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Precautions for Supplemental Restraint System (SRS) “AIR BAG” and “SEAT BELT PRE-TENSIONER”

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 and SB section of this Service Manual.

WARNING:

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

<table>
<thead>
<tr>
<th>Tool name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power tool</td>
<td>Loosening bolts and nuts</td>
</tr>
</tbody>
</table>

![Power tool image](PBIC0191E)
System Description

BASE SYSTEM

For Audio System operation information, refer to Owner's Manual.

Power is supplied at all times

- through 15A fuse [No. 38, located in the fuse and fusible link block]
- to audio unit terminal 6
- to display control unit terminal 1
- to A/C and AV switch terminal 1
- to satellite radio tuner terminal 22 (With satellite radio)
- to option connector for DVD terminal 1.

With the ignition switch in the ACC or ON position, power is supplied

- through 10A fuse [No. 6, located in the fuse block (J/B)]
- to audio unit terminal 10
- to display control unit terminal 10
- to A/C and AV switch terminal 2
- to satellite radio tuner terminal 26 (With satellite radio)
- to option connector for DVD terminal 2.

Ground is supplied through the case of the audio unit.

- to A/C and AV switch terminal 5
- to display control unit terminal 3
- to display terminal 1
- to option connector for DVD terminal 3
- through body grounds M14 and M78.

Audio unit and A/C and AV switch are connected by FPC (Flexible Print Circuit).

A/C and audio controller integrates A/C switches and audio switches.

When A/C and audio controller is pressed to audio switch, it sends audio signal to audio unit. Then audio signals are supplied

- through audio unit terminals 1, 2, 3, 4, 13, 14, 15, and 16
- to terminals 1 and 2 of front door speaker LH and RH
- to terminals 1 and 2 of rear door speaker LH and RH
- to terminals 1 and 2 of tweeter LH and RH.

When one of audio steering switch is pressed to volume up, seek up, or mode ON, resistance in audio steering switch circuit changes depending on which button is pressed.

When one of audio steering switch is pressed to volume down, seek down, or power ON, resistance in audio steering switch circuit changes depending on which button is pressed.

BOSE SYSTEM

For Audio System operation information, refer to Owner's Manual.

Power is supplied at all times

- through 15A fuse [No. 38, located in the fuse and fusible link block]
- to audio unit terminal 6
- to BOSE speaker amp. terminal 1
- to A/C and AV switch terminal 1
- to display control unit terminal 1
- to satellite radio tuner terminal 22 (With satellite radio)
- to option connector for DVD terminal 1.

With the ignition switch in the ACC or ON position, power is supplied

- through 10A fuse [No. 6, located in the fuse block (J/B)]
- to audio unit terminal 10


**AUDIO**

- to A/C and AV switch terminal 2
- to display control unit terminal 10
- to satellite radio tuner terminal 26 (With satellite radio)
- to option connector for DVD terminal 2.

Ground is supplied through the case of the audio unit.

Ground is also supplied
- to BOSE speaker amp. terminal 17
- through body grounds B105 and B116,
- to A/C and AV switch terminal 5
- to display control unit terminal 3
- to display terminal 1
- to option connector for DVD terminal 3
- through body grounds M14 and M78.

Audio unit and A/C and AV switch are connected by FPC (Flexible Print Circuit).

A/C and audio controller integrates A/C switches and audio switches.

When A/C and audio controller is pressed to audio switch, it sends audio signal to audio unit.

Then audio signals are supplied
- through audio unit terminals 1, 2, 3, 4, 13, 14, 15, and 16
- to BOSE speaker amp. terminals 23, 24, 25, 26, 27, 28, 29, and 30.

Audio signals are amplified by the BOSE speaker amp.

The amplified audio signals are supplied
- through BOSE speaker amp. terminals 2, 3, 9, 10, 11, 12, 13, 14, 15, 16, 18, and 19
- to terminals 1 and 2 of front door speaker LH and RH
- to terminals 1 and 2 of rear door speaker LH and RH
- to terminals 1 and 2 of tweeter LH and RH
- to terminals 2, 3, 4 and 6 of woofer.

When one of audio steering switch is pressed to volume up, seek up, or mode ON, resistance in audio steering switch circuit changes depending on which button is pressed.

When one of audio steering switch is pressed to volume down, seek down, or power ON, resistance in audio steering switch circuit changes depending on which button is pressed.

**SPEED SENSITIVE VOLUME SYSTEM**

Volume level of this system goes up and down automatically in proportion to the vehicle speed. And the control level can be selected by the customer. This system is equipped for BOSE system.
Component Parts Location

- Audio steering switch
- Display control unit
- A/C and AV switch
- Display
- Satellite radio antenna
- Front door speaker LH
- Rear door speaker LH
- Satellite radio tuner
- Woofer
- BOSE speaker amp.
- Tweeter LH
- Front door speaker RH
- Rear door speaker RH
- Audio unit

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AV-12

AV-AUDIO-02

*This connector is not shown in "harness layout", PG section.
AV-AUDIO-03

IGNITION SWITCH
ON OR START

10A
FUSE BLOCK
(J/B)

REFER TO PG-POWER.

TO AV-AUDIO-01

P/B

Y

G

TO AV-AUDIO-06

P/B

Y

D

<Diagram>

AV

AV-AUDIO-03

DATA LINE

A/C AND AV SWITCH
(M49)

DISPLAY CONTROL
UNIT
(M42, M43)

DISPLAY
(M40)

AUDIO UNIT
(M40)

REFER TO THE FOLLOWING.

MT-9 FUSE BLOCK-JUNCTION BOX (J/B)

Revision: 2006 August
2006 Murano
*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.
*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.
GENERAL INFORMATION

- THIS CONNECTOR IS NOT SHOWN IN “HARNESS LAYOUT”, PG SECTION.

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2006 Murano
*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.
## Terminals and Reference Value for Audio Unit for Base System

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<th>Condition</th>
<th>Reference value</th>
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<td></td>
<td>Ignition switch</td>
<td>Operation</td>
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<td>2 (W) 1 (B)</td>
<td>Audio signal front door speaker LH</td>
<td>Output</td>
<td>ON</td>
<td>Receive audio signal</td>
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<tr>
<td>4 (Y) 3 (BR)</td>
<td>Audio signal front door speaker RH</td>
<td>Output</td>
<td>ON</td>
<td>Receive audio signal</td>
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<tr>
<td>5 (G) Ground</td>
<td>Antenna amp. ON signal</td>
<td>Output</td>
<td>ON</td>
<td>—</td>
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<td>6 (Y) Ground</td>
<td>Battery power supply</td>
<td>Input</td>
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<td>—</td>
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<td>ACC power supply</td>
<td>Input</td>
<td>ACC</td>
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<td>Output</td>
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<td>Audio signal rear door speaker RH</td>
<td>Output</td>
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<td>Input</td>
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<td>Operate audio volume switch</td>
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<td>44 (B)</td>
<td>Satellite radio audio signal RH</td>
<td>Input ON</td>
<td>Receive satellite radio audio signal</td>
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<td>43 (W)</td>
<td>Satellite radio audio signal RH</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>45</td>
<td>Shield</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>46</td>
<td>Shield</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>48 (L)</td>
<td>Communication signal REQ (SAT-AUDIO)</td>
<td>Input ON</td>
<td>When setting to satellite radio mode</td>
</tr>
<tr>
<td></td>
<td>49 (Y)</td>
<td>Communication signal Rx (SAT-AUDIO)</td>
<td>Input ON</td>
<td>When setting to satellite radio mode</td>
</tr>
<tr>
<td></td>
<td>50 (BR)</td>
<td>Communication signal Tx (AUDIO-SAT)</td>
<td>Output ON</td>
<td>When setting to satellite radio mode</td>
</tr>
</tbody>
</table>
## Terminals and Reference Value for Audio Unit for BOSE System

<table>
<thead>
<tr>
<th>Terminal (Wire color)</th>
<th>Item</th>
<th>Signal input/ output</th>
<th>Condition</th>
<th>Reference value</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>–</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 (W)</td>
<td>Audio signal front LH</td>
<td>Output</td>
<td>ON</td>
<td>Receive audio signal</td>
</tr>
<tr>
<td>4 (Y)</td>
<td>Audio signal front RH</td>
<td>Output</td>
<td>ON</td>
<td>Receive audio signal</td>
</tr>
<tr>
<td>5 (G)</td>
<td>Ground</td>
<td>Output</td>
<td>ON</td>
<td>—</td>
</tr>
<tr>
<td>6 (Y)</td>
<td>Battery power supply</td>
<td>Input</td>
<td>OFF</td>
<td>Battery voltage</td>
</tr>
<tr>
<td>9</td>
<td>Shield</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>10 (P/B)</td>
<td>Ground</td>
<td>Input</td>
<td>ACC</td>
<td>Battery voltage</td>
</tr>
<tr>
<td>12 (G/W)</td>
<td>Ground</td>
<td>Output</td>
<td>ON</td>
<td>Approx. 12 V</td>
</tr>
<tr>
<td>14 (O)</td>
<td>Audio signal rear LH</td>
<td>Output</td>
<td>ON</td>
<td>Receive audio signal</td>
</tr>
<tr>
<td>16 (L)</td>
<td>Audio signal rear RH</td>
<td>Output</td>
<td>ON</td>
<td>Receive audio signal</td>
</tr>
<tr>
<td>21 (R/Y)</td>
<td>Ground</td>
<td>Output</td>
<td>ON</td>
<td>Operate audio volume switch</td>
</tr>
<tr>
<td>23 (R/G)</td>
<td>Ground</td>
<td>Input</td>
<td>ON</td>
<td>Operate audio volume switch</td>
</tr>
</tbody>
</table>

**AV-33**

Revision: 2006 August

2006 Murano
## AUDIO

<table>
<thead>
<tr>
<th>Terminal (Wire color)</th>
<th>Item</th>
<th>Signal input/output</th>
<th>Condition</th>
<th>Reference value</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>–</td>
<td></td>
<td>Ignition switch</td>
<td>Operation</td>
</tr>
<tr>
<td>25</td>
<td>Shield</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>35</td>
<td>Shield*</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>36 (L/G)</td>
<td>34 (L/R)</td>
<td>Voice guidance signal*</td>
<td>Input</td>
<td>ON</td>
</tr>
<tr>
<td>42 (R)</td>
<td>41 (G)</td>
<td>Satellite radio audio signal LH</td>
<td>Input</td>
<td>ON</td>
</tr>
<tr>
<td>44 (B)</td>
<td>43 (W)</td>
<td>Satellite radio audio signal RH</td>
<td>Input</td>
<td>ON</td>
</tr>
<tr>
<td>45</td>
<td>Shield</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>46</td>
<td>Shield</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>48 (L)</td>
<td>Ground</td>
<td>Communication signal REQ (SAT-AUDIO)</td>
<td>Input</td>
<td>ON</td>
</tr>
<tr>
<td>49 (Y)</td>
<td>Ground</td>
<td>Communication signal Rx (SAT-AUDIO)</td>
<td>Input</td>
<td>ON</td>
</tr>
<tr>
<td>50 (BR)</td>
<td>Ground</td>
<td>Communication signal Tx (AUDIO-SAT)</td>
<td>Output</td>
<td>ON</td>
</tr>
</tbody>
</table>

*: With navigation system
## AUDI0

### Terminals and Reference Value for BOSE Speaker Amp.

<table>
<thead>
<tr>
<th>Terminal (Wire color)</th>
<th>Item</th>
<th>Signal input/output</th>
<th>Condition</th>
<th>Reference value</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>-</td>
<td></td>
<td>Ignition switch</td>
<td>Operation</td>
</tr>
<tr>
<td>1 (Y) Ground</td>
<td>Battery power supply</td>
<td>Input</td>
<td>OFF</td>
<td>—</td>
</tr>
<tr>
<td>9 (G/W)</td>
<td>10 (G)</td>
<td>Audio signal rear door speaker LH</td>
<td>Output</td>
<td>ON</td>
</tr>
<tr>
<td>11 (L)</td>
<td>12 (R)</td>
<td>Audio signal rear door speaker RH</td>
<td>Output</td>
<td>ON</td>
</tr>
<tr>
<td>13 (L/R)</td>
<td>14 (L/B)</td>
<td>Audio signal front door speaker LH</td>
<td>Output</td>
<td>ON</td>
</tr>
<tr>
<td>15 (W/B)</td>
<td>16 (G/B)</td>
<td>Audio signal front door speaker RH</td>
<td>Output</td>
<td>ON</td>
</tr>
<tr>
<td>17 (B) Ground</td>
<td>Ground</td>
<td>—</td>
<td>ON</td>
<td>—</td>
</tr>
<tr>
<td>18 (W)</td>
<td>2 (B)</td>
<td>Audio signal woofer 1</td>
<td>Output</td>
<td>ON</td>
</tr>
<tr>
<td>19 (B/P)</td>
<td>3 (O)</td>
<td>Audio signal woofer 2</td>
<td>Output</td>
<td>ON</td>
</tr>
</tbody>
</table>
## AUDIO

<table>
<thead>
<tr>
<th>Terminal (Wire color)</th>
<th>Item</th>
<th>Signal input/output</th>
<th>Condition</th>
<th>Reference value</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>23 (B/W)</td>
<td>Audio signal rear RH</td>
<td>Input ON</td>
<td>Receive audio signal</td>
</tr>
<tr>
<td>–</td>
<td>24 (L)</td>
<td></td>
<td></td>
<td>(V)</td>
</tr>
<tr>
<td></td>
<td>25 (Y)</td>
<td>Audio signal rear LH</td>
<td>Input ON</td>
<td>Receive audio signal</td>
</tr>
<tr>
<td>26 (O)</td>
<td>28 (Y)</td>
<td>Audio signal front RH</td>
<td>Input ON</td>
<td>Receive audio signal</td>
</tr>
<tr>
<td>27 (BR)</td>
<td>30 (W)</td>
<td>Audio signal front LH</td>
<td>Input ON</td>
<td>Receive audio signal</td>
</tr>
<tr>
<td>31 (G/W)</td>
<td>Ground</td>
<td>BOSE speaker amp. ON signal</td>
<td>Input ON</td>
<td>Approx. 12 V</td>
</tr>
</tbody>
</table>

### Reference value

- **ON signal**: Input ON — Approx. 12 V
## Terminals and Reference Value for A/C and AV Switch

<table>
<thead>
<tr>
<th>Terminal (Wire color)</th>
<th>Item</th>
<th>Signal input/output</th>
<th>Condition</th>
<th>Reference value</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td></td>
<td></td>
<td>Ignition switch</td>
<td>Operation</td>
</tr>
<tr>
<td>1 (Y)</td>
<td>Ground</td>
<td>Battery power supply</td>
<td>Input</td>
<td>OFF</td>
</tr>
<tr>
<td>2 (P/B)</td>
<td>Ground</td>
<td>ACC power supply</td>
<td>Input</td>
<td>ACC</td>
</tr>
<tr>
<td>3 (R/L)</td>
<td>Ground</td>
<td>Illumination signal</td>
<td>Input</td>
<td>ON</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 (R/W)</td>
<td>Ground</td>
<td>Illumination control signal</td>
<td>Input</td>
<td>ON</td>
</tr>
<tr>
<td>5 (B)</td>
<td>Ground</td>
<td>Ground</td>
<td>—</td>
<td>ON</td>
</tr>
<tr>
<td>6 (L/G)</td>
<td>Ground</td>
<td>Communication signal (+)</td>
<td>Input/Output</td>
<td>ON</td>
</tr>
<tr>
<td>7</td>
<td>Shield</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>8 (L/R)</td>
<td>Ground</td>
<td>Communication signal (−)</td>
<td>Input/Output</td>
<td>ON</td>
</tr>
<tr>
<td>12 (R)</td>
<td>Ground</td>
<td>Remote control A</td>
<td>Input</td>
<td>ON</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13 (G)</td>
<td>Ground</td>
<td>Remote control B</td>
<td>Input</td>
<td>ON</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14 (B/W)</td>
<td>Ground</td>
<td>Remote control ground</td>
<td>—</td>
<td>ON</td>
</tr>
</tbody>
</table>
### Terminals and Reference Value for Satellite Radio Tuner

<table>
<thead>
<tr>
<th>Terminal (Wire color)</th>
<th>Item</th>
<th>Signal input/output</th>
<th>Condition</th>
<th>Reference value</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ –</td>
<td></td>
<td></td>
<td>Ignition switch</td>
<td>Operation</td>
</tr>
<tr>
<td>12 (R) 11 (G)</td>
<td>Satellite radio audio signal LH</td>
<td>Output</td>
<td>ON</td>
<td>Receive satellite radio audio signal</td>
</tr>
<tr>
<td>14 (B) 13 (W)</td>
<td>Satellite radio audio signal RH</td>
<td>Output</td>
<td>ON</td>
<td>Receive satellite radio audio signal</td>
</tr>
<tr>
<td>15 –</td>
<td>Shield</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>16 –</td>
<td>Shield</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>18 (L) Ground</td>
<td>Communication signal REQ (SAT-AUDIO)</td>
<td>Output</td>
<td>ON</td>
<td>When setting to satellite radio mode</td>
</tr>
<tr>
<td>19 (P) Ground</td>
<td>Communication signal Tx (SAT-AUDIO)</td>
<td>Output</td>
<td>ON</td>
<td>When setting to satellite radio mode</td>
</tr>
<tr>
<td>20 (L) Ground</td>
<td>Communication signal Rx (AUDIO-SAT)</td>
<td>Input</td>
<td>ON</td>
<td>When setting to satellite radio mode</td>
</tr>
<tr>
<td>22 (Y) Ground</td>
<td>Battery power supply</td>
<td>Input</td>
<td>OFF</td>
<td>—</td>
</tr>
<tr>
<td>26 (LG) Ground</td>
<td>ACC power supply</td>
<td>Input</td>
<td>ACC</td>
<td>—</td>
</tr>
<tr>
<td>27 –</td>
<td>Satellite radio antenna</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>
A/C and AV Switch Self-Diagnosis Function

Performing self-diagnosis makes it possible to check operation of A/C and AV switch indicator (LED) and other switch.

STARTING THE SELF-DIAGNOSIS MODE
1. Turn ignition switch from OFF to ACC.
2. Within 10 seconds press and hold the switches “1” and “6” simultaneously for 3 seconds.

DIAGNOSIS FUNCTION
The following are checked:
- All the indicators (LED) in the A/C and AV switch.
- Continuity of the switches by sounding the buzzer when the A/C and AV switch and audio steering switch is pressed.
- Continuity of harness between A/C and AV switch and audio steering switch.

NOTE:
Impossible to check rear window defogger switch operation (No beep sound even under normal status).

EXITING THE SELF-DIAGNOSIS MODE
- Turn ignition switch OFF.
## AUDIO

### Trouble Diagnosis

- 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.
- Make sure that other operation except audio system can be performed with A/C and AV switch. If these operations are inoperative with A/C and AV switch, refer to **AV-107, "Unable to Operate System with A/C and AV Switch"** (Without navigation system), or **AV-179, "Unable to Operate System with A/C and AV Switch"** (With navigation system).
- Refer to “SERVICE BULLETIN NTB04-119” for the diagnosis of satellite radio.

### Symptom Possible malfunction location

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Possible malfunction location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audio system does not work properly.</td>
<td>- Audio unit power supply circuit</td>
</tr>
<tr>
<td></td>
<td>- Communication signal circuit between audio unit and display control unit</td>
</tr>
<tr>
<td></td>
<td>- A/C and AV switch</td>
</tr>
<tr>
<td></td>
<td>- Audio unit</td>
</tr>
<tr>
<td>No sound can be heard from all speakers.</td>
<td><strong>Base system</strong></td>
</tr>
<tr>
<td></td>
<td>- Audio unit</td>
</tr>
<tr>
<td>No sound can be heard from one or several speakers.</td>
<td><strong>BOSE system</strong></td>
</tr>
<tr>
<td></td>
<td>- BOSE speaker amp. power supply and ground circuit</td>
</tr>
<tr>
<td></td>
<td>- BOSE speaker amp. ON signal circuit</td>
</tr>
<tr>
<td></td>
<td>- Audio unit</td>
</tr>
<tr>
<td></td>
<td>- BOSE speaker amp.</td>
</tr>
<tr>
<td>No sound can be heard from woofer.</td>
<td><strong>BOSE system</strong></td>
</tr>
<tr>
<td></td>
<td>- Audio signal circuit between audio unit and BOSE speaker amp.</td>
</tr>
<tr>
<td></td>
<td>- Audio signal circuit between BOSE speaker amp. and speaker</td>
</tr>
<tr>
<td></td>
<td>- Speaker</td>
</tr>
<tr>
<td></td>
<td>- Tweeter</td>
</tr>
<tr>
<td></td>
<td>- Audio unit</td>
</tr>
<tr>
<td></td>
<td>- BOSE speaker amp.</td>
</tr>
<tr>
<td>No sound can be heard from radio or noise is caught.</td>
<td><strong>Base system</strong></td>
</tr>
<tr>
<td></td>
<td>- Audio signal circuit between audio unit and speaker</td>
</tr>
<tr>
<td></td>
<td>- Speaker</td>
</tr>
<tr>
<td></td>
<td>- Tweeter</td>
</tr>
<tr>
<td></td>
<td>- Audio unit</td>
</tr>
<tr>
<td>No sound can be heard from radio or noise is caught.</td>
<td><strong>BOSE system</strong></td>
</tr>
<tr>
<td></td>
<td>- Audio signal circuit between BOSE speaker amp. and woofer</td>
</tr>
<tr>
<td></td>
<td>- Speaker</td>
</tr>
<tr>
<td></td>
<td>- Tweeter</td>
</tr>
<tr>
<td></td>
<td>- Audio unit</td>
</tr>
<tr>
<td></td>
<td>- BOSE speaker amp.</td>
</tr>
<tr>
<td>Audio steering switch does not operate properly.</td>
<td><strong>Base system</strong></td>
</tr>
<tr>
<td></td>
<td>- Remote control signal circuit between audio steering switch and A/C and AV switch</td>
</tr>
<tr>
<td></td>
<td>- Audio steering switch</td>
</tr>
<tr>
<td></td>
<td>- Spiral cable</td>
</tr>
<tr>
<td></td>
<td>- A/C and AV switch</td>
</tr>
</tbody>
</table>
NOTE:
Noise resulting from variations in field strength, such as fading noise and multi-path noise, or external noise from trains and other sources. It is not a malfunction.

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

**1. CHECK FUSE**

Make sure that the following fuses of the audio unit and BOSE speaker amp. are not blown.

<table>
<thead>
<tr>
<th>Unit</th>
<th>Signal</th>
<th>Fuse No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audio unit</td>
<td>Battery power supply</td>
<td>38</td>
</tr>
<tr>
<td></td>
<td>Ignition switch ACC or ON</td>
<td>6</td>
</tr>
<tr>
<td>BOSE speaker amp.</td>
<td>Battery power supply</td>
<td>38</td>
</tr>
</tbody>
</table>

OK or NG

OK  >> GO TO 2.
NG  >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to PG-3, “POWER SUPPLY ROUTING CIRCUIT”.

**2. CHECK POWER SUPPLY CIRCUIT**

1. Check voltage between audio unit harness connector terminals and ground.

<table>
<thead>
<tr>
<th>Terminals</th>
<th>OFF</th>
<th>ACC</th>
<th>ON</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector</td>
<td>Terminal</td>
<td>Battery voltage</td>
<td>Battery voltage</td>
</tr>
<tr>
<td>M44</td>
<td>6</td>
<td>Ground</td>
<td>Battery voltage</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>Ground</td>
<td>0 V</td>
</tr>
</tbody>
</table>

2. Check voltage between BOSE speaker amp. harness connector terminal and ground.

<table>
<thead>
<tr>
<th>Terminals</th>
<th>OFF</th>
<th>ACC</th>
<th>ON</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector</td>
<td>Terminal</td>
<td>Battery voltage</td>
<td>Battery voltage</td>
</tr>
<tr>
<td>B114</td>
<td>1</td>
<td>Ground</td>
<td>Battery voltage</td>
</tr>
</tbody>
</table>

OK or NG

OK  >> ● INSPECTION END (Base system)
    ● GO TO 3 (BOSE system).
NG  >> Repair harness or connector.

**3. CHECK GROUND CIRCUIT**

1. Turn ignition switch OFF.
2. Disconnect BOSE speaker amp. connector.
3. Check continuity between BOSE speaker amp. harness connector B114 terminal 17 and ground.

   17 – Ground : Continuity should exist.

OK or NG

OK  >> INSPECTION END
NG  >> Repair harness or connector.
Inspection of Audio Steering Switch

1. **CHECK A/C AND AV SWITCH SELF-DIAGNOSIS FUNCTION**

   
   2. Operate audio steering switch.
   
   Does audio steering switch operate normally?
   
   YES  >> INSPECTION END
   
   NO  >> GO TO 2.

2. **CHECK AUDIO STEERING SWITCH RESISTANCE**

   1. Turn ignition switch OFF.
   
   2. Disconnect combination switch (spiral cable) connector.
   
   3. Check resistance audio steering switch harness connector terminals.

<table>
<thead>
<tr>
<th>Terminal</th>
<th>Signal name</th>
<th>Condition</th>
<th>Resistance (Ω)</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>Seek down</td>
<td>Press and hold SEEK DOWN switch</td>
<td>Approx. 165</td>
</tr>
<tr>
<td>17</td>
<td>Power</td>
<td>Press and hold POWER switch</td>
<td>Approx. 0</td>
</tr>
<tr>
<td>20</td>
<td>Volume (down)</td>
<td>Press and hold VOL DOWN switch</td>
<td>Approx. 652</td>
</tr>
<tr>
<td></td>
<td>Seek up</td>
<td>Press and hold SEEK UP switch</td>
<td>Approx. 165</td>
</tr>
<tr>
<td></td>
<td>Mode</td>
<td>Press and hold MODE switch</td>
<td>Approx. 0</td>
</tr>
<tr>
<td></td>
<td>Volume (up)</td>
<td>Press and hold VOL UP switch</td>
<td>Approx. 652</td>
</tr>
</tbody>
</table>

   OK or NG
   
   OK >> GO TO 3.
   
   NG >> Replace audio steering switch.

3. **CHECK SPIRAL CABLE**

   1. Disconnect spiral cable connector.
   
   2. Check continuity between combination switch (spiral cable) terminals.

   - **24 – 20**: Continuity should exist.
   - **31 – 17**: Continuity should exist.
   - **32 – 16**: Continuity should exist.

   OK or NG
   
   OK >> GO TO 4.
   
   NG >> Replace spiral cable.
4. CHECK HARNESS

1. Disconnect A/C and AV switch connector.

2. Check continuity between A/C and AV switch harness connector M48 terminals 12, 13, 14 and combination switch (spiral cable) harness connector M31 terminals 24, 32, 31.
   
   - **12 – 24**: Continuity should exist.
   - **13 – 32**: Continuity should exist.
   - **14 – 31**: Continuity should exist.

3. Check continuity between A/C and AV switch harness connector M48 terminals 12, 13, 14 and ground.
   
   - **12 – Ground**: Continuity should not exist.
   - **13 – Ground**: Continuity should not exist.
   - **14 – Ground**: Continuity should not exist.

OK or NG

OK >> INSPECTION END

NG >> Repair harness or connector.
Inspection of Front Door Speaker (Base System)

1. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect audio unit and front door speaker connectors.
3. Check continuity between audio unit harness connector terminals and front door speaker harness connector terminals.

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Continuity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audio unit</td>
<td>Front door speaker</td>
</tr>
<tr>
<td>Connector</td>
<td>Terminal</td>
</tr>
<tr>
<td>M44</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Continuity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audio unit</td>
<td>Ground</td>
</tr>
<tr>
<td>Connector</td>
<td>Terminal</td>
</tr>
<tr>
<td>M44</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

OK or NG
OK >> GO TO 2.
NG >> Repair harness or connector.
2. CHECK FRONT DOOR SPEAKER SIGNAL

1. Connect audio unit and front door speaker connectors.
2. Turn ignition switch ON.
4. Check voltage waveform between audio unit harness connector terminals and ground with CONSULT-II or oscilloscope.

### Terminal Conditions

<table>
<thead>
<tr>
<th>Connectors</th>
<th>Terminal</th>
<th>Condition</th>
<th>Reference Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>M44</td>
<td>2</td>
<td>1</td>
<td>Receive audio signal</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

OK or NG

OK >> INSPECTION END
NG >> Replace audio unit.
1. Turn ignition switch OFF.
2. Disconnect audio unit and rear door speaker connectors.
3. Check continuity between audio unit harness connector terminals and rear door speaker harness connector terminals.

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Audio unit Connector Terminal</th>
<th>Rear door speaker Connector Terminal</th>
<th>Continuity</th>
</tr>
</thead>
<tbody>
<tr>
<td>M45</td>
<td>13  D54</td>
<td>2</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>14  D54</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>15  D74</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>16  D74</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Audio unit Connector Terminal</th>
<th>Continuity</th>
</tr>
</thead>
<tbody>
<tr>
<td>M45</td>
<td>13</td>
<td>Ground</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td></td>
</tr>
<tr>
<td></td>
<td>15</td>
<td></td>
</tr>
<tr>
<td></td>
<td>16</td>
<td></td>
</tr>
</tbody>
</table>

OK or NG
OK  >> GO TO 2.
NG   >> Repair harness or connector.
2. **CHECK REAR DOOR SPEAKER SIGNAL**

1. Connect audio unit and rear door speaker connectors.
2. Turn ignition switch ON.
4. Check voltage waveform audio unit harness connector terminals with CONSULT-II or oscilloscope.

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Condition</th>
<th>Reference value</th>
</tr>
</thead>
<tbody>
<tr>
<td>(+)</td>
<td>(-)</td>
<td></td>
</tr>
<tr>
<td>Connector</td>
<td>Terminal</td>
<td>Connector</td>
</tr>
<tr>
<td>M45</td>
<td>14</td>
<td>M45</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>M45</td>
</tr>
</tbody>
</table>

- **Receive audio signal**

OK or NG

- **OK** >> INSPECTION END
- **NG** >> Replace audio unit.

![Diagram](image-url)
Inspection of Front Door Speaker (BOSE System)

1. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect BOSE speaker amp. and front door speaker connectors.
3. Check continuity between BOSE speaker amp. harness connector terminals and front door speaker harness connector terminals.

<table>
<thead>
<tr>
<th>Terminals</th>
<th>BOSE speaker amp.</th>
<th>Front door speaker</th>
<th>Continuity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector</td>
<td>Terminal</td>
<td>Connector</td>
<td>Terminal</td>
</tr>
<tr>
<td>B115</td>
<td>13</td>
<td>D4</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>D33</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Terminals</th>
<th>BOSE speaker amp.</th>
<th>Ground</th>
<th>Continuity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector</td>
<td>Terminal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B115</td>
<td>13</td>
<td></td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>16</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OK or NG

OK  >> GO TO 2.
NG  >> Repair harness or connector.
2. CHECK FRONT DOOR SPEAKER SIGNAL

1. Connect BOSE speaker amp. and front door speaker connectors.
2. Turn ignition switch ON.
4. Check voltage waveform BOSE speaker amp. harness connector terminals with CONSULT-II or oscilloscope.

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Cond.</th>
<th>Reference value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(+)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-)</td>
<td></td>
</tr>
<tr>
<td>Connector</td>
<td>Terminal</td>
<td>Connector</td>
</tr>
<tr>
<td>B115</td>
<td>13</td>
<td>B115</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td></td>
</tr>
</tbody>
</table>

OK or NG

OK >> Replace front door speaker.
NG >> GO TO 3.
3. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect audio unit and BOSE speaker amp. connectors.
3. Check continuity between audio unit harness connector terminals and BOSE speaker amp. harness connector terminals.

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Continuity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audio unit</td>
<td>BOSE speaker amp.</td>
</tr>
<tr>
<td>Connector</td>
<td>Terminal</td>
</tr>
<tr>
<td>M44</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Continuity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audio unit</td>
<td>Ground</td>
</tr>
<tr>
<td>Connector</td>
<td>Terminal</td>
</tr>
<tr>
<td>M44</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>

OK or NG
OK  >> GO TO 4.
NG  >> Repair harness or connector.
4. CHECK FRONT DOOR SPEAKER SIGNAL

1. Connect audio unit and BOSE speaker amp. connectors.
2. Turn ignition switch ON.
4. Check voltage waveform audio unit harness connector terminals with CONSULT-II or oscilloscope.

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Condition</th>
<th>Reference value (V)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector</td>
<td>Terminal (+)</td>
<td>Terminal (-)</td>
</tr>
<tr>
<td>M44</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>M44</td>
<td>3</td>
</tr>
</tbody>
</table>

OK or NG
OK >> INSPECTION END
NG >> Replace audio unit.
Inspection of Rear Door Speaker (BOSE System)

1. **CHECK HARNESS**

1. Turn ignition switch OFF.
2. Disconnect BOSE speaker amp. and rear door speaker connectors.
3. Check continuity between BOSE speaker amp. harness connector terminals and rear door speaker harness connector terminals.

<table>
<thead>
<tr>
<th>Terminals</th>
<th>BOSE speaker amp.</th>
<th>Rear door speaker</th>
<th>Continuity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector</td>
<td>Terminal</td>
<td>Connector</td>
<td>Terminal</td>
</tr>
<tr>
<td>B115</td>
<td>9</td>
<td>D53</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>D73</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

OK or NG
OK  >> GO TO 2.
NG  >> Repair harness or connector.
2. CHECK REAR DOOR SPEAKER SIGNAL

1. Connect BOSE speaker amp. and rear door speaker connectors.
2. Turn ignition switch ON.
4. Check voltage waveform BOSE speaker amp. harness connector terminals with CONSULT-II or oscilloscope.

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Condition</th>
<th>Reference value</th>
</tr>
</thead>
<tbody>
<tr>
<td>(+)</td>
<td>(-)</td>
<td></td>
</tr>
<tr>
<td>Connector</td>
<td>Terminal</td>
<td>Connector</td>
</tr>
<tr>
<td>B115</td>
<td>9</td>
<td>B115</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td></td>
</tr>
</tbody>
</table>

OK or NG
OK >> Replace rear door speaker.
NG >> GO TO 3.
3. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect audio unit and BOSE speaker amp. connectors.
3. Check continuity between audio unit harness connector terminals and BOSE speaker amp. harness connector terminals.

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Continuity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audio unit</td>
<td>BOSE speaker amp.</td>
</tr>
<tr>
<td>Connector</td>
<td>Terminal</td>
</tr>
<tr>
<td>M45</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>16</td>
</tr>
</tbody>
</table>

OK or NG
OK  >> GO TO 4.
NG  >> Repair harness or connector.
4. CHECK REAR DOOR SPEAKER SIGNAL

1. Connect audio unit and BOSE speaker amp. connectors.
2. Turn ignition switch ON.
4. Check voltage waveform audio unit harness connector terminals with CONSULT-II or oscilloscope.

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Condition</th>
<th>Reference value</th>
</tr>
</thead>
<tbody>
<tr>
<td>(+)</td>
<td>(-)</td>
<td></td>
</tr>
<tr>
<td>Connector</td>
<td>Terminal</td>
<td>Connector</td>
</tr>
<tr>
<td>M45</td>
<td>14</td>
<td>13</td>
</tr>
<tr>
<td>M45</td>
<td>16</td>
<td>15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Terminal</th>
<th>Condition</th>
<th>Reference value</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>Receive audio signal</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>(V)</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OK or NG
OK >> INSPECTION END
NG >> Replace audio unit.
Inspection of Woofer (BOSE System)

1. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect BOSE speaker amp. and woofer connectors.
3. Check continuity between BOSE speaker amp. harness connector terminals and woofer harness connector terminals.

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Bose speaker amp. Connector Terminal</th>
<th>Woofer Connector Terminal</th>
<th>Continuity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B114 2</td>
<td>B28 3</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>19</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Bose speaker amp. Connector Terminal</th>
<th>Ground</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B114 2</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>18</td>
<td></td>
</tr>
<tr>
<td></td>
<td>19</td>
<td></td>
</tr>
</tbody>
</table>

OK or NG

OK   >> GO TO 2.
NG   >> Repair harness or connector.
2. CHECK WOOFER SIGNAL

1. Connect BOSE speaker amp. and woofer connectors.
2. Turn ignition switch ON.
4. Check voltage waveform BOSE speaker amp. harness connector terminals with CONSULT-II or oscilloscope.

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Condition</th>
<th>Reference value</th>
</tr>
</thead>
<tbody>
<tr>
<td>(+) Connector Terminal (-) Connector Terminal</td>
<td>Receive audio signal</td>
<td><img src="SKIA9407E" alt="Waveform Diagram" /></td>
</tr>
<tr>
<td>B114 18 19</td>
<td>B114 2 3</td>
<td><img src="SKIB3609E" alt="Reference Value" /></td>
</tr>
</tbody>
</table>

**OK or NG**

OK >> INSPECTION END
NG >> Replace BOSE speaker amp.
Locking CD Auto Changer Mechanism

CAUTION:
- Prior to removing a malfunctioning CD auto changer unit that will be shipped for repair, the changer mechanism MUST BE LOCKED to prevent the mechanism from being damaged during shipping.
- If a CD is jammed or unable to be removed from the unit, do NOT lock the changer mechanism. If the unit is to be shipped for repair, carefully package the unit to prevent vibration and shock.

DAMPER LOCK PROCEDURE
1. Eject and remove any CDs from CD auto changer unit.
2. Turn ignition switch OFF. Wait until CD auto changer unit display is OFF and mechanism stops moving (mechanism sound stops).
3. Press any one of the disc selection buttons once. When a display shows on the CD auto changer unit, press the same disc selection button again within 5 seconds.
   - The changer mechanism will lock itself within 10 seconds.
4. After mechanism stops moving (mechanism sound stops), disconnect the battery cable from the negative terminal.

NOTE:
After installing a new or remanufactured CD auto changer unit, switching the CD auto changer unit ON will automatically unlock the mechanism. A special unlocking procedure is not required.

Removal and Installation of Audio Unit

1. Perform damper lock operation (BOSE system). Refer to AV-59, "Locking CD Auto Changer Mechanism".
2. Remove center ventilator. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY".
3. Remove instrument stay cover (LH/RH). Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY".
4. Remove screws (2).

5. Remove screws (4).
6. Remove cluster lid C and audio unit.
7. Unlock FPC (Flexible Print Circuit) connector lock on A/C and AV switch side.

8. Pull off flexible printed circuit from connector.
   **CAUTION:**
   Make sure mating surface of FPC (Flexible Print Circuit) and the direction of connector terminal.

9. Remove screws (4) and clips (2), and remove audio unit from cluster lid C.

10. Remove audio unit screws (8), unified meter and A/C amp. screws (2), and remove brackets.
    **CAUTION:**
    - When carrying audio unit body, do not touch internal mechanism access from cassette tape slot.
    - Be careful not to allow foreign material to enter from cassette tape slot.
    - Use appropriate screws for each, as screws for audio unit are different from that for unified meter and A/C amp.

**INSTALLATION**
Installation is the reverse order of removal.
Removal and Installation for A/C and AV Switch

REMOVAL

1. Remove audio unit from cluster lid C. Refer to AV-59, "Removal and Installation of Audio Unit".
2. Remove screws (8), and remove A/C and AV switch.

INSTALLATION

Installation is the reverse order of removal.
Removal and Installation of Audio Steering Switch

REMOVAL
1. Remove steering wheel. Refer to PS-10, "Removal and Installation".
2. Remove steering wheel cover.
3. Remove screws (2), and remove audio steering switch.

INSTALLATION
Installation is the reverse order of removal.

Removal and Installation of Front Door Speaker (Base System)

REMOVAL
1. Remove door finisher. Refer to EI-30, "DOOR FINISHER".
2. Remove screws (4), and remove speaker.
3. Remove screws (4), and remove bracket.

INSTALLATION
Installation is the reverse order of removal.

Removal and Installation of Front Door Speaker (BOSE System)

REMOVAL
1. Remove door finisher. Refer to EI-30, "DOOR FINISHER".
2. Remove screws (3), and remove speaker.
3. Remove screws (3), and remove bracket.

INSTALLATION
Installation is the reverse order of removal.
Removal and Installation of Rear Door Speaker (Base System)

REMOVAL
1. Remove door finisher. Refer to EI-30, "DOOR FINISHER".
2. Remove screws (3), and remove speaker.

INSTALLATION
Installation is the reverse order of removal.

Removal and Installation of Rear Door Speaker (BOSE System)

REMOVAL
1. Remove door finisher. Refer to EI-30, "DOOR FINISHER".
2. Remove screws (3), and remove speaker.

INSTALLATION
Installation is the reverse order of removal.

Removal and Installation of Tweeter

REMOVAL
1. Remove side ventilator assembly. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY".
2. Remove instrument side finisher. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY".
3. Remove screws (2), and remove tweeter.

INSTALLATION
Installation is the reverse order of removal.
Removal and Installation of Woofer

REMOVAL
1. Open luggage floor finisher (center). Refer to EI-37, "LUGGAGE FLOOR TRIM".
2. Remove woofer clamp, and disconnect woofer connector.
3. Remove woofer.

CAUTION:
Connectors must be placed in the left side, when installed.

INSTALLATION
Installation is the reverse order of removal.

Removal and Installation of BOSE Speaker Amp.

REMOVAL
1. Remove luggage floor finisher (front). Refer to EI-37, "LUGGAGE FLOOR TRIM".
2. Remove screws (4) and connectors (2), and remove BOSE speaker amp. from luggage floor.
3. Remove screws (4), and remove bracket.

INSTALLATION
Installation is the reverse order of removal.
Removal and Installation of Satellite Radio Tuner

**Vehicle front**

**REMOVAL**

1. Remove luggage floor finisher (front). Refer to **EI-37, "LUGGAGE FLOOR TRIM"**.
2. Remove screws (A) and connectors (1), and remove satellite radio tuner (2) from luggage floor.

**INSTALLATION**

Installation is the reverse order of removal.

Removal and Installation of Satellite Radio Antenna

**Vehicle front**

**REMOVAL**

1. Remove luggage side finisher. Refer to **EI-37, "LUGGAGE FLOOR TRIM"**.
2. Remove assist grip (rear). Refer to **EI-35, "HEADLINING"**.
3. Pull down headlining (1) and obtain space for work between vehicle and headlining.
4. Remove nut (A), and then disconnect connector (2).
5. Remove satellite radio antenna.

**INSTALLATION**

Installation is the reverse order of removal.

**Roof antenna mounting nut**  
딩 6.5 N·m (0.66 kg-m, 58 in-lb)
ANTENNA

Location of Antenna
RADIO ANTENNA AND GPS ANTENNA

Antenna base (Antenna amp.)
Rod
Antenna feeder (Upper)
Nut
Clip

Antenna feeder (Lower)
GPS Antenna
Audio unit
NAV1 control unit
Clip
Clip
Clip
ANTENNA

SATELLITE RADIO ANTENNA

Revision: 2006 August

AV-67

2006 Murano
Removal and Installation of Roof Antenna

REMOVAL
1. Remove headlining. Refer to EI-35, “HEADLINING”.
2. Remove nut and antenna base.

3. Remove instrument panel. Refer to IP-10, “INSTRUMENT PANEL ASSEMBLY”.
4. Remove antenna feeder (upper) and antenna feeder (lower).
5. Remove clips (5), and separate antenna feeder (upper) from vehicle.

INSTALLATION
Installation is the reverse order of removal.

Removal and Installation of Satellite Radio Antenna

Refer to AV-65, “Removal and Installation of Satellite Radio Antenna”.
INTEGRATED DISPLAY SYSTEM

System Description

For system operation information, refer to Owner’s Manual.

INTEGRATED DISPLAY SYSTEM

- Each control unit that comprises the system is connected with a communication circuit. It transmits/receives data signals including request signals and response signals, and controls the system.
- The display control unit transmits/receives data signals to/from each control unit with CAN communication. It performs an arithmetical operation on fuel information values by using data obtained from the control units, and then displays the calculated values on the screen.
- The display control unit receives door switch signals from the BCM with CAN communication, and displays a warning on the screen when driving over the set speed with a door half-shut.
- The display control unit receives vehicle speed signals that are transmitted from the unified meter and A/C amp., performs an arithmetical operation on drive information values, and then displays the calculated values on the screen.
- The images displayed on the monitor screen contain display control unit-generated RGB images, and rear view images transmitted from the rear view camera control unit.
- The display control unit controls image switching and image quality adjustments by communications with the display.

REAR VIEW MONITOR

- A rear view monitor was set to vehicle, which can check rearward on screen when backing up the vehicle.
- For easier recognition of the vehicle width and the distance to the objects, the guide lines of distances and rear are combined with the rear view image.
- Image quality of the rear view image and of the RGB image can be adjusted separately.
Component Description

DISPLAY CONTROL UNIT
- Display control unit draws a status of the audio and air conditioner, a TRIP screen, a FUEL ECONOMY screen, etc., and transmits the image signals to the display screen.
- It receives operation signals of audio and air conditioner from A/C and AV switch, and transmits the operation signal of audio to the audio unit via the communication line and transmits the operation signal of air conditioner to the meter and A/C amp. via CAN communication.

DISPLAY
- Images on the display include RGB image such as map screen and rear view image displayed when setting the select lever to R range.
- Display control unit controls images on the display.

A/C AND AV SWITCH
- A/C and AV switch, an integrated combination of audio and air conditioner switches, are adopted.
- Operation signal of audio is transmitted to the audio unit through display control unit with the communication line. Operation signal of air conditioner is transmitted to meter and A/C amp. through display control unit with CAN communication.

REAR VIEW CAMERA
- Rear view camera transmits rear view image signals to the display screen through the rear view camera control unit, when reverse signal is input.
- The rear view image is a mirror image reversed left and right that is the same as seeing rear side with a room mirror.
INTEGRATED DISPLAY SYSTEM

REAR VIEW CAMERA CONTROL UNIT
- Rear view camera control unit supplies power to the rear view camera, and then transmits the rear view image from the rear view camera to the display screen when reverse signal is input.
- Guiding lines of vehicle width and distance from rear end are composited and displayed on rear view image.

CAN Communication Unit
Refer to LAN-32, "CAN Communication Unit".

Component Parts Location
INTEGRATED DISPLAY SYSTEM

AV-INF/D-02

REFER TO PG-POWER.

PRECEDING PAGE

NEXT PAGE

IGNITION SWITCH ON OR START

FUSE BLOCK (J/B) V/W

DISPLAY CONTROL UNIT

M43
M43

SPEED
CAN-H
CAN-L

GND (POWER)

GND

UNIFIED METER AND A/C AMP

M45
M50

REFERENCE TO THE FOLLOWING.

M1-FUSE BLOCK-JUNCTION BOX (J/B)

TKWB2853E

Revision: 2006 August
AV-75
2006 Murano
## Terminals and Reference Value for Display Control Unit

<table>
<thead>
<tr>
<th>Terminal (Wire color)</th>
<th>Item</th>
<th>Signal input/output</th>
<th>Condition</th>
<th>Reference value</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td></td>
<td></td>
<td>Ignition switch</td>
<td>Operation</td>
</tr>
<tr>
<td>1 (Y) Ground</td>
<td>Battery power supply</td>
<td>Input</td>
<td>OFF</td>
<td>—</td>
</tr>
<tr>
<td>2 (L/W) Ground</td>
<td>Power supply (Inverter)</td>
<td>Output</td>
<td>ON</td>
<td>—</td>
</tr>
<tr>
<td>3 (B) Ground</td>
<td>Ground</td>
<td>—</td>
<td>ON</td>
<td>—</td>
</tr>
<tr>
<td>4 (L/Y) Ground</td>
<td>Power supply (Signal)</td>
<td>Output</td>
<td>ON</td>
<td>—</td>
</tr>
<tr>
<td>5 (P) Ground</td>
<td>Ground (Inverter)</td>
<td>—</td>
<td>ON</td>
<td>—</td>
</tr>
<tr>
<td>6 (G/W) Ground</td>
<td>Reverse signal</td>
<td>Input</td>
<td>ON</td>
<td>—</td>
</tr>
<tr>
<td>7 (P/L) Ground</td>
<td>Ground (Signal)</td>
<td>—</td>
<td>ON</td>
<td>—</td>
</tr>
<tr>
<td>8 (V/W) Ground</td>
<td>Camera-connection recognition signal</td>
<td>Input</td>
<td>ON</td>
<td>—</td>
</tr>
<tr>
<td>10 (P/B) Ground</td>
<td>ACC power supply</td>
<td>Input</td>
<td>ACC</td>
<td>—</td>
</tr>
<tr>
<td>12 (G) Ground</td>
<td>Ignition signal</td>
<td>Input</td>
<td>ON</td>
<td>—</td>
</tr>
<tr>
<td>14 (R/L) Ground</td>
<td>Illumination signal</td>
<td>Input</td>
<td>OFF</td>
<td>—</td>
</tr>
<tr>
<td>16 (V/W) Ground</td>
<td>Vehicle speed signal (8-pulse)</td>
<td>Input</td>
<td>ON</td>
<td>—</td>
</tr>
<tr>
<td>25 (L) —</td>
<td>CAN-H</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>26 (Y) —</td>
<td>CAN-L</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>28 (L/G) Ground</td>
<td>Communication signal (+)</td>
<td>Input/Output</td>
<td>ON</td>
<td>—</td>
</tr>
<tr>
<td>29 —</td>
<td>Shield</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>30 (L/R) Ground</td>
<td>Communication signal (−)</td>
<td>Input/Output</td>
<td>ON</td>
<td>—</td>
</tr>
</tbody>
</table>

**NOTE:**
Maximum voltage may be 5 V due to specifications (connected units).

---

Revision: 2006 August

2006 Murano
### INTEGRATED DISPLAY SYSTEM

<table>
<thead>
<tr>
<th>Terminal (Wire color)</th>
<th>Item</th>
<th>Signal input/output</th>
<th>Condition</th>
<th>Reference value</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>32 (O)</td>
<td>—</td>
<td>Communication signal (+)</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>33</td>
<td>—</td>
<td>Shield</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>34 (B/P)</td>
<td>—</td>
<td>Communication signal (−)</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>36 (B/W)</td>
<td>Ground</td>
<td>Communication signal (DCU-DSP)</td>
<td>Output ON</td>
<td>—</td>
</tr>
<tr>
<td>37</td>
<td>—</td>
<td>Shield</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>38 (L)</td>
<td>Ground</td>
<td>Communication signal (DSP-DCU)</td>
<td>Input ON</td>
<td>—</td>
</tr>
<tr>
<td>39</td>
<td>—</td>
<td>Shield</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>40 (R/G)</td>
<td>Ground</td>
<td>Communication signal (DCU-AUD)</td>
<td>Output ON</td>
<td>Operate audio volume switch</td>
</tr>
<tr>
<td>42 (R/Y)</td>
<td>Ground</td>
<td>Communication signal (AUD-DCU)</td>
<td>Input ON</td>
<td>Operate audio volume switch</td>
</tr>
<tr>
<td>47</td>
<td>—</td>
<td>Shield</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>49</td>
<td>—</td>
<td>Shield</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>50 (G/Y)</td>
<td>Ground</td>
<td>RGB signal (R: red)</td>
<td>Output ON</td>
<td>Start Confirmation/Adjustment mode, and then display color bar by selecting “Display Color Spectrum Bar” on Display Diagnosis screen</td>
</tr>
</tbody>
</table>

**Notes:**

- **SKIB3607E**
- **SKIB3606E**
- **SKIB7609E**

*Revision: 2006 August  AV-88  2006 Murano*
<table>
<thead>
<tr>
<th>Terminal (Wire color)</th>
<th>Item</th>
<th>Signal input/output</th>
<th>Condition</th>
<th>Reference value</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>–</td>
<td></td>
<td>Ignition switch</td>
<td>Operation</td>
</tr>
<tr>
<td>51 (B) Ground</td>
<td>RGB area (YS) signal</td>
<td>Output</td>
<td>ON</td>
<td>Set the selector lever in R position, and then display the rear view image</td>
</tr>
<tr>
<td>52 (G/R) Ground</td>
<td>RGB signal (G: green)</td>
<td>Output</td>
<td>ON</td>
<td>Start Confirmation/Adjustment mode, and then display color bar by selecting “Display Color Spectrum Bar” on Display Diagnosis screen</td>
</tr>
<tr>
<td>53 (W) Ground</td>
<td>Vertical synchronizing (VP) signal</td>
<td>Input</td>
<td>ON</td>
<td>—</td>
</tr>
<tr>
<td>54 (G/O) Ground</td>
<td>RGB signal (B: blue)</td>
<td>Output</td>
<td>ON</td>
<td>Start Confirmation/Adjustment mode, and then display color bar by selecting “Display Color Spectrum Bar” on Display Diagnosis screen</td>
</tr>
<tr>
<td>55 (R) Ground</td>
<td>Horizontal synchronizing (HP) signal</td>
<td>Input</td>
<td>ON</td>
<td>—</td>
</tr>
<tr>
<td>56 (G) Ground</td>
<td>RGB synchronizing signal</td>
<td>Output</td>
<td>ON</td>
<td>When displaying RGB image</td>
</tr>
</tbody>
</table>
## Terminals and Reference Value for Display

<table>
<thead>
<tr>
<th>Terminal (Wire color)</th>
<th>Item</th>
<th>Signal input/output</th>
<th>Condition</th>
<th>Reference value</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ –</td>
<td></td>
<td></td>
<td>Ignition switch</td>
<td>Operation</td>
</tr>
<tr>
<td>1 (B) Ground</td>
<td>Ground</td>
<td>—</td>
<td>ON</td>
<td>—</td>
</tr>
<tr>
<td>2 (L/W) Ground</td>
<td>Power supply (Inverter)</td>
<td>Input</td>
<td>ON</td>
<td>—</td>
</tr>
<tr>
<td>3 (L/Y) Ground</td>
<td>Power supply (Signal)</td>
<td>Input</td>
<td>ON</td>
<td>—</td>
</tr>
<tr>
<td>4</td>
<td>Shield</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>6 (G/R) Ground</td>
<td>RGB signal (G: green)</td>
<td>Input</td>
<td>ON</td>
<td>Start Confirmation/Adjustment mode, and then display color bar by selecting “Display Color Spectrum Bar” on Display Diagnosis screen</td>
</tr>
<tr>
<td>7</td>
<td>Shield</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>8 (R) Ground</td>
<td>Horizontal synchronizing (HP) signal</td>
<td>Output</td>
<td>ON</td>
<td>—</td>
</tr>
<tr>
<td>9 (B) Ground</td>
<td>RGB area (YS) signal</td>
<td>Input</td>
<td>ON</td>
<td>Set the selector lever in R position, and then display the rear view image</td>
</tr>
<tr>
<td>11 (B/W) Ground</td>
<td>Communication signal (DCU-DSP)</td>
<td>Input</td>
<td>ON</td>
<td>—</td>
</tr>
<tr>
<td>13 (P) Ground</td>
<td>Ground (Inverter)</td>
<td>—</td>
<td>ON</td>
<td>—</td>
</tr>
<tr>
<td>14 (P/L) Ground</td>
<td>Ground (Signal)</td>
<td>—</td>
<td>ON</td>
<td>—</td>
</tr>
<tr>
<td>15 (R) Ground</td>
<td>Rear view image signal</td>
<td>Input</td>
<td>ON</td>
<td>Set the selector lever in R position, and then display the rear view image</td>
</tr>
</tbody>
</table>

**Revision:** 2006 August

**AV-90**

2006 Murano
### INTEGRATED DISPLAY SYSTEM

<table>
<thead>
<tr>
<th>Terminal (Wire color)</th>
<th>Item</th>
<th>Signal input/output</th>
<th>Condition</th>
<th>Reference value</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ –</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17 (G/Y) Ground</td>
<td>RGB signal (R: red)</td>
<td>Input ON</td>
<td>Start Confirmation/Adjustment mode, and then display color bar by selecting “Display Color Spectrum Bar” on Display Diagnosis screen</td>
<td></td>
</tr>
<tr>
<td>18 (G/O) Ground</td>
<td>RGB signal (B: blue)</td>
<td>Input ON</td>
<td>Start Confirmation/Adjustment mode, and then display color bar by selecting “Display Color Spectrum Bar” on Display Diagnosis screen</td>
<td></td>
</tr>
<tr>
<td>19 (G) Ground</td>
<td>RGB synchronizing signal</td>
<td>Input ON</td>
<td>When displaying RGB image</td>
<td></td>
</tr>
<tr>
<td>20 (W) Ground</td>
<td>Vertical synchronizing (VP) signal</td>
<td>Output ON</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Shield</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>22 (L) Ground</td>
<td>Communication signal (DSP-DCU)</td>
<td>Output ON</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Shield</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
</tbody>
</table>
## INTEGRATED DISPLAY SYSTEM

### Terminals and Reference Value for A/C and AV Switch

<table>
<thead>
<tr>
<th>Terminal (Wire color)</th>
<th>Item</th>
<th>Signal input/output</th>
<th>Condition</th>
<th>Reference value</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td></td>
<td></td>
<td>Ignition operation</td>
<td>Battery voltage</td>
</tr>
<tr>
<td>−</td>
<td></td>
<td></td>
<td>Battery voltage</td>
<td>Battery voltage</td>
</tr>
<tr>
<td>1 (Y) Ground</td>
<td>Battery power supply</td>
<td>Input OFF</td>
<td>—</td>
<td>Battery voltage</td>
</tr>
<tr>
<td>2 (P/B) Ground</td>
<td>ACC power supply</td>
<td>Input ACC</td>
<td>—</td>
<td>Battery voltage</td>
</tr>
<tr>
<td>3 (R/L) Ground</td>
<td>Illumination signal</td>
<td>Input ON</td>
<td>Lighting switch ON</td>
<td>Approx. 12 V</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Lighting switch OFF</td>
<td>Approx. 0 V</td>
</tr>
<tr>
<td>4 (R/W) Ground</td>
<td>Illumination control signal</td>
<td>Input ON</td>
<td>Illumination control switch is operated by lighting switch in ON position</td>
<td>Changes between approx. 0 and approx. 12 V</td>
</tr>
<tr>
<td>5 (B) Ground</td>
<td>Ground</td>
<td>— ON</td>
<td>—</td>
<td>Approx. 0 V</td>
</tr>
<tr>
<td>6 (L/G) Ground</td>
<td>Communication signal (+)</td>
<td>Input/Output ON</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>7</td>
<td>Shield</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>8 (L/R) Ground</td>
<td>Communication signal (−)</td>
<td>Input/Output ON</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>12 (R) Ground</td>
<td>Remote control A</td>
<td>Input ON</td>
<td>Press and hold MODE switch</td>
<td>Approx. 0 V</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Press and hold SEEK UP switch</td>
<td>Approx. 1.7 V</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Press and hold VOL UP switch</td>
<td>Approx. 3.3 V</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Except for above</td>
<td>Approx. 5 V</td>
</tr>
<tr>
<td>13 (G) Ground</td>
<td>Remote control B</td>
<td>Input ON</td>
<td>Press and hold POWER switch</td>
<td>Approx. 0 V</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Press and hold SEEK DOWN switch</td>
<td>Approx. 1.7 V</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Press and hold VOL DOWN switch</td>
<td>Approx. 3.3 V</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Except for above</td>
<td>Approx. 5 V</td>
</tr>
<tr>
<td>14 (B/W) Ground</td>
<td>Remote control ground</td>
<td>— ON</td>
<td>—</td>
<td>Approx. 0 V</td>
</tr>
<tr>
<td>16 (G/W) Ground</td>
<td>Rear window defogger ON signal</td>
<td>Output ON</td>
<td>Press and hold rear window defogger button</td>
<td>Approx. 0 V</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Except for above</td>
<td>Approx. 5 V</td>
</tr>
</tbody>
</table>
## Terminals and Reference Value for Rear View Camera Control Unit

<table>
<thead>
<tr>
<th>Terminal (Wire color)</th>
<th>Item</th>
<th>Signal input/output</th>
<th>Condition</th>
<th>Reference value</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td></td>
<td></td>
<td>Ignition switch</td>
<td>Operation</td>
</tr>
<tr>
<td>1 (Y)</td>
<td>Ground</td>
<td>Battery power supply</td>
<td>Input</td>
<td>OFF</td>
</tr>
<tr>
<td>2 (P/B)</td>
<td>Ground</td>
<td>ACC power supply</td>
<td>Input</td>
<td>ACC</td>
</tr>
<tr>
<td>3 (B)</td>
<td>Ground</td>
<td>Ground</td>
<td>—</td>
<td>ON</td>
</tr>
<tr>
<td>4 (G/W)</td>
<td>Ground</td>
<td>Reverse signal</td>
<td>Input</td>
<td>ON</td>
</tr>
<tr>
<td></td>
<td>Ground</td>
<td>Reverse signal</td>
<td>Input</td>
<td>ON</td>
</tr>
<tr>
<td>5 (V/W)</td>
<td>Ground</td>
<td>Camera-connection recognition signal</td>
<td>Output</td>
<td>ON</td>
</tr>
<tr>
<td>6 (O)</td>
<td>—</td>
<td>Data transmit/receive signal</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>8 (L)</td>
<td>Ground</td>
<td>Camera power supply</td>
<td>Output</td>
<td>ON</td>
</tr>
<tr>
<td>9</td>
<td>—</td>
<td>Shield</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>10 (R)</td>
<td>Ground</td>
<td>Rear view image signal</td>
<td>Input</td>
<td>ON</td>
</tr>
<tr>
<td>11</td>
<td>—</td>
<td>Shield</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>12 (P/L)</td>
<td>Ground</td>
<td>Rear view image signal</td>
<td>Output</td>
<td>ON</td>
</tr>
</tbody>
</table>
### Special Note for Trouble Diagnosis

Prior to performing trouble diagnosis, make sure there are no corresponding description in the “Example of Symptoms Possible No Malfunction”. Refer to AV-121, "Example of Symptoms Possible No Malfunction".

### On Board Self-Diagnosis Function

**DESCRIPTION**

- Trouble diagnosis function of navigation system has a Self Diagnosis mode by automatic operation and a Confirmation/Adjustment mode by manual operation.
- Self Diagnosis mode checks for connections between the units constituting this system, analyzes each individual unit at the same time, and displays the results on the display.
- Confirmation/Adjustment mode displays trouble diagnosis that require an operation and a judgment by a human (auto-decision cannot be performed by the system), confirmation of preset value, and an error history.

### DIAGNOSIS ITEM

<table>
<thead>
<tr>
<th>Mode</th>
<th>Description</th>
</tr>
</thead>
</table>
| Self Diagnosis (DCU)        | - Display control unit diagnosis  
                              | - Analyzes connection between the display control unit and each unit, and operation of each unit. |
| Confirmation/Adjustment     |                                                                                               |
| Display Diagnosis           | Color tone and shading of the display control unit-generated image can be checked by the display of a color bar and a gray scale. |
| Vehicle Signals             | Diagnosis of signals that are input to display control unit can be performed for Vehicle Speed, IGN, Reverse and Light. |
| Auto Climate Control        | Refer to ATC-47, "Self-diagnosis Function".                                                   |
| CAN DIAG SUPPOPT MONITOR    | The transmitting/receiving of CAN communication can be monitored.                           |
INTEGRATED DISPLAY SYSTEM

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

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

5. Perform self-diagnosis by selecting the “Self Diagnosis (DCU)”. 
   - Self-diagnosis screen is displayed, and then self-diagnosis starts.
   - The bar graph visible below self-diagnosis screen displays progress of the diagnosis.

6. When the self-diagnosis completes, optional part confirmation screen will be shown.
   - When connection of an optional part is judged error, a screen to check if the optional part is actually fitted on the vehicle or not will be shown. When fitted, select the switch of the part on the screen and press “End”. Then the “SELF DIAGNOSIS” screen will be shown.
   - When the optional part is connected normally, the switch for the part will not appear on the screen.
7. On the diagnosis results screen, each unit name and connection line will be colored according to the diagnosis result, as follows.

- **Green**: No malfunctioning.
- **Gray**: Cannot be judged by self-diagnosis results.
- **Red**: Unit is malfunctioning.

**NOTE:**
- Satellite = Satellite radio tuner
- DCU = Display control unit
- Multifunction switch = A/C and AV switch
- If multiple malfunctions occur at the same time for a single unit, the screen switch colors are determined according to the following order of priority: red > yellow > gray.

8. Select a switch on the diagnosis results screen, and comments for the diagnosis results will be shown.

### SELF-DIAGNOSIS RESULT

**Quick Reference Table**

1. Select the applicable diagnosis number in the quick reference table of diagnosis result.
2. Confirm the possible malfunction with the diagnosis table, and then perform inspection.
3. Turn ignition switch OFF and perform self-diagnosis again.

<table>
<thead>
<tr>
<th>Switch color</th>
<th>DCU</th>
<th>Display</th>
<th>Audio Unit</th>
<th>Satellite</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>×</td>
<td></td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Gray</td>
<td></td>
<td>×</td>
<td></td>
<td>×</td>
</tr>
</tbody>
</table>

- When A/C and AV switch has a malfunction, the self-diagnosis cannot be started. Refer to AV-107, "Unable to Operate System with A/C and AV Switch".
- When display has a malfunction, the self-diagnosis cannot be started. Refer to AV-109, "All Images Are Not Displayed".
## Self-Diagnosis Codes

<table>
<thead>
<tr>
<th>Diagnosis No.</th>
<th>Possible cause</th>
<th>Action to take</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Display control unit malfunction is detected.</td>
<td>Replace display control unit.</td>
</tr>
</tbody>
</table>
| 2             | Malfunction is detected on communication signal between display control unit and display. | 1. Check communication circuit between display control unit and display.  
2. Check communication signal between display control unit and display.  
3. If the results from the above checkup show no malfunction, replace either display control unit or display, and then start self-diagnosis.  
4. If self-diagnosis results still show any malfunction, replace the other unit. |
| 3             | Audio unit power supply circuit malfunction is detected.  
Malfunction is detected on communication signal between display control unit and audio unit. | 1. Check audio unit power supply circuit.  
2. Check communication circuit between display control unit and audio unit.  
3. Check communication signal between display control unit and audio unit.  
4. If the results from the above checkup show no malfunction, replace either display control unit or audio unit, and then start self-diagnosis.  
5. If self-diagnosis results still show any malfunction, replace the other unit. |
| 4             | Satellite radio tuner power supply and ground circuit malfunction is detected.  
Malfunction is detected on communication signal between audio unit and satellite radio tuner. | 1. Check satellite radio tuner power supply and ground circuit.  
2. Check communication circuit between audio unit and satellite radio tuner.  
3. Check communication signal between audio unit and satellite radio tuner.  
4. If the results from the above checkup show no malfunction, replace either audio unit or satellite radio tuner, and then start self-diagnosis.  
5. If self-diagnosis results still show any malfunction, replace the other unit. |
INTEGRATED DISPLAY SYSTEM

Confirmation/Adjustment Mode

OPERATION PROCEDURE

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

4. The initial trouble diagnosis screen will be shown, and items “Self Diagnosis (DCU)”, “Confirmation/Adjustment” and “CAN DIAG SUPPORT MONITOR” will become selective.
5. Select “Confirmation/Adjustment”.
6. Each diagnosis is shown by selecting each screen switch on Confirmation/ Adjustment screen.
DISPLAY DIAGNOSIS

Color tone and shading of the display control unit-generated image can be checked by the display of a color bar and a gray scale.

If RGB signal is malfunctioning, the tint of the color bar display is as follows.
- R (red) signal error: Light blue (Cyan) tint
- G (green) signal error: Purple (Magenta) tint
- B (blue) signal error: Yellow tint

VEHICLE SIGNALS

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

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

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

<table>
<thead>
<tr>
<th>Diagnosis item</th>
<th>Condition</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle Speed</td>
<td>ON</td>
<td>When vehicle speed is more than 0 km/h (0 MPH)</td>
</tr>
<tr>
<td></td>
<td>OFF</td>
<td>When vehicle speed is 0 km/h (0 MPH)</td>
</tr>
<tr>
<td></td>
<td>—</td>
<td>Ignition switch in ACC position</td>
</tr>
<tr>
<td>IGN</td>
<td>ON</td>
<td>Ignition switch ON</td>
</tr>
<tr>
<td></td>
<td>OFF</td>
<td>Ignition switch ACC position</td>
</tr>
<tr>
<td>Reverse</td>
<td>ON</td>
<td>Selector lever in R position</td>
</tr>
<tr>
<td></td>
<td>OFF</td>
<td>Selector lever in any position other than R position</td>
</tr>
<tr>
<td></td>
<td>—</td>
<td>Ignition switch in ACC position</td>
</tr>
<tr>
<td>IVCS</td>
<td>OFF</td>
<td>—</td>
</tr>
<tr>
<td>Light</td>
<td>ON</td>
<td>Lighting switch ON</td>
</tr>
<tr>
<td></td>
<td>OFF</td>
<td>Lighting switch OFF</td>
</tr>
</tbody>
</table>
AUTO CLIMATE CONTROL
Refer to ATC-47, "Self-diagnosis Function".

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

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

6. The transmitting/receiving of CAN communication can be monitored.

<table>
<thead>
<tr>
<th>Item</th>
<th>Content</th>
<th>Error counter (Reference value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAN_COMM</td>
<td>OK/NG</td>
<td>0 - 50</td>
</tr>
<tr>
<td>CAN_CIRC_1</td>
<td>OK/UNKWN</td>
<td>0 - 50</td>
</tr>
<tr>
<td>CAN_CIRC_2</td>
<td>OK/UNKWN</td>
<td>0 - 50</td>
</tr>
<tr>
<td>CAN_CIRC_3</td>
<td>OK/UNKWN</td>
<td>0 - 50</td>
</tr>
<tr>
<td>CAN_CIRC_4</td>
<td>OK/UNKWN</td>
<td>0 - 50</td>
</tr>
<tr>
<td>CAN_CIRC_5</td>
<td>OK/UNKWN</td>
<td>0 - 50</td>
</tr>
<tr>
<td>CAN_CIRC_6</td>
<td>OK/UNKWN</td>
<td>0 - 50</td>
</tr>
<tr>
<td>CAN_CIRC_7</td>
<td>OK/UNKWN</td>
<td>0 - 50</td>
</tr>
<tr>
<td>CAN_CIRC_8</td>
<td>OK/UNKWN</td>
<td>0 - 50</td>
</tr>
<tr>
<td>CAN_CIRC_9</td>
<td>OK/UNKWN</td>
<td>0 - 50</td>
</tr>
</tbody>
</table>

NOTE:
Counter shows the status of CAN communication.
INTEGRATED DISPLAY SYSTEM

A/C and AV Switch Self-Diagnosis Function

Performing self-diagnosis makes it possible to check operation of A/C and AV switch indicator (LED) and other switch.

STARTING THE SELF-DIAGNOSIS MODE

1. Turn ignition switch from OFF to ACC.
2. Within 10 seconds press and hold the switches “1” and “6” simultaneously for 3 seconds.

DIAGNOSIS FUNCTION

The following are checked:

- All the indicators (LED) in the A/C and AV switch.
- Continuity of the switches by sounding the buzzer when the A/C and AV switch and audio steering switch is pressed.
- Continuity of harness between A/C and AV switch and audio steering switch.

NOTE:
Impossible to check rear window defogger switch operation (No beep sound even under normal status).

EXITING THE SELF-DIAGNOSIS MODE

- Turn ignition switch OFF.
CONSULT-II Functions (REAR VIEW CAMERA)

CONSULT-II can display each diagnostic item using the diagnostic test modes shown following.

<table>
<thead>
<tr>
<th>Diagnosis part</th>
<th>Check Item, Diagnosis Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>REAR VIEW CAMERA</td>
<td>WORK SUPPORT</td>
<td>It can adjust the vehicle width and distance guiding lines that overlap camera image.</td>
</tr>
<tr>
<td></td>
<td>DATA MONITOR</td>
<td>Displays input data for rear view camera control unit in real-time.</td>
</tr>
<tr>
<td></td>
<td>ECU PART NUMBER</td>
<td>Displays rear view camera control unit part number.</td>
</tr>
</tbody>
</table>

CONSULT-II BASIC OPERATION PROCEDURE

**CAUTION:**
If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which carries out CAN communication.

1. With the ignition switch OFF, connect “CONSULT-II” and “CONSULT-II CONVERTER” to the data link connector, and then turn the ignition switch ON.

2. Touch “START (NISSAN BASED VHCL)”.

3. Touch “REARVIEW CAMERA”. If it is not indicated, check the following items.
   - Rear view camera control unit power supply and ground circuit.
   - CONSULT-II data link connector (DLC) circuit. Refer to **GI-39, “CONSULT-II Data Link Connector (DLC) Circuit”**.
INTEGRATED DISPLAY SYSTEM

4. Touch any of “WORK SUPPORT”, “DATA MONITOR”, and “ECU PART NUMBER” on “SELECT DIAG MODE” screen.

WORK SUPPORT
Operation Procedure
1. Touch “WORK SUPPORT” on “SELECT DIAG MODE” screen.
2. Touch “SELECT GUIDELINE PATTERN” or “ADJ GUIDELINE POSITION” on “SELECT WORK ITEM” screen.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SELECT GUIDELINE PATTERN</td>
<td>The opening of the vehicle width and distance guiding lines can be selected from 2 patterns.</td>
</tr>
<tr>
<td>ADJ GUIDELINE POSITION</td>
<td>Make fine adjustment to the vehicle width and distance guiding lines upper/lower/left/right</td>
</tr>
</tbody>
</table>

For details, refer to AV-104, “Vehicle Width and Distance Guiding Line Correction”.

DATA MONITOR
Operation Procedure
1. Touch “DATA MONITOR” on “SELECT DIAG MODE” screen.
2. Touch either “ALL SIGNALS” or “SELECTION FROM MENU” on “SELECT MONITOR ITEM” screen.
3. When “SELECTION FROM MENU” is selected, touch individual items to be monitored. When “ALL SIGNALS” is selected, all the items will be monitored.
4. Touch “START”.
5. Touch “RECORD” while monitoring, then the status of the monitored item can be recorded. To stop recording, touch “STOP”.

Display Item List

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALL SIGNALS</td>
<td>Monitors all the signal.</td>
</tr>
<tr>
<td>SELECTION FROM MENU</td>
<td>Selects and monitors individual items.</td>
</tr>
<tr>
<td>R POSI SIG [ON/OFF]</td>
<td>“ON (Selector lever R position)/OFF (other than R position)” status as judged from the reverse signal is displayed.</td>
</tr>
</tbody>
</table>
INTEGRATED DISPLAY SYSTEM

Vehicle Width and Distance Guiding Line Correction

DESCRIPTION
CONSULT-II is used to modify the guiding lines of the width of vehicle and the distance from rear end of vehicle on the rear view monitor when these lines are derated from the actual width and/or distance, because of rear view camera replacement, etc.

VEHICLE WIDTH AND DISTANCE GUIDING LINE CORRECTION PROCEDURE
1. Create a correction line to modify the guiding lines inside monitors. Draw lines on the 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 m (3.28 ft), 2 m (6.56 ft), and 3 m (9.84 ft) from the rear end of the bumper.

2. Connect CONSULT-II and CONSULT-II CONVERTER, and then touch “REARVIEW CAMERA” on “SELECT SYSTEM” screen.
WARNING:
Correct the guiding line with the engine stopped for safety.

3. Shift selector lever to R position.

Turn and Look before Backing.
4. Touch “ADJ GUIDELINE POSITION” on “SELECT WORK ITEM” screen.

**NOTE:**
When starting “ADJ GUIDELINE POSITION” mode, vehicle width guiding lines may move horizontally. It is normal.

5. Touch “X UP”, “X DOWN”, “Y UP”, and “Y DOWN” so as to align with a correction line created, and then adjust the guiding lines.

6. If the guiding lines align with the correction lines, touch “SAVE” so as to fix the lines, and then end the correction by touching “END”. GO TO 7 if the guiding lines do not align with the correction lines.

7. Touch “SELECT GUIDELINE PATTERN” on SELECT WORK ITEM screen.

8. Change the pattern of the guiding lines by touching “UP” or “DOWN”. [Select from among 2 patterns (“PATTERN NO. 0 or 1”) of the guiding lines.]

9. Fix the pattern of the guiding lines by touching “SAVE”.

10. End the correction by touching “END”.

**NOTE:**
If the setting value is changed on “SELECT GUIDELINE PATTERN” and “ADJ GUIDELINE POSITION”, the change is not reflected at the next starting if “SAVE” is not touched.
1. Start self-diagnosis of DCU. Refer to AV-95, “Self-Diagnosis Mode (DCU)”.
2. Select “CAN DIAG SUPPORT MONITOR”. Refer to AV-100, “CAN DIAG SUPPORT MONITOR”.

3. Record each item display description (OK/NG/UNKWN) displayed on the following CAN DIAG SUPPORT MONITOR Check Sheet.

<table>
<thead>
<tr>
<th>Item</th>
<th>Normal condition</th>
<th>Error (Example)</th>
<th>Error counter (Reference value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAN_COMM</td>
<td>OK</td>
<td>NG</td>
<td>0 - 50</td>
</tr>
<tr>
<td>CAN_CIRC_1</td>
<td>OK</td>
<td>UNKWN</td>
<td>0 - 50</td>
</tr>
<tr>
<td>CAN_CIRC_2</td>
<td>OK</td>
<td>UNKWN</td>
<td>0 - 50</td>
</tr>
<tr>
<td>CAN_CIRC_3</td>
<td>OK</td>
<td>UNKWN</td>
<td>0 - 50</td>
</tr>
<tr>
<td>CAN_CIRC_4</td>
<td>OK</td>
<td>UNKWN</td>
<td>0 - 50</td>
</tr>
<tr>
<td>CAN_CIRC_5</td>
<td>OK</td>
<td>UNKWN</td>
<td>0 - 50</td>
</tr>
<tr>
<td>CAN_CIRC_6</td>
<td>OK</td>
<td>UNKWN</td>
<td>0 - 50</td>
</tr>
<tr>
<td>CAN_CIRC_7</td>
<td>OK</td>
<td>UNKWN</td>
<td>0 - 50</td>
</tr>
<tr>
<td>CAN_CIRC_8</td>
<td>OK</td>
<td>UNKWN</td>
<td>0 - 50</td>
</tr>
<tr>
<td>CAN_CIRC_9</td>
<td>UNKWN</td>
<td>UNKWN</td>
<td>0 - 50</td>
</tr>
</tbody>
</table>

>> After filling in CAN DIAG SUPPORT MONITOR Check Sheet, GO TO LAN-3, “Precautions When Using CONSULT-II”.
Unable to Operate System with A/C and AV Switch

Symptom: Unable to operate A/C system and audio system with A/C and AV switch. (Unable to start self-diagnosis.)

1. CHECK CONDITION

1. Turn ignition switch ON.
2. Check if an image is displayed on the screen.

Is an image displayed on the screen?

YES >> GO TO 2.
NO  >> Repair malfunctioning part. Refer to AV-109, "All Images Are Not Displayed".

2. SELF-DIAGNOSIS OF A/C AND AV SWITCH

Start self-diagnosis of A/C and AV switch, and check the self-diagnosis result. Refer to AV-101, "A/C and AV Switch Self-Diagnosis Function".

OK or NG

OK  >> GO TO 4.
NG  >> GO TO 3.

3. CHECK A/C AND AV SWITCH POWER SUPPLY AND GROUND CIRCUIT

1. Check voltage between A/C and AV switch harness connector terminals and ground.

<table>
<thead>
<tr>
<th>Terminals</th>
<th>OFF</th>
<th>ACC</th>
<th>ON</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector</td>
<td>(+)</td>
<td>(-)</td>
<td></td>
</tr>
<tr>
<td>M48</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td>Battery voltage</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td>Battery voltage</td>
</tr>
</tbody>
</table>

2. Turn ignition switch OFF.
3. Disconnect A/C and AV switch connector.
4. Check continuity between A/C and AV switch harness connector M48 terminal 5 and ground.

5 – Ground : Continuity should exist.

OK or NG

OK  >> Replace A/C and AV switch.
NG  >> Repair harness or connector.
4. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect display control unit and A/C and AV switch connectors.
3. Check continuity between display control unit harness connector (A) M43 terminals 28, 30 and A/C and AV switch harness connector (B) M48 terminals 6, 8.
   - 28 – 6 : Continuity should exist.
   - 30 – 8 : Continuity should exist.
4. Check continuity between display control unit harness connector (A) M43 terminals 28, 30 and ground.
   - 28, 30 – Ground : Continuity should not exist.

OK or NG
OK >> GO TO 5.
NG >> Repair harness or connector.

5. CHECK A/C AND AV SWITCH AND DISPLAY CONTROL UNIT

1. Replace A/C and AV switch or display control unit.
2. Make sure that A/C system and audio system can be operated by A/C and AV switch.

OK or NG
OK >> INSPECTION END
NG >> Replace the other unit.
All Images Are Not Displayed

Symptom: RGB image and rear view image are not displayed.

1. **CHECK CONDITION**

When operating audio and air conditioner, make sure that they operate correctly.

Do audio and air conditioner operate normally?

YES  >> GO TO 2.

NO    >> GO TO 5.

2. **CHECK DISPLAY GROUND CIRCUIT**

1. Turn ignition switch OFF.
2. Disconnect display connector.
3. Check continuity between display harness connector M38 terminal 1 and ground.

<table>
<thead>
<tr>
<th>1 – Ground</th>
<th>Continuity should exist.</th>
</tr>
</thead>
<tbody>
<tr>
<td>OK or NG</td>
<td></td>
</tr>
<tr>
<td>OK</td>
<td>&gt;&gt; GO TO 3.</td>
</tr>
<tr>
<td>NG</td>
<td>&gt;&gt; Repair harness or connector.</td>
</tr>
</tbody>
</table>

3. **CHECK HARNESS**

1. Disconnect display control unit connector.
2. Check continuity between display control unit harness connector (A) M42 terminals 2, 4, 5, 7 and display harness connector (B) M38 terminals 2, 3, 13, 14.

   | 2 – 2          | Continuity should exist. |
   | 4 – 3          | Continuity should exist. |
   | 5 – 13         | Continuity should exist. |
   | 7 – 14         | Continuity should exist. |

3. Check continuity between display control unit harness connector (A) M42 terminals 2, 4 and ground.

   | 2, 4 – Ground | Continuity should not exist. |

OK or NG

OK  >> GO TO 4.

NG  >> Repair harness or connector.
4. CHECK DISPLAY POWER SUPPLY AND GROUND CIRCUIT (INVERTER AND SIGNAL)

1. Connect display control unit and display connectors.
2. Turn ignition switch ON.
3. Check voltage between display control unit harness connector M42 terminals 2 and 5.
   \[2 – 5: \text{Approx. 9 V}\]

4. Check voltage between display control unit harness connector M42 terminals 4 and 7.
   \[4 – 7: \text{Approx. 9 V}\]

   **OK or NG**
   - **OK** >> Replace display.
   - **NG** >> Replace display control unit.

5. CHECK DISPLAY CONTROL UNIT POWER SUPPLY AND GROUND CIRCUIT

1. Check voltage between display control unit harness connector terminals and ground.

<table>
<thead>
<tr>
<th>Terminals</th>
<th>OFF</th>
<th>ACC</th>
<th>ON</th>
</tr>
</thead>
<tbody>
<tr>
<td>(+)</td>
<td>Battery voltage</td>
<td>Battery voltage</td>
<td>Battery voltage</td>
</tr>
<tr>
<td>Connector</td>
<td>Terminal</td>
<td>Ground</td>
<td></td>
</tr>
<tr>
<td>M42</td>
<td>1</td>
<td>Ground</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>Ground</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0 V</td>
<td>Battery voltage</td>
<td></td>
</tr>
</tbody>
</table>

2. Turn ignition switch OFF.
3. Disconnect display control unit connector.
4. Check continuity between display control unit harness connector M42 terminal 3 and ground.
   \[3 – \text{Ground}: \text{Continuity should exist.}\]

   **OK or NG**
   - **OK** >> Replace display control unit.
   - **NG** >> Repair harness or connector.
Rear View Image Is Not Displayed (RGB Image Is Displayed)

Symptom: Rear view image is not displayed when selector lever is set in R position. (RGB image is displayed.)

1. CHECK CONDITION

1. Turn ignition switch ON.
2. Check if the screen holds current display or shows nothing but warning message when shifting selector lever to R position.

Does the screen change?

YES  >> GO TO 2.
NO   >> GO TO 12.

2. CONSULT-II FUNCTIONS

1. With the ignition switch OFF, connect “CONSULT-II” and “CONSULT-II CONVERTER” to the data link connector, and then turn the ignition switch ON. Refer to AV-102, "CONSULT-II BASIC OPERATION PROCEDURE".
2. Check if “REARVIEW CAMERA” is shown on the SELECT SYSTEM screen.

Is “REARVIEW CAMERA” shown?

YES  >> GO TO 3.
NO   >> Check rear view camera control unit power supply and ground circuit, and repair malfunctioning part.

3. CONSULT-II FUNCTIONS

Check if reverse signals input to the rear view camera control unit are normal with DATA MONITOR. Refer to AV-103, "DATA MONITOR".

OK or NG

OK   >> GO TO 4.
NG   >> Check rear view camera control unit reverse signal circuit, and repair malfunctioning part.

4. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect rear view camera control unit and rear view camera connectors.
3. Check continuity between rear view camera control unit harness connector (A) B37 terminals 8, 10 and rear view camera harness connector (B) D109 terminals 1, 3.

8 – 1     : Continuity should exist.
10 – 3    : Continuity should exist.

4. Check continuity between rear view camera control unit harness connector (A) B37 terminals 8, 10 and ground.

8, 10 – Ground : Continuity should not exist.

OK or NG

OK   >> GO TO 5.
NG   >> Repair harness or connector.
5. **CHECK REAR VIEW CAMERA GROUND CIRCUIT**

Check continuity between rear view camera harness connector D109 terminal 2 and ground.

2 – Ground: Continuity should exist.

OK or NG

OK >> GO TO 6.
NG >> Repair harness or connector.

6. **CHECK REAR VIEW CAMERA POWER SUPPLY CIRCUIT**

1. Connect rear view camera control unit and rear view camera connectors.
2. Turn ignition switch ON.
3. When displaying rear view image, check voltage between rear view camera control unit harness connector B37 terminal 8 and ground.

8 – Ground: Approx. 6 V

OK or NG

OK >> GO TO 7.
NG >> Replace rear view camera control unit.

7. **CHECK REAR VIEW IMAGE SIGNAL**

When displaying rear view image, check voltage waveform between rear view camera control unit harness connector B37 terminal 10 and ground with CONSULT-II or oscilloscope.

10 – Ground:

OK or NG

OK >> GO TO 8.
NG >> Replace rear view camera.
8. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect display and rear view camera control unit connectors.
3. Check continuity between display harness connector (A) M38 terminal 15 and rear view camera control unit harness connector (B) B37 terminal 12.

   15 – 12 : Continuity should exist.

4. Check continuity between display harness connector (A) M38 terminal 15 and ground.

   15 – Ground : Continuity should not exist.

OK or NG
OK >> GO TO 9.
NG >> Repair harness or connector.

9. CHECK REAR VIEW IMAGE SIGNAL

1. Connect display and rear view camera control unit connectors.
2. Turn ignition switch ON.
3. When displaying rear view image, check voltage waveform between rear view camera control unit harness connector B37 terminal 12 and ground with CONSULT-II or oscilloscope.

   12 – Ground:

OK or NG
OK >> GO TO 10.
NG >> Replace rear view camera control unit.

10. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect display control unit and display connectors.
3. Check continuity between display control unit harness connector (A) M43 terminal 51 and display harness connector (B) M38 terminal 9.

   51 – 9 : Continuity should not exist.

OK or NG
OK >> GO TO 11.
NG >> Repair harness or connector.
11. CHECK RGB AREA (YS) SIGNAL

1. Connect display control unit and display connectors.
2. Turn ignition switch ON.
3. When displaying rear view image, check voltage waveform between display control unit harness connector M43 terminal 51 and ground with CONSULT-II or oscilloscope.

![Voltage Waveform Diagram]

51 – Ground:

OK or NG
OK >> Replace display.
NG >> Replace display control unit.

12. SELF-DIAGNOSIS OF DCU

Start self-diagnosis of DCU, and check the self-diagnosis result. Refer to AV-95, "Self-Diagnosis Mode (DCU)".

OK or NG
OK >> GO TO 13.
NG >> Repair malfunctioning part.

13. CHECK DISPLAY CONTROL UNIT REVERSE SIGNAL

Select “Vehicle Signals” of Confirmation/Adjustment mode, and check the reverse signal inputting to display control unit. Refer to AV-99, "VEHICLE SIGNALS".

OK or NG
OK >> GO TO 14.
NG >> Check display control unit reverse signal circuit, and repair malfunctioning part.

14. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect rear view camera control unit and display control unit connectors.
3. Check continuity between rear view camera control unit harness connector (A) B37 terminal 5 and display control unit harness connector (B) M42 terminal 8.

5 – 8: Continuity should exist.

OK or NG
OK >> GO TO 15.
NG >> Repair harness or connector.
15. **CHECK CAMERA-CONNECTION RECOGNITION SIGNAL**

1. Connect rear view camera control unit and display control unit connectors.
2. Turn ignition switch ON.
3. Check voltage between rear view camera control unit harness connector B37 terminal 5 and ground.

   5 – Ground : Approx. 0 V

<table>
<thead>
<tr>
<th>OK or NG</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>OK</td>
<td>Replace display control unit.</td>
</tr>
<tr>
<td>NG</td>
<td>Replace rear view camera control unit.</td>
</tr>
</tbody>
</table>

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AV-115

2006 Murano
When Displaying Rear View Image, Warning Message Rolls or Is Not Displayed

Symptom: When displaying rear view image, warning message rolls or is not displayed. At this time, with pressing the “SETTING” button, SETTING menu rolls or is not displayed.

1. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect display control unit and display connectors.
3. Check continuity between display control unit harness connector (A) M43 terminals 53, 55 and display harness connector (B) M38 terminals 20, 8.
   - 53 – 20: Continuity should exist.
   - 55 – 8: Continuity should exist.
4. Check continuity between display control unit harness connector (A) M43 terminals 53, 55 and ground.
   - 53, 55 – Ground: Continuity should not exist.

OK or NG
- OK >> GO TO 2.
- NG >> Repair harness or connector.

2. CHECK VERTICAL SYNCHRONIZING (VP) SIGNAL

1. Connect display control unit and display connectors.
2. Turn ignition switch ON.
3. Check voltage waveform between display control unit harness connector M43 terminal 53 and ground with CONSULT-II or oscilloscope.

OK or NG
- OK >> GO TO 3.
- NG >> Replace display.

3. CHECK HORIZONTAL SYNCHRONIZING (HP) SIGNAL

Check voltage waveform between display control unit harness connector M43 terminal 55 and ground with CONSULT-II or oscilloscope.

OK or NG
- OK >> Replace display control unit.
- NG >> Replace display.
INTEGRATED DISPLAY SYSTEM

Tint Is Strange for The RGB Image

Symptom: Tint of all RGB images is strange.

1. **CHECK HARNESS**

   1. Turn ignition switch OFF.
   2. Disconnect display control unit and display connectors.
   3. Check the malfunctioning circuit according to the symptoms.

   - **Light blue (Cyan) tinged screen**
     Check continuity between display control unit harness connector (A) M43 terminal 50 and display harness connector (B) M38 terminal 17.
     
     \[
     50 – 17 \quad \text{: Continuity should exist.}
     \]
     
     Check continuity between display control unit harness connector (A) M43 terminal 50 and ground.
     
     \[
     50 – \text{Ground} \quad \text{: Continuity should not exist.}
     \]

   - **Purple (Magenta) tinged screen**
     Check continuity between display control unit harness connector (A) M43 terminal 52 and display harness connector (B) M38 terminal 6.
     
     \[
     52 – 6 \quad \text{: Continuity should exist.}
     \]
     
     Check continuity between display control unit harness connector (A) M43 terminal 52 and ground.
     
     \[
     52 – \text{Ground} \quad \text{: Continuity should not exist.}
     \]

   - **Yellow tinged screen**
     Check continuity between display control unit harness connector (A) M43 terminal 54 and display harness connector (B) M38 terminal 18.
     
     \[
     54 – 18 \quad \text{: Continuity should exist.}
     \]
     
     Check continuity between display control unit harness connector (A) M43 terminal 54 and ground.
     
     \[
     54 – \text{Ground} \quad \text{: Continuity should not exist.}
     \]

   **OK or NG**
   
   OK  >> GO TO 2.
   NG  >> Repair harness or connector.

Revision: 2006 August
2. CHECK RGB SIGNAL

1. Connect display control unit and display connectors.
2. Turn ignition switch ON.
3. Start Confirmation/Adjustment mode. Refer to AV-98, "Confirmation/Adjustment Mode”.
4. Display color bar by selecting “Display Color Spectrum Bar” on Display Diagnosis screen. Refer to AV-99, "DISPLAY DIAGNOSIS”.
5. Check the malfunctioning circuit according to the symptoms.

- **Light blue (Cyan) tinged screen**
  Check voltage waveform between display control unit harness connector M43 terminal 50 and ground with CONSULT-II or oscilloscope.

  ![Diagram of Light blue (Cyan) tinged screen]

  **50 – Ground:**

- **Purple (Magenta) tinged screen**
  Check voltage waveform between display control unit harness connector M43 terminal 52 and ground with CONSULT-II or oscilloscope.

  ![Diagram of Purple (Magenta) tinged screen]

  **52 – Ground:**

- **Yellow tinged screen**
  Check voltage waveform between display control unit harness connector M43 terminal 54 and ground with CONSULT-II or oscilloscope.

  ![Diagram of Yellow tinged screen]

  **54 – Ground:**

**OK or NG**

OK  >> Replace display.
NG  >> Replace display control unit.
RGB Image Is Rolling

Symptom: RGB image is rolling.

1. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect display control unit and display connectors.
3. Check continuity between display control unit harness connector (A) M43 terminal 56 and display harness connector (B) M38 terminal 19.

   56 – 19 : Continuity should exist.

4. Check continuity between display control unit harness connector (A) M43 terminal 56 and ground.

   56 – Ground : Continuity should not exist.

   OK or NG
   OK >> GO TO 4.
   NG >> Repair harness or connector.

2. CHECK RGB SYNCHRONIZING SIGNAL

1. Connect display control unit and display connectors.
2. Turn ignition switch ON.
3. When displaying RGB image, check voltage waveform between display control unit harness connector M43 terminal 56 and ground with CONSULT-II or oscilloscope.

   56 – Ground:

   OK or NG
   OK >> Replace display.
   NG >> Replace display control unit.
INTEGRATED DISPLAY SYSTEM

Values for All Items in The TRIP Screen Do Not Change

Symptom: Values for items, “Elapsed Time”, “Driving Distance” and “Average Speed” in the TRIP screen do not change. FUEL ECONOMY screen is not displayed when pressing “TRIP” button.

1. CHECK DISPLAY CONTROL UNIT IGNITION SIGNAL

Select “Vehicle Signals” in Confirmation/Adjustment mode, and check the ignition signal inputting to display control unit. Refer to AV-99, "VEHICLE SIGNALS".

OK or NG

OK  >> Replace display control unit.
NG  >> Check display control unit ignition signal circuit, and repair malfunctioning part.

Values for Items, “Driving Distance” and “Average Speed” Do Not Change

Symptom: Values for Items, “Driving Distance” and “Average Speed” do not change. (The Value for “Elapsed Time” Changes.)

1. CHECK DISPLAY CONTROL UNIT VEHICLE SPEED SIGNAL

Select “Vehicle Signals” in Confirmation/Adjustment mode, and check the vehicle speed signal inputting to display control unit. Refer to AV-99, "VEHICLE SIGNALS".

OK or NG

OK  >> Replace display control unit.
NG  >> Check display control unit vehicle speed signal circuit, and repair malfunctioning part.

Values for All Items in The FUEL ECONOMY Screen Do Not Change

Symptom: Values for items, “Average Fuel Economy” and “Distance to Empty” in the FUEL ECONOMY screen do not change.

1. CHECK CONDITION

Check if values for all items in the TRIP screen change properly.

OK or NG

OK  >> GO TO 2.
NG  >> Repair malfunctioning part. Refer to AV-120, "Values for All Items in The TRIP Screen Do Not Change" or AV-120, "Values for Items, “Driving Distance” and “Average Speed” Do Not Change".

2. CHECK CAN COMMUNICATION

Check CAN communication. Refer to AV-106, "CAN Communication Check".

OK or NG

OK  >> Replace display control unit.
NG  >> After filling out CAN DIAG SUPPORT MONITOR check sheet, GO TO LAN-3, "Precautions When Using CONSULT-II".
### Example of Symptoms Possible No Malfunction

For system operation information, refer to Owner’s Manual.

#### DISPLAY

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Possible cause</th>
<th>Possible solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>No image is displayed.</td>
<td>The brightness is at the lowest setting.</td>
<td>Adjust the brightness of the display.</td>
</tr>
<tr>
<td></td>
<td>The display is turned off.</td>
<td>Press and hold the $\times$ button to turn on the display.</td>
</tr>
<tr>
<td>The screen is too dim. The movement is slow.</td>
<td>The temperature in the interior of the vehicle is low.</td>
<td>Wait until the interior of the vehicle has warmed up.</td>
</tr>
<tr>
<td>Some pixels in the display are darker or brighter than others.</td>
<td>This condition is an inherent characteristic of liquid crystal displays.</td>
<td>This is not a malfunction.</td>
</tr>
<tr>
<td>Some menu items cannot be selected.</td>
<td>Some menu items become unavailable while the vehicle is driven.</td>
<td>Park the vehicle in a safe location, then operate the navigation system.</td>
</tr>
<tr>
<td>The screen does not switch to the night screen even after turning on the headlights.</td>
<td>The daytime screen was set the last time the headlights were turned on.</td>
<td>Set the screen to the night screen mode using $\times$ button when turning on the headlights.</td>
</tr>
</tbody>
</table>

#### REAR VIEW MONITOR

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Possible cause</th>
<th>Possible solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rear view monitor image is not shown.</td>
<td>Selector lever is not set to R position.</td>
<td>Shift the selector lever to R position.</td>
</tr>
<tr>
<td></td>
<td>The front glass of the camera lens is dirty.</td>
<td>Wipe it with a soft wet cloth lightly.</td>
</tr>
<tr>
<td>Rear view monitor image is fuzzy.</td>
<td>Adherence of raindrops or snow.</td>
<td>Wipe it with a soft cloth lightly.</td>
</tr>
<tr>
<td></td>
<td>The lens is illuminated directly by sunlight or light from headlight of cars behind.</td>
<td>The fuzzy image recovers when the light is covered.</td>
</tr>
</tbody>
</table>

Revision: 2006 August
Removal and Installation of A/C and AV Switch
Refer to AV-61, "Removal and Installation for A/C and AV Switch".

Removal and Installation of Audio Steering Switch
Refer to AV-62, "Removal and Installation of Audio Steering Switch".

Removal and Installation of Display
1. Remove center ventilator. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY".
2. Remove screws (4), and remove display.
3. Remove screws (4), and remove brackets.

INSTALLATION
Installation is the reverse order of removal.
Removal and Installation of Display Control Unit

**REMOVAL**

1. Remove cluster lid C. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY".
2. Remove steering lock escutcheon. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY".
3. Remove screws (2), and remove display control unit.
   **CAUTION:**
   See the figure attached, when install or remove screws for display control unit.

4. Remove screws (4), and remove brackets.

**INSTALLATION**

Installation is the reverse order of removal.
Removal and Installation of Rear View Camera

**REMOVAL**

1. Remove back door trim. Refer to EI-39, "BACK DOOR TRIM".
2. Unhook two pawls to remove the camera finisher from the back door. Pull the right pawl out with pressing the rear view camera to the left.
3. Press the resin clip from the inside of the back door with a minus screwdriver etc. Remove the rear view camera from the back door.
4. Disconnect connector.

**INSTALLATION**

Installation is the reverse order of removal. Adjust the vehicle width and distance guiding line referring to AV-104, "Vehicle Width and Distance Guiding Line Correction" if there is a difference after installing rear view camera.

Removal and Installation of Rear View Camera Control Unit

**REMOVAL**

1. Remove luggage floor spacer (right). Refer to EI-37, "LUGGAGE FLOOR TRIM".
2. Remove screw and nut.
3. Disconnect connector, and remove rear view camera control unit.

**INSTALLATION**

Installation is the reverse order of removal.
System Description

- Each control unit that comprises the system is connected with a communication circuit. It transmits/receives data signals including request signals and response signals, and controls the system.
- The display control unit transmits/receives data signals to/from each control unit with CAN communication. It performs an arithmetical operation on fuel information values by using data obtained from the control units, and then displays the calculated values on the screen.
- The display control unit receives door switch signals from the BCM with CAN communication, and displays a warning on the screen when driving over the set speed with a door half-shut.
- The display control unit receives vehicle speed signals that are transmitted from the unified meter and A/C amp., performs an arithmetical operation on drive information values, and then displays the calculated values on the screen.
- The images displayed on the monitor screen contain NAVI control unit-generated RGB images, display control unit-generated RGB images, and rear view images transmitted from the rear view camera control unit.
- The display control unit controls image switching and image quality adjustments by communications with the display.
Location Detection Principle

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

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

The current position of the vehicle is then identified by comparing the calculated vehicle position with map data read from the DVD-ROM, which is stored in the DVD-ROM drive (map-matching), and indicated on the screen as a current-location mark. More accurate data is judged and used by comparing vehicle position detection results found by the GPS with the result by map-matching.

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

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

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

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

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

Map-matching compares a current location detected by the method in the “Location Detection Principle” with a road map data from DVD-ROM stored in DVD-ROM drive.

NOTE:
The road map data is based on data stored in the DVD-ROM.

The vehicle position may not be corrected under the following circumstances and after driving for a certain time when GPS information is difficult to receive. In this case, the current-location mark on the display must be corrected manually.

- In map-matching, alternative routes are prepared and prioritized in addition to the road judged currently driven. Due to the distance and/or direction error, the incorrect road may be prioritized and current-location mark may be repositioned to the wrong road.
  When two roads are running in parallel, they are judged to the same priority. Therefore, the current-location mark may appear on either of them alternately, depending on maneuvering of the steering wheel and configuration of the road.

- Map-matching does not function correctly when a road on which the vehicle is driving is new and not recorded in the DVD-ROM, or when road pattern stored in the map data and the actual road pattern are different due to repair.
  When driving on a road not present in the map, the map-matching function may find another road and position the current-location mark on it. Then, when the correct road is detected, the current-location mark may change to it.

- Effective range for comparing the vehicle position and travel direction calculated by the distance and direction with the road data read from the DVD-ROM is limited. Therefore, when there is an excessive gap between current vehicle position and the position on the map, correction by map-matching is not possible.
GPS (Global Positioning System)

GPS (Global Positioning System) was developed for and is controlled by the US Department of Defense. The system utilizes GPS satellites (NAVSTAR), sending out radio waves while flying on an orbit around the earth at an altitude of approximately 21,000 km (13,100 miles).

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

Position correction by GPS is not available while the vehicle is stopped. Accuracy of GPS will deteriorate under the following conditions:

- In two-dimensional positioning, GPS accuracy will deteriorate when altitude of the vehicle position changes.
- The accuracy can be even lower depending on the arrangement of the GPS satellites utilized for the positioning.
- Position detection is not possible when vehicle is in an area where radio waves from the GPS satellite do not reach, such as in a tunnel, parking lot in a building, and under an elevated highway. Radio waves from the GPS satellites may not be received when some object is located over the GPS antenna.

NOTE:

- Even a high-precision three dimensional positioning, the detection result has an error about 10 m (30ft).
- Because the signals of GPS satellite is controlled by the Tracking and Control Center in the United States, the accuracy may be degraded lower intentionally or the radio waves may stop.

REAR VIEW MONITOR

- A rear view monitor was set to vehicle, which can check rearward on screen when backing up the vehicle.
- For easier recognition of the vehicle width and the distance to the objects, the guide lines of distances and rear are combined with the rear view image.
- Image quality of the rear view image and of the navigation screen can be adjusted separately.
Component Description

NAVI CONTROL UNIT

- The gyro (angular speed sensor) and the DVD-ROM drive are built-in units that control the navigation functions.
- Signals are received from the gyro, the vehicle speed sensor, and the GPS antenna. Vehicle location is determined by combining this data with the data contained in the DVD-ROM map. Locational information is shown on liquid crystal display panel.

DVD-ROM Drive

Maps, traffic control regulations, and other pertinent information can be easily read from the DVD-ROM.

DVD-ROM

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

Gyro (Angular Speed Sensor)

- The oscillator gyro sensor is used to detect changes in vehicle steering angle.
- The gyro is built into the navigation (NAVI) control unit.

GPS ANTENNA

The GPS antenna receives and amplifies the radio waves from the GPS satellites, and then transmits the GPS signal to NAVI control unit.
DISPLAY CONTROL UNIT
- Display control unit draws a status of the audio and air conditioner, a TRIP screen, a FUEL ECONOMY screen, etc., and transmits the image signals to the display screen.
- It receives operation signals of audio and air conditioner from A/C and AV switch, and transmits the operation signal of audio to the audio unit via the communication line and transmits the operation signal of air conditioner to the meter and A/C amp. via CAN communication.

DISPLAY
- Images on the display include RGB image such as map screen and rear view image displayed when setting the select lever to R range.
- Display control unit controls images on the display.

A/C AND AV SWITCH
- A/C and AV switch, an integrated combination of audio and air conditioner switches, are adopted.
- Operation signal of audio is transmitted to the audio unit through display control unit with the communication line. Operation signal of air conditioner is transmitted to meter and A/C amp. through display control unit with CAN communication.

REAR VIEW CAMERA
- Rear view camera transmits rear view image signals to the display screen through the rear view camera control unit, when reverse signal is input.
- The rear view image is a mirror image reversed left and right that is the same as seeing rear side with a room mirror.
REAR VIEW CAMERA CONTROL UNIT

- Rear view camera control unit supplies power to the rear view camera, and then transmits the rear view image from the rear view camera to the display screen when reverse signal is input.
- Guiding lines of vehicle width and distance from rear end are composited and displayed on rear view image.

CAN Communication Unit

Refer to LAN-32, "CAN Communication Unit".

Component Parts Location
NAVIGATION SYSTEM

Schematic — NAVI —

AV-132

Revision: 2006 August

TKWB2665E

DATA LINE
DATA LINE

GPS ANTENNA

DISPLAY CONTROL UNIT

1 14 10
12 16
25
26

35 21
UNIFIED METER AND A/C AMP:
1 11 26 22 29 30

DATA LINE

73 74 66 63

NAVIGATION SYSTEM

UNIT

NEXT PAGE

13 12 14 65 1

35 36 34

69 70 68

44 45 44 46 47 48

31 32

61

To CAN system

To illumination system

55 42 39 40

3 19 DRIVER SEAT CONTROL UNIT

AD

DATA LINE CONNECTOR

BCM (BODY CONTROL MODULE)

1 2 3 4 5 6 7 8

BOSE SPEAKER AMP

FRONT DOOR SPEAKER LH

TWEETER LH

AD : With automatic drive positioner

＊ : This relay is built into the IPDM E/R (Intelligent power distribution module engine room).
NAVIGATION SYSTEM

AV-NAVI-08

Refer to PG-Power.

DATA LINK CONNECTOR

NEXT PAGE

COMBINATION SWITCH

M29

M70

M14

REFER TO THE FOLLOWING.

M1 - FUSE BLOCK-JUNCTION BOX (J/B)
M5A - ELECTRICAL UNITS

TKWB2927E

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AV-141 2006 Murano
NAVI GATION SYSTEM

Schematic — COMM —

AV-143

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2006 Murano
NAVIGATION SYSTEM

Wiring Diagram — COMM —

AV-COMM-05

Refer to PG-Power.

Refer to the following.
M1 - Fuse block-junction box (J/B)

TKWB2876E

Revision: 2006 August

AV-144

2006 Murano
**NAVIGATION SYSTEM**

## Terminals and Reference Value for NAVI Control Unit

<table>
<thead>
<tr>
<th>Terminal (Wire color)</th>
<th>Item</th>
<th>Signal input/output</th>
<th>Condition</th>
<th>Reference value</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>–</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 (B)</td>
<td>Ground</td>
<td>Ground</td>
<td>—</td>
<td>ON</td>
</tr>
<tr>
<td>2 (Y)</td>
<td>Ground</td>
<td>Battery power supply</td>
<td>Input</td>
<td>OFF</td>
</tr>
<tr>
<td>5 (P/B)</td>
<td>Ground</td>
<td>ACC power supply</td>
<td>Input</td>
<td>ACC</td>
</tr>
<tr>
<td>12 (L/G)</td>
<td>14 (L/R)</td>
<td>Voice guidance signal</td>
<td>Output</td>
<td>ON</td>
</tr>
<tr>
<td>13</td>
<td></td>
<td>Shield</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>44 (BR/Y)</td>
<td>Ground</td>
<td>RGB signal (R: red)</td>
<td>Output</td>
<td>ON</td>
</tr>
<tr>
<td>45 (BR/W)</td>
<td>Ground</td>
<td>RGB signal (G: green)</td>
<td>Output</td>
<td>ON</td>
</tr>
<tr>
<td>46 (BR)</td>
<td>Ground</td>
<td>RGB signal (B: blue)</td>
<td>Output</td>
<td>ON</td>
</tr>
<tr>
<td>47</td>
<td></td>
<td>Shield</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>48 (R)</td>
<td>Ground</td>
<td>RGB synchronizing signal</td>
<td>Output</td>
<td>ON</td>
</tr>
<tr>
<td>49</td>
<td></td>
<td>Shield</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>61 (R/L)</td>
<td>Ground</td>
<td>Illumination signal</td>
<td>Input</td>
<td>OFF</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>63 (G)</td>
<td>Ground</td>
<td>Ignition signal</td>
<td>Input</td>
<td>ON</td>
</tr>
<tr>
<td>65 (G/W)</td>
<td>Ground</td>
<td>Reverse signal</td>
<td>Input</td>
<td>ON</td>
</tr>
<tr>
<td></td>
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### NAVIGATION SYSTEM

<table>
<thead>
<tr>
<th>Terminal (Wire color)</th>
<th>Item</th>
<th>Signal input/output</th>
<th>Condition</th>
<th>Reference value</th>
</tr>
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<tbody>
<tr>
<td>+</td>
<td></td>
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</tr>
<tr>
<td>-</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>66 (V/W) Ground</td>
<td></td>
<td>Vehicle speed signal (8-pulse)</td>
<td>Input</td>
<td>ON When vehicle speed is approx. 25 MPH (40 km/h)</td>
</tr>
<tr>
<td>68</td>
<td></td>
<td>Shield</td>
<td></td>
<td></td>
</tr>
<tr>
<td>69 (O) Ground</td>
<td></td>
<td>Communication signal (+)</td>
<td>Input/Output</td>
<td>ON —</td>
</tr>
<tr>
<td>70 (B/P) Ground</td>
<td></td>
<td>Communication signal (–)</td>
<td>Input/Output</td>
<td>ON —</td>
</tr>
<tr>
<td>73</td>
<td></td>
<td>GPS signal</td>
<td>Input</td>
<td>ON Connector is not connected</td>
</tr>
<tr>
<td>74</td>
<td></td>
<td>Shield</td>
<td></td>
<td></td>
</tr>
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**NOTE:**
Maximum voltage may be 5 V due to specifications (connected units).

---

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2006 Murano
### Terminals and Reference Value for Display Control Unit

<table>
<thead>
<tr>
<th>Terminal (Wire color)</th>
<th>Item</th>
<th>Signal input/output</th>
<th>Condition</th>
<th>Reference value</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ -</td>
<td>1 (Y) Ground</td>
<td>Battery power supply</td>
<td>Input OFF</td>
<td>— Battery voltage</td>
</tr>
<tr>
<td>2 (L/W) Ground</td>
<td>Power supply (Inverter)</td>
<td>Output ON</td>
<td>—</td>
<td>Approx. 9 V</td>
</tr>
<tr>
<td>3 (B) Ground</td>
<td>Ground</td>
<td>—</td>
<td>ON</td>
<td>— Approx. 0 V</td>
</tr>
<tr>
<td>4 (L/Y) Ground</td>
<td>Power supply (Signal)</td>
<td>Output ON</td>
<td>—</td>
<td>Approx. 9 V</td>
</tr>
<tr>
<td>5 (P) Ground</td>
<td>Ground (Inverter)</td>
<td>—</td>
<td>ON</td>
<td>— Approx. 0 V</td>
</tr>
<tr>
<td>6 (G/W) Ground</td>
<td>Ground</td>
<td>Reverse signal</td>
<td>Input ON</td>
<td>Selector lever in R position Approx. 12 V</td>
</tr>
<tr>
<td>7 (P/L) Ground</td>
<td>Ground (Signal)</td>
<td>—</td>
<td>ON</td>
<td>— Approx. 0 V</td>
</tr>
<tr>
<td>8 (V/W) Ground</td>
<td>Camera-connection recognition signal</td>
<td>Input ON</td>
<td>Connected to rear view camera control unit connector</td>
<td>Approx. 0 V</td>
</tr>
<tr>
<td>10 (P/B) Ground</td>
<td>ACC power supply</td>
<td>Input ACC</td>
<td>—</td>
<td>Battery voltage</td>
</tr>
<tr>
<td>12 (G) Ground</td>
<td>Ignition signal</td>
<td>Input ON</td>
<td>—</td>
<td>Battery voltage</td>
</tr>
<tr>
<td>14 (R/L) Ground</td>
<td>Illumination signal</td>
<td>Input OFF</td>
<td>Lighting switch ON</td>
<td>Approx. 12 V</td>
</tr>
<tr>
<td>16 (V/W) Ground</td>
<td>Vehicle speed signal (8-pulse)</td>
<td>Input ON</td>
<td>When vehicle speed is approx. 25 MPH (40 km/h)</td>
<td>—</td>
</tr>
<tr>
<td>25 (L)</td>
<td></td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>26 (Y)</td>
<td></td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>28 (L/G) Ground</td>
<td>Communication signal (+)</td>
<td>Input/Output ON</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>29</td>
<td>Shield</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>30 (L/R) Ground</td>
<td>Communication signal (–)</td>
<td>Input/Output ON</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

**NOTE:**
Maximum voltage may be 5 V due to specifications (connected units).

---

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2006 Murano
## NAVIGATION SYSTEM

<table>
<thead>
<tr>
<th>Terminal (Wire color)</th>
<th>Item</th>
<th>Signal input/output</th>
<th>Condition</th>
<th>Reference value</th>
</tr>
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<tbody>
<tr>
<td>+</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>32 (O)</td>
<td>Ground Communication signal (+)</td>
<td>Input/Output</td>
<td>ON</td>
<td>—</td>
</tr>
<tr>
<td>33</td>
<td>—</td>
<td>Shield</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>34 (B/P)</td>
<td>Ground Communication signal (–)</td>
<td>Input/Output</td>
<td>ON</td>
<td>—</td>
</tr>
<tr>
<td>36 (B/W)</td>
<td>Ground Communication signal (DCU-DSP)</td>
<td>Output</td>
<td>ON</td>
<td>—</td>
</tr>
<tr>
<td>37</td>
<td>—</td>
<td>Shield</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>38 (L)</td>
<td>Ground Communication signal (DSP-DCU)</td>
<td>Input</td>
<td>ON</td>
<td>—</td>
</tr>
<tr>
<td>39</td>
<td>—</td>
<td>Shield</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>40 (R/G)</td>
<td>Ground Communication signal (DCU-AUD)</td>
<td>Output</td>
<td>ON Operate audio volume switch</td>
<td>—</td>
</tr>
<tr>
<td>41</td>
<td>—</td>
<td>Shield</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>42 (R/Y)</td>
<td>Ground Communication signal (AUD-DCU)</td>
<td>Input</td>
<td>ON Operate audio volume switch</td>
<td>—</td>
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</table>
### NAVIGATION SYSTEM

<table>
<thead>
<tr>
<th>Terminal (Wire color)</th>
<th>Item</th>
<th>Signal input/output</th>
<th>Condition</th>
<th>Reference value</th>
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<tbody>
<tr>
<td>+</td>
<td>—</td>
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<td>—</td>
</tr>
<tr>
<td>43 (R)</td>
<td>Ground</td>
<td>RGB synchronizing signal</td>
<td>Input</td>
<td>ON</td>
</tr>
<tr>
<td>44 (BR/Y)</td>
<td>Ground</td>
<td>RGB signal (R: red)</td>
<td>Input</td>
<td>ON</td>
</tr>
<tr>
<td>45</td>
<td>—</td>
<td>Shield</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>46 (BR/W)</td>
<td>Ground</td>
<td>RGB signal (G: green)</td>
<td>Input</td>
<td>ON</td>
</tr>
<tr>
<td>47</td>
<td>—</td>
<td>Shield</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>48 (BR)</td>
<td>Ground</td>
<td>RGB signal (B: blue)</td>
<td>Input</td>
<td>ON</td>
</tr>
<tr>
<td>49</td>
<td>—</td>
<td>Shield</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>50 (G/Y)</td>
<td>Ground</td>
<td>RGB signal (R: red)</td>
<td>Output</td>
<td>ON</td>
</tr>
<tr>
<td>51 (B)</td>
<td>Ground</td>
<td>RGB area (YS) signal</td>
<td>Output</td>
<td>ON</td>
</tr>
<tr>
<td>Terminal (Wire color)</td>
<td>Item</td>
<td>Signal input/output</td>
<td>Condition</td>
<td>Reference value</td>
</tr>
<tr>
<td>----------------------</td>
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<tr>
<td>+</td>
<td>-</td>
<td>Item</td>
<td>Condition</td>
<td>Reference value</td>
</tr>
<tr>
<td>52 (G/R)</td>
<td>Ground</td>
<td>RGB signal (G: green)</td>
<td>Output</td>
<td>1.2</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>Start Confirmation/Adjust-</td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ment mode, and then dis-</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>play color bar by selecting</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>“Display Color Spectrum</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Bar” on Display Diagnosis</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>screen</td>
<td></td>
</tr>
<tr>
<td>53 (W)</td>
<td>Ground</td>
<td>Vertical synchronizing (VP)</td>
<td>Input</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>signal</td>
<td>ON</td>
<td></td>
</tr>
<tr>
<td>54 (G/O)</td>
<td>Ground</td>
<td>RGB signal (B: blue)</td>
<td>Output</td>
<td>1.2</td>
</tr>
<tr>
<td></td>
<td></td>
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<td>Start Confirmation/Adjust-</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ment mode, and then dis-</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>play color bar by selecting</td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
<td>“Display Color Spectrum</td>
<td></td>
</tr>
<tr>
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<td></td>
<td></td>
<td>Bar” on Display Diagnosis</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>screen</td>
<td></td>
</tr>
<tr>
<td>55 (R)</td>
<td>Ground</td>
<td>Horizontal synchronizing (HP)</td>
<td>Input</td>
<td>20μs</td>
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<tr>
<td></td>
<td></td>
<td>signal</td>
<td>ON</td>
<td></td>
</tr>
<tr>
<td>56 (G)</td>
<td>Ground</td>
<td>RGB synchronizing signal</td>
<td>Output</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>When displaying RGB image</td>
<td></td>
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## NAVIGATION SYSTEM

### Terminals and Reference Value for Display

<table>
<thead>
<tr>
<th>Terminal (Wire color)</th>
<th>Item</th>
<th>Signal input/output</th>
<th>Condition</th>
<th>Reference value</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td></td>
<td></td>
<td>Ignition switch</td>
<td>Operation</td>
</tr>
<tr>
<td>1 (B)</td>
<td>Ground</td>
<td>Ground</td>
<td>ON</td>
<td>—</td>
</tr>
<tr>
<td>2 (L/W)</td>
<td>Ground</td>
<td>Power supply (Inverter)</td>
<td>Input</td>
<td>ON</td>
</tr>
<tr>
<td>3 (L/Y)</td>
<td>Ground</td>
<td>Power supply (Signal)</td>
<td>Input</td>
<td>ON</td>
</tr>
<tr>
<td>4</td>
<td>—</td>
<td>Shield</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>6 (G/R)</td>
<td>Ground</td>
<td>RGB signal (G: green)</td>
<td>Input</td>
<td>ON</td>
</tr>
<tr>
<td>7</td>
<td>—</td>
<td>Shield</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>8 (R)</td>
<td>Ground</td>
<td>Horizontal synchronizing (HP) signal</td>
<td>Output</td>
<td>ON</td>
</tr>
<tr>
<td>9 (B)</td>
<td>Ground</td>
<td>RGB area (YS) signal</td>
<td>Input</td>
<td>ON</td>
</tr>
<tr>
<td>11 (B/W)</td>
<td>Ground</td>
<td>Communication signal (DCU-DSP)</td>
<td>Input</td>
<td>ON</td>
</tr>
<tr>
<td>13 (P)</td>
<td>Ground</td>
<td>Ground (Inverter)</td>
<td>—</td>
<td>ON</td>
</tr>
<tr>
<td>14 (P/L)</td>
<td>Ground</td>
<td>Ground (Signal)</td>
<td>—</td>
<td>ON</td>
</tr>
<tr>
<td>15 (R)</td>
<td>Ground</td>
<td>Rear view image signal</td>
<td>Input</td>
<td>ON</td>
</tr>
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</table>
### NAVIGATION SYSTEM

<table>
<thead>
<tr>
<th>Terminal (Wire color)</th>
<th>Item</th>
<th>Signal input/output</th>
<th>Condition</th>
<th>Reference value</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td></td>
<td>+</td>
<td>Ignition switch</td>
<td>ON</td>
</tr>
<tr>
<td>–</td>
<td></td>
<td>–</td>
<td>Operation</td>
<td>–</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>17 (G/Y)</th>
<th>Ground</th>
<th>RGB signal (R: red)</th>
<th>Input</th>
<th>ON</th>
<th>Start Confirmation/Adjustment mode, and then display color bar by selecting “Display Color Spectrum Bar” on Display Diagnosis screen</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 (G/O)</td>
<td>Ground</td>
<td>RGB signal (B: blue)</td>
<td>Input</td>
<td>ON</td>
<td>Start Confirmation/Adjustment mode, and then display color bar by selecting “Display Color Spectrum Bar” on Display Diagnosis screen</td>
</tr>
<tr>
<td>19 (G)</td>
<td>Ground</td>
<td>RGB synchronizing signal</td>
<td>Input</td>
<td>ON</td>
<td>When displaying RGB image</td>
</tr>
<tr>
<td>20 (W)</td>
<td>Ground</td>
<td>Vertical synchronizing (VP) signal</td>
<td>Output</td>
<td>ON</td>
<td>—</td>
</tr>
<tr>
<td>21</td>
<td>—</td>
<td>Shield</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>22 (L)</td>
<td>Ground</td>
<td>Communication signal (DSP-DCU)</td>
<td>Output</td>
<td>ON</td>
<td>—</td>
</tr>
<tr>
<td>23</td>
<td>—</td>
<td>Shield</td>
<td>—</td>
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### NAVIGATION SYSTEM

#### Terminals and Reference Value for A/C and AV Switch

<table>
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<tr>
<th>Terminal (Wire color)</th>
<th>Item</th>
<th>Signal input/output</th>
<th>Condition</th>
<th>Reference value</th>
</tr>
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<tbody>
<tr>
<td>+</td>
<td>–</td>
<td>Item</td>
<td>Condition</td>
<td>Reference value</td>
</tr>
<tr>
<td>1 (Y)</td>
<td>Ground</td>
<td>Battery power supply</td>
<td>Input OFF</td>
<td>— Battery voltage</td>
</tr>
<tr>
<td>2 (P/B)</td>
<td>Ground</td>
<td>ACC power supply</td>
<td>Input ACC</td>
<td>— Battery voltage</td>
</tr>
<tr>
<td>3 (R/L)</td>
<td>Ground</td>
<td>Illumination signal</td>
<td>Input ON</td>
<td>Lighting switch ON Approx. 12 V</td>
</tr>
<tr>
<td>4 (R/W)</td>
<td>Ground</td>
<td>Illumination control signal</td>
<td>Input ON</td>
<td>Changes between approx. 0 and approx. 12 V</td>
</tr>
<tr>
<td>5 (B)</td>
<td>Ground</td>
<td>Ground</td>
<td>— ON</td>
<td>— Approx. 0 V</td>
</tr>
<tr>
<td>6 (L/G)</td>
<td>Ground</td>
<td>Communication signal (+)</td>
<td>Input/Output ON</td>
<td>—</td>
</tr>
<tr>
<td>7</td>
<td>— Shield</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>8 (L/R)</td>
<td>Ground</td>
<td>Communication signal (–)</td>
<td>Input/Output ON</td>
<td>—</td>
</tr>
<tr>
<td>12 (R)</td>
<td>Ground</td>
<td>Remote control A</td>
<td>Input ON</td>
<td>Press and hold MODE switch Approx. 0 V</td>
</tr>
<tr>
<td>13 (G)</td>
<td>Ground</td>
<td>Remote control B</td>
<td>Input ON</td>
<td>Press and hold POWER switch Approx. 0 V</td>
</tr>
<tr>
<td>14 (B/W)</td>
<td>Ground</td>
<td>Remote control ground</td>
<td>— ON</td>
<td>Press and hold rear window defogger button Approx. 0 V</td>
</tr>
<tr>
<td>16 (G/W)</td>
<td>Ground</td>
<td>Rear window defogger ON signal</td>
<td>Output ON</td>
<td>Press and hold rear window defogger button Approx. 0 V</td>
</tr>
</tbody>
</table>

**Revision:** 2006 August

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# Terminals and Reference Value for Rear View Camera Control Unit

<table>
<thead>
<tr>
<th>Terminal (Wire color)</th>
<th>Item</th>
<th>Signal Input/Output</th>
<th>Condition</th>
<th>Reference value</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ -</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 (Y) Ground</td>
<td>Battery power supply</td>
<td>Input</td>
<td>OFF</td>
<td>Battery voltage</td>
</tr>
<tr>
<td>2 (P/B) Ground</td>
<td>ACC power supply</td>
<td>Input</td>
<td>ACC</td>
<td>Battery voltage</td>
</tr>
<tr>
<td>3 (B) Ground</td>
<td>Ground</td>
<td>—</td>
<td>ON</td>
<td>Approx. 0 V</td>
</tr>
<tr>
<td>4 (G/W) Ground</td>
<td>Reverse signal</td>
<td>Input</td>
<td>ON</td>
<td>Selector lever in R position: Approx. 12 V Other than selector lever in R position: Approx. 0 V</td>
</tr>
<tr>
<td>5 (V/W) Ground</td>
<td>Camera-connection recognition signal</td>
<td>Output</td>
<td>ON</td>
<td>Approx. 0 V</td>
</tr>
<tr>
<td>6 (O) —</td>
<td>Data transmit/receive signal</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>8 (L) Ground</td>
<td>Camera power supply</td>
<td>Output</td>
<td>ON</td>
<td>Set the selector lever in R position, and then display the rear view image: Approx. 6 V</td>
</tr>
<tr>
<td>9 — Shield</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>10 (R) Ground</td>
<td>Rear view image signal</td>
<td>Input</td>
<td>ON</td>
<td>Set the selector lever in R position, and then display the rear view image</td>
</tr>
<tr>
<td>11 — Shield</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>12 (P/L) Ground</td>
<td>Rear view image signal</td>
<td>Output</td>
<td>ON</td>
<td>Set the selector lever in R position, and then display the rear view image</td>
</tr>
</tbody>
</table>
**NAVIGATION SYSTEM**

### Special Note for Trouble Diagnosis
Prior to performing trouble diagnosis, make sure there are no corresponding description in the “Example of Symptoms Possible No Malfunction”. Refer to AV-197, “Example of Symptoms Possible No Malfunction”.

### On Board Self-Diagnosis Function
**DESCRIPTION**
- Trouble diagnosis function of navigation system has a Self Diagnosis mode by automatic operation and a Confirmation/Adjustment mode by manual operation.
- Self Diagnosis mode checks for connections between the units constituting this system, analyzes each individual unit at the same time, and displays the results on the display.
- Confirmation/Adjustment mode displays trouble diagnosis that require an operation and a judgment by a human (auto-decision cannot be performed by the system), confirmation of preset value, and an error history.

### DIAGNOSIS ITEM

<table>
<thead>
<tr>
<th>Mode</th>
<th>Description</th>
</tr>
</thead>
</table>
| Self Diagnosis (DCU)          | - Display control unit diagnosis  
                               - Analyzes connection between the display control unit and each unit, and operation of each unit. |
| Self Diagnosis (NAVI)         | - NAVI control unit diagnosis (DVD-ROM drive will not be diagnosed when no DVD-ROM is in it.).  
                               - Analyzes connection between the NAVI control unit and the GPS antenna. |
| Display Diagnosis             | Color tone and shading of the display control unit-generated image can be checked by the display of a color bar and a gray scale. |
| Vehicle Signals               | Diagnosis of signals that are input to display control unit can be performed for Vehicle Speed, IGN, Reverse and Light. |
| Auto Climate Control          | Refer to ATC-47, “Self-diagnosis Function”.                                 |
| Confirmation/Adjustment       | Display Diagnosis  
                               - Color tone and shading of the NAVI control unit-generated image can be checked by the display of a color bar and a gray scale.  
                               - Vehicle Signals  
                               - Diagnosis of signals that are input to NAVI control unit can be performed for Vehicle speed, Lights, Ignition and Reverse. |
| Navigation                    | Steering Angle Adjustment  
                               This mode is used to correct difference between actual turning angle of a vehicle and turning angle of the vehicle mark on the display.  
                               Speed Calibration  
                               Under ordinary conditions, the navigation system distance measuring function will automatically compensate for minute decreases in wheel and tire diameter caused by tire wear or low-pressure. Speed Calibration can immediately restore system accuracy in cases such as when distance calibration is needed because of the use of tire chains.  
                               Error History  
                               Malfunctions that occurred in the past are displayed, along with the number of times each has occurred. Time and location when/where the errors occurred are also displayed.  
                               Delete Unit Connection Log  
                               Erase the connection history of unit and error history. |
| CAN DIAG SUPPOPT MONITOR      | The transmitting/receiving of CAN communication can be monitored. |

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AV-158

2006 Murano
NAVIGATION SYSTEM

Self-Diagnosis Mode (DCU)

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

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

5. Perform self-diagnosis by selecting the “Self Diagnosis (DCU)”.  
   • Self-diagnosis screen is displayed, and then self-diagnosis starts.
   • The bar graph visible below self-diagnosis screen displays progress of the diagnosis.

6. When the self-diagnosis completes, optional part confirmation screen will be shown.
   • When connection of an optional part is judged error, a screen to check if the optional part is actually fitted on the vehicle or not will be shown. When fitted, select the switch of the part on the screen and press “End”. Then the “SELF DIAGNOSIS” screen will be shown.
   • When the optional part is connected normally, the switch for the part will not appear on the screen.
7. On the diagnosis results screen, each unit name and connection line will be colored according to the diagnosis result, as follows.

- **Green**: No malfunctioning.
- **Gray**: Cannot be judged by self-diagnosis results.
- **Red**: Unit is malfunctioning.

**NOTE:**
- Satellite = Satellite radio tuner
- DCU = Display control unit
- Multifunction switch = A/C and AV switch
- Navigation = NAVI control unit
- GPS = GPS antenna
- If multiple malfunctions occur at the same time for a single unit, the screen switch colors are determined according to the following order of priority: red > yellow > gray.

8. Select a switch on the diagnosis results screen, and comments for the diagnosis results will be shown.

### SELF-DIAGNOSIS RESULT

**Quick Reference Table**

1. Select the applicable diagnosis number in the quick reference table of diagnosis result.
2. Confirm the possible malfunction with the diagnosis table, and then perform inspection.
3. Turn ignition switch OFF and perform self-diagnosis again.

<table>
<thead>
<tr>
<th>Switch color</th>
<th>Screen switch</th>
<th>Diagnosis No.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DCU</td>
<td>Display</td>
</tr>
<tr>
<td>Red</td>
<td>×</td>
<td></td>
</tr>
<tr>
<td>Gray</td>
<td>×</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- When A/C and AV switch has a malfunction, the self-diagnosis cannot be started. Refer to AV-179, "Unable to Operate System with A/C and AV Switch".
- When display has a malfunction, the self-diagnosis cannot be started. Refer to AV-181, "All Images Are Not Displayed".
## Self-Diagnosis Codes

<table>
<thead>
<tr>
<th>Diagnosis No.</th>
<th>Possible cause</th>
<th>Action to take</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Display control unit malfunction is detected.</td>
<td>Replace display control unit.</td>
</tr>
</tbody>
</table>
| 2             | Malfunction is detected on communication signal between display control unit and display. | 1. Check communication circuit between display control unit and display.  
2. Check communication signal between display control unit and display.  
3. If the results from the above checkup show no malfunction, replace either display control unit or display, and then start self-diagnosis.  
4. If self-diagnosis results still show any malfunction, replace the other unit. |
| 3             | ● Audio unit power supply circuit malfunction is detected.  
● Malfunction is detected on communication signal between display control unit and audio unit. | 1. Check audio unit power supply circuit.  
2. Check communication circuit between display control unit and audio unit.  
3. Check communication signal between display control unit and audio unit.  
4. If the results from the above checkup show no malfunction, replace either display control unit or audio unit, and then start self-diagnosis.  
5. If self-diagnosis results still show any malfunction, replace the other unit. |
| 4             | ● NAVI control unit power supply and ground circuit malfunction is detected.  
● Malfunction is detected on communication signal between display control unit and NAVI control unit. | 1. Check NAVI control unit power supply and ground circuit.  
2. Check communication circuit between display control unit and NAVI control unit.  
3. If the results from the above checkup show no malfunction, replace either display control unit or NAVI control unit, and then start self-diagnosis.  
4. If self-diagnosis results still show any malfunction, replace the other unit. |
| 5             | GPS antenna connection malfunction is detected. | 1. Check if GPS antenna feeder line is snapped or pinched.  
2. If the results from the above checkup show no malfunction, replace GPS antenna, and then restart self-diagnosis.  
3. If self-diagnosis results still show any malfunction, replace NAVI control unit. |
| 6             | ● Satellite radio tuner power supply and ground circuit malfunction is detected.  
● Malfunction is detected on communication signal between audio unit and satellite radio tuner. | 1. Check satellite radio tuner power supply and ground circuit.  
2. Check communication circuit between audio unit and satellite radio tuner.  
3. Check communication signal between audio unit and satellite radio tuner.  
4. If the results from the above checkup show no malfunction, replace either audio unit or satellite radio tuner, and then start self-diagnosis.  
5. If self-diagnosis results still show any malfunction, replace the other unit. |
Self-Diagnosis Mode (NAVI)

OPERATION PROCEDURE

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

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

   NOTE:
   Select “Self Diagnosis (DCU)” when “Self Diagnosis (NAVI)” is not available. Repair malfunctioning part.

5. Perform self-diagnosis by selecting the “Self Diagnosis (NAVI)”.
   - Self-diagnosis screen is displayed, and then self-diagnosis starts.
   - The bar graph visible below self-diagnosis screen displays progress of the diagnosis.

6. On the diagnosis results screen, each unit name and connection line will be colored according to the diagnosis result, as follows.

<table>
<thead>
<tr>
<th>Diagnosis results</th>
<th>Unit</th>
<th>Connection line</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>Green</td>
<td>Green</td>
</tr>
<tr>
<td>Connection malfunction</td>
<td>Gray</td>
<td>Yellow</td>
</tr>
<tr>
<td>DVD-ROM drive undiagnosed</td>
<td>Gray</td>
<td>Green</td>
</tr>
<tr>
<td>DVD-ROM and DVD-ROM drive malfunction</td>
<td>Yellow</td>
<td>Green</td>
</tr>
<tr>
<td>Unit returned an error</td>
<td>Red</td>
<td>Green</td>
</tr>
</tbody>
</table>

   NOTE:
   - Control unit = NAVI control unit
   - Only Control unit (NAVI control unit) is displayed in red.
   - If multiple malfunctions occur at the same time for a single unit, the screen switch colors are determined according to the following order of priority: red > yellow > gray.
7. Select a switch on the diagnosis results screen, and comments for the diagnosis results will be shown.
## SELF-DIAGNOSIS RESULT

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

### Quick Reference Table

<table>
<thead>
<tr>
<th>Self-diagnosis result screen</th>
<th>Possible cause</th>
<th>Action to take</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Red Display" /></td>
<td>NAVI control unit malfunction is detected.</td>
<td>Replace NAVI control unit. Refer to AV-200, &quot;Removal and Installation of NAVI Control Unit&quot;.</td>
</tr>
</tbody>
</table>
| ![Yellow Display](image)    | - Malfunction is detected on DVD-ROM drive pickup lens in NAVI control unit.  
- There is dirt and damage on the DVD-ROM. | 1. Check if the inserted DVD-ROM is specified for this navigation system, and the DVD-ROM is dirty, scratched or warped.  
2. If the results from the above checkup show no malfunction, insert the same DVD-ROM, and then restart self-diagnosis.  
3. If self-diagnosis results still show any malfunction, replace NAVI control unit. |
| ![Gray Display](image)      | DVD-ROM not inserted is detected. | Insert DVD-ROM. |
| ![Gray and Yellow Display](image) | GPS antenna connection malfunction is detected. | 1. Check if GPS antenna feeder line is snapped or pinched.  
2. If the results from the above checkup show no malfunction, replace GPS antenna, and then restart self-diagnosis.  
3. If self-diagnosis results still show any malfunction, replace NAVI control unit. |
Confirmation/Adjustment Mode

OPERATION PROCEDURE

1. Start the engine.
2. Turn the audio system OFF.
3. While pressing the “4” button, turn the volume control dial clockwise or counterclockwise for 30 clicks or more. (When the self-diagnosis mode is started, a short beep will be heard.)
   ● Shifting from current screen to previous screen is performed by pressing “BACK” button.
4. The initial trouble diagnosis screen will be shown, and items “Self Diagnosis (DCU)”, “Self Diagnosis (NAVI)”, “Confirmation/Adjustment” and “CAN DIAG SUPPORT MONITOR” will become selective.
5. Select “Confirmation/Adjustment”.
6. Each diagnosis is shown by selecting each screen switch on Confirmation/Adjustment screen.
DISPLAY DIAGNOSIS

Color tone and shading of the display control unit-generated image can be checked by the display of a color bar and a gray scale.

- If RGB signal is malfunctioning, the tint of the color bar display is as follows.
  - R (red) signal error: Light blue (Cyan) tint
  - G (green) signal error: Purple (Magenta) tint
  - B (blue) signal error: Yellow tint

VEHICLE SIGNALS

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

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

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

<table>
<thead>
<tr>
<th>Diagnosis item</th>
<th>Display</th>
<th>Condition</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle Speed</td>
<td>ON</td>
<td>When vehicle speed is more than 0 km/h (0 MPH)</td>
<td>Changes in indication may be delayed. This is normal.</td>
</tr>
<tr>
<td></td>
<td>OFF</td>
<td>When vehicle speed is 0 km/h (0 MPH)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>—</td>
<td>Ignition switch in ACC position</td>
<td></td>
</tr>
<tr>
<td>IGN</td>
<td>ON</td>
<td>Ignition switch ON</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>OFF</td>
<td>Ignition switch ACC position</td>
<td></td>
</tr>
<tr>
<td>Reverse</td>
<td>ON</td>
<td>Selector lever in R position</td>
<td>Changes in indication may be delayed. This is normal.</td>
</tr>
<tr>
<td></td>
<td>OFF</td>
<td>Selector lever in any position other than R position</td>
<td></td>
</tr>
<tr>
<td></td>
<td>—</td>
<td>Ignition switch in ACC position</td>
<td></td>
</tr>
<tr>
<td>IVCS</td>
<td>OFF</td>
<td>—</td>
<td>This vehicle does not use it.</td>
</tr>
<tr>
<td>Light</td>
<td>ON</td>
<td>Lighting switch ON</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>OFF</td>
<td>Lighting switch OFF</td>
<td>—</td>
</tr>
</tbody>
</table>

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AV-166

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NAVIGATION SYSTEM

AUTO CLIMATE CONTROL
Refer to ATC-47, "Self-diagnosis Function".

NAVIGATION
Each diagnosis is shown by selecting each screen switch on Confirmation/Adjustment screen.

Display Diagnosis
Color tone and shading of the NAVI control unit-generated image can be checked by the display of a color bar and a gray scale.

- If RGB signal is malfunctioning, the tint of the color bar display is as follows.
  - R (red) signal error : Light blue (Cyan) tint
  - G (green) signal error : Purple (Magenta) tint
  - B (blue) signal error : Yellow tint
NAVIGATION SYSTEM

Vehicle Signals
A comparison check can be made of each actual vehicle signal and
the signals recognized by the NAVI control unit.

<table>
<thead>
<tr>
<th>Diagnosis item</th>
<th>Display</th>
<th>Condition</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle speed</td>
<td>ON</td>
<td>When vehicle speed is more than 0 km/h (0 MPH)</td>
<td>Changes in indication may be delayed. This is normal.</td>
</tr>
<tr>
<td></td>
<td>OFF</td>
<td>When vehicle speed is 0 km/h (0 MPH)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>—</td>
<td>Ignition switch in ACC position</td>
<td></td>
</tr>
<tr>
<td>Lights</td>
<td>ON</td>
<td>Lighting switch ON</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OFF</td>
<td>Lighting switch OFF</td>
<td></td>
</tr>
<tr>
<td>Ignition</td>
<td>ON</td>
<td>Ignition switch ON</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OFF</td>
<td>Ignition switch ACC position</td>
<td></td>
</tr>
<tr>
<td>Reverse</td>
<td>ON</td>
<td>Selector lever in R position</td>
<td>Changes in indication may be delayed. This is normal.</td>
</tr>
<tr>
<td></td>
<td>OFF</td>
<td>Selector lever in any position other than R position</td>
<td></td>
</tr>
<tr>
<td></td>
<td>—</td>
<td>Ignition switch in ACC position</td>
<td></td>
</tr>
</tbody>
</table>

Navigation
Steering Angle Adjustment
The steering angle output value detected by the gyroscope can be adjusted.

Speed Calibration
Usually the automatic distance correction function adjusts the malfunction in distance caused by the tires wearing down or the tire pressure change. If prompt adjustment is necessary when the tire chains are installed, etc., perform this procedure.
Error History

Diagnosis results of self-diagnosis depend on if any error occurred during the time after selecting “Self Diagnosis” until self-diagnosis results is displayed. Meanwhile, when an error occurs before selecting “Self Diagnosis”, and if an error does not occur until self-diagnosis results is displayed, a diagnosis result is judged as normal. Consequently, a diagnosis needs to be performed with “Error History” for the past error that is not available with self-diagnosis.

“Error History” displays the time and place of the most recent occurrence of that error. However, take note of the following points.

- Correct time of the error occurrence may not be displayed when the GPS antenna substrate within the NAVI control unit has malfunctioned.
- Place of the error occurrence is represented by the position of the vehicle mark at the time when the error occurred. If the vehicle mark has deviated from the correct position, then the place of the error occurrence may not be located correctly.
- When the ignition switch is turned ON if the error is detected, the counter increases 1. Even if it is normal when the ignition switch is turned ON the next time, the counter does not decrease.
- The upper limit of the counter is 50. 51 or more is displayed as 50. It can be reset to 0 by “Delete log” switch.
## Diagnosis by Error History

- **When having a difficulty on the investigation of cause due to multiple errors with a reproducible malfunction, turn ON the ignition switch from OFF mode after making a memo of the item and number of time (or delete “Error History”). Check “Error History” again after the malfunction was reproduced, and then perform diagnosis focusing on the item of which number of time increased.**

- **DVD-ROM error history may be restored because DVD-ROM cannot be temporarily read. (Driving on rough road etc.) Then, erase the error history. (This is not a malfunction.) Perform service in “Action to take” if error history are repeatedly indicated again.**

<table>
<thead>
<tr>
<th>Error Item</th>
<th>Possible cause</th>
<th>Action to take</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPS Antenna Error</td>
<td>GPS antenna connection malfunction is detected.</td>
<td>1. Start self-diagnosis, and make sure of the result.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. If any error is found, GO TO 3. If any error is not found, delete the error history and end the diagnosis. (This is not a malfunction.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Check if GPS antenna feeder line is snapped or pinched.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. If the results from the above checkup show no malfunction, replace GPS antenna, and then restart self-diagnosis.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. If self-diagnosis results still show any malfunction, replace NAVI control unit.</td>
</tr>
<tr>
<td>FLASH-ROM Error Of Control Unit</td>
<td>NAVI control unit malfunction is detected.</td>
<td>1. Start self-diagnosis, and make sure of the result.</td>
</tr>
<tr>
<td>Connection Of Gyro</td>
<td></td>
<td>2. If any error is found, replace NAVI control unit. Refer to AV-200, “Removal and Installation of NAVI Control Unit”.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>If any error is not found, delete the error history and end the diagnosis. (This is not a malfunction.)</td>
</tr>
<tr>
<td>GPS Communication Error</td>
<td>GPS malfunction is detected.</td>
<td>If the symptoms such as the GPS receipt malfunction occur, intermittent malfunction caused by strong radio interference may be detected.</td>
</tr>
<tr>
<td>GPS ROM Error</td>
<td></td>
<td>If the malfunction always occurs, replace NAVI control unit.</td>
</tr>
<tr>
<td>GPS RAM Error</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPS RTC Error</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DVD-ROM Mechanism not Detected</td>
<td></td>
<td>1. Check if the inserted DVD-ROM is specified for this navigation system, and the DVD-ROM is dirty, scratched or warped.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. If the results from the above checkup show no malfunction, insert the same DVD-ROM, and then restart self-diagnosis.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. If self-diagnosis results still show any malfunction, replace NAVI control unit.</td>
</tr>
</tbody>
</table>
Delete Unit Connection Log

Erase the connection history of unit and error history that is recorded in NAVI control unit (clear the connection history of the removed unit).
CAN DIAG SUPPORT MONITOR
OPERATION PROCEDURE

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

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

6. The transmitting/receiving of CAN communication can be monitored.

<table>
<thead>
<tr>
<th>Item</th>
<th>Content</th>
<th>Error counter (Reference value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAN_COMM</td>
<td>OK/NG</td>
<td>0 - 50</td>
</tr>
<tr>
<td>CAN_CIRC_1</td>
<td>OK/UNKWN</td>
<td>0 - 50</td>
</tr>
<tr>
<td>CAN_CIRC_2</td>
<td>OK/UNKWN</td>
<td>0 - 50</td>
</tr>
<tr>
<td>CAN_CIRC_3</td>
<td>OK/UNKWN</td>
<td>0 - 50</td>
</tr>
<tr>
<td>CAN_CIRC_4</td>
<td>OK/UNKWN</td>
<td>0 - 50</td>
</tr>
<tr>
<td>CAN_CIRC_5</td>
<td>OK/UNKWN</td>
<td>0 - 50</td>
</tr>
<tr>
<td>CAN_CIRC_6</td>
<td>OK/UNKWN</td>
<td>0 - 50</td>
</tr>
<tr>
<td>CAN_CIRC_7</td>
<td>OK/UNKWN</td>
<td>0 - 50</td>
</tr>
<tr>
<td>CAN_CIRC_8</td>
<td>OK/UNKWN</td>
<td>0 - 50</td>
</tr>
<tr>
<td>CAN_CIRC_9</td>
<td>OK/UNKWN</td>
<td>0 - 50</td>
</tr>
</tbody>
</table>

NOTE:
Counter shows the status of CAN communication.
A/C and AV Switch Self-Diagnosis Function

Performing self-diagnosis makes it possible to check operation of A/C and AV switch indicator (LED) and other switch.

STARTING THE SELF-DIAGNOSIS MODE

1. Turn ignition switch from OFF to ACC.
2. Within 10 seconds press and hold the switches “1” and “6” simultaneously for 3 seconds.

DIAGNOSIS FUNCTION

The following are checked:

- All the indicators (LED) in the A/C and AV switch.
- Continuity of the switches by sounding the buzzer when the A/C and AV switch and audio steering switch is pressed.
- Continuity of harness between A/C and AV switch and audio steering switch.

NOTE:

Impossible to check rear window defogger switch operation (No beep sound even under normal status).

EXITING THE SELF-DIAGNOSIS MODE

- Turn ignition switch OFF.
CONSULT-II Functions (REAR VIEW CAMERA)

CONSULT-II can display each diagnostic item using the diagnostic test modes shown following.

<table>
<thead>
<tr>
<th>Diagnosis part</th>
<th>Check Item, Diagnosis Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>REAR VIEW CAMERA</td>
<td>WORK SUPPORT</td>
<td>It can adjust the vehicle width and distance guiding lines that overlap camera image.</td>
</tr>
<tr>
<td></td>
<td>DATA MONITOR</td>
<td>Displays input data for rear view camera control unit in real-time.</td>
</tr>
<tr>
<td></td>
<td>ECU PART NUMBER</td>
<td>Displays rear view camera control unit part number.</td>
</tr>
</tbody>
</table>

CONSULT-II BASIC OPERATION PROCEDURE

**CAUTION:**
If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which carries out CAN communication.

1. With the ignition switch OFF, connect “CONSULT-II” and “CONSULT-II CONVERTER” to the data link connector, and then turn the ignition switch ON.

2. Touch “START (NISSAN BASED VEHICLE)”.  

3. Touch “REARVIEW CAMERA”. If it is not indicated, check the following items.
   - Rear view camera control unit power supply and ground circuit.
   - CONSULT-II data link connector (DLC) circuit. Refer to GI-39, “CONSULT-II Data Link Connector (DLC) Circuit”.  

Diagram:

- CONSULT-II
- Engine
- START (NISSAN BASED VEHICLE)
- START (X-BADGE VEHICLE)
- SUB MODE
- LIGHT COPY

Diagram:

- SELECT SYSTEM
  - ENGINE
  - A/T
  - ABS
  - AIR BAG
  - IPDM E/R
  - BSM

Diagram:

- Page Down
  - BACK LIGHT COPY

Diagram:

- Hood opener handle
- Data link connector
4. Touch any of “WORK SUPPORT”, “DATA MONITOR”, and “ECU PART NUMBER” on “SELECT DIAG MODE” screen.

WORK SUPPORT
Operation Procedure
1. Touch “WORK SUPPORT” on “SELECT DIAG MODE” screen.
2. Touch “SELECT GUIDELINE PATTERN” or “ADJ GUIDELINE POSITION” on “SELECT WORK ITEM” screen.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SELECT GUIDELINE PATTERN</td>
<td>The opening of the vehicle width and distance guiding lines can be selected from 2 patterns.</td>
</tr>
<tr>
<td>ADJ GUIDELINE POSITION</td>
<td>Make fine adjustment to the vehicle width and distance guiding lines upper/lower/left/right</td>
</tr>
</tbody>
</table>

For details, refer to AV-176, "Vehicle Width and Distance Guiding Line Correction".

DATA MONITOR
Operation Procedure
1. Touch “DATA MONITOR” on “SELECT DIAG MODE” screen.
2. Touch either “ALL SIGNALS” or “SELECTION FROM MENU” on “SELECT MONITOR ITEM” screen.
3. When “SELECTION FROM MENU” is selected, touch individual items to be monitored. When “ALL SIGNALS” is selected, all the items will be monitored.
4. Touch “START”.
5. Touch “RECORD” while monitoring, then the status of the monitored item can be recorded. To stop recording, touch “STOP”.

Display Item List

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>R POSI SIG [ON/OFF]</td>
<td>“ON (Selector lever R position)/OFF (other than R position)” status as judged from the reverse signal is displayed.</td>
</tr>
</tbody>
</table>
Vehicle Width and Distance Guiding Line Correction

DESCRIPTION

CONSULT-II is used to modify the guiding lines of the width of vehicle and the distance from rear end of vehicle on the rear view monitor when these lines are derated from the actual width and/or distance, because of rear view camera replacement, etc.

VEHICLE WIDTH AND DISTANCE GUIDING LINE CORRECTION PROCEDURE

1. Create a correction line to modify the guiding lines inside monitors. Draw lines on the 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 m (3.28 ft), 2 m (6.56 ft), and 3 m (9.84 ft) from the rear end of the bumper.

2. Connect CONSULT-II and CONSULT-II CONVERTER, and then touch “REARVIEW CAMERA” on “SELECT SYSTEM” screen.

**WARNING:**
Correct the guiding line with the engine stopped for safety.

3. Shift selector lever to R position.
4. Touch “ADJ GUIDELINE POSITION” on “SELECT WORK ITEM” screen.

**NOTE:**
When starting “ADJ GUIDELINE POSITION” mode, vehicle width guiding lines may move horizontally. It is normal.

5. Touch “X UP”, “X DOWN”, “Y UP”, and “Y DOWN” so as to align with a correction line created, and then adjust the guiding lines.

6. If the guiding lines align with the correction lines, touch “SAVE” so as to fix the lines, and then end the correction by touching “END”. GO TO 7 if the guiding lines do not align with the correction lines.

7. Touch “SELECT GUIDELINE PATTERN” on SELECT WORK ITEM screen.

8. Change the pattern of the guiding lines by touching “UP” or “DOWN”. [Select from among 2 patterns (“PATTERN NO. 0 or 1”) of the guiding lines.]

9. Fix the pattern of the guiding lines by touching “SAVE”.

10. End the correction by touching “END”.

**NOTE:**
If the setting value is changed on “SELECT GUIDELINE PATTERN” and “ADJ GUIDELINE POSITION”, the change is not reflected at the next starting if “SAVE” is not touched.
1. Start self-diagnosis of DCU. Refer to AV-159, "Self-Diagnosis Mode (DCU)".
2. Select "CAN DIAG SUPPORT MONITOR". Refer to AV-172, "CAN DIAG SUPPORT MONITOR".

3. Record each item display description (OK/NG/UNKWN) displayed on the following CAN DIAG SUPPORT MONITOR Check Sheet.

**CAN DIAG SUPPORT MONITOR Check Sheet**

<table>
<thead>
<tr>
<th>Diagnosis item</th>
<th>Screen display</th>
<th>Diagnosis item</th>
<th>Screen display</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAN_COMM</td>
<td>OK</td>
<td>NG</td>
<td>CAN_CIRC_5</td>
</tr>
<tr>
<td>CAN_CIRC_1</td>
<td>OK</td>
<td>UNKWN</td>
<td>CAN_CIRC_6</td>
</tr>
<tr>
<td>CAN_CIRC_2</td>
<td>OK</td>
<td>UNKWN</td>
<td>CAN_CIRC_7</td>
</tr>
<tr>
<td>CAN_CIRC_3</td>
<td>OK</td>
<td>UNKWN</td>
<td>CAN_CIRC_8</td>
</tr>
<tr>
<td>CAN_CIRC_4</td>
<td>OK</td>
<td>UNKWN</td>
<td>CAN_CIRC_9</td>
</tr>
</tbody>
</table>

> After filling in CAN DIAG SUPPORT MONITOR Check Sheet, GO TO LAN-3, "Precautions When Using CONSULT-II".
Unable to Operate System with A/C and AV Switch

Symptom: Unable to operate A/C system, audio system and navigation system with A/C and AV switch. (Unable to start self-diagnosis.)

1. CHECK CONDITION

1. Turn ignition switch ON.
2. Check if an image is displayed on the screen.

Is an image displayed on the screen?
YES >> GO TO 2.
NO >> Repair malfunctioning part. Refer to AV-181, "All Images Are Not Displayed".

2. SELF-DIAGNOSIS OF A/C AND AV SWITCH

Start self-diagnosis of A/C and AV switch, and check the self-diagnosis result. Refer to AV-173, "A/C and AV Switch Self-Diagnosis Function".

OK or NG
OK >> GO TO 4.
NG >> GO TO 3.

3. CHECK A/C AND AV SWITCH POWER SUPPLY AND GROUND CIRCUIT

1. Check voltage between A/C and AV switch harness connector terminals and ground.

<table>
<thead>
<tr>
<th>Terminals</th>
<th>OFF</th>
<th>ACC</th>
<th>ON</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M48</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(-)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(+)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Terminal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Ground</td>
<td>Battery voltage</td>
<td>Battery voltage</td>
<td>Battery voltage</td>
</tr>
<tr>
<td>2 Ground</td>
<td>0 V</td>
<td>Battery voltage</td>
<td>Battery voltage</td>
</tr>
</tbody>
</table>

2. Turn ignition switch OFF.
3. Disconnect A/C and AV switch connector.
4. Check continuity between A/C and AV switch harness connector M48 terminal 5 and ground.

5 – Ground : Continuity should exist.

OK or NG
OK >> Replace A/C and AV switch.
NG >> Repair harness or connector.
4. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect display control unit and A/C and AV switch connectors.
3. Check continuity between display control unit harness connector (A) M43 terminals 28, 30 and A/C and AV switch harness connector (B) M48 terminals 6, 8.

   - 28 – 6 : Continuity should exist.
   - 30 – 8 : Continuity should exist.

4. Check continuity between display control unit harness connector (A) M43 terminals 28, 30 and ground.

   - 28, 30 – Ground : Continuity should not exist.

OK or NG

OK >> GO TO 5.
NG >> Repair harness or connector.

5. CHECK A/C AND AV SWITCH AND DISPLAY CONTROL UNIT

1. Replace A/C and AV switch or display control unit.
2. Make sure that A/C system, audio system and navigation system can be operated by A/C and AV switch.

OK or NG

OK >> INSPECTION END
NG >> Replace the other unit.
All Images Are Not Displayed

Symptom: RGB image and rear view image are not displayed.

1. CHECK CONDITION

When operating audio and air conditioner, make sure that they operate correctly.

- YES >> GO TO 2.
- NO >> GO TO 5.

2. CHECK DISPLAY GROUND CIRCUIT

- Turn ignition switch OFF.
- Disconnect display connector.
- Check continuity between display harness connector M38 terminal 1 and ground.

- 1 – Ground : Continuity should exist.

OK or NG
- OK >> GO TO 3.
- NG >> Repair harness or connector.

3. CHECK HARNESS

- Disconnect display control unit connector.
- Check continuity between display control unit harness connector (A) M42 terminals 2, 4, 5, 7 and display harness connector (B) M38 terminals 2, 3, 13, 14.

- 2 – 2 : Continuity should exist.
- 4 – 3 : Continuity should exist.
- 5 – 13 : Continuity should exist.
- 7 – 14 : Continuity should exist.

OK or NG
- OK >> GO TO 4.
- NG >> Repair harness or connector.
4. CHECK DISPLAY POWER SUPPLY AND GROUND CIRCUIT (INVERTER AND SIGNAL)

1. Connect display control unit and display connectors.
2. Turn ignition switch ON.
3. Check voltage between display control unit harness connector M42 terminals 2 and 5.
   
   2 – 5 : Approx. 9 V

4. Check voltage between display control unit harness connector M42 terminals 4 and 7.
   
   4 – 7 : Approx. 9 V

   OK or NG
   OK >> Replace display.
   NG >> Replace display control unit.

5. CHECK DISPLAY CONTROL UNIT POWER SUPPLY AND GROUND CIRCUIT

1. Check voltage between display control unit harness connector terminals and ground.

<table>
<thead>
<tr>
<th>Terminals</th>
<th>OFF</th>
<th>ACC</th>
<th>ON</th>
</tr>
</thead>
<tbody>
<tr>
<td>(+)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connector</td>
<td>Terminal</td>
<td>Battery voltage</td>
<td>Battery voltage</td>
</tr>
<tr>
<td>M42</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>Battery voltage</td>
<td>Battery voltage</td>
</tr>
</tbody>
</table>

2. Turn ignition switch OFF.
3. Disconnect display control unit connector.
4. Check continuity between display control unit harness connector M42 terminal 3 and ground.

   3 – Ground : Continuity should exist.

   OK or NG
   OK >> Replace display control unit.
   NG >> Repair harness or connector.
Rear View Image Is Not Displayed (RGB Image Is Displayed)

Symptom: Rear view image is not displayed when selector lever is set in R position. (RGB image is displayed.)

1. **CHECK CONDITION**

1. Turn ignition switch ON.
2. Check if the screen holds current display or shows nothing but warning message when shifting selector lever to R position.

**Does the screen change?**

- YES >> GO TO 2.
- NO >> GO TO 12.

2. **CONSULT-II FUNCTIONS**

1. With the ignition switch OFF, connect “CONSULT-II” and “CONSULT-II CONVERTER” to the data link connector, and then turn the ignition switch ON. Refer to AV-174, "CONSULT-II BASIC OPERATION PROCEDURE".
2. Check if “REARVIEW CAMERA” is shown on the SELECT SYSTEM screen.

**Is "REARVIEW CAMERA" shown?**

- YES >> GO TO 3.
- NO >> Check rear view camera control unit power supply and ground circuit, and repair malfunctioning part.

3. **CONSULT-II FUNCTIONS**

Check if reverse signals input to the rear view camera control unit are normal with DATA MONITOR. Refer to AV-175, "DATA MONITOR".

**OK or NG**

- OK >> GO TO 4.
- NG >> Check rear view camera control unit reverse signal circuit, and repair malfunctioning part.

4. **CHECK HARNESS**

1. Turn ignition switch OFF.
2. Disconnect rear view camera control unit and rear view camera connectors.
3. Check continuity between rear view camera control unit harness connector (A) B37 terminals 8, 10 and rear view camera harness connector (B) D109 terminals 1, 3.

   - 8 – 1 : Continuity should exist.
   - 10 – 3 : Continuity should exist.

4. Check continuity between rear view camera control unit harness connector (A) B37 terminals 8, 10 and ground.

   - 8, 10 – Ground : Continuity should not exist.

**OK or NG**

- OK >> GO TO 5.
- NG >> Repair harness or connector.
5. **CHECK REAR VIEW CAMERA GROUND CIRCUIT**

Check continuity between rear view camera harness connector D109 terminal 2 and ground.

2 – Ground: Continuity should exist.

OK or NG
- OK >> GO TO 6.
- NG >> Repair harness or connector.

6. **CHECK REAR VIEW CAMERA POWER SUPPLY CIRCUIT**

1. Connect rear view camera control unit and rear view camera connectors.
2. Turn ignition switch ON.
3. When displaying rear view image, check voltage between rear view camera control unit harness connector B37 terminal 8 and ground.

8 – Ground: Approx. 6 V

OK or NG
- OK >> GO TO 7.
- NG >> Replace rear view camera control unit.

7. **CHECK REAR VIEW IMAGE SIGNAL**

When displaying rear view image, check voltage waveform between rear view camera control unit harness connector B37 terminal 10 and ground with CONSULT-II or oscilloscope.

10 – Ground:

OK or NG
- OK >> GO TO 8.
- NG >> Replace rear view camera.
8. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect display and rear view camera control unit connectors.
3. Check continuity between display harness connector (A) M38 terminal 15 and rear view camera control unit harness connector (B) B37 terminal 12.
   - **15 – 12**: Continuity should exist.
4. Check continuity between display harness connector (A) M38 terminal 15 and ground.
   - **15 – Ground**: Continuity should not exist.

OK or NG
OK >> GO TO 9.
NG >> Repair harness or connector.

9. CHECK REAR VIEW IMAGE SIGNAL

1. Connect display and rear view camera control unit connectors.
2. Turn ignition switch ON.
3. When displaying rear view image, check voltage waveform between rear view camera control unit harness connector B37 terminal 12 and ground with CONSULT-II or oscilloscope.

   ![Voltage Waveform Image]

OK or NG
OK >> GO TO 10.
NG >> Replace rear view camera control unit.

10. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect display control unit and display connectors.
3. Check continuity between display control unit harness connector (A) M43 terminal 51 and display harness connector (B) M38 terminal 9.
   - **51 – 9**: Continuity should not exist.

OK or NG
OK >> GO TO 11.
NG >> Repair harness or connector.
11. **CHECK RGB AREA (YS) SIGNAL**

1. Connect display control unit and display connectors.
2. Turn ignition switch ON.
3. When displaying rear view image, check voltage waveform between display control unit harness connector M43 terminal 51 and ground with CONSULT-II or oscilloscope.

![Voltage waveform diagram](image1)

**51 – Ground:**

**OK or NG**

**OK** >> Replace display.
**NG** >> Replace display control unit.

12. **SELF-DIAGNOSIS OF DCU**

Start self-diagnosis of DCU, and check the self-diagnosis result. Refer to AV-159, "Self-Diagnosis Mode (DCU)."

**OK or NG**

**OK** >> GO TO 13.
**NG** >> Repair malfunctioning part.

13. **CHECK DISPLAY CONTROL UNIT REVERSE SIGNAL**

Select “Vehicle Signals” of Confirmation/Adjustment mode, and check the reverse signal inputting to display control unit. Refer to AV-166, "VEHICLE SIGNALS."

**OK or NG**

**OK** >> GO TO 14.
**NG** >> Check display control unit reverse signal circuit, and repair malfunctioning part.

14. **CHECK HARNESS**

1. Turn ignition switch OFF.
2. Disconnect rear view camera control unit and display control unit connectors.
3. Check continuity between rear view camera control unit harness connector (A) B37 terminal 5 and display control unit harness connector (B) M42 terminal 8.

![Continuity diagram](image2)

**5 – 8**: Continuity should exist.

**OK or NG**

**OK** >> GO TO 15.
**NG** >> Repair harness or connector.
15. CHECK CAMERA-CONNECTION RECOGNITION SIGNAL

1. Connect rear view camera control unit and display control unit connectors.
2. Turn ignition switch ON.
3. Check voltage between rear view camera control unit harness connector B37 terminal 5 and ground.
   5 – Ground : Approx. 0 V
   
   OK or NG
   OK  >> Replace display control unit.
   NG  >> Replace rear view camera control unit.
Status Screen for Audio and A/C Is Not Displayed When Showing Map Screen

Symptom: Status screen is not displayed in the lower portion of map screen when operating audio system and A/C system.

1. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect display control unit and display connectors.
3. Check continuity between display control unit harness connector (A) M43 terminals 53, 55 and display harness connector (B) M38 terminals 20, 8.

   - 53 – 20: Continuity should exist.
   - 55 – 8: Continuity should exist.

4. Check continuity between display control unit harness connector (A) M43 terminals 53, 55 and ground.

   - 53, 55 – Ground: Continuity should not exist.

OK or NG

OK >> GO TO 2.
NG >> Repair harness or connector.

2. CHECK VERTICAL SYNCHRONIZING (VP) SIGNAL

1. Connect display control unit and display connectors.
2. Turn ignition switch ON.
3. Check voltage waveform between display control unit harness connector M43 terminal 53 and ground with CONSULT-II or oscilloscope.

   53 – Ground:

OK or NG

OK >> GO TO 3.
NG >> Replace display.

3. CHECK HORIZONTAL SYNCHRONIZING (HP) SIGNAL

Check voltage waveform between display control unit harness connector M43 terminal 55 and ground with CONSULT-II or oscilloscope.

   55 – Ground:

OK or NG

OK >> Replace display control unit.
NG >> Replace display.
NAVIGATION SYSTEM

Vehicle Mark Is Not Displayed Properly

Symptom: Vehicle mark is not displayed at the vehicle driving position properly.

1. NAVIGATION SYSTEM ADJUSTMENT


2. Check symptom with driving.

Is any malfunction observed?

YES >> GO TO 2.

NO >> INSPECTION END

2. SELF-DIAGNOSIS OF NAVI

Start self-diagnosis of NAVI, and check any malfunction related to GPS. Refer to AV-162, “Self-Diagnosis Mode (NAVI)”.

Is any malfunction related to GPS observed?

YES >> Repair malfunctioning part.

NO >> GO TO 3.

3. CHECK VEHICLE SIGNAL

Select “Vehicle Signals” in Confirmation/Adjustment mode, and check the vehicle speed signal and reverse signal inputting to NAVI control unit. Refer to AV-168, “Vehicle Signals”.

OK or NG

OK >> Limit of position detection capacity.

NG >> • Check NAVI control unit vehicle speed signal circuit, and repair malfunctioning part.

         • Check NAVI control unit reverse signal circuit, and repair malfunctioning part.
Tint Is Strange for The RGB Image

Symptom: Tint of all RGB images is strange.

1. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect display control unit and display connectors.
3. Check the malfunctioning circuit according to the symptoms.

- **Light blue (Cyan) tinged screen**
  Check continuity between display control unit harness connector (A) M43 terminal 50 and display harness connector (B) M38 terminal 17.
  
  \[
  \text{50 – 17} \quad : \text{Continuity should exist.}
  \]
  Check continuity between display control unit harness connector (A) M43 terminal 50 and ground.
  
  \[
  \text{50 – Ground} \quad : \text{Continuity should not exist.}
  \]

- **Purple (Magenta) tinged screen**
  Check continuity between display control unit harness connector (A) M43 terminal 52 and display harness connector (B) M38 terminal 6.
  
  \[
  \text{52 – 6} \quad : \text{Continuity should exist.}
  \]
  Check continuity between display control unit harness connector (A) M43 terminal 52 and ground.
  
  \[
  \text{52 – Ground} \quad : \text{Continuity should not exist.}
  \]

- **Yellow tinged screen**
  Check continuity between display control unit harness connector (A) M43 terminal 54 and display harness connector (B) M38 terminal 18.
  
  \[
  \text{54 – 18} \quad : \text{Continuity should exist.}
  \]
  Check continuity between display control unit harness connector (A) M43 terminal 54 and ground.
  
  \[
  \text{54 – Ground} \quad : \text{Continuity should not exist.}
  \]

OK or NG

- OK >> GO TO 2.
- NG >> Repair harness or connector.
2. CHECK RGB SIGNAL

1. Connect display control unit and display connectors.
2. Turn ignition switch ON.
3. Start Confirmation/Adjustment mode. Refer to AV-165, "Confirmation/Adjustment Mode".
4. Display color bar by selecting “Display Color Spectrum Bar” on Display Diagnosis screen. Refer to AV-166, "DISPLAY DIAGNOSIS".
5. Check the malfunctioning circuit according to the symptoms.
   - **Light blue (Cyan) tinged screen**
     Check voltage waveform between display control unit harness connector M43 terminal 50 and ground with CONSULT-II or oscilloscope.

   ![Diagram](image1)

   **50 – Ground:**

   ![Diagram](image2)

   **Purple (Magenta) tinged screen**
   Check voltage waveform between display control unit harness connector M43 terminal 52 and ground with CONSULT-II or oscilloscope.

   ![Diagram](image3)

   **52 – Ground:**

   ![Diagram](image4)

   **Yellow tinged screen**
   Check voltage waveform between display control unit harness connector M43 terminal 54 and ground with CONSULT-II or oscilloscope.

   ![Diagram](image5)

   **54 – Ground:**

   ![Diagram](image6)

OK or NG

OK >> Replace display.
NG >> Replace display control unit.
Tint Is Strange for The RGB Image (Only NAVI Screen)

Symptom: Tint of map screen is strange. (Status screen for audio and A/C, TRIP screen and FUEL ECONOMY screen are normal.)

1. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect NAVI control unit and display unit connectors.
3. Check the malfunctioning circuit according to the symptoms.

- **Light blue (Cyan) tinged screen**
  Check continuity between NAVI control unit harness connector (A) M63 terminal 44 and display control unit harness connector (B) M43 terminal 44.
  
  44 – 44 : Continuity should exist.

  Check continuity between NAVI control unit harness connector (A) M63 terminal 44 and ground.
  
  44 – Ground : Continuity should not exist.

- **Purple (Magenta) tinged screen**
  Check continuity between NAVI control unit harness connector (A) M63 terminal 45 and display control unit harness connector (B) M43 terminal 46.
  
  45 – 46 : Continuity should exist.

  Check continuity between NAVI control unit harness connector (A) M63 terminal 45 and ground.
  
  45 – Ground : Continuity should not exist.

- **Yellow tinged screen**
  Check continuity between NAVI control unit harness connector (A) M63 terminal 46 and display control unit harness connector (B) M43 terminal 48.
  
  46 – 48 : Continuity should exist.

  Check continuity between NAVI control unit harness connector (A) M63 terminal 46 and ground.
  
  46 – Ground : Continuity should not exist.

OK or NG

OK >> GO TO 2.
NG >> Repair harness or connector.
2. CHECK RGB SIGNAL

1. Connect NAVI control unit and display control unit connectors.
2. Turn ignition switch ON.
3. Start Confirmation/Adjustment (Navigation) mode. Refer to AV-165, "Confirmation/Adjustment Mode".
4. Display color bar by selecting “Color Spectrum bar” on Display Diagnosis screen. Refer to AV-167, "Display Diagnosis".
5. Check the malfunctioning circuit according to the symptoms.

- **Light blue (Cyan) tinged screen**
  Check voltage waveform between NAVI control unit harness connector M63 terminal 44 and ground with CONSULT-II or oscilloscope.

  ![Image](image1)

  **44 – Ground:**

- **Purple (Magenta) tinged screen**
  Check voltage waveform between NAVI control unit harness connector M63 terminal 45 and ground with CONSULT-II or oscilloscope.

  ![Image](image2)

  **45 – Ground:**

- **Yellow tinged screen**
  Check voltage waveform between NAVI control unit harness connector M63 terminal 46 and ground with CONSULT-II or oscilloscope.

  ![Image](image3)

  **46 – Ground:**

**OK** or **NG**

- **OK** => Replace display control unit.
- **NG** => Replace NAVI control unit.
RGB Image Is Rolling
Symptom: Map screen is rolling.

1. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect NAVI control unit and display control unit connectors.
3. Check continuity between NAVI control unit harness connector (A) M63 terminal 48 and display control unit harness connector (B) M43 terminal 43.

   48 – 43 : Continuity should exist.

4. Check continuity between NAVI control unit harness connector (A) M63 terminal 48 and ground.

   48 – Ground : Continuity should not exist.

OK or NG
OK >> GO TO 2.
NG >> Repair harness or connector.

2. CHECK RGB SYNCHRONIZING SIGNAL

1. Connect NAVI control unit and display control unit connectors.
2. Turn ignition switch ON.
3. When displaying RGB image, check voltage waveform between NAVI control unit harness connector M63 terminal 48 and ground with CONSULT-II or oscilloscope.

   48 – Ground:

OK or NG
OK >> GO TO 3.
NG >> Replace NAVI control unit.

3. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect display control unit and display connectors.
3. Check continuity between display control unit harness connector (A) M43 terminal 56 and display harness connector (B) M38 terminal 19.

   56 – 19 : Continuity should exist.

4. Check continuity between display control unit harness connector (A) M43 terminal 56 and ground.

   56 – Ground : Continuity should not exist.

OK or NG
OK >> GO TO 4.
NG >> Repair harness or connector.
NAVIGATION SYSTEM

4. CHECK RGB SYNCHRONIZING SIGNAL

1. Connect display control unit and display connectors.
2. Turn ignition switch ON.
3. When displaying RGB image, check voltage waveform between display control unit harness connector M43 terminal 56 and ground with CONSULT-II or oscilloscope.

![Voltage Waveform Diagram]

OK or NG
- OK >> Replace display.
- NG >> Replace display control unit.

Values for All Items in The TRIP Screen Do Not Change

Symptom: Values for items, “Elapsed Time”, “Driving Distance” and “Average Speed” in the TRIP screen do not change. FUEL ECONOMY screen is not displayed when pressing “TRIP” button.

1. CHECK DISPLAY CONTROL UNIT IGNITION SIGNAL

Select “Vehicle Signals” in Confirmation/Adjustment mode, and check the ignition signal inputting to display control unit. Refer to AV-166, “VEHICLE SIGNALS”.

OK or NG
- OK >> Replace display control unit.
- NG >> Check display control unit ignition signal circuit, and repair malfunctioning part.

Values for Items, “Driving Distance” and “Average Speed” Do Not Change

Symptom: Values for items, “Driving Distance” and “Average Speed” do not change. (The Value for “Elapsed Time” Changes.)

1. CHECK DISPLAY CONTROL UNIT VEHICLE SPEED SIGNAL

Select “Vehicle Signals” in Confirmation/Adjustment mode, and check the vehicle speed signal inputting to display control unit. Refer to AV-166, “VEHICLE SIGNALS”.

OK or NG
- OK >> Replace display control unit.
- NG >> Check display control unit vehicle speed signal circuit, and repair malfunctioning part.

Values for All Items in The FUEL ECONOMY Screen Do Not Change

Symptom: Values for items, “Average Fuel Economy” and “Distance to Empty” in the FUEL ECONOMY screen do not change.

1. CHECK CONDITION

Check if values for all items in the TRIP screen change properly.

OK or NG
- OK >> GO TO 2.
- NG >> Repair malfunctioning part. Refer to AV-195, “Values for All Items in The TRIP Screen Do Not Change” or AV-195, “Values for Items, “Driving Distance” and “Average Speed” Do Not Change”.

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AV-195

2006 Murano
2. CHECK CAN COMMUNICATION

Check CAN communication. Refer to AV-178, "CAN Communication Check".

OK or NG
OK  >> Replace display control unit.
NG  >> After filling out CAN DIAG SUPPORT MONITOR check sheet, GO TO LAN-3, "Precautions When Using CONSULT-II".

Voice Guidance Is Not Heard

Symptom: Voice guidance does not sound at route guidance.

1. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect NAVI control unit and audio unit connectors.
3. Check continuity between NAVI control unit harness connector (A) M62 terminals 12, 14 and audio unit harness connector (B) M46 terminals 36, 34.
   - 12 – 36: Continuity should exist.
   - 14 – 34: Continuity should exist.
4. Check continuity between NAVI control unit harness connector (A) M62 terminals 12, 14 and ground.
   - 12, 14 – Ground: Continuity should not exist.

OK or NG
OK  >> GO TO 2.
NG  >> Repair harness or connector.

2. CHECK VOICE GUIDANCE SIGNAL

1. Connect NAVI control unit and audio unit connectors.
2. Turn ignition switch ON.
3. Check voltage waveform between NAVI control unit harness connector M62 terminals 12 and 14 with CONSULT-II or oscilloscope.
   - 12 – 14:

OK or NG
OK  >> Replace audio unit.
NG  >> Replace NAVI control unit.
Example of Symptoms Possible No Malfunction


## BASIC OPERATIONS

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Possible cause</th>
<th>Possible solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>No image is displayed.</td>
<td>The brightness is at the lowest setting.</td>
<td>Adjust the brightness of the display.</td>
</tr>
<tr>
<td></td>
<td>The display is turned off.</td>
<td>Press and hold the */j button to turn on the display.</td>
</tr>
<tr>
<td>No voice guidance is available.</td>
<td>The volume is not set correctly, or it is turned</td>
<td>Adjust the volume of voice guidance.</td>
</tr>
<tr>
<td>or The volume is too high or too low.</td>
<td>off.</td>
<td></td>
</tr>
<tr>
<td>No map is displayed on the screen.</td>
<td>The DVD-ROM is not inserted, or it is inserted</td>
<td>Insert the DVD-ROM correctly.</td>
</tr>
<tr>
<td></td>
<td>upside down.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>A screen other than map screen is displayed.</td>
<td>Press the “MAP” button.</td>
</tr>
<tr>
<td></td>
<td>The pickup lens of the DVD unit is dirty.</td>
<td>The pickup lens can become dirty depending on the usage of the vehicle. Contact a NISSAN dealer or qualified workshop for pickup lens cleaning.</td>
</tr>
<tr>
<td>The screen is too dim. The movement is slow.</td>
<td>The temperature in the interior of the vehicle is</td>
<td>Wait until the interior of the vehicle has warmed up.</td>
</tr>
<tr>
<td></td>
<td>low.</td>
<td></td>
</tr>
<tr>
<td>Some pixels in the display are darker or</td>
<td>This condition is an inherent characteristic of</td>
<td>This is not a malfunction.</td>
</tr>
<tr>
<td>brighter than others.</td>
<td>liquid crystal displays.</td>
<td></td>
</tr>
<tr>
<td>Some menu items cannot be selected.</td>
<td>Some menu items become unavailable while the</td>
<td>Park the vehicle in a safe location, then operate the navigation system.</td>
</tr>
<tr>
<td></td>
<td>vehicle is driven.</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:**
Locations stored in the Address Book and other memory functions may be lost if the vehicle’s battery is disconnected or is discharged. If this occurs, service the vehicle’s battery as necessary and re-enter the information in the Address Book.

## VEHICLE MARKS

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Possible cause</th>
<th>Possible solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Names of roads and locations differ between</td>
<td>This is because the quantity of the displayed</td>
<td>This is not a malfunction.</td>
</tr>
<tr>
<td>plan view and BIRD-VIEW™.</td>
<td>information is reduced so that the screen does</td>
<td></td>
</tr>
<tr>
<td></td>
<td>not become difficult to read. There is also a</td>
<td></td>
</tr>
<tr>
<td></td>
<td>chance that names of the roads or locations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>may be displayed several times, and the names</td>
<td></td>
</tr>
<tr>
<td></td>
<td>appearing on the screen may be different</td>
<td></td>
</tr>
<tr>
<td></td>
<td>because of a processing procedure.</td>
<td></td>
</tr>
<tr>
<td>The vehicle mark is not displayed in the</td>
<td>The vehicle was transported after the ignition</td>
<td>Drive the vehicle for a while on a road where GPS</td>
</tr>
<tr>
<td>correct position.</td>
<td>switch was turned off, for example, by a ferry or</td>
<td>signals can be received.</td>
</tr>
<tr>
<td></td>
<td>car transporter.</td>
<td></td>
</tr>
<tr>
<td>When the vehicle is travelling on a new</td>
<td>The position and direction of the vehicle mark</td>
<td>This is not a malfunction. Drive the vehicle for a</td>
</tr>
<tr>
<td>road, the vehicle mark is located on another</td>
<td>may be incorrect depending on the driving</td>
<td>while to automatically correct the position and</td>
</tr>
<tr>
<td>road nearby.</td>
<td>environments and the levels of positioning accuracy</td>
<td>direction of the vehicle mark.</td>
</tr>
<tr>
<td></td>
<td>of the navigation system.</td>
<td></td>
</tr>
<tr>
<td>The screen does not switch to the night</td>
<td>The system automatically places the vehicle</td>
<td>Updated road information will be included in the</td>
</tr>
<tr>
<td>screen even after turning on the headlights.</td>
<td>mark on the nearest available road, because the</td>
<td>next version of the DVD-ROM.</td>
</tr>
<tr>
<td></td>
<td>new road is not stored in the map data.</td>
<td></td>
</tr>
<tr>
<td>The map does not scroll even when the</td>
<td>The daytime screen was set the last time the</td>
<td>Set the screen to the night screen mode using */j</td>
</tr>
<tr>
<td>vehicle is moving.</td>
<td>headlights were turned on.</td>
<td>button when turning on the headlights.</td>
</tr>
<tr>
<td>The vehicle mark is not displayed.</td>
<td>The current location map screen is not displayed.</td>
<td>Press the “MAP” button.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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## NAVIGATION SYSTEM

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Possible cause</th>
<th>Possible solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>The GPS indicator on the screen remains gray.</td>
<td>GPS signals cannot be received depending on the vehicle location, such as in a parking garage, on a road that has numerous tall buildings, etc.</td>
<td>Drive on an open, straight road for a while.</td>
</tr>
<tr>
<td></td>
<td>A sufficient amount of GPS satellites is not available.</td>
<td>Please wait for the satellites to move to locations available for the navigation system.</td>
</tr>
<tr>
<td>The location of the vehicle mark is misaligned from the actual position.</td>
<td>When using tire chains or replacing the tires, speed calculations based on the speed sensor may be incorrect.</td>
<td>Drive the vehicle for a while [at approximately 30 km/h (19 MPH) for about 30 minutes] to automatically correct the vehicle's mark position. If this does not correct the vehicle mark position, contact a NISSAN dealer or qualified workshop.</td>
</tr>
<tr>
<td></td>
<td>The map data has a mistake or is incomplete (the vehicle mark position is always misaligned in the same area).</td>
<td>Updated road information will be included in the next version of the DVD-ROM.</td>
</tr>
</tbody>
</table>

## DVD-ROM

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Possible cause</th>
<th>Possible solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>The message “Error” appears.</td>
<td>The DVD-ROM is dirty or partially damaged.</td>
<td>Check the DVD-ROM and wipe it clean with a soft cloth.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>If any damage, replace the DVD-ROM.</td>
</tr>
</tbody>
</table>

## ROUTE CALCULATION AND VISUAL GUIDANCE

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Possible cause</th>
<th>Possible solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>In the auto re-route calculation, waypoints are not included.</td>
<td>Waypoints that you have already passed are not included in the auto re-route calculation.</td>
<td>To go to that waypoint again, it is necessary to edit the route.</td>
</tr>
<tr>
<td>Route information is not displayed.</td>
<td>Route calculation has not yet been performed.</td>
<td>Set the destination and perform route calculation.</td>
</tr>
<tr>
<td></td>
<td>Vehicle is not driving on the suggested route.</td>
<td>Drive on the suggested route.</td>
</tr>
<tr>
<td></td>
<td>Route guidance is set to off.</td>
<td>Turn on the route guidance.</td>
</tr>
<tr>
<td>The auto re-route calculation (or detour calculation) suggests the same route as the one previously suggested.</td>
<td>Route calculations took priority conditions into consideration, but the same route was calculated.</td>
<td>This is not a malfunction.</td>
</tr>
<tr>
<td>A waypoint cannot be added.</td>
<td>Five waypoints are already set on the route, including the ones that you have already passed.</td>
<td>A maximum of 5 waypoints can be set on the route. If you want to go to 6 or more waypoints, perform route calculations several times, as necessary.</td>
</tr>
<tr>
<td>The suggested route is not displayed.</td>
<td>Roads near the destination cannot be calculated.</td>
<td>Reset the destination to a main or ordinary road, and recalculate the route.</td>
</tr>
<tr>
<td></td>
<td>The starting point and destination are too close.</td>
<td>Set a more distant destination.</td>
</tr>
<tr>
<td></td>
<td>The starting point and destination are too far away.</td>
<td>Divide your trip by selecting one or two intermediate destinations, and perform a global route calculation based on multiple route calculations.</td>
</tr>
<tr>
<td></td>
<td>There are time restricted roads (day of week, time) near the current vehicle location or destination.</td>
<td>Set [Use Time Restricted Roads] to off.</td>
</tr>
<tr>
<td>The part of the route already passed is deleted.</td>
<td>A route is managed by sections between waypoints. If passing the first waypoint, the section between the starting point and the waypoint is deleted. (It may not be deleted depending on the area.)</td>
<td>This is not a malfunction.</td>
</tr>
</tbody>
</table>
## NAVIGATION SYSTEM

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Possible cause</th>
<th>Possible solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>An indirect route is suggested.</td>
<td>If there are restrictions (such as one-way streets) on roads close to the</td>
<td>Adjust the location of the starting point or destination.</td>
</tr>
<tr>
<td></td>
<td>starting point or destination, the system may suggest an indirect route.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The system may suggest an indirect route because route calculation does</td>
<td>Reset the destination to a main or ordinary road, and recalculate the route.</td>
</tr>
<tr>
<td></td>
<td>not take into consideration some areas such as narrow streets (grey roads).</td>
<td></td>
</tr>
<tr>
<td>The landmark information does not correspond to the actual information.</td>
<td>This may be caused by insufficient or incorrect data on the DVD-ROM.</td>
<td>Updated information will be included in the next version of the DVD-ROM.</td>
</tr>
<tr>
<td>The suggested route does not exactly connect with the starting point,</td>
<td>There is no data for route calculation closer to these locations.</td>
<td>Set the starting point, waypoints and destination on a main road, and perform route calculation.</td>
</tr>
<tr>
<td>waypoints, or destination.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### VOICE GUIDANCE

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Possible cause</th>
<th>Possible solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voice guidance is not available.</td>
<td>Voice guidance is only available at certain intersections marked with 🗨.</td>
<td>This is not malfunction.</td>
</tr>
<tr>
<td></td>
<td>In some cases, voice guidance is not available even when the vehicle should</td>
<td></td>
</tr>
<tr>
<td></td>
<td>make a turn.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The vehicle has deviated from the suggested route.</td>
<td>Go back to the suggested route or request route calculation again.</td>
</tr>
<tr>
<td></td>
<td>Voice guidance is set to off.</td>
<td>Turn on the voice guidance.</td>
</tr>
<tr>
<td></td>
<td>Route guidance is set to off.</td>
<td>Turn on the route guidance.</td>
</tr>
<tr>
<td>The guidance content does not correspond to the actual condition.</td>
<td>The content of voice guidance may vary, depending on the types of intersections where turns are made.</td>
<td>Follow all traffic rules and regulations.</td>
</tr>
</tbody>
</table>

### REAR VIEW MONITOR

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Possible cause</th>
<th>Possible solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rear view monitor image is not shown.</td>
<td>Selector lever is not set to R position.</td>
<td>Shift the selector lever to R position.</td>
</tr>
<tr>
<td></td>
<td>The front glass of the camera lens is dirty.</td>
<td>Wipe it with a soft wet cloth lightly.</td>
</tr>
<tr>
<td></td>
<td>Adherence of raindrops or snow.</td>
<td>Wipe it with a soft cloth lightly.</td>
</tr>
<tr>
<td></td>
<td>The lens is illuminated directly by sunlight or light from headlight of cars behind.</td>
<td>The fuzzy image recovers when the light is covered.</td>
</tr>
<tr>
<td>Rear view monitor image is fuzzy.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Removal and Installation of NAVI Control Unit

REMOVAL
1. Remove center console. Refer to IP-17, "CENTER CONSOLE ASSEMBLY".
2. Remove console cover (LH and RH). Refer to IP-17, "CENTER CONSOLE ASSEMBLY".
3. Remove control device assembly, and remove screws (2) and nut.
4. Disconnect NAVI control unit connector.
5. Pull NAVI control unit up-ward, then vehicle rear side.  
   **CAUTION:**  
   Cover unit with cloth avoid contact with console box bracket that may cause scratches or damages.
6. Remove screws (4), and remove brackets.

INSTALLATION
Installation is the reverse order of removal.
Removal and Installation of GPS Antenna

REMOVAL
1. Remove cluster lid C. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY".
2. Remove center console. Refer to IP-17, "CENTER CONSOLE ASSEMBLY".
3. Remove console cover (LH). Refer to IP-17, "CENTER CONSOLE ASSEMBLY".
4. Remove display. Refer to AV-202, "Removal and Installation of Display".
5. Disengaged the clips (4) to separate antenna feeder.

6. Remove screw, and remove GPS antenna.

INSTALLATION
Installation is the reverse order of removal.

Removal and Installation of A/C and AV Switch
Refer to AV-61, "Removal and Installation for A/C and AV Switch".

Removal and Installation of Audio Steering Switch
Refer to AV-62, "Removal and Installation of Audio Steering Switch".
Removal and Installation of Display

REMOVAL
1. Remove center ventilator. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY".
2. Remove screws (4), and remove display.
3. Remove screws (4), and remove brackets.

INSTALLATION
Installation is the reverse order of removal.
Removal and Installation of Display Control Unit

REMOVAL
1. Remove cluster lid C. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY".
2. Remove steering lock escutcheon. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY".
3. Remove screws (2), and remove display control unit.
   **CAUTION:**
   See the figure attached, when install or remove screws for display control unit.

4. Remove screws (4), and remove brackets.

INSTALLATION
Installation is the reverse order of removal.
Removal and Installation of Rear View Camera

REMOVAL
1. Remove back door trim. Refer to EI-39, "BACK DOOR TRIM".
2. Unhook two pawls to remove the camera finisher from the back door. Pull the right pawl out with pressing the rear view camera to the left.
3. Press the resin clip from the inside of the back door with a minus screwdriver etc. Remove the rear view camera from the back door.
4. Disconnect connector.

INSTALLATION
Installation is the reverse order of removal.
Adjust the vehicle width and distance guiding line referring to AV-176, "Vehicle Width and Distance Guiding Line Correction" if there is a difference after installing rear view camera.

Removal and Installation of Rear View Camera Control Unit

REMOVAL
1. Remove luggage floor spacer (right). Refer to EI-37, "LUGGAGE FLOOR TRIM".
2. Remove screw and nut.
3. Disconnect connector, and remove rear view camera control unit.

INSTALLATION
Installation is the reverse order of removal.