
5	—	Shield	—	—	—	—
6 (L)	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 style="text-align: right;">JSNIA1030ZZ</p>
7	—	Shield	—	—	—	—
8 (R)	Ground	Horizontal synchronizing (HP) signal	Output	Ignition switch ON	—	<p style="text-align: right;">SKIB3601E</p>



# DISPLAY UNIT

< ECU DIAGNOSIS INFORMATION >

[BASE AUDIO WITHOUT NAVIGATION]

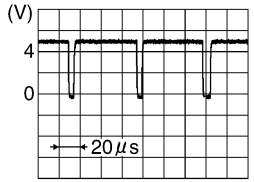
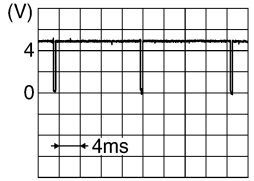
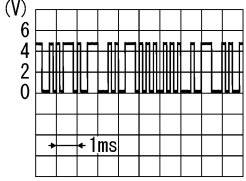
Terminal (Wire color)		Description		Condition	Reference value (Approx.)
+	-	Signal name	Input/ Output		
9 (B)	Ground	RGB area (YS) signal	Input	Ignition switch ON	At RGB image is displayed. 5.0 V
				Ignition switch ON	At camera image is displayed.  PKIB4948J
11 (Y)	Ground	Communication signal (CONT→DISP)	Input	Ignition switch ON	When adjusting display brightness.  PKIB5039J
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.  SKIB2251J
17 (G)	Ground	RGB signal (R: red)	Input	Ignition switch ON	Start Confirmation/Adjustment mode, and then display color bar by selecting "Color Spectrum Bar" on Display Diagnosis screen.  JSNIA1029ZZ
18 (P)	Ground	RGB signal (B: blue)	Input	Ignition switch ON	Start Confirmation/Adjustment mode, and then display color bar by selecting "Color Spectrum Bar" on Display Diagnosis screen.  JSNIA1031ZZ

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# DISPLAY UNIT

< ECU DIAGNOSIS INFORMATION >

[BASE AUDIO WITHOUT NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
19 (W)	Ground	RGB synchronizing signal	Input	Ignition switch ON	—	 <p style="text-align: right;">SKIB3603E</p>
20 (G)	Ground	Vertical synchronizing (VP) signal	Output	Ignition switch ON	—	 <p style="text-align: right;">SKIB3598E</p>
21	—	Shield	—	—	—	—
22 (BR)	Ground	Communication signal (DISP→CONT)	Output	Ignition switch ON	When adjusting display brightness.	 <p style="text-align: right;">PKIB5039J</p>
23	—	Shield	—	—	—	—

# SATELLITE RADIO TUNER

< ECU DIAGNOSIS INFORMATION >

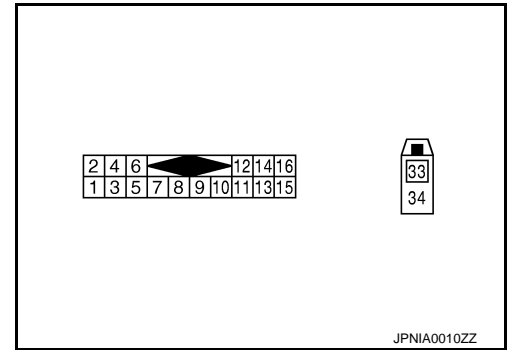
[BASE AUDIO WITHOUT NAVIGATION]

## SATELLITE RADIO TUNER

Reference Value

INFOID:000000009061400

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/Output			
2 (R)	1 (G)	Satellite radio sound signal LH	Output	Ignition switch ON	When satellite radio mode is selected.	<p>SKIB3609E</p>
4 (B)	3 (W)	Satellite radio sound signal RH	Output	Ignition switch ON	When satellite radio mode is selected	<p>SKIB3609E</p>
5	—	Shield	—	—	—	—
6	—	Shield	—	—	—	—
8 (L)	Ground	Request signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected.	<p>SKIA9299J</p>
9 (P)	Ground	Communication signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected.	<p>SKIA9300J</p>

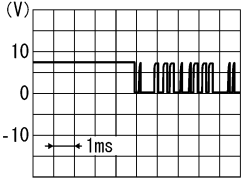
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# SATELLITE RADIO TUNER

< ECU DIAGNOSIS INFORMATION >

[BASE AUDIO WITHOUT NAVIGATION]

Terminal		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
10 (G)	Ground	Communication signal (CONT→SAT)	Input	Ignition switch ON	When satellite radio mode is selected.	 <p style="text-align: right; font-size: small;">SKIA9301J</p>
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	—	—	—

# TEL ADAPTER UNIT

< ECU DIAGNOSIS INFORMATION >

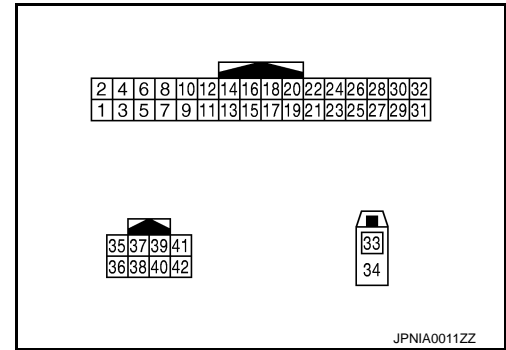
[BASE AUDIO WITHOUT NAVIGATION]

## TEL ADAPTER UNIT

Reference Value

INFOID:000000009061401

TERMINAL LAYOUT



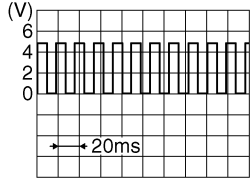
PHYSICAL VALUES

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
7 (BR)	8	Microphone signal	Input	Ignition switch ON	Give a voice.	<p>PKIB5037J</p>
9	10 (W)	TEL voice signal	Output	Ignition switch ON	During voice guide output with the  switch pressed.	<p>SKIB3609E</p>
22 (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 >

[BASE AUDIO 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 (P)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is ap- prox. 40 km/h (25 MPH)	<p><b>NOTE:</b> Maximum voltage may be 12.0 V due to specifications (connected units).</p>  <p style="text-align: right; font-size: small;">SKIA6649J</p>
29 (Y)	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	—	—	—

# BASE AUDIO WITHOUT NAVIGATION

[BASE AUDIO WITHOUT NAVIGATION]

< WIRING DIAGRAM >

## WIRING DIAGRAM

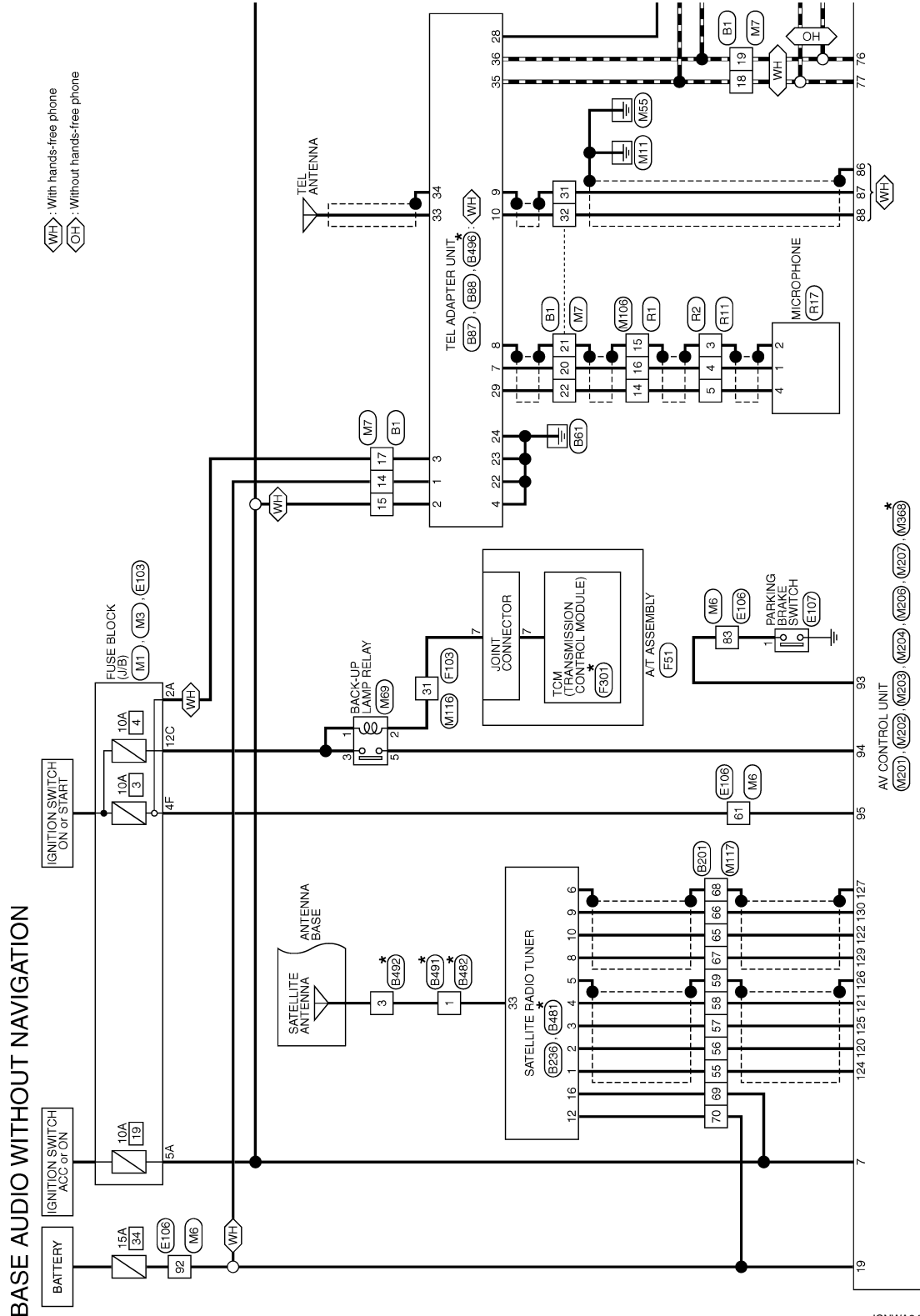
### BASE AUDIO WITHOUT NAVIGATION

#### Wiring Diagram

INFOID:000000009061402

**NOTE:**

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



◊WH◊: With hands-free phone  
◊OH◊: Without hands-free phone

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

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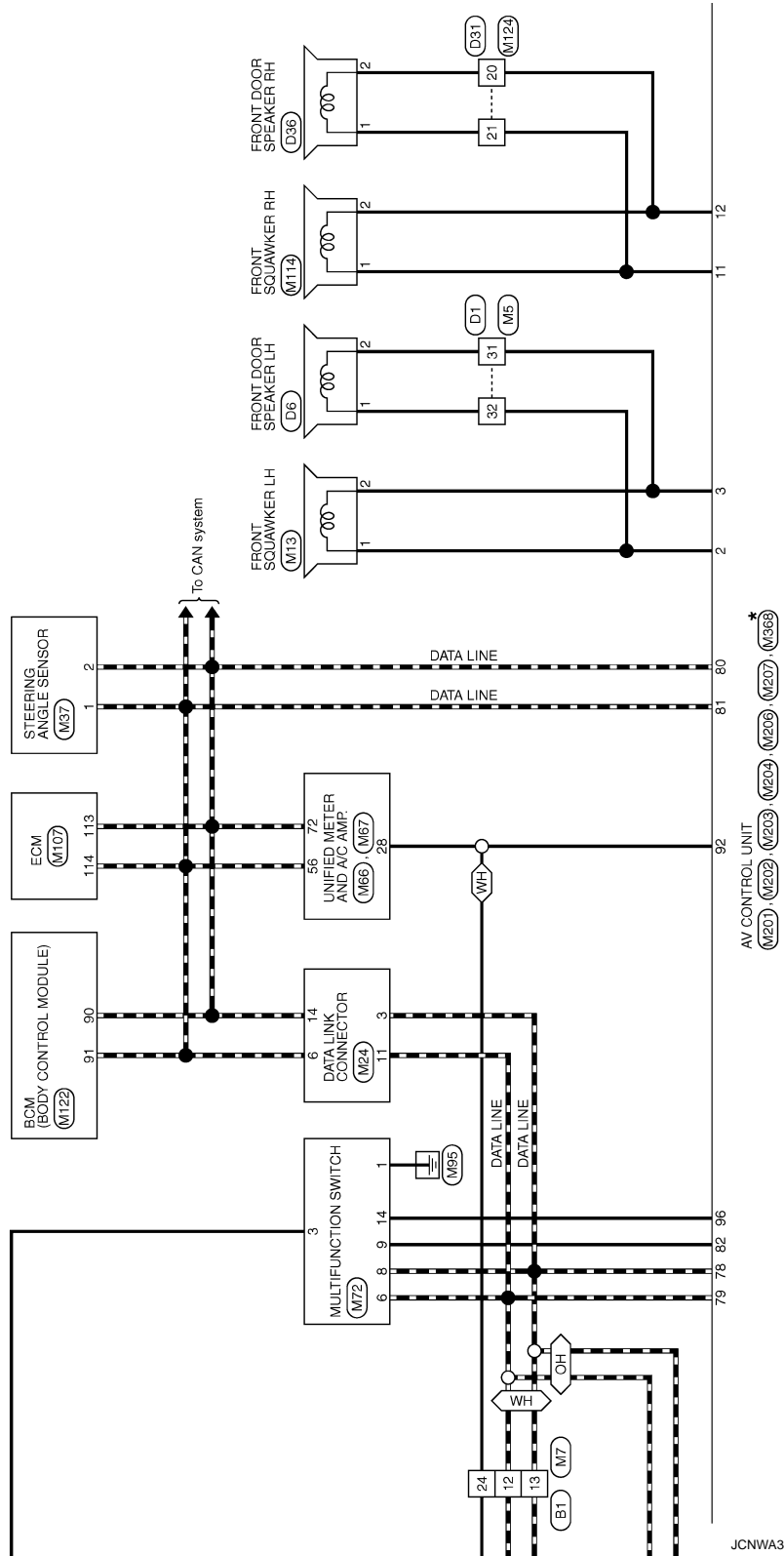
AV

# BASE AUDIO WITHOUT NAVIGATION

## [BASE AUDIO WITHOUT NAVIGATION]

< WIRING DIAGRAM >

WH : With hands-free phone  
OH : Without hands-free phone



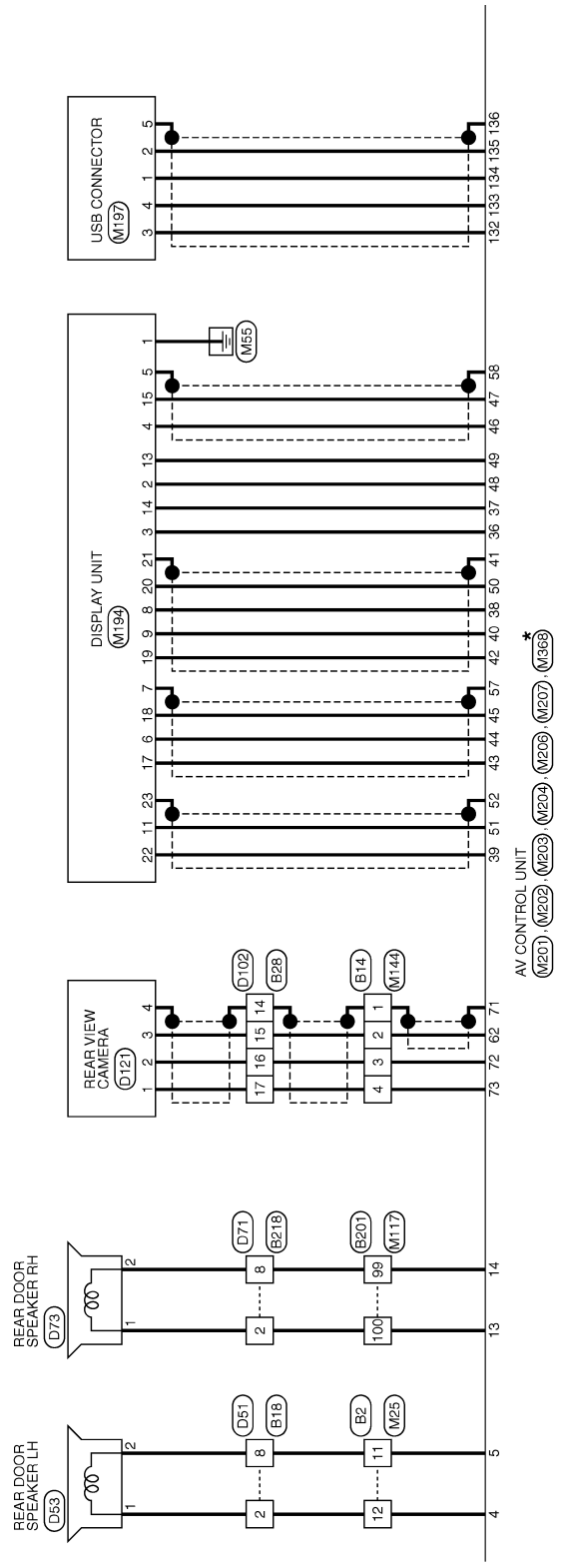
JCNWA3408GB



# BASE AUDIO WITHOUT NAVIGATION

## [BASE AUDIO WITHOUT NAVIGATION]

< WIRING DIAGRAM >



JCNWA3409GB

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

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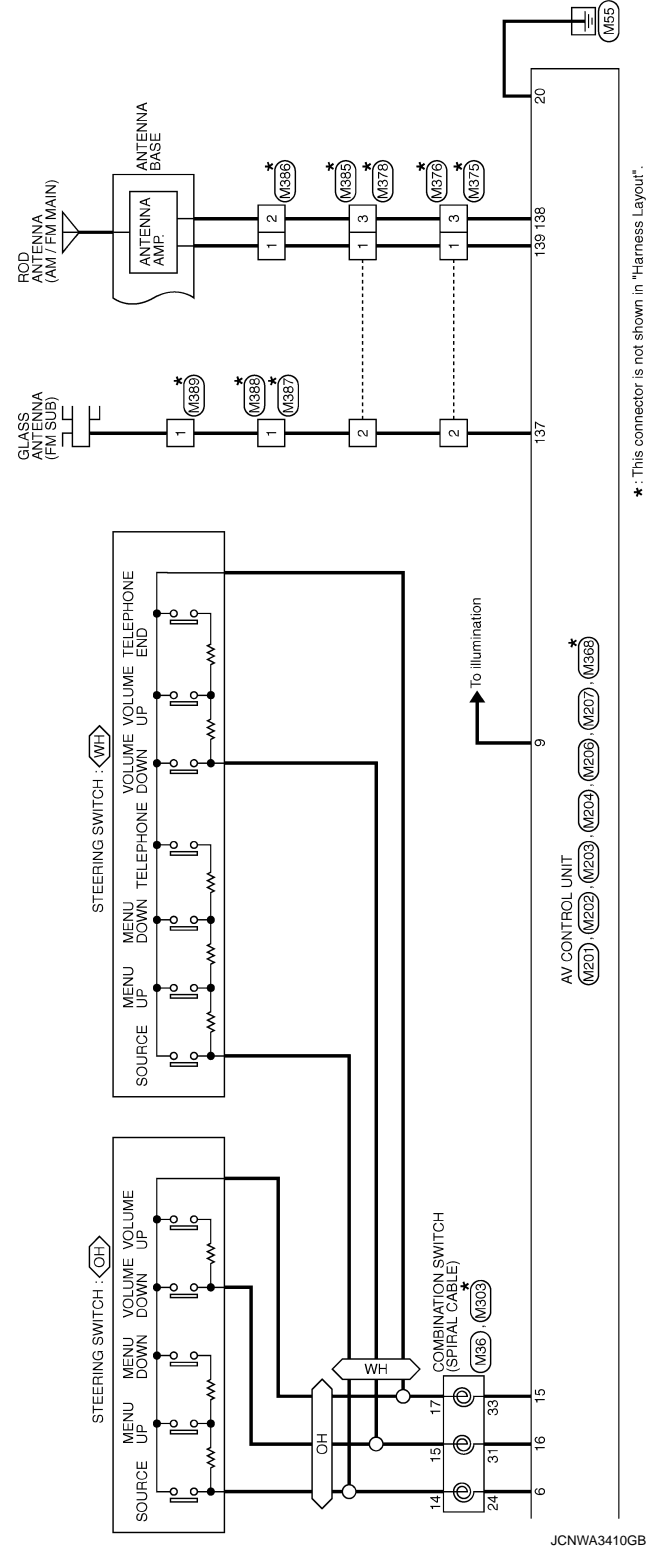
AV

# BASE AUDIO WITHOUT NAVIGATION

## [BASE AUDIO WITHOUT NAVIGATION]

< WIRING DIAGRAM >

WH : With hands-free phone  
OH : Without hands-free phone



# BASE AUDIO WITHOUT NAVIGATION

< WIRING DIAGRAM >

[BASE AUDIO WITHOUT NAVIGATION]

## BASE AUDIO WITHOUT NAVIGATION

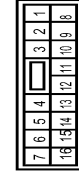
Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
3	R	-
5	G	-
6	SS	-
7	V	-
8	L	-
12	SB	-
13	LG	-
14	GR	-
15	LG	-
17	W	-
18	SB	-
19	LG	-
20	BR	-
21	SHIELD	-
22	Y	-
24	P	-
27	B	-
28	R	-
29	W	-
30	SHIELD	-
32	W	-
33	SS	-
34	L	-
35	P	-
36	L	-
37	P	-
38	BR	-
39	Y	-
44	Y	-
45	GR	-
46	LG	-
47	SB	-
49	G	-
50	V	-

Terminal No.	Color Of Wire	Signal Name [Specification]
60	P	-
61	L	-
62	SHIELD	-
63	R	-
64	G	-
65	SHIELD	-
66	W	-
67	V	-
68	SB	-
69	SHIELD	-
70	W	-
73	SB	-
74	L	-
75	W	-
76	BR	-
77	R	-
78	P	-
79	GR	-
83	BG	-
85	V	-
86	LG	-
87	Y	-
88	R	-
89	B	-
90	BG	-
91	G	-
92	BR	-
93	G	-
94	SB	-
95	G	-
96	Y	-
98	W	-
99	GR	-

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



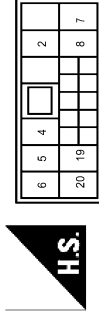
Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	W	-
3	BR	-
4	R	-
5	B	-
6	G	-
7	B	-
8	BR	-
9	Y	-
10	SHIELD	-
11	V	- [With BOSE audio]
11	Y	- [Without BOSE audio]
12	LG	- [Without BOSE audio]
12	SB	- [With BOSE audio]
13	V	-
14	Y	-
15	LG	-
16	P	-

Connector No.	B14
Connector Name	WIRE TO WIRE
Connector Type	TH24FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	SHIELD	-
2	B	-
3	SHIELD	- [With around view monitor]
3	W	- [Without around view monitor]
4	R	- [With around view monitor]
4	W	- [Without around view monitor]

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



Terminal No.	Color Of Wire	Signal Name [Specification]
2	LG	- [Without BOSE audio]
2	Y	- [With BOSE audio]
4	Y	-
5	BR	-
6	G	-
7	B	-
8	G	-
8	Y	- [With BOSE audio]
8	Y	- [Without BOSE audio]
19	GR	-
20	W	-

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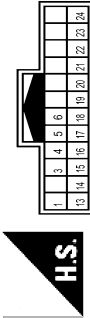
# BASE AUDIO WITHOUT NAVIGATION

[BASE AUDIO WITHOUT NAVIGATION]

< WIRING DIAGRAM >

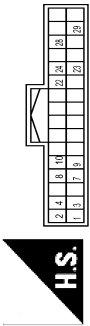
## BASE AUDIO WITHOUT NAVIGATION

Connector No.	B28
Connector Name	WIRE TO WIRE
Connector Type	TH24MW-NH



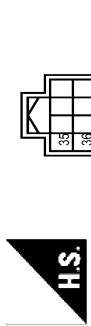
Terminal No.	Color Of Wire	Signal Name [Specification]
1	GR	-
3	W	-
4	B	-
5	R	-
6	BG	-
13	BR	-
14	R	- [With around view monitor]
14	SHIELD	- [Without around view monitor]
15	B	- [Without around view monitor]
15	Y	- [With around view monitor]
16	W	-
17	L	- [With around view monitor]
17	R	- [Without around view monitor]
18	SHIELD	-
19	LG	-
20	BG	-
21	B	-
22	P	-
23	BR	-
24	R	-

Connector No.	B27
Connector Name	TEL ADAPTER UNIT
Connector Type	TH27FV-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	GR	BATTERY
2	LG	ACC
3	W	IGNITION SIGNAL
4	B	GROUND
7	BR	MICROPHONE SIGNAL
8	SHIELD	MICROPHONE GND
9	SHIELD	TEL VOICE SIGNAL (*)
10	W	TEL VOICE SIGNAL (*)
22	B	CONTROL SIGNAL
23	B	CONTROL SIGNAL
24	P	CONTROL SIGNAL
28	P	VEHICLE SPEED (8-PULSE)
29	Y	MICROPHONE VCC

Connector No.	BB8
Connector Name	TEL ADAPTER UNIT
Connector Type	TH88FV-NH



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

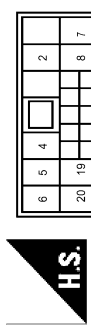
Connector No.	B201
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	R	-
3	GR	-
4	BG	-
7	LG	-
10	W	-
15	SB	-
16	V	-
17	BR	-
26	BR	-
27	L	-
28	Y	-
29	Y	-
30	GR	-
31	R	-
32	BR	-
33	G	-
51	R	-
55	G	-
56	R	-
57	W	-
58	B	-
59	SHIELD	-
60	LG	-
61	W	-
62	BR	-
63	P	-
64	L	-
65	G	-
66	P	-
67	L	-
68	SHIELD	-
69	V	-
70	Y	-
71	SB	-
72	W	-

73	BR	-
75	Y	-
80	V	-
81	SB	-
82	LG	-
83	P	-
84	R	-
85	L	-
86	BG	-
87	L	-
88	P	-
91	V	-
92	R	-
94	R	-
95	SB	-
96	G	-
97	G	-
98	R	-
99	P	-
100	L	-

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



Terminal No.	Color Of Wire	Signal Name [Specification]
2	L	-
4	LG	-
5	V	-
6	G	-
7	B	-
8	P	-
19	R	-
20	W	-

JRNWC3643GB

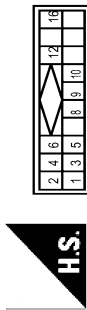
# BASE AUDIO WITHOUT NAVIGATION

## [BASE AUDIO WITHOUT NAVIGATION]

< WIRING DIAGRAM >

### BASE AUDIO WITHOUT NAVIGATION

Connector No.	B236
Connector Name	SATELLITE RADIO TUNER
Connector Type	A18FW



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

Connector No.	B481
Connector Name	SATELLITE RADIO TUNER
Connector Type	FAKRA



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

Connector No.	B462
Connector Name	WIRE TO WIRE
Connector Type	GT16C-1S-HJ



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

Connector No.	B481
Connector Name	WIRE TO WIRE
Connector Type	GT16C-1PP-HJ



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

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



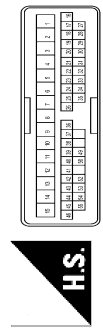
Terminal No.	3
Color Of Wire	-
Signal Name [Specification]	SATELLITE ANTENNA SIGNAL

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



Terminal No.	33
Color Of Wire	-
Signal Name [Specification]	TEL ANTENNA SIGNAL

Connector No.	D1
Connector Name	WIRE TO WIRE
Connector Type	TH40FW-GS15



Terminal No.	1
Color Of Wire	R
Signal Name [Specification]	-
Terminal No.	2
Color Of Wire	B
Signal Name [Specification]	-
Terminal No.	3
Color Of Wire	V
Signal Name [Specification]	-
Terminal No.	4
Color Of Wire	W
Signal Name [Specification]	-
Terminal No.	5
Color Of Wire	L
Signal Name [Specification]	-
Terminal No.	6
Color Of Wire	O
Signal Name [Specification]	-
Terminal No.	7
Color Of Wire	GR
Signal Name [Specification]	-
Terminal No.	8
Color Of Wire	W
Signal Name [Specification]	-
Terminal No.	9
Color Of Wire	O
Signal Name [Specification]	-
Terminal No.	10
Color Of Wire	BR
Signal Name [Specification]	-
Terminal No.	11
Color Of Wire	P
Signal Name [Specification]	-
Terminal No.	12
Color Of Wire	LG
Signal Name [Specification]	-
Terminal No.	13
Color Of Wire	B
Signal Name [Specification]	-

Terminal No.	14
Color Of Wire	Y
Signal Name [Specification]	-
Terminal No.	15
Color Of Wire	W
Signal Name [Specification]	-
Terminal No.	16
Color Of Wire	R
Signal Name [Specification]	-
Terminal No.	17
Color Of Wire	W
Signal Name [Specification]	-
Terminal No.	18
Color Of Wire	G
Signal Name [Specification]	-
Terminal No.	19
Color Of Wire	Y
Signal Name [Specification]	-
Terminal No.	20
Color Of Wire	W
Signal Name [Specification]	-
Terminal No.	21
Color Of Wire	O
Signal Name [Specification]	-
Terminal No.	22
Color Of Wire	P
Signal Name [Specification]	-
Terminal No.	23
Color Of Wire	BR
Signal Name [Specification]	-
Terminal No.	24
Color Of Wire	V
Signal Name [Specification]	-
Terminal No.	25
Color Of Wire	GR
Signal Name [Specification]	-
Terminal No.	26
Color Of Wire	Y
Signal Name [Specification]	-
Terminal No.	27
Color Of Wire	B
Signal Name [Specification]	-
Terminal No.	28
Color Of Wire	SHIELD
Signal Name [Specification]	-
Terminal No.	29
Color Of Wire	LG
Signal Name [Specification]	-
Terminal No.	30
Color Of Wire	G
Signal Name [Specification]	-
Terminal No.	31
Color Of Wire	W
Signal Name [Specification]	-
Terminal No.	32
Color Of Wire	G
Signal Name [Specification]	-
Terminal No.	33
Color Of Wire	L
Signal Name [Specification]	-
Terminal No.	34
Color Of Wire	SB
Signal Name [Specification]	-
Terminal No.	35
Color Of Wire	R
Signal Name [Specification]	-
Terminal No.	36
Color Of Wire	LG
Signal Name [Specification]	-
Terminal No.	37
Color Of Wire	R
Signal Name [Specification]	-
Terminal No.	38
Color Of Wire	P
Signal Name [Specification]	-
Terminal No.	39
Color Of Wire	O
Signal Name [Specification]	-
Terminal No.	40
Color Of Wire	BR
Signal Name [Specification]	-
Terminal No.	41
Color Of Wire	L
Signal Name [Specification]	-
Terminal No.	42
Color Of Wire	GR
Signal Name [Specification]	- [With automatic drive positioner]
Terminal No.	43
Color Of Wire	O
Signal Name [Specification]	- [Without automatic drive positioner]
Terminal No.	44
Color Of Wire	GR
Signal Name [Specification]	- [Without automatic drive positioner]
Terminal No.	44
Color Of Wire	W
Signal Name [Specification]	- [With automatic drive positioner]
Terminal No.	45
Color Of Wire	G
Signal Name [Specification]	- [With automatic drive positioner]
Terminal No.	46
Color Of Wire	G
Signal Name [Specification]	- [With automatic drive positioner]
Terminal No.	46
Color Of Wire	V
Signal Name [Specification]	- [Without automatic drive positioner]
Terminal No.	49
Color Of Wire	GR
Signal Name [Specification]	-
Terminal No.	50
Color Of Wire	B
Signal Name [Specification]	-
Terminal No.	52
Color Of Wire	R
Signal Name [Specification]	-
Terminal No.	53
Color Of Wire	SB
Signal Name [Specification]	-
Terminal No.	54
Color Of Wire	O
Signal Name [Specification]	-
Terminal No.	55
Color Of Wire	Y
Signal Name [Specification]	-

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# BASE AUDIO WITHOUT NAVIGATION

< WIRING DIAGRAM >

[BASE AUDIO WITHOUT NAVIGATION]

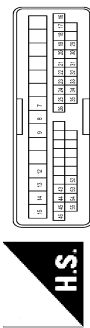
## BASE AUDIO WITHOUT NAVIGATION

Connector No.	D6
Connector Name	FRONT DOOR SPEAKER LH
Connector Type	NS02FW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	-
2	W	-

Connector No.	D51
Connector Name	WIRE TO WIRE
Connector Type	TH00FW-CS15



Terminal No.	Color Of Wire	Signal Name [Specification]
7	R	-
8	BR	-
9	V	-
12	P	-
13	LG	-
14	B	-
15	W	-
16	BR	-
17	B	-
18	R	-
19	Y	-
20	B	-
20	R	- [With BOSE audio]
21	BR	- [Without BOSE audio]
21	G	- [With BOSE audio]
22	V	-
23	P	-
24	W	-

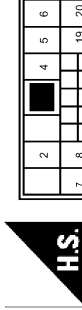
26	SB	-
29	R	-
29	SHIELD	-
30	W	-
31	LG	-
32	BR	-
33	O	-
34	GR	-
35	G	-
43	Y	-
44	V	-
45	P	-
46	W	-
52	G	-
53	GR	-
54	O	-
55	L	-

Connector No.	D56
Connector Name	FRONT DOOR SPEAKER RH
Connector Type	NS02FW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	-
2	R	-

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



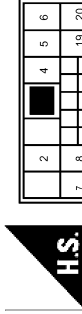
Terminal No.	Color Of Wire	Signal Name [Specification]
2	LG	- [Without BOSE audio]
2	Y	- [With BOSE audio]
4	Y	-
5	V	-
6	G	-
7	B	-
8	G	- [With BOSE audio]
8	Y	- [Without BOSE audio]
19	G	-
20	V	-

Connector No.	D53
Connector Name	REAR DOOR SPEAKER LH
Connector Type	NS02FW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	-
2	Y	-

Connector No.	D71
Connector Name	WIRE TO WIRE
Connector Type	NH10MW-CS10



Terminal No.	Color Of Wire	Signal Name [Specification]
2	L	-
4	W	-
5	V	-
6	G	-
7	B	-
8	P	- [With BOSE audio]
8	Y	- [Without BOSE audio]
19	G	-
20	V	-

Connector No.	D73
Connector Name	REAR DOOR SPEAKER RH
Connector Type	NS02FW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	Y	-

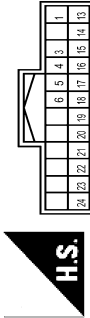
# BASE AUDIO WITHOUT NAVIGATION

[BASE AUDIO WITHOUT NAVIGATION]

< WIRING DIAGRAM >

## BASE AUDIO WITHOUT NAVIGATION

Connector No.	D102
Connector Name	REAR VIEW CAMERA
Connector Type	TH24FV-VNH

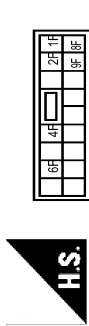


Terminal No.	Color Of Wire	Signal Name [Specification]
1	GR	-
3	W	-
4	B	CAMERA SNO
5	R	CAMERA IMAGE SIGNAL
6	O	SHIELD
13	R	-
14	L	- [With around view monitor]
14	SHIELD	- [Without around view monitor]
15	Y	-
16	G	- [With around view monitor]
16	L	- [Without around view monitor]
17	G	- [With around view monitor]
17	W	- [Without around view monitor]
18	SHIELD	-
19	LG	-
20	O	-
21	V	-
22	P	-
23	BR	-
24	R	-

Connector No.	D121
Connector Name	REAR VIEW CAMERA
Connector Type	TH24MVF-VNH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	CAMERA POWER SUPPLY
2	L	CAMERA SNO
3	Y	CAMERA IMAGE SIGNAL
4	SHIELD	SHIELD



Connector No.	E103
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS16FV-CS

Terminal No.	Color Of Wire	Signal Name [Specification]
1F	SB	-
2F	W	-
4F	G	-
6F	BR	-
8F	L	-
8F	R	-

Connector No.	E106
Connector Name	WIRE TO WIRE
Connector Type	TH80FV-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	W	-
3	B	-
4	GR	-
5	GR	-
8	Y	-
9	BR	-
10	BS	-
11	SB	-
12	BS	-
13	L	-
14	R	-
15	P	-
16	V	-
17	SB	-
18	V	-
20	BG	-
21	L	-
22	V	-
23	G	-
24	P	-
25	Y	-
26	V	-
27	W	-
28	G	-
31	BG	-
32	W	-
33	B	-
34	R	-
35	G	-
36	SHIELD	-
37	V	-
38	BR	-
39	BG	-
41	W	-
42	G	-

43	BR	-
45	W	-
49	L	-
50	P	-
51	L	-
54	BG	-
57	BR	-
59	W	-
60	LG	-
61	G	-
62	SB	-
63	W	-
64	B	-
65	R	-
66	R	-
67	SHIELD	-
68	Y	-
69	LG	-
70	W	-
71	R	-
72	Y	-
73	B	-
74	BR	- [With ICC]
74	L	- [Without ICC]
75	G	- [With ICC]
75	W	- [Without ICC]
76	W	-
76	Y	- [With ICC]
76	W	- [Without ICC]
77	P	-
77	R	- [With ICC]
77	R	- [Without ICC]
78	BR	-
78	L	- [With ICC]
79	L	- [Without ICC]
79	Y	- [With ICC]
80	SB	- [Without ICC]
81	R	-
82	SB	-
83	BG	-
84	G	-
85	L	-
86	P	-
86	P	-
87	V	-
89	GR	-
90	SHIELD	-
91	W	-
92	Y	-
93	V	-
94	LG	-
95	BG	-
96	P	-

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# BASE AUDIO WITHOUT NAVIGATION

[BASE AUDIO WITHOUT NAVIGATION]

< WIRING DIAGRAM >

## BASE AUDIO WITHOUT NAVIGATION

97	R	-
98	SHIELD	-
99	L	-
100	P	-

Connector No.	E107
Connector Name	PARKING BRAKE SWITCH
Connector Type	TB01FW



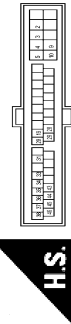
Terminal No.	Color Of Wire	Signal Name [Specification]
1	BG	-

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



Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	IGNITION POWER SUPPLY
2	BR	BATTERY POWER SUPPLY
3	O	CAN-H
4	V	K-LINE
5	B	GROUND
6	Y	IGNITION POWER SUPPLY
7	R	BACK-UP LAMP RELAY
8	LG	CAN-L
9	GR	STARTER RELAY
10	B	GROUND

Connector No.	F103
Connector Name	WIRE TO WIRE
Connector Type	TK36FW-NS10



Terminal No.	Color Of Wire	Signal Name [Specification]
2	G	-
3	W	-
4	R	-
5	B	-
9	Y	-
10	GR	-
19	BG	- [Without LCC]
19	Y	- [With LCC]
20	Y	-
28	B	-
29	LG	-
31	R	-
33	GR	-
34	B	-
35	L	-
36	P	-
37	Y	-
38	G	-
43	LG	-
44	O	-
45	Y	-
46	V	-

Connector No.	F301
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Type	SPT0FG



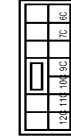
Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	IGNITION POWER SUPPLY
2	-	BATTERY POWER SUPPLY
3	-	CAN-H
4	-	K-LINE
5	-	GROUND
6	-	IGNITION POWER SUPPLY
7	-	BACK-UP LAMP RELAY
8	-	CAN-L
9	-	STARTER RELAY
10	-	GROUND

Connector No.	MT1
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS06FW-M2



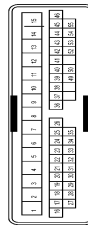
Terminal No.	Color Of Wire	Signal Name [Specification]
1A	GR	-
2A	G	-
3A	L	-
4A	P	-
5A	V	-
6A	Y	-
7A	R	-
8A	L	-

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



Terminal No.	Color Of Wire	Signal Name [Specification]
10C	L	-
11C	R	-
12C	BG	-
6C	R	-
7C	B	-
9C	BG	-

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



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



# BASE AUDIO WITHOUT NAVIGATION

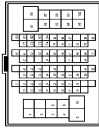
## [BASE AUDIO WITHOUT NAVIGATION]

< WIRING DIAGRAM >

### BASE AUDIO WITHOUT NAVIGATION

15	W	-
16	R	-
17	B	-
18	G	-
19	Y	-
20	L	-
21	LG	-
22	L	-
23	G	-
24	Y	-
25	GR	-
26	R	-
27	W	-
28	SHIELD	-
29	Y	-
30	R	-
31	R	-
32	BR	-
33	SB	-
34	Y	-
35	B	-
36	LG	-
37	BR	-
38	P	-
39	BG	-
40	SB	-
41	L	-
42	R	-
43	BR	-
44	V	-
45	G	-
46	SB	- [With automatic drive positioner]
47	P	- [Without automatic drive positioner]
48	P	-
49	P	-
50	B	-
52	R	-
53	V	-
54	LG	-
55	SB	-

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

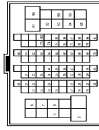


Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	R	-
3	B	-
4	SHIELD	-
5	G	-
6	Y	-
7	LG	-
8	BR	-
9	V	-
10	R	-
11	BR	-
12	BG	-
13	L	-
14	R	-
15	P	-
16	V	-
17	SB	-
18	V	-
20	BG	-
21	L	-
22	W	-
23	P	-
24	BR	-
25	Y	-
26	V	-
27	G	-
28	G	-
31	L	-
32	G	-
33	B	-
34	W	-
35	R	-
36	SHIELD	-
37	V	-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

43	BG	-
45	W	-
49	L	-
50	P	-
51	BR	-
54	Y	-
57	G	-
59	W	-
60	L	-
61	G	-
62	SB	-
63	G	-
64	B	-
65	W	-
66	R	-
67	SHIELD	-
68	Y	-
69	GR	-
70	LG	-
71	LG	-
72	Y	-
73	SB	-
74	BR	-
74	L	- [With OCC]
75	G	- [Without OCC]
76	GR	-
76	W	- [With OCC]
77	P	- [Without OCC]
77	R	- [With OCC]
78	L	- [With OCC]
78	R	- [Without OCC]
79	W	-
79	Y	- [With OCC]
80	SB	- [Without OCC]
81	SB	-
82	SB	-
83	V	-
84	G	-
85	L	-
86	P	-
87	W	-
89	GR	-
90	SHIELD	-
91	W	-
92	Y	-
93	BR	-
94	P	-
95	GR	-
96	W	-
97	L	-

98	SHIELD	-
99	V	-
100	SB	-

Connector No.	M7
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
3	SB	- [With automatic drive positioner]
3	W	- [Without automatic drive positioner]
5	G	-
6	BG	-
7	W	-
8	B	-
12	SB	-
13	LG	-
14	Y	-
15	G	-
17	W	-
18	SB	-
19	LG	-
20	BR	-
21	SHIELD	-
22	Y	-
24	V	-
27	B	-
28	W	-
29	R	-
30	SHIELD	-
31	L	-
32	P	-
33	SB	-
34	L	-
35	P	-
36	L	-
37	P	-
38	BR	-
39	Y	-
44	L	-

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# BASE AUDIO WITHOUT NAVIGATION

< WIRING DIAGRAM >

[BASE AUDIO WITHOUT NAVIGATION]

## BASE AUDIO WITHOUT NAVIGATION

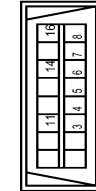
45	GR	-
46	LG	-
47	SS	-
49	V	-
50	R	-
60	P	-
61	L	-
62	SHIELD	-
63	R	-
64	G	-
65	SHIELD	-
66	SS	-
67	V	-
68	LG	-
69	SHIELD	-
70	W	-
73	G	-
74	R	-
75	W	-
76	W	-
77	B	-
78	P	-
79	GR	-
83	SS	-
85	LG	-
86	R	-
87	Y	-
88	W	-
89	BR	-
90	BG	-
91	G	-
92	V	-
93	BR	-
94	V	-
95	G	-
96	Y	-
98	W	-
99	R	-

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



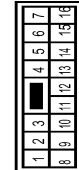
Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	W	-

Connector No.	M24
Connector Name	DATA LINK CONNECTOR
Connector Type	BD16FV



Terminal No.	Color Of Wire	Signal Name [Specification]
3	LG	-
4	B	-
5	B	-
6	L	-
7	V	-
8	G	-
11	SS	-
14	P	-
16	Y	-

Connector No.	M25
Connector Name	WIRE TO WIRE
Connector Type	NS16MWCS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	W	-
3	V	-
4	LG	-
5	Y	-
6	G	-
7	L	-
8	BR	-
9	V	-
10	SHIELD	-
11	L	- [Without BOSE audio]
11	V	- [With BOSE audio]
12	LG	- [Without BOSE audio]
12	SB	- [With BOSE audio]
13	Y	-
14	Y	-
15	LG	-
16	P	-

Connector No.	M36
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TK08FGY-1V



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

Connector No.	M37
Connector Name	STEERING ANGLE SENSOR
Connector Type	TH08FV-1NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H
2	P	CAN-L
7	B	GROUND
8	G	IGN

Connector No.	M66
Connector Name	UNIFIED METER AND A/C AMP.
Connector Type	TH04FV-1NH



Terminal No.	Color Of Wire	Signal Name [Specification]
5	L	MANUAL MODE SHIFT UP SIGNAL
7	GR	COMMUNICATION SIGNAL (AMP METER)
8	L	VEHICLE SPEED SIGNAL (2-PLI SET)
9	SB	SEAT BELT BUCKLE SWITCH SIGNAL (DRIVER SIDE)
10	W	MANUAL MODE SIGNAL

# BASE AUDIO WITHOUT NAVIGATION

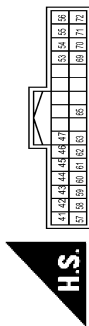
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< WIRING DIAGRAM >

## BASE AUDIO WITHOUT NAVIGATION

Terminal No.	Color Of Wire	Signal Name [Specification]
11	G	NON-MANUAL MODE SIGNAL
14	BR	COMMUNICATION SIGNAL (LCD-AMP.)
20	L	IGN ON/OFF SIGNAL
23	Y	AT SNOW SWITCH SIGNAL
25	V	MANUAL MODE SHIFT DOWN SIGNAL
27	LG	COMMUNICATION SIGNAL (METER-AMP.)
28	R	VEHICLE SPEED SIGNAL (8-PULSE)
30	V	PARKING BRAKE SWITCH SIGNAL
34	Y	COMMUNICATION SIGNAL (AMP-LCD)
38	P	BLOWER MOTOR CONTROL SIGNAL

Connector No.	Wire	Signal Name [Specification]
M67		UNIFIED METER AND A/C AMP.
TH32FW-AH		



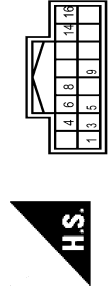
Terminal No.	Color Of Wire	Signal Name [Specification]
41	V	ACC POWER SUPPLY
42	Y	FUEL LEVEL SENSOR SIGNAL
43	R	INTAKE SENSOR SIGNAL
44	LG	IN-VEHICLE SENSOR SIGNAL
45	P	AMBIENT SENSOR SIGNAL
46	BG	SUNLOAD SENSOR SIGNAL
47	G	EXHAUST GAS OXIDE DETECTING SENSOR SIGNAL
53	G	IGNITION POWER SUPPLY
54	Y	BATTERY POWER SUPPLY
55	B	GROUND
56	L	CAN-H
57	W	BRAKE FLUID LEVEL SWITCH SIGNAL
58	BR	FUEL LEVEL SENSOR GROUND
59	GR	INTAKE SENSOR GROUND
60	L	IN-VEHICLE SENSOR GROUND
61	BR	AMBIENT SENSOR GROUND
62	SB	SUNLOAD SENSOR GROUND
63	R	GROUND
65	BG	ECU SIGNAL
69	L	A/C LAN SIGNAL
70	R	EACH DOOR MOTOR POWER SUPPLY
71	B	GROUND
72	P	CAN-L

Connector No.	Wire	Signal Name [Specification]
M69		BACK-UP LAMP RELAY
MS02FL-MZ-LC		



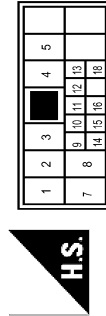
Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	W	-
3	R	-
5	BG	-

Connector No.	Wire	Signal Name [Specification]
M72		MULTIFUNCTION SWITCH
TH16FW-AH		



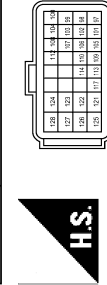
Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GROUND
3	V	ACC
4	R	ILL
5	Y	ILL CONT
6	SB	AV COMM (H)
8	LG	AV COMM (L)
9	B	SW GND
14	Y	DISK EJECT SIGNAL
16	G	HAZARD ON

Connector No.	Wire	Signal Name [Specification]
MT106		WIRE TO WIRE
NH10MW-CS10		



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	-
2	SHIELD	-
3	L	-
4	W	-
5	Y	-
7	BR	-
8	Y	- [With NAV]
9	B	- [Without NAV]
10	R	-
11	V	-
12	R	-
13	LG	-
14	R	- [With NAV]
15	SHIELD	-
16	BR	- [Without NAV]
18	B	-

Connector No.	Wire	Signal Name [Specification]
MT107		ECM
RF24FGY-RZ8-R-LH-Z		



Terminal No.	Color Of Wire	Signal Name [Specification]
97	R	ACCELERATOR PEDAL POSITION SENSOR 1
98	P	ACCELERATOR PEDAL POSITION SENSOR 2 [With ICC]
99	Y	ACCELERATOR PEDAL POSITION SENSOR 2 [Without ICC]
99	G	SENSOR POWER SUPPLY [With ICC]
99	L	SENSOR POWER SUPPLY [Without ICC]
100	W	SENSOR GROUND
101	SB	ASD/ICC STEERING SWITCH
102	LG	EVAP CONTROL SYSTEM PRESS SENSOR
103	G	SENSOR POWER SUPPLY [Without ICC]
103	L	SENSOR POWER SUPPLY [With ICC]
104	BR	SENSOR GROUND [With ICC]
104	GR	SENSOR GROUND [Without ICC]
105	L	REFRIGERANT PRESS SENSOR
106	W	FUEL TANK TEMPERATURE SENSOR
107	BG	SENSOR POWER SUPPLY
108	Y	SENSOR GROUND
109	G	EPS SIGNAL
110	R	ENGINE SPEED OUTPUT SIGNAL
112	V	SENSOR GROUND
113	P	CAN COMMUNICATION LINE
114	L	CAN COMMUNICATION LINE
117	V	DATA LINK CONNECTOR
121	LG	EVAP CANISTER VENT CONTROL VALVE
122	P	STOP LAMP SWITCH
123	B	ECM GROUND
124	B	ECM GROUND
125	R	POWER SUPPLY FOR ECM
126	BR	ASD/ICC BRAKE SWITCH
127	B	ECM GROUND
128	B	ECM GROUND

Connector No.	Wire	Signal Name [Specification]
MT114		FRONT SQUAWKER RH
TK02FBR		



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AV

# BASE AUDIO WITHOUT NAVIGATION

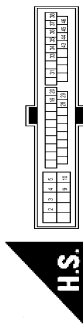
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## BASE AUDIO WITHOUT NAVIGATION

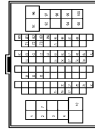
Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	- [Without BOSE audio]
2	LG	- [With BOSE audio]
2	W	- [Without BOSE audio]

Connector No.	MT16
Connector Name	WIRE TO WIRE
Connector Type	TK36/MW/NS10



Terminal No.	Color Of Wire	Signal Name [Specification]
2	P	-
3	L	-
4	R	-
5	B	-
9	R	-
10	R	-
19	BG	-
20	Y	-
28	B	-
29	LG	-
31	W	-
33	B	-
34	B	-
35	L	-
36	P	-
37	Y	-
38	G	-
43	P	-
44	L	-
45	BR	-
46	BG	-

Connector No.	MT17
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4

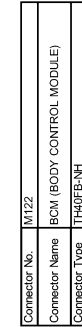


Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	G	-
3	GR	-
4	SB	-
7	W	-
10	W	-
15	SB	-
16	V	-
17	BR	-
20	BR	-
27	LG	-
28	Y	-
29	Y	-
30	V	-
31	R	-
32	BR	-
33	G	-
51	R	-
55	W	-
56	B	-
57	R	-
58	G	-
59	SHIELD	-
60	V	-
61	LG	-
62	BR	-
63	L	-
64	LG	-
65	B	-
66	R	-
67	W	-
68	SHIELD	-
69	V	-
70	Y	-
71	SB	-
72	W	-

Terminal No.	Color Of Wire	Signal Name [Specification]
73	G	-
75	W	-
80	V	-
81	SB	-
82	V	-
83	P	-
84	R	-
85	L	-
86	BG	-
87	L	-
88	P	-
91	V	-
92	G	-
94	G	-
95	W	-
96	G	-
97	Y	-
98	BR	-
99	P	-
99	V	- [Without BOSE audio]
100	L	- [Without BOSE audio]
100	SB	- [With BOSE audio]



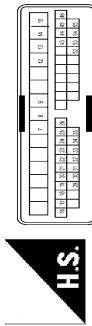
Connector No.	MT22
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FB-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
74	SB	PASSENGER DOOR ANT-
75	GR	PASSENGER DOOR ANT+
76	V	DRIVER DOOR ANT-
77	LG	DRIVER DOOR ANT+
78	Y	ROOM ANT-
79	BR	ROOM ANT+
80	GR	NATS ANT AMP
81	W	NATS ANT AMP
82	R	IGN RELAY (F/B) CONT
83	Y	KEYLESS ENTRY RECEIVER COMM
87	BR	COMBI SW INPUT 5
88	V	COMBI SW INPUT 3

Terminal No.	Color Of Wire	Signal Name [Specification]
90	P	CANL
91	L	CANH
92	LG	KEY SLOT ILL CONT
93	V	ON IND
94	Y	PUDDLE LAMP CONT
95	BG	ACC RELAY CONT
96	GR	A/T SHIFT SELECTOR POWER SUPPLY
99	R	SHIFT P
100	G	PASSENGER DOOR REQUEST SW
101	SB	DRIVER DOOR REQUEST SW
102	BG	BLOWER FAN MOTOR RELAY CONT
103	LG	KEYLESS ENTRY RECEIVER POWER SUPPLY
107	LG	COMBI SW INPUT 1
108	R	COMBI SW INPUT 4
109	Y	COMBI SW INPUT 2
110	G	HAZARD SW

Connector No.	MT24
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-CS15



Terminal No.	Color Of Wire	Signal Name [Specification]
7	Y	-
8	LG	-
9	Y	-
12	L	-
13	V	-
14	B	-
15	W	-
16	BR	-
17	B	-
18	R	-
19	B	-
20	W	- [Without BOSE audio]
20	Y	- [With BOSE audio]
21	G	- [With BOSE audio]
21	L	- [Without BOSE audio]
22	SB	-
23	GR	-
24	G	-

JRNWC3651GB

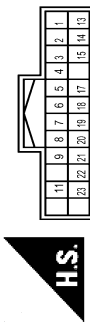
# BASE AUDIO WITHOUT NAVIGATION

## [BASE AUDIO WITHOUT NAVIGATION]

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### BASE AUDIO WITHOUT NAVIGATION

25	Y	-
26	R	-
29	SHIELD	-
30	W	-
31	LG	-
32	G	-
33	BR	-
34	V	-
35	G	-
43	L	-
44	Y	-
45	R	-
46	W	-
52	R	-
53	G	-
54	W	-
55	BG	-



Connector No.	M194
Connector Name	DISPLAY UNIT
Connector Type	TH24FV-NH

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

Connector No.	M144
Connector Name	WIRE TO WIRE
Connector Type	TH04AW-NH



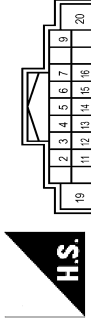
Terminal No.	Color Of Wire	Signal Name [Specification]
1	SHIELD	SHIELD
2	W	-
3	SHIELD	- [With around view monitor]
3	W	- [Without around view monitor]
4	R	- [With around view monitor]
4	W	- [Without around view monitor]

Connector No.	M197
Connector Name	USB CONNECTOR
Connector Type	HA00HFG



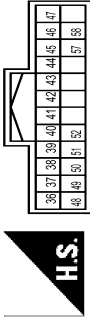
Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	L	-
3	G	-
4	R	-
5	SHIELD	-

Connector No.	M201
Connector Name	AV CONTROL UNIT
Connector Type	TH8FW-GS2



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

Connector No.	M202
Connector Name	AV CONTROL UNIT
Connector Type	TH24FV-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
36	BG	SIGNAL VCC
37	LG	SIGNAL GND
38	R	HP
39	R	COMM (DISP-CONT)
40	B	RGB AREA (Y.S) SIGNAL
41	SHIELD	SHIELD
42	W	RGB SYNC
43	G	RGB (R.RED) SIGNAL
44	L	RGB (G.GREEN) SIGNAL
45	P	RGB (B.BLUE) SIGNAL
46	V	COMPOSITE IMAGE SIGNAL GND
47	SB	COMPOSITE IMAGE SIGNAL
48	Y	INVERTER VCC
49	BR	INVERTER GND
50	G	VP
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



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# BASE AUDIO WITHOUT NAVIGATION

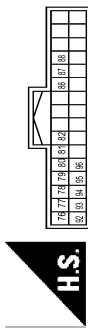
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## BASE AUDIO WITHOUT NAVIGATION

Terminal No.	Color Of Wire	Signal Name [Specification]
62	W	CAMERA IMAGE SIGNAL
71	SHIELD	SHIELD
72	W	CAMERA GND
73	R	CAMERA POWER SUPPLY

Connector No.	Signal Name [Specification]
M204	AV CONTROL UNIT
TH82FW-NH	



**HS.**

Terminal No.	Color Of Wire	Signal Name [Specification]
74	LG	AV COMM (L)
77	SB	AV COMM (R)
78	LG	AV COMM (L)
79	SB	AV COMM (R)
80	P	CANL
81	L	CANH
82	B	SW GND
86	SHIELD	SHIELD
87	L	TEL VOICE SIGNAL (+)
88	P	TEL VOICE SIGNAL (-)
92	R	VEHICLE SPEED SIGNAL (S-PULSE)
93	V	PARKING BRAKE SIGNAL
94	BG	REVERSE SIGNAL
95	G	IGNITION SIGNAL
96	Y	DISK EJECT SIGNAL

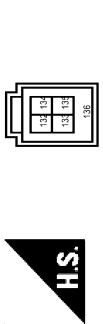
Connector No.	Signal Name [Specification]
M206	AV CONTROL UNIT
A12FW	



**HS.**

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

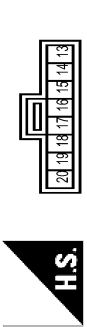
Connector No.	Signal Name [Specification]
M207	AV CONTROL UNIT
HA04FL	



**HS.**

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

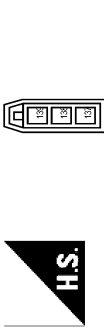
Connector No.	Signal Name [Specification]
M303	COMBINATION SWITCH (SPRAL CABLE)
TK08FGY	



**HS.**

Terminal No.	Color Of Wire	Signal Name [Specification]
13	R	AV CONTROL UNIT
14	W	
15	L	
16	B	
17	BR	
18	Y	
19	P	
20	Y	

Connector No.	Signal Name [Specification]
M366	AV CONTROL UNIT
GT13SHZ-1SHU	



**HS.**

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

Connector No.	Signal Name [Specification]
M375	WIRE TO WIRE
GT13SC-2-1SHU	



**HS.**

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

Connector No.	Signal Name [Specification]
M376	WIRE TO WIRE
GT13SCH2-1PPHU	



**HS.**

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

JRNWC3653GB

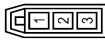
# BASE AUDIO WITHOUT NAVIGATION

[BASE AUDIO WITHOUT NAVIGATION]

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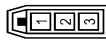
## BASE AUDIO WITHOUT NAVIGATION

Connector No.	M378
Connector Name	ANTENNA BASE
Connector Type	GT13SC-2_1SP-HU



Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	ANTENNA AMP_ON SIGNAL
2	-	AM-FM MAIN_1
3	-	AM-FM MAIN_2

Connector No.	M385
Connector Name	WIRE TO WIRE
Connector Type	GT13SCN2_1PP-HU



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

Connector No.	M386
Connector Name	ANTENNA BASE
Connector Type	GT13SSN-1_1PP-HU



Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	ANTENNA AMP_ON SIGNAL
2	-	AM-FM MAIN_1
2	-	AM-FM MAIN_2

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



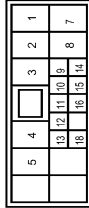
Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	-

Connector No.	M389
Connector Name	GLASS ANTENNA (FM SUB)
Connector Type	P01FB-A



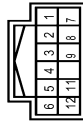
Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	-

Connector No.	RT
Connector Name	WIRE TO WIRE
Connector Type	NH10FW-GS10



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	-
2	SHIELD	-
3	L	-
4	BR	- [With automatic drive positioner]
4	W	- [Without automatic drive positioner]
5	G	-
7	BR	-
8	Y	-
9	B	-
10	Y	-
11	V	-
12	BR	-
13	R	-
14	W	-
15	SHIELD	-
16	B	-
18	B	-

Connector No.	R2
Connector Name	WIRE TO WIRE
Connector Type	TH2FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	-
2	B	-
3	SHIELD	-
4	B	-
5	W	-
6	B	-
7	P	-
8	GR	-
9	V	-
11	Y	-
12	R	-

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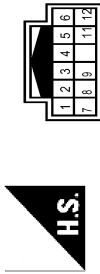
# BASE AUDIO WITHOUT NAVIGATION

< WIRING DIAGRAM >

[BASE AUDIO WITHOUT NAVIGATION]

## BASE AUDIO WITHOUT NAVIGATION

Connector No.	RT1
Connector Name	WIRE TO WIRE
Connector Type	TH12MW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
11	-	-
12	-	-

Connector No.	RT7
Connector Name	MICROPHONE
Connector Type	TK04FW



Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	MICROPHONE SIGNAL
2	-	MICROPHONE GND
4	-	MICROPHONE VCC

JRNWC3655GB



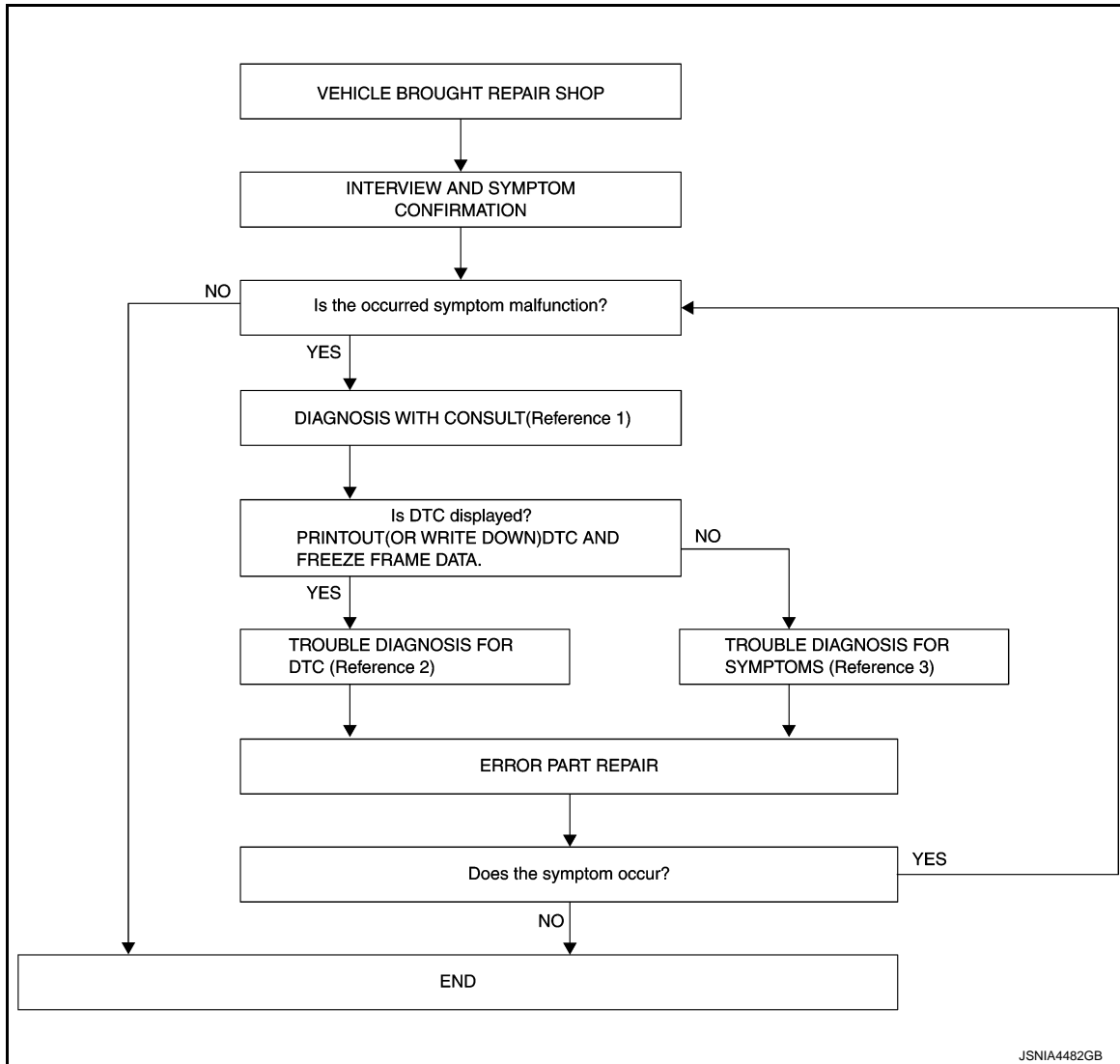
## BASIC INSPECTION

### DIAGNOSIS AND REPAIR WORKFLOW

#### Work Flow

INFOID:000000009061403

#### OVERALL SEQUENCE



- Reference 1... Refer to [AV-30. "CONSULT Function \(MULTI AV\)".](#)
- Reference 2... Refer to [AV-42. "DTC Index".](#)
- Reference 3... Refer to [AV-121. "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

# DIAGNOSIS AND REPAIR WORKFLOW

[BASE AUDIO WITHOUT NAVIGATION]

< BASIC INSPECTION >

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

**NOTE:**

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

2. When DTC is detected, follow the instructions below:
  - Record DTC and Freeze Frame Data.

Is DTC displayed?

YES >> GO TO 3.

NO >> GO TO 4.

## 3. TROUBLE DIAGNOSIS FOR DTC

---

1. Check the DTC indicated in the "Self-Diagnosis Results".
2. Perform the relevant diagnosis referring to the DTC Index. Refer to [AV-42, "DTC Index"](#).

>> GO TO 5.

## 4. TROUBLE DIAGNOSIS FOR SYMPTOMS

---

Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to [AV-121, "Symptom Table"](#).

>> GO TO 5.

## 5. ERROR PART REPAIR

---

1. Repair or replace the identified malfunctioning parts.
2. Perform a self-diagnosis for "MULTI AV" with CONSULT.

**NOTE:**

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

3. Check that the symptom does not occur.

Does the symptom occur?

YES >> GO TO 1.

NO >> INSPECTION END

**INSPECTION AND ADJUSTMENT****ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT****ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Description**

INFOID:000000009061404

**BEFORE REPLACEMENT**

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

**AFTER REPLACEMENT****CAUTION:**

When replacing AV control unit, you must perform "After Replace ECU" or "Manual configuration" with CONSULT.

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

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

INFOID:000000009061405

**1. SAVING VEHICLE SPECIFICATION****ⓂCONSULT Configuration**

Perform "Before Replace ECU" to save or print current vehicle specification. Refer to [AV-71. "CONFIGURATION \(AV CONTROL UNIT\) : Description"](#).

**NOTE:**

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

>> GO TO 2.

**2. REPLACE AV CONTROL UNIT**

Replace AV control unit. Refer to [AV-128. "Exploded View"](#).

>> GO TO 3.

**3. WRITING VEHICLE SPECIFICATION****ⓂCONSULT Configuration**

Perform "After Replace ECU" or "Manual Configuration" to write vehicle specification. Refer to [AV-72. "CONFIGURATION \(AV CONTROL UNIT\) : Work Procedure"](#).

>> GO TO 4.

**4. OPERATION CHECK**

Check that the operation of the AV control unit is normal.

>> WORK END

**CONFIGURATION (AV CONTROL UNIT)****CONFIGURATION (AV CONTROL UNIT) : Description**

INFOID:000000009061406

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

# INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[BASE AUDIO WITHOUT NAVIGATION]

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

## CONFIGURATION (AV CONTROL UNIT) : Work Procedure

INFOID:000000009061407

### 1. WRITE VEHICLE SPECIFICATION

#### ⓐ CONSULT Configuration

Write vehicle specification into AV control unit.

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

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

### 2. WRITE STORED DATA

#### ⓐ CONSULT Configuration

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

>> GO TO 4.

### 3. MANUALLY WRITE VEHICLE SPECIFICATION

#### ⓐ CONSULT Configuration

Perform "Manual Configuration". Refer to the Configuration List to write vehicle specification into the AV control unit. Refer to [AV-72. "CONFIGURATION \(AV CONTROL UNIT\) : Configuration List"](#).

#### NOTE:

If selection items are not displayed on the CONSULT screen, touch "NEXT".

>> GO TO 4.

### 4. OPERATION CHECK

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

>> WORK END

## CONFIGURATION (AV CONTROL UNIT) : Configuration List

INFOID:000000009061408

#### CAUTION:

**Grasp vehicle specifications precisely. The control of ECU may not function normally if the specifications are misread.**

#### NOTE:

- The items shown in this list depend on vehicle specifications.
- The config list may not be displayed depending on vehicle specifications. This is not a malfunction.

MANUAL SETTING ITEM	
Items	Setting value
STEERING	LHD
	RHD

# INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[BASE AUDIO WITHOUT NAVIGATION]

MANUAL SETTING ITEM	
Items	Setting value
CAMERA SYSTEM	NONE/AVM
	REAR CAMERA
	REAR+SIDE
SOUND SYSTEM	BASE
	BOSE
AUXILIARY INPUT JACKS	WITHOUT
	WITH

**NOTE:**

AVM: Around view monitor

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# U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

## DTC/CIRCUIT DIAGNOSIS

### U1000 CAN COMM CIRCUIT

#### Description

INFOID:000000009061409

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-25, "CAN System Specification Chart"](#).

#### DTC Logic

INFOID:000000009061410

#### DTC DETECTION LOGIC

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

#### Diagnosis Procedure

INFOID:000000009061411

#### 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-16, "Trouble Diagnosis Procedure"](#).  
NO >> Refer to GI section. Refer to [GI-42, "Intermittent Incident"](#).

# U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

## U1010 CONTROL UNIT (CAN)

### DTC Logic

INFOID:000000009061412

### DTC DETECTION LOGIC

DTC	Display contents of CONSULT	DTC detection condition	Probable malfunction factor
U1010	CONTROL UNIT (CAN) [U1010]	CAN initial diagnosis malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-128</a> , "Exploded View".

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# U1200 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

## U1200 AV CONTROL UNIT

### DTC Logic

INFOID:000000009061413

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1200	Cont Unit [U1200]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-128, "Exploded View"</a> .



# U1216 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

## U1216 AV CONTROL UNIT

### DTC Logic

INFOID:000000009061414

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1216	CAN CONT [U1216]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-128, "Exploded View"</a> .

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# U121D AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

## U121D AV CONTROL UNIT

### DTC Logic

INFOID:000000009061415

DTC	Display contents of CONSULT	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:000000009061416

#### 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-128. "Exploded View"](#).

# U121E AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

## U121E AV CONTROL UNIT

### DTC Logic

INFOID:000000009061417

DTC	Display contents of CONSULT	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:000000009061418

#### 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-128. "Exploded View"](#).

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AV

# U1225 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

## U1225 AV CONTROL UNIT

### DTC Logic

INFOID:000000009061419

### DTC DETECTION LOGIC

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

# U1228 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

## U1228 AV CONTROL UNIT

### DTC Logic

INFOID:000000009061420

### DTC DETECTION LOGIC

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1228	SUB CPU CONN [U1228]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-128, "Exploded View"</a> .

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AV

# U1229 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

## U1229 AV CONTROL UNIT

### DTC Logic

INFOID:000000009061421

### DTC DETECTION LOGIC

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1229	iPod CERTIFICATION [U1229]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-128, "Exploded View"</a> .

# U122A AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

## U122A AV CONTROL UNIT

### DTC Logic

INFOID:000000009061422

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

### Diagnosis Procedure

INFOID:000000009061423

#### 1.PERFORM THE SELF-DIAGNOSIS

When U122A is detected, write configuration data with "MULTI AV" of CONSULT.

>> Write configuration data with "MULTI AV" of CONSULT. Refer to [AV-72. "CONFIGURATION \(AV CONTROL UNIT\) : Work Procedure"](#).

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AV

# U122E AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

## U122E AV CONTROL UNIT

### DTC Logic

INFOID:000000009061424

### DTC DETECTION LOGIC

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U122E	Built-in AUDIO CONN [U122E]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-128, "Exploded View"</a> .



# U1232 STEERING ANGLE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

## U1232 STEERING ANGLE SENSOR

### DTC Logic

INFOID:000000009061425

DTC	Display contents of CONSULT	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:000000009061426

#### 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 DISPLAY UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

## U1243 DISPLAY UNIT

### DTC Logic

INFOID:000000009061427

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1243	FRONT DISP CONN [U1243]	When either one of the following items is detected: <ul style="list-style-type: none"> <li>• Display unit power supply and ground circuit malfunction is detected.</li> <li>• communication circuit between AV control unit and display unit.</li> </ul>	<ul style="list-style-type: none"> <li>• Display unit power supply and ground circuit.</li> <li>• Communication circuit between AV control unit and display unit.</li> </ul>

### Diagnosis Procedure

INFOID:000000009061428

#### 1. CHECK DISPLAY UNIT POWER SUPPLY AND GROUND CIRCUIT

Check display unit power supply and ground circuit. Refer to [AV-93. "DISPLAY UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair malfunctioning parts.

#### 2. CHECK CONTINUITY COMMUNICATION CIRCUIT

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

Display unit		AV control unit		Continuity
Connector	Terminals	Connector	Terminals	
M194	11	M202	51	Existed
	22		39	

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

Display unit		Ground	Continuity
Connector	Terminals		
M194	11		Not existed
	22		

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

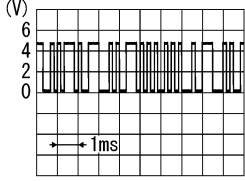
#### 3. CHECK COMMUNICATION SIGNAL

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

# U1243 DISPLAY UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

(+)		(-)	Condition	Reference value
Display unit				
Connector	Terminal			
M194	11	Ground	When adjusting display brightness.	 <p>PKIB5039J</p>

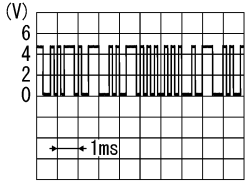
Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace AV control unit. Refer to [AV-128. "Exploded View"](#).

## 4. CHECK COMMUNICATION SIGNAL

Check signal between display unit harness connector and ground.

(+)		(-)	Condition	Reference value
Display unit				
Connector	Terminal			
M194	22	Ground	When adjusting display brightness.	 <p>PKIB5039J</p>

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace display unit. Refer to [AV-129. "Exploded View"](#).

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AV

# U1255 SATELLITE RADIO TUNER

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

## U1255 SATELLITE RADIO TUNER

### DTC Logic

INFOID:000000009061429

DTC	Display contents of CONSULT	DTC Detection Condition	Possible causes
U1255	SAT CONN [U1255]	<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 circuit 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>

### Diagnosis Procedure

INFOID:000000009061430

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

Check satellite radio tuner power supply and ground circuit. Refer to [AV-94, "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

- Turn ignition switch OFF.
- Disconnect AV control unit connector and satellite radio tuner connector.
- 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
	122		10	
	130		9	

- Check continuity between AV control unit harness connector.

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

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

#### 3. CHECK AV CONTROL UNIT VOLTAGE

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

(+)		(-)	Condition	Reference value (Approx.)
AV control unit				
Connector	Terminals			

# U1255 SATELLITE RADIO TUNER

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

M206	129	Ground	When satellite radio mode is selected.	<p>SKIA9299J</p>
	122	Ground		<p>SKIA9300J</p>

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace AV control unit. Refer to [AV-128. "Exploded View"](#).

## 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 signal between satellite radio tuner harness connector and ground.

(+)		(-)	Condition	Reference value (Approx.)
Satellite radio tuner				
Connector	Terminal			
B236	10	Ground	When satellite radio mode is selected.	<p>SKIA9301J</p>

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace satellite radio tuner. Refer to [AV-133. "Exploded View"](#).

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# U1263 USB

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

## U1263 USB

### DTC Logic

INFOID:000000009061431

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

### Diagnosis Procedure

INFOID:000000009061432

#### 1. CHECK USB HARNESS

Visually check USB harness.

Is the inspection result normal?

- YES >> Replace AV control unit. Refer to [AV-128, "Exploded View"](#).
- NO >> Replace USB harness.

# U1300 AV COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

## U1300 AV COMM CIRCUIT

### Description

INFOID:000000009061433

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

### SELF-DIAGNOSIS RESULTS DISPLAY ITEM

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1300 U1240	<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 multifunction switch 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 multifunction switch 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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# U1310 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

## U1310 AV CONTROL UNIT

### DTC Logic

INFOID:000000009061434

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1310	CONTROL UNIT (AV) [U1310]	An initial diagnosis error is detected in AV communication circuit.	Replace AV control unit. Refer to <a href="#">AV-128, "Exploded View"</a> .



# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

## POWER SUPPLY AND GROUND CIRCUIT

### AV CONTROL UNIT

#### AV CONTROL UNIT : Diagnosis Procedure

INFOID:000000009061435

#### 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.

## DISPLAY UNIT

#### DISPLAY UNIT : Diagnosis Procedure

INFOID:000000009061436

#### 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 display unit and AV control unit.
3. Check continuity between display unit harness connector and AV control unit harness connector.

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AV

# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

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

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

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 display unit connector.
3. Check continuity between 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.

## SATELLITE RADIO TUNER

### SATELLITE RADIO TUNER : Diagnosis Procedure

INFOID:000000009061437

#### 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.

# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

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:000000009061438

### 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 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 >

[BASE AUDIO WITHOUT NAVIGATION]

## RGB (R: RED) SIGNAL CIRCUIT

### Description

INFOID:000000009061439

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

### Diagnosis Procedure

INFOID:000000009061440

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

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

Display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M194	17	M202	43	Existed

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

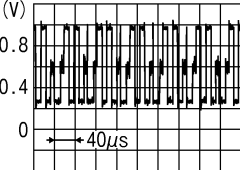
Display unit		Ground	Continuity
Connector	Terminal		
M194	17		Not existed

Is inspection result normal?

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

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

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

(+)		(-)	Condition	Reference value
Display unit				
Connector	Terminal			
M194	17	Ground	Start confirmation/adjustment mode, and then display color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	 <p style="text-align: right;">JSNIA1029ZZ</p>

Is inspection result normal?

- YES >> Replace display unit. Refer to [AV-129. "Exploded View"](#).  
 NO >> Replace AV control unit. Refer to [AV-128. "Exploded View"](#).

# RGB (G: GREEN) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

## RGB (G: GREEN) SIGNAL CIRCUIT

### Description

INFOID:000000009061441

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

### Diagnosis Procedure

INFOID:000000009061442

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

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

Display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M194	6	M202	44	Existed

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

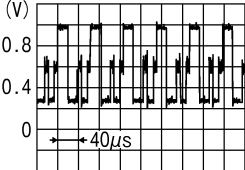
Display unit		Ground	Continuity
Connector	Terminal		
M194	6		Not existed

Is inspection result normal?

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

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

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

(+) 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.	 <p>(V)</p> <p>0.8</p> <p>0.4</p> <p>0</p> <p>40µs</p> <p>JSNIA1030ZZ</p>

Is inspection result normal?

- YES >> Replace display unit. Refer to [AV-129, "Exploded View"](#).  
 NO >> Replace AV control unit. Refer to [AV-128, "Exploded View"](#).

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# RGB (B: BLUE) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

## RGB (B: BLUE) SIGNAL CIRCUIT

### Description

INFOID:000000009061443

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

### Diagnosis Procedure

INFOID:000000009061444

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

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

Display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M194	18	M202	45	Existed

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

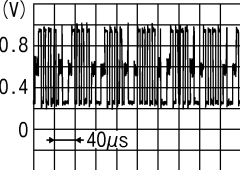
Display unit		Ground	Continuity
Connector	Terminal		
M194	18		Not existed

Is inspection result normal?

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

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

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

(+) 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.	 <p>JSNIA1031ZZ</p>

Is inspection result normal?

- YES >> Replace display unit. Refer to [AV-129. "Exploded View"](#).  
NO >> Replace AV control unit. Refer to [AV-128. "Exploded View"](#).

# RGB SYNCHRONIZING SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

## RGB SYNCHRONIZING SIGNAL CIRCUIT

### Description

INFOID:000000009061445

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

### Diagnosis Procedure

INFOID:000000009061446

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

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

Display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M194	19	M202	42	Existed

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

Display unit		Ground	Continuity
Connector	Terminal		
M194	19		Not existed

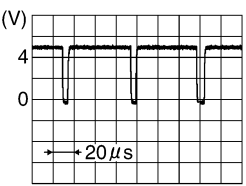
Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2. CHECK RGB SYNCHRONIZING SIGNAL

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

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

Is the inspection result normal?

YES >> Replace display unit. Refer to [AV-129, "Exploded View"](#).

NO >> Replace AV control unit. Refer to [AV-128, "Exploded View"](#).

# RGB AREA (YS) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

## RGB AREA (YS) SIGNAL CIRCUIT

### Description

INFOID:000000009061447

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

### Diagnosis Procedure

INFOID:000000009061448

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

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

Display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M194	9	M202	40	Existed

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

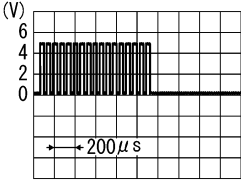
Display unit		Ground	Continuity
Connector	Terminal		
M194	9		Not existed

Is the inspection result normal?

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

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

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

(+)		(-)	Condition	Reference value (Approx.)
Connector	Terminal			
M194	9	Ground	At RGB image is displayed.	5.0 V
			At camera image is displayed.	 <p style="text-align: right; font-size: small;">PKIB4948J</p>

Is the inspection result normal?

- YES >> Replace display unit. Refer to [AV-129. "Exploded View"](#).  
 NO >> Replace AV control unit. Refer to [AV-128. "Exploded View"](#).



# COMPOSITE IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

## COMPOSITE IMAGE SIGNAL CIRCUIT

### Description

INFOID:000000009061449

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

### Diagnosis Procedure

INFOID:000000009061450

#### 1. CHECK CONTINUITY COMPOSITE IMAGE SIGNAL CIRCUIT

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

AV control unit		Display unit		Continuity
Connector	Terminal	Connector	Terminal	
M202	47	M194	15	Existed

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

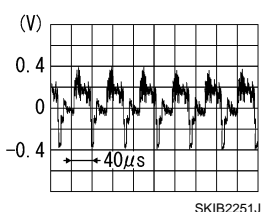
AV control unit		Ground	Continuity
Connector	Terminal		
M202	47		Not existed

Is the inspection result normal?

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

#### 2. CHECK COMPOSITE IMAGE SIGNAL

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

(+)		(-)	Condition	Reference value
AV control unit				
Connector	Terminal			
M202	47	Ground	At camera image is displayed.	

Is the inspection result normal?

- YES >> Replace display unit. Refer to [AV-129, "Exploded View"](#).  
 NO >> Replace AV control unit. Refer to [AV-128, "Exploded View"](#).

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# HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

## HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

### Description

INFOID:000000009061451

In composite image (camera image), transmit the vertical synchronizing (VP) signal and horizontal synchronizing (HP) signal from 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:000000009061452

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

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

Display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M194	8	M202	38	Existed

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

Display unit		Ground	Continuity
Connector	Terminal		
M194	8		Not existed

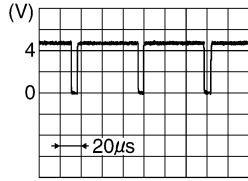
Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

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

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

(+)		(-)	Reference value
Display unit			
Connector	Terminal		
M194	8	Ground	 SKIB3601E

Is the inspection result normal?

YES >> Replace AV control unit. Refer to [AV-128, "Exploded View"](#).

NO >> Replace display unit. Refer to [AV-129, "Exploded View"](#).

# VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

## VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

### Description

INFOID:000000009061453

In composite image (camera image), transmit the vertical synchronizing (VP) signal and horizontal synchronizing (HP) signal from 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:000000009061454

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

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

Display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M194	20	M202	50	Existed

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

Display unit		Ground	Continuity
Connector	Terminal		
M194	20		Not existed

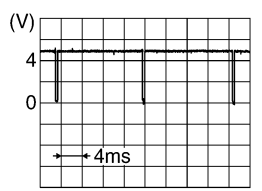
Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

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

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

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

Is the inspection result normal?

YES >> Replace AV control unit. Refer to [AV-128, "Exploded View"](#).

NO >> Replace display unit. Refer to [AV-129, "Exploded View"](#).

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# DISK EJECT SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

## DISK EJECT SIGNAL CIRCUIT

### Description

INFOID:000000009061455

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

### Diagnosis Procedure

INFOID:000000009061456

#### 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 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			
M204	96	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-136, "Exploded View"](#).  
NO >> Replace AV control unit. Refer to [AV-128, "Exploded View"](#).

# MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

## MICROPHONE SIGNAL CIRCUIT

### Description

INFOID:000000009061457

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

### Diagnosis Procedure

INFOID:000000009061458

#### 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.

(+)		(-)		Voltage (Approx.)
TEL adapter unit		TEL adapter unit		
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-141, "Exploded View"](#).

#### 3.CHECK MICROPHONE SIGNAL

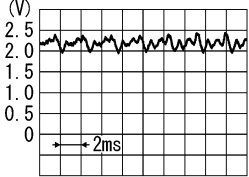
1. Connect microphone connector.
2. Check signal between TEL adapter unit harness connector.

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# MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

(+)		(-)		Condition	Reference value
TEL adapter unit		TEL adapter unit			
Connector	Terminal	Connector	Terminal		
B87	7	B87	8	give a voice.	 <p style="text-align: right;">PKIB5037J</p>

Is the inspection result normal?

- YES >> Replace TEL adapter unit. Refer to [AV-141, "Exploded View"](#).  
 NO >> Replace microphone. [AV-138, "Exploded View"](#).

# CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

## CAMERA IMAGE SIGNAL CIRCUIT

### Description

INFOID:000000009061459

- 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 display unit.

### Diagnosis Procedure

INFOID:000000009061460

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

#### 2. CHECK VOLTAGE CAMERA POWER SUPPLY

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

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

Is inspection result normal?

- YES >> GO TO 3.  
NO >> Replace AV control unit.

#### 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.

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AV

# CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

AV control unit		Ground	Continuity
Connector	Terminal		
M203	62		Not existed

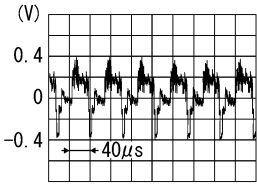
**Is inspection result normal?**

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" position.
4. Check signal between AV control unit harness connector and ground.

(+)		(-)	Condition	Reference value
Connector	Terminal			
M203	62	Ground	At rear view camera image is displayed.	 <p style="text-align: right; font-size: small;">SKIB2251J</p>

**Is inspection result normal?**

YES >> Replace AV control unit. Refer to [AV-128, "Exploded View"](#).

NO >> Replace rear view camera. Refer to [AV-139, "Exploded View"](#).



# COMMUNICATION SIGNAL CIRCUIT (CONT-SAT)

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

## COMMUNICATION SIGNAL CIRCUIT (CONT-SAT)

### Description

INFOID:000000009061461

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:000000009061462

#### 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	122	Existed
	10		130	

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

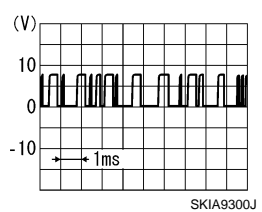
Satellite radio tuner		Ground	Continuity
Connector	Terminals		
B236	9		Not existed
	10		

Is the inspection result normal?

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

#### 2. CHECK COMMUNICATION SIGNAL

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.

(+)		(-)	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-133. "Exploded View"](#).

#### 3. CHECK COMMUNICATION SIGNAL

Check signal between satellite radio tuner harness connector and ground.

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AV

# COMMUNICATION SIGNAL CIRCUIT (CONT-SAT)

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

(+)		(-)	Condition	Reference value
Satellite radio tuner				
Connector	Terminal			
B236	10	Ground	When satellite radio mode is selected.	<p>SKIA9301J</p>

Is the inspection result normal?

- YES >> Replace satellite radio tuner. Refer to [AV-133. "Exploded View"](#).
- NO >> Replace AV control unit. [AV-128. "Exploded View"](#).

# REQUEST SIGNAL CIRCUIT (SAT→CONT)

[BASE AUDIO WITHOUT NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

## REQUEST SIGNAL CIRCUIT (SAT→CONT)

### Description

INFOID:000000009061463

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

### Diagnosis Procedure

INFOID:000000009061464

#### 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 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

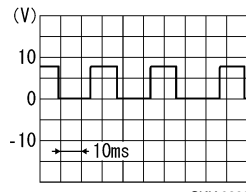
Is the inspection result normal?

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.

(+)		(-)	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-128, "Exploded View"](#).

NO >> Replace satellite radio tuner. Refer to [AV-133, "Exploded View"](#).

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# STEERING SWITCH SIGNAL A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

## STEERING SWITCH SIGNAL A CIRCUIT WITH HANDS-FREE PHONE SYSTEM

### WITH HANDS-FREE PHONE SYSTEM : Description

INFOID:000000009061465

Transmits the steering switch signal to AV control unit.

### WITH HANDS-FREE PHONE SYSTEM : Diagnosis Procedure

INFOID:000000009061466

#### 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.

#### 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	6	M201	15	3.3 V

Is the inspection result normal?

- YES >> GO TO 4.  
NO >> Replace AV control unit. Refer to [AV-128, "Exploded View"](#).

#### 4. CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to [AV-113, "WITH HANDS-FREE PHONE SYSTEM : Component Inspection"](#).

Is the inspection result normal?

- YES >> INSPECTION END  
NO >> Replace steering switch. Refer to [ST-15, "Exploded View"](#).

# STEERING SWITCH SIGNAL A CIRCUIT

[BASE AUDIO WITHOUT NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

## WITH HANDS-FREE PHONE SYSTEM : Component Inspection

INFOID:000000009061467

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

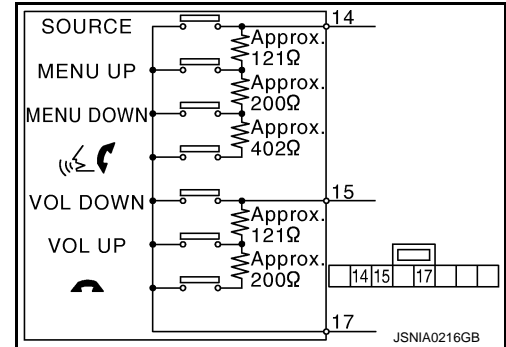
### Standard

Between terminals 14 and 17

-  switch ON : Approx. 716 – 730 Ω
- MENU UP switch ON : Approx. 318 – 324 Ω
- MENU DOWN 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



## WITHOUT HANDS-FREE PHONE SYSTEM

### WITHOUT HANDS-FREE PHONE SYSTEM : Description

INFOID:000000009061468

Transmits the steering switch signal to AV control unit.

### WITHOUT HANDS-FREE PHONE SYSTEM : Diagnosis Procedure

INFOID:000000009061469

#### 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.

#### 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.

# STEERING SWITCH SIGNAL A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

(+)		(-)		Voltage (Approx.)
AV control unit		AV control unit		
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-128. "Exploded View"](#).

## 4. CHECK STEERING SWITCH

1. Turn ignition switch OFF.

2. Check steering switch. Refer to [AV-114. "WITHOUT HANDS-FREE PHONE SYSTEM : Component Inspection"](#).

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace steering switch. Refer to [ST-15. "Exploded View"](#).

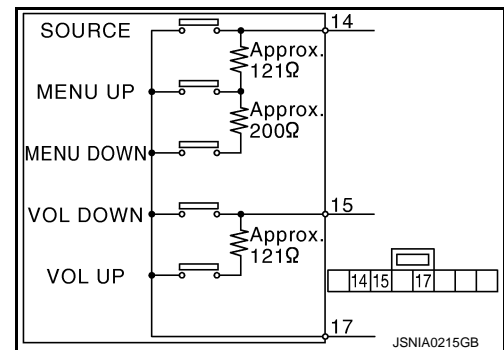
## WITHOUT HANDS-FREE PHONE SYSTEM : Component Inspection

INFOID:000000009061470

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

Standard

Between terminals 14 and 17	
MENU DOWN switch ON	: Approx. 318 – 324 $\Omega$
MENU UP switch ON	: Approx. 120 – 122 $\Omega$
SOURCE switch ON	: Approx. 0 $\Omega$
Between terminals 15 and 17	
VOL UP switch ON	: Approx. 120 – 122 $\Omega$
VOL DOWN switch ON	: Approx. 0 $\Omega$



# STEERING SWITCH SIGNAL B CIRCUIT

[BASE AUDIO WITHOUT NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

## STEERING SWITCH SIGNAL B CIRCUIT WITH HANDS-FREE PHONE SYSTEM

### WITH HANDS-FREE PHONE SYSTEM : Description

INFOID:000000009061471

Transmits the steering switch signal to AV control unit.

### WITH HANDS-FREE PHONE SYSTEM : Diagnosis Procedure

INFOID:000000009061472

#### 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.

#### 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-128, "Exploded View"](#).

#### 4. CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to [AV-116, "WITH HANDS-FREE PHONE SYSTEM : Component Inspection"](#).

Is the inspection result normal?

- YES >> INSPECTION END  
NO >> Replace steering switch. Refer to [ST-15, "Exploded View"](#).

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AV

# STEERING SWITCH SIGNAL B CIRCUIT

[BASE AUDIO WITHOUT NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

## WITH HANDS-FREE PHONE SYSTEM : Component Inspection

INFOID:000000009061473

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

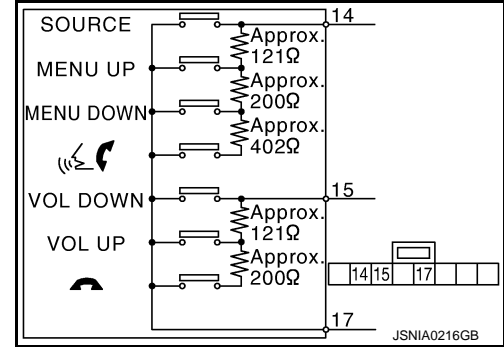
### Standard

Between terminals 14 and 17

-  switch ON : Approx. 716 – 730 Ω
- MENU UP switch ON : Approx. 318 – 324 Ω
- MENU DOWN 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



## WITHOUT HANDS-FREE PHONE SYSTEM

### WITHOUT HANDS-FREE PHONE SYSTEM : Description

INFOID:000000009061474

Transmits the steering switch signal to AV control unit.

### WITHOUT HANDS-FREE PHONE SYSTEM : Diagnosis Procedure

INFOID:000000009061475

#### 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.

#### 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.



# STEERING SWITCH SIGNAL B CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

(+)		(-)		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-128, "Exploded View"](#).

## 4. CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to [AV-117, "WITHOUT HANDS-FREE PHONE SYSTEM : Component Inspection"](#).

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace steering switch. Refer to [ST-15, "Exploded View"](#).

## WITHOUT HANDS-FREE PHONE SYSTEM : Component Inspection

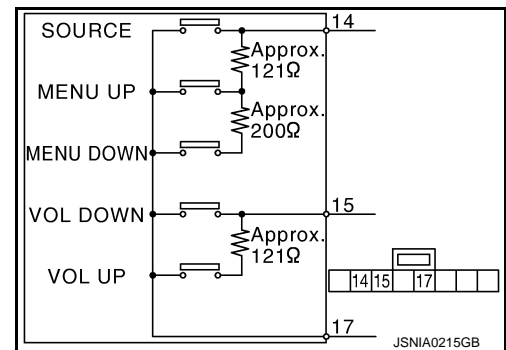
INFOID:000000009061476

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

Standard

Between terminals 14 and 17  
MENU DOWN switch ON : Approx. 318 – 324  $\Omega$   
MENU UP switch ON : Approx. 120 – 122  $\Omega$   
SOURCE switch ON : Approx. 0  $\Omega$

Between terminals 15 and 17  
VOL DOWN switch ON : Approx. 120 – 122  $\Omega$   
VOL UP switch ON : Approx. 0  $\Omega$



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AV

# STEERING SWITCH GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

## STEERING SWITCH GROUND CIRCUIT WITH HANDS-FREE PHONE SYSTEM

### WITH HANDS-FREE PHONE SYSTEM : Description

INFOID:000000009061477

Transmits the steering switch signal to AV control unit.

### WITH HANDS-FREE PHONE SYSTEM : Diagnosis Procedure

INFOID:000000009061478

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

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

AV control unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
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.

#### 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-128, "Exploded View"](#).

#### 4. CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to [AV-118, "WITH HANDS-FREE PHONE SYSTEM : Component Inspection"](#).

Is the inspection result normal?

- YES >> INSPECTION END  
NO >> Replace steering switch. Refer to [ST-15, "Exploded View"](#).

### WITH HANDS-FREE PHONE SYSTEM : Component Inspection

INFOID:000000009061479

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

# STEERING SWITCH GROUND CIRCUIT

[BASE AUDIO WITHOUT NAVIGATION]

## < DTC/CIRCUIT DIAGNOSIS >

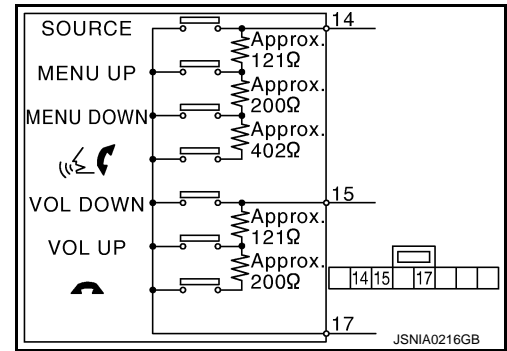
### Standard

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



## WITHOUT HANDS-FREE PHONE SYSTEM

### WITHOUT HANDS-FREE PHONE SYSTEM : Description

INFOID:000000009061480

Transmits the steering switch signal to AV control unit.

### WITHOUT HANDS-FREE PHONE SYSTEM : Diagnosis Procedure

INFOID:000000009061481

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

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

AV control unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
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.

#### 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-128, "Exploded View"](#).

#### 4. CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to [AV-120, "WITHOUT HANDS-FREE PHONE SYSTEM : Component Inspection"](#).

#### Is the inspection result normal?

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AV

# STEERING SWITCH GROUND CIRCUIT

[BASE AUDIO WITHOUT NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

YES >> INSPECTION END

NO >> Replace steering switch. Refer to [ST-15. "Exploded View"](#).

## WITHOUT HANDS-FREE PHONE SYSTEM : Component Inspection

INFOID:000000009061482

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

### Standard

Between terminals 14 and 17

MENU DOWN switch ON : Approx. 318 – 324  $\Omega$

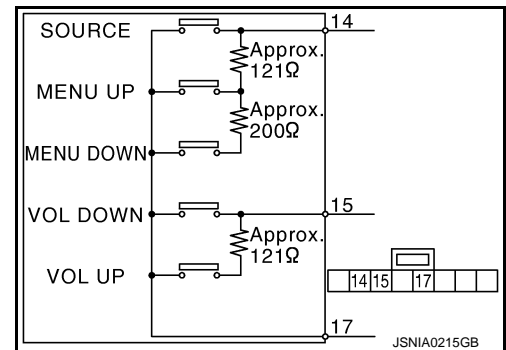
MENU UP switch ON : Approx. 120 – 122  $\Omega$

SOURCE switch ON : Approx. 0  $\Omega$

Between terminals 15 and 17

VOL UP switch ON : Approx. 120 – 122  $\Omega$

VOL DOWN switch ON : Approx. 0  $\Omega$



SYMPTOM DIAGNOSIS

MULTI AV SYSTEM SYMPTOMS

Symptom Table

INFOID:000000009061483

OPERATION

Symptoms	Check items	Possible malfunction location / Action to take
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 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 "Self diagnosis Result" of "MULTI AV" with CONSULT. Refer to <a href="#">AV-30, "CONSULT 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 is initialized.</li> </ul>	AV control unit power supply and ground circuit malfunction. Refer to <a href="#">AV-93, "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, vehicle setting operation is abnormal.	There is malfunction in the CONSULT self-diagnosis result. Refer to <a href="#">AV-30, "CONSULT Function (MULTI AV)".</a>	Perform detected DTC diagnosis. Refer to <a href="#">AV-42, "DTC Index".</a>
	There is no malfunction in the self-diagnosis results. Refer to <a href="#">AV-30, "CONSULT Function (MULTI AV)".</a>	Ignition signal circuit malfunction. (AV control unit)

RELATED TO HANDS-FREE PHONE

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

Check Compatibility

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

**NOTE:**  
The customer's phone may be required, depending upon their concern.
- Write down the customer's phone brand, model, and service provider.
 

**NOTE:**  
It is necessary to know the service provider. On occasion, a given phone may be on the approved list with one provider, but may not be on the approved list with other providers.
- Go to "www.infiniti.com/bluetooth/".
  - Using the website's search engine, find out if the customer's phone is on the approved list.
  - If the customer's phone is NOT on the approved list:
 

Stop diagnosis here. The customer needs to obtain a Bluetooth® phone that is on the approved list before any further action.
  - If the feature related to the customer's concern shows as "N" (not compatible):
 

Stop diagnosis here. If the customer still wants the feature to function, they will need to get an approved phone showing the feature as "Y" (compatible) in the "Basic Features" list.
  - If the feature related to the customer's concern shows as "Y" (compatible):

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# MULTI AV SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

Perform diagnosis as per the following table.

Symptoms	Check items	Probable malfunction location
Does not recognize cellular phone connection. (No connection is displayed on the display at the guide.)	Repeat the registration of cellular phone.	TEL adapter unit malfunction. Refer to <a href="#">AV-141, "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 "Self diagnosis Result" of "MULTI AV" with CONSULT. Refer to <a href="#">AV-30, "CONSULT Function (MULTI AV)"</a>.</li> <li>No malfunction. TEL adapter unit malfunction. Refer to <a href="#">AV-141, "Exploded View"</a>.</li> <li>Malfunction is detected. Perform detected DTC diagnosis. Refer to <a href="#">AV-42, "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-141, "Exploded View"</a> .
	Sound operation function does not work.	Microphone signal circuit malfunction. Refer to <a href="#">AV-105, "Diagnosis Procedure"</a> .
The system cannot be operated.	"SOURCE", "MENU UP", and "MENU DOWN" switches are operated. But "☞" switch is not operated.	<ul style="list-style-type: none"> <li>Check steering switch. Refer to <a href="#">AV-113, "WITH HANDS-FREE PHONE SYSTEM : Component Inspection"</a>.</li> <li>Malfunction is detected. Replace steering switch. Refer to <a href="#">ST-15, "Exploded View"</a>.</li> </ul>
	"SOURCE", "MENU UP", "MENU DOWN" and "☞" switches are not operated.	Steering switch signal A circuit malfunction. Refer to <a href="#">AV-112, "WITH HANDS-FREE PHONE SYSTEM : Diagnosis Procedure"</a> .
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to <a href="#">AV-118, "WITH HANDS-FREE PHONE SYSTEM : Diagnosis Procedure"</a> .

## RELATED TO RGB IMAGE

Symptoms	Check items	Possible malfunction location / Action to take
RGB image is not shown.	There is malfunction in the CONSULT self-diagnosis result. Refer to <a href="#">AV-30, "CONSULT Function (MULTI AV)"</a> .	Perform detected DTC diagnosis. Refer to <a href="#">AV-42, "DTC Index"</a> .
	There is no malfunction in CONSULT self-diagnosis results. Refer to <a href="#">AV-30, "CONSULT Function (MULTI AV)"</a> .	Vertical synchronizing (VP) signal circuit. Refer to <a href="#">AV-103, "Diagnosis Procedure"</a> .
Color of RGB image is not proper.	Light blue (Cyan) tint.	RGB signal (R: red) circuit. Refer to <a href="#">AV-96, "Diagnosis Procedure"</a> .
	Purple (Magenta) tint.	RGB signal (G: green) circuit. Refer to <a href="#">AV-97, "Diagnosis Procedure"</a> .
	Screen looks yellowish.	RGB signal (B: blue) circuit. Refer to <a href="#">AV-98, "Diagnosis Procedure"</a> .
RGB screen is rolling.	—	RGB synchronizing signal circuit. Refer to <a href="#">AV-99, "Diagnosis Procedure"</a> .

# MULTI AV SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

Symptoms	Check items	Possible malfunction location / Action to take
Fuel economy display is malfunctioning.	There is malfunction in the CONSULT self-diagnosis result. Refer to <a href="#">AV-30, "CONSULT Function (MULTI AV)"</a> .	Perform detected DTC diagnosis. Refer to <a href="#">AV-42, "DTC Index"</a> .
	There is no malfunction in CONSULT self-diagnosis results. Refer to <a href="#">AV-30, "CONSULT Function (MULTI AV)"</a> .	Ignition signal circuit malfunction.

## RELATED TO AUDIO

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	—	Disk eject signal circuit. Refer to <a href="#">AV-104, "Diagnosis Procedure"</a> .
No sound comes out or the level of the sound is low.	No sound from all speakers.	AV control unit power supply and ground circuits malfunction. Refer to <a href="#">AV-93, "AV CONTROL UNIT : Diagnosis Procedure"</a> .
	Only a certain speaker (front right, front left, rear right, or rear left, etc.) does not output sound.	<ul style="list-style-type: none"> <li>Poor connector connection of speaker.</li> <li>Sound signal circuit malfunction between AV control unit and speaker.</li> <li>Malfunction in speaker.</li> <li>Malfunction in AV control unit.</li> </ul>
Noise is mixed with audio.	Noise comes out from all speakers.	Malfunction in AV control unit.
	Noise comes out only from a certain speaker (front right, front left, rear right, or rear left, etc.).	<ul style="list-style-type: none"> <li>Poor connector connection of speaker.</li> <li>Sound signal circuit malfunction between AV control unit and speaker.</li> <li>Malfunction in speaker.</li> <li>Poor installation of speaker (e.g. backlash and looseness)</li> <li>Malfunction in AV control unit.</li> </ul>
	Noise is mixed with radio only (when the car hits a bump or while driving over bad roads).	<ul style="list-style-type: none"> <li>Poor connector connection of antenna or antenna feeder.</li> <li>Loose antenna base mounting nut. Refer to <a href="#">AV-134, "Exploded View"</a>.</li> </ul>
Radio is not received or poor reception.	<ul style="list-style-type: none"> <li>Other audio sounds are normal.</li> <li>Any radio cannot be received or poor reception is caused even after moving to a service area with good reception (e.g. a place with clear view and no obstacles generating external noises).</li> </ul>	<ul style="list-style-type: none"> <li>Antenna amp. ON signal circuit malfunction.</li> <li>Poor connector connection of antenna or antenna feeder.</li> <li>Loose antenna base mounting nut. Refer to <a href="#">AV-134, "Exploded View"</a>.</li> </ul>
Satellite radio is not received.	There is malfunction in the CONSULT self-diagnosis result. Refer to <a href="#">AV-30, "CONSULT Function (MULTI AV)"</a> .	<ul style="list-style-type: none"> <li>Malfunction in antenna, antenna feeder, or AV control unit. Perform DTC diagnosis. Refer to <a href="#">AV-42, "DTC Index"</a>.</li> <li>Poor continuity in antenna feeder.</li> <li>Poor connector connection of antenna or antenna feeder.</li> </ul>
	There is no malfunction in the CONSULT self-diagnosis result. Refer to <a href="#">AV-30, "CONSULT Function (MULTI AV)"</a> .	<ul style="list-style-type: none"> <li>Poor continuity in antenna feeder.</li> <li>Poor connector connection of antenna or antenna feeder.</li> <li>Loose satellite radio antenna mounting nut.</li> </ul> <p><b>NOTE:</b> Tightening torque: 6.5 N·m (0.66 kg·m, 58 in·lb.)</p>

## RELATED TO USB

### NOTE:

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

## MULTI AV SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

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 (WITH HANDS-FREE PHONE SYSTEM)

Symptoms	Probable malfunction location
None of the steering switch operations work.	Steering switch ground circuit malfunction. Refer to <a href="#">AV-118, "WITH HANDS-FREE PHONE SYSTEM : Diagnosis Procedure"</a> .
Only specified switch cannot be operated.	<ul style="list-style-type: none"> <li>• Check steering switch. Refer to <a href="#">AV-118, "WITH HANDS-FREE PHONE SYSTEM : Component Inspection"</a>.</li> <li>• Malfunction is detected. Replace steering switch. Refer to <a href="#">ST-15, "Exploded View"</a>.</li> </ul>
"SOURCE", "MENU UP", "MENU DOWN" and "📶" switches are not operated.	Steering switch signal A circuit. Refer to <a href="#">AV-112, "WITH HANDS-FREE PHONE SYSTEM : Diagnosis Procedure"</a> .
"VOL UP", "VOL DOWN" and "🔊" switches are not operated.	Steering switch signal B circuit. Refer to <a href="#">AV-115, "WITH HANDS-FREE PHONE SYSTEM : Diagnosis Procedure"</a> .

### RELATED TO STEERING SWITCH (WITHOUT HANDS-FREE PHONE SYSTEM)

Symptoms	Inspection location / Probable malfunction location
None of the steering switch operations work.	Steering switch ground circuit malfunction. Refer to <a href="#">AV-119, "WITHOUT HANDS-FREE PHONE SYSTEM : Diagnosis Procedure"</a> .
Only specified switch cannot be operated.	<ul style="list-style-type: none"> <li>• Check steering switch. Refer to <a href="#">AV-114, "WITHOUT HANDS-FREE PHONE SYSTEM : Component Inspection"</a>.</li> <li>• Malfunction is detected. Replace steering switch. Refer to <a href="#">ST-15, "Exploded View"</a>.</li> </ul>
"SOURCE", "MENU UP" and "MENU DOWN" switches are not operated.	Steering switch signal A circuit. Refer to <a href="#">AV-113, "WITHOUT HANDS-FREE PHONE SYSTEM : Diagnosis Procedure"</a> .
"VOL UP" and "VOL DOWN" switches are not operated.	Steering switch signal B circuit. Refer to <a href="#">AV-116, "WITHOUT HANDS-FREE PHONE SYSTEM : Diagnosis Procedure"</a> .

### RELATED TO CAMERA

#### Trouble Diagnosis Chart by Symptom

Symptoms	Check items	Probable malfunction location
Camera image is not shown. (Vehicle width and possible route line is displayed.)	—	<ul style="list-style-type: none"> <li>• Camera image signal circuit. Refer to <a href="#">AV-107, "Diagnosis Procedure"</a>.</li> <li>• Composite image signal circuit. Refer to <a href="#">AV-101, "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-128, "Exploded View"</a> .



# NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[BASE AUDIO WITHOUT NAVIGATION]

## NORMAL OPERATING CONDITION

### Description

INFOID:000000009061484

### 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 >

[BASE AUDIO 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/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.
Poor sound quality	Check if the CD is scratched or dirty.
	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.)
	It takes a relatively long time before the music starts playing.
	Music cuts off or skips
	Skipping with high bit rate files
	Move immediately to the next song when playing
	The songs do not play back in the desired order.
Poor reception only from a certain radio broadcast station.	Check incoming radio wave signal strength of applicable broadcast station.
	Buzz/rattle sound from speaker
	The majority of rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the rattle.

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

**NOTE:**

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

**RELATED TO HANDS-FREE PHONE**

## NORMAL OPERATING CONDITION

[BASE AUDIO WITHOUT NAVIGATION]

< SYMPTOM DIAGNOSIS >

Symptom	Cause and Counter measure
Does not recognize cellular phone connection. (No connection is displayed on the display at the guide.)	Some Bluetooth® enabled cellular phones may not be recognized by the in-vehicle phone module. Refer to "RELATED TO HANDS-FREE PHONE (Check Compatibility)" of MULTI AV SYSTEM SYMPTOM.
Cannot use hands-free phone	Customer will not be able to use a hands-free phone under the following conditions. <ul style="list-style-type: none"> <li>• The vehicle is outside of the telephone service area.</li> <li>• The vehicle is in an area where it is difficult to receive radio waves; such as in a tunnel, in an underground parking garage, near a tall building or in a mountainous area.</li> <li>• The cellular phone is locked to prevent it from being dialed.</li> </ul> <b>NOTE:</b> While a cellular phone is connected through the Bluetooth® wireless connection, the battery power of the cellular phone may discharge quicker than usual. The Bluetooth® Hands-Free Phone System cannot charge cellular phones.
The other party's voice cannot be heard by hands-free phone.	When the radio wave condition is not ideal or ambient sound is too loud, it may be difficult to hear the other person's voice during a call.
Poor sound quality	Do not place the cellular phone in an area surrounded by metal or far away from the in-vehicle phone module to prevent tone quality degradation and wireless connection disruption.

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# AV CONTROL UNIT

< REMOVAL AND INSTALLATION >

[BASE AUDIO WITHOUT NAVIGATION]

## REMOVAL AND INSTALLATION

### AV CONTROL UNIT

#### Exploded View

INFOID:000000009061485

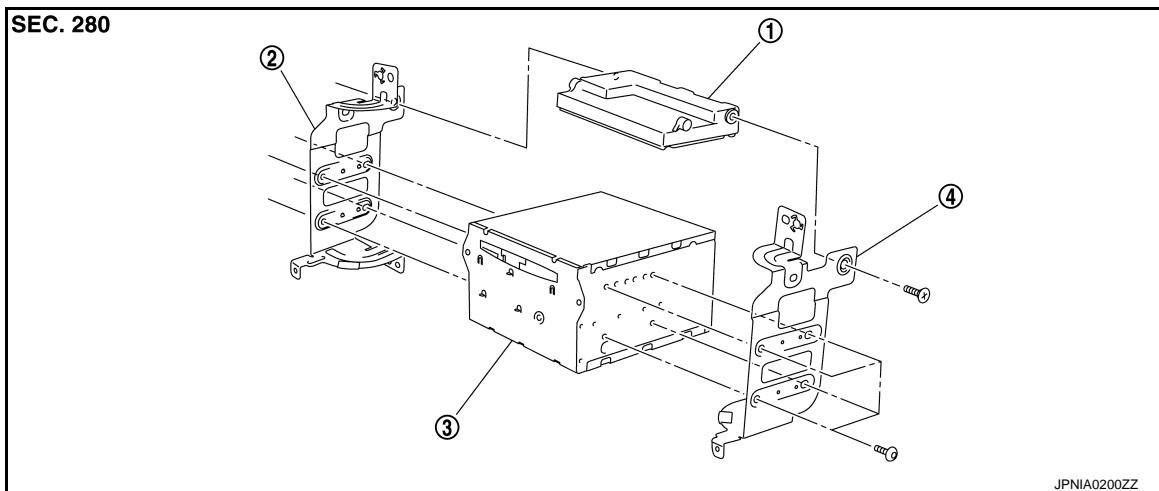
#### CAUTION:

Before replacing AV control unit, perform "Read/Write Configuration" to save or print current vehicle specification. For details, refer to [AV-71, "ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Work Procedure"](#).

#### REMOVAL

Refer to [IP-12, "Exploded View"](#).

#### DISASSEMBLY



1. Unified meter and A/C amp.
2. Bracket LH
3. AV control unit
4. Bracket RH

### Removal and Installation

INFOID:000000009061486

#### REMOVAL

#### CAUTION:

- Before replacing AV control unit, perform "Read/Write Configuration" to save or print current vehicle specification. For details, refer to [AV-71, "ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Work Procedure"](#).
  - Remove battery terminal and AV control unit after a lapse of 30 seconds or more after turning the ignition switch OFF.
1. Remove display unit. Refer to [AV-129, "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

Install in the reverse order of removal.

#### CAUTION:

- Be sure to perform "Read/Write Configuration" when replacing AV control unit. For details, refer to [AV-72, "CONFIGURATION \(AV CONTROL UNIT\) : Work Procedure"](#).
- Since AV control unit connector and unified meter and A/C amp. connector have the same form, be careful not to insert them wrongly.

# DISPLAY UNIT

< REMOVAL AND INSTALLATION >

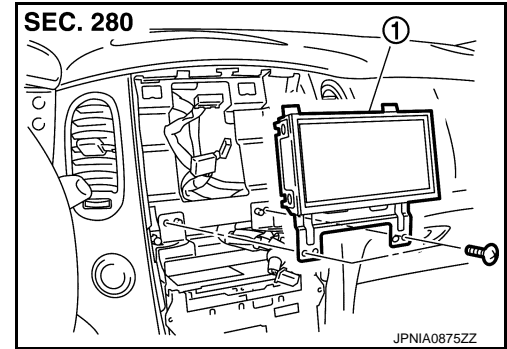
[BASE AUDIO WITHOUT NAVIGATION]

## DISPLAY UNIT

### Exploded View

1. Display unit

INFOID:000000009061487



### Removal and Installation

INFOID:000000009061488

#### REMOVAL

1. Remove cluster lid D. Refer to [IP-12, "Exploded View"](#).
2. Remove display unit mounting screws.
3. Remove display unit.

#### INSTALLATION

Install in the reverse order of removal.

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AV

# FRONT DOOR SPEAKER

< REMOVAL AND INSTALLATION >

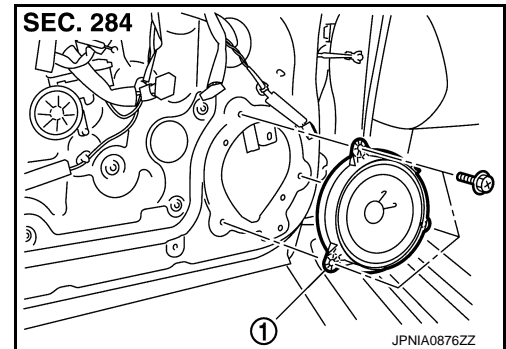
[BASE AUDIO WITHOUT NAVIGATION]

## FRONT DOOR SPEAKER

### Exploded View

INFOID:000000009061489

1. Front door speaker



### Removal and Installation

INFOID:000000009061490

#### REMOVAL

1. Remove front door finisher. Refer to [INT-11, "DRIVER SIDE : Exploded View"](#) (driver side) or [INT-14, "PASSENGER SIDE : Exploded View"](#) (passenger side).
2. Remove front door speaker mounting bolts, disconnect the front door speaker connector.
3. Remove front door speaker.

#### INSTALLATION

Install in the reverse order of removal.

# REAR DOOR SPEAKER

< REMOVAL AND INSTALLATION >

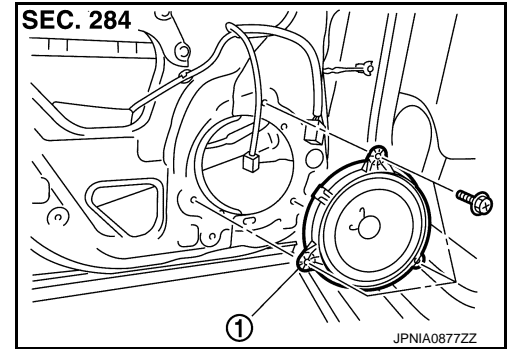
[BASE AUDIO WITHOUT NAVIGATION]

## REAR DOOR SPEAKER

### Exploded View

INFOID:000000009061491

1. Rear door speaker



### Removal and Installation

INFOID:000000009061492

#### REMOVAL

1. Remove rear door finisher. Refer to [INT-17, "Exploded View"](#).
2. Remove rear door speaker mounting bolts, disconnect the rear door speaker connector.
3. Remove rear door speaker.

#### INSTALLATION

Install in the reverse order of removal.

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AV

# FRONT SQUAWKER

< REMOVAL AND INSTALLATION >

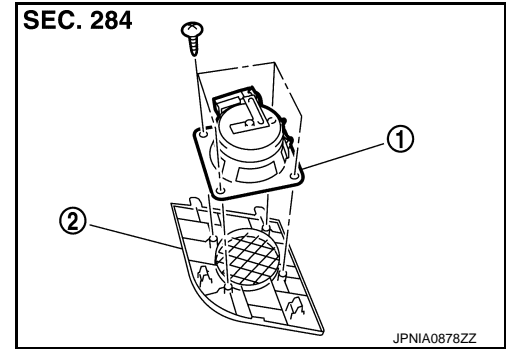
[BASE AUDIO WITHOUT NAVIGATION]

## FRONT SQUAWKER

### Exploded View

INFOID:000000009061493

1. Front squawker
2. Speaker grille



### Removal and Installation

INFOID:000000009061494

#### REMOVAL

1. Lift up the speaker grille with squawker. Refer to [IP-12, "Exploded View"](#).
2. Disconnect the front squawker connector.
3. Remove front squawker mounting screws.
4. Remove front squawker.

#### INSTALLATION

Install in the reverse order of removal.



# SATELLITE RADIO TUNER

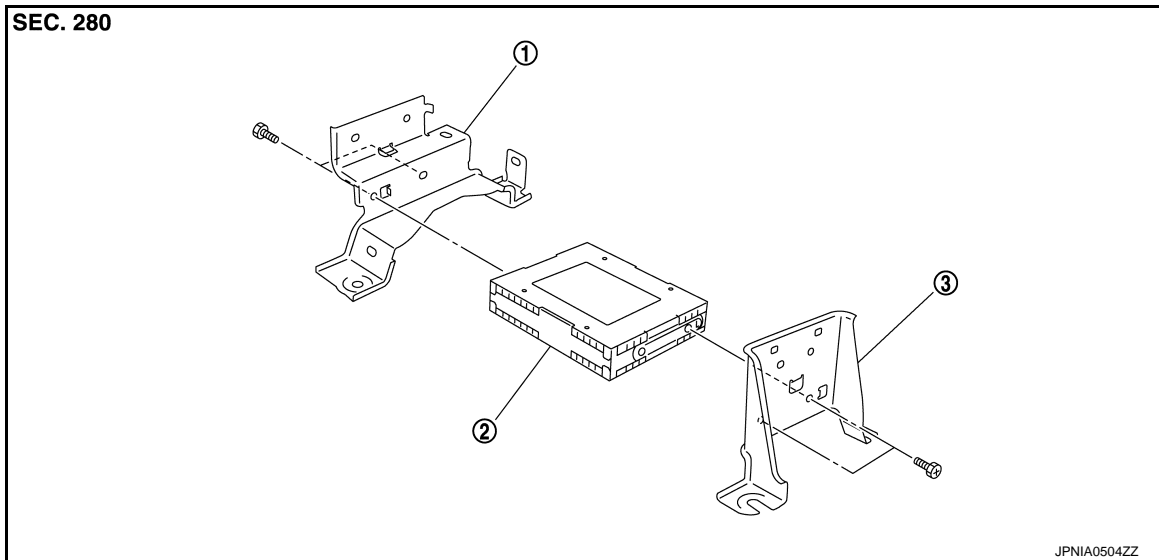
< REMOVAL AND INSTALLATION >

[BASE AUDIO WITHOUT NAVIGATION]

## SATELLITE RADIO TUNER

### Exploded View

INFOID:000000009061495



1. Bracket (front)

2. Satellite radio tuner

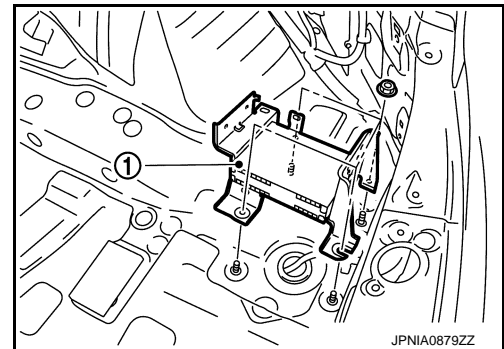
3. Bracket (rear)

### Removal and Installation

INFOID:000000009061496

#### REMOVAL

1. Remove luggage floor spacer (RH). Refer to [INT-36. "Exploded View"](#).
2. Remove nuts, and then satellite radio tuner (1).



#### INSTALLATION

Install in the reverse order of removal.

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# ANTENNA BASE

< REMOVAL AND INSTALLATION >

[BASE AUDIO WITHOUT NAVIGATION]

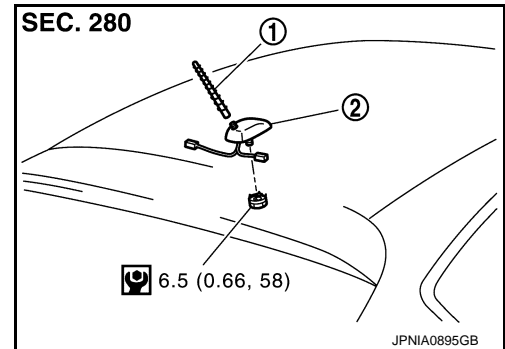
## ANTENNA BASE

### Exploded View

INFOID:000000009061497

1. Antenna rod
2. Antenna base

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



### Removal and Installation

INFOID:000000009061498

#### REMOVAL

1. Remove headlining (rear). Keep a service area. Refer to [INT-28, "NORMAL ROOF : Exploded View"](#) (normal roof) or [INT-32, "SUNROOF : Exploded View"](#) (sunroof).
2. Remove antenna base mounting nut.
3. Remove antenna base.

#### INSTALLATION

Install in 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 >

[BASE AUDIO WITHOUT NAVIGATION]

## MULTIFUNCTION SWITCH

### Exploded View

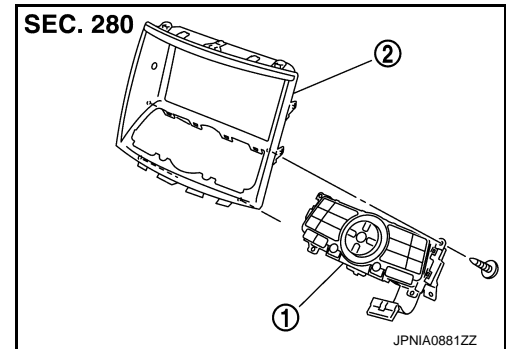
INFOID:000000009061499

#### REMOVAL

Refer to [IP-12, "Exploded View"](#).

#### DISASSEMBLY

1. Multifunction switch
2. Cluster lid D



INFOID:000000009061500

### Removal and Installation

#### REMOVAL

1. Remove cluster lid D. Refer to [IP-12, "Exploded View"](#).
2. Remove multifunction switch mounting screws.
3. Remove multifunction switch.

#### INSTALLATION

Install in the reverse order of removal.

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AV

# PRESET SWITCH

< REMOVAL AND INSTALLATION >

[BASE AUDIO WITHOUT NAVIGATION]

## PRESET SWITCH

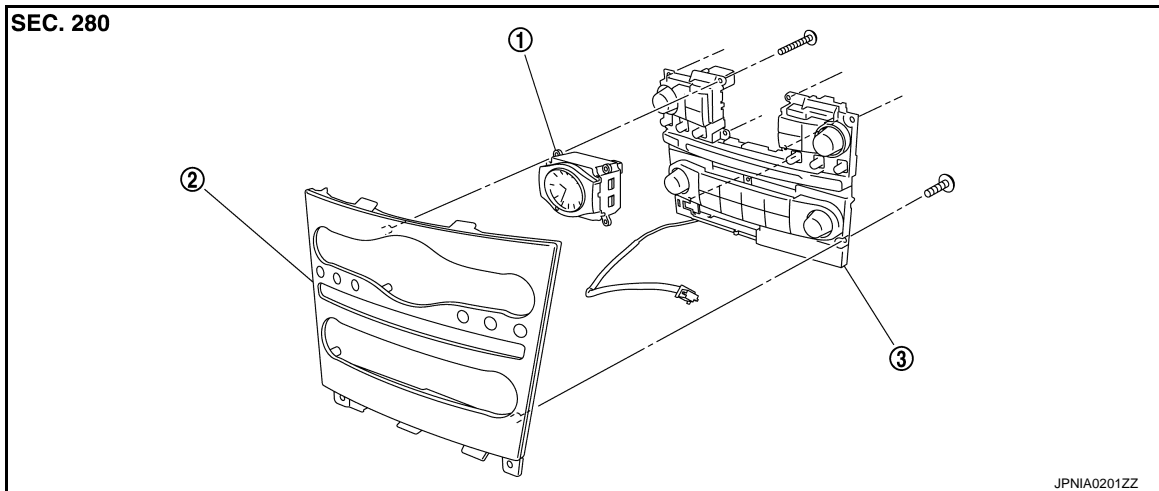
### Exploded View

INFOID:000000009061501

#### REMOVAL

Refer to [IP-12. "Exploded View"](#).

#### DISASSEMBLY



1. Clock

2. Cluster lid C

3. Preset switch

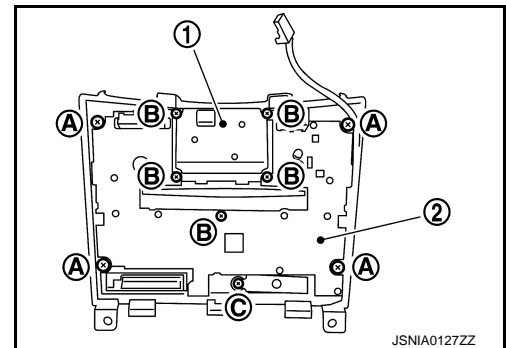
### Removal and Installation

INFOID:000000009061502

#### REMOVAL

1. Remove cluster lid C. Refer to [IP-12. "Exploded View"](#).
2. Remove preset switch mounting screws (A), (B) and (C).
3. Remove preset switch (2).

1. Clock
2. Preset switch



#### INSTALLATION

Install in 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 audio unit and preset switch.

# USB CONNECTOR

< REMOVAL AND INSTALLATION >

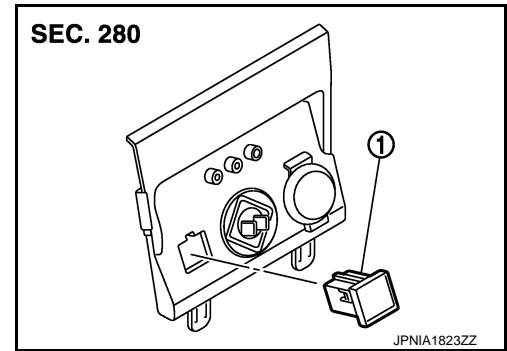
[BASE AUDIO WITHOUT NAVIGATION]

## USB CONNECTOR

### Exploded View

INFOID:000000009061503

1. USB connector



### Removal and Installation

INFOID:000000009061504

#### REMOVAL

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

#### INSTALLATION

Install in the reverse order of removal.

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

AV

# MICROPHONE

< REMOVAL AND INSTALLATION >

[BASE AUDIO WITHOUT NAVIGATION]

## MICROPHONE

### Exploded View

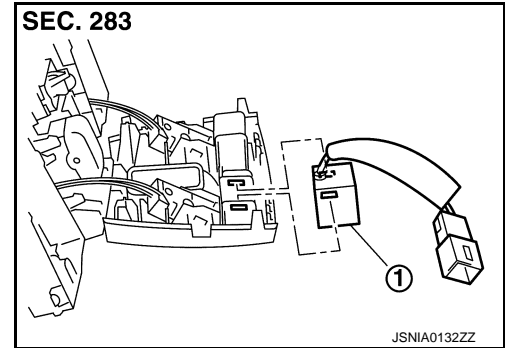
INFOID:000000009061505

### REMOVAL

Refer to [INT-28. "NORMAL ROOF : Exploded View"](#) (normal roof) or [INT-32. "SUNROOF : Exploded View"](#) (sunroof).

### DISASSEMBLY

1. Microphone



### Removal and Installation

INFOID:000000009061506

### REMOVAL

1. Remove map lamp assembly. Refer to [INT-28. "NORMAL ROOF : Exploded View"](#) (normal roof) or [INT-32. "SUNROOF : Exploded View"](#) (sunroof).
2. Remove microphone, stretching pawls of map lamp assembly.

### INSTALLATION

Install in the reverse order of removal.

# REAR VIEW CAMERA

< REMOVAL AND INSTALLATION >

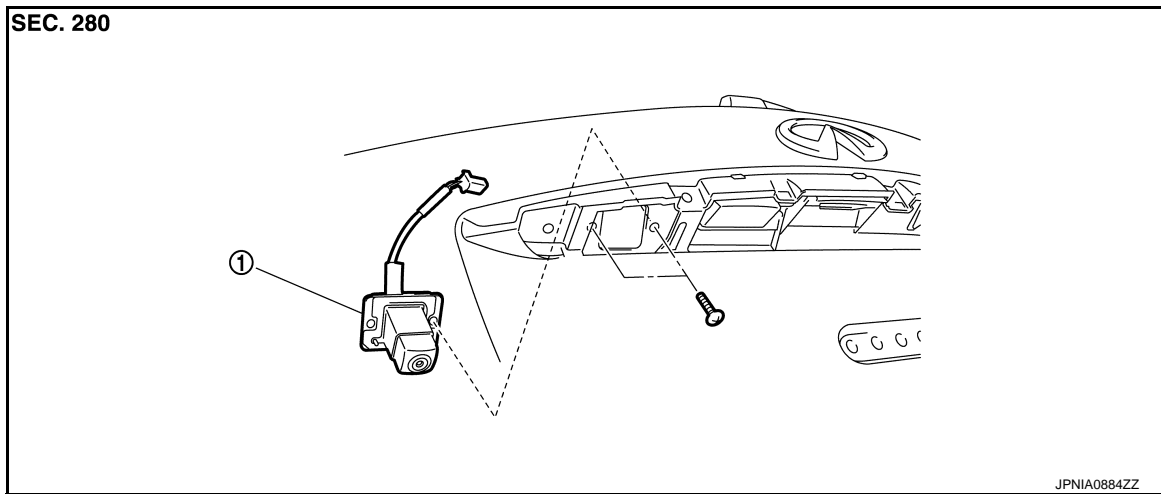
[BASE AUDIO WITHOUT NAVIGATION]

## REAR VIEW CAMERA

### Exploded View

INFOID:000000009061507

### DISASSEMBLY



1. Rear view camera

### Removal and Installation

INFOID:000000009061508

#### REMOVAL

1. Remove back door finisher inner. Refer to [INT-40, "Exploded View"](#).
2. Remove back door outside finisher upper. Refer to [EXT-48, "Exploded View"](#).
3. Remove back door outside finisher lower. Refer to [EXT-48, "Exploded View"](#).
4. Remove rear view camera mounting screws and rear view camera harness connector.
5. Remove rear view camera.

#### INSTALLATION

Install in the reverse order of removal.

#### Adjustment

INFOID:000000009061509

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

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

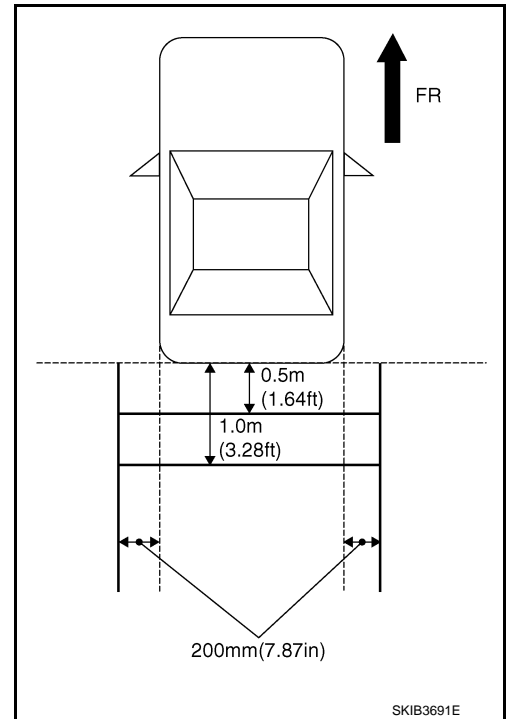
AV

# REAR VIEW CAMERA

< REMOVAL AND INSTALLATION >

[BASE AUDIO WITHOUT NAVIGATION]

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 Guide Lines" 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**

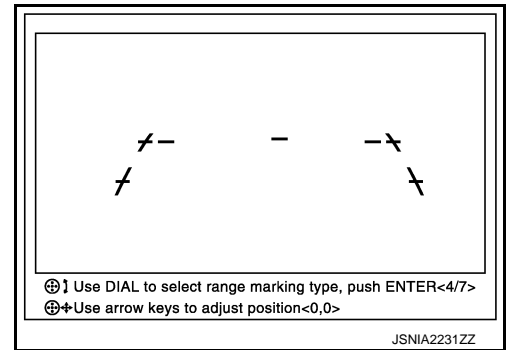
4. Make fine adjustment to the correction line of the rear of the vehicle with up/down/left/right switches so that its position is aligned with the guiding line. Press "OK" switch and record the adjusted guiding line position to the AV control unit.

**Up/Down adjustment range : 20° to 20°**

**Left/Right adjustment range : 20° to 20°**

### CAUTION:

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





# TEL ADAPTER UNIT

< REMOVAL AND INSTALLATION >

[BASE AUDIO WITHOUT NAVIGATION]

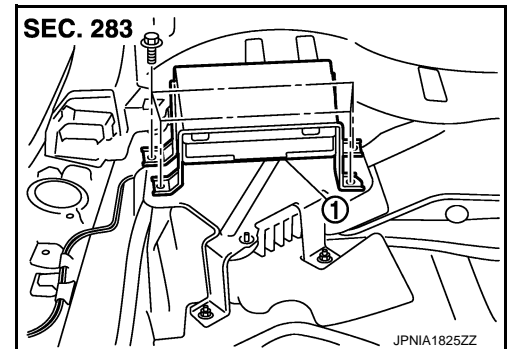
## TEL ADAPTER UNIT

### Exploded View

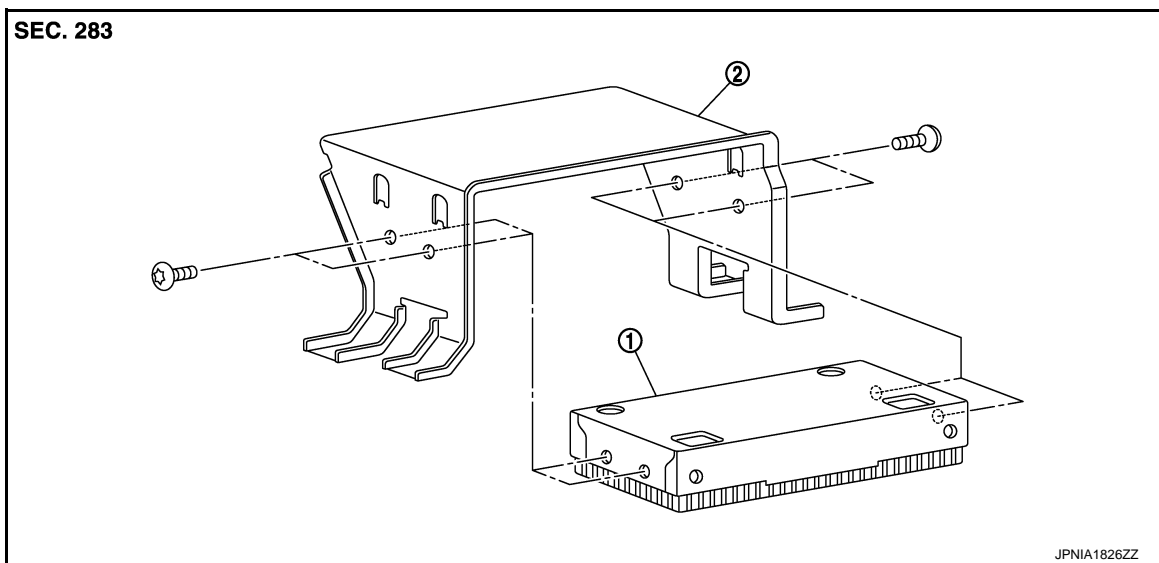
INFOID:000000009061510

### REMOVAL

1. TEL adapter unit



### DISASSEMBLY



1. TEL adapter unit
2. Bracket

### Removal and Installation

INFOID:000000009061511

### REMOVAL

1. Remove luggage floor spacer (LH). Refer to [INT-36. "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.

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

AV

# TEL ANTENNA

< REMOVAL AND INSTALLATION >

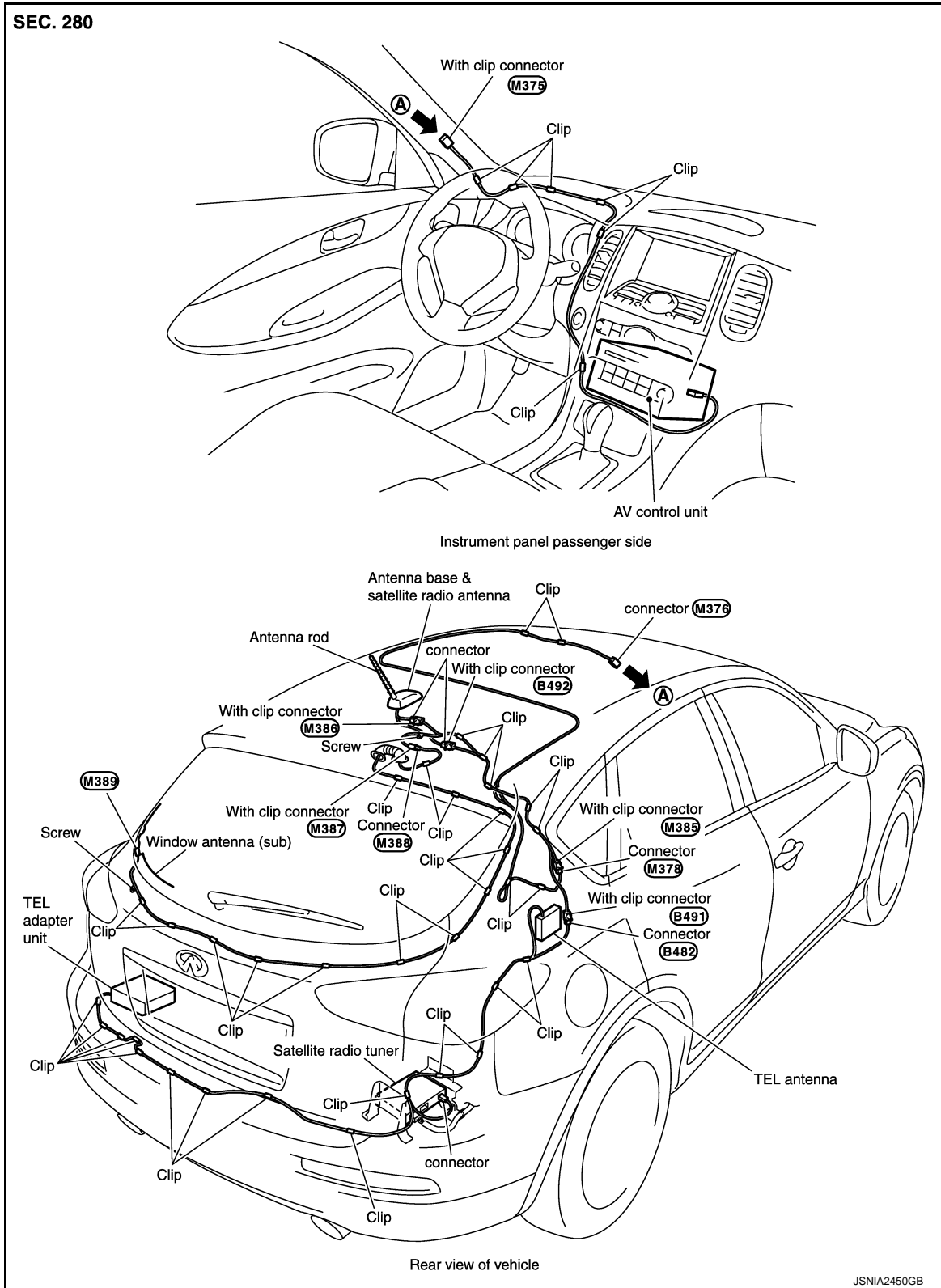
[BASE AUDIO WITHOUT NAVIGATION]

## TEL ANTENNA

### Feeder Layout

INFOID:00000009061512

SEC. 280



JSNIA2450GB

# TEL ANTENNA

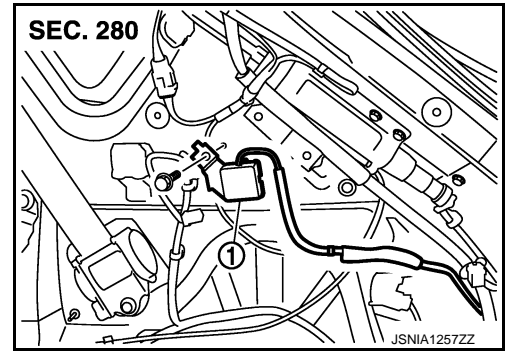
< REMOVAL AND INSTALLATION >

[BASE AUDIO WITHOUT NAVIGATION]

## Exploded View

INFOID:000000009061513

1. TEL antenna



## Removal and Installation

INFOID:000000009061514

### REMOVAL

1. Remove luggage floor spacer (RH). Refer to [INT-36, "Exploded View"](#).
2. Remove luggage side finisher upper (RH). Refer to [INT-36, "Exploded View"](#).
3. Remove TEL antenna from vehicle.

### INSTALLATION

Install in the reverse order of removal.

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

AV

O  
P

# ANTENNA FEEDER

< REMOVAL AND INSTALLATION >

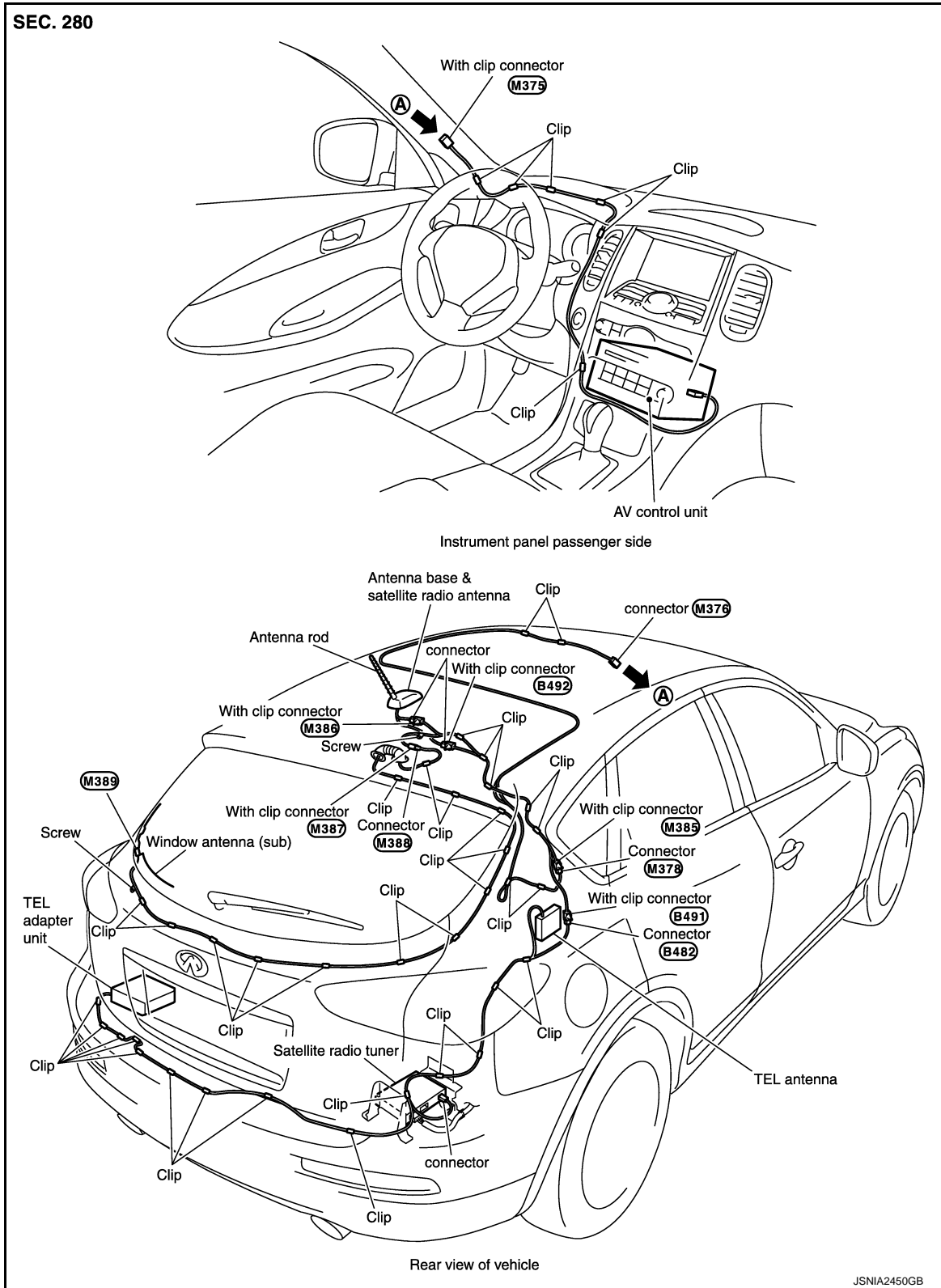
[BASE AUDIO WITHOUT NAVIGATION]

## ANTENNA FEEDER

### Feeder Layout

INFOID:000000009061515

SEC. 280



JSNIA2450GB

# PRECAUTIONS

< PRECAUTION >

[BOSE AUDIO WITHOUT NAVIGATION]

## PRECAUTION

### PRECAUTIONS

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

INFOID:000000009061516

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

#### **WARNING:**

Always observe the following items for preventing accidental activation.

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see "SRS AIR BAG".
- Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

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

#### **WARNING:**

Always observe the following items for preventing accidental activation.

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

#### Precaution for Trouble Diagnosis

INFOID:000000009061517

#### AV COMMUNICATION SYSTEM

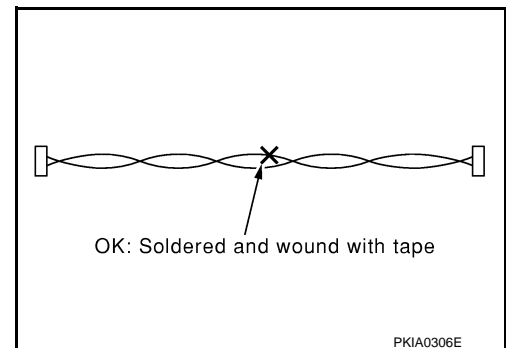
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

#### Precaution for Harness Repair

INFOID:000000009061518

#### AV COMMUNICATION SYSTEM

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

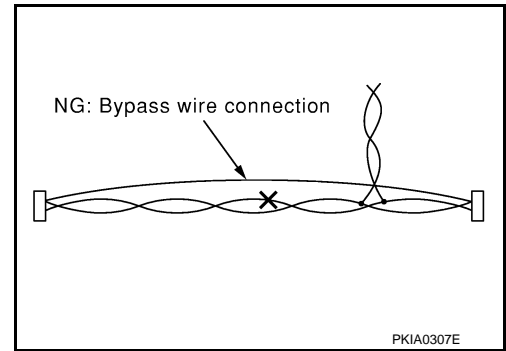


## PRECAUTIONS

< PRECAUTION >

[BOSE AUDIO 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.)



# PREPARATION

< PREPARATION >

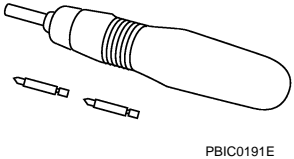
[BOSE AUDIO WITHOUT NAVIGATION]

## PREPARATION

### PREPARATION

#### Commercial Service Tools

INFOID:000000009061519

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

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

AV

# COMPONENT PARTS

< SYSTEM DESCRIPTION >

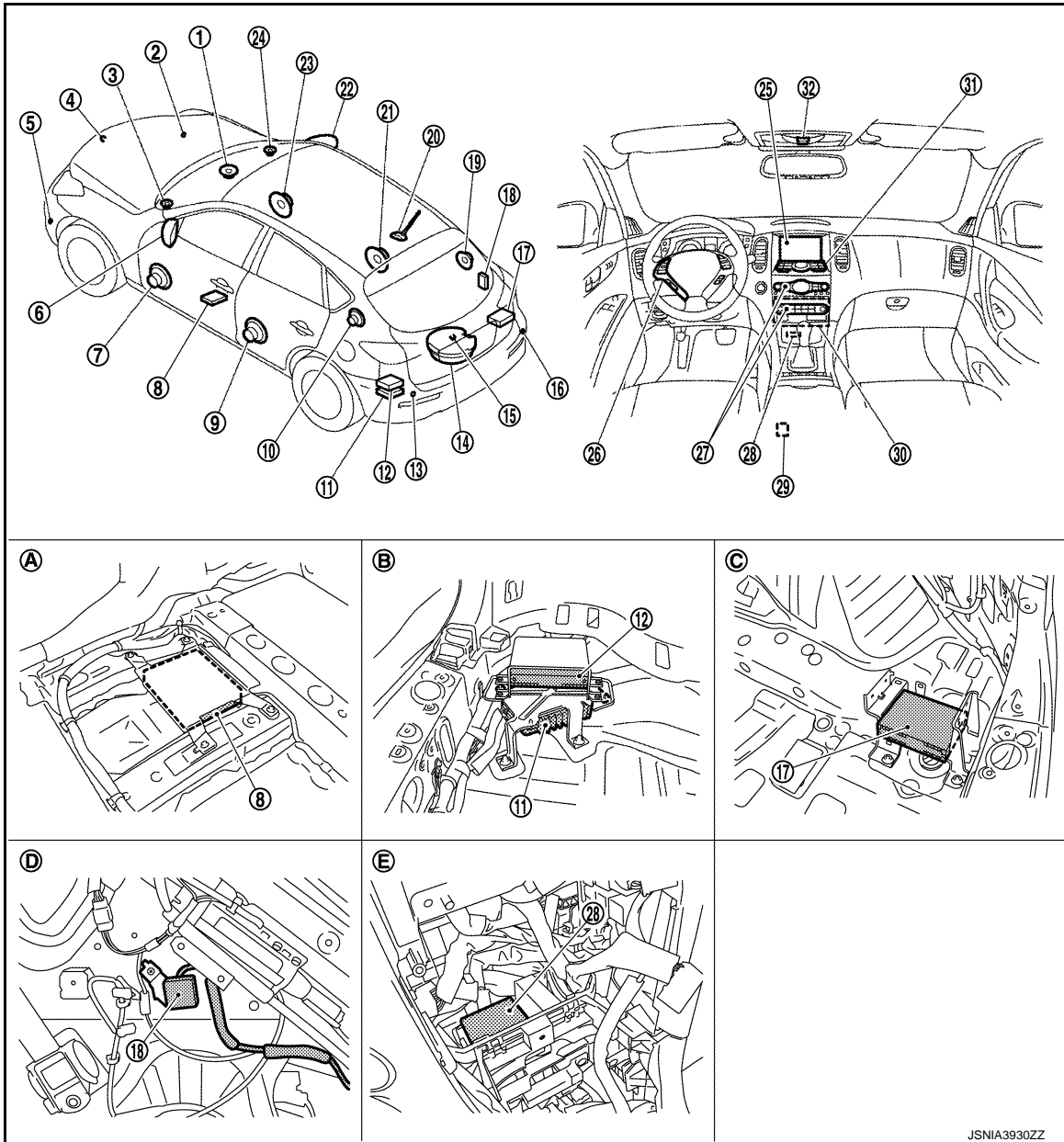
[BOSE AUDIO WITHOUT NAVIGATION]

## SYSTEM DESCRIPTION

### COMPONENT PARTS

#### Component Parts Location

INFOID:000000009061520



JSNIA3930ZZ

- |                           |                                                       |                          |
|---------------------------|-------------------------------------------------------|--------------------------|
| 1. Center speaker         | 2. Corner sensor front RH                             | 3. Front squawker LH     |
| 4. Front camera           | 5. Corner sensor front LH                             | 6. Side camera LH        |
| 7. Front door speaker LH  | 8. Around view monitor control unit                   | 9. Rear door speaker LH  |
| 10. Rear squawker LH      | 11. BOSE amp.                                         | 12. TEL adapter unit     |
| 13. Corner sensor rear LH | 14. Woofer                                            | 15. Rear camera          |
| 16. Corner sensor rear RH | 17. Satellite radio tuner                             | 18. TEL antenna          |
| 19. Rear squawker RH      | 20. Antenna base (antenna amp. and satellite antenna) | 21. Rear door speaker RH |
| 22. Side camera RH        | 23. Front door speaker RH                             | 24. Front squawker RH    |
| 25. Display unit          | 26. Steering switch                                   | 27. Preset switch        |



# COMPONENT PARTS

## [BOSE AUDIO WITHOUT NAVIGATION]

### < SYSTEM DESCRIPTION >

- |                                                   |                                              |                            |
|---------------------------------------------------|----------------------------------------------|----------------------------|
| 28. Sonar control unit (with around view monitor) | 29. USB connector                            | 30. AV control unit        |
| 31. Multifunction switch                          | 32. Microphone                               |                            |
| A. Under front seat (LH side)                     | B. Luggage floor (LH side)                   | C. Luggage floor (RH side) |
| D. Luggage side RH                                | E. Console pocket assembly removed condition |                            |

### Component Description

INFOID:000000009061521

Part name	Description
AV control unit	<ul style="list-style-type: none"> <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>
Display unit	<ul style="list-style-type: none"> <li>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 signal (camera image) is 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>
Woofers	<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, 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 hardware.</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>

## COMPONENT PARTS

< SYSTEM DESCRIPTION >

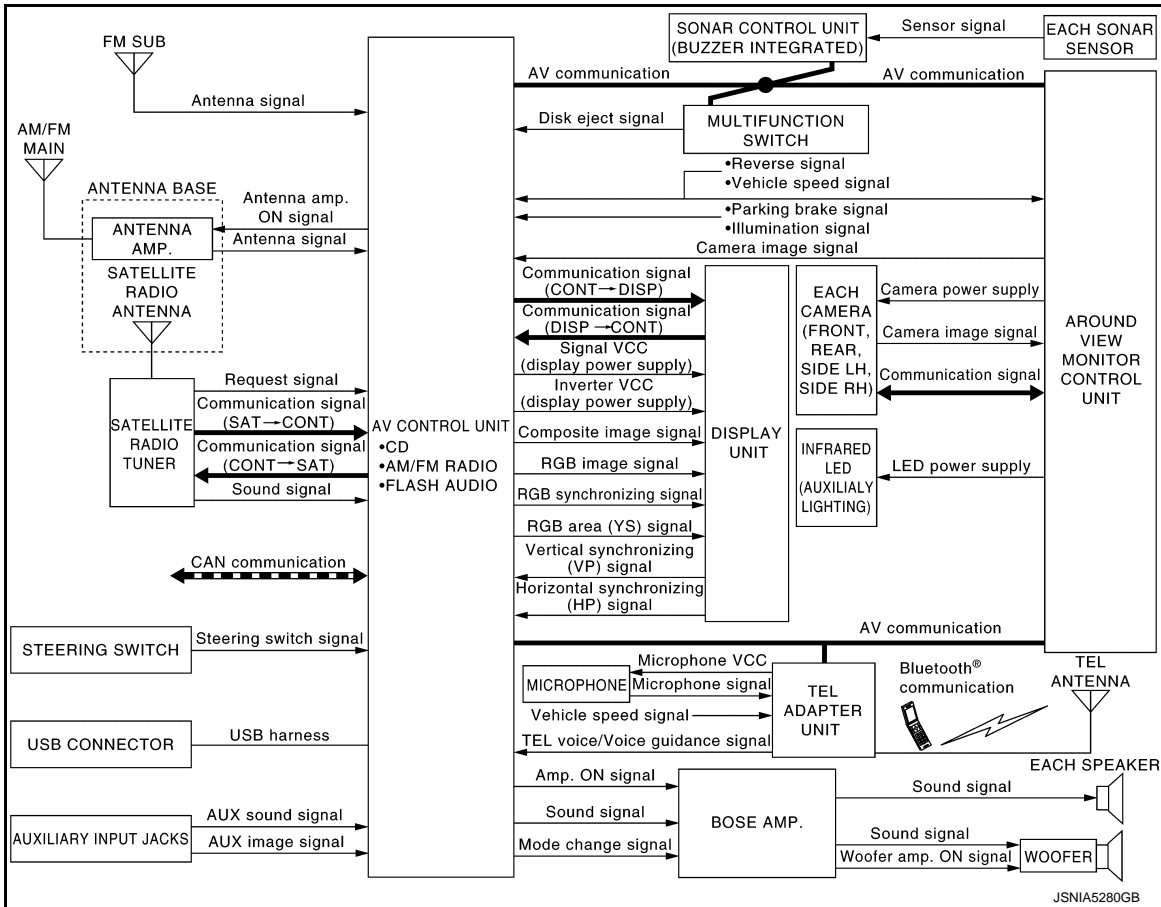
[BOSE AUDIO WITHOUT NAVIGATION]

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 display unit.</li> <li>• Superimpose the guiding line, predicted course line and sonar indicator to the camera image that outputs to display unit through AV control 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>
Sonar control unit (Camera assistance sonar system)	<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> <li>• A warning buzzer built in the sonar control unit sounds according to signals from each corner sensors.</li> </ul>
Corner sensor	The obstacle distance is detected. The signal is transmitted to the sonar control unit.
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>
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><b>ANTENNA AMP.</b></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><b>SATELLITE RADIO ANTENNA</b></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.

SYSTEM  
MULTI AV SYSTEM

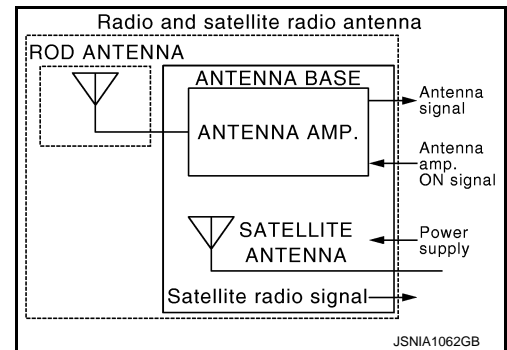
MULTI AV SYSTEM : System Diagram

INFOID:000000009061522



NOTE:

- Infrared LED (auxiliary lighting) is not used.
- Flash audio is not used.
- Auxiliary input jacks is not used.
- 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:000000009061523

Multi AV system means that the following systems are integrated.

FUNCTION NAME
Audio function
Hands-free phone function

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

FUNCTION NAME

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. Transmitting/receiving of data signal is performed by BCM. Also, it transmits the required signal of vehicle setting and receives the response signal.
- 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.

## 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 display.

FUNCTION

AM/FM radio

Satellite radio

CD

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 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 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 is output the sound signal (satellite radio) to 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.

### 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.

# SYSTEM

## < SYSTEM DESCRIPTION >

## [BOSE AUDIO WITHOUT NAVIGATION]

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-173, "Diagnosis Description"](#).

#### 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.

#### 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" and "Rear-side view".
- AV control unit renders the "Top" switch, "Side" switch, "Wide" switch, view icon, and warning message on display.

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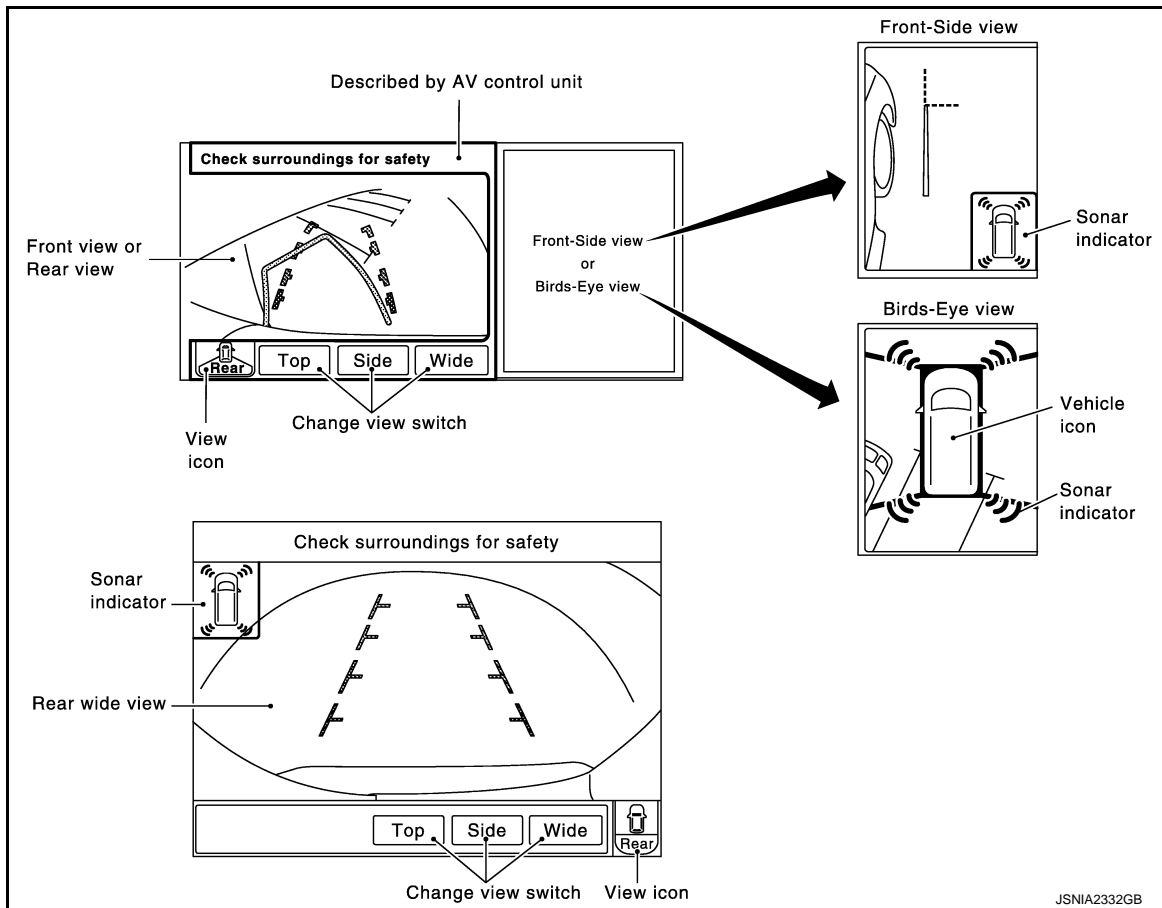
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## Screen constitution



### Operation Description

- Around view monitor operates by pressing the “CAMERA” switch of multifunction switch and shifting the selector lever to the reverse position.
- When the selector lever is in any position other than the reverse position, the screen is switched to the around view monitor by pressing the “CAMERA” switch of multifunction 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 wide view (rear only) can be switched by pressing the “CAMERA” switch of multifunction 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.

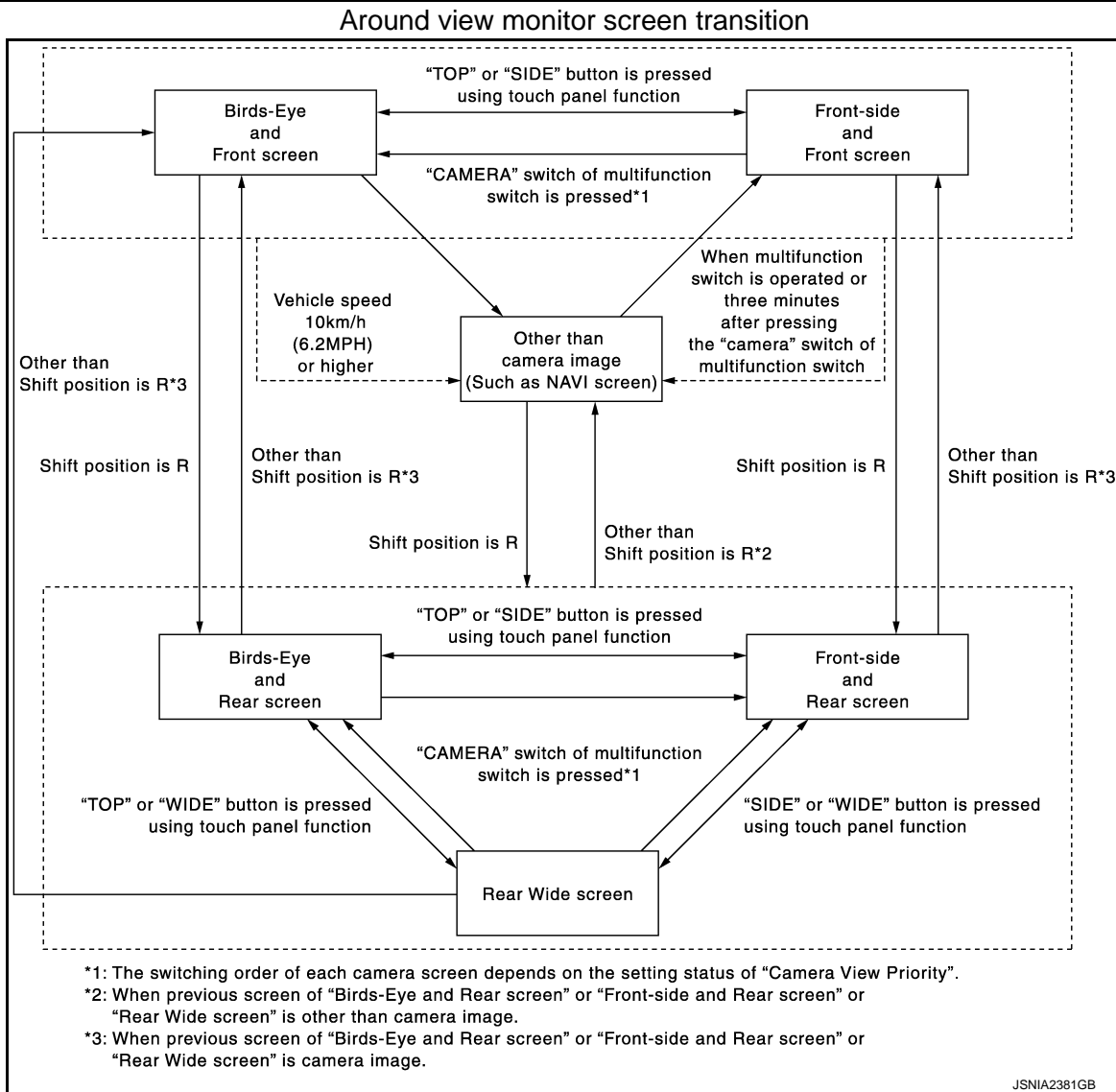
### NOTE:

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

# SYSTEM

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITHOUT NAVIGATION]



## FRONT VIEW

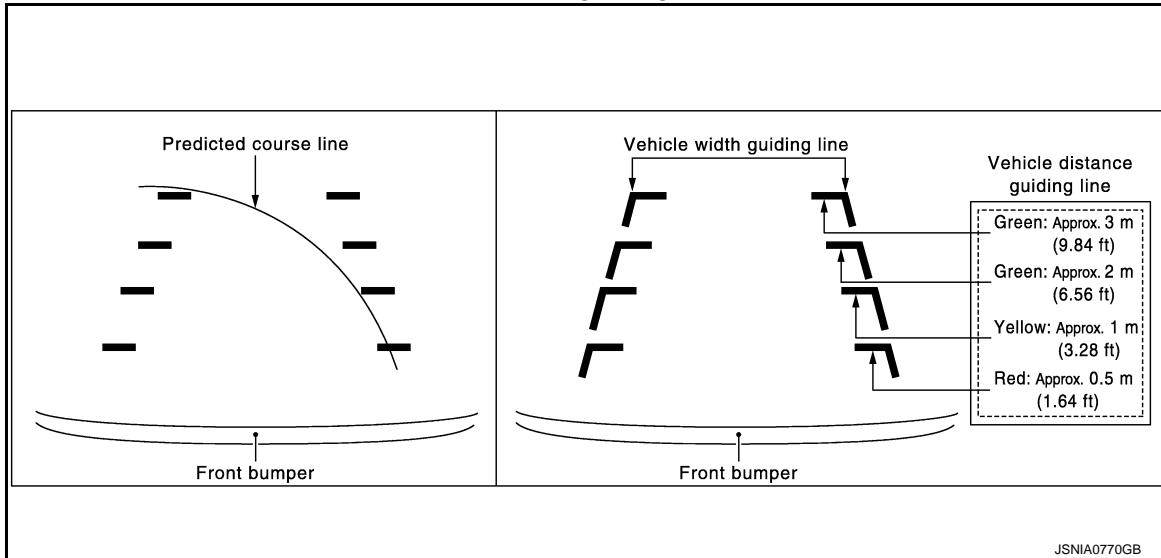
- The front view image is from the front camera.
- When the selector lever is in any position other than the reverse position, the front view is displayed by pressing the "CAMERA" switch. It improves the visibility of obstacles in front of the vehicle and helps driving by the images displayed from Birds-Eye 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.

# SYSTEM

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITHOUT NAVIGATION]

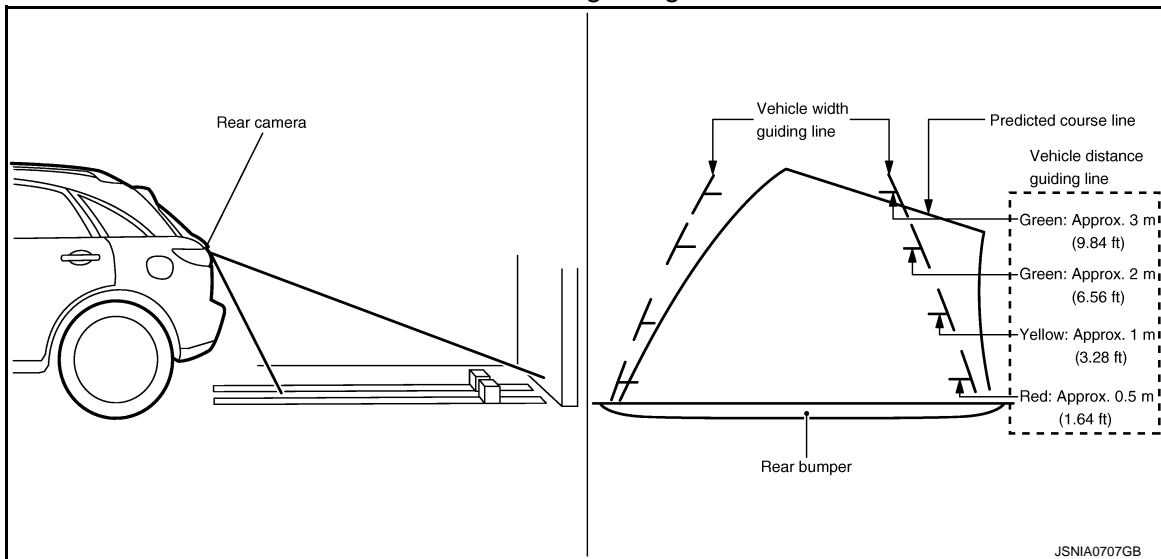
Front view guiding lines



## 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 degrees 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 displayed by turning the steering wheel and not displayed when steering wheel is in neutral position.
- The vehicle width guiding line is displayed on the rear view screen.
- 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 predicted 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 front guiding line and vehicle side guiding line.

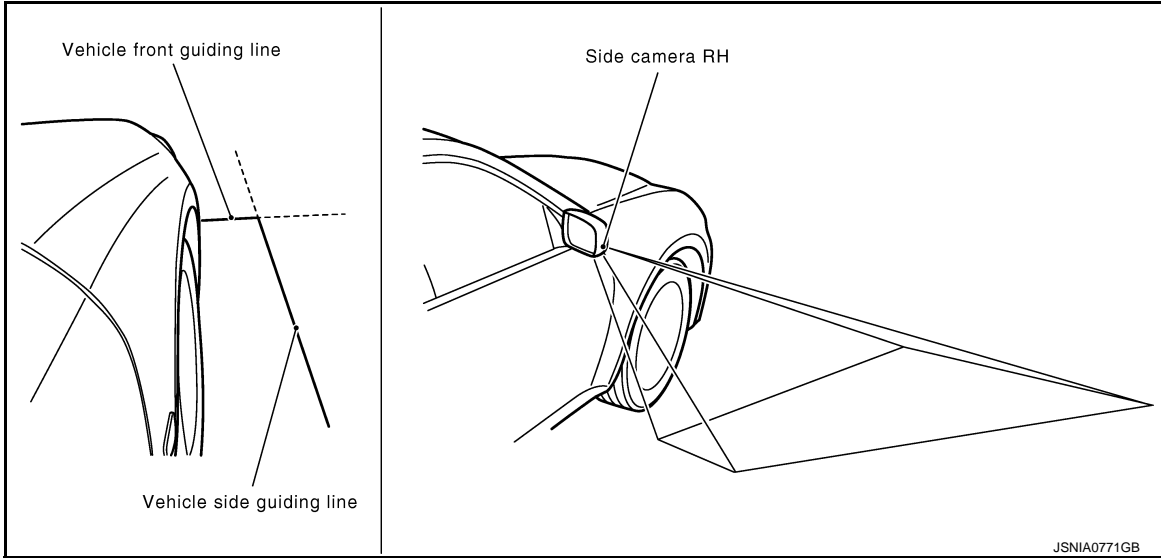


# SYSTEM

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[BOSE AUDIO WITHOUT NAVIGATION]

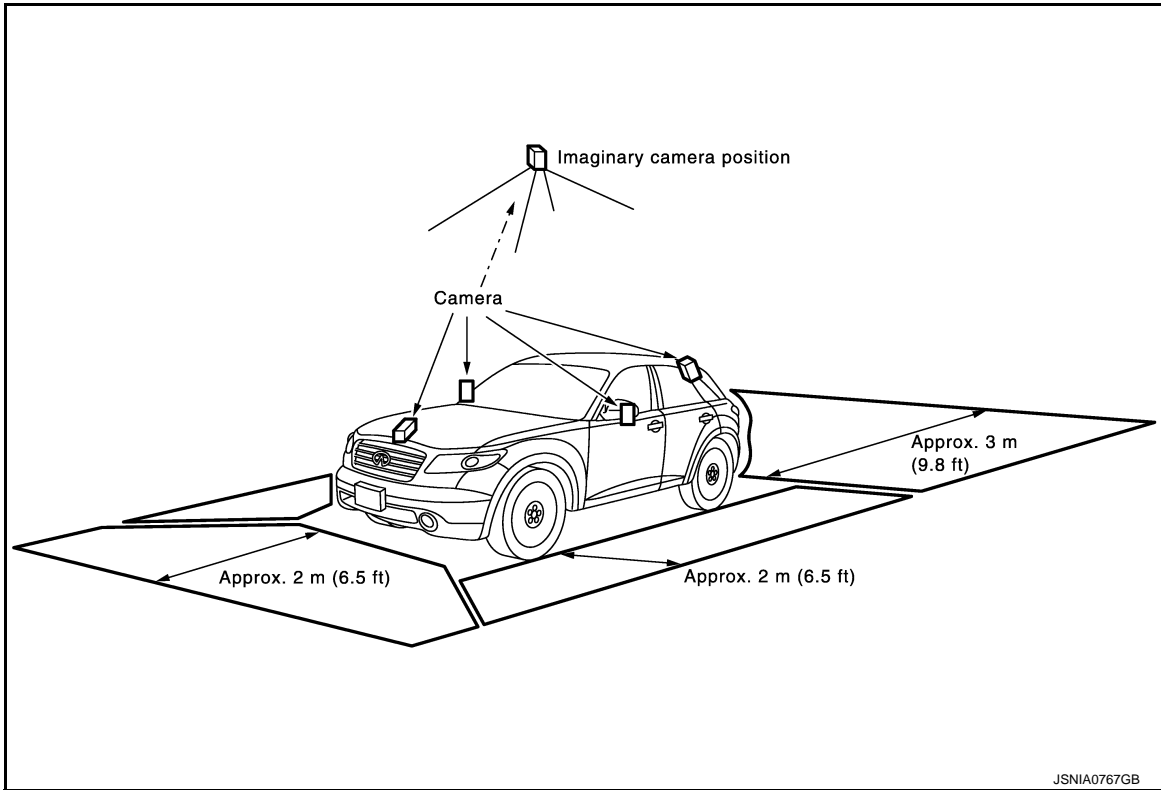
Front-side view area and guiding line



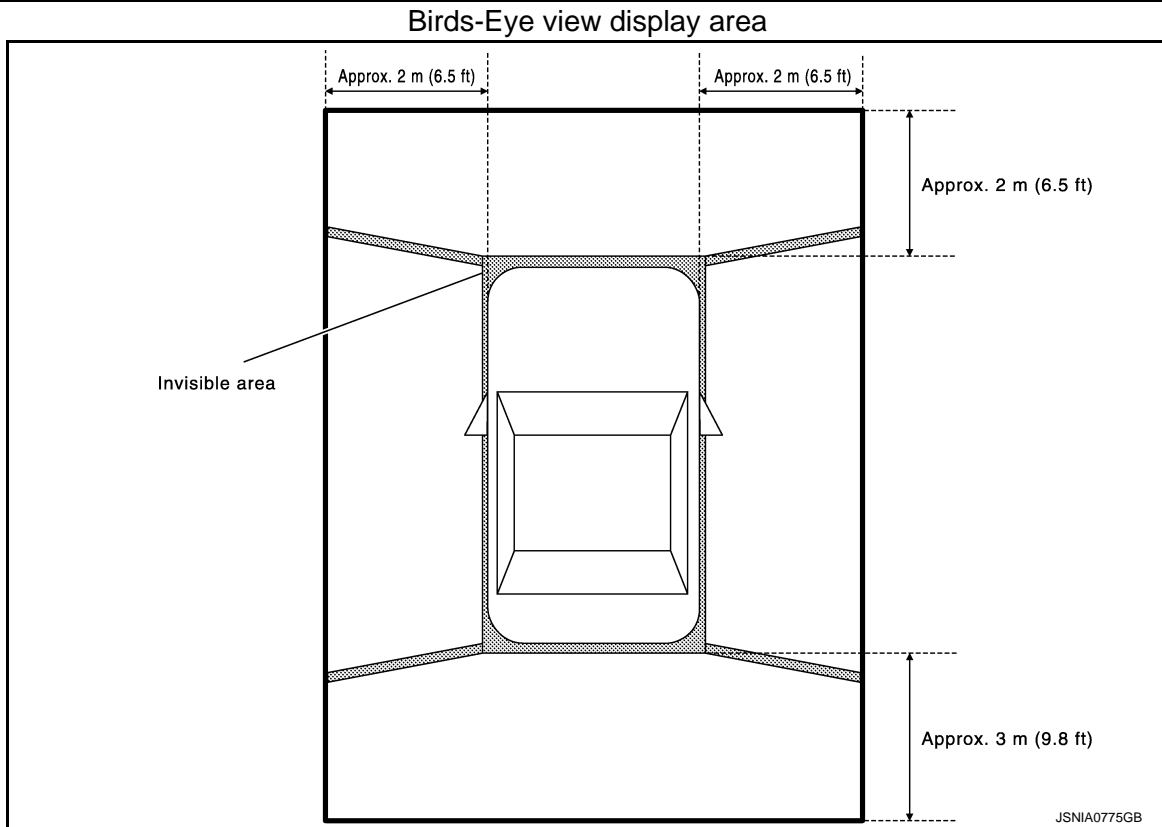
## BIRDS-EYE VIEW

- 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



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### 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 (built into sonar control unit) 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

- The around view monitor control unit transmits a sonar operating signal to the sonar control unit via AV communication to control the operations of the sonar indicator and sonar buzzer.
- When receiving a sonar operating signal from the around view monitor control unit, the sonar control unit transmits detection signals and detected distance signals to the around view monitor control unit via AV communication. The around view monitor control unit turns on the applicable sonar indicator.
- After receiving a sonar operation signal from the around view monitor control unit, the sonar control unit sounds its built-in buzzer according to detected distance signals received from each corner sensor.
- 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

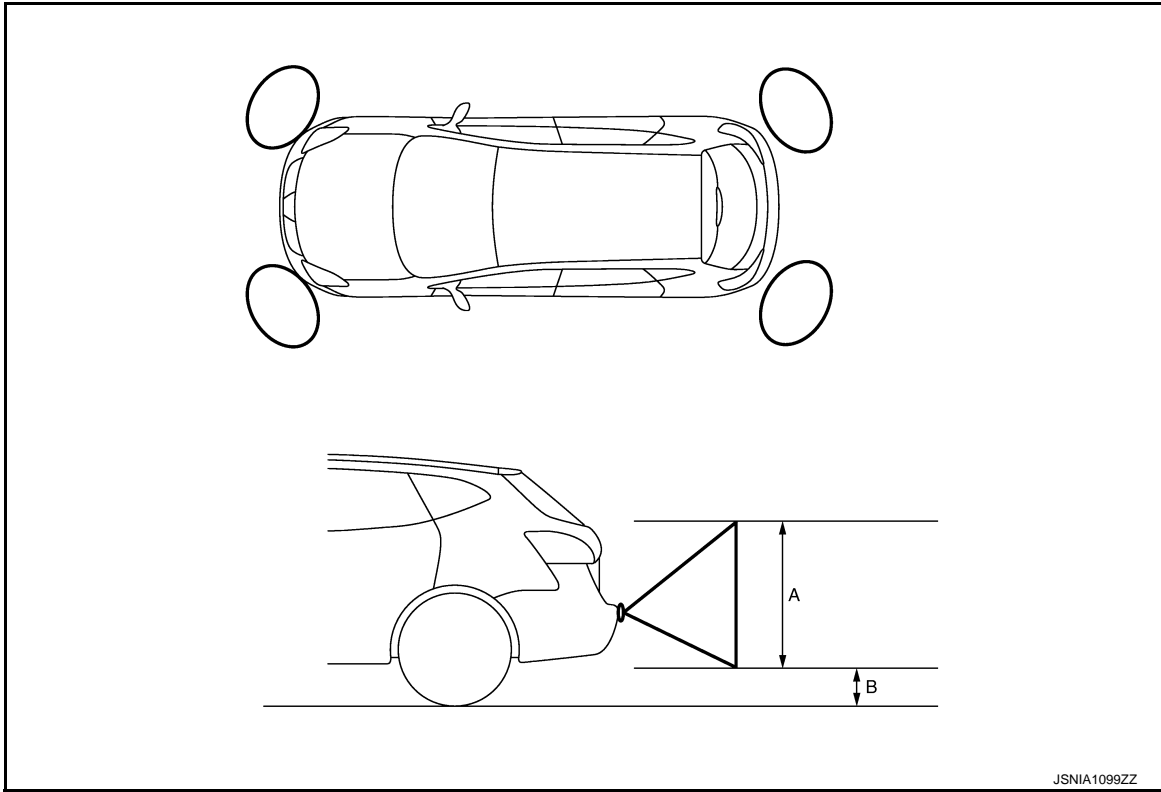
# SYSTEM

## < SYSTEM DESCRIPTION >

## [BOSE AUDIO WITHOUT NAVIGATION]

- 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

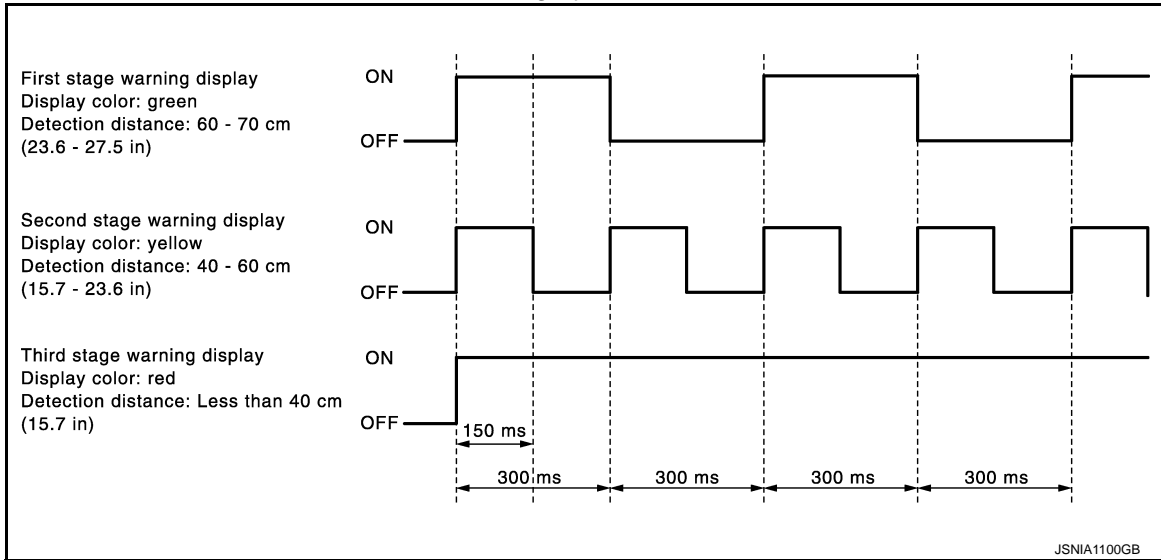
- Around view monitor control unit that receives the detection signal and detection distance signal from sonar control unit displays the sonar indicator on display.
- Around view monitor control unit changes the color or blinking cycle of the indicator according to the detection distance.

# SYSTEM

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITHOUT NAVIGATION]

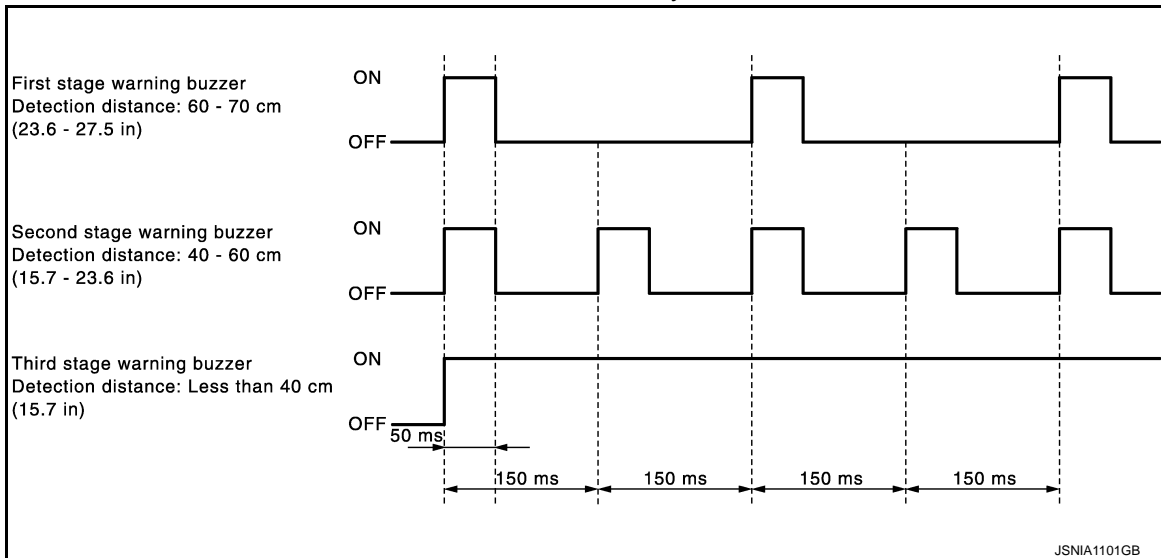
Color and blinking cycle of sonar indicator



## Sonar Buzzer Operation

- Each sonar sensor transmits a sensor signal to the sonar control unit when detecting an obstacle.
- The sonar control unit sounds the built-in buzzer according to detected distance signals from each corner sensor.
- The buzzer cycle changes in 3 stages according to the detection distance.

Sonar buzzer cycle



## 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 >

[BOSE AUDIO WITHOUT NAVIGATION]

## DIAGNOSIS SYSTEM (AV CONTROL UNIT)

### On Board Diagnosis Function

INFOID:000000009061524

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

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

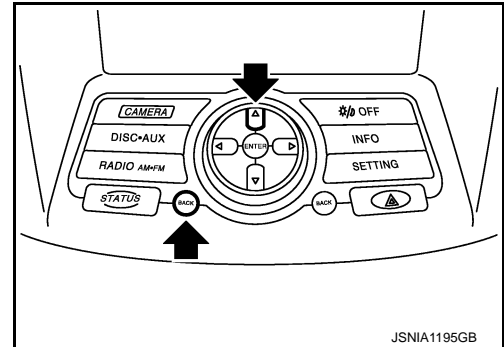
##### Self-diagnosis Mode

- Press the “BACK” switch and the “UP” switch of the 4-direction switches within 10 seconds after turning the ignition switch from OFF to ACC and hold them for 3 seconds or more. Then the buzzer sounds, all indicators of the preset switch illuminate, and the self-diagnosis mode starts.

- The continuity of each switch at the ON position can be checked by pressing the switch. The buzzer sounds if the switch is normal.

**NOTE:**

The 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 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 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>

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# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

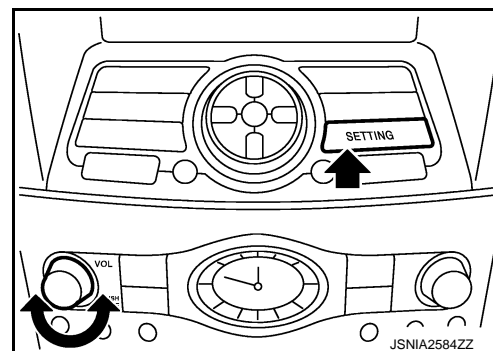
[BOSE AUDIO WITHOUT NAVIGATION]

< SYSTEM DESCRIPTION >

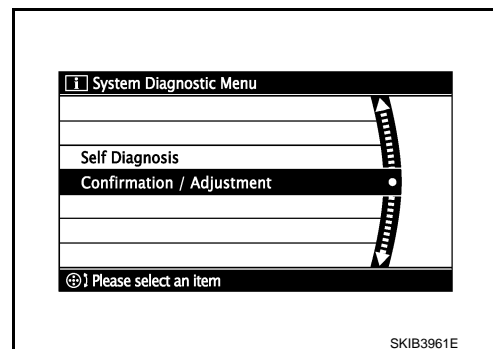
	Mode	Description
Confirmation/ Adjustment	Display Diagnosis	The following check functions are available: color tone check by color bar display and white display, light and shade check by gray scale display.
	Vehicle Signals	Diagnosis of signals can be performed for vehicle speed, parking brake, lights, 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.	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.
	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)

[BOSE AUDIO WITHOUT NAVIGATION]

## < SYSTEM DESCRIPTION >

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.

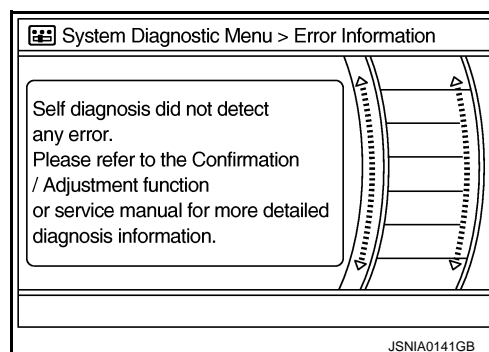
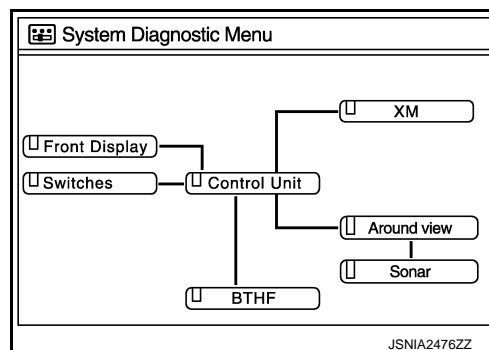
Diagnosis results	Unit	Connection line
Normal	Green	Green
Connection malfunction	Gray	Yellow
Unit malfunction <sup>Note</sup>	Red	Green

### NOTE:

Control unit (AV control unit) 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-315, "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)

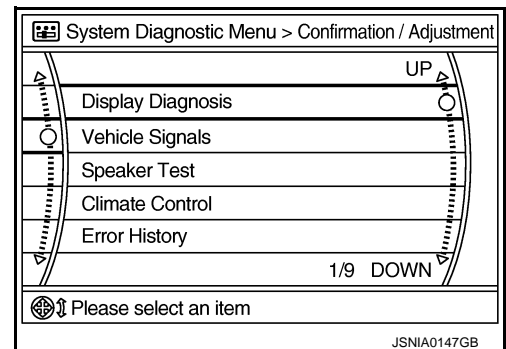
< SYSTEM DESCRIPTION >

[BOSE AUDIO 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 display unit.	Serial communication circuits between AV control unit and 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 ↔ AVM	Around view monitor control unit power supply and ground circuits are malfunctioning.	Around view monitor control unit power supply and ground circuits.
Around view ↔ Parking sensor	When either one of the following items is detected: <ul style="list-style-type: none"> <li>sonar control unit power supply and ground circuits are malfunctioning.</li> <li>AV communication circuits between around view monitor 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 around view monitor control unit and sonar control unit.</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 around view monitor 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 around view monitor control unit and TEL adapter unit.</li> </ul>
Control unit ↔ AVM Control unit ↔ BTHF	AV communication circuits between multi-function switch and around view monitor control unit are malfunctioning.	AV communication circuits between multi-function switch and around view monitor control unit.

## CONFIRMATION/ADJUSTMENT MODE

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



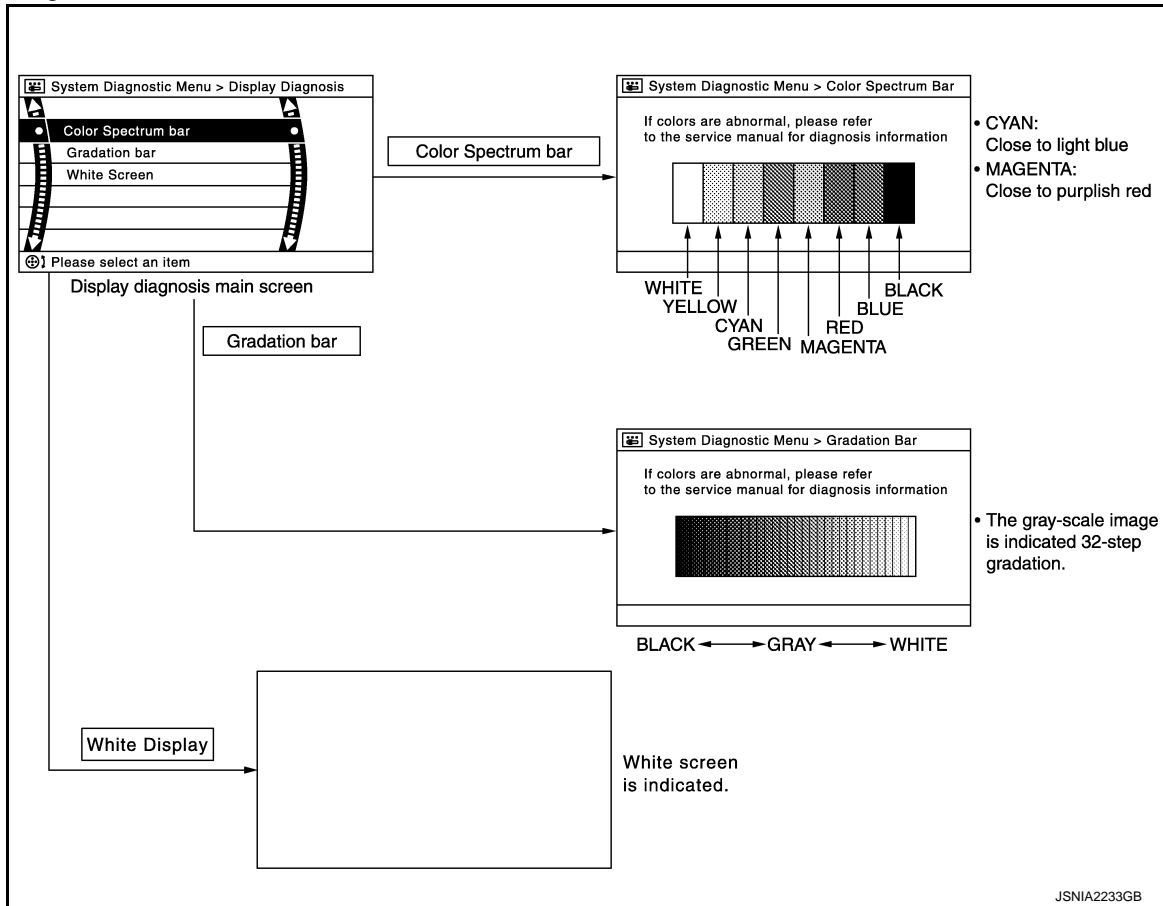


# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

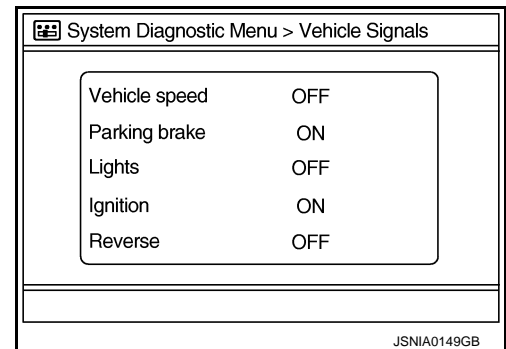
[BOSE AUDIO WITHOUT NAVIGATION]

## Display Diagnosis



## Vehicle Signals

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



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

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

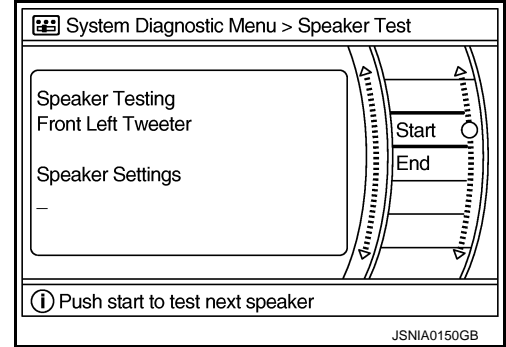
< SYSTEM DESCRIPTION >

[BOSE AUDIO 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.

#### Count up method B

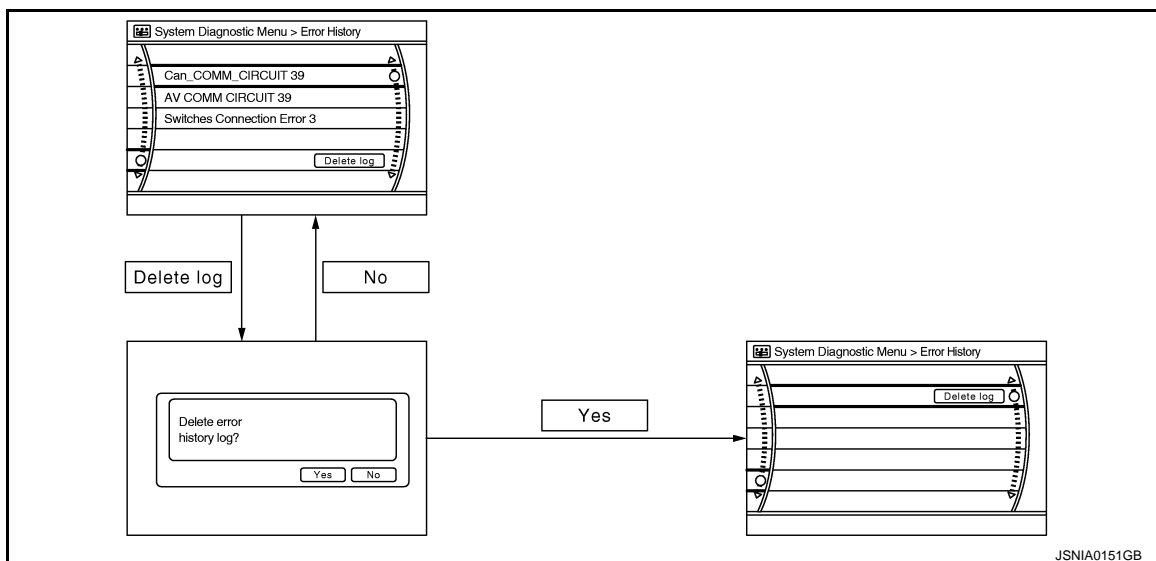
- The counter increases by 1 if an error occurs when ignition switch is ON. The counter will not decrease even if the condition is normal at the next ignition ON cycle.
- The counter upper limit is 50. Any counts exceeding 50 are ignored. The counter can be reset (no error record display) with the "Delete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

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

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[BOSE AUDIO 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, and then repair the malfunctioning parts according to the diagnosis results. Refer to <a href="#">AV-170. "CONSULT 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.
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-170. "CONSULT Function (MULTI AV)".</a>
Front Display Connection Error	When either one of the following items is detected: <ul style="list-style-type: none"> <li>display unit power supply and ground circuits malfunction is detected.</li> <li>malfunction is detected in communication circuits between AV control unit and display unit.</li> </ul>	<ul style="list-style-type: none"> <li>Display unit power supply and ground circuits.</li> <li>Communication circuits between AV control unit and display unit.</li> </ul>

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[BOSE AUDIO 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>• 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 is detected: <ul style="list-style-type: none"> <li>• sonar control unit power supply and ground circuits are malfunctioning.</li> <li>• AV communication circuits between around view monitor 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 around view monitor control unit and sonar control unit.</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 around view monitor 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 around view monitor control unit and TEL adapter unit.</li> </ul>
<ul style="list-style-type: none"> <li>• AV COMM CIRCUIT</li> <li>• AVM Connection Error</li> <li>• H/F Unit 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>• AVM 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 are malfunctioning.	AV communication circuits between AV control unit and multifunction switch.

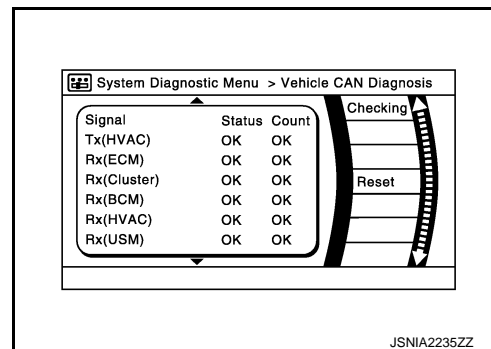
Camera Cont.

Refer to [AV-175. "Diagnosis Description"](#).

### 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



# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

[BOSE AUDIO WITHOUT NAVIGATION]

## < SYSTEM DESCRIPTION >

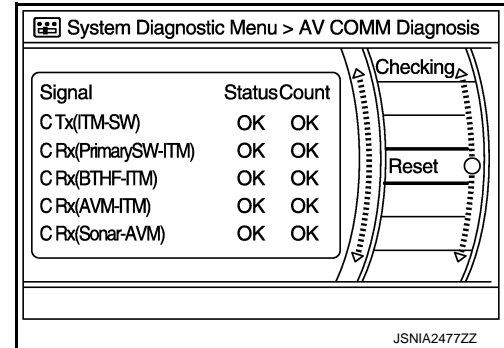
Items	Display (Current)	Malfunction counter (Past)
Rx(Cluster)	OK / ???	OK / 0 – 39
Rx(BCM)	OK / ???	OK / 0 – 39
Rx(HVAC)	OK / ???	OK / 0 – 39
Rx(USM)	OK / ???	OK / 0 – 39
Rx(STRG)	OK / ???	OK / 0 – 39

**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.



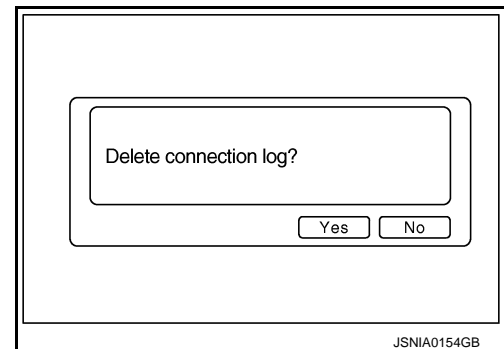
Items	Status (Current)	Counter (Past)
C Tx(ITM-SW)	OK / ???	OK / 0 – 39
C Rx(PrimarySW-ITM)	OK / ???	OK / 0 – 39
C Rx(BTHF-ITM)	OK / ???	OK / 0 – 39
C Rx(AVM-ITM)	OK / ???	OK / 0 – 39
C Rx(Sonar-AVM)	OK / ???	OK / 0 – 39

**NOTE:**

“???” indicates UNKWN.

### Delete Unit Connection Log

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

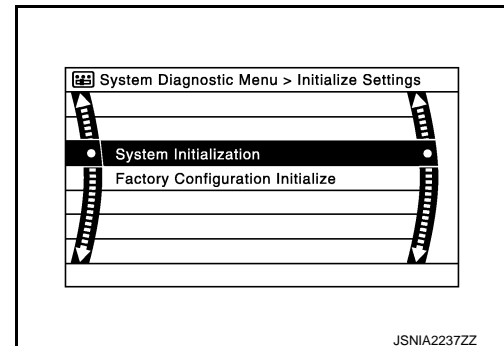


### Initialize Settings

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

**CAUTION:**

- **Never perform Accessory Number Initialization except when configuration is unsuccessful.**
- **Accessory Number Initialization requires configuration. For details, refer to [AV-232. "CONFIGURATION \(AV CONTROL UNIT\) : Description"](#).**



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P

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

[BOSE AUDIO WITHOUT NAVIGATION]

< SYSTEM DESCRIPTION >

## CONSULT Function (MULTI AV)

INFOID:000000009061525

### CONSULT FUNCTIONS

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

Diagnosis mode	Description
Ecu Identification	The part number of AV control unit can be checked.
Self Diagnostic Result	Performs a diagnosis on the AV control unit and a connection diagnosis for the communication circuit of the Multi AV system, and displays the current and past malfunctions collectively.
Data Monitor	The diagnosis of vehicle signal that is input to the AV control unit can be performed.
Work Support	Steering angle sensor can be adjusted.
Configuration	<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 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-240, "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.

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITHOUT NAVIGATION]

Error item	Description	Possible malfunction factor/Action to take
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>• Display unit power supply and ground circuits malfunction is detected.</li> <li>• Communication circuits between AV control unit and display unit.</li> </ul>	<ul style="list-style-type: none"> <li>• Display unit power supply and ground circuits.</li> <li>• Communication circuits between AV control unit and AV 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>
<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 around view monitor 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 around view monitor control unit and sonar control unit.</li> </ul>
<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 around view monitor 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 around view monitor control unit and TEL adapter unit.</li> </ul>
<ul style="list-style-type: none"> <li>• AV COMM CIRCUIT [U1300]</li> <li>• AROUND CAMERA CONN [U125B]</li> <li>• HAND FREE CONN [U1256]</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>• AROUND CAMERA CONN [U125B]</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

### NOTE:

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

### ALL SIGNALS

## DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITHOUT NAVIGATION]

- 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.

### CONFIGURATION

Configuration includes functions as follows.

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



# DIAGNOSIS SYSTEM (TEL ADAPTER UNIT)

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITHOUT NAVIGATION]

## DIAGNOSIS SYSTEM (TEL ADAPTER UNIT)

### Diagnosis Description

INFOID:000000009061526

#### 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.

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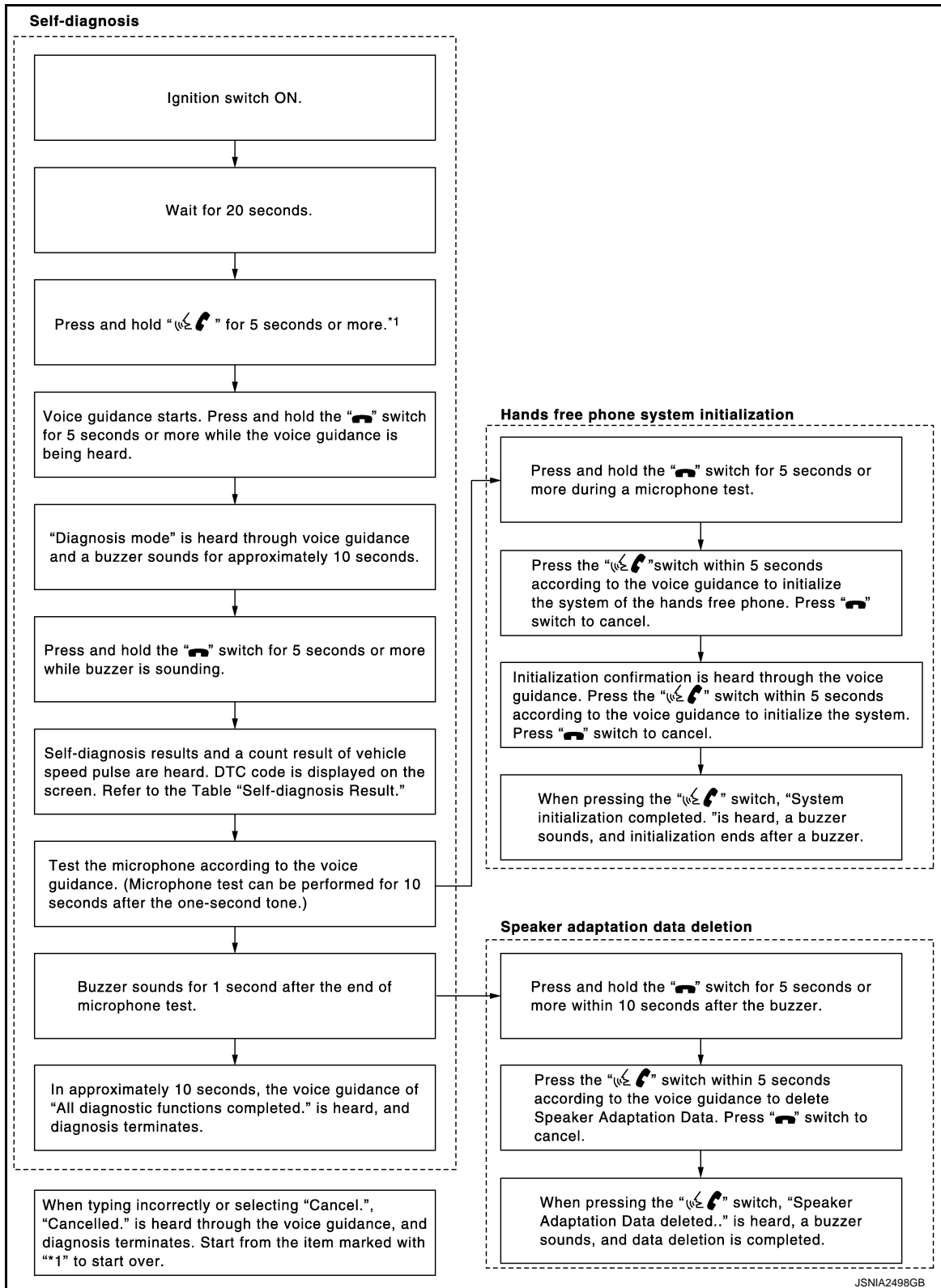
AV

# DIAGNOSIS SYSTEM (TEL ADAPTER UNIT)

[BOSE AUDIO WITHOUT NAVIGATION]

< SYSTEM DESCRIPTION >

## FLOW CHART OF TROUBLE DIAGNOSIS



# DIAGNOSIS SYSTEM (AROUND VIEW MONITOR CONTROL UNIT)

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITHOUT NAVIGATION]

## DIAGNOSIS SYSTEM (AROUND VIEW MONITOR CONTROL UNIT)

### Diagnosis Description

INFOID:000000009061527

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

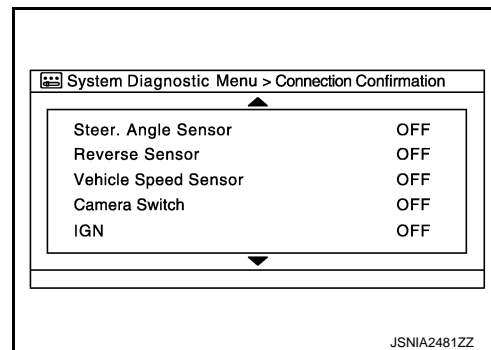
AV control unit Confirmation/Adjustment mode		Function	
Camera Cont.	Connection Confirmation	The status of signals input to around view monitor control unit can be checked.	
	Calibrating Camera Image	Rear Camera	Performs the calibration of rear camera.
		Pass-Side Camera	Performs the calibration of side 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	Input status of steering angle sensor is displayed by ON/OFF.
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 AV 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.
ILL	ON/OFF	Input status of illumination 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 >

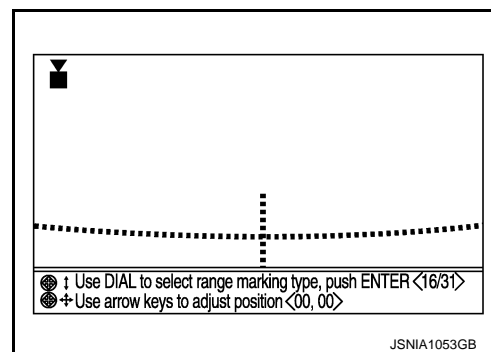
[BOSE AUDIO WITHOUT NAVIGATION]

Diagnosis item	Display	Description
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 (passenger side) image signal is displayed by OK/NG in real time.
Pass-Side Camera COMM Status	OK/NG	The communication status with side camera (passenger side) is displayed by OK/NG in real time.
Pass-Side Camera COMM Line	OK/NG	The status of communication line with side camera (passenger side) is displayed by OK/NG in real time.
Dr-Side Camera Image Output signal	OK/NG	The input status of side camera (driver side) image signal is displayed by OK/NG in real time.
Dr-Side Camera COMM Status	OK/NG	The communication status with side camera (driver side) is displayed by OK/NG in real time.
Dr-Side Camera COMM Line	OK/NG	The status of communication line with side camera (driver side) 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-234. "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Special Repair Requirement"](#) 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.

**CAUTION:**

# DIAGNOSIS SYSTEM (AROUND VIEW MONITOR CONTROL UNIT)

[BOSE AUDIO WITHOUT NAVIGATION]

## < SYSTEM DESCRIPTION >

\*: Never perform other operations for approximately 10 seconds after performing "Initialize Camera Image Calibration".

### Fine Tuning of Birds-Eye View

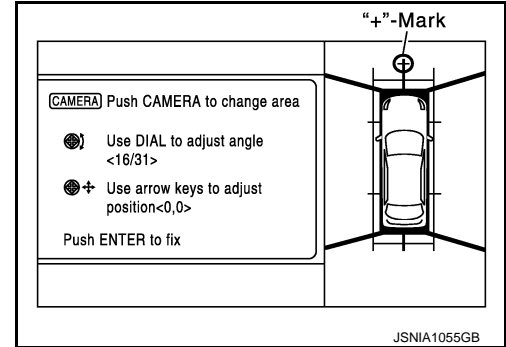
- The fine adjustment function of camera calibration can check and adjust the difference between each camera.
- Fine adjustments can be performed for each camera. Move the "+"-mark to select the camera by pressing the "CAMERA" switch.
- Perform the adjustment with the center dial and upper/lower/left/right 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".



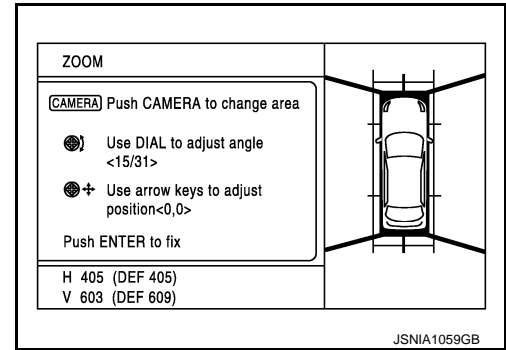
Adjustment range	
Rotating direction	: 31 patterns (16 on the center)
Upper/lower direction	: -99 - 99
Left/right direction	: -99 - 99

### 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:

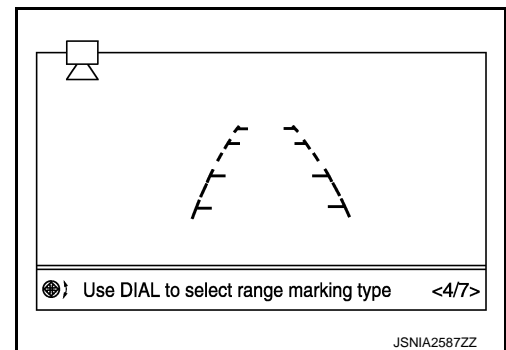
- When the position is not correct in "Fine Tuning of Birds-Eye View" mode, use this "ZOOM" function to adjust it.
- If this function is used, always adjust the upper/lower/left/right position again on the "Fine Tuning of Birds-Eye View" screen.



### 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 (WITH AROUND VIEW MONITOR)]

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITHOUT NAVIGATION]

## DIAGNOSIS SYSTEM [SONAR CONTROL UNIT (WITH AROUND VIEW MONITOR)]

### CONSULT Function (SONAR)

INFOID:000000009061528

#### DESCRIPTION

CONSULT 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-204, "DTC Index"](#).

#### DATA MONITOR

##### NOTE:

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

Monitor Item	Display	Description
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.

# DIAGNOSIS SYSTEM [SONAR CONTROL UNIT (WITH AROUND VIEW MONITOR)]

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITHOUT NAVIGATION]

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)

The default of this model is "FAR".

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AV

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITHOUT NAVIGATION]

## ECU DIAGNOSIS INFORMATION

### AV CONTROL UNIT

#### Reference Value

INFOID:000000009061529

#### VALUES ON THE DIAGNOSIS TOOL

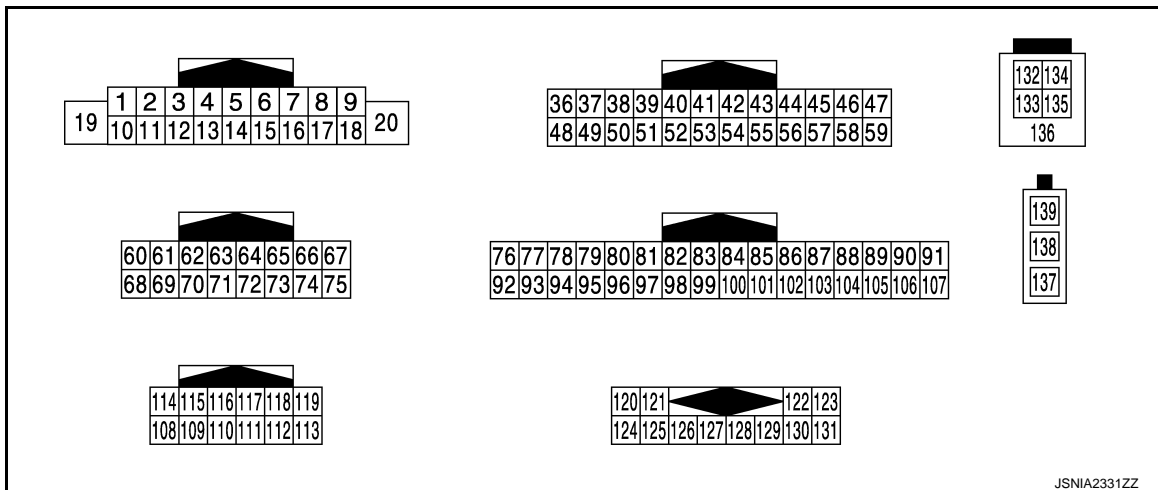
**NOTE:**

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

CONSULT MONITOR ITEM

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



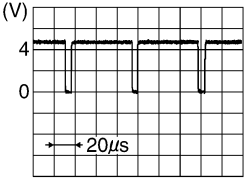
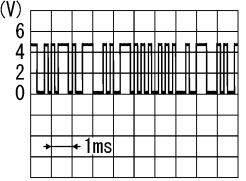
#### PHYSICAL VALUES



# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITHOUT NAVIGATION]

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
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 (BG)	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	—	 <small>SKIB3601E</small>
39 (BR)	Ground	Communication signal (DISP→CONT)	Input	Ignition switch ON	When adjusting display brightness.	 <small>PKIB5039J</small>

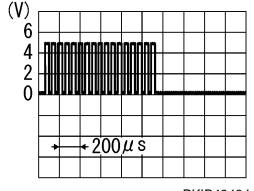
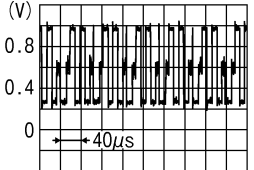
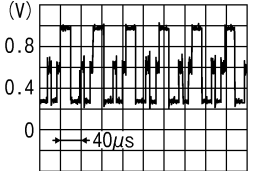
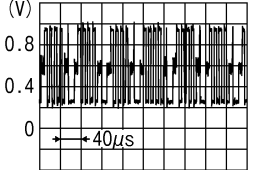
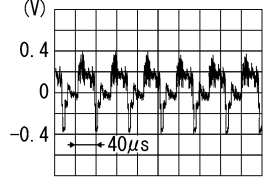
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AV

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

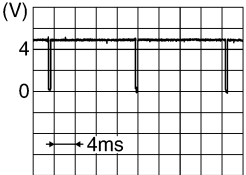
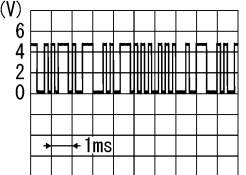
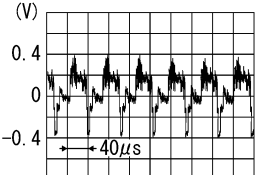
[BOSE AUDIO WITHOUT NAVIGATION]

Terminal (Wire color)		Description		Condition	Reference value (Approx.)
+	-	Signal name	Input/ Output		
40 (B)	Ground	RGB area (YS) signal	Output	Ignition switch ON	At RGB image is displayed. 5.0 V
				At camera image is displayed.	 <p style="text-align: right; font-size: small;">PKIB4948J</p>
41	—	Shield	—	—	—
42 (W)	Ground	RGB synchronizing signal	Output	Ignition switch ON	—
43 (G)	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.
					 <p style="text-align: right; font-size: small;">JSNIA1029ZZ</p>
44 (L)	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.
					 <p style="text-align: right; font-size: small;">JSNIA1030ZZ</p>
45 (P)	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.
					 <p style="text-align: right; font-size: small;">JSNIA1031ZZ</p>
46 (V)	Ground	Composite image signal ground	—	Ignition switch ON	—
47 (SB)	Ground	Composite image signal	Output	Ignition switch ON	At camera image is displayed.
					 <p style="text-align: right; font-size: small;">SKIB2251J</p>

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITHOUT NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
48 (Y)	Ground	Inverter VCC	Output	Ignition switch ACC	—	8.8 V
49 (BR)	Ground	Inverter ground	—	Ignition switch OFF	—	0 V
50 (G)	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	—	—	—	—
62 (W)	Ground	Camera image signal	Input	Ignition switch ON	At camera image is dis- played.	 SKIB2251J
71	—	Shield	—	—	—	—
76 (LG)	—	AV communication signal (L)	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 (B)	Ground	Switch ground	—	Ignition switch ON	—	0 V
86	—	Shield	—	—	—	—

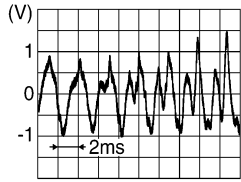
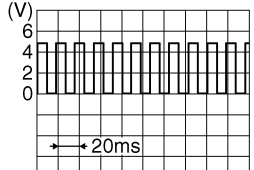
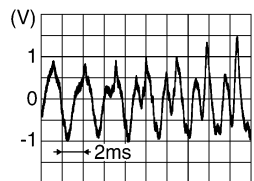
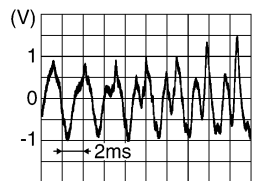
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AV

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

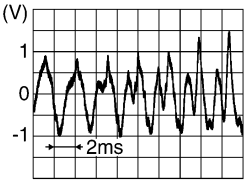
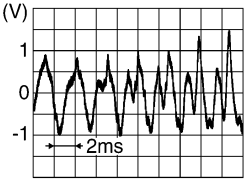
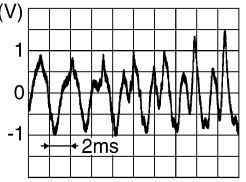
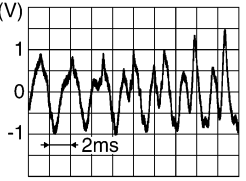
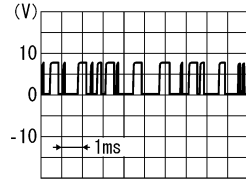
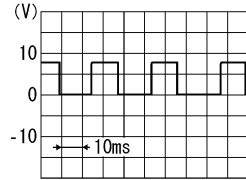
[BOSE AUDIO WITHOUT NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
87 (L)	88 (P)	TEL voice signal	Input	Ignition switch ON	During voice guide output with the  switch pressed.	 <small>SKIB3609E</small>
92 (R)	Ground	Vehicle speed signal (8- pulse)	Input	Ignition switch ON	When vehicle speed is ap- prox. 40 km/h (25 MPH)	<p><b>NOTE:</b> Maximum voltage may be 12.0 V due to specifications (connected units).</p>  <small>SKIA6649J</small>
93 (V)	Ground	Parking brake signal	Input	Ignition switch ON	Parking brake is ON.	4.5 V
					Parking brake is OFF.	0 V
94 (BG)	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 (Y)	Ground	Disk eject signal	Input	Ignition switch ON	Pressing the eject switch.	0 V
					Except for above.	5.0 V
108 (V)	114 (LG)	Sound signal rear RH	Output	Ignition switch ON	Sound output.	 <small>SKIB3609E</small>
109 (P)	115 (L)	Sound signal front RH	Output	Ignition switch ON	Sound output.	 <small>SKIB3609E</small>
110 (W)	Ground	Amp. ON signal	Output	Ignition switch ACC	—	12.0 V
111 (B)	—	Shield	—	—	—	—

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITHOUT NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
112 (BR)	118 (Y)	Sound signal rear LH	Output	Ignition switch ON	Sound output.	 <p style="text-align: right; font-size: small;">SKIB3609E</p>
113 (R)	119 (G)	Sound signal front LH	Output	Ignition switch ON	Sound output.	 <p style="text-align: right; font-size: small;">SKIB3609E</p>
120 (B)	124 (W)	Satellite radio sound signal LH	Input	Ignition switch ON	When satellite radio mode is selected.	 <p style="text-align: right; font-size: small;">SKIB3609E</p>
121 (G)	125 (R)	Satellite radio sound signal RH	Output	Ignition switch ON	When satellite radio mode is selected	 <p style="text-align: right; font-size: small;">SKIB3609E</p>
122 (B)	Ground	Communication signal (CONT→SAT)	Output	Ignition switch ON	When satellite radio mode is selected.	 <p style="text-align: right; font-size: small;">SKIA9300J</p>
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.	 <p style="text-align: right; font-size: small;">SKIA9299J</p>

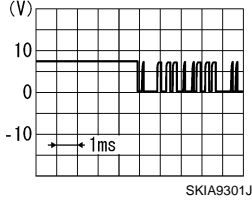
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AV

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITHOUT NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
130 (R)	Ground	Communication signal (SAT→CONT)	Input	Ignition switch ON	When satellite radio mode is selected.	
132 (G)	—	USB ground	—	—	—	—
133 (R)	—	USB D- signal	—	—	—	—
134 (W)	—	V BUS signal	—	—	—	—
135 (L)	—	USB D+ signal	—	—	—	—
136	—	Shield	—	—	—	—
137	—	FM sub	Input	—	—	—
138	—	AM-FM main	Input	—	—	—
139	Ground	Antenna amp. ON signal	Input	Ignition switch ON	—	12.0 V

## DTC Index

INFOID:000000009061530

## SELF-DIAGNOSIS RESULTS DISPLAY ITEM

DTC	Display item	Refer to
U1000	CAN COMM CIRCUIT [U1000]	<a href="#">AV-240, "Diagnosis Procedure"</a>
U1010	CONTROL UNIT (CAN) [1010]	<a href="#">AV-241, "DTC Logic"</a>
U1200	Cont Unit [U1200]	<a href="#">AV-242, "DTC Logic"</a>
U1216	CAN CONT [U1216]	<a href="#">AV-243, "DTC Logic"</a>
U121D	DSP CONN [U121D]	<a href="#">AV-244, "Diagnosis Procedure"</a>
U121E	DSP COMM [U121E]	<a href="#">AV-245, "Diagnosis Procedure"</a>
U1225	USB CONTROLLER [U1225]	<a href="#">AV-246, "DTC Logic"</a>
U1228	SUB CPU CONN [U1228]	<a href="#">AV-247, "DTC Logic"</a>
U1229	iPod CERTIFICATION [U1229]	<a href="#">AV-248, "DTC Logic"</a>
U122A	CONFIG UNFINISH [U122A]	<a href="#">AV-249, "Diagnosis Procedure"</a>
U122E	Built-in AUDIO CONN [U122E]	<a href="#">AV-250, "DTC Logic"</a>
U1232	ST ANGLE SEN CALIB [1232]	<a href="#">AV-251, "Diagnosis Procedure"</a>
U1243	FRONT DISP CONN [U1243]	<a href="#">AV-252, "DTC Logic"</a>
U1255	SAT CONN [U1255]	<a href="#">AV-254, "DTC Logic"</a>
U1263	USB OVERCURRENT [U1263]	<a href="#">AV-256, "Diagnosis Procedure"</a>
U1310	CONTROL UNIT (AV) [U1310]	<a href="#">AV-258, "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-257, "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-257, "Description"</a>

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITHOUT NAVIGATION]

DTC	Display item	Refer to
U1300 U125C	<ul style="list-style-type: none"> <li>• AV COMM CIRCUIT [U1300]</li> <li>• SONAR CONN [U125C]</li> </ul>	<a href="#">AV-257, "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-257, "Description"</a>
U1300 U125B U1256	<ul style="list-style-type: none"> <li>• AV COMM CIRCUIT [U1300]</li> <li>• AROUND CAMERA CONN [U125B]</li> <li>• HAND FREE CONN [U1256]</li> </ul>	<a href="#">AV-257, "Description"</a>
U1300 U1240 U125B U1256	<ul style="list-style-type: none"> <li>• AV COMM CIRCUIT [U1300]</li> <li>• SWITCH CONN [U1240]</li> <li>• AROUND CAMERA CONN [U125B]</li> <li>• HAND FREE CONN [U1256]</li> </ul>	<a href="#">AV-257, "Description"</a>

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# DISPLAY UNIT

< ECU DIAGNOSIS INFORMATION >

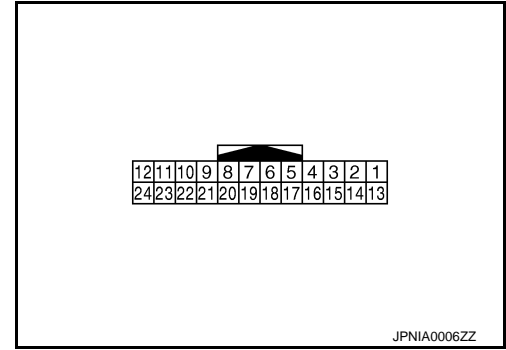
[BOSE AUDIO WITHOUT NAVIGATION]

## DISPLAY UNIT

Reference Value

INFOID:000000009061531

TERMINAL LAYOUT



## PHYSICAL VALUES

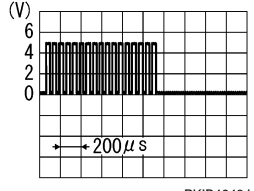
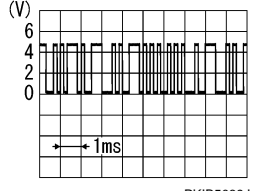
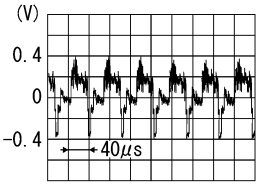
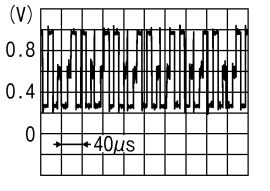
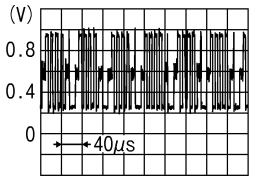
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
1 (B)	Ground	Ground	—	Ignition switch ON	—	0 V
2 (Y)	Ground	Inverter VCC	Input	Ignition switch ACC	—	8.8 V
3 (BG)	Ground	Signal VCC	Input	Ignition switch ACC	—	8.8 V
4 (V)	Ground	Composite image signal ground	—	Ignition switch ON	—	0 V
5	—	Shield	—	—	—	—
6 (L)	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 style="text-align: right;">JSNIA1030ZZ</p>
7	—	Shield	—	—	—	—
8 (R)	Ground	Horizontal synchronizing (HP) signal	Output	Ignition switch ON	—	<p style="text-align: right;">SKIB3601E</p>



# DISPLAY UNIT

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITHOUT NAVIGATION]

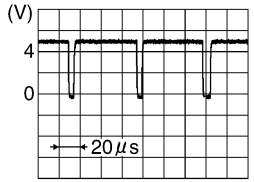
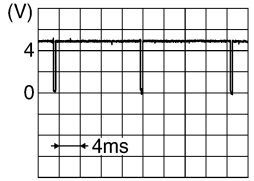
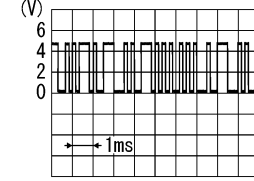
Terminal (Wire color)		Description		Condition	Reference value (Approx.)
+	-	Signal name	Input/ Output		
9 (B)	Ground	RGB area (YS) signal	Input	Ignition switch ON	At RGB image is displayed. 5.0 V
				Ignition switch ON	At camera image is displayed.  PKIB4948J
11 (Y)	Ground	Communication signal (CONT→DISP)	Input	Ignition switch ON	When adjusting display brightness.  PKIB5039J
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.  SKIB2251J
17 (G)	Ground	RGB signal (R: red)	Input	Ignition switch ON	Start Confirmation/Adjustment mode, and then display color bar by selecting "Color Spectrum Bar" on Display Diagnosis screen.  JSNIA1029ZZ
18 (P)	Ground	RGB signal (B: blue)	Input	Ignition switch ON	Start Confirmation/Adjustment mode, and then display color bar by selecting "Color Spectrum Bar" on Display Diagnosis screen.  JSNIA1031ZZ

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# DISPLAY UNIT

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITHOUT NAVIGATION]

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

# BOSE AMP.

< ECU DIAGNOSIS INFORMATION >

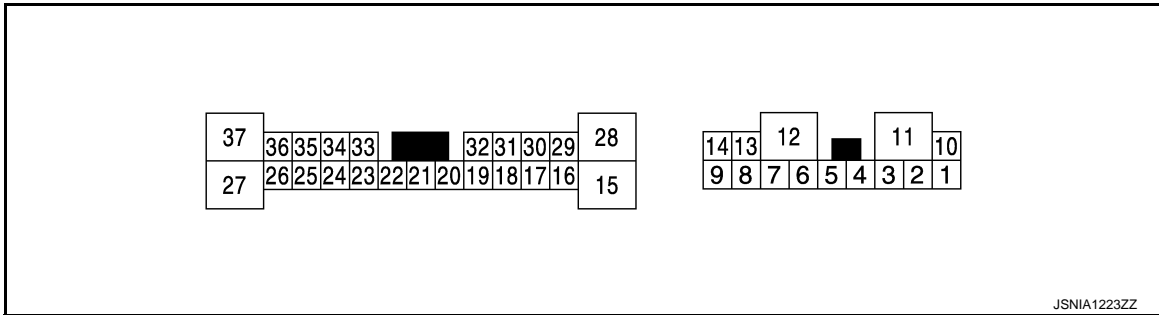
[BOSE AUDIO WITHOUT NAVIGATION]

## BOSE AMP.

Reference Value

INFOID:000000009061532

### 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 (B)	5 (P)	Sound signal front door speaker LH	Output	Ignition switch ON	Sound output.	<p>SKIB3609E</p>
6 (L)	7 (W)	Sound signal front squawk- er LH	Output	Ignition switch ON	Sound output.	<p>SKIB3609E</p>

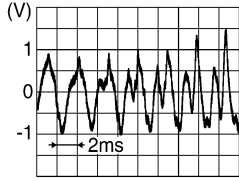
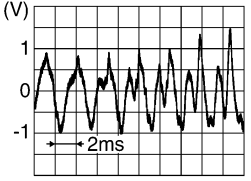
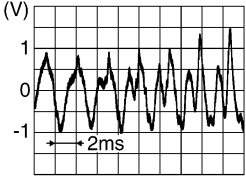
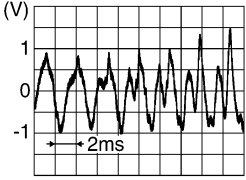
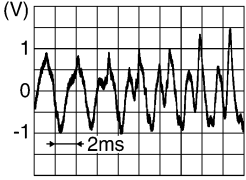
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# BOSE AMP.

< ECU DIAGNOSIS INFORMATION >

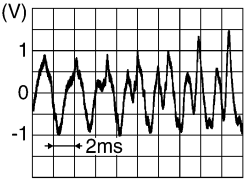
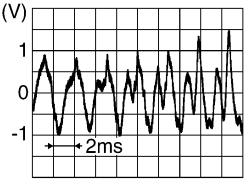
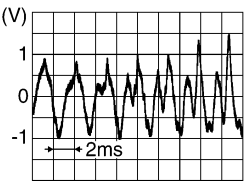
[BOSE AUDIO WITHOUT NAVIGATION]

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 (LH and RH)	Output	Ignition switch ON	Sound output.	 SKIB3609E
11 (GR)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
12 (B)	Ground	Ground	—	Ignition switch ON	—	0 V
15 (B)	28 (G)	Sound signal center speaker	Output	Ignition switch ON	Sound output.	 SKIB3609E
17 (W)	Ground	Mode change signal	Input	Ignition switch ON	Driver's Audio Stage ON	0 V
				Ignition switch ON	Driver's Audio Stage OFF	8.5 V
18 (R)	32 (G)	Sound signal front LH	Input	Ignition switch ON	Sound output.	 SKIB3609E
19 (P)	20 (L)	Sound signal front RH	Input	Ignition switch ON	Sound output.	 SKIB3609E

# BOSE AMP.

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITHOUT NAVIGATION]

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

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# SATELLITE RADIO TUNER

< ECU DIAGNOSIS INFORMATION >

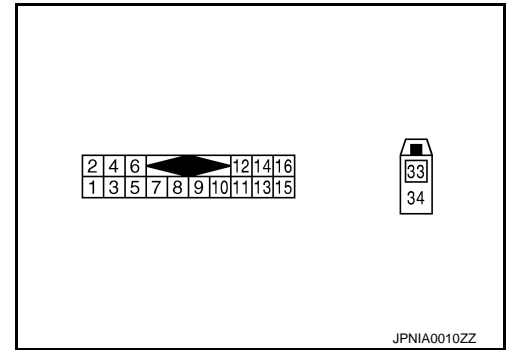
[BOSE AUDIO WITHOUT NAVIGATION]

## SATELLITE RADIO TUNER

### Reference Value

INFOID:000000009061533

### TERMINAL LAYOUT



### PHYSICAL VALUES

Terminal		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/Output			
2 (R)	1 (G)	Satellite radio sound signal LH	Output	Ignition switch ON	When satellite radio mode is selected.	<p>SKIB3609E</p>
4 (B)	3 (W)	Satellite radio sound signal RH	Output	Ignition switch ON	When satellite radio mode is selected	<p>SKIB3609E</p>
5	—	Shield	—	—	—	—
6	—	Shield	—	—	—	—
8 (L)	Ground	Request signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected.	<p>SKIA9299J</p>
9 (P)	Ground	Communication signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected.	<p>SKIA9300J</p>

# SATELLITE RADIO TUNER

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITHOUT NAVIGATION]

Terminal		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/Output			
10 (G)	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

< ECU DIAGNOSIS INFORMATION >

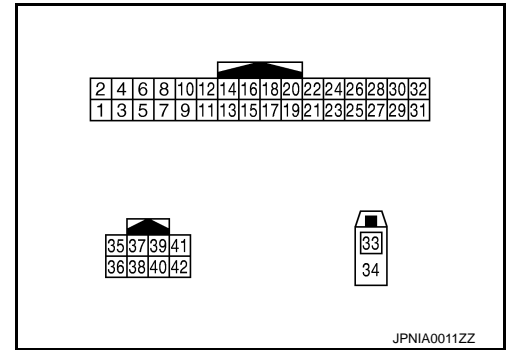
[BOSE AUDIO WITHOUT NAVIGATION]

## TEL ADAPTER UNIT

Reference Value

INFOID:000000009061534

TERMINAL LAYOUT



PHYSICAL VALUES

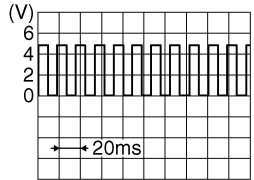
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
1 (GR)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
2 (LG)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
3 (W)	Ground	Ignition signal	Input	Ignition switch ON	—	Battery voltage
4 (B)	Ground	Ground	—	Ignition switch ON	—	0 V
7 (BR)	8	Microphone signal	Input	Ignition switch ON	Give a voice.	<p>PKIB5037J</p>
9	10 (W)	TEL voice signal	Output	Ignition switch ON	During voice guide output with the  switch pressed.	<p>SKIB3609E</p>
22 (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 >

[BOSE AUDIO 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 (P)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is ap- prox. 40 km/h (25 MPH)	<p><b>NOTE:</b> Maximum voltage may be 12.0 V due to specifications (connected units).</p>  <p style="text-align: right; font-size: small;">SKIA6649J</p>
29 (Y)	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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# AROUND VIEW MONITOR CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

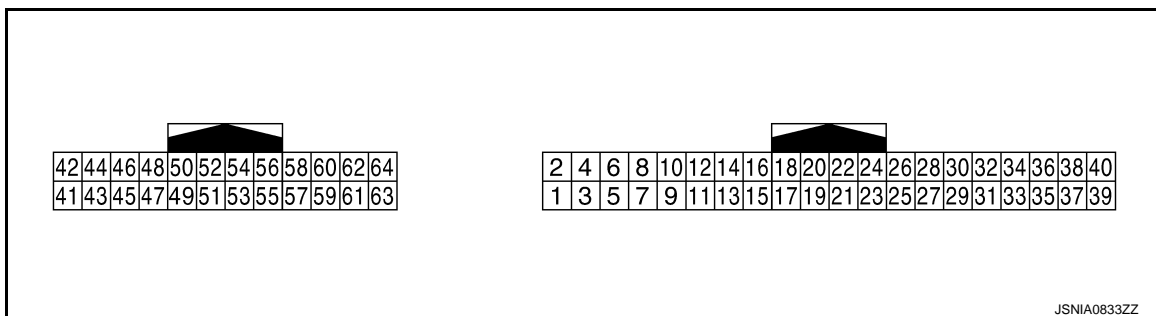
[BOSE AUDIO WITHOUT NAVIGATION]

## AROUND VIEW MONITOR CONTROL UNIT

Reference Value

INFOID:000000009061535

### TERMINAL LAYOUT



JSNIA0833ZZ

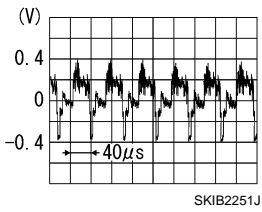
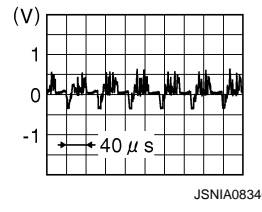
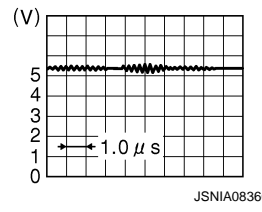
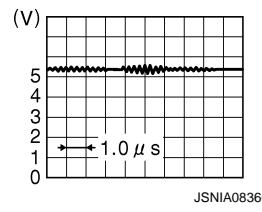
### PHYSICAL VALUES

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 (P)	Ground	Ignition signal	Input	Ignition switch ON	—	Battery voltage
4 (GR)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
5 (BG)	Ground	Illumination signal	Input	Ignition switch OFF	Lighting switch is OFF.	0 V
					Lighting switch is ON.	12.0 V
6 (SB)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH).	<p><b>NOTE:</b> The maximum voltage varies depending on the specification (destination unit).</p> <p style="text-align: right;">JSNIA0012GB</p>
7 (V)	Ground	Reverse signal	Input	Ignition switch ON	Shift the selector lever to "R" position.	12.0 V
					Shift the selector lever other than "R" position.	0 V
9 (V)	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 >

[BOSE AUDIO WITHOUT NAVIGATION]

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)	—	—	—	—	—	—
27 (W)	Ground	Camera image signal	Output	Ignition switch ON	At camera image is displayed.	
28	—	Shield (camera image signal ground)	—	—	—	—
29 (Y)	30 (G)	Side camera RH image signal	Input	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	
31	—	Shield	—	—	—	—
32 (B)	Ground	Side camera RH ground	—	Ignition switch ON	—	0 V
33 (W)	Ground	Side camera RH communication signal	Input/ Output	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	
34 (R)	Ground	Side camera RH power supply	Output	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	6.0 V
35 (L)	Ground	Rear camera communication signal	Input/ Output	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	

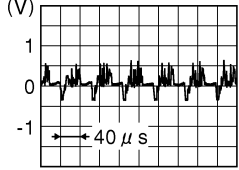
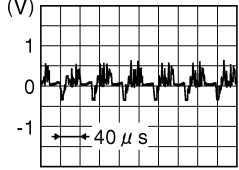
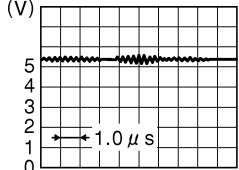
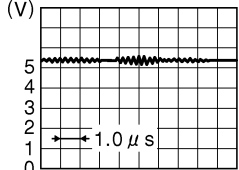
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# AROUND VIEW MONITOR CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

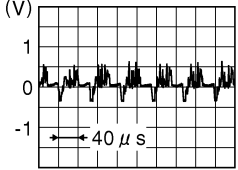
[BOSE AUDIO WITHOUT NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
36 (BR)	Ground	Rear camera power supply	Output	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	6.0 V
37	—	Shield	—	—	—	—
38 (R)	Ground	Rear camera ground	—	Ignition switch ON	—	0 V
39 (Y)	40 (W)	Rear camera image signal	Input	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	 <p style="text-align: right; font-size: small;">JSNIA0834GB</p>
41 (Y)	42 (G)	Front camera image signal	Input	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	 <p style="text-align: right; font-size: small;">JSNIA0834GB</p>
43	—	Shield	—	—	—	—
44 (B)	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".	 <p style="text-align: right; font-size: small;">JSNIA0836GB</p>
46 (R)	Ground	Front camera power supply	Output	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	6.0 V
47 (L)	Ground	Side camera LH communica- tion signal	Input/ Output	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	 <p style="text-align: right; font-size: small;">JSNIA0836GB</p>
48 (BR)	Ground	Side camera LH 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 >

[BOSE AUDIO WITHOUT NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
50 (R)	Ground	Side camera LH ground	—	Ignition switch ON	—	0 V
51 (Y)	52 (W)	Side camera LH image signal	Input	Ignition switch ON	“CAMERA” switch is ON or shift position is “R”.	 <p style="text-align: right; font-size: small;">JSNIA0834GB</p>

\*: This harness is not used.

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# SONAR CONTROL UNIT (WITH AROUND VIEW MONITOR)

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITHOUT NAVIGATION]

## SONAR CONTROL UNIT (WITH AROUND VIEW MONITOR)

### Reference Value

INFOID:000000009061536

### VALUES ON THE DIAGNOSIS TOOL

**NOTE:**

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

CONSULT MONITOR ITEM

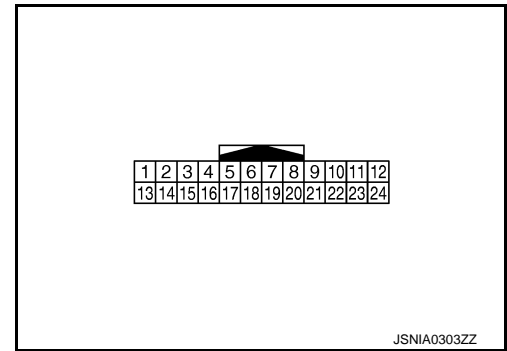
Monitor Item	Condition		Value/Status
SONAR OPE	Ignition switch ON	Around view monitor operating (sonar operating).	On
		Around view monitor non-operating (sonar non-operating).	Off
BUZZER OUTPUT	Ignition switch ON	Buzzer is output condition.	On
		Buzzer is not output condition.	Off
CR SEN [FL]	Ignition 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 >

[BOSE AUDIO WITHOUT NAVIGATION]

## TERMINAL LAYOUT



## PHYSICAL VALUES

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
3 (R)	12 (B)	Corner sensor signal front LH	Input	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	<p style="text-align: right; font-size: small;">JSNIA0837GB</p>
4 (W)	12 (B)	Corner sensor signal front RH	Input	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	<p style="text-align: right; font-size: small;">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 style="text-align: right; font-size: small;">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 style="text-align: right; font-size: small;">JSNIA0837GB</p>
12 (B)	Ground	Sensor ground	—	Ignition switch ON	—	0 V
13 (V)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
18 (V)	—	K-line (CONSULT)	—	—	—	—

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# SONAR CONTROL UNIT (WITH AROUND VIEW MONITOR)

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITHOUT NAVIGATION]

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
19 (G)	—	AV communication signal (H)	Input/ Output	—	—	—
20 (R)	—	AV communication signal (L)	Input/ Output	—	—	—
24 (B)	Ground	Ground	—	Ignition switch ON	—	0 V

## Fail-Safe

INFOID:000000009061537

- 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:000000009061538

DTC	Display item	Malfunction is detected when...	Reference
B2700	CORNER SENSOR [FL] [B2700]	Corner sensor front LH is malfunctioning.	<a href="#">AV-259, "DTC Logic"</a>
B2701	SENSOR HARNESS OPEN [CR-FL] [B2701]	Corner sensor front LH harness circuit is open.	<a href="#">AV-260, "Diagnosis Procedure"</a>
B2702	CORNER SENSOR [FR] [B2702]	Corner sensor front RH is malfunctioning.	<a href="#">AV-261, "DTC Logic"</a>
B2703	SENSOR HARNESS OPEN [CR- FR] [B2703]	Corner sensor front RH harness circuit is open.	<a href="#">AV-262, "Diagnosis Procedure"</a>
B2704	CORNER SENSOR [RL] [B2704]	Corner sensor rear LH is malfunctioning.	<a href="#">AV-263, "DTC Logic"</a>
B2705	SENSOR HARNESS OPEN [CR-RL] [B2705]	Corner sensor rear LH harness circuit is open.	<a href="#">AV-264, "Diagnosis Procedure"</a>
B2706	CORNER SENSOR [RR] [B2706]	Corner sensor rear RH is malfunctioning.	<a href="#">AV-265, "DTC Logic"</a>
B2707	SENSOR HARNESS OPEN [CR- RR] [B2707]	Corner sensor rear RH harness circuit is open.	<a href="#">AV-266, "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 WITHOUT NAVIGATION

[BOSE AUDIO WITHOUT NAVIGATION]

< WIRING DIAGRAM >

## WIRING DIAGRAM

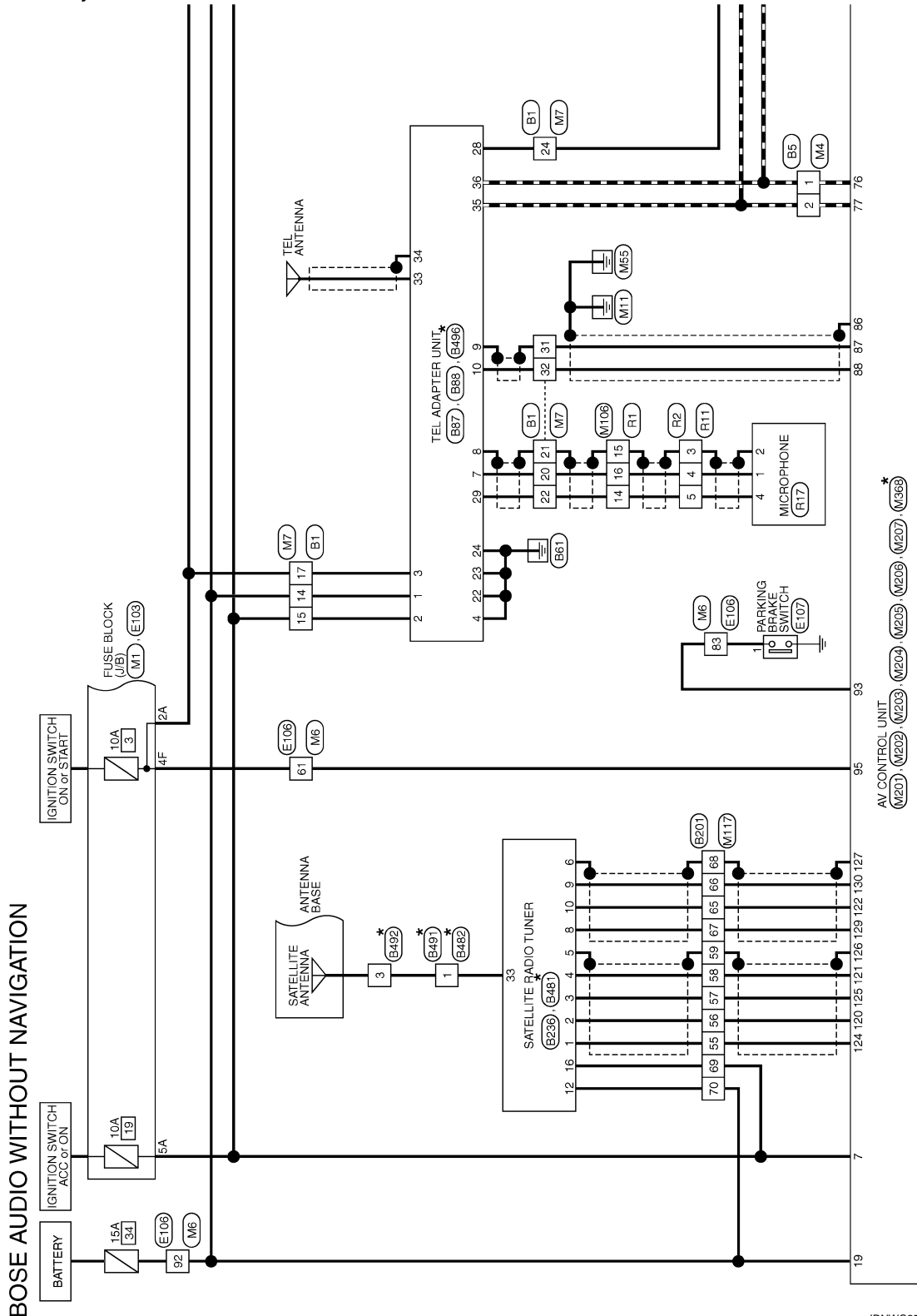
### BOSE AUDIO WITHOUT NAVIGATION

#### Wiring Diagram

INFOID:000000009061539

**NOTE:**

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



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

2012/06/11

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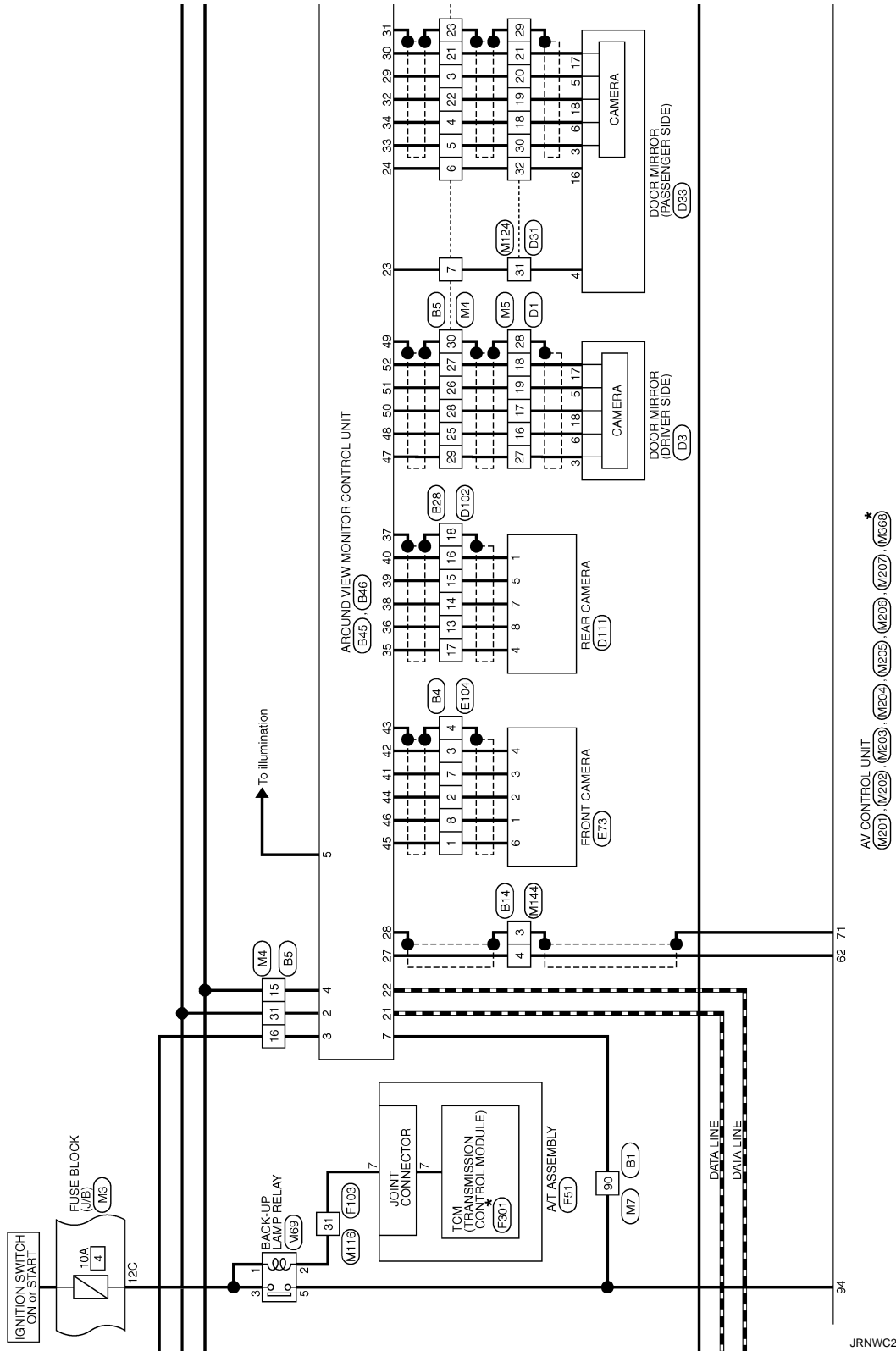
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AV

# BOSE AUDIO WITHOUT NAVIGATION

## [BOSE AUDIO WITHOUT NAVIGATION]

< WIRING DIAGRAM >



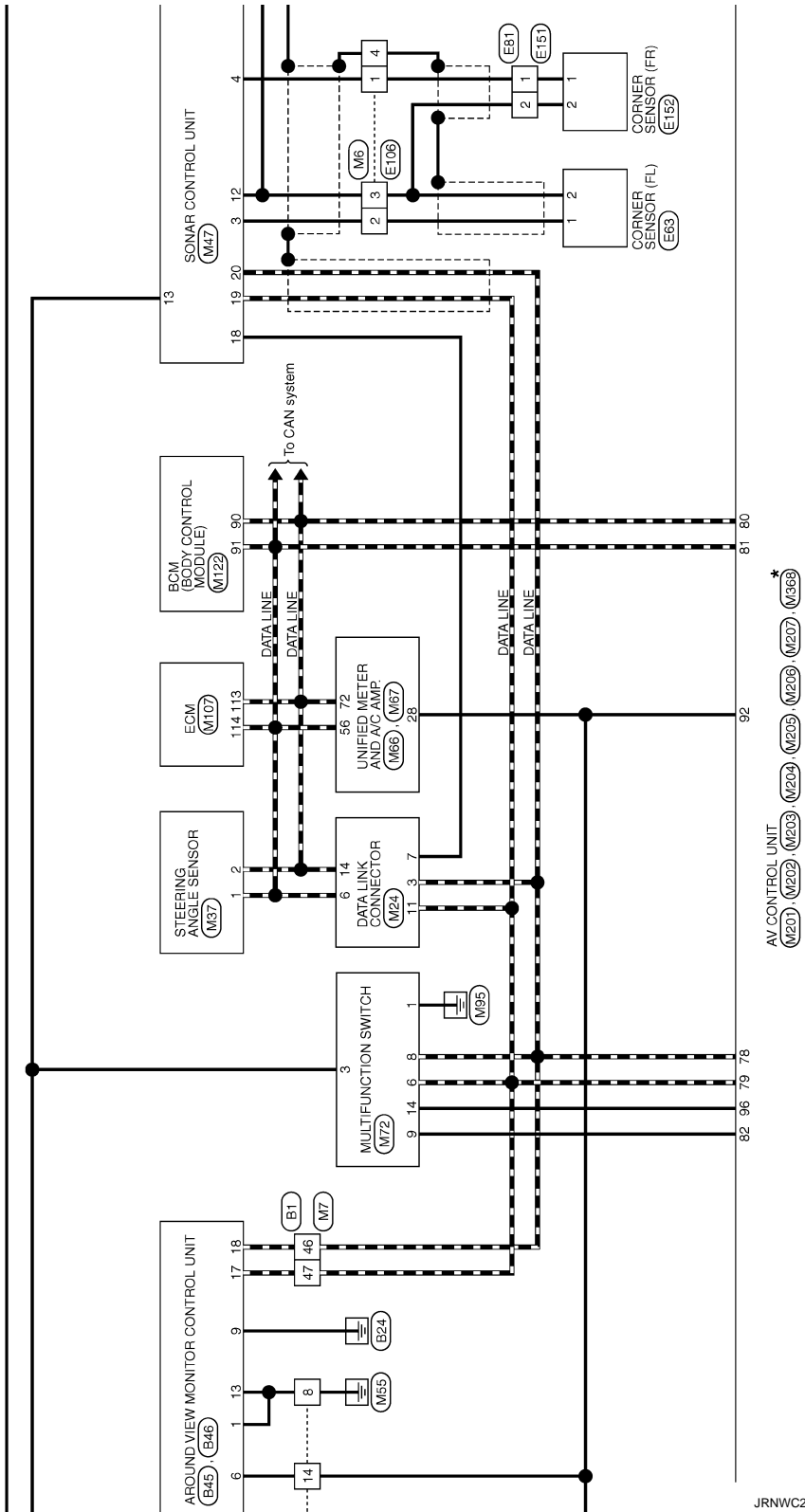
\*: This connector is not shown in "Harness Layout".

JRNWC2560GB

# BOSE AUDIO WITHOUT NAVIGATION

## [BOSE AUDIO WITHOUT NAVIGATION]

< WIRING DIAGRAM >

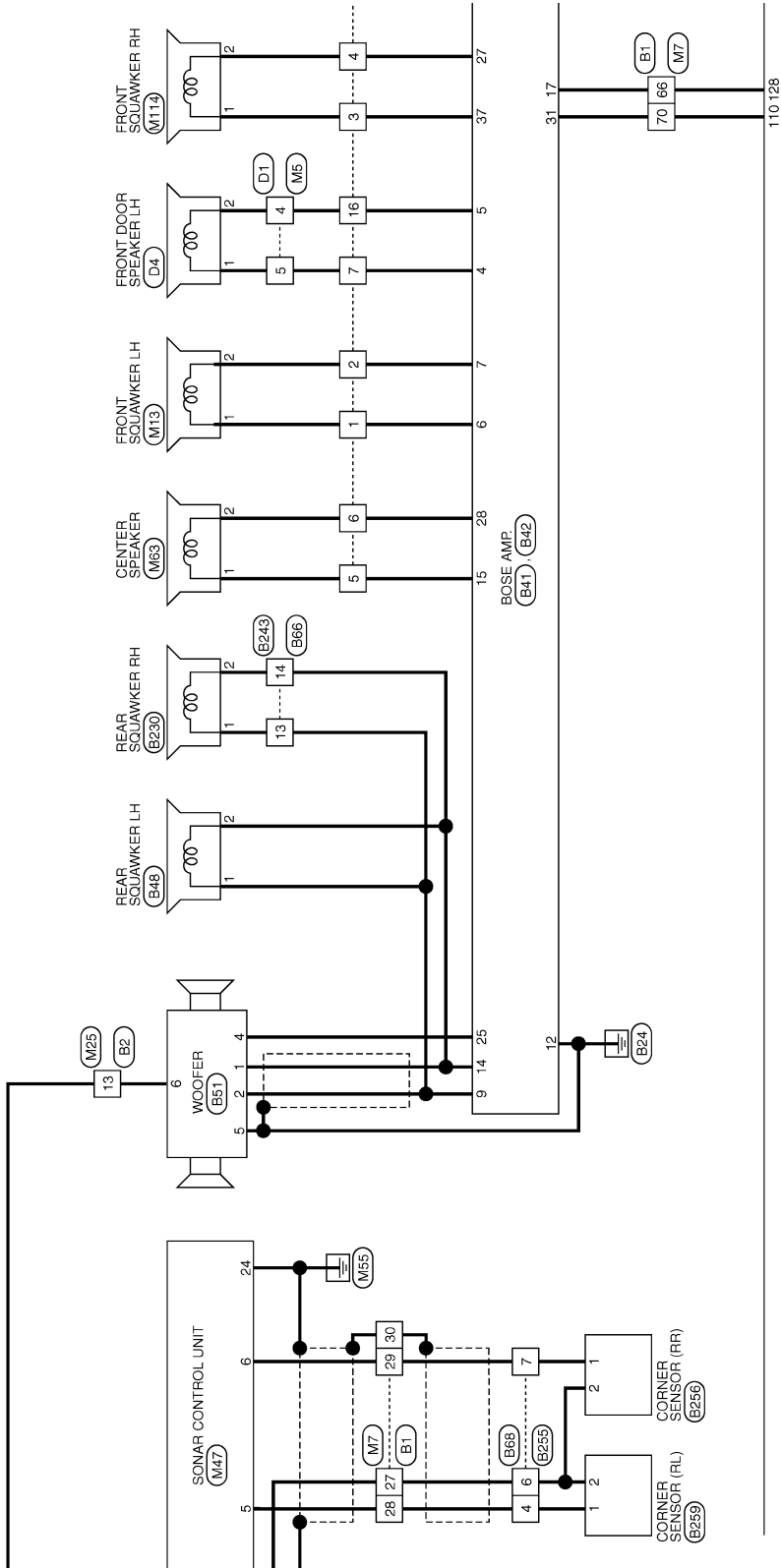


\* This connector is not shown in "Harness Layout".

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# BOSE AUDIO WITHOUT NAVIGATION



JRNWC2562GB

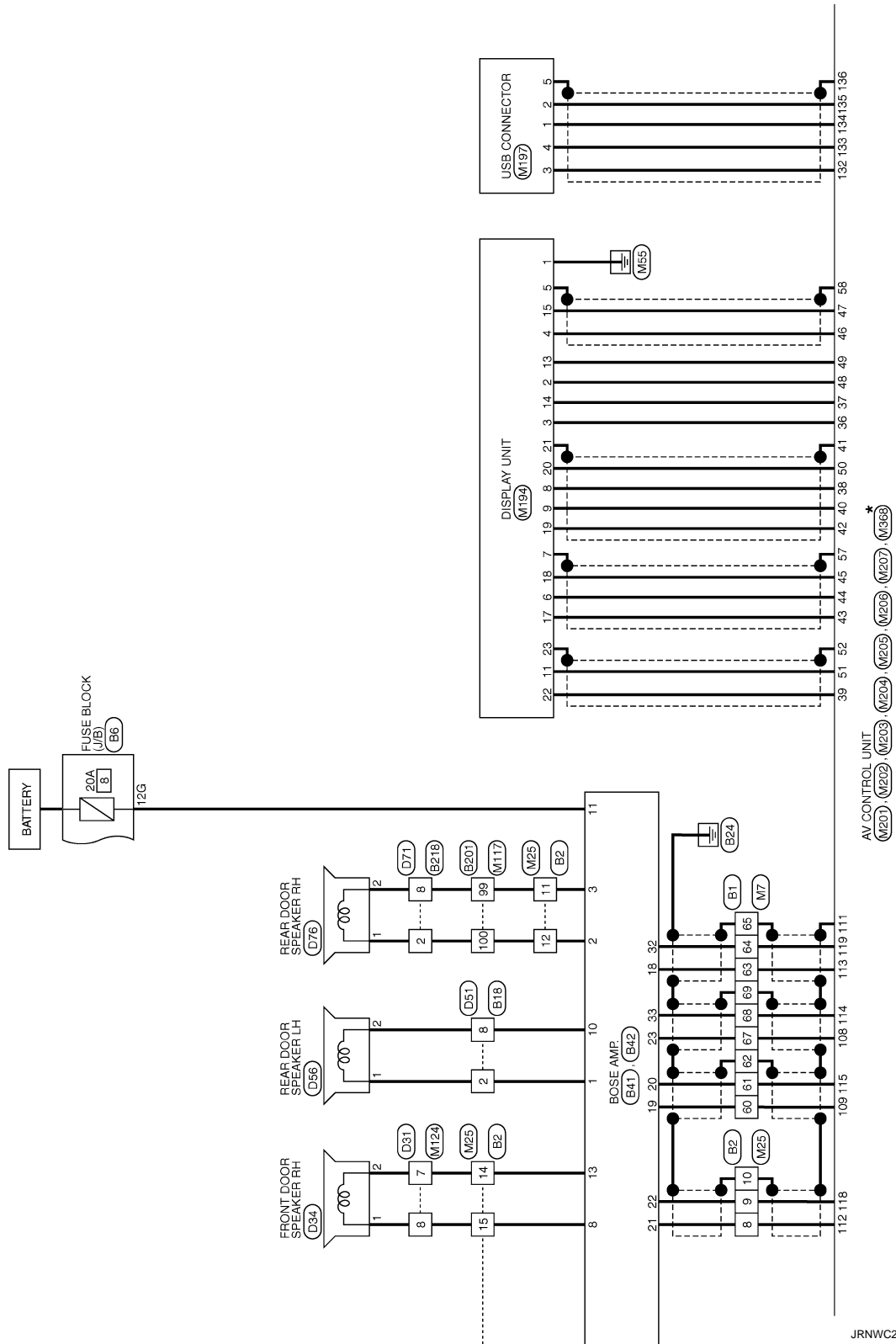
AV CONTROL UNIT  
(M201) (M202) (M203) (M204) (M205) (M206) (M207) (M368)

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

# BOSE AUDIO WITHOUT NAVIGATION

## [BOSE AUDIO WITHOUT NAVIGATION]

< WIRING DIAGRAM >



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

JRNWC2563GB



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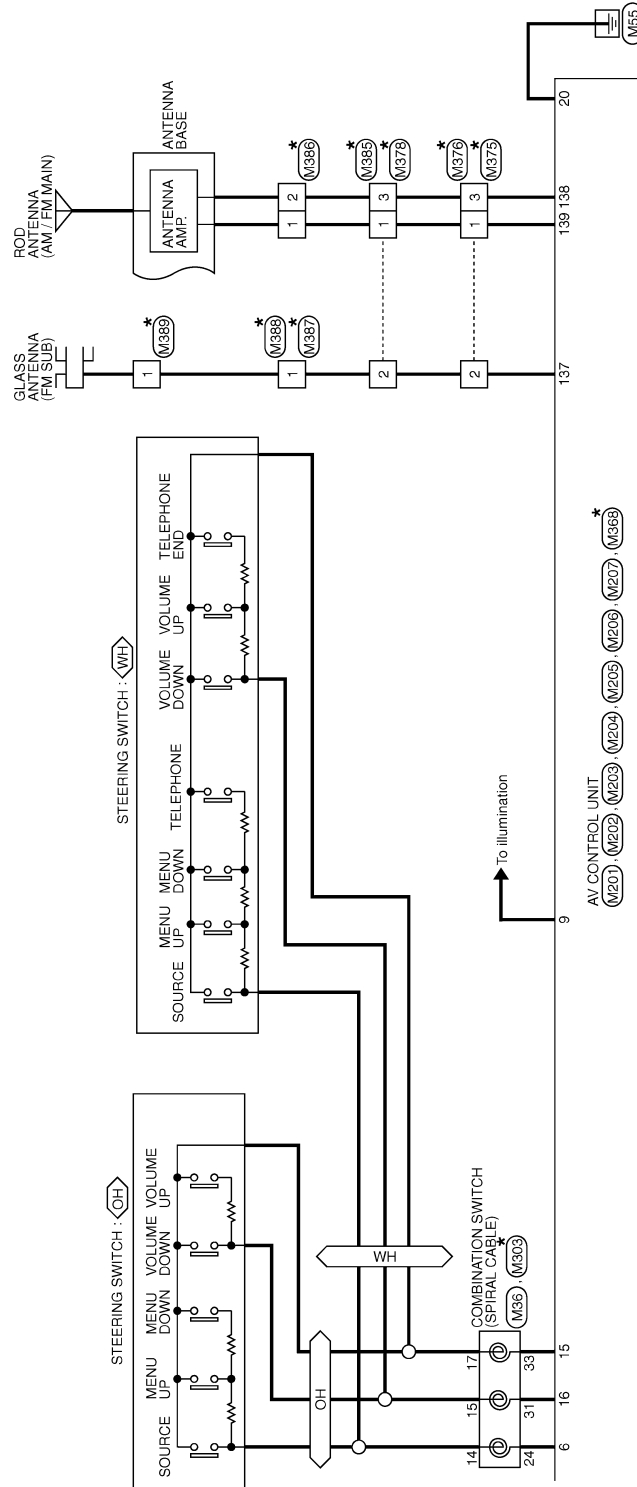
AV

# BOSE AUDIO WITHOUT NAVIGATION

[BOSE AUDIO WITHOUT NAVIGATION]

< WIRING DIAGRAM >

 : With hands-free phone  
 : Without hands-free phone



JRNWC2564GB

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

# BOSE AUDIO WITHOUT NAVIGATION

< WIRING DIAGRAM >

[BOSE AUDIO WITHOUT NAVIGATION]

## BOSE AUDIO WITHOUT NAVIGATION

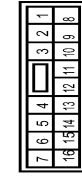
Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
3	R	-
5	G	-
6	SB	-
7	V	-
8	L	-
12	SB	-
13	LG	-
14	GR	-
15	LG	-
17	W	-
18	SB	-
19	LG	-
20	BR	-
21	SHIELD	-
22	Y	-
24	P	-
27	B	-
28	R	-
29	W	-
30	SHIELD	-
32	W	-
33	SB	-
34	L	-
35	P	-
36	L	-
37	P	-
38	BR	-
39	Y	-
44	Y	-
45	GR	-
46	LG	-
47	SB	-
49	G	-
50	V	-

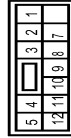
60	P	-
61	L	-
62	SHIELD	-
63	R	-
64	G	-
65	SHIELD	-
66	W	-
67	V	-
68	SB	-
69	SHIELD	-
70	W	-
73	SB	-
74	L	-
75	W	-
76	BR	-
77	R	-
78	P	-
79	GR	-
83	BG	-
85	V	-
86	LG	-
87	R	-
88	Y	-
89	B	-
90	BG	-
91	G	-
92	BR	-
93	G	-
94	SB	-
95	G	-
96	Y	-
98	W	-
99	GR	-

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



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	W	-
3	BR	-
4	R	-
5	B	-
6	G	-
7	B	-
8	BR	-
9	Y	-
10	SHIELD	-
11	V	- [With BOSE audio]
11	Y	- [Without BOSE audio]
12	LG	- [Without BOSE audio]
12	SB	- [With BOSE audio]
13	V	-
14	Y	-
15	LG	-
16	P	-

Connector No.	B4
Connector Name	WIRE TO WIRE
Connector Type	NS12FW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	B	-
3	G	-
4	SHIELD	-
5	P	-
7	Y	-
8	R	-
9	BR	-
10	BG	-
11	LG	-
12	GR	-

Connector No.	B5
Connector Name	WIRE TO WIRE
Connector Type	TH52MW/4H



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	-
2	SB	-
3	Y	-
4	R	-
5	W	-
6	G	-
7	LG	-
8	B	-
14	SB	-
15	GR	-
16	P	-
21	G	-
22	B	-
23	SHIELD	-
24	BG	-
25	BR	-
26	Y	-
27	W	-
28	R	-
29	L	-

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# BOSE AUDIO WITHOUT NAVIGATION

## [BOSE AUDIO WITHOUT NAVIGATION]

< WIRING DIAGRAM >

### BOSE AUDIO WITHOUT NAVIGATION

Connector No.	B18
Wire	-
Signal Name [Specification]	WIRE TO WIRE
Connector Name	WIRE TO WIRE
Connector Type	NHT0PW-CS10

Connector No.	B6
Wire	FUSE BLOCK (J/B)
Signal Name [Specification]	NS12FBR-CS
Connector Name	NS12FBR-CS
Connector Type	



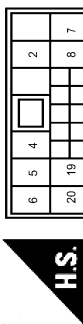
Terminal No.	Color Of Wire	Signal Name [Specification]
10G	W	-
11G	W	-
12G	GR	-
4G	R	-
5G	LG	-

Connector No.	B14
Wire	WIRE TO WIRE
Signal Name [Specification]	TH04FW-NH
Connector Name	TH04FW-NH
Connector Type	



Terminal No.	Color Of Wire	Signal Name [Specification]
1	SHIELD	-
2	B	-
3	W	- [With around view monitor]
4	R	- [Without around view monitor]
4	W	- [With around view monitor]

Connector No.	B1B
Wire	-
Signal Name [Specification]	WIRE TO WIRE
Connector Name	WIRE TO WIRE
Connector Type	NHT0PW-CS10



Terminal No.	Color Of Wire	Signal Name [Specification]
2	LG	- [Without BOSE audio]
2	Y	- [With BOSE audio]
4	Y	-
5	BR	-
6	G	-
7	B	-
8	G	- [With BOSE audio]
8	Y	- [Without BOSE audio]
19	GR	-
20	W	-

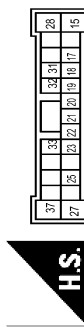
Connector No.	B28
Wire	WIRE TO WIRE
Signal Name [Specification]	TH20MW-NH
Connector Name	TH20MW-NH
Connector Type	



Terminal No.	Color Of Wire	Signal Name [Specification]
1	GR	-
3	W	-
4	B	-
5	R	-
6	BG	-
13	BR	-
14	R	- [With around view monitor]
14	SHIELD	- [Without around view monitor]
15	B	- [With around view monitor]
15	Y	- [Without around view monitor]

16	W	-
17	L	- [With around view monitor]
17	R	- [Without around view monitor]
18	SHIELD	-
19	LG	-
20	BG	-
21	B	-
22	P	-
23	BR	-
24	R	-

Connector No.	B41
Wire	BOSE AMP.
Signal Name [Specification]	SCA19FBR-SGA4
Connector Name	SCA19FBR-SGA4
Connector Type	



Terminal No.	Color Of Wire	Signal Name [Specification]
15	B	SOUND SIGNAL CENTER SPEAKER (+)
17	W	MODE CHANGE SIGNAL
18	R	SOUND SIGNAL FRONT LH (+)
19	P	SOUND SIGNAL FRONT RH (-)
20	L	SOUND SIGNAL FRONT RH (+)
21	BR	SOUND SIGNAL REAR LH (+)
22	Y	SOUND SIGNAL REAR LH (-)
23	V	SOUND SIGNAL REAR RH (+)
25	GR	WOOFER AMP. ON SIGNAL
27	R	SOUND SIGNAL FRONT SQUAWKER RH (-)
28	G	SOUND SIGNAL CENTER SPEAKER (-)
31	W	BOSE AMP. ON SIGNAL
32	G	SOUND SIGNAL FRONT LH (-)
33	SB	SOUND SIGNAL REAR RH (-)
37	BR	SOUND SIGNAL FRONT SQUAWKER RH (+)

Connector No.	B42
Wire	BOSE AMP.
Signal Name [Specification]	SGA12FBR-SJA2
Connector Name	SGA12FBR-SJA2
Connector Type	



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	B	SOUND SIGNAL FRONT DOOR SPEAKER LH (+)
5	P	SOUND SIGNAL FRONT DOOR SPEAKER LH (-)
6	L	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	GROUND
13	Y	SOUND SIGNAL FRONT DOOR SPEAKER RH (-)
14	R	SOUND SIGNAL WOOFER AND REAR SQUAWKER (-)

Connector No.	B45
Wire	ROUND VIEW MONITOR CONTROL LINE
Signal Name [Specification]	TH24FW-NH
Connector Name	TH24FW-NH
Connector Type	



Terminal No.	Color Of Wire	Signal Name [Specification]
41	Y	FRONT CAMERA IMAGE SIGNAL
42	G	FRONT CAMERA IMAGE GND
43	SHIELD	SHIELD
44	B	FRONT CAMERA GND
45	W	FRONT CAMERA COMA
46	R	FRONT CAMERA POWER SUPPLY



# BOSE AUDIO WITHOUT NAVIGATION

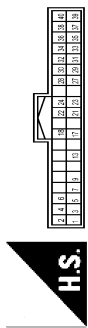
## [BOSE AUDIO WITHOUT NAVIGATION]

< WIRING DIAGRAM >

### BOSE AUDIO WITHOUT NAVIGATION

47	L	REAR CAMERA LH COMM
48	BR	SIDE CAMERA LH POWER SUPPLY
49	SHIELD	SHIELD
50	R	SIDE CAMERA LH GND
51	Y	SIDE CAMERA LH IMAGE SIGNAL
52	W	SIDE CAMERA LH IMAGE GND

Connector No.	B46
Connector Name	AROUND VIEW MONITOR CONTROL UNIT
Connector Type	TH09FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GROUND
2	Y	BATTERY
3	P	ACC
4	GR	IGNITION SIGNAL
5	SS	ILLUMINATION SIGNAL
6	SS	VEHICLE SPEED SIGNAL (8-PULSE)
7	V	REVERSE SIGNAL
9	V	CONTROL SIGNAL
13	B	CONTROL SIGNAL
17	SS	AV COMM (H)
18	LG	AV COMM (L)
21	SS	AV COMM (H)
22	LG	AV COMM (L)
23	LG	-
24	G	-
27	W	CAMERA IMAGE SIGNAL
28	SHIELD	CAMERA IMAGE SIGNAL GND
29	Y	SIDE CAMERA RH IMAGE SIGNAL
29	B	SIDE CAMERA RH IMAGE GND
30	G	SIDE CAMERA RH IMAGE GND
31	SHIELD	SHIELD
32	B	SIDE CAMERA RH GND
33	W	SIDE CAMERA RH COMM
34	R	SIDE CAMERA RH POWER SUPPLY
35	L	REAR CAMERA COMM
36	BR	REAR CAMERA POWER SUPPLY
37	SHIELD	SHIELD
38	R	REAR CAMERA GND
39	Y	REAR CAMERA IMAGE SIGNAL

40	W	REAR CAMERA IMAGE GND
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Connector No.	B48
Connector Name	REAR SOUND/WORKER LH
Connector Type	TK02FBR



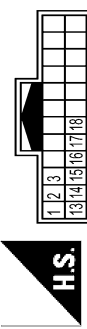
Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	W	-

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	GROUND
6	V	BATTERY

Connector No.	B66
Connector Name	WIRE TO WIRE
Connector Type	TH24MVA-NH



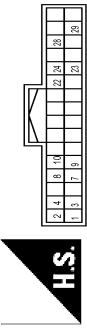
Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	-
2	R	-
3	B	-
13	L	-
14	W	-
15	B	-
16	BR	-
17	BS	-
18	P	-

Connector No.	B68
Connector Name	WIRE TO WIRE
Connector Type	RH08MB



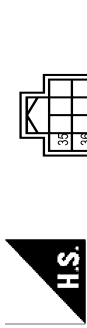
Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	-
2	B	-
3	SS	-
4	R	-
6	B	-
7	W	-

Connector No.	B87
Connector Name	TEL ADAPTER UNIT
Connector Type	TH82FV-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	GR	BATTERY
2	LG	ACC
3	W	IGNITION SIGNAL
4	B	GROUND
7	BR	MICROPHONE SIGNAL
8	SHIELD	MICROPHONE GND
9	SHIELD	TEL VOICE SIGNAL (+)
10	W	TEL VOICE SIGNAL (-)
22	B	CONTROL SIGNAL
23	B	CONTROL SIGNAL
28	P	VEHICLE SPEED (8-PULSE)
29	Y	MICROPHONE VCC

Connector No.	B88
Connector Name	TEL ADAPTER UNIT
Connector Type	TH88FV-NH



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

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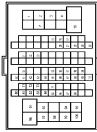
# BOSE AUDIO WITHOUT NAVIGATION

[BOSE AUDIO WITHOUT NAVIGATION]

< WIRING DIAGRAM >

## BOSE AUDIO WITHOUT NAVIGATION

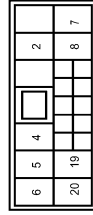
Connector No.	B201
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	R	-
3	GR	-
4	B/G	-
7	LG	-
10	W	-
15	SB	-
16	V	-
17	BR	-
20	BR	-
27	L	-
28	Y	-
29	Y	-
30	GR	-
31	R	-
32	BR	-
33	G	-
51	R	-
55	G	-
56	R	-
57	W	-
58	B	-
59	SHIELD	-
60	LG	-
61	W	-
62	BR	-
63	P	-
64	L	-
65	G	-
66	P	-
67	L	-
68	SHIELD	-
69	V	-
70	Y	-
71	SB	-
72	W	-

73	BR	-
75	Y	-
80	V	-
81	SB	-
82	LG	-
83	P	-
84	R	-
85	L	-
86	B/G	-
87	L	-
88	P	-
91	V	-
92	R	-
94	R	-
95	SB	-
96	G	-
97	G	-
98	R	-
99	P	-
100	L	-

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



Terminal No.	Color Of Wire	Signal Name [Specification]
2	L	-
4	LG	-
5	V	-
6	G	-
7	B	-
8	P	-
19	R	-
20	W	-

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



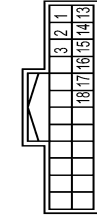
Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	W	-

Connector No.	B236
Connector Name	SATELLITE RADIO TUNER
Connector Type	A18FW



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

Connector No.	B243
Connector Name	WIRE TO WIRE
Connector Type	TH24FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	-
2	R	-
3	B	-
13	L	-
14	W	-
15	GR	-
16	BR	-
17	LG	-
18	L	-

Connector No.	B255
Connector Name	WIRE TO WIRE
Connector Type	RH8FB



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

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# BOSE AUDIO WITHOUT NAVIGATION

[BOSE AUDIO WITHOUT NAVIGATION]

< WIRING DIAGRAM >

## BOSE AUDIO WITHOUT NAVIGATION

Connector No.	B255
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.	B481
Connector Name	SATELLITE RADIO TUNER
Connector Type	FAKRA



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

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



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

Connector No.	B481
Connector Name	WIRE TO WIRE
Connector Type	GT16C-1PP-HU



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

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



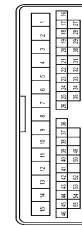
Terminal No.	Color Of Wire	Signal Name [Specification]
3	-	SATELLITE ANTENNA SIGNAL

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

Connector No.	D1
Connector Name	WIRE TO WIRE
Connector Type	TH04PW-CS15



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

JRNWC3660GB

A  
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AV

# BOSE AUDIO WITHOUT NAVIGATION

< WIRING DIAGRAM >

[BOSE AUDIO WITHOUT NAVIGATION]

## BOSE AUDIO WITHOUT NAVIGATION

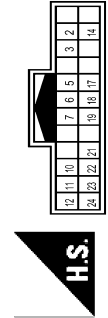
37	R	-	-	-
38	P	-	-	-
39	O	-	-	-
40	BR	-	-	-
41	L	-	-	-
42	GR	-	-	-
43	BR	-	-	-
43	O	-	-	-
44	GR	-	-	-
44	W	-	-	-
45	G	-	-	-
45	Y	-	-	-
46	G	-	-	-
46	V	-	-	-
49	GR	-	-	-
50	B	-	-	-
52	R	-	-	-
53	SR	-	-	-
54	O	-	-	-
55	Y	-	-	-

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



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

Connector No.	D3
Connector Name	DOOR MIRROR (DRIVER SIDE)
Connector Type	TH24MW-NH



Terminal No.	Color	Wire	Signal Name [Specification]
2	O	-	-
3	B	BR	SIDE CAMERA LH COMM
5	Y	V	SIDE CAMERA LH IMAGE SIGNAL
6	R	P	SIDE CAMERA LH POWER SUPPLY
7	W	-	-
10	G	-	-
11	P	-	-
12	O	GR	-
14	LG	-	-
17	G	-	SIDE CAMERA LH IMAGE GND
18	W	-	-
19	B	-	SIDE CAMERA LH GND
20	B	-	-
21	GR	-	-
22	BR	-	-

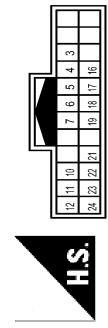
21	G	-	-	-	[With BOSE audio]
22	V	-	-	-	-
23	P	-	-	-	-
24	W	-	-	-	-
25	SB	-	-	-	-
26	R	-	-	-	-
29	SHIELD	-	-	-	-
30	W	-	-	-	-
31	LG	-	-	-	-
32	BR	-	-	-	-
33	O	-	-	-	-
34	GR	-	-	-	-
35	G	-	-	-	-
43	Y	-	-	-	-
44	V	-	-	-	-
45	P	-	-	-	-
46	W	-	-	-	-
52	G	-	-	-	-
53	GR	-	-	-	-
54	O	-	-	-	-
55	L	-	-	-	-

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



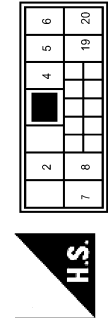
Terminal No.	Color	Wire	Signal Name [Specification]
1	BR	-	-
2	R	-	-

Connector No.	D33
Connector Name	DOOR MIRROR (PASSENGER SIDE)
Connector Type	TH24MW-NH



Terminal No.	Color	Wire	Signal Name [Specification]
3	W	-	SIDE CAMERA RH COMM
4	LG	-	SIDE CAMERA RH IMAGE SIGNAL
5	B	R	SIDE CAMERA RH POWER SUPPLY
6	R	-	-
7	L	-	-
10	G	-	-
11	GR	-	-
12	O	-	-
16	BR	-	-
17	G	-	SIDE CAMERA RH IMAGE GND
18	Y	-	-
19	B	-	SIDE CAMERA RH GND
21	P	-	-

Connector No.	D51
Connector Name	WIRE TO WIRE
Connector Type	NH03MW-CS10



Terminal No.	Color	Wire	Signal Name [Specification]
2	LG	-	- [Without BOSE audio]
2	Y	-	- [With BOSE audio]
4	Y	-	-
5	V	-	-
6	G	-	-
7	B	-	-
8	G	-	- [With BOSE audio]
8	Y	-	- [Without BOSE audio]
19	G	-	-
20	V	-	-

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# BOSE AUDIO WITHOUT NAVIGATION

## [BOSE AUDIO WITHOUT NAVIGATION]

< WIRING DIAGRAM >

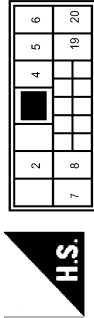
### BOSE AUDIO WITHOUT NAVIGATION

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



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

Connector No.	D71
Connector Name	WIRE TO WIRE
Connector Type	NH10MW-CS/0



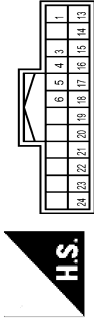
Terminal No.	Color Of Wire	Signal Name [Specification]
2	L	-
4	W	-
5	V	-
6	G	-
7	B	-
8	P	- [With BOSE audio]
19	G	- [Without BOSE audio]
20	V	-

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



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

Connector No.	D102
Connector Name	WIRE TO WIRE
Connector Type	TH24FV-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	GR	-
3	W	-
4	B	-
5	R	-
6	O	-
13	R	-
14	L	- [With around view monitor]
14	SHIELD	- [Without around view monitor]
15	Y	-
16	G	- [With around view monitor]
16	L	- [Without around view monitor]
17	G	- [With around view monitor]
17	W	- [Without around view monitor]
18	SHIELD	-
19	LG	-
20	VO	-
21	V	-
22	P	-

Terminal No.	23	BR	-
Terminal No.	24	R	-

Connector No.	D111
Connector Name	REAR CAMERA
Connector Type	TH08MW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	REAR CAMERA IMAGE GND
4	W	REAR CAMERA COMM
5	Y	REAR CAMERA IMAGE SIGNAL
7	L	REAR CAMERA GND
8	R	REAR CAMERA POWER SUPPLY

Connector No.	E83
Connector Name	CORNER SENSOR (FL)
Connector Type	YDX02FB



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

Connector No.	E73
Connector Name	FRONT CAMERA
Connector Type	RH06FB



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.	E81
Connector Name	WIRE TO WIRE
Connector Type	RS02MB



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	L	-

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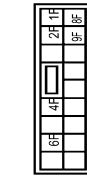
# BOSE AUDIO WITHOUT NAVIGATION

[BOSE AUDIO WITHOUT NAVIGATION]

< WIRING DIAGRAM >

## BOSE AUDIO WITHOUT NAVIGATION

Connector No.	E103
Connector Name	FUSE BLOCK (UB)
Connector Type	NS16FW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1F	SB	-
2F	W	-
4F	G	-
5F	BR	-
6F	L	-
3F	R	-

Connector No.	E104
Connector Name	WIRE TO WIRE
Connector Type	NS12MW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	BR	-
3	L	-
4	SHIELD	-
5	Y	-
7	Y	-
8	R	-
9	BR	-
10	BG	-
11	LG	-
12	GR	-

Connector No.	E106
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	W	-
3	B	-
4	GR	-
5	GR	-
8	Y	-
9	BR	-
10	BG	-
11	SB	-
12	BG	-
13	L	-
14	R	-
15	P	-
16	V	-
17	SB	-
18	V	-
20	BG	-
21	L	-
22	V	-
23	G	-
24	P	-
25	Y	-
26	V	-
27	W	-
28	G	-
31	BG	-
32	W	-
33	B	-
34	R	-
35	G	-
36	SHIELD	-
37	V	-
38	BR	-
39	BG	-
41	W	-
42	G	-

43	BR	-
45	W	-
49	L	-
50	P	-
51	L	-
54	BG	-
57	BR	-
59	W	-
60	LG	-
61	G	-
62	SB	-
63	W	-
64	B	-
65	G	-
66	R	-
67	SHIELD	-
68	Y	-
69	LG	-
70	W	-
71	R	-
72	Y	-
73	B	-
74	BR	- [With (CC)]
74	L	- [Without (CC)]
75	G	- [With (CC)]
75	W	- [Without (CC)]
76	W	- [With (CC)]
76	Y	- [Without (CC)]
77	P	-
77	R	- [With (CC)]
78	BR	- [Without (CC)]
78	L	- [With (CC)]
79	L	- [Without (CC)]
79	Y	- [With (CC)]
80	SB	-
81	R	-
82	SB	-
83	BG	-
84	G	-
85	L	-
86	P	-
87	V	-
89	GR	-
90	SHIELD	-
91	W	-
92	Y	-
93	V	-
94	LG	-
95	BG	-
96	P	-

97	R	-
98	SHIELD	-
99	L	-
100	P	-

Connector No.	E107
Connector Name	PARKING BRAKE SWITCH
Connector Type	TB01FW



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

Connector No.	E151
Connector Name	WIRE TO WIRE
Connector Type	RS02FB



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	B	-

JRNWC3663GB

# BOSE AUDIO WITHOUT NAVIGATION

## [BOSE AUDIO WITHOUT NAVIGATION]

< WIRING DIAGRAM >

### BOSE AUDIO WITHOUT NAVIGATION

Connector No.	E152
Connector Name	CORNER SENSOR (FR)
Connector Type	YDX02FB



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	B	-

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



Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	IGNITION POWER SUPPLY
2	BR	BATTERY POWER SUPPLY
3	O	CAN-H
4	V	K-LINE
5	B	GROUND
6	Y	IGNITION POWER SUPPLY
7	R	BACKLUP LAMP RELAY
8	LG	CANL
9	GR	STARTER RELAY
10	B	GROUND

Connector No.	F103
Connector Name	WIRE TO WIRE
Connector Type	TK36FV-NS10



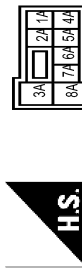
Terminal No.	Color Of Wire	Signal Name [Specification]
2	G	-
3	W	-
4	R	-
5	B	-
9	V	-
10	GR	-
19	BG	- [Without LCC]
19	O	- [With LCC]
20	Y	-
28	B	-
29	LG	-
31	R	-
33	GR	-
34	B	-
35	L	-
36	P	-
37	Y	-
38	G	-
43	LG	-
44	O	-
45	Y	-
46	V	-

Connector No.	F301
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Type	SPT0FG



Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	IGNITION POWER SUPPLY
2	-	BATTERY POWER SUPPLY
3	-	CAN-H
4	-	K-LINE
5	-	GROUND
8	-	IGNITION POWER SUPPLY
7	-	BACKLUP LAMP RELAY
9	-	STARTER RELAY
10	-	GROUND

Connector No.	M1
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS06FV-M2



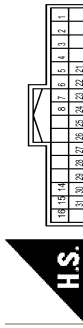
Terminal No.	Color Of Wire	Signal Name [Specification]
1A	GR	-
2A	G	-
3A	L	-
4A	P	-
5A	V	-
6A	Y	-
7A	R	-
8A	L	-

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS12FV-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
10C	L	-
11C	R	-
12C	BG	-
6C	R	-
7C	B	-
9C	BG	-

Connector No.	M4
Connector Name	WIRE TO WIRE
Connector Type	TH52FV-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	-
2	SB	-
3	Y	-
4	R	-
5	W	-
6	G	-
7	LG	-
8	B	-
14	V	-
15	V	-
16	W	-
21	G	-
22	B	-
23	SHIELD	-

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L  
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P

# BOSE AUDIO WITHOUT NAVIGATION

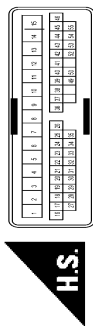
< WIRING DIAGRAM >

[BOSE AUDIO WITHOUT NAVIGATION]

## BOSE AUDIO WITHOUT NAVIGATION

24	R	-
25	R	-
26	Y	-
27	G	-
28	B	-
29	W	-
30	SHIELD	-
31	Y	-

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



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	B	-
3	BR	-
4	P	-
5	L	-
6	R	-
7	R	-
8	W	-
9	G	-
10	L	-
11	G	-
12	V	-
13	B	-
14	Y	-
15	W	-
16	R	-
17	B	-
18	G	-
19	Y	-
20	L	-
21	LG	-
22	L	-
23	G	-
24	Y	-
25	GR	-
26	R	-

73	SB	-
74	BR	- [With I/C]
74	L	- [Without I/C]
75	G	-
76	GR	- [Without I/C]
76	W	- [With I/C]
77	P	- [Without I/C]
77	R	- [With I/C]
78	L	- [Without I/C]
78	R	- [With I/C]
79	W	- [Without I/C]
79	Y	- [With I/C]
80	SB	-
81	SB	-
82	SB	-
83	V	-
84	G	-
85	L	-
86	P	-
87	W	-
89	GR	-
90	SHIELD	-
91	V	-
92	Y	-
93	BR	-
94	P	-
95	GR	-
96	W	-
97	L	-
98	SHIELD	-
99	V	-
100	SB	-

Connector No.	M7
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4



10	R	-
11	BR	-
12	BG	-
13	L	-
14	R	-
15	P	-
16	V	-
17	SB	-
18	V	-
20	BG	-
21	L	-
22	W	-
23	P	-
24	BR	-
25	Y	-
26	V	-
27	G	-
28	G	-
31	L	-
32	G	-
33	B	-
34	W	-
35	R	-
36	SHIELD	-
37	V	-
38	BG	-
39	BR	-
41	W	-
42	BG	-
43	BG	-
45	W	-
49	L	-
50	P	-
51	BR	-
54	Y	-
57	G	-
59	W	-
60	L	-
61	G	-
62	SB	-
63	G	-
64	B	-
65	W	-
66	R	-
67	SHIELD	-
68	Y	-
69	GR	-
70	LG	-
71	LG	-
72	Y	-

27	W	-
28	SHIELD	-
29	Y	-
30	Y	-
31	R	-
32	BR	-
33	SB	-
34	Y	-
35	P	-
36	LG	-
37	BR	-
38	P	-
39	BG	-
40	SB	-
41	L	-
42	R	-
43	BR	-
44	V	-
45	G	-
46	SB	- [With automatic drive positioner]
46	V	- [Without automatic drive positioner]
49	P	-
50	B	-
52	R	-
53	V	-
54	LG	-
55	SB	-

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



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	R	-
3	B	-
4	SHIELD	-
5	G	-
8	Y	-
9	BR	-



# BOSE AUDIO WITHOUT NAVIGATION

< WIRING DIAGRAM >

[BOSE AUDIO WITHOUT NAVIGATION]

## BOSE AUDIO WITHOUT NAVIGATION

Terminal No.	Color Of Wire	Signal Name [Specification]
3	SS	- [With automatic drive positioner]
3	W	- [Without automatic drive positioner]
5	G	-
6	BG	-
7	W	-
8	B	-
12	SS	-
13	LG	-
14	Y	-
15	G	-
17	W	-
18	SB	-
19	LG	-
20	BR	-
21	SHIELD	-
22	Y	-
24	V	-
27	B	-
28	W	-
29	R	-
30	SHIELD	-
31	L	-
32	P	-
33	SS	-
34	L	-
35	P	-
36	L	-
37	P	-
38	BR	-
39	Y	-
44	L	-
45	GR	-
46	LG	-
47	SB	-
49	V	-
50	R	-
60	P	-
61	L	-
62	SHIELD	-
63	R	-
64	G	-
65	SHIELD	-
66	SS	-
67	V	-
68	LG	-
69	SHIELD	-
70	W	-
73	G	-

74	R	-
75	W	-
76	W	-
77	B	-
78	P	-
79	GR	-
83	BG	-
85	LG	-
86	R	-
87	Y	-
88	W	-
89	BR	-
90	BG	-
91	G	-
92	V	-
93	BR	-
94	V	-
95	G	-
96	Y	-
98	W	-
99	R	-

Connector No.	IMT3
Connector Name	FRONT SQUAWKER LH
Connector Type	TK02FBR



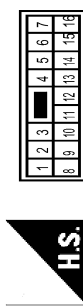
Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	W	-

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	V	-
8	G	-
11	SB	-
14	P	-
16	Y	-

Connector No.	M25
Connector Name	WIRE TO WIRE
Connector Type	INST0MWCS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	W	-
3	V	-
4	LG	-
5	Y	-
6	G	-
7	L	-
8	BR	-
9	Y	-
10	SHIELD	-
11	L	- [Without BOSE audio]

11	V	- [With BOSE audio]
12	LG	- [Without BOSE audio]
13	SB	- [With BOSE audio]
14	Y	-
15	LG	-
16	P	-

Connector No.	M36
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TK08FGY-1V



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

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



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	P	CASH
7	B	CASH
8	G	GROUND
		IGN

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AV

# BOSE AUDIO WITHOUT NAVIGATION

[BOSE AUDIO WITHOUT NAVIGATION]

< WIRING DIAGRAM >

## BOSE AUDIO WITHOUT NAVIGATION

Connector No.	M47
Connector Name	SONAR CONTROL UNIT
Connector Type	TH24FV-VNH



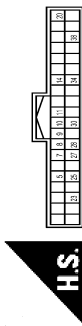
Terminal No.	Color Of Wire	Signal Name [Specification]
3	R	CORNER SENSOR SIGNAL FRONT LH
4	W	CORNER SENSOR SIGNAL FRONT RH
5	W	CORNER SENSOR SIGNAL REAR LH
6	R	CORNER SENSOR SIGNAL REAR RH
12	B	SENSOR GND
13	V	ACC
18	V	K LINE
19	G	AV COMM (H)
20	R	AV COMM (L)
24	B	GROUND

Connector No.	M63
Connector Name	CENTER SPEAKER
Connector Type	TK02PFR



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	TH40FV-VNH



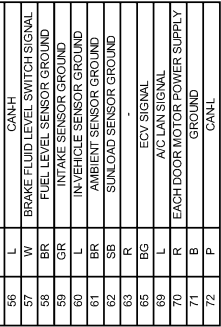
Terminal No.	Color Of Wire	Signal Name [Specification]
5	L	MANUAL MODE SHIFT UP SIGNAL
7	GR	COMMUNICATION SIGNAL (AMP-AMETER)
8	L	VEHICLE SPEED SIGNAL (2-PULSE)
9	SR	SEAT BELT TENSILE SWITCH SIGNAL (DRIVER SIDE)
10	W	MANUAL MODE SIGNAL
11	G	NON-MANUAL MODE SIGNAL
14	BR	COMMUNICATION SIGNAL (ICD-AMP)
20	V	IGN ON/OFF SIGNAL
23	V	AT SHOCK SWITCH SIGNAL
27	LG	MANUAL MODE SHIFT DOWN SIGNAL
28	R	VEHICLE SPEED SIGNAL (P-PULSE)
30	V	PARKING BRAKE SWITCH SIGNAL
34	Y	COMMUNICATION SIGNAL (AMP-LCD)
38	P	BLOWER MOTOR CONTROL SIGNAL

Connector No.	M67
Connector Name	UNIFIED METER AND A/C AMP.
Connector Type	TH2FV-VNH

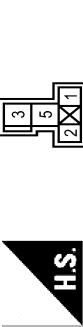


Terminal No.	Color Of Wire	Signal Name [Specification]
41	V	ACC POWER SUPPLY
42	Y	FUEL LEVEL SENSOR SIGNAL
43	R	INTAKE SENSOR SIGNAL
44	LG	IN-VEHICLE SENSOR SIGNAL
45	P	AMBIENT SENSOR SIGNAL

46	BG	SUNLOAD SENSOR SIGNAL
47	G	EXHAUST GAS (OUTSIDE) OXYGEN DEFECTING SENSOR SIGNAL
53	G	IGNITION POWER SUPPLY
54	Y	BATTERY POWER SUPPLY
55	B	GROUND
56	L	CANH
57	W	BRAKE FLUID LEVEL SWITCH SIGNAL
58	BR	FUEL LEVEL SENSOR GROUND
59	GR	INTAKE SENSOR GROUND
60	L	IN-VEHICLE SENSOR GROUND
61	BR	AMBIENT SENSOR GROUND
62	SB	SUNLOAD SENSOR GROUND
63	R	-
65	BG	ECV SIGNAL
69	L	A/C LAMP SIGNAL
70	R	EACH DOOR MOTOR POWER SUPPLY
71	B	GROUND
72	P	CANH

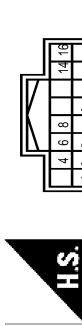


Connector No.	M69
Connector Name	BACK-UP LAMP RELAY
Connector Type	MS22FL-M2-LC



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	W	-
3	R	-
5	BG	-

Connector No.	M72
Connector Name	MULTIFUNCTION SWITCH
Connector Type	TH16FV-VNH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GROUND
3	V	ACC
4	R	ILL
5	Y	ILL CONT
6	SB	AV COMM (H)
8	LG	AV COMM (L)
9	B	SW GND
14	Y	DISK EJECT SIGNAL
16	G	HAZARD ON

Connector No.	M106
Connector Name	WIRE TO WIRE
Connector Type	NH10MM-C510



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	-
2	SHIELD	-
3	L	-
4	W	-
5	Y	-
7	BR	-
8	Y	-
9	B	-
10	R	-
11	V	-
12	R	-

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# BOSE AUDIO WITHOUT NAVIGATION

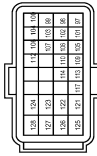
## [BOSE AUDIO WITHOUT NAVIGATION]

< WIRING DIAGRAM >

### BOSE AUDIO WITHOUT NAVIGATION

13	LG	-	-
14	R	-	[With NAV]
15	Y	-	[Without NAV]
15	SHIELD	-	-
16	BR	-	[Without NAV]
16	G	-	[With NAV]
18	B	-	-

Connector No.	M107
Connector Name	ECM
Connector Type	RH24FGY-RZ28-RJLH-Z



Terminal No.	Color Of Wire	Signal Name [Specification]
87	R	ACCELERATOR PEDAL POSITION SENSOR 1
88	P	ACCELERATOR PEDAL POSITION SENSOR 2 [With ICC]
88	Y	ACCELERATOR PEDAL POSITION SENSOR 2 [Without ICC]
89	G	SENSOR POWER SUPPLY [With ICC]
89	L	SENSOR POWER SUPPLY [Without ICC]
100	W	SENSOR GROUND
101	SB	ASCD/ICC STEERING SWITCH
102	LG	EVAP CONTROL SYSTEM PRESS SENSOR
103	G	SENSOR POWER SUPPLY [Without ICC]
103	L	SENSOR POWER SUPPLY [With ICC]
104	BR	SENSOR GROUND [With ICC]
104	GR	SENSOR GROUND [Without ICC]
105	L	REFRIGERANT PRESS SENSOR
106	W	FUEL TANK TEMPERATURE SENSOR
107	BG	SENSOR POWER SUPPLY
108	Y	SENSOR GROUND
109	G	PNP SIGNAL
110	R	ENGINE SPEED OUTPUT SIGNAL
112	V	SENSOR GROUND
113	P	CAN COMMUNICATION LINE
114	L	CAN COMMUNICATION LINE
117	V	DATA LINK CONNECTOR
121	LG	EVAP CANISTER VENT CONTROL VALVE
122	P	STOP LAMP SWITCH
123	B	ECM GROUND
124	B	ECM GROUND
125	R	POWER SUPPLY FOR ECM

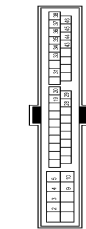
126	BR	ASCD/ICC BRAKE SWITCH
127	B	ECM GROUND
128	B	ECM GROUND

Connector No.	M114
Connector Name	FRONT SQUAREWAKER RH
Connector Type	TKQ2FBR



Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	- [Without BOSE audio]
1	V	- [With BOSE audio]
2	LG	- [With BOSE audio]
2	W	- [Without BOSE audio]

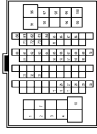
Connector No.	M116
Connector Name	WIRE TO WIRE
Connector Type	TKG3MMV-NS10



Terminal No.	Color Of Wire	Signal Name [Specification]
2	P	-
3	L	-
4	R	-
5	B	-
9	R	-
10	R	-
19	BG	-
20	Y	-
28	B	-
29	LG	-
31	W	-

33	B	-
34	B	-
35	L	-
36	P	-
37	Y	-
38	G	-
43	P	-
44	L	-
45	BR	-
46	BG	-

Connector No.	M117
Connector Name	WIRE TO WIRE
Connector Type	IHB0MW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	G	-
3	GR	-
4	SB	-
7	W	-
10	W	-
15	SB	-
16	V	-
17	BR	-
26	BR	-
27	LG	-
28	Y	-
29	Y	-
30	V	-
31	R	-
32	BR	-
33	G	-
51	R	-
55	W	-
56	B	-
57	R	-
58	G	-
59	SHIELD	-
80	V	-

61	LG	-
62	BR	-
63	L	-
64	LG	-
65	B	-
66	R	-
67	W	-
68	SHIELD	-
69	V	-
70	Y	-
71	SB	-
72	W	-
73	G	-
75	W	-
80	V	-
81	SB	-
82	V	-
83	P	-
84	R	-
85	L	-
86	BG	-
87	L	-
88	P	-
91	V	-
92	G	-
94	G	-
95	W	-
96	G	-
97	Y	-
98	BR	-
99	P	- [Without BOSE audio]
99	V	- [With BOSE audio]
100	L	- [Without BOSE audio]
100	SB	- [With BOSE audio]

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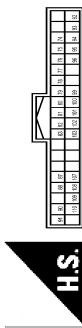
# BOSE AUDIO WITHOUT NAVIGATION

## [BOSE AUDIO WITHOUT NAVIGATION]

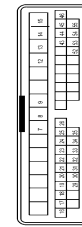
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### BOSE AUDIO WITHOUT NAVIGATION

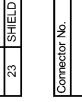
Connector No.	MT22
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FB-NH



Connector No.	MT24
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-CS15



Connector No.	MT44
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-NH



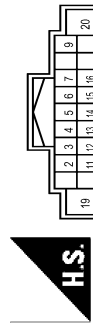
Terminal No.	18	P	RGB (BLUE) SIGNAL
Terminal No.	19	W	RGB SYNC SIGNAL
Terminal No.	20	G	VP
Terminal No.	21	SHIELD	SHIELD
Terminal No.	22	BR	COMM (DISP-CONT)
Terminal No.	23	SHIELD	SHIELD

Connector No.	MT87
Connector Name	USB CONNECTOR
Connector Type	HAAGFG



Terminal No.	1	W	-
Terminal No.	2	L	-
Terminal No.	3	G	-
Terminal No.	4	R	-
Terminal No.	5	SHIELD	-

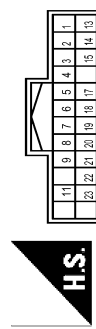
Connector No.	M201
Connector Name	AV CONTROL UNIT
Connector Type	TH18PW-CS2



Terminal No.	2	BR	SOUND SIGNAL FRONT LH(+)
Terminal No.	3	R	SOUND SIGNAL FRONT LH(-)
Terminal No.	4	LG	SOUND SIGNAL REAR DOOR SPEAKER LH(+)
Terminal No.	5	L	SOUND SIGNAL REAR DOOR SPEAKER LH(-)
Terminal No.	6	P	STRG SW A
Terminal No.	7	V	AGC
Terminal No.	9	R	ILLUMINATION SIGNAL

Terminal No.	1	SHIELD	-
Terminal No.	2	W	- [With around view monitor]
Terminal No.	3	SHIELD	- [Without around view monitor]
Terminal No.	4	R	- [With around view monitor]
Terminal No.	4	W	- [Without around view monitor]

Connector No.	MT84
Connector Name	DISPLAY UNIT
Connector Type	TH24PW-NH



Terminal No.	1	B	GROUND
Terminal No.	2	Y	INVERTER VCC
Terminal No.	3	BG	SIGNAL VCC
Terminal No.	4	V	COMPOSITE IMAGE SIGNAL GND
Terminal No.	5	SHIELD	SHIELD
Terminal No.	6	L	RGB (GREEN) SIGNAL
Terminal No.	7	SHIELD	SHIELD
Terminal No.	8	R	HP
Terminal No.	9	B	RGB AREA (Y) SIGNAL
Terminal No.	11	Y	COMM (CONT-DISP)
Terminal No.	13	BR	INVERTER GND
Terminal No.	14	LG	SIGNAL GND
Terminal No.	15	SB	COMPOSITE IMAGE SIGNAL
Terminal No.	17	G	RGB (RED) SIGNAL

Terminal No.	7	Y	-
Terminal No.	8	LG	-
Terminal No.	9	Y	-
Terminal No.	12	L	-
Terminal No.	13	V	-
Terminal No.	14	B	-
Terminal No.	15	W	-
Terminal No.	16	BR	-
Terminal No.	17	B	-
Terminal No.	18	R	-
Terminal No.	19	B	- [Without BOSE audio]
Terminal No.	20	W	- [With BOSE audio]
Terminal No.	21	G	- [Without BOSE audio]
Terminal No.	22	SB	-
Terminal No.	23	GR	-
Terminal No.	24	G	-
Terminal No.	25	Y	-
Terminal No.	26	R	-
Terminal No.	29	SHIELD	-
Terminal No.	30	W	-
Terminal No.	31	LG	-
Terminal No.	32	G	-
Terminal No.	33	BR	-
Terminal No.	34	V	-
Terminal No.	35	G	-
Terminal No.	43	L	-
Terminal No.	44	Y	-
Terminal No.	45	R	-
Terminal No.	46	W	-
Terminal No.	52	R	-
Terminal No.	53	G	-
Terminal No.	54	W	-
Terminal No.	55	BG	-

Terminal No.	74	SB	PASSENGER DOOR ANT-
Terminal No.	75	GR	PASSENGER DOOR ANT+
Terminal No.	76	V	DRIVER DOOR ANT-
Terminal No.	77	LG	DRIVER DOOR ANT+
Terminal No.	78	Y	ROOM ANT-
Terminal No.	79	BR	ROOM ANT+
Terminal No.	80	GR	MYS ANT AMP
Terminal No.	81	W	MYS ANT AMP
Terminal No.	82	V	(G)RELAY (FEB)CONT
Terminal No.	83	Y	KEYLESS ENTRY RECEIVER COMM
Terminal No.	87	BR	COMBI SW INPUT 5
Terminal No.	88	V	COMBI SW INPUT 3
Terminal No.	90	P	CANL
Terminal No.	91	L	CANH
Terminal No.	92	LG	KEY SLOT ILL CONT
Terminal No.	93	V	ON IND
Terminal No.	94	Y	PUDDLE LAMP CONT
Terminal No.	95	BG	ACC RELAY CONT
Terminal No.	96	GR	A/T SHIFT SELECTOR POWER SUPPLY
Terminal No.	99	R	SHIFT P
Terminal No.	100	G	PASSENGER DOOR REQUEST SW
Terminal No.	101	SB	DRIVER DOOR REQUEST SW
Terminal No.	102	BG	BLOWER FAN MOTOR RELAY CONT
Terminal No.	103	LG	KEYLESS ENTRY RECEIVER POWER SUPPLY
Terminal No.	107	LG	COMBI SW INPUT 1
Terminal No.	108	R	COMBI SW INPUT 4
Terminal No.	109	Y	COMBI SW INPUT 2
Terminal No.	110	G	HAZARD SW

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# BOSE AUDIO WITHOUT NAVIGATION

## [BOSE AUDIO WITHOUT NAVIGATION]

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### BOSE AUDIO WITHOUT NAVIGATION

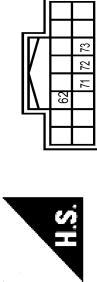
11	L	SOUND SIGNAL FRONT RH (+)
12	L	SOUND SIGNAL FRONT RH (-)
13	L	SOUND SIGNAL REAR DOOR SPEAKER RH (+)
14	P	SOUND SIGNAL REAR DOOR SPEAKER RH (-)
15	B	STRG SW GND
16	L	STRG SW B
19	Y	BATTERY
20	B	GROUND

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



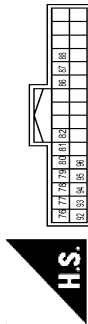
Terminal No.	Color Of Wire	Signal Name [Specification]
36	BG	SIGNAL VCC
37	LG	SIGNAL GND
38	R	HP
39	BR	COMM (DISP-CONT)
40	B	RGB AREA (VSI) SIGNAL
41	SHIELD	SHIELD
42	W	RGB SYNC
43	G	RGB (RRED) SIGNAL
44	L	RGB (GREEN) SIGNAL
45	P	RGB (BLUE) SIGNAL
46	V	COMPOSITE IMAGE SIGNAL GND
47	SB	COMPOSITE IMAGE SIGNAL
48	Y	INVERTER VCC
49	BR	INVERTER GND
50	G	VP
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



Terminal No.	Color Of Wire	Signal Name [Specification]
62	W	CAMERA IMAGE SIGNAL
71	SHIELD	SHIELD
72	W	CAMERA GND
73	R	CAMERA POWER SUPPLY

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



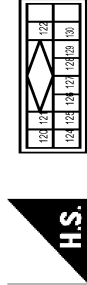
Terminal No.	Color Of Wire	Signal Name [Specification]
76	LG	AV COMM (L)
77	SB	AV COMM (H)
78	LG	AV COMM (L)
79	SB	AV COMM (H)
80	P	CANL
81	L	CANH
82	B	SW GND
86	SHIELD	SHIELD
87	L	TEL VOICE SIGNAL (-)
88	P	TEL VOICE SIGNAL (+)
92	R	VEHICLE SPEED SIGNAL (G-PLUSE)
93	V	PARKING BRAKE SIGNAL
94	BG	REVERSE SIGNAL
95	G	IGNITION SIGNAL
96	Y	DISK EJECT SIGNAL

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



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

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



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

Connector No.	M207
Connector Name	AV CONTROL UNIT
Connector Type	HAAD4FL



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

Connector No.	M203
Connector Name	COMBINATION SWITCH (SPRAL CABLE)
Connector Type	TK08FGY



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

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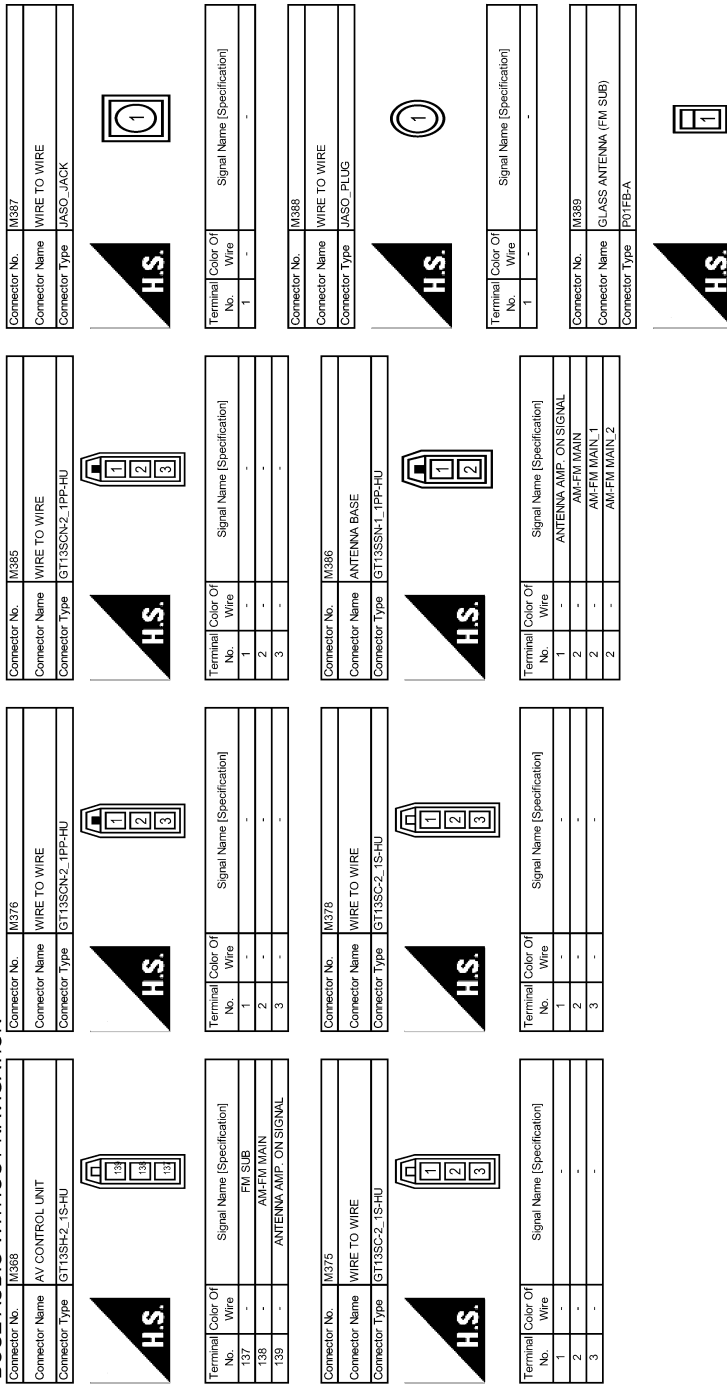
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# BOSE AUDIO WITHOUT NAVIGATION

[BOSE AUDIO WITHOUT NAVIGATION]

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## BOSE AUDIO WITHOUT NAVIGATION



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# BOSE AUDIO WITHOUT NAVIGATION

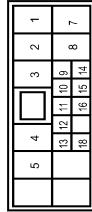
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[BOSE AUDIO WITHOUT NAVIGATION]

## BOSE AUDIO WITHOUT NAVIGATION

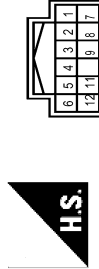
Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	-

Connector No.	RT1
Connector Name	WIRE TO WIRE
Connector Type	NH10FW-CS10



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	-
2	SHIELD	-
3	L	-
4	BR	- [With automatic drive positioner]
4	W	- [Without automatic drive positioner]
5	G	-
7	BR	-
8	Y	-
9	B	-
10	Y	-
11	V	-
12	BR	-
13	R	-
14	W	-
15	SHIELD	-
16	B	-
18	B	-

Connector No.	R2
Connector Name	WIRE TO WIRE
Connector Type	TH12FV-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	-
2	B	-
3	SHIELD	-
4	B	-
5	W	-
6	B	-
7	B	-
8	GR	-
9	V	-
11	Y	-
12	R	-

Connector No.	RT1
Connector Name	WIRE TO WIRE
Connector Type	TH12MW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-

Terminal No.	11	-	-
Terminal No.	12	-	-

Connector No.	RT7
Connector Name	MICROPHONE
Connector Type	TK04FW



Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	MICROPHONE SIGNAL
2	-	MICROPHONE GND
4	-	MICROPHONE VCC

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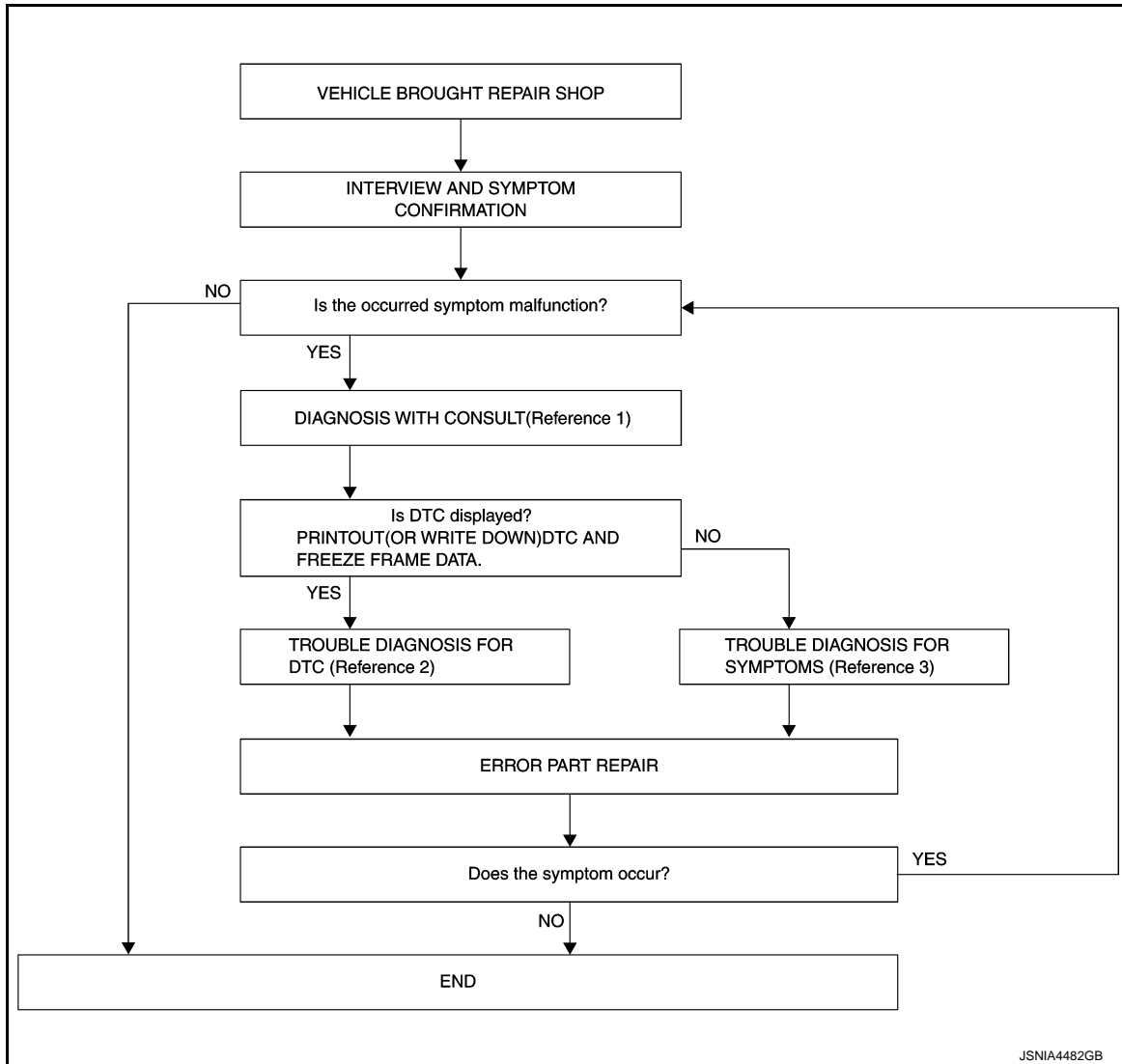
## BASIC INSPECTION

### DIAGNOSIS AND REPAIR WORKFLOW

Work Flow (Multi AV)

INFOID:000000009061540

#### OVERALL SEQUENCE



JSNIA4482GB

- Reference 1... Refer to [AV-170. "CONSULT Function \(MULTI AV\)".](#)
- Reference 2... Refer to [AV-186. "DTC Index".](#)
- Reference 3... Refer to [AV-306. "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



# DIAGNOSIS AND REPAIR WORKFLOW

[BOSE AUDIO WITHOUT NAVIGATION]

< BASIC INSPECTION >

1. Connect CONSULT and perform a self-diagnosis for "MULTI AV". Refer to [AV-170, "CONSULT Function \(MULTI AV\)"](#).

**NOTE:**

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

2. When DTC is detected, follow the instructions below:
  - Record DTC and Freeze Frame Data.

Is DTC displayed?

YES >> GO TO 3.

NO >> GO TO 4.

## 3. TROUBLE DIAGNOSIS FOR DTC

1. Check the DTC indicated in the "Self-Diagnosis Results".
2. Perform the relevant diagnosis referring to the DTC Index. Refer to [AV-186, "DTC Index"](#).

>> GO TO 5.

## 4. TROUBLE DIAGNOSIS FOR SYMPTOMS

Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to [AV-306, "Symptom Table"](#).

>> GO TO 5.

## 5. ERROR PART REPAIR

1. Repair or replace the identified malfunctioning parts.
2. Perform a self-diagnosis for "MULTI AV" with CONSULT.

**NOTE:**

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

3. Check that the symptom does not occur.

Does the symptom occur?

YES >> GO TO 1.

NO >> INSPECTION END

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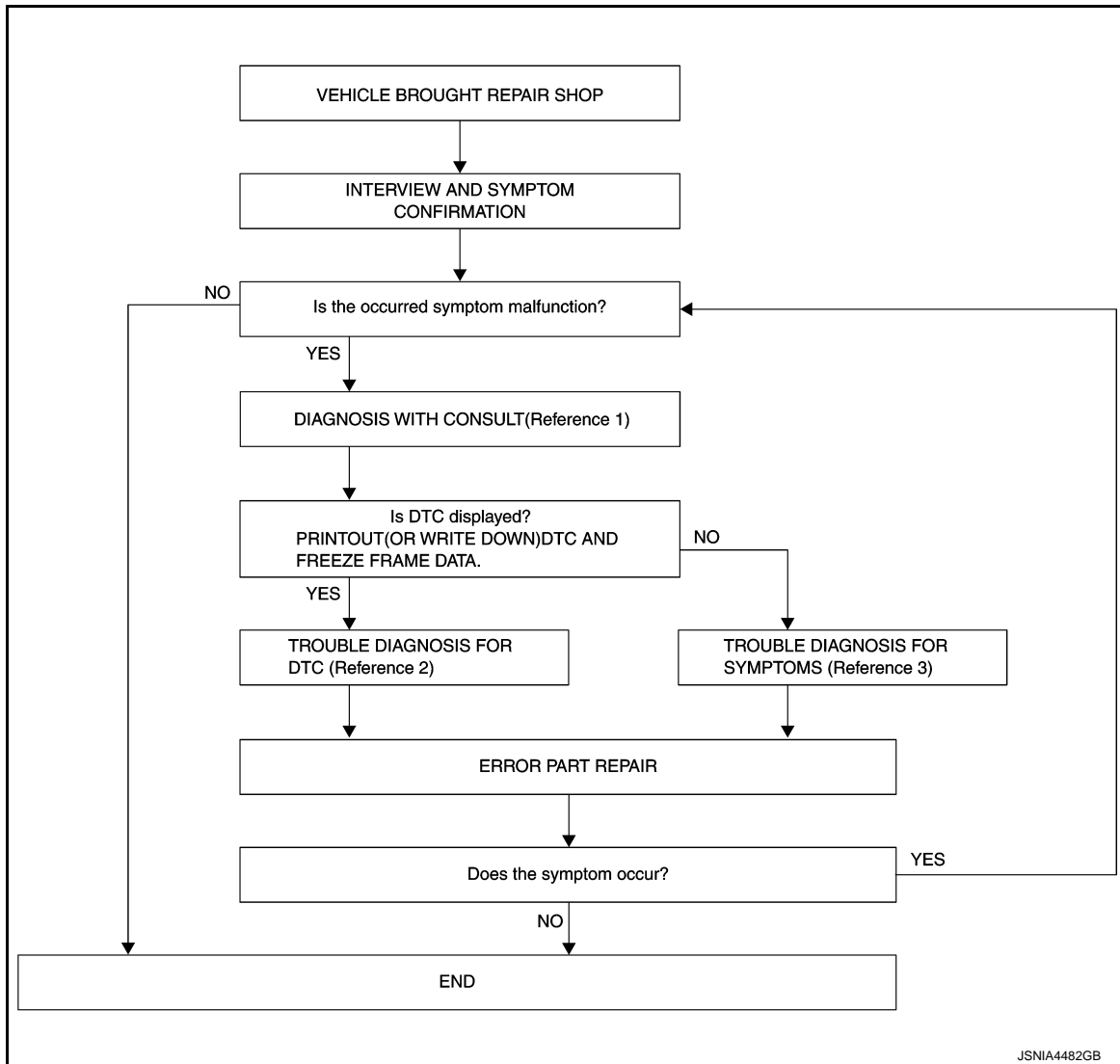
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## Work Flow (Camera Assistance Sonar)

INFOID:000000009061541

### OVERALL SEQUENCE



- Reference 1... Refer to [AV-178, "CONSULT Function \(SONAR\)"](#).
- Reference 2... Refer to [AV-204, "DTC Index"](#).
- Reference 3... Refer to [AV-306, "Symptom Table"](#).

### DETAILED FLOW

#### 1. INTERVIEW AND SYMPTOM CONFIRMATION

Check the malfunction symptoms by performing the following items.

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

Is the occurred symptom malfunction?

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

#### 2. DIAGNOSIS WITH CONSULT

1. Connect CONSULT and perform a self-diagnosis for "SONAR". Refer to [AV-178, "CONSULT Function \(SONAR\)"](#).

**NOTE:**

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

# DIAGNOSIS AND REPAIR WORKFLOW

[BOSE AUDIO WITHOUT NAVIGATION]

< BASIC INSPECTION >

- When DTC is detected, follow the instructions below:
  - Record DTC and Freeze Frame Data.

Is DTC displayed?

YES >> GO TO 3.

NO >> GO TO 4.

## 3. TROUBLE DIAGNOSIS FOR DTC

- Check the DTC indicated in the "Self-Diagnosis Results".
- Perform the relevant diagnosis referring to the DTC Index. Refer to [AV-204. "DTC Index"](#).

>> GO TO 5.

## 4. TROUBLE DIAGNOSIS FOR SYMPTOMS

Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to [AV-306. "Symptom Table"](#).

>> GO TO 5.

## 5. ERROR PART REPAIR

- Repair or replace the identified malfunctioning parts.
- Perform a self-diagnosis for "SONAR" with CONSULT.

**NOTE:**

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

- Check that the symptom does not occur.

Does the symptom occur?

YES >> GO TO 1.

NO >> INSPECTION END

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AV

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**INSPECTION AND ADJUSTMENT****ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT****ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Description**

INFOID:000000009061542

**BEFORE REPLACEMENT**

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

**AFTER REPLACEMENT****CAUTION:**

When replacing AV control unit, you must perform "After Replace ECU" or "Manual configuration" with CONSULT.

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

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

INFOID:000000009061543

**1. SAVING VEHICLE SPECIFICATION**

---

**ⓐCONSULT Configuration**

Perform "Before Replace ECU" to save or print current vehicle specification. Refer to [AV-232. "CONFIGURATION \(AV CONTROL UNIT\) : Description"](#).

**NOTE:**

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

>> GO TO 2.

**2. REPLACE AV CONTROL UNIT**

---

Replace AV control unit. Refer to [AV-315. "Exploded View"](#).

>> GO TO 3.

**3. WRITING VEHICLE SPECIFICATION**

---

**ⓐCONSULT Configuration**

Perform "After Replace ECU" or "Manual Configuration" to write vehicle specification. Refer to [AV-233. "CONFIGURATION \(AV CONTROL UNIT\) : Work Procedure"](#).

>> GO TO 4.

**4. OPERATION CHECK**

---

Check that the operation of the AV control unit is normal.

>> WORK END

**CONFIGURATION (AV CONTROL UNIT)****CONFIGURATION (AV CONTROL UNIT) : Description**

INFOID:000000009061544

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

# INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[BOSE AUDIO WITHOUT NAVIGATION]

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

## CONFIGURATION (AV CONTROL UNIT) : Work Procedure

INFOID:000000009061545

### 1. WRITE VEHICLE SPECIFICATION

#### CONSULT Configuration

Write vehicle specification into AV control unit.

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

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

### 2. WRITE STORED DATA

#### CONSULT Configuration

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

>> GO TO 4.

### 3. MANUALLY WRITE VEHICLE SPECIFICATION

#### CONSULT Configuration

Perform "Manual Configuration". Refer to the Configuration List to write vehicle specification into the AV control unit. Refer to [AV-233. "CONFIGURATION \(AV CONTROL UNIT\) : Configuration List"](#).

#### NOTE:

If selection items are not displayed on the CONSULT screen, touch "NEXT".

>> GO TO 4.

### 4. OPERATION CHECK

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

>> WORK END

## CONFIGURATION (AV CONTROL UNIT) : Configuration List

INFOID:000000009061546

#### CAUTION:

Grasp vehicle specifications precisely. The control of ECU may not function normally if the specifications are misread.

#### NOTE:

- The items shown in this list depend on vehicle specifications.
- The config list may not be displayed depending on vehicle specifications. This is not a malfunction.

MANUAL SETTING ITEM	
Items	Setting value
STEERING	LHD
	RHD

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# INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[BOSE AUDIO WITHOUT NAVIGATION]

MANUAL SETTING ITEM	
Items	Setting value
CAMERA SYSTEM	NONE/AVM
	REAR CAMERA
	REAR+SIDE
SOUND SYSTEM	BASE
	BOSE
AUXILIARY INPUT JACKS	WITHOUT
	WITH

**NOTE:**

AVM: Around view monitor

## PREDICTIVE COURSE LINE CENTER POSITION ADJUSTMENT

### PREDICTIVE COURSE LINE CENTER POSITION ADJUSTMENT : Description

INFOID:000000009061547

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:000000009061548

## 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:000000009061549

- 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) : Special Repair Requirement

INFOID:000000009061550

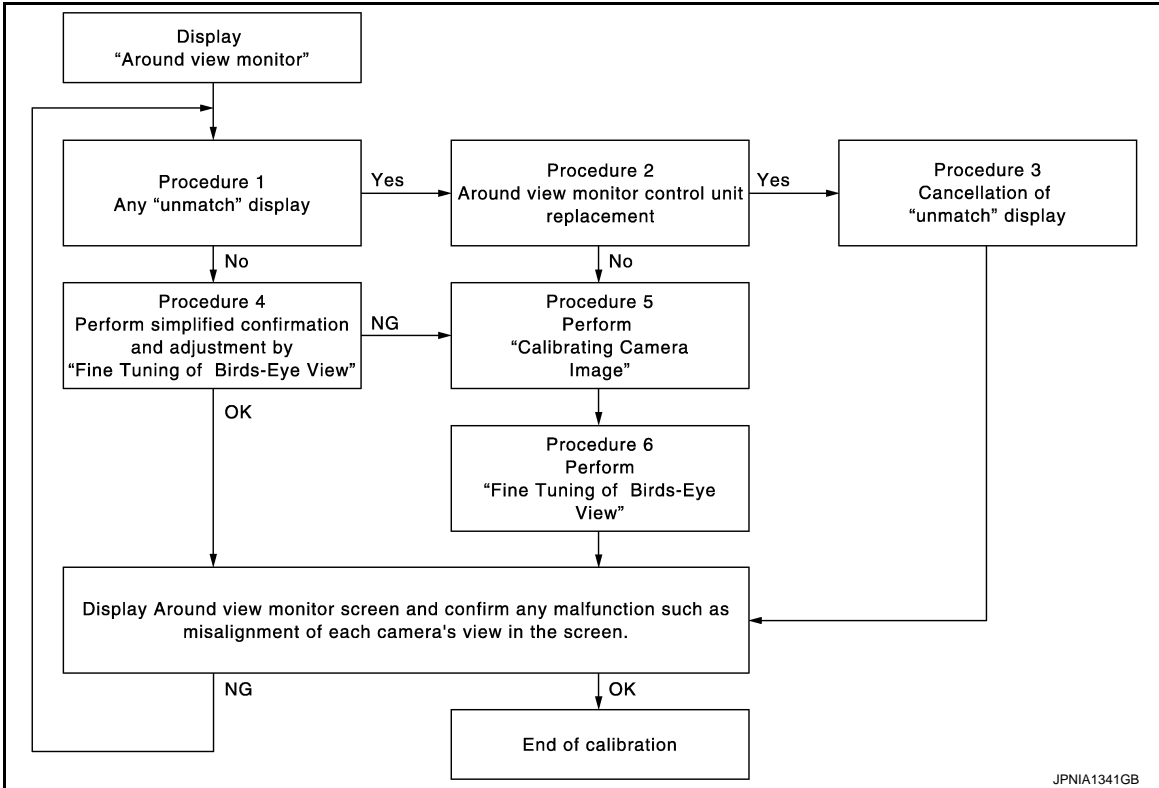
Calibration flowchart

# INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

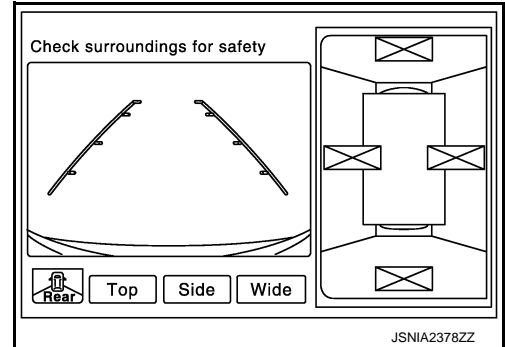
[BOSE AUDIO WITHOUT NAVIGATION]

Following the flowchart shown in the figure, perform the calibration.



**NOTE:**

In the un-match display, the un-match camera position is indicated as "⊠" on the birds-eye view.



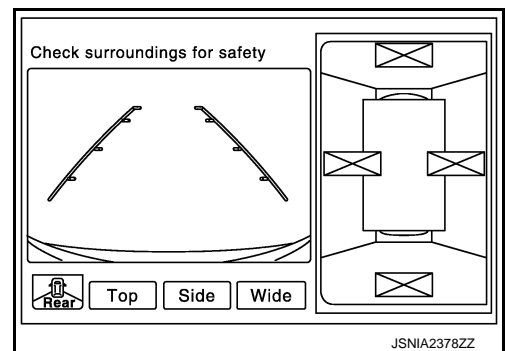
Calibration procedure

**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.

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# INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

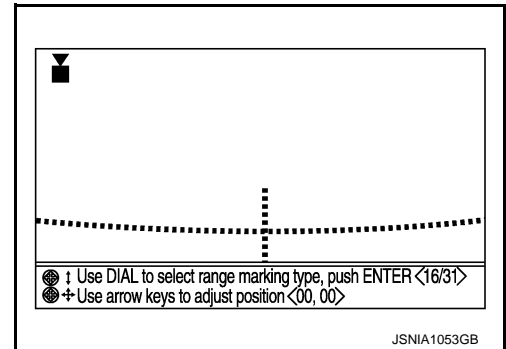
[BOSE AUDIO WITHOUT NAVIGATION]

## 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.



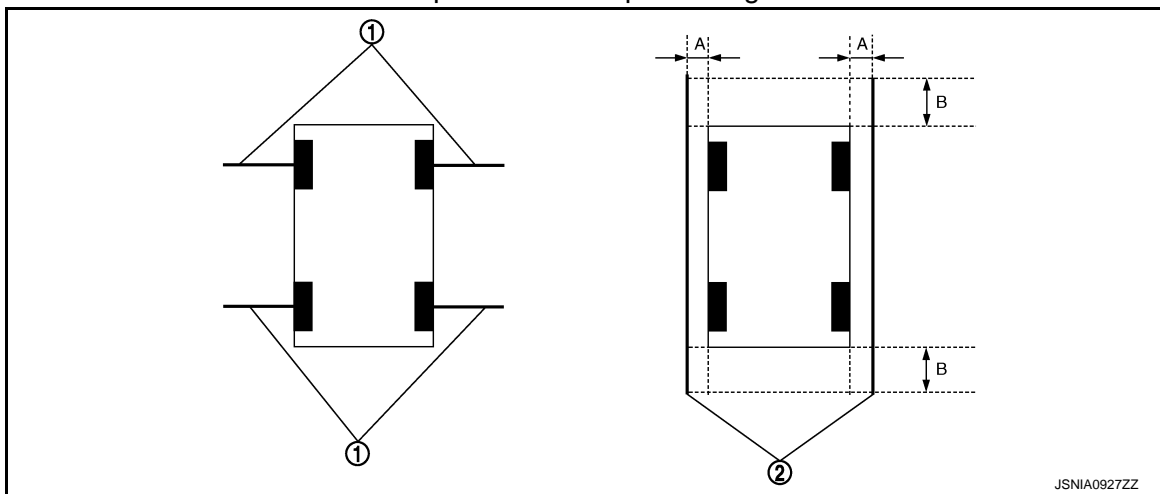
Is there a malfunction?

- 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)

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 of multifunction switch 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 of multifunction switch 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.

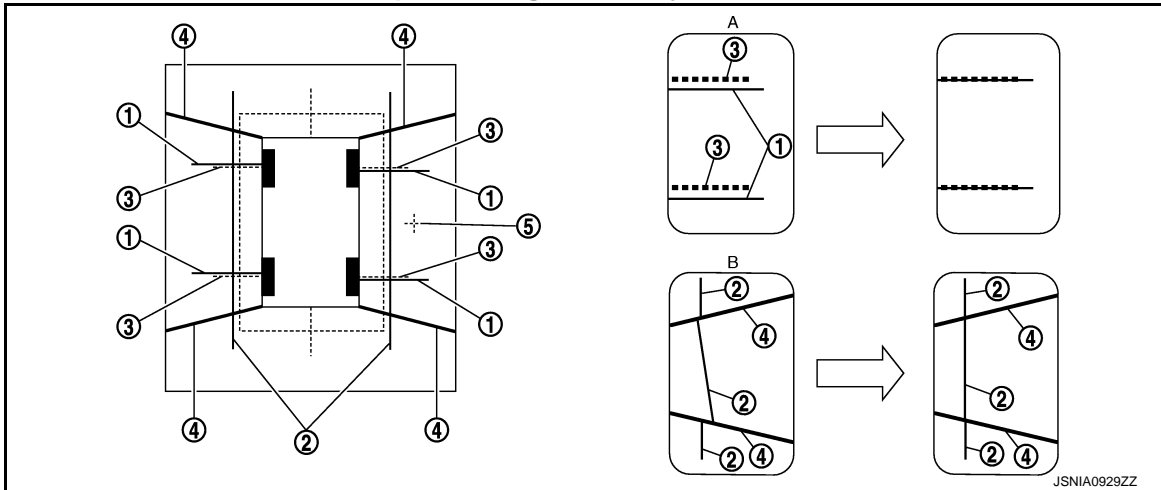


# INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[BOSE AUDIO WITHOUT NAVIGATION]

## 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”.
- The adjustment value is cancelled on this mode by performing “Initialize Camera Image Calibration”.

Is the difference corrected?

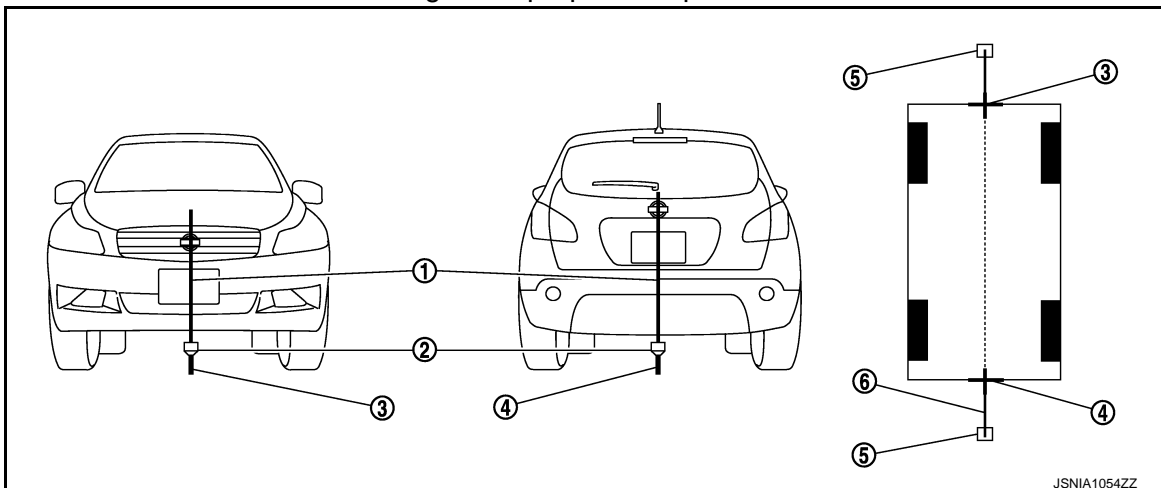
- YES >> Finish the writing to around view monitor control unit by pressing “ENTER” switch.  
 NO >> GO TO 5.

## 5.PERFORM “CALIBRATING CAMERA IMAGE”

Preparation of target line

1. Hang a string with a weight as shown in the figure. Put the points FM0, RM0 (mark) on the ground at the center of the vehicle front end and rear end with white packing tape or a pen.
2. Route the vinyl string under the vehicle, and then pull and fix it on the point approximately 1.0 m (39.9 in) to the front and rear of the vehicle through the points FM0 and RM0 using packing tape.

### Target line preparation procedure 1



- |                     |                                           |                     |
|---------------------|-------------------------------------------|---------------------|
| 1. Thread           | 2. Weight                                 | 3. Point FM0 (mark) |
| 4. Point RM0 (mark) | 5. Packing tape (to fix the vinyl string) | 6. Vinyl string     |

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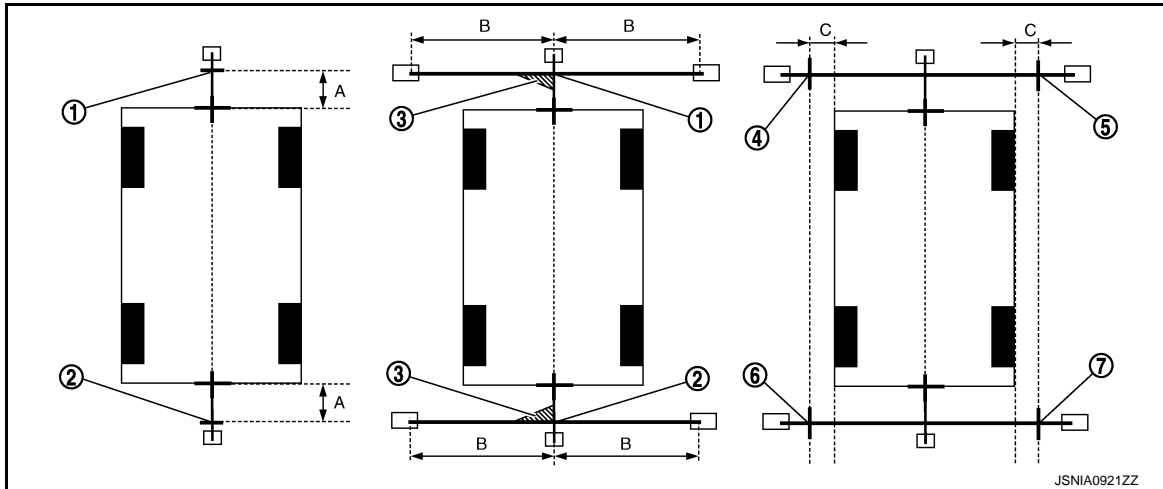
# INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[BOSE AUDIO WITHOUT NAVIGATION]

3. Put the points FM and RM (mark) 75 cm (29.5 in) from the points FM0 and RM0 individually.
4. Route the vinyl string through the points FM and RM using a triangle scale, and then fix it at approximately 1.5 m (59 in) on both sides with packing tape.
5. Put the points FL, FR, RL, and RR (mark) to both right and left [vehicle width / 2 + 30 cm (11.8 in)] from the points FM and RM.

Target line preparation procedure 2



1. Point FM
4. Point FL (mark)
7. Point RR (mark)

2. Point RM
5. Point FR (mark)

3. Triangle scale
6. Point RL (mark)

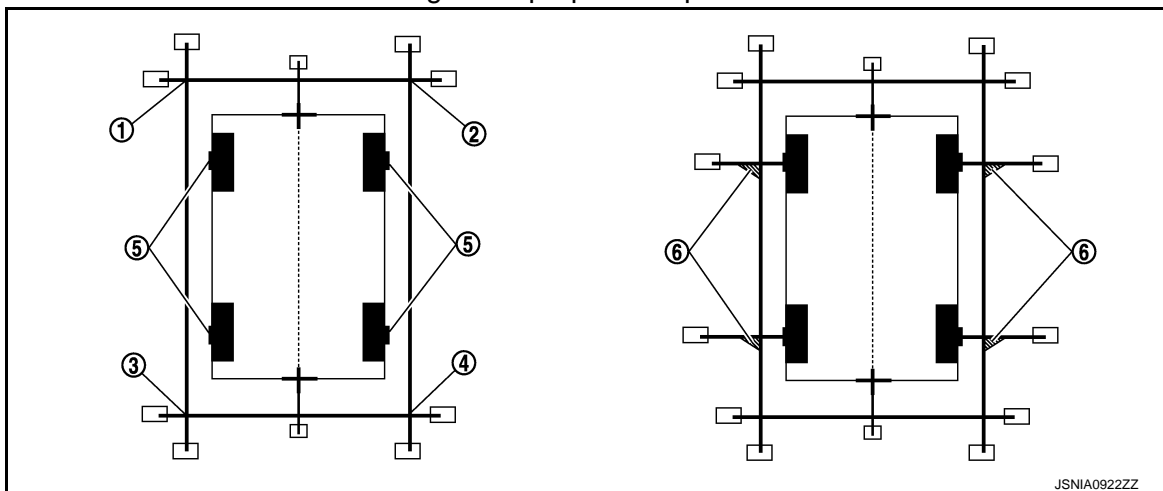
A. 75 cm (29.5 in)

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
4. Point RR

2. Point FR
5. Center position of axle

3. Point RL
6. Triangle scale

Perform “Calibrating Camera Image”

1. Select “Camera Cont.” of “Confirmation/ Adjustment” mode, and then set to “Calibrating Camera Image” mode.

# INSPECTION AND ADJUSTMENT

[BOSE AUDIO WITHOUT NAVIGATION]

## < BASIC INSPECTION >

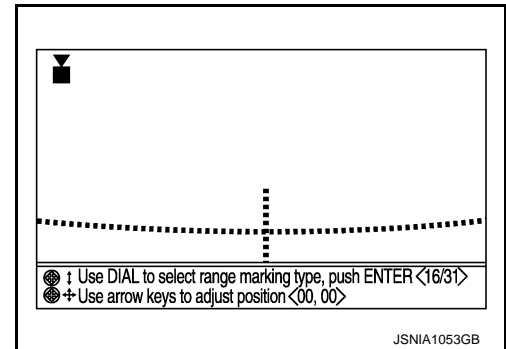
2. Overlap the target lines drawn on the ground with the calibration marker on the screen by operating the center dial and upper/lower/left/right switches of multifunction switch on each screen of "Rear Camera", "Pass-Side Camera", "Front Camera", "Dr-Side Camera".

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.
2. Operate the center dial and upper/lower/left/right switches of multifunction switch to overlap the marker on the screen and the target lines on the ground.

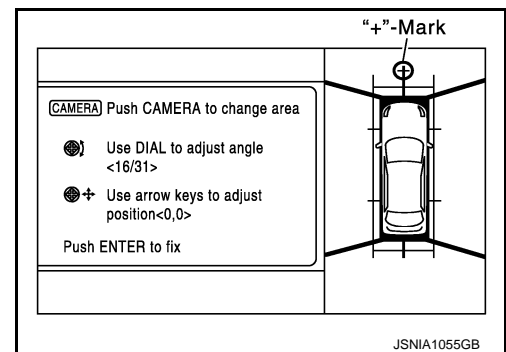
**CAUTION:**

**Operate the center dial slowly because the changing of the screen takes approximately 1 second.**

**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

# U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## DTC/CIRCUIT DIAGNOSIS

### U1000 CAN COMM CIRCUIT

#### Description

INFOID:000000009061551

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-25, "CAN System Specification Chart"](#).

#### DTC Logic

INFOID:000000009061552

#### DTC DETECTION LOGIC

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

#### Diagnosis Procedure

INFOID:000000009061553

#### 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-16, "Trouble Diagnosis Procedure"](#).  
NO >> Refer to GI section. Refer to [GI-42, "Intermittent Incident"](#).

# U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## U1010 CONTROL UNIT (CAN)

### DTC Logic

INFOID:000000009061554

### DTC DETECTION LOGIC

DTC	Display contents of CONSULT	DTC detection condition	Probable malfunction factor
U1010	CONTROL UNIT (CAN) [U1010]	CAN initial diagnosis malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-315, "Exploded View"</a> .

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# U1200 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## U1200 AV CONTROL UNIT

### DTC Logic

INFOID:000000009061555

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1200	Cont Unit [U1200]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-315, "Exploded View"</a> .

# U1216 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## U1216 AV CONTROL UNIT

### DTC Logic

INFOID:000000009061556

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1216	CAN CONT [U1216]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-315, "Exploded View"</a> .

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# U121D AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## U121D AV CONTROL UNIT

### DTC Logic

INFOID:000000009061557

DTC	Display contents of CONSULT	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:000000009061558

#### 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-315. "Exploded View"](#).



# U121E AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## U121E AV CONTROL UNIT

### DTC Logic

INFOID:000000009061559

DTC	Display contents of CONSULT	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:000000009061560

#### 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-315. "Exploded View"](#).

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AV

# U1225 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## U1225 AV CONTROL UNIT

### DTC Logic

INFOID:000000009061561

### DTC DETECTION LOGIC

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

# U1228 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## U1228 AV CONTROL UNIT

### DTC Logic

INFOID:000000009061562

### DTC DETECTION LOGIC

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1228	SUB CPU CONN [U1228]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-315, "Exploded View"</a> .

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# U1229 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## U1229 AV CONTROL UNIT

### DTC Logic

INFOID:000000009061563

### DTC DETECTION LOGIC

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1229	iPod CERTIFICATION [U1229]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-315, "Exploded View"</a> .

# U122A AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## U122A AV CONTROL UNIT

### DTC Logic

INFOID:000000009061564

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

### Diagnosis Procedure

INFOID:000000009061565

#### 1.PERFORM THE SELF-DIAGNOSIS

When U122A is detected, write configuration data with "MULTI AV" of CONSULT.

>> Write configuration data with "MULTI AV" of CONSULT. Refer to [AV-233, "CONFIGURATION \(AV CONTROL UNIT\) : Work Procedure"](#).

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# U122E AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## U122E AV CONTROL UNIT

### DTC Logic

INFOID:000000009061566

### DTC DETECTION LOGIC

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U122E	Built-in AUDIO CONN [U122E]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-315, "Exploded View"</a> .

# U1232 STEERING ANGLE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## U1232 STEERING ANGLE SENSOR

### DTC Logic

INFOID:000000009061567

DTC	Display contents of CONSULT	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:000000009061568

#### 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 DISPLAY UNIT

[BOSE AUDIO WITHOUT NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

## U1243 DISPLAY UNIT

### DTC Logic

INFOID:000000009061569

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1243	FRONT DISP CONN [U1243]	When either one of the following items is detected: <ul style="list-style-type: none"><li>• Display unit power supply and ground circuit malfunction is detected.</li><li>• communication circuit between AV control unit and display unit.</li></ul>	<ul style="list-style-type: none"><li>• Display unit power supply and ground circuit.</li><li>• Communication circuit between AV control unit and display unit.</li></ul>

### Diagnosis Procedure

INFOID:000000009061570

#### 1. CHECK DISPLAY UNIT POWER SUPPLY AND GROUND CIRCUIT

Check display unit power supply and ground circuit. Refer to [AV-267. "DISPLAY UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair malfunctioning parts.

#### 2. CHECK CONTINUITY COMMUNICATION CIRCUIT

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

Display unit		AV control unit		Continuity
Connector	Terminals	Connector	Terminals	
M194	11	M202	51	Existed
	22		39	

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

Display unit		Ground	Continuity
Connector	Terminals		
M194	11		Not existed
	22		

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

#### 3. CHECK COMMUNICATION SIGNAL

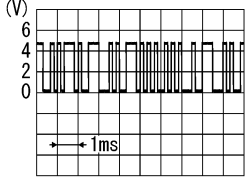
1. Connect display unit connector and AV control unit connector.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector and ground.



# U1243 DISPLAY UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

(+)		(-)	Condition	Reference value
Display unit				
Connector	Terminal			
M194	11	Ground	When adjusting display brightness.	 <p>PKIB5039J</p>

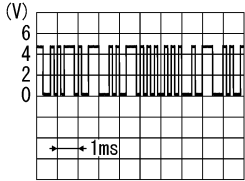
Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace AV control unit. Refer to [AV-315. "Exploded View"](#).

## 4. CHECK COMMUNICATION SIGNAL

Check signal between display unit harness connector and ground.

(+)		(-)	Condition	Reference value
Display unit				
Connector	Terminal			
M194	22	Ground	When adjusting display brightness.	 <p>PKIB5039J</p>

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace display unit. Refer to [AV-316. "Exploded View"](#).

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# U1255 SATELLITE RADIO TUNER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## U1255 SATELLITE RADIO TUNER

### DTC Logic

INFOID:000000009061571

DTC	Display contents of CONSULT	DTC Detection Condition	Possible causes
U1255	SAT CONN [U1255]	<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 circuit 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>

### Diagnosis Procedure

INFOID:000000009061572

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

Check satellite radio tuner power supply and ground circuit. Refer to [AV-268, "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

- Turn ignition switch OFF.
- Disconnect AV control unit connector and satellite radio tuner connector.
- 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
	122		10	
	130		9	

- Check continuity between AV control unit harness connector.

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

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

#### 3. CHECK AV CONTROL UNIT VOLTAGE

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

(+)		(-)	Condition	Reference value (Approx.)
AV control unit				
Connector	Terminals			

# U1255 SATELLITE RADIO TUNER

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

M206	129	Ground	When satellite radio mode is selected.	<p>SKIA9299J</p>
	122	Ground		<p>SKIA9300J</p>

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace AV control unit. Refer to [AV-315. "Exploded View"](#).

## 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 signal between satellite radio tuner harness connector and ground.

(+)		(-)	Condition	Reference value (Approx.)
Connector	Terminal			
B236	10	Ground	When satellite radio mode is selected.	<p>SKIA9301J</p>

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace satellite radio tuner. Refer to [AV-324. "Exploded View"](#).

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# U1263 USB

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## U1263 USB

### DTC Logic

INFOID:000000009061573

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

### Diagnosis Procedure

INFOID:000000009061574

#### 1. CHECK USB HARNESS

Visually check USB harness.

Is the inspection result normal?

- YES >> Replace AV control unit. Refer to [AV-315, "Exploded View"](#).
- NO >> Replace USB harness.

# U1300 AV COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## U1300 AV COMM CIRCUIT

### Description

INFOID:000000009061575

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

### SELF-DIAGNOSIS RESULTS DISPLAY ITEM

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1300 U1240	<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 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 around view monitor 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 around view monitor control unit and sonar control unit.</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 around view monitor 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 around view monitor control unit and TEL adapter unit are malfunctioning.</li> </ul>
U1300 U125B U1256	<ul style="list-style-type: none"> <li>AV COMM CIRCUIT [U1300]</li> <li>AROUND CAMERA CONN [U125B]</li> <li>HAND FREE CONN [U1256]</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 are malfunctioning.
U1300 U1240 U125B U1256	<ul style="list-style-type: none"> <li>AV COMM CIRCUIT [U1300]</li> <li>SWITCH CONN [U1240]</li> <li>AROUND CAMERA CONN [U125B]</li> <li>HAND FREE CONN [U1256]</li> </ul>	AV communication circuits between AV control unit and multifunction switch are malfunctioning.	AV communication circuits between AV control unit and multifunction switch.

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# U1310 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## U1310 AV CONTROL UNIT

### DTC Logic

INFOID:000000009061576

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1310	CONTROL UNIT (AV) [U1310]	An initial diagnosis error is detected in AV communication circuit.	Replace AV control unit. Refer to <a href="#">AV-315. "Exploded View"</a> .

# B2700 CORNER SENSOR [FL]

[BOSE AUDIO WITHOUT NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

## B2700 CORNER SENSOR [FL]

### DTC Logic

INFOID:000000009061577

### DTC DETECTION LOGIC

DTC No.	CONSULT indication	DTC detection condition	Troubleshooting
B2700	CORNER SENSOR [FL] [B2700]	Corner sensor front LH is malfunctioning.	Replace corner sensor front LH. Refer to <a href="#">AV-336, "FRONT : Exploded View"</a> .

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# B2701 SENSOR HARNESS OPEN [CR-FL]

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## B2701 SENSOR HARNESS OPEN [CR-FL]

### DTC Logic

INFOID:000000009061578

### DTC DETECTION LOGIC

DTC No.	CONSULT indication	DTC detection condition	Troubleshooting
B2701	SENSOR HARNESS OPEN [CR-FL] [B2701]	Corner sensor front LH harness circuit is open.	Check corner sensor front LH circuit.

### Diagnosis Procedure

INFOID:000000009061579

#### 1.CHECK HARNESS CORNER SENSOR FRONT LH SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect sonar control unit connector and corner sensor front LH connector.
3. Check continuity between sonar control unit harness connector and corner sensor front LH harness connector.

Sonar control unit		Corner sensor front LH		Continuity
Connector	Terminal	Connector	Terminal	
M47	3	E63	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 FRONT LH GROUND CIRCUIT

Check continuity between sonar control unit harness connector and corner sensor front LH harness connector.

Sonar control unit		Corner sensor front LH		Continuity
Connector	Terminal	Connector	Terminal	
M47	12	E63	2	Existed

Is the inspection result normal?

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



# B2702 CORNER SENSOR [FR]

[BOSE AUDIO WITHOUT NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

## B2702 CORNER SENSOR [FR]

### DTC Logic

INFOID:000000009061580

### DTC DETECTION LOGIC

DTC No.	CONSULT indication	DTC detection condition	Troubleshooting
B2702	CORNER SENSOR [FR] [B2702]	Corner sensor front RH is malfunctioning.	Replace corner sensor front RH. Refer to <a href="#">AV-336, "FRONT : Exploded View"</a> .

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# B2703 SENSOR HARNESS OPEN [CR-FR]

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## B2703 SENSOR HARNESS OPEN [CR-FR]

### DTC Logic

INFOID:000000009061581

### DTC DETECTION LOGIC

DTC No.	CONSULT indication	DTC detection condition	Troubleshooting
B2703	SENSOR HARNESS OPEN [CR-FR] [B2703]	Corner sensor front RH harness circuit is open.	Check corner sensor front RH circuit.

### Diagnosis Procedure

INFOID:000000009061582

#### 1. CHECK HARNESS CORNER SENSOR FRONT RH SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect sonar control unit connector and corner sensor front RH connector.
3. Check continuity between sonar control unit harness connector and corner sensor front RH harness connector.

Sonar control unit		Corner sensor front RH		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 FRONT RH GROUND CIRCUIT

Check continuity between sonar control unit harness connector and corner sensor front RH harness connector.

Sonar control unit		Corner sensor front RH		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]

[BOSE AUDIO WITHOUT NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

## B2704 CORNER SENSOR [RL]

### DTC Logic

INFOID:000000009061583

### DTC DETECTION LOGIC

DTC No.	CONSULT indication	DTC detection condition	Troubleshooting
B2704	CORNER SENSOR [RL] [B2704]	Corner sensor rear LH is malfunctioning.	Replace corner sensor rear LH. Refer to <a href="#">AV-337, "REAR : Exploded View"</a> .

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# B2705 SENSOR HARNESS OPEN [CR-RL]

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## B2705 SENSOR HARNESS OPEN [CR-RL]

### DTC Logic

INFOID:000000009061584

### DTC DETECTION LOGIC

DTC No.	CONSULT indication	DTC detection condition	Troubleshooting
B2705	SENSOR HARNESS OPEN [CR-RL] [B2705]	Corner sensor rear LH harness circuit is open.	Check corner sensor rear LH circuit.

### Diagnosis Procedure

INFOID:000000009061585

#### 1. CHECK HARNESS CORNER SENSOR REAR LH SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect sonar control unit connector and corner sensor rear LH connector.
3. Check continuity between sonar control unit harness connector and corner sensor rear LH harness connector.

Sonar control unit		Corner sensor rear LH		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 REAR LH GROUND CIRCUIT

Check continuity between sonar control unit harness connector and corner sensor rear LH harness connector.

Sonar control unit		Corner sensor rear LH		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]

[BOSE AUDIO WITHOUT NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

## B2706 CORNER SENSOR [RR]

### DTC Logic

INFOID:000000009061586

### DTC DETECTION LOGIC

DTC No.	CONSULT indication	DTC detection condition	Troubleshooting
B2706	CORNER SENSOR [RR] [B2706]	Corner sensor rear RH is malfunctioning.	Replace corner sensor rear RH. Refer to <a href="#">AV-337, "REAR : Exploded View"</a> .

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# B2707 SENSOR HARNESS OPEN [CR-RR]

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## B2707 SENSOR HARNESS OPEN [CR-RR]

### DTC Logic

INFOID:000000009061587

### DTC DETECTION LOGIC

DTC No.	CONSULT indication	DTC detection condition	Troubleshooting
B2707	SENSOR HARNESS OPEN [CR-RR] [B2707]	Corner sensor rear RH harness circuit is open.	Check corner sensor rear RH circuit.

### Diagnosis Procedure

INFOID:000000009061588

#### 1. CHECK HARNESS CORNER SENSOR REAR RH SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect sonar control unit connector and corner sensor rear RH connector.
3. Check continuity between sonar control unit harness connector and corner sensor rear RH harness connector.

Sonar control unit		Corner sensor rear RH		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 REAR RH GROUND CIRCUIT

Check continuity between sonar control unit harness connector and corner sensor rear RH harness connector.

Sonar control unit		Corner sensor rear RH		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 >

[BOSE AUDIO WITHOUT NAVIGATION]

## POWER SUPPLY AND GROUND CIRCUIT

### AV CONTROL UNIT

#### AV CONTROL UNIT : Diagnosis Procedure

INFOID:000000009061589

#### 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.

## DISPLAY UNIT

#### DISPLAY UNIT : Diagnosis Procedure

INFOID:000000009061590

#### 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 display unit and AV control unit.
3. Check continuity between display unit harness connector and AV control unit harness connector.

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# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

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

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

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 display unit connector.
3. Check continuity between 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.

## SATELLITE RADIO TUNER

### SATELLITE RADIO TUNER : Diagnosis Procedure

INFOID:000000009061591

#### 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.



# POWER SUPPLY AND GROUND CIRCUIT

[BOSE AUDIO WITHOUT NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

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.

## BOSE AMP.

### BOSE AMP. : Diagnosis Procedure

INFOID:000000009061592

## 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.

## TEL ADAPTER UNIT

### TEL ADAPTER UNIT : Diagnosis Procedure

INFOID:000000009061593

## 1.CHECK FUSE

Check for blown fuses.

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

# POWER SUPPLY AND GROUND CIRCUIT

[BOSE AUDIO WITHOUT NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

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.

## AROUND VIEW MONITOR CONTROL UNIT

### AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure

INFOID:000000009061594

## 1.CHECK FUSE

Check for blown fuses.

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

Is inspection result normal?

YES >> GO TO 2.

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

## 2.CHECK POWER SUPPLY 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.

# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

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:000000009061595

#### 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.)
ACC 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.

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AV

# RGB (R: RED) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## RGB (R: RED) SIGNAL CIRCUIT

### Description

INFOID:000000009061596

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

### Diagnosis Procedure

INFOID:000000009061597

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

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

Display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M194	17	M202	43	Existed

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

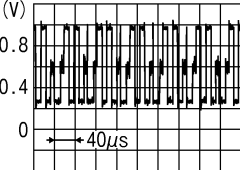
Display unit		Ground	Continuity
Connector	Terminal		
M194	17		Not existed

Is inspection result normal?

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

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

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

(+)		(-)	Condition	Reference value
Display unit				
Connector	Terminal			
M194	17	Ground	Start confirmation/adjustment mode, and then display color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	 <p style="text-align: right;">JSNIA1029ZZ</p>

Is inspection result normal?

- YES >> Replace display unit. Refer to [AV-316. "Exploded View"](#).  
 NO >> Replace AV control unit. Refer to [AV-315. "Exploded View"](#).

# RGB (G: GREEN) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## RGB (G: GREEN) SIGNAL CIRCUIT

### Description

INFOID:000000009061598

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

### Diagnosis Procedure

INFOID:000000009061599

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

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

Display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M194	6	M202	44	Existed

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

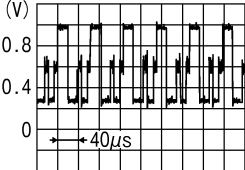
Display unit		Ground	Continuity
Connector	Terminal		
M194	6		Not existed

Is inspection result normal?

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

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

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

(+)		(-)	Condition	Reference value
Display unit				
Connector	Terminal			
M194	6	Ground	Start confirmation/adjustment mode, and then display color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	 <p>(V)</p> <p>0.8</p> <p>0.4</p> <p>0</p> <p>40µs</p> <p>JSNIA1030ZZ</p>

Is inspection result normal?

- YES >> Replace display unit. Refer to [AV-316. "Exploded View"](#).  
 NO >> Replace AV control unit. Refer to [AV-315. "Exploded View"](#).

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# RGB (B: BLUE) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## RGB (B: BLUE) SIGNAL CIRCUIT

### Description

INFOID:000000009061600

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

### Diagnosis Procedure

INFOID:000000009061601

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

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

Display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M194	18	M202	45	Existed

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

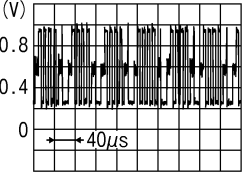
Display unit		Ground	Continuity
Connector	Terminal		
M194	18		Not existed

Is inspection result normal?

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

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

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

(+)		(-)	Condition	Reference value
Display unit				
Connector	Terminal			
M194	18	Ground	Start confirmation/adjustment mode, and then display color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	 <p>(V)</p> <p>0.8</p> <p>0.4</p> <p>0</p> <p>← 40µs</p> <p>JSNIA1031ZZ</p>

Is inspection result normal?

- YES >> Replace display unit. Refer to [AV-316. "Exploded View"](#).  
NO >> Replace AV control unit. Refer to [AV-315. "Exploded View"](#).

# RGB SYNCHRONIZING SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## RGB SYNCHRONIZING SIGNAL CIRCUIT

### Description

INFOID:000000009061602

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

### Diagnosis Procedure

INFOID:000000009061603

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

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

Display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M194	19	M202	42	Existed

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

Display unit		Ground	Continuity
Connector	Terminal		
M194	19		Not existed

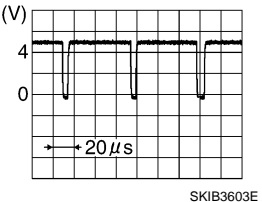
Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2. CHECK RGB SYNCHRONIZING SIGNAL

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

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

Is the inspection result normal?

YES >> Replace display unit. Refer to [AV-316, "Exploded View"](#).

NO >> Replace AV control unit. Refer to [AV-315, "Exploded View"](#).

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# RGB AREA (YS) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## RGB AREA (YS) SIGNAL CIRCUIT

### Description

INFOID:000000009061604

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

### Diagnosis Procedure

INFOID:000000009061605

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

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

Display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M194	9	M202	40	Existed

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

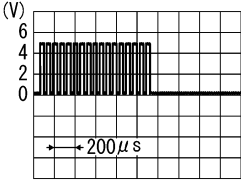
Display unit		Ground	Continuity
Connector	Terminal		
M194	9		Not existed

Is the inspection result normal?

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

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

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

(+)		(-)	Condition	Reference value (Approx.)
Connector	Terminal			
M194	9	Ground	At RGB image is displayed.	5.0 V
			At camera image is displayed.	 <p style="text-align: right;">PKIB4948J</p>

Is the inspection result normal?

- YES >> Replace display unit. Refer to [AV-316. "Exploded View"](#).  
 NO >> Replace AV control unit. Refer to [AV-315. "Exploded View"](#).



# COMPOSITE IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## COMPOSITE IMAGE SIGNAL CIRCUIT

### Description

INFOID:000000009061606

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

### Diagnosis Procedure

INFOID:000000009061607

#### 1. CHECK CONTINUITY COMPOSITE IMAGE SIGNAL CIRCUIT

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

AV control unit		Display unit		Continuity
Connector	Terminal	Connector	Terminal	
M202	47	M194	15	Existed

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

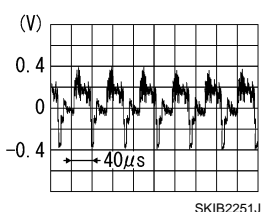
AV control unit		Ground	Continuity
Connector	Terminal		
M202	47		Not existed

Is the inspection result normal?

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

#### 2. CHECK COMPOSITE IMAGE SIGNAL

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

(+)		(-)	Condition	Reference value
AV control unit				
Connector	Terminal			
M202	47	Ground	At camera image is displayed.	

Is the inspection result normal?

- YES >> Replace display unit. Refer to [AV-316. "Exploded View"](#).  
 NO >> Replace AV control unit. Refer to [AV-315. "Exploded View"](#).

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# HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

### Description

INFOID:000000009061608

In composite image (camera image), transmit the vertical synchronizing (VP) signal and horizontal synchronizing (HP) signal from 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:000000009061609

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

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

Display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M194	8	M202	38	Existed

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

Display unit		Ground	Continuity
Connector	Terminal		
M194	8		Not existed

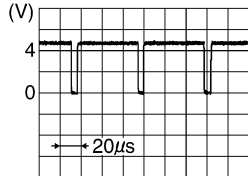
Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

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

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

(+)		(-)	Reference value
Display unit			
Connector	Terminal		
M194	8	Ground	 SKIB3601E

Is the inspection result normal?

YES >> Replace AV control unit. Refer to [AV-315. "Exploded View"](#).

NO >> Replace display unit. Refer to [AV-316. "Exploded View"](#).

# VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

### Description

INFOID:000000009061610

In composite image (camera image), transmit the vertical synchronizing (VP) signal and horizontal synchronizing (HP) signal from 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:000000009061611

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

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

Display unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M194	20	M202	50	Existed

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

Display unit		Ground	Continuity
Connector	Terminal		
M194	20		Not existed

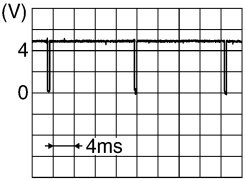
Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

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

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

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

Is the inspection result normal?

YES >> Replace AV control unit. Refer to [AV-315, "Exploded View"](#).

NO >> Replace display unit. Refer to [AV-316, "Exploded View"](#).

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AV

# DISK EJECT SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## DISK EJECT SIGNAL CIRCUIT

### Description

INFOID:000000009061612

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

### Diagnosis Procedure

INFOID:000000009061613

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

(+)		(-)	Condition	Voltage (Approx.)
AV control unit				
Connector	Terminal			
M204	96	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-327, "Exploded View"](#).  
NO >> Replace AV control unit. Refer to [AV-315, "Exploded View"](#).

# MODE CHANGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## MODE CHANGE SIGNAL CIRCUIT

### Description

INFOID:000000009061614

- 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:000000009061615

#### 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.

AV control unit		BOSE amp.		Continuity
Connector	Terminal	Connector	Terminal	
M206	128	B41	17	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 and AV control unit connector.
2. Turn ignition switch ON.
3. Check voltage 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 BOSE amp. Refer to [AV-323, "Exploded View"](#).  
 NO >> Replace AV control unit. [AV-315, "Exploded View"](#).

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AV

# MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## MICROPHONE SIGNAL CIRCUIT

### Description

INFOID:000000009061616

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

### Diagnosis Procedure

INFOID:000000009061617

#### 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.

(+)		(-)		Voltage (Approx.)
TEL adapter unit		TEL adapter unit		
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-338, "Exploded View"](#).

#### 3.CHECK MICROPHONE SIGNAL

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

# MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

(+)		(-)		Condition	Reference value
TEL adapter unit		TEL adapter unit			
Connector	Terminal	Connector	Terminal		
B87	7	B87	8	give a voice.	

Is the inspection result normal?

- YES >> Replace TEL adapter unit. Refer to [AV-338, "Exploded View"](#).
- NO >> Replace microphone. [AV-329, "Exploded View"](#).

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# CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## CAMERA IMAGE SIGNAL CIRCUIT

### Description

INFOID:000000009061618

- 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 AV control unit.
- Superimpose the guiding lines, predictive course line and sonar indicator to the camera image that outputs to the AV control unit.
- Around view monitor control unit performs the reception/transmission of communication signal with each camera.

### Diagnosis Procedure

INFOID:000000009061619

#### 1. CHECK CONTINUITY CAMERA IMAGE SIGNAL CIRCUIT

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

AV control unit		Around view monitor control unit		Continuity
Connector	Terminal	Connector	Terminal	
M203	62	B46	27	Existed

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

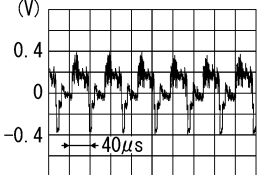
AV control unit		Ground	Continuity
Connector	Terminal		
M203	62		Not existed

Is inspection result normal?

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

#### 2. CHECK CAMERA IMAGE SIGNAL

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

(+)		(-)	Condition	Reference value
Display unit				
Connector	Terminal			
M203	62	Ground	At camera image is displayed.	 <p style="text-align: right; font-size: small;">SKIB2251J</p>

Is inspection result normal?

- YES >> Replace AV control unit. Refer to [AV-315, "Exploded View"](#).  
 NO >> Replace around view monitor control unit. Refer to [AV-330, "Exploded View"](#).



# FRONT CAMERA COMMUNICATION SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## FRONT CAMERA COMMUNICATION SIGNAL CIRCUIT

### Description

INFOID:000000009061620

- 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 AV control unit.
- Superimpose the guiding lines, predictive course line and sonar indicator to the camera image that outputs to the AV control unit.
- Around view monitor control unit performs the reception/transmission of communication signal with each camera.

### Diagnosis Procedure

INFOID:000000009061621

#### 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	E73	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

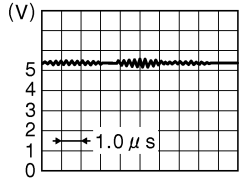
#### Is inspection result normal?

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.

(+)		(-)	Condition	Reference value
Around view monitor control unit				
Connector	Terminal			
B45	45	Ground	"CAMERA" switch is ON or shift position is "R".	 <p>JSNIA0836GB</p>

#### Is inspection result normal?

YES >> Replace around view monitor control unit. Refer to [AV-330, "Exploded View"](#).

NO >> Replace front camera. Refer to [AV-331, "Exploded View"](#).

# FRONT CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## FRONT CAMERA IMAGE SIGNAL CIRCUIT

### Description

INFOID:000000009061622

- 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 AV control unit.
- Superimpose the guiding lines, predictive course line and sonar indicator to the camera image that outputs to the AV control unit.
- Around view monitor control unit performs the reception/transmission of communication signal with each camera.

### Diagnosis Procedure

INFOID:000000009061623

#### 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	E73	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.

(+)		(-)	Condition	Voltage (Approx.)
Around view monitor control unit				
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-330, "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 >

[BOSE AUDIO WITHOUT NAVIGATION]

Around view monitor control unit		Front camera		Continuity
Connector	Terminals	Connector	Terminals	
B45	41	E73	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

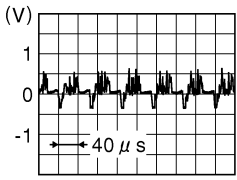
Is inspection result normal?

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".	 <p style="text-align: right; font-size: small;">JSNIA0834GB</p>

Is inspection result normal?

YES >> Replace around view monitor control unit. Refer to [AV-330, "Exploded View"](#).

NO >> Replace front camera. Refer to [AV-331, "Exploded View"](#).

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# REAR CAMERA COMMUNICATION SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## REAR CAMERA COMMUNICATION SIGNAL CIRCUIT

### Description

INFOID:000000009061624

- 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 AV control unit.
- Superimpose the guiding lines, predictive course line and sonar indicator to the camera image that outputs to the AV control unit.
- Around view monitor control unit performs the reception/transmission of communication signal with each camera.

### Diagnosis Procedure

INFOID:000000009061625

#### 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.

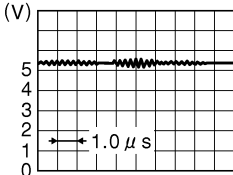
Around view monitor control unit		Ground	Continuity
Connector	Terminal		
B46	35		Not existed

#### 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.

(+)		(-)	Condition	Reference value
Around view monitor control unit				
Connector	Terminal			
B46	35	Ground	"CAMERA" switch is ON or shift position is "R".	 <p>JSNIA0836GB</p>

#### Is inspection result normal?

- YES >> Replace around view monitor control unit. Refer to [AV-330, "Exploded View"](#).  
NO >> Replace rear camera. Refer to [AV-332, "Exploded View"](#).

# REAR CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## REAR CAMERA IMAGE SIGNAL CIRCUIT

### Description

INFOID:000000009061626

- 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 AV control unit.
- Superimpose the guiding lines, predictive course line and sonar indicator to the camera image that outputs to the AV control unit.
- Around view monitor control unit performs the reception/transmission of communication signal with each camera.

### Diagnosis Procedure

INFOID:000000009061627

#### 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.)
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-330, "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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# REAR CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

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

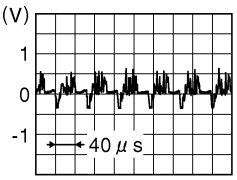
Is inspection result normal?

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".	

Is inspection result normal?

YES >> Replace around view monitor control unit. Refer to [AV-330, "Exploded View"](#)

NO >> Replace rear camera. Refer to [AV-332, "Exploded View"](#).

# SIDE CAMERA LH COMMUNICATION SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## SIDE CAMERA LH COMMUNICATION SIGNAL CIRCUIT

### Description

INFOID:000000009061628

- 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 AV control unit.
- Superimpose the guiding lines, predictive course line and sonar indicator to the camera image that outputs to the AV control unit.
- Around view monitor control unit performs the reception/transmission of communication signal with each camera.

### Diagnosis Procedure

INFOID:000000009061629

#### 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

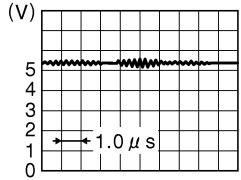
#### Is inspection result normal?

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".	 <p>JSNIA0836GB</p>

#### Is inspection result normal?

YES >> Replace around view monitor control unit. Refer to [AV-330, "Exploded View"](#).

NO >> Replace side camera LH. Refer to [AV-333, "Exploded View"](#).

# SIDE CAMERA LH IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## SIDE CAMERA LH IMAGE SIGNAL CIRCUIT

### Description

INFOID:000000009061630

- 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 AV control unit.
- Superimpose the guiding lines, predictive course line and sonar indicator to the camera image that outputs to the AV control unit.
- Around view monitor control unit performs the reception/transmission of communication signal with each camera.

### Diagnosis Procedure

INFOID:000000009061631

#### 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.

(+)		(-)	Condition	Voltage (Approx.)
Around view monitor control unit	Terminal			
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-330, "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 >

[BOSE AUDIO WITHOUT NAVIGATION]

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

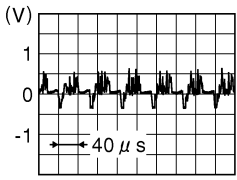
Is inspection result normal?

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".	 <p style="text-align: right; font-size: small;">JSNIA0834GB</p>

Is inspection result normal?

YES >> Replace around view monitor control unit. Refer to [AV-330, "Exploded View"](#).

NO >> Replace side camera LH. Refer to [AV-333, "Exploded View"](#).

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# SIDE CAMERA RH COMMUNICATION SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## SIDE CAMERA RH COMMUNICATION SIGNAL CIRCUIT

### Description

INFOID:000000009061632

- 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 AV control unit.
- Superimpose the guiding lines, predictive course line and sonar indicator to the camera image that outputs to the AV control unit.
- Around view monitor control unit performs the reception/transmission of communication signal with each camera.

### Diagnosis Procedure

INFOID:000000009061633

#### 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.

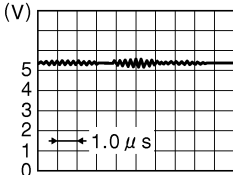
Around view monitor control unit		Ground	Continuity
Connector	Terminal		
B46	33		Not existed

#### 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.

(+)		(-)	Condition	Reference value
Around view monitor control unit	Connector			
	Terminal			
B46	33	Ground	"CAMERA" switch is ON or shift position is "R".	 <p>(V)</p> <p>5 4 3 2 1 0</p> <p>← 1.0 μs</p> <p>JSNIA0836GB</p>

#### Is inspection result normal?

- YES >> Replace around view monitor control unit. Refer to [AV-330, "Exploded View"](#).  
NO >> Replace side camera RH. Refer to [AV-334, "Exploded View"](#).

# SIDE CAMERA RH IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## SIDE CAMERA RH IMAGE SIGNAL CIRCUIT

### Description

INFOID:000000009061634

- 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 AV control unit.
- Superimpose the guiding lines, predictive course line and sonar indicator to the camera image that outputs to the AV control unit.
- Around view monitor control unit performs the reception/transmission of communication signal with each camera.

### Diagnosis Procedure

INFOID:000000009061635

#### 1. CHECK CONTINUITY SIDE CAMERA RH POWER SUPPLY AND GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector and door mirror (passenger side) connector.
3. Check continuity between around view monitor control unit harness connector and door mirror (passenger side) harness connector.

Around view monitor control unit		Door mirror (passenger side)		Continuity
Connector	Terminals	Connector	Terminals	
B46	34	D33	6	Existed
	32		18	

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.)
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-330, "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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# SIDE CAMERA RH IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

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

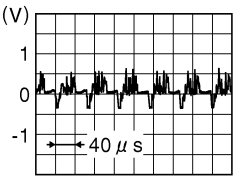
Is inspection result normal?

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.

(+)		(-)		Condition	Reference value
Around view monitor control unit		Around view monitor control unit			
Connector	Terminal	Connector	Terminal		
B46	29	B46	30	“CAMERA” switch is ON or shift position is “R”.	

Is inspection result normal?

YES >> Replace around view monitor control unit. Refer to [AV-330, "Exploded View"](#).

NO >> Replace side camera RH. Refer to [AV-334, "Exploded View"](#).

# COMMUNICATION SIGNAL CIRCUIT (CONT-SAT)

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## COMMUNICATION SIGNAL CIRCUIT (CONT-SAT)

### Description

INFOID:000000009061636

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:000000009061637

#### 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	122	Existed
	10		130	

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

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.

(+)		(-)	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-324. "Exploded View"](#).

#### 3. CHECK COMMUNICATION SIGNAL

Check signal between satellite radio tuner harness connector and ground.

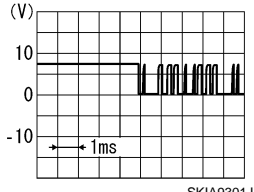
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AV

# COMMUNICATION SIGNAL CIRCUIT (CONT-SAT)

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

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

Is the inspection result normal?

- YES >> Replace satellite radio tuner. Refer to [AV-324. "Exploded View"](#).
- NO >> Replace AV control unit. [AV-315. "Exploded View"](#).

# REQUEST SIGNAL CIRCUIT (SAT→CONT)

[BOSE AUDIO WITHOUT NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

## REQUEST SIGNAL CIRCUIT (SAT→CONT)

### Description

INFOID:000000009061638

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

### Diagnosis Procedure

INFOID:000000009061639

#### 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 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

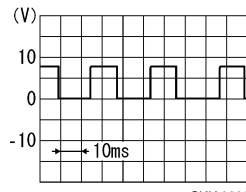
Is the inspection result normal?

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.

(+)		(-)	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-315, "Exploded View"](#).

NO >> Replace satellite radio tuner. Refer to [AV-324, "Exploded View"](#).

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# STEERING SWITCH SIGNAL A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## STEERING SWITCH SIGNAL A CIRCUIT

### Description

INFOID:000000009061640

Transmits the steering switch signal to AV control unit.

### Diagnosis Procedure

INFOID:000000009061641

#### 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.

#### 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	6	M201	15	3.3 V

Is the inspection result normal?

- YES >> GO TO 4.  
NO >> Replace AV control unit. Refer to [AV-315, "Exploded View"](#).

#### 4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to [AV-300, "Component Inspection"](#).

Is the inspection result normal?

- YES >> INSPECTION END  
NO >> Replace steering switch. Refer to [ST-15, "Exploded View"](#).

### Component Inspection

INFOID:000000009061642

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



# STEERING SWITCH SIGNAL A CIRCUIT

[BOSE AUDIO WITHOUT NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

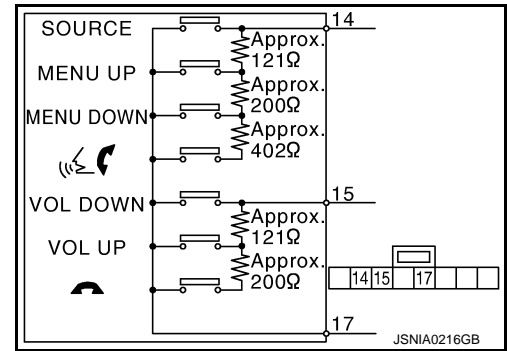
Standard

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 SIGNAL B CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## STEERING SWITCH SIGNAL B CIRCUIT

### Description

INFOID:000000009061643

Transmits the steering switch signal to AV control unit.

### Diagnosis Procedure

INFOID:000000009061644

#### 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.

#### 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-315, "Exploded View"](#).

#### 4. CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to [AV-302, "Component Inspection"](#).

Is the inspection result normal?

- YES >> INSPECTION END  
NO >> Replace steering switch. Refer to [ST-15, "Exploded View"](#).

### Component Inspection

INFOID:000000009061645

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

# STEERING SWITCH SIGNAL B CIRCUIT

[BOSE AUDIO WITHOUT NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

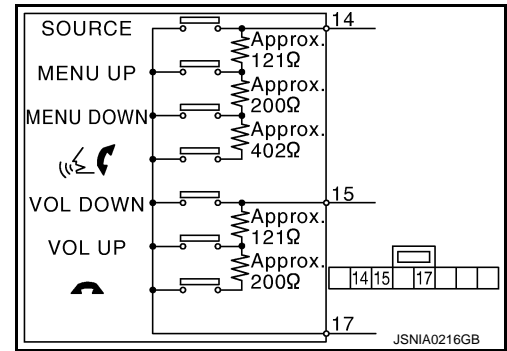
Standard

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 >

[BOSE AUDIO WITHOUT NAVIGATION]

## STEERING SWITCH GROUND CIRCUIT

### Description

INFOID:000000009061646

Transmits the steering switch signal to AV control unit.

### Diagnosis Procedure

INFOID:000000009061647

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

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

AV control unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
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.

#### 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-315, "Exploded View"](#).

#### 4. CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to [AV-304, "Component Inspection"](#).

Is the inspection result normal?

- YES >> INSPECTION END  
NO >> Replace steering switch. Refer to [ST-15, "Exploded View"](#).

### Component Inspection

INFOID:000000009061648

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

# STEERING SWITCH GROUND CIRCUIT

[BOSE AUDIO WITHOUT NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

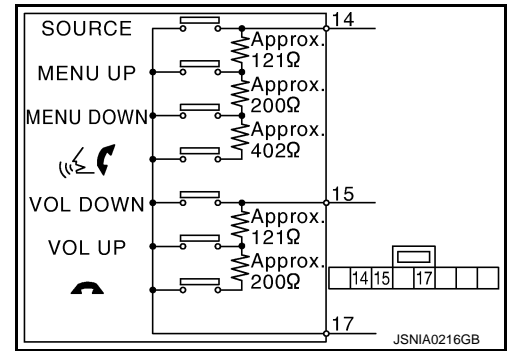
Standard

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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# MULTI AV SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## SYMPTOM DIAGNOSIS

### MULTI AV SYSTEM SYMPTOMS

#### Symptom Table

INFOID:000000009061649

#### 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 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. Perform "Self diagnosis Result" of "MULTI AV" with CONSULT. Refer to <a href="#">AV-170, "CONSULT 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 is initialized.</li> </ul>	AV control unit power supply and ground circuit malfunction. Refer to <a href="#">AV-267, "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-161, "On Board Diagnosis Function"</a> .
Fuel economy display, vehicle setting operation is abnormal.	There is malfunction in the CONSULT self-diagnosis result. Refer to <a href="#">AV-170, "CONSULT Function (MULTI AV)"</a> .	Perform detected DTC diagnosis. Refer to <a href="#">AV-186, "DTC Index"</a> .
	There is no malfunction in the self-diagnosis results. Refer to <a href="#">AV-170, "CONSULT Function (MULTI AV)"</a> .	Ignition signal circuit malfunction. (AV control unit)

#### RELATED TO HANDS-FREE PHONE

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

#### Check Compatibility

- Make sure the customer's Bluetooth® related concern is understood.
- Verify the customer's concern.  
**NOTE:**  
The customer's phone may be required, depending upon their concern.
- Write down the customer's phone brand, model, and service provider.  
**NOTE:**  
It is necessary to know the service provider. On occasion, a given phone may be on the approved list with one provider, but may not be on the approved list with other providers.
- Go to "www.infiniti.com/bluetooth/".
  - Using the website's search engine, find out if the customer's phone is on the approved list.
  - If the customer's phone is NOT on the approved list:  
Stop diagnosis here. The customer needs to obtain a Bluetooth® phone that is on the approved list before any further action.
  - If the feature related to the customer's concern shows as "N" (not compatible):  
Stop diagnosis here. If the customer still wants the feature to function, they will need to get an approved phone showing the feature as "Y" (compatible) in the "Basic Features" list.
  - If the feature related to the customer's concern shows as "Y" (compatible):

# MULTI AV SYSTEM SYMPTOMS

[BOSE AUDIO WITHOUT NAVIGATION]

< SYMPTOM DIAGNOSIS >

Perform diagnosis as per the following table.

Trouble Diagnosis Chart by Symptom

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-338, "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 "Self diagnosis Result" of "MULTI AV" with CONSULT. Refer to <a href="#">AV-170, "CONSULT Function (MULTI AV)"</a>.</li> <li>No malfunction. TEL adapter unit malfunction. Refer to <a href="#">AV-338, "Exploded View"</a>.</li> <li>Malfunction is detected. Perform detected DTC diagnosis. Refer to <a href="#">AV-186, "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-338, "Exploded View"</a> .
	Sound operation function does not work.	Microphone signal circuit malfunction. Refer to <a href="#">AV-282, "Diagnosis Procedure"</a> .
The system cannot be operated.	"SOURCE", "MENU UP", and "MENU DOWN" switches are operated. But "☞" switch is not operated.	<ul style="list-style-type: none"> <li>Check steering switch. Refer to <a href="#">AV-300, "Component Inspection"</a>.</li> <li>Malfunction is detected. Replace steering switch. Refer to <a href="#">ST-15, "Exploded View"</a>.</li> </ul>
	"SOURCE", "MENU UP", "MENU DOWN" and "☞" switches are not operated.	Steering switch signal A circuit malfunction. Refer to <a href="#">AV-300, "Diagnosis Procedure"</a> .
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to <a href="#">AV-304, "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-270, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure"</a>.</li> <li>AV communication circuits malfunction. Refer to <a href="#">AV-170, "CONSULT Function (MULTI AV)"</a>.</li> </ul>

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# MULTI AV SYSTEM SYMPTOMS

[BOSE AUDIO WITHOUT NAVIGATION]

< SYMPTOM DIAGNOSIS >

Symptoms	Check items	Probable malfunction location / Action to take	
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)	<ul style="list-style-type: none"> <li>Camera image signal circuit between around view monitor control unit and AV control unit malfunction. Refer to <a href="#">AV-284, "Diagnosis Procedure"</a>.</li> <li>Composite image signal circuit malfunction. Refer to <a href="#">AV-277, "Diagnosis Procedure"</a>.</li> </ul>	
	Superimposing is not displayed.	Communication circuit between AV control unit and display unit malfunction. Refer to <a href="#">AV-170, "CONSULT Function (MULTI AV)"</a> .	
Camera image is rolling.	—	Communication circuit between AV control unit and display unit malfunction. Refer to <a href="#">AV-170, "CONSULT Function (MULTI AV)"</a> .	
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 (around view monitor control unit).	
The predictive 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."	Perform "Self diagnosis Result" of "MULTI AV" with CONSULT. Refer to <a href="#">AV-170, "CONSULT Function (MULTI AV)"</a> .	
The predictive course line display in front view and rear view is not displayed.	—	Perform "Self diagnosis Result" of "MULTI AV" with CONSULT. Refer to <a href="#">AV-170, "CONSULT Function (MULTI AV)"</a> .	
<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. Refer to <a href="#">AV-286, "Diagnosis Procedure"</a>.</li> </ul>
		<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-285, "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. Refer to <a href="#">AV-289, "Diagnosis Procedure"</a>.</li> </ul>
		<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-288, "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. Refer to <a href="#">AV-295, "Diagnosis Procedure"</a>.</li> </ul>
		<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-294, "Diagnosis Procedure"</a> .



# MULTI AV SYSTEM SYMPTOMS

[BOSE AUDIO WITHOUT NAVIGATION]

< SYMPTOM DIAGNOSIS >

Symptoms	Check items	Probable malfunction location / Action to take
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. Refer to <a href="#">AV-292, "Diagnosis Procedure"</a>.</li> </ul>
	<ul style="list-style-type: none"> <li>Image Output Signal: OK</li> <li>COMM Status: NG</li> <li>COMM Line: NG</li> </ul>	<ul style="list-style-type: none"> <li>Side camera LH communication circuit malfunction. Refer to <a href="#">AV-291, "Diagnosis Procedure"</a>.</li> </ul>
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

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 "Self Diagnosis Result" of "SONAR" with CONSULT. Refer to <a href="#">AV-178, "CONSULT 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 "Self Diagnosis Result" of "MULTI AV" with CONSULT. Refer to <a href="#">AV-170, "CONSULT Function (MULTI AV)"</a> .
The sonar indicator is normal, but the buzzer does not sound	—	Replace sonar control unit. Refer to <a href="#">AV-335, "Exploded View"</a> .

## RELATED TO RGB IMAGE

Symptoms	Check items	Possible malfunction location / Action to take
RGB image is not shown.	There is malfunction in the CONSULT self-diagnosis result. Refer to <a href="#">AV-170, "CONSULT Function (MULTI AV)"</a> .	Perform detected DTC diagnosis. Refer to <a href="#">AV-186, "DTC Index"</a> .
	There is no malfunction in CONSULT self-diagnosis results. Refer to <a href="#">AV-170, "CONSULT Function (MULTI AV)"</a> .	Vertical synchronizing (VP) signal circuit. Refer to <a href="#">AV-279, "Diagnosis Procedure"</a> .
Color of RGB image is not proper.	Light blue (Cyan) tint.	RGB signal (R: red) circuit. Refer to <a href="#">AV-272, "Diagnosis Procedure"</a> .
	Purple (Magenta) tint.	RGB signal (G: green) circuit. Refer to <a href="#">AV-273, "Diagnosis Procedure"</a> .
	Screen looks yellowish.	RGB signal (B: blue) circuit. Refer to <a href="#">AV-274, "Diagnosis Procedure"</a> .

# MULTI AV SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

Symptoms	Check items	Possible malfunction location / Action to take
RGB screen is rolling.	—	RGB synchronizing signal circuit. Refer to <a href="#">AV-275, "Diagnosis Procedure"</a> .
Fuel economy display is malfunctioning.	There is malfunction in the CONSULT self-diagnosis result. Refer to <a href="#">AV-170, "CONSULT Function (MULTI AV)"</a> .	Perform detected DTC diagnosis. Refer to <a href="#">AV-186, "DTC Index"</a> .
	There is no malfunction in CONSULT self-diagnosis results. Refer to <a href="#">AV-170, "CONSULT Function (MULTI AV)"</a> .	Ignition signal circuit malfunction.

## RELATED TO AUDIO

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	—	Disk eject signal circuit malfunction. Refer to <a href="#">AV-280, "Diagnosis Procedure"</a> .
No sound comes out or the level of the sound is low.	No sound from all speakers.	<ul style="list-style-type: none"> <li>• BOSE amp. ON signal circuit malfunction.</li> <li>• BOSE amp. power supply and ground circuits malfunction.</li> </ul> Refer to <a href="#">AV-269, "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>
	Only a certain speaker (front right, front left, rear right, or rear left, etc.) does not output sound.	<ul style="list-style-type: none"> <li>• Poor connector connection of speaker.</li> <li>• Sound signal circuit malfunction between AV control unit and BOSE amp.</li> <li>• Sound signal circuit malfunction between BOSE amp. and speaker.</li> <li>• Malfunction in speaker.</li> <li>• Malfunction in AV control unit.</li> <li>• Malfunction in BOSE amp.</li> </ul>
Noise is mixed with audio.	Noise comes out from all speakers.	<ul style="list-style-type: none"> <li>• Malfunction in AV control unit.</li> <li>• Malfunction in BOSE amp.</li> </ul>
	Noise comes out only from a certain speaker (front right, front left, rear right, or rear left, etc.).	<ul style="list-style-type: none"> <li>• Poor connector connection of speaker.</li> <li>• Sound signal circuit malfunction between AV control unit and BOSE amp.</li> <li>• Sound signal circuit malfunction between BOSE amp. and speaker.</li> <li>• Malfunction in speaker.</li> <li>• Poor installation of speaker (e.g. backlash and looseness)</li> <li>• Malfunction in AV control unit.</li> <li>• Malfunction in BOSE amp.</li> </ul>
	Noise is mixed with radio only (when the car hits a bump or while driving over bad roads).	<ul style="list-style-type: none"> <li>• Poor connector connection of antenna or antenna feeder.</li> <li>• Loose antenna base mounting nut. Refer to <a href="#">AV-325, "Exploded View"</a>.</li> </ul>
Radio is not received or poor reception.	<ul style="list-style-type: none"> <li>• Other audio sounds are normal.</li> <li>• Any radio cannot be received or poor reception is caused even after moving to a service area with good reception (e.g. a place with clear view and no obstacles generating external noises).</li> </ul>	<ul style="list-style-type: none"> <li>• Antenna amp. ON signal circuit malfunction.</li> <li>• Poor connector connection of antenna or antenna feeder.</li> <li>• Loose antenna base mounting nut. Refer to <a href="#">AV-325, "Exploded View"</a>.</li> </ul>

# MULTI AV SYSTEM SYMPTOMS

[BOSE AUDIO WITHOUT NAVIGATION]

< SYMPTOM DIAGNOSIS >

Symptoms	Check items	Probable malfunction location
Satellite radio is not received.	There is malfunction in the CONSULT self-diagnosis result. Refer to <a href="#">AV-170, "CONSULT Function (MULTI AV)"</a> .	<ul style="list-style-type: none"> <li>Malfunction in antenna, antenna feeder, or AV control unit. Perform DTC diagnosis. Refer to <a href="#">AV-186, "DTC Index"</a>.</li> <li>Poor continuity in antenna feeder.</li> <li>Poor connector connection of antenna or antenna feeder.</li> </ul>
	There is no malfunction in the CONSULT self-diagnosis result. Refer to <a href="#">AV-170, "CONSULT Function (MULTI AV)"</a> .	<ul style="list-style-type: none"> <li>Poor continuity in antenna feeder.</li> <li>Poor connector connection of antenna or antenna feeder.</li> <li>Loose satellite radio antenna mounting nut.</li> </ul> <p><b>NOTE:</b> Tightening torque: 6.5 N·m (0.66 kg·m, 58 in·lb.)</p>

## 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-304, "Diagnosis Procedure"</a> .
Only specified switch cannot be operated.	<ul style="list-style-type: none"> <li>Check steering switch. Refer to <a href="#">AV-300, "Component Inspection"</a>.</li> <li>Malfunction is detected. Replace steering switch. Refer to <a href="#">ST-15, "Exploded View"</a>.</li> </ul>
"SOURCE", "MENU UP", "MENU DOWN" and "⏪ ⏩" switches are not operated.	Steering switch signal A circuit. Refer to <a href="#">AV-300, "Diagnosis Procedure"</a> .
"VOL UP", "VOL DOWN" and "⏪ ⏩" switches are not operated.	Steering switch signal B circuit. Refer to <a href="#">AV-302, "Diagnosis Procedure"</a> .

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AV

# NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

## NORMAL OPERATING CONDITION

### Description

INFOID:000000009061650

### 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 HANDS-FREE PHONE

Symptom	Cause and Counter measure
Does not recognize cellular phone connection. (No connection is displayed on the display at the guide.)	Some Bluetooth® enabled cellular phones may not be recognized by the in-vehicle phone module. Refer to "RELATED TO HANDS-FREE PHONE (Check Compatibility)" of MULTI AV SYSTEM SYMPTOM.
Cannot use hands-free phone	Customer will not be able to use a hands-free phone under the following conditions. <ul style="list-style-type: none"> <li>• The vehicle is outside of the telephone service area.</li> <li>• The vehicle is in an area where it is difficult to receive radio waves; such as in a tunnel, in an underground parking garage, near a tall building or in a mountainous area.</li> <li>• The cellular phone is locked to prevent it from being dialed.</li> </ul> <b>NOTE:</b> While a cellular phone is connected through the Bluetooth® wireless connection, the battery power of the cellular phone may discharge quicker than usual. The Bluetooth® Hands-Free Phone System cannot charge cellular phones.
The other party's voice cannot be heard by hands-free phone.	When the radio wave condition is not ideal or ambient sound is too loud, it may be difficult to hear the other person's voice during a call.
Poor sound quality	Do not place the cellular phone in an area surrounded by metal or far away from the in-vehicle phone module to prevent tone quality degradation and wireless connection disruption.

### 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.

# NORMAL OPERATING CONDITION

## [BOSE AUDIO WITHOUT NAVIGATION]

### < SYMPTOM DIAGNOSIS >

Symptom	Solution	A
System fails to interpret the command correctly.	1. Ensure that the command is valid.	B
	2. Ensure that the command is spoken after the tone.	C
	3. Speak clearly without pausing between words and at level appropriate to the ambient noise level in the vehicle.	D
	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.	E
	5. If more than one command was said at a time, try saying the commands separately.	F
	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.

Symptom	Cause and Counter measure	J
Cannot play	Check if the CD was inserted correctly.	K
	Check if the CD is scratched or dirty.	L
	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.	M
	If there is a temperature increase error, the player will play correctly after it returns to the normal temperature.	AV
	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.	O
	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.	P
	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.	
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.	

## NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[BOSE AUDIO WITHOUT NAVIGATION]

Symptom	Cause and Counter measure
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.
Poor reception only from a certain radio broadcast station.	Check incoming radio wave signal strength of applicable broadcast station.
Buzz/rattle sound from speaker	The majority of rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the rattle.

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

**NOTE:**

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

### RELATED TO SONAR

Symptom	Possible cause
Unstable object detection	<ul style="list-style-type: none"> <li>• The vehicle is on a rough surface, such as stone or gravel.</li> <li>• When used in poor weather conditions, such as heavy snow/rain or strong wind.</li> <li>• When subjected to an ultrasonic noise generated from exhaust muffler or brakes.</li> <li>• When left standing in the hot sun or in a cold climate.</li> <li>• When the surface of the sensor is frozen or covered with snow/dirt/moisture.</li> <li>• When a retrofitted xenon lamp, lighted license plate, or harness is close to the sensor body or sensor harness.</li> <li>• When subjected to loop coil noises generated from a vehicle detector placed at an intersection or coin parking area.</li> </ul>
Object undetectable	<ul style="list-style-type: none"> <li>• Air-containing objects, such as cloth, cotton, glass wool, dust, and snow.</li> <li>• Thin objects, such as rope, chain, and wire.</li> <li>• Smooth-faced objects placed in a slanting direction.</li> <li>• Fast-moving small animals.</li> <li>• A corner of an angular object.</li> </ul> <p><b>NOTE:</b> If the sensor detection part is scratched, obstacles cannot be detected.</p>

# AV CONTROL UNIT

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITHOUT NAVIGATION]

## REMOVAL AND INSTALLATION

### AV CONTROL UNIT

#### Exploded View

INFOID:000000009061651

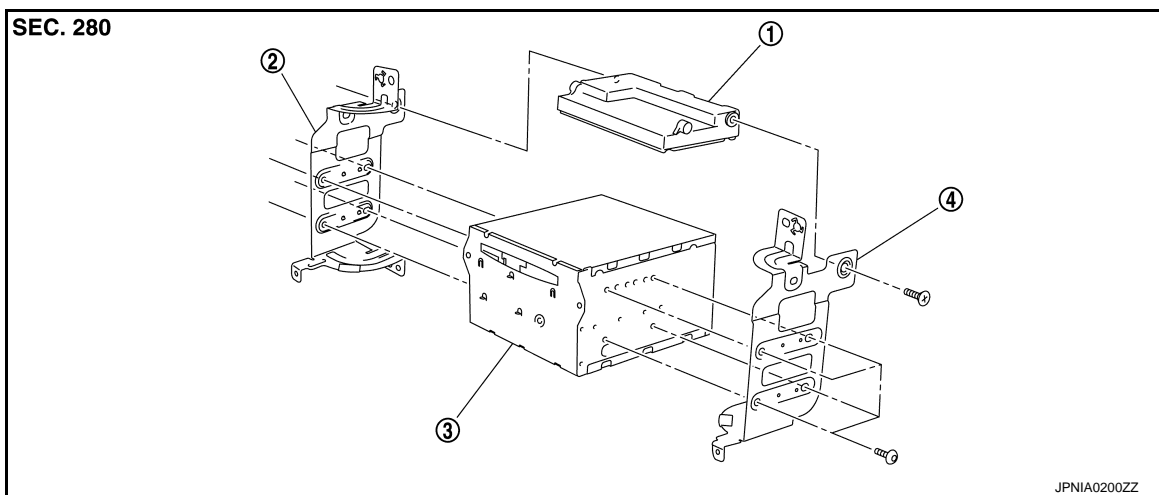
#### CAUTION:

- Before replacing AV control unit, perform “Read/Write Configuration” to save or print current vehicle specification. For details, refer to [AV-232, "ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Work Procedure"](#).
- Remove battery terminal and AV control unit after a lapse of 30 seconds or more after turning the ignition switch OFF.

#### REMOVAL

Refer to [IP-12, "Exploded View"](#).

#### DISASSEMBLY



1. Unified meter and A/C amp.
2. Bracket LH
3. AV control unit
4. Bracket RH

### Removal and Installation

INFOID:000000009061652

#### REMOVAL

#### CAUTION:

Before replacing AV control unit, perform “Read/Write Configuration” to save or print current vehicle specification. For details, refer to [AV-232, "ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Work Procedure"](#).

1. Remove display unit. Refer to [AV-316, "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

Install in the reverse order of removal.

#### CAUTION:

- Be sure to perform “Read/Write Configuration” when replacing AV control unit. For details, refer to [AV-233, "CONFIGURATION \(AV CONTROL UNIT\) : Work Procedure"](#).
- Since AV control unit connector and unified meter and A/C amp. connector have the same form, be careful not to insert them wrongly.

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AV

# DISPLAY UNIT

< REMOVAL AND INSTALLATION >

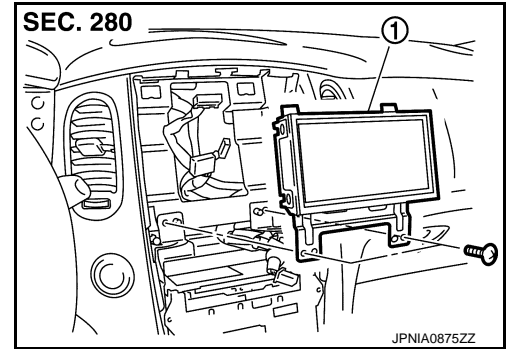
[BOSE AUDIO WITHOUT NAVIGATION]

## DISPLAY UNIT

### Exploded View

INFOID:000000009061653

1. Display unit



### Removal and Installation

INFOID:000000009061654

#### REMOVAL

1. Remove cluster lid D. Refer to [IP-12, "Exploded View"](#).
2. Remove display unit mounting screws.
3. Remove display unit.

#### INSTALLATION

Install in the reverse order of removal.



# FRONT DOOR SPEAKER

< REMOVAL AND INSTALLATION >

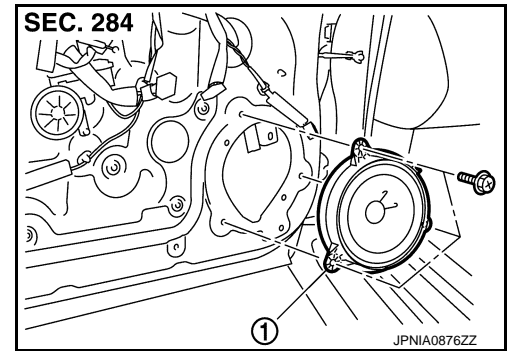
[BOSE AUDIO WITHOUT NAVIGATION]

## FRONT DOOR SPEAKER

### Exploded View

INFOID:000000009061655

1. Front door speaker



### Removal and Installation

INFOID:000000009061656

#### REMOVAL

1. Remove front door finisher. Refer to [INT-11, "DRIVER SIDE : Exploded View"](#) (driver side) or [INT-14, "PASSENGER SIDE : Exploded View"](#) (passenger side).
2. Remove front door speaker mounting bolts, disconnect the front door speaker connector.
3. Remove front door speaker.

#### INSTALLATION

Install in the reverse order of removal.

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AV

## REAR DOOR SPEAKER

< REMOVAL AND INSTALLATION >

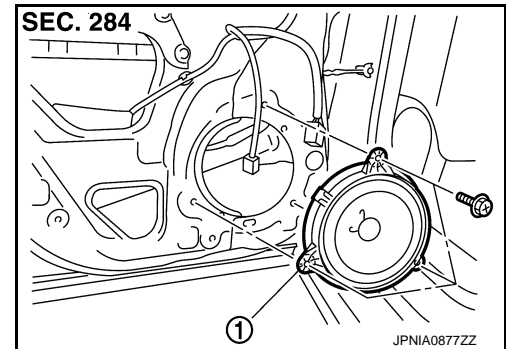
[BOSE AUDIO WITHOUT NAVIGATION]

### REAR DOOR SPEAKER

#### Exploded View

INFOID:000000009061657

1. Rear door speaker



INFOID:000000009061658

#### Removal and Installation

##### REMOVAL

1. Remove rear door finisher. Refer to [INT-17, "Exploded View"](#).
2. Remove rear door speaker mounting bolts, disconnect the rear door speaker connector.
3. Remove rear door speaker.

##### INSTALLATION

Install in the reverse order of removal.

# FRONT SQUAWKER

< REMOVAL AND INSTALLATION >

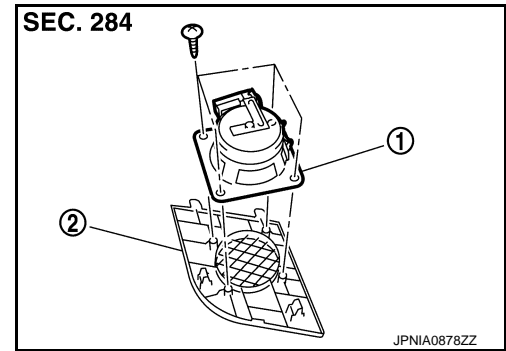
[BOSE AUDIO WITHOUT NAVIGATION]

## FRONT SQUAWKER

### Exploded View

INFOID:000000009061659

1. Front squawker
2. Speaker grille



### Removal and Installation

INFOID:000000009061660

#### REMOVAL

1. Lift up the speaker grille with squawker. Refer to [IP-12, "Exploded View"](#).
2. Disconnect the front squawker connector.
3. Remove front squawker mounting screws.
4. Remove front squawker.

#### INSTALLATION

Install in the reverse order of removal.

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# REAR SQUAWKER

< REMOVAL AND INSTALLATION >

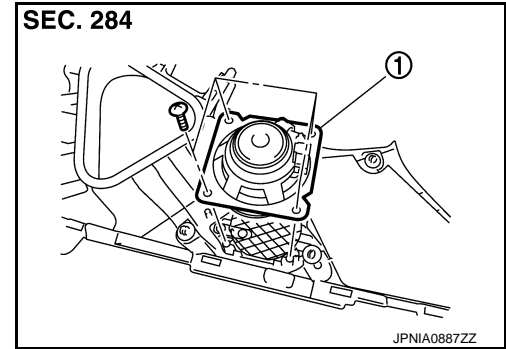
[BOSE AUDIO WITHOUT NAVIGATION]

## REAR SQUAWKER

### Exploded View

INFOID:000000009061661

1. Rear squawker



### Removal and Installation

INFOID:000000009061662

#### REMOVAL

1. Remove luggage side finisher upper. Refer to [INT-36, "Exploded View"](#).
2. Remove rear squawker mounting screws.
3. Remove rear squawker.

#### INSTALLATION

Install in the reverse order of removal.

# CENTER SPEAKER

< REMOVAL AND INSTALLATION >

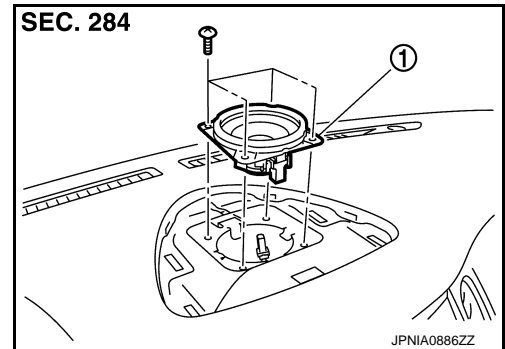
[BOSE AUDIO WITHOUT NAVIGATION]

## CENTER SPEAKER

### Exploded View

INFOID:000000009061663

1. Center speaker



### Removal and Installation

INFOID:000000009061664

#### REMOVAL

1. Remove center speaker grille. Refer to [IP-12, "Exploded View"](#).
2. Remove center speaker mounting screws, lift up the center speaker and disconnect center speaker connector.
3. Remove center speaker.

#### INSTALLATION

Install in reverse order of removal.

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# WOOFER

< REMOVAL AND INSTALLATION >

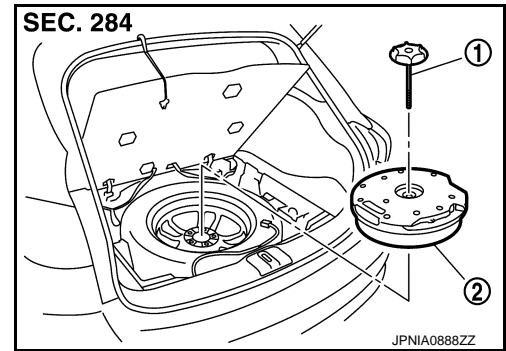
[BOSE AUDIO WITHOUT NAVIGATION]

## WOOFER

### Exploded View

INFOID:000000009061665

1. Woofer clamp
2. Woofer



### Removal and Installation

INFOID:000000009061666

#### REMOVAL

1. Remove luggage finisher center. Refer to [INT-36, "Exploded View"](#).
2. Remove woofer clamp.
3. Remove harness clip and woofer connector.
4. Remove woofer.

#### INSTALLATION

Install in the reverse order of removal.

# BOSE AMP.

< REMOVAL AND INSTALLATION >

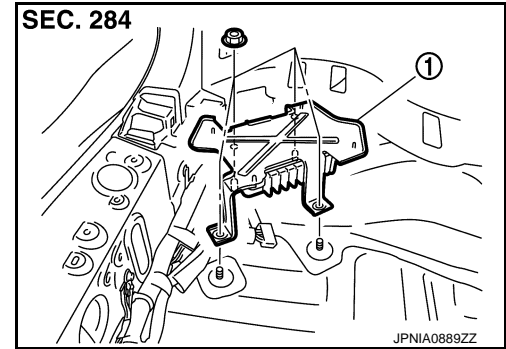
[BOSE AUDIO WITHOUT NAVIGATION]

## BOSE AMP.

### Exploded View

INFOID:000000009061667

1. BOSE amp.



### Removal and Installation

INFOID:000000009061668

#### REMOVAL

1. Remove luggage floor spacer (LH). Refer to [INT-36, "Exploded View"](#).
2. Remove BOSE amp. mounting nuts.
3. Remove BOSE amp.

#### INSTALLATION

Install in reverse order of removal.

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# SATELLITE RADIO TUNER

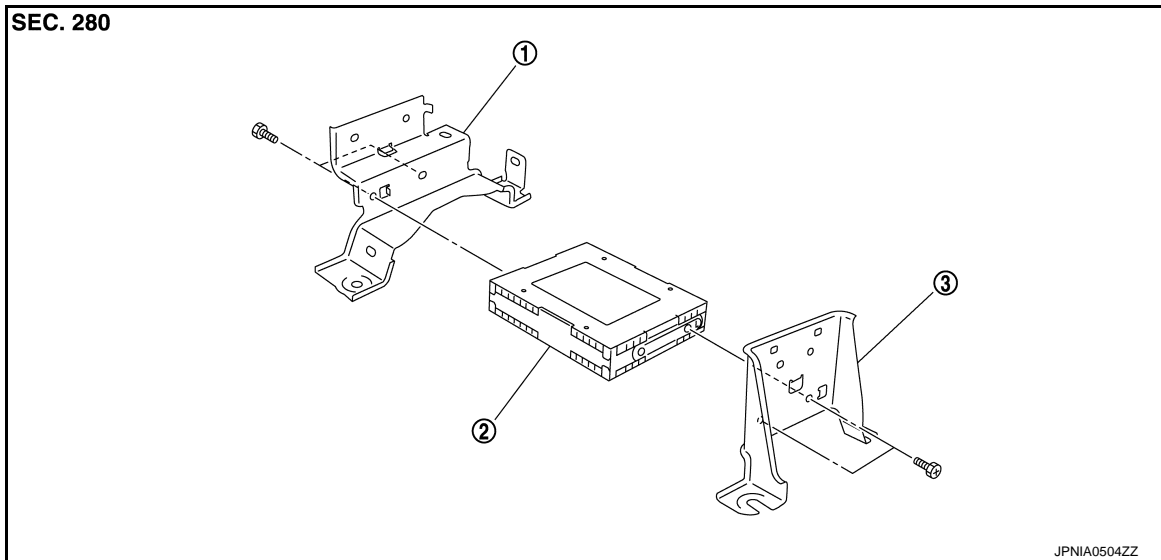
< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITHOUT NAVIGATION]

## SATELLITE RADIO TUNER

Exploded View

INFOID:000000009061669



1. Bracket (front)

2. Satellite radio tuner

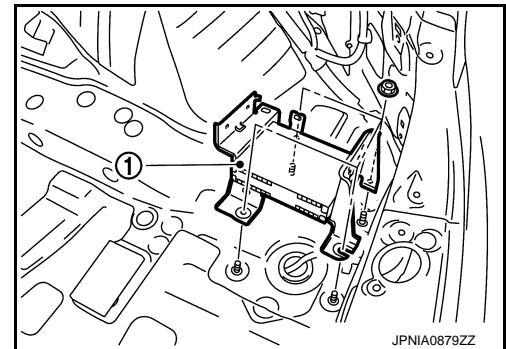
3. Bracket (rear)

## Removal and Installation

INFOID:000000009061670

### REMOVAL

1. Remove luggage floor spacer (RH). Refer to [INT-36. "Exploded View"](#).
2. Remove nuts, and then satellite radio tuner (1).



### INSTALLATION

Install in the reverse order of removal.



# ANTENNA BASE

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITHOUT NAVIGATION]

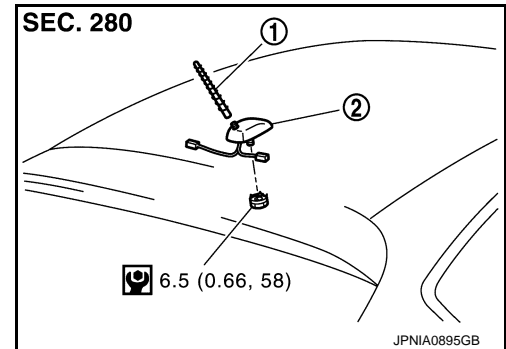
## ANTENNA BASE

### Exploded View

INFOID:000000009061671

1. Antenna rod
2. Antenna base

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



### Removal and Installation

INFOID:000000009061672

#### REMOVAL

1. Remove headlining (rear). Keep a service area. Refer to [INT-28, "NORMAL ROOF : Exploded View"](#) (normal roof) or [INT-32, "SUNROOF : Exploded View"](#) (sunroof).
2. Remove antenna base mounting nut.
3. Remove antenna base.

#### INSTALLATION

Install in 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 >

[BOSE AUDIO WITHOUT NAVIGATION]

## MULTIFUNCTION SWITCH

### Exploded View

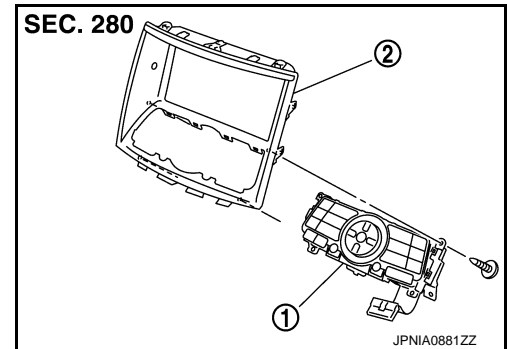
INFOID:000000009061673

#### REMOVAL

Refer to [IP-12, "Exploded View"](#).

#### DISASSEMBLY

1. Multifunction switch
2. Cluster lid D



INFOID:000000009061674

### Removal and Installation

#### REMOVAL

1. Remove cluster lid D. Refer to [IP-12, "Exploded View"](#).
2. Remove multifunction switch mounting screws.
3. Remove multifunction switch.

#### INSTALLATION

Install in the reverse order of removal.

# PRESET SWITCH

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITHOUT NAVIGATION]

## PRESET SWITCH

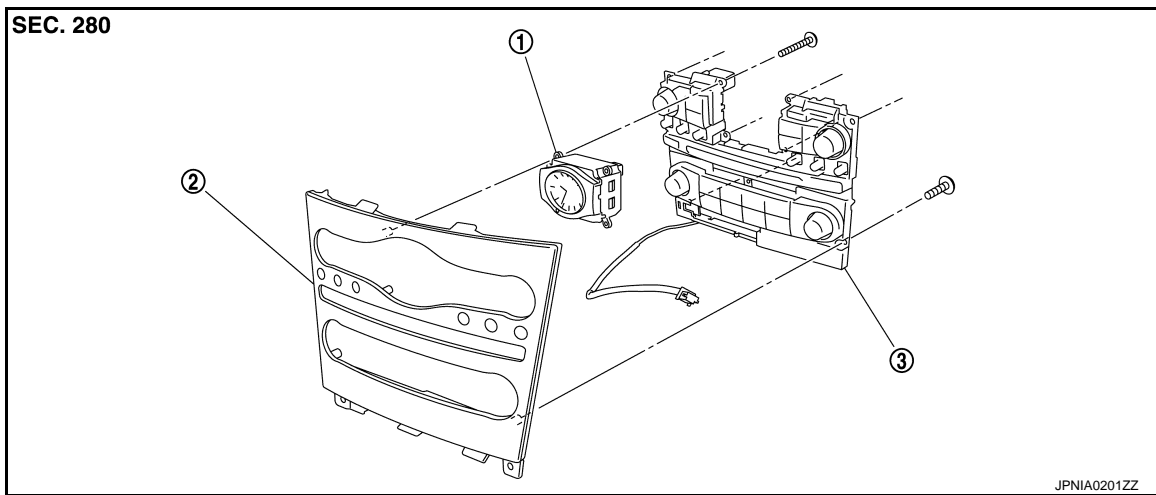
### Exploded View

INFOID:000000009061675

#### REMOVAL

Refer to [IP-12. "Exploded View"](#).

#### DISASSEMBLY



1. Clock

2. Cluster lid C

3. Preset switch

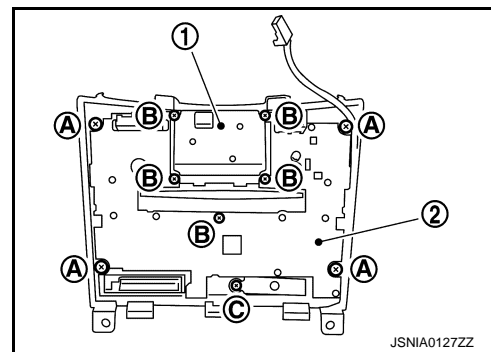
### Removal and Installation

INFOID:000000009061676

#### REMOVAL

1. Remove cluster lid C. Refer to [IP-12. "Exploded View"](#).
2. Remove preset switch mounting screws (A), (B) and (C).
3. Remove preset switch (2).

1. Clock
2. Preset switch



#### INSTALLATION

Install in 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 audio unit and preset switch.

# USB CONNECTOR

< REMOVAL AND INSTALLATION >

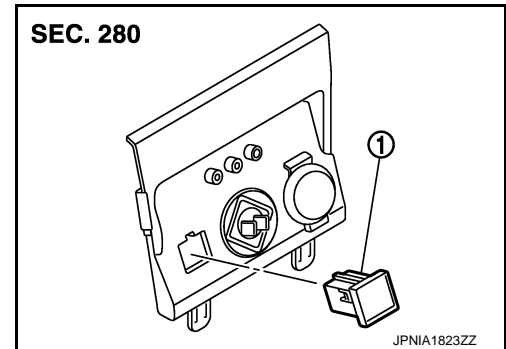
[BOSE AUDIO WITHOUT NAVIGATION]

## USB CONNECTOR

### Exploded View

INFOID:000000009061677

1. USB connector



INFOID:000000009061678

### Removal and Installation

#### REMOVAL

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

#### INSTALLATION

Install in the reverse order of removal.

# MICROPHONE

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITHOUT NAVIGATION]

## MICROPHONE

### Exploded View

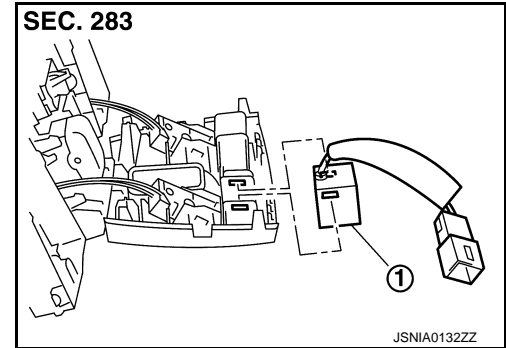
INFOID:000000009061679

### REMOVAL

Refer to [INT-28. "NORMAL ROOF : Exploded View"](#) (normal roof) or [INT-32. "SUNROOF : Exploded View"](#) (sunroof).

### DISASSEMBLY

1. Microphone



### Removal and Installation

INFOID:000000009061680

### REMOVAL

1. Remove map lamp assembly. Refer to [INT-28. "NORMAL ROOF : Exploded View"](#) (normal roof) or [INT-32. "SUNROOF : Exploded View"](#) (sunroof).
2. Remove microphone, stretching pawls of map lamp assembly.

### INSTALLATION

Install in the reverse order of removal.

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AV

# AROUND VIEW MONITOR CONTROL UNIT

< REMOVAL AND INSTALLATION >

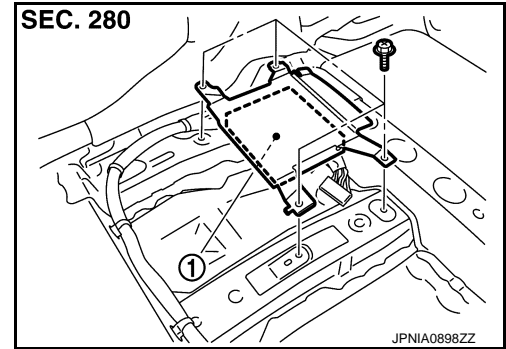
[BOSE AUDIO WITHOUT NAVIGATION]

## AROUND VIEW MONITOR CONTROL UNIT

### Exploded View

INFOID:000000009061681

1. Around view monitor control unit



### Removal and Installation

INFOID:000000009061682

#### REMOVAL

1. Remove front seat (LH side). Refer to [SE-129, "Exploded View"](#).
2. Remove floor carpet. Keep a service area.
3. Remove around view monitor control unit.

#### INSTALLATION

1. Install in the reverse order of removal.
2. Perform camera image calibration. Refer to [AV-234, "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Special Repair Requirement"](#).
3. Perform predictive course line center position adjustment. Refer to [AV-234, "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 >

[BOSE AUDIO WITHOUT NAVIGATION]

## FRONT CAMERA

### Exploded View

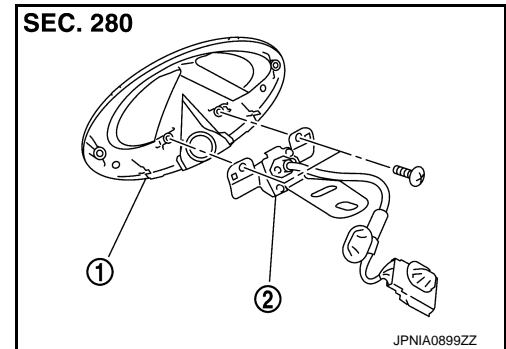
INFOID:000000009061683

#### REMOVAL

Refer to [EXT-20. "Exploded View"](#).

#### DISASSEMBLY

1. Front emblem
2. Front camera



### Removal and Installation

INFOID:000000009061684

#### REMOVAL

1. Remove harness clip and connector clip from front camera bracket.
2. Remove front emblem. Refer to [EXT-20. "Exploded View"](#).
3. Remove front emblem mounting screws.
4. Remove front camera.

#### INSTALLATION

1. Install in the reverse order of removal.
2. Perform camera image calibration. Refer to [AV-234. "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Special Repair Requirement"](#).

#### **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.

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# REAR CAMERA

< REMOVAL AND INSTALLATION >

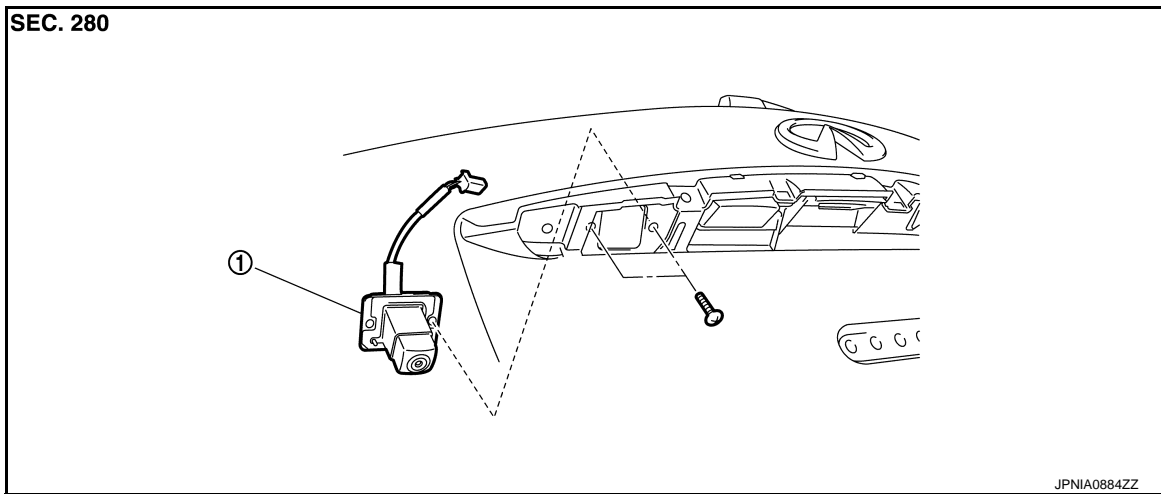
[BOSE AUDIO WITHOUT NAVIGATION]

## REAR CAMERA

### Exploded View

INFOID:000000009061685

### DISASSEMBLY



1. Rear camera

### Removal and Installation

INFOID:000000009061686

#### REMOVAL

1. Remove back door finisher inner. Refer to [INT-40, "Exploded View"](#).
2. Remove back door outside finisher upper. Refer to [EXT-48, "Exploded View"](#).
3. Remove back door outside finisher lower. Refer to [EXT-48, "Exploded View"](#).
4. Remove rear camera mounting screws and rear camera harness connector.
5. Remove rear camera.

#### INSTALLATION

1. Install in the reverse order of removal.
2. Perform camera image calibration. Refer to [AV-234, "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Special Repair Requirement"](#).

#### 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

< REMOVAL AND INSTALLATION >

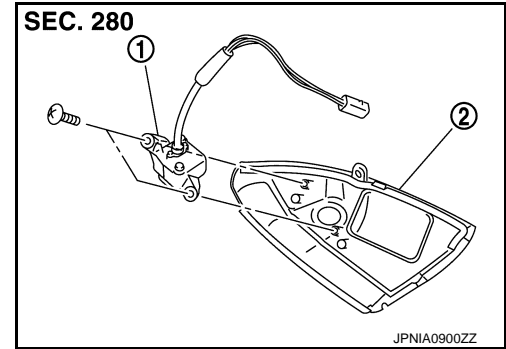
[BOSE AUDIO WITHOUT NAVIGATION]

## SIDE CAMERA LH

### Exploded View

INFOID:000000009061687

1. Side camera (LH)
2. Side camera finisher assembly

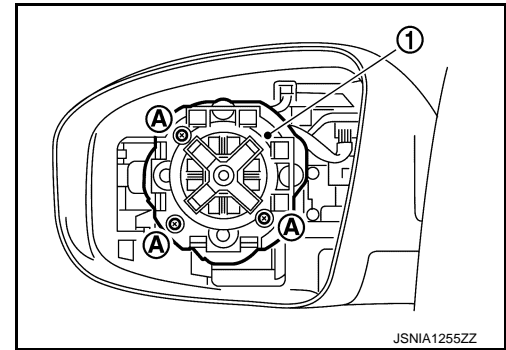


### Removal and Installation

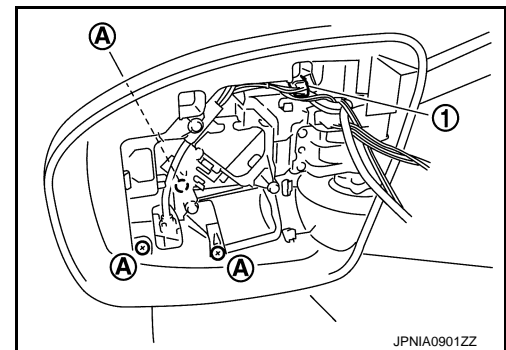
INFOID:000000009061688

#### REMOVAL

1. Remove door mirror glass (driver side). Refer to [MIR-121, "Exploded View"](#) (with ADP) or [MIR-141, "Exploded View"](#) (without ADP).
2. Remove screws (A), and door mirror actuator connector, and then door mirror actuator (1).



3. Remove door mirror under cover. Refer to [MIR-121, "Exploded View"](#) (with ADP) or [MIR-141, "Exploded View"](#) (without ADP).
4. Remove screws (A) and connector (1), and then remove side camera (LH).



#### INSTALLATION

1. Install in the reverse order of removal.
2. Perform camera image calibration. Refer to [AV-234, "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Special Repair Requirement"](#).

#### 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.

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# SIDE CAMERA RH

< REMOVAL AND INSTALLATION >

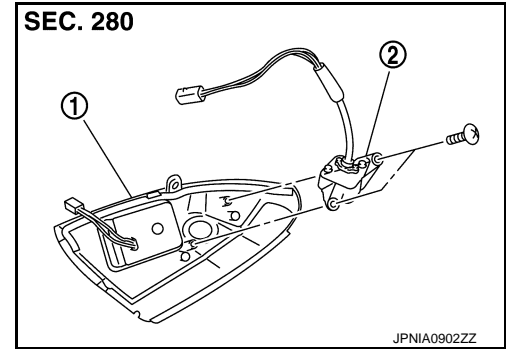
[BOSE AUDIO WITHOUT NAVIGATION]

## SIDE CAMERA RH

### Exploded View

INFOID:000000009061689

1. Side camera finisher assembly
2. Side camera (RH)

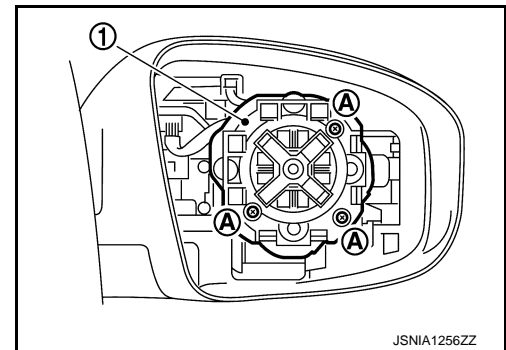


### Removal and Installation

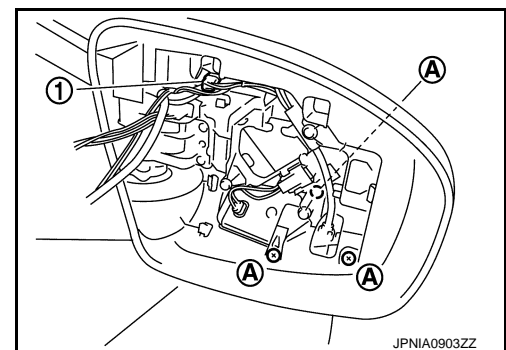
INFOID:000000009061690

#### REMOVAL

1. Remove door mirror glass (passenger side). Refer to [MIR-121, "Exploded View"](#) (with ADP) or [MIR-141, "Exploded View"](#) (without ADP).
2. Remove screws (A) and door mirror actuator connector, and then door mirror actuator (1).



3. Remove door mirror under cover. Refer to [MIR-121, "Exploded View"](#) (with ADP) or [MIR-141, "Exploded View"](#) (without ADP).
4. Remove screws (A) and connector (1), and then remove side camera (RH).



#### INSTALLATION

1. Install in the reverse order of removal.
2. Perform camera image calibration. Refer to [AV-234, "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Special Repair Requirement"](#).

#### 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.

# SONAR CONTROL UNIT (WITH AROUND VIEW MONITOR)

< REMOVAL AND INSTALLATION >

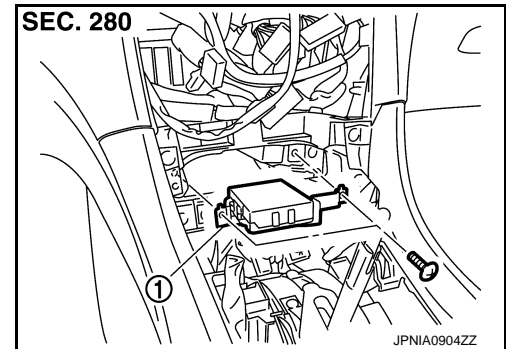
[BOSE AUDIO WITHOUT NAVIGATION]

## SONAR CONTROL UNIT (WITH AROUND VIEW MONITOR)

### Exploded View

INFOID:000000009061691

1. Sonar control unit



### Removal and Installation

INFOID:000000009061692

#### REMOVAL

1. Remove AV control unit. Refer to [AV-315, "Exploded View"](#).
2. Remove screws and connector, and then sonar control unit.

#### INSTALLATION

Install in the reverse order of removal.

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# SONAR SENSOR

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITHOUT NAVIGATION]

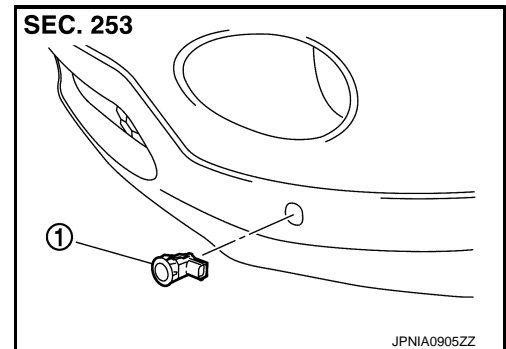
## SONAR SENSOR

### FRONT

#### FRONT : Exploded View

INFOID:000000009061693

1. Sonar sensor (front)

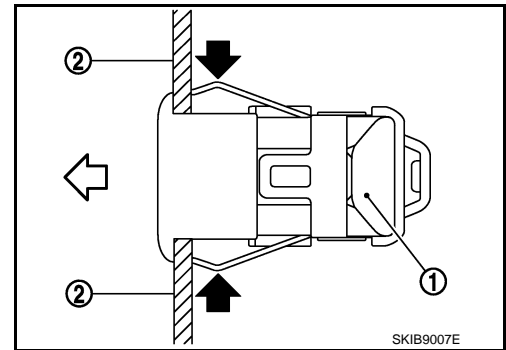


#### FRONT : Removal and Installation

INFOID:000000009061694

#### REMOVAL

1. Remove fender protector. Keep a service area. Refer to [EXT-25, "FENDER PROTECTOR : Exploded View"](#).
2. Remove sonar sensor connector.
3. Push the sonar sensor (1) outside (direction of white arrow) the front bumper (2), pressing the metal clips on the back to the direction of black arrows.



#### INSTALLATION

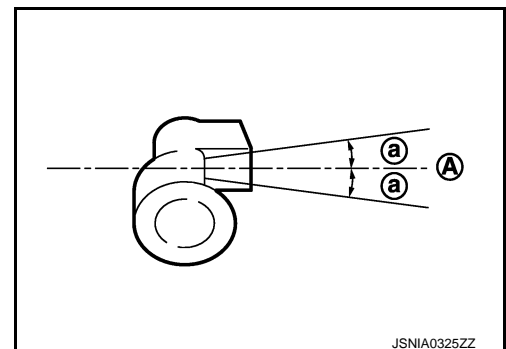
Install the bumper when the pawl engages.

#### 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

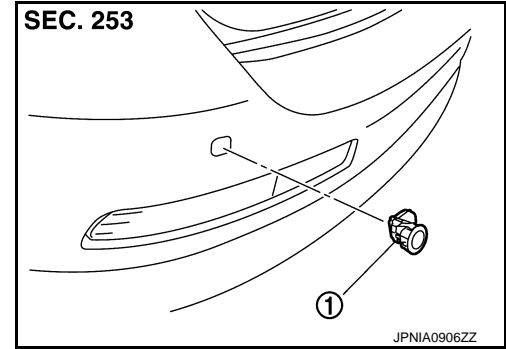
< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITHOUT NAVIGATION]

## REAR : Exploded View

INFOID:000000009061695

1. Sonar sensor (rear)

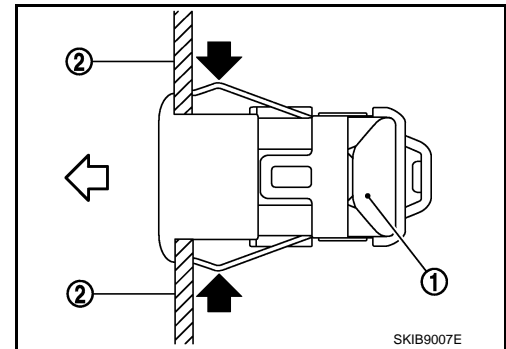


## REAR : Removal and Installation

INFOID:000000009061696

### REMOVAL

1. Remove sonar sensor connector.
2. Push the sonar sensor (1) outside (direction of white arrow) the rear bumper (2), pressing the metal clips on the back to the direction of black arrows.



### INSTALLATION

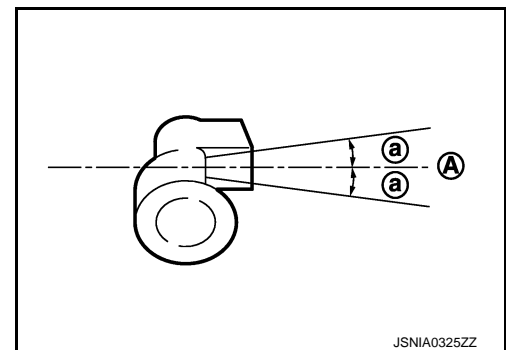
Install the bumper when the pawl engages.

#### CAUTION:

The connector direction is within  $\pm 10^\circ$  from the horizontal position when assembling the bumper.

A : Horizontal position

a :  $10^\circ$



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# TEL ADAPTER UNIT

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITHOUT NAVIGATION]

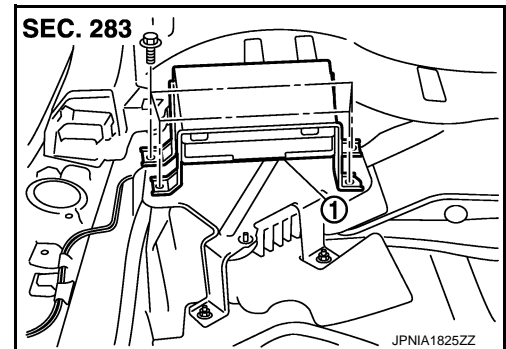
## TEL ADAPTER UNIT

### Exploded View

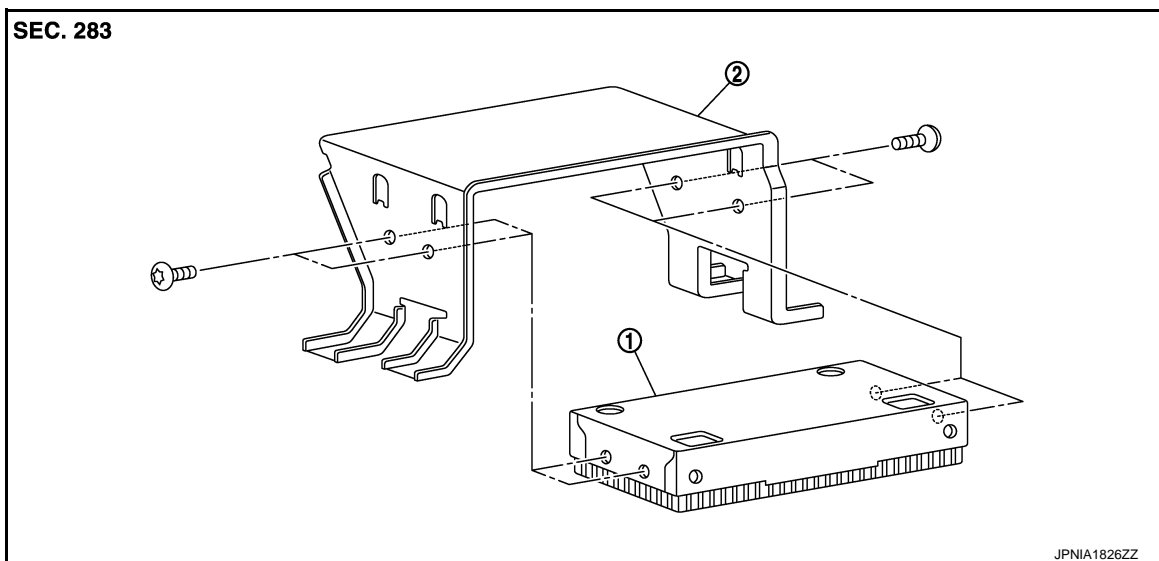
INFOID:000000009061697

### REMOVAL

1. TEL adapter unit



### DISASSEMBLY



1. TEL adapter unit
2. Bracket

### Removal and Installation

INFOID:000000009061698

### REMOVAL

1. Remove luggage floor spacer (LH). Refer to [INT-36. "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.

# TEL ANTENNA

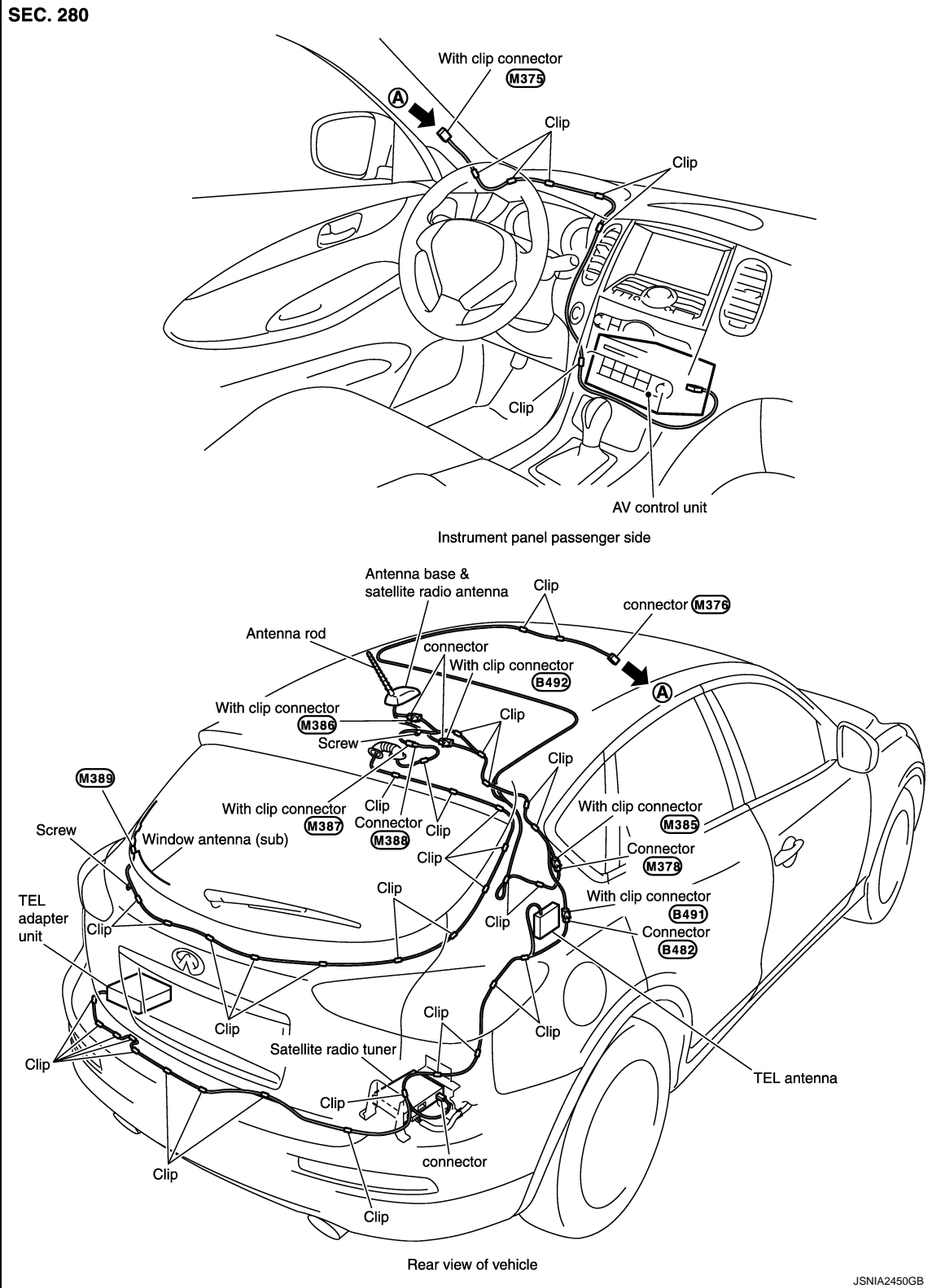
< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITHOUT NAVIGATION]

## TEL ANTENNA

### Feeder Layout

INFOID:000000009061699



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# TEL ANTENNA

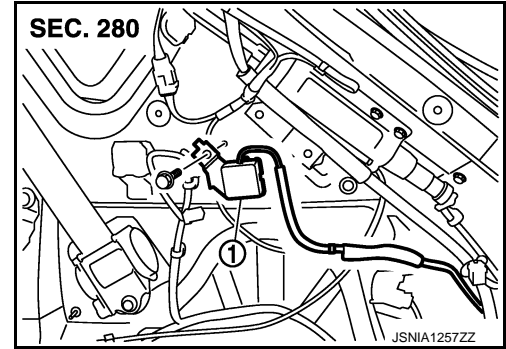
< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITHOUT NAVIGATION]

## Exploded View

INFOID:000000009061700

1. TEL antenna



## Removal and Installation

INFOID:000000009061701

### REMOVAL

1. Remove luggage floor spacer (RH). Refer to [INT-36. "Exploded View"](#).
2. Remove luggage side finisher upper (RH). Refer to [INT-36. "Exploded View"](#).
3. Remove TEL antenna from vehicle.

### INSTALLATION

Install in the reverse order of removal.



# ANTENNA FEEDER

< REMOVAL AND INSTALLATION >

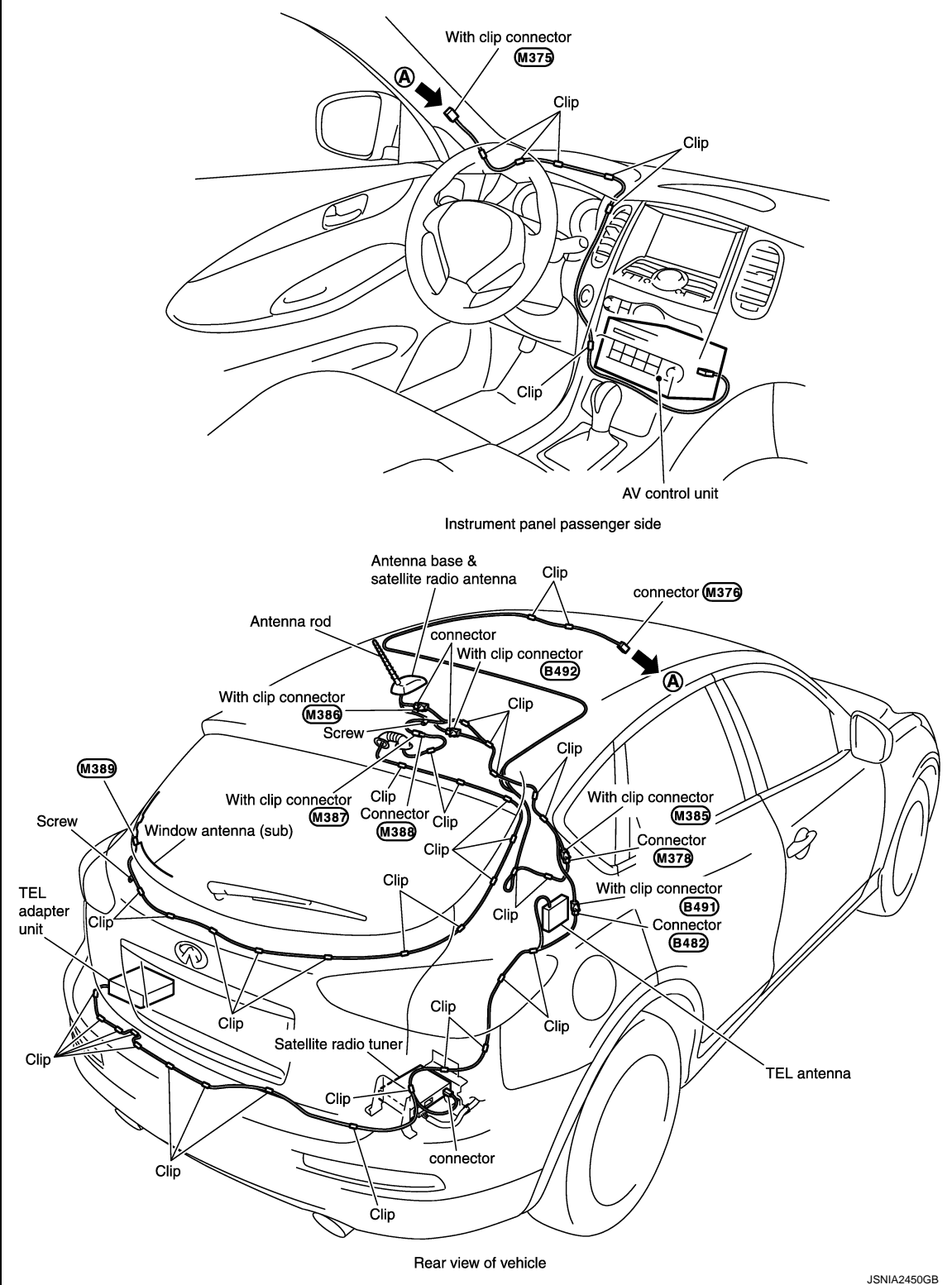
[BOSE AUDIO WITHOUT NAVIGATION]

## ANTENNA FEEDER

### Feeder Layout

INFOID:000000009061702

SEC. 280



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## PRECAUTION

### PRECAUTIONS

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

INFOID:000000009061703

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

**WARNING:**

Always observe the following items for preventing accidental activation.

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see "SRS AIR BAG".
- Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

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

**WARNING:**

Always observe the following items for preventing accidental activation.

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

#### Precaution for Trouble Diagnosis

INFOID:000000009061704

#### AV COMMUNICATION SYSTEM

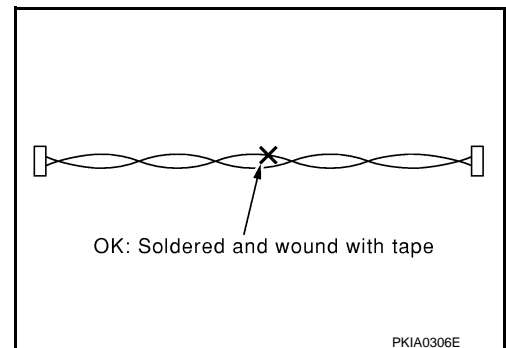
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

#### Precaution for Harness Repair

INFOID:000000009061705

#### AV COMMUNICATION SYSTEM

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



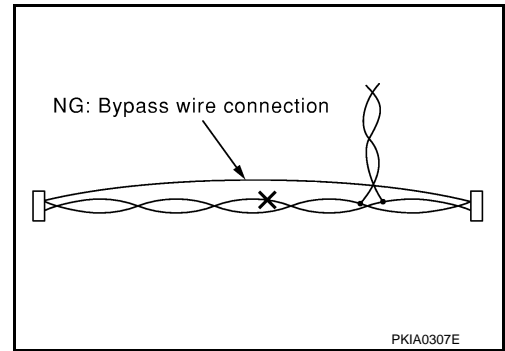
PKIA0306E

# PRECAUTIONS

## < PRECAUTION >

## [BOSE AUDIO WITH 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.)



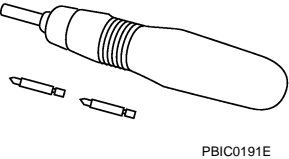
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# PREPARATION

## PREPARATION

### Commercial Service Tools

INFOID:000000009061706

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

# COMPONENT PARTS

< SYSTEM DESCRIPTION >

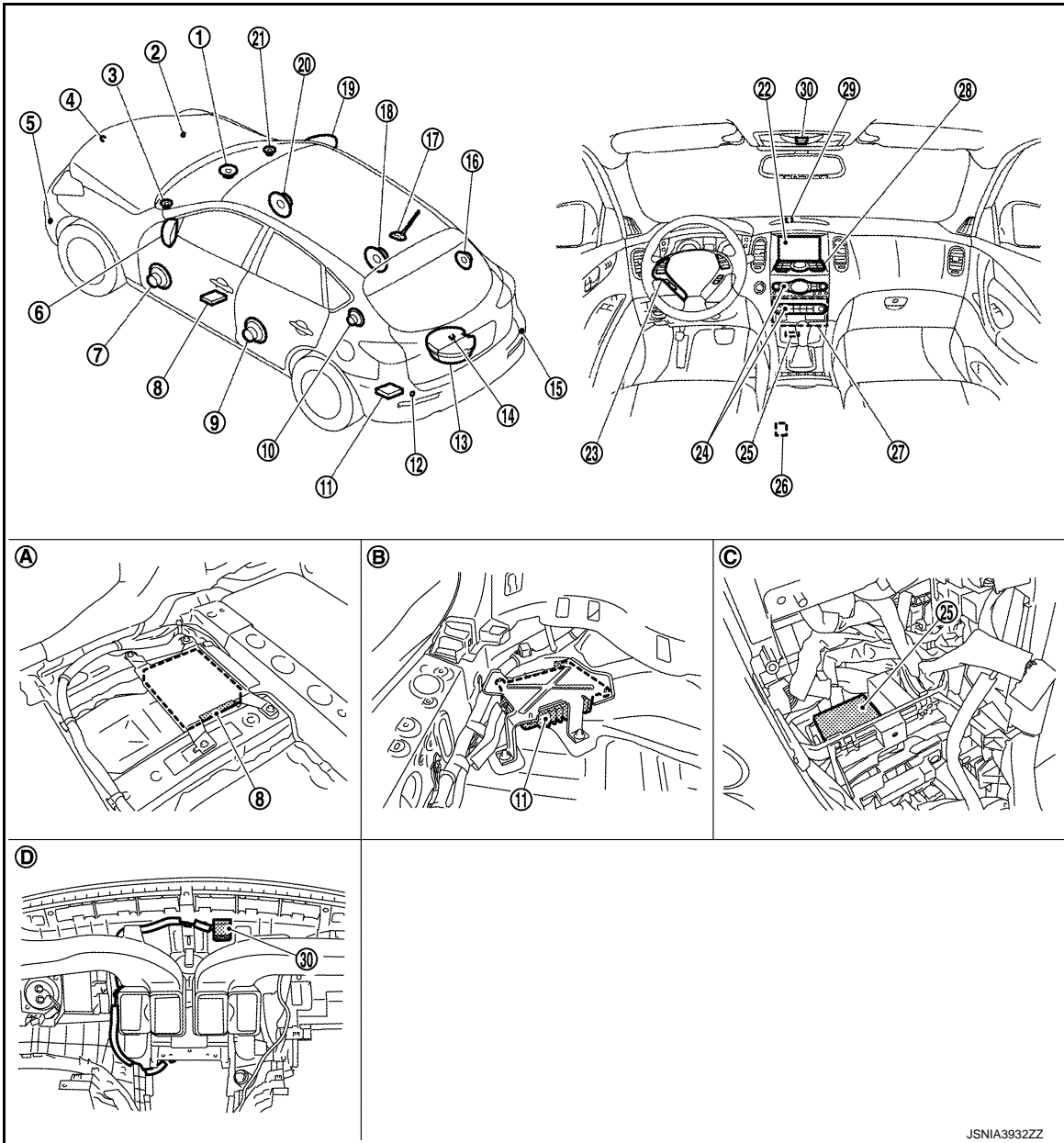
[BOSE AUDIO WITH NAVIGATION]

## SYSTEM DESCRIPTION

### COMPONENT PARTS

#### Component Parts Location

INFOID:000000009061707



- |                                                   |                                                       |                           |
|---------------------------------------------------|-------------------------------------------------------|---------------------------|
| 1. Center speaker                                 | 2. Corner sensor front RH                             | 3. Front squawker LH      |
| 4. Front camera                                   | 5. Corner sensor front LH                             | 6. Side camera LH         |
| 7. Front door speaker LH                          | 8. Around view monitor control unit                   | 9. Rear door speaker LH   |
| 10. Rear squawker LH                              | 11. BOSE amp.                                         | 12. Corner sensor rear LH |
| 13. Woofer                                        | 14. Rear camera                                       | 15. Corner sensor rear RH |
| 16. Rear squawker RH                              | 17. Antenna base (antenna amp. and satellite antenna) | 18. Rear door speaker RH  |
| 19. Side camera RH                                | 20. Front door speaker RH                             | 21. Front squawker RH     |
| 22. Display unit                                  | 23. Steering switch                                   | 24. Preset switch         |
| 25. Sonar control unit (with around view monitor) | 26. USB connector                                     | 27. AV control unit       |

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# COMPONENT PARTS

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

- |                               |                            |                                              |
|-------------------------------|----------------------------|----------------------------------------------|
| 28. Multifunction switch      | 29. GPS antenna            | 30. Microphone                               |
| A. Under front seat (LH side) | B. Luggage floor (LH side) | C. Console pocket assembly removed condition |
| D. Instrument panel rear side |                            |                                              |

## Component Description

INFOID:000000009061708

Part name	Description
AV control unit	<ul style="list-style-type: none"> <li>Integrates hard disk drive (HDD) allowing map 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 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>
Display unit	<ul style="list-style-type: none"> <li>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>
Woofers	<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 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 >

[BOSE AUDIO WITH NAVIGATION]

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 display unit.</li> <li>• Superimpose the guiding line, predicted course line and sonar indicator to the camera image that outputs to 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>
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>
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®.

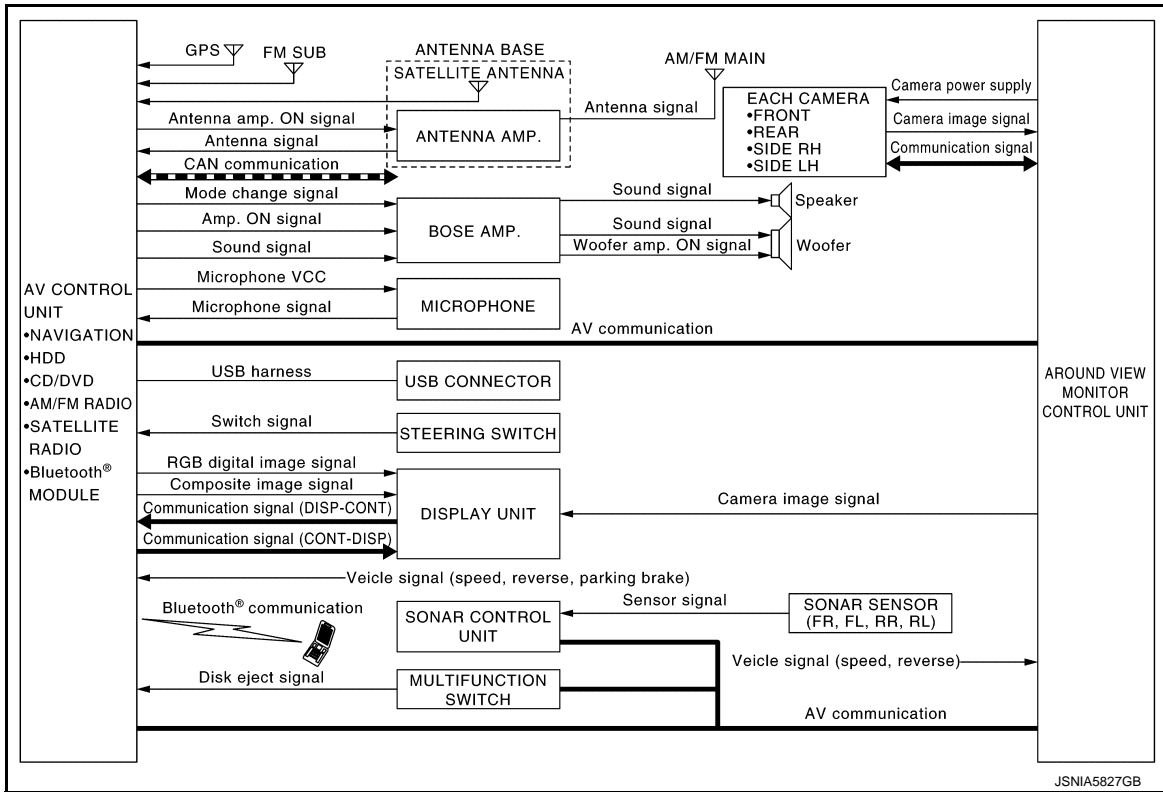
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SYSTEM

MULTI AV SYSTEM

MULTI AV SYSTEM : System Diagram

INFOID:000000009061709



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:000000009061710

Multi AV system means that the following systems are integrated.

FUNCTION NAME
Navigation system function
Audio function
DVD play function
Hands-free phone 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 >

## [BOSE AUDIO WITH NAVIGATION]

- 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.

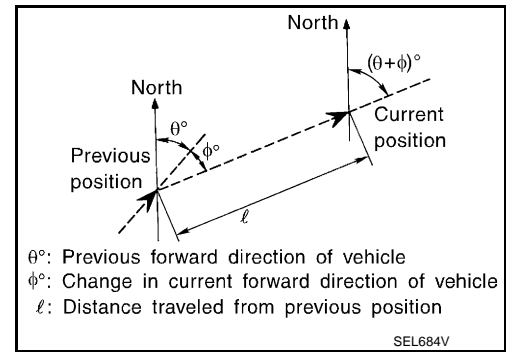
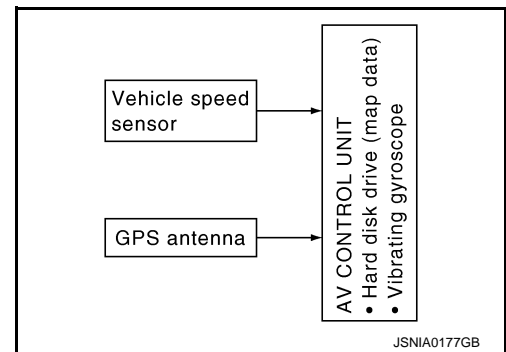
The current position is calculated by detecting the travel distance from the previous calculation point, and its direction change.

- 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.

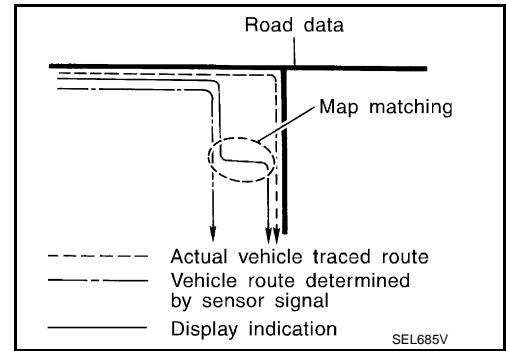
#### Map-matching

# SYSTEM

## < SYSTEM DESCRIPTION >

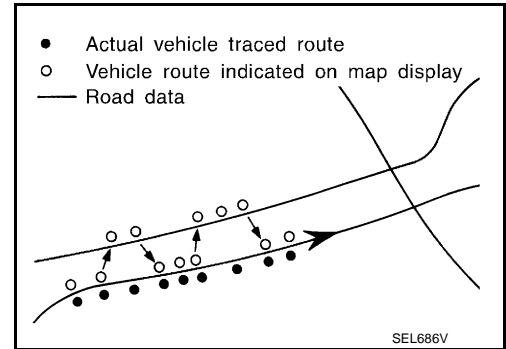
## [BOSE AUDIO WITH NAVIGATION]

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).

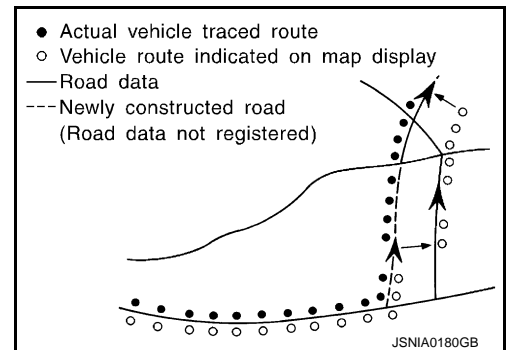


There is a possibility that the vehicle position may not be corrected in the following case, and when vehicle is driven over a certain distance or time in which GPS information is hard to receive. Correct manually the current location mark on the screen.

- 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.



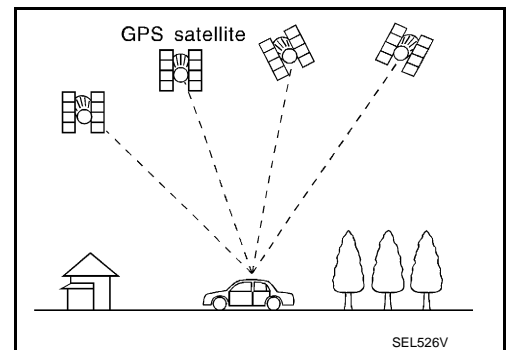
- Map-matching does not function correctly when road on which the vehicle is driving is new, etc. and not recorded in the map data. Also, map-matching does not function correctly when road pattern stored in the map data and the actual road pattern are different due to repair, etc. Therefore, the map-matching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

# SYSTEM

## < SYSTEM DESCRIPTION >

## [BOSE AUDIO WITH NAVIGATION]

- 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
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.

### 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

# SYSTEM

## < SYSTEM DESCRIPTION >

## [BOSE AUDIO WITH NAVIGATION]

- 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.

### 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

- 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.

# SYSTEM

## < SYSTEM DESCRIPTION >

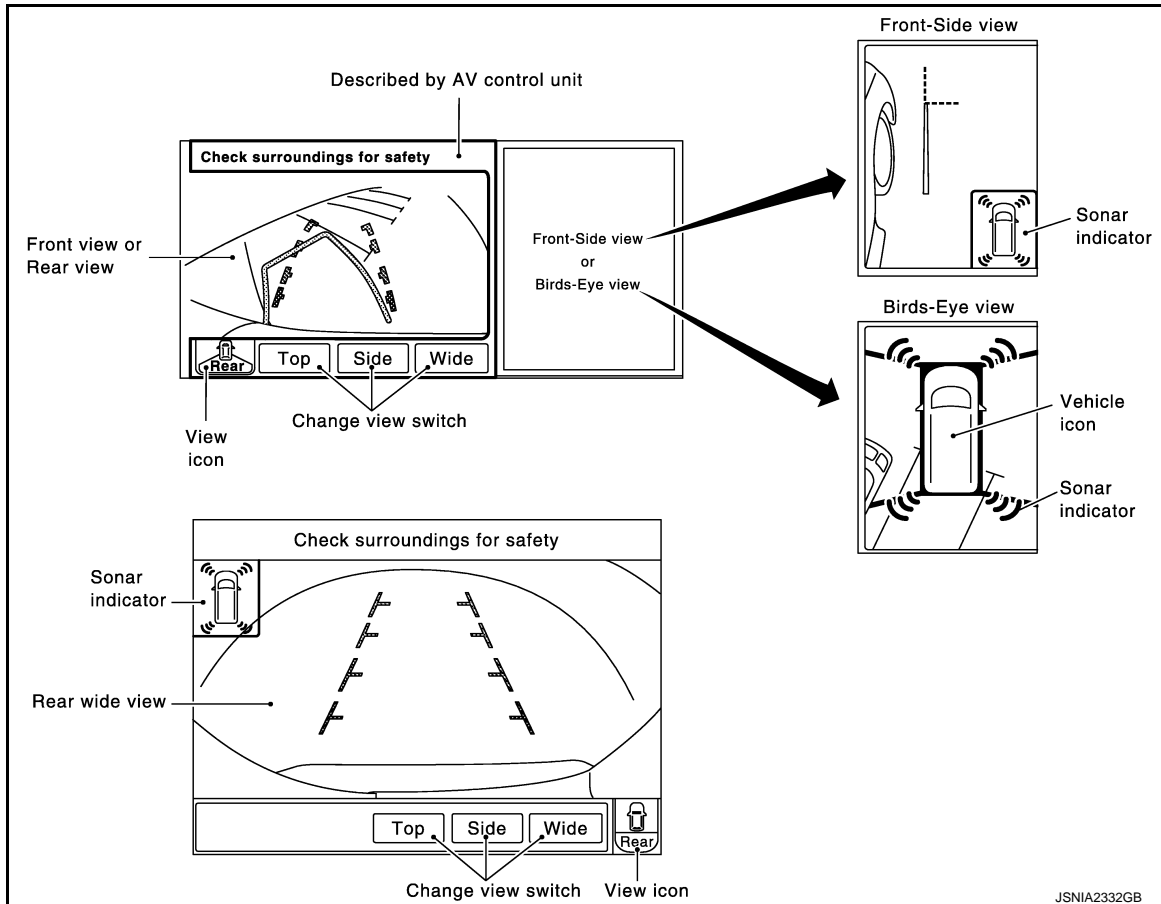
## [BOSE AUDIO WITH NAVIGATION]

- 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”.

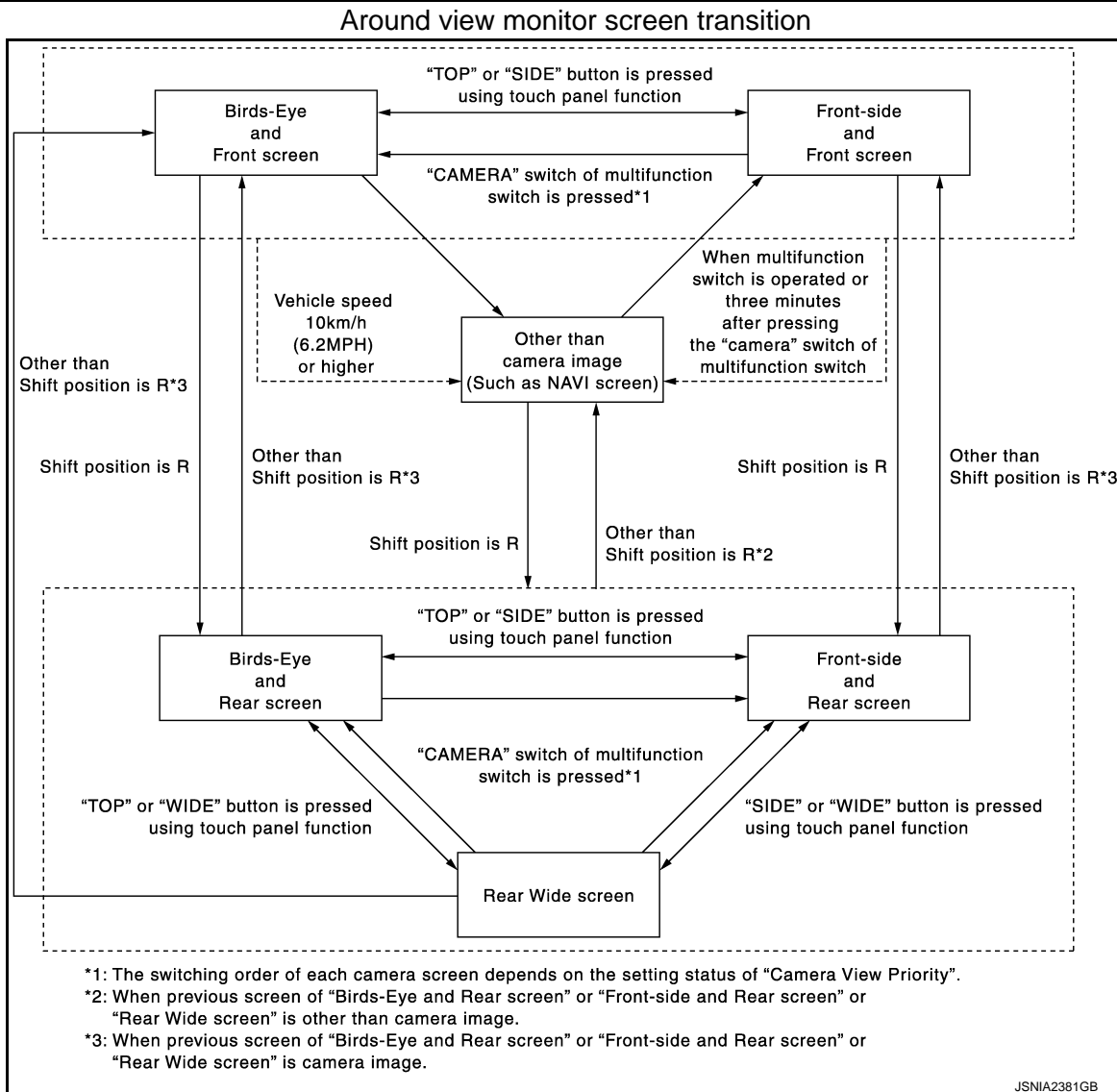
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AV

# SYSTEM

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]



## FRONT VIEW

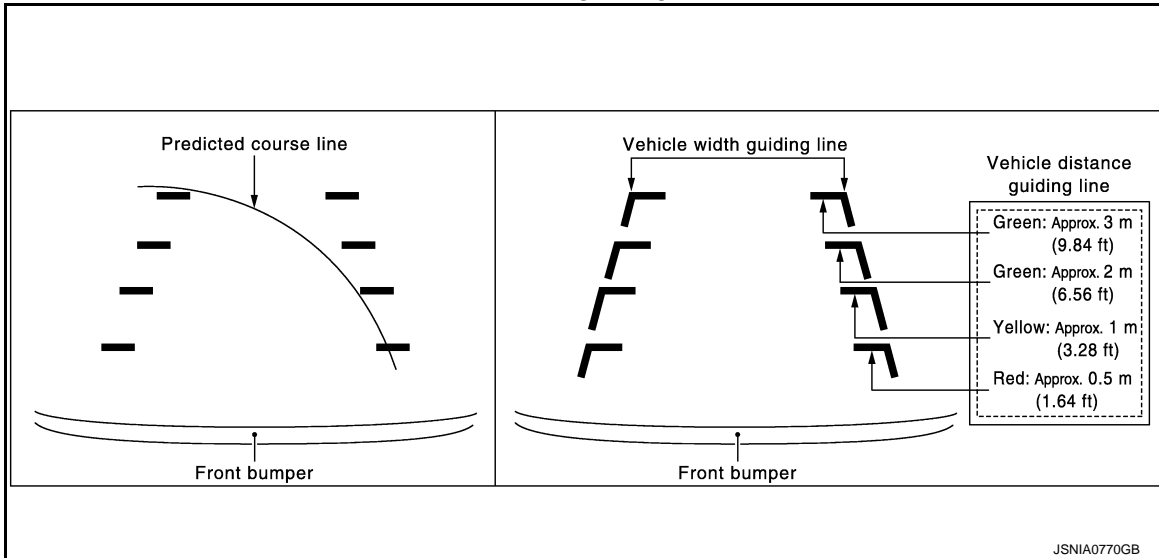
- The front view image is from the front camera.
- When the selector lever is in any position other than the reverse position, the front view is displayed by pressing the "CAMERA" switch. It improves the visibility of obstacles in front of the vehicle and helps driving by the images displayed from Birds-Eye 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 is 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.

# SYSTEM

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

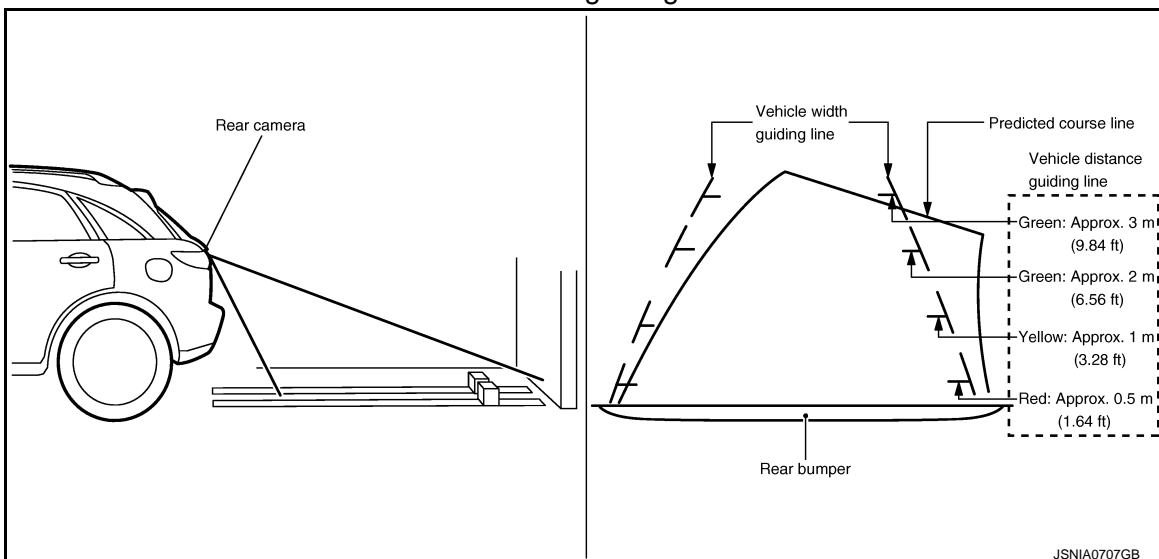
Front view guiding lines



## 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.

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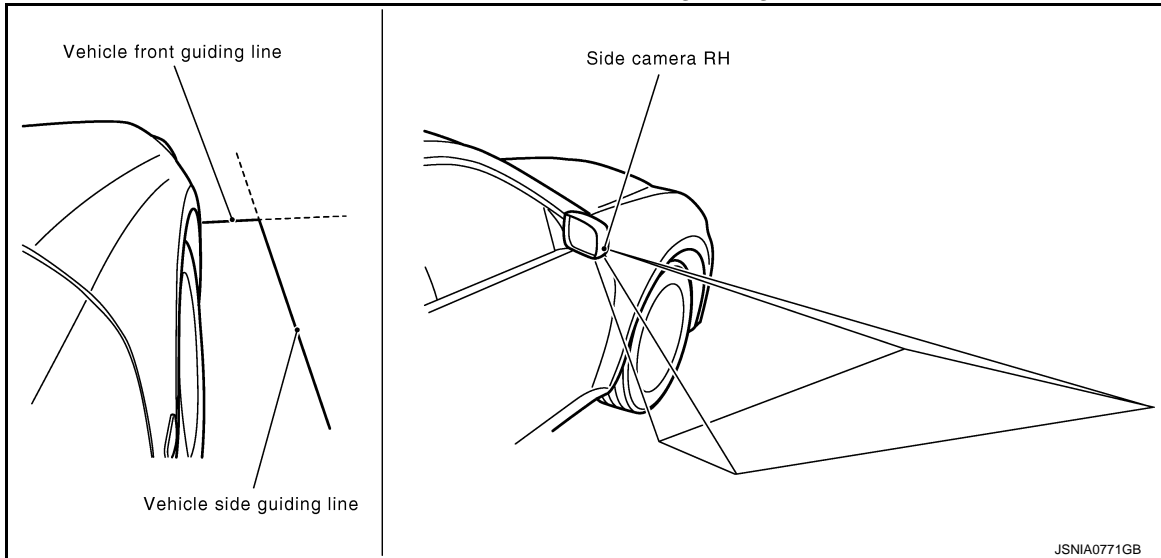
AV

# SYSTEM

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

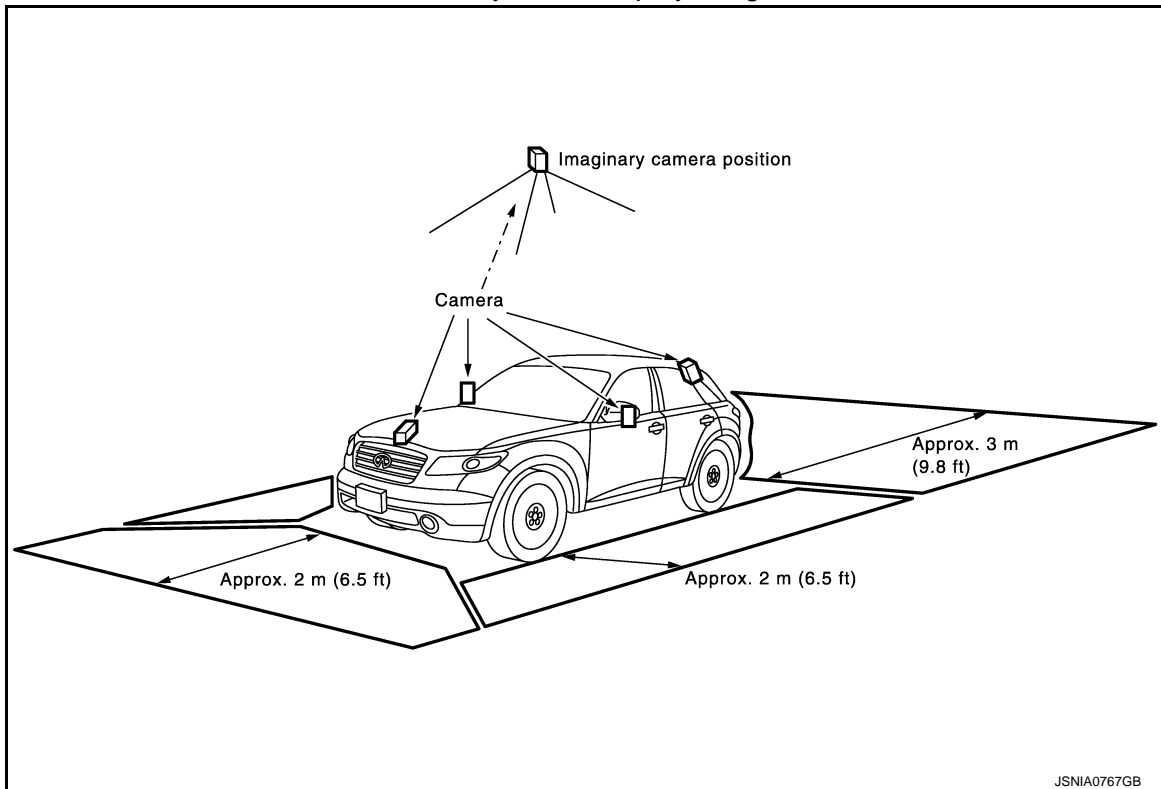
Front-side view area and guiding line



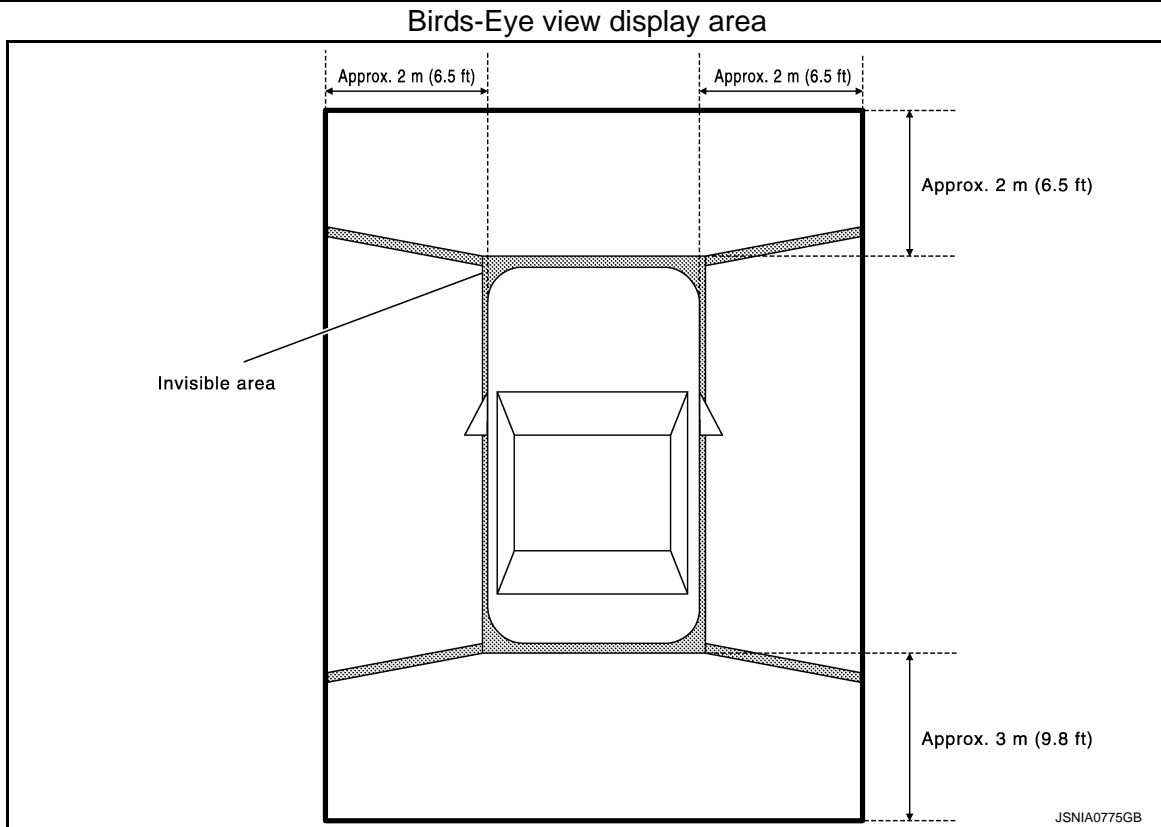
## BIRDS-EYE VIEW

- 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 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.

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# SYSTEM

## [BOSE AUDIO WITH NAVIGATION]

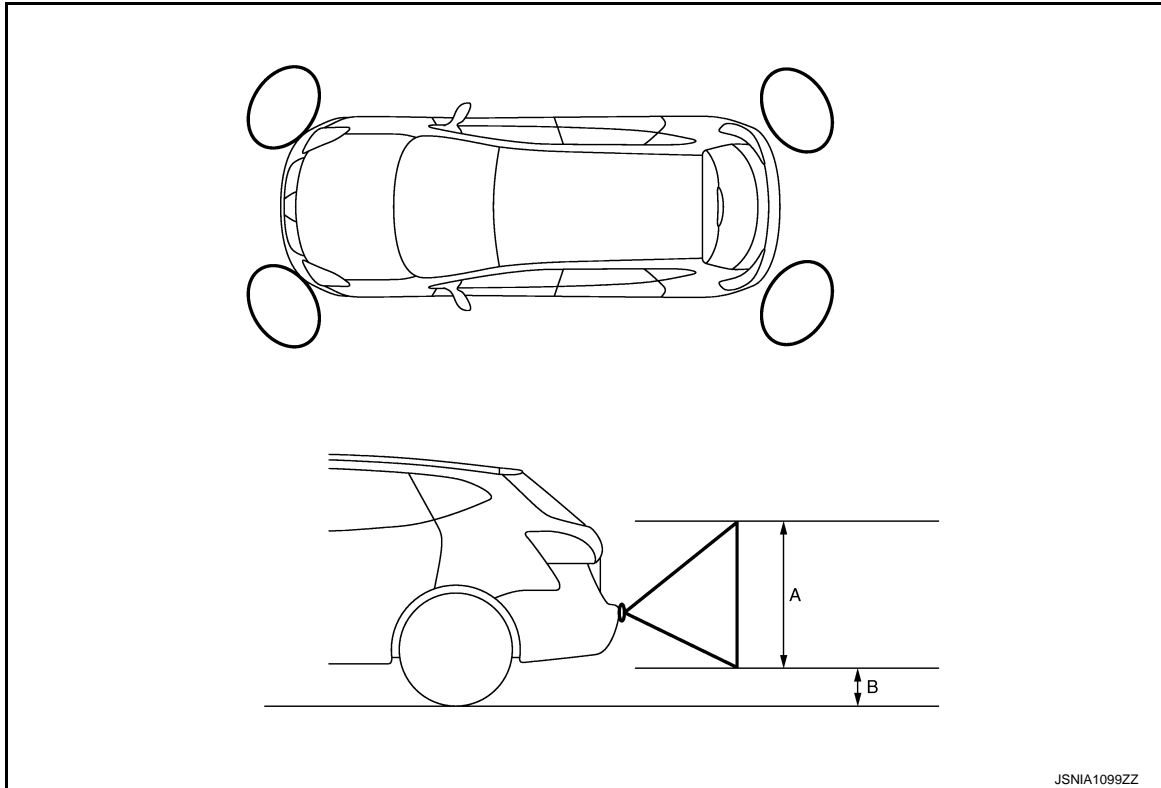
### < SYSTEM DESCRIPTION >

- 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)

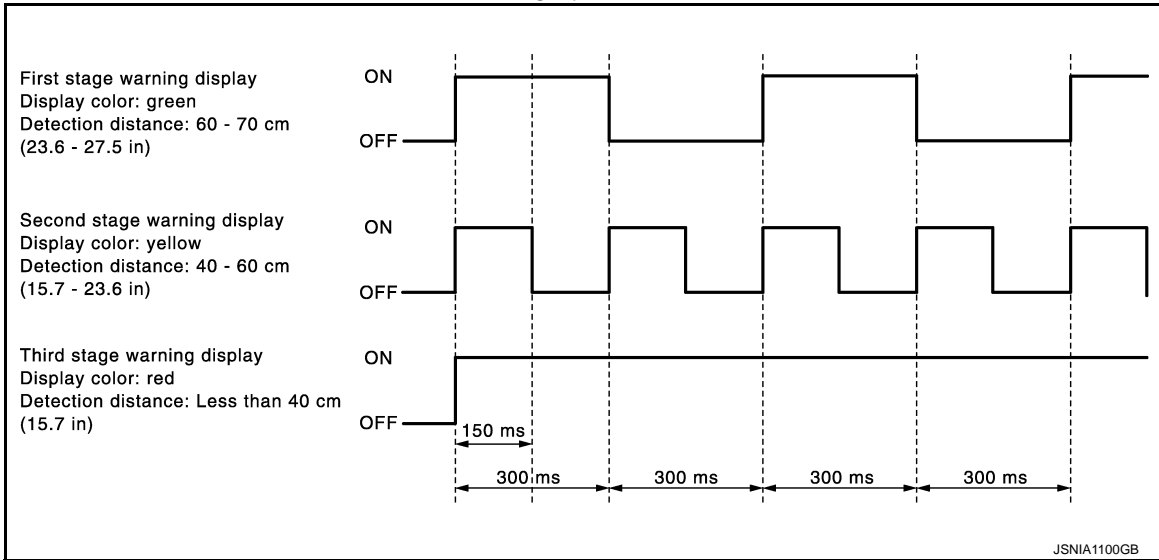
#### Detection distance

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.

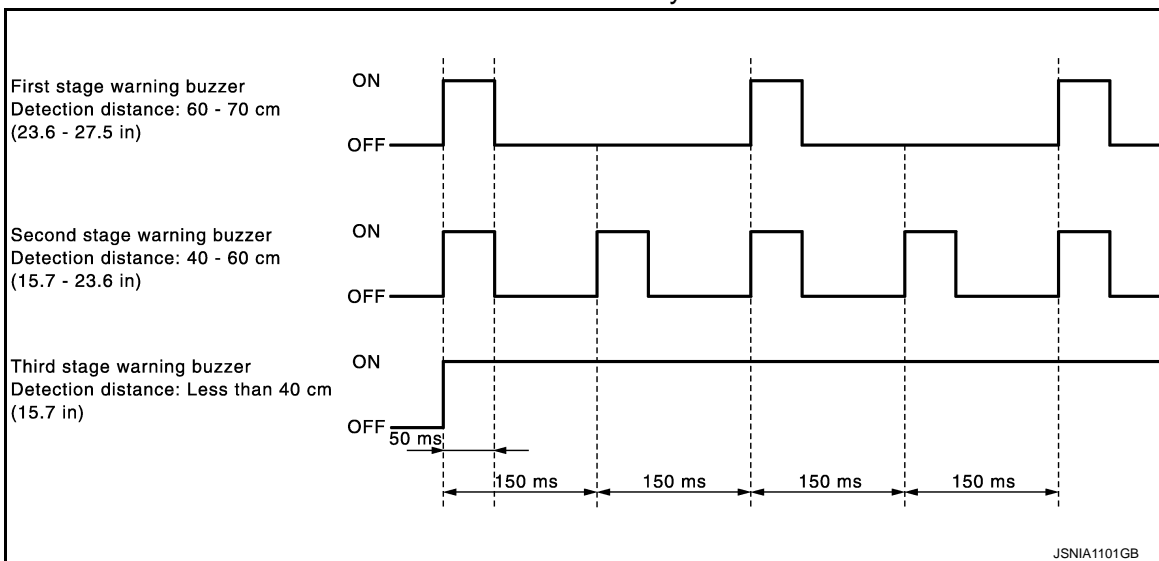
Color and blinking cycle of sonar indicator



### 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 >

[BOSE AUDIO WITH NAVIGATION]

## DIAGNOSIS SYSTEM (AV CONTROL UNIT)

### On Board Diagnosis Function

INFOID:000000009061711

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

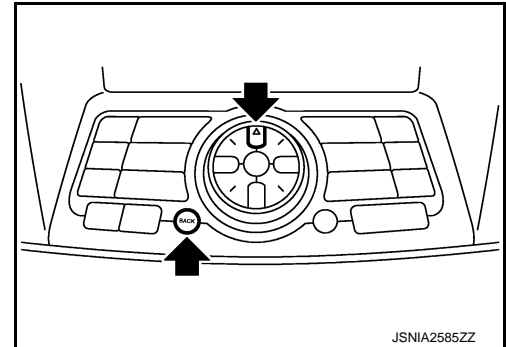
The ON/OFF operation (continuity) of each switch in the multifunction switch and preset switch can be checked.

##### 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 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)

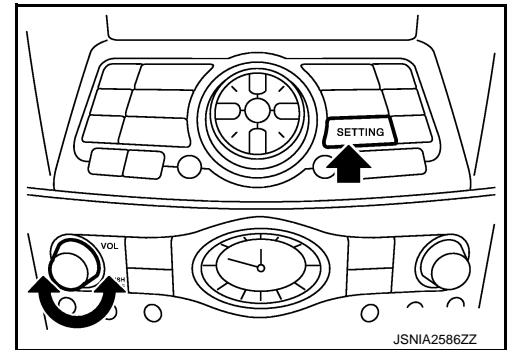
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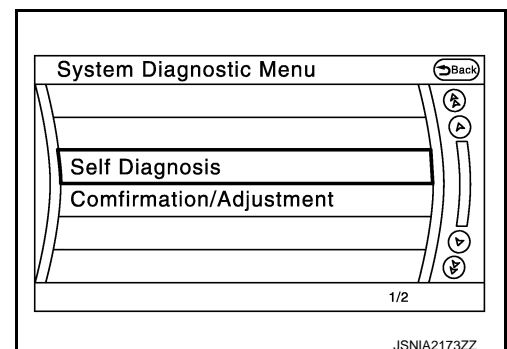
Mode		Description	
Confirmation/ Adjustment	Display Diagnosis	The following check functions are available: color tone check by color bar display and white display, light and shade check by gray scale display and touch panel calibration response check.	
	Vehicle Signals	Diagnosis of signals can be performed 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)

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## < SYSTEM DESCRIPTION >

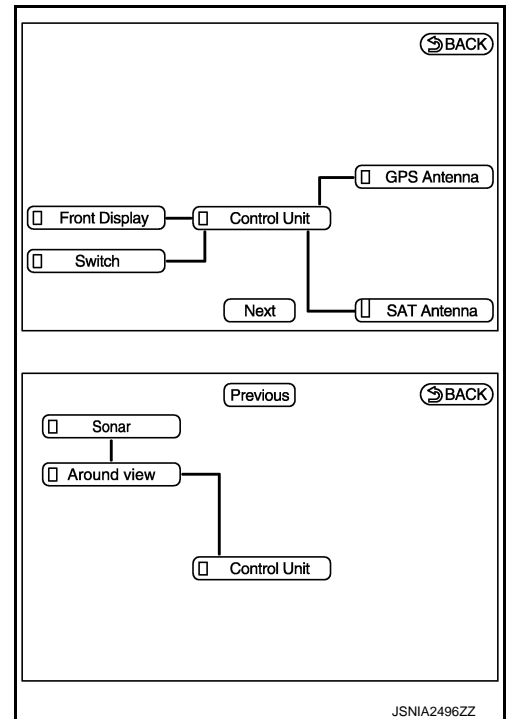
1. Start the self-diagnosis function and select "Self Diagnosis".
  - Self-diagnosis subdivision screen is displayed, and the self-diagnosis mode starts.
  - The bar graph visible on the center of the self-diagnosis subdivision screen indicates progress of the trouble diagnosis.
2. Diagnosis results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

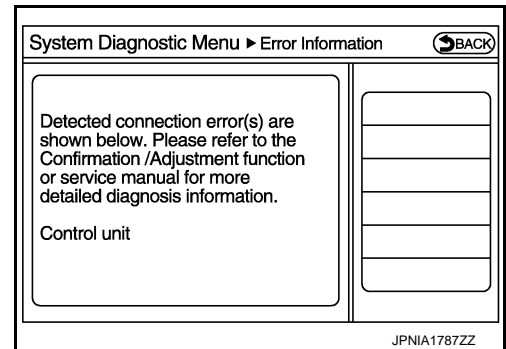
### NOTE:

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-519, "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.

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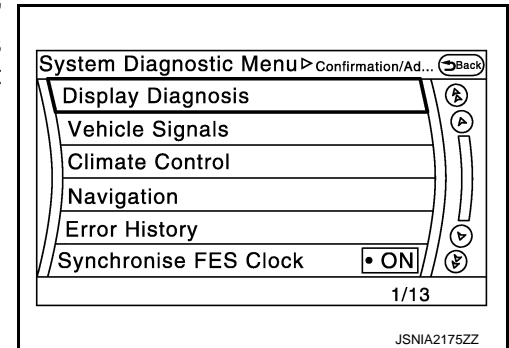
[BOSE AUDIO WITH NAVIGATION]

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.



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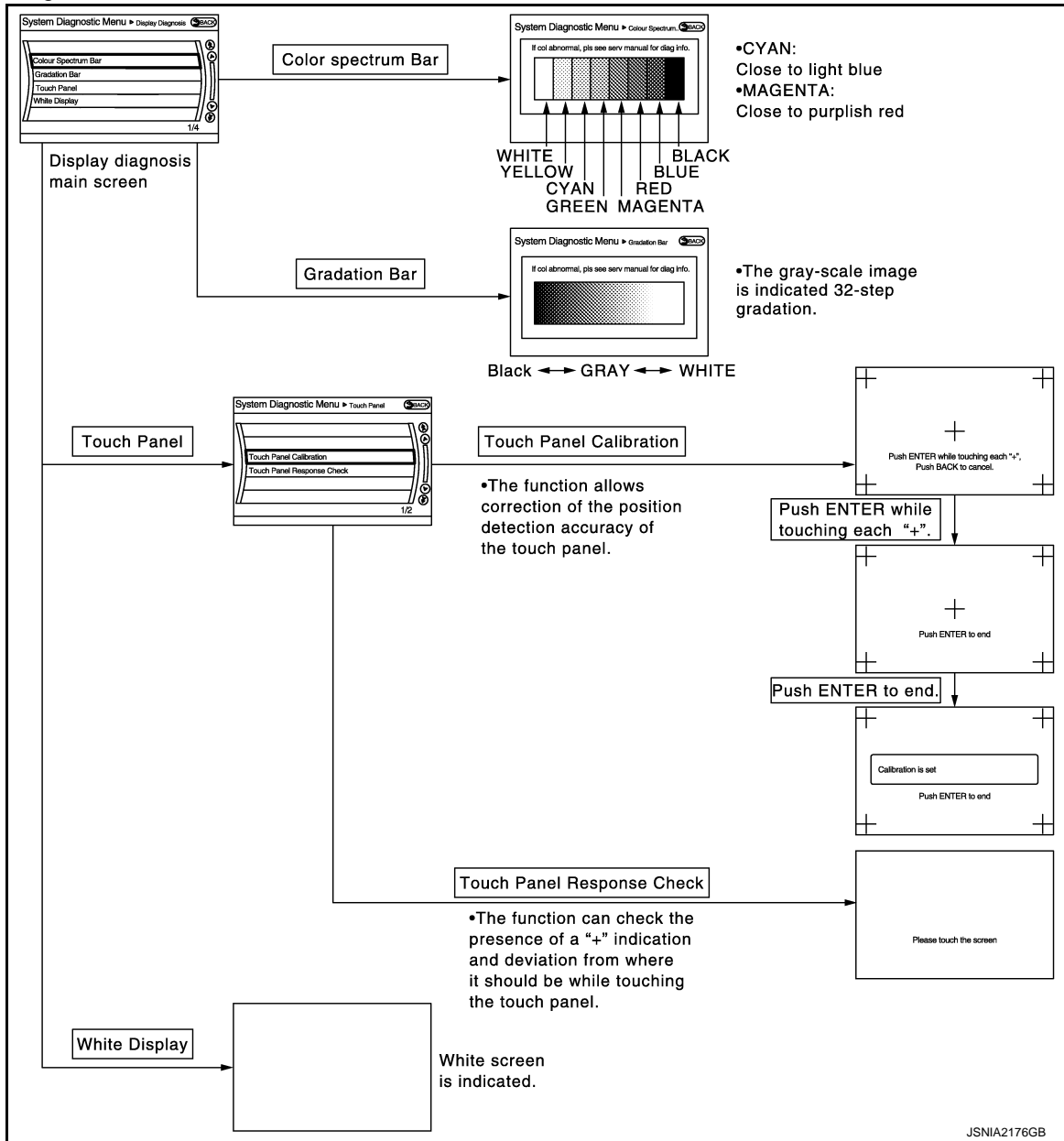
AV

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

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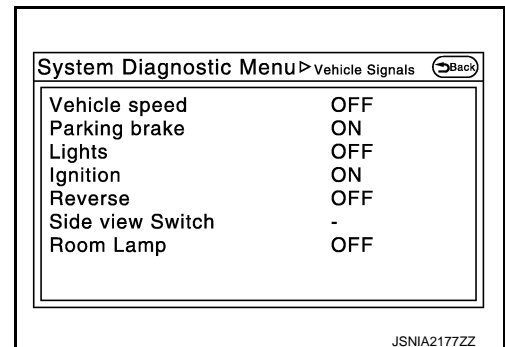
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## Display Diagnosis



## Vehicle Signals

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





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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	OFF	—	This item is displayed, but cannot be monitored.

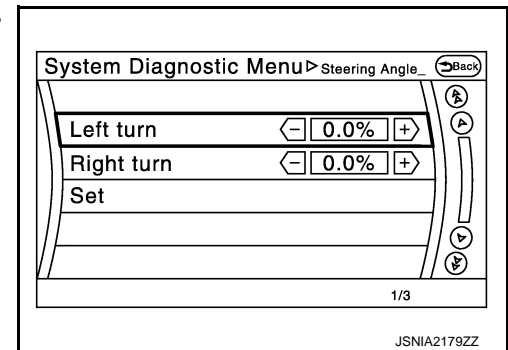
## Climate Control

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

## Navigation

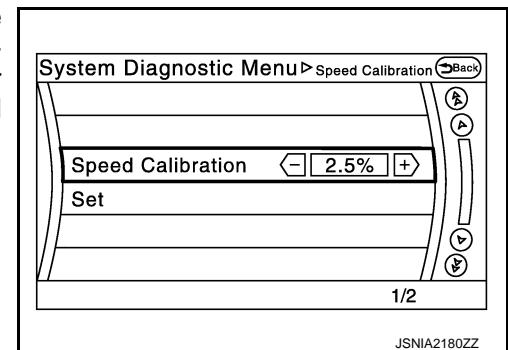
### STEERING ANGLE ADJUSTMENT

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



### SPEED CALIBRATION

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



## Error History

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

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

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

- If there is a malfunction with the GPS antenna circuit board in the AV control unit, the correct date and time of occurrence may not be able to be displayed.

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- Place of the error occurrence is represented by the position of the current location mark at the time an error occurred. If current location mark has deviated from the correct position, then the place of the error occurrence cannot be located correctly.
- The frequency of occurrence is displayed in a count up manner. The actual count up method differs depending on the error item.

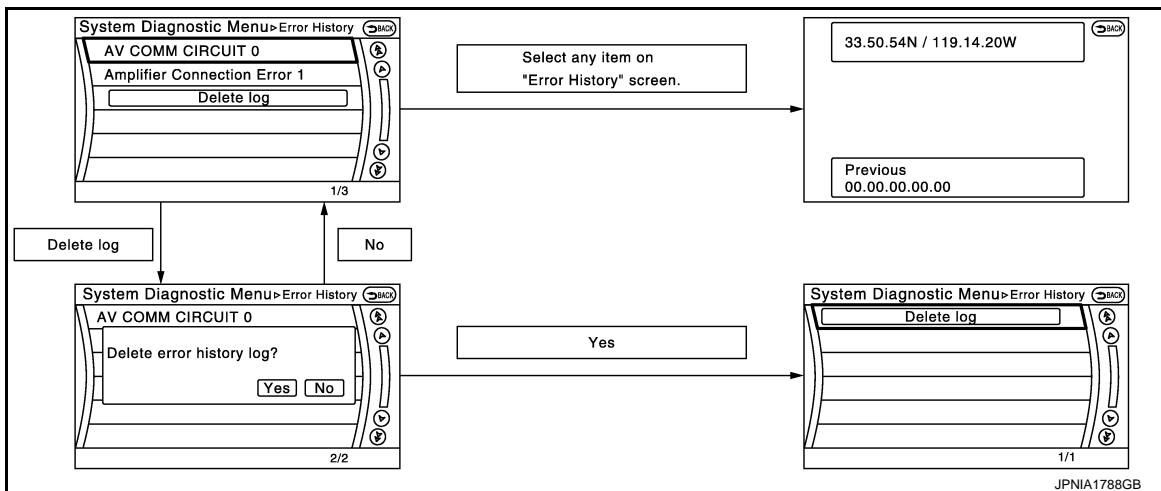
### Count up method A

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

### Count up method B

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

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



### Error item

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

Error item	Description	Possible malfunction factor/Action to take
CAN COMM CIRCUIT	CAN communication malfunction is detected.	Perform diagnosis with CONSULT, and then repair the malfunctioning parts according to the diagnosis results. Refer to <a href="#">AV-370. "CONSULT Function (MULTI AV)".</a>

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Error item	Description	Possible malfunction factor/Action to take	
CONTROL UNIT (CAN)	CAN initial diagnosis malfunction is detected.		A
CONTROL UNIT (AV)	AV communication circuit initial diagnosis malfunction is detected.		B
FLASH-ROM Error Of Control Unit	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly.	C
Connection Of Gyro			D
Connection of G Sensor			E
CAN Controller Memory Error			F
Bluetooth Module Connection Error			G
Sub CPU Connection Error			H
iPod authentication chip error			I
Audio connection error			J
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>	K
DSP Communication Error			L
HDD Connection Error	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly.	M
HDD Read Error			N
HDD Write Error			O
HDD Communication Error			P
HDD Access Error			Q
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.	R
GPS ROM Error			S
GPS RAM Error			T
GPS RTC Error			U
Unfinished configuration	The writing of configuration data is incomplete.	Write configuration data with CONSULT.	V
USB Controller Communication Error	USB connection malfunction is detected.	Check that the connection to the USB connector is normal.	W
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>	X
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-370, "CONSULT Function (MULTI AV)"</a> .	Y
Front Display Connection Error	When either one of the following items are detected: <ul style="list-style-type: none"> <li>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>Display unit power supply and ground circuits.</li> <li>Communication circuits between AV control unit and front display unit.</li> </ul>	Z
GPS Antenna Error	GPS antenna connection malfunction is detected.	Check the connection of the GPS antenna connector.	AA
XM Antenna Connection Error	Satellite radio antenna connection malfunction is detected.	Satellite radio antenna disconnection.	AB
USB electric current Error	Detection of overcurrent in USB connector.	Check USB harness between the AV control unit and USB connector.	AC

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

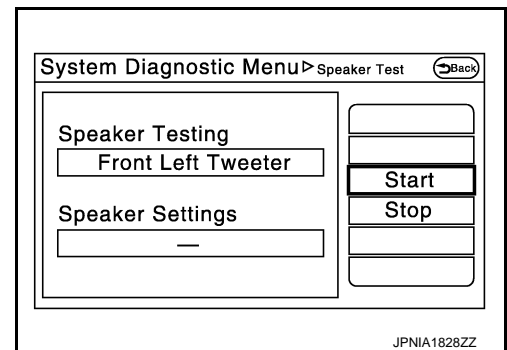
< SYSTEM DESCRIPTION >

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Error item	Description	Possible malfunction factor/Action to take
AM/FM antenna amp	Radio antenna amp. ON signal circuit malfunction is detected.	Radio antenna amp. ON signal circuit between AV control unit and antenna base.
Ext_Amp_ON	BOSE amp. ON signal circuit malfunction is detected.	BOSE amp. ON signal circuit between AV control unit and BOSE amp.
<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

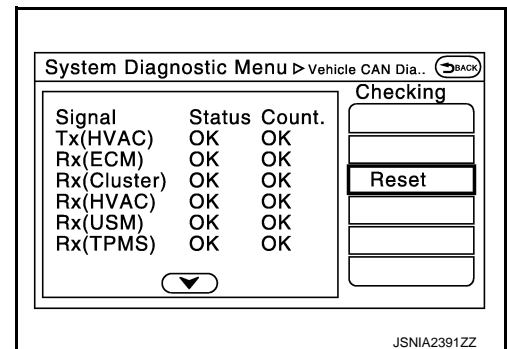
Select "SPEAKER DIAGNOSIS" to display the Speaker Diagnosis screen. Press "Start" to generate a test tone in a speaker. Press "Start" to generate a test tone in the next speaker. Press "Stop" to stop the test tones.



### 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



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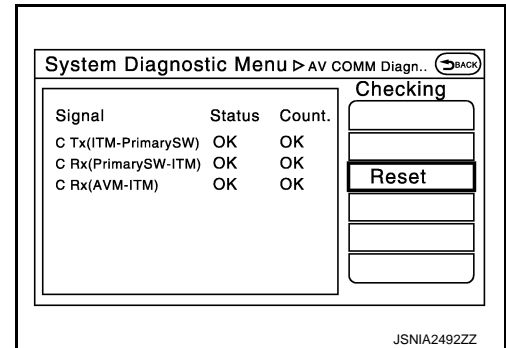
Items	Display (Current)	Malfunction counter (Past)
Rx(TPMS)	OK / ???	OK / 0 – 39
Rx(STRG)	OK / ???	OK / 0 – 39

**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.



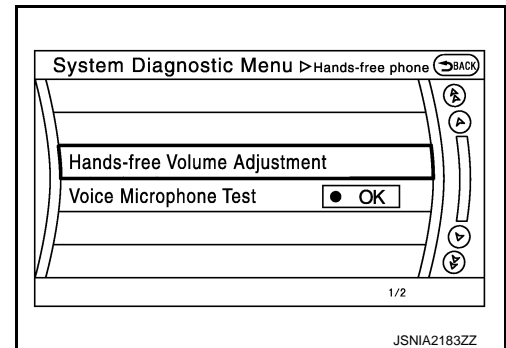
Items	Status (Current)	Counter (Past)
C Tx(ITM-PrimarySW)	OK / ???	OK / 0 – 39
C Rx(PrimarySW-ITM)	OK / ???	OK / 0 – 39
C Rx(AVM-ITM)	OK / ???	OK / 0 – 39

**NOTE:**

“???” indicates UNKWN

Hands-Free Phone

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

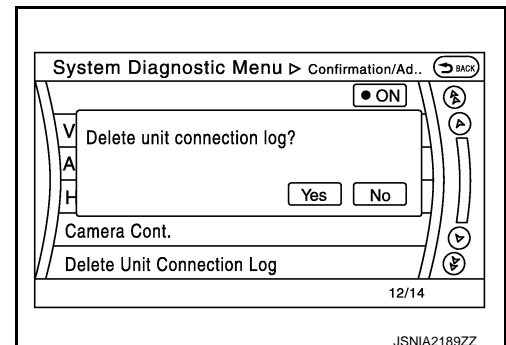


Camera Cont.

Refer to [AV-374, "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.)



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AV

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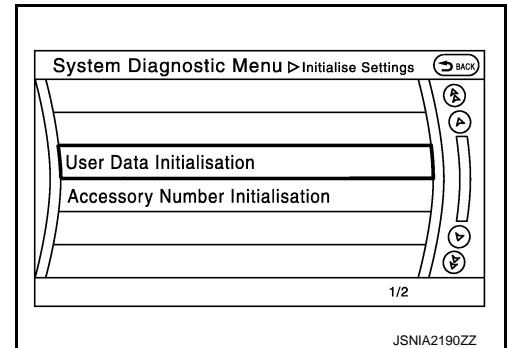
[BOSE AUDIO WITH NAVIGATION]

## Initialize Settings

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

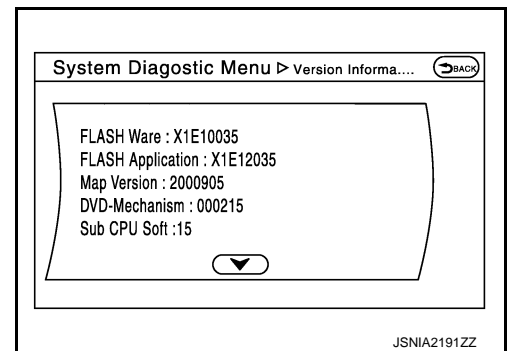
### CAUTION:

- Never perform Accessory Number Initialization except when configuration is unsuccessful.
- Accessory Number Initialization requires configuration. For details, refer to [AV-425, "CONFIGURATION \(AV CONTROL UNIT\) : Description"](#).



## Version Information

Version information of the AV control unit is displayed.



## CONSULT Function (MULTI AV)

INFOID:000000009061712

### CONSULT FUNCTIONS

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

Diagnosis mode	Description
Ecu Identification	The part number of AV control unit can be checked.
Self Diagnostic Result	Performs a diagnosis on the AV control unit and a connection diagnosis for the communication circuit of the Multi AV system, and displays the current and past malfunctions collectively.
Data Monitor	The diagnosis of vehicle signal that is input to the AV control unit can be performed.
Work Support	Steering angle sensor can be adjusted.
Configuration	<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 self-diagnosis, self-diagnosis results and error history are displayed collectively.
- The current malfunction indicates “CRNT”. The past malfunction indicates “PAST”.

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- 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-434, "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.	Replace the AV control unit if the malfunction occurs constantly.
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.
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>

# DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

Error item	Description	Possible malfunction factor/Action to take
GPS ANTENNA CONN [U1244]	GPS antenna connection malfunction is detected.	Check the connection of the GPS antenna connector.
XM ANTENNA CONN [U1258]	Satellite radio antenna connection malfunction is detected.	Satellite radio antenna disconnection.
USB OVERCURRENT [U1263]	Detection of overcurrent in USB connector.	Check USB harness between the AV control unit and USB connector.
ANTENNA AMP TERMINAL [U1264]	Radio antenna amp. ON signal circuit malfunction is detected.	Radio antenna amp. ON signal circuit between AV control unit and antenna base.
AMP ON TERMINAL [U1265]	BOSE amp. ON signal circuit malfunction is detected.	BOSE amp. ON signal circuit between AV control unit and BOSE amp.
<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

### NOTE:

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

### ALL SIGNALS

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

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



## DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

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	Off	This item is displayed, but cannot be monitored.	—

### SELECTION FROM MENU

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

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

### WORK SUPPORT

Adjusts the neutral position of the steering angle sensor.

**CAUTION:**

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

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

### CONFIGURATION

Configuration includes functions as follows.

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

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AV

# DIAGNOSIS SYSTEM (AROUND VIEW MONITOR CONTROL UNIT)

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

## DIAGNOSIS SYSTEM (AROUND VIEW MONITOR CONTROL UNIT)

### On Board Diagnosis Function

INFOID:000000009061713

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

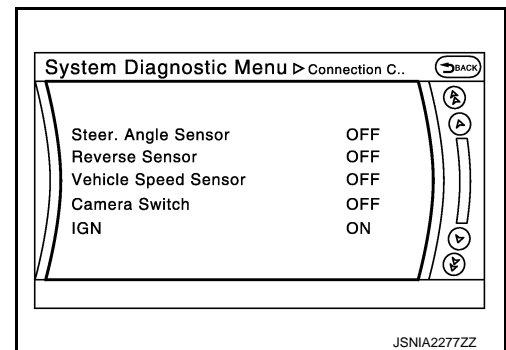
AV control unit Confirmation/Adjustment mode		Function	
Camera Cont.	Connection Confirmation	The status of signals input to around view monitor control unit can be checked.	
	Calibrating Camera Image	Rear Camera	Performs the calibration of rear camera.
		Pass-Side Camera	Performs the calibration of side 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 >

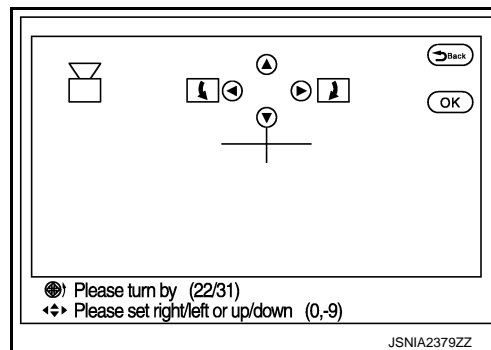
[BOSE AUDIO WITH NAVIGATION]

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-428, "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 >

[BOSE AUDIO WITH NAVIGATION]

## 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.

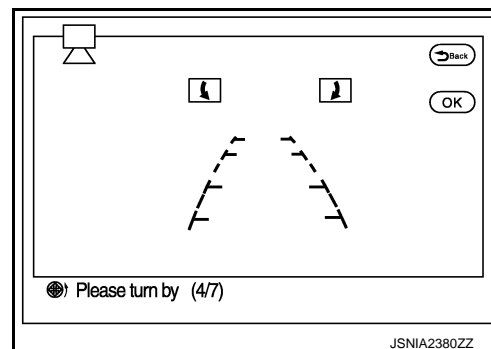
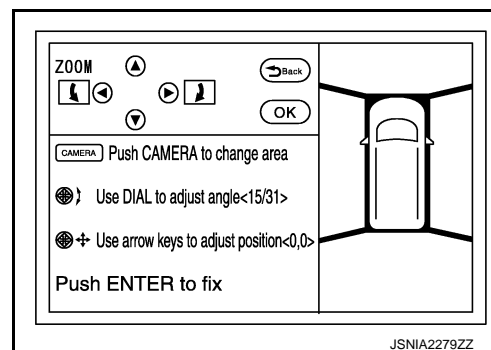
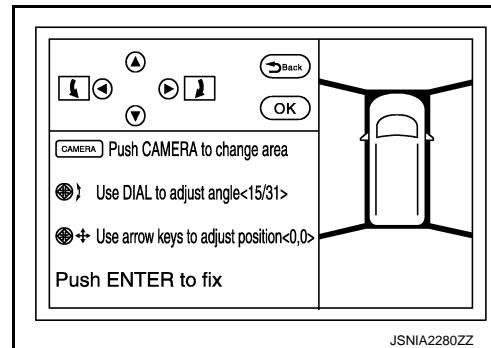
## NOTE:

- 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 (WITH AROUND VIEW MONITOR)]

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

## DIAGNOSIS SYSTEM [SONAR CONTROL UNIT (WITH AROUND VIEW MONITOR)]

### CONSULT Function (SONAR)

INFOID:000000009061714

#### DESCRIPTION

CONSULT 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-397, "DTC Index"](#).

#### DATA MONITOR

##### NOTE:

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

Monitor Item	Display	Description
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.

# DIAGNOSIS SYSTEM [SONAR CONTROL UNIT (WITH AROUND VIEW MONITOR)]

< SYSTEM DESCRIPTION >

[BOSE AUDIO WITH NAVIGATION]

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)

The default of this model is "FAR".

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITH NAVIGATION]

## ECU DIAGNOSIS INFORMATION

### AV CONTROL UNIT

#### Reference Value

INFOID:000000009061715

#### VALUES ON THE DIAGNOSIS TOOL

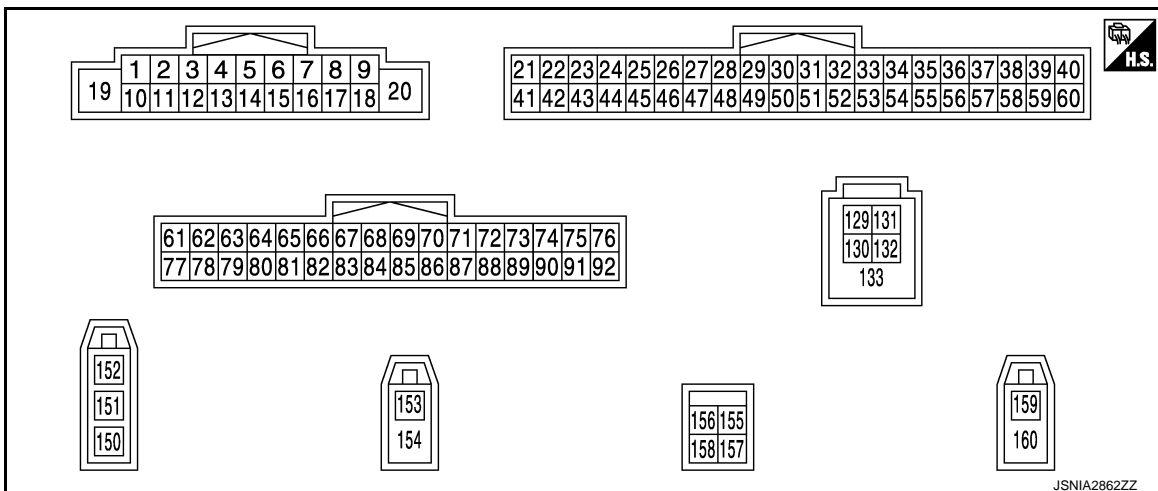
**NOTE:**

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

CONSULT MONITOR ITEM

Monitor Item	Condition	Value/Status
VHCL SPD SIG	Ignition switch ON Vehicle speed > 0 km/h (0 MPH)	On
	Vehicle speed = 0 km/h (0 MPH)	Off
PKB SIG	Ignition switch ON Parking brake is applied.	On
	Parking brake is released.	Off
ILLUM SIG	Ignition switch ON 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 This item is displayed, but cannot be monitored.	Off

#### TERMINAL LAYOUT

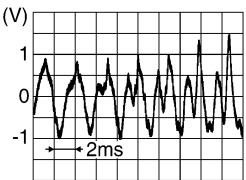
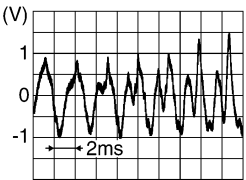

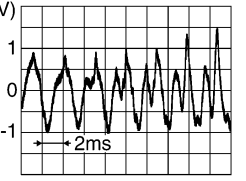
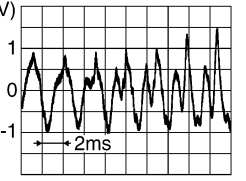


#### PHYSICAL VALUES

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITH NAVIGATION]

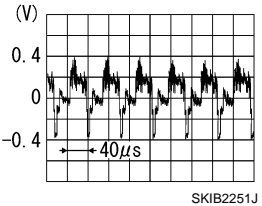
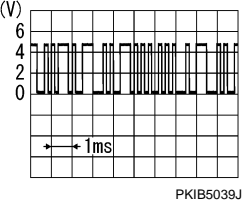
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
1 (W)	Ground	AMP. ON signal	Output	Ignition switch ON	—	12.0 V
2 (R)	3 (G)	Sound signal front LH	Output	Ignition switch ON	Sound output.	 <small>SKIB3609E</small>
4 (BR)	5 (Y)	Sound signal rear LH	Output	Ignition switch ON	Sound output.	 <small>SKIB3609E</small>
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 (P)	12 (L)	Sound signal front RH	Output	Ignition switch ON	Sound output.	 <small>SKIB3609E</small>
13 (V)	14 (LG)	Sound signal rear RH	Output	Ignition switch ON	Sound output.	 <small>SKIB3609E</small>



# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITH NAVIGATION]

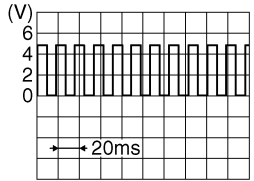
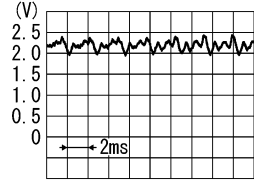
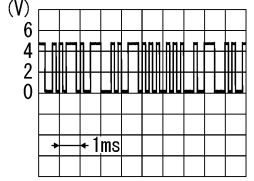
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
16 (L)	15 (B)	Steering switch signal B	Input	Ignition switch ON	Keep pressing VOL DOWN switch.	0 V
					Keep pressing VOL UP switch.	1.0 V
					Keep pressing  switch.	2.0 V
					Keep pressing  switch.	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
29 (Y)	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
49 (B)	Ground	Switch ground	—	Ignition switch ON	—	0 V
65 (V)	Ground	Parking brake signal	Input	Ignition switch ON	Parking brake is ON.	4.5 V
					Parking brake is OFF.	0 V
67 (G)	Ground	Composite image signal 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 (R)	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	—	—	—

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# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITH NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	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 (BG)	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 approx. 40 km/h (25 MPH)	<p><b>NOTE:</b> Maximum voltage may be 12.0 V due to specifications (connected units).</p>  <p style="text-align: right; font-size: small;">SKIA6649J</p>
83	—	Shield	—	—	—	—
87 (G)	71	Microphone signal	Input	Ignition switch ON	Give a voice.	 <p style="text-align: right; font-size: small;">PKIB5037J</p>
88	—	Shield	—	—	—	—
89 (G)	Ground	Communication signal (DISP→CONT)	Input	Ignition switch ON	When adjusting display brightness.	 <p style="text-align: right; font-size: small;">PKIB5039J</p>
90 (L)	—	CAN-H	Input/ Output	—	—	—
91 (SB)	—	AV communication signal (H)	Input/ Output	—	—	—
92 (SB)	—	AV communication signal (H)	Input/ Output	—	—	—
129 (G)	—	USB ground	—	—	—	—
130 (R)	—	USB D- signal	Input/ Output	—	—	—
131 (W)	—	V BUS signal	Output	—	—	—

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITH NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ 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 ON	Not connected GPS antenna connector.	5.0 V
154	—	Shield	—	—	—	—
157	Ground	RGB digital image signal (-)	Output	Ignition switch ON	Not connected connector.	1.3 V
158	Ground	RGB digital image signal (+)	Output	Ignition switch ON	Not connected connector.	1.3 V
159	Ground	Satellite antenna signal	Input	Ignition switch ON	Not connected to satellite antenna connector.	5.0 V

## Fail-Safe

INFOID:000000009061716

When the ambient 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 ambient 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.

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITH NAVIGATION]

Function	When Fail-safe Function is activated
Self diagnosis	The display in simplified mode of fail-safe condition
CONSULT diagnosis	Cannot be operated.

## Ability Operation Mode

There is an ability operation mode for Fail-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:000000009061717

## SELF-DIAGNOSIS RESULTS DISPLAY ITEM

DTC	Display item	Refer to
U1000	CAN COMM CIRCUIT [U1000]	<a href="#">AV-434, "Diagnosis Procedure"</a>
U1010	CONTROL UNIT (CAN) [1010]	<a href="#">AV-435, "DTC Logic"</a>
U1200	Cont Unit [U1200]	<a href="#">AV-436, "DTC Logic"</a>
U1201	GYRO NO CONN [U1201]	<a href="#">AV-437, "DTC Logic"</a>
U1202	G-SENSOR NO CONN [U1202]	<a href="#">AV-438, "DTC Logic"</a>
U1204	GPS COMM [U1204]	<a href="#">AV-439, "Diagnosis Procedure"</a>
U1205	GPS ROM [U1205]	<a href="#">AV-440, "Diagnosis Procedure"</a>
U1206	GPS RAM [U1206]	<a href="#">AV-441, "Diagnosis Procedure"</a>
U1207	GPS RTC [U1207]	<a href="#">AV-442, "Diagnosis Procedure"</a>
U1216	CAN CONT [U1216]	<a href="#">AV-443, "DTC Logic"</a>
U1217	BLUETOOTH MODULE [U1217]	<a href="#">AV-444, "DTC Logic"</a>
U1218	HDD CONN [U1218]	<a href="#">AV-445, "DTC Logic"</a>
U1219	HDD READ [U1219]	<a href="#">AV-446, "DTC Logic"</a>
U121A	HDD WRITE [U121A]	<a href="#">AV-447, "DTC Logic"</a>
U121B	HDD COMM [U121B]	<a href="#">AV-448, "DTC Logic"</a>
U121C	HDD ACCESS [U121C]	<a href="#">AV-449, "DTC Logic"</a>
U121D	DSP CONN [U121D]	<a href="#">AV-450, "Diagnosis Procedure"</a>
U121E	DSP COMM [U121E]	<a href="#">AV-451, "Diagnosis Procedure"</a>
U1225	USB CONTROLLER [U1225]	<a href="#">AV-452, "DTC Logic"</a>
U1227	DVD COMM [U1227]	<a href="#">AV-453, "Diagnosis Procedure"</a>
U1228	SUB CPU CONN [U1228]	<a href="#">AV-454, "DTC Logic"</a>
U1229	iPod CERTIFICATION [U1229]	<a href="#">AV-455, "DTC Logic"</a>
U122A	CONFIG UNFINISH [U122A]	<a href="#">AV-456, "Diagnosis Procedure"</a>
U122E	Built-in AUDIO CONN [U122E]	<a href="#">AV-457, "DTC Logic"</a>
U1232	ST ANGLE SEN CALIB [1232]	<a href="#">AV-458, "Diagnosis Procedure"</a>
U1243	FRONT DISP CONN [U1243]	<a href="#">AV-459, "Diagnosis Procedure"</a>
U1244	GPS ANTENNA CONN [U1244]	<a href="#">AV-461, "Diagnosis Procedure"</a>
U1258	XM ANTENNA CONN [U1258]	<a href="#">AV-462, "Diagnosis Procedure"</a>
U1263	USB OVERCURRENT [U1263]	<a href="#">AV-463, "Diagnosis Procedure"</a>
U1264	ANTENNA AMP TERMINAL [U1264]	<a href="#">AV-464, "Diagnosis Procedure"</a>

# AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITH NAVIGATION]

DTC	Display item	Refer to
U1265	AMP ON TERMINAL [U1265]	<a href="#">AV-465, "Diagnosis Procedure"</a>
U1310	CONTROL UNIT (AV) [U1310]	<a href="#">AV-467, "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-466, "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-466, "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-466, "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-466, "Description"</a>

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# DISPLAY UNIT

< ECU DIAGNOSIS INFORMATION >

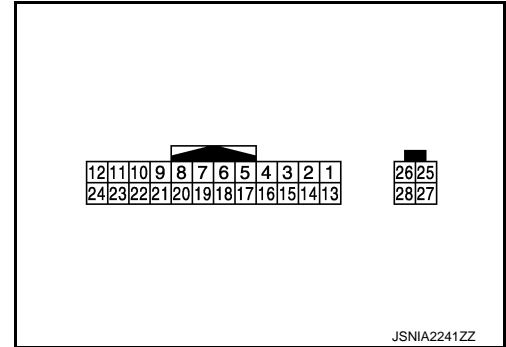
[BOSE AUDIO WITH NAVIGATION]

## DISPLAY UNIT

Reference Value

INFOID:000000009061718

### TERMINAL LAYOUT



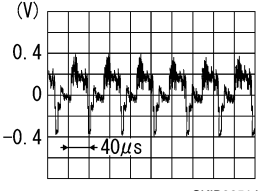
### PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
6	—	Shield	—	—	—	—
7	—	Shield (camera image signal ground)	—	—	—	—
8 (W)	Ground	Camera image signal	Input	Ignition switch ON	At camera image is displayed.	 SKIB2251J
9 (G)	Ground	Communication signal (DISP→CONT)	Output	Ignition switch ON	When adjusting display brightness.	 PKIB5039J
10 (R)	Ground	Communication signal (CONT→DISP)	Input	Ignition switch ON	When adjusting display brightness.	 PKIB5039J
11 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
12 (B)	Ground	Ground	—	Ignition switch ON	—	0 V

# DISPLAY UNIT

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITH NAVIGATION]

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.	 <p style="text-align: right; font-size: small;">SKIB2251J</p>
19 (G)	Ground	Composite image signal ground	—	Ignition switch ON	—	0 V
22	—	Shield	—	—	—	—
23 (V)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
27	—	RGB digital image signal (-)	Input	—	—	—
28	—	RGB digital image signal (+)	Input	—	—	—

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# BOSE AMP.

< ECU DIAGNOSIS INFORMATION >

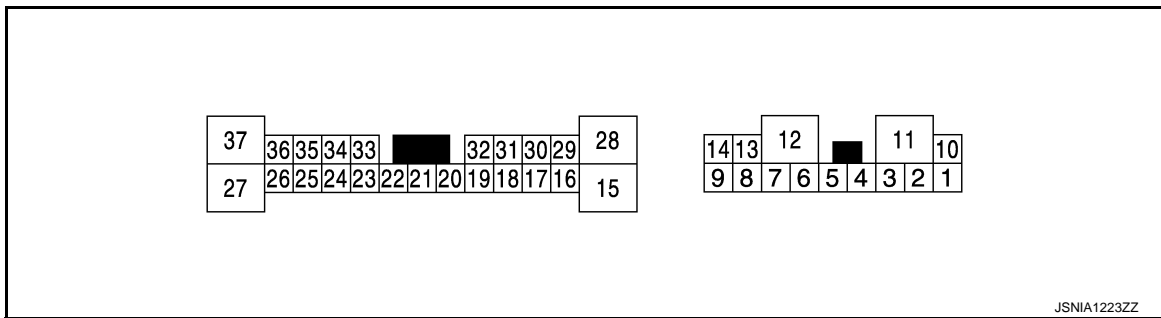
[BOSE AUDIO WITH NAVIGATION]

## BOSE AMP.

Reference Value

INFOID:00000009061719

### TERMINAL LAYOUT



### PHYSICAL VALUES

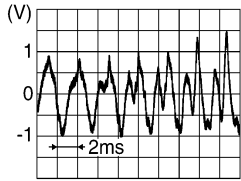
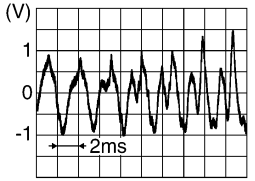
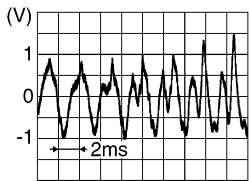
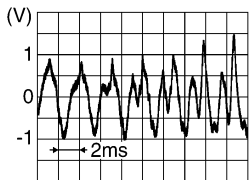
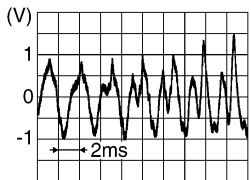
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
1 (Y)	10 (G)	Sound signal rear door speaker LH	Output	Ignition switch ON	Sound output.	<p>SKIB3609E</p>
2 (SB)	3 (V)	Sound signal rear door speaker RH	Output	Ignition switch ON	Sound output.	<p>SKIB3609E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



# BOSE AMP.

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITH 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.	 <p style="text-align: right; font-size: small;">SKIB3609E</p>
9 (G)	14 (R)	Sound signal woofer and rear squawker (LH and RH)	Output	Ignition switch ON	Sound output.	 <p style="text-align: right; font-size: small;">SKIB3609E</p>
11 (GR)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
12 (B)	Ground	Ground	—	Ignition switch ON	—	0 V
15 (B)	28 (G)	Sound signal center speaker	Output	Ignition switch ON	Sound output.	 <p style="text-align: right; font-size: small;">SKIB3609E</p>
17 (W)	Ground	Mode change signal	Input	Ignition switch ON	Driver's Audio Stage ON	0 V
					Driver's Audio Stage OFF	8.5 V
18 (R)	32 (G)	Sound signal front LH	Input	Ignition switch ON	Sound output.	 <p style="text-align: right; font-size: small;">SKIB3609E</p>
19 (P)	20 (L)	Sound signal front RH	Input	Ignition switch ON	Sound output.	 <p style="text-align: right; font-size: small;">SKIB3609E</p>

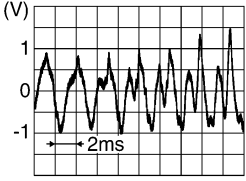
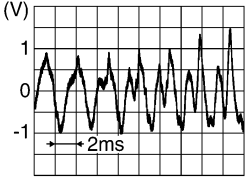
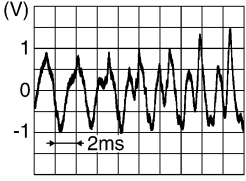
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# BOSE AMP.

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITH NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
21 (BR)	22 (Y)	Sound signal rear LH	Input	Ignition switch ON	Sound output.	 <p style="text-align: right; font-size: small;">SKIB3609E</p>
23 (V)	33 (SB)	Sound signal rear RH	Input	Ignition switch ON	Sound output.	 <p style="text-align: right; font-size: small;">SKIB3609E</p>
25 (GR)	Ground	Woofers amp. ON signal	Output	Ignition switch ACC	—	12.0 V
31 (W)	Ground	BOSE amp. ON signal	Input	Ignition switch ACC	—	12.0 V
37 (BR)	27 (R)	Sound signal front squawker RH	Output	Ignition switch ON	Sound output.	 <p style="text-align: right; font-size: small;">SKIB3609E</p>

# AROUND VIEW MONITOR CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

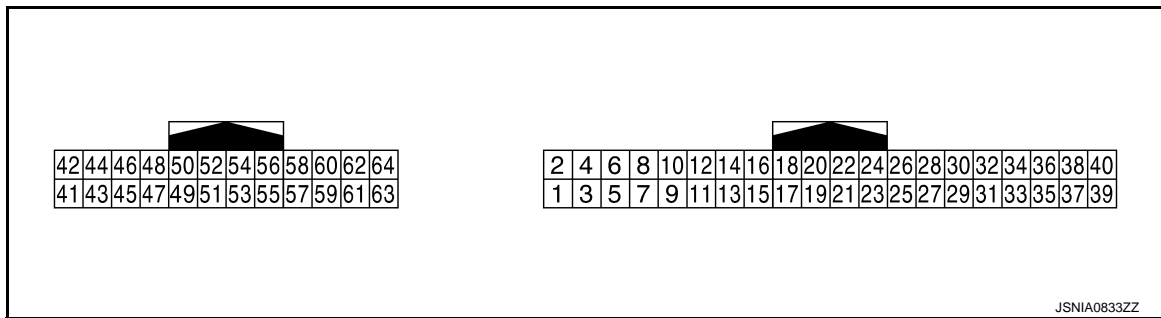
[BOSE AUDIO WITH NAVIGATION]

## AROUND VIEW MONITOR CONTROL UNIT

Reference Value

INFOID:000000009061720

### 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 (P)	Ground	Ignition signal	Input	Ignition switch ON	—	Battery voltage
4 (GR)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
5 (BG)	Ground	Illumination signal	Input	Ignition switch OFF	Lighting switch is OFF.	0 V
					Lighting switch is ON.	12.0 V
6 (SB)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH).	<p><b>NOTE:</b> The maximum voltage varies depending on the specification (destination unit).</p> <p style="text-align: right; font-size: x-small;">JSNIA0012GB</p>
7 (V)	Ground	Reverse signal	Input	Ignition switch ON	Shift the selector lever to "R" position.	12.0 V
					Shift the selector lever other than "R" position.	0 V
9 (V)	Ground	Control signal	—	Ignition switch ON	—	0 V
13 (B)	Ground	Control signal	—	Ignition switch ON	—	0 V

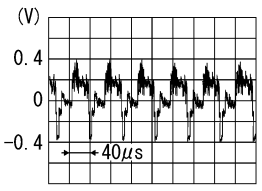
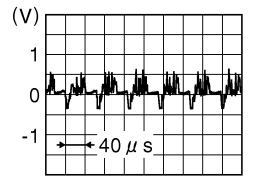
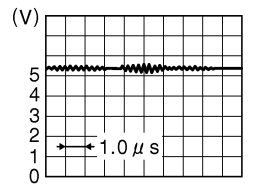
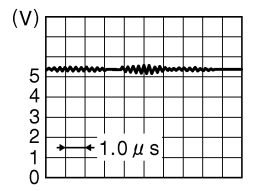
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AV

# AROUND VIEW MONITOR CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

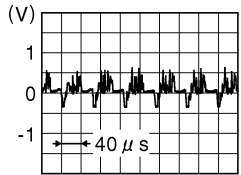
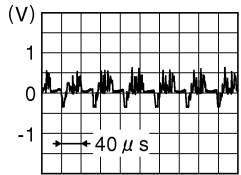
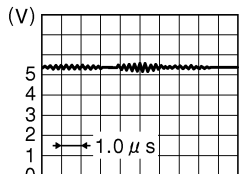
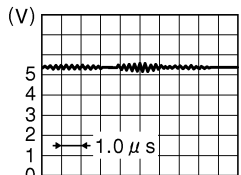
[BOSE AUDIO WITH NAVIGATION]

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)	—	—	—	—	—	—
27 (W)	Ground	Camera image signal	Output	Ignition switch ON	At camera image is displayed.	 <p style="text-align: right; font-size: small;">SKIB2251J</p>
28	—	Shield (camera image signal ground)	—	—	—	—
29 (Y)	30 (G)	Side camera RH image signal	Input	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	 <p style="text-align: right; font-size: small;">JSNIA0834GB</p>
31	—	Shield	—	—	—	—
32 (B)	Ground	Side camera RH ground	—	Ignition switch ON	—	0 V
33 (W)	Ground	Side camera RH communication signal	Input/ Output	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	 <p style="text-align: right; font-size: small;">JSNIA0836GB</p>
34 (R)	Ground	Side camera RH power supply	Output	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	6.0 V
35 (L)	Ground	Rear camera communication signal	Input/ Output	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	 <p style="text-align: right; font-size: small;">JSNIA0836GB</p>

# AROUND VIEW MONITOR CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITH NAVIGATION]

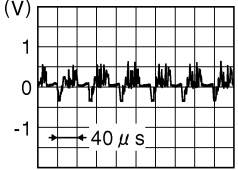
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
36 (BR)	Ground	Rear camera power supply	Output	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	6.0 V
37	—	Shield	—	—	—	—
38 (R)	Ground	Rear camera ground	—	Ignition switch ON	—	0 V
39 (Y)	40 (W)	Rear camera image signal	Input	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	 <small>JSNIA0834GB</small>
41 (Y)	42 (G)	Front camera image signal	Input	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	 <small>JSNIA0834GB</small>
43	—	Shield	—	—	—	—
44 (B)	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".	 <small>JSNIA0836GB</small>
46 (R)	Ground	Front camera power supply	Output	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	6.0 V
47 (L)	Ground	Side camera LH communica- tion signal	Input/ Output	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	 <small>JSNIA0836GB</small>
48 (BR)	Ground	Side camera LH power supply	Output	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	6.0 V
49	—	Shield	—	—	—	—

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# AROUND VIEW MONITOR CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITH NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
50 (R)	Ground	Side camera LH ground	—	Ignition switch ON	—	0 V
51 (Y)	52 (W)	Side camera LH image signal	Input	Ignition switch ON	“CAMERA” switch is ON or shift position is “R”.	 <p style="text-align: right; font-size: small;">JSNIA0834GB</p>

\*: This harness is not used.

# SONAR CONTROL UNIT (WITH AROUND VIEW MONITOR)

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITH NAVIGATION]

## SONAR CONTROL UNIT (WITH AROUND VIEW MONITOR)

### Reference Value

INFOID:000000009061721

### VALUES ON THE DIAGNOSIS TOOL

**NOTE:**

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

CONSULT MONITOR ITEM

Monitor Item	Condition		Value/Status
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

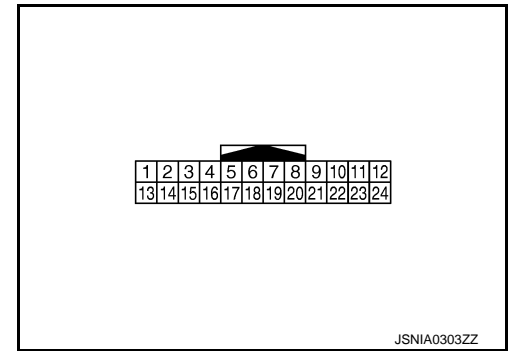
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# SONAR CONTROL UNIT (WITH AROUND VIEW MONITOR)

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITH NAVIGATION]

## TERMINAL LAYOUT



## PHYSICAL VALUES

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
3 (R)	12 (B)	Corner sensor signal front LH	Input	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	<p style="text-align: right; font-size: x-small;">JSNIA0837GB</p>
4 (W)	12 (B)	Corner sensor signal front RH	Input	Ignition switch ON	"CAMERA" switch is ON or shift position is "R".	<p style="text-align: right; font-size: x-small;">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 style="text-align: right; font-size: x-small;">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 style="text-align: right; font-size: x-small;">JSNIA0837GB</p>
12 (B)	Ground	Sensor ground	—	Ignition switch ON	—	0 V
13 (V)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
18 (V)	—	K-line (CONSULT)	—	—	—	—



# SONAR CONTROL UNIT (WITH AROUND VIEW MONITOR)

< ECU DIAGNOSIS INFORMATION >

[BOSE AUDIO WITH NAVIGATION]

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
19 (G)	—	AV communication signal (H)	Input/ Output	—	—	—
20 (R)	—	AV communication signal (L)	Input/ Output	—	—	—
24 (B)	Ground	Ground	—	Ignition switch ON	—	0 V

## Fail-Safe

INFOID:000000009061722

- 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:000000009061723

DTC	Display item	Malfunction is detected when...	Reference
B2700	CORNER SENSOR [FL] [B2700]	Corner sensor front LH is malfunctioning.	<a href="#">AV-468, "DTC Logic"</a>
B2701	SENSOR HARNESS OPEN [CR-FL] [B2701]	Corner sensor front LH harness circuit is open.	<a href="#">AV-469, "Diagnosis Procedure"</a>
B2702	CORNER SENSOR [FR] [B2702]	Corner sensor front RH is malfunctioning.	<a href="#">AV-470, "DTC Logic"</a>
B2703	SENSOR HARNESS OPEN [CR- FR] [B2703]	Corner sensor front RH harness circuit is open.	<a href="#">AV-471, "Diagnosis Procedure"</a>
B2704	CORNER SENSOR [RL] [B2704]	Corner sensor rear LH is malfunctioning.	<a href="#">AV-472, "DTC Logic"</a>
B2705	SENSOR HARNESS OPEN [CR-RL] [B2705]	Corner sensor rear LH harness circuit is open.	<a href="#">AV-473, "Diagnosis Procedure"</a>
B2706	CORNER SENSOR [RR] [B2706]	Corner sensor rear RH is malfunctioning.	<a href="#">AV-474, "DTC Logic"</a>
B2707	SENSOR HARNESS OPEN [CR- RR] [B2707]	Corner sensor rear RH harness circuit is open.	<a href="#">AV-475, "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.

# WIRING DIAGRAM

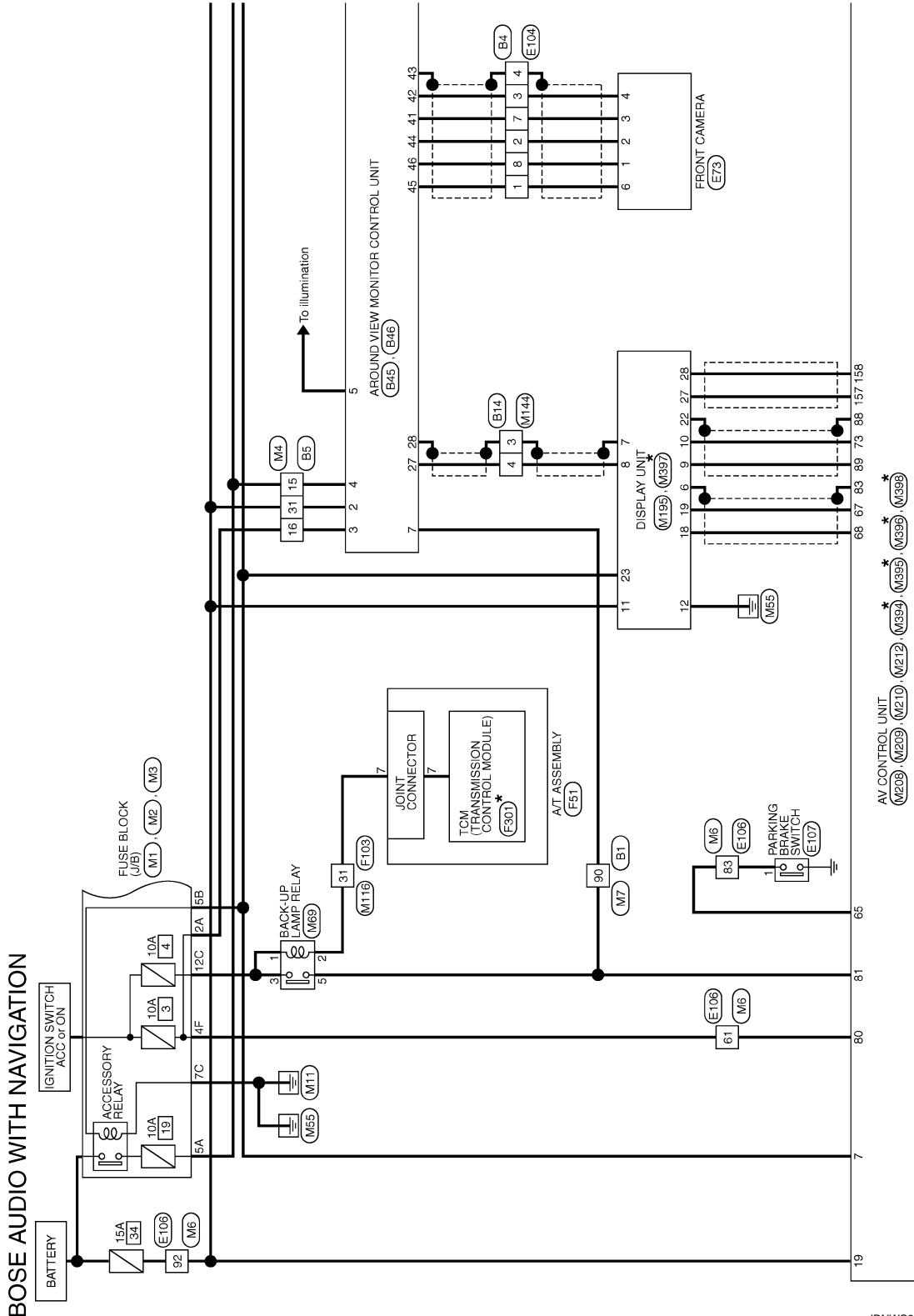
## BOSE AUDIO WITH NAVIGATION

### Wiring Diagram

INFOID:000000009061724

**NOTE:**

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

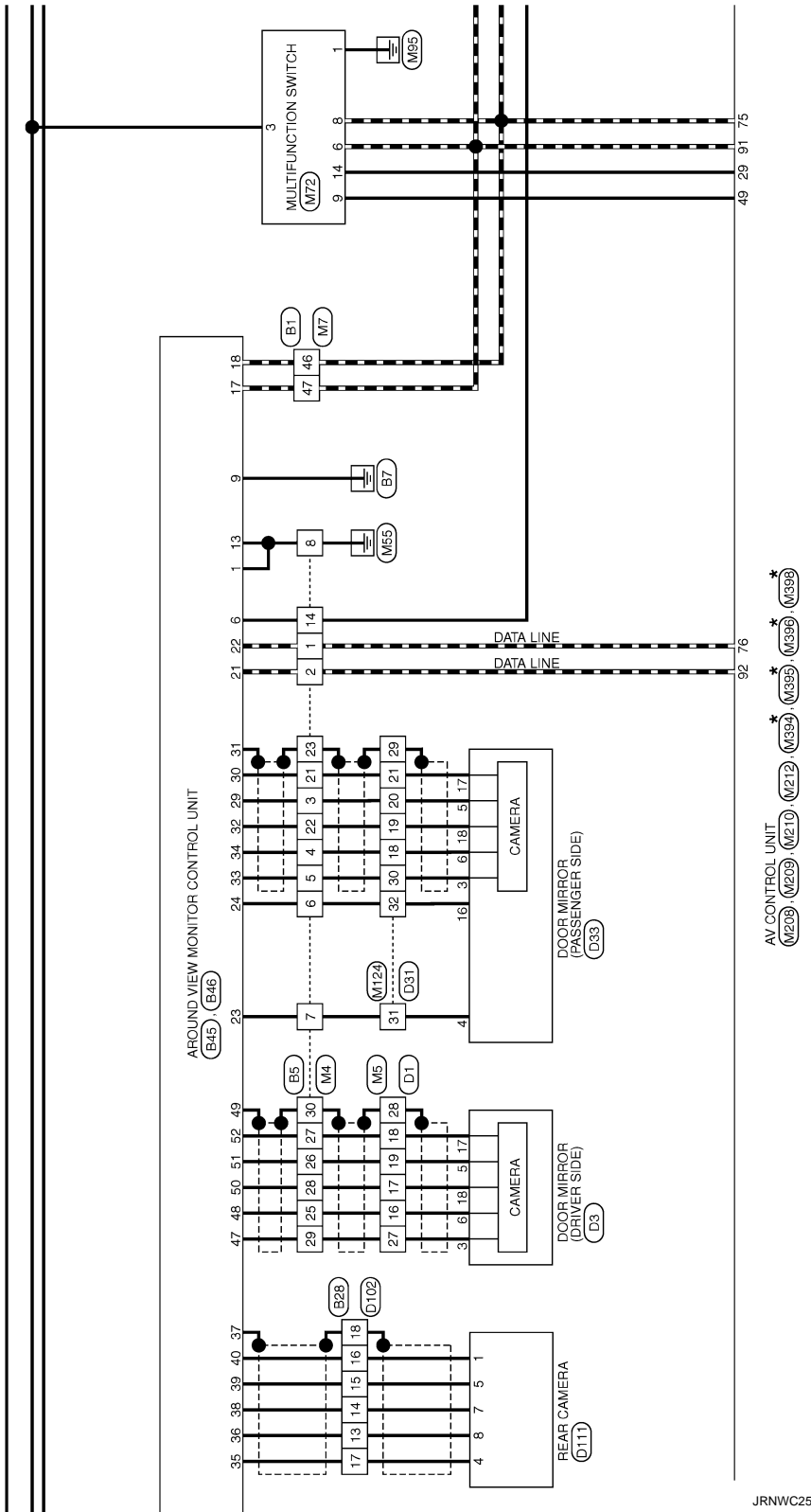


\*: This connector is not shown in "Harness Layout".

# BOSE AUDIO WITH NAVIGATION

## [BOSE AUDIO WITH NAVIGATION]

< WIRING DIAGRAM >



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

JRNWC2566GB

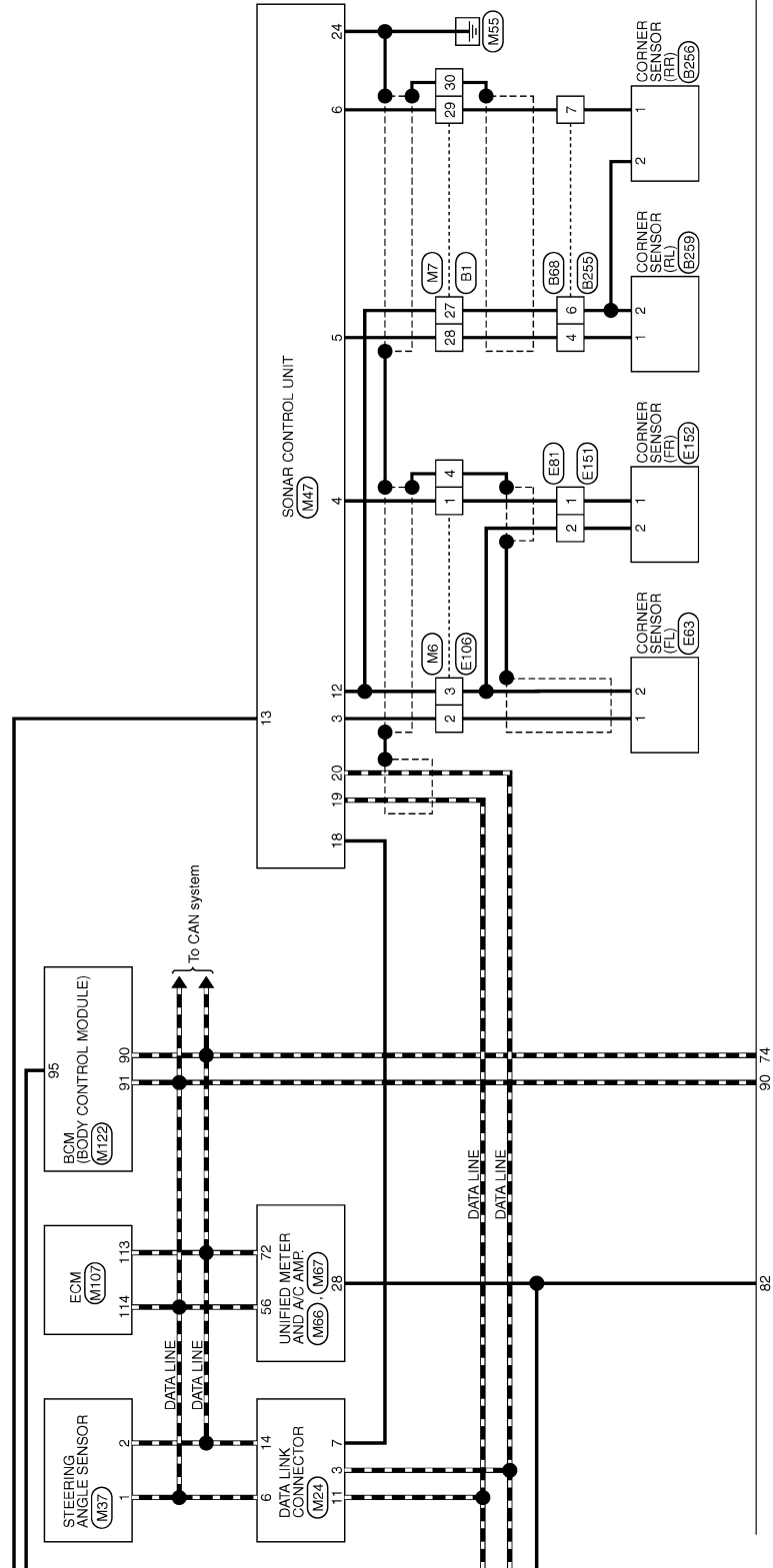
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# BOSE AUDIO WITH NAVIGATION

[BOSE AUDIO WITH NAVIGATION]

< WIRING DIAGRAM >



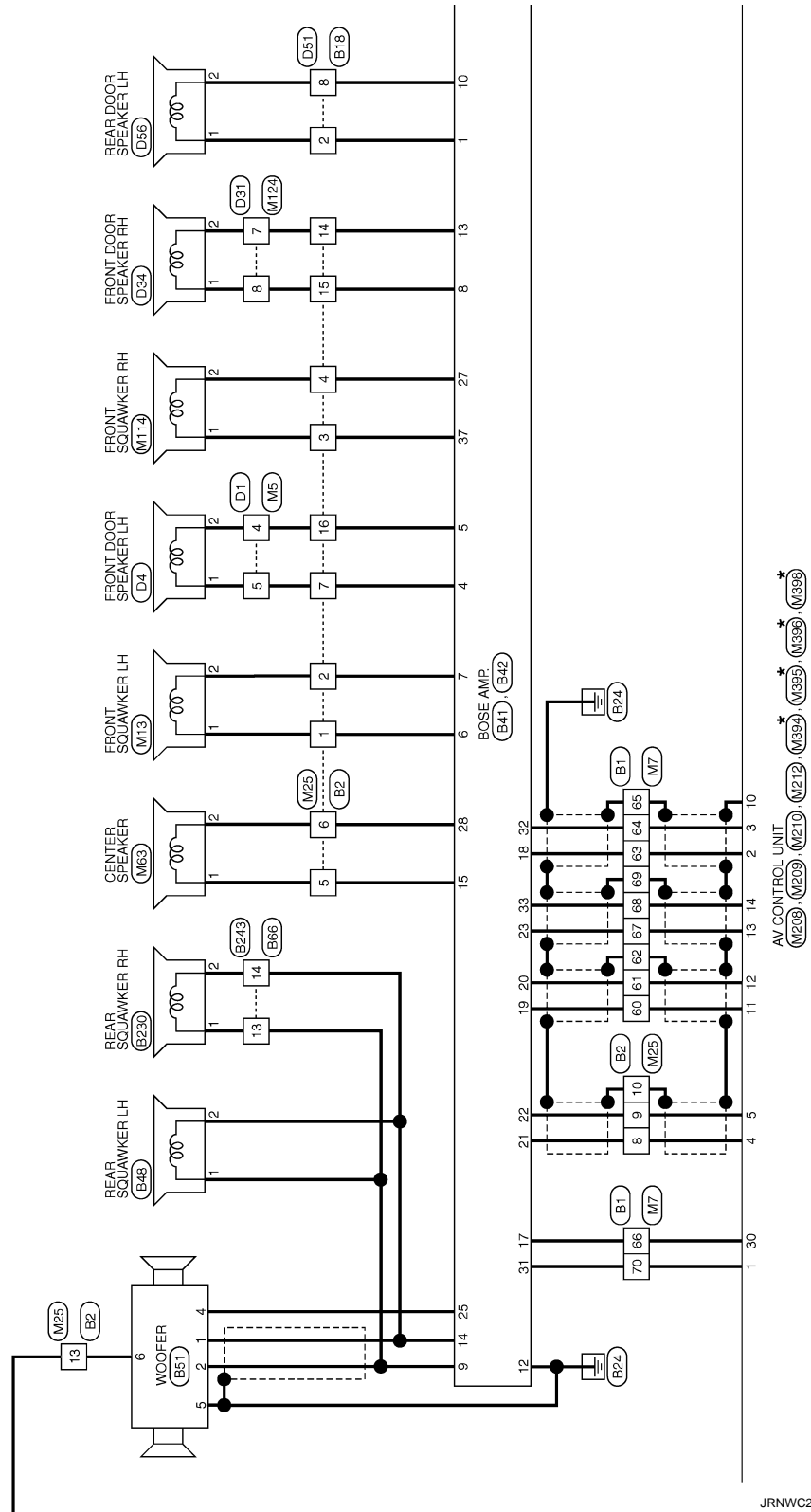
JRNWC2567GB

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

# BOSE AUDIO WITH NAVIGATION

## [BOSE AUDIO WITH NAVIGATION]

< WIRING DIAGRAM >



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

JRNWC2568GB

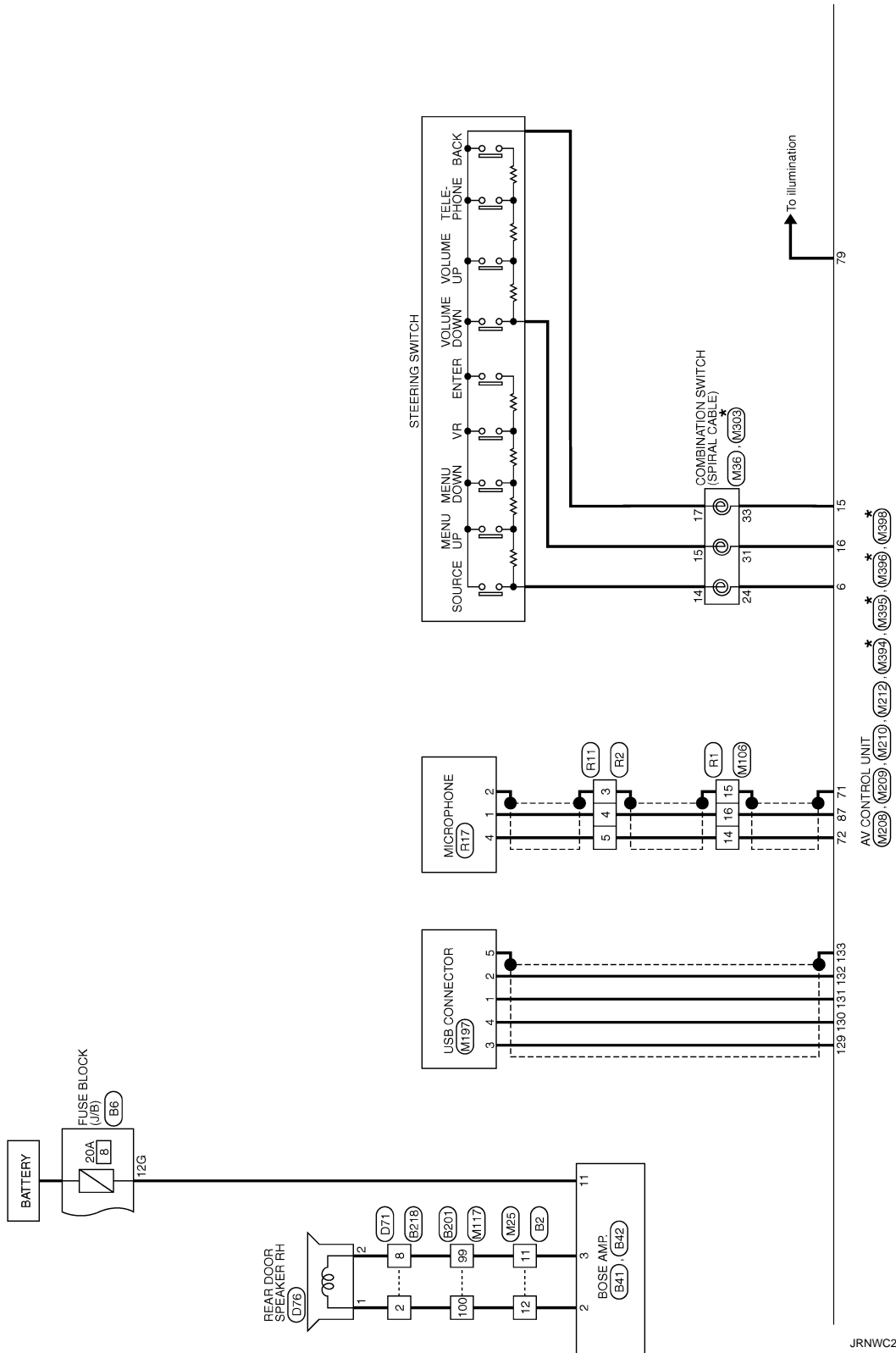
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# BOSE AUDIO WITH NAVIGATION

[BOSE AUDIO WITH NAVIGATION]

< WIRING DIAGRAM >



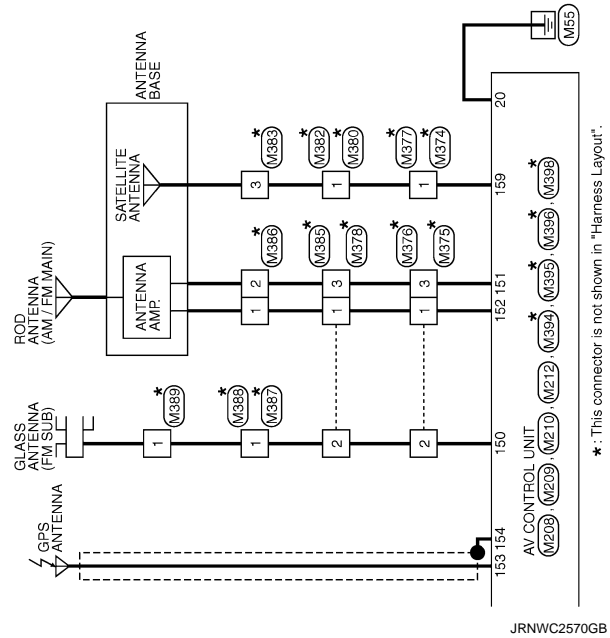
\*: This connector is not shown in "Harness Layout".

JRNWC2569GB

# BOSE AUDIO WITH NAVIGATION

< WIRING DIAGRAM >

[BOSE AUDIO WITH NAVIGATION]



JRNWC2570GB

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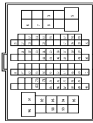
# BOSE AUDIO WITH NAVIGATION

< WIRING DIAGRAM >

[BOSE AUDIO WITH NAVIGATION]

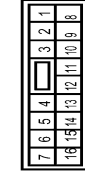
## BOSE AUDIO WITH NAVIGATION

Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4



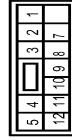
Terminal No.	Color Of Wire	Signal Name [Specification]
3	R	-
5	G	-
6	SB	-
7	V	-
8	L	-
12	SB	-
13	LG	-
14	GR	-
15	LG	-
17	W	-
18	SB	-
19	LG	-
20	BR	-
21	SHIELD	-
22	Y	-
24	P	-
27	B	-
28	R	-
29	W	-
30	SHIELD	-
31	SHIELD	-
32	W	-
33	SB	-
34	L	-
35	P	-
36	L	-
37	P	-
38	BR	-
39	Y	-
44	Y	-
45	GR	-
46	LG	-
47	SB	-
49	G	-
50	V	-

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



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	W	-
3	BR	-
4	R	-
5	B	-
6	G	-
7	B	-
8	BR	-
9	V	-
10	SHIELD	-
11	V	- [With BOSE audio]
11	V	- [Without BOSE audio]
12	LG	-
12	SB	- [With BOSE audio]
13	V	-
14	Y	-
15	LG	-
16	P	-

Connector No.	B4
Connector Name	WIRE TO WIRE
Connector Type	NS12FW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	B	-
3	G	-
4	SHIELD	-
5	P	-
7	Y	-
8	R	-
9	BR	-
10	BG	-
11	LG	-
12	GR	-

Connector No.	B5
Connector Name	WIRE TO WIRE
Connector Type	TH52MW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	-
2	SB	-
3	Y	-
4	R	-
5	W	-
6	G	-
7	LG	-
8	B	-
14	SB	-
15	GR	-
16	P	-
21	G	-
22	B	-
23	SHIELD	-
24	BG	-
25	BR	-
26	Y	-
27	W	-
28	R	-
29	L	-



# BOSE AUDIO WITH NAVIGATION

< WIRING DIAGRAM >

[BOSE AUDIO WITH NAVIGATION]

**BOSE AUDIO WITH NAVIGATION**

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

Terminal No.	Wire	Signal Name [Specification]
1	SHIELD	-
2	B	-
3	W	-
4	R	-
5	LG	-



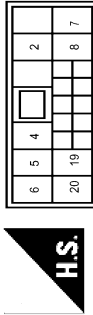
Terminal No.	Wire	Signal Name [Specification]
1	SHIELD	-
2	B	-
3	W	-
4	R	-
5	LG	-

Connector No.	B14
Connector Name	WIRE TO WIRE
Connector Type	TH24FW-NH



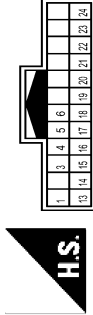
Terminal No.	Wire	Signal Name [Specification]
1	SHIELD	-
2	B	-
3	W	-
4	R	-
5	LG	-

Terminal No.	Wire	Signal Name [Specification]
1	SHIELD	-
2	B	-
3	W	-
4	R	-
5	LG	-



Terminal No.	Wire	Signal Name [Specification]
1	SHIELD	-
2	B	-
3	W	-
4	R	-
5	LG	-

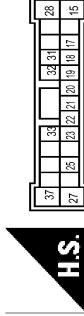
Connector No.	B28
Connector Name	WIRE TO WIRE
Connector Type	TH24MW-NH



Terminal No.	Wire	Signal Name [Specification]
1	SHIELD	-
2	B	-
3	W	-
4	R	-
5	LG	-

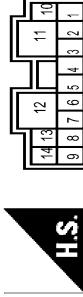
Terminal No.	Wire	Signal Name [Specification]
16	W	-
17	L	- [With around view monitor]
18	R	- [Without around view monitor]
19	LG	-
20	BG	-
21	B	-
22	P	-
23	BR	-
24	R	-

Connector No.	B41
Connector Name	BOSE AMP.
Connector Type	SCA19FBR-SGA4



Terminal No.	Wire	Signal Name [Specification]
15	B	SOUND SIGNAL CENTER SPEAKER (+)
17	W	MODE CHANGE SIGNAL
18	R	SOUND SIGNAL FRONT LH (+)
19	P	SOUND SIGNAL FRONT RH (+)
20	L	SOUND SIGNAL FRONT LH (-)
21	BR	SOUND SIGNAL REAR LH (+)
22	Y	SOUND SIGNAL REAR LH (-)
23	V	SOUND SIGNAL REAR RH (+)
25	GR	WOOFER AMP. ON SIGNAL
27	R	SOUND SIGNAL FRONT SQUAWKER RH (-)
28	G	SOUND SIGNAL CENTER SPEAKER (-)
31	W	BOSE AMP. ON SIGNAL
32	G	SOUND SIGNAL FRONT LH (-)
33	SB	SOUND SIGNAL REAR RH (-)
37	BR	SOUND SIGNAL FRONT SQUAWKER RH (+)

Connector No.	B42
Connector Name	BOSE AMP.
Connector Type	SGA12FBR-SJA2



Terminal No.	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 LH (-)
4	B	SOUND SIGNAL FRONT DOOR SPEAKER LH (+)
5	P	SOUND SIGNAL FRONT DOOR SPEAKER LH (-)
6	L	SOUND SIGNAL FRONT DOOR SPEAKER RH (+)
7	W	SOUND SIGNAL FRONT DOOR SPEAKER RH (-)
8	LG	SOUND SIGNAL FRONT DOOR SPEAKER LH (+)
9	G	SOUND SIGNAL FRONT DOOR SPEAKER RH (-)
10	G	SOUND SIGNAL REAR DOOR SPEAKER LH (+)
11	GR	BATTERY
12	B	GROUND
13	Y	SOUND SIGNAL FRONT DOOR SPEAKER RH (-)
14	R	SOUND SIGNAL WOOFER AND REAR SQUAWKER (-)

Connector No.	B45
Connector Name	ROUND VIEW MONITOR CONTROL UNIT
Connector Type	TH24FW-NH



Terminal No.	Wire	Signal Name [Specification]
41	Y	FRONT CAMERA IMAGE SIGNAL
42	G	FRONT CAMERA IMAGE GND
43	SHIELD	SHIELD
44	B	FRONT CAMERA GND
45	W	FRONT CAMERA COM1
46	R	FRONT CAMERA POWER SUPPLY

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# BOSE AUDIO WITH NAVIGATION

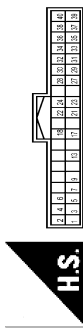
[BOSE AUDIO WITH NAVIGATION]

< WIRING DIAGRAM >

## BOSE AUDIO WITH NAVIGATION

47	L	SIDE CAMERA LH COMM
48	BR	SIDE CAMERA LH POWER SUPPLY
49	SHIELD	SHIELD
50	R	SIDE CAMERA LH GND
51	Y	SIDE CAMERA LH IMAGE SIGNAL
52	W	SIDE CAMERA LH IMAGE GND

Connector No.	BH6
Connector Name	AROUND VIEW/MONITOR CONTROL UNIT
Connector Type	TH40FW-NH



**HS.**

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GROUND
2	Y	BATTERY
3	P	IGNITION SIGNAL
4	GR	ACC
5	BG	ILLUMINATION SIGNAL
6	SB	VEHICLE SPEED SIGNAL (R-PULSE)
7	V	REVERSE SIGNAL
9	V	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	-
24	G	-
27	W	CAMERA IMAGE SIGNAL
28	SHIELD	CAMERA IMAGE SIGNAL GND
29	Y	SIDE CAMERA RH IMAGE SIGNAL
30	G	SIDE CAMERA RH IMAGE GND
31	SHIELD	SHIELD
32	B	SIDE CAMERA RH GND
33	W	SIDE CAMERA RH COMM
34	R	SIDE CAMERA RH POWER SUPPLY
35	L	REAR CAMERA COMM
36	BR	REAR CAMERA POWER SUPPLY
37	SHIELD	SHIELD
38	R	REAR CAMERA GND
39	Y	REAR CAMERA IMAGE SIGNAL

40	W	REAR CAMERA IMAGE GND
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Connector No.	BH8
Connector Name	REAR SQUARE L/R
Connector Type	TK02FBR



**HS.**

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

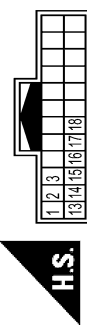
Connector No.	B51
Connector Name	WOOFER
Connector Type	RS06FGY-PR



**HS.**

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	SOUND SIGNAL WOOFER (-)
2	G	SOUND SIGNAL WOOFER (+)
5	B	WOOFER AMP. ON SIGNAL
6	V	GROUND
		BATTERY

Connector No.	B66
Connector Name	WIRE TO WIRE
Connector Type	TH24MVA-NH



**HS.**

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	-
2	R	-
3	B	-
13	L	-
14	W	-
15	B	-
16	BR	-
17	BG	-
18	P	-

Connector No.	B68
Connector Name	WIRE TO WIRE
Connector Type	RH08MB



**HS.**

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

Connector No.	B201
Connector Name	WIRE TO WIRE
Connector Type	TH80PW-CS16-TM4



**HS.**

Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	R	-
3	GR	-
4	BG	-
7	LG	-
10	W	-
15	SB	-
16	V	-
17	BR	-
26	BR	-
27	L	-
28	Y	-
29	Y	-
30	GR	-
31	R	-
32	BR	-
33	G	-
51	R	-
55	G	-
56	R	-
57	W	-
58	B	-
59	SHIELD	-
60	LG	-
61	W	-
62	BR	-
63	P	-
64	L	-
65	G	-
66	P	-
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69	V	-
70	Y	-
71	SB	-
72	W	-

# BOSE AUDIO WITH NAVIGATION

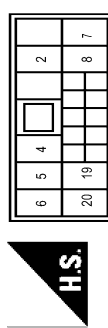
[BOSE AUDIO WITH NAVIGATION]

< WIRING DIAGRAM >

## BOSE AUDIO WITH NAVIGATION

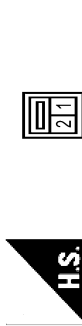
73	BR	-
75	Y	-
80	V	-
81	SS	-
82	LG	-
83	P	-
84	R	-
85	L	-
86	BG	-
87	L	-
88	P	-
91	V	-
92	R	-
94	R	-
95	SS	-
96	G	-
97	G	-
98	R	-
99	P	-
100	L	-

Connector No.	B216
Connector Name	WIRE TO WIRE
Connector Type	NHTUPW-CS10



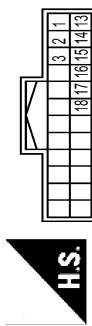
Terminal No.	Color Of Wire	Signal Name [Specification]
2	L	-
4	LG	-
5	V	-
6	G	-
7	B	-
8	P	-
19	R	-
20	W	-

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



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

Connector No.	B243
Connector Name	WIRE TO WIRE
Connector Type	TH24FV-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	-
2	R	-
3	B	-
13	L	-
14	W	-
15	GR	-
16	BR	-
17	LG	-
18	L	-

Connector No.	B255
Connector Name	WIRE TO WIRE
Connector Type	RH08FB



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

Connector No.	B256
Connector Name	CORNER SENSOR (RR)
Connector Type	YDX02FB



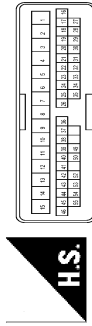
Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	B	-

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	TH4UPW-CS15



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

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JRNWC3676GB

# BOSE AUDIO WITH NAVIGATION

[BOSE AUDIO WITH NAVIGATION]

< WIRING DIAGRAM >

**BOSE AUDIO WITH NAVIGATION**

19	Y	-
20	W	-
21	O	-
22	P	-
23	BR	-
24	V	-
25	GR	-
26	Y	-
27	B	-
28	SHIELD	-
29	LG	-
30	G	-
31	W	-
32	G	-
33	L	-
34	SB	-
35	R	-
36	LG	-
37	R	-
38	P	-
39	O	-
40	BR	-
41	L	-
42	GR	-
43	O	- [With automatic drive positioner]
44	GR	- [Without automatic drive positioner]
45	W	- [With automatic drive positioner]
46	G	- [Without automatic drive positioner]
47	Y	- [With automatic drive positioner]
48	V	- [Without automatic drive positioner]
49	GR	-
50	B	-
52	R	-
53	SB	-
54	O	-
55	Y	-

Connector No.	D3
Connector Name	DOOR MIRROR (DRIVER SIDE)
Connector Type	TH24MV-NH



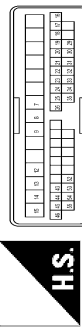
Terminal No.	Color Wire	Signal Name [Specification]
2	O	-
3	B	SIDE CAMERA LH COMM
5	Y	SIDE CAMERA LH IMAGE SIGNAL
6	R	SIDE CAMERA LH POWER SUPPLY
7	W	-
10	G	-
11	P	-
12	O	-
14	LG	-
17	G	SIDE CAMERA LH IMAGE GND
18	W	SIDE CAMERA LH GND
19	B	-
20	GR	-
21	BR	-
22	Y	-
23	V	-
24	V	-

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



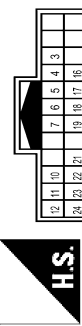
Terminal No.	Color Wire	Signal Name [Specification]
1	L	-
2	W	-

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



Terminal No.	Color Wire	Signal Name [Specification]
7	R	-
8	BR	-
9	V	-
12	P	-
13	LG	-
14	B	-
15	W	-
16	BR	-
17	B	-
18	R	-
19	Y	-
20	B	- [With BOSE audio]
21	BR	- [Without BOSE audio]
22	G	- [With BOSE audio]
23	V	-
24	P	-
25	W	-
26	R	-
29	SHIELD	-
30	W	-
31	LG	-
32	BR	-
33	O	-
34	GR	-
35	G	-
43	Y	-
44	V	-
45	P	-
46	W	-
52	G	-
53	GR	-
54	O	-
55	L	-

Connector No.	D33
Connector Name	DOOR MIRROR (PASSENGER SIDE)
Connector Type	TH24MV-NH



Terminal No.	Color Wire	Signal Name [Specification]
3	W	SIDE CAMERA RH COMM
4	LG	SIDE CAMERA RH IMAGE SIGNAL
5	B	SIDE CAMERA RH POWER SUPPLY
6	R	-
7	L	-
10	G	-
11	GR	-
12	O	-
16	BR	-
17	G	SIDE CAMERA RH IMAGE GND
18	Y	SIDE CAMERA RH GND
19	B	-
21	P	-
22	Y	-
23	W	-
24	V	-

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



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

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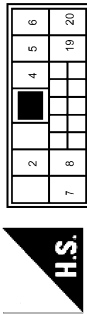
# BOSE AUDIO WITH NAVIGATION

< WIRING DIAGRAM >

[BOSE AUDIO WITH NAVIGATION]

## BOSE AUDIO WITH NAVIGATION

Connector No.	D51
Connector Name	WIRE TO WIRE
Connector Type	NHT10MW-CS10



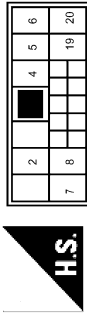
Terminal No.	Color Of Wire	Signal Name [Specification]
2	LG	- [Without BOSE audio]
2	Y	- [With BOSE audio]
4	Y	-
5	V	-
6	G	-
7	B	-
8	G	- [With BOSE audio]
8	Y	- [Without BOSE audio]
19	G	-
20	V	-

Connector No.	D56
Connector Name	REAR DOOR SPEAKER LH
Connector Type	NS02PFR-CS



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

Connector No.	D71
Connector Name	WIRE TO WIRE
Connector Type	NHT10MW-CS10



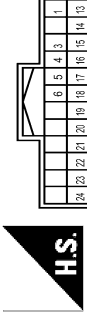
Terminal No.	Color Of Wire	Signal Name [Specification]
2	L	-
4	W	-
5	V	-
6	G	-
7	B	-
8	P	- [With BOSE audio]
8	Y	- [Without BOSE audio]
19	G	-
20	V	-

Connector No.	D76
Connector Name	REAR DOOR SPEAKER RH
Connector Type	NS02PFR-CS



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

Connector No.	D102
Connector Name	WIRE TO WIRE
Connector Type	TH24FV-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	GR	-
3	W	-
4	B	-
5	R	-
6	O	-
13	R	-
14	L	- [With around view monitor]
14	SHIELD	- [Without around view monitor]
15	Y	-
16	G	- [With around view monitor]
16	L	- [Without around view monitor]
17	W	-
18	SHIELD	-
19	LG	-
20	O	-
21	V	-
22	P	-
23	BR	-
24	R	-

Connector No.	D111
Connector Name	REAR CAMERA
Connector Type	TH08MV-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	REAR CAMERA IMAGE GND
4	W	REAR CAMERA COMM
5	Y	REAR CAMERA IMAGE SIGNAL
7	L	REAR CAMERA GND
8	R	REAR CAMERA POWER SUPPLY

Connector No.	E63
Connector Name	CORNER SENSOR (FL)
Connector Type	YD002PB



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

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# BOSE AUDIO WITH NAVIGATION

[BOSE AUDIO WITH NAVIGATION]

< WIRING DIAGRAM >

## BOSE AUDIO WITH NAVIGATION

Connector No.	E173
Connector Name	FRONT CAMERA
Connector Type	RH60FB



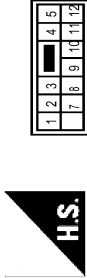
Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	FRONT CAMERA POWER SUPPLY
2	BR	FRONT CAMERA GND
3	Y	FRONT CAMERA IMAGE SIGNAL
4	L	FRONT CAMERA IMAGE GND
6	W	FRONT CAMERA COMM

Connector No.	E81
Connector Name	WIRE TO WIRE
Connector Type	RS22MB



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	L	-

Connector No.	E104
Connector Name	WIRE TO WIRE
Connector Type	NS12MW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	BR	-
3	L	-
4	SHIELD	-
5	Y	-
7	Y	-
8	R	-
9	BR	-
10	BG	-
11	LG	-
12	GR	-

Connector No.	E106
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	W	-
3	B	-
4	GR	-
5	GR	-
8	Y	-
9	BR	-
10	BG	-
11	SB	-

12	BG	-
13	L	-
14	R	-
15	P	-
16	V	-
17	SB	-
18	V	-
20	BG	-
21	L	-
22	V	-
23	G	-
24	P	-
25	Y	-
26	V	-
27	W	-
28	G	-
31	BG	-
32	W	-
33	B	-
34	R	-
35	G	-
36	SHIELD	-
37	V	-
38	BR	-
39	BG	-
41	W	-
42	G	-
43	BR	-
45	W	-
49	L	-
50	P	-
51	L	-
54	BG	-
57	BR	-
59	W	-
60	LG	-
61	G	-
62	SB	-
63	W	-
64	B	-
65	G	-
66	R	-
67	SHIELD	-
68	Y	-
69	LG	-
70	W	-
71	R	-
72	Y	-
73	B	-
74	BR	-

74	L	- [Without CC]
75	G	- [With CC]
76	W	- [Without CC]
77	Y	- [With CC]
77	P	- [Without CC]
77	R	- [With CC]
78	BR	- [Without CC]
78	L	- [With CC]
79	L	- [Without CC]
79	Y	- [With CC]
80	SB	-
81	R	-
82	SB	-
83	BG	-
84	G	-
85	L	-
86	P	-
87	V	-
89	GR	-
90	SHIELD	-
91	W	-
92	Y	-
93	V	-
94	LG	-
95	BG	-
96	P	-
97	R	-
98	SHIELD	-
99	L	-
100	P	-

Connector No.	E107
Connector Name	PARKING BRAKE SWITCH
Connector Type	TB01FW



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

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# BOSE AUDIO WITH NAVIGATION

[BOSE AUDIO WITH NAVIGATION]

< WIRING DIAGRAM >

## BOSE AUDIO WITH NAVIGATION

Connector No.	E151
Connector Name	WIRE TO WIRE
Connector Type	RS02FB



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	B	-

Connector No.	E152
Connector Name	CORNER SENSOR (FR)
Connector Type	YDX02FB



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	B	-

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



Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	IGNITION POWER SUPPLY
2	BR	BATTERY POWER SUPPLY
3	O	CANH
4	V	K-LINE
5	B	GROUND
6	Y	IGNITION POWER SUPPLY
7	R	BACK-UP LAMP RELAY
8	LG	CANL
9	GR	STARTER RELAY
10	B	GROUND

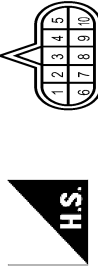
Connector No.	F103
Connector Name	WIRE TO WIRE
Connector Type	TKG6FVANS10



Terminal No.	Color Of Wire	Signal Name [Specification]
2	G	-
3	W	-
4	R	-
5	B	-
9	Y	-
10	GR	-
19	BG	- [Without ICC]
19	O	- [With ICC]
20	Y	-
28	B	-

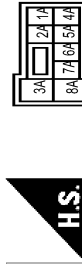
29	LG	-
31	R	-
33	GR	-
34	B	-
35	L	-
36	P	-
37	Y	-
38	G	-
43	LG	-
44	O	-
45	Y	-
46	V	-

Connector No.	F301
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Type	SP10FG



Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	IGNITION POWER SUPPLY
2	-	BATTERY POWER SUPPLY
3	-	CANH
4	-	K-LINE
5	-	GROUND
6	-	IGNITION POWER SUPPLY
7	-	BACK-UP LAMP RELAY
8	-	CANL
9	-	STARTER RELAY
10	-	GROUND

Connector No.	MT
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS06FV-AM2



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

Connector No.	MZ
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS10FV-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
3B	P	-
4B	G	-
5B	BG	-
6B	Y	-
7B	P	-
8B	R	-
9B	SB	-

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# BOSE AUDIO WITH NAVIGATION

< WIRING DIAGRAM >

[BOSE AUDIO WITH NAVIGATION]

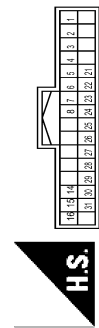
## BOSE AUDIO WITH NAVIGATION

Connector No.	M3
Connector Name	FUSE BLOCK (UB)
Connector Type	NS12FW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
10C	L	-
11C	R	-
12C	BG	-
6C	R	-
7C	B	-
9C	BG	-

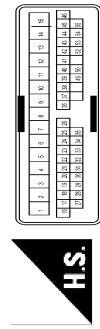
Connector No.	M4
Connector Name	WIRE TO WIRE
Connector Type	TH2FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	-
2	SB	-
3	Y	-
4	R	-
5	W	-
6	G	-
7	LG	-
8	B	-
14	V	-
15	W	-
21	V	-
16	W	-
21	G	-
22	B	-
23	SHIELD	-

24	R	-
25	R	-
26	Y	-
27	G	-
28	B	-
29	W	-
30	SHIELD	-
31	Y	-

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



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	B	-
3	BR	-
4	P	-
5	L	-
6	R	-
7	R	-
8	W	-
9	G	-
10	L	-
11	G	-
12	V	-
13	B	-
14	Y	-
15	W	-
16	R	-
17	B	-
18	G	-
19	Y	-
20	L	-
21	LG	-
22	L	-
23	G	-
24	Y	-
25	GR	-
26	R	-

27	W	-
28	SHIELD	-
29	Y	-
30	Y	-
31	R	-
32	BR	-
33	SB	-
34	Y	-
35	P	-
36	LG	-
37	BR	-
38	P	-
39	BG	-
40	SB	-
41	L	-
42	R	-
43	BR	-
44	V	-
45	G	-
46	SB	- [With automatic drive positioner]
46	V	- [Without automatic drive positioner]
49	P	-
50	B	-
52	R	-
53	V	-
54	LG	-
55	SB	-

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



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	R	-
3	B	-
4	SHIELD	-
5	G	-
8	Y	-
9	BR	-

10	R	-
11	BR	-
12	BG	-
13	L	-
14	R	-
15	P	-
16	V	-
17	SB	-
18	V	-
20	BG	-
21	L	-
22	W	-
23	P	-
24	BR	-
25	Y	-
26	V	-
27	G	-
28	G	-
31	L	-
32	G	-
33	B	-
34	W	-
35	R	-
36	SHIELD	-
37	V	-
38	BG	-
39	BR	-
41	W	-
42	BG	-
43	BG	-
45	W	-
49	L	-
50	P	-
51	BR	-
54	Y	-
57	G	-
59	W	-
60	L	-
61	G	-
62	SB	-
63	G	-
64	B	-
65	W	-
66	R	-
67	SHIELD	-
68	Y	-
69	GR	-
70	LG	-
71	LG	-
72	Y	-



# BOSE AUDIO WITH NAVIGATION

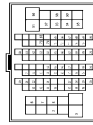
[BOSE AUDIO WITH NAVIGATION]

< WIRING DIAGRAM >

## BOSE AUDIO WITH NAVIGATION

Terminal No.	Color Of Wire	Signal Name [Specification]
73	SB	- [With ICC]
74	BR	- [Without ICC]
75	L	-
76	G	- [Without ICC]
77	GR	- [With ICC]
78	W	- [Without ICC]
79	P	- [With ICC]
80	R	- [With ICC]
81	L	- [Without ICC]
82	SB	- [With ICC]
83	SB	- [Without ICC]
84	G	-
85	L	-
86	P	-
87	W	-
88	GR	-
89	GR	-
90	SHIELD	-
91	W	-
92	Y	-
93	BR	-
94	P	-
95	GR	-
96	W	-
97	L	-
98	SHIELD	-
99	V	-
100	SB	-

Connector No.	M7
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
3	W	- [With automatic drive positioner]
5	G	- [Without automatic drive positioner]
6	BG	-
7	W	-
8	B	-
12	SB	-
13	LG	-
14	Y	-
15	G	-
17	W	-
18	SB	-
19	LG	-
20	BR	-
21	SHIELD	-
22	Y	-
24	V	-
27	B	-
28	W	-
29	R	-
30	SHIELD	-
31	L	-
32	P	-
33	SB	-
34	L	-
35	P	-
36	L	-
37	P	-
38	BR	-
39	Y	-
44	L	-
45	GR	-
46	LG	-
47	SB	-
49	V	-
50	R	-
60	P	-
61	L	-
62	SHIELD	-
63	R	-
64	G	-
65	SHIELD	-
66	SB	-
67	V	-
68	LG	-
69	SHIELD	-
70	W	-
73	G	-

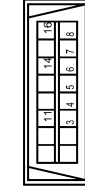
Terminal No.	Color Of Wire	Signal Name [Specification]
74	R	-
75	W	-
76	W	-
77	B	-
78	P	-
79	GR	-
83	BG	-
85	LG	-
86	R	-
87	Y	-
88	W	-
89	BR	-
90	BG	-
91	G	-
92	V	-
93	BR	-
94	V	-
95	G	-
96	Y	-
98	W	-
99	R	-

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



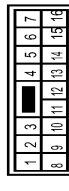
Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	W	-

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	V	-
8	G	-
11	SB	-
14	P	-
16	Y	-

Connector No.	M25
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	W	-
3	V	-
4	LG	-
5	Y	-
6	G	-
7	L	-
8	BR	-
9	Y	-
10	SHIELD	-
11	L	- [Without BOSE audio]

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# BOSE AUDIO WITH NAVIGATION

< WIRING DIAGRAM >

[BOSE AUDIO WITH NAVIGATION]

## BOSE AUDIO WITH NAVIGATION

11	V	- [With BOSE audio]
12	LG	- [Without BOSE audio]
12	SS	- [With BOSE audio]
13	Y	-
14	Y	-
15	LG	-
16	P	-

Connector No.	M36
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TK08FGY-1V



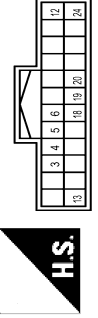
Terminal No.	Color Of Wire	Signal Name [Specification]
24	P	-
25	SS	-
26	B	-
31	L	-
32	Y	-
33	B	-
34	G	-

Connector No.	M37
Connector Name	STEERING ANGLE SENSOR
Connector Type	TH08FV-AH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CANH
2	P	CANL
7	B	GROUND
8	G	IGN

Connector No.	M47
Connector Name	SONAR CONTROL UNIT
Connector Type	TH24FV-AH



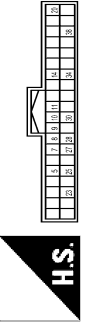
Terminal No.	Color Of Wire	Signal Name [Specification]
3	R	CORNER SENSOR SIGNAL FRONT LH
4	W	CORNER SENSOR SIGNAL FRONT RH
5	W	CORNER SENSOR SIGNAL REAR LH
6	R	CORNER SENSOR SIGNAL REAR RH
12	B	SENSOR GND
13	V	ACC
18	V	K LINE
19	G	AV COMM (H)
20	R	AV COMM (L)
24	B	GROUND

Connector No.	M63
Connector Name	CENTER SPEAKER
Connector Type	TK02PFR



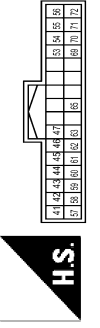
Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
2	G	-

Connector No.	M66
Connector Name	UNIFIED METER AND A/C AMP.
Connector Type	TH04FV-AH



Terminal No.	Color Of Wire	Signal Name [Specification]
5	L	MANUAL MODE SHIFT UP SIGNAL
7	GR	COMMUNICATION SIGNAL (AMP-METER)
8	L	VEHICLE SPEED SIGNAL (2-PULSE)
9	SR	SEAT BELT Buckle SWITCH SIGNAL (DRIVER SIDE)
10	W	NON-MANUAL MODE SIGNAL
11	G	NON-MANUAL MODE SIGNAL
14	BR	COMMUNICATION SIGNAL (CDB-AMP)
20	L	IGN/ENGINE SIGNAL
23	Y	AT SHOCK SWITCH SIGNAL
23	V	MANUAL MODE SHIFT DOWN SIGNAL
27	LG	COMMUNICATION SIGNAL (METER-AMP)
28	R	VEHICLE SPEED SIGNAL (8-PULSE)
30	V	PARKING BRAKE SWITCH SIGNAL
34	Y	COMMUNICATION SIGNAL (AMP-LCD)
38	P	BLOWER MOTOR CONTROL SIGNAL

Connector No.	M67
Connector Name	UNIFIED METER AND A/C AMP.
Connector Type	TH32FV-AH



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	BG	SUNLOAD SENSOR SIGNAL
47	G	ENGINE OIL PRESSURE (OIL PRESSURE) SENSOR SIGNAL
53	Y	IGNITION POWER SUPPLY
54	Y	BATTERY POWER SUPPLY
55	B	GROUND
56	L	CANH
57	W	BRAKE FLUID LEVEL SWITCH SIGNAL
58	BR	FUEL LEVEL SENSOR GROUND
59	GR	INTAKE SENSOR GROUND
60	L	IN-VEHICLE SENSOR GROUND
61	BR	AMBIENT SENSOR GROUND
62	SB	SUNLOAD SENSOR GROUND
63	R	-
65	BG	ECV SIGNAL
69	L	A/C LAN SIGNAL
70	R	EACH DOOR MOTOR POWER SUPPLY
71	B	GROUND
72	P	CANH

Connector No.	M69
Connector Name	BACK-UP LAMP RELAY
Connector Type	MS22PL-M2-LC



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	W	-
3	R	-
5	BG	-

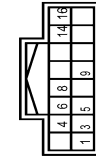
# BOSE AUDIO WITH NAVIGATION

[BOSE AUDIO WITH NAVIGATION]

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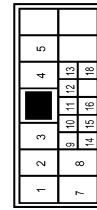
## BOSE AUDIO WITH NAVIGATION

Connector No.	M72
Connector Name	MULTIFUNCTION SWITCH
Connector Type	TH16FV-1NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GROUND
2	V	ACC
3	R	ILL
4	Y	ILL CONT
5	SS	AV COMM (H)
6	LG	AV COMM (L)
7	B	SIGNAL
8	Y	DISJECT SIGNAL
9	G	HAZARD ON

Connector No.	M106
Connector Name	WIRE TO WIRE
Connector Type	NH10MW-CS10



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	-
2	SHIELD	-
3	L	-
4	W	-
5	Y	-
6	BR	-
7	Y	-
8	Y	-
9	B	-
10	R	-
11	V	-
12	R	-

13	LG	-
14	R	- [With NAV]
15	Y	- [Without NAV]
16	SHIELD	-
17	BR	- [With NAV]
18	G	- [With NAV]
19	B	-

Connector No.	M107
Connector Name	ECM
Connector Type	RH24FGY-RZ8-R-LH-Z



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	ACCELERATOR PEDAL POSITION SENSOR 1
2	P	ACCELERATOR PEDAL POSITION SENSOR 2 [With CC]
3	Y	SENSOR POWER SUPPLY [With ICC]
4	G	SENSOR POWER SUPPLY [Without ICC]
5	L	SENSOR GROUND
6	W	ASDC/ICC STEERING SWITCH
7	LG	EVAP CONTROL SYSTEM PRESS SENSOR
8	G	SENSOR POWER SUPPLY [Without ICC]
9	L	SENSOR GROUND [With ICC]
10	GR	SENSOR GROUND [Without ICC]
11	L	REFRIGERANT PRESS SENSOR
12	W	FUEL TANK TEMPERATURE SENSOR
13	BG	SENSOR POWER SUPPLY
14	Y	SENSOR GROUND
15	G	PNP SIGNAL
16	R	ENGINE SPEED OUTPUT SIGNAL
17	V	SENSOR GROUND
18	P	CAN COMMUNICATION LINE
19	L	CAN COMMUNICATION LINE
20	V	DATA LINK CONNECTOR
21	LG	EVAP CANISTER VENT CONTROL VALVE
22	P	STOP LAMP SWITCH
23	B	ECM GROUND
24	B	ECM GROUND
25	R	POWER SUPPLY FOR ECM

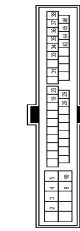
126	BR	ASDC/ICC BRAKE SWITCH
127	B	ECM GROUND
128	B	ECM GROUND

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



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	- [Without BOSE audio]
2	LG	- [With BOSE audio]
3	W	- [Without BOSE audio]

Connector No.	M116
Connector Name	WIRE TO WIRE
Connector Type	TK38MW-NS10



Terminal No.	Color Of Wire	Signal Name [Specification]
2	P	-
3	L	-
4	R	-
5	B	-
6	R	-
7	R	-
8	R	-
9	BG	-
10	Y	-
11	B	-
12	B	-
13	LG	-
14	W	-

33	B	-
34	B	-
35	L	-
36	P	-
37	Y	-
38	G	-
43	P	-
44	L	-
45	BR	-
46	BG	-

Connector No.	M117
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TW4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	G	-
3	GR	-
4	SB	-
7	W	-
10	W	-
15	SB	-
16	V	-
17	BR	-
26	BR	-
27	LG	-
28	Y	-
29	Y	-
30	V	-
31	R	-
32	BR	-
33	G	-
51	R	-
55	W	-
56	B	-
57	R	-
58	G	-
59	SHIELD	-
60	V	-

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# BOSE AUDIO WITH NAVIGATION

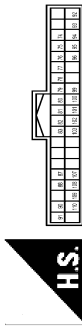
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**BOSE AUDIO WITH NAVIGATION**

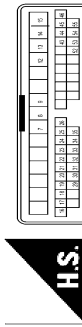
61	LG	-	-
62	BR	-	-
63	L	-	-
64	LG	-	-
65	B	-	-
66	R	-	-
67	W	-	-
68	SHIELD	-	-
69	V	-	-
70	Y	-	-
71	SB	-	-
72	W	-	-
73	G	-	-
75	W	-	-
80	V	-	-
81	SB	-	-
82	P	-	-
83	P	-	-
84	R	-	-
85	L	-	-
86	BG	-	-
87	L	-	-
88	L	-	-
91	V	-	-
92	G	-	-
94	G	-	-
95	W	-	-
96	G	-	-
97	Y	-	-
99	P	-	- [Without BOSE audio]
99	V	-	- [With BOSE audio]
100	L	-	- [Without BOSE audio]
100	SB	-	- [With BOSE audio]

Connector No.	MT22
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40PB-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
74	SB	PASSENGER DOOR ANT-
75	GR	PASSENGER DOOR ANT+
76	V	DRIVER DOOR ANT-
77	LG	DRIVER DOOR ANT+
78	Y	ROOM ANT+
79	BR	ROOM ANT+
80	GR	NA'S ANT AMP
81	W	NA'S ANT AMP
82	R	(S)RELAY (FIB)CONT
83	V	KEYLESS ENTRY RECEIVER COMM
87	BR	COMBI SW INPUT 5
88	V	COMBI SW INPUT 3
90	P	CANL
91	L	CANH
92	LG	KEY SLOT ILL CONT
93	V	ON IND
94	V	PUDDLE LAMP CONT
95	BG	ACC RELAY CONT
96	GR	A/T SHIFT SELECTOR POWER SUPPLY
99	R	SHIFT P
100	G	PASSENGER DOOR REQUEST SW
101	SB	DRIVER DOOR REQUEST SW
102	BG	BLOWER FAN MOTOR RELAY CONT
103	LG	KEYLESS ENTRY RECEIVER POWER SUPPLY
107	LG	COMBI SW INPUT 1
108	R	COMBI SW INPUT 4
109	Y	COMBI SW INPUT 2
110	G	HAZARD SW

Connector No.	MT24
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-CS15



Terminal No.	Color Of Wire	Signal Name [Specification]
7	Y	-
8	LG	-
9	Y	-
12	L	-
13	V	-
14	B	-
15	W	-
16	BR	-
17	B	-
18	R	-
19	B	-
20	W	- [Without BOSE audio]
20	Y	- [With BOSE audio]
21	L	- [Without BOSE audio]
22	SB	-
23	GR	-
24	G	-
25	Y	-
26	R	-
29	SHIELD	-
30	W	-
31	LG	-
32	G	-
33	BR	-
34	V	-
35	G	-
43	L	-
44	Y	-
45	R	-
46	W	-
52	R	-
53	G	-
54	W	-
55	BG	-

Connector No.	MT44
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	SHIELD	-
2	W	- [With around view monitor]
3	SHIELD	- [Without around view monitor]
4	R	- [Without around view monitor]
4	W	- [With around view monitor]

Connector No.	MT85
Connector Name	DISPLAY UNIT
Connector Type	TH24PW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
6	SHIELD	SHIELD
7	SHIELD	CAMERA IMAGE SIGNAL_GND
8	W	CAMERA IMAGE SIGNAL
9	G	COMM (DISP-CONT)
10	R	COMM (CONT-DISP)
11	Y	BATTERY
12	B	GROUND
18	R	COMPOSITE IMAGE SIGNAL
19	G	COMPOSITE IMAGE SIGNAL_GND
22	SHIELD	SHIELD
23	V	ACC

JRNWC3685GB

# BOSE AUDIO WITH NAVIGATION

## [BOSE AUDIO WITH NAVIGATION]

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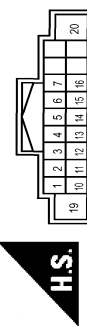
### BOSE AUDIO WITH NAVIGATION

Connector No.	M197
Connector Name	USB CONNECTOR
Connector Type	HA0J4FG



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	TH18FV-CS2



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	AMP. ON SIGNAL
2	R	SOUND SIGNAL FRONT LH (+)
3	G	SOUND SIGNAL FRONT LH (-)
4	BR	SOUND SIGNAL REAR LH (+)
5	Y	SOUND SIGNAL REAR LH (-)
6	P	STRG SW A
7	V	ACC
10	B	SHIELD
11	P	SOUND SIGNAL FRONT RH (+)
12	L	SOUND SIGNAL FRONT RH (-)
13	V	SOUND SIGNAL REAR RH (+)
14	LG	SOUND SIGNAL REAR RH (-)
15	B	STRG SW GND
16	L	STRG SW/B
19	Y	BATTERY

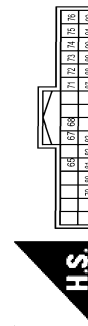
20	B	GROUND
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Connector No.	M209
Connector Name	AV CONTROL UNIT
Connector Type	TH40FV-AH



Terminal No.	Color Of Wire	Signal Name [Specification]
29	Y	DISK/EJECT SIGNAL
30	SB	MODE CHANGE SIGNAL
40	B	SW GND

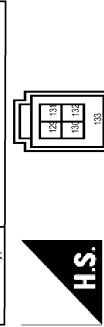
Connector No.	M210
Connector Name	AV CONTROL UNIT
Connector Type	TH22FV-AH



Terminal No.	Color Of Wire	Signal Name [Specification]
65	V	PARKING BRAKE SIGNAL
67	G	COMPOSITE IMAGE SIGNAL GND
68	R	COMPOSITE IMAGE SIGNAL
71	SHIELD	MICROPHONE SHIELD
72	R	MICROPHONE VCC
73	R	COMM (CONT-DISP)
74	P	CANL
75	LG	AV COMM (L)
76	LG	AV COMM (R)
79	R	ILLUMINATION
80	G	IGNITION SIGNAL
81	B/G	REVERSE SIGNAL
82	R	VEHICLE SPEED SIGNAL (P-PULSE)
83	SHIELD	SHIELD

87	G	MICROPHONE SIGNAL
88	SHIELD	SHIELD
89	G	COMM (DISP-CONT)
90	L	CANH
91	SB	AV COMM (H)
92	SB	AV COMM (H)

Connector No.	M212
Connector Name	AV CONTROL UNIT
Connector Type	HA0J4FL



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 (SPRNL CABLE)
Connector Type	TK08FGY



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

20	Y	-
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Connector No.	M374
Connector Name	WIRE TO WIRE
Connector Type	GT16C-TS-HU



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

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



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

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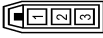
# BOSE AUDIO WITH NAVIGATION

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[BOSE AUDIO WITH NAVIGATION]

## BOSE AUDIO WITH NAVIGATION

Connector No.	M376
Connector Name	WIRE TO WIRE
Connector Type	GT13SON2_1PP-HU



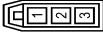
Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	-
2	-	-
3	-	-

Connector No.	M377
Connector Name	WIRE TO WIRE
Connector Type	GT16C-1PP-HU



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

Connector No.	M378
Connector Name	WIRE TO WIRE
Connector Type	GT13SC-2_1S-HU



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

Connector No.	M380
Connector Name	WIRE TO WIRE
Connector Type	GT16-1S-HU



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

Connector No.	M382
Connector Name	WIRE TO WIRE
Connector Type	GT16C-1PP-HU



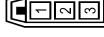
Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	-

Connector No.	M383
Connector Name	ANTENNA BASE
Connector Type	GT16C-1PP-HU



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

Connector No.	M385
Connector Name	WIRE TO WIRE
Connector Type	GT13SON2_1PP-HU



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

Connector No.	M386
Connector Name	ANTENNA BASE
Connector Type	GT13SSN-1_1PP-HU



Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	ANTENNA AMP ON SIGNAL
2	-	AMP-FM MAIN
2	-	AMP-FM MAIN 1
2	-	AMP-FM MAIN 2

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



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

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# BOSE AUDIO WITH NAVIGATION

< WIRING DIAGRAM >

[BOSE AUDIO WITH NAVIGATION]

## BOSE AUDIO WITH NAVIGATION

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 SLUB)
Connector Type	POT1FA



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

Connector No.	M384
Connector Name	AV CONTROL UNIT
Connector Type	GT13SH2_TS+HU



Terminal No.	Color Of Wire	Signal Name [Specification]
150	-	FM SLUB
151	-	AM-FM MAIN
152	-	ANTENNA AMP_ON SIGNAL

Connector No.	M395
Connector Name	AV CONTROL UNIT
Connector Type	GT15S-1PP-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	GT17FNN-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	DISPLAY UNIT
Connector Type	GT17FNG-4DS-HU



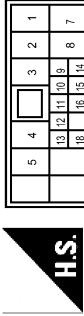
Terminal No.	Color Of Wire	Signal Name [Specification]
27	-	RGB DIGITAL IMAGE SIGNAL (-)
28	-	RGB DIGITAL IMAGE SIGNAL (+)

Connector No.	M398
Connector Name	AV CONTROL UNIT
Connector Type	FAKRA JACK



Terminal No.	Color Of Wire	Signal Name [Specification]
159	-	SATELLITE ANTENNA SIGNAL

Connector No.	RT
Connector Name	WIRE TO WIRE
Connector Type	NH10FW-GS10



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	-
2	SHIELD	-
3	L	-
4	BR	- [With automatic drive positioner]
4	W	- [Without automatic drive positioner]
5	G	-
7	BR	-
8	Y	-
9	B	-
10	Y	-
11	V	-
12	BR	-
13	R	-
14	W	-
15	SHIELD	-
16	B	-
18	B	-

Connector No.	R2
Connector Name	WIRE TO WIRE
Connector Type	TH12FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	-
2	B	-
3	SHIELD	-
4	B	-
5	W	-
6	B	-
7	P	-
8	GR	-
9	V	-
11	Y	-
12	R	-

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# BOSE AUDIO WITH NAVIGATION

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[BOSE AUDIO WITH NAVIGATION]

## BOSE AUDIO WITH NAVIGATION

Connector No.	RT1
Connector Name	WIRE TO WIRE
Connector Type	TH12MW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
11	-	-
12	-	-

Connector No.	RT7
Connector Name	MICROPHONE
Connector Type	TK04FW



Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	MICROPHONE SIGNAL
2	-	MICROPHONE GND
4	-	MICROPHONE VCC

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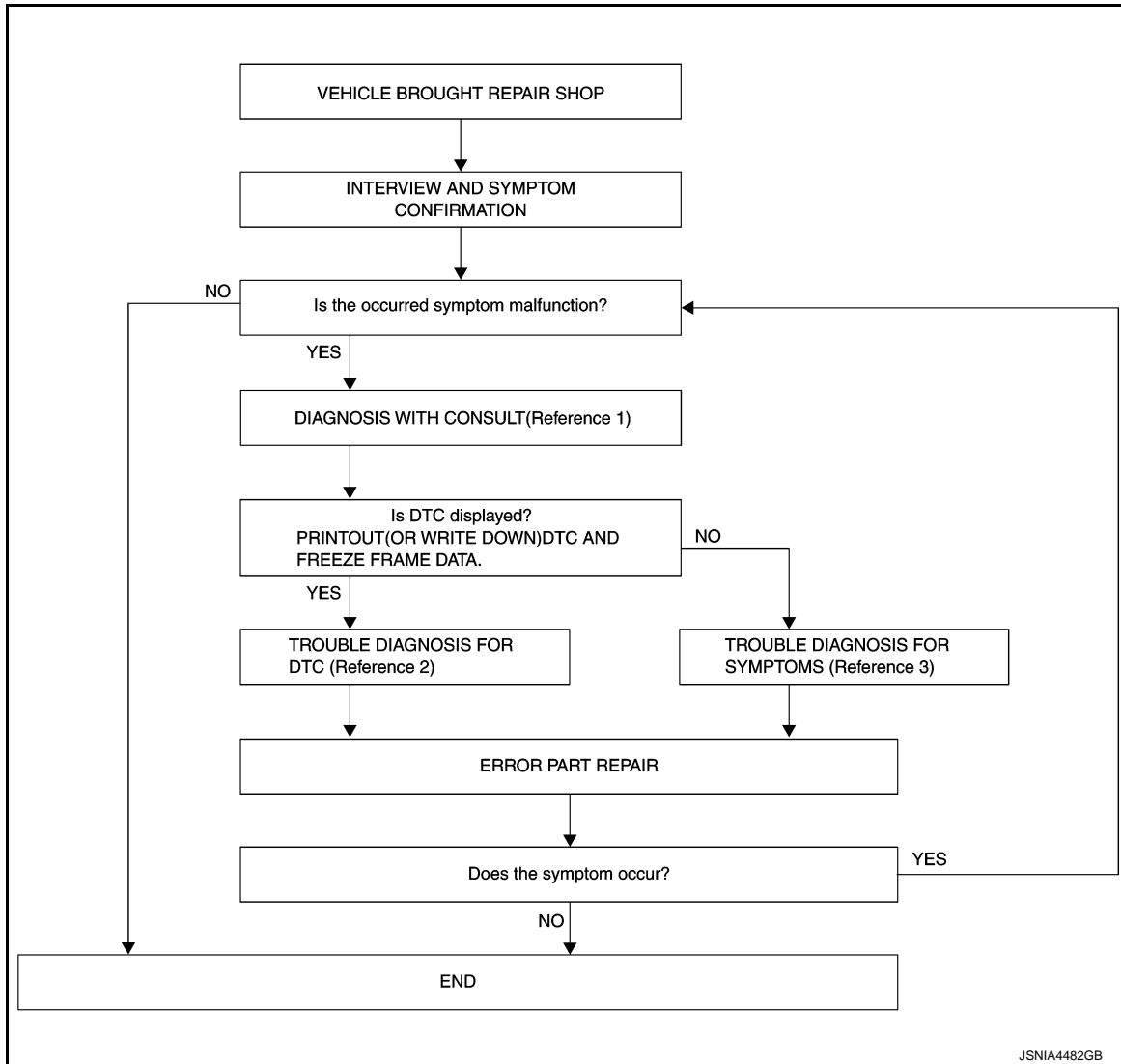
## BASIC INSPECTION

### DIAGNOSIS AND REPAIR WORKFLOW

Work Flow (Multi AV)

INFOID:000000009061725

#### OVERALL SEQUENCE



- Reference 1... Refer to [AV-370. "CONSULT Function \(MULTI AV\)".](#)
- Reference 2... Refer to [AV-384. "DTC Index".](#)
- Reference 3... Refer to [AV-506. "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

# DIAGNOSIS AND REPAIR WORKFLOW

[BOSE AUDIO WITH NAVIGATION]

< BASIC INSPECTION >

1. Connect CONSULT and perform a self-diagnosis for "MULTI AV". Refer to [AV-370. "CONSULT Function \(MULTI AV\)"](#).

**NOTE:**

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

2. When DTC is detected, follow the instructions below:
  - Record DTC and Freeze Frame Data.

Is DTC displayed?

YES >> GO TO 3.

NO >> GO TO 4.

## 3. TROUBLE DIAGNOSIS FOR DTC

---

1. Check the DTC indicated in the "Self-Diagnosis Results".
2. Perform the relevant diagnosis referring to the DTC Index. Refer to [AV-384. "DTC Index"](#).

>> GO TO 5.

## 4. TROUBLE DIAGNOSIS FOR SYMPTOMS

---

Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to [AV-506. "Symptom Table"](#).

>> GO TO 5.

## 5. ERROR PART REPAIR

---

1. Repair or replace the identified malfunctioning parts.
2. Perform a self-diagnosis for "MULTI AV" with CONSULT.

**NOTE:**

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

3. Check that the symptom does not occur.

Does the symptom occur?

YES >> GO TO 1.

NO >> INSPECTION END

# DIAGNOSIS AND REPAIR WORKFLOW

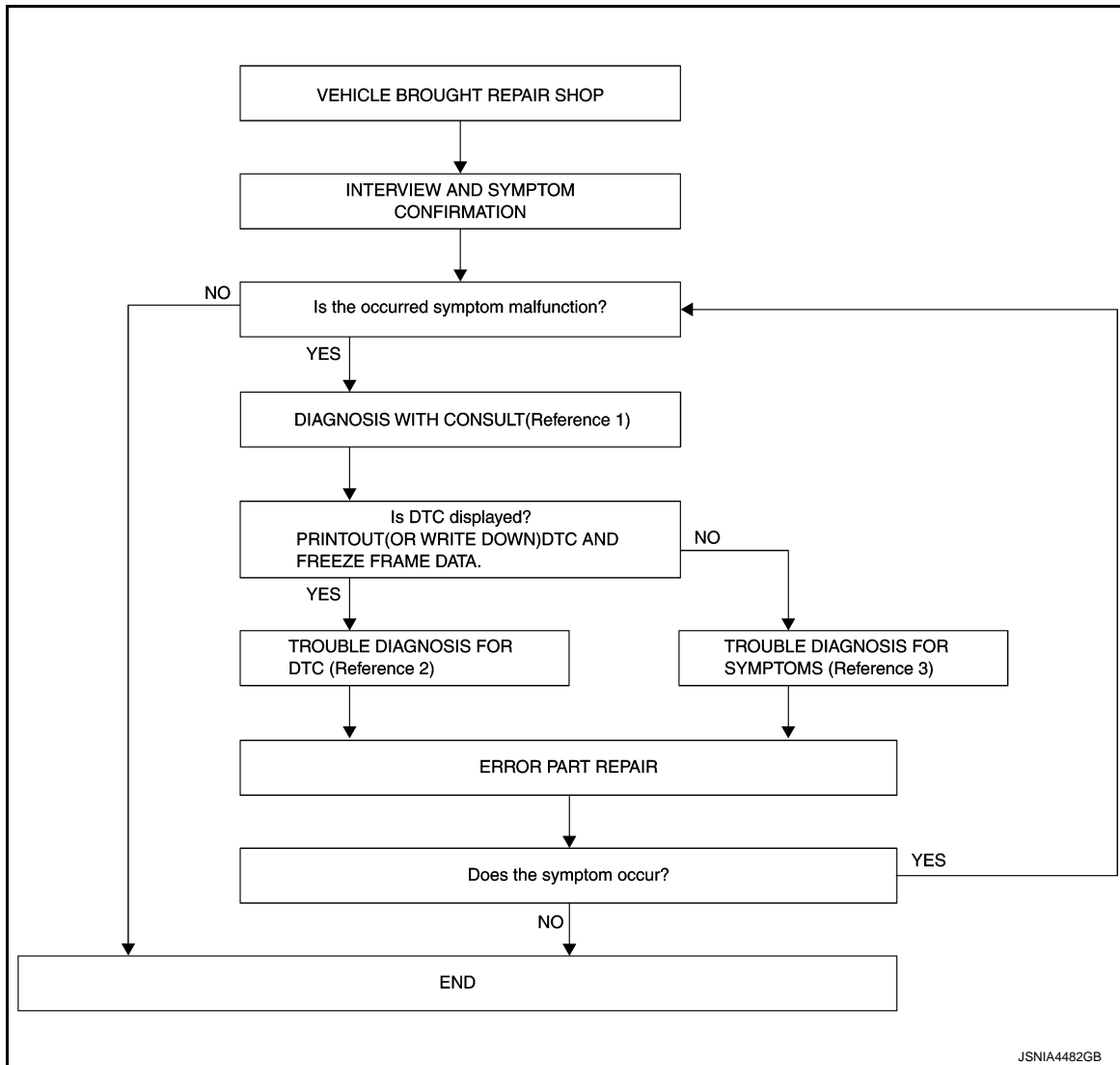
[BOSE AUDIO WITH NAVIGATION]

< BASIC INSPECTION >

## Work Flow (Camera Assistance Sonar)

INFOID:000000009061726

### OVERALL SEQUENCE



- Reference 1... Refer to [AV-377. "CONSULT Function \(SONAR\)".](#)
- Reference 2... Refer to [AV-397. "DTC Index".](#)
- Reference 3... Refer to [AV-506. "Symptom Table".](#)

### DETAILED FLOW

#### 1. INTERVIEW AND SYMPTOM CONFIRMATION

Check the malfunction symptoms by performing the following items.

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

Is the occurred symptom malfunction?

YES >> GO TO 2.

NO >> INSPECTION END

#### 2. DIAGNOSIS WITH CONSULT

1. Connect CONSULT and perform a self-diagnosis for "SONAR". Refer to [AV-377. "CONSULT Function \(SONAR\)".](#)

#### NOTE:

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

# DIAGNOSIS AND REPAIR WORKFLOW

[BOSE AUDIO WITH NAVIGATION]

< BASIC INSPECTION >

2. When DTC is detected, follow the instructions below:
  - Record DTC and Freeze Frame Data.

Is DTC displayed?

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

## 3. TROUBLE DIAGNOSIS FOR DTC

---

1. Check the DTC indicated in the "Self-Diagnosis Results".
2. Perform the relevant diagnosis referring to the DTC Index. Refer to [AV-397. "DTC Index"](#).

>> GO TO 5.

## 4. TROUBLE DIAGNOSIS FOR SYMPTOMS

---

Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to [AV-506. "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.

**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:000000009061727

## BEFORE REPLACEMENT

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

## AFTER REPLACEMENT

**CAUTION:**

When replacing AV control unit, you must perform "After Replace ECU" or "Manual configuration" with CONSULT.

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

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

INFOID:000000009061728

## 1. SAVING VEHICLE SPECIFICATION

## ④ CONSULT Configuration

Perform "Before Replace ECU" to save or print current vehicle specification. Refer to [AV-425. "CONFIGURATION \(AV CONTROL UNIT\) : Description"](#).

**NOTE:**

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

>> GO TO 2.

## 2. REPLACE AV CONTROL UNIT

Replace AV control unit. Refer to [AV-519. "Exploded View"](#).

>> GO TO 3.

## 3. WRITING VEHICLE SPECIFICATION

## ④ CONSULT Configuration

Perform "After Replace ECU" or "Manual Configuration" to write vehicle specification. Refer to [AV-426. "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:000000009061729

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

# INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[BOSE AUDIO WITH NAVIGATION]

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

## CONFIGURATION (AV CONTROL UNIT) : Work Procedure

INFOID:000000009061730

### 1. WRITE VEHICLE SPECIFICATION

#### ⓐCONSULT Configuration

Write vehicle specification into AV control unit.

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

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

### 2. WRITE STORED DATA

#### ⓐCONSULT Configuration

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

>> GO TO 4.

### 3. MANUALLY WRITE VEHICLE SPECIFICATION

#### ⓐCONSULT Configuration

Perform "Manual Configuration". Refer to the Configuration List to write vehicle specification into the AV control unit. Refer to [AV-426. "CONFIGURATION \(AV CONTROL UNIT\) : Configuration List"](#).

#### NOTE:

If selection items are not displayed on the CONSULT screen, touch "NEXT".

>> GO TO 4.

### 4. OPERATION CHECK

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

>> WORK END

## CONFIGURATION (AV CONTROL UNIT) : Configuration List

INFOID:000000009061731

#### CAUTION:

**Grasp vehicle specifications precisely. The control of ECU may not function normally if the specifications are misread.**

#### NOTE:

- The items shown in this list depend on vehicle specifications.
- The config list may not be displayed depending on vehicle specifications. This is not a malfunction.

MANUAL SETTING ITEM		Detail
Items	Setting value	
STEERING	LHD	—
	RHD	—

# INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

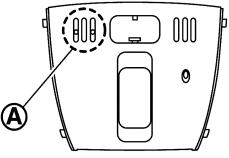
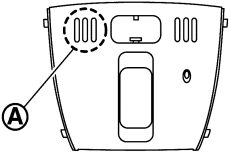
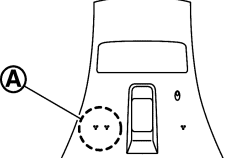
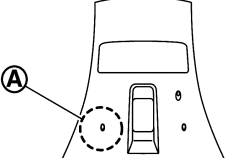
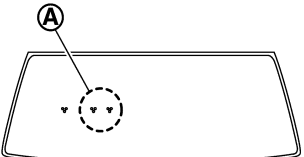
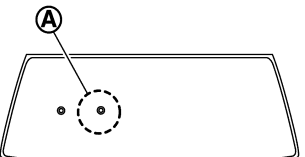
[BOSE AUDIO WITH NAVIGATION]

MANUAL SETTING ITEM		Detail
Items	Setting value	
CAMERA SYSTEM	NONE/AVM	—
	REAR CAMERA	—
	REAR+SIDE	—
SOUND SYSTEM	BASE	—
	BOSE	—
AUXILIARY INPUT JACKS	WITHOUT	—
	WITH	—
MICROPHONE	DIRECTIONAL MIC	With directional microphone*
	NON-DIRECTIONAL MIC	With non-directional microphone*

**NOTE:**

AVM: Around view monitor

\*: In the following table, find an illustration that the (A) part matches the vehicle and select microphone type.

Directional microphone	Non-directional microphone
 <p style="text-align: center; font-size: small;">JSNIA5541ZZ</p> <p>(A): Microphone installation position</p>	 <p style="text-align: center; font-size: small;">JSNIA5542ZZ</p> <p>(A): Microphone installation position</p>
 <p style="text-align: center; font-size: small;">JSNIA5543ZZ</p> <p>(A): Microphone installation position</p>	 <p style="text-align: center; font-size: small;">JSNIA5544ZZ</p> <p>(A): Microphone installation position</p>
 <p style="text-align: center; font-size: small;">JSNIA5545ZZ</p> <p>(A): Microphone installation position</p>	 <p style="text-align: center; font-size: small;">JSNIA5546ZZ</p> <p>(A): Microphone installation position</p>

## PREDICTIVE COURSE LINE CENTER POSITION ADJUSTMENT

### PREDICTIVE COURSE LINE CENTER POSITION ADJUSTMENT : Description

INFOID:000000009061732

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:000000009061733

## 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.

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>> END

## CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR)

### CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Description

INFOID:000000009061734

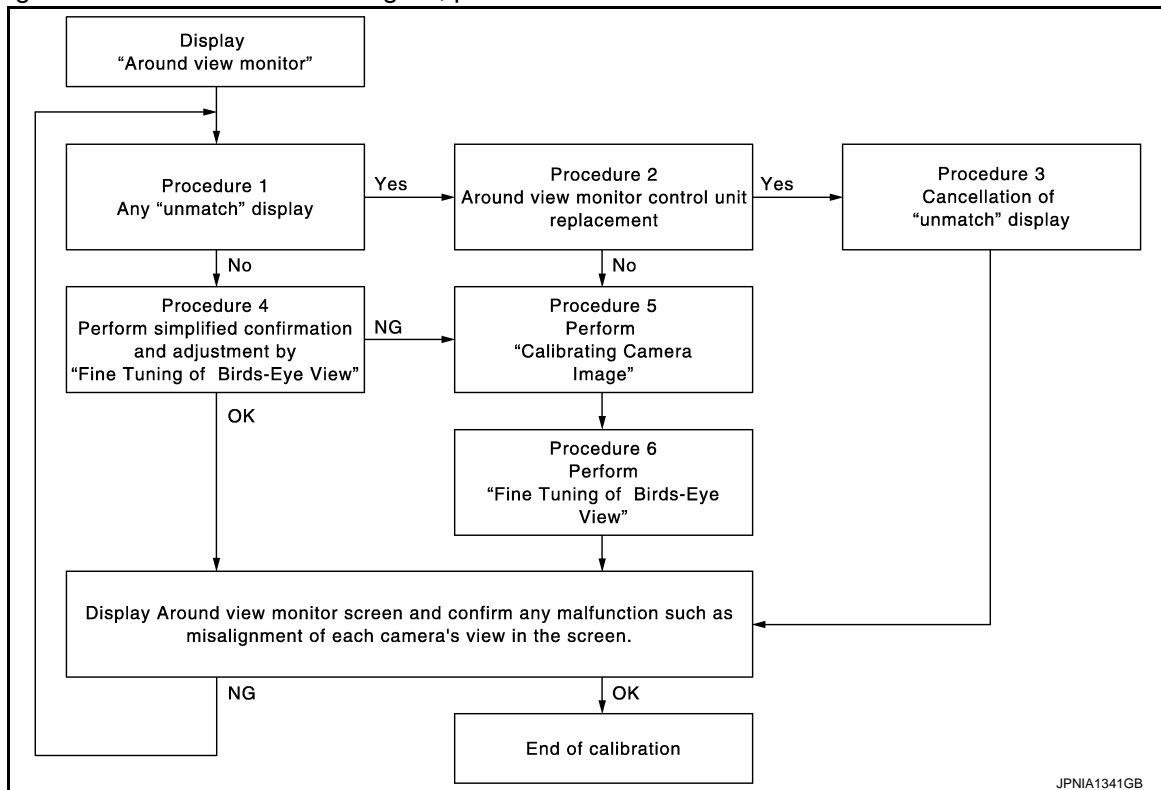
- Perform the calibration and perform the writing to the around view monitor control unit when removing and replacing each camera, removing the camera mounting parts (front grille, door mirror, etc.) and replacing the around view monitor control unit.
- Align the white lines on the road near the vehicle 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:000000009061735

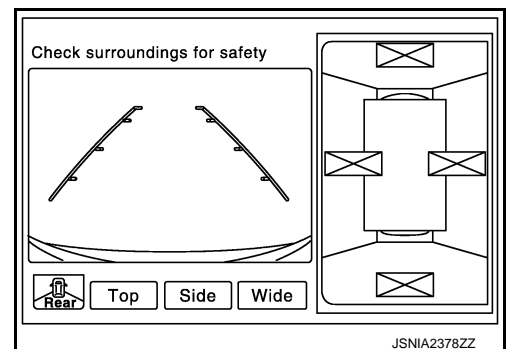
#### Calibration flowchart

Following the flowchart shown in the figure, perform the calibration.



**NOTE:**

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



# INSPECTION AND ADJUSTMENT

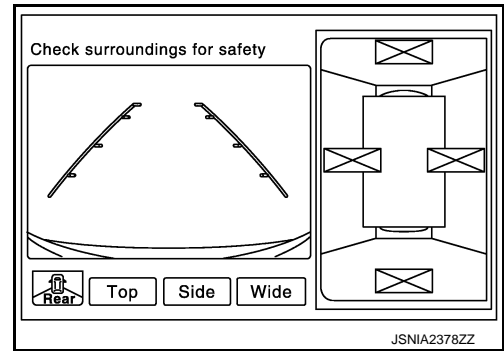
[BOSE AUDIO WITH NAVIGATION]

## < BASIC INSPECTION >

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.

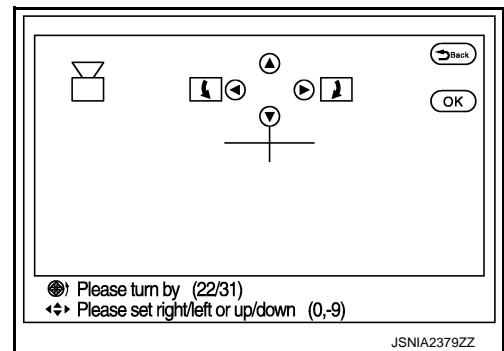
## 3. RELEASE UN-MATCH DISPLAY (PERFORM ONLY WHEN THE AROUND VIEW MONITOR CONTROL UNIT IS REPLACED)

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.



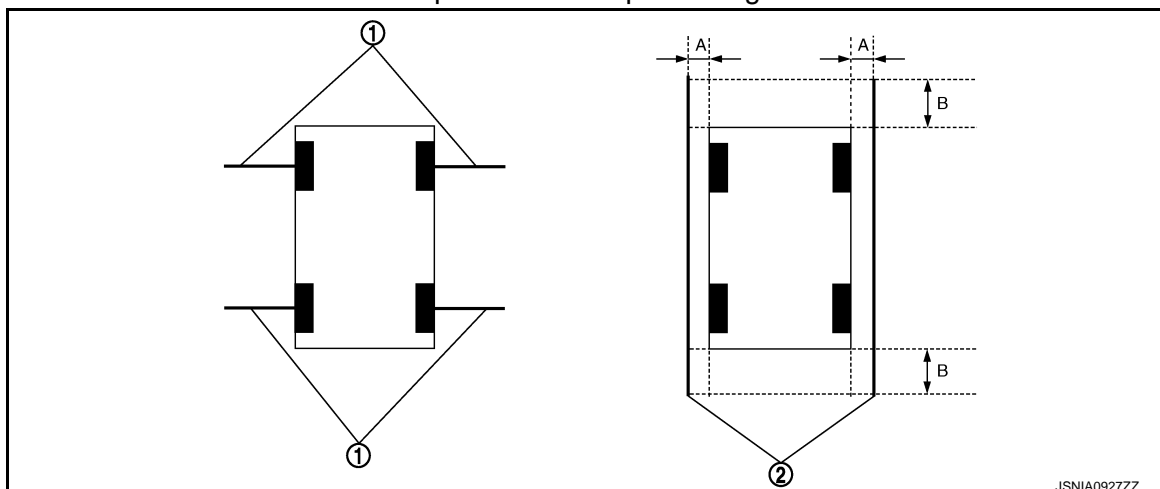
Is there a malfunction?

- 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)

Preparation of simplified target line



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# INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

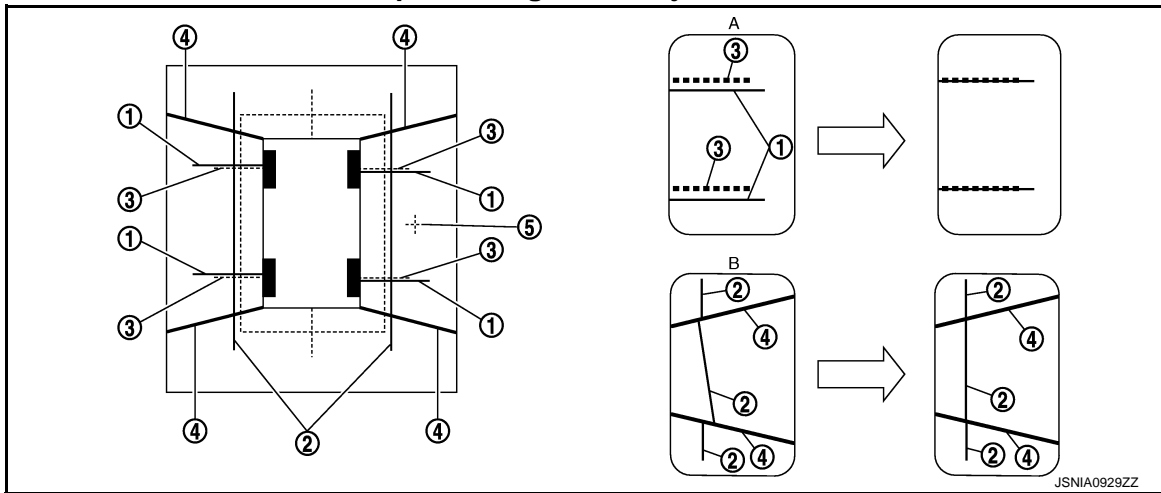
[BOSE AUDIO WITH NAVIGATION]

1. Target lines 1
  - A. Approx. 30 cm (11.8 in)
2. Target lines 2
  - 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".
- 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**

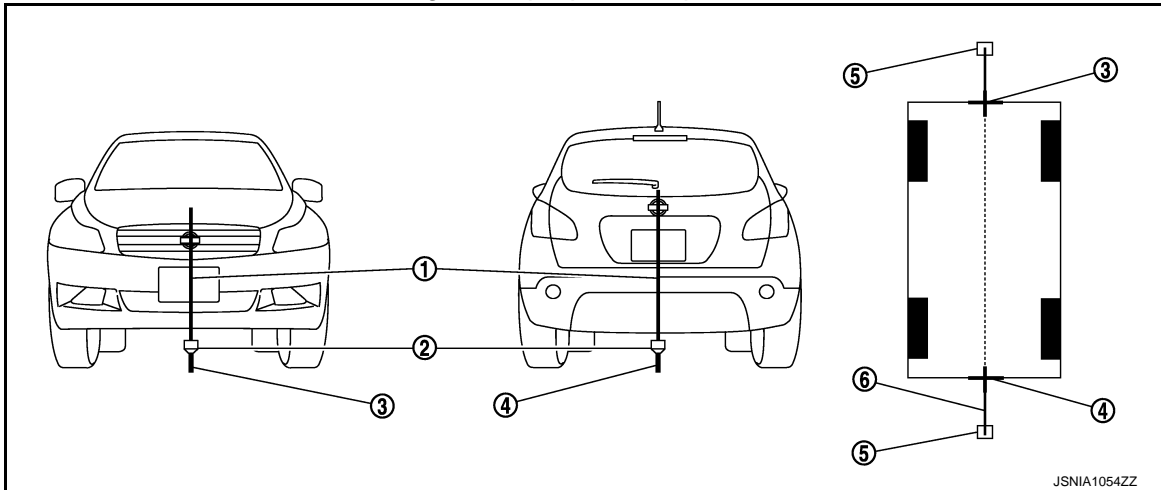
1. Hang a string with a weight as shown in the figure. Put the points FM0, RM0 (mark) on the ground at the center of the vehicle front end and rear end with white packing tape or a pen.
2. Route the vinyl string under the vehicle, and then pull and fix it on the point approximately 1.0 m (39.9 in) to the front and rear of the vehicle through the points FM0 and RM0 using packing tape.

# INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[BOSE AUDIO WITH NAVIGATION]

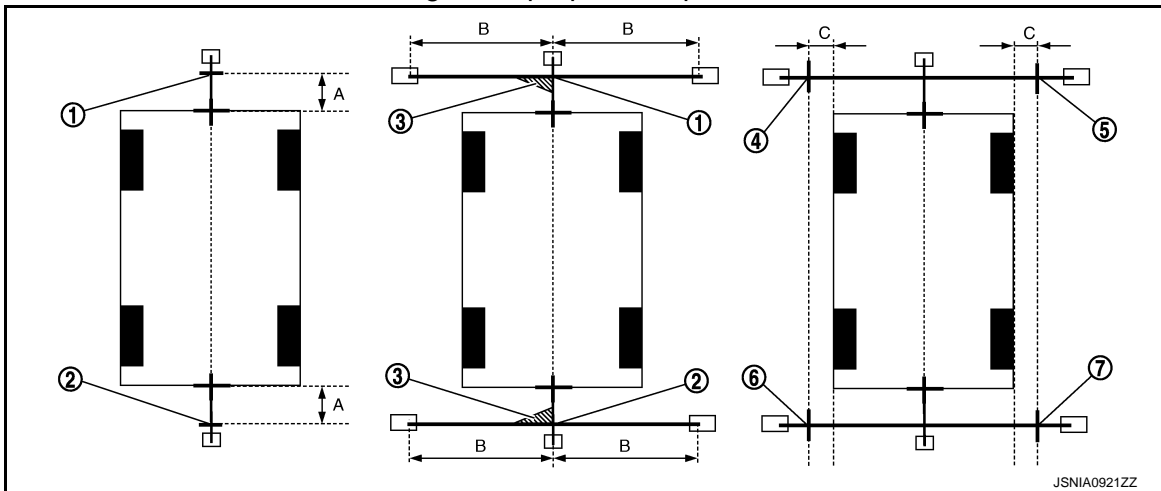
## Target line preparation procedure 1



- |                     |                                           |                     |
|---------------------|-------------------------------------------|---------------------|
| 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) |
| 7. Point RR (mark) |                    |                    |

- |                    |                          |                                                                                          |
|--------------------|--------------------------|------------------------------------------------------------------------------------------|
| A. 75 cm (29.5 in) | B. Approx. 1.5 m (59 in) | C. 30 cm (11.8 in)<br>[Vehicle width / 2 + 30 cm (11.8 in)<br>from the points FM and RM] |
|--------------------|--------------------------|------------------------------------------------------------------------------------------|

- Draw the lines of the points FL – RL and FR – RR with vinyl string, and fix it with packing tape.
- 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.

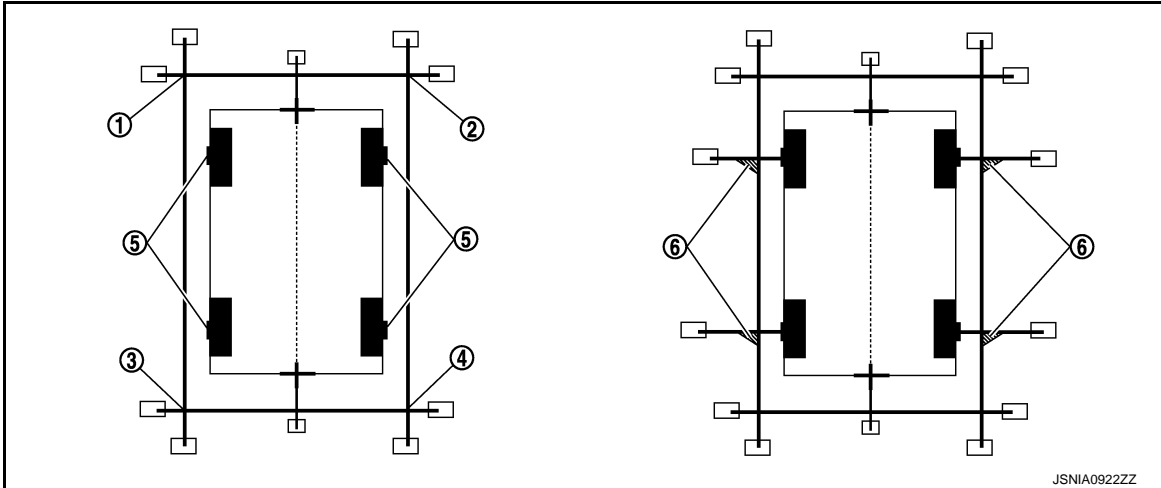
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# INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[BOSE AUDIO WITH NAVIGATION]

## Target line preparation procedure 3



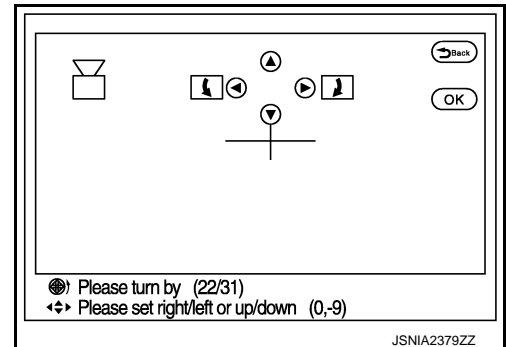
- |             |                            |                   |
|-------------|----------------------------|-------------------|
| 1. Point FL | 2. Point FR                | 3. Point RL       |
| 4. Point RR | 5. Center position of axle | 6. Triangle scale |

### 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"

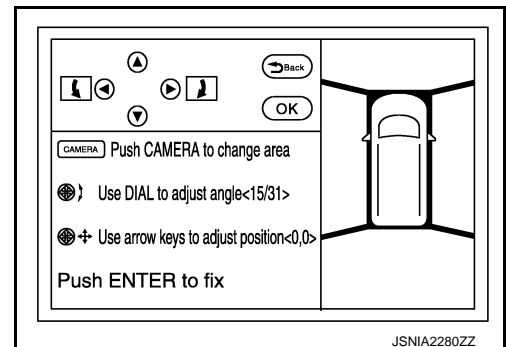
This mode is designed to align the boundary between each camera image that could not be aligned in the "Calibrating Camera Image" mode.

1. Select "Camera Cont." of "Confirmation/ Adjustment" mode, and then set to "Fine Tuning of Birds-Eye View" mode.
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:



# INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[BOSE AUDIO WITH NAVIGATION]

- 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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## DTC/CIRCUIT DIAGNOSIS

### U1000 CAN COMM CIRCUIT

#### Description

INFOID:000000009061736

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-25, "CAN System Specification Chart"](#).

#### DTC Logic

INFOID:000000009061737

#### DTC DETECTION LOGIC

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

#### Diagnosis Procedure

INFOID:000000009061738

#### 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-16, "Trouble Diagnosis Procedure"](#).
- NO >> Refer to GI section. Refer to [GI-42, "Intermittent Incident"](#).

# U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## U1010 CONTROL UNIT (CAN)

### DTC Logic

INFOID:000000009061739

### DTC DETECTION LOGIC

DTC	Display contents of CONSULT	DTC detection condition	Probable malfunction factor
U1010	CONTROL UNIT (CAN) [U1010]	CAN initial diagnosis malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-519</a> , "Exploded View".

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# U1200 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## U1200 AV CONTROL UNIT

### DTC Logic

INFOID:000000009061740

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1200	Cont Unit [U1200]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-519, "Exploded View"</a> .



# U1201 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## U1201 AV CONTROL UNIT

### DTC Logic

INFOID:000000009061741

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1201	GYRO NO CONN [U1201]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-519, "Exploded View"</a> .

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AV

# U1202 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## U1202 AV CONTROL UNIT

### DTC Logic

INFOID:000000009061742

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1202	G-SENSOR NO CONN [U1202]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-519, "Exploded View"</a> .

# U1204 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## U1204 AV CONTROL UNIT

### Description

INFOID:000000009061743

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-519. "Exploded View"](#).

### DTC Logic

INFOID:000000009061744

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1204	GPS CONN [U1204]	GPS malfunction is detected.	An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs. Replace the AV control unit if the malfunction occurs constantly.

### Diagnosis Procedure

INFOID:000000009061745

#### 1. PERFORM THE SELF-DIAGNOSIS

1. Delete the "Self-Diagnosis Results" of "MULTI AV". Turn ignition switch OFF.
2. Turn ignition switch ON. Perform the self-diagnosis again.
3. Check that the DTC is detected again.

#### Is any DTC detected?

- YES >> Replace AV control unit. Refer to [AV-519. "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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# U1205 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## U1205 AV CONTROL UNIT

### Description

INFOID:000000009061746

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-519, "Exploded View"](#).

### DTC Logic

INFOID:000000009061747

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1205	GPS ROM [U1205]	GPS malfunction is detected.	An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs. Replace the AV control unit if the malfunction occurs constantly.

### Diagnosis Procedure

INFOID:000000009061748

#### 1. PERFORM THE SELF-DIAGNOSIS

1. Delete the "Self-Diagnosis Results" of "MULTI AV". Turn ignition switch OFF.
2. Turn ignition switch ON. Perform the self-diagnosis again.
3. Check that the DTC is detected again.

#### Is any DTC detected?

- YES >> Replace AV control unit. Refer to [AV-519, "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 >

[BOSE AUDIO WITH NAVIGATION]

## U1206 AV CONTROL UNIT

### Description

INFOID:000000009061749

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-519. "Exploded View"](#).

### DTC Logic

INFOID:000000009061750

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1206	GPS RAM [U1206]	GPS malfunction is detected.	An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs. Replace the AV control unit if the malfunction occurs constantly.

### Diagnosis Procedure

INFOID:000000009061751

#### 1. PERFORM THE SELF-DIAGNOSIS

1. Delete the "Self-Diagnosis Results" of "MULTI AV". Turn ignition switch OFF.
2. Turn ignition switch ON. Perform the self-diagnosis again.
3. Check that the DTC is detected again.

#### Is any DTC detected?

- YES >> Replace AV control unit. Refer to [AV-519. "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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# U1207 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## U1207 AV CONTROL UNIT

### Description

INFOID:000000009061752

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-519, "Exploded View"](#).

### DTC Logic

INFOID:000000009061753

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1207	GPS RTC [U1207]	GPS malfunction is detected.	An intermittent error caused by strong radio interference may be detected unless any symptom (GPS reception error, etc.) occurs. Replace the AV control unit if the malfunction occurs constantly.

### Diagnosis Procedure

INFOID:000000009061754

#### 1. PERFORM THE SELF-DIAGNOSIS

1. Delete the "Self-Diagnosis Results" of "MULTI AV". Turn ignition switch OFF.
2. Turn ignition switch ON. Perform the self-diagnosis again.
3. Check that the DTC is detected again.

#### Is any DTC detected?

- YES >> Replace AV control unit. Refer to [AV-519, "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 >

[BOSE AUDIO WITH NAVIGATION]

## U1216 AV CONTROL UNIT

### DTC Logic

INFOID:000000009061755

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1216	CAN CONT [U1216]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-519, "Exploded View"</a> .

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# U1217 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## U1217 AV CONTROL UNIT

### DTC Logic

INFOID:000000009061756

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1217	BLUETOOTH MODULE [U1217]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-519, "Exploded View"</a> .



# U1218 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## U1218 AV CONTROL UNIT

### DTC Logic

INFOID:000000009061757

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1218	HDD CONN [U1218]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly.

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# U1219 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## U1219 AV CONTROL UNIT

### DTC Logic

INFOID:000000009061758

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1219	HDD READ [U1219]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly.

# U121A AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## U121A AV CONTROL UNIT

### DTC Logic

INFOID:000000009061759

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U121A	HDD WRITE [U121A]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly.

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# U121B AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## U121B AV CONTROL UNIT

### DTC Logic

INFOID:000000009061760

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U121B	HDD COMM [U121B]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly.

# U121C AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## U121C AV CONTROL UNIT

### DTC Logic

INFOID:000000009061761

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U121C	HDD ACCESS [U121C]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly.

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# U121D AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## U121D AV CONTROL UNIT

### DTC Logic

INFOID:000000009061762

DTC	Display contents of CONSULT	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:000000009061763

#### 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-519. "Exploded View"](#).

# U121E AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## U121E AV CONTROL UNIT

### DTC Logic

INFOID:000000009061764

DTC	Display contents of CONSULT	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:000000009061765

#### 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-519. "Exploded View"](#).

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AV

# U1225 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## U1225 AV CONTROL UNIT

### DTC Logic

INFOID:000000009061766

### DTC DETECTION LOGIC

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



# U1227 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## U1227 AV CONTROL UNIT

### DTC Logic

INFOID:000000009061767

DTC	Display contents of CONSULT	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:000000009061768

#### 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-519. "Exploded View"](#).

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AV

# U1228 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## U1228 AV CONTROL UNIT

### DTC Logic

INFOID:000000009061769

### DTC DETECTION LOGIC

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1228	SUB CPU CONN [U1228]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-519, "Exploded View"</a> .

# U1229 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## U1229 AV CONTROL UNIT

### DTC Logic

INFOID:000000009061770

### DTC DETECTION LOGIC

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1229	iPod CERTIFICATION [U1229]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-519</a> , "Exploded View".

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AV

# U122A AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## U122A AV CONTROL UNIT

### DTC Logic

INFOID:000000009061771

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

### Diagnosis Procedure

INFOID:000000009061772

#### 1.PERFORM THE SELF-DIAGNOSIS

When U122A is detected, write configuration data with "MULTI AV" of CONSULT.

>> Write configuration data with "MULTI AV" of CONSULT. Refer to [AV-426. "CONFIGURATION \(AV CONTROL UNIT\) : Work Procedure"](#).

# U122E AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## U122E AV CONTROL UNIT

### DTC Logic

INFOID:000000009061773

### DTC DETECTION LOGIC

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U122E	Built-in AUDIO CONN [U122E]	AV control unit malfunction is detected.	Replace the AV control unit if the malfunction occurs constantly. Refer to <a href="#">AV-519</a> , "Exploded View".

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# U1232 STEERING ANGLE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## U1232 STEERING ANGLE SENSOR

### DTC Logic

INFOID:000000009061774

DTC	Display contents of CONSULT	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:000000009061775

#### 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 DISPLAY UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## U1243 DISPLAY UNIT

### DTC Logic

INFOID:000000009061776

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1243	FRONT DISP CONN [U1243]	When either one of the following items is detected: <ul style="list-style-type: none"> <li>• Display unit power supply and ground circuit malfunction is detected.</li> <li>• communication circuit between AV control unit and display unit.</li> </ul>	<ul style="list-style-type: none"> <li>• Display unit power supply and ground circuit.</li> <li>• Communication circuit between AV control unit and display unit.</li> </ul>

### Diagnosis Procedure

INFOID:000000009061777

#### 1. CHECK DISPLAY UNIT POWER SUPPLY AND GROUND CIRCUIT

Check display unit power supply and ground circuit. Refer to [AV-477. "DISPLAY UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair malfunctioning parts.

#### 2. CHECK CONTINUITY COMMUNICATION CIRCUIT

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

Display unit		AV control unit		Continuity
Connector	Terminals	Connector	Terminals	
M195	9	M210	89	Existed
	10		73	

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

Display unit		Ground	Continuity
Connector	Terminals		
M195	9		Not existed
	10		

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

#### 3. CHECK COMMUNICATION SIGNAL

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

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AV

# U1243 DISPLAY UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

(+)		(-)	Condition	Reference value
Display unit				
Connector	Terminal			
M195	9	Ground	When adjusting display brightness.	

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace AV control unit. Refer to [AV-519. "Exploded View"](#).

## 4. CHECK COMMUNICATION SIGNAL

Check signal between display unit harness connector and ground.

(+)		(-)	Condition	Reference value
Display unit				
Connector	Terminal			
M195	10	Ground	When adjusting display brightness.	

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace display unit. Refer to [AV-520. "Exploded View"](#).



# U1244 GPS ANTENNA

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## U1244 GPS ANTENNA

### DTC Logic

INFOID:000000009061778

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1244	GPS ANTENNA CONN [U1244]	GPS antenna connection malfunction is detected.	Check the connection of the GPS antenna connector.

### Diagnosis Procedure

INFOID:000000009061779

#### 1. GPS ANTENNA CHECK

Visually check GPS antenna and antenna feeder.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair malfunctioning parts.

#### 2. CHECK AV CONTROL UNIT VOLTAGE

1. Disconnect GPS antenna connector.
2. Turn ignition switch ON.
3. Check voltage between AV control unit and ground.

(+)	(-)	Voltage (Approx.)
AV control unit		
Terminal		
153	Ground	5.0 V

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace AV control unit. Refer to [AV-519, "Exploded View"](#).

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AV

# U1258 SATELLITE RADIO ANTENNA

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## U1258 SATELLITE RADIO ANTENNA

### DTC Logic

INFOID:000000009061780

DTC	Display contents of CONSULT	DTC Detection Condition	Possible causes
U1258	XM ANTENNA CONN [U1258]	Satellite radio antenna connection malfunction is detected.	Satellite radio antenna disconnection.

### Diagnosis Procedure

INFOID:000000009061781

#### 1. SATELLITE RADIO ANTENNA CHECK

Visually check satellite radio antenna (antenna base) and antenna feeder.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair malfunctioning parts.

#### 2. CHECK AV CONTROL UNIT VOLTAGE

1. Disconnect satellite radio antenna connector.
2. Turn ignition switch ON.
3. Check voltage between AV control unit and ground.

(+)	(-)	Voltage (Approx.)
AV control unit		
Terminal		
159	Ground	5.0 V

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace AV control unit. Refer to [AV-519. "Exploded View"](#).

# U1263 USB

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## U1263 USB

### DTC Logic

INFOID:000000009061782

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

### Diagnosis Procedure

INFOID:000000009061783

#### 1. CHECK USB HARNESS

Visually check USB harness.

Is the inspection result normal?

- YES >> Replace AV control unit. Refer to [AV-519, "Exploded View"](#).
- NO >> Replace USB harness.

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AV

# U1264 ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## U1264 ANTENNA AMP.

### DTC Logic

INFOID:000000009061784

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1264	ANTENNA AMP TERMINAL [U1264]	Radio antenna amp. ON circuit is open or shorted.	Check antenna amp. ON signal circuit between the AV control unit and antenna base.

### Diagnosis Procedure

INFOID:000000009061785

#### 1. CHECK CONTINUITY BETWEEN AV CONTROL UNIT AND ANTENNA BASE

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

AV control unit		Antenna base		Continuity
Connector	Terminals	Connector	Terminals	
M394	152	M386	1	Existed

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

AV control unit		Ground	Continuity
Connector	Terminals		
M394	152		Not existed

Is the inspection result normal?

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

#### 2. CHECK VOLTAGE AV CONTROL UNIT

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

AV control unit		(-)	Voltage (Approx.)
Connector	Terminals		
M394	152	Ground	12.0 V

Is the inspection result normal?

- YES >> Replace antenna base Refer to [AV-528, "Exploded View"](#) .  
NO >> Replace AV control unit. Refer to [AV-519, "Exploded View"](#).

# U1265 BOSE AMP.

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## U1265 BOSE AMP.

### DTC Logic

INFOID:000000009061786

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1265	AMP ON TERMINAL [U1265]	BOSE amp. ON circuit is open or shorted.	Check BOSE amp. ON signal circuit between the AV control unit and BOSE amp.

### Diagnosis Procedure

INFOID:000000009061787

#### 1. CHECK CONTINUITY BETWEEN AV CONTROL UNIT AND BOSE AMP.

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

AV control unit		BOSE amp.		Continuity
Connector	Terminals	Connector	Terminals	
M208	1	B41	31	Existed

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

AV control unit		Ground	Continuity
Connector	Terminals		
M208	1		Not existed

Is the inspection result normal?

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

#### 2. CHECK VOLTAGE AV CONTROL UNIT

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

(+)		(-)	Voltage (Approx.)
AV control unit			
Connector	Terminals		
M208	1	Ground	12.0 V

Is the inspection result normal?

- YES >> Replace BOSE amp. Refer to [AV-527, "Exploded View"](#)  
 NO >> Replace AV control unit. Refer to [AV-519, "Exploded View"](#).

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AV

# U1300 AV COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## U1300 AV COMM CIRCUIT

### Description

INFOID:000000009061788

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

### SELF-DIAGNOSIS RESULTS DISPLAY ITEM

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1300 U1240	<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 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>
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.

# U1310 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## U1310 AV CONTROL UNIT

### DTC Logic

INFOID:000000009061789

DTC	Display contents of CONSULT	DTC detection condition	Possible malfunction factor
U1310	CONTROL UNIT (AV) [U1310]	An initial diagnosis error is detected in AV communication circuit.	Replace AV control unit. If the malfunction occurs constantly. Refer to <a href="#">AV-519, "Exploded View"</a> .

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# B2700 CORNER SENSOR [FL]

[BOSE AUDIO WITH NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

## B2700 CORNER SENSOR [FL]

### DTC Logic

INFOID:000000009061790

### DTC DETECTION LOGIC

DTC No.	CONSULT indication	DTC detection condition	Troubleshooting
B2700	CORNER SENSOR [FL] [B2700]	Corner sensor front LH is malfunctioning.	Replace corner sensor front LH. Refer to <a href="#">AV-541, "FRONT : Exploded View"</a> .



# B2701 SENSOR HARNESS OPEN [CR-FL]

[BOSE AUDIO WITH NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

## B2701 SENSOR HARNESS OPEN [CR-FL]

### DTC Logic

INFOID:000000009061791

### DTC DETECTION LOGIC

DTC No.	CONSULT indication	DTC detection condition	Troubleshooting
B2701	SENSOR HARNESS OPEN [CR-FL] [B2701]	Corner sensor front LH harness circuit is open.	Check corner sensor front LH circuit.

### Diagnosis Procedure

INFOID:000000009061792

#### 1. CHECK HARNESS CORNER SENSOR FRONT LH SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect sonar control unit connector and corner sensor front LH connector.
3. Check continuity between sonar control unit harness connector and corner sensor front LH harness connector.

Sonar control unit		Corner sensor front LH		Continuity
Connector	Terminal	Connector	Terminal	
M47	3	E63	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 FRONT LH GROUND CIRCUIT

Check continuity between sonar control unit harness connector and corner sensor front LH harness connector.

Sonar control unit		Corner sensor front LH		Continuity
Connector	Terminal	Connector	Terminal	
M47	12	E63	2	Existed

Is the inspection result normal?

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

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# B2702 CORNER SENSOR [FR]

[BOSE AUDIO WITH NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

## B2702 CORNER SENSOR [FR]

### DTC Logic

INFOID:000000009061793

### DTC DETECTION LOGIC

DTC No.	CONSULT indication	DTC detection condition	Troubleshooting
B2702	CORNER SENSOR [FR] [B2702]	Corner sensor front RH is malfunctioning.	Replace corner sensor front RH. Refer to <a href="#">AV-541, "FRONT : Exploded View"</a> .

# B2703 SENSOR HARNESS OPEN [CR-FR]

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## B2703 SENSOR HARNESS OPEN [CR-FR]

### DTC Logic

INFOID:000000009061794

### DTC DETECTION LOGIC

DTC No.	CONSULT indication	DTC detection condition	Troubleshooting
B2703	SENSOR HARNESS OPEN [CR-FR] [B2703]	Corner sensor front RH harness circuit is open.	Check corner sensor front RH circuit.

### Diagnosis Procedure

INFOID:000000009061795

#### 1. CHECK HARNESS CORNER SENSOR FRONT RH SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect sonar control unit connector and corner sensor front RH connector.
3. Check continuity between sonar control unit harness connector and corner sensor front RH harness connector.

Sonar control unit		Corner sensor front RH		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 FRONT RH GROUND CIRCUIT

Check continuity between sonar control unit harness connector and corner sensor front RH harness connector.

Sonar control unit		Corner sensor front RH		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]

[BOSE AUDIO WITH NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

## B2704 CORNER SENSOR [RL]

### DTC Logic

INFOID:000000009061796

### DTC DETECTION LOGIC

DTC No.	CONSULT indication	DTC detection condition	Troubleshooting
B2704	CORNER SENSOR [RL] [B2704]	Corner sensor rear LH is malfunctioning.	Replace corner sensor rear LH. Refer to <a href="#">AV-542, "REAR : Exploded View"</a> .

# B2705 SENSOR HARNESS OPEN [CR-RL]

[BOSE AUDIO WITH NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

## B2705 SENSOR HARNESS OPEN [CR-RL]

### DTC Logic

INFOID:000000009061797

### DTC DETECTION LOGIC

DTC No.	CONSULT indication	DTC detection condition	Troubleshooting
B2705	SENSOR HARNESS OPEN [CR-RL] [B2705]	Corner sensor rear LH harness circuit is open.	Check corner sensor rear LH circuit.

### Diagnosis Procedure

INFOID:000000009061798

#### 1. CHECK HARNESS CORNER SENSOR REAR LH SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect sonar control unit connector and corner sensor rear LH connector.
3. Check continuity between sonar control unit harness connector and corner sensor rear LH harness connector.

Sonar control unit		Corner sensor rear LH		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 REAR LH GROUND CIRCUIT

Check continuity between sonar control unit harness connector and corner sensor rear LH harness connector.

Sonar control unit		Corner sensor rear LH		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]

[BOSE AUDIO WITH NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

## B2706 CORNER SENSOR [RR]

### DTC Logic

INFOID:000000009061799

### DTC DETECTION LOGIC

DTC No.	CONSULT indication	DTC detection condition	Troubleshooting
B2706	CORNER SENSOR [RR] [B2706]	Corner sensor rear RH is malfunctioning.	Replace corner sensor rear RH. Refer to <a href="#">AV-542, "REAR : Exploded View"</a> .

# B2707 SENSOR HARNESS OPEN [CR-RR]

[BOSE AUDIO WITH NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

## B2707 SENSOR HARNESS OPEN [CR-RR]

### DTC Logic

INFOID:000000009061800

### DTC DETECTION LOGIC

DTC No.	CONSULT indication	DTC detection condition	Troubleshooting
B2707	SENSOR HARNESS OPEN [CR-RR] [B2707]	Corner sensor rear RH harness circuit is open.	Check corner sensor rear RH circuit.

### Diagnosis Procedure

INFOID:000000009061801

#### 1.CHECK HARNESS CORNER SENSOR REAR RH SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect sonar control unit connector and corner sensor rear RH connector.
3. Check continuity between sonar control unit harness connector and corner sensor rear RH harness connector.

Sonar control unit		Corner sensor rear RH		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 REAR RH GROUND CIRCUIT

Check continuity between sonar control unit harness connector and corner sensor rear RH harness connector.

Sonar control unit		Corner sensor rear RH		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 >

[BOSE AUDIO WITH NAVIGATION]

## POWER SUPPLY AND GROUND CIRCUIT

### AV CONTROL UNIT

#### AV CONTROL UNIT : Diagnosis Procedure

INFOID:000000009061802

#### 1. CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	34

Is the inspection result normal?

YES >> GO TO 2.

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

#### 2. CHECK BATTERY POWER SUPPLY CIRCUIT

Check voltage between AV control unit harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Battery power supply	M208	19	OFF	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.

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

#### 3. CHECK ACC POWER SUPPLY CIRCUIT

Check voltage between AV control unit harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
ACC power supply	M208	7	ACC	Battery voltage

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 4.

#### 4. CHECK ACC POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect AV control unit harness connector and BCM harness connector.

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

AV control unit		BCM		Continuity
Connector	Terminal	Connector	Terminal	
M208	7	M122	95	Existed

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

AV control unit		Ground	Continuity
Connector	Terminal		
M208	7		Not existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair harness or connector.

#### 5. CHECK GROUND CIRCUIT

Check continuity between AV control unit harness connector and ground.



# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

AV control unit		Ground	Continuity
Connector	Terminal		
M208	20		Not existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

## DISPLAY UNIT

### DISPLAY UNIT : Diagnosis Procedure

INFOID:000000009061803

#### 1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	34

Is the inspection result normal?

YES >> GO TO 2.

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

#### 2.CHECK BATTERY POWER SUPPLY CIRCUIT

Check voltage between display unit harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Battery power supply	M195	11	OFF	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check harness between display unit and fuse.

#### 3.CHECK ACC POWER SUPPLY CIRCUIT

Check voltage between display unit harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
ACC power supply	M195	23	ACC	Battery voltage

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 4.

#### 4.CHECK ACC POWER SUPPLY CIRCUIT

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

Display unit		BCM		Continuity
Connector	Terminal	Connector	Terminal	
M195	7	M122	95	Existed

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

Display unit		Ground	Continuity
Connector	Terminal		
M195	7		Not existed

Is the inspection result normal?

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AV

# POWER SUPPLY AND GROUND CIRCUIT

[BOSE AUDIO WITH NAVIGATION]

< DTC/CIRCUIT DIAGNOSIS >

- YES >> GO TO 5.  
NO >> Repair harness or connector.

## 5.CHECK GROUND CIRCUIT

Check continuity between display unit harness connector and ground.

Display unit		Ground	Continuity
Connector	Terminal		
M195	12		Not existed

Is the inspection result normal?

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

## BOSE AMP.

### BOSE AMP. : Diagnosis Procedure

INFOID:000000009061804

#### 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

### AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure

INFOID:000000009061805

#### 1.CHECK FUSE

Check for blown fuses.

# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

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

Is inspection result normal?

YES >> GO TO 2.

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

## 2.CHECK POWER SUPPLY 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:000000009061806

## 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.)
ACC 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.

## POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

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 >

[BOSE AUDIO WITH NAVIGATION]

## RGB DIGITAL IMAGE SIGNAL CIRCUIT

### Description

INFOID:000000009061807

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

### Diagnosis Procedure

INFOID:000000009061808

#### 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 display unit harness connector and AV control unit harness connector.

Display unit		AV control unit		Continuity
Connector	Terminals	Connector	Terminals	
M397	27	M396	157	Existed
	28		158	

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

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 display unit harness connector and ground.

(+) Display unit		(-)	Condition	Voltage (Approx.)
Connector	Terminal			
M397	27	Ground	—	1.3 V
	28			

Is the inspection result normal?

- YES >> Replace display unit. Refer to [AV-520, "Exploded View"](#).  
 NO >> Replace AV control unit. Refer to [AV-519, "Exploded View"](#).

AV

# COMPOSITE IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## COMPOSITE IMAGE SIGNAL CIRCUIT

### Description

INFOID:000000009061809

AV control unit transmits the playback DVD image signal to the display unit.

### Diagnosis Procedure

INFOID:000000009061810

#### 1. CHECK CONTINUITY COMPOSITE IMAGE SIGNAL CIRCUIT

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

AV control unit		Display unit		Continuity
Connector	Terminal	Connector	Terminal	
M210	68	M195	18	Existed

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

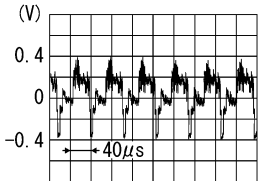
AV control unit		Ground	Continuity
Connector	Terminal		
M210	68		Not existed

Is the inspection result normal?

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

#### 2. CHECK COMPOSITE IMAGE SIGNAL

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

(+)		(-)	Condition	Reference value
AV control unit				
Connector	Terminal			
M210	68	Ground	At DVD image is displayed.	 <p>(V)</p> <p>0.4</p> <p>0</p> <p>-0.4</p> <p>40µs</p> <p>SKIB2251J</p>

Is the inspection result normal?

- YES >> Replace display unit. Refer to [AV-520. "Exploded View"](#).  
 NO >> Replace AV control unit. Refer to [AV-519. "Exploded View"](#).

# DISK EJECT SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## DISK EJECT SIGNAL CIRCUIT

### Description

INFOID:000000009061811

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

### Diagnosis Procedure

INFOID:000000009061812

#### 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.

(+)		(-)	Condition	Voltage (Approx.)
AV control unit				
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-530, "Exploded View"](#).  
NO >> Replace AV control unit. Refer to [AV-519, "Exploded View"](#).

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# MODE CHANGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## MODE CHANGE SIGNAL CIRCUIT

### Description

INFOID:000000009061813

- 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:000000009061814

#### 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.

AV control unit		BOSE amp.		Continuity
Connector	Terminal	Connector	Terminal	
M209	30	B41	17	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 and AV control unit connector.
2. Turn ignition switch ON.
3. Check voltage 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 BOSE amp. Refer to [AV-527, "Exploded View"](#).

NO >> Replace AV control unit. Refer to [AV-519, "Exploded View"](#).



# MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## MICROPHONE SIGNAL CIRCUIT

### Description

INFOID:000000009061815

Supply power from AV control unit to microphone. The microphone transmits the sound/voice to the AV control unit.

### Diagnosis Procedure

INFOID:000000009061816

#### 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.

(+)		(-)		Voltage (Approx.)
AV control unit		AV control unit		
Connector	Terminal	Connector	Terminal	
M210	72	M210	71	5.0 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace AV control unit. Refer to [AV-519, "Exploded View"](#).

#### 3.CHECK MICROPHONE SIGNAL

1. Connect microphone connector.
2. Check signal between AV control unit harness connector.

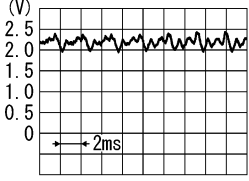
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AV

# MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

(+)		(-)		Condition	Reference value
AV control unit		AV control unit			
Connector	Terminal	Connector	Terminal		
M210	87	M210	71	Give a voice.	 <p style="text-align: right; font-size: small;">PKIB5037J</p>

Is the inspection result normal?

- YES >> Replace AV control unit. Refer to [AV-519. "Exploded View"](#).
- NO >> Replace microphone. Refer to [AV-532. "Exploded View"](#).

# CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## CAMERA IMAGE SIGNAL CIRCUIT

### Description

INFOID:000000009061817

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.

### Diagnosis Procedure

INFOID:000000009061818

#### 1. CHECK CONTINUITY CAMERA IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and around view monitor control unit connector.
3. Check continuity between display unit harness connector and around view monitor control unit harness connector.

Display unit		Around view monitor control unit		Continuity
Connector	Terminal	Connector	Terminal	
M195	8	B46	27	Existed

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

Display unit		Ground	Continuity
Connector	Terminal		
M195	8		Not existed

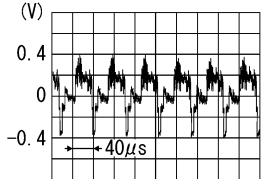
Is inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2. CHECK CAMERA IMAGE SIGNAL

1. Connect display unit connector and around view monitor control unit connector.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector and ground.

(+)		(-)	Condition	Reference value
Display unit				
Connector	Terminal			
M195	8	Ground	At camera image is displayed.	 <p style="text-align: right; font-size: small;">SKIB2251J</p>

Is inspection result normal?

YES >> Replace display unit. Refer to [AV-520, "Exploded View"](#).

NO >> Replace around view monitor control unit. Refer to [AV-535, "Exploded View"](#).

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# FRONT CAMERA COMMUNICATION SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## FRONT CAMERA COMMUNICATION SIGNAL CIRCUIT

### Description

INFOID:000000009061819

- 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, predictive course line and sonar indicator to the camera image that outputs to the display unit.
- Around view monitor control unit performs the reception/transmission of communication signal with each camera.

### Diagnosis Procedure

INFOID:000000009061820

#### 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	E73	6	Existed

4. Check continuity between around view monitor control unit harness connector and ground.

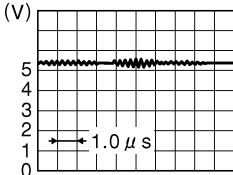
Around view monitor control unit		Ground	Continuity
Connector	Terminal		
B45	45		Not existed

#### 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.

(+)		(-)	Condition	Reference value
Around view monitor control unit				
Connector	Terminal			
B45	45	Ground	"CAMERA" switch is ON or shift position is "R".	 <p>JSNIA0836GB</p>

#### Is inspection result normal?

- YES >> Replace around view monitor control unit. Refer to [AV-535, "Exploded View"](#).  
 NO >> Replace front camera. Refer to [AV-536, "Exploded View"](#).

# FRONT CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## FRONT CAMERA IMAGE SIGNAL CIRCUIT

### Description

INFOID:000000009061821

- 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, predictive course line and sonar indicator to the camera image that outputs to the display unit.
- Around view monitor control unit performs the reception/transmission of communication signal with each camera.

### Diagnosis Procedure

INFOID:000000009061822

#### 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	E73	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.

(+)		(-)	Condition	Voltage (Approx.)
Around view monitor control unit				
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-535, "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.

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# FRONT CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

Around view monitor control unit		Front camera		Continuity
Connector	Terminals	Connector	Terminals	
B45	41	E73	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

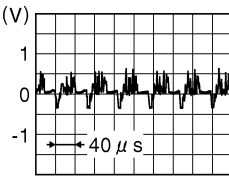
Is inspection result normal?

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”.	

Is inspection result normal?

YES >> Replace around view monitor control unit. Refer to [AV-535, "Exploded View"](#).

NO >> Replace front camera. Refer to [AV-536, "Exploded View"](#).

# REAR CAMERA COMMUNICATION SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## REAR CAMERA COMMUNICATION SIGNAL CIRCUIT

### Description

INFOID:000000009061823

- 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, predictive course line and sonar indicator to the camera image that outputs to the display unit.
- Around view monitor control unit performs the reception/transmission of communication signal with each camera.

### Diagnosis Procedure

INFOID:000000009061824

#### 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.

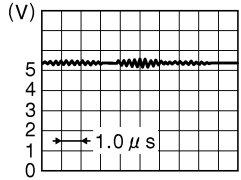
Around view monitor control unit		Ground	Continuity
Connector	Terminal		
B46	35		Not existed

#### 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".	 <p>JSNIA0836GB</p>

#### Is inspection result normal?

- YES >> Replace around view monitor control unit. Refer to [AV-535, "Exploded View"](#).  
 NO >> Replace rear camera. Refer to [AV-537, "Exploded View"](#).

# REAR CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## REAR CAMERA IMAGE SIGNAL CIRCUIT

### Description

INFOID:000000009061825

- 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, predictive course line and sonar indicator to the camera image that outputs to the display unit.
- Around view monitor control unit performs the reception/transmission of communication signal with each camera.

### Diagnosis Procedure

INFOID:000000009061826

#### 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-535, "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.



# REAR CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

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

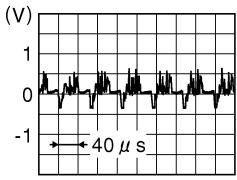
Is inspection result normal?

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".	 <p style="text-align: right; font-size: small;">JSNIA0834GB</p>

Is inspection result normal?

YES >> Replace around view monitor control unit. Refer to [AV-535, "Exploded View"](#)

NO >> Replace rear camera. Refer to [AV-537, "Exploded View"](#).

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# SIDE CAMERA LH COMMUNICATION SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## SIDE CAMERA LH COMMUNICATION SIGNAL CIRCUIT

### Description

INFOID:000000009061827

- 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, predictive course line and sonar indicator to the camera image that outputs to the display unit.
- Around view monitor control unit performs the reception/transmission of communication signal with each camera.

### Diagnosis Procedure

INFOID:000000009061828

#### 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.

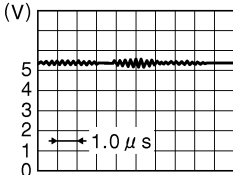
Around view monitor control unit		Ground	Continuity
Connector	Terminal		
B45	47		Not existed

#### 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".	 <p>(V)</p> <p>5 4 3 2 1 0</p> <p>← 1.0 μs</p> <p>JSNIA0836GB</p>

#### Is inspection result normal?

- YES >> Replace around view monitor control unit. Refer to [AV-535, "Exploded View"](#).  
NO >> Replace side camera LH. Refer to [AV-538, "Exploded View"](#).

# SIDE CAMERA LH IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## SIDE CAMERA LH IMAGE SIGNAL CIRCUIT

### Description

INFOID:000000009061829

- 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, predictive course line and sonar indicator to the camera image that outputs to the display unit.
- Around view monitor control unit performs the reception/transmission of communication signal with each camera.

### Diagnosis Procedure

INFOID:000000009061830

#### 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.

(+)		(-)	Condition	Voltage (Approx.)
Around view monitor control unit				
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-535, "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.

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# SIDE CAMERA LH IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

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

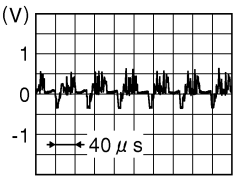
Is inspection result normal?

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".	 <p style="text-align: right; font-size: small;">JSNIA0834GB</p>

Is inspection result normal?

YES >> Replace around view monitor control unit. Refer to [AV-535, "Exploded View"](#).

NO >> Replace side camera LH. Refer to [AV-538, "Exploded View"](#).

# SIDE CAMERA RH COMMUNICATION SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## SIDE CAMERA RH COMMUNICATION SIGNAL CIRCUIT

### Description

INFOID:000000009061831

- 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, predictive course line and sonar indicator to the camera image that outputs to the display unit.
- Around view monitor control unit performs the reception/transmission of communication signal with each camera.

### Diagnosis Procedure

INFOID:000000009061832

#### 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

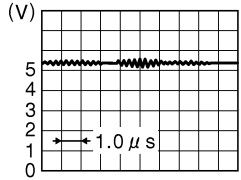
#### Is inspection result normal?

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".	 <p>JSNIA0836GB</p>

#### Is inspection result normal?

YES >> Replace around view monitor control unit. Refer to [AV-535, "Exploded View"](#).

NO >> Replace side camera RH. Refer to [AV-539, "Exploded View"](#).

# SIDE CAMERA RH IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## SIDE CAMERA RH IMAGE SIGNAL CIRCUIT

### Description

INFOID:000000009061833

- 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, predictive course line and sonar indicator to the camera image that outputs to the display unit.
- Around view monitor control unit performs the reception/transmission of communication signal with each camera.

### Diagnosis Procedure

INFOID:000000009061834

#### 1. CHECK CONTINUITY SIDE CAMERA RH POWER SUPPLY AND GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector and door mirror (passenger side) connector.
3. Check continuity between around view monitor control unit harness connector and door mirror (passenger side) harness connector.

Around view monitor control unit		Door mirror (passenger side)		Continuity
Connector	Terminals	Connector	Terminals	
B46	34	D33	6	Existed
	32		18	

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	Terminal			
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-535, "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

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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

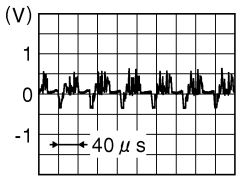
Is inspection result normal?

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.

(+)		(-)		Condition	Reference value
Around view monitor control unit		Around view monitor control unit			
Connector	Terminal	Connector	Terminal		
B46	29	B46	30	"CAMERA" switch is ON or shift position is "R".	 <p style="text-align: right; font-size: small;">JSNIA0834GB</p>

Is inspection result normal?

YES >> Replace around view monitor control unit. Refer to [AV-535, "Exploded View"](#).

NO >> Replace side camera RH. Refer to [AV-539, "Exploded View"](#).

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AV

# STEERING SWITCH SIGNAL A CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## STEERING SWITCH SIGNAL A CIRCUIT

### Description

INFOID:000000009061835

Transmits the steering switch signal to AV control unit.

### Diagnosis Procedure

INFOID:000000009061836

#### 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.

#### 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	
M208	6	M208	15	5.0 V

Is the inspection result normal?

- YES >> GO TO 4.  
NO >> Replace AV control unit. Refer to [AV-519, "Exploded View"](#)

#### 4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to [AV-500, "Component Inspection"](#).

Is the inspection result normal?

- YES >> INSPECTION END  
NO >> Replace steering switch. Refer to [ST-15, "Exploded View"](#).

### Component Inspection

INFOID:000000009061837

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



# STEERING SWITCH SIGNAL A CIRCUIT

[BOSE AUDIO WITH NAVIGATION]



## < DTC/CIRCUIT DIAGNOSIS >

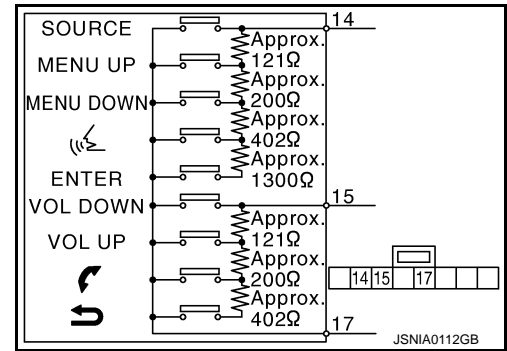
### Standard

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



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# STEERING SWITCH SIGNAL B CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## STEERING SWITCH SIGNAL B CIRCUIT

### Description

INFOID:000000009061838

Transmits the steering switch signal to AV control unit.

### Diagnosis Procedure

INFOID:000000009061839

#### 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.

#### 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	
M208	16	M208	15	5.0 V

Is the inspection result normal?

- YES >> GO TO 4.  
NO >> Replace AV control unit. Refer to [AV-519, "Exploded View"](#).

#### 4. CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to [AV-502, "Component Inspection"](#).

Is the inspection result normal?

- YES >> INSPECTION END  
NO >> Replace steering switch. Refer to [ST-15, "Exploded View"](#).

### Component Inspection

INFOID:000000009061840

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

# STEERING SWITCH SIGNAL B CIRCUIT

[BOSE AUDIO WITH NAVIGATION]



## < DTC/CIRCUIT DIAGNOSIS >

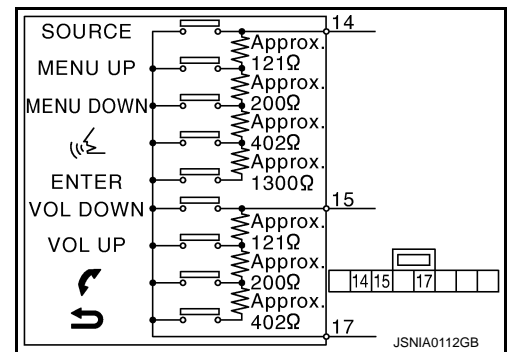
### Standard

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



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# STEERING SWITCH GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## STEERING SWITCH GROUND CIRCUIT

### Description

INFOID:000000009061841

Transmits the steering switch signal to AV control unit.

### Diagnosis Procedure

INFOID:000000009061842

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

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

AV control unit		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
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.

#### 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-519, "Exploded View"](#)

#### 4. CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to [AV-504, "Component Inspection"](#).

Is the inspection result normal?

- YES >> INSPECTION END  
NO >> Replace steering switch. Refer to [ST-15, "Exploded View"](#)

### Component Inspection

INFOID:000000009061843

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

# STEERING SWITCH GROUND CIRCUIT

[BOSE AUDIO WITH NAVIGATION]

## < DTC/CIRCUIT DIAGNOSIS >

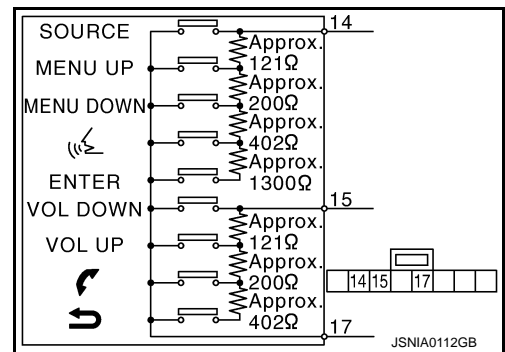
### Standard

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



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# MULTI AV SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

## SYMPTOM DIAGNOSIS

### MULTI AV SYSTEM SYMPTOMS

#### Symptom Table

INFOID:000000009061844

#### 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 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 self-diagnosis. Refer to <a href="#">AV-370, "CONSULT 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 is initialized.</li> </ul>	AV control unit power supply and ground circuit malfunction. Refer to <a href="#">AV-476, "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-360, "On Board Diagnosis Function"</a> .
Fuel economy display is abnormal.	There is malfunction in the CONSULT "self-diagnosis result" of "MULTI AV". Refer to <a href="#">AV-370, "CONSULT Function (MULTI AV)"</a> .	Perform detected DTC diagnosis. Refer to <a href="#">AV-384, "DTC Index"</a> .
	There is no malfunction in the CONSULT "self-diagnosis results" of "MULTI AV". Refer to <a href="#">AV-370, "CONSULT 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-519, "Exploded View"</a> .

#### RELATED TO HANDS-FREE PHONE

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

#### Check Compatibility

- Make sure the customer's Bluetooth® related concern is understood.
- Verify the customer's concern.  
**NOTE:**  
The customer's phone may be required, depending upon their concern.
- Write down the customer's phone brand, model, and service provider.  
**NOTE:**  
It is necessary to know the service provider. On occasion, a given phone may be on the approved list with one provider, but may not be on the approved list with other providers.
- Go to "www.infiniti.com/bluetooth/".
  - Using the website's search engine, find out if the customer's phone is on the approved list.
  - If the customer's phone is NOT on the approved list:





# MULTI AV SYSTEM SYMPTOMS

[BOSE AUDIO WITH NAVIGATION]

## < SYMPTOM DIAGNOSIS >

Stop diagnosis here. The customer needs to obtain a Bluetooth® phone that is on the approved list before any further action.

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

Symptoms	Check items	Probable malfunction location
Does not recognize cellular phone connection. (no connection is displayed on the display at the guide.)	Repeat the registration of cellular phone.	AV control unit malfunction. Replace AV control unit. Refer to <a href="#">AV-519, "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>	
The other party's voice cannot be heard by hands-free phone.	Check the “microphone speaker” in Inspection & Adjustment Mode if sound is heard.	
Originating sound is not heard by the other party with hands-free phone communication.	Sound operation function is normal.	Microphone signal circuit malfunction. Refer to <a href="#">AV-485, "Diagnosis Procedure"</a> .
	Sound operation function does not work.	
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="#">ST-15, "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-502, "Diagnosis Procedure"</a> .
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to <a href="#">AV-504, "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-478, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure"</a>.</li> <li>• AV communication circuits malfunction. Refer to <a href="#">AV-370, "CONSULT Function (MULTI AV)"</a>.</li> </ul>

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AV

# MULTI AV SYSTEM SYMPTOMS

[BOSE AUDIO WITH NAVIGATION]

< SYMPTOM DIAGNOSIS >

Symptoms	Check items		Probable malfunction location / Action to take
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-487, "Diagnosis Procedure"</a> .
	Superimposing is not displayed.		Communication circuit between AV control unit and display unit malfunction. Refer to <a href="#">AV-370, "CONSULT Function (MULTI AV)"</a> .
Camera image is rolling.	—		Communication circuit between AV control unit and display unit malfunction. Refer to <a href="#">AV-370, "CONSULT Function (MULTI AV)"</a> .
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-489, "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-488, "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-492, "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-491, "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-498, "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-497, "Diagnosis Procedure"</a> .



# MULTI AV SYSTEM SYMPTOMS

[BOSE AUDIO WITH NAVIGATION]

< SYMPTOM DIAGNOSIS >

Symptoms	Check items		Probable malfunction location / Action to take
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. Refer to <a href="#">AV-495</a>, "Diagnosis Procedure".</li> </ul>
		<ul style="list-style-type: none"> <li>Image Output Signal: OK</li> <li>COMM Status: NG</li> <li>COMM Line: NG</li> </ul>	<ul style="list-style-type: none"> <li>Side camera LH communication circuit malfunction. Refer to <a href="#">AV-494</a>, "Diagnosis Procedure".</li> </ul>
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

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 "self-diagnosis" of "SONAR". Refer to <a href="#">AV-377</a> , "CONSULT Function (SONAR)".
	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 "self-diagnosis" of "MULTI AV". Refer to <a href="#">AV-370</a> , "CONSULT Function (MULTI AV)".
The sonar indicator is normal, but the buzzer does not sound	—	Replace sonar control unit. Refer to <a href="#">AV-540</a> , "Exploded View".

## 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-481</a> , "Diagnosis Procedure".

## 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-519</a> , "Exploded View".
	Voice does not sound at "Voice Microphone Test" of Confirmation/Adjustment mode.	Microphone circuit malfunction. Refer to <a href="#">AV-485</a> , "Diagnosis Procedure".

# MULTI AV SYSTEM SYMPTOMS

[BOSE AUDIO WITH NAVIGATION]

< SYMPTOM DIAGNOSIS >

Symptoms	Check items	Probable malfunction location
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="#">ST-15, "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-500, "Diagnosis Procedure"</a> .
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to <a href="#">AV-504, "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-483, "Diagnosis Procedure"</a> .
No sound comes out or the level of the sound is low.	No sound from all speakers.	<ul style="list-style-type: none"> <li>• BOSE amp. ON signal circuit malfunction.</li> <li>• BOSE amp. power supply and ground circuits malfunction.</li> </ul> Refer to <a href="#">AV-478, "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>
	Only a certain speaker (front right, front left, rear right, or rear left, etc.) does not output sound.	<ul style="list-style-type: none"> <li>• Poor connector connection of speaker.</li> <li>• Sound signal circuit malfunction between AV control unit and BOSE amp.</li> <li>• Sound signal circuit malfunction between BOSE amp. and speaker.</li> <li>• Malfunction in speaker.</li> <li>• Malfunction in AV control unit.</li> <li>• Malfunction in BOSE amp.</li> </ul>
Noise is mixed with audio.	Noise comes out from all speakers.	<ul style="list-style-type: none"> <li>• Malfunction in AV control unit.</li> <li>• Malfunction in BOSE amp.</li> </ul>
	Noise comes out only from a certain speaker (front right, front left, rear right, or rear left, etc.).	<ul style="list-style-type: none"> <li>• Poor connector connection of speaker.</li> <li>• Sound signal circuit malfunction between AV control unit and BOSE amp.</li> <li>• Sound signal circuit malfunction between BOSE amp. and speaker.</li> <li>• Malfunction in speaker.</li> <li>• Poor installation of speaker (e.g. backlash and looseness)</li> <li>• Malfunction in AV control unit.</li> <li>• Malfunction in BOSE amp.</li> </ul>
	Noise is mixed with radio only (when the car hits a bump or while driving over bad roads).	<ul style="list-style-type: none"> <li>• Poor connector connection of antenna or antenna feeder.</li> <li>• Loose antenna base mounting nut. Refer to <a href="#">AV-528, "Exploded View"</a>.</li> </ul>
Radio is not received or poor reception.	<ul style="list-style-type: none"> <li>• Other audio sounds are normal.</li> <li>• Any radio cannot be received or poor reception is caused even after moving to a service area with good reception (e.g. a place with clear view and no obstacles generating external noises).</li> </ul>	<ul style="list-style-type: none"> <li>• Antenna amp. ON signal circuit malfunction.</li> <li>• Poor connector connection of antenna or antenna feeder.</li> <li>• Loose antenna base mounting nut. Refer to <a href="#">AV-528, "Exploded View"</a>.</li> </ul>

# MULTI AV SYSTEM SYMPTOMS

[BOSE AUDIO WITH NAVIGATION]

< SYMPTOM DIAGNOSIS >

Symptoms	Check items	Probable malfunction location
Satellite radio is not received.	There is malfunction in the CONSULT self-diagnosis result. Refer to <a href="#">AV-370, "CONSULT Function (MULTI AV)"</a> .	<ul style="list-style-type: none"> <li>Malfunction in antenna, antenna feeder, or AV control unit. Perform DTC diagnosis. Refer to <a href="#">AV-384, "DTC Index"</a>.</li> <li>Poor continuity in antenna feeder.</li> <li>Poor connector connection of antenna or antenna feeder.</li> </ul>
	There is no malfunction in the CONSULT self-diagnosis result. Refer to <a href="#">AV-370, "CONSULT Function (MULTI AV)"</a> .	<ul style="list-style-type: none"> <li>Poor continuity in antenna feeder.</li> <li>Poor connector connection of antenna or antenna feeder.</li> <li>Loose antenna base mounting nut. Refer to <a href="#">AV-528, "Exploded View"</a>.</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-504, "Diagnosis Procedure"</a> .
Only specified switch cannot be operated.	Steering switch malfunction. Replace steering switch. Refer to <a href="#">ST-15, "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-500, "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-502, "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-483, "Diagnosis Procedure"</a> .
DVD image is not displayed.	—	Perform CONSULT self-diagnosis. Refer to <a href="#">AV-370, "CONSULT 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. Refer to <a href="#">AV-482, "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-478, "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.

## NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

### NORMAL OPERATING CONDITION

#### Description

INFOID:000000009061845

**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

[BOSE AUDIO WITH NAVIGATION]

< SYMPTOM DIAGNOSIS >

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 >

[BOSE AUDIO WITH 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/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.
Poor sound quality	Check if the CD is scratched or dirty.
	It takes a relatively long time before the music starts playing.
	Music cuts off or skips
	Skipping with high bit rate files
	Move immediately to the next song when playing
	The songs do not play back in the desired order.
	Poor reception only from a certain radio broadcast station.
	Buzz/rattle sound from speaker
It takes a relatively long time before the music starts playing.	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.)
	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.
	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 may occur with large quantities if data such as for high bit rate data.
	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 playback order is the order in which the files were written by the software, so the files might not play in the desired order.
	Check incoming radio wave signal strength of applicable broadcast station.
The majority of rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the rattle.	

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

**NOTE:**

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

**RELATED TO DVD**

Symptom	Possible cause	Possible solution
Not working as operated	Some operations may be rejected or may not function as intended because of the manufacturer's intent, depending on DVD.	This is not a malfunction.
Operation not accepted	If a requested operation is prohibited, then a message is displayed on the screen. (Message display depends on DVD.)	This is not a malfunction.

## NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

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 >

[BOSE AUDIO WITH NAVIGATION]

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 >

[BOSE AUDIO WITH NAVIGATION]

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 HANDS-FREE PHONE

Symptom	Cause and Counter measure
Does not recognize cellular phone connection. (No connection is displayed on the display at the guide.)	Some Bluetooth® enabled cellular phones may not be recognized by the in-vehicle phone module. Refer to "RELATED TO HANDS-FREE PHONE (Check Compatibility)" of MULTI AV SYSTEM SYMPTOM.
Cannot use hands-free phone	Customer will not be able to use a hands-free phone under the following conditions. <ul style="list-style-type: none"> <li>The vehicle is outside of the telephone service area.</li> <li>The vehicle is in an area where it is difficult to receive radio waves; such as in a tunnel, in an underground parking garage, near a tall building or in a mountainous area.</li> <li>The cellular phone is locked to prevent it from being dialed.</li> </ul> <b>NOTE:</b> While a cellular phone is connected through the Bluetooth® wireless connection, the battery power of the cellular phone may discharge quicker than usual. The Bluetooth® Hands-Free Phone System cannot charge cellular phones.
The other party's voice cannot be heard by hands-free phone.	When the radio wave condition is not ideal or ambient sound is too loud, it may be difficult to hear the other person's voice during a call.
Poor sound quality	Do not place the cellular phone in an area surrounded by metal or far away from the in-vehicle phone module to prevent tone quality degradation and wireless connection disruption.

### RELATED TO SONAR

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## NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[BOSE AUDIO WITH NAVIGATION]

Symptom	Possible cause
Unstable object detection	<ul style="list-style-type: none"><li>• The vehicle is on a rough surface, such as stone or gravel.</li><li>• When used in poor weather conditions, such as heavy snow/rain or strong wind.</li><li>• When subjected to an ultrasonic noise generated from exhaust muffler or brakes.</li><li>• When left standing in the hot sun or in a cold climate.</li><li>• When the surface of the sensor is frozen or covered with snow/dirt/moisture.</li><li>• When a retrofitted xenon lamp, lighted license plate, or harness is close to the sensor body or sensor harness.</li><li>• When subjected to loop coil noises generated from a vehicle detector placed at an intersection or coin parking area.</li></ul>
Object undetectable	<ul style="list-style-type: none"><li>• Air-containing objects, such as cloth, cotton, glass wool, dust, and snow.</li><li>• Thin objects, such as rope, chain, and wire.</li><li>• Smooth-faced objects placed in a slanting direction.</li><li>• Fast-moving small animals.</li><li>• A corner of an angular object.</li></ul> <p><b>NOTE:</b> If the sensor detection part is scratched, obstacles cannot be detected.</p>

# AV CONTROL UNIT

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITH NAVIGATION]

## REMOVAL AND INSTALLATION

### AV CONTROL UNIT

#### Exploded View

INFOID:000000009061846

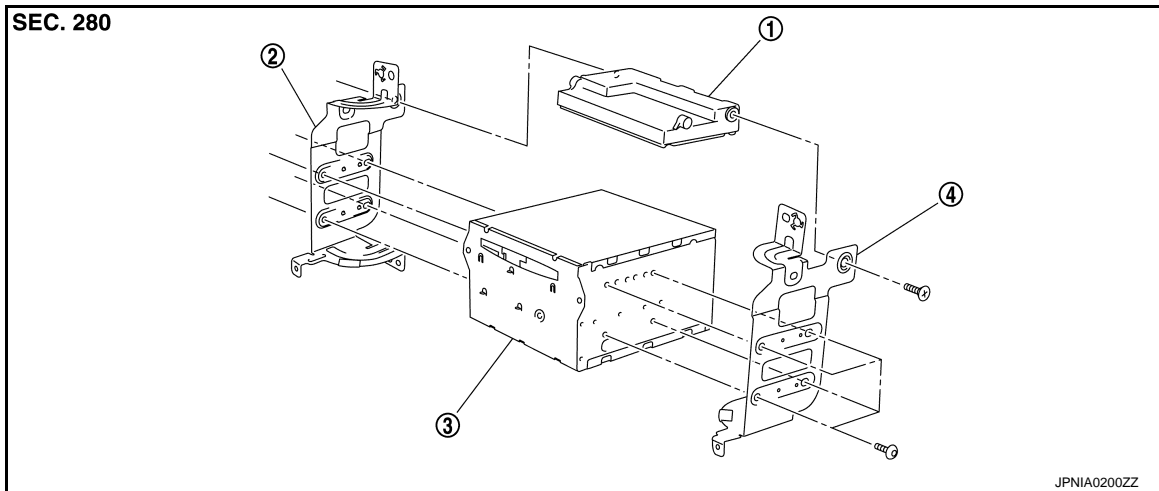
#### CAUTION:

Before replacing AV control unit, perform "Read/Write Configuration" to save or print current vehicle specification. For details, refer to [AV-425, "ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Work Procedure"](#).

#### REMOVAL

Refer to [IP-12, "Exploded View"](#).

#### DISASSEMBLY



1. Unified meter and A/C amp.
2. Bracket LH
3. AV control unit
4. Bracket RH

#### Removal and Installation

INFOID:000000009061847

#### REMOVAL

#### CAUTION:

Before replacing AV control unit, perform "Read/Write Configuration" to save or print current vehicle specification. For details, refer to [AV-425, "ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Work Procedure"](#).

1. Remove display unit. Refer to [AV-520, "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

Install in the reverse order of removal.

#### CAUTION:

- Be sure to perform "Read/Write Configuration" when replacing AV control unit. For details, refer to [AV-426, "CONFIGURATION \(AV CONTROL UNIT\) : Work Procedure"](#).
- Since AV control unit connector and unified meter and A/C amp. connector have the same form, be careful not to insert them wrongly.

# DISPLAY UNIT

< REMOVAL AND INSTALLATION >

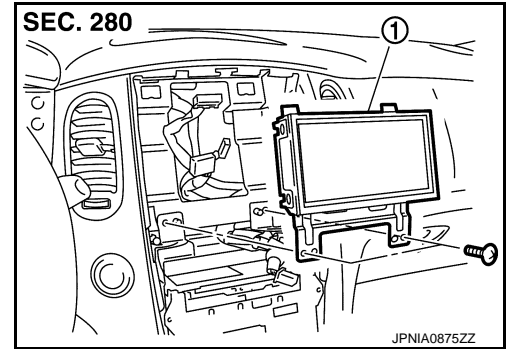
[BOSE AUDIO WITH NAVIGATION]

## DISPLAY UNIT

### Exploded View

INFOID:000000009061848

1. Display unit



INFOID:000000009061849

### Removal and Installation

#### REMOVAL

1. Remove cluster lid D. Refer to [IP-12, "Exploded View"](#).
2. Remove display unit mounting screws.
3. Remove display unit.

#### INSTALLATION

Install in the reverse order of removal.

# FRONT DOOR SPEAKER

< REMOVAL AND INSTALLATION >

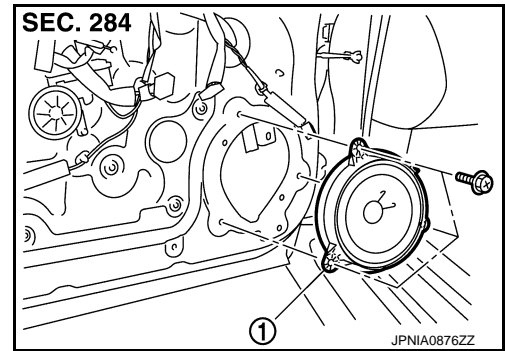
[BOSE AUDIO WITH NAVIGATION]

## FRONT DOOR SPEAKER

### Exploded View

INFOID:000000009061850

1. Front door speaker



### Removal and Installation

INFOID:000000009061851

#### REMOVAL

1. Remove front door finisher. Refer to [INT-11, "DRIVER SIDE : Exploded View"](#) (driver side) or [INT-14, "PASSENGER SIDE : Exploded View"](#) (passenger side).
2. Remove front door speaker mounting bolts, disconnect the front door speaker connector.
3. Remove front door speaker.

#### INSTALLATION

Install in the reverse order of removal.

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AV

## REAR DOOR SPEAKER

< REMOVAL AND INSTALLATION >

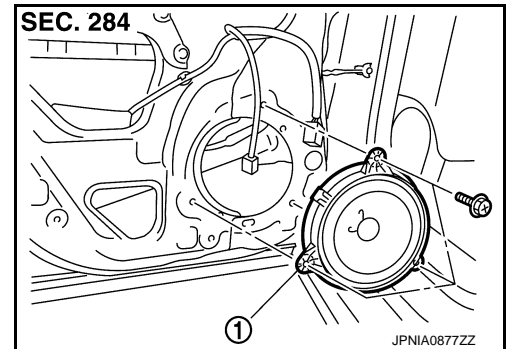
[BOSE AUDIO WITH NAVIGATION]

### REAR DOOR SPEAKER

#### Exploded View

INFOID:000000009061852

1. Rear door speaker



INFOID:000000009061853

#### Removal and Installation

##### REMOVAL

1. Remove rear door finisher. Refer to [INT-17, "Exploded View"](#).
2. Remove rear door speaker mounting bolts, disconnect the rear door speaker connector.
3. Remove rear door speaker.

##### INSTALLATION

Install in the reverse order of removal.

# FRONT SQUAWKER

< REMOVAL AND INSTALLATION >

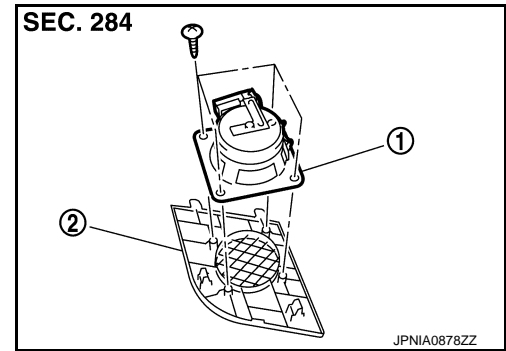
[BOSE AUDIO WITH NAVIGATION]

## FRONT SQUAWKER

### Exploded View

INFOID:000000009061854

1. Front squawker
2. Speaker grille



### Removal and Installation

INFOID:000000009061855

#### REMOVAL

1. Lift up the speaker grille with squawker. Refer to [IP-12, "Exploded View"](#).
2. Disconnect the front squawker connector.
3. Remove front squawker mounting screws.
4. Remove front squawker.

#### INSTALLATION

Install in the reverse order of removal.

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AV

# REAR SQUAWKER

< REMOVAL AND INSTALLATION >

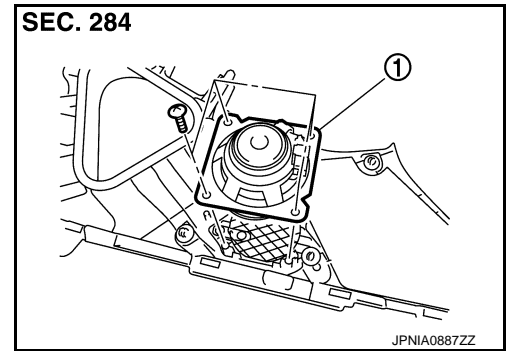
[BOSE AUDIO WITH NAVIGATION]

## REAR SQUAWKER

### Exploded View

INFOID:000000009061856

1. Rear squawker



### Removal and Installation

INFOID:000000009061857

#### REMOVAL

1. Remove luggage side finisher upper. Refer to [INT-36, "Exploded View"](#).
2. Remove rear squawker mounting screws.
3. Remove rear squawker.

#### INSTALLATION

Install in the reverse order of removal.



# CENTER SPEAKER

< REMOVAL AND INSTALLATION >

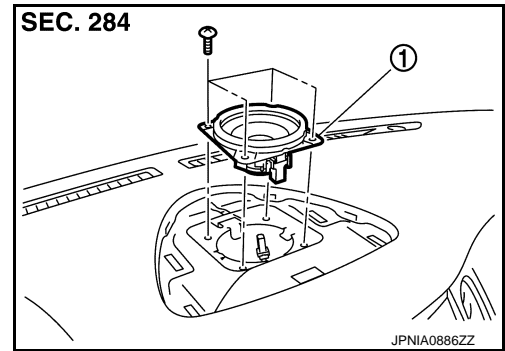
[BOSE AUDIO WITH NAVIGATION]

## CENTER SPEAKER

### Exploded View

INFOID:000000009061858

1. Center speaker



### Removal and Installation

INFOID:000000009061859

#### REMOVAL

1. Remove center speaker grille. Refer to [IP-12, "Exploded View"](#).
2. Remove center speaker mounting screws, lift up the center speaker and disconnect center speaker connector.
3. Remove center speaker.

#### INSTALLATION

Install in reverse order of removal.

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# WOOFER

< REMOVAL AND INSTALLATION >

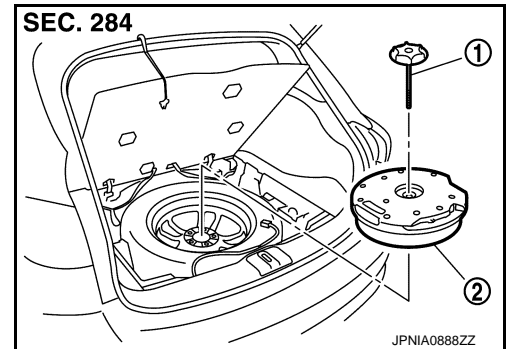
[BOSE AUDIO WITH NAVIGATION]

## WOOFER

### Exploded View

INFOID:000000009061860

1. Woofer clamp
2. Woofer



### Removal and Installation

INFOID:000000009061861

#### REMOVAL

1. Remove luggage finisher center. Refer to [INT-36, "Exploded View"](#).
2. Remove woofer clamp.
3. Remove harness clip and woofer connector.
4. Remove woofer.

#### INSTALLATION

Install in the reverse order of removal.

# BOSE AMP.

< REMOVAL AND INSTALLATION >

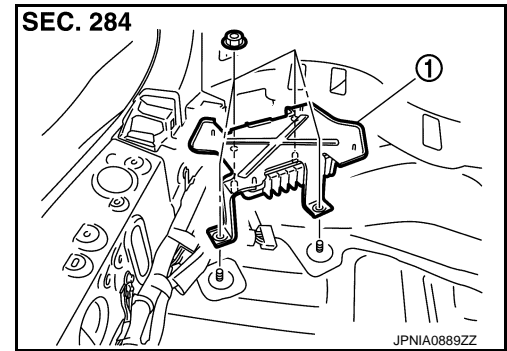
[BOSE AUDIO WITH NAVIGATION]

## BOSE AMP.

### Exploded View

INFOID:000000009061862

1. BOSE amp.



### Removal and Installation

INFOID:000000009061863

#### REMOVAL

1. Remove luggage floor spacer (LH). Refer to [INT-36, "Exploded View"](#).
2. Remove BOSE amp. mounting nuts.
3. Remove BOSE amp.

#### INSTALLATION

Install in reverse order of removal.

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# ANTENNA BASE

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITH NAVIGATION]

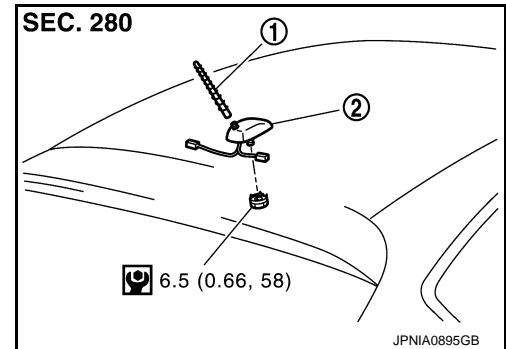
## ANTENNA BASE

### Exploded View

INFOID:000000009061864

1. Antenna rod
2. Antenna base

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



### Removal and Installation

INFOID:000000009061865

#### REMOVAL

1. Remove headlining (rear). Keep a service area. Refer to [INT-28, "NORMAL ROOF : Exploded View"](#) (normal roof) or [INT-32, "SUNROOF : Exploded View"](#) (sunroof).
2. Remove antenna base mounting nut.
3. Remove antenna base.

#### INSTALLATION

Install in 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 >

[BOSE AUDIO WITH NAVIGATION]

## MULTIFUNCTION SWITCH

### Exploded View

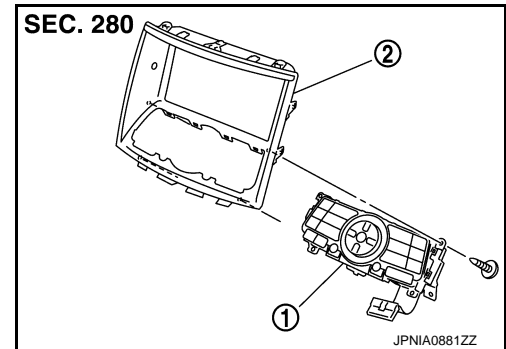
INFOID:000000009061866

#### REMOVAL

Refer to [IP-12, "Exploded View"](#).

#### DISASSEMBLY

1. Multifunction switch
2. Cluster lid D



### Removal and Installation

INFOID:000000009061867

#### REMOVAL

1. Remove cluster lid D. Refer to [IP-12, "Exploded View"](#).
2. Remove multifunction switch mounting screws.
3. Remove multifunction switch.

#### INSTALLATION

Install in the reverse order of removal.

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# PRESET SWITCH

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITH NAVIGATION]

## PRESET SWITCH

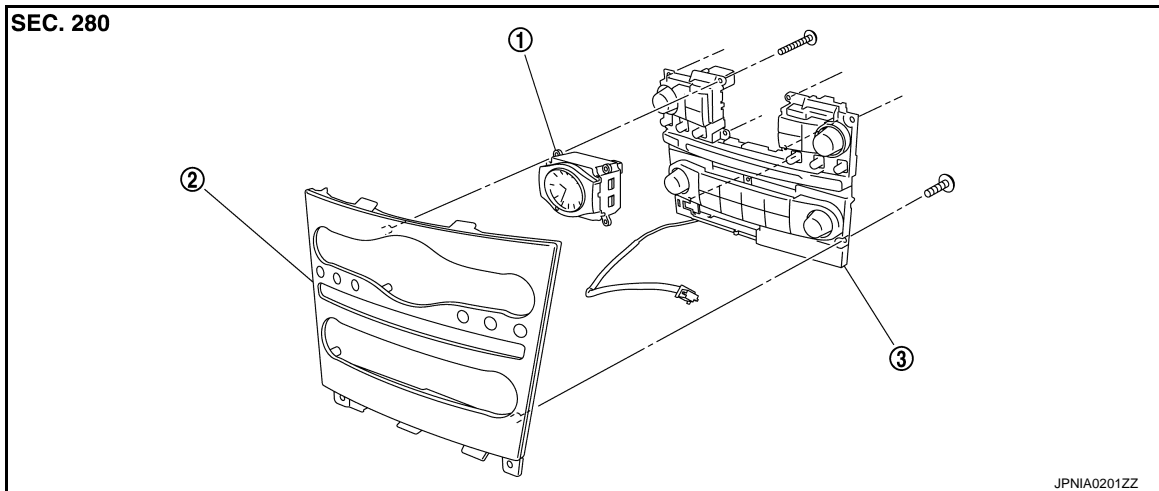
### Exploded View

INFOID:000000009061868

#### REMOVAL

Refer to [IP-12. "Exploded View"](#).

#### DISASSEMBLY



1. Clock

2. Cluster lid C

3. Preset switch

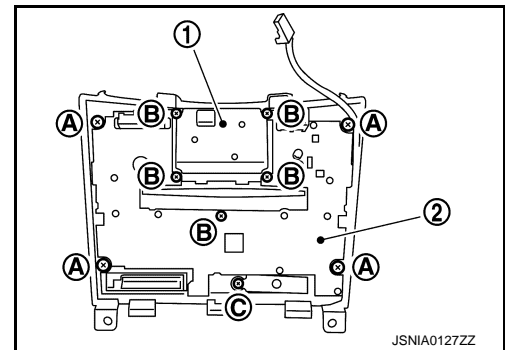
### Removal and Installation

INFOID:000000009061869

#### REMOVAL

1. Remove cluster lid C. Refer to [IP-12. "Exploded View"](#).
2. Remove preset switch mounting screws (A), (B) and (C).
3. Remove preset switch (2).

1. Clock
2. Preset switch



#### INSTALLATION

Install in the reverse order of removal.

#### NOTE:

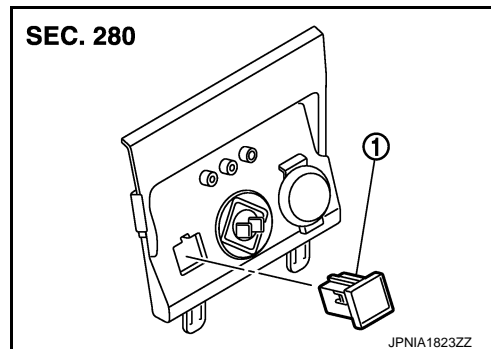
When installing preset switch, do not allow the print wire that connects preset switch and multifunction switch to get caught in between audio unit and preset switch.

## USB CONNECTOR

### Exploded View

INFOID:000000009061870

1. USB connector



### Removal and Installation

INFOID:000000009061871

#### REMOVAL

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

#### INSTALLATION

Install in the reverse order of removal.

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# MICROPHONE

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITH NAVIGATION]

## MICROPHONE

### Exploded View

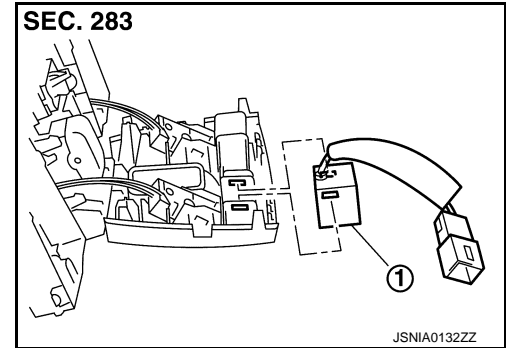
INFOID:000000009061872

### REMOVAL

Refer to [INT-28. "NORMAL ROOF : Exploded View"](#) (normal roof) or [INT-32. "SUNROOF : Exploded View"](#) (sunroof).

### DISASSEMBLY

1. Microphone



### Removal and Installation

INFOID:000000009061873

### REMOVAL

1. Remove map lamp assembly. Refer to [INT-28. "NORMAL ROOF : Exploded View"](#) (normal roof) or [INT-32. "SUNROOF : Exploded View"](#) (sunroof).
2. Remove microphone, stretching pawls of map lamp assembly.

### INSTALLATION

Install in the reverse order of removal.



# GPS ANTENNA

< REMOVAL AND INSTALLATION >

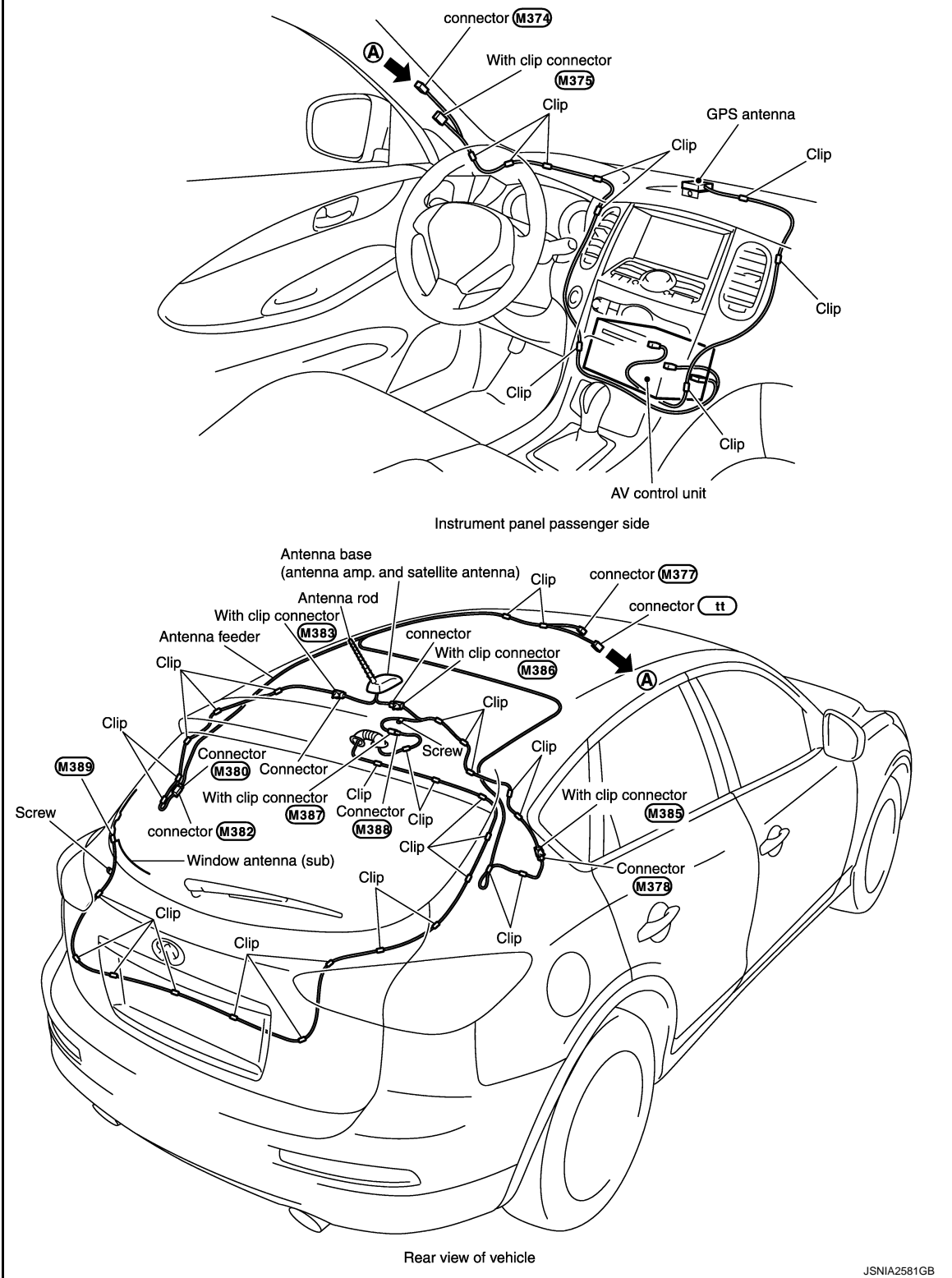
[BOSE AUDIO WITH NAVIGATION]

## GPS ANTENNA

### Feeder Layout

INFOID:000000009061874

SEC. 280



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# GPS ANTENNA

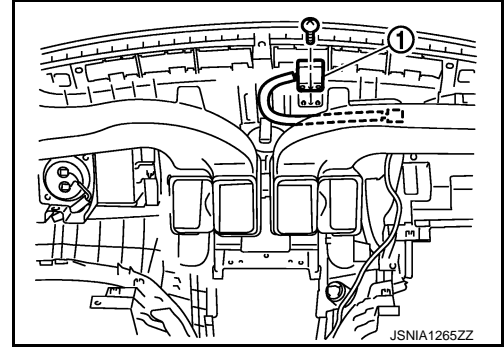
< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITH NAVIGATION]

## Exploded View

INFOID:000000009061875

1. GPS antenna



## Removal and Installation

INFOID:000000009061876

### REMOVAL

1. Remove instrument panel. Refer to [IP-12, "Exploded View"](#).
2. Remove GPS antenna mounting screw and disconnect GPS antenna connector.
3. Remove GPS antenna.

### INSTALLATION

Install in the reverse order of removal.

# AROUND VIEW MONITOR CONTROL UNIT

< REMOVAL AND INSTALLATION >

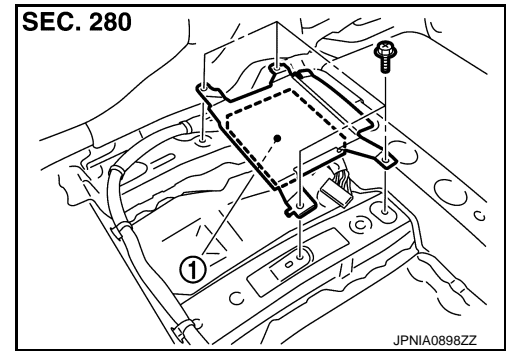
[BOSE AUDIO WITH NAVIGATION]

## AROUND VIEW MONITOR CONTROL UNIT

### Exploded View

INFOID:000000009061877

1. Around view monitor control unit



### Removal and Installation

INFOID:000000009061878

#### REMOVAL

1. Remove front seat (LH side). Refer to [SE-129, "Exploded View"](#).
2. Remove floor carpet. Keep a service area.
3. Remove around view monitor control unit.

#### INSTALLATION

1. Install in the reverse order of removal.
2. Perform camera image calibration. Refer to [AV-428, "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Work Procedure"](#).
3. Perform predictive course line center position adjustment. Refer to [AV-427, "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.

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# FRONT CAMERA

< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITH NAVIGATION]

## FRONT CAMERA

### Exploded View

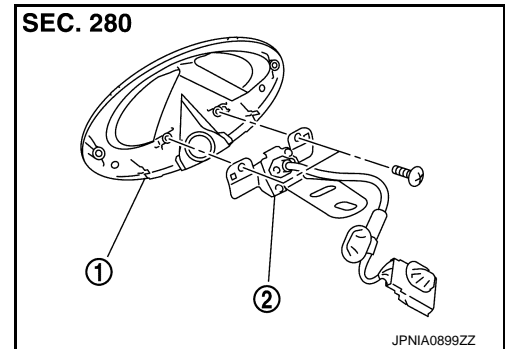
INFOID:000000009061879

#### REMOVAL

Refer to [EXT-20. "Exploded View"](#).

#### DISASSEMBLY

1. Front emblem
2. Front camera



### Removal and Installation

INFOID:000000009061880

#### REMOVAL

1. Remove harness clip and connector clip from front camera bracket.
2. Remove front emblem. Refer to [EXT-20. "Exploded View"](#).
3. Remove front emblem mounting screws.
4. Remove front camera.

#### INSTALLATION

1. Install in the reverse order of removal.
2. Perform camera image calibration. Refer to [AV-428. "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 >

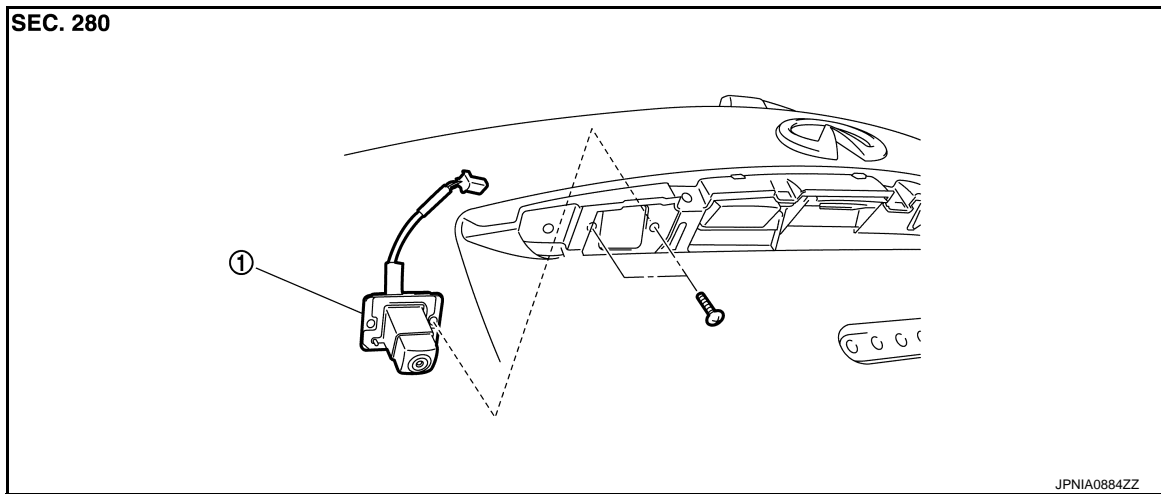
[BOSE AUDIO WITH NAVIGATION]

## REAR CAMERA

### Exploded View

INFOID:000000009061881

### DISASSEMBLY



1. Rear camera

### Removal and Installation

INFOID:000000009061882

#### REMOVAL

1. Remove back door finisher inner. Refer to [INT-40, "Exploded View"](#).
2. Remove back door outside finisher upper. Refer to [EXT-48, "Exploded View"](#).
3. Remove back door outside finisher lower. Refer to [EXT-48, "Exploded View"](#).
4. Remove rear camera mounting screws and rear camera harness connector.
5. Remove rear camera.

#### INSTALLATION

1. Install in the reverse order of removal.
2. Perform camera image calibration. Refer to [AV-428, "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.

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# SIDE CAMERA LH

< REMOVAL AND INSTALLATION >

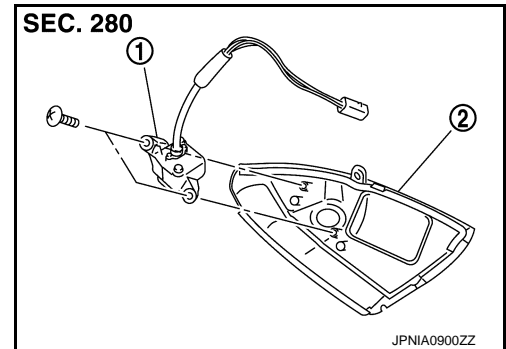
[BOSE AUDIO WITH NAVIGATION]

## SIDE CAMERA LH

### Exploded View

INFOID:000000009061883

1. Side camera (LH)
2. Side camera finisher assembly

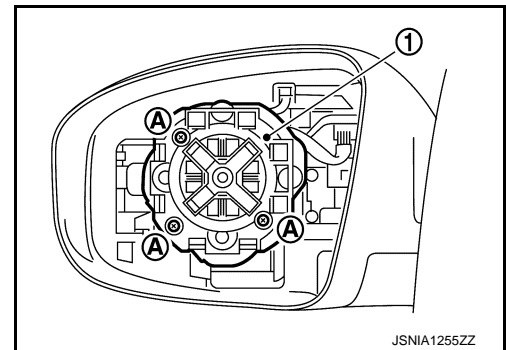


### Removal and Installation

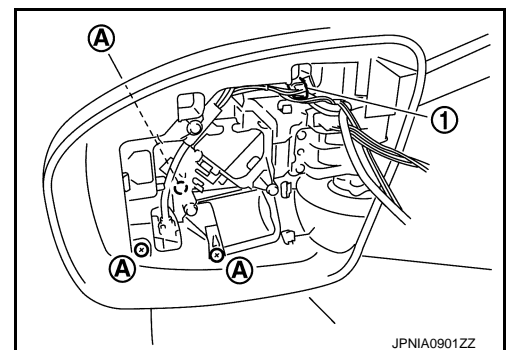
INFOID:000000009061884

#### REMOVAL

1. Remove door mirror glass (driver side). Refer to [MIR-121, "Exploded View"](#) (with ADP) or [MIR-141, "Exploded View"](#) (without ADP).
2. Remove screws (A), and door mirror actuator connector, and then door mirror actuator (1).



3. Remove door mirror under cover. Refer to [MIR-121, "Exploded View"](#) (with ADP) or [MIR-141, "Exploded View"](#) (without ADP).
4. Remove screws (A) and connector (1), and then remove side camera (LH).



#### INSTALLATION

1. Install in the reverse order of removal.
2. Perform camera image calibration. Refer to [AV-428, "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Work Procedure"](#).

#### CAUTION:

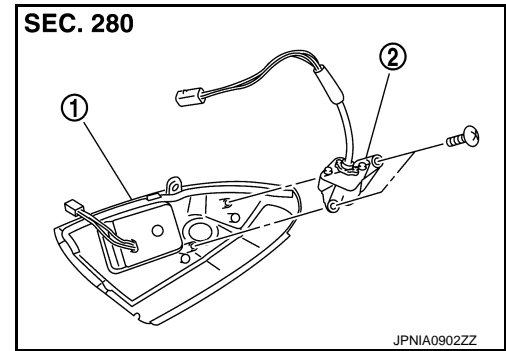
Perform the calibration and perform the writing to the around view monitor control unit when removing and replacing each camera, removing the camera mounting parts (front grille, door mirror, etc.) and replacing the around view monitor control unit.

## SIDE CAMERA RH

### Exploded View

INFOID:000000009061885

1. Side camera finisher assembly
2. Side camera (RH)

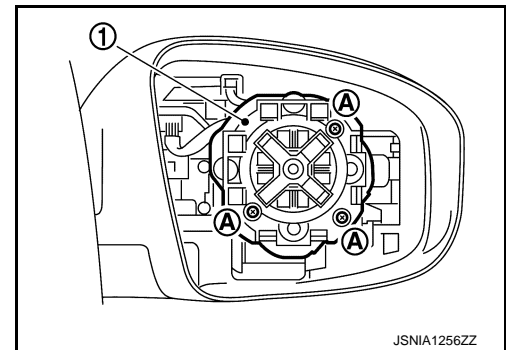


### Removal and Installation

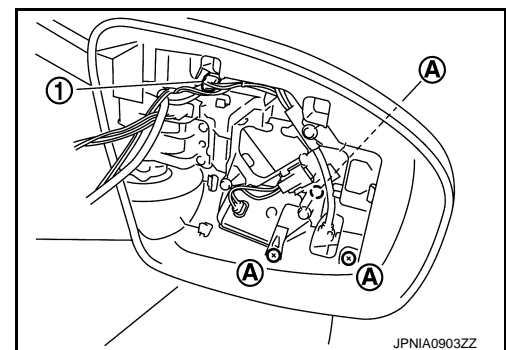
INFOID:000000009061886

#### REMOVAL

1. Remove door mirror glass (passenger side). Refer to [MIR-121, "Exploded View"](#) (with ADP) or [MIR-141, "Exploded View"](#) (without ADP).
2. Remove screws (A) and door mirror actuator connector, and then door mirror actuator (1).



3. Remove door mirror under cover. Refer to [MIR-121, "Exploded View"](#) (with ADP) or [MIR-141, "Exploded View"](#) (without ADP).
4. Remove screws (A) and connector (1), and then remove side camera (RH).



#### INSTALLATION

1. Install in the reverse order of removal.
2. Perform camera image calibration. Refer to [AV-428, "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.

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# SONAR CONTROL UNIT (WITH AROUND VIEW MONITOR)

< REMOVAL AND INSTALLATION >

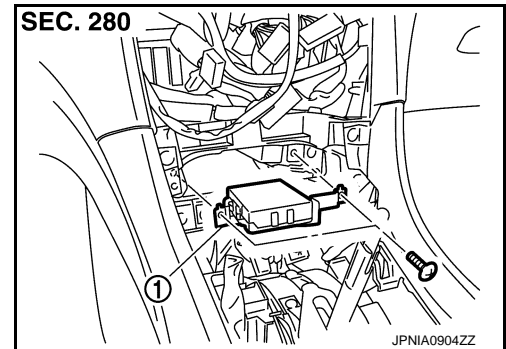
[BOSE AUDIO WITH NAVIGATION]

## SONAR CONTROL UNIT (WITH AROUND VIEW MONITOR)

### Exploded View

INFOID:000000009061887

1. Sonar control unit



### Removal and Installation

INFOID:000000009061888

#### REMOVAL

1. Remove AV control unit. Refer to [AV-519, "Exploded View"](#).
2. Remove screws and connector, and then sonar control unit.

#### INSTALLATION

Install in the reverse order of removal.

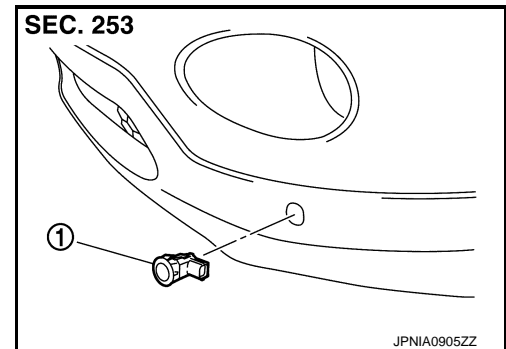


## SONAR SENSOR FRONT

### FRONT : Exploded View

INFOID:000000009061889

1. Sonar sensor (front)

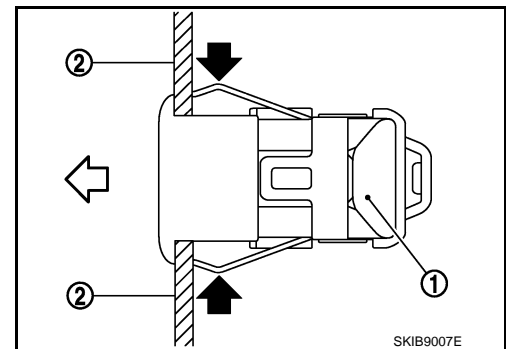


### FRONT : Removal and Installation

INFOID:000000009061890

#### REMOVAL

1. Remove fender protector. Keep a service area. Refer to [EXT-25, "FENDER PROTECTOR : Exploded View"](#).
2. Remove sonar sensor connector.
3. Push the sonar sensor (1) outside (direction of white arrow) the front bumper (2), pressing the metal clips on the back to the direction of black arrows.



#### INSTALLATION

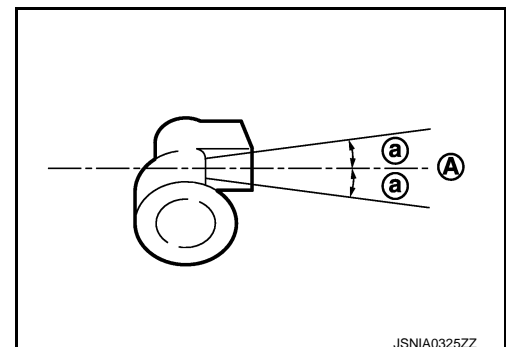
Install the bumper when the pawl engages.

**CAUTION:**

The connector direction is within  $\pm 10^\circ$  from the horizontal position when assembling the bumper.

**A** : Horizontal position

**a** :  $10^\circ$



### REAR

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# SONAR SENSOR

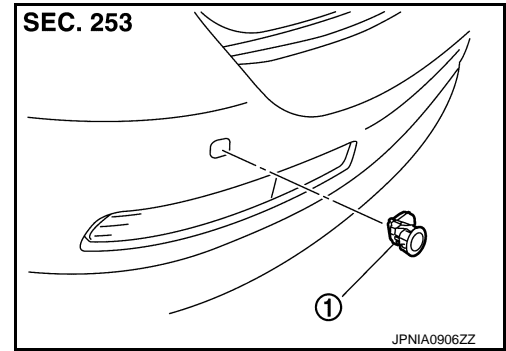
< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITH NAVIGATION]

## REAR : Exploded View

INFOID:000000009061891

1. Sonar sensor (rear)

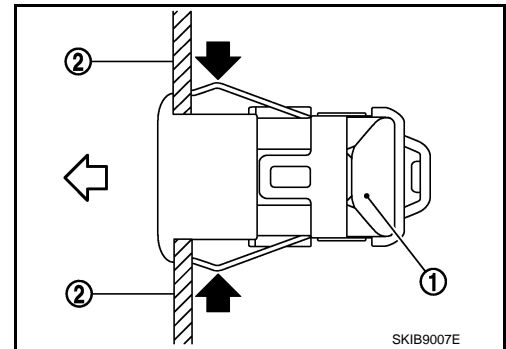


## REAR : Removal and Installation

INFOID:000000009061892

### REMOVAL

1. Remove sonar sensor connector.
2. Push the sonar sensor (1) outside (direction of white arrow) the rear bumper (2), pressing the metal clips on the back to the direction of black arrows.



### INSTALLATION

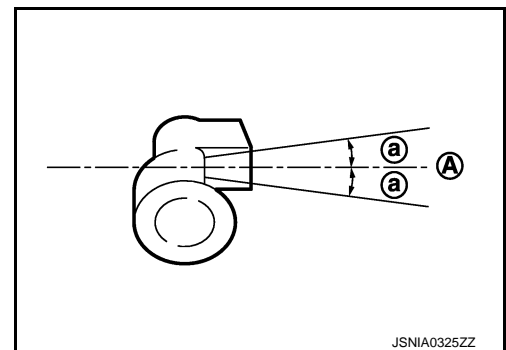
Install the bumper when the pawl engages.

#### 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

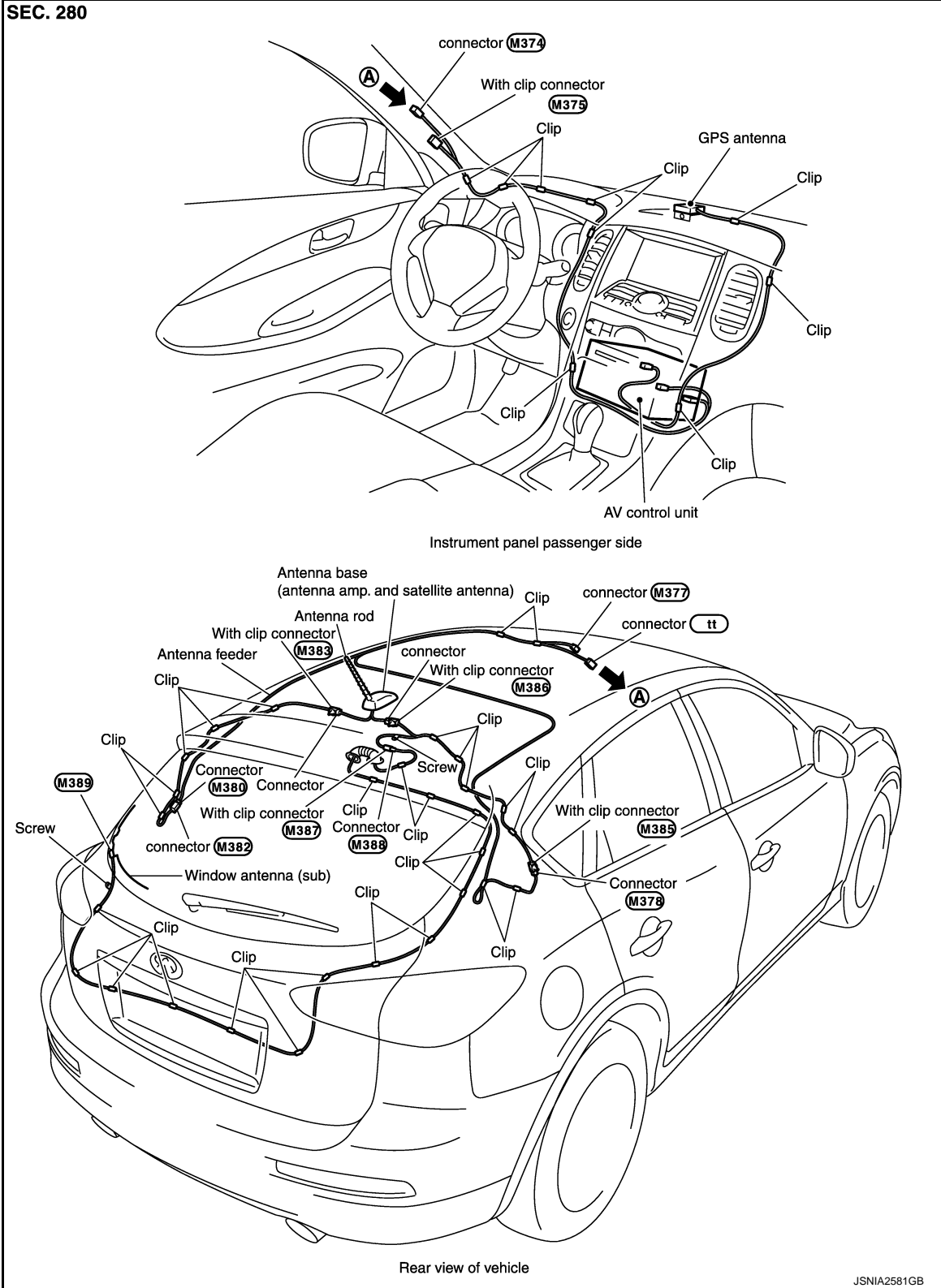
< REMOVAL AND INSTALLATION >

[BOSE AUDIO WITH NAVIGATION]

## ANTENNA FEEDER

### Feeder Layout

INFOID:000000009061893



JSNIA2581GB

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