SECTION AV
AUDIO, VISUAL & NAVIGATION SYSTEM

CONTENTS

BASE AUDIO

PRECAUTION 6

PRECAUTIONS 6
Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER" 6
Precautions for Removing Battery Terminal 6
Precaution for Trouble Diagnosis 7
Precaution for Harness Repair 7

SYSTEM DESCRIPTION 9

COMPONENT PARTS 9
Component Parts Location 9
Audio Unit 12
Speaker 12
Microphone 13
Antenna and Antenna Feeder 13
USB Connector and AUX Jack 16
Steering Switch 16

SYSTEM 17

AUDIO SYSTEM 17
AUDIO SYSTEM : System Description 17
AUDIO SYSTEM : Circuit Diagram 19

DIAGNOSIS SYSTEM (AUDIO UNIT) 20
On Board Diagnosis Function 20

ECU DIAGNOSIS INFORMATION 21

AUDIO UNIT 21
Reference Value 21

WIRING DIAGRAM 24

BASE AUDIO 24
Wiring Diagram 24

BASIC INSPECTION 32

DIAGNOSIS AND REPAIR WORK FLOW 32
Work Flow 32

DTC/CIRCUIT DIAGNOSIS 34

POWER SUPPLY AND GROUND CIRCUIT 34

AUDIO UNIT 34
AUDIO UNIT : Diagnosis Procedure 34

AV COMMUNICATION CIRCUIT 35
Diagnosis Procedure 35

VEHICLE SPEED SIGNAL CIRCUIT 36
Component Function Check 36
Diagnosis Procedure 36

MICROPHONE SIGNAL CIRCUIT 38
Description 38
Diagnosis Procedure 38

STEERING SWITCH SIGNAL A CIRCUIT 40
Diagnosis Procedure 40
Component Inspection 41

STEERING SWITCH SIGNAL B CIRCUIT 42
Diagnosis Procedure 42
Component Inspection 43

STEERING SWITCH SIGNAL GND CIRCUIT 44
Description 44
Diagnosis Procedure 44
Component Inspection 44

SYMPTOM DIAGNOSIS 46

AUDIO SYSTEM SYMPTOMS 46
Symptom Table 46

HANDS-FREE PHONE SYMPTOMS 48
Symptom Table 48

NORMAL OPERATING CONDITION 49

Description 49

REMOVAL AND INSTALLATION 51

AUDIO UNIT 51
Removal and Installation 51

FRONT DOOR SPEAKER 52
Removal and Installation 52

REAR DOOR SPEAKER 53
Removal and Installation 53

FRONT SQUAWKER 54
Removal and Installation 54

USB CONNECTOR AND AUX JACK 55
Removal and Installation 55

MICROPHONE 56
Removal and Installation 56

STEERING SWITCH 57
Removal and Installation 57

ROOF ANTENNA 58
Exploded View 58
Removal and Installation 58

ANTENNA FEEDER 59
Feeder Layout 59

WITH NAVIGATION

PRECAUTION 61

PRECAUTIONS 61
Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER" 61
Precautions for Removing Battery Terminal 61
Precaution for Trouble Diagnosis 62
Precaution for Harness Repair 62

SYSTEM DESCRIPTION 64

COMPONENT PARTS 64
Component Parts Location 64
NAVI Control Unit 68
Speaker 69
Microphone 70
Steering Switch 71
Antenna and Antenna Feeder 71
USB Connector and AUX Jack 76
SD Card 76
Steering Angle Sensor 76
Around View Monitor Control Unit 76
Front Camera 76
Side Camera 77
Rear Camera 77

SYSTEM 78
System Description 78
Circuit Diagram 90
Fail-Safe (NAVI Control Unit) 91
Fail-Safe (Around View Monitor Control Unit) 92

DIAGNOSIS SYSTEM (NAVI CONTROL UNIT) 96
On Board Diagnosis Function 96
CONSULT Function 97

DIAGNOSIS SYSTEM (AROUND VIEW MONITOR CONTROL UNIT) 99
CONSULT Function 99

ECU DIAGNOSIS INFORMATION 105

NAVI CONTROL UNIT 105
Reference Value 105
Fail-Safe (NAVI Control Unit) 109
DTC Inspection Priority Chart 109
DTC Index 110

AROUND VIEW MONITOR CONTROL UNIT .. 111
Reference Value 111
Fail-Safe (Around View Monitor Control Unit) 117
DTC Inspection Priority Chart 120
DTC Index 120

WIRING DIAGRAM 122

NAVIGATION SYSTEM 122

LHD 122
LHD : Wiring Diagram 122

RHD 137
RHD : Wiring Diagram 138

BASIC INSPECTION 153

DIAGNOSIS AND REPAIR WORKFLOW 153

MULTI AV SYSTEM 153
MULTI AV SYSTEM : Work Flow 153

AROUND VIEW MONITOR SYSTEM 154
AROUND VIEW MONITOR SYSTEM : Work Flow . 155

INSPECTION AND ADJUSTMENT 157

ADDITIONAL SERVICE WHEN REPLACING NAVI CONTROL UNIT 157
ADDITIONAL SERVICE WHEN REPLACING NAVI CONTROL UNIT : Description 157

CONFIGURATION (NAVI CONTROL UNIT) 157
CONFIGURATION (NAVI CONTROL UNIT) : Description 157
CONFIGURATION (NAVI CONTROL UNIT) : Work Procedure 157

ADDITIONAL SERVICE WHEN REPLACING AROUND VIEW MONITOR CONTROL UNIT 158

ADDITIONAL SERVICE WHEN REPLACING AROUND VIEW MONITOR CONTROL UNIT : Description 158
ADDITIONAL SERVICE WHEN REPLACING AROUND VIEW MONITOR CONTROL UNIT : Work Procedure 159

CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT) 159
CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT) : Work Procedure 159

PREDICTIVE COURSE LINE CENTER POSITION ADJUSTMENT 160
PREDICTIVE COURSE LINE CENTER POSITION ADJUSTMENT : Description 160
PREDICTIVE COURSE LINE CENTER POSITION ADJUSTMENT : Work Procedure 161

CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) 161
CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Description 161
CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Work Procedure 161

DTC/CIRCUIT DIAGNOSIS 166

C1A00 CONTROL UNIT 166
DTC Description 166
Diagnosis Procedure 166

C1A01 POWER SUPPLY CIRCUIT 167
DTC Description 167
Diagnosis Procedure 167

C1A03 VEHICLE SPEED SENSOR 168
DTC Description 168
Diagnosis Procedure 168

C1A04 ABS/TCS/VDC SYSTEM 170
DTC Description 170
Diagnosis Procedure 170

C1A07 CVT 171
DTC Description 171
Diagnosis Procedure 171

C1A39 STEERING ANGLE SENSOR 172
DTC Description 172
Diagnosis Procedure 172

C1B56 SONAR 173
DTC Description 173
Diagnosis Procedure 173

U0122 ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) 174
DTC Description 174
Diagnosis Procedure 174

U0416 ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) 175
DTC Description 175
Diagnosis Procedure 175

U0428 STEERING ANGLE SENSOR 176
DTC Description 176
Diagnosis Procedure 176

U1000 CAN COMM CIRCUIT 177

NAVI CONTROL UNIT 177
NAVI CONTROL UNIT : DTC Description 177
NAVI CONTROL UNIT : Diagnosis Procedure 177

AROUND VIEW MONITOR CONTROL UNIT 177
AROUND VIEW MONITOR CONTROL UNIT : DTC Description 178
AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure 178

U1010 CONTROL UNIT (CAN) 180

NAVI CONTROL UNIT 180
NAVI CONTROL UNIT : DTC Description 180
NAVI CONTROL UNIT : Diagnosis Procedure 180

AROUND VIEW MONITOR CONTROL UNIT 180
AROUND VIEW MONITOR CONTROL UNIT : DTC Description 180
AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure 181

U111A REAR CAMERA IMAGE SIGNAL CIRCUIT 182
DTC Description 182
Diagnosis Procedure 182

U111B SIDE CAMERA RH IMAGE SIGNAL CIRCUIT 186
DTC Description 186
Diagnosis Procedure 186

U111C FRONT CAMERA IMAGE SIGNAL CIRCUIT 192
DTC Description 192
Diagnosis Procedure 192

U111D SIDE CAMERA LH IMAGE SIGNAL CIRCUIT 195
DTC Description 195
Diagnosis Procedure 195

U112F EPS CIRCUIT 201
DTC Description 201
Diagnosis Procedure 201

U1217 NAVI CONTROL UNIT 202
DTC Description 202
Diagnosis Procedure 202

U1229 NAVI CONTROL UNIT 203

DTC Description 203
Diagnosis Procedure 203

U122F NAVI CONTROL UNIT 204
DTC Description 204
Diagnosis Procedure 204

U1232 STEERING ANGLE SENSOR 205
DTC Description 205
Diagnosis Procedure 205

U1244 GPS ANTENNA 206
DTC Description 206
Diagnosis Procedure 206

U1263 USB 208
DTC Description 208
Diagnosis Procedure 208

U12AA CONFIGURATION ERROR 209
DTC Description 209
Diagnosis Procedure 209

U12AB ANTENNA 210
DTC Description 210
Diagnosis Procedure 210

U12AC NAVI CONTROL UNIT 212
DTC Description 212
Diagnosis Procedure 212

U12AD NAVI CONTROL UNIT 213
DTC Description 213
Diagnosis Procedure 213

U12AE NAVI CONTROL UNIT 214
DTC Description 214
Diagnosis Procedure 214

U12AF NAVI CONTROL UNIT 215
DTC Description 215
Diagnosis Procedure 215

U12B0 POWER SUPPLY VOLTAGE 216
DTC Description 216
Diagnosis Procedure 216

U12B1 POWER SUPPLY VOLTAGE 217
DTC Description 217
Diagnosis Procedure 217

U12B2 DAB ANTENNA 218
DTC Description 218
Diagnosis Procedure 218

U1300 AV COMM CIRCUIT 220
DTC Description 220
Diagnosis Procedure 220

U1302 CAMERA POWER VOLT 222
DTC Description 222
Diagnosis Procedure 222

U1304 CAMERA IMAGE CALIBRATION 230
DTC Description 230
Diagnosis Procedure 230

U1305 CONFIG UNFINISH 231
DTC Description 231
Diagnosis Procedure 231

U1308 REAR CAMERA 232
DTC Description 232
Diagnosis Procedure 232

U1309 AIR PUMP 233
DTC Description 233
Diagnosis Procedure 233

U130A PUMP CONTROL UNIT 234
DTC Description 234
Diagnosis Procedure 234

U130B REAR CAMERA 235
DTC Description 235
Diagnosis Procedure 235

U1310 NAVI CONTROL UNIT 236
DTC Description 236
Diagnosis Procedure 236

U1320 REPROGRAMMING 237
DTC Description 237
Diagnosis Procedure 237

U150E BCM CIRCUIT 238
DTC Description 238
Diagnosis Procedure 238

U1971 SONAR 239
DTC Description 239
Diagnosis Procedure 239

U1972 EPS 240
DTC Description 240
Diagnosis Procedure 240

POWER SUPPLY AND GROUND CIRCUIT ...241

NAVI CONTROL UNIT 241
NAVI CONTROL UNIT : Diagnosis Procedure 241

AROUND VIEW MONITOR CONTROL UNIT 241
AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure 241

MICROPHONE SIGNAL CIRCUIT 243
Description 243
Diagnosis Procedure 243

CAMERA IMAGE SIGNAL CIRCUIT 245
Description 245
Diagnosis Procedure 245

STEERING SWITCH SIGNAL A CIRCUIT 247
Diagnosis Procedure 247

Component Inspection 248

STEERING SWITCH SIGNAL B CIRCUIT 249
Diagnosis Procedure 249
Component Inspection 250

STEERING SWITCH GROUND CIRCUIT 251
Diagnosis Procedure 251
Component Inspection 251

SYMPTOM DIAGNOSIS 252

MULTI AV SYSTEM 252
Symptom Table 252

HANDS-FREE PHONE SYMPTOMS 256
Symptom Table 256

NORMAL OPERATING CONDITION 257
Description 257

REMOVAL AND INSTALLATION 262

NAVI CONTROL UNIT 262
Removal and Installation 262

FRONT DOOR SPEAKER 263
Removal and Installation 263

REAR DOOR SPEAKER 264
Removal and Installation 264

FRONT SQUAWKER 265
Removal and Installation 265

USB CONNECTOR AND AUX JACK 266
Removal and Installation 266

GPS ANTENNA 267
Feeder Layout 267
Removal and Installation 267

AROUND VIEW MONITOR CONTROL UNIT . 268
Removal and Installation 268

FRONT CAMERA 269
Removal and Installation 269

REAR CAMERA 270
Removal and Installation 270

SIDE CAMERA 271
Removal and Installation 271

MICROPHONE 272
Removal and Installation 272

STEERING SWITCH 273
Removal and Installation 273

STEERING ANGLE SENSOR 274
Exploded View 274
Removal and Installation 274

ROOF ANTENNA 275
Exploded View 275
Removal and Installation 275

ANTENNA FEEDER 276
Feeder Layout 276

PRECAUTION

PRECAUTIONS

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

INFOID:0000000010714743

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

WARNING:

Always observe the following items for preventing accidental activation.

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

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

WARNING:

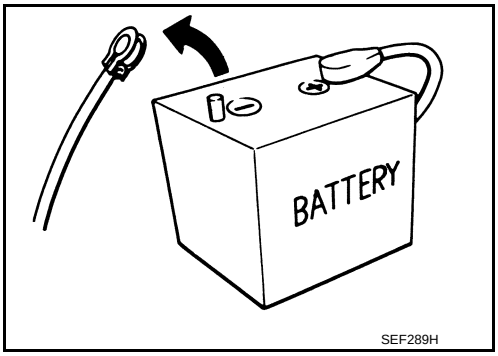
Always observe the following items for preventing accidental activation.

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

Precautions for Removing Battery Terminal

INFOID:0000000011010175

- With the adoption of Auto ACC function, ACC power is automatically supplied by operating the intelligent key or remote keyless entry or by opening/closing the driver side door. In addition, ACC power is supplied even after the ignition switch is turned to the OFF position, i.e. ACC power is supplied for a certain fixed time.
- When disconnecting the 12V battery terminal, turn off the ACC power before disconnecting the 12V battery terminal, observing “How to disconnect 12V battery terminal” described below.
  NOTE:
  Some ECUs operate for a certain fixed time even after ignition switch is turned OFF and ignition power supply is stopped. If the battery terminal is disconnected before ECU stops, accidental DTC detection or ECU data damage may occur.
- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.
  NOTE:
  If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.
- After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.
  NOTE:
  The removal of 12V battery may cause a DTC detection error.



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HOW TO DISCONNECT 12V BATTERY TERMINAL

Disconnect 12V battery terminal according to Instruction 1 or Instruction 2 described below.
For vehicles parked by ignition switch OFF, refer to Instruction 2.

INSTRUCTION 1

1. Open the hood.

2. Turn key switch to the OFF position with the driver side door opened.
3. Get out of the vehicle and close the driver side door.
4. Wait at least 3 minutes. For vehicle with the engine listed below, remove the battery terminal after a lapse of the specified time.

D4D engine	: 20 minutes
HRA2DDT	: 12 minutes
K9K engine	: 4 minutes
M9R engine	: 4 minutes
R9M engine	: 4 minutes
V9X engine	: 4 minutes

CAUTION:
While waiting, never operate the vehicle such as locking, opening, and closing doors. Violation of this caution results in the activation of ACC power supply according to the Auto ACC function.

5. Remove 12V battery terminal.
CAUTION:
After installing 12V battery, always check self-diagnosis results of all ECUs and erase DTC.

INSTRUCTION 2 (FOR VEHICLES PARKED BY IGNITION SWITCH OFF)

1. Unlock the door with intelligent key or remote keyless entry.
NOTE:
At this moment, ACC power is supplied.
2. Open the driver side door.
3. Open the hood.
4. Close the driver side door.
5. Wait at least 3 minutes.
CAUTION:
While waiting, never operate the vehicle such as locking, opening, and closing doors. Violation of this caution results in the activation of ACC power supply according to the Auto ACC function.
6. Remove 12V battery terminal.
CAUTION:
After installing 12V battery, always check self-diagnosis results of all ECUs and erase DTC.

Precaution for Trouble Diagnosis

INFOID:0000000010714745

AV COMMUNICATION SYSTEM

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

Precaution for Harness Repair

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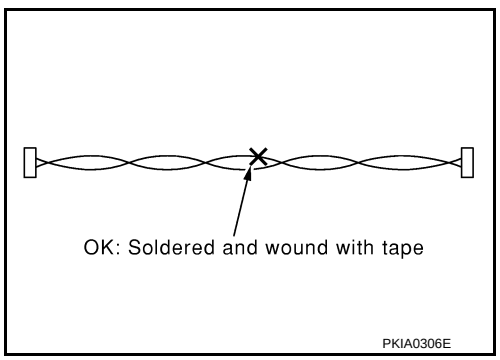
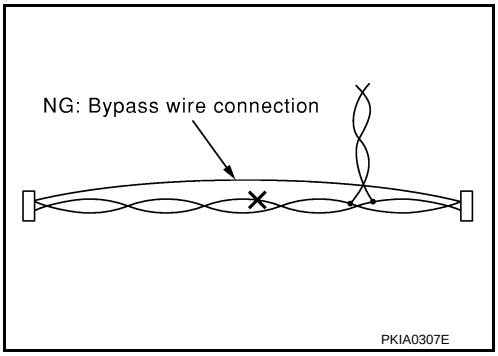
AV COMMUNICATION SYSTEM

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



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



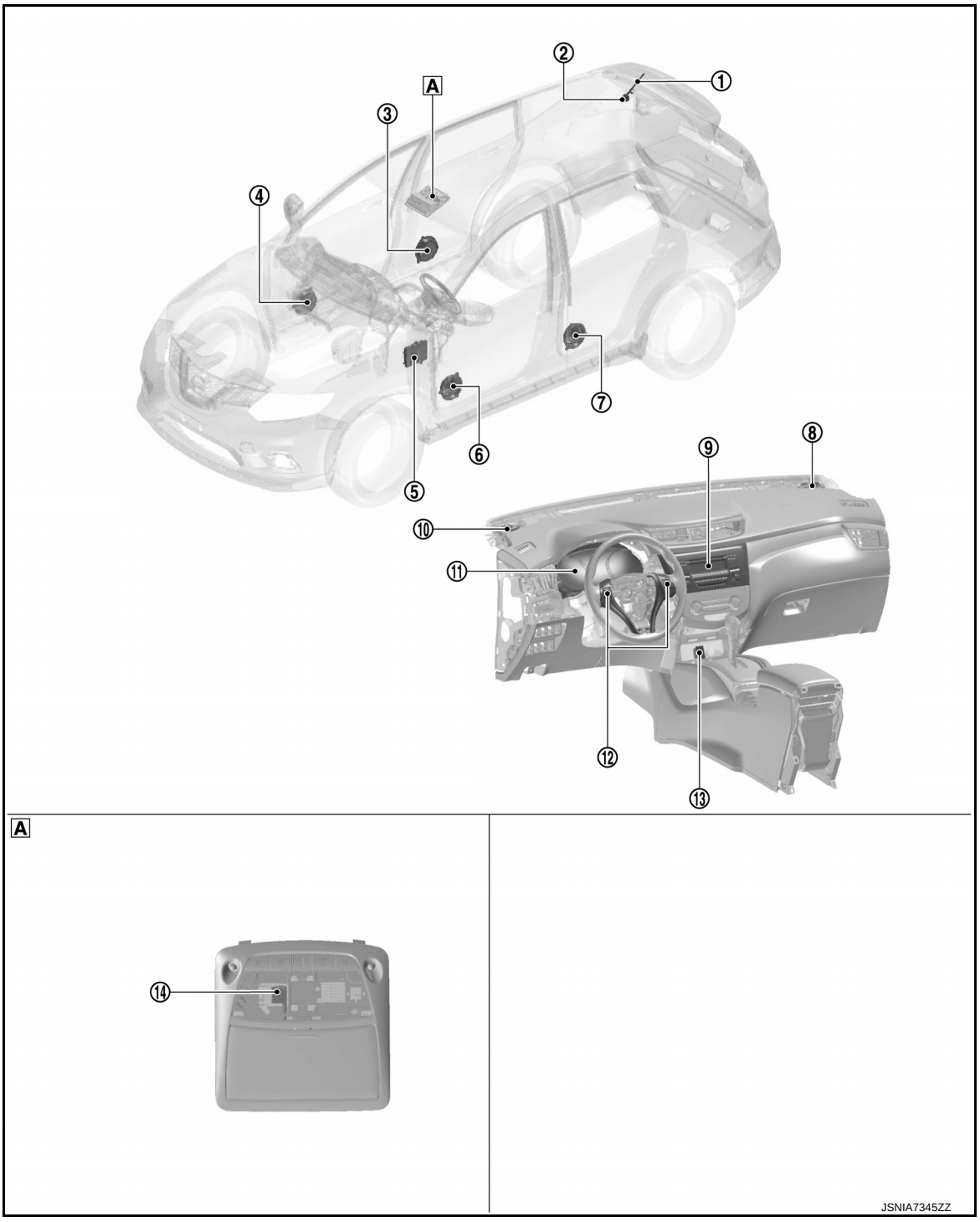
SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000010714747

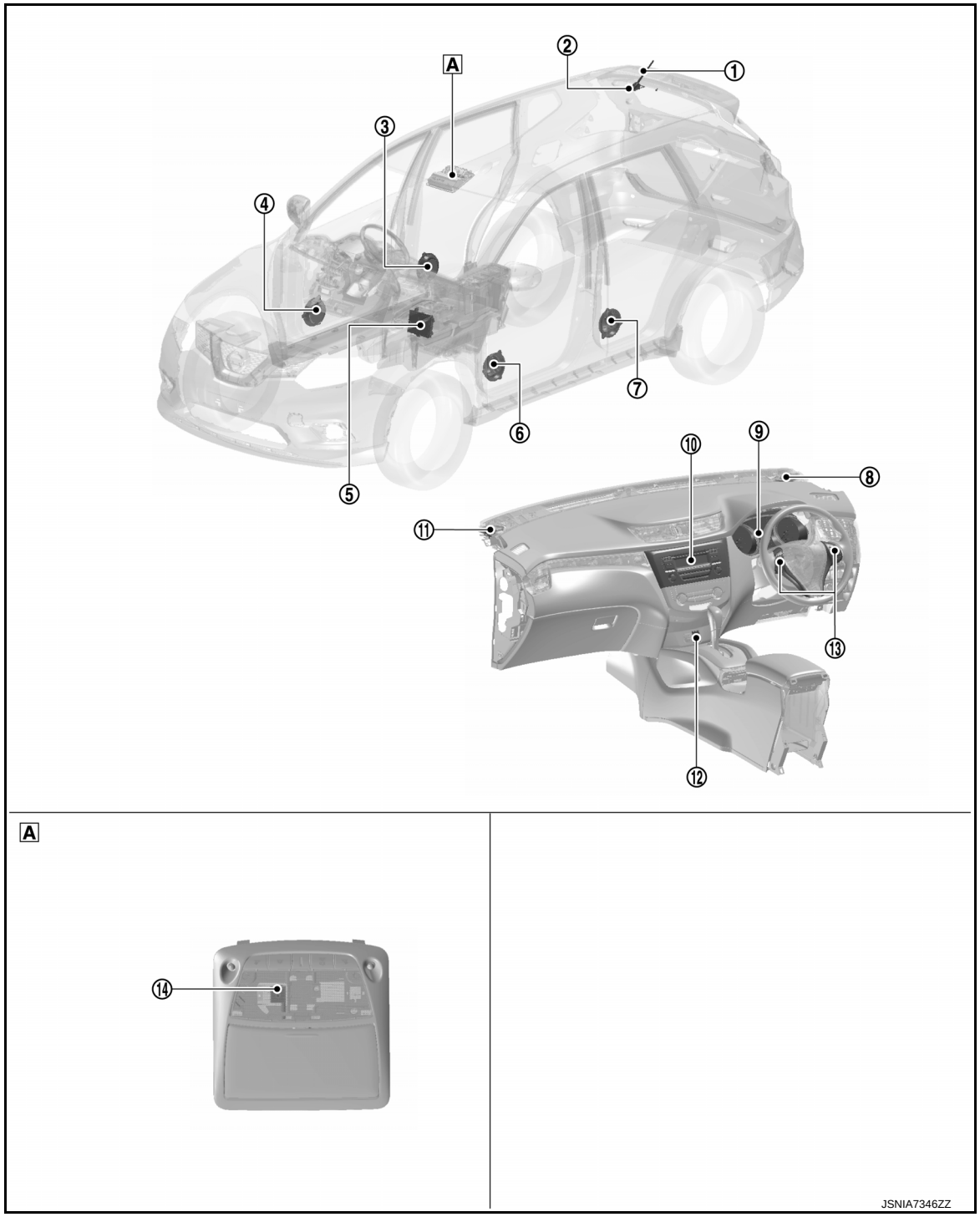
LHD MODELS



A Map lamp

No.	Component	Function
①	Antenna rod	Refer to AV-13, "Antenna and Antenna Feeder".
②	Antenna base	
③	Rear door speaker RH	Refer to AV-12, "Speaker".
④	Front door speaker RH	
⑤	BCM	Transmits the auto ACC input signal to the audio unit. Refer to BCS-6, "BODY CONTROL SYSTEM : Component Parts Location", for detailed installation.
⑥	Front door speaker LH	Refer to AV-12, "Speaker".
⑦	Rear door speaker LH	
⑧	Front squawker RH	
⑨	Audio unit	Refer to AV-12, "Audio Unit".
⑩	Front squawker LH	Refer to AV-12, "Speaker".
⑪	Combination meter	• Transmits the vehicle speed signal to the audio unit. • Transmits the steering switch signal to the audio unit via AV communication. Refer to MWI-7, "METER SYSTEM : Component Parts Location", for detailed installation.
⑫	Steering switch	Refer to AV-16, "Steering Switch".
⑬	USB connector and AUX jack	Refer to AV-16, "USB Connector and AUX Jack".
⑭	Microphone	Refer to AV-13, "Microphone".

RHD MODELS



A Map lamp

No.	Component	Function
①	Antenna rod	Refer to AV-13, "Antenna and Antenna Feeder".
②	Antenna base	
③	Rear door speaker RH	Refer to AV-12, "Speaker".
④	Front door speaker RH	

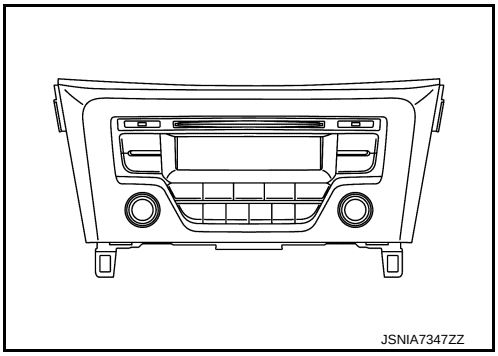
No.	Component	Function
⑤	BCM	Transmits the auto ACC input signal to the audio unit. Refer to BCS-6, "BODY CONTROL SYSTEM : Component Parts Location", for detailed installation.
⑥	Front door speaker LH	Refer to AV-12, "Speaker".
⑦	Rear door speaker LH	
⑧	Front squawker RH	
⑨	Combination meter	• Transmits the vehicle speed signal to the audio unit. • Transmits the steering switch signal to the audio unit via AV communication. Refer to MWI-7, "METER SYSTEM : Component Parts Location", for detailed installation.
⑩	Audio unit	Refer to AV-12, "Audio Unit".
⑪	Front squawker LH	Refer to AV-12, "Speaker".
⑫	USB connector and AUX jack	Refer to AV-16, "USB Connector and AUX Jack".
⑬	Steering switch	Refer to AV-16, "Steering Switch".
⑭	Microphone	Refer to AV-13, "Microphone".

Audio Unit

INFOID:0000000010714748

Description

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



Specification

Audio amplifier		16 W × 4
AM/FM electric tuner	FM diversity function	Without
CD drive	CD changer	Without
	Used disc	ϕ 12 cm (4.7 in)
	CD-R/CD-RW playback function	With*
	MP3 / WMA playback function	With
Bluetooth® module		With
Steering switch		With

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

Speaker

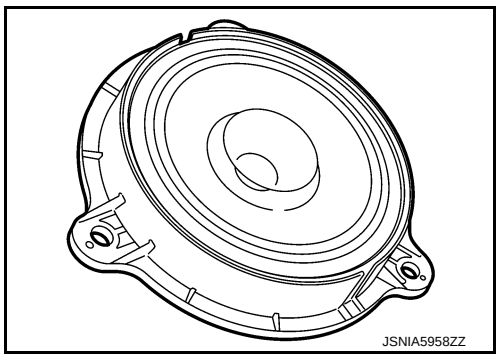
INFOID:0000000010714749

FRONT DOOR SPEAKER

- ϕ 16 cm speaker is installed to the bottom of the front door.

- Sound signal is input from the audio unit to output high, mid, and low range sounds.

Rated input : 20 W
Maximum input : 40 W
Impedance : 4 Ω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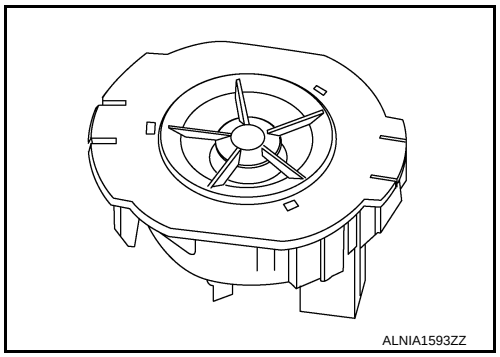
FRONT SQUAWKER

- ϕ8.0 cm squawker for high-range sounds is installed in the instrument panel assembly.
- Sound signal is input from the audio unit to output high range sounds.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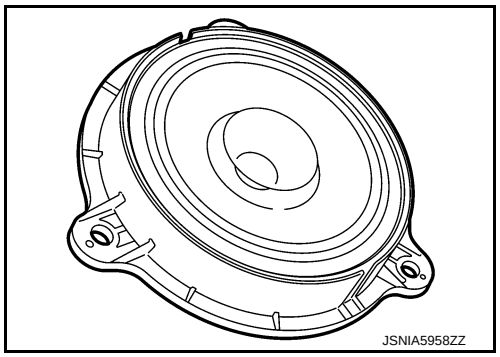
REAR DOOR SPEAKER

- ϕ 16 cm speaker is installed to the bottom of the rear door.
- Sound signal is input from the audio unit to output high, mid, and low range sounds.

Rated input : 20 W
Maximum input : 40 W
Impedance : 4 Ω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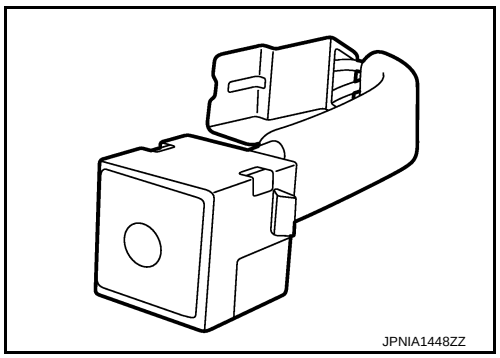
Microphone

INFOID:0000000010957681

- The microphone is installed on the map lamp assembly.
- The power is supplied from the audio unit to the microphone, transmitting sound signals to the audio unit at the during hands-free phone communication.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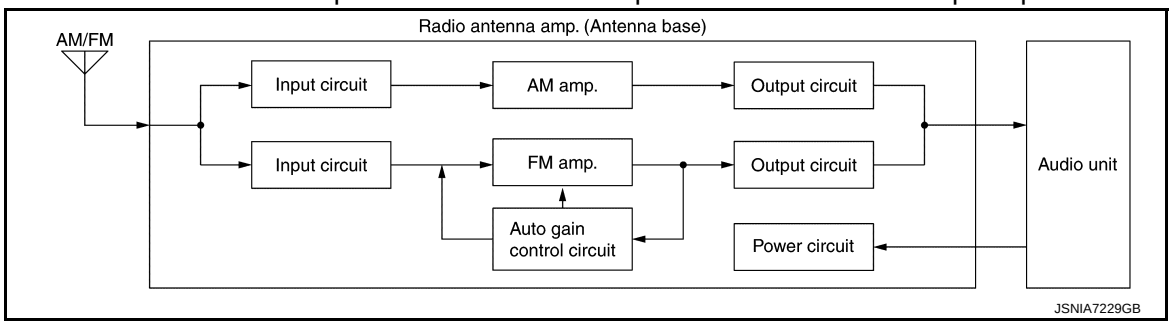
Antenna and Antenna Feeder

INFOID:0000000010714750

ANTENNA AMP. AND RADIO ANTENNA

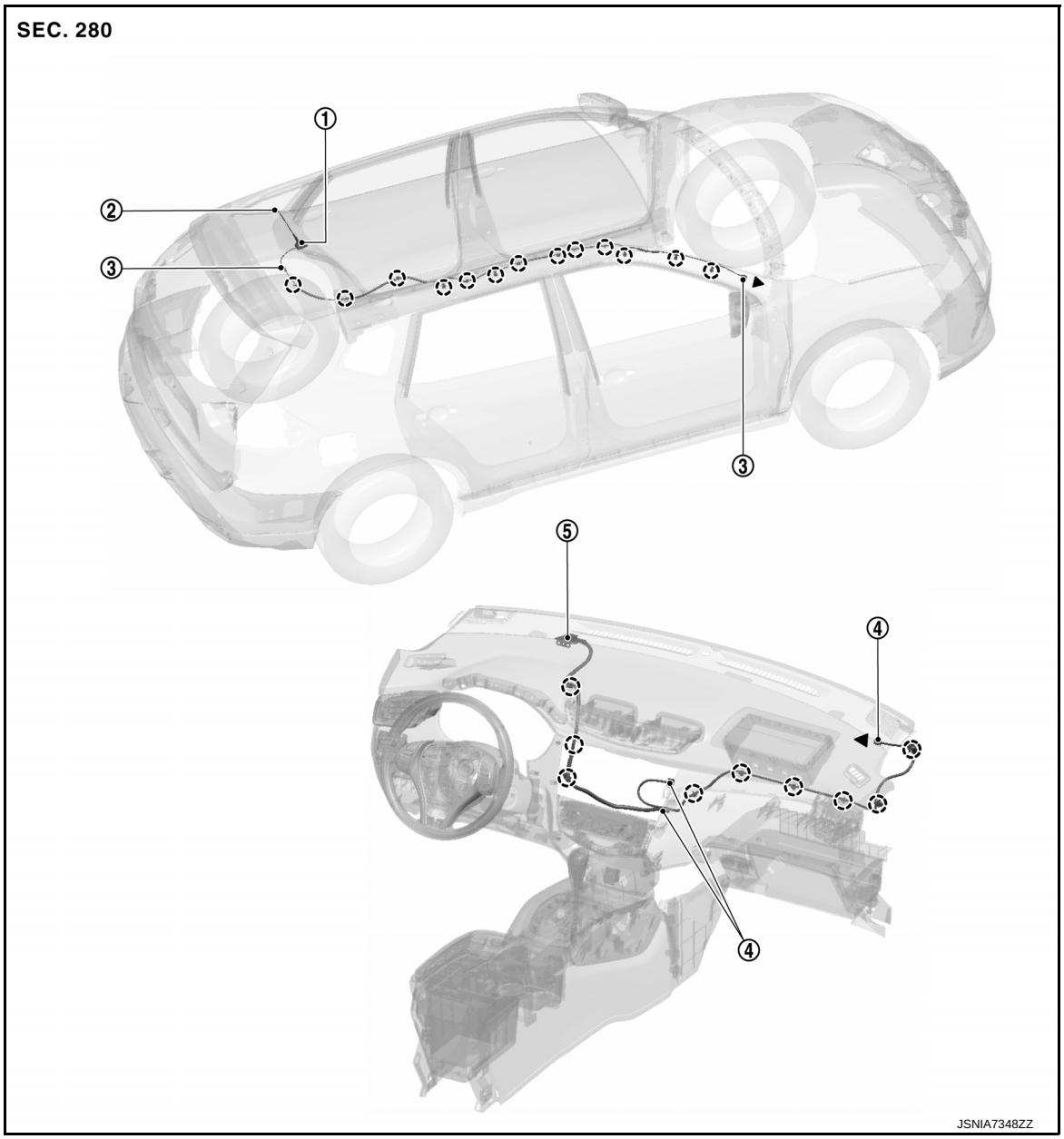
- AM/FM radio rod antenna and antenna base are located on the rear of the roof.
- The antenna amp. is built into the antenna base.

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



ANTENNA FEEDER LAYOUT

LHD Models



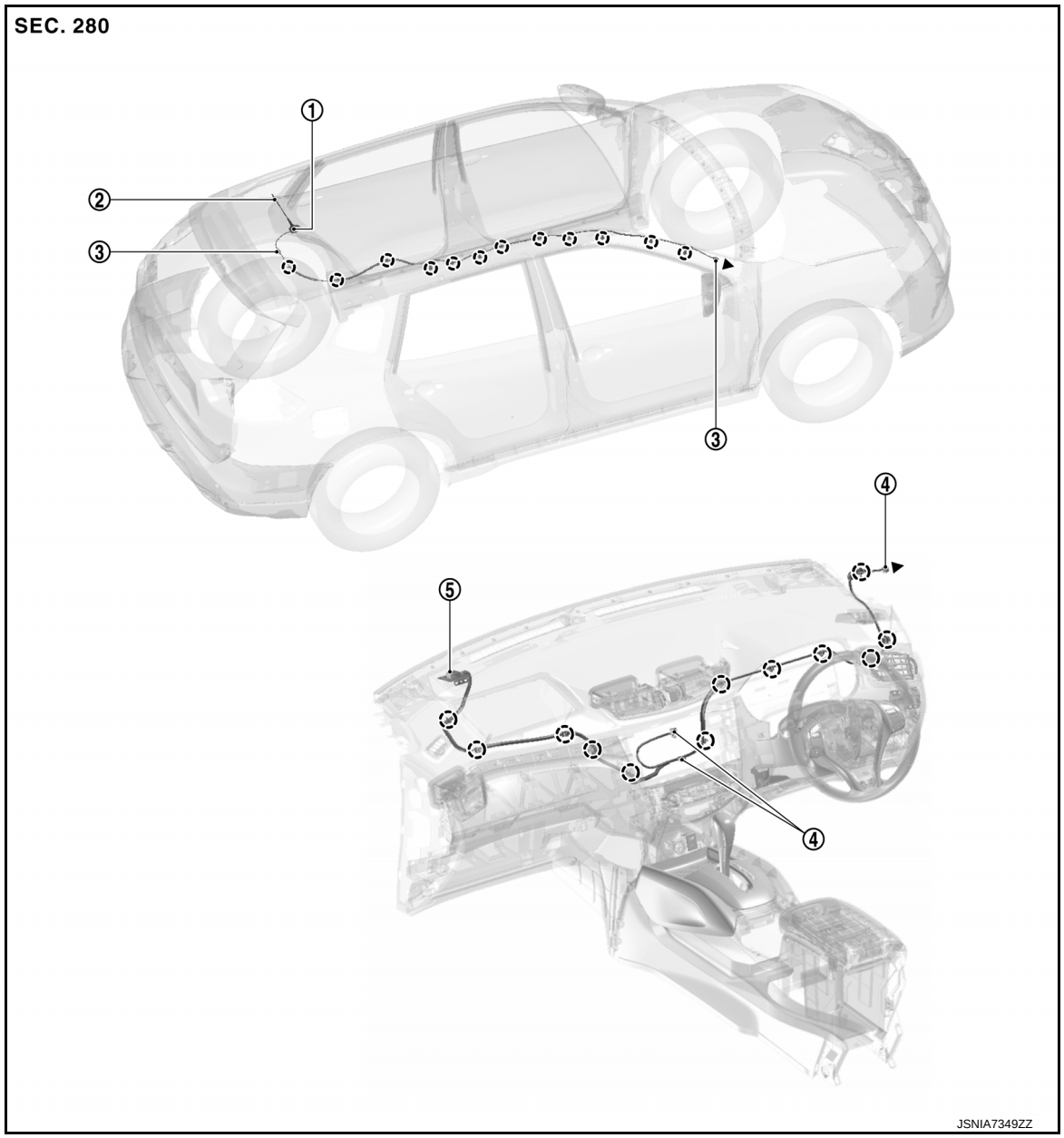
① Antenna base
② Antenna rod
③ With clip connector
④ Connector
⑤ GPS antenna*

: Clips

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

*: Not applicable

RHD Models



① Antenna base ② Antenna rod ③ With clip connector

④ Connector ⑤ GPS antenna*

: Clips

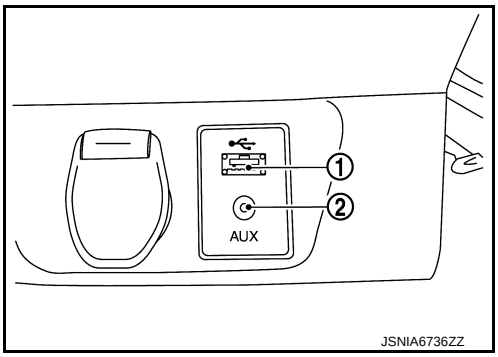
▲ : Indicates that the part is connected at points with same symbol in actual vehicle.

*: Not applicable

USB Connector and AUX Jack

INFOID:0000000010714751

- USB connector and AUX jack is installed on the instrument lower panel center.



① USB connector
② AUX jack

- iPod and USB memory can be connected to the audio unit.
- Connection to an external audio device can provide sound output.

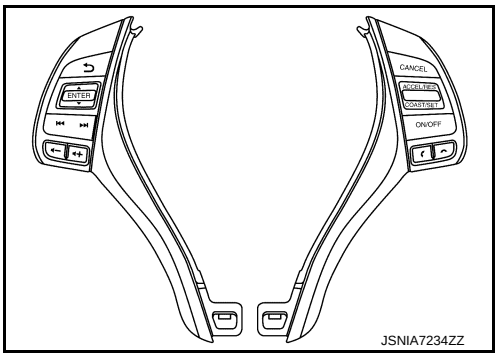
External input terminal for connection ϕ3.5 mm stereo mini-jack

NOTE:
When connected to monaural mini-jack plug cable, sound may not be output.

Steering Switch

INFOID:0000000010714752

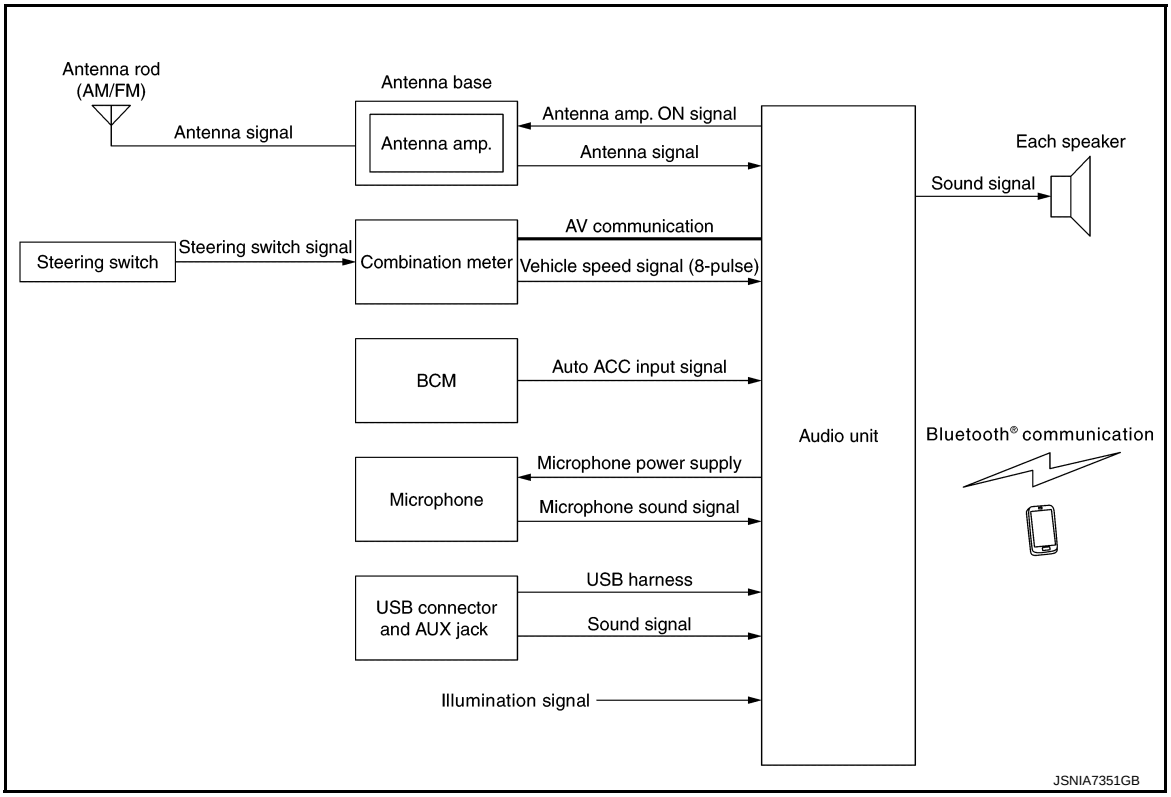
- Hands-free phone and audio operations can be performed.
- This switch is connected to combination meter, and switch operation signal is transmitted to combination meter.
- Combination meter transmits steering switch signal to audio unit via AV communication.



SYSTEM
AUDIO SYSTEM
AUDIO SYSTEM : System Description

INFOID:0000000010714753

SYSTEM DIAGRAM



AUDIO SYSTEM

The audio system is equipped with following functions.

Functions
AM/FM radio
CD playback
AUX connection
USB connection
Speed sensitive volume
Bluetooth® audio
Hands-free phone function
Meter display

NOTE:

- The auto ACC function allows the operation of audio without operating the ignition switch. In addition, even after the ignition switch is turned OFF, audio can be operated for 10 minutes. For the auto ACC function, refer to PCS-68, "AUTO ACC FUNCTION : System Description".
- The settings of the auto ACC function can be changed with the CONSULT (work support of BCM). For details, refer to BCS-47, "BCM : CONSULT Function (BCM - BCM)".

FUNCTION DESCRIPTION

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

Operating signal

Audio system operation can be performed with audio fascia switch and steering switch.

AM/FM Radio Function
- AM/FM radio tuner is built into audio unit.
- The radio signal received by the window antenna is input to the antenna amp. and sent to the audio unit.
- Audio unit outputs the sound signal to each speaker.

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

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

USB Connection Function
- Music files in USB memory can be played.
- Sound signals are transmitted from USB connector to the audio unit and each speaker.

Speed Sensitive Volume Function
- The audio unit receives the vehicle speed signal from the combination meter and changes the sound volume in conjunction with the vehicle speed.
- The control level can be selected by the customer.

Bluetooth® Audio Mode
- Bluetooth® audio function is built into audio unit.
- Bluetooth® audio can play music data in the portable audio by means of Bluetooth® communications between the portable audio and the audio unit.
- When Bluetooth® audio mode is selected, audio unit outputs sound signal to each speaker.

Hands-Free Phone function
- Hands-free communication can be operated by connecting to cellular phone using Bluetooth®.
- Operation is performed by steering switch.

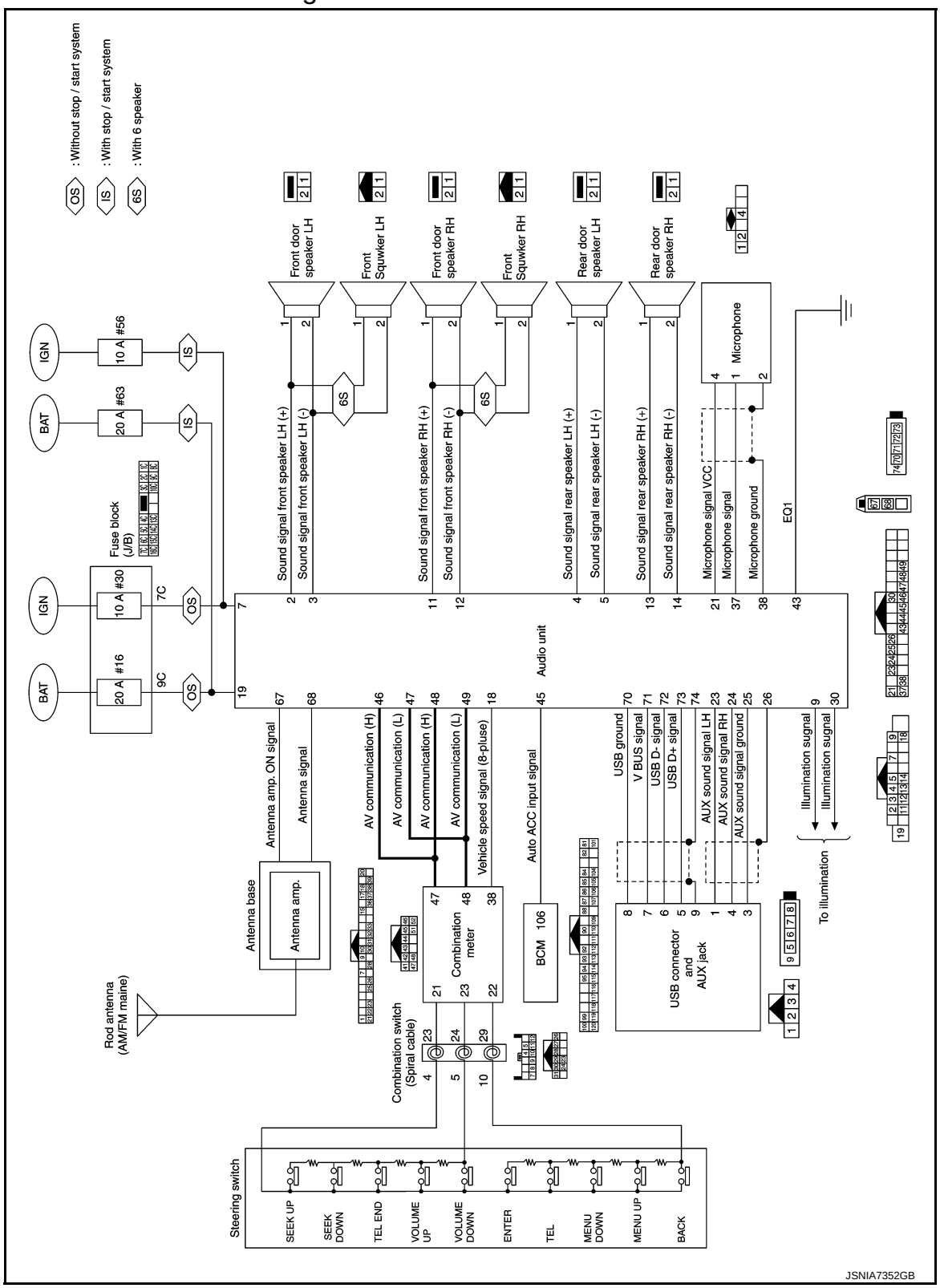
Meter Display

Audio Indicator
- The steering switch is connected to the combination meter.
- The combination meter transmits a steering switch signal to the audio unit via AV communication when the user operates the audio with the steering switch.
- The audio unit changes the status of function according to the steering switch operation when receiving a steering switch signal.
- The audio unit transmits an audio indicator signal to the combination meter via AV communication and displays the status of audio on the combination meter (in the information display) when the function is changed by an operation (including the operation of audio unit switch).

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

AUDIO SYSTEM : Circuit Diagram

INFOID:0000000010714754



DIAGNOSIS SYSTEM (AUDIO UNIT)

On Board Diagnosis Function

INFOID:0000000010714755

DESCRIPTION

- On board diagnosis is performed in service mode.
- On board diagnosis checks if the system operates normally.

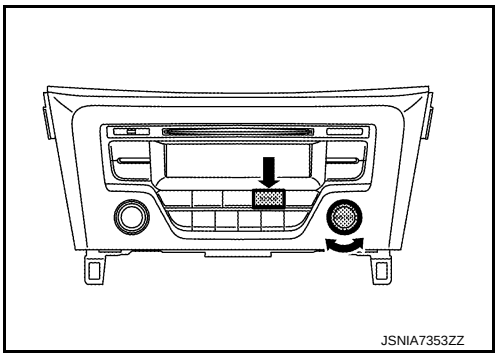
ON BOARD DIAGNOSIS ITEM

Self-diagnosis mode can perform the following items.

Item		Content
AF-Reg		ON/OFF setting of the following items can be performed. • AF (alternate frequency) • REG (region) **NOTE:** This item is displayed, but not used.
Diagnostics	Unit configuration	The current system status is displayed.
	Monitor	Comparison can be performed between actual vehicle signal and signal recognized by the audio system.
	Faults	Audio system malfunction detected by audio unit can be checked.
	Self test	Operation check of an audio function can be performed.
	Clear fault	Faults result can be cleared.
Region		Reception frequency band (the reception area) setting of the radio can be set.
Radio Monitor		The reception state of the radio signal can be checked.
LCD Contrast		The contrast setting of the display can be adjusted.

METHOD OF STARTING

1. Turn ignition switch ON.
2. Turn the audio unit ON at AM/FM mode.
3. Pressing the “SETUP” switch more than 2 seconds, and then turn the MENU dial counterclockwise, clockwise and counterclockwise more than 3 clicks respectively while pressing the “SETUP” switch.
4. When the self-diagnosis mode starts, the initial screen is displayed and then, release the “SETUP” switch.



Finishing Self-diagnosis Mode

Turn ignition switch OFF.

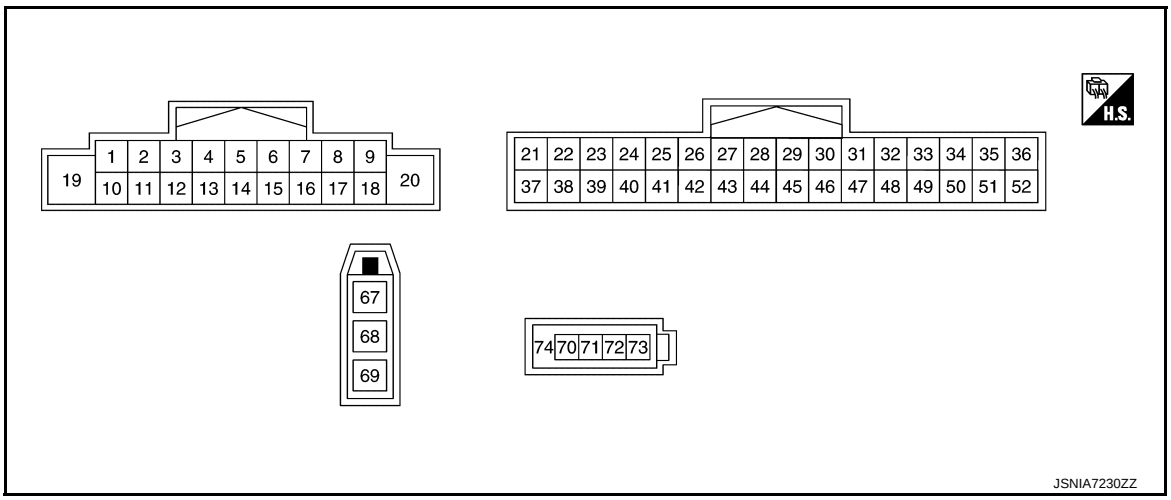
ECU DIAGNOSIS INFORMATION

AUDIO UNIT

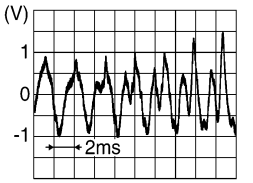
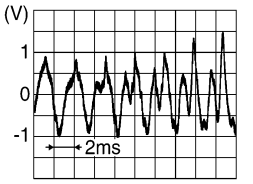
Reference Value

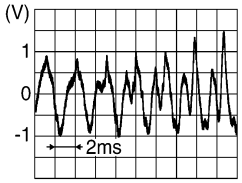
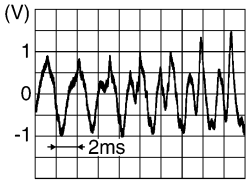
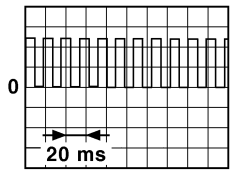
INFOID:0000000010714756

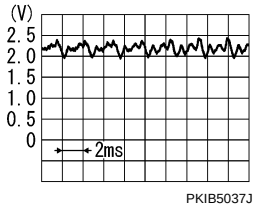
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition	Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output			
2 (Y)*1 (W)*2	3 (R)*1 (P)*2	Sound signal front speaker LH+	Output	[Ignition switch ON] Sound output	Outputs waveform synchronized with sound.	 SKIB3609E
3 (R)*1 (P)*2	—	Sound signal front speaker LH–	—	—	—	—
4 (GR)	5 (BR)	Sound signal rear speaker LH+	Output	[Ignition switch ON] Sound output	Outputs waveform synchronized with sound.	 SKIB3609E
5 (BR)	—	Sound signal rear speaker LH–	—	—	—	—
7 (LG)	Ground	Ignition signal	Input	[Ignition switch ON]	9.0 - 16.0 V	Battery voltage
9 (V)	Ground	Illumination signal	Input	[Ignition switch ON] Lighting switch is 1st or 2nd	9.0 - 16.0 V	12.0 V
				[Ignition switch ON] Lighting switch is OFF	3.2 V or less	0 V

Terminal (Wire color)		Description		Condition	Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output			
11 (W)*1 (G)*2	12 (GR)*1 (V)*2	Sound signal front speaker RH+	Output	[Ignition switch ON] Sound output	Outputs waveform synchronized with sound.	 SKIB3609E
12 (GR)*1 (V)*2	—	Sound signal front speaker RH–	—	—	—	—
13 (LG)	14 (Y)	Sound signal rear speaker RH+	Output	[Ignition switch ON] Sound output	Outputs waveform synchronized with sound.	 SKIB3609E
14 (Y)	—	Sound signal rear speaker RH–	—	—	—	—
18 (G)	Ground	Vehicle speed signal (8-pulse)	Input	[Ignition switch ON] When vehicle speed is approx. 40 km/h (25 MPH)	Waveform according to vehicle speed is input	**NOTE:** The maximum voltage varies depending on the specification (destination unit).  JSNIA0012GB
19 (L)	Ground	Battery power supply	Input	[Ignition switch OFF]	9.0 - 16.0 V	Battery voltage
21 (B)	Ground	Microphone VCC	Output	[Ignition switch ON]	—	5.0 V
23 (L)	—	AUX sound signal LH	Input	—	—	—
24 (G)	—	AUX sound signal RH	Input	—	—	—
25 (Y)	—	AUX sound signal ground	—	—	—	—
26 (—)	—	Shield	—	—	—	—
30 (R)	Ground	Illumination signal	Input	[Ignition switch ON] Lighting switch is 1st or 2nd	9.0 - 16.0 V	12.0 V
				[Ignition switch ON] Lighting switch is OFF	3.2 V or less	0 V

Terminal (Wire color)		Description		Condition	Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output			
37 (W)	38 (—)	Microphone signal	Input	[Ignition switch ON] Give a voice.	The value between the maximum input voltage and the minimum input voltage is 4.72V or less.	 PKIB5037J
38 (—)	—	Microphone ground	—	—	—	—
43 (B)	—	EQ 1	—	—	—	0 V
45 (W)	Ground	Auto ACC input signal	Input	[Ignition switch ON or ACC]	—	0 – 0.5 V
				[Ignition switch OFF]	—	3.15 V
46 (SB)	—	AV communication signal (H)	Input/ output	—	—	—
47 (LG)	—	AV communication signal (L)	Input/ output	—	—	—
48 (SB)	—	AV communication signal (H)	Input/ output	—	—	—
49 (LG)	—	AV communication signal (L)	Input/ output	—	—	—
67 (—)	—	Antenna amp. ON signal	Output	[Ignition switch ON]	7.0 - 16.0 V	12.0 V
68 (—)	Ground	Antenna signal	Input	[Ignition switch ON]	7.0 - 16.0 V	12.0 V
70 (—)	—	USB ground	—	—	—	—
71 (—)	—	V BUS signal	—	—	4.75 - 5.25 V	5.0 V
72 (—)	—	USB D- signal	—	—	—	—
73 (—)	—	USB D+ signal	—	—	—	—
74 (—)	—	Shield	—	—	—	—

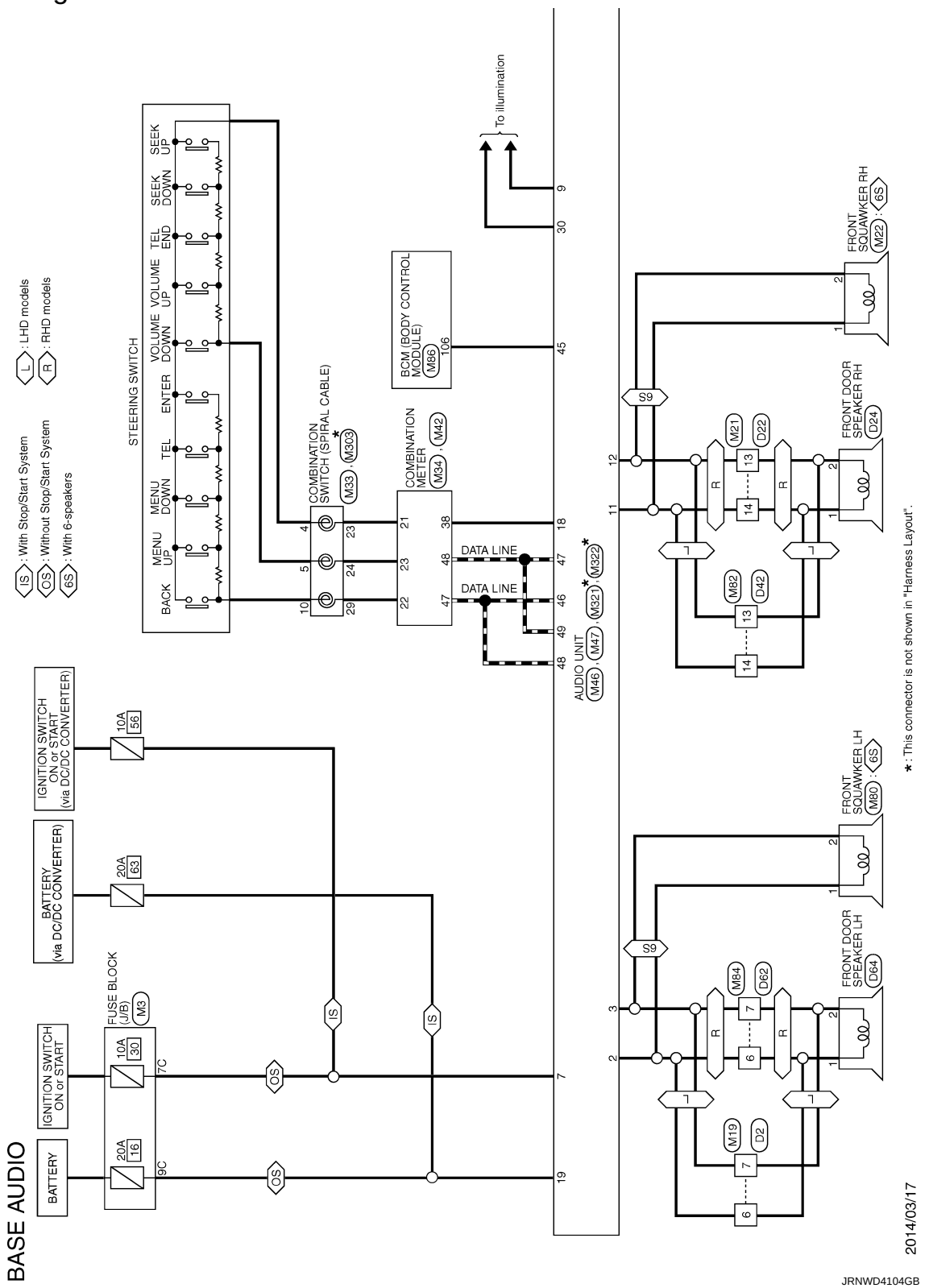
*1: Models with 4 speakers
*2: Models with 6 speakers

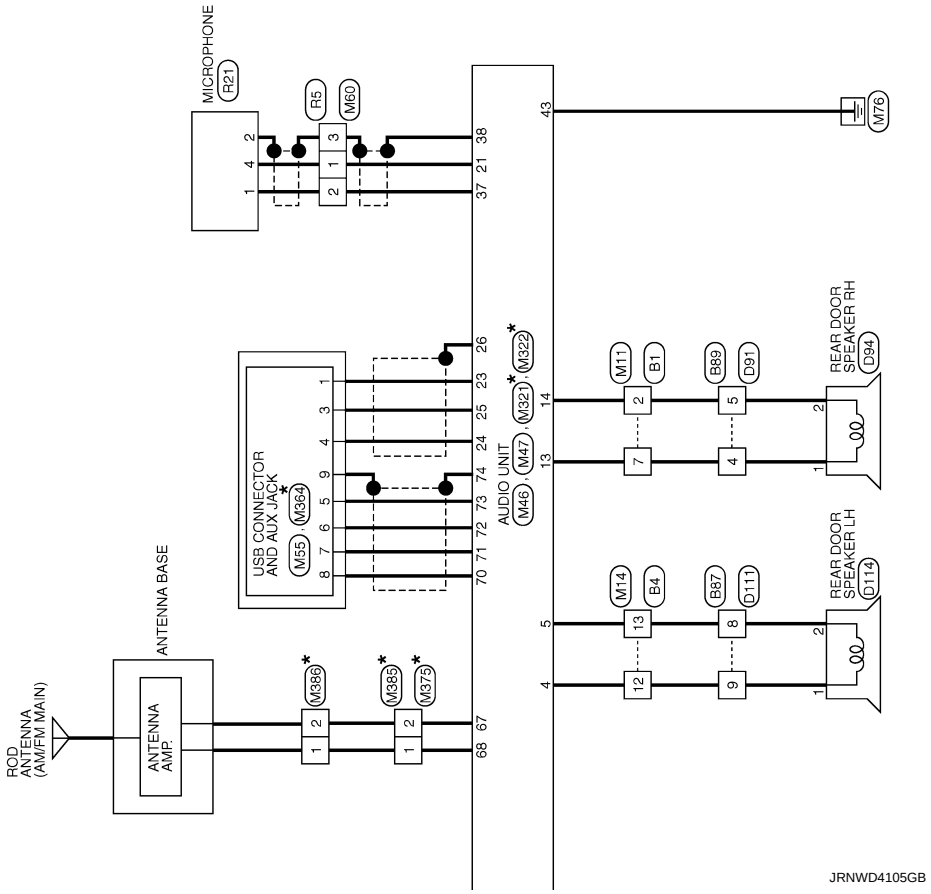
WIRING DIAGRAM

BASE AUDIO

Wiring Diagram

INFOID:0000000010714757



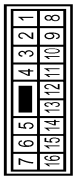

MICROPHONE
R21
R5
M60
M76
USB CONNECTOR AND AUX JACK
M55
M364
AUDIO UNIT
M46
M47
M321
M322
REAR DOOR SPEAKER RH
D94
M11
B1
B89
D91
REAR DOOR SPEAKER LH
D114
M14
B4
B87
D111
ANTENNA BASE
ANTENNA AMP.
ROD ANTENNA (AM/FM MAIN)
M386
M385
M379
JRNWD4105GB

BASE AUDIO

Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4

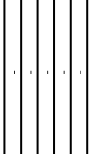
Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
2	LA/V	-
6	V	-
7	LA/V	-
20	L	- [With diesel engine]
20	LA/L	- [With gasoline engine]
21	B	- [With diesel engine]
21	LA/B	- [With gasoline engine]
24	G	-
25	BR	-
73	LA/Y	-
74	R	-
75	R	-
84	L	-
85	L	-
92	LA/R	-
93	LA/L	-
95	LA/BR	-
97	L	-
98	Y	-
99	LA/P	-
100	GR	- [With diesel engine]
100	LA/GR	- [With gasoline engine]

Connector No.	B4
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
4	LA/G	-
5	W	-
6	G	-
7	R	-
8	LA/G	-
9	P	-
10	R	-
11	LA/V	-
12	LA/L	-
13	LA/R	-
14	LA/BG	-
15	LA/BR	-
16	R	-

Connector No.	B87
Connector Name	WIRE TO WIRE
Connector Type	NS12MW-CS



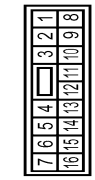
Terminal No.	Color Of Wire	Signal Name [Specification]
1	P	-
2	R	-
3	LA/V	-
6	W	-
7	L	-
8	LA/R	-

9	LA/L	-
12	G	-

Connector No.	B89
Connector Name	WIRE TO WIRE
Connector Type	NS12MW-CS

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

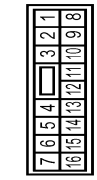
Connector No.	D2
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LA/V	-
2	R	-
3	LA/G	-
4	B	-
5	B	-
6	LA/L	-
7	LA/BR	-

8	SB	-
9	LA/GR	-
10	LA/SB	-
11	P	-
12	LG	-
13	LA/Y	-
14	LA/W	-
15	LA/R	-
16	B	-

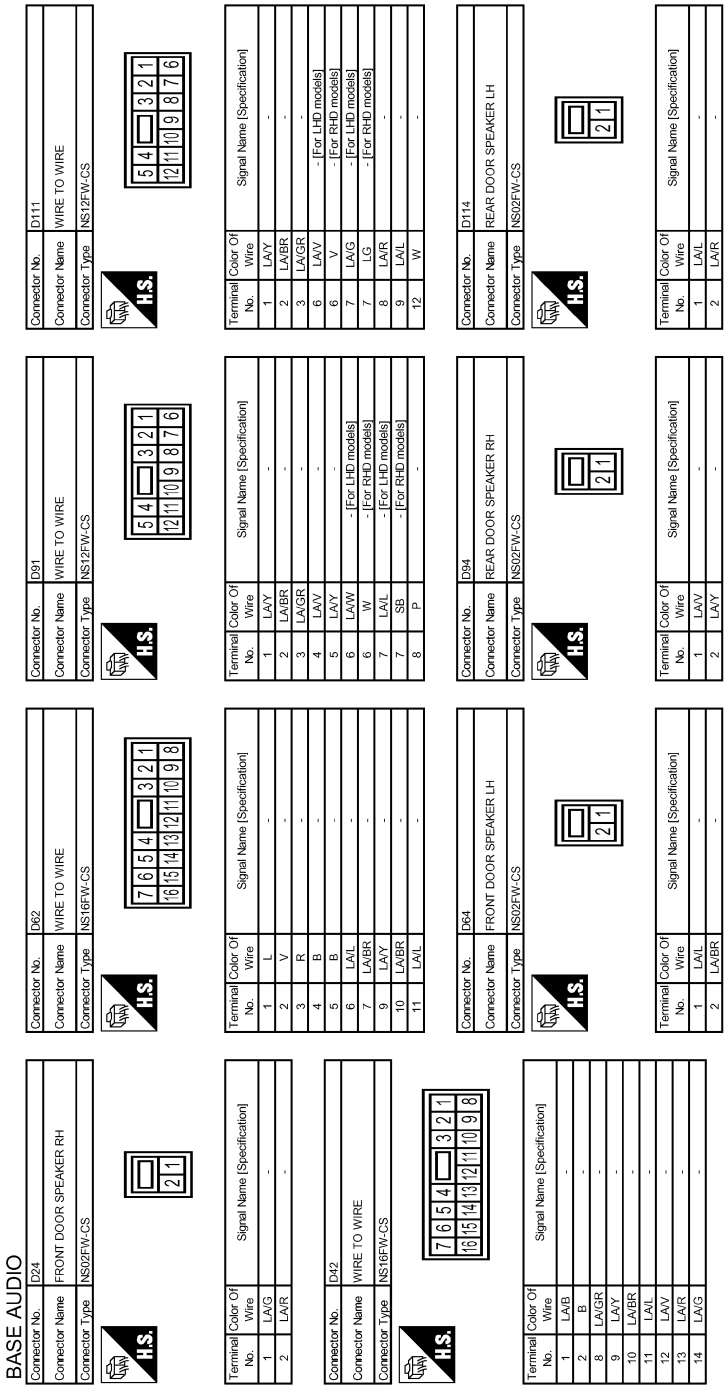
Connector No.	D22
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LA/B	-
2	Y	-
3	G	-
4	V	-
5	LG	-
6	G	-
7	SB	-
8	LA/B	-
9	LA/GR	-
10	LA/V	-
11	LA/L	-
12	LA/G	-
13	LA/R	-
14	LA/G	-
15	LA/R	-
16	B	-

JRNWD4106GB

BASE AUDIO



JRNWD4107GB

BASE AUDIO

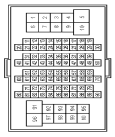
Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS16FW-CS

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
10C	LG	-
13C	LA/G	-
14C	R	-
15C	L	-
16C	LA/W	-
1C	R	-
2C	G	-
3C	Y	-
4C	LG	-
5C	GR	-
6C	LA/R	-
7C	Y	-
8C	BR	- [With ISS]
8C	LA/BR	- [Without ISS]
9C	L	-

Connector No.	M11
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4

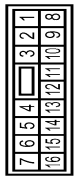
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	-
2	Y	-
6	GR	-
7	LG	-
20	LA/L	-
21	LA/B	-
24	G	-
25	BR	-
73	Y	-
74	R	-
75	R	-
84	L	-
85	L	-
92	LA/W	-
93	LA/Y	-
95	SB	-
97	BG	-
98	Y	-
99	W	-
100	LA/R	-

Connector No.	M14
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-CS

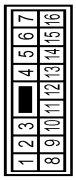
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
4	Y	-
5	W	-
6	LA/G	-
7	R	-
8	BR	-
9	G	-
10	R	-
11	LG	-
12	GR	-
13	BR	-
14	LA/L	-
15	LA/BR	-
16	GR	-

Connector No.	M19
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS

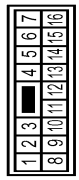
H.S.



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

Connector No.	M21
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS

H.S.



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

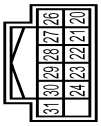
Connector No.	M22
Connector Name	FRONT SQUAWKER RH
Connector Type	TH02FW

H.S.

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

Connector No.	M33
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TH12FW-NH

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
20	P	CRUISE_CTRL
21	V	SPEED_LIMIT
22	G	IGN
23	L	-

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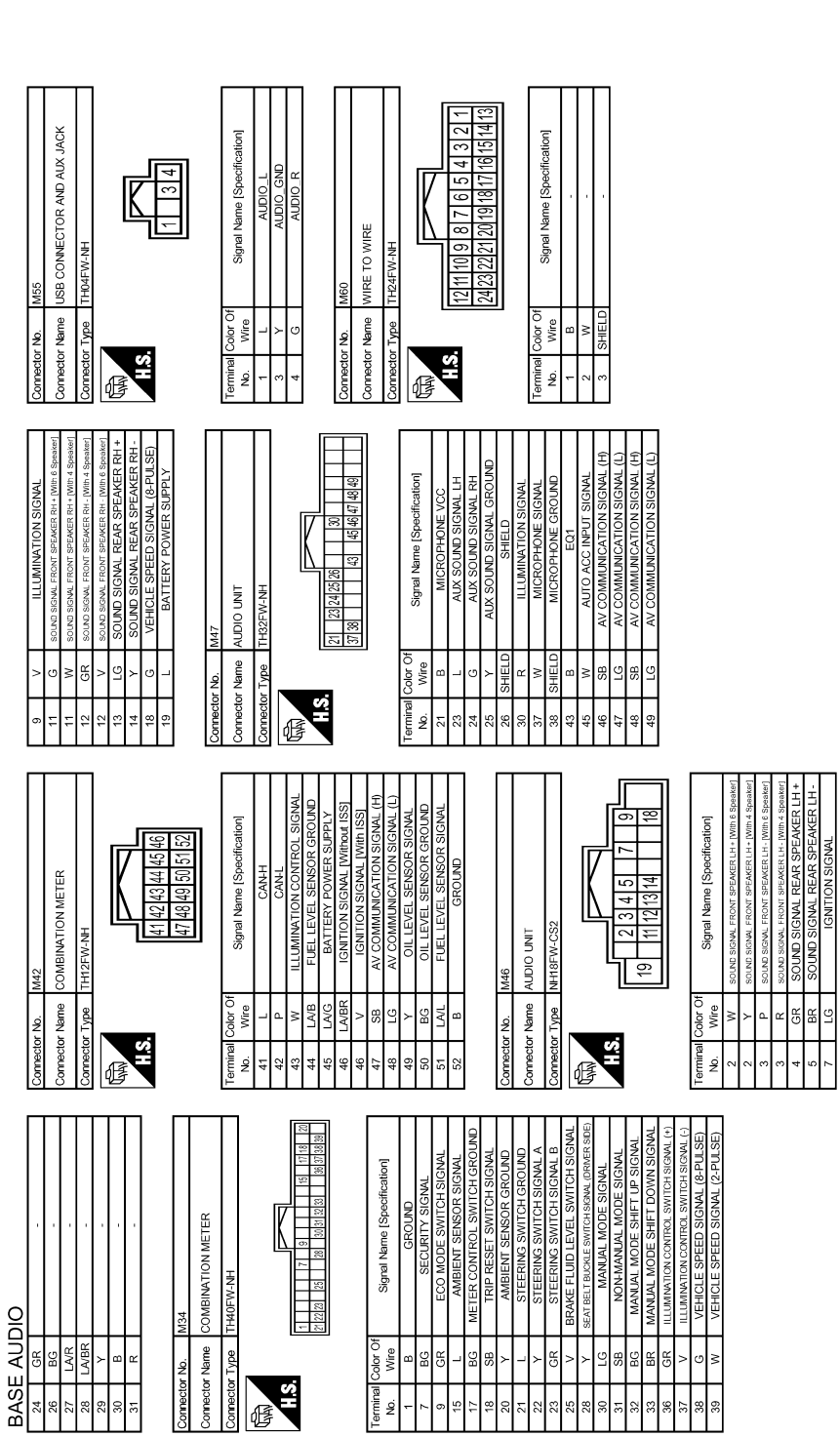
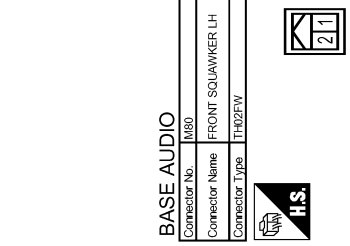


JRNWD4109GB

BASE AUDIO

Connector No.	M80
Connector Name	FRONT SQUAWKER LH
Connector Type	TH42FW

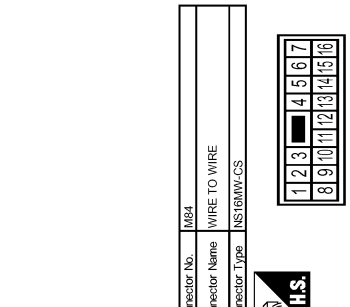


Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	GR	-

Connector No.	M82
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	GR	-
8	SB	-
9	BR	-
10	GR	-
11	L	-
12	Y	-
13	GR	-
14	W	-

Connector No.	M84
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	Y	-
3	W	-
4	B	-
5	B	-
6	Y	-
7	R	-
9	BR	-
10	GR	-
11	SB	-

Connector No.	M86
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FB-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
81	L	KEY SWITCH
82	L/R	KEY SW (ST) [Without Intelligent key]
82	W	PASS DOOR REQ SW [With Intelligent key]
84	BR	COMBI SW OUTPUT 2
85	SB	COMBI SW OUTPUT 1
86	P	COMBI SW OUTPUT 3
87	BG	COMBI SW OUTPUT 4
88	W	PUSH-BTN IGN SW ILL CONT
90	Y	SIL CONDITION
94	G	DETENTION SW

95	V	EXTENDED STORAGE FUSE SW
99	R	STOP/START OFF SW
100	V	DRIVER DOOR ANT +
101	Y	PUSH SW
104	R	DR DOOR UNLK SENS
105	Y	DR DOOR REQ SW
106	W	ACC OUTPUT
107	V	SENSOR CANCEL SW
109	P	NATS ANTENNA AMP.
110	BG	DIMMER SIGNAL
111	R	DOOR LK STAT IND OUTPUT
112	SB	STOP/START OFF SW INDICATOR
113	LG	NATS ANTENNA AMP.
114	Y	NATS ANTENNA AMP.
115	W	NATS ANTENNA AMP.
116	BG	ROOM ANT 1 -
117	GR	ROOM ANT 1 +
118	SB	PASSENGER DOOR ANT -
119	P	PASSENGER DOOR ANT +
120	BR	RRIVER DOOR ANT +

Connector No.	M303
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TH12FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
7	-	-
8	-	-
9	-	-
10	-	-
12	-	-

Connector No.	M321
Connector Name	AUDIO UNIT
Connector Type	GT13SH-2

Terminal No.	Color Of Wire	Signal Name [Specification]
67	-	ANTENNA AMP. ON SIGNAL
68	-	ANTENNA SIGNAL

Connector No.	M322
Connector Name	AUDIO UNIT
Connector Type	HIROSE_GT17H-4S-HU

Terminal No.	Color Of Wire	Signal Name [Specification]
70	-	USB GROUND
71	-	V BUS SIGNAL
72	-	USB D- SIGNAL
73	-	USB D+ SIGNAL
74	-	SHIELD

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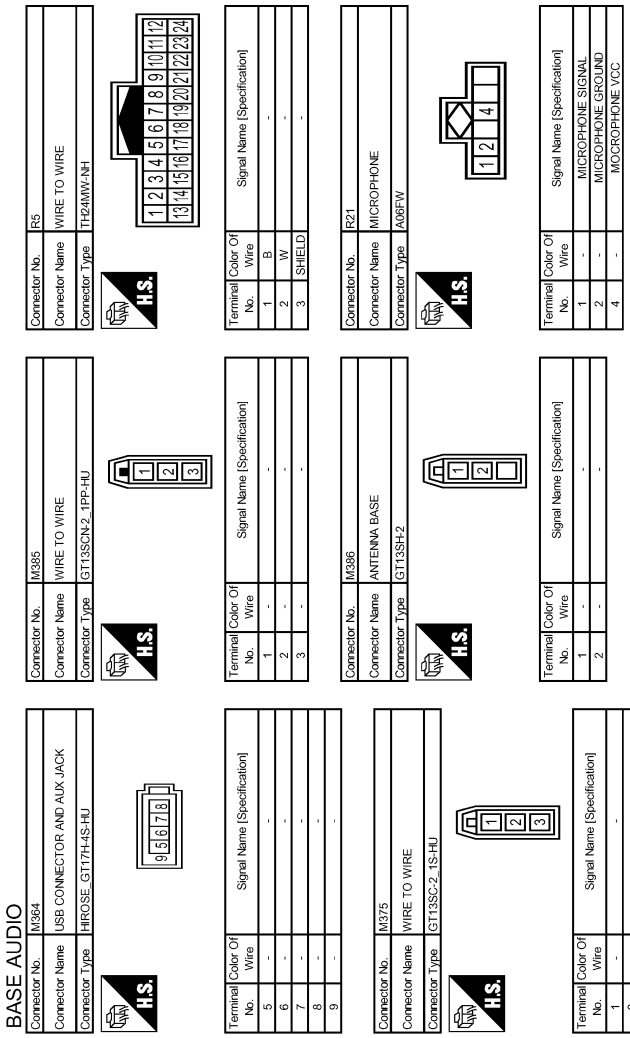

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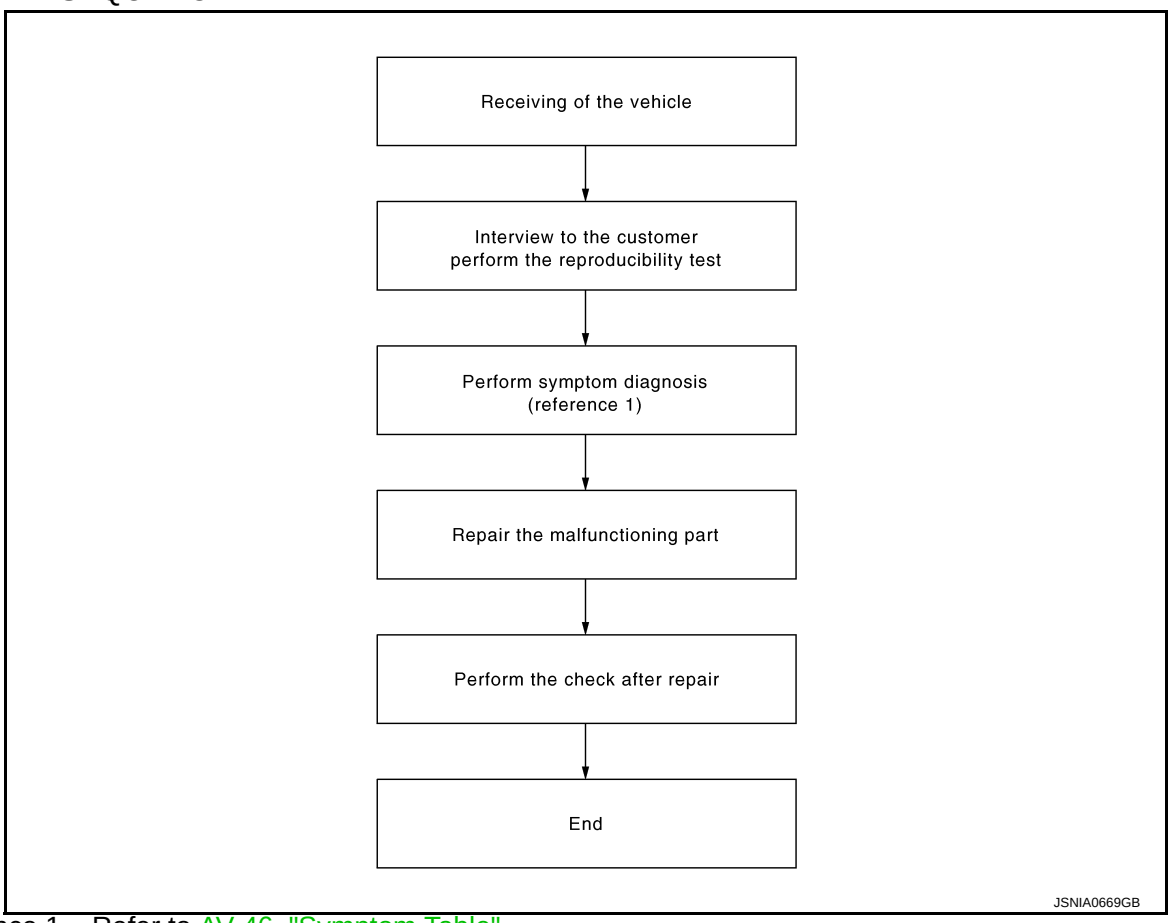
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:0000000010714758

OVERALL SEQUENCE



Reference 1··· Refer to AV-46, "Symptom Table".

DETAILED FLOW

1.CHECK SYMPTOM

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

>> GO TO 2.

2.PERFORM DIAGNOSIS BY SYMPTOM

Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to AV-46, "Symptom Table".

>> GO TO 3.

3.REPAIR OR REPLACE MALFUNCTIONING PARTS

Repair or replace the malfunctioning parts.

>> GO TO 4.

4.FINAL CHECK

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

Is there any symptom?

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

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID:0000000010714759

1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	19
Ignition switch ON or START	7

Is inspection result OK?

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

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between audio unit harness connector and ground.

Signal name	Audio unit	Probe		Condition	Standard	Reference value
		Terminal				
	Connector	(+)	(–)	Ignition switch		
Battery power supply	M46	19	Ground	OFF	9.0 - 16.0 V	Battery voltage
Ignition power supply		7		ON		

Is inspection result OK?

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

AV COMMUNICATION CIRCUIT

Diagnosis Procedure

INFOID:0000000010714760

NOTE:
- The auto ACC function allows the accessory power supply for a certain period of time even after ignition switch OFF. For this reason, when performing diagnosis, turn the ignition switch OFF and wait for 3 minutes with the driver's door opened.
- The operation of the vehicle during standby may cause an accessory power supply.

1.CHECK CONTINUITY AV COMMUNICATION CIRCUIT

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

Audio unit		Combination meter		Continuity
Connector	Terminal	Connector	Terminal	
M47	46	M42	47	Existed
	47		48	
	48		47	
	49		48	

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

Audio unit		Ground	Continuity
Connector	Terminal		
M47	46		Not existed
	47		
	48		
	49		

Is inspection result normal?

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

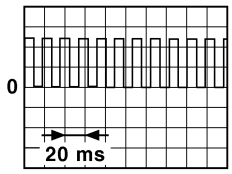
VEHICLE SPEED SIGNAL CIRCUIT

Component Function Check

INFOID:0000000010714761

1.VEHICLE SPEED FUNCTION

1. Turn ignition switch ON.
2. Check the voltage between audio unit harness connector and ground.

Terminals			Condition	Reference value (Approx.)
(+)		(–)		
Audio unit				
Connector	Terminal			
M46	18	Ground	Speedometer operated [When vehicle speed is approx. 40 km/h (25 MPH)]	**NOTE:** The maximum voltage varies depending on the specification (destination unit).  JSNIA0012GB

CAUTION:
Always drive safely.

Is inspection result normal?

YES >> INSPECTION END
NO >> Refer to AV-36, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000010714762

NOTE:
- The auto ACC function allows the accessory power supply for a certain period of time even after ignition switch OFF. For this reason, when performing diagnosis, turn the ignition switch OFF and wait for 3 minutes with the driver's door opened.
- The operation of the vehicle during standby may cause an accessory power supply.

1.CHECK VEHICLE SPEED SIGNAL CIRCUIT

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

Audio unit		Combination meter		Continuity
Connector	Terminal	Connector	Terminal	
M46	18	M34	38	Existed

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

Audio unit		Ground	Continuity
Connector	Terminal		
M46	18		Not existed

Is the inspection result normal?

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

2.CHECK DTC WITH “METER/M&A”

Perform “Self Diagnostic Result” of “METER/M&A” with CONSULT. Refer to MWI-86, "CONSULT Function".

Is any DTC detected?

YES >> Repair or replace malfunctioning parts.
NO >> Replace combination meter. Refer to MWI-151, "Removal and Installation".

MICROPHONE SIGNAL CIRCUIT

Description

INFOID:0000000010957773

Audio unit supplies power to microphone. The microphone transmits the sound voice to the audio unit.

Diagnosis Procedure

INFOID:0000000010957774

NOTE:
- The auto ACC function allows the accessory power supply for a certain period of time even after ignition switch OFF. For this reason, when performing diagnosis, turn the ignition switch OFF and wait for 3 minutes with the driver's door opened.
- The operation of the vehicle during standby may cause an accessory power supply.

1.CHECK CONTINUITY BETWEEN AUDIO UNIT AND MICROPHONE CIRCUIT

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

Audio unit		Microphone		Continuity
Connector	Terminal	Connector	Terminal	
M47	37	R21	1	Existed
	21		4	
	38		2	

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

audio unit		Ground	Continuity
Connector	Terminal		
M47	37		Not existed
	21		

Is inspection result OK?

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

2.CHECK VOLTAGE MICROPHONE VCC

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

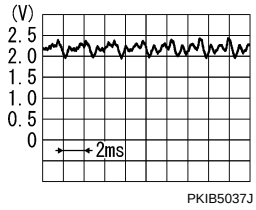
(+)		(–)	Standard	Voltage (Approx.)
Audio unit				
Connector	Terminal			
M47	21	Ground	—	5.0 V

Is inspection result OK?

YES >> GO TO 3.
NO >> Replace audio unit. Refer to AV-51, "Removal and Installation".

3.CHECK MICROPHONE SIGNAL

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

Audio unit				Condition	Standard	Reference value
(+)		(–)				
Connector	Terminal	Connector	Terminal			
M47	37	M47	38	Give a voice.	The value between the maximum input voltage and the minimum input voltage is 4.72V or less.	

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Is inspection result OK?

YES >> Replace audio unit. Refer to AV-51, "Removal and Installation".
NO >> Replace microphone. Refer to AV-56, "Removal and Installation".

STEERING SWITCH SIGNAL A CIRCUIT

Diagnosis Procedure

INFOID:0000000010714763

1.CHECK STEERING SWITCH SIGNAL A CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect combination meter harness connector and spiral cable harness connector.
3. Check continuity between combination meter harness connector and spiral cable harness connector.

Combination meter		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M34	22	M33	29	Existed

4. Check continuity between combination meter harness connector and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M34	22		Not existed

Is the inspection result normal?

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

2.CHECK SPIRAL CABLE

1. Disconnect steering switch connector.
2. Check continuity between spiral cable harness connectors.

Spiral cable				Continuity
Connector	Terminal	Connector	Terminal	
M33	29	M303	10	Existed

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace spiral cable. Refer to SR-23, "Removal and Installation".

3.CHECK COMBINATION METER VOLTAGE

1. Connect combination meter harness connector, steering switch connector and spiral cable connector.
2. Turn ignition switch ON.
3. Check the voltage between combination meter harness connector.

Combination meter			Condition	Voltage (Approx.)
Connector	+	-		
	Terminal			
M34	22	21	Keep pressing BACK switch	0 V
			Keep pressing MENU UP switch	0.5 V
			Keep pressing MENU DOWN switch	1.2 V
			Keep pressing TEL switch	2.1 V
			Keep pressing ENTER switch	3.3 V

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace combination meter. Refer to MWI-151, "Removal and Installation".

4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.

2. Check steering switch. Refer to AV-41, "Component Inspection".

Is the inspection result normal?

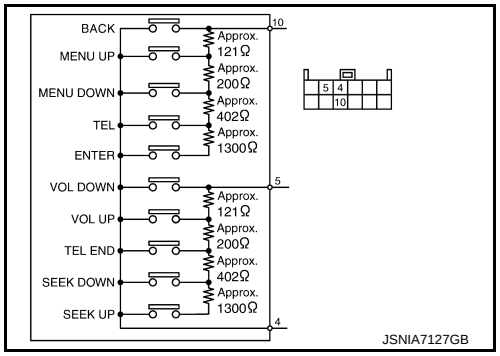
YES >> INSPECTION END
NO >> Replace steering switch. Refer to AV-57, "Removal and Installation".

Component Inspection

INFOID:0000000010714764

Measure the resistance between the steering switch connector.

Steering switch		Condition	Resistance (Approx.) Ω
Terminal	Terminal		
10	4	ENTER switch is pressed	1982 – 2064
		TEL switch is pressed	708 – 738
		MENU DOWN switch is pressed	314 – 328
		MENU UP switch is pressed	118 – 124
		BACK switch is pressed	0
5		SEEK UP switch is pressed	1982 – 2064
		SEEK DOWN switch is pressed	708 – 738
		TEL END switch is pressed	314 – 328
		VOL UP switch is pressed	118 – 124
		VOL DOWN switch is pressed	0



STEERING SWITCH SIGNAL B CIRCUIT

Diagnosis Procedure

INFOID:0000000010714765

1.CHECK STEERING SWITCH SIGNAL B CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect combination meter harness connector and spiral cable harness connector.
3. Check continuity between combination meter harness connector and spiral cable harness connector.

Combination meter		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M34	23	M33	24	Existed

4. Check continuity between combination meter harness connector and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M34	23		Not existed

Is the inspection result normal?

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

2.CHECK SPIRAL CABLE

1. Disconnect steering switch connector.
2. Check continuity between spiral cable harness connectors.

Spiral cable				Continuity
Connector	Terminal	Connector	Terminal	
M33	24	M303	5	Existed

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace spiral cable. Refer to SR-23, "Removal and Installation".

3.CHECK COMBINATION METER VOLTAGE

1. Connect combination meter harness connector, steering switch connector and spiral cable connector.
2. Turn ignition switch ON.
3. Check the voltage between combination meter harness connector.

Combination meter			Condition	Voltage (Approx.)
Connector	+	-		
	Terminal			
M34	23	21	Keep pressing VOLUME DOWN switch	0 V
			Keep pressing VOLUME UP switch	0.5 V
			Keep pressing TEL END switch	1.2 V
			Keep pressing SEEK DOWN switch	2.1 V
			Keep pressing SEEK UP switch	3.3 V

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace combination meter. Refer to MWI-151, "Removal and Installation".

4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.

2. Check steering switch. Refer to AV-43, "Component Inspection".

Is the inspection result normal?

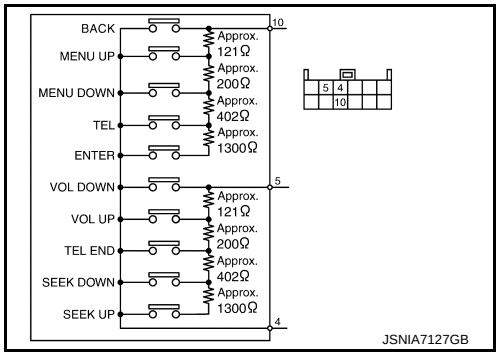
YES >> INSPECTION END
NO >> Replace steering switch. Refer to AV-57, "Removal and Installation".

Component Inspection

INFOID:0000000010714766

Measure the resistance between the steering switch connector.

Steering switch		Condition	Resistance (Approx.) Ω
Terminal	Terminal		
10	4	ENTER switch is pressed	1982 – 2064
		TEL switch is pressed	708 – 738
		MENU DOWN switch is pressed	314 – 328
		MENU UP switch is pressed	118 – 124
		BACK switch is pressed	0
5		SEEK UP switch is pressed	1982 – 2064
		SEEK DOWN switch is pressed	708 – 738
		TEL END switch is pressed	314 – 328
		VOL UP switch is pressed	118 – 124
		VOL DOWN switch is pressed	0



STEERING SWITCH SIGNAL GND CIRCUIT

Description

INFOID:0000000010714767

Transmits the steering switch signal to audio unit.

Diagnosis Procedure

INFOID:0000000010714768

1.CHECK STEERING SWITCH SIGNAL GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect combination meter harness connector and spiral cable harness connector.
3. Check continuity between combination meter harness connector and spiral cable harness connector.

Combination meter		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M34	21	M33	23	Existed

Is the inspection result normal?

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

2.CHECK SPIRAL CABLE

1. Disconnect steering switch connector.
2. Check continuity between spiral cable harness connectors.

Spiral cable				Continuity
Connector	Terminal	Connector	Terminal	
M33	23	M303	4	Existed

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace spiral cable. Refer to SR-23, "Removal and Installation".

3.CHECK STEERING SWITCH

Check steering switch. Refer to AV-44, "Component Inspection".

Is the inspection result normal?

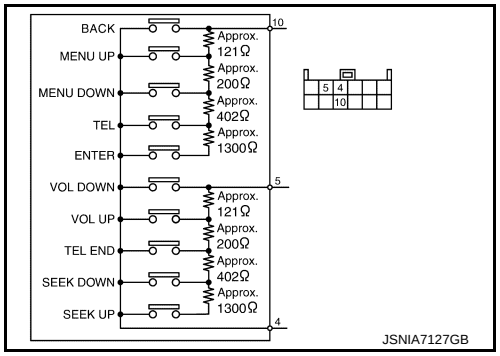
YES >> INSPECTION END
NO >> Replace steering switch. Refer to AV-57, "Removal and Installation".

Component Inspection

INFOID:0000000010714769

Measure the resistance between the steering switch connector.

Steering switch		Condition	Resistance (Approx.) Ω
Terminal	Terminal		
10	4	ENTER switch is pressed	1982 – 2064
		TEL switch is pressed	708 – 738
		MENU DOWN switch is pressed	314 – 328
		MENU UP switch is pressed	118 – 124
		BACK switch is pressed	0
5		SEEK UP switch is pressed	1982 – 2064
		SEEK DOWN switch is pressed	708 – 738
		TEL END switch is pressed	314 – 328
		VOL UP switch is pressed	118 – 124
		VOL DOWN switch is pressed	0



SYMPTOM DIAGNOSIS

AUDIO SYSTEM SYMPTOMS

Symptom Table

INFOID:0000000010714770

RELATED TO AUDIO SYSTEM

Symptoms	Check items	Possible malfunction location / Action to take
Audio unit does not start.	—	Audio unit power supply and ground circuit. Refer to AV-34, "AUDIO UNIT : Diagnosis Procedure".
No sound comes out.	No sound from all speakers.	Audio unit power supply and ground circuit. Refer to AV-34, "AUDIO UNIT : Diagnosis Procedure".
	Only a certain speaker (front right, front left, rear right, or rear left, etc.) does not output sound.	• Poor connector connection of speaker. • Sound signal circuit malfunction between audio unit and speaker. • Malfunction in speaker. • Malfunction in audio unit.
Noise is mixed with audio.	Noise comes out from all speaker.	Malfunction in audio unit.
	Noise comes out only from a certain speaker (front right, front left, rear right, or rear left, etc.).	• Poor connector connection of speaker. • Sound signal circuit malfunction between audio unit and speaker. • Malfunction in speaker. • Poor installation of speaker (e.g. backlash and looseness) • Malfunction in audio unit.
	Noise is mixed with radio only (when the car hits a bump or while driving over bad roads).	Poor connector connection of antenna or antenna feeder.
Radio is not received or poor reception.	• Other audio sounds are normal. • Any radio cannot be received or poor reception is caused even after moving to a service area with good reception (e.g. a place with clear view and no obstacles generating external noises).	• Antenna amp. ON signal circuit malfunction. • Poor connector connection of antenna or antenna feeder.
The function automatically adjusting volume (speed sensitive volume) does not operate due to the change in vehicle speed. (Volume can be controlled with the volume control knob.)	—	• Vehicle speed signal circuit. Refer to AV-36, "Component Function Check". • Malfunction in audio unit. Refer to AV-51, "Removal and Installation".

RELATED TO USB

NOTE:

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

Symptoms	Check items		Probable malfunction location / Action to take
iPod or USB memory can not be recognized.	With iPod or USB memory Connected, check “USB connected” in diagnostic function of audio unit.	“Yes” is display for “USB connected”.	iPod or USB memory
		“No” is display for “USB connected”.	• USB and AUX harness • USB connector and AUX jack • Audio unit

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

RELATED TO AUXILIARY INPUT

NOTE:

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

Symptoms	Check items	Probable malfunction location
No voice sound is heard when AUX mode is selected.	Voice sound is heard when other modes are selected.	• USB and AUX harness • USB connector and AUX jack

RELATED TO STEERING SWITCH

Symptoms	Possible malfunction location / Action to take
All steering switches are not operated.	Steering switch signal ground circuit. Refer to AV-44, "Diagnosis Procedure".
Only specified switch cannot be operated.	Replace steering switch. Refer to AV-57, "Removal and Installation".
“BACK”, “MENU UP”, “MENU DOWN”, “TEL” and “ENTER” switches are not operated.	Steering switch signal A circuit. Refer to AV-40, "Diagnosis Procedure".
“VOL DOWN”, “VOL UP”, “TEL END”, “SEEK DOWN” and “SEEK UP” switches are not operated.	Steering switch signal B circuit. Refer to AV-42, "Diagnosis Procedure".

HANDS-FREE PHONE SYMPTOMS

Symptom Table

INFOID:0000000010957799

RELATED TO HANDS-FREE PHONE

Symptoms	Check items	Possible malfunction location/Action to take
Does not recognize cellular phone connection.	Repeat the registration of cellular phone.	Audio unit
Hands-free phone cannot be established.	—	Audio unit power supply and ground circuit. Refer to AV-34, "AUDIO UNIT : Diagnosis Procedure".
The other party's voice cannot be heard by hands-free phone.	Audio system sound is normal.	Sound signal (TEL voice, TEL guidance) circuit
	Audio system sound does not sound.	Refer to AV-46, "Symptom Table".

RELATED TO STEERING SWITCH

Symptoms	Possible malfunction location / Action to take
All steering switches are not operated.	Steering switch signal ground circuit. Refer to AV-44, "Diagnosis Procedure".
Only specified switch cannot be operated.	Replace steering switch. Refer to AV-57, "Removal and Installation".
“BACK”, “MENU UP”, “MENU DOWN”, “TEL” and “ENTER” switches are not operated.	Steering switch signal A circuit. Refer to AV-40, "Diagnosis Procedure".
“VOL DOWN”, “VOL UP”, “TEL END”, “SEEK DOWN” and “SEEK UP” switches are not operated.	Steering switch signal B circuit. Refer to AV-42, "Diagnosis Procedure".

NORMAL OPERATING CONDITION

Description

INFOID:0000000010714771

RELATED TO AUDIO

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

NOTE:

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

Symptoms	Cause and Counter measure
Cannot play	Check that the disc was inserted correctly.
	Check that the disc is scratched or dirty.
	Check if there is condensation inside the player. If there is, wait until the condensation is gone (about 1 hour) before using the player.
	If there is a temperature increase error, the CD player will play correctly after it returns to the normal temperature.
	Files with extensions other than ".MP3", ".WMA", ".mp3", or ".wma" cannot be played. In addition, the character codes and number of characters for folder names and file names should be in compliance with the specifications.
	Check if the disc or the file is generated in an irregular format. This may occur depending on the variation or the setting of MP3/WMA writing applications or other text editing applications.
	Check if the finalization process, such as session close and disc close, is done for the disc.
	Check if the disc is protected by copyright.
Poor sound quality	Check if the disc is scratched or dirty.
	Bit rate may be too low.
It takes a relatively long time before the music starts playing.	If there are many folder or file levels on the MP3/WMA CD, or if it is a multisession disc, some time may be required before the music starts playing.
Music cuts off or skips	The writing software and hardware combination might not match, or the writing speed, writing depth, writing width, etc., might not match the specifications. Try using the slowest writing speed.
Skipping with high bit rate files	Skipping may occur with large quantities of data, such as for high bit rate data.
Move immediately to the next song when playing.	When a non-MP3/WMA file has been given an extension of ".MP3", ".WMA", ".mp3" or ".wma", or when play is prohibited by copyright protection, there will be approximately 5 seconds of no sound and then the player will skip to the next song.
The songs do not play back in the desired order.	The playback order is the order in which the files were written by the writing software. Therefore, the files might not play in the desired order.
Poor reception only from a certain radio broadcast station.	Check incoming radio wave signal strength of applicable broadcast station.
Buzz/rattle sound from speaker	The majority of rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the rattle.

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

NOTE:

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

RELATED TO HANDS-FREE PHONE

Symptom	Cause and Counter measure
Cannot use hands-free phone	Customer will not be able to use a hands-free phone under the following conditions. • The vehicle is outside of the telephone service area. • The vehicle is in an area where it is difficult to receive radio waves; such as in a tunnel, in an underground parking garage, near a tall building or in a mountainous area. • The cellular phone is locked to prevent it from being dialed. **NOTE:** While a cellular phone is connected through the Bluetooth® wireless connection, the battery power of the cellular phone may discharge quicker than usual. The Bluetooth® Hands-Free Phone System cannot charge cellular phones.
The other party's voice cannot be heard by hands-free phone.	When the radio wave condition is not ideal or ambient sound is too loud, it may be difficult to hear the other person's voice during a call.
Poor sound quality	Do not place the cellular phone in an area surrounded by metal or far away from the in-vehicle phone module to prevent tone quality degradation and wireless connection disruption.

REMOVAL AND INSTALLATION

AUDIO UNIT

Removal and Installation

INFOID:0000000010714772

REMOVAL

CAUTION:

- **The auto ACC function allows the accessory power supply for a certain period of time even after ignition switch OFF. For this reason, when performing diagnosis, turn the ignition switch OFF and wait for three minutes with the driver′s door opened.**
- **The operation of the vehicle during standby may cause an accessory power supply.**

1. Remove instrument finisher B. Refer to IP-13, "Exploded View" (LHD models), IP-40, "Exploded View" (RHD models).
2. Remove instrument finisher E. Refer to IP-13, "Exploded View" (LHD models), IP-40, "Exploded View" (RHD models).
3. Remove A/C control. Refer to HAC-125, "Removal and Installation" (automatic air conditioning), HAC-222, "Removal and Installation" (manual air conditioning).
4. Remove the audio unit screws, then pull out the audio unit.
5. Disconnect the harness connectors from the audio unit and remove.
6. Remove the audio unit bracket screws and the audio unit brackets.

INSTALLATION

Install in the reverse order of removal.

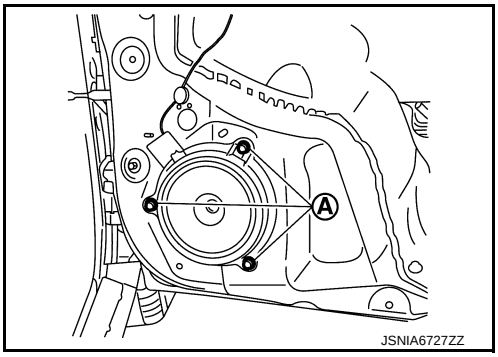
FRONT DOOR SPEAKER

Removal and Installation

INFOID:0000000011010046

REMOVAL

1. Remove the front door finisher. Refer to INT-14, "Removal and Installation".
2. Remove the front door speaker screws Ⓐ.
3. Disconnect the harness connector from the front door speaker and remove.



INSTALLATION

Install in the reverse order of removal.

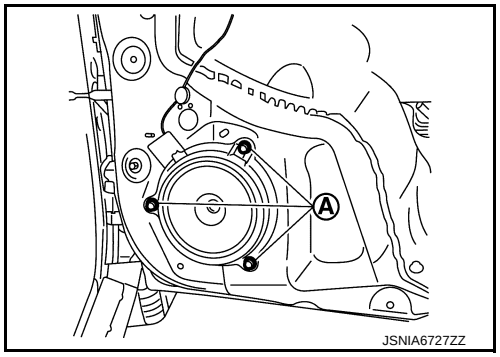
REAR DOOR SPEAKER

Removal and Installation

INFOID:0000000011010047

REMOVAL

1. Remove the rear door finisher. Refer to INT-19, "Removal and Installation".
2. Remove the rear door speaker screws Ⓐ.
3. Disconnect the harness connector from the rear door speaker and remove.



INSTALLATION

Install in the reverse order of removal.

FRONT SQUAWKER

Removal and Installation

INFOID:0000000011066765

REMOVAL

1. Remove the front pillar garnish. Refer to INT-23, "FRONT PILLAR GARNISH : Removal and Installation".
2. Remove the front squawker grille using a suitable tool. Refer to IP-13, "Exploded View" (LHD models), IP-40, "Exploded View" (RHD models).
3. Pull out the front squawker, disconnect the harness connector from front squawker and remove.

INSTALLATION

Installation is in the reverse order of removal.

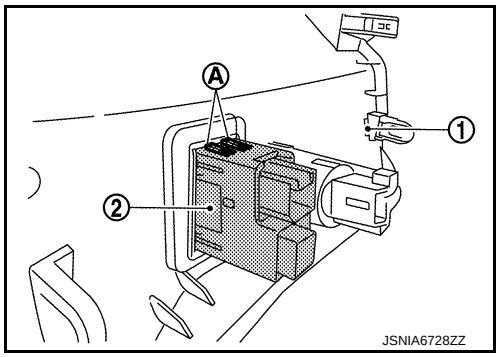
USB CONNECTOR AND AUX JACK

Removal and Installation

INFOID:0000000011010048

REMOVAL

1. Remove the instrument lower panel. Refer to IP-13, "Exploded View" (LHD models), IP-40, "Exploded View" (RHD models).
2. Release the pawls Ⓐ and remove the USB connector AUX jack ② from the instrument lower panel ①.



INSTALLATION

Installation is in the reverse order of removal.

MICROPHONE

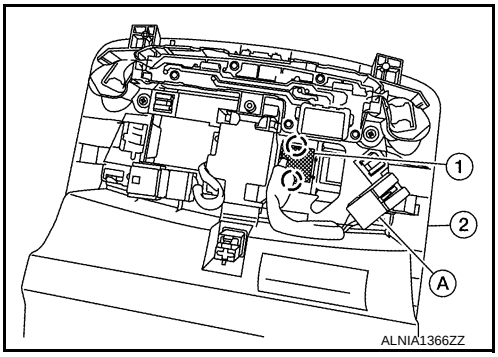
Removal and Installation

INFOID:0000000011010049

REMOVAL

1. Remove the map lamp assembly. Refer to INL-76, "Exploded View".
2. Disconnect the microphone connector Ⓐ from the map lamp assembly ②.
3. Release the microphone pawls, then remove the microphone ①.

◌ : Pawl



INSTALLATION

Installation is in the reverse order of removal.

STEERING SWITCH

Removal and Installation

INFOID:0000000011010050

Refer to ST-12, "Exploded View".

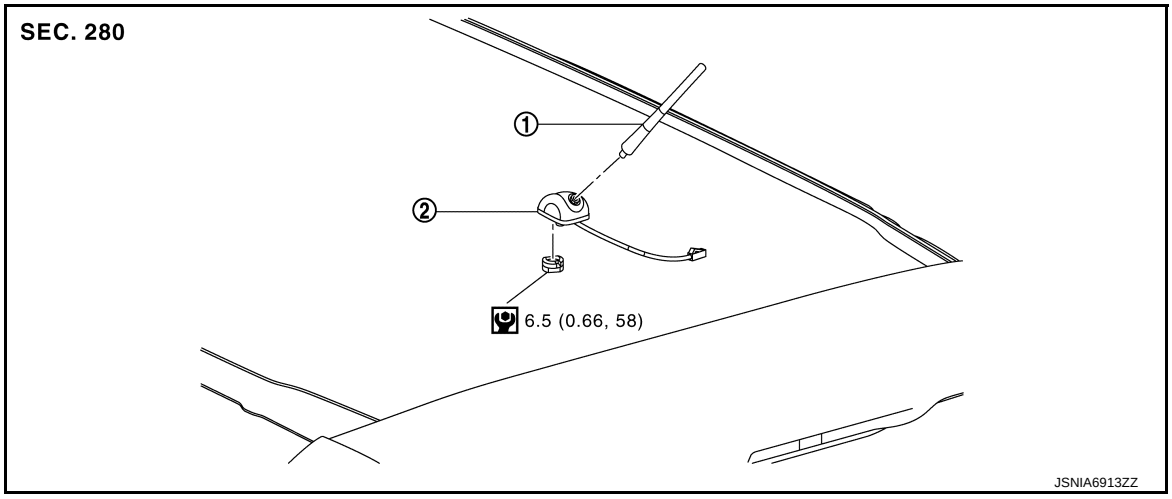
NOTE:

Always remove steering switch together with steering wheel.

ROOF ANTENNA

Exploded View

INFOID:0000000011010051



① Antenna rod ② Antenna base

: N·m (kg-m, in-lb)

Removal and Installation

INFOID:0000000011010052

REMOVAL

1. Remove the antenna rod.
2. Remove the headlining assembly. Refer to INT-37, "Removal and Installation".
3. Remove the mounting nut to remove the antenna base from the roof panel.

INSTALLATION

Install in the reverse order of removal.

CAUTION:

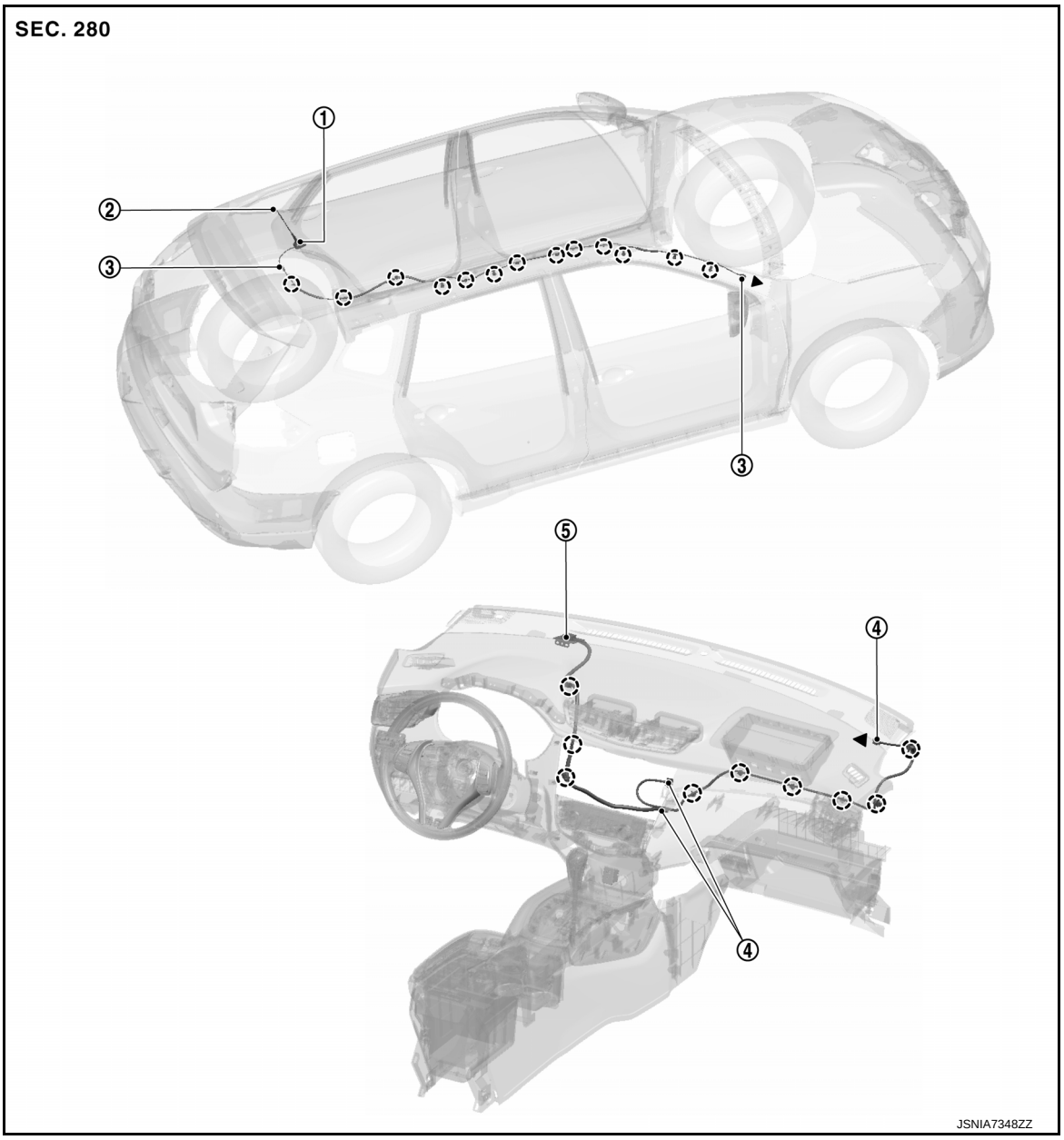
If the antenna base mounting nut is tightened looser than the specified torque, then this will lower the sensitivity of the antenna. On the other hand, if the nut is tightened tighter than the specified torque, then this will deform the roof panel.

ANTENNA FEEDER

Feeder Layout

INFOID:0000000010714779

LHD MODELS

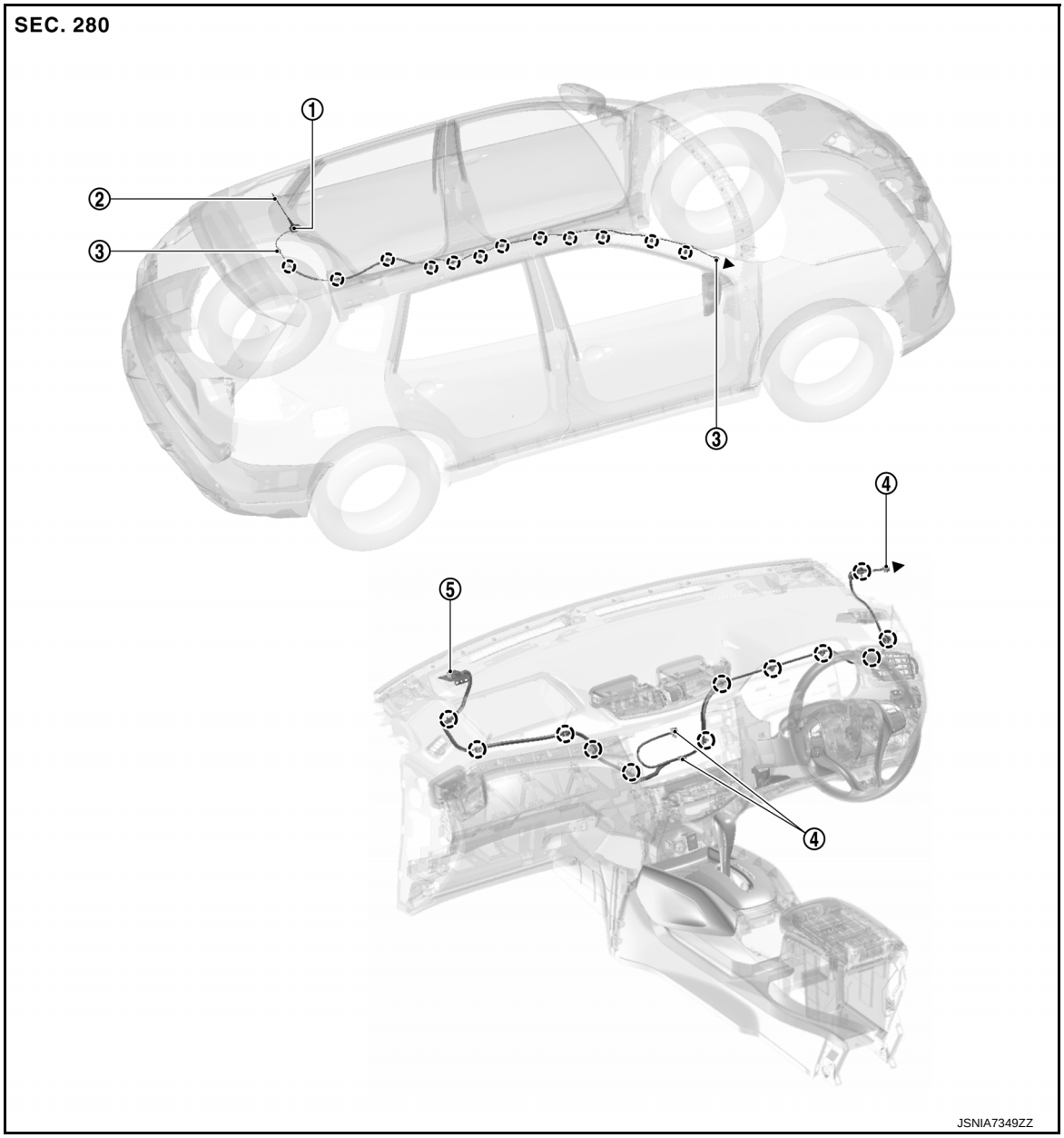


① Antenna base ② Antenna rod ③ With clip connector
④ Connector ⑤ GPS antenna*
: Clips
▲ : Indicates that the part is connected at points with same symbol in actual vehicle.

*: Not applicable

RHD MODELS

SEC. 280



① Antenna base
② Antenna rod
③ With clip connector
④ Connector
⑤ GPS antenna*
: Clips
▲ : Indicates that the part is connected at points with same symbol in actual vehicle.

*: Not applicable

PRECAUTION

PRECAUTIONS

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

INFOID:0000000010714784

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

WARNING:

Always observe the following items for preventing accidental activation.

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

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

WARNING:

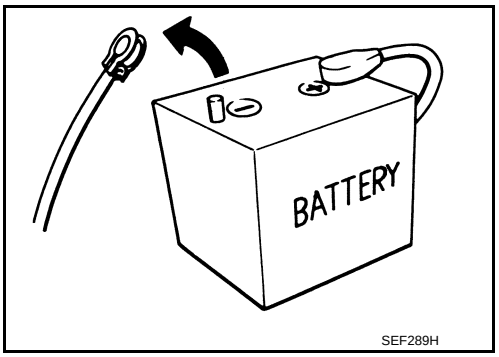
Always observe the following items for preventing accidental activation.

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

Precautions for Removing Battery Terminal

INFOID:0000000011010176

- With the adoption of Auto ACC function, ACC power is automatically supplied by operating the intelligent key or remote keyless entry or by opening/closing the driver side door. In addition, ACC power is supplied even after the ignition switch is turned to the OFF position, i.e. ACC power is supplied for a certain fixed time.
- When disconnecting the 12V battery terminal, turn off the ACC power before disconnecting the 12V battery terminal, observing “How to disconnect 12V battery terminal” described below.
  NOTE:
  Some ECUs operate for a certain fixed time even after ignition switch is turned OFF and ignition power supply is stopped. If the battery terminal is disconnected before ECU stops, accidental DTC detection or ECU data damage may occur.
- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.
  NOTE:
  If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.
- After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.
  NOTE:
  The removal of 12V battery may cause a DTC detection error.



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HOW TO DISCONNECT 12V BATTERY TERMINAL

Disconnect 12V battery terminal according to Instruction 1 or Instruction 2 described below.
For vehicles parked by ignition switch OFF, refer to Instruction 2.

INSTRUCTION 1

1. Open the hood.

2. Turn key switch to the OFF position with the driver side door opened.
3. Get out of the vehicle and close the driver side door.
4. Wait at least 3 minutes. For vehicle with the engine listed below, remove the battery terminal after a lapse of the specified time.

D4D engine	: 20 minutes
HRA2DDT	: 12 minutes
K9K engine	: 4 minutes
M9R engine	: 4 minutes
R9M engine	: 4 minutes
V9X engine	: 4 minutes

CAUTION:
While waiting, never operate the vehicle such as locking, opening, and closing doors. Violation of this caution results in the activation of ACC power supply according to the Auto ACC function.

5. Remove 12V battery terminal.
CAUTION:
After installing 12V battery, always check self-diagnosis results of all ECUs and erase DTC.

INSTRUCTION 2 (FOR VEHICLES PARKED BY IGNITION SWITCH OFF)

1. Unlock the door with intelligent key or remote keyless entry.
NOTE:
At this moment, ACC power is supplied.
2. Open the driver side door.
3. Open the hood.
4. Close the driver side door.
5. Wait at least 3 minutes.
CAUTION:
While waiting, never operate the vehicle such as locking, opening, and closing doors. Violation of this caution results in the activation of ACC power supply according to the Auto ACC function.
6. Remove 12V battery terminal.
CAUTION:
After installing 12V battery, always check self-diagnosis results of all ECUs and erase DTC.

Precaution for Trouble Diagnosis

INFOID:0000000010714786

AV COMMUNICATION SYSTEM

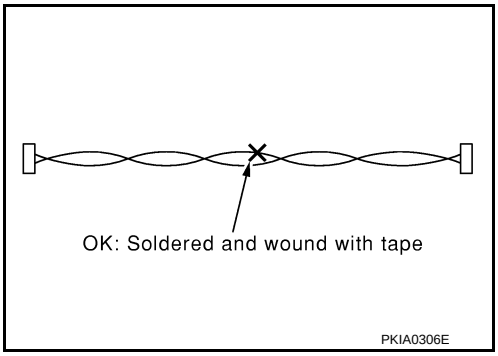
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

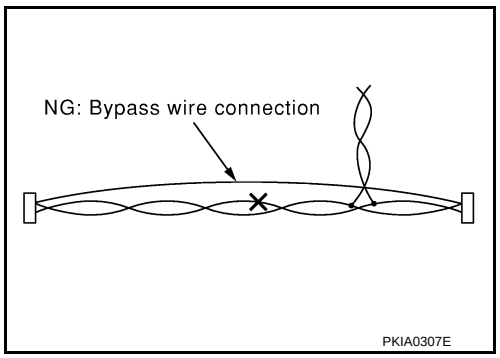
INFOID:0000000010714787

AV COMMUNICATION SYSTEM

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



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



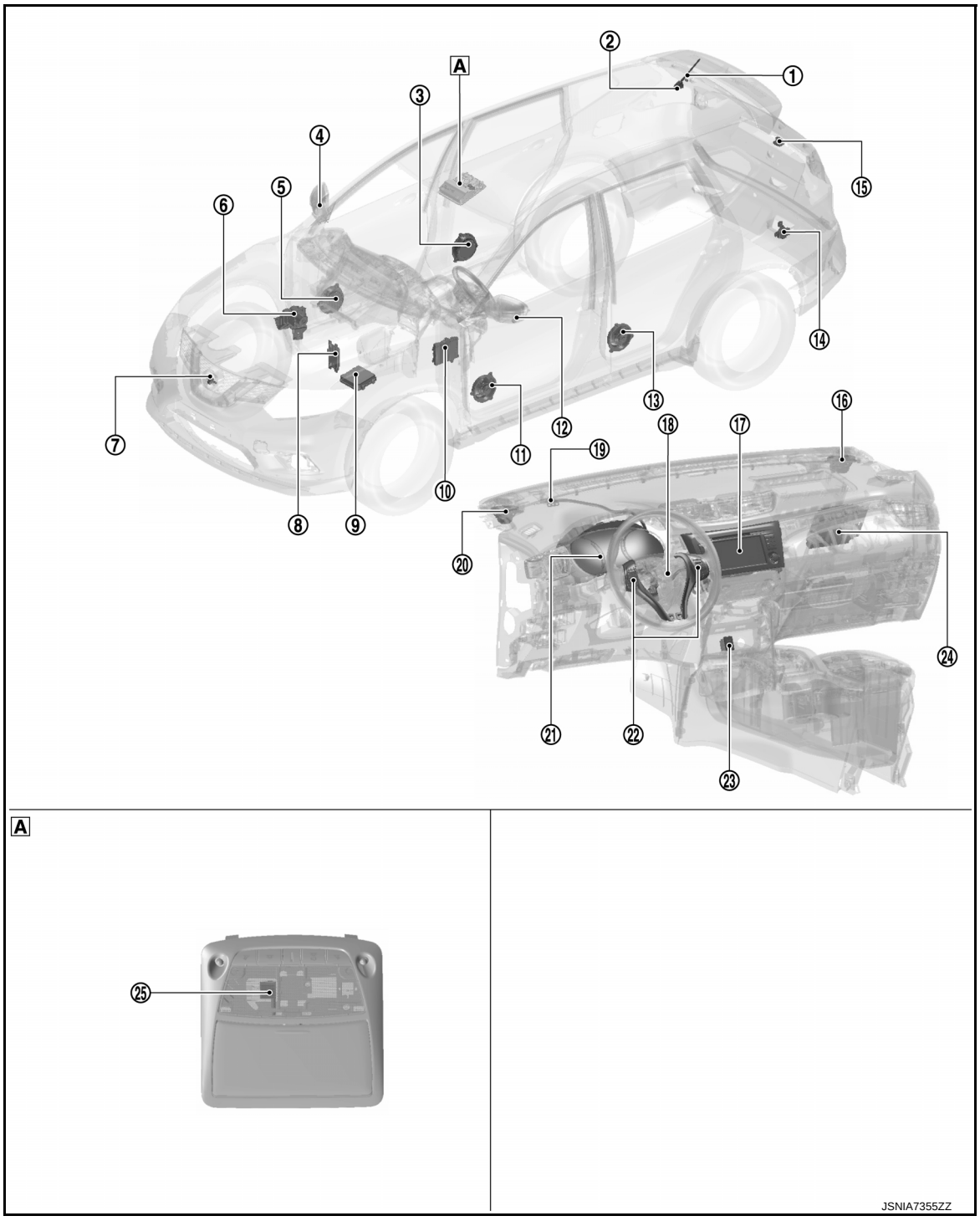
SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000010714788

LHD MODELS

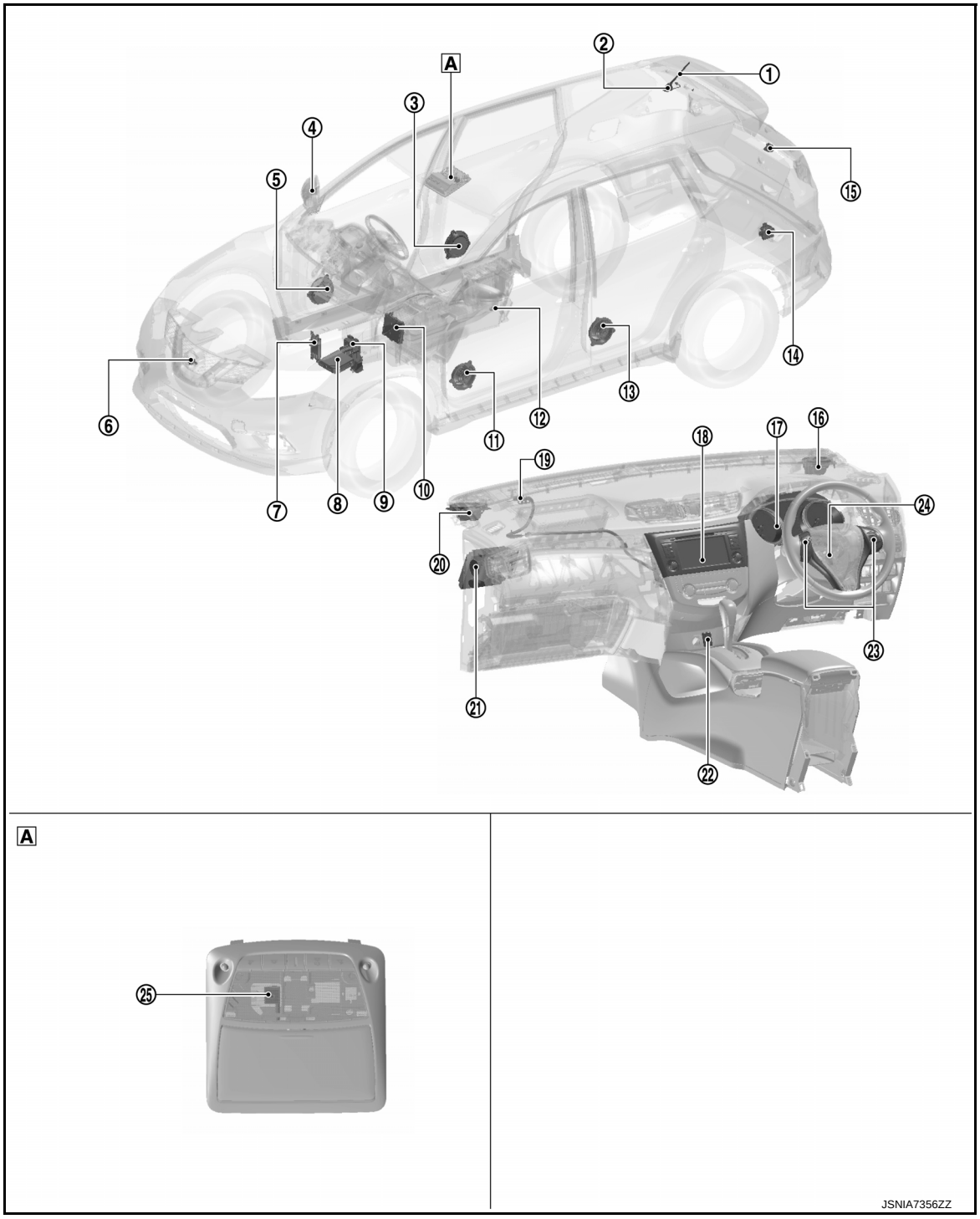


A Map lamp

No.	Component	Function
①	Antenna rod	AV-71, "Antenna and Antenna Feeder"
②	Antenna base	
③	Rear door speaker RH	Refer to AV-69, "Speaker".
④	Side camera RH	Refer to AV-77, "Side Camera".
⑤	Front door speaker RH	Refer to AV-69, "Speaker".
⑥	ABS actuator and electric unit (control unit)	Transmits the vehicle speed signal to the around view monitor control unit via CAN communication. Refer to BRC-25, "ABS Actuator and Electric Unit (Control Unit)", for detailed installation location.
⑦	Front camera	Refer to AV-76, "Front Camera".
⑧	TCM (CVT models)	Transmits the shift position signal to the around view monitor control unit via CAN communication. Refer to the following for detailed installation location. • RE0F10D: TM-235, "CVT CONTROL SYSTEM : Component Parts Location" • RE0F10G: TM-466, "CVT CONTROL SYSTEM : Component Parts Location"
⑨	IPDM E/R (M/T models)	Transmits the gear position signal to the around view monitor control unit via CAN communication. Refer to PCS-5, "Component Parts Location", for detailed installation location.
⑩	BCM	• Transmits the door switch signal to the around view monitor control unit via CAN communication. • Transmits the following signals to the NAVI control unit. - Reverse signal - Dimmer signal - Auto acc input signal Refer to BCS-6, "BODY CONTROL SYSTEM : Component Parts Location", for detailed installation location.
⑪	Front door speaker LH	Refer to AV-69, "Speaker".
⑫	Side camera LH	Refer to AV-77, "Side Camera".
⑬	Rear door speaker LH	Refer to AV-69, "Speaker".
⑭	Sonar control unit	Transmits the sonar indicator signal to the around view monitor control unit via CAN communication. Refer to following for detailed installation location. • Without park assist: SN-8, "Component Parts Location" • With park assist: SN-119, "Component Parts Location"
⑮	Rear camera	Refer to AV-77, "Rear Camera".
⑯	Front squawker RH	Refer to AV-69, "Speaker".
⑰	NAVI control unit	Refer to AV-68, "NAVI Control Unit".
⑱	Steering angle sensor	Refer to AV-76, "Steering Angle Sensor".
⑲	GPS antenna	Refer to AV-71, "Antenna and Antenna Feeder".
⑳	Front squawker LH	Refer to AV-69, "Speaker".
㉑	Combination meter	• Transmits the steering switch signal to the NAVI control unit via AV communication. • Transmits the vehicle speed signal to the NAVI control unit. • Receives the meter display signal from the NAVI control unit via AV communication. • Receives the buzzer output signal from the around view monitor control unit via CAN communication. Refer to MWI-7, "METER SYSTEM : Component Parts Location", for detailed installation location.
㉒	Steering switch	Refer to AV-71, "Steering Switch".
㉓	USB connector and AUX jack	Refer to AV-76, "USB Connector and AUX Jack".

No.	Component	Function
㉔	Around view monitor control unit	Refer to AV-76, "Around View Monitor Control Unit".
㉕	Microphone	Refer to AV-70, "Microphone".

RHD MODELS



A Map lamp

No.	Component	Function
①	Antenna rod	AV-71, "Antenna and Antenna Feeder"
②	Antenna base	
③	Rear door speaker RH	Refer to AV-69, "Speaker".
④	Side camera RH	Refer to AV-77, "Side Camera".
⑤	Front door speaker RH	Refer to AV-69, "Speaker".
⑥	Front camera	Refer to AV-76, "Front Camera".
⑦	TCM (CVT models)	Transmits the shift position signal to the around view monitor control unit via CAN communication. Refer to the following for detailed installation location. • RE0F10D: TM-235, "CVT CONTROL SYSTEM : Component Parts Location" • RE0F10G: TM-466, "CVT CONTROL SYSTEM : Component Parts Location"
⑧	IPDM E/R (M/T models)	Transmits the gear position signal to the around view monitor control unit via CAN communication. Refer to PCS-5, "Component Parts Location", for detailed installation location.
⑨	ABS actuator and electric unit (control unit)	Transmits the vehicle speed signal to the around view monitor control unit via CAN communication. Refer to BRC-25, "ABS Actuator and Electric Unit (Control Unit)", for detailed installation location.
⑩	BCM	• Transmits the door switch signal to the around view monitor control unit via CAN communication. • Transmits the following signals to the NAVI control unit. - Reverse signal - Dimmer signal - Auto acc input signal Refer to BCS-6, "BODY CONTROL SYSTEM : Component Parts Location", for detailed installation location.
⑪	Front door speaker LH	Refer to AV-69, "Speaker".
⑫	Side camera LH	Refer to AV-77, "Side Camera".
⑬	Rear door speaker LH	Refer to AV-69, "Speaker".
⑭	Sonar control unit	Transmits the sonar indicator signal to the NAVI control unit and the around view monitor control unit via CAN communication. Refer to following for detailed installation location. • Without park assist: SN-8, "Component Parts Location" • With park assist: SN-119, "Component Parts Location"
⑮	Rear camera	Refer to AV-77, "Rear Camera".
⑯	Front squawker RH	Refer to AV-69, "Speaker".
⑰	Combination meter	• Transmits the steering switch signal to the NAVI control unit via AV communication. • Transmits the vehicle speed signal to the NAVI control unit. • Receives the meter display signal from the NAVI control unit via AV communication. • Receives the buzzer output signal from the around view monitor control unit via CAN communication. Refer to MWI-7, "METER SYSTEM : Component Parts Location", for detailed installation location.
⑱	NAVI control unit	Refer to AV-68, "NAVI Control Unit".
⑲	GPS antenna	Refer to AV-71, "Antenna and Antenna Feeder".
⑳	Front squawker LH	Refer to AV-69, "Speaker".
㉑	Around view monitor control unit	Refer to AV-76, "Around View Monitor Control Unit".
㉒	USB connector and AUX jack	Refer to AV-76, "USB Connector and AUX Jack".
㉓	Steering switch	Refer to AV-71, "Steering Switch".

No.	Component	Function
㉔	Steering angle sensor	Refer to AV-76, "Steering Angle Sensor".
㉕	Microphone	Refer to AV-70, "Microphone".

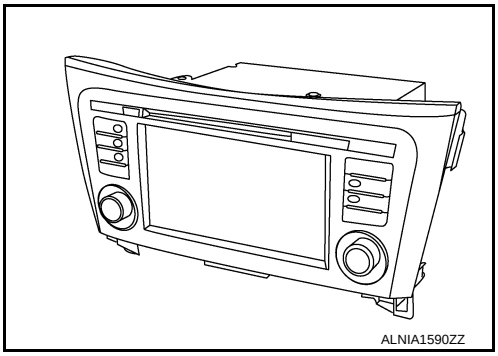
NAVI Control Unit

INFOID:0000000010714789

The audio system is equipped with following function.

DESCRIPTION

- 7 inch display integrated NAVI control unit is installed at the center of the instrument panel.
- The NAVI control unit is equipped with the following parts. It is the master unit integrated with functions and controls the multi-AV system.



Units equipped
SD card slot
7-inch monitor
Audio amplifier
AM/FM electronic tuner
CD drive
Bluetooth® module

- A possible route line is generated on the camera image from the rear view camera, and it is shown on the display.
- It has the built-in gyro sensor and acceleration sensor as a vehicle position calculation sensor. Map data is read from an SD card in the SD slot.

- SD card
- It records the map data, guide information, etc.

- Gyroscope
- Detects vehicle cornering condition.

- Acceleration sensor
- Detects the inclination angle and height variation of the vehicle.

Display

- Touch panel function is adopted to improve operability.
- Composite image signals (around view camera image) are displayed.

Audio Amplifier

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

AM/FM Electronic Tuner

- The AM/FM electric tuner includes the PLL frequency synthesizer system.

CD Drive

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

Bluetooth® Module

- Wireless connection to the audio device equipped with Bluetooth® communication can play music.
- Five units of Bluetooth® communication devices including audio devices and cellular phones can be registered to the NAVI control unit.

Specification

Display	Screen size		7-inch (15.5 cm × 8.72 mm)
	Number of pixels		480 × 272 pixels
	Drive type		TFT active matrix method
	Touch panel detection		Analog resistive touch
Amplifier output			40 W × 4 ch
CD drive	Used disc		ϕ12 cm
	Playable disc	CD	CD-ROM (CD-DA)
			CD-R*1
			CD-RW*1
	Playable format	Music	MP3
			WMA
	Text display function	ID3 / WMA tag	Artist name
			Album title
			Song title
USB	High communication standard		USB2.0
	Playable format	Music	MP3
			WMA
	Text display function	ID3 / WMA tag	Artist name
			Album title
			Song title
	iPod Action*2		iPod Classic 5th generation and later
			iPod nano 1st generation and later
			iPod touch 1st generation and later
			iPhone 3G and later
Bluetooth® audio	Compliant communication type	Wireless connection	Bluetooth® communication
	Compliant profile		A2DP 1.2
			AVRCP 1.4
Hands-free phone	Compliant communication type	Wireless connection	Bluetooth® communication compliant type
	Compliant profile		HFP v10r00
Camera controller	Guideline display function		Width/distance display
Other functions			Speed sensitive volume function
			Steering switch compliant

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

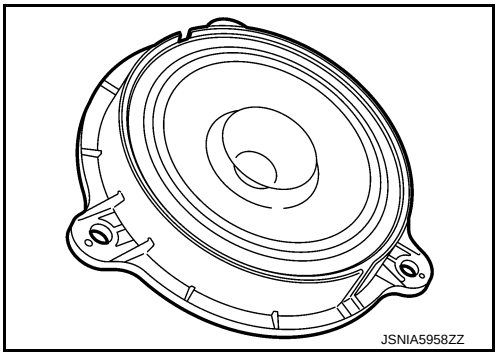
Speaker

INFOID:0000000010714790

FRONT DOOR SPEAKER

- ϕ16.0 cm speaker is installed to the bottom of the front door.
- Sound signal is input from the NAVI control unit to output high, mid and low range sound.

Maximum input	: 40 W
Rated input	: 20 W
Impedance	: 4 Ω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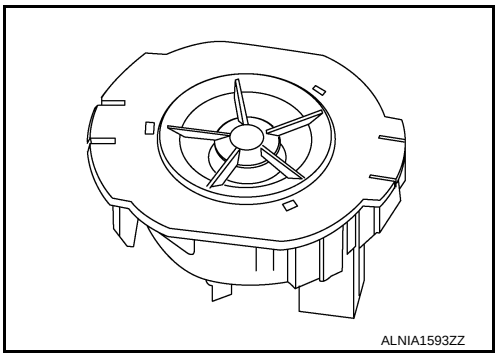
FRONT SQUAWKER

- ϕ8.0 cm squawker for high-range sounds is installed in the instrument panel assembly.
- Sound signal is input from the NAVI control unit to output high range sounds.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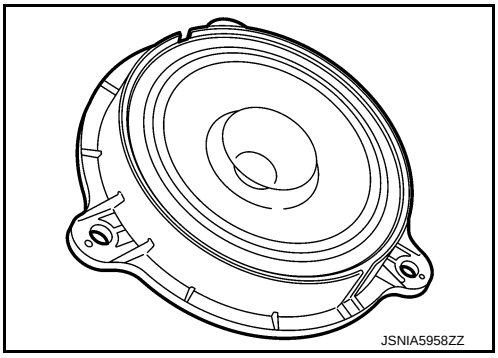
REAR DOOR SPEAKER

- ϕ16.0 cm speaker is installed to the bottom of the rear door.
- Sound signal is input from the NAVI control unit to output high, mid and low range sound.

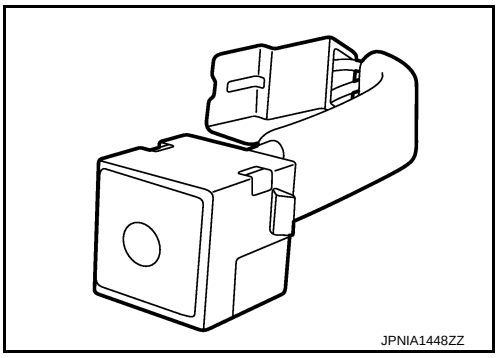
Maximum input	: 40 W
Rated input	: 20 W
Impedance	: 4 Ω


JSNIA5958ZZ

Microphone

INFOID:0000000010714791

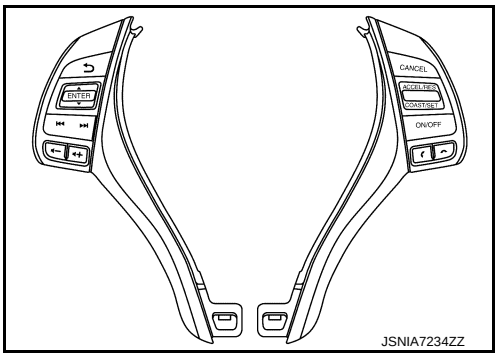
- The microphone is installed on the map lamp assembly.
- The power is supplied from the NAVI control unit to the microphone, transmitting sound signals to the NAVI control unit at the during hands-free phone communication.


JPNIA1448ZZ

Steering Switch

INFOID:0000000010714792

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



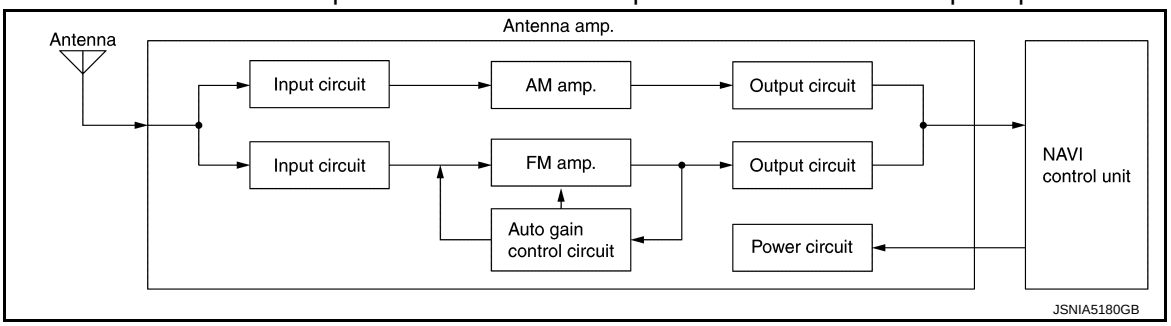
Antenna and Antenna Feeder

INFOID:0000000010714793

ANTENNA AMP. AND RADIO ANTENNA

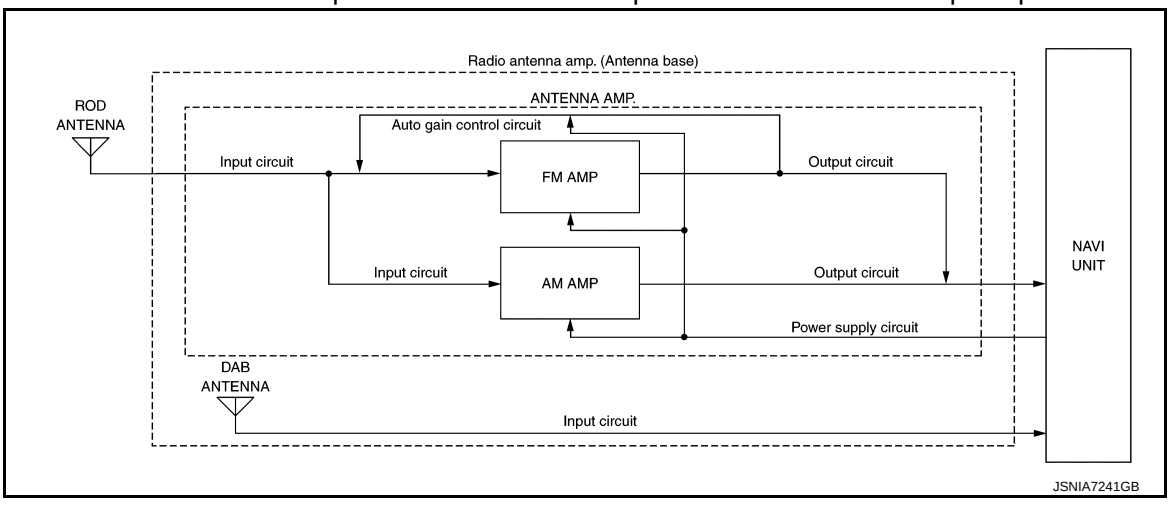
Without DAB antenna

- AM/FM radio rod antenna and antenna base are located on the rear of the roof.
- The antenna amp. is built into the antenna base.
- The AM/FM radio main antenna path has an antenna amp. to obtain sufficient reception power.



With DAB antenna

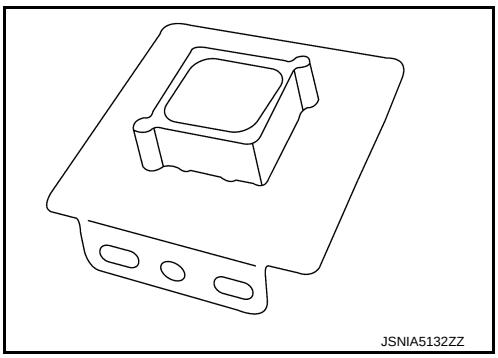
- AM/FM radio rod antenna, antenna base and DAB antenna are located on the rear of the roof.
- The antenna amp. and DAB antenna are built into the antenna base.
- The AM/FM radio main antenna path has an antenna amp. to obtain sufficient reception power.



GPS ANTENNA

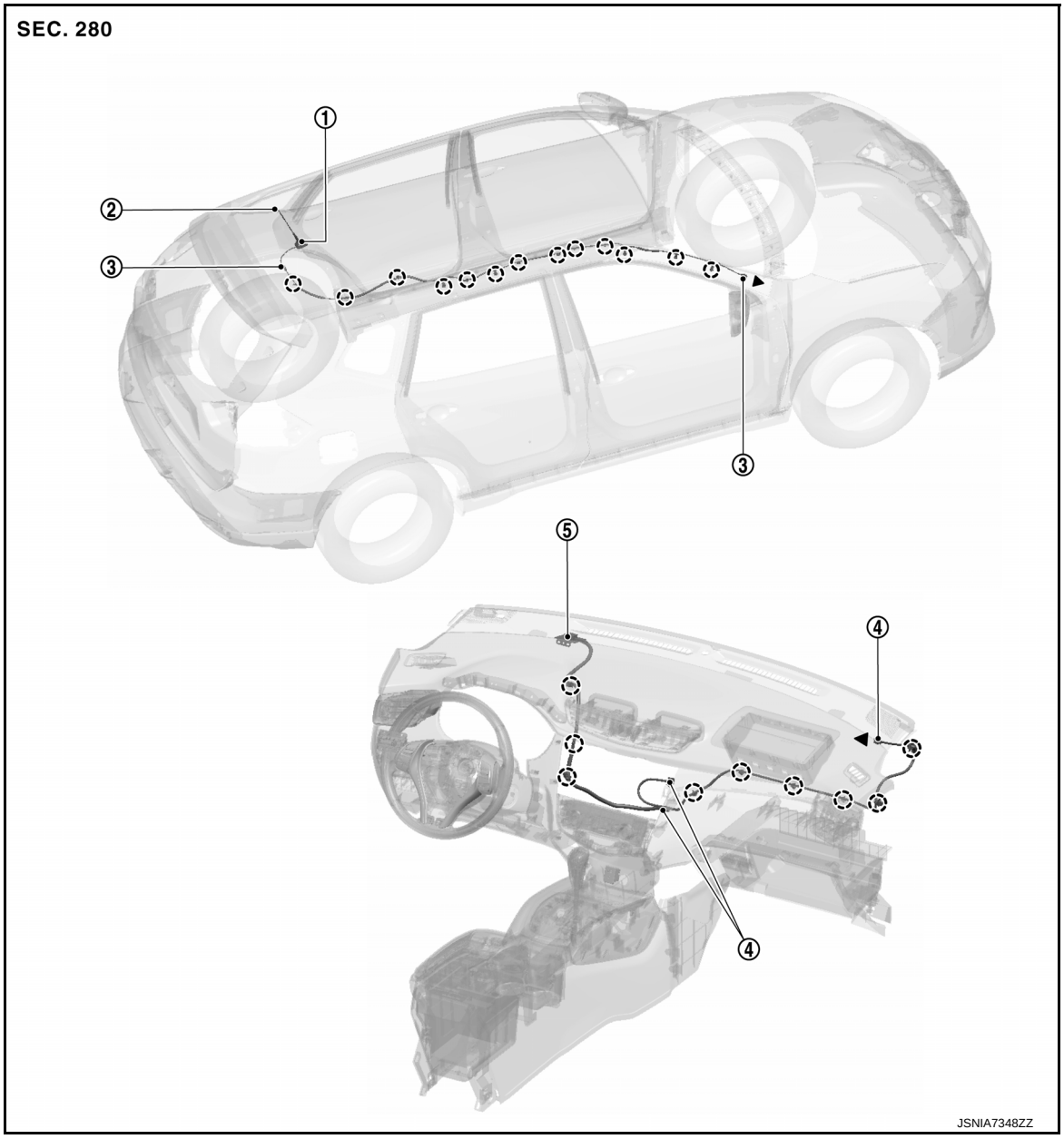
- GPS antenna is installed in the instrument panel.
- Power is supplied from the NAVI control unit.
- This antenna amplifies radio waves received from the GPS satellite and transmits the GPS signal to the NAVI control unit.

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



ANTENNA FEEDER LAYOUT

LHD Models Without DAB antenna

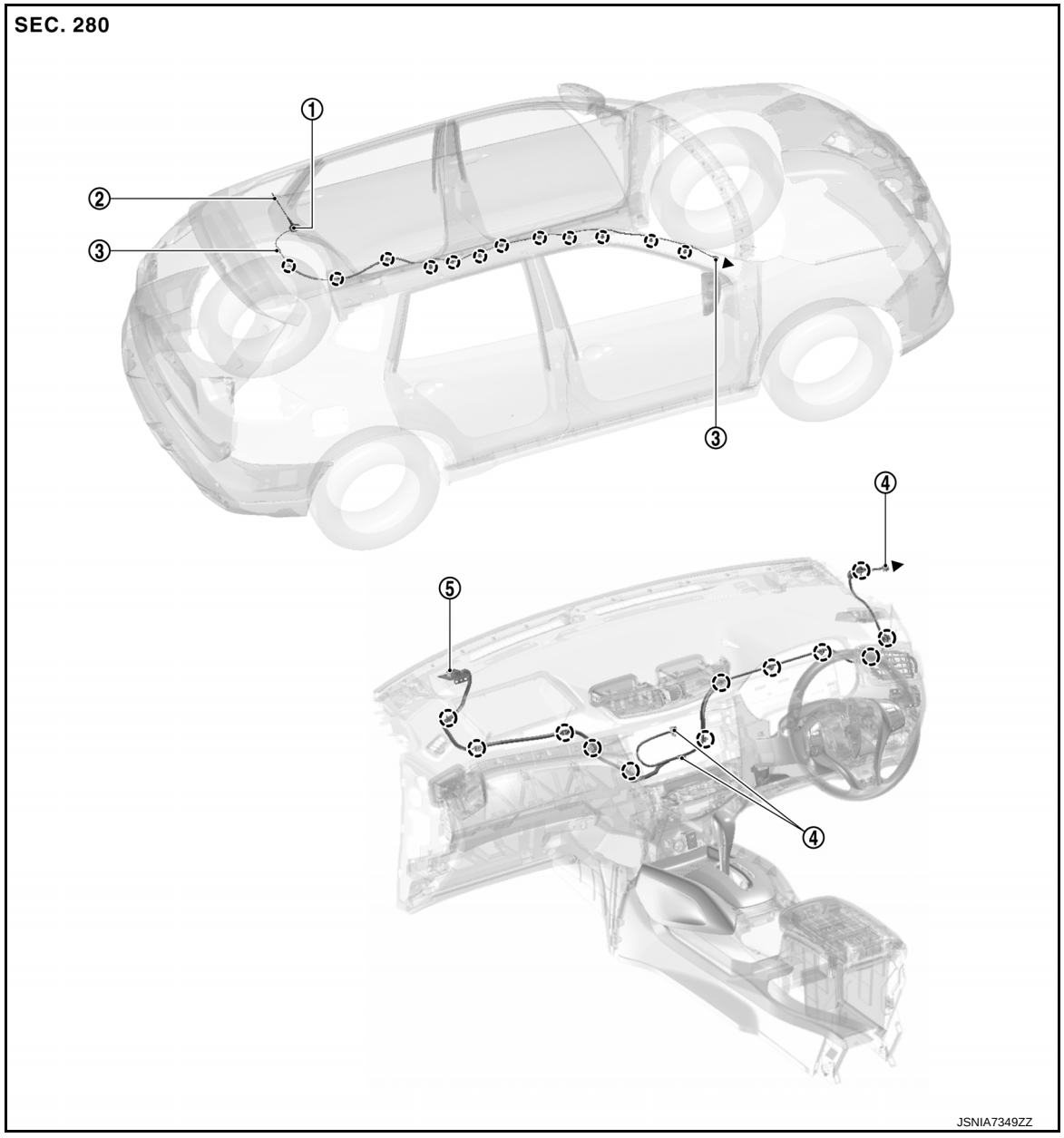


① Antenna base
② Antenna rod
③ With clip connector
④ Connector
⑤ GPS antenna

: Clips

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

RHD Models without DAB antenna



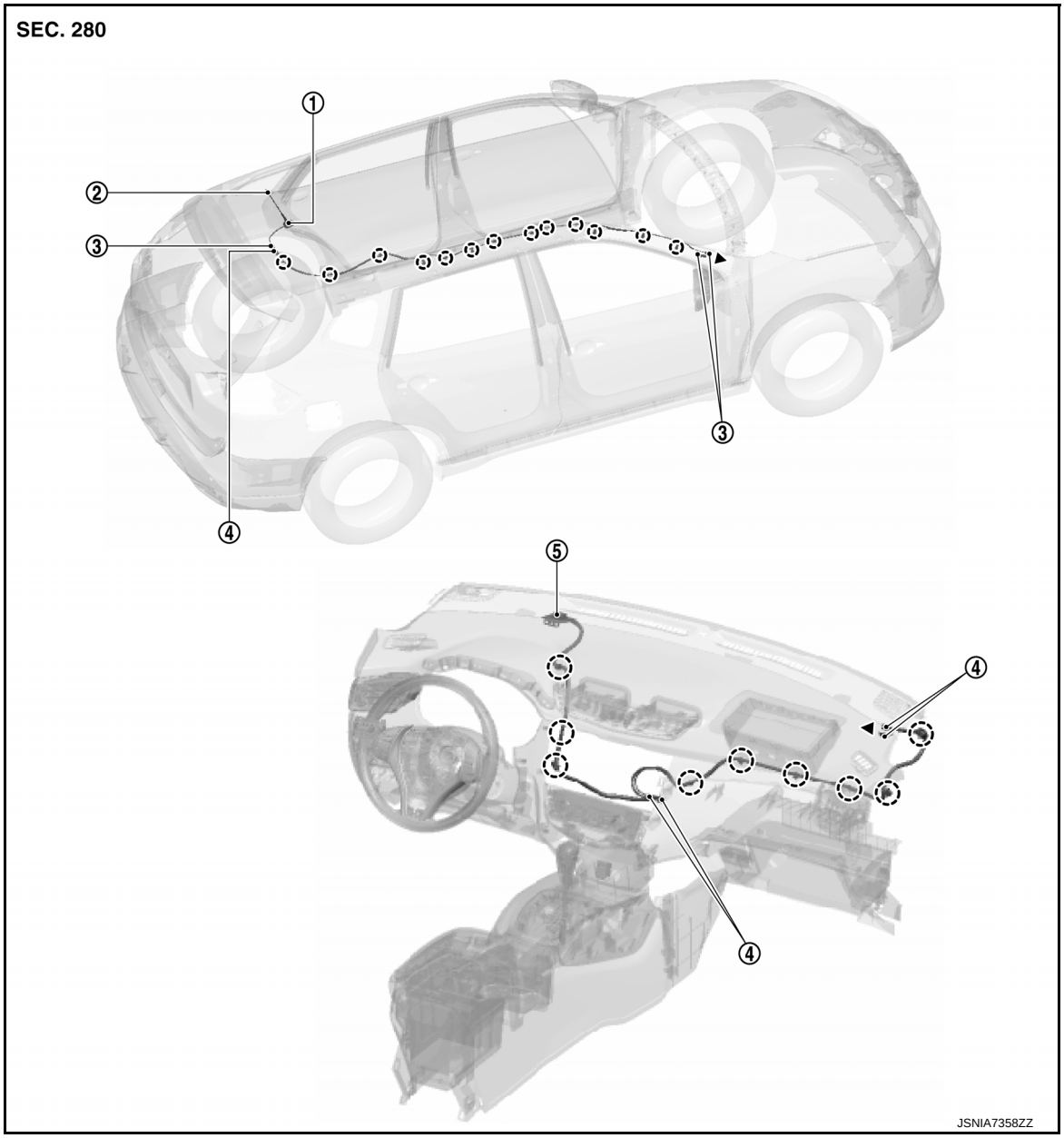
① Antenna base ② Antenna rod ③ With clip connector

④ Connector ⑤ GPS antenna

: Clips

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

LHD Models With DAB antenna



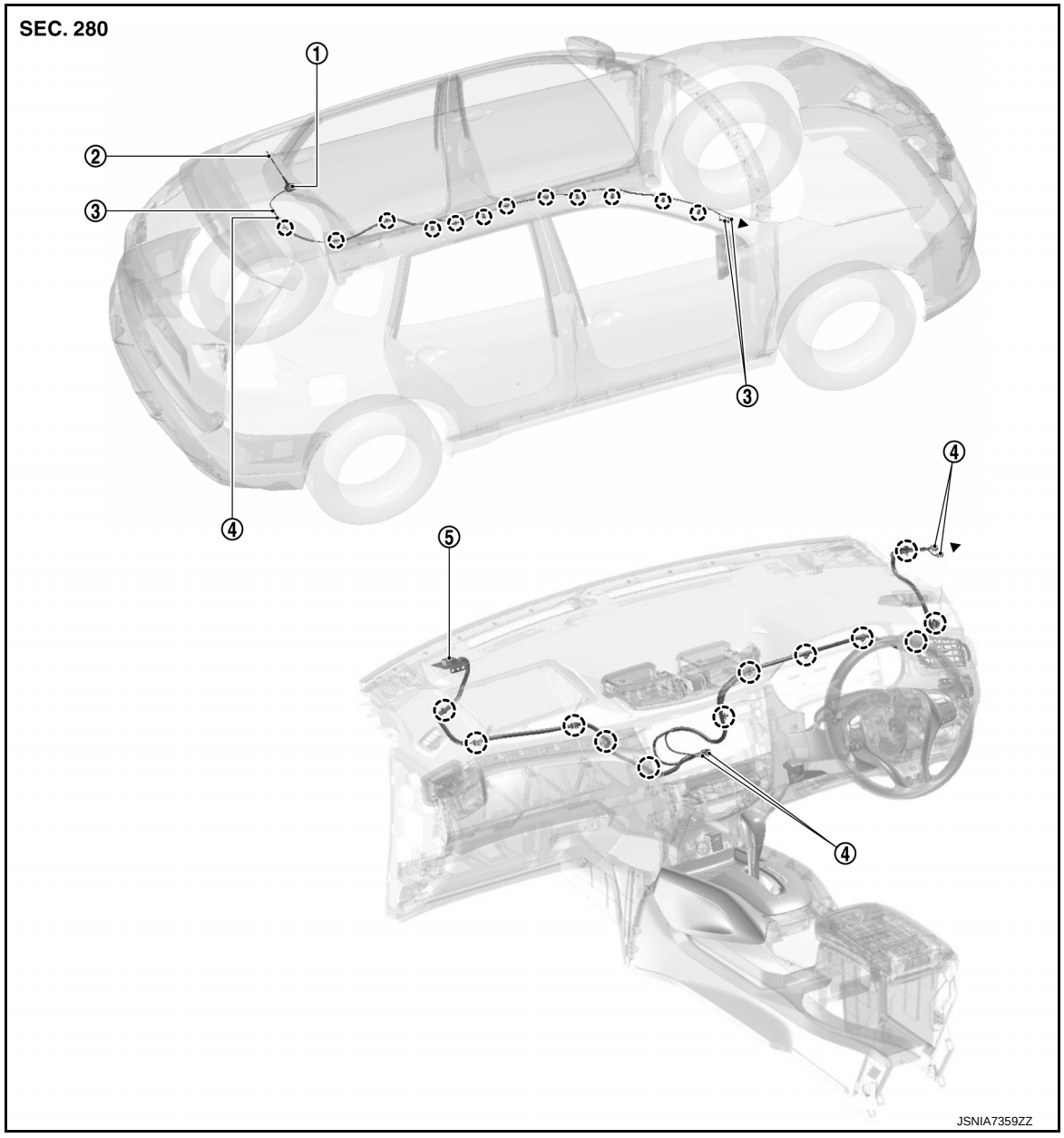
① Antenna base ② Antenna rod ③ With clip connector

④ Connector ⑤ GPS antenna

◌ : Clips

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

RHD Models with DAB antenna

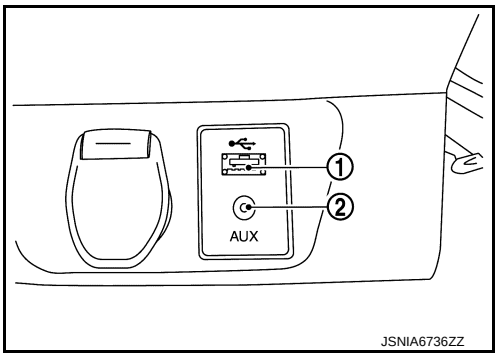


① Antenna base
② Antenna rod
③ With clip connector
④ Connector
⑤ GPS antenna
◌ : Clips
▲ : Indicates that the part is connected at points with same symbol in actual vehicle.

USB Connector and AUX Jack

INFOID:0000000010714794

- USB connector and AUX jack is installed on the instrument lower panel center.



① USB connector
② AUX jack

- iPod and USB memory can be connected to the NAVI control unit.
- Connection to an external audio device can provide sound output.

External input terminal for connection ϕ3.5 mm stereo mini-jack

NOTE:
When connected to monaural mini-jack plug cable, sound may not be output.

SD Card

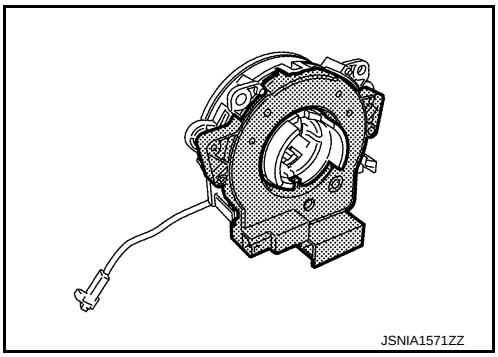
INFOID:0000000010714795

Map data is sent to the NAVI control unit from the SD slot.

Steering Angle Sensor

INFOID:0000000010714796

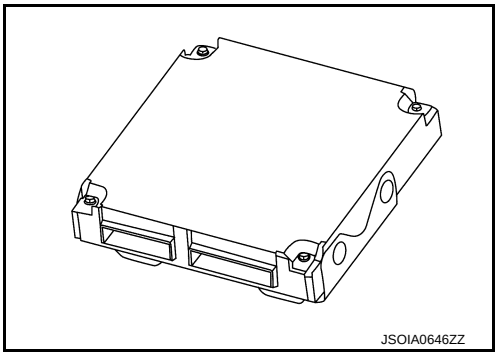
- Steering angle sensor is installed to the spiral cable.
- Steering angle sends the steering signal necessary for predictive course line of the rear view monitor to the NAVI control unit via CAN communication. (Models without around view monitor)
- Steering angle sends the steering signal necessary for predictive course line of the rear view monitor to the around view monitor control unit via CAN communication. (Models with around view monitor)



Around View Monitor Control Unit

INFOID:0000000010714797

- The around view monitor control unit is installed at the end of the glove box assembly.
- Necessary signals are transmitted/received to/from control unit via CAN communication.
- Camera image signals received from each camera are converted/ synthesized in the around view monitor control unit and transmitted to the NAVI control unit.
- Vehicle width guide lines, predicted course line, vehicle front guiding line and vehicle side line, and vehicle icon are rendered with the around view monitor control unit and combined with camera image.

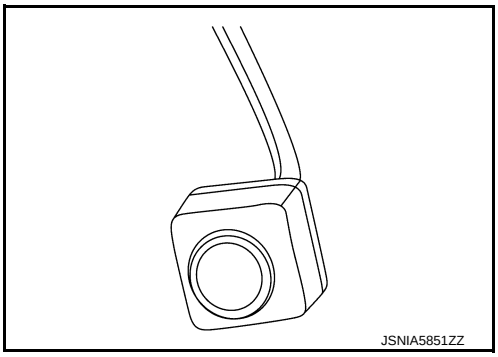


Front Camera

INFOID:0000000010714798

- The front camera is installed to the front grille.
- Super-small CMOS camera (color) using CMOS* for the image pickup element is adopted.
- Power for the camera is supplied from the around view monitor control unit, and the image at the front of the vehicle is sent to the around view monitor control unit.

NOTE:
*: “CMOS” is abbreviation of Complementary Metal Oxide Semiconductor, and features low power consumption and high speed reading rate of electric charge.



Specification

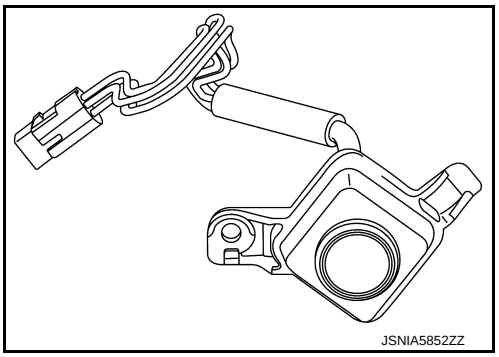
Image pickup element	1/4-inch CMOS image sensor
Effective number of pixels	Approx. 300,000 pixels (632 × 480)
Minimum brightness	1 lx
Angle of view	H: 190.4° V: 141.8°

Side Camera

INFOID:0000000010714799

- The side camera is installed to the door mirror.
- Super-small CMOS camera (color) using CMOS* for the image pickup element is adopted.
- Power for the camera is supplied from the around view monitor control unit, and the image at the side of the vehicle is sent to the around view monitor control unit.

NOTE:
*: “CMOS” is abbreviation of Complementary Metal Oxide Semiconductor, and features low power consumption and high speed reading rate of electric charge.


JSNIA5852ZZ

Specification

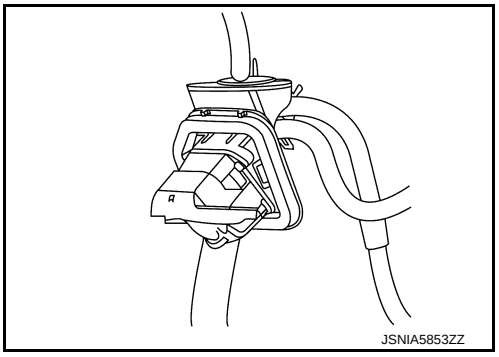
Image pickup element	1/4-inch CMOS image sensor
Effective number of pixels	Approx. 300,000 pixels (632 × 480)
Minimum brightness	1 lx
Angle of view	H: 190.4° V: 141.8°

Rear Camera

INFOID:0000000010714800

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

NOTE:
*: “CMOS” is abbreviation of Complementary Metal Oxide Semiconductor, and features low power consumption and high speed reading rate of electric charge.


JSNIA5853ZZ

Specification

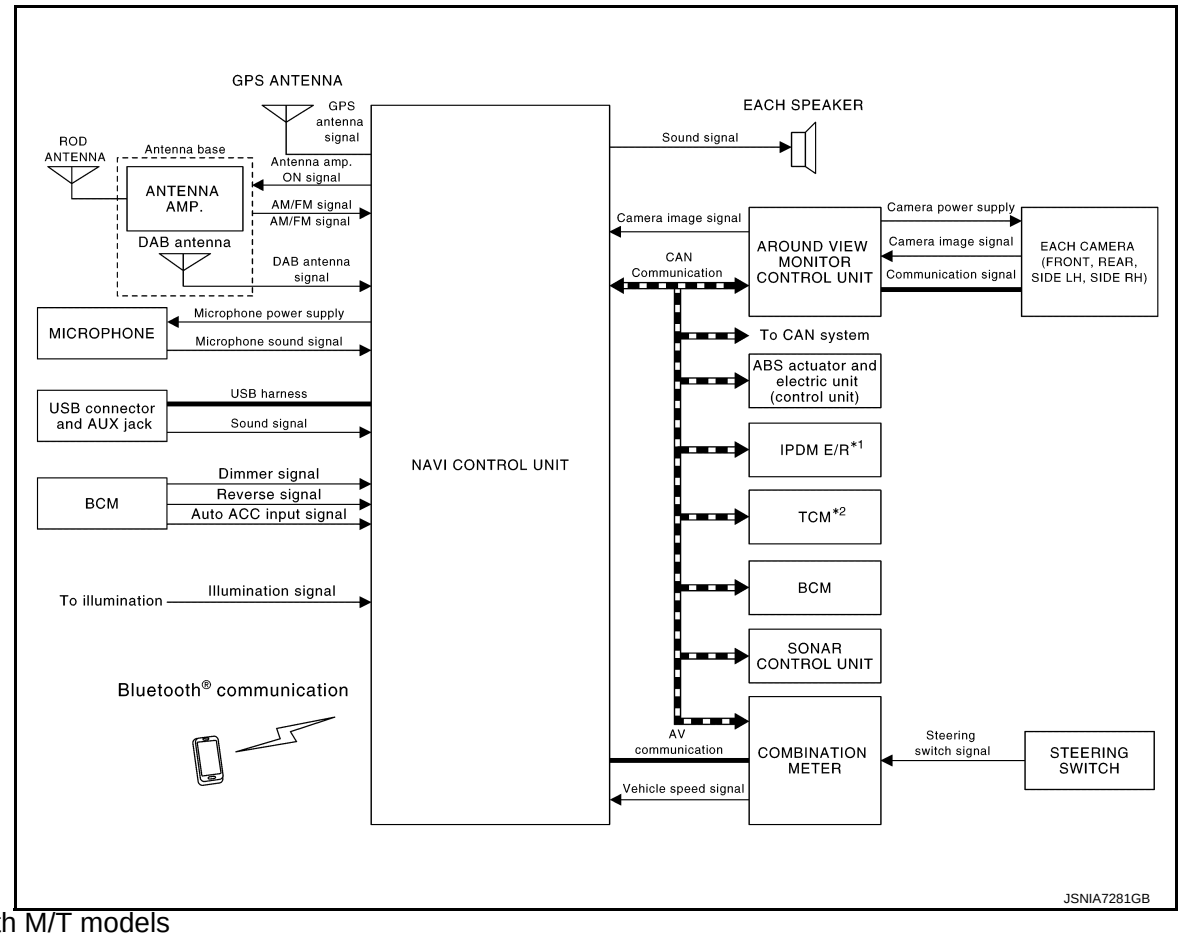
Image pickup element	1/4-inch CMOS image sensor
Effective number of pixels	Approx. 300,000 pixels (632 × 480)
Minimum brightness	1 lx
Angle of view	H: 190.4° V: 141.8°
Image	With mirror processing function

SYSTEM

System Description

INFOID:0000000010714801

SYSTEM DIAGRAM



*1: With M/T models
*2: With CVT models

DESCRIPTION

Refer to Owner's Manual for navigation and audio system operating instructions.
Audio function and display are built into NAVI control unit.
This navigation has the following functions.

- Map data on SD card.
- Full support for playback of music from iPod*, iPhone, and USB device.
  *: iPod is a trademark of Apple inc., registered in the U.S. and other countries.
- High resolution full color touch panel 7 inch "QVGA" display.
- FM/AM digital tuner.
- DAB radio.
- USB interface.
- AUX in jack
- Bluetooth® audio streaming.
- Hands-free phone system.

NOTE:

- The auto ACC function allows the operation of audio and navigation without operating the ignition switch. In addition, even after the ignition switch is turned OFF, audio and navigation can be operated for 10 minutes. For the auto ACC function, refer to PCS-68, "AUTO ACC FUNCTION : System Description".
- The settings of the auto ACC function can be changed with the CONSULT (work support of BCM). For details, refer to BCS-47, "BCM : CONSULT Function (BCM - BCM)".

NAVIGATION SYSTEM FUNCTION

Description

- The navigation system can be operated by control panel of the NAVI control unit and display (touch panel) of the NAVI control unit.
- Guide sound during the operation of the navigation system is output from NAVI control unit to front speaker.
- NAVI control unit calculates the vehicle location based on the signals from GYRO (angle speed sensor), vehicle sensor, and GPS satellite, as well as the map data from map SD card. It is displayed on display of the NAVI control unit.

POSITION DETECTION PRINCIPLE

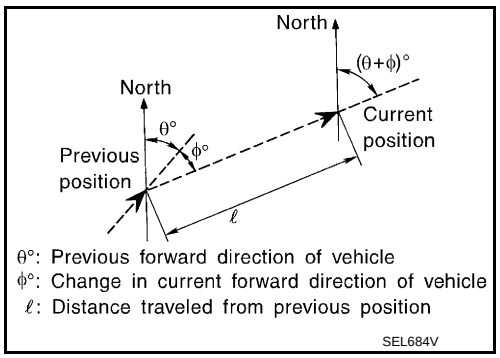
The navigation system periodically calculates the vehicle's current position according to the following three signals:

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

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



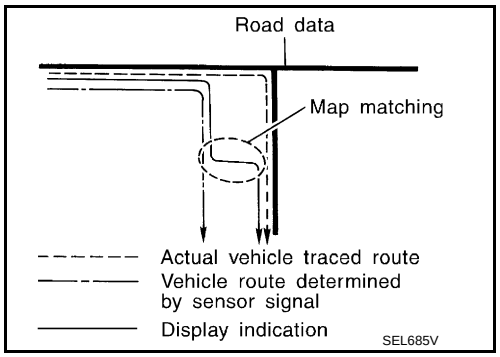
Type	Advantage	Disadvantage
Gyroscope (angular velocity sensor)	Can detect the vehicle's turning angle quite accurately.	Direction errors may accumulate when vehicle is driven for long distances without stopping.
GPS antenna (GPS information)	Can detect the vehicle's travel direction (North/South/East/West).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

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

MAP-MATCHING

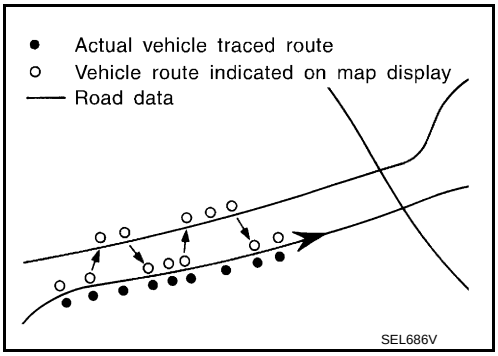
Map-matching compares a current location detected by the method in the “Location Detection Principle” with a road map data from map SD card.

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

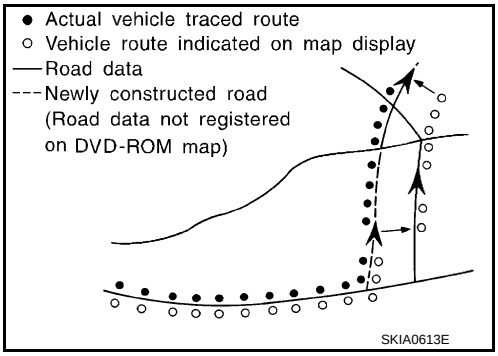


The vehicle position may not be corrected under the following circumstances and after driving for a certain time when GPS information is difficult to receive.

- In map-matching, alternative routes to reach the destination will be shown and prioritized, after the road on which the vehicle is currently driven has been judged and the vehicle mark has been repositioned.
  Alternative routes will be shown in different order of priority, and the incorrect road can be avoided if there is an error in distance and/or direction.
  They are of the same priority if two roads are running in parallel. Therefore, the vehicle mark may appear on either of them alternately, depending on maneuvering of the steering wheel and configuration of the road.



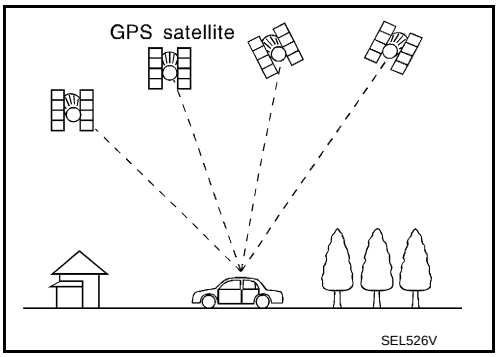
- Map-matching does not function correctly when a road on which the vehicle is driving is new and not recorded in the map SD card, or when road pattern stored in the map data and the actual road pattern are different due to repair.
  The map-matching function may find another road and position the vehicle mark on it when driving on a road not present in the map. Then, the vehicle mark may change to it when the correct road is detected.
- Effective range for comparing the vehicle position and travel direction calculated by the distance and direction with the road data read from the map SD card is limited. Therefore, correction by map-matching is not possible when there is an excessive gap between current vehicle position and the position on the map.



GPS (Global Positioning System)

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

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



Accuracy of the GPS will deteriorate under the following conditions:

- In two-dimensional positioning, GPS accuracy will deteriorate when altitude of the vehicle position changes.
- The position of GPS satellite affects GPS detection precision. The position detection may not be precisely performed.
- The position detection is not performed if GPS receiver does not receive radio waves from GPS satellites. (Inside a tunnel, parking in a building, under an elevated highway etc.) GPS receiver may not receive radio waves from GPS satellites if any object is placed on the GPS antenna.

NOTE:

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

AUXILIARY INPUT FUNCTION

- Sound can be output from an external device by connecting a device with USB connector and AUX jack.
- AUX sound signals are transmitted to each speaker via NAVI control unit.

USB CONNECTION FUNCTION

- iPod or music files in USB memory can be played.
- Sound signals are transmitted to each speaker via NAVI control unit.

• iPod is recharged when connected to USB connector and AUX jack.

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

NOTE:

Use the enclosed USB harness when connecting iPod to USB connector and AUX jack.

SPEED SENSITIVE VOLUME SYSTEM

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

HANDS-FREE PHONE SYSTEM

- Hands-free communication can be operated by connecting to cellular phone using Bluetooth®.
- Operation is performed by steering switch.
- Guide sound that is heard during operation is output from NAVI control unit to front speaker.

METER DISPLAY

Audio Indicator

- The steering switch is connected to the combination meter.
- The combination meter transmits a steering switch signal to the NAVI control unit via AV communication when the user operates the audio with the steering switch.
- The NAVI control unit changes the status of function according to the steering switch operation when receiving a steering switch signal.
- The NAVI control unit transmits an meter display signal to the combination meter via AV communication and displays the status of audio on the combination meter (in the information display) when the function is changed by an operation.

Navigation Indicator

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

Hands-free Phone Indicator

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

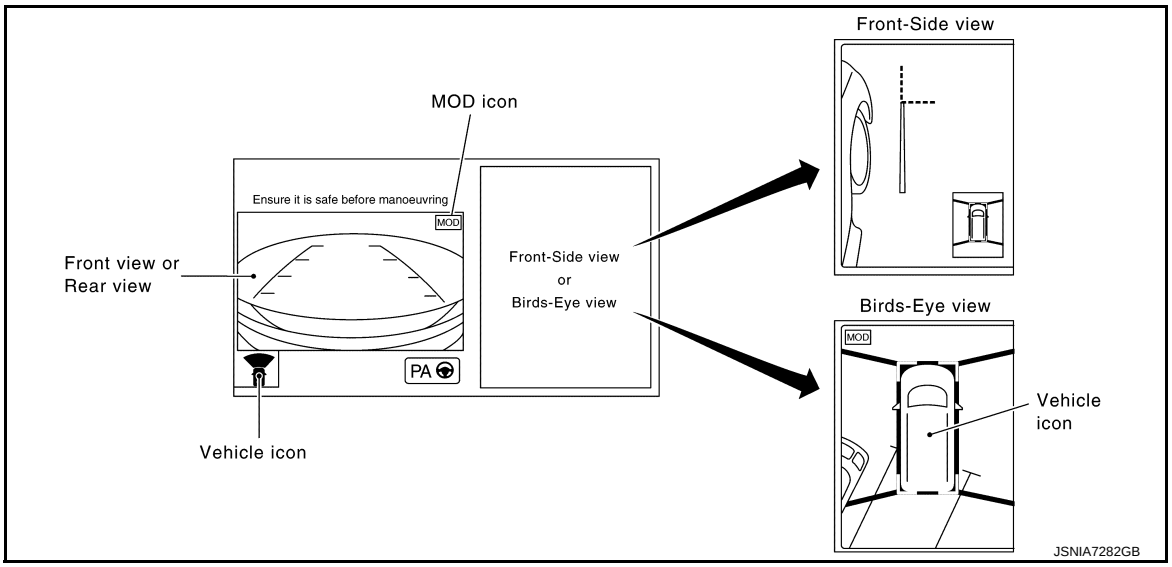
AROUND VIEW MONITOR FUNCTION

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

Around View Monitor Screen

- Around view monitor combines and displays the travel direction view and “Birds-Eye view”, “Front-Side view”.
- Around view monitor control unit renders the view icon and warning message on display.

Screen constitution

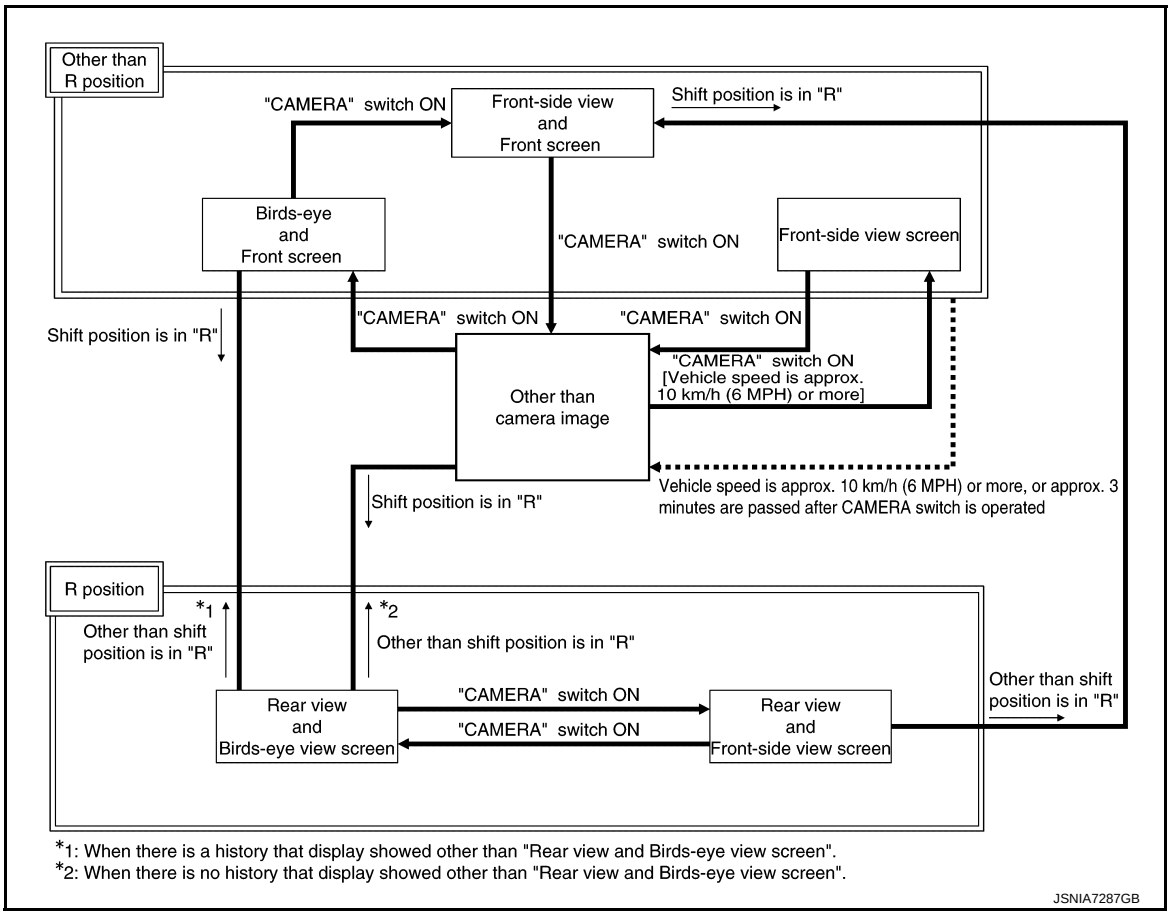


NOTE:
There is the icon which is not displayed by specifications.

Operation Description

- Around view monitor operates by pressing the “CAMERA” switch or shifting the selector lever to the reverse position.
- When the selector lever is in any position other than the reverse position, the screen is switched to the around view monitor by pressing the “CAMERA” switch.
- The screen is switched to the around view monitor by shifting the selector lever to the reverse position.
- In the around view monitor, Birds-Eye view, Front-side view can be switched by pressing the “CAMERA” switch.
- The around view monitor is cancelled 3 minutes after pressing the “CAMERA” switch or vehicle speed is approximately 10 km/h (6 MPH), and then the screen returns to the screen before displaying the around view monitor when selector lever is in a position other than the reverse position.
- In the Birds-Eye view, the invisible area is displayed to show the border of 4 camera images. In addition, red fixed lines are displayed in 4 corners of the vehicle icon. After turning the ignition switch ON, the invisible area is highlighted with yellow and red fixed lines are blink only once.

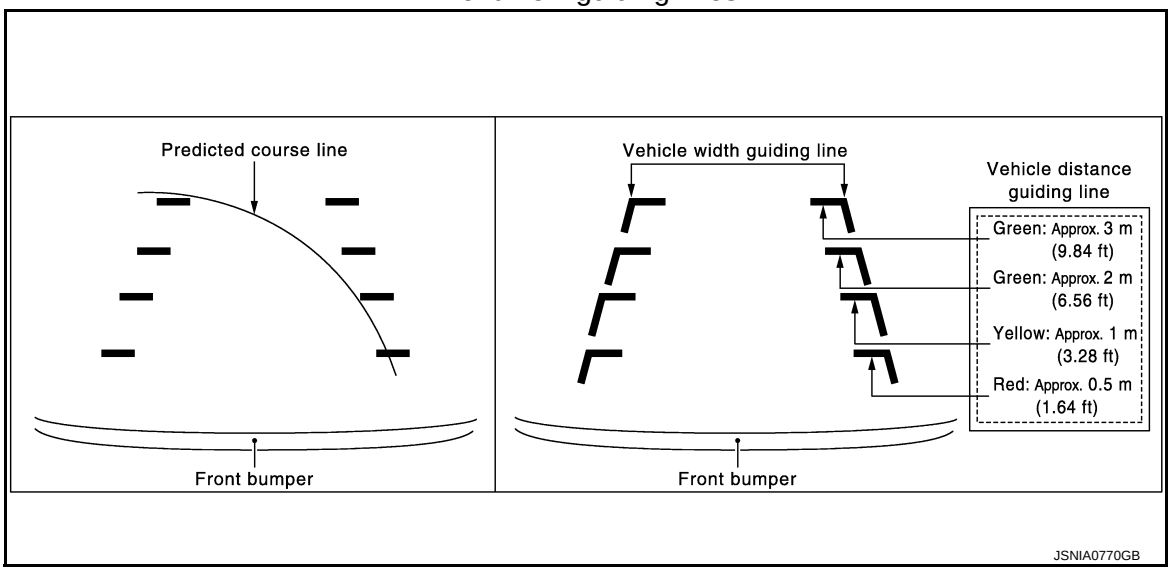
Around view monitor screen transition



FRONT VIEW

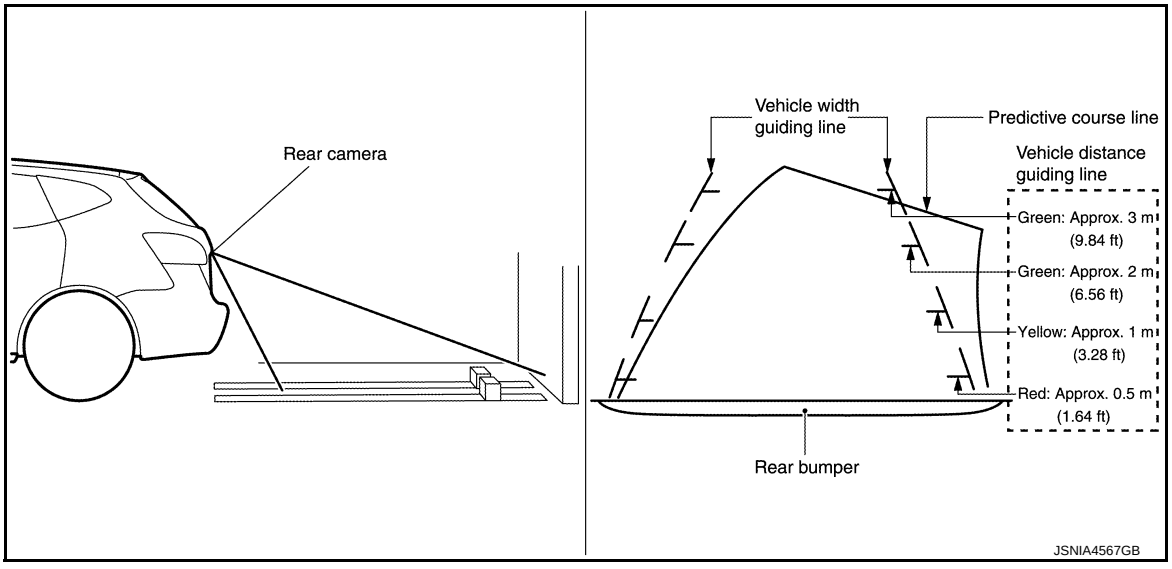
- The front view image is from the front camera.
- When the selector lever is in any position other than the reverse position, the front view is displayed by pressing the “CAMERA” switch. It improves the visibility of obstacles in front of the vehicle and helps driving by the images displayed from Birds-Eye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

Front view guiding lines



REAR VIEW
- The rear view image is from the rear camera.
- When the selector lever is in the reverse position, the rear view is displayed. Backing and parking are improved by the images from Birds-Eye view and Front-Side view.
- Display the vehicle width guiding line and vehicle distance guiding line in Rear view and display the predictive course line according to the steering angle.
- The predictive course line is not displayed at the steering neutral position.
- Around view monitor control unit receives the steering angle signal from steering angle sensor via CAN communication, and controls the direction and distance of the predictive course line.
- ON/OFF setting of predictive course line can be performed by CONSULT.

Rear view guiding lines



MOVING OBJECT DETECTION (MOD)
- Moving Object Detection (MOD) is a function that notifies the driver of the presence of moving objects in the area around the vehicle. MOD detects moving objects from camera image, illuminates frame of view in yellow whenever “MOD” icon is displayed in blue, and sounds buzzer in combination meter.
- MOD detects moving objects while camera image is displayed on display.
- Around view monitor control unit performs the following process when moving objects are detected.
- Superimposes yellow frame line on camera image signal and outputs them to display.
- Transmits buzzer output signal to combination meter via CAN communication so that buzzer in combination meter sounds.
- Around view monitor control unit detects moving objects from camera image according to an image recognition method called optical flow.

- MOD does not detect a background as a moving object when the vehicle moves (when whole screen moves), but detects a moving object when an actual moving object is displayed on screen.
- MOD can be set to permanent OFF by the following operation.

- Permanent OFF: Settings can be performed on the information display of the combination meter.

- Color of “MOD” icon indicates whether or not MOD is operative. “MOD” icon is displayed as shown in the following table. When MOD is operative, “MOD” icon is displayed in blue. When MOD is not operative, “MOD” icon is displayed in gray or orange. MOD icon is not displayed when MOD is off (permanent off).
- MOD illuminates frame of view in yellow and sounds buzzer, when any of the conditions in the following table are satisfied.

Operation Condition		View where MOD is operative
Shift position	Vehicle speed	
P and N position	0 km/h (0 MPH)	Birds-eye view
R position	0 km/h (0 MPH) or more - less than 8 km/h (5 MPH)	Rear view
D position	0 km/h (0 MPH) or more - less than 8 km/h (5 MPH)	Front view

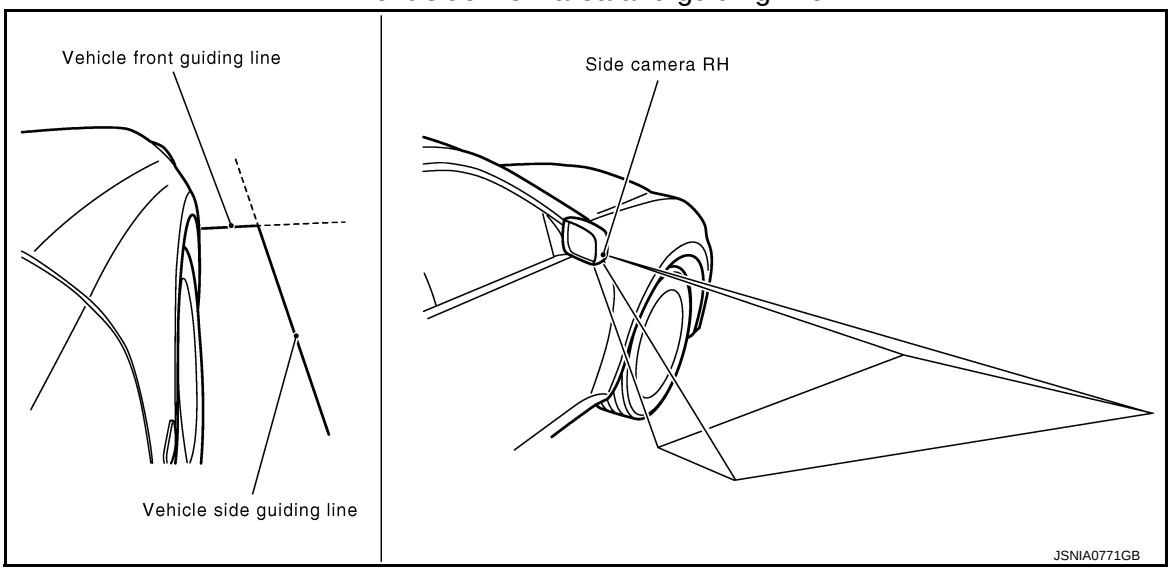
- MOD does not operate or stops operation when any of the conditions in the following table are satisfied. “MOD” icon is displayed in gray or orange.

Operation stop condition	“MOD” icon color	Note
Front or rear door is open.	Gray	Operation of Birds-eye view stops when door is open.
Back door is open.	Gray	Operation of Birds-eye view and rear view stops when back door is open.
Rear camera installation angle is incorrect	Gray	Operation of rear view stops when rear view camera installation angle is incorrect.
Front camera image is abnormal (Temporary)	Gray	Operation of Birds-eye view and front view stops when front camera image is temporarily abnormal.
Side camera image is abnormal (Temporary)	Gray	Operation of Birds-eye view stops when side camera image is temporarily abnormal.
Rear camera image is abnormal (Temporary)	Gray	Operation of Birds-eye view and rear view stops when rear camera image is temporarily abnormal.
System malfunction	Orange	Refer to AV-120, "DTC Index"

FRONT-SIDE VIEW

- The front-side view image is from the side camera RH. (LHD models)
- The front-side view image is from the side camera LH. (RHD models)
- In Front-Side view, display the vehicle distance guiding line and vehicle width guiding line.

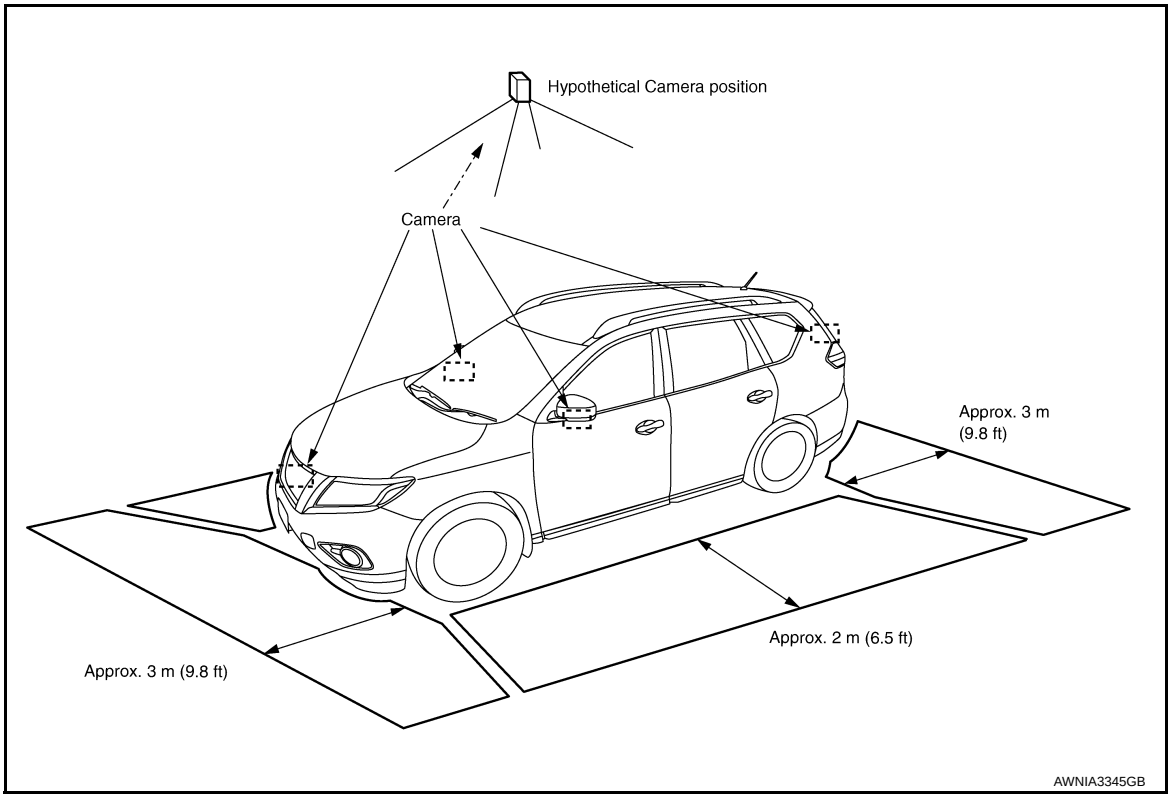
Front-side view area and guiding line



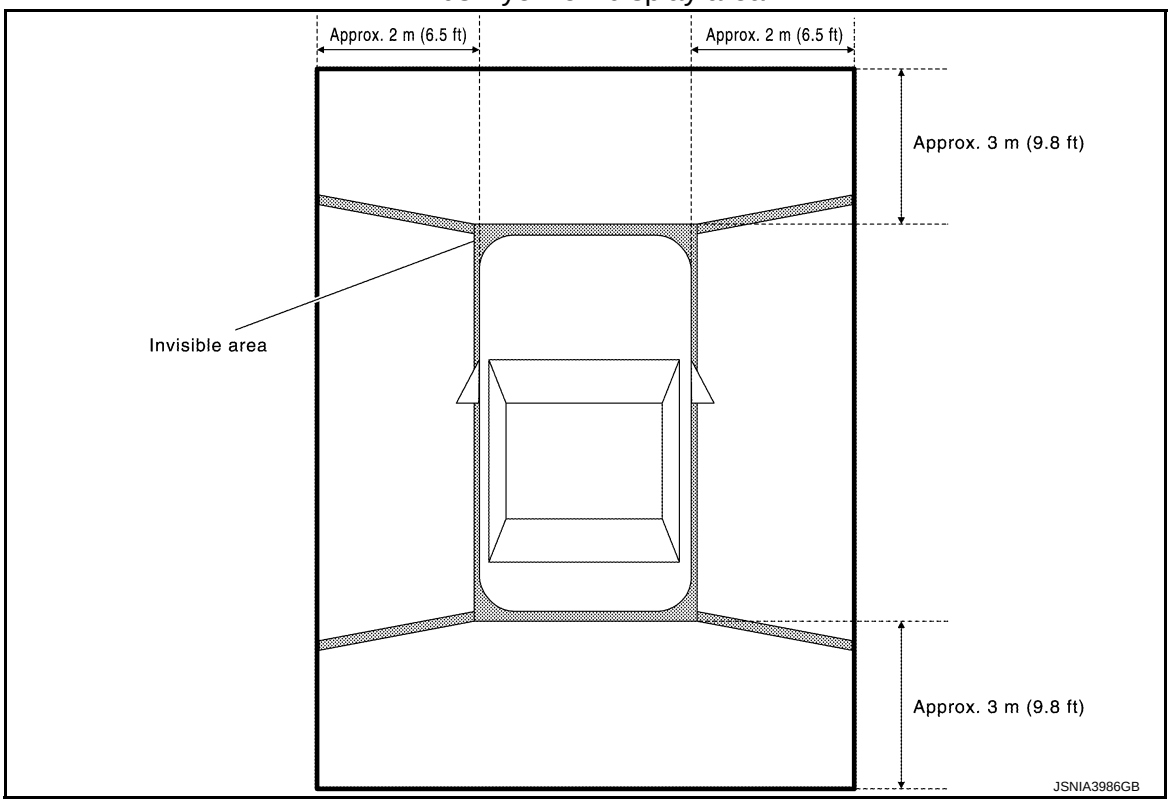
NOTE:
RHD model displays a image from side camera LH.

BIRDS-EYE VIEW
- The image from the 4 cameras is cut out and converted into the overhead view, and the surroundings of the vehicle is displayed in birds-eye view.
- In Birds-Eye view, the invisible area is displayed on the image to specify the boundary of the 4 cameras.

Birds-Eye view display image



Birds-Eye view display area



Camera Image Operation Principle

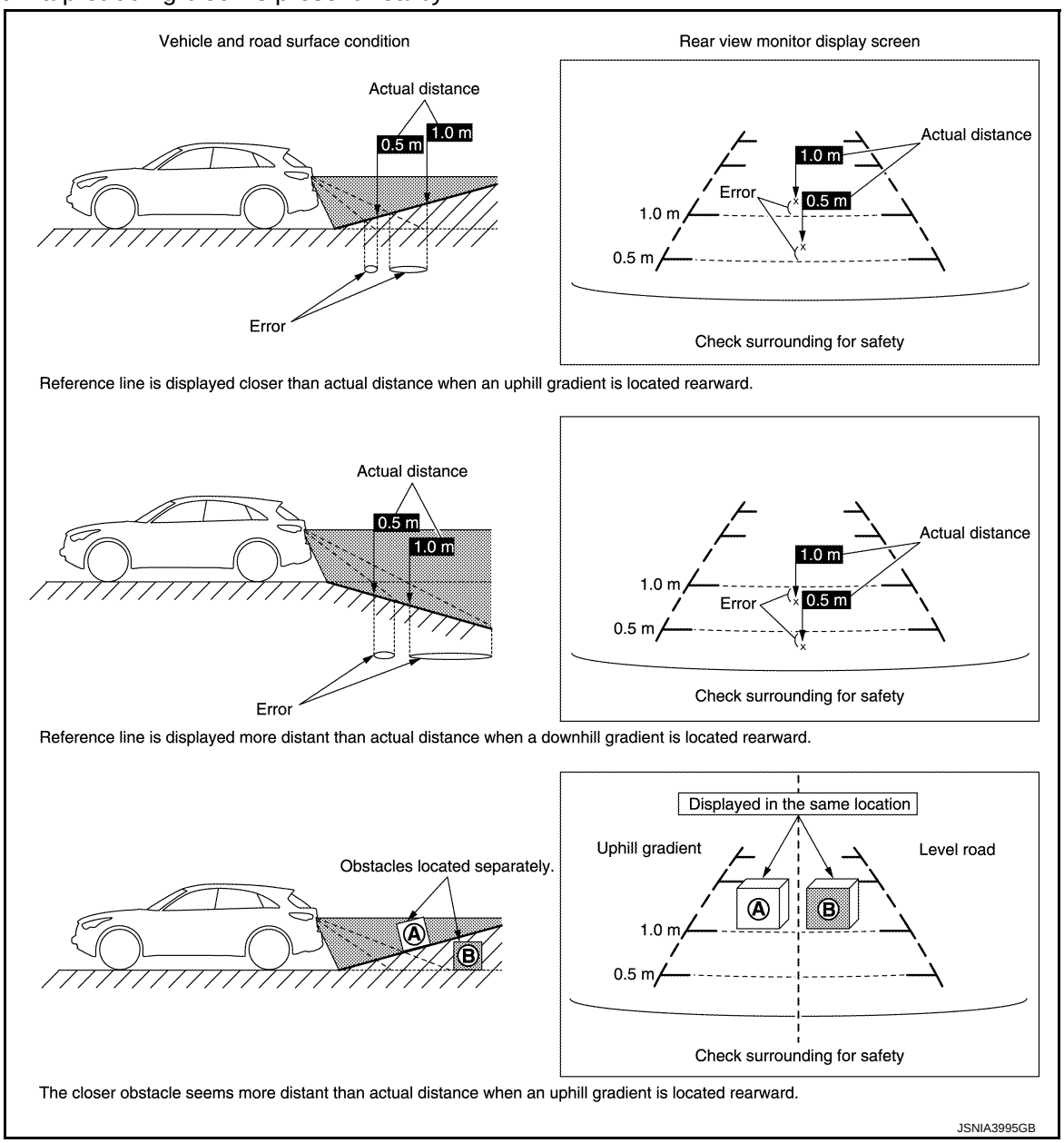
- If the camera image calibration is incomplete, the applicable camera position is indicated as an error on the Birds-Eye view display. (Calibration operation is necessary when replacing each camera or when replacing around view monitor control unit.)
- Around view monitor control unit receives the camera switch signal via CAN communication from NAVI control unit by pressing the “CAMERA” switch.
- Around view monitor control unit that receives the camera switch signal supplies the power to each camera and inputs the camera image from each camera.
- When the selector lever is in the reverse position, around view monitor control unit receives the reverse signal, supplies the power to each camera, and inputs the camera image from each camera.
- Around view monitor control unit that receives the camera image signal from each camera cuts out the required screen for each view, superimposes the camera image, vehicle icon, guiding lines, and outputs them to the NAVI control unit.

Precautions for Vehicle Width Guide Line and Predictived Course Line Display on The Rear View Monitor Display

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

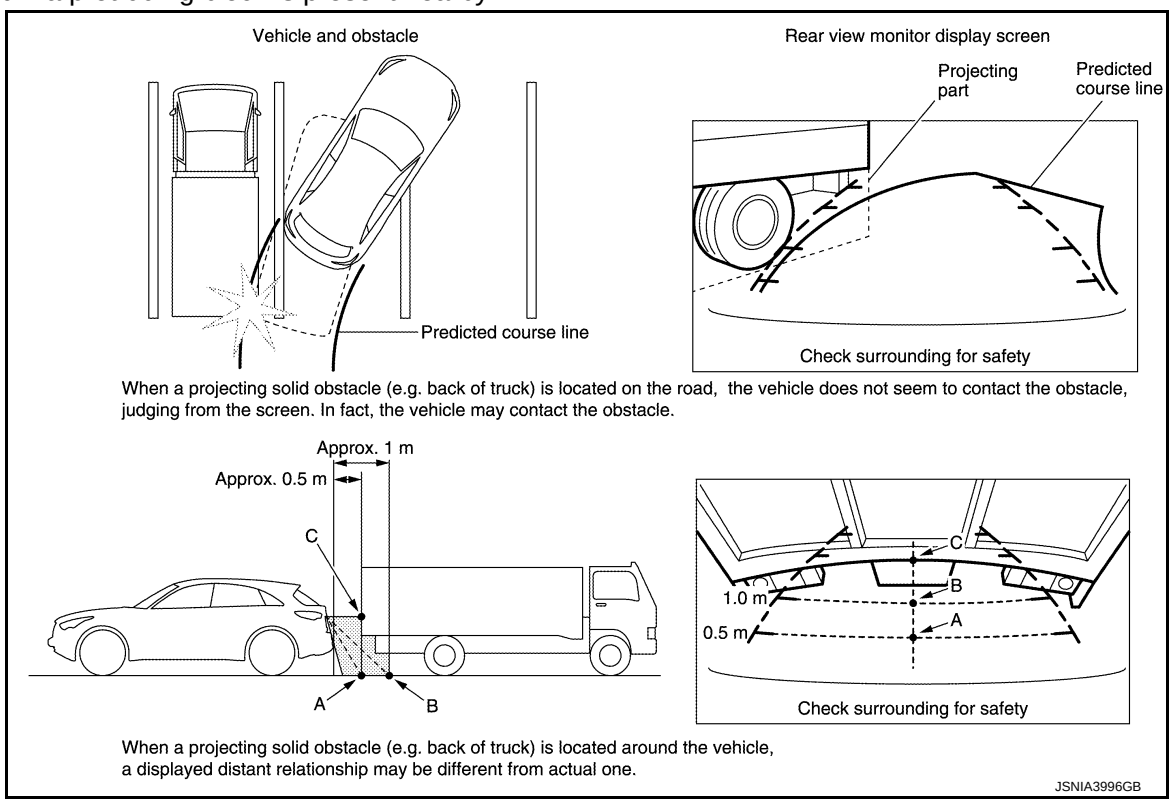
PRECAUTIONS FOR ROAD CONDITIONS

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



PRECAUTIONS FOR BLOCK

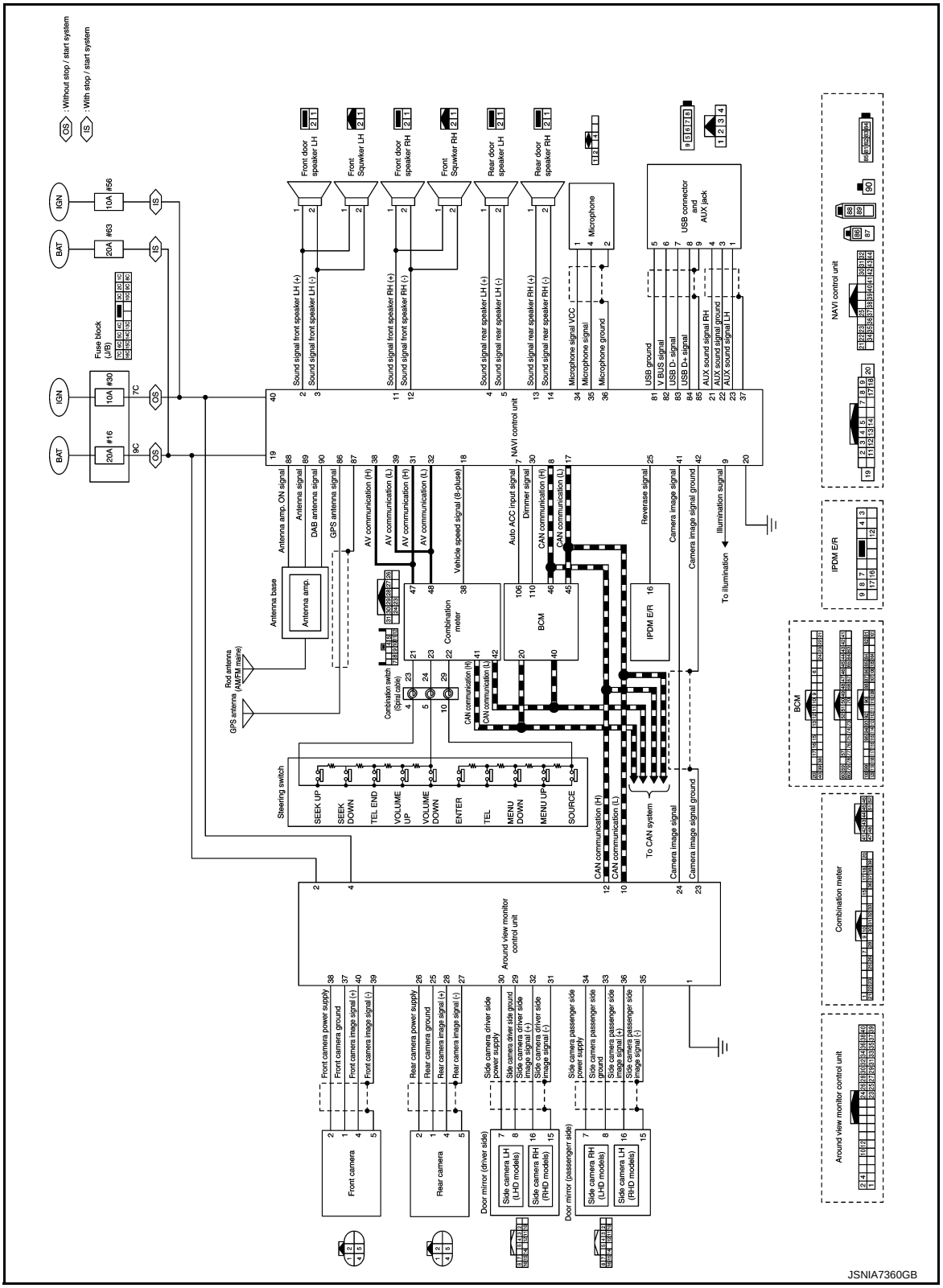
- Since guide lines and predictive course line are drawn based on the road, a different distance may be displayed if a protruding block is present nearby.



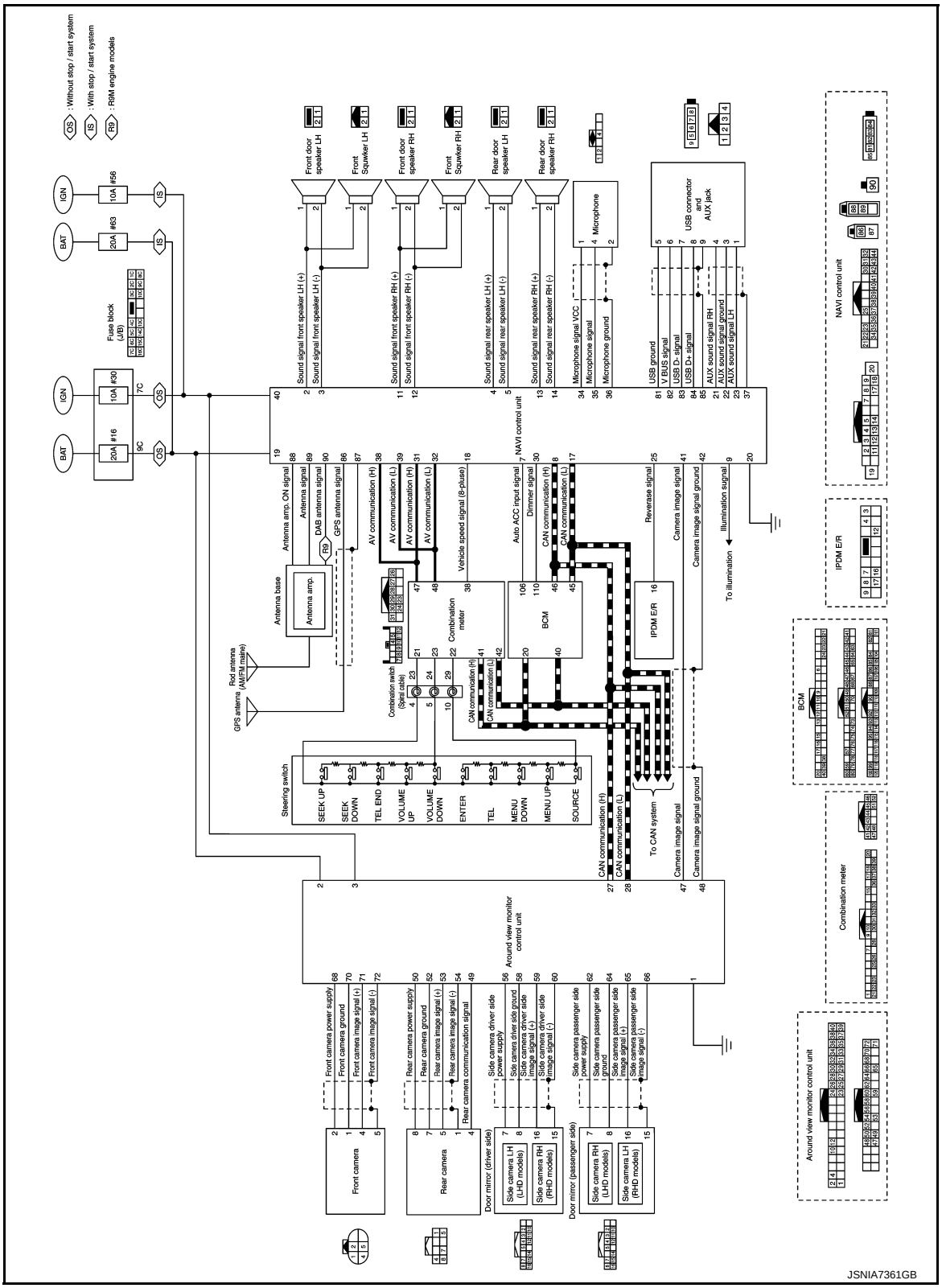
Circuit Diagram

INFOID:0000000010714802

WITHOUT BSW



WITH BSW



Fail-Safe (NAVI Control Unit)

INFOID:0000000010828199

If a malfunction occurs in the multi-AV system, NAVI control unit performs fail-safe activation according to the detected malfunction.

Detection item	Multi-AV system operation in fail-safe mode	DTC
CAN communication	The system using the CAN communication signal from control unit which cannot communicate does not function.	U1000
	The system using the CAN communication signal does not function.	U1010
NAVI control unit	The function of some multi-AV systems does not operate. **NOTE:** Symptom other than an item may occur.	U1217 U1229 U12AC U12AD U12AE U12AF U12B0 U12B1
Configuration	A function of NAVI control unit becomes mismatched with a vehicle specification and destination.	U12AA
GPS antenna	The vehicle positions of a navigation screen differ.	U1244
AV communication	The system of ECU which detected abnormalities does not operate.	U1300
	The system which is using AV communication does not operate.	U1310
DAB radio antenna	DAB radio is not received.	U122F U12B2
USB connector	Audio equipment which connected to USB does not operate.	U1263
Radio antenna	Radio is not received.	U12AB

Fail-Safe (Around View Monitor Control Unit)

INFOID:0000000010828200

DTC Display contents of CONSULT	Malfunction detection condition	Fail-safe condition
C1A00 CONTROL UNIT	Around view monitor control unit internal malfunction	Around view monitor with Park Assist is cancel
C1A01 POWER SUPPLY CIRC	• The battery voltage sent to around view monitor control unit remains less than 7.9 V for 5 seconds • The battery voltage sent to around view monitor control unit remains more than 19.3 V for 5 seconds	Around view monitor with Park Assist is cancel
C1A03 VHCL SPEED SE CIRC	If the vehicle speed signal (wheel speed) from ABS actuator and electric unit (control unit) received by the around view monitor control unit via CAN communication, are inconsistent	• BSW system is cancel • DAA system is stopped. • MOD (Moving Object Detection) function is cancel • Around view monitor with Park Assist is cancel
C1A04 ABS/TCS/VDC CIRC	If a malfunction occurs in the VDC/TCS/ABS system	• BSW system is cancel • DAA system is stopped. • MOD (Moving Object Detection) function is cancel • Around view monitor with Park Assist is cancel
C1A07 CVT CIRCUIT	If the CVT is malfunction	Around view monitor with Park Assist is cancel
C1A39 STRG SEN CIR	If the steering angle sensor is malfunction	• BSW system is cancel • DAA system is stopped. • MOD (Moving Object Detection) function is cancel
C1A56 SONAR CIRC	The around view monitor control unit detects that sonar control unit has a malfunction	Around view monitor with Park Assist is cancel

DTC Display contents of CONSULT	Malfunction detection condition	Fail-safe condition
U0122 VDC P-RUN DIAGNOSIS	If around view monitor control unit detects an error signal that is received from ABS actuator and electric unit (control unit) via CAN communication	• BSW system is cancel • DAA system is stopped. • MOD (Moving Object Detection) function is cancel • Around view monitor with Park Assist is cancel
U0416 VDC CHECKSUM DIAGNOSIS	If around view monitor control unit detects an error signal that is received from ABS actuator and electric unit (control unit) via CAN communication	• BSW system is cancel • DAA system is stopped. • MOD (Moving Object Detection) function is cancel • Around view monitor with Park Assist is cancel
U0428 ST ANGLE SENSOR CALIBRATION	Neutral position adjustment of steering angle sensor is not complete.	• Predicted course line is not displayed. • MOD (Moving Object Detection) function is stopped. • BSW system is stopped. • DAA system is stopped. • Around view monitor with Park Assist is stopped
U1000 CAN COMM CIRCUIT	When around view monitor control unit cannot transmit/receive CAN communication signal continuously for 2 seconds or more.	The following functions are stopped • When communication of steering angle sensor signal is not normal - Predicted course line is not displayed. - MOD (Moving Object Detection) function is stopped. - BSW system is stopped. - DAA system is stopped. • When communication of vehicle signal, wheel speed sensor signal, and shift signal is not normal - Predicted course line is not displayed. - MOD (Moving Object Detection) function is stopped. - LDW system is stopped. - BSW system is stopped. - DAA system is stopped. - Around view monitor with Park Assist is stopped
U1010 CONTROL UNIT (CAN)	CAN initial diagnosis malfunction is detected.	MOD (Moving Object Detection) function is stopped.
U111A REAR CAMERA IMAGE SIGNAL	No-signal status of rear camera image signal is continued for 500 ms or more while ignition switch is ON. **NOTE:** Current malfunction is displayed only and is not saved.	• Camera image is not displayed (Gray screen display). • MOD (Moving Object Detection) function is stopped.
U111B SIDE CAMERA RH IMAGE SIGNAL	No-signal status of side camera RH image signal is continued for 500 ms or more while ignition switch is ON. **NOTE:** Current malfunction is displayed only and is not saved.	Camera image is not displayed (Gray screen display).
U111C FRONT CAMERA IMAGE SIGNAL	No-signal status of front camera image signal is continued for 500 ms or more while ignition switch is ON. **NOTE:** Current malfunction is displayed only and is not saved.	Camera image is not displayed (Gray screen display).

DTC Display contents of CONSULT	Malfunction detection condition	Fail-safe condition
U111D SIDE CAMERA LH IMAGE SIGNAL	No-signal status of side camera LH image signal is continued for 500 ms or more while ignition switch is ON. **NOTE:** Current malfunction is displayed only and is not saved.	Camera image is not displayed (Gray screen display).
U112F EPS CIRCUIT	If the EPS system is malfunction	Around view monitor with Park Assist is cancel
U1232 ST ANGLE SEN CALIB	Neutral position adjustment of steering angle sensor is performed. NG signal from steering angle sensor is received.	• Predicted course line is not displayed. • MOD (Moving Object Detection) function is stopped. • BSW system is stopped. • DAA system is stopped. • Around view monitor with Park Assist is stopped.
U1302 CAMERA POWER VOLT	Camera power supply voltage does not satisfy the following conditions for 2 seconds or more when ignition switch is turned ON. • When camera power supply output is ON: 5.9 - 6.5 V • When OFF: 0 V by camera power supply measurement.	Camera power output is stopped
U1304 CAMERA IMAGE CALIB	• When camera calibration is incomplete. • When camera information in around view monitor control unit and information read from camera are not the same. **NOTE:** Current malfunction is displayed only and is not saved.	• Unmatched icon ☒ display (red) is displayed (applicable for unmatched camera only). • Around view monitor with Park Assist is cancel.
U1305 CONFIG UNFINISH	The vehicle setting of around view monitor control unit is incomplete. **NOTE:** Current malfunction is displayed only and is not saved.	• On applicable camera screen ⚠ marking (Red) is displayed. • Around view monitor with Park Assist is cancel.
U1308 R-CAMERA (R&L) CALIB JDGMNT	Camera image calibration is incomplete	• MOD (Moving Object Detection) function is stopped. • BSW system is stopped. • Around view monitor with Park Assist is stopped.
U1309 PUMP INPUT CURRENT JUDGE	Around view monitor control unit detects the value of current from pump control unit is incorrect	BSW system is stopped.
U130A PUMP ECU JUDGE	If the pump control unit is malfunction	BSW system is stopped.
U130B RR CAMERA COMM ERROR	Around view monitor control unit receives the incorrect communication signal from rear view camera	• MOD (Moving Object Detection) function is stopped. • BSW system is stopped.
U1320 REPROGRAMMING	Reprogramming of around view monitor control unit is incomplete	Around view monitor with Park Assist is cancel
U150E BCM CIRCUIT	If the BCM is malfunction	Around view monitor with Park Assist is cancel
U1971 SONAR MESSAGE COUNTER DIAG	Around view monitor control unit receives an incorrect signal from sonar control unit via CAN communication	Around view monitor with Park Assist is cancel

DTC Display contents of CONSULT	Malfunction detection condition	Fail-safe condition
U1972 EPS MESSAGE COUNTER DIAG	Around view monitor control unit receives an incorrect signal from EPS control unit via CAN communication	Around view monitor with Park Assist is cancel
Other	When around view monitor control unit is not normal.	Switch to camera screen is not allowed.

DIAGNOSIS SYSTEM (NAVI CONTROL UNIT)

On Board Diagnosis Function

INFOID:0000000010714805

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

ON BOARD DIAGNOSIS ITEM

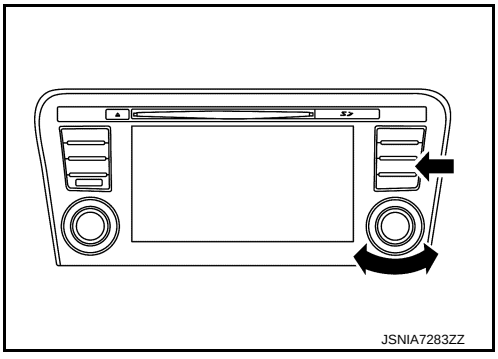
Mode		Item	Content
Version		—	Version data of the NAVI control unit is displayed.
User Configuration	• Touch Display Calibration • Destination Input While Driving • Screenshot to USB • Time interval	—	Allows correction of the position detection accuracy of the touch panel.
Radio	FM monitor	—	Monitors the dynamic values of the current tuner
	AM monitor	—	
	DAB monitor	• Antenna Status • Field Strength • Signal Quality • Audio Mode • Audio Quality • Audio Bitrate • Audio Sampling Rate • Ensemble Channel • Ensemble Name • Ensemble ID • Service Name • Service ID • FM Frequency • FM PI-Code • TPEG in current Ensemble	Current status is displayed.

Mode		Item	Content
System State	Running System Status	• SD card slot Access • Power Supply • Speed Signal • Direction Signal • Illumination Signal • GPS Antenna • GPS Tracking • Satellites Visible • Satellites Tracked • Microphone Current • Steer. Wheelkey • Radio Antenna • DAB-Antenna • USB Device • iPod firmware ver. • BT Status	The current system status is displayed.
	Speaker Test 4 kHz	—	This activates a sequence of test tone outputs to the audio circuits one after the other for 1 second.
	Speaker Test 100 Hz		
	Display-Test	—	This provides a test sequence where test displays (plain colored display: e.g. white, black, red, blue, green) are shown one after the other. The respective color is shown for an indicated period of time (parameter). After the display test, the design of the display previously available is stored. While the screen shows a plain colored display, a pixel malfunction may be detected.
Self Test		• SD Card Access • BT Module Access • GPS Antenna • Radio Antenna • DAB-Antenna	A system self test is executed and the results are stored into the error memory.

Perform CONSULT diagnosis if the NAVI control unit on board diagnosis does not start or the screen does not display anything.

METHOD OF STARTING

1. Turn the ignition ON.
2. Turn the audio system OFF.
3. While pressing the “SETUP” switch, turn the TUNE-SCROLL dial counterclockwise 3 or more clicks, then clockwise 3 or more clicks, then counterclockwise 3 or more clicks. When self diagnosis mode begins, a short beep will be heard. Shifting from current screen to previous screen is performed by pressing BACK button.



4. The trouble diagnosis initial screen is displayed, and Version, User Config, Radio, System State or Self Test can be selected.

END ON-BOARD DIAGNOSIS

Turn OFF ignition switch.

CONSULT Function

INFOID:0000000010714806

APPLICATION ITEMS

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

Diagnosis mode	Description
Ecu Identification	The NAVI control unit part number is displayed.
Self Diagnostic Result	Performs a diagnosis on the NAVI control unit and a connection diagnosis for the communication circuit of the Multi AV system, and displays the current and past malfunctions collectively.
Data Monitor	The NAVI control unit input/output data is displayed in real time.
Configuration	• Read and save the vehicle specification. • Write the vehicle specification when replacing NAVI control unit.

ECU IDENTIFICATION

The part number of NAVI control unit is displayed.

SELF DIAGNOSIS RESULT

Refer to AV-110, "DTC Index".

DATA MONITOR

Monitor Item [Unit]	Description
VHCL SPD SIG [On/Off]	Indicates vehicle speed signal received from combination meter on CAN communication line.
ILLUM SIG [On/Off]	Indicates condition of illumination signal for the NAVI control unit.
IGN SIG [On/Off]	Indicates condition of ignition signal.
REV SIG [On/Off]	Indicates condition of reverse signal received from BCM.

CONFIGURATION

Configuration has three functions as follows.

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

DIAGNOSIS SYSTEM (AROUND VIEW MONITOR CONTROL UNIT)

CONSULT Function

INFOID:0000000010714807

CONSULT FUNCTIONS

CONSULT performs the following functions via the CAN communication with the around view monitor control unit.

Diagnosis mode	Description
ECU Identification	Around view monitor control unit part number can be identified.
Self Diagnostic Results	Around view monitor control unit diagnosis is performed. Current and previous malfunctions are displayed collectively.
Data Monitor	Diagnosis of vehicle signal that is received by around view monitor control unit can be performed.
Work Support	• Calibration and initialization of each camera can be performed. • Fine tuning of Birds-eye view can be performed. • Target line calibration of rear wide view can be performed. • Language of warning message can be selected. • Display of predicted course line can be switched to ON/OFF. • Neutral position adjustment of steering angle sensor can be performed. • Camera screen activation enhancing display can be switched to ON/OFF. • Calibration for BSW can be performed. • Displays causes of system cancellation occurred during system control.
Active Test	Enables an operational check of a load by transmitting a driving signal from the around view monitor control unit to the load.
Configuration	• The vehicle specification that is written in around view monitor control unit can be displayed or stored. • The vehicle specification can be written when around view monitor control unit is replaced.

ECU IDENTIFICATION

Around view monitor control unit part number can be identified.

SELF DIAGNOSIS RESULT

- Refer to AV-120, "DTC Index".
- In CONSULT self-diagnosis, self-diagnosis results and error history are displayed collectively.
- The current malfunction indicates “CRNT”. The past malfunction indicates “PAST”.
- The timing is displayed as “0” if any of the error codes [U1000] and [U1010] is detected. The counter increases by 1 if the condition is normal at the next ignition switch ON cycle.

Freeze Frame Data (FFD)

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

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

DATA MONITOR

NOTE:

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

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

Display Item	Remarks
ST ANGLE SENSOR SIGNAL [ON/OFF]	Receiving status of steering angle signal received from steering angle sensor is switched to ON/OFF.
REVERSE SIGNAL [ON/OFF]	Receiving status of reverse signal received from NAVI control unit is displayed by ON/OFF.

Display Item	Remarks
VEHICLE SPEED SIGNAL [ON/OFF]	Receiving status of vehicle speed signal received from ABS actuator and electric unit (control unit) is displayed by ON/OFF.
CAMERA SWITCH SIGNAL [ON/OFF]	Receiving status of camera switch signal received from NAVI control unit is displayed by ON/OFF.
CAMERA OFF SIGNAL [ON/OFF]	Receiving status of camera OFF signal received from NAVI control unit is displayed by ON/OFF.
ST ANGLE SENSOR TYPE [Absolute]	Input type of steering angle sensor is displayed. **NOTE:** For this vehicle, “Absolute” is displayed.
STEERING GEAR RATIO TYPE [TYPE 0]	Type of steering gear ratio is displayed. **NOTE:** For this vehicle, “TYPE 0” is displayed.
STEERING POSITION [RHD/LHD]	Steering position is displayed.
REAR CAMERA IMAGE SIGNAL [OK/NG]	Input status of rear camera image signal is displayed by OK/NG in real time.
WASH SW [OFF]	Indicates [On/Off] status of the washer switch signal input. **NOTE:** For this vehicle, “OFF” is displayed.
R-CAMERA COMM STATUS [OK/NG]	Communication status with rear camera is displayed by OK/NG in real time.
R-CAMERA COMM LINE [OK/NG]	Status of communication line with rear camera is displayed by OK/NG in real time.
F-CAMERA IMAGE SIGNAL [OK/NG]	Input status of front view camera image signal is displayed by OK/NG in real time.
DR-SIDE CAMERA IMAGE SIG [OK/NG]	• Input status of side camera LH image signal is displayed by OK/NG in real time. (LHD models) • Input status of side camera RH image signal is displayed by OK/NG in real time. (RHD models)
PA-SIDE CAMERA IMAGE SIG [OK/NG]	• Input status of side camera RH image signal is displayed by OK/NG in real time. (LHD models) • Input status of side camera LH image signal is displayed by OK/NG in real time. (RHD models)
PUMP COMM STATUS [OK/NG]	Communication status with pump control unit is displayed by OK/NG in real time.
ILL [ON/OFF]	Receiving status of dimmer signal received from BCM is displayed by ON/OFF.
ITS SW 1 [ON/OFF]	Indicates the state of the warning systems switch as seen by the around view monitor control unit.
ITS SW 1 IND [OFF]	Indicates the state of the warning systems switch indicator output. **NOTE:** For this vehicle, “OFF” is displayed.
TURN SIGNAL [OFF/LEFT/RIGHT]	Indicates [OFF/LEFT/RIGHT] status of the turn signal input.
ITS SW 2 [NO SET]	Indicates the status of warning systems switch as seen by the around view monitor control unit. **NOTE:** For this vehicle, “NO SET” is displayed.
ITS SW 2 IND [NO SET]	Indicates the status of warning systems switch indicator output. **NOTE:** For this vehicle, “NO SET” is displayed.
VEHICLE SPEED [km/h]	Vehicle speed from the ABS actuator and electric unit (control unit) is displayed.
IDLE STOP STATUS [ON/OFF]	The stop/start status received from ECM is displayed. **NOTE:** For this vehicle, “OFF” is displayed.

Display Item	Remarks
TRAILER HITCH SW [ON/OFF]	The towed vehicle connection status is displayed.
STEERING ANGLE [°]	Steering angle received from steering angle sensor is displayed.

WORK SUPPORT

Display Item	Remarks
NON-VIEWABLE AREA REMINDER	ON/OFF setting of the non-viewable area reminder can be performed.
REAR WIDE-VIEW FIXED GUIDE LINE CORRECTION	The position of rear wide view guiding line can be changed.
PREDICTIVE COURSE LINE DISPLAY	ON/OFF setting of predictive course line can be performed.
INITIALIZE CAMERA IMAGE CALIBRATION	The calibration can be initialized to factory shipment condition. **NOTE:** Calibration of camera image caused by misalignment of the camera installation position is performed.
STEERING ANGLE SENSOR ADJUSTMENT	Steering angle sensor neutral position can be adjusted and registered. **CAUTION:** **For vehicles with VDC, adjust the steering angle sensor neutral position on the ABS actuator control unit side. Refer to BRC-99, "Work Procedure".**
CALIBRATING CAMERA IMAGE (FRONT CAMERA)	Performs the calibration of front camera. **NOTE:** Calibration of camera image caused by misalignment of the camera installation position is performed.
CALIBRATING CAMERA IMAGE (PASS-SIDE CAMERA)	• Performs the calibration of side camera RH. (LHD models) • Performs the calibration of side camera LH. (RHD models) **NOTE:** Calibration of camera image caused by misalignment of the camera installation position is performed.
CALIBRATING CAMERA IMAGE (DR-SIDE CAMERA)	• Performs the calibration of side camera LH. (LHD models) • Performs the calibration of side camera RH. (RHD models) **NOTE:** Calibration of camera image caused by misalignment of the camera installation position is performed.
CALIBRATING CAMERA IMAGE (REAR CAMERA)	Performs the calibration of rear camera. **NOTE:** Calibration of camera image caused by misalignment of the camera installation position is performed.
FINE TUNING OF BIRDS-EYE VIEW	The confirmation and adjustment of the difference between each camera can be performed. The fine adjustment function of camera calibration can check and adjust the difference between each camera.
SELECT LANGUAGE OF WARNING MESSAGE	Language of warning message shown during camera image display can be selected. [ENGLISH, SPANISH, FRENCH, DUTCH, GERMAN, ITALIAN, PORTUGAL, RUSSIAN, JAPANESE, CHINESE 1 (TRADITIONAL), CHINESE 2 (SIMPLIFIED), KOREAN]
REAR CAMERA ITS	Calibration for BSW can be performed.
CAUSE OF LDW CANCEL	**NOTE:** The item is displayed, but it is not used.
CAUSE OF BSW CANCEL	Displays causes of automatic system cancellation occurred during control of the BSW system.
CAUSE OF IPA CANCEL	Displays causes of automatic system cancellation occurred during control of the around view monitor with Park Assist system.

NOTE:
- Causes of the maximum five cancellations (system cancel) are displayed.
- The displayed cancellation causes display the number of the ignition switch ON/OFF up to 254. It is fixed to 254 if it is over 254. It returns to 0 when the same cancellation cause is detected again.

Display Items for The Cause of BSW Cancel

Cause of cancellation	Description
REAR CAMERA DIRTY	Rear camera lens is dirty.
TRUNK OPEN	Back door is open.
TRAILER HITCH ON	Towing (by attaching a trailer).
R CAMERA COMM ERR	Communication error between around view monitor control unit and rear camera.
LOW WASH FLUID	Washer fluid level is low.
LO TMP(AIR WIPING)	Ambient temperature drops to -20 °C (-4 °F) or less.
LO TMP(WSH WIPING)	Washer fluid temperature drops to -20 °C (-4 °F) or less.
CAMERA ANGLE ERROR	Improper installation of rear camera.
PUMP C/U COMM ERROR	Communication error between around view monitor control unit and pump control unit.
CAMERA IMAGE ERROR	Camera image signal is malfunction.
NO RECORD	—

Display Items for The Cause of Around View Monitor with Park Assist Cancel

NOTE:

- Causes of the maximum five cancellations (system cancel) are displayed.
- The displayed cancellation causes display the number of the ignition switch ON/OFF up to 254. It is fixed to 254 if it is over 254. It returns to 0 when the same cancellation cause is detected again.

Cause of cancellation	Description
STRG SEN CIRCUIT	A malfunction is detected in steering angle sensor.
TRUNK OPEN	Back door is open.
Vehicle towed	A towing vehicle is connected.
VDC CIRCUIT	VDC detects a malfunction.
VHCL SPD UNMATCH	A malfunction is detected in vehicle speed signal.
SONAR CIRCUIT	A sonar control unit malfunction has occurred.
CAN COMM ERROR	The CAN communication signals needed by the Around view monitor control unit cannot be received.
BCM CIRCUIT	BCM detects a malfunction.
ESP CIRCUIT	EPS control unit detects a malfunction.
CVT CIRCUIT	TCM detects a malfunction.
ECM CIRCUIT	ECM detects a malfunction.
DOOR OPEN	A door is open.
VDC OFF	VDC OFF switch is pressed.
SHIFT POSITION	A shift position other than the specified position is detected.
NO RECORD	—

ACTIVE TEST

CAUTION:

- **Never perform “Active Test” while driving the vehicle.**
- **The “Active Test” cannot be performed when the following systems malfunction is displayed.**
- **LDW**
- **BSW**
- **Shift the selector lever to “P” position, and then perform the test.**

Test items	Description
LED LH INDICATOR	BSW indicator LH can be illuminated by ON/OFF operations as necessary.
LED RH INDICATOR	BSW indicator RH can be illuminated by ON/OFF operations as necessary.
WASH ACTIVE	Camera washer can be operated by ON/OFF operations as necessary.

Test items	Description
AIR ACTIVE	Camera blower can be operated by ON/OFF operations as necessary.
AIR & WASH ACTIVE	Camera blower and washer can be operated by ON/OFF operations as necessary.

LED LH INDICATOR

Test item	Operation	Description	BSW indicator LH
LED LH INDICATOR	Off	Stops transmitting the BSW indicator LH signal below to end the test	OFF
	On	Transmits the BSW indicator LH signal to the BSW indicator	ON

LED RH INDICATOR

Test item	Operation	Description	BSW indicator RH
LED RH INDICATOR	Off	Stops transmitting the BSW indicator RH signal below to end the test	OFF
	On	Transmits the BSW indicator RH signal to the BSW indicator	ON

WASH ACTIVE

Test item	Operation	Description	Rear camera washer
WASH ACTIVE	Off	Stops transmitting the rear camera washer signal below to end the test	OFF
	On	Transmits the rear camera washer signal to the pump control unit via communication line	ON

NOTE:
The test can be performed only when the trunk lid is closed. (Trunk room lamp switch is OFF.)

AIR ACTIVE

Test item	Operation	Description	Rear camera air blower
AIR ACTIVE	Off	Stops transmitting the rear camera air blow signal below to end the test	OFF
	On	Transmits the rear camera air blow signal to the pump control unit via communication line	ON

NOTE:
The test can be performed only when the trunk lid is closed. (Trunk room lamp switch is OFF.)

AIR & WASHER ACTIVE

Test item	Operation	Description	Rear camera air blower and washer
AIR & WASHER ACTIVE	Off	Stops transmitting the rear camera air blow / washer signal below to end the test	OFF
	On	Transmits the rear camera air blow / washer signal to the pump control unit via communication line	ON

NOTE:
The test can be performed only when the trunk lid is closed. (Trunk room lamp switch is OFF.)

CONFIGURATION

Configuration includes functions as follows.

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

ECU DIAGNOSIS INFORMATION

NAVI CONTROL UNIT

Reference Value

INFOID:0000000010714808

VALUES ON THE DIAGNOSIS TOOL

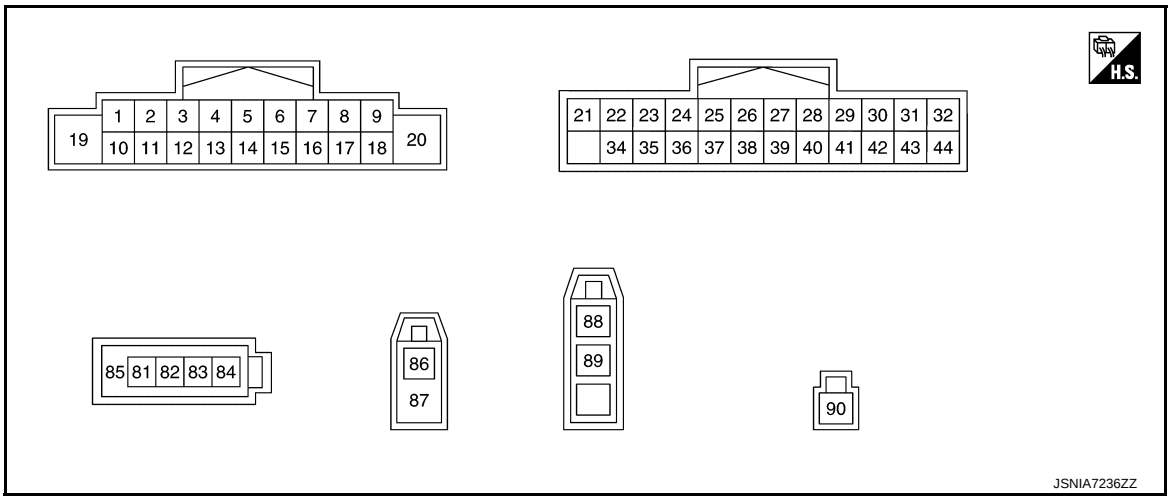
NOTE:

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

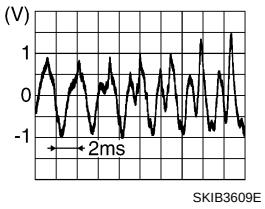
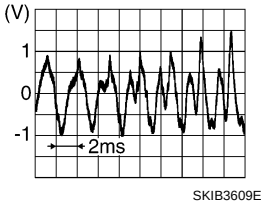
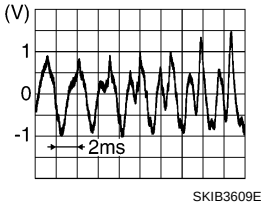
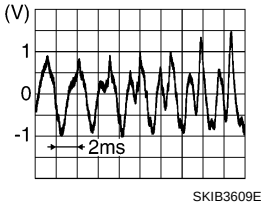
CONSULT MONITOR ITEM

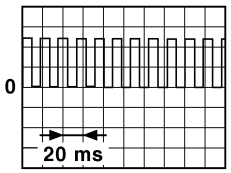
Monitor Item	Condition		Value/Status
VHCL SPD SIG	Ignition switch ON	Vehicle speed > 0 km/h (0 MPH)	On
		Vehicle speed = 0 km/h (0 MPH)	Off
ILLUM SIG	Ignition switch ON	Lighting switch is ON	On
		Lighting switch is OFF	Off
IGN SIG	Ignition switch ON	—	On
	Ignition switch ACC	—	Off
REV SIG	Ignition switch ON	Selector lever is in R position	On
		Selector lever is in any position other than R	Off

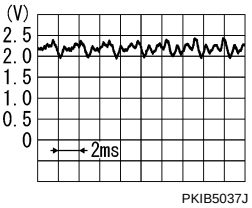
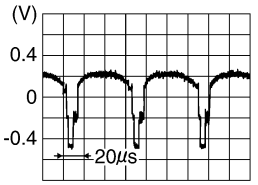
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
2 (Y)*1 (W)*2	3 (R)*1 (P)*2	Sound signal front LH	Output	Ignition switch ON	Sound output.	Waveform synchronized with voice is output.	 SKIB3609E
4 (GR)	5 (BR)	Sound signal rear LH	Output	Ignition switch ON	Sound output.	Waveform synchronized with voice is output.	 SKIB3609E
7 (W)	Ground	Auto ACC input signal	Input	Ignition switch ON or ACC	—	—	0 - 0.5 V
				Ignition switch OFF	—	—	3.15 V
8 (L)	—	CAN–H	Input/ Output	—	—	—	—
9 (V)	Ground	Illumination signal	Input	Ignition switch ON	Lighting switch is OFF.	—	0 V
					Lighting switch is ON.	10.8 – 15.6 V	12.0 V
11 (W)*1 (G)*2	12 (GR)*1 (V)*2	Sound signal front RH	Output	Ignition switch ON	Sound output.	Waveform synchronized with voice is output.	 SKIB3609E
13 (LG)	14 (Y)	Sound signal rear RH	Output	Ignition switch ON	Sound output.	Waveform synchronized with voice is output.	 SKIB3609E
17 (R)	—	CAN–L	Input/ Output	—	—	—	—

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
18 (G)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	Input waveform that repeats 1.0 V or less – 3.0 V or more.	**NOTE:** The maximum voltage varies depending on the specification (destination unit).  JSNIA0012GB
19 (L)	Ground	Battery power supply	Input	Ignition switch OFF	—	10.8 – 15.6 V	Battery voltage
20 (B)	Ground	Ground	—	Ignition switch ON	—	—	0 V
21 (G)	—	AUX audio signal RH	Input	—	—	—	—
22 (Y)	—	AUX audio signal ground	—	—	—	—	—
23 (L)	—	AUX audio signal LH	Input	—	—	—	—
25 (BR)	Ground	Reverse signal	Input	Ignition switch ON	Selector lever is in R position.	10.8 – 15.6 V	12.0 V
					Selector lever is in other than R position.	—	0 V
30 (BG)	Ground	Dimmer signal	Input	Ignition switch ON	Either of the following conditions • Lighting switch OFF • Expose the auto light optical sensor to light when the light switch is ON.	—	0 V
					Block the light beam from the auto light optical sensor when the light switch is ON.	10.8 – 15.6 V	12.0 V
31 (SB)	—	AV communication signal (H)	Input/ Output	—	—	—	—
32 (LG)	—	AV communication signal (L)	Input/ Output	—	—	—	—

Terminal (Wire color)		Description		Condition		Standard	Reference value (Approx.)
+	–	Signal name	Input/ Output				
34 (W)	Ground	Microphone signal	Input	Ignition switch ON	Give a voice.	The value between the maximum input voltage and the minimum input voltage is 4.72V or less.	 PKIB5037J
35 (B)	Ground	Microphone VCC	Output	Ignition switch ON	—	—	5.0 V
36	—	Shield	—	—	—	—	—
37	—	Shield	—	—	—	—	—
38 (SB)	—	AV communication signal (H)	Input/ Output	—	—	—	—
39 (LG)	—	AV communication signal (L)	Input/ Output	—	—	—	—
40 (LG)	Ground	Ignition signal	Input	Ignition switch ON	—	10.8 – 15.6 V	12.0 V
41 (G)	Ground	Camera image signal	Input	Ignition switch ON	At camera images is displayed.	Input the waveform synchronized with the rear view camera image.	 SKIB0827E
42	—	Shield	—	—	—	—	—
81	—	USB ground	—	—	—	—	—
82	—	V BUS signal	Output	—	—	—	—
83	—	USB D– signal	Input/ Output	—	—	—	—
84	—	USB D+ signal	Input/ Output	—	—	—	—
85	—	Shield	—	—	—	—	—
86	Ground	GPS antenna signal	Input	Ignition switch ON	Not connected to GPS antenna connector.	—	5.0 V
87	—	Shield	—	—	—	—	—
88	—	Antenna amp. ON signal	Output	—	—	10.8 – 15.6 V	12.0 V
89	—	Antenna signal	Input	—	—	—	—
90	—	DAB antenna signal	Input	—	—	—	—

*1: Models with 4 speakers
*2: Models with 6 speakers

Fail-Safe (NAVI Control Unit)

INFOID:0000000010714809

If a malfunction occurs in the multi-AV system, NAVI control unit performs fail-safe activation according to the detected malfunction.

Detection item	Multi-AV system operation in fail-safe mode	DTC
CAN communication	The system using the CAN communication signal from control unit which cannot communicate does not function.	U1000
	The system using the CAN communication signal does not function.	U1010
NAVI control unit	The function of some multi-AV systems does not operate. **NOTE:** Symptom other than an item may occur.	U1217 U1229 U12AC U12AD U12AE U12AF U12B0 U12B1
Configuration	A function of NAVI control unit becomes mismatched with a vehicle specification and destination.	U12AA
GPS antenna	The vehicle positions of a navigation screen differ.	U1244
AV communication	The system of ECU which detected abnormalities does not operate.	U1300
	The system which is using AV communication does not operate.	U1310
DAB radio antenna	DAB radio is not received.	U122F U12B2
USB connector	Audio equipment which connected to USB does not operate.	U1263
Radio antenna	Radio is not received.	U12AB

DTC Inspection Priority Chart

INFOID:0000000010714810

If multiple DTCs are detected simultaneously, check them one by one depending on the following DTC inspection priority chart.

Priority	Detected items (DTC)
1	U12AA: CONFIGURATION ERROR
2	• U1000: CAN COMM CIRC • U1010: CONTROL UNIT (CAN)
3	• U12AC: DISPLAY TEMPERATURE TOO HIGH • U12AD: ECU TEMPERATURE TOO HIGH • U12AE: INTERNAL AMP TEMP WARNING • U12AF: CD MECHANISM TEMP WARNING • U12B0: SUPPLY VOLTAGE UNDER 9V • U12B1: SUPPLY VOLTAGE OVER 16V • U1300: AV COMM CIRCUIT • U1310: CONTROL UNIT(AV)
4	• U1217: BLUETOOTH MODULE • U1229: iPod CERTIFICATION • U122F: DAB CONN ERROR • U1244: GPS ANTENNA CONN • U1263: USB OVERCURRENT • U12AB: FM ANTENNA ERROR • U12B2: DAB ANTENNA CONN

DTC Index

INFOID:0000000010714811

DTC	Display item	Refer to
U1000	CAN COMM CIRC	AV-177, "NAVI CONTROL UNIT : DTC Description"
U1010	CONTROL UNIT (CAN)	AV-180, "NAVI CONTROL UNIT : DTC Description"
U1217	BLUETOOTH MODULE	AV-202, "DTC Description"
U1229	iPod CERTIFICATION	AV-203, "DTC Description"
U122F	DAB CONN ERROR	AV-204, "DTC Description"
U1244	GPS ANTENNA CONN	AV-206, "DTC Description"
U1263	USB OVERCURRENT	AV-208, "DTC Description"
U12AA	CONFIGURATION ERROR	AV-209, "DTC Description"
U12AB	FM ANTENNA ERROR	AV-210, "DTC Description"
U12AC	DISPLAY TEMPERATURE TOO HIGH	AV-212, "DTC Description"
U12AD	ECU TEMPERATURE TOO HIGH	AV-213, "DTC Description"
U12AE	INTERNAL AMP TEMP WARNING	AV-214, "DTC Description"
U12AF	CD MECHANISM TEMP WARNING	AV-215, "DTC Description"
U12B0	SUPPLY VOLTAGE UNDER 9V	AV-216, "DTC Description"
U12B1	SUPPLY VOLTAGE OVER 16V	AV-217, "DTC Description"
U12B2	DAB ANTENNA CONN	AV-218, "DTC Description"
U1300	AV COMM CIRCUIT	AV-220, "DTC Description"
U1310	CONTROL UNIT(AV)	AV-236, "DTC Description"

AROUND VIEW MONITOR CONTROL UNIT

Reference Value

INFOID:0000000010714812

VALUES ON THE DIAGNOSIS TOOL

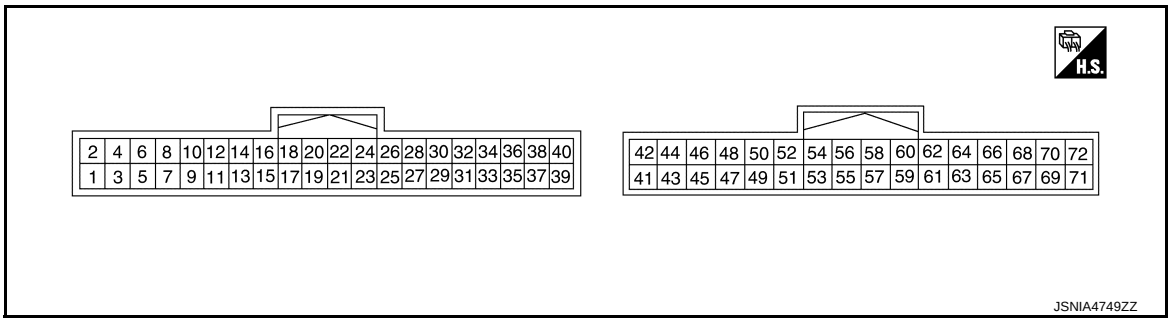
NOTE:
The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

CONSULT MONITOR ITEM

Monitor Item	Condition		Value/Status
ST ANGLE SENSOR SIGNAL	Ignition switch ON	When steering angle sensor signal is input	ON
		Other than the above	OFF
REVERSE SIGNAL	Ignition switch ON	When selector lever is in “R”	ON
		When selector lever is in any position other than “R”	OFF
VEHICLE SPEED SIGNAL	Ignition switch ON	When vehicle speed is input	ON
		Other than the above	OFF
CAMERA SWITCH SIGNAL	Ignition switch ON	When camera switch signal is input	ON
		Other than the above	OFF
CAMERA OFF SIGNAL	Ignition switch ON	When camera OFF signal is input	ON
		Other than the above	OFF
ST ANGLE SENSOR TYPE	Ignition switch ON	—	Absolute
STEERING GEAR RATIO TYPE	Ignition switch ON	—	TYPE 0
STEERING POSITION	Ignition switch ON	LHD models	LHD
		RHD models	RHD
REAR CAMERA IMAGE SIGNAL	Ignition switch ON	When rear camera image signal input status is normal	OK
		When rear camera image signal input status is not normal	NG
WASH SW	Ignition switch ON	—	OFF
R-CAMERA COMM STATUS	Ignition switch ON	When communication status with rear camera is normal	OK
		When communication status with rear camera is not normal	NG
R-CAMERA COMM LINE	Ignition switch ON	When communication line with rear camera is normal	OK
		When communication line with rear camera is not normal	NG
F-CAMERA IMAGE SIGNAL	Ignition switch ON	When front camera image signal input status is normal	OK
		When front camera image signal input status is not normal	NG
DR-SIDE CAMERA IMAGE SIG	Ignition switch ON	When driver side camera image signal input status is normal	OK
		When driver side camera image signal input status is not normal	NG
PA-SIDE CAMERA IMAGE SIG	Ignition switch ON	When passenger side camera image signal input status is normal	OK
		When passenger side camera image signal input status is not normal	NG

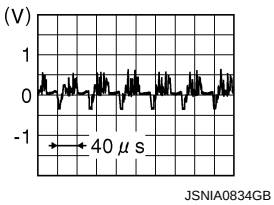
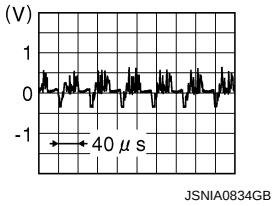
Monitor Item	Condition		Value/Status
PUMP COMM STATUS	Ignition switch ON	When communication signal is input	OK
		Other than the above	NG
ILL	Ignition switch ON	When lighting switch is ON	ON
		When lighting switch is OFF	OFF
ITS SW 1	Ignition switch ON	Warning systems switch is ON. (Warning systems ON indicator illuminates.)	ON
		Warning systems switch is OFF. (Warning systems ON indicator OFF.)	OFF
ITS SW 1 IND	Ignition switch ON	—	OFF
TURN SIGNAL	Ignition switch ON	Turn signal RH: ON	RIGHT
		Turn signal LH: ON	LEFT
		Turn signal: OFF	OFF
ITS SW 2	Ignition switch ON	—	NO SET
ITS SW 2 IND	Ignition switch ON	—	NO SET
VEHICLE SPEED	Ignition switch ON		Displays approximately the same speed as the value indicated on the speedometer.
IDLE STOP STATUS	Ignition switch ON	—	OFF
TRAILER HITCH SW	Ignition switch ON	When a towing vehicle is connected	ON
		Other than the above	OFF
STEERING ANGLE	Ignition switch ON		Displays a value that corresponds to the steering angle.

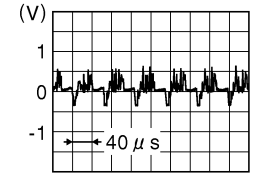
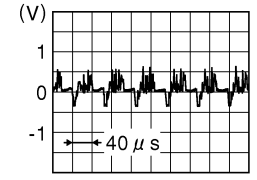
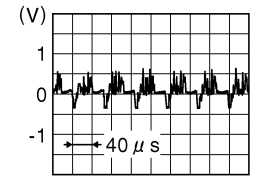
TERMINAL LAYOUT



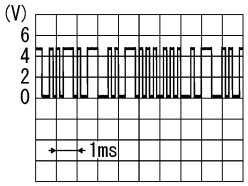
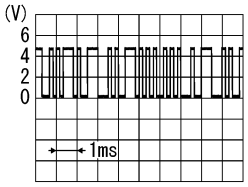
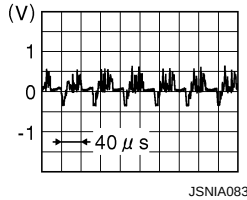
PHYSICAL VALUES

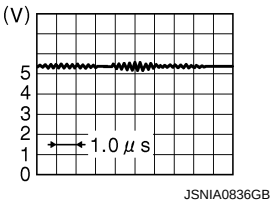
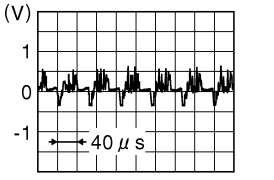
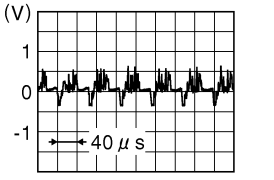
Without BSW

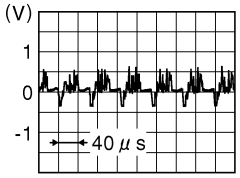
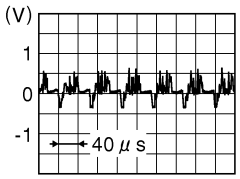
Terminal (Wire color)		Description		Condition		Standard value	Reference value (Approx.)
+	–	Signal name	Input/ Output				
1 (B)	Ground	Ground	—	Ignition switch ON	—	0 - 0.1 V	0 V
2 (Y)	1 (B)	Battery power supply	Input	Ignition switch OFF	—	9.5 - 16 V	Battery voltage
4 (SB)	1 (B)	Ignition signal	Input	Ignition switch ON	—	9.5 - 16 V	Battery voltage
9 (G)	—	Camera switch signal	Input	—	—	—	—
10 (R)	—	CAN-L	Input/ Output	—	—	—	—
12 (L)	—	CAN-H	Input/ Output	—	—	—	—
23	Ground	Camera image signal ground	—	Ignition switch ON	—	0 - 0.1 V	0 V
24 (G)	23	Camera image signal	Output	Ignition switch ON	—	Input the waveform synchronized with the camera image signal.  JSNIA0834GB	
25 (B)	Ground	Rear camera ground	—	Ignition switch ON	—	0 - 0.1 V	0 V
26 (R)	27	Rear camera image signal (+)	Input	Ignition switch ON	—	Input the waveform synchronized with the camera image signal.  JSNIA0834GB	
27	Ground	Rear camera image signal (–)	—	Ignition switch ON	—	0 - 0.1 V	0 V
28 (W)	27	Rear camera power supply	Output	Ignition switch ON	—	5.0 - 9.0 V	6.0 V
29 (Y)	Ground	Driver side camera ground	—	Ignition switch ON	—	0 - 0.1 V	0 V
30 (L)	29 (Y)	Driver side camera power supply	Output	Ignition switch ON	—	5.0 - 9.0 V	6.0 V

Terminal (Wire color)		Description		Condition		Standard value	Reference value (Approx.)
+	–	Signal name	Input/ Output				
31	Ground	Driver side camera image signal (–)	—	Ignition switch ON	—	0 - 0.1 V	0 V
32 (G)	31	Driver side camera image signal (+)	Input	Ignition switch ON	—	Input the waveform synchronized with the camera image signal.  JSNIA0834GB	
33 (L)	Ground	Passenger side camera ground	—	Ignition switch ON	—	0 - 0.1 V	0 V
34 (B)	33 (L)	Passenger side camera power supply	Output	Ignition switch ON	—	5.0 - 9.0 V	6.0 V
35	Ground	Passenger side camera image signal (–)	—	Ignition switch ON	—	0 - 0.1 V	0 V
36 (Y)	35	Passenger side camera image signal (+)	Input	Ignition switch ON	—	Input the waveform synchronized with the camera image signal.  JSNIA0834GB	
37 (V)	Ground	Front camera ground	—	Ignition switch ON	—	0 - 0.1 V	0 V
38 (L)	37 (V)	Front camera power supply	Output	Ignition switch ON	—	5.0 - 9.0 V	6.0 V
39	Ground	Front camera image signal (–)	—	Ignition switch ON	—	0 - 0.1 V	0 V
40 (LG)	39	Front camera image signal (+)	Input	Ignition switch ON	—	Input the waveform synchronized with the camera image signal.  JSNIA0834GB	

With BSW

Terminal (Wire color)		Description		Condition		Standard value	Reference value (Approx.)
+	–	Signal name	Input/ Output				
1 (B)	Ground	Ground	—	Ignition switch ON	—	0 - 0.1 V	0 V
2 (Y)	1 (B)	Battery power supply	Input	Ignition switch OFF	—	9.5 - 16 V	Battery voltage
3 (SB)	1 (B)	Ignition signal	Input	Ignition switch ON	—	9.5 - 16 V	Battery voltage
7 (R)	Ground	BSW indicator LH	Output	Ignition switch ON	Approx. 2 sec. after ignition switch OFF ⇒ ON (bulb check).	5.5 - 16 V	12.0 V
8 (G)	Ground	BSW indicator RH	Output	Ignition switch ON	Approx. 2 sec. after ignition switch OFF ⇒ ON (bulb check)	5.5 - 16 V	12.0 V
27 (L)	—	CAN-H	Input/ Output	—	—	—	—
28 (R)	—	CAN-L	Input/ Output	—	—	—	—
36 (Y)	Ground	Communication signal (CAMERA → PUMP)	Output	Ignition switch ON	—	Input the waveform synchronized with the communication status.  PKIB5039J	
37 (V)	Ground	COMM GND	—	Ignition switch ON	—	0 - 0.1 V	0 V
38 (SB)	Ground	Communication signal (PUMP → CAMERA)	Input	Ignition switch ON	—	Input the waveform synchronized with the communication status.  PKIB5039J	
47 (G)	48	Camera image signal	Output	Ignition switch ON	—	Input the waveform synchronized with the camera image signal.  JSNIA0834GB	
48	Ground	Camera image signal ground	—	Ignition switch ON	—	0 - 0.1 V	0 V

Terminal (Wire color)		Description		Condition		Standard value	Reference value (Approx.)
+	–	Signal name	Input/ Output				
49 (LG)	52 (B)	Rear camera communication signal	Input/ Output	Ignition switch ON	—	Input the waveform synchronized with the communication status.  JSNIA0836GB	
50 (R)	52 (B)	Rear camera power supply	Output	Ignition switch ON	—	5.0 - 9.0 V	6.0 V
52 (B)	Ground	Rear camera ground	—	Ignition switch ON	—	0 - 0.1 V	0 V
53 (W)	54	Rear camera image signal (+)	Input	Ignition switch ON	—	Input the waveform synchronized with the camera image signal.  JSNIA0834GB	
54	Ground	Rear camera image signal (–)	—	Ignition switch ON	—	0 - 0.1 V	0 V
56 (L)	58 (Y)	Driver side camera power supply	Output	Ignition switch ON	—	5.0 - 9.0 V	6.0 V
58 (Y)	Ground	Driver side camera ground	—	Ignition switch ON	—	0 - 0.1 V	0 V
59 (G)	60	Driver side camera image signal (+)	Input	Ignition switch ON	—	Input the waveform synchronized with the camera image signal.  JSNIA0834GB	
60	Ground	Driver side camera image signal (–)	—	Ignition switch ON	—	0 - 0.1 V	0 V
62 (B)	64 (L)	Passenger side camera power supply	Output	Ignition switch ON	—	5.0 - 9.0 V	6.0 V
64 (L)	Ground	Passenger side camera ground	—	Ignition switch ON	—	0 - 0.1 V	0 V

Terminal (Wire color)		Description		Condition		Standard value	Reference value (Approx.)
+	–	Signal name	Input/ Output				
65 (Y)	66	Passenger side camera image signal (+)	Input	Ignition switch ON	—	Input the waveform synchronized with the camera image signal.  JSNIA0834GB	
66	Ground	Passenger side camera image signal (–)	—	Ignition switch ON	—	0 - 0.1 V	0 V
68 (L)	70 (V)	Front camera power supply	Output	Ignition switch ON	—	5.0 - 9.0 V	6.0 V
70 (V)	Ground	Front camera ground	—	Ignition switch ON	—	0 - 0.1 V	0 V
71 (LG)	72	Front camera image signal (+)	Input	Ignition switch ON	—	Input the waveform synchronized with the camera image signal.  JSNIA0834GB	
72	Ground	Front camera image signal (–)	—	Ignition switch ON	—	0 - 0.1 V	0 V

Fail-Safe (Around View Monitor Control Unit)

INFOID:0000000010714813

DTC Display contents of CONSULT	Malfunction detection condition	Fail-safe condition
C1A00 CONTROL UNIT	Around view monitor control unit internal malfunction	Around view monitor with Park Assist is cancel
C1A01 POWER SUPPLY CIRC	• The battery voltage sent to around view monitor control unit remains less than 7.9 V for 5 seconds • The battery voltage sent to around view monitor control unit remains more than 19.3 V for 5 seconds	Around view monitor with Park Assist is cancel
C1A03 VHCL SPEED SE CIRC	If the vehicle speed signal (wheel speed) from ABS actuator and electric unit (control unit) received by the around view monitor control unit via CAN communication, are inconsistent	• BSW system is cancel • DAA system is stopped. • MOD (Moving Object Detection) function is cancel • Around view monitor with Park Assist is cancel
C1A04 ABS/TCS/VDC CIRC	If a malfunction occurs in the VDC/TCS/ABS system	• BSW system is cancel • DAA system is stopped. • MOD (Moving Object Detection) function is cancel • Around view monitor with Park Assist is cancel

DTC Display contents of CONSULT	Malfunction detection condition	Fail-safe condition
C1A07 CVT CIRCUIT	If the CVT is malfunction	Around view monitor with Park Assist is cancel
C1A39 STRG SEN CIR	If the steering angle sensor is malfunction	• BSW system is cancel • DAA system is stopped. • MOD (Moving Object Detection) function is cancel
C1A56 SONAR CIRC	The around view monitor control unit detects that sonar control unit has a malfunction	Around view monitor with Park Assist is cancel
U0122 VDC P-RUN DIAGNOSIS	If around view monitor control unit detects an error signal that is received from ABS actuator and electric unit (control unit) via CAN communication	• BSW system is cancel • DAA system is stopped. • MOD (Moving Object Detection) function is cancel • Around view monitor with Park Assist is cancel
U0416 VDC CHECKSUM DIAGNOSIS	If around view monitor control unit detects an error signal that is received from ABS actuator and electric unit (control unit) via CAN communication	• BSW system is cancel • DAA system is stopped. • MOD (Moving Object Detection) function is cancel • Around view monitor with Park Assist is cancel
U0428 ST ANGLE SENSOR CALIBRATION	Neutral position adjustment of steering angle sensor is not complete.	• Predicted course line is not displayed. • MOD (Moving Object Detection) function is stopped. • BSW system is stopped. • DAA system is stopped. • Around view monitor with Park Assist is stopped
U1000 CAN COMM CIRCUIT	When around view monitor control unit cannot transmit/receive CAN communication signal continuously for 2 seconds or more.	The following functions are stopped • When communication of steering angle sensor signal is not normal - Predicted course line is not displayed. - MOD (Moving Object Detection) function is stopped. - BSW system is stopped. - DAA system is stopped. • When communication of vehicle signal, wheel speed sensor signal, and shift signal is not normal - Predicted course line is not displayed. - MOD (Moving Object Detection) function is stopped. - LDW system is stopped. - BSW system is stopped. - DAA system is stopped. - Around view monitor with Park Assist is stopped
U1010 CONTROL UNIT (CAN)	CAN initial diagnosis malfunction is detected.	MOD (Moving Object Detection) function is stopped.
U111A REAR CAMERA IMAGE SIGNAL	No-signal status of rear camera image signal is continued for 500 ms or more while ignition switch is ON. **NOTE:** Current malfunction is displayed only and is not saved.	• Camera image is not displayed (Gray screen display). • MOD (Moving Object Detection) function is stopped.
U111B SIDE CAMERA RH IMAGE SIGNAL	No-signal status of side camera RH image signal is continued for 500 ms or more while ignition switch is ON. **NOTE:** Current malfunction is displayed only and is not saved.	Camera image is not displayed (Gray screen display).

DTC Display contents of CONSULT	Malfunction detection condition	Fail-safe condition
U111C FRONT CAMERA IMAGE SIGNAL	No-signal status of front camera image signal is continued for 500 ms or more while ignition switch is ON. **NOTE:** Current malfunction is displayed only and is not saved.	Camera image is not displayed (Gray screen display).
U111D SIDE CAMERA LH IMAGE SIGNAL	No-signal status of side camera LH image signal is continued for 500 ms or more while ignition switch is ON. **NOTE:** Current malfunction is displayed only and is not saved.	Camera image is not displayed (Gray screen display).
U112F EPS CIRCUIT	If the EPS system is malfunction	Around view monitor with Park Assist is cancel
U1232 ST ANGLE SEN CALIB	Neutral position adjustment of steering angle sensor is performed. NG signal from steering angle sensor is received.	• Predicted course line is not displayed. • MOD (Moving Object Detection) function is stopped. • BSW system is stopped. • DAA system is stopped. • Around view monitor with Park Assist is stopped.
U1302 CAMERA POWER VOLT	Camera power supply voltage does not satisfy the following conditions for 2 seconds or more when ignition switch is turned ON. • When camera power supply output is ON: 5.9 - 6.5 V • When OFF: 0 V by camera power supply measurement.	Camera power output is stopped
U1304 CAMERA IMAGE CALIB	• When camera calibration is incomplete. • When camera information in around view monitor control unit and information read from camera are not the same. **NOTE:** Current malfunction is displayed only and is not saved.	• Unmatched icon ☒ display (red) is displayed (applicable for unmatched camera only). • Around view monitor with Park Assist is cancel.
U1305 CONFIG UNFINISH	The vehicle setting of around view monitor control unit is incomplete. **NOTE:** Current malfunction is displayed only and is not saved.	• On applicable camera screen ⚠ marking (Red) is displayed. • Around view monitor with Park Assist is cancel.
U1308 R-CAMERA (R&L) CALIB JDGMNT	Camera image calibration is incomplete	• MOD (Moving Object Detection) function is stopped. • BSW system is stopped. • Around view monitor with Park Assist is stopped.
U1309 PUMP INPUT CURRENT JUDGE	Around view monitor control unit detects the value of current from pump control unit is incorrect	BSW system is stopped.
U130A PUMP ECU JUDGE	If the pump control unit is malfunction	BSW system is stopped.
U130B RR CAMERA COMM ERROR	Around view monitor control unit receives the incorrect communication signal from rear view camera	• MOD (Moving Object Detection) function is stopped. • BSW system is stopped.
U1320 REPROGRAMMING	Reprogramming of around view monitor control unit is incomplete	Around view monitor with Park Assist is cancel
U150E BCM CIRCUIT	If the BCM is malfunction	Around view monitor with Park Assist is cancel

DTC Display contents of CONSULT	Malfunction detection condition	Fail-safe condition
U1971 SONAR MESSAGE COUNTER DIAG	Around view monitor control unit receives an incorrect signal from sonar control unit via CAN communication	Around view monitor with Park Assist is cancel
U1972 EPS MESSAGE COUNTER DIAG	Around view monitor control unit receives an incorrect signal from EPS control unit via CAN communication	Around view monitor with Park Assist is cancel
Other	When around view monitor control unit is not normal.	Switch to camera screen is not allowed.

DTC Inspection Priority Chart

INFOID:0000000010714814

If multiple DTCs are detected simultaneously, check them one by one depending on the following DTC inspection priority chart.

Priority	Detected items (DTC)
1	U1305: CONFIG UNFINISH
2	U1320: REPROGRAMMING
3	• U1000: CAN COMM CIRCUIT • U1010: CONTROL UNIT (CAN)
4	• U1232: ST ANGLE SEN CALIB • U1304: CAMERA IMAGE CALIB
5	• U0428: ST ANGLE SENSOR CALIBRATION
6	• U130B: RR CAMERA COMM ERROR
7	• U1308: R-CAMERA (R&L) CALIB JDGMNT
8	• C1A01: POWER SUPPLY VOLTAGE CIRCUIT 1 • C1A04: ABS/TCS/VDC CIRC • C1A07: CVT SYSTEM • C1A39: STRG SEN CIR • C1B56: SONAR SYSTEM • U0122: VDC P-RUN DIAGNOSIS • U0416: VDC CHECKSUM DIAGNOSIS • U111A: REAR CAMERA IMAGE SIGNAL • U111B: SIDE CAMERA RH IMAGE SIGNAL • U111C: FRONT CAMERA IMAGE SIGNAL • U111D: SIDE CAMERA LH IMAGE SIGNAL • U112F: EPS SYSTEM • U1302: CAMERA POWER SUPPLY VOLTAGE • U1304: CAMERA CALIBRATION • U1309: PUMP INPUT CURRENT JUDGE • U130A: PUMP ECU JUDGE • U150E: BCM SYSTEM • U1971: SONAR MESSAGE COUNTER DIAGNOSIS • U1972: EPS MESSAGE COUNTER DIAGNOSIS
9	• C1A00: CONTROL UNIT • C1A03: VHCL SPEED SE CIRC

DTC Index

INFOID:0000000010714815

Fail-safe subject system
- A: Around View Monitor system
- B: MOD (Moving Object Detection)
- C: BSW (Blind Spot Warning)
- D: DAA (Driver Attention Alert)
- E: Around view monitor with Park Assist

DTC	Display contents of CONSULT	Fail-safe					Refer to
		System					
		A	B (MOD icon color)	C	D	E	
C1A00	CONTROL UNIT					×	AV-166
C1A01	POWER SUPPLY CIRC					×	AV-167
C1A03	VHCL SPEED SE CIRC		× (Orange)	×	×	×	AV-168
C1A04	ABS/TCS/VDC CIRC		× (Orange)	×	×	×	AV-170
C1A07	CVT system					×	AV-171
C1A39	STRG CIRCUIT			×	×		AV-172
C1B56	SONAR CIRC					×	AV-173
U0122	VDC P-RUN DIAGNOSIS		× (Orange)	×	×	×	AV-174
U0416	VDC CHECKSUM DIAGNOSIS		× (Orange)	×	×	×	AV-175
U0428	ST ANGLE SENSOR CALIBRATION	×	× (Orange)	×	×	×	AV-176
U1000[NOTE]	CAN COMM CIRC	×	× (Orange)	×	×	×	AV-178
U1010	CONTROL UNIT (CAN)	×					AV-180
U111A	REAR CAMERA IMAGE SIGNAL	×					AV-182
U111B	SIDE CAMERA RH IMAGE SIGNAL	×					AV-186
U111C	FRONT CAMERA IMAGE SIGNAL	×					AV-192
U111D	SIDE CAMERA LH IMAGE SIGNAL	×					AV-195
U112F	EPS CIRCUIT					×	AV-201
U1232	ST ANGLE SEN CALIB	×	× (Orange)	×	×	×	AV-205
U1302	CAMERA POWER VOLT	×					AV-222
U1304	CAMERA IMAGE CALIB	×				×	AV-230
U1305[NOTE]	CONFIG UNFINISH					×	AV-231
U1308	R-CAMERA (R&L) CALIB JDGMNT			×		×	AV-232
U1309	PUMP INPUT CURRENT JUDGE		× (Blue)	×			AV-233
U130A	PUMP ECU JUDGE		× (Blue)	×			AV-234
U130B	RR CAMERA COMM ERROR		× (Orange)	×			AV-235
U1320	REPROGRAMMING					×	AV-237
U150E	BCM CIRCUIT					×	AV-238
U1971	SONAR MESSAGE COUNTER DIAG					×	AV-239
U1972	EPS MESSAGE COUNTER DIAG					×	AV-240

NOTE:
Some systems activate fail-safe when U1000 is detected, and some do not.
- The systems which activate failsafe are those which use the signal from the control unit where communication with the around view monitor control unit is interrupted.
- When U1305 is detected, operates with vehicle settings set to default values.

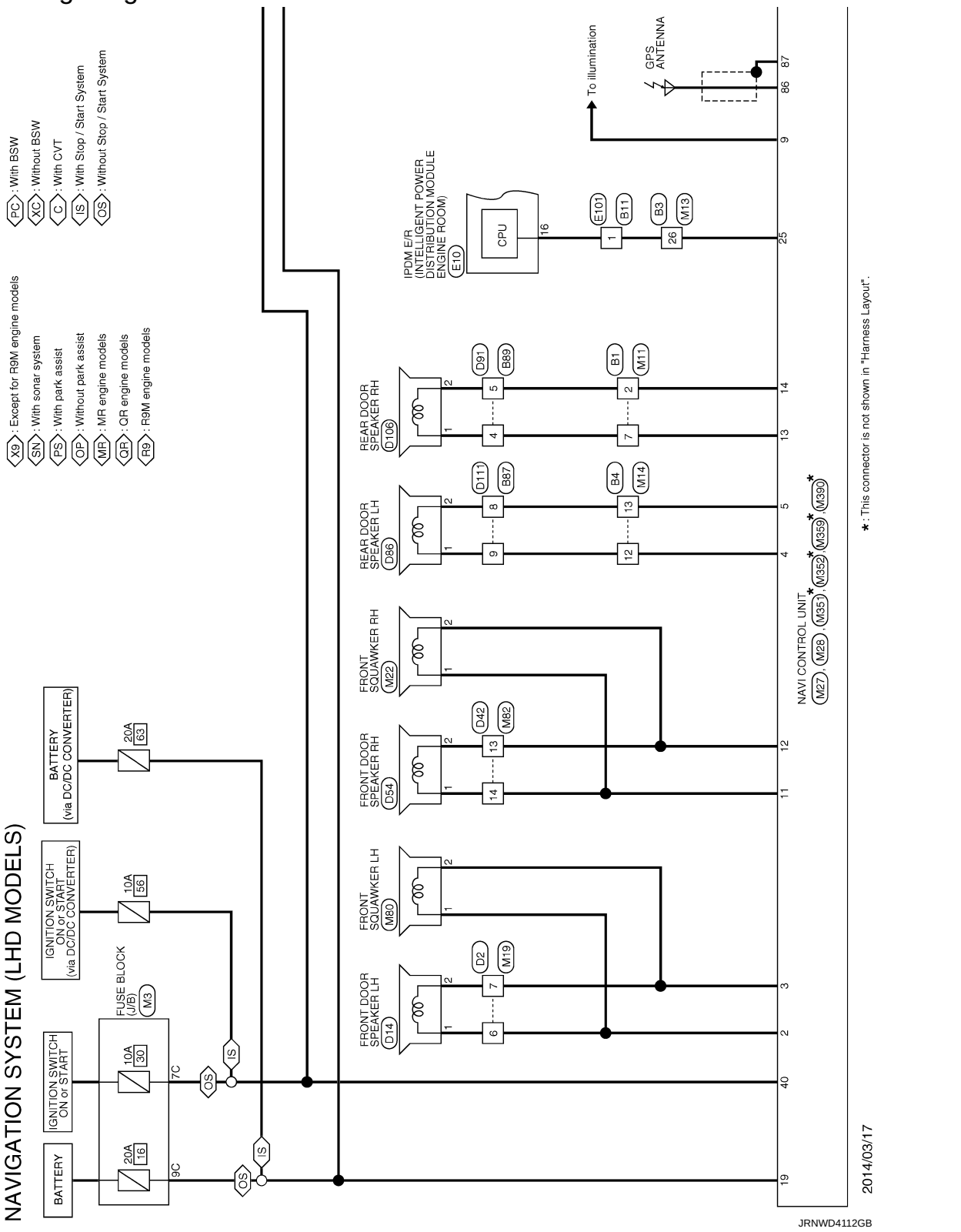
WIRING DIAGRAM

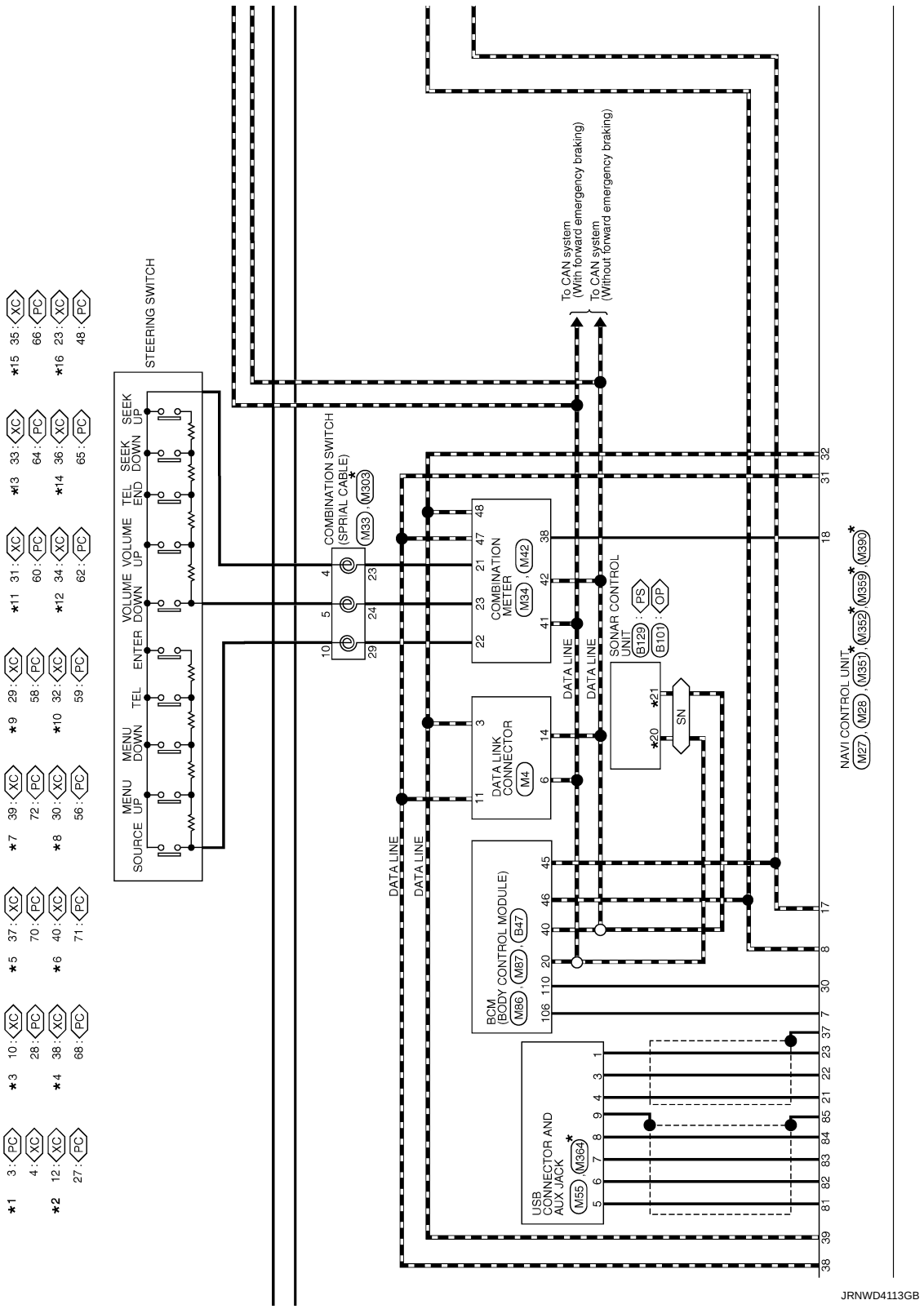
NAVIGATION SYSTEM

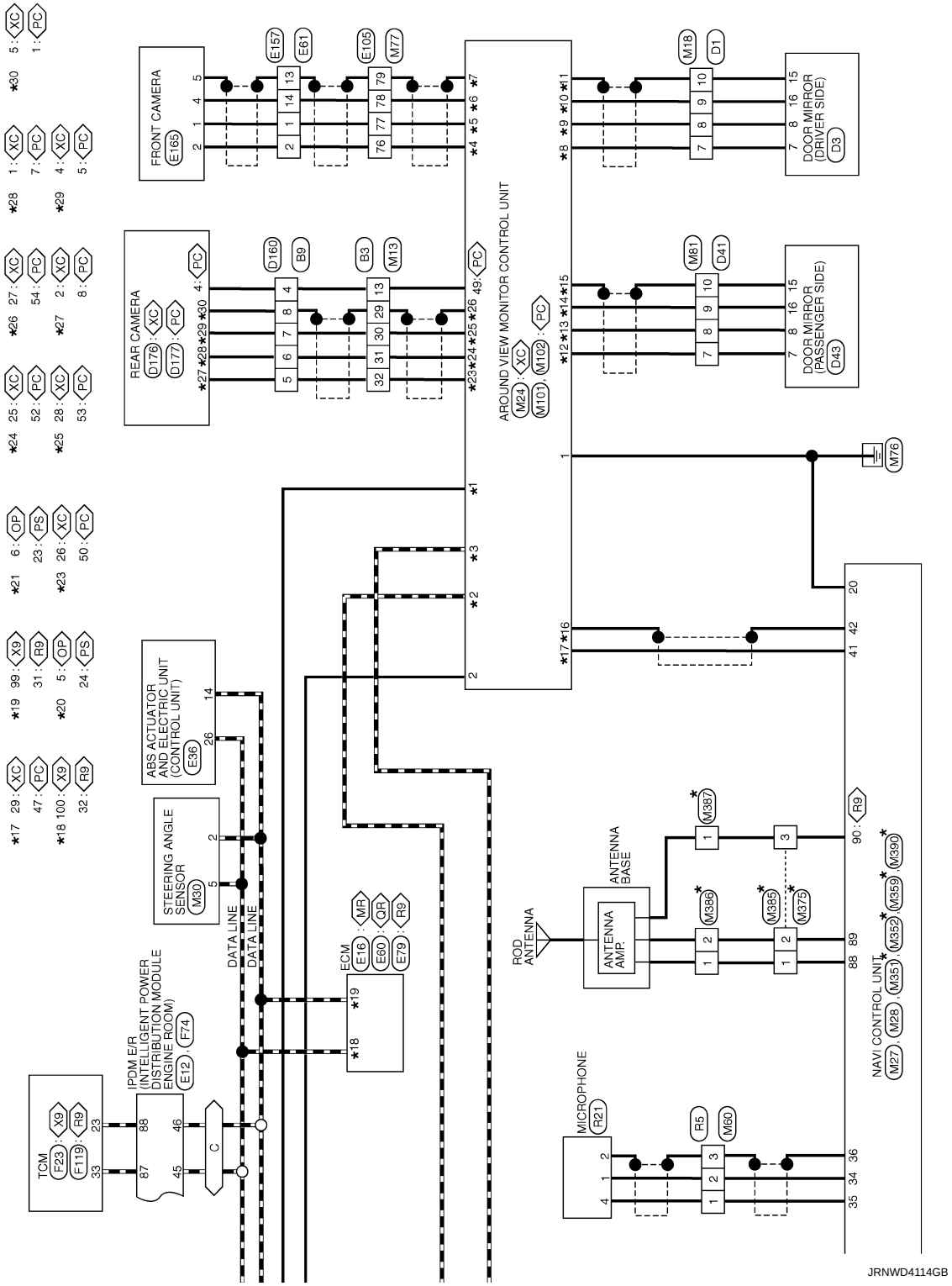
LHD

LHD : Wiring Diagram

INFOID:0000000010714816



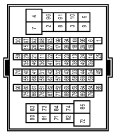

STEERING SWITCH
SOURCE
MENU UP
MENU DOWN
TEL
ENTER
VOLUME DOWN
VOLUME UP
TEL END
SEEK DOWN
SEEK UP
COMBINATION SWITCH (SPIRAL CABLE)
M33, M303
COMBINATION METER
M34, M42
DATA LINK CONNECTOR
M4
BCM (BODY CONTROL MODULE)
M86, M87, B47
USB CONNECTOR AND AUX JACK
M55, M364
SONAR CONTROL UNIT
B129, B101
PS
OP
SN
NAVI CONTROL UNIT
M27, M28, M351, M352, M359, M390
DATA LINE
To CAN system (With forward emergency braking)
To CAN system (Without forward emergency braking)
JRNWD4113GB


FRONT CAMERA
E165
REAR CAMERA
D176 : XC
D177 : PC
AROUND VIEW MONITOR CONTROL UNIT
M24 : XC
M101, M102 : PC
DOOR MIRROR (DRIVER SIDE)
D3
DOOR MIRROR (PASSENGER SIDE)
D43
ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)
E36
STEERING ANGLE SENSOR
M30
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E12
F74
TCM
F23 : X9
F119 : R9
ECM
E16 : MR
E60 : QR
E79 : R9
DATA LINE
DATA LINE
ROD ANTENNA
ANTENNA AMP
ANTENNA BASE
MICROPHONE
R21
NAVI CONTROL UNIT
M27, M28, M351, M352, M359, M375, M385, M386, M387, M390
JRNWD4114GB

NAVIGATION SYSTEM (LHD MODELS)

Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
2	LA/Y	-
6	V	-
7	LA/V	-
20	L	- [With diesel engine]
20	LA/L	- [With gasoline engine]
21	B	- [With diesel engine]
21	LA/B	- [With gasoline engine]
24	G	-
25	BR	-
73	LA/Y	-
74	R	-
75	R	-
84	L	-
85	L	-
92	LA/R	-
93	LA/L	-
95	LA/BR	-
97	L	-
98	Y	-
99	LA/P	-
100	GR	- [With diesel engine]
100	LA/GR	- [With gasoline engine]

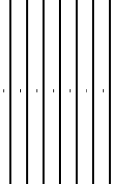
Connector No.	B3
Connector Name	WIRE TO WIRE
Connector Type	TH32MW-NH

H.S.

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

Connector No.	B4
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
4	LA/G	-
5	W	-
6	G	-
7	R	-
8	LA/G	-
9	P	-
10	R	-
11	LA/V	-
12	LA/L	-
13	LA/R	-
14	LA/BG	-
15	LA/BR	-
16	R	-

Connector No.	B9
Connector Name	WIRE TO WIRE
Connector Type	TH32MW-NH

H.S.

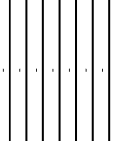
Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	-
2	LA/BR	-
5	BG	-
11	BR	-
12	W	-
13	P	-
14	SB	-
15	V	-
16	P	-
17	P	-
18	G	-
19	P	-
20	R	-
21	BR	-
22	Y	-
23	BG	-
24	SB	-
25	G	-

Terminal No.	Color Of Wire	Signal Name [Specification]
4	W	-
5	R	-
6	B	-
7	W	-
8	SHIELD	-
13	W	-

14	V	-
15	BR	-
16	SB	-
17	LA/W	-
18	LA/BR	-
19	LG	-
20	LA/G	-
21	LA/G	-
22	LA/R	-
23	LA/R	-
24	R	-
29	Y	-
30	G	-
31	GR	-
32	LG	-

Connector No.	B11
Connector Name	WIRE TO WIRE
Connector Type	TH80MDGY-CS16-TM4

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	-
2	LA/BR	-
5	BG	-
11	BR	-
12	W	-
13	P	-
14	SB	-
15	V	-
16	P	-
17	P	-
18	G	-
19	P	-
20	R	-
21	BR	-
22	Y	-
23	BG	-
24	SB	-
25	G	-

JRNWD4115GB

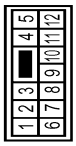
NAVIGATION SYSTEM (LHD MODELS)

26	B
27	P
28	R
29	LG
30	P
92	BR
93	GR
94	Y
95	LG
97	LG

Connector No.	B47
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FG-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
6	R	BACK DOOR OPENER REQUEST SW
9	G	HANDS FREE SENSOR
10	W	REAR RH DOOR SW
11	LG	BACK DOOR SW
12	R	REAR LH DOOR SW
13	SB	PASSENGER DOOR SW
15	LA/G	REAR WIPER AUTO STOP
16	Y	BACK DOOR OPENER SW
17	SB	DRIVER DOOR SW
20	L	CAN-H
21	BR	BUMPER ANTENNA(-)
22	Y	REAR ANTENNA(-)
23	L	REAR ANTENNA(+)
24	G	BUMPER ANTENNA(+)
38	V	SIREN
39	LA/W	HIGH-MOUNTED STOP LAMP
40	P	CAN-L

Connector No.	B87
Connector Name	WIRE TO WIRE
Connector Type	NS12MW-CS

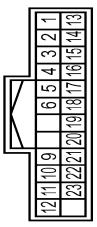


Terminal No.	Color Of Wire	Signal Name [Specification]
1	P	-
2	R	-
3	LA/V	-
6	W	-
7	L	-
8	LA/R	-
9	LA/L	-
12	G	-

Connector No.	B89
Connector Name	WIRE TO WIRE
Connector Type	NS12MW-CS

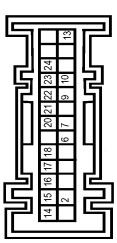
Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
2	L	-
3	LA/P	-
4	LA/V	-
5	LA/Y	-
6	LA/GR	-
7	LA/LG	-
8	LA/R	-

Connector No.	B101
Connector Name	SONAR CONTROL UNIT
Connector Type	TH24FW-NH



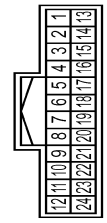
Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	CENTER SENSOR SIGNAL FRONT RH
2	G	CENTER SENSOR SIGNAL FRONT LH
3	W	CORNER SENSOR SIGNAL FRONT LH
4	V	CORNER SENSOR SIGNAL FRONT RH
5	L	CAN-H
6	P	CAN-L
9	V	CENTER SENSOR SIGNAL REAR RH
10	LG	CORNER SENSOR SIGNAL REAR RH
11	SB	FRONT SENSOR POWER SUPPLY
12	BR	IGNITION POWER SUPPLY
13	P	FRONT SENSOR GROUND
14	P	REAR SENSOR GROUND
15	B	GROUND
16	V	SONAR SYSTEM OFF SWITCH SIGNAL
17	SB	SONAR SYSTEM OFF SWITCH INDICATOR SIGNAL
18	LA/L	FRONT BUZZER DRIVE SIGNAL
19	Y	BUZZER POWER SUPPLY
20	LA/G	REAR BUZZER DRIVE SIGNAL
21	G	CENTER SENSOR SIGNAL REAR LH
22	R	CORNER SENSOR SIGNAL REAR LH
23	SB	REAR SENSOR POWER SUPPLY

Connector No.	B129
Connector Name	SONAR CONTROL UNIT
Connector Type	renault_8200176157



Terminal No.	Color Of Wire	Signal Name [Specification]
2	Y	FRONT BUZZER POWER SUPPLY
6	R	CORNER SENSOR SIGNAL REAR LH
7	V	CENTER SENSOR SIGNAL REAR RH
9	G	REAR BUZZER DRIVE SIGNAL
10	SB	FRONT BUZZER DRIVE SIGNAL
13	B	GROUND
14	BR	IGNITION POWER SUPPLY
15	Y	REAR BUZZER POWER SUPPLY
16	V	SONAR SYSTEM OFF SWITCH SIGNAL
17	SB	SONAR SYSTEM OFF SWITCH INDICATOR SIGNAL
18	SB	REAR SENSOR POWER SUPPLY
20	G	CENTER SENSOR SIGNAL REAR LH
21	LG	CORNER SENSOR SIGNAL REAR RH
22	P	REAR SENSOR GROUND
23	P	CAN-L
24	L	CAN-H

Connector No.	D1
Connector Name	WIRE TO WIRE
Connector Type	TH24FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LA/B	-
2	LA/B	-
3	W	-
4	V	-

JRNWD4116GB

NAVIGATION SYSTEM (LHD MODELS)

5	SB	-
6	LG	-
7	GR	-
8	G	-
9	Y	-
10	B	-
11	R	-
13	LA/W	-
14	LA/Y	-
15	LA/LG	-
16	LA/V	-
17	LA/L	-
18	LA/BG	-
19	LA/R	-
22	LA/G	-
23	L	-
24	BG	-

Connector No.	D2
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-CS

H.S.

1	LA/V	-
2	R	-
3	LA/G	-
4	B	-
5	B	-
6	LA/L	-
7	LA/BR	-
8	SB	-
9	LA/GR	-
10	LA/SB	-
11	P	-
12	LG	-
13	LA/Y	-
14	LA/W	-
15	LA/R	-
16	B	-

Connector No.	D3
Connector Name	DOOR MIRROR (DRIVER SIDE)
Connector Type	TH16MW-NH

H.S.

2	LG	-
3	LA/P	-
4	LA/BR	-
5	LA/W	-
7	GR	-
8	G	-
10	B	-
11	LA/SB	-
12	LA/GR	-
14	LA/B	-
15	B	-
16	Y	-

Connector No.	D14
Connector Name	FRONT DOOR SPEAKER LH
Connector Type	NS02FW-CS

H.S.

1	LA/L	-
2	LA/BR	-

Connector No.	D41
Connector Name	WIRE TO WIRE
Connector Type	TH24FW-NH

H.S.

1	B	-
3	B	-
4	P	-
5	R	-
6	SB	-
7	L	-
8	V	-
9	Y	-
10	B	-
11	G	-
13	LA/Y	-
14	LA/R	-
15	LA/V	-
16	LA/L	-
17	LA/BG	-
18	GR	-
21	LA/G	-

Connector No.	D42
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-CS

H.S.

1	LA/B	-
2	B	-
8	LA/GR	-

9	LA/Y	-
10	LA/BR	-
11	LA/L	-
12	LA/V	-
13	LA/R	-
14	LA/G	-

Connector No.	D43
Connector Name	DOOR MIRROR (PASSENGER SIDE)
Connector Type	TH16MW-NH

H.S.

2	GR	-
3	LA/L	-
4	LA/R	-
5	LA/Y	-
7	L	-
8	V	-
10	B	-
11	LA/BG	-
12	LA/V	-
14	LA/B	-
15	B	-
16	Y	-

JRNWD4117GB

NAVIGATION SYSTEM (LHD MODELS)

Connector No.	D54
Connector Name	FRONT DOOR SPEAKER RH
Connector Type	NS02FW-CS

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LA/G	-
2	LA/R	-

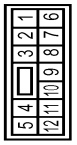
Connector No.	D86
Connector Name	REAR DOOR SPEAKER LH
Connector Type	NS02FW-CS

H.S.

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

Connector No.	D91
Connector Name	WIRE TO WIRE
Connector Type	NS12FW-CS

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LA/Y	-
2	LA/BR	-
3	LA/GR	-
4	LA/V	-
5	LA/Y	-
6	LA/W	- [For LHD models]
6	W	- [For RHD models]
7	LA/L	- [For LHD models]
7	SB	- [For RHD models]
8	P	-

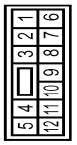
Connector No.	D106
Connector Name	REAR DOOR SPEAKER RH
Connector Type	NS02FW-CS

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LA/V	-
2	LA/Y	-

Connector No.	D111
Connector Name	WIRE TO WIRE
Connector Type	NS12FW-CS

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LA/Y	-
2	LA/BR	-
3	LA/GR	-
6	LA/V	- [For LHD models]
6	V	- [For RHD models]
7	LA/G	- [For LHD models]
7	LG	- [For RHD models]
8	LA/R	-
9	LA/L	-
12	W	-

Connector No.	D160
Connector Name	WIRE TO WIRE
Connector Type	TH32FW-NH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
4	W	-
5	W	-
6	W	-
7	W	-
8	W	-
13	W	-
14	W	-
15	W	-
16	W	-
17	W	-
18	W	-
19	W	-
20	W	-
21	W	-
22	W	-
23	W	-
24	W	-
29	W	-
30	W	-
31	W	-
32	W	-

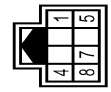
Connector No.	D176
Connector Name	REAR CAMERA
Connector Type	RH06FB-1V

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	GND
2	W	IGN
4	W	VIDEO+
5	W	V-CAN1_L

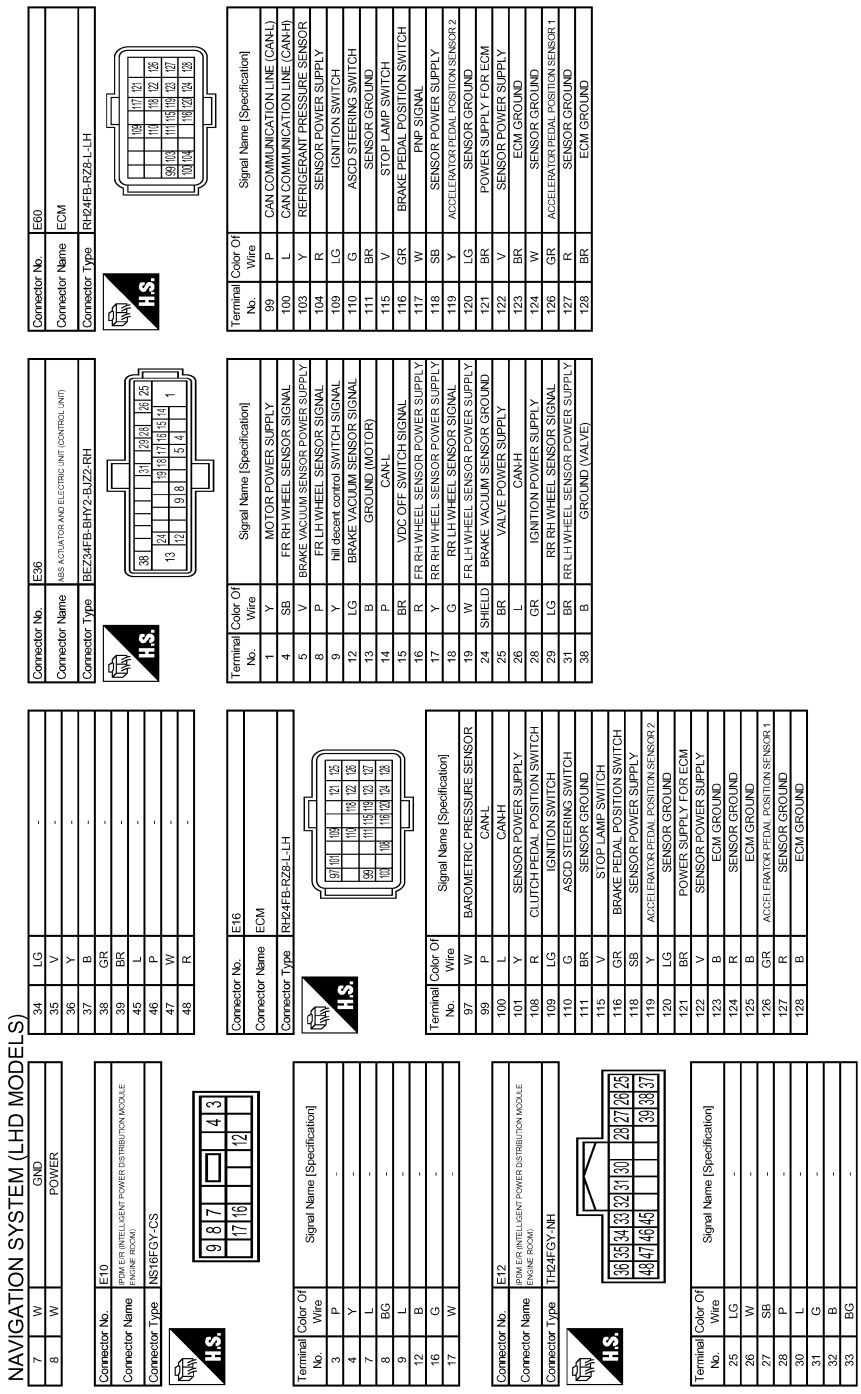
Connector No.	D177
Connector Name	REAR CAMERA
Connector Type	TH08MW-NH

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	COMP-
4	W	SERIAL-SIGNAL
5	W	VIDEO+

JRNWD4118GB



JRNWD4119GB

NAVIGATION SYSTEM (LHD MODELS)

Connector No.	E61
Connector Name	WIRE TO WIRE
Connector Type	TH24MW-NH

H.S.

1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24

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

Connector No.	E79
Connector Name	ECM
Connector Type	RH24FB-RZ8-R-RH

H.S.

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

Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	-
2	W	-
5	G	-
11	BR	-
12	W	-
13	P	-
14	SB	-
15	V	-
16	P	-
17	P	-
18	G	-
19	P	-
20	G	-
21	BR	-
22	LG	-
23	Y	-
24	SB	-
25	G	-
26	B	-
27	P	-
28	R	-
29	LG	-
30	P	-
92	BR	-
93	GR	-
94	R	-
95	L	-
97	LG	-

Connector No.	E105
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
2	W	-
5	V	- [Without ISS]
5	W	- [With ISS]
8	L	-
9	LG	-
10	W	-
20	W	-
21	B	-
22	SHIELD	-
31	Y	-
32	W	-
33	SB	-
34	LG	-
35	BG	-
36	LG	-
37	V	-
38	G	-
39	BR	-
40	L	-
41	P	-
47	GR	-
48	SB	-
51	P	-
52	L	-
53	W	-
54	Y	-
55	BR	-
56	P	-
57	B	-
58	L	-
59	W	-
60	G	-
61	BR	-
62	V	-
63	BR	-
64	GR	-
65	LG	-
66	BG	-
67	L	-
68	R	-
71	V	-
72	L	-
73	R	-
76	L	-
77	V	-
78	LG	-
79	SHIELD	-
80	GR	-
82	Y	-
83	SB	-
84	L	-
85	G	-
86	Y	-
87	B	-
88	B	-
91	R	-
92	BR	-
93	W	-
96	GR	-
97	R	-
98	V	-
99	Y	-

Connector No.	E101
Connector Name	WIRE TO WIRE
Connector Type	TH80FDGY-CS16-TM4

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
16	BG	STOP LAMP SWITCH [With M/T]
16	R	BRAKE PEDAL POSITION SWITCH [With CVT]
17	LG	IGNITION SWITCH
18	G	ASCD STEERING SWITCH
19	BR	SENSOR GROUND (ASCD STEERING SWITCH)
20	BR	FUEL PUMP CONTROL MODULE (COMMAND)
22	G	FUEL PUMP CONTROL MODULE (DIAGNOSIS)
23	V	SPEED LIMITER MAIN SWITCH
24	R	CLUTCH PEDAL POSITION SWITCH
27	V	CLUTCH INTERLOCK SWITCH
30	BR	ASCD MAIN SWITCH
31	P	CAN-L
32	L	CAN-H

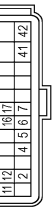
JRNWD4120GB

NAVIGATION SYSTEM (LHD MODELS)

Connector No.	E157
Connector Name	WIRE TO WIRE
Connector Type	TH24FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	-
2	L	-
4	LG	-
5	SHIELD	-

Connector No.	F23
Connector Name	TCM
Connector Type	RH40FB-RZ8-L-RH

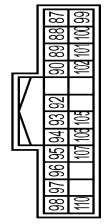


Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	-
2	L	-
3	P	-
4	W	-
6	P	-
7	G	-
9	P	-
10	BR	-
12	GR	-
13	SHIELD	-
14	LG	-
15	P	-
16	V	-
17	SB	-
18	P	-
19	LG	-
22	R	-
23	V	-
24	GR	-

Terminal No.	Color Of Wire	Signal Name [Specification]
2	GR	-
4	Y	D RANGE SWITCH
5	BR	N RANGE SWITCH
6	G	R RANGE SWITCH
7	V	P RANGE SWITCH
11	LG	SENSOR GROUND
12	BR	CVT FLUID TEMPERATURE SENSOR
16	SB	SECONDARY PRESSURE SENSOR
17	R	PRIMARY PRESSURE SENSOR
23	P	CAN-L
24	LG	INPUT SPEED SENSOR
26	BG	SENSOR POWER SUPPLY
30	GR	LINE PRESSURE SOLENOID VALVE
33	L	CAN-H
34	W	OUTPUT SPEED SENSOR
35	GR	PRIMARY SPEED SENSOR
37	Y	SELECT SOLENOID VALVE
38	G	TORQUE CONVERTER CLUTCH SOLENOID VALVE
39	W	SECONDARY PRESSURE SOLENOID VALVE
40	V	PRIMARY PRESSURE SOLENOID VALVE
41	B	GROUND
42	B	GROUND
45	V	BATTERY POWER SUPPLY
46	V	BATTERY POWER SUPPLY
47	BG	IGNITION POWER SUPPLY
48	BG	IGNITION POWER SUPPLY

Connector No.	E165
Connector Name	FRONT CAMERA
Connector Type	RH06FB-1V

Connector No.	F74
Connector Name	PDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	TH24FB-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
87	L	-
88	P	-
89	W	-
90	R	-
92	GR	-
93	G	- [With R9M Engine]
93	P	- [With MR20 or QR25 Engine]
94	SB	-
95	LG	-
96	W	-
97	P	-
98	Y	-
99	BG	-
100	LG	-
101	V	-
102	Y	-
105	W	-
106	BR	-
107	V	-
110	SB	-

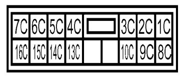
Connector No.	F119
Connector Name	TCM
Connector Type	RH40FB-RZ8-L-LH

Terminal No.	Color Of Wire	Signal Name [Specification]
1	P	ELECTRIC OIL PUMP RELAY
2	GR	-
4	Y	D RANGE SWITCH
5	BR	N RANGE SWITCH
6	G	R RANGE SWITCH
7	V	P RANGE SWITCH
11	LG	SENSOR GROUND
12	BR	CVT FLUID TEMPERATURE SENSOR
14	V	G SENSOR
16	SB	SECONDARY PRESSURE SENSOR
17	R	PRIMARY PRESSURE SENSOR
23	P	CAN-L
24	LG	INPUT SPEED SENSOR
25	R	ELECTRIC OIL PUMP COMMAND SIGNAL
26	BG	SENSOR POWER SUPPLY
30	GR	LINE PRESSURE SOLENOID VALVE
32	SB	ELECTRIC OIL PUMP STATUS SIGNAL
33	L	CAN-H
34	W	OUTPUT SPEED SENSOR
35	GR	PRIMARY SPEED SENSOR
37	Y	SELECT SOLENOID VALVE
38	G	TORQUE CONVERTER CLUTCH SOLENOID VALVE
39	W	SECONDARY PRESSURE SOLENOID VALVE
40	V	PRIMARY PRESSURE SOLENOID VALVE
41	B	GROUND
42	B	GROUND
45	V	BATTERY POWER SUPPLY
46	V	BATTERY POWER SUPPLY
47	BG	IGNITION POWER SUPPLY
48	BG	IGNITION POWER SUPPLY

JRNWD4121GB

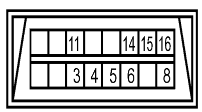
NAVIGATION SYSTEM (LHD MODELS)

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS16FW-CS



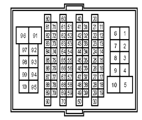
Terminal No.	Color Of Wire	Signal Name [Specification]
10C	LG	-
13C	LA/G	-
14C	R	-
15C	L	-
16C	LA/W	-
1C	R	-
2C	G	-
3C	Y	-
4C	LG	-
5C	GR	-
6C	LA/R	-
7C	Y	-
8C	BR	- [With ISS]
8C	LA/BR	- [Without ISS]
9C	L	-

Connector No.	M4
Connector Name	DATA LINK CONNECTOR
Connector Type	BD16FW



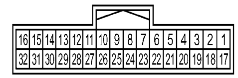
Terminal No.	Color Of Wire	Signal Name [Specification]
3	LG	-
4	B	-
5	B	-
6	L	-
8	Y	-
11	SB	-
14	P	-
15	BR	-
16	W	-

Connector No.	M11
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4



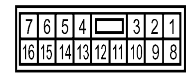
Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	-
2	Y	-
6	GR	-
7	LG	-
20	LA/L	-
21	LA/B	-
24	G	-
25	BR	-
73	Y	-
74	R	-
75	R	-
84	L	-
85	L	-
92	LA/W	-
93	LA/Y	-
95	SB	-
97	BG	-
98	Y	-
99	W	-
100	LA/R	-

Connector No.	M13
Connector Name	WIRE TO WIRE
Connector Type	TH32FW-NH



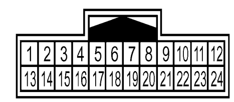
Terminal No.	Color Of Wire	Signal Name [Specification]
1	SB	-
2	V	-
3	SB	-
4	BR	-
5	L	-
6	Y	-
7	LG	-
8	BG	-
9	W	-
10	Y	-
11	R	-
12	SB	-
13	LG	-
14	V	-
15	SB	-
16	Y	-
17	LA/BR	-
18	LA/L	-
20	BG	-
21	BG	-
22	GR	-
23	GR	-
24	P	-
25	L	-
26	BR	-
29	SHIELD	-
30	W	-
31	B	-
32	R	-

Connector No.	M14
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
4	Y	-
5	W	-
6	LA/G	-
7	R	-
8	BR	-
9	G	-
10	R	-
11	LG	-
12	GR	-
13	BR	-
14	LA/L	-
15	LA/BR	-
16	GR	-

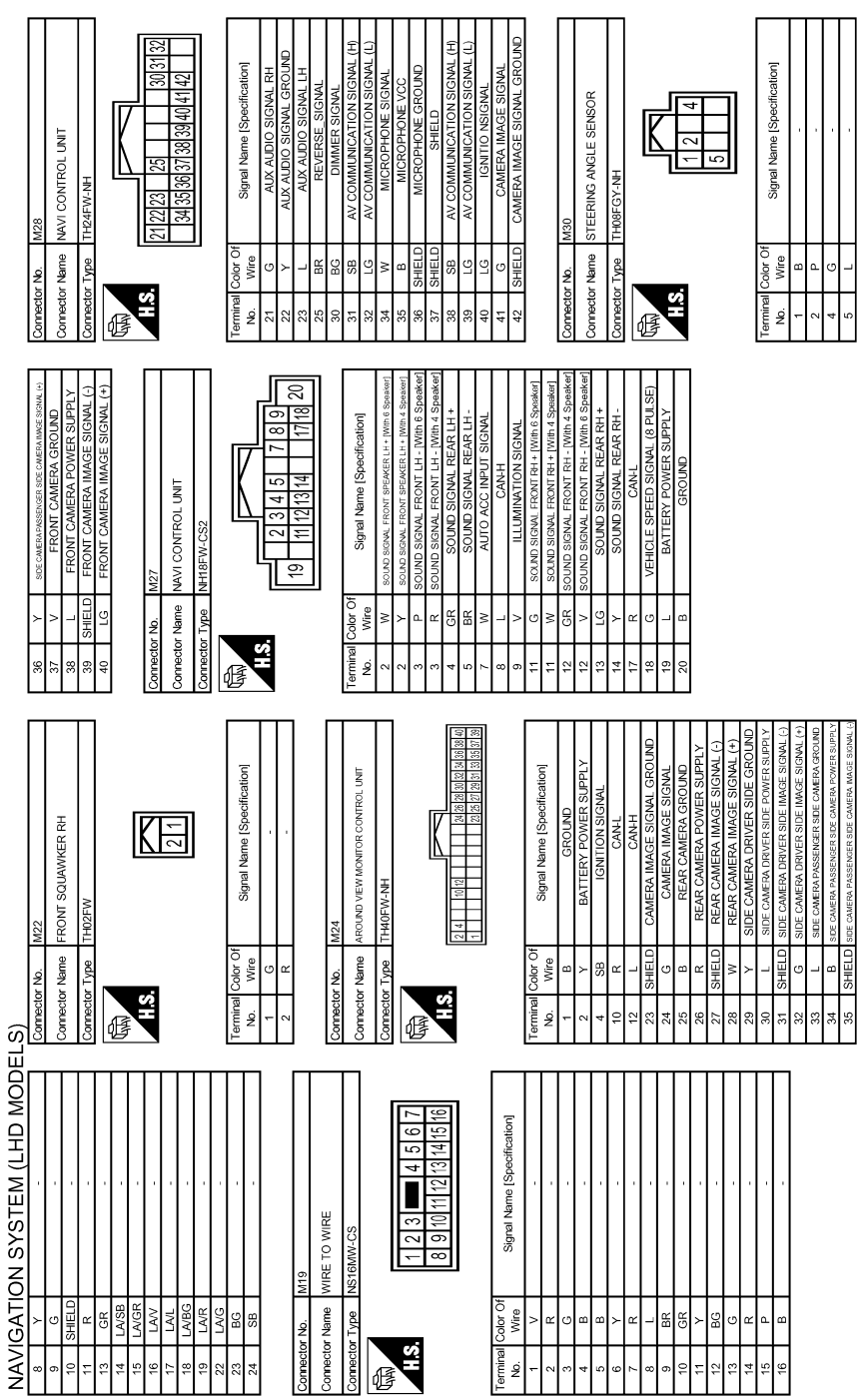
Connector No.	M18
Connector Name	WIRE TO WIRE
Connector Type	TH24MW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	B	-
3	Y	-
4	V	-
5	BR	-
6	LG	-
7	L	-

JRNWD4122GB

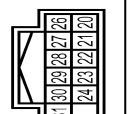
NAVIGATION SYSTEM (LHD MODELS)



JRNWD4123GB

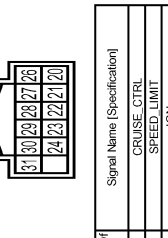
NAVIGATION SYSTEM (LHD MODELS)

Connector No.	M33
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TH12FW-NH



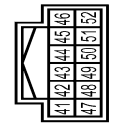
Terminal No.	Color Of Wire	Signal Name [Specification]
20	P	CRUISE_CTRL
21	V	SPEED_LIMIT
22	G	IGN
23	L	-
24	GR	-
26	BG	-
27	LA/R	-
28	LA/BR	-
29	Y	-
30	B	-
31	R	-

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



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GROUND
7	BG	SECURITY SIGNAL
9	GR	ECO MODE SWITCH SIGNAL
15	L	AMBIENT SENSOR SIGNAL
17	BG	METER CONTROL SWITCH GROUND
18	SB	TRIP RESET SWITCH SIGNAL
20	Y	AMBIENT SENSOR GROUND
21	L	STEERING SWITCH GROUND
22	Y	STEERING SWITCH SIGNAL A
23	GR	STEERING SWITCH SIGNAL B
25	V	BRAKE FLUID LEVEL SWITCH SIGNAL
28	Y	SEAT BELT BUCKLE SWITCH SIGNAL (DRIVER SIDE)
30	LG	MANUAL MODE SIGNAL
31	SB	NON-MANUAL MODE SIGNAL
32	BG	MANUAL MODE SHIFT UP SIGNAL
33	BR	MANUAL MODE SHIFT DOWN SIGNAL
36	GR	ILLUMINATION CONTROL SWITCH SIGNAL (+)
37	V	ILLUMINATION CONTROL SWITCH SIGNAL (-)
38	G	VEHICLE SPEED SIGNAL (8-PULSE)
39	W	VEHICLE SPEED SIGNAL (2-PULSE)

Connector No.	M42
Connector Name	COMBINATION METER
Connector Type	TH12FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
41	L	CAN-H
42	P	CAN-L
43	W	ILLUMINATION CONTROL SIGNAL
44	LA/B	FUEL LEVEL SENSOR GROUND
45	LA/G	BATTERY POWER SUPPLY
46	LA/BR	IGNITION SIGNAL [Without ISS]
46	V	IGNITION SIGNAL [With ISS]
47	SB	AV COMMUNICATION SIGNAL (H)
48	LG	AV COMMUNICATION SIGNAL (L)
49	Y	OIL LEVEL SENSOR SIGNAL
50	BG	OIL LEVEL SENSOR GROUND
51	LA/L	FUEL LEVEL SENSOR SIGNAL
52	B	GROUND

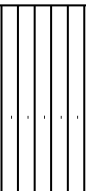
Connector No.	M55
Connector Name	USB CONNECTOR AND AUX JACK
Connector Type	TH04FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	AUDIO_L
3	Y	AUDIO_GND
4	G	AUDIO_R

Connector No.	M60
Connector Name	WIRE TO WIRE
Connector Type	TH24FW-NH

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

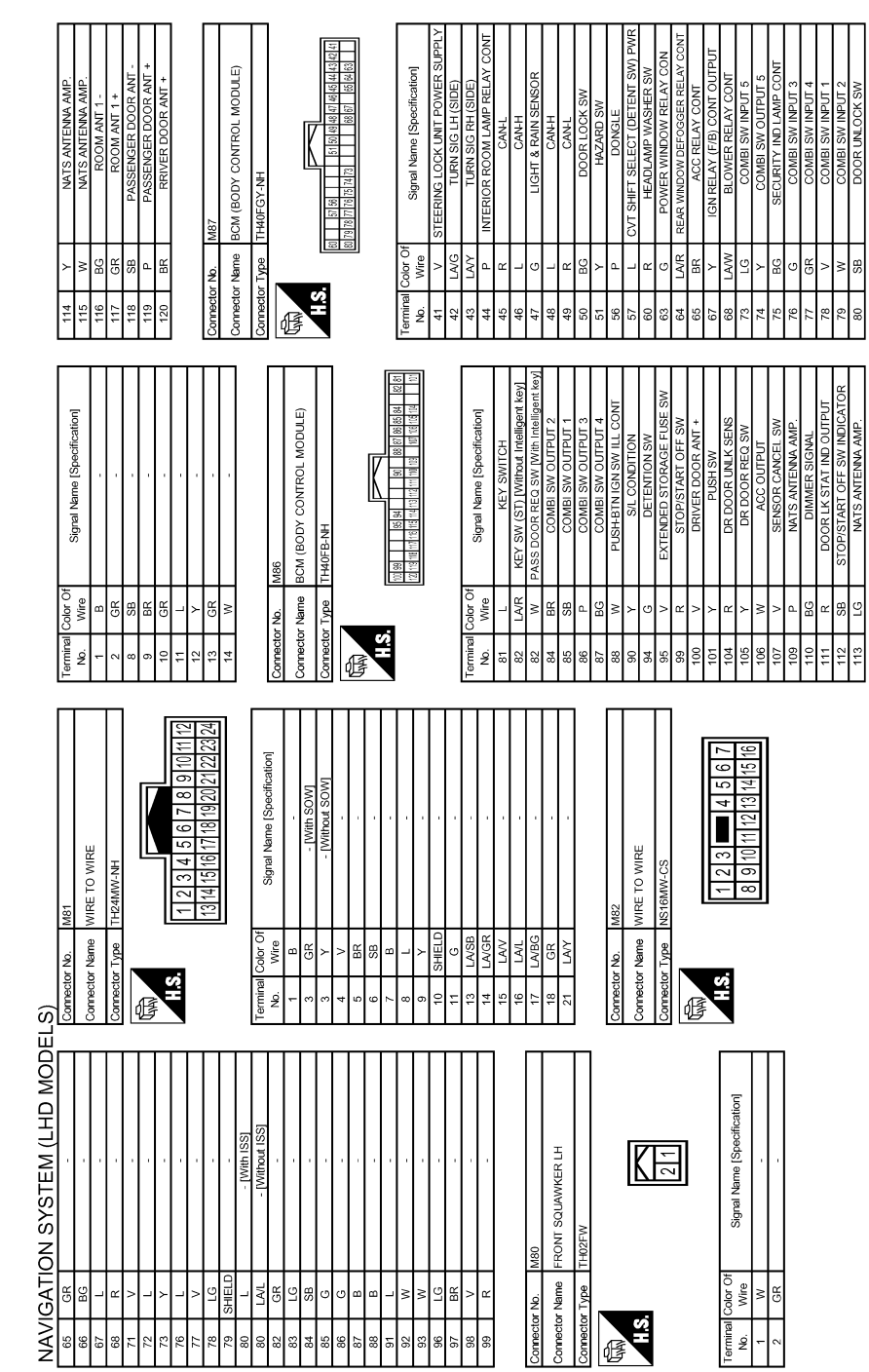
Connector No.	M77
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
2	LA/R	-
5	V	- [Without ISS]
5	W	- [With ISS]
8	G	-
9	Y	-
10	R	-
20	W	-
21	B	-
22	SHIELD	-
31	V	-
32	GR	-
33	G	-
34	LG	-
35	BG	-
36	LG	-
37	V	-
38	G	-
39	BR	-
40	L	-
41	P	-
47	Y	-
48	BG	-
51	GR	-
52	SB	-
53	R	-
54	LA/L	-
55	BR	-
56	P	-
57	B	-
58	L	-
59	W	-
60	LA/R	-
61	P	-
62	V	-
63	LA/BR	-
64	Y	-

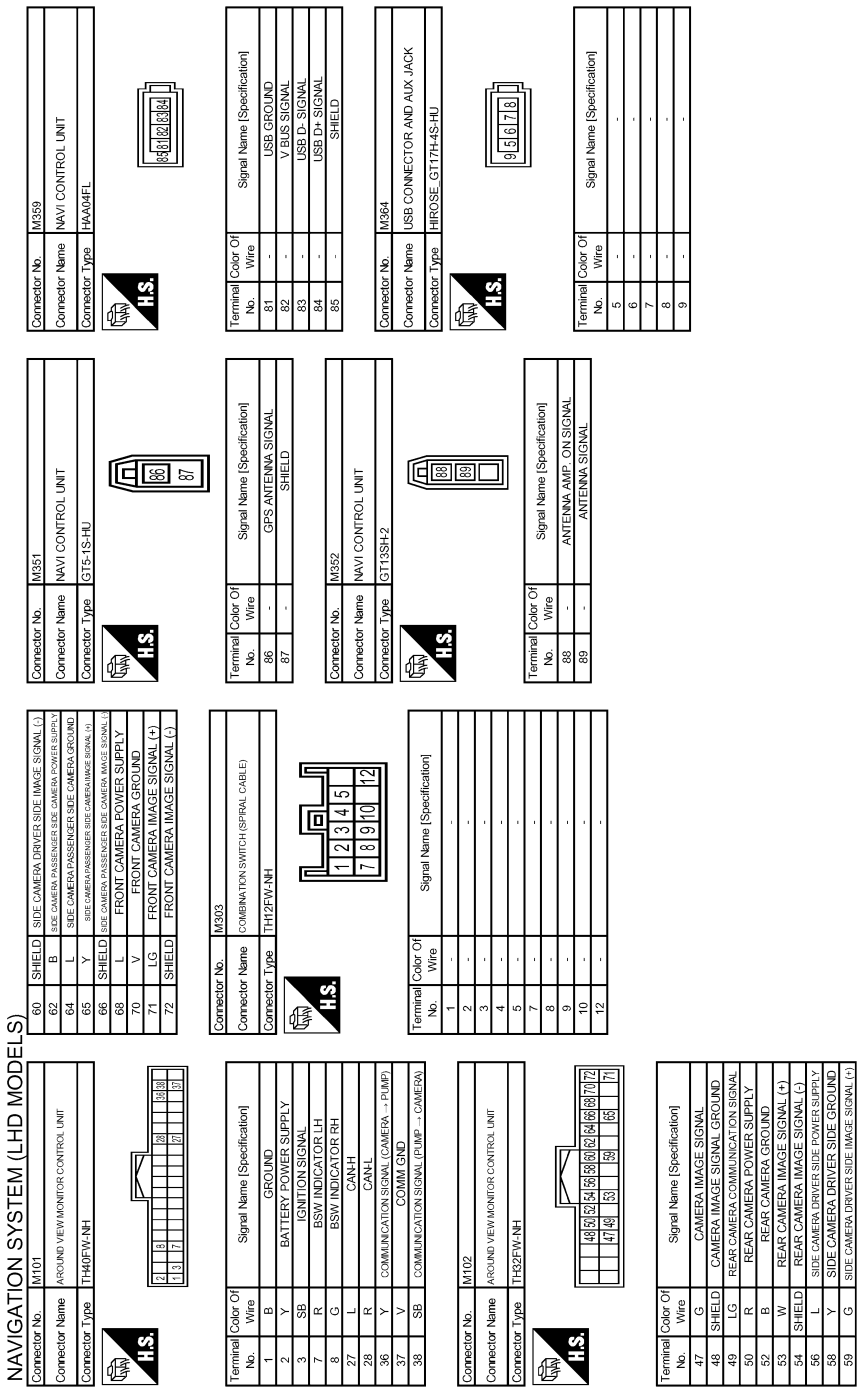
JRNWD4124GB

NAVIGATION SYSTEM (LHD MODELS)

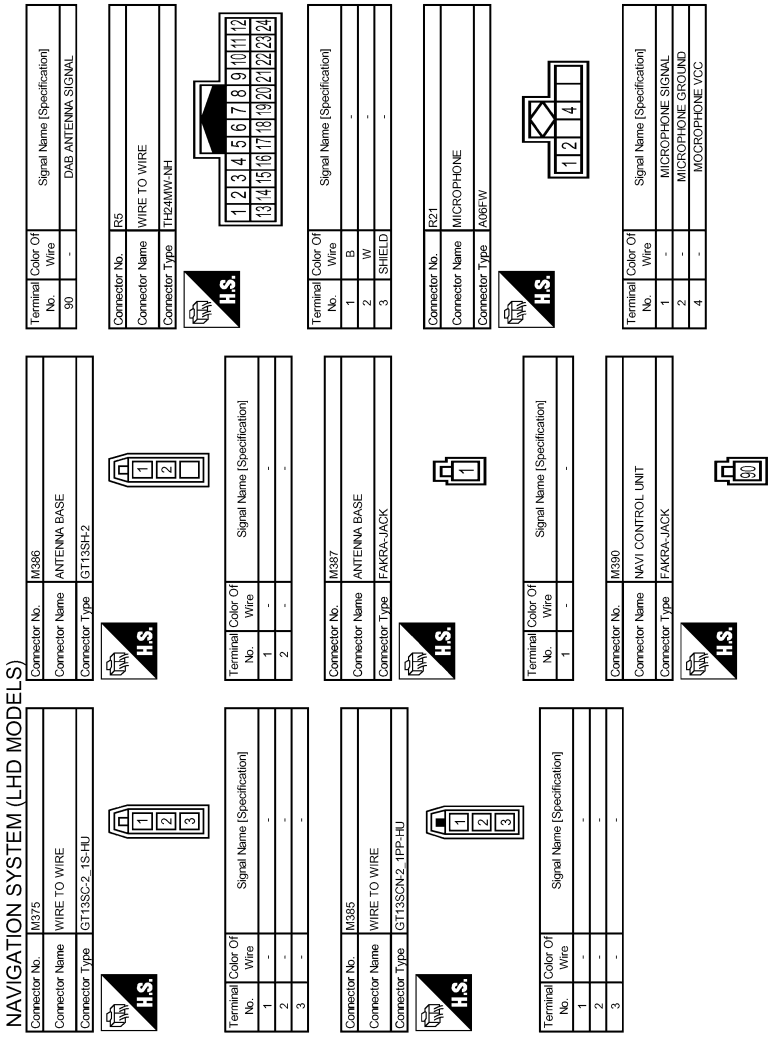


JRNWD4125GB

NAVIGATION SYSTEM (LHD MODELS)



JRNWD4126GB

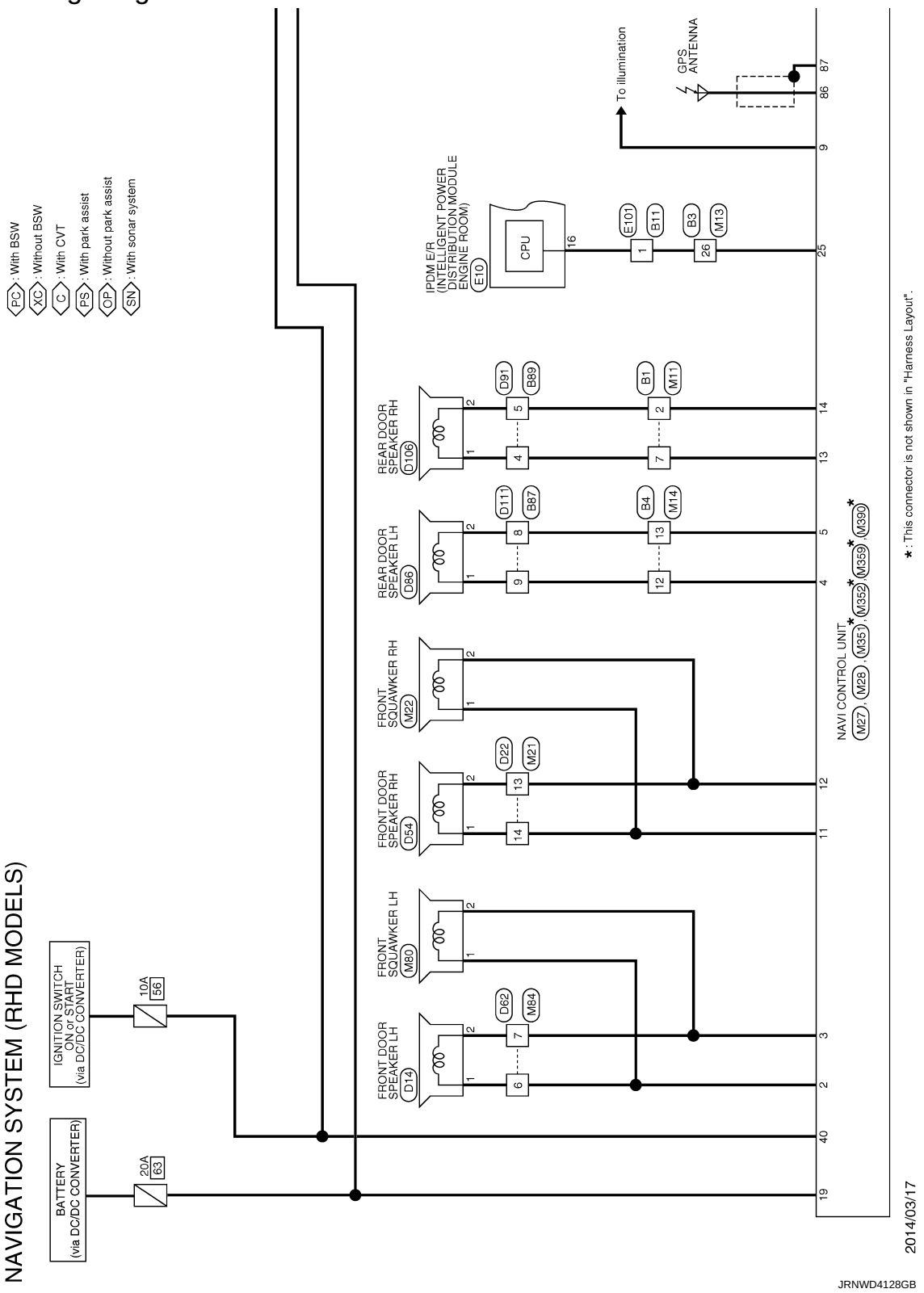


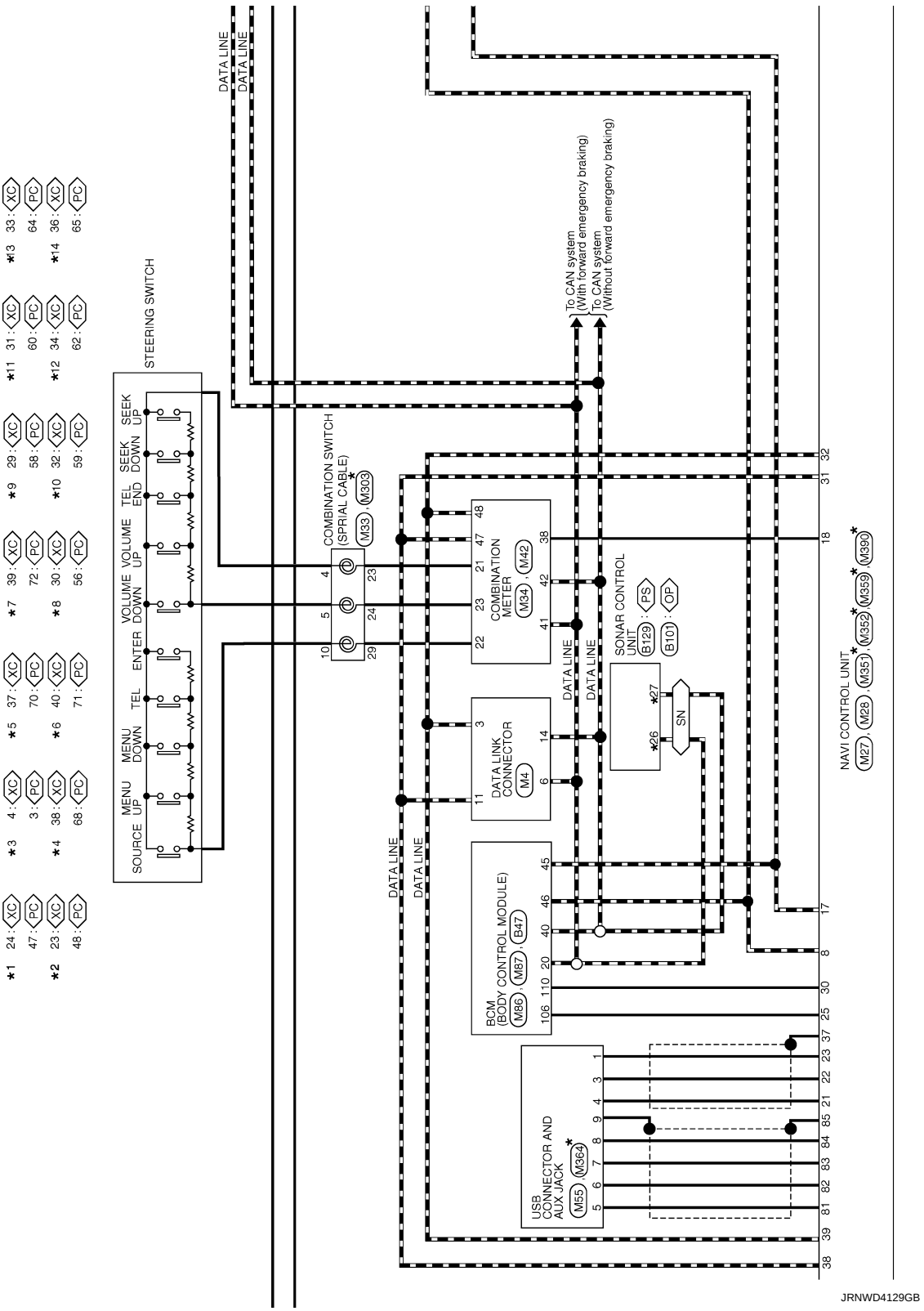
JRNWD4127GB

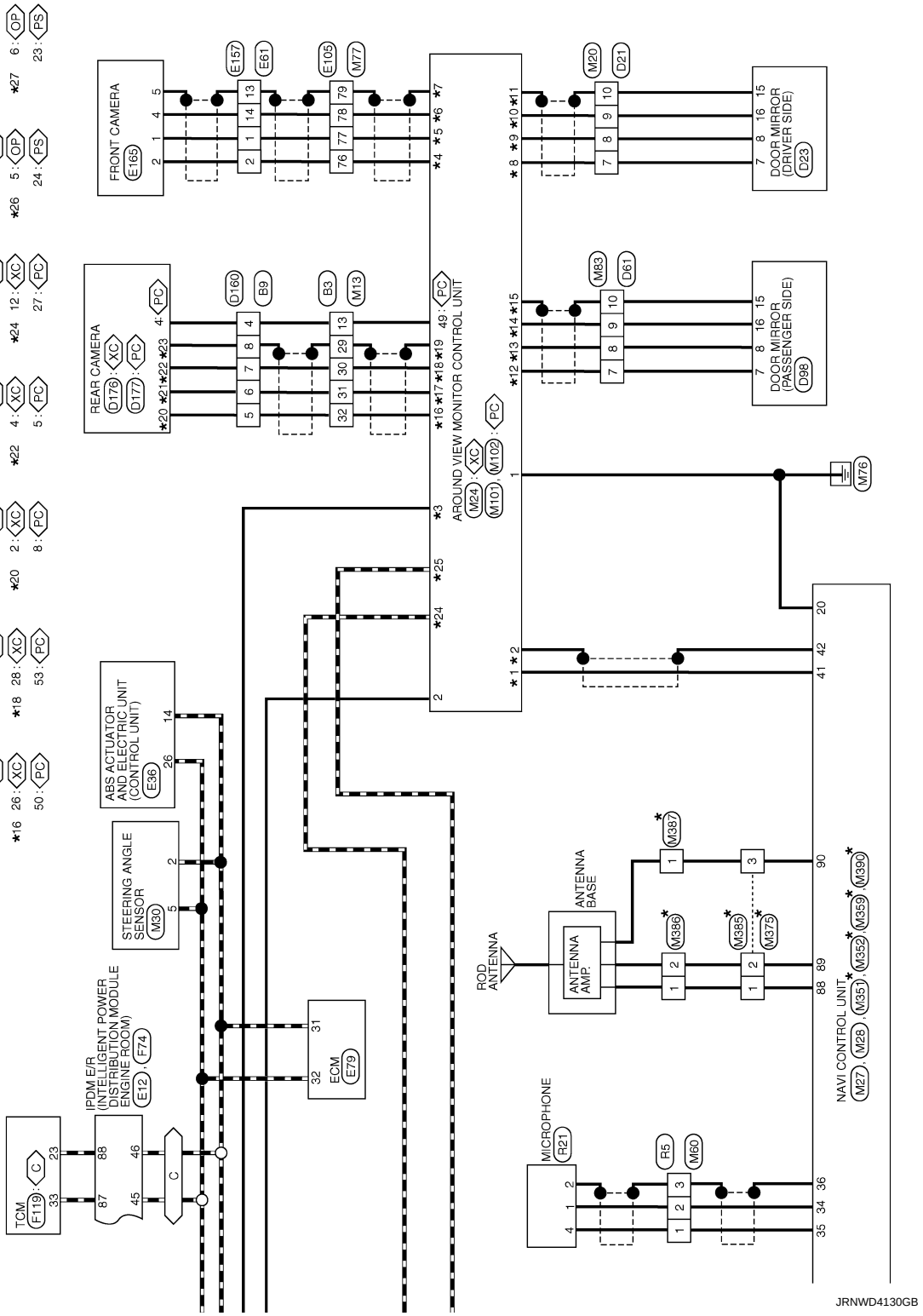
RHD

RHD : Wiring Diagram

INFOID:0000000011045532

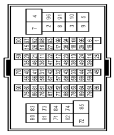



STEERING SWITCH
SOURCE
MENU UP
MENU DOWN
TEL
ENTER
VOLUME DOWN
VOLUME UP
TEL END
SEEK DOWN
SEEK UP
COMBINATION SWITCH (SPIRAL CABLE)
DATA LINE
To CAN system (With forward emergency braking)
To CAN system (Without forward emergency braking)
COMBINATION METER
DATA LINK CONNECTOR
SONAR CONTROL UNIT
BCM (BODY CONTROL MODULE)
USB CONNECTOR AND AUX JACK
NAVI CONTROL UNIT
JRNWD4129GB


FRONT CAMERA
E165
REAR CAMERA
D178
D177
AROUND VIEW MONITOR CONTROL UNIT
M24
M101
M102
ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)
E36
STEERING ANGLE SENSOR
M30
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E12
F74
TCM
F119
ECM
E79
ROD ANTENNA
ANTENNA AMP.
ANTENNA BASE
MICROPHONE
R21
NAVI CONTROL UNIT
M27
M28
M351
M352
M359
M390
DOOR MIRROR (DRIVER SIDE)
D23
DOOR MIRROR (PASSENGER SIDE)
D98
M76
JRNWD4130GB

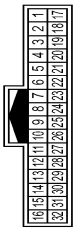
NAVIGATION SYSTEM (RHD MODELS)

Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4



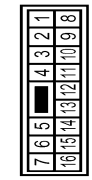
Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
2	LA/Y	-
6	V	-
7	LA/V	-
20	L	- [With diesel engine]
20	LA/L	- [With gasoline engine]
21	B	- [With diesel engine]
21	LA/B	- [With gasoline engine]
24	G	-
25	BR	-
73	LA/Y	-
74	R	-
75	R	-
84	L	-
85	L	-
92	LA/R	-
93	LA/L	-
95	LA/BR	-
97	L	-
98	Y	-
99	LA/P	-
100	GR	- [With diesel engine]
100	LA/GR	- [With gasoline engine]

Connector No.	B3
Connector Name	WIRE TO WIRE
Connector Type	TH32MW-NH



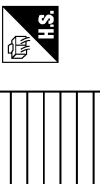
Terminal No.	Color Of Wire	Signal Name [Specification]
1	SB	-
2	V	-
3	LA/R	-
4	V	-
5	GR	-
6	Y	-
7	LG	-
8	BG	-
9	W	-
10	LA/Y	-
11	BR	-
12	Y	-
13	W	-
14	V	-
15	L	-
16	BR	-
17	Y	-
18	LA/L	- [Without PSM]
18	SB	- [With PSM]
20	LG	-
21	G	-
22	V	-
23	BR	-
24	P	-
25	L	-
26	G	-
29	SHIELD	-
30	W	-
31	B	-
32	R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

Connector No.	B4
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
4	LA/G	-
5	W	-
6	G	-
7	R	-
8	LA/G	-
9	P	-
10	R	-
11	LA/V	-
12	LA/L	-
13	LA/R	-
14	LA/BG	-
15	LA/BR	-
16	R	-

Connector No.	B9
Connector Name	WIRE TO WIRE
Connector Type	TH32MW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
4	W	-
5	R	-
6	B	-
7	W	-
8	SHIELD	-
13	W	-

14	V	-
15	BR	-
16	SB	-
17	LA/W	-
18	LA/BR	-
19	LG	-
20	LA/G	-
21	LA/G	-
22	LA/R	-
23	LA/R	-
24	R	-
29	Y	-
30	G	-
31	GR	-
32	LG	-

Connector No.	B11
Connector Name	WIRE TO WIRE
Connector Type	TH80MDGY-CS16-TM4

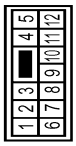
Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	-
2	LA/BR	-
5	BG	-
11	BR	-
12	W	-
13	P	-
14	SB	-
15	V	-
16	P	-
17	P	-
18	G	-
19	P	-
20	R	-
21	BR	-
22	Y	-
23	BG	-
24	SB	-
25	G	-

JRNWD4131GB

NAVIGATION SYSTEM (RHD MODELS)

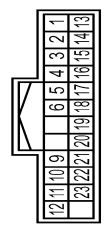
26	B
27	P
28	R
29	LG
30	P
92	BR
93	GR
94	Y
95	LG
97	LG

Connector No.	B87
Connector Name	WIRE TO WIRE
Connector Type	NS12MW-CS



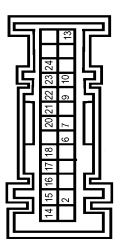
Terminal No.	Color Of Wire	Signal Name [Specification]
1	P	-
2	R	-
3	LA/V	-
6	W	-
7	L	-
8	LA/R	-
9	LA/L	-
12	G	-

Connector No.	B101
Connector Name	SONAR CONTROL UNIT
Connector Type	TH24FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	CENTER SENSOR SIGNAL FRONT RH
2	G	CENTER SENSOR SIGNAL FRONT LH
3	W	CORNER SENSOR SIGNAL FRONT LH
4	V	CORNER SENSOR SIGNAL FRONT RH
5	L	CAN-H
6	P	CAN-L
9	V	CENTER SENSOR SIGNAL REAR RH
10	LG	CORNER SENSOR SIGNAL REAR RH
11	SB	FRONT SENSOR POWER SUPPLY
12	BR	IGNITION POWER SUPPLY
13	P	FRONT SENSOR GROUND
14	P	REAR SENSOR GROUND
15	B	GROUND
16	V	SONAR SYSTEM OFF SWITCH SIGNAL
17	SB	SONAR SYSTEM OFF SWITCH INDICATOR SIGNAL
18	LA/L	FRONT BUZZER DRIVE SIGNAL
19	Y	BUZZER POWER SUPPLY
20	LA/G	REAR BUZZER DRIVE SIGNAL
21	G	CENTER SENSOR SIGNAL REAR LH
22	R	CORNER SENSOR SIGNAL REAR LH
23	SB	REAR SENSOR POWER SUPPLY

Connector No.	B129
Connector Name	SONAR CONTROL UNIT
Connector Type	Renault_8200176157



Terminal No.	Color Of Wire	Signal Name [Specification]
2	Y	FRONT BUZZER POWER SUPPLY
6	R	CORNER SENSOR SIGNAL REAR LH
7	V	CENTER SENSOR SIGNAL REAR RH
9	G	REAR BUZZER DRIVE SIGNAL
10	SB	FRONT BUZZER DRIVE SIGNAL
13	B	GROUND
14	BR	IGNITION POWER SUPPLY
15	Y	REAR BUZZER POWER SUPPLY
16	V	SONAR SYSTEM OFF SWITCH SIGNAL
17	SB	SONAR SYSTEM OFF SWITCH INDICATOR SIGNAL
18	SB	REAR SENSOR POWER SUPPLY
20	G	CENTER SENSOR SIGNAL REAR LH
21	LG	CORNER SENSOR SIGNAL REAR RH
22	P	REAR SENSOR GROUND
23	P	CAN-L
24	L	CAN-H

Connector No.	B47
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FG-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
6	R	BACK DOOR OPENER REQUEST SW
9	G	HANDS FREE SENSOR
10	W	REAR RH DOOR SW
11	LG	BACK DOOR SW
12	R	REAR LH DOOR SW
13	SB	PASSENGER DOOR SW
15	LA/G	REAR WIPER AUTO STOP
16	Y	BACK DOOR OPENER SW
17	SB	DRIVER DOOR SW
20	L	CAN-H
21	BR	BUMPER ANTENNA(-)
22	Y	REAR ANTENNA(-)
23	L	REAR ANTENNA(+)
24	G	BUMPER ANTENNA(+)
38	V	SIREN
39	LA/W	HIGH-MOUNTED STOP LAMP
40	P	CAN-L

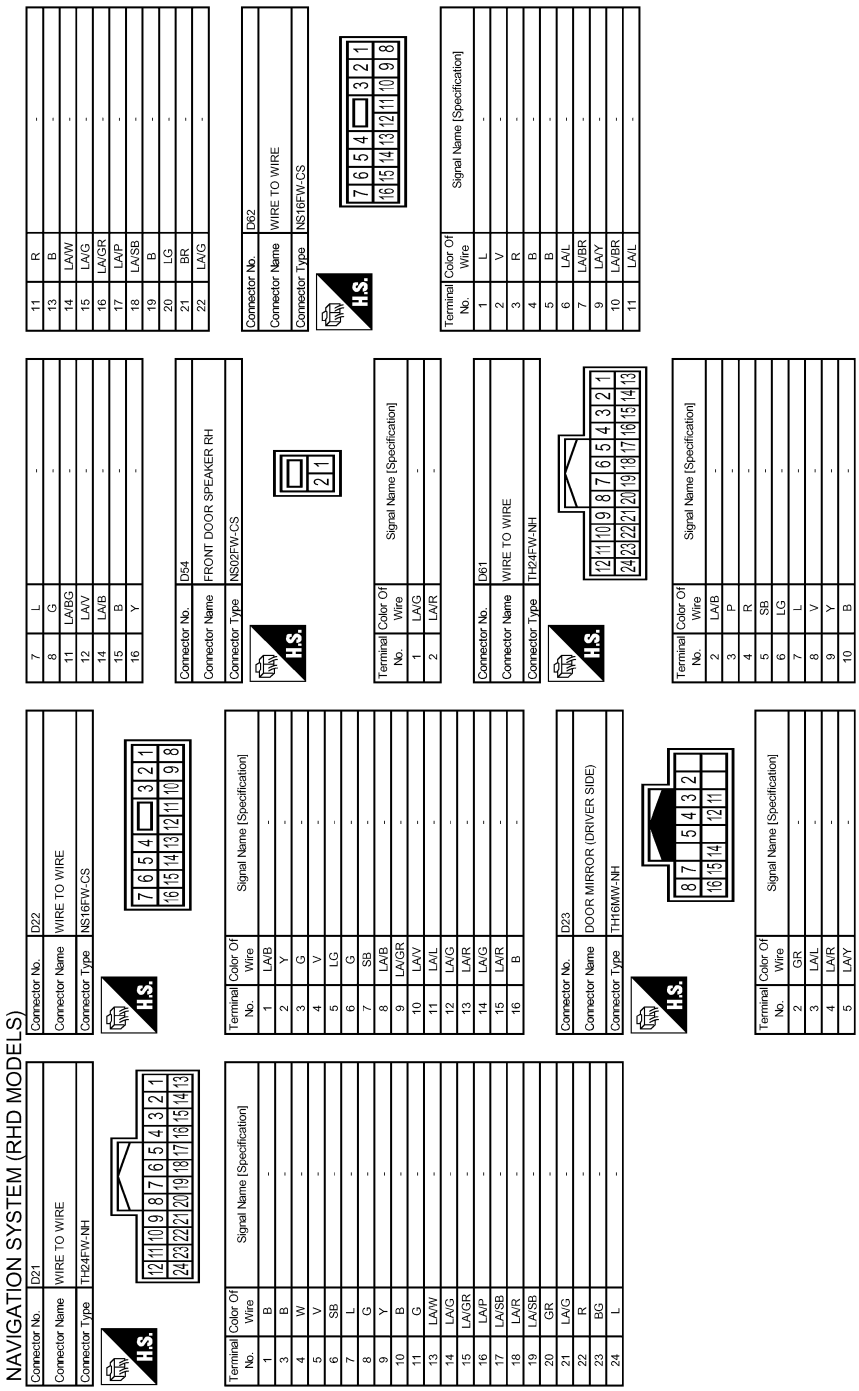
Connector No.	B89
Connector Name	WIRE TO WIRE
Connector Type	NS12MW-CS

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

Connector No.	D14
Connector Name	FRONT DOOR SPEAKER LH
Connector Type	NS02FW-CS

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LA/L	-
2	LA/BR	-

NAVIGATION SYSTEM (RHD MODELS)



JRNWD4133GB

NAVIGATION SYSTEM (RHD MODELS)

Connector No.	D86
Connector Name	REAR DOOR SPEAKER LH
Connector Type	NS02FW-CS

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

Connector No.	D91
Connector Name	WIRE TO WIRE
Connector Type	NS12FW-CS

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LA/Y	-
2	LA/BR	-
3	LA/GR	-
4	LA/V	-
5	LA/Y	-
6	LA/W	- [For LHD models]
6	W	- [For RHD models]
7	LA/L	- [For LHD models]
7	SB	- [For RHD models]
8	P	-

Connector No.	D98
Connector Name	DOOR MIRROR (PASSENGER SIDE)
Connector Type	TH16MW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
2	LG	-
3	LA/P	-
4	LA/G	-
5	LA/W	-
7	L	-
8	V	-
11	LA/SB	-
12	LA/GR	-
14	LA/B	-
15	B	-
16	Y	-

Connector No.	D106
Connector Name	REAR DOOR SPEAKER RH
Connector Type	NS02FW-CS

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LA/V	-
2	LA/Y	-

Connector No.	D111
Connector Name	WIRE TO WIRE
Connector Type	NS12FW-CS

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LA/Y	-
2	LA/BR	-
3	LA/GR	-
6	LA/V	- [For LHD models]
6	V	- [For RHD models]
7	LA/G	- [For LHD models]
7	LG	- [For RHD models]
8	LA/R	-
9	LA/L	-
12	W	-

Connector No.	D160
Connector Name	WIRE TO WIRE
Connector Type	TH32FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
4	W	-
5	W	-
6	W	-
7	W	-
8	W	-
13	W	-
14	W	-
15	W	-
16	W	-
17	W	-
18	W	-
19	W	-
20	W	-
21	W	-
22	W	-
23	W	-
24	W	-
29	W	-
30	W	-
31	W	-
32	W	-

Connector No.	D176
Connector Name	REAR CAMERA
Connector Type	RH06FB-1V

Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	GND
2	W	IGN
4	W	VIDEO+
5	W	V-CAN1_L

Connector No.	D177
Connector Name	REAR CAMERA
Connector Type	TH08MW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	COMP-
4	W	SERIAL-SIGNAL
5	W	VIDEO+

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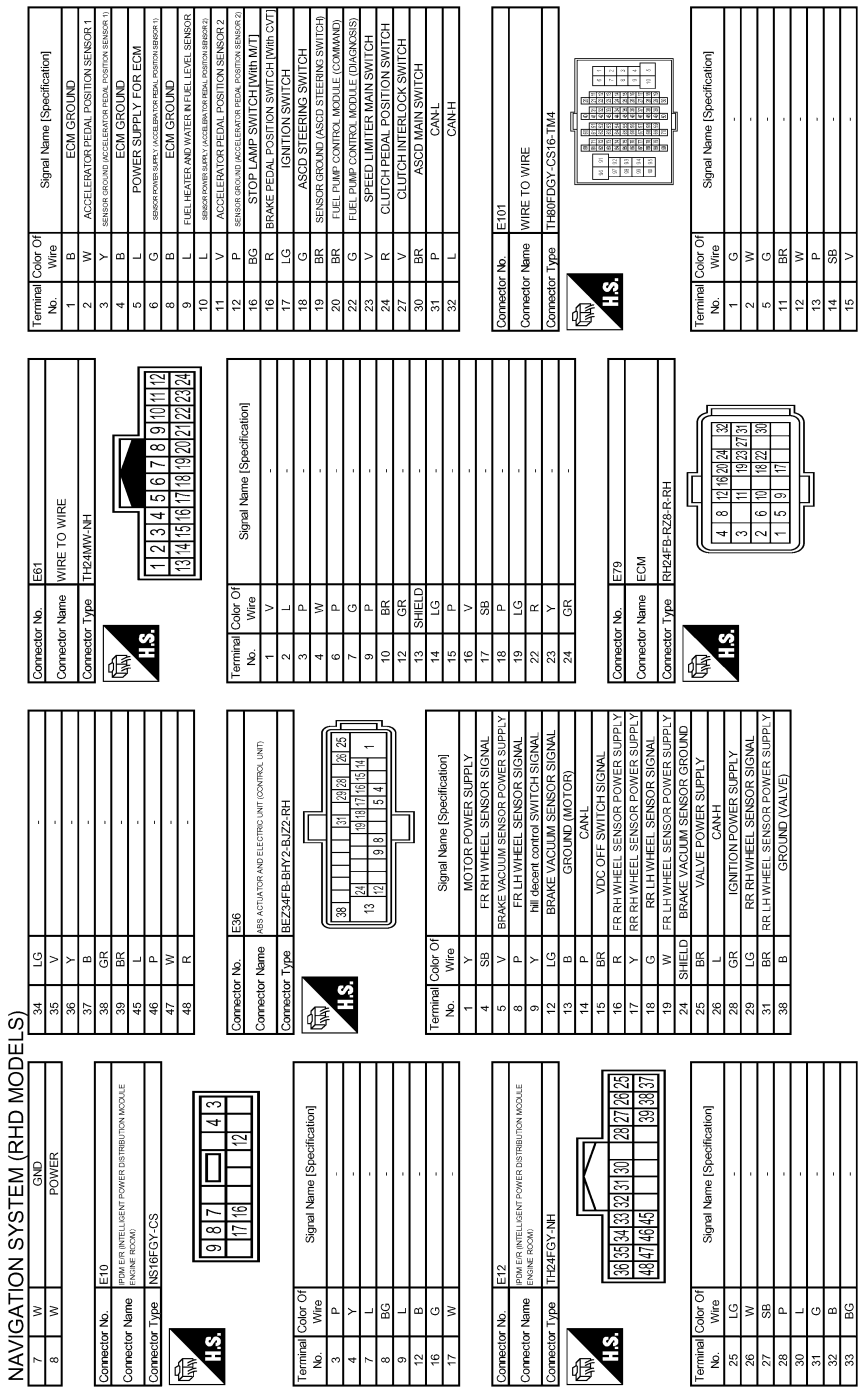


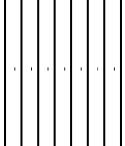
JRNWD4135GB

NAVIGATION SYSTEM (RHD MODELS)

16	P	-
17	P	-
18	G	-
19	P	-
20	G	-
21	BR	-
22	LG	-
23	Y	-
24	SB	-
25	G	-
26	B	-
27	P	-
28	R	-
29	LG	-
30	P	-
92	BR	-
93	GR	-
94	R	-
95	L	-
97	LG	-

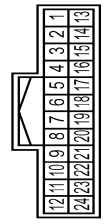
36	LG	-
37	V	-
38	G	-
39	BR	-
40	L	-
41	P	-
47	GR	-
48	SB	-
51	P	-
52	L	-
53	W	-
54	Y	-
55	BR	-
56	P	-
57	B	-
58	L	-
59	W	-
60	G	-
61	BR	-
62	V	-
63	BR	-
64	GR	-
65	LG	-
66	BG	-
67	L	-
68	R	-
71	V	-
72	L	-
73	R	-
76	L	-
77	V	-
78	LG	-
79	SHIELD	-
80	GR	-
82	Y	-
83	SB	-
84	L	-
85	G	-
86	Y	-
87	B	-
88	B	-
91	R	-
92	BR	-
93	W	-
96	GR	-
97	R	-
98	V	-
99	Y	-

Connector No.	E105
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
2	W	-
5	V	- [Without ISS]
5	W	- [With ISS]
8	L	-
9	LG	-
10	W	-
20	W	-
21	B	-
22	SHIELD	-
31	Y	-
32	W	-
33	SB	-
34	LG	-
35	BG	-

Connector No.	E157
Connector Name	WIRE TO WIRE
Connector Type	TH24FW-NH

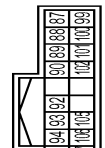


Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	-
2	L	-
3	P	-
4	W	-
6	P	-
7	G	-
9	P	-
10	BR	-
12	GR	-
13	SHIELD	-
14	LG	-
15	P	-
16	V	-
17	SB	-
18	P	-
19	LG	-
22	R	-
23	V	-
24	GR	-

Connector No.	E165
Connector Name	FRONT CAMERA
Connector Type	RH06FB-1V

Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	-
2	L	-
4	LG	-
5	SHIELD	-

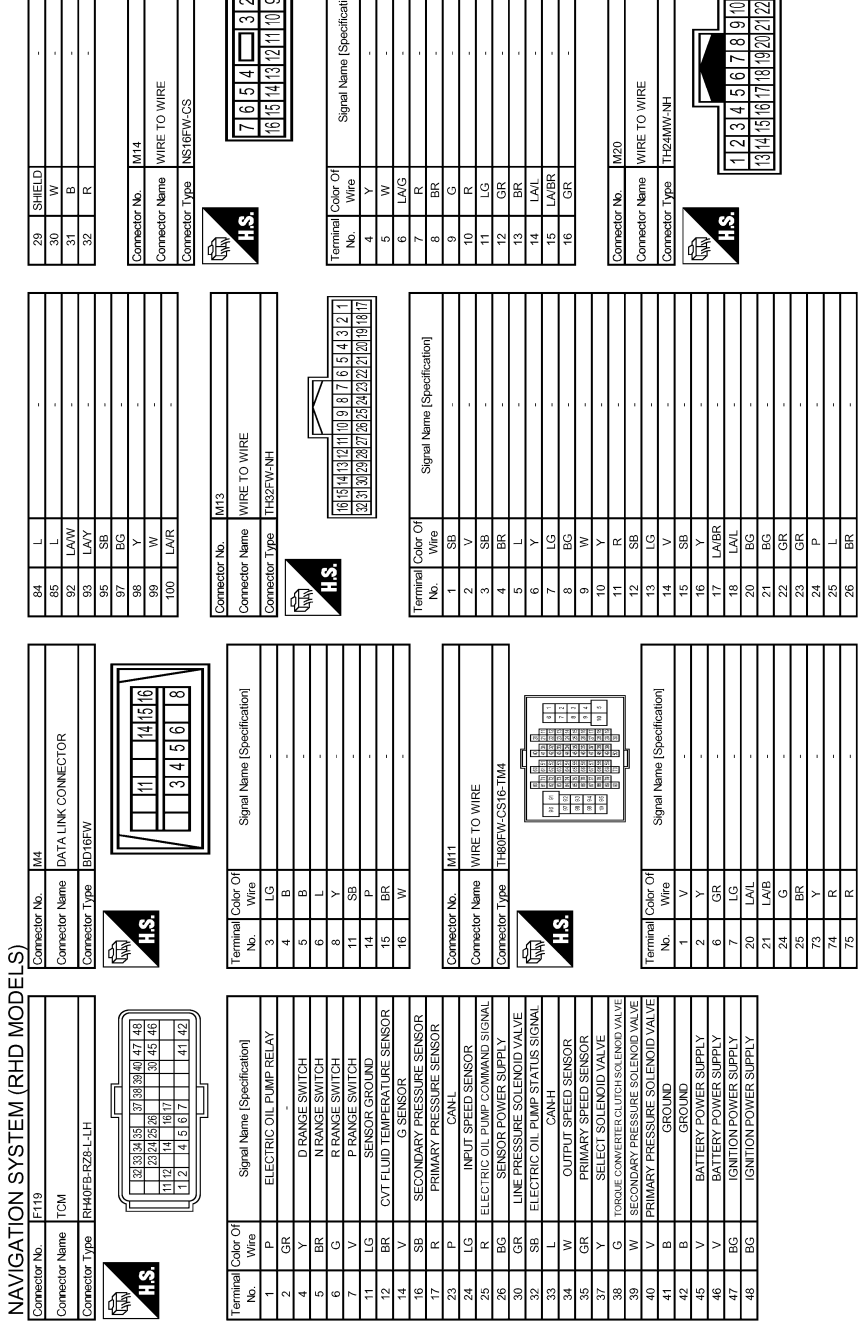
Connector No.	F74
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	TH24FB-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
87	L	-
88	P	-
89	W	-
90	R	-
92	GR	-
93	G	- [With R9M Engine]
93	P	- [With MR20 or QR25 Engine]
94	SB	-
95	LG	-
96	W	-
97	P	-
98	Y	-
99	BG	-
100	LG	-
101	V	-
102	Y	-
105	W	-
106	BR	-
107	V	-
110	SB	-

JRNWD4136GB

NAVIGATION SYSTEM (RHD MODELS)



JRNWD4137GB

NAVIGATION SYSTEM (RHD MODELS)

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

Connector No. M21
Connector Name WIRE TO WIRE
Connector Type NS16MW-CS

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GROUND
2	Y	BATTERY POWER SUPPLY
4	SB	IGNITION SIGNAL
10	R	CAN-L
12	L	CAN-H
23	SHIELD	CAMERA IMAGE SIGNAL GROUND
24	G	CAMERA IMAGE SIGNAL
25	B	REAR CAMERA GROUND
26	R	REAR CAMERA POWER SUPPLY
27	SHIELD	REAR CAMERA IMAGE SIGNAL (-)

Connector No. M24
Connector Name AROUND VIEW MONITOR CONTROL UNIT
Connector Type TH40FW-NH

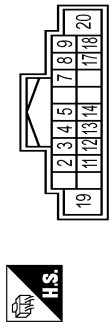
Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	-
2	R	-

Connector No. M22
Connector Name FRONT SQUAWKER RH
Connector Type TH02FW

Terminal No.	Color Of Wire	Signal Name [Specification]
11	Y	-
12	BG	-
13	GR	-
14	W	-
15	P	-
16	B	-

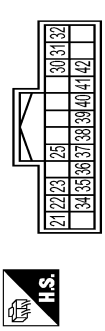
Terminal No.	Color Of Wire	Signal Name [Specification]
28	W	REAR CAMERA IMAGE SIGNAL (+)
29	Y	SIDE CAMERA DRIVER SIDE GROUND
30	L	SIDE CAMERA DRIVER SIDE POWER SUPPLY
31	SHIELD	SIDE CAMERA DRIVER SIDE IMAGE SIGNAL (-)
32	G	SIDE CAMERA DRIVER SIDE IMAGE SIGNAL (+)
33	L	SIDE CAMERA PASSENGER SIDE CAMERA GROUND
34	B	SIDE CAMERA PASSENGER SIDE CAMERA POWER SUPPLY
35	SHIELD	SIDE CAMERA PASSENGER SIDE CAMERA IMAGE SIGNAL (-)
36	Y	SIDE CAMERA PASSENGER SIDE CAMERA IMAGE SIGNAL (+)
37	V	FRONT CAMERA GROUND
38	L	FRONT CAMERA POWER SUPPLY
39	SHIELD	FRONT CAMERA IMAGE SIGNAL (-)
40	LG	FRONT CAMERA IMAGE SIGNAL (+)

Connector No. M27
Connector Name NAVI CONTROL UNIT
Connector Type NH18FW-CS2



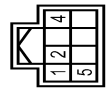
Terminal No.	Color Of Wire	Signal Name [Specification]
2	W	SOUND SIGNAL FRONT SPEAKER LH + [With 6 Speaker]
2	Y	SOUND SIGNAL FRONT SPEAKER LH + [With 4 Speaker]
3	P	SOUND SIGNAL FRONT LH - [With 6 Speaker]
3	R	SOUND SIGNAL FRONT LH - [With 4 Speaker]
4	GR	SOUND SIGNAL REAR LH +
5	BR	SOUND SIGNAL REAR LH -
7	W	AUTO ACC INPUT SIGNAL
8	L	CAN-H
9	V	ILLUMINATION SIGNAL
11	G	SOUND SIGNAL FRONT RH + [With 6 Speaker]
11	W	SOUND SIGNAL FRONT RH + [With 4 Speaker]
12	GR	SOUND SIGNAL FRONT RH - [With 4 Speaker]
12	V	SOUND SIGNAL FRONT RH - [With 6 Speaker]
13	LG	SOUND SIGNAL REAR RH +
14	Y	SOUND SIGNAL REAR RH -
17	R	CAN-L
18	G	VEHICLE SPEED SIGNAL (8 PULSE)
19	L	BATTERY POWER SUPPLY
20	B	GROUND

Connector No. M28
Connector Name NAVI CONTROL UNIT
Connector Type TH24FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
21	G	AUX AUDIO SIGNAL RH
22	Y	AUX AUDIO SIGNAL GROUND
23	L	AUX AUDIO SIGNAL LH
25	BR	REVERSE SIGNAL
30	BG	DIMMER SIGNAL
31	SB	AV COMMUNICATION SIGNAL (H)
32	LG	AV COMMUNICATION SIGNAL (L)
34	W	MICROPHONE SIGNAL
35	B	MICROPHONE VCC
36	SHIELD	MICROPHONE GROUND
37	SHIELD	SHIELD
38	SB	AV COMMUNICATION SIGNAL (H)
39	LG	AV COMMUNICATION SIGNAL (L)
40	LG	IGNITIO NSIGNAL
41	G	CAMERA IMAGE SIGNAL
42	SHIELD	CAMERA IMAGE SIGNAL GROUND

Connector No. M30
Connector Name STEERING ANGLE SENSOR
Connector Type TH08FGY-NH



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

JRNWD4138GB

NAVIGATION SYSTEM (RHD MODELS)

Connector No.	M33
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TH12FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
20	P	CRUISE_CTRL
21	V	SPEED_LIMIT
22	G	IGN
23	L	-
24	GR	-
26	BG	-
27	LA/R	-
28	LA/BR	-
29	Y	-
30	B	-
31	R	-

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

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GROUND
7	BG	SECURITY SIGNAL
9	GR	ECO MODE SWITCH SIGNAL
15	L	AMBIENT SENSOR SIGNAL
17	BG	METER CONTROL SWITCH GROUND
18	SB	TRIP RESET SWITCH SIGNAL
20	Y	AMBIENT SENSOR GROUND
21	L	STEERING SWITCH GROUND
22	Y	STEERING SWITCH SIGNAL A
23	GR	STEERING SWITCH SIGNAL B
25	V	BRAKE FLUID LEVEL SWITCH SIGNAL
28	Y	SEAT BELT BUCKLE SWITCH SIGNAL (DRIVER SIDE)
30	LG	MANUAL MODE SIGNAL
31	SB	NON-MANUAL MODE SIGNAL
32	BG	MANUAL MODE SHIFT UP SIGNAL
33	BR	MANUAL MODE SHIFT DOWN SIGNAL
36	GR	ILLUMINATION CONTROL SWITCH SIGNAL (+)
37	V	ILLUMINATION CONTROL SWITCH SIGNAL (-)
38	G	VEHICLE SPEED SIGNAL (8-PULSE)
39	W	VEHICLE SPEED SIGNAL (2-PULSE)

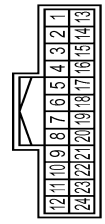
Connector No.	M42
Connector Name	COMBINATION METER
Connector Type	TH12FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
41	L	CAN-H
42	P	CAN-L
43	W	ILLUMINATION CONTROL SIGNAL
44	LA/B	FUEL LEVEL SENSOR GROUND
45	LA/G	BATTERY POWER SUPPLY
46	LA/BR	IGNITION SIGNAL [Without ISS]
46	V	IGNITION SIGNAL [With ISS]
47	SB	AV COMMUNICATION SIGNAL (H)
48	LG	AV COMMUNICATION SIGNAL (L)
49	Y	OIL LEVEL SENSOR SIGNAL
50	BG	OIL LEVEL SENSOR GROUND
51	LA/L	FUEL LEVEL SENSOR SIGNAL
52	B	GROUND

Connector No.	M55
Connector Name	USB CONNECTOR AND AUX JACK
Connector Type	TH04FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	AUDIO_L
3	Y	AUDIO_GND
4	G	AUDIO_R

Connector No.	M60
Connector Name	WIRE TO WIRE
Connector Type	TH24FW-NH



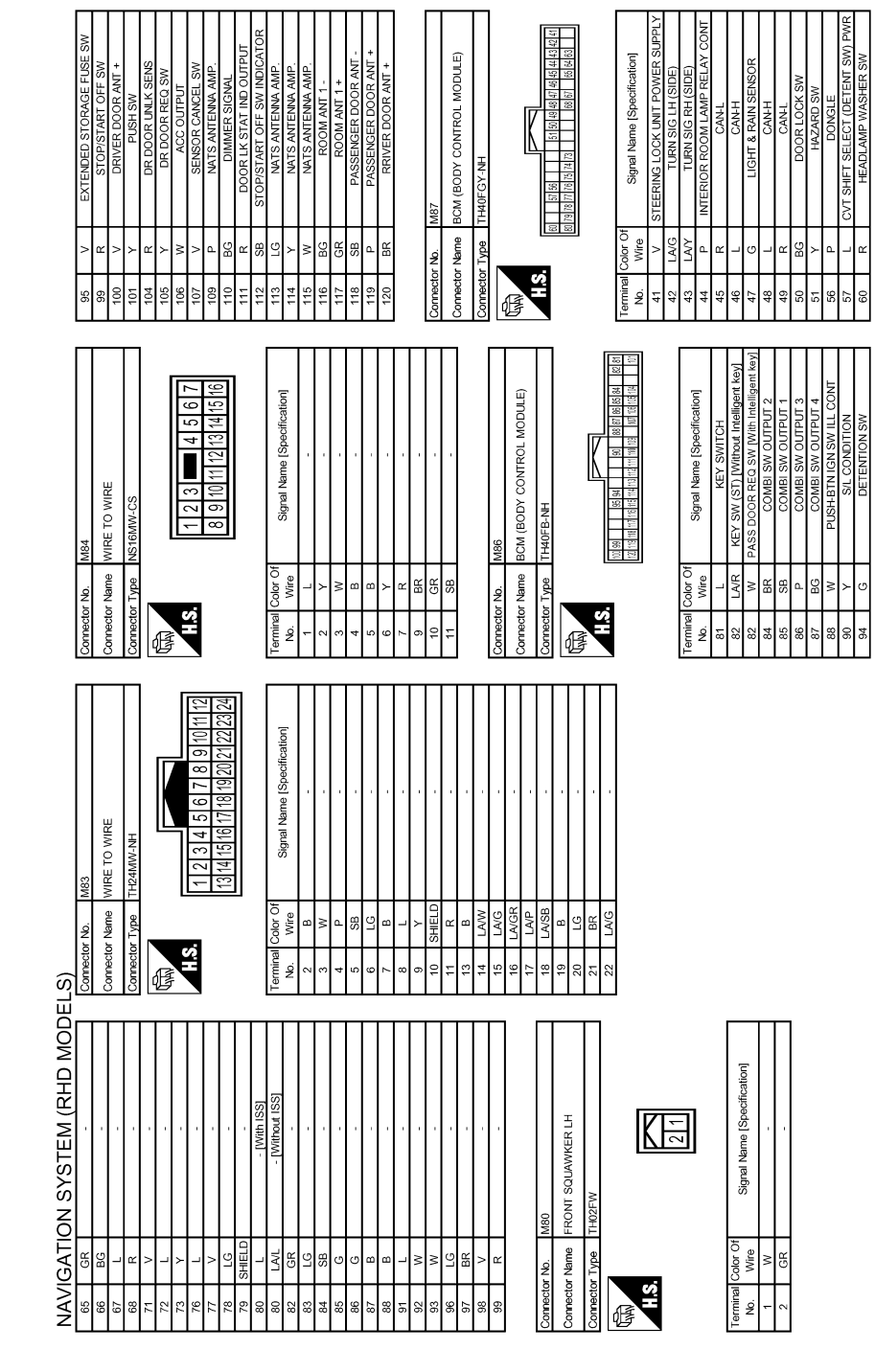
Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	W	-
3	SHIELD	-

Connector No.	M77
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4

Terminal No.	Color Of Wire	Signal Name [Specification]
2	LA/R	-
5	V	- [Without ISS]
5	W	- [With ISS]
8	G	-
9	Y	-
10	R	-
20	W	-
21	B	-
22	SHIELD	-
31	V	-
32	GR	-
33	G	-
34	LG	-
35	BG	-
36	LG	-
37	V	-
38	G	-
39	BR	-
40	L	-
41	P	-
47	Y	-
48	BG	-
51	GR	-
52	SB	-
53	R	-
54	LA/L	-
55	BR	-
56	P	-
57	B	-
58	L	-
59	W	-
60	LA/R	-
61	P	-
62	V	-
63	LA/BR	-
64	Y	-

JRNWD4139GB

NAVIGATION SYSTEM (RHD MODELS)



JRNWD4140GB

NAVIGATION SYSTEM (RHD MODELS)

63	G	POWER WINDOW RELAY CON
64	LA/R	REAR WINDOW DEFOGGER RELAY CONT
65	BR	ACC RELAY CONT
67	Y	IGN RELAY (F/B) CONT OUTPUT
68	LA/W	BLOWER RELAY CONT
73	LG	COMBI SW INPUT 5
74	Y	COMBI SW OUTPUT 5
75	BG	SECURITY IND LAMP CONT
76	G	COMBI SW INPUT 3
77	GR	COMBI SW INPUT 4
78	V	COMBI SW INPUT 1
79	W	COMBI SW INPUT 2
80	SB	DOOR UNLOCK SW

Connector No.	M101
Connector Name	AROUND VIEW MONITOR CONTROL UNIT
Connector Type	TH40FW-NH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GROUND
2	Y	BATTERY POWER SUPPLY
3	SB	IGNITION SIGNAL
7	R	BSW INDICATOR LH
8	G	BSW INDICATOR RH
27	L	CAN-H
28	R	CAN-L
36	Y	COMMUNICATION SIGNAL (CAMERA → PUMP)
37	V	COMM GND
38	SB	COMMUNICATION SIGNAL (PUMP → CAMERA)

Connector No.	M102
Connector Name	AROUND VIEW MONITOR CONTROL UNIT
Connector Type	TH32FW-NH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
47	G	CAMERA IMAGE SIGNAL
48	SHIELD	CAMERA IMAGE SIGNAL GROUND
49	LG	REAR CAMERA COMMUNICATION SIGNAL
50	R	REAR CAMERA POWER SUPPLY
52	B	REAR CAMERA GROUND
53	W	REAR CAMERA IMAGE SIGNAL (+)
54	SHIELD	REAR CAMERA IMAGE SIGNAL (-)
56	L	SIDE CAMERA DRIVER SIDE POWER SUPPLY
58	Y	SIDE CAMERA DRIVER SIDE GROUND
59	G	SIDE CAMERA DRIVER SIDE IMAGE SIGNAL (+)
60	SHIELD	SIDE CAMERA DRIVER SIDE IMAGE SIGNAL (-)
62	B	SIDE CAMERA PASSENGER SIDE CAMERA POWER SUPPLY
64	L	SIDE CAMERA PASSENGER SIDE CAMERA GROUND
65	Y	SIDE CAMERA PASSENGER SIDE CAMERA IMAGE SIGNAL (+)
66	SHIELD	SIDE CAMERA PASSENGER SIDE CAMERA IMAGE SIGNAL (-)
68	L	FRONT CAMERA POWER SUPPLY
70	V	FRONT CAMERA GROUND
71	LG	FRONT CAMERA IMAGE SIGNAL (+)
72	SHIELD	FRONT CAMERA IMAGE SIGNAL (-)

Connector No.	M303
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TH12FW-NH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
7	-	-
8	-	-
9	-	-
10	-	-
12	-	-

Connector No.	M351
Connector Name	NAVI CONTROL UNIT
Connector Type	GT5-1S-HU

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
86	-	GPS ANTENNA SIGNAL
87	-	SHIELD

Connector No.	M352
Connector Name	NAVI CONTROL UNIT
Connector Type	GT13SH-2

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
88	-	ANTENNA AMP. ON SIGNAL
89	-	ANTENNA SIGNAL

Connector No.	M359
Connector Name	NAVI CONTROL UNIT
Connector Type	HAA04FL

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
81	-	USB GROUND
82	-	V BUS SIGNAL
83	-	USB D- SIGNAL
84	-	USB D+ SIGNAL
85	-	SHIELD

Connector No.	M364
Connector Name	USB CONNECTOR AND AUX JACK
Connector Type	HIROSE_GT17H-4S-HU

H.S.

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

JRNWD4141GB

NAVIGATION SYSTEM (RHD MODELS)

Connector No.	M375
Connector Name	WIRE TO WIRE
Connector Type	GT13SC-2_1S-HU

H.S.

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

Connector No.	M385
Connector Name	WIRE TO WIRE
Connector Type	GT13SCN-2_1PP-HU

H.S.

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

Connector No.	M386
Connector Name	ANTENNA BASE
Connector Type	GT13SH-2

H.S.

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

Connector No.	M387
Connector Name	ANTENNA BASE
Connector Type	FAKRA-JACK

H.S.

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

Connector No.	M390
Connector Name	NAVI CONTROL UNIT
Connector Type	FAKRA-JACK

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
90	-	DAB ANTENNA SIGNAL

Connector No.	R5
Connector Name	WIRE TO WIRE
Connector Type	TH24MW-NH

H.S.

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

Connector No.	R21
Connector Name	MICROPHONE
Connector Type	A06FW

H.S.

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

JRNWD4142GB

BASIC INSPECTION

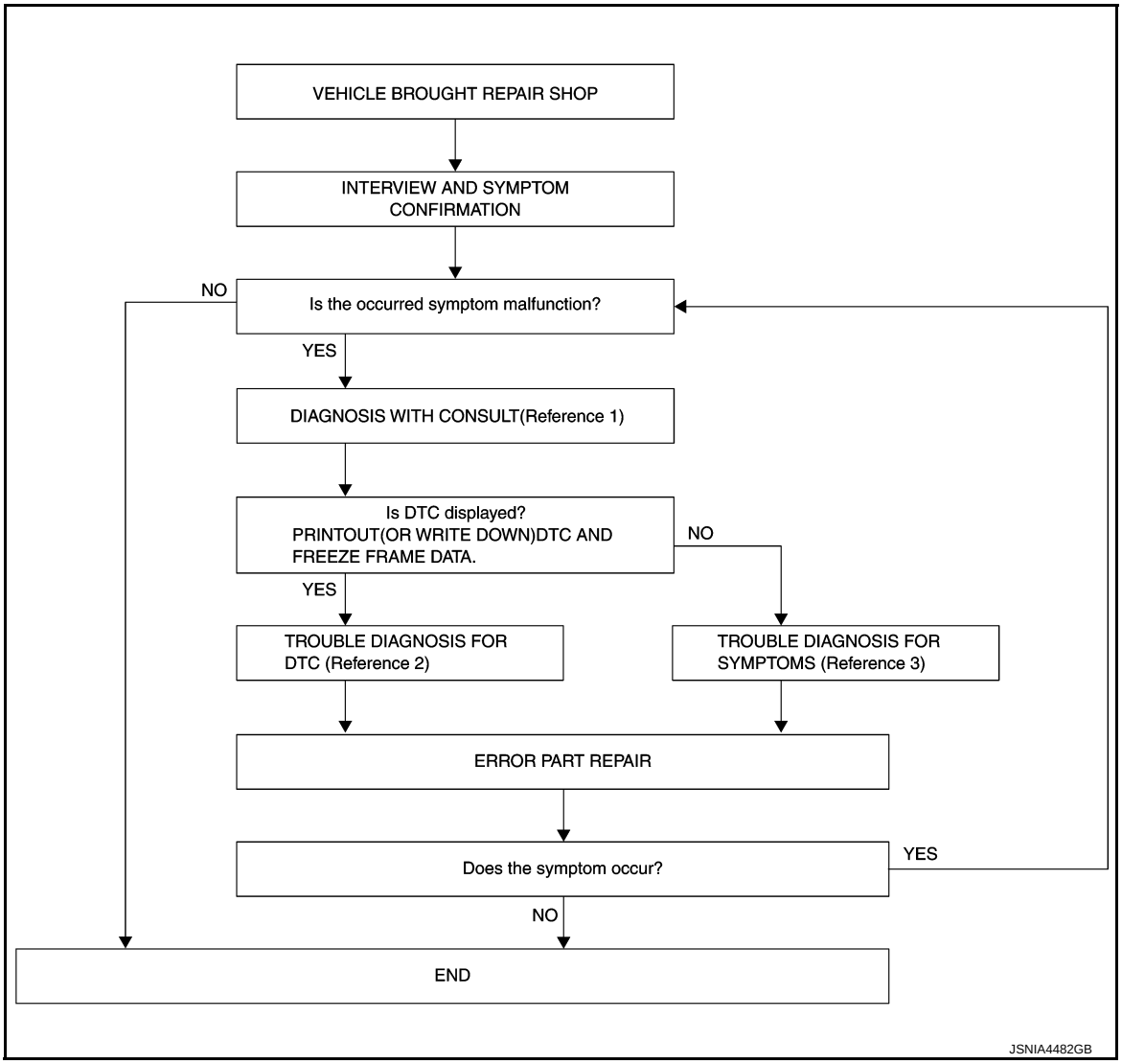
DIAGNOSIS AND REPAIR WORKFLOW

MULTI AV SYSTEM

MULTI AV SYSTEM : Work Flow

INFOID:0000000010714817

OVERALL SEQUENCE



- Reference 1··· Refer to AV-97, "CONSULT Function".
- Reference 2··· Refer to AV-110, "DTC Index".
- Reference 3··· Refer to AV-252, "Symptom Table".

DETAILED FLOW

1.INTERVIEW AND SYMPTOM CONFIRMATION

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

Is the occurred symptom malfunction?

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

2.DIAGNOSIS WITH CONSULT

1. Connect CONSULT and perform a self-diagnosis for “MULTI AV”. Refer to AV-97, "CONSULT Function".
   NOTE:
   Skip to step 4 of the diagnosis procedure if “MULTI AV” is not displayed.
2. When DTC is detected, follow the instructions below:

- Record DTC and Freeze Frame Data.

Is DTC displayed?

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

3.TROUBLE DIAGNOSIS FOR DTC

1. Check the DTC indicated in the self-diagnosis results.
2. Perform the relevant diagnosis referring to the DTC Index. Refer to AV-110, "DTC Index".

>> GO TO 5.

4.TROUBLE DIAGNOSIS FOR SYMPTOMS

Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to AV-252, "Symptom Table".

>> GO TO 5.

5.ERROR PART REPAIR

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

Does the symptom occur?

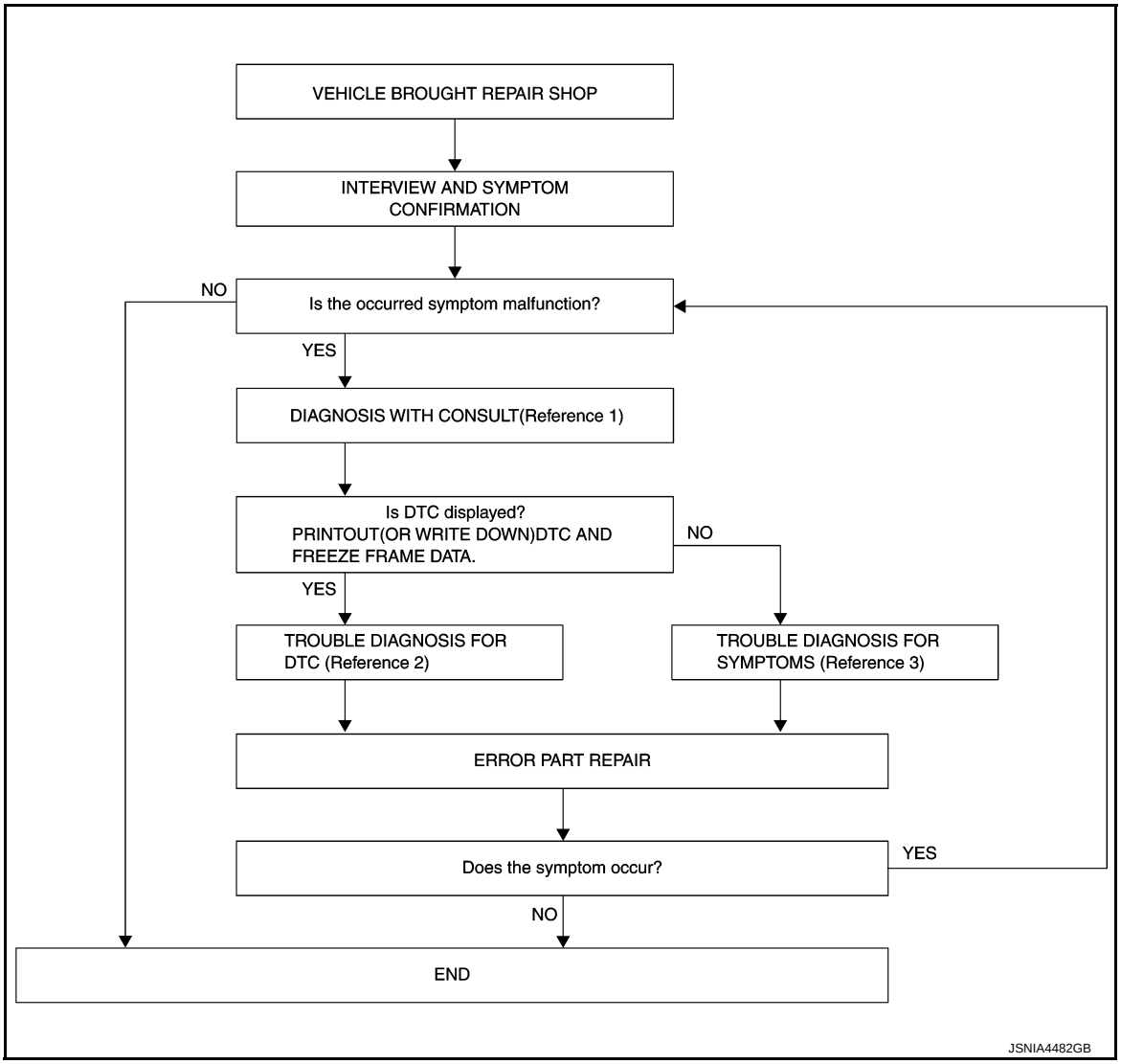
YES >> GO TO 1.
NO >> INSPECTION END

AROUND VIEW MONITOR SYSTEM

AROUND VIEW MONITOR SYSTEM : Work Flow

INFOID:0000000010714818

OVERALL SEQUENCE



- Reference 1··· Refer to AV-99, "CONSULT Function".
- Reference 2··· Refer to AV-120, "DTC Index".
- Reference 3··· Refer to AV-252, "Symptom Table".

DETAILED FLOW

1.INTERVIEW AND SYMPTOM CONFIRMATION

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

Is the occurred symptom malfunction?

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

2.DIAGNOSIS WITH CONSULT

1. Connect CONSULT and perform a self-diagnosis for “AVM”. Refer to AV-99, "CONSULT Function".
   NOTE:
   Skip to step 4 of the diagnosis procedure if “AVM” is not displayed.
2. When DTC is detected, follow the instructions below:

- Record DTC and Freeze Frame Data.

Is DTC displayed?

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

3. TROUBLE DIAGNOSIS FOR DTC

1. Check the DTC indicated in the self-diagnosis results.
2. Perform the relevant diagnosis referring to the DTC Index. Refer to AV-120, "DTC Index".

>> GO TO 5.

4. TROUBLE DIAGNOSIS FOR SYMPTOMS

Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to AV-252, "Symptom Table".

>> GO TO 5.

5. ERROR PART REPAIR

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

Does the symptom occur?

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

INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REPLACING NAVI CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING NAVI CONTROL UNIT : Description

INFOID:0000000010714819

Perform the following operations when replacing NAVI control unit.
Configuration, refer to AV-157, "CONFIGURATION (NAVI CONTROL UNIT) : Work Procedure".

CONFIGURATION (NAVI CONTROL UNIT)

CONFIGURATION (NAVI CONTROL UNIT) : Description

INFOID:0000000010714820

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

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

CONFIGURATION (NAVI CONTROL UNIT) : Work Procedure

INFOID:0000000010714821

1. SAVING VEHICLE SPECIFICATION

CONSULT Configuration
Perform “Before Replace ECU”, and save the current vehicle specification in CONSULT.
Is the vehicle specification saved normally?

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

2. REPLACE NAVI CONTROL UNIT

Replace NAVI control unit. Refer to AV-262, "Removal and Installation".

>> GO TO 3.

3. WRITING VEHICLE SPECIFICATION

CONSULT Configuration
Select “Configuration” or “After Replace ECU”, and write the vehicle specification saved in CONSULT to NAVI control unit.

>> GO TO 6.

4. REPLACE NAVI CONTROL UNIT

Replace NAVI control unit. Refer to AV-262, "Removal and Installation".

>> GO TO 5.

5. WRITE VEHICLE SPECIFICATION

CONSULT Configuration
Select “Manual Configuration”, and write the setting value as shown in the following table to NAVI control unit according to the vehicle specification.
CAUTION:
Grasp vehicle specifications precisely. The control of ECU may not function normally if the specifications are misread.

NOTE:
- The items shown in this list depend on vehicle specifications.
- The config list may not be displayed depending on vehicle specifications. This is not a malfunction.
- If selection items are not displayed on the CONSULT screen, touch “NEXT”.

MANUAL SETTING ITEM		Detail
Items	Setting value	
STEERING	LHD	LHD models
	RHD	RHD models
ENGINE TYPE	GASOLINE	Gasoline engine models
	DIESEL	Diesel engine models
TRANSMISSION	MT	M/T models
	CVT	CVT models
CAMERA SYSTEM	NONE/AVM	• Without around view monitor system • With around view monitor system without park assist
	REAR CAMERA	With rear view monitor system
	AVM+PA	With around view monitor system and park assist
SOUND SYSTEM	BASE	Without BOSE system
	BOSE	With BOSE system
ENGINE TYPE	NORMAL	Gasoline or diesel engine
	HYBRID	Hybrid
FRONT CAMERA	WITHOUT	Without front camera
	WITH	With front camera

>> GO TO 6.

6.PERFORM SELF-DIAGNOSIS

CONSULT Self Diagnostic Result
Perform self-diagnosis of CONSULT, and check whether or not DTC U12AA is detected.

Is DTC U12AA detected?

>> GO TO 5.
>> GO TO 7.

7.OPERATION CHECK

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

>> WORK END

ADDITIONAL SERVICE WHEN REPLACING AROUND VIEW MONITOR CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING AROUND VIEW MONITOR CONTROL UNIT : Description

INFOID:0000000010714822

- Always perform the around view monitor control unit configuration after replacing the around view monitor control unit.
- Always perform the around view monitor calibration after removing and installing or replacing the rear camera.
- Always perform the rear camera calibration after removing and installing or replacing the rear camera.
- Always perform the rear camera calibration after replacing the around view monitor control unit.
- Always perform the around view monitor calibration after replacing the around view monitor control unit.

CAUTION:

The system does not operate normally unless the around view monitor and rear camera calibration are performed. Always perform it.

ADDITIONAL SERVICE WHEN REPLACING AROUND VIEW MONITOR CONTROL UNIT : Work Procedure

INFOID:0000000010714823

1.AROUND VIEW MONITOR CONTROL UNIT CONFIGURATION

Perform the around view monitor control unit configuration with CONSULT. Refer to AV-159, "CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT) : Work Procedure".

>> GO TO 2.

2.AROUND VIEW MONITOR CONTROL UNIT CALIBRATION

Perform the around view monitor calibration with CONSULT. Refer to AV-161, "CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Work Procedure".

>> GO TO 3.

3.REAR CAMERA CALIBRATION

Perform the rear camera calibration with CONSULT. Refer to DAS-110, "Work Procedure (Preparation)".

>> GO TO 4.

4.PERFORM SELF-DIAGNOSIS

Perform the self-diagnosis of around view monitor control unit with CONSULT (AVM). Check if any DTC is detected.

Is any DTC detected?

YES >> Perform the trouble diagnosis for the detected DTC. Refer to AV-120, "DTC Index".
NO >> GO TO 5.

5.LDW AND BSW SYSTEM ACTION TEST

1. Perform the BSW and DAA system action test. Refer to DAS-92, "BSW : Work Procedure" (BSW) and DAS-95, "DAA : Work Procedure" (DAA).
2. Check that the BSW and DAA system operates normally.

>> WORK END

CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT)

CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT) : Work Procedure

INFOID:0000000010714824

1.SAVING VEHICLE SPECIFICATION

CONSULT Configuration
Perform “Before Replace ECU”, and save the current vehicle specification in CONSULT.

Is the vehicle specification saved normally?

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

2.REPLACE AROUND VIEW MONITOR CONTROL UNIT

Replace around view monitor control unit. Refer to AV-268, "Removal and Installation".

>> GO TO 3.

3.WRITING VEHICLE SPECIFICATION

CONSULT Configuration

Select “Configuration” or “After Replace ECU”, and write the vehicle specification saved in CONSULT to around view monitor control unit.

>> GO TO 6.

4. REPLACE AROUND VIEW MONITOR CONTROL UNIT

Replace around view monitor control unit. Refer to AV-268, "Removal and Installation".

>> GO TO 5.

5. WRITING VEHICLE SPECIFICATION

CONSULT Configuration
Select “WRITE CONFIGURATION - Manual selection” and write in the following list at a around view monitor control unit depending on a vehicle specification.

Setting item		Detail
Items	Setting value	
HANDLE	LHD	LHD models
	RHD	RHD models
TRANSMISSION	A/T	CVT models
	M/T	M/T models
LDW FUNCTION	WITHOUT	Without LDW
	WITH	With LDW
4WD/2WD	2WD	2WD models
	4WD	4WD models
DISPLAY	TYPE C	Without navigation system
	TYPE G	With navigation system
SONAR	WITHOUT	Without sonar system
	WITH	With sonar system

>> GO TO 6.

6. PERFORM SELF-DIAGNOSIS

CONSULT Self Diagnostic Result
Perform self-diagnosis of CONSULT, and check whether or not DTC U1305 is detected.

Is DTC U1305 detected?

>> GO TO 5.
>> GO TO 7.

7. OPERATION CHECK

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

>> WORK END

PREDICTIVE COURSE LINE CENTER POSITION ADJUSTMENT

PREDICTIVE COURSE LINE CENTER POSITION ADJUSTMENT : Description

INFOID:0000000010714825

Adjust the center position of the predictive course line of the rear view monitor if it is shifted.

PREDICTIVE COURSE LINE CENTER POSITION ADJUSTMENT : Work Procedure

INFOID:0000000010714826

1.DRIVING

Drive the vehicle straight ahead 100 m (328.1 ft) or more at a speed of 30 km/h (18.6 MPH) or more.

>> END

CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR)

CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Description

INFOID:0000000010714827

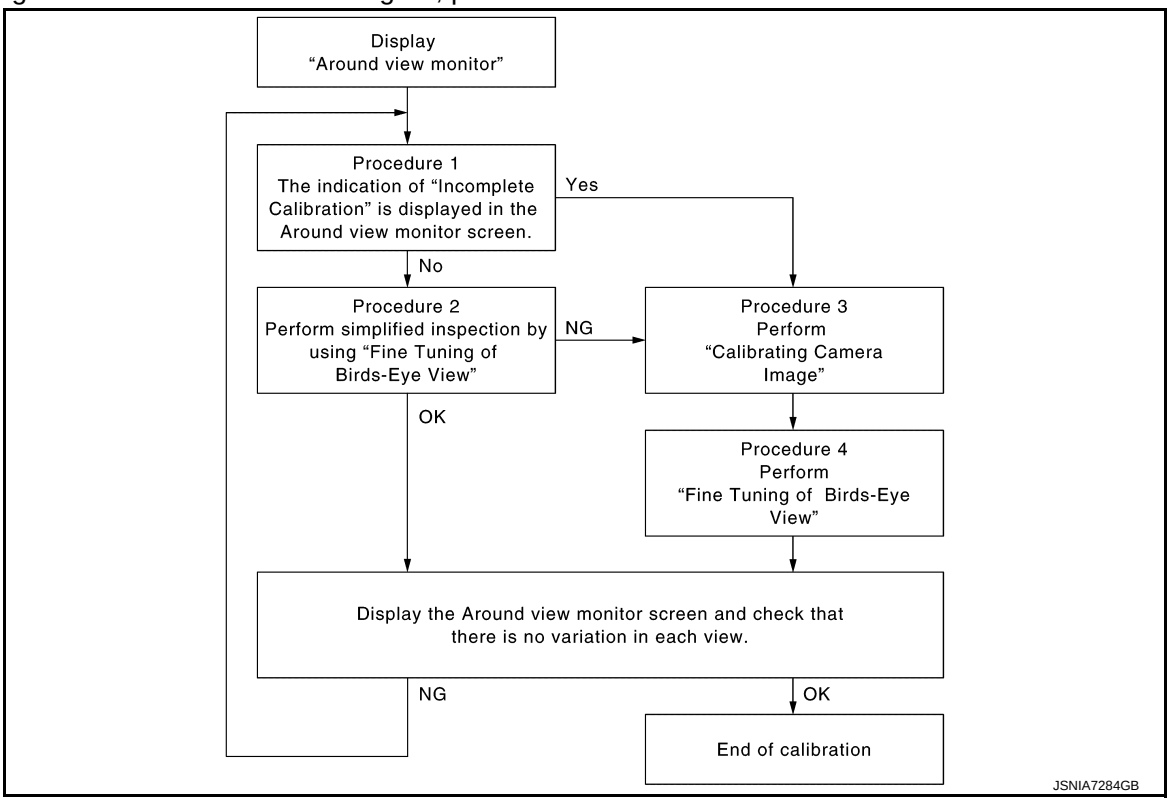
- Calibration must be performed after removing/replacing the cameras, removing parts (e.g. front grille, door mirror, and others) mounted on the cameras, or replacing the Around view monitor control unit.
- The use of CONSULT is required to perform calibration or writing of calibration results to the Around view monitor control unit.
- Align the white lines on the road near the vehicle at the boundary of each camera image by this camera calibration. The white lines far from the vehicle may not be aligned at the boundary of each camera image. The farther the line, the greater the difference is.

CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Work Procedure

INFOID:0000000010714828

CALIBRATION FLOWCHART

Following the flowchart shown in the figure, perform the calibration.



NOTE:

View in the incomplete calibration state is indicated by “☒” on the around view monitor.

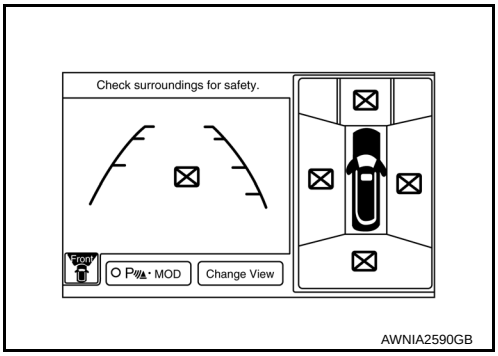
CALIBRATION PROCEDURE

1.AROUND VIEW MONITOR SCREEN CONFIRMATION

Check that there is no indication of “Incomplete calibration”.

Is the “Incomplete calibration” display visible?

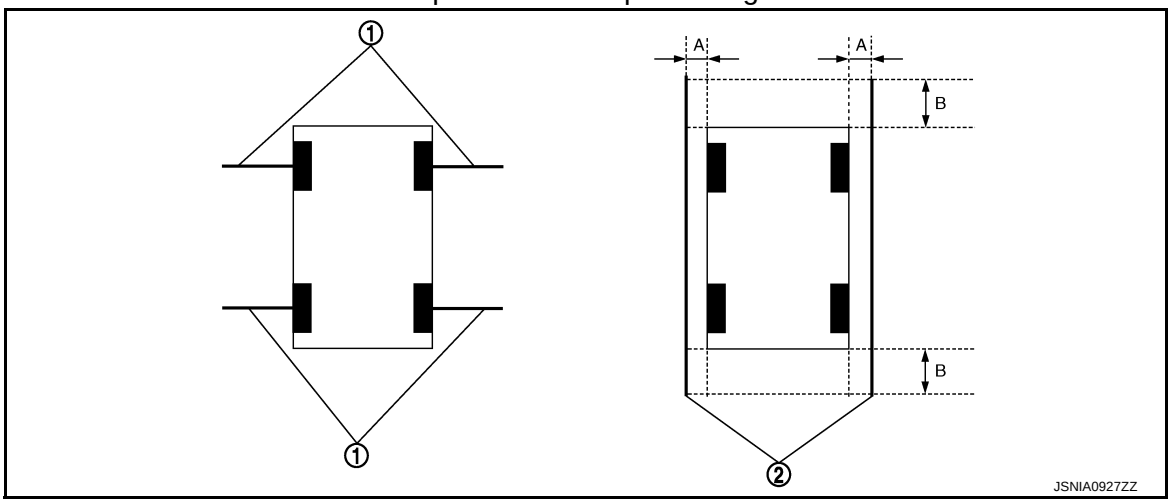
YES >> GO TO 3.
NO >> GO TO 2.



2. PERFORM SIMPLIFIED CONFIRMATION/ADJUSTMENT BY “FINE TUNING OF BIRDS-EYE VIEW”

1. Put target line 1 on the ground beside each axle using packing tape, etc.
2. Put target lines 2 equal to the vehicle total length + approximately 1.0 m (39.3 in) from the vehicle side (right and left) at approximately 30 cm (11.8 in) away from the vehicle (make the line as parallel with the vehicle as possible)

Preparation of simplified target line



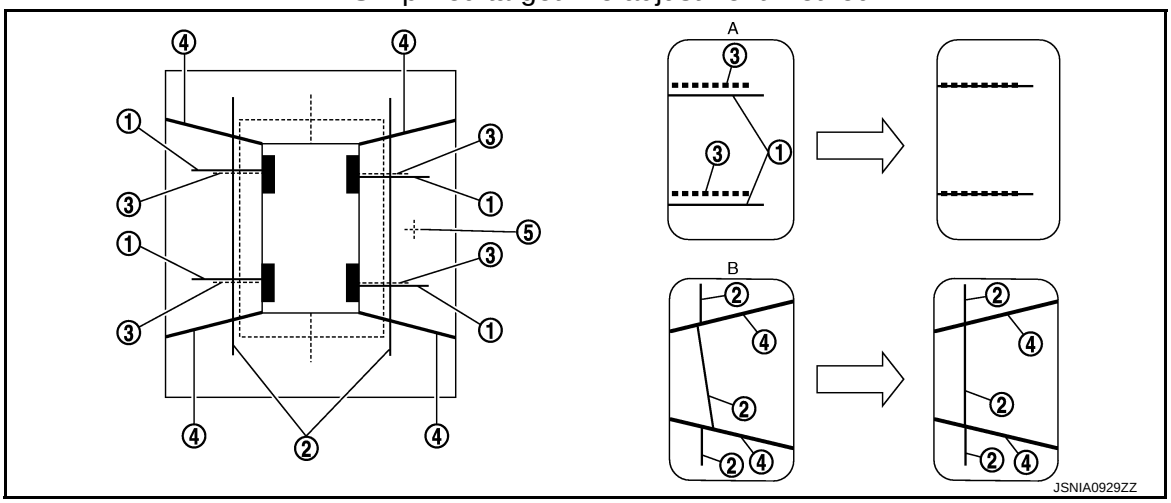
1. Target lines 1
2. Target lines 2
A. Approx. 30 cm (11.8 in)
B. Approx. 1.0 m (39.3 in)

3. CONSULT work support
Touch “FINE TUNING OF BIRDS-EYE VIEW” on the CONSULT screen.
4. On the CONSULT screen, touch “SELECT” button to select right or left camera and perform camera calibration as instructed below:

- If the marker on the screen deviates from Target line 1, touch “AXIS X” button and “AXIS Y” button to adjust so that the marker is placed on the Target line 1.
- If Target line 2 is misaligned among the cameras, adjust each camera image to bring Target line 2 into a straight line.

CAUTION:
Never adjust the front camera and rear camera. Only adjust the right and left cameras.

Simplified target line adjustment method



1.	Target lines 1	2.	Target lines 2	3.	Marker for target line 1
4.	Boundary between cameras	5.	Crosshairs cursor (mark indicated the selected camera)		
A.	Adjustment method for target lines 1 (right)	B.	Adjustment method for target lines 2 (right)		

5. Adjust right and left cameras. Touch "APPLY" on the CONSULT screen to display adjustment results.
6. After adjusting right and left cameras, check that the marker is properly placed on the screen and there is no deviation in Target line 1.
   NOTE:
   - It can be initialized to the NISSAN factory default condition with “Initialize Camera Image Calibration”.
   - The adjustment value is cancelled on this mode by performing “Initialize Camera Image Calibration”.

Is the difference corrected?

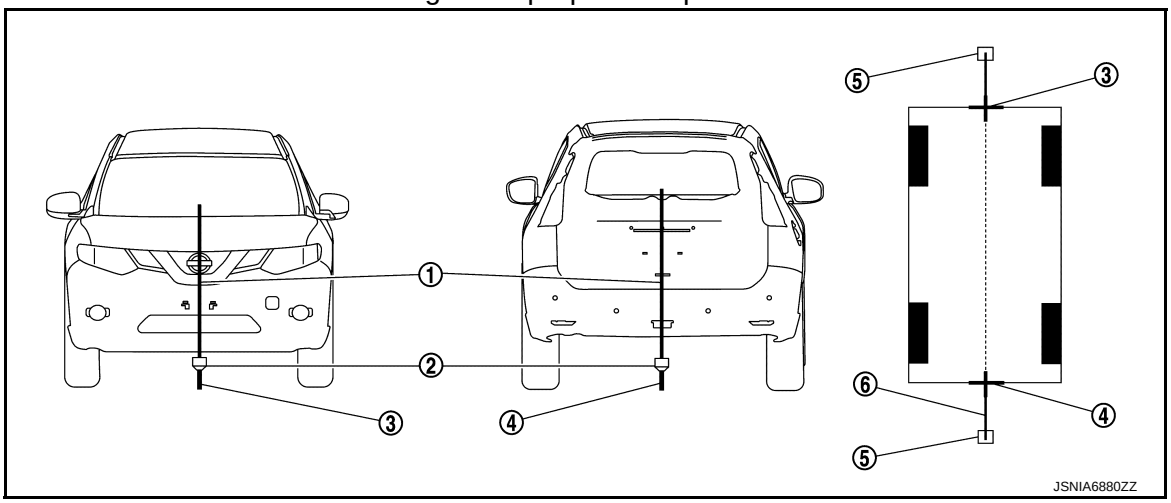
YES >> On the CONSULT screen, touch “OK” button to complete writing to the around view monitor control unit.
NO >> GO TO 3.

3. PERFORM “CALIBRATING CAMERA IMAGE”

Preparation of target line

1. Hang a string with a weight as shown in the figure. Put the points FM0, RM0 (mark) on the ground at the center of the vehicle front end and rear end with white packing tape or a pen.
2. Route the vinyl string under the vehicle, and then pull and fix it on the point approximately 1.0 m (39.9 in) to the front and rear of the vehicle through the points FM0 and RM0 using packing tape.

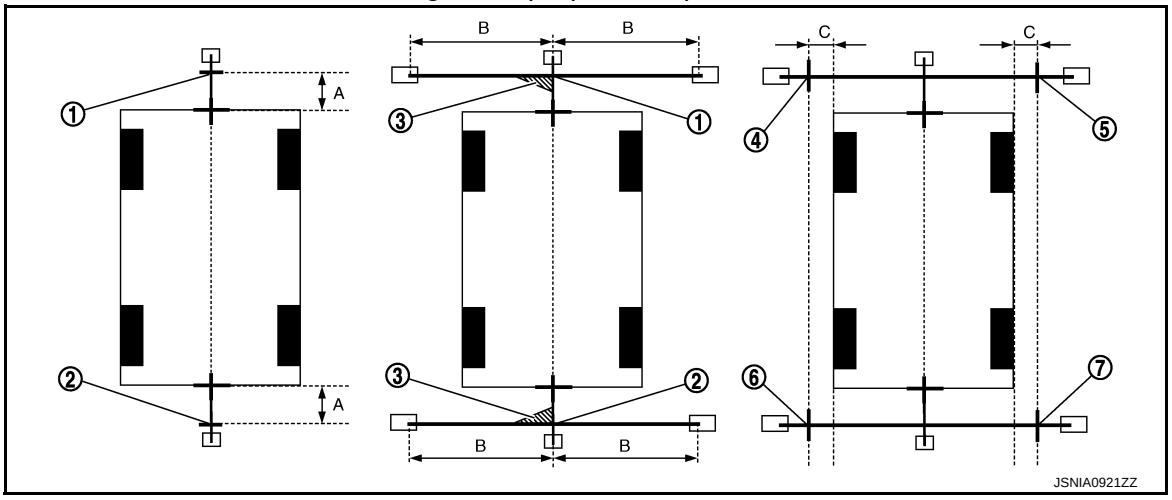
Target line preparation procedure 1



1. Thread
2. Weight
3. Point FM0 (mark)
4. Point RM0 (mark)
5. Packing tape (to fix the vinyl string)
6. Vinyl string

3. Put the points FM and RM (mark) 75 cm (29.5 in) from the points FM0 and RM0 individually.
4. Route the vinyl string through the points FM and RM using a triangle scale, and then fix it at approximately 1.5 m (59 in) on both sides with packing tape.
5. Put the points FL, FR, RL, and RR (mark) to both right and left [vehicle width / 2 + 30 cm (11.8 in)] from the points FM and RM.

Target line preparation procedure 2

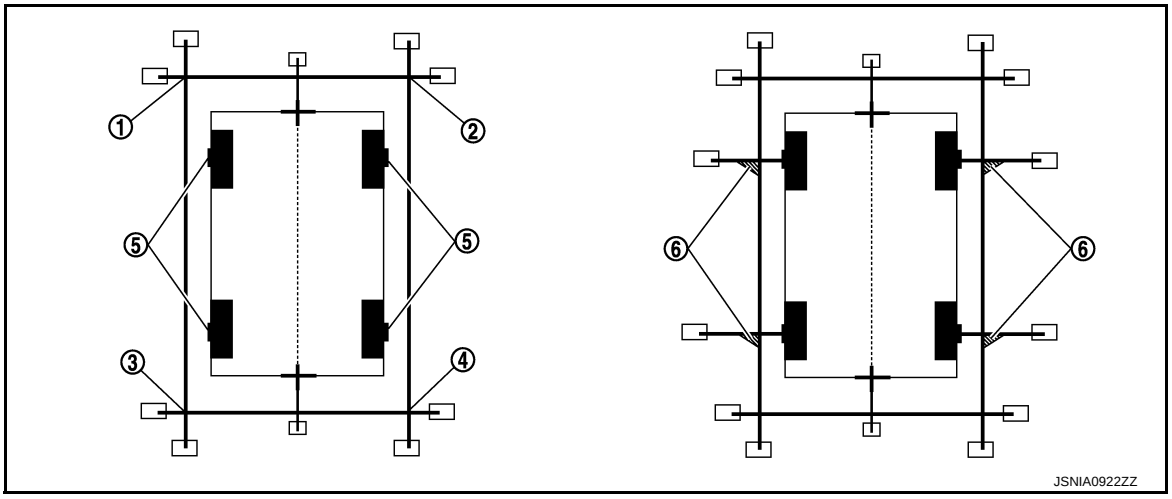


1. Point FM
2. Point RM
3. Triangle scale
4. Point FL (mark)
5. Point FR (mark)
6. Point RL (mark)
7. Point RR (mark)

A. 75 cm (29.5 in)
B. Approx. 1.5 m (59 in)
C. 30 cm (11.8 in) [Vehicle width/ 2 + 30 cm (11.8 in) from the points FM and RM]

6. Draw the lines of the points FL – RL and FR – RR with vinyl string, and fix it with packing tape.
7. Put a mark on the center of each axle, draw vertical lines to the lines of the points FL – RL and FR – RR from the marks on the center of the axle using a triangle scale, and then fix the lines using packing tape.

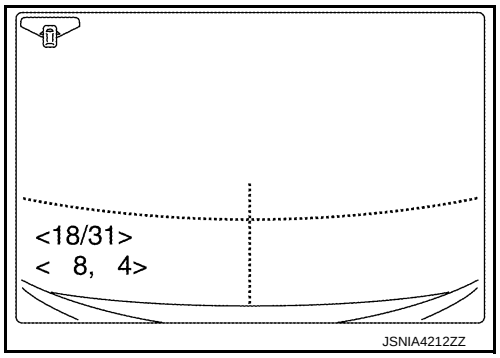
Target line preparation procedure 3



1. Point FL
2. Point FR
3. Point RL
4. Point RR
5. Center position of axle
6. Triangle scale

Perform “Calibrating Camera Image”
CONSULT work support

1. On the CONSULT screen, touch “CALIBRATING CAMERA IMAGE (FRONT CAMERA)”, “CALIBRATING CAMERA IMAGE (PASS-SIDE CAMERA)”, “CALIBRATING CAMERA IMAGE (DR-SIDE CAMERA)”, or “CALIBRATING CAMERA IMAGE (REAR CAMERA)” to accept the selection.
   NOTE:
   To cancel the indication of Incomplete calibration, select items based on the target camera.
2. On the adjustment screen of each camera, adjust the parameter by touching the “AXIS X” button, “AXIS Y” button, and “ROTATE” button to place the calibration marker shown on the camera screen on the target line drawn on the ground.



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Adjustment range	
Rotation direction (Center dial)	: 31 patterns (16 on the center)
Upper/lower direction (upper/lower switch)	: –22 – 22
Left/right direction (left/right switch)	: –22 – 22

3. Touch “APPLY” button on the CONSULT screen. “PRCSNG” is displayed and adjustment results are shown on the camera screen.
   CAUTION:
   Check that “PRCSNG” is displayed. Do never perform other operations while “PRCSNG” is displayed.
4. Touch “OK” button on the CONSULT screen. “PRCSNG” is displayed and adjustment results are written to the around view monitor control unit.
   CAUTION:
   Check that “PRCSNG” is displayed. Do never perform other operations while “PRCSNG” is displayed.

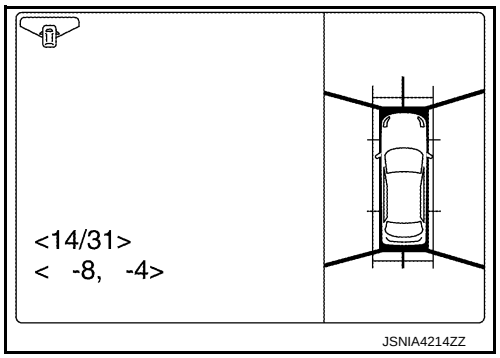
>> GO TO 4.

4. PERFORM “FINE TUNING OF BIRDS-EYE VIEW”

This mode is designed to align the boundary between each camera image that could not be aligned in the “Calibrating Camera Image” mode.

CONSULT work support

1. Select “FINE TUNING OF BIRDS-EYE VIEW” by touching CONSULT screen.
2. On the adjustment screen of each camera, adjust the parameter by touching the “AXIS X” button, “AXIS Y” button”, and “ROTATE” button to place the calibration marker shown on the camera screen on the target line drawn on the ground.
   NOTE:
   Touch “SELECT” button on the CONSULT screen to select the target camera.



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3. Touch “APPLY” button on the CONSULT screen. “PRCSNG” is displayed and adjustment results are shown on the camera screen.
   CAUTION:
   Check that “PRCSNG” is displayed. Do never perform other operations while “PRCSNG” is displayed.
4. Touch “OK” button on the CONSULT screen. “PRCSNG” is displayed and adjustment results are written to the around view monitor control unit.
   CAUTION:
   - **Check that “PRCSNG” is displayed. Never perform other operations while “PRCSNG” is displayed.**
   - **After pressing the “OK” button, never press buttons other than the “BACK” button.**

   NOTE:
   - It can be initialized to the NISSAN factory default condition with “Initialize Camera Image Calibration”.
   - The adjustment value is cancelled in this mode by performing “Initialize Camera Image Calibration”.

>> Calibration end

DTC/CIRCUIT DIAGNOSIS

C1A00 CONTROL UNIT

DTC Description

INFOID:0000000010923274

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
C1A00	AVM CIRC (Around view monitor circuit)	Around view monitor control unit malfunction is detected

POSSIBLE CAUSE

Around view monitor control unit

FAIL-SAFE

Around view monitor with Park Assist is cancel

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

WITH CONSULT

1. Turn ignition switch ON.
2. Perform “All DTC Reading” with CONSULT.
3. Check if the “C1A00” is detected as the current malfunction in “Self Diagnostic Result” of “AVM”.

Is “C1A00” detected?

YES >> Refer to AV-166, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010923275

1.PERFORM THE SELF-DIAGNOSIS

With CONSULT

Check if any DTC other than “C1A00” is detected in “Self Diagnostic Result” of “AVM”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to AV-120, "DTC Index".
NO >> Replace around view monitor control unit. Refer to AV-268, "Removal and Installation".

C1A01 POWER SUPPLY CIRCUIT

DTC Description

INFOID:0000000010923276

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
C1A01	POWER SUPPLY CIRC (Power supply circuit)	The battery voltage sent to the around view monitor control unit remains less than 7.9 V for 5 seconds or the Ignition power supply sent to the around view monitor control unit remains more than 19.3 V for 5 seconds

POSSIBLE CAUSE

- Connector, harness, fuse
- Around view monitor control unit

FAIL-SAFE

Around view monitor with Park Assist is cancel

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

WITH CONSULT

1. Turn the ignition switch ON.
2. Perform “All DTC Reading” with CONSULT.
3. Check if the “C1A01” is detected as the current malfunction in “Self Diagnostic Result” of “AVM”.

Is “C1A01” detected?

YES >> Refer to AV-167, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010923277

1.CHECK AROUND VIEW MONITOR CONTROL UNIT POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit of around view monitor control unit.Refer to AV-241, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace around view monitor control unit. Refer to AV-268, "Removal and Installation".
NO >> Repair or replace malfunctioning parts.

C1A03 VEHICLE SPEED SENSOR

DTC Description

INFOID:0000000010714829

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
C1A03	VHCL SPEED SE CIRC (Vehicle speed sensor circuit)	If the vehicle speed signal (wheel speed) from ABS actuator and electric unit (control unit) received by the around view monitor control unit via CAN communication, are inconsistent

POSSIBLE CAUSE

- Wheel speed sensor
- ABS actuator and electric unit (control unit)
- Around view monitor control unit

FAIL-SAFE

- DAA system is cancel
- BSW system is cancel
- MOD (Moving Object Detection) function is cancel
- Around view monitor with Park Assist is cancel

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC C1A03 is displayed with DTC U1000 or C1A04, first perform the confirmation procedure (trouble diagnosis) for DTC U1000 or C1A04.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable.
- U1000: Refer to AV-178, "AROUND VIEW MONITOR CONTROL UNIT : DTC Description".
- C1A04: Refer to AV-170, "DTC Description".

NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the LDW system ON.
3. Drive the vehicle at 30 km/h (19 MPH) or more.
   CAUTION:
   Always drive safety.
4. Stop the vehicle.
5. Perform “All DTC Reading” with CONSULT.
6. Check if the “C1A03” is detected as the current malfunction in “Self Diagnostic Result” of “AVM”.

Is “C1A03” detected as the current malfunction?

YES >> Refer to AV-168, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010714830

1.CHECK SELF-DIAGNOSIS RESULTS

Check if “C1A04” or “U1000” is detected other than “C1A03” in “Self Diagnostic Result” of “AVM”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to AV-120, "DTC Index".

NO >> GO TO 2.

2.CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in “Self Diagnostic Result” of “ABS”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to BRC-84, "DTC Index".

NO >> Replace the around view monitor control unit. Refer to AV-268, "Removal and Installation".

C1A04 ABS/TCS/VDC SYSTEM

DTC Description

INFOID:0000000010714831

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
C1A04	ABS/TCS/VDC CIRC (ABS/TCS/VDC circuit)	If a malfunction occurs in the VDC/TCS/ABS system

POSSIBLE CAUSE

ABS actuator and electric unit (control unit)

FAIL-SAFE

- DAA system is cancel
- BSW system is cancel
- MOD (Moving Object Detection) function is cancel
- Around view monitor with Park Assist is cancel

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC C1A04 is displayed with DTC U1000, first perform the confirmation procedure (trouble diagnosis) for DTC U1000.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to AV-178, "AROUND VIEW MONITOR CONTROL UNIT : DTC Description".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the LDW system ON.
3. Perform “All DTC Reading” with CONSULT.
4. Check if the “C1A04” is detected as the current malfunction in “Self Diagnostic Result” of “AVM”.

Is “C1A04” detected as the current malfunction?

YES >> Refer to AV-170, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010714832

1.CHECK SELF-DIAGNOSIS RESULTS

1. Perform “All DTC Reading” with CONSULT.
2. Check if the “U1000” is detected other than “C1A04” in “Self Diagnostic Result” of “AVM”.

Is “U1000” detected?

YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to AV-120, "DTC Index".
NO >> GO TO 2.

2.CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in “Self Diagnostic Result” of “ABS”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to BRC-84, "DTC Index".
NO >> Replace the around view monitor control unit. Refer to AV-268, "Removal and Installation".

C1A07 CVT

DTC Description

INFOID:0000000010923278

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
C1A07	CVT CIRC (CVT circuit)	If a malfunction occurs in the CVT

POSSIBLE CAUSE

- CVT
- TCM

FAIL-SAFE

Around view monitor with Park Assist is cancel

1.PERFORM DTC CONFIRMATION PROCEDURE

WITH CONSULT

1. Turn the ignition switch ON.
2. Perform “All DTC Reading” with CONSULT.
3. Check if the “C1A07” is detected as the current malfunction in “Self Diagnostic Result” of “AVM”.

Is “C1A07” detected as the current malfunction?

YES >> Refer to AV-171, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010923279

1.CHECK AROUND VIEW MONITOR CONTROL UNIT SELF-DIAGNOSIS RESULTS

With CONSULT.

Check if the “U1000” is detected other than “C1A07” in “Self Diagnostic Result” of “AVM”.

Is DTC “U1000” detected?

YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to AV-178, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure".
NO >> GO TO 2.

2.CHECK TCM SELF-DIAGNOSIS RESULTS

With CONSULT.

Check if any DTC is detected in "Self Diagnostic Result" of "AT/CVT".

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to the following.
- RE0F10D: TM-288, "DTC Index"
- RE0F10G: TM-529, "DTC Index"

NO >> Replace the around view monitor control unit. Refer to AV-268, "Removal and Installation".

C1A39 STEERING ANGLE SENSOR

DTC Description

INFOID:0000000010714833

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
C1A39	STRG SEN CIR (Steering angle sensor circuit)	If the steering angle sensor is malfunction

POSSIBLE CAUSE

Steering angle sensor

FAIL-SAFE

- DAA system is cancel
- BSW system is cancel

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC C1A39 is displayed with DTC U1000, first perform the confirmation procedure (trouble diagnosis) for DTC U1000.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to AV-178, "AROUND VIEW MONITOR CONTROL UNIT : DTC Description".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn the ignition switch ON.
2. Turn the LDW system ON.
3. Perform “All DTC Reading” with CONSULT.
4. Check if the “C1A39” is detected as the current malfunction in “Self Diagnostic Result” of “AVM”.

Is “C1A39” detected as the current malfunction?

YES >> Refer to AV-172, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010714834

1.CHECK SELF-DIAGNOSIS RESULTS

Check if “U1000” is detected other than “C1A39” in “Self Diagnostic Result” of “AVM”.

Is “U1000” detected?

YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to AV-120, "DTC Index".
NO >> GO TO 2.

2.CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in “Self Diagnostic Result” of “ABS”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to BRC-84, "DTC Index".
NO >> Replace the around view monitor control unit. Refer to AV-268, "Removal and Installation".

C1B56 SONAR

DTC Description

INFOID:0000000010923280

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
C1B56	SONAR CIRC (Sonar circuit)	The around view monitor control unit detects that sonar control unit has a malfunction.

POSSIBLE CAUSE

Sonar control unit

FAIL-SAFE

Around view monitor with Park Assist is cancel

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

WITH CONSULT.

1. Perform “All DTC Reading” with CONSULT.
2. Check if the “C1B56” is detected as the current malfunction in “Self Diagnostic Result” of “AVM”.

“C1B56” detected as the current malfunction?

YES >> Refer to AV-173, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010923281

1.CHECK SELF-DIAGNOSIS RESULTS

With CONSULT.

Check if the “U1000” is detected other than “C1B56” in “Self Diagnostic Result” of “AVM”.

“U1000” detected?

YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to AV-178, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure".
NO >> GO TO 2.

2.CHECK SELF-DIAGNOSIS RESULTS

With CONSULT.

Check if any DTC is detected in “Self Diagnostic Result” of “SONAR”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to SN-143, "DTC Index".
NO >> Replace the around view monitor control unit. Refer to AV-268, "Removal and Installation".

U0122 ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)

DTC Description

INFOID:0000000010714835

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
U0122	VDC P-RUN DIAGNOSIS (VDC P-run diagnosis)	If around view monitor control unit detects an error signal that is received from ABS actuator and electric unit (control unit) via CAN communication

POSSIBLE CAUSE

ABS actuator and electric unit (control unit)

FAIL-SAFE

- DAA system is cancel
- BSW system is cancel
- MOD (Moving Object Detection) function is cancel
- Around view monitor with Park Assist is cancel

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC U0122 is displayed with DTC U1000, first perform the confirmation procedure (trouble diagnosis) for DTC U1000.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to AV-178, "AROUND VIEW MONITOR CONTROL UNIT : DTC Description".

NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the LDW system ON.
3. Perform “All DTC Reading” with CONSULT.
4. Check if the “U0122” is detected as the current malfunction in “Self Diagnostic Result” of “AVM”.

Is “U0122” detected as the current malfunction?

YES >> Refer to AV-174, "Diagnosis Procedure".

NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010714836

1.CHECK SELF-DIAGNOSIS RESULTS

Check if “U1000” is detected other than “U0122” in “Self Diagnostic Result” of “AVM”.

Is “U1000” detected?

YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to AV-178, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure".

NO >> GO TO 2.

2.CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in “Self Diagnostic Result” of “ABS”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to BRC-84, "DTC Index".

NO >> Replace the around view monitor control unit. Refer to AV-268, "Removal and Installation".

U0416 ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)

DTC Description

INFOID:0000000010714837

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
U0416	VDC CHECKSUM DIAGNOSIS (VDC checksum diagnosis)	If around view monitor control unit detects an error signal that is received from ABS actuator and electric unit (control unit) via CAN communication

POSSIBLE CAUSE

ABS actuator and electric unit (control unit)

FAIL-SAFE

- DAA system is cancel
- BSW system is cancel
- MOD (Moving Object Detection) function is cancel
- Around view monitor with Park Assist is cancel

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC U0416 is displayed with DTC U1000, first perform the confirmation procedure (trouble diagnosis) for DTC U1000.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to AV-178, "AROUND VIEW MONITOR CONTROL UNIT : DTC Description".

NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the LDW system ON.
3. Perform “All DTC Reading” with CONSULT.
4. Check if the “U0416” is detected as the current malfunction in “Self Diagnostic Result” of “AVM”.

Is “U0416” detected as the current malfunction?

YES >> Refer to AV-175, "Diagnosis Procedure".

NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010714838

1.CHECK SELF-DIAGNOSIS RESULTS

Check if “U1000” is detected other than “U0416” in “Self Diagnostic Result” of “AVM”.

Is “U1000” detected?

YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to AV-178, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure".

NO >> GO TO 2.

2.CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in “Self Diagnostic Result” of “ABS”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to BRC-84, "DTC Index".

NO >> Replace the around view monitor control unit. Refer to AV-268, "Removal and Installation".

U0428 STEERING ANGLE SENSOR

DTC Description

INFOID:0000000010714839

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
U0428	ST ANGLE SENSOR CALIBRATION (Steering angle sensor calibration)	The neutral position adjustment of the steering angle sensor is incomplete.

POSSIBLE CAUSE

- Neutral position of steering angle sensor is not yet adjusted
- Steering angle sensor

FAIL-SAFE

- Predicted course line is not displayed
- DAA system is cancel
- BSW system is cancel
- MOD (Moving Object Detection) function is cancel
- Around view monitor with Park Assist is cancel

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC C0428 is displayed with DTC U1232, first perform the confirmation procedure (trouble diagnosis) for DTC U1232.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to AV-205, "DTC Description".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

WITH CONSULT

1. Turn the ignition switch ON.
2. Turn ignition switch OFF and wait at least 30 seconds.
3. Turn ignition switch ON and wait at least 30 seconds or more.
4. Select “Self Diagnostic Result” mode of “AVM” using CONSULT.
5. Check DTC.

Is DTC U0428 detected?

YES >> Refer to AV-176, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010714840

1.ADJUST THE NEUTRAL POSITION OF THE STEERING ANGLE SENSOR

When U0428 is detected, adjust the neutral position of the steering angle sensor.

>> Perform adjustment of the neutral position of the steering angle sensor. Refer to BRC-99, "Work Procedure".

CAUTION:

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

U1000 CAN COMM CIRCUIT
NAVI CONTROL UNIT

NAVI CONTROL UNIT : DTC Description

INFOID:0000000010714841

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on board multiplex communication line with high data communication speed and excellent error detection ability. A modern vehicle is equipped with many ECMs, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, 2 control units are connected with 2 communication lines (CAN H-line and CAN L-line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.
Refer to LAN-41, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart" for details of the communication signal.

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detection condition
U1000	CAN COMM CIRC (CAN communication circuit)	When the NAVI control unit cannot communicate for 2 seconds or more.

POSSIBLE CAUSE
CAN communication system

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

DTC CONFIRMATION PROCEDURE
NOTE:
- The auto ACC function allows the accessory power supply for a certain period of time even after ignition switch OFF. For this reason, when performing diagnosis, turn the ignition switch OFF and wait for 3 minutes with the driver's door opened.
- The operation of the vehicle during standby may cause an accessory power supply.

1. PERFORM DTC CONFIRMATION PROCEDURE

WITH CONSULT
1. Turn the ignition switch ON.
2. Turn ignition switch OFF and wait for 3 minutes with the driver's door opened.
3. Turn ignition switch ON and wait at least 30 seconds or more.
4. Select “Self Diagnostic Result” mode of “MULTI AV” using CONSULT.
5. Check DTC.

Is DTC U1000 detected?

YES >> Refer to AV-177, "NAVI CONTROL UNIT : Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

NAVI CONTROL UNIT : Diagnosis Procedure

INFOID:0000000010714842

1. PERFORM DTC CONFIRMATION PROCEDURE AGAIN

With CONSULT
1. Turn ignition switch ON.
2. Erase DTC.
3. Perform DTC confirmation procedure again. Refer to AV-177, "NAVI CONTROL UNIT : DTC Description".

Is DTC U1000 detected again?

YES >> Perform the trouble diagnosis for CAN communication system. Refer to LAN-17, "Trouble Diagnosis Flow Chart".
NO >> INSPECTION END

AROUND VIEW MONITOR CONTROL UNIT

AROUND VIEW MONITOR CONTROL UNIT : DTC Description

INFOID:0000000010714843

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on board multiplex communication line with high data communication speed and excellent error detection ability. A modern vehicle is equipped with many ECMs, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, 2 control units are connected with 2 communication lines (CAN H-line and CAN L-line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.
Refer to LAN-41, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart" for details of the communication signal.

DTC DETECTION LOGIC

DTC	Trouble diagnosis contents (Trouble diagnosis contents)	Detecting condition
U1000	CAN COMM CIRCUIT (CAN communication circuit)	Around view monitor control unit is not transmitting or receiving CAN communication signal for 2 seconds or more.

NOTE:
If “U1000” is detected, first diagnose the CAN communication system.

POSSIBLE CAUSE
CAN communication system

FAIL-SAFE
The following functions are cancel
• When communication of steering angle sensor signal is not normal
- Predicted course line is not displayed
- MOD (Moving Object Detection) function is cancel
- DAA system is cancel
- BSW system is cancel
- Around view monitor with Park Assist is cancel
• When communication of vehicle signal, wheel speed sensor signal, and shift signal is not normal
- Predicted course line is not displayed
- MOD (Moving Object Detection) function is cancel
- DAA system is cancel
- BSW system is cancel
- Around view monitor with Park Assist is cancel

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

WITH CONSULT
1. Turn the ignition switch ON.
2. Turn ignition switch OFF and wait at least 30 seconds.
3. Turn ignition switch ON and wait at least 30 seconds or more.
4. Select “Self Diagnostic Result” mode of “AVM” using CONSULT.
5. Check DTC.

Is DTC U1000 detected?

YES >> Refer to AV-178, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure

INFOID:0000000010714844

1.PERFORM THE SELF-DIAGNOSIS

1. Start the engine.
2. Turn the LDW system ON, and then wait for 30 seconds or more.
3. Perform “All DTC Reading” with CONSULT.
4. Check if the “U1000” is detected as the current malfunction in “Self Diagnostic Result” of “AVM”.

Is “U1000” detected as the current malfunction?

YES >> Refer to LAN-17, "Trouble Diagnosis Flow Chart".
NO >> Refer to GI-44, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

NAVI CONTROL UNIT

NAVI CONTROL UNIT : DTC Description

INFOID:0000000010714845

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detection condition
U1010	CONTROL UNIT (CAN) [Control unit (CAN)]	Malfunction is detected during initial diagnosis of the NAVI control unit CAN controller.

POSSIBLE CAUSE

CAN communication system

FAIL-SAFE

The system using the CAN communication signal does not function

DTC CONFIRMATION PROCEDURE

NOTE:

- The auto ACC function allows the accessory power supply for a certain period of time even after ignition switch OFF. For this reason, when performing diagnosis, turn the ignition switch OFF and wait for 3 minutes with the driver's door opened.
- The operation of the vehicle during standby may cause an accessory power supply.

1. PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait for 3 minutes with the driver's door opened.
3. Turn ignition switch ON.
4. Check “Self Diagnostic Result” of “MULTI AV”.
5. Check DTC.

Is DTC U1010 detected?

YES >> Refer to AV-180, "NAVI CONTROL UNIT : Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

NAVI CONTROL UNIT : Diagnosis Procedure

INFOID:0000000010714846

1. PERFORM DTC CONFIRMATION PROCEDURE AGAIN

With CONSULT

1. Turn ignition switch ON.
2. Erase DTC.
3. Perform DTC confirmation procedure again. Refer to AV-180, "NAVI CONTROL UNIT : DTC Description".

Is DTC U1010 detected again?

YES >> Replace NAVI control unit. Refer to AV-262, "Removal and Installation".
NO >> INSPECTION END

AROUND VIEW MONITOR CONTROL UNIT

AROUND VIEW MONITOR CONTROL UNIT : DTC Description

INFOID:0000000010714847

CAN controller controls the communication of CAN communication signal and the error detection.

DTC DETECTION LOGIC

DTC	Trouble diagnosis Trouble diagnosis	Detecting condition
U1010	CONTROL UNIT (CAN) [Control unit (CAN)]	CAN initial diagnosis malfunction is detected.

POSSIBLE CAUSE

MOD (Moving Object Detection) function is stopped.

FAIL-SAFE

Around view monitor system

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

WITH CONSULT

1. Turn the ignition switch ON.
2. Turn ignition switch OFF and wait at least 30 seconds.
3. Turn ignition switch ON and wait at least 30 seconds.
4. Check “Self Diagnostic Result” of “AVM”.
5. Check DTC.

Is DTC“U1010” detected?

YES >> Refer to AV-181, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure

INFOID:0000000010714848

1.PERFORM DTC CONFIRMATION PROCEDURE AGAIN

With CONSULT

1. Turn ignition switch ON.
2. Erase DTC.
3. Perform DTC confirmation procedure again. Refer to AV-180, "AROUND VIEW MONITOR CONTROL UNIT : DTC Description".

Is DTC U1010 detected again?

YES >> Replace around view monitor control unit. Refer to AV-268, "Removal and Installation".
NO >> INSPECTION END

U111A REAR CAMERA IMAGE SIGNAL CIRCUIT

DTC Description

INFOID:0000000010714849

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
U111A	REAR CAMERA IMAGE SIGNAL (Rear camera image signal)	Camera image signal circuit is open or shorted.

POSSIBLE CAUSE

- Camera image signal circuit between rear camera and around view monitor control unit
- Rear camera

FAIL-SAFE

Camera image is not displayed (Gray screen display)

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn the ignition switch ON.
2. Turn ignition switch OFF and wait at least 30 seconds.
3. Turn ignition switch ON and wait at least 30 seconds or more.
4. Select “Self Diagnostic Result” mode of “AVM” using CONSULT.
5. Check DTC.

Is DTC U111A detected?

YES >> Refer to AV-182, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010714850

1.CHECK CONTINUITY REAR CAMERA POWER SUPPLY AND GROUND CIRCUIT

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

With BSW

Around view monitor control unit		Rear camera		Continuity
Connector	Terminals	Connector	Terminals	
M102	50	D177	8	Existed
	52		7	

Without BSW

Around view monitor control unit		Rear camera		Continuity
Connector	Terminals	Connector	Terminals	
M24	26	D176	2	Existed
	25		1	

4. Check continuity between around view monitor control unit harness connector and ground.

With BSW

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M102	50		Not existed

Without BSW

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M24	26		Not existed

Is inspection result normal?

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

2.CHECK VOLTAGE REAR CAMERA POWER SUPPLY

1. Connect around view monitor control unit connector and rear camera connector.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit harness connector and ground.

With BSW

Around view monitor control unit			Standard voltage	Reference voltage (Approx.)
Connector	Terminal (+)	Terminal (–)		
M102	50	52	5.0 - 9.0 V	6.0 V

Without BSW

Around view monitor control unit			Standard voltage	Reference voltage (Approx.)
Connector	Terminal (+)	Terminal (–)		
M24	25	26	5.0 - 9.0 V	6.0 V

Is inspection result normal?

YES >> GO TO 3.
NO >> Replace around view monitor control unit. Refer to AV-268, "Removal and Installation".

3.CHECK CONTINUITY CAMERA IMAGE SIGNAL CIRCUIT

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

With BSW

Around view monitor control unit		Rear camera		Continuity
Connector	Terminals	Connector	Terminals	
M102	53	D177	5	Existed
	54		1	

Without BSW

Around view monitor control unit		Rear camera		Continuity
Connector	Terminals	Connector	Terminals	
M24	28	D176	4	Existed
	27		5	

4. Check continuity between around view monitor control unit harness connector and ground.

With BSW

Around view monitor control unit		Ground	Continuity
Connector	Terminals		
M102	53		Not existed
	54		

Without BSW

Around view monitor control unit		Ground	Continuity
Connector	Terminals		
M24	28		Not existed
	27		

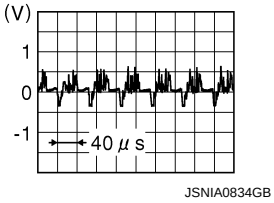
Is inspection result normal?

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

4. CHECK CAMERA IMAGE SIGNAL

1. Connect around view monitor control unit connector and rear camera connector.
2. Turn ignition switch ON.
3. Check signal between around view monitor control unit harness connector.

With BSW

Around view monitor control unit			Reference value
Connector	Terminal (+)	Terminal (–)	
M102	53	54	

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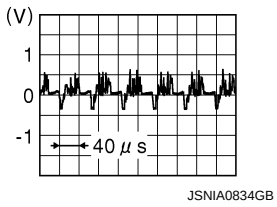
Without BSW

Around view monitor control unit			Reference value
Connector	Terminal (+)	Terminal (–)	
M24	28	27	

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Is inspection result normal?

YES >> Replace around view monitor control unit. Refer to AV-268, "Removal and Installation".
NO >> Replace rear camera. Refer to AV-268, "Removal and Installation".

U111B SIDE CAMERA RH IMAGE SIGNAL CIRCUIT

DTC Description

INFOID:0000000010714851

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
U111B	SIDE CAMERA RH IMAGE SIGNAL (Side camera right image signal)	Camera image signal circuit is open or shorted.

POSSIBLE CAUSE

- Camera image signal circuit between side camera RH and around view monitor control unit

FAIL-SAFE

Camera image is not displayed (Gray screen display)

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn the ignition switch ON.
2. Turn ignition switch OFF and wait at least 30 seconds.
3. Turn ignition switch ON and wait at least 30 seconds.
4. Perform “All DTC Reading” with CONSULT.
5. Check if the “U111B” is detected as the current malfunction in “Self Diagnostic Result” of “AVM”.

Is “U111B” detected as the current malfunction?

YES >> Refer to AV-186, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010714852

1.CHECK CONTINUITY SIDE CAMERA RH POWER SUPPLY AND GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector and door mirror (driver side) connector.
3. Check continuity between around view monitor control unit harness connector and door mirror (driver side) harness connector.

LHD models with BSW

Around view monitor control unit		Door mirror (passenger side)		Continuity
Connector	Terminals	Connector	Terminals	
M102	62	D43	7	Existed
	64		8	

LHD models without BSW

Around view monitor control unit		Door mirror (passenger side)		Continuity
Connector	Terminals	Connector	Terminals	
M24	33	D43	8	Existed
	34		7	

RHD models with BSW

Around view monitor control unit		Door mirror (driver side)		Continuity
Connector	Terminals	Connector	Terminals	

M102	56	D23	7	Existed
	58		8	

RHD models without BSW

Around view monitor control unit		Door mirror (driver side)		Continuity
Connector	Terminals	Connector	Terminals	
M24	29	D23	8	Existed
	30		7	

4. Check continuity between around view monitor control unit harness connector and ground.

LHD models with BSW

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M102	62		Not existed

LHD models without BSW

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M24	34		Not existed

RHD models with BSW

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M102	56		Not existed

RHD models without BSW

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M24	30		Not existed

Is inspection result normal?

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

2. CHECK VOLTAGE SIDE CAMERA RH POWER SUPPLY

1. Connect around view monitor control unit connector and door mirror (driver side) connector.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit harness connector and ground.

LHD models with BSW

Around view monitor control unit			Standard voltage	Reference voltage (Approx.)
Connector	Terminal (+)	Terminal (–)		
M102	62	64	5.0 - 9.0 V	6.0 V

LHD models without BSW

Around view monitor control unit			Standard voltage	Reference voltage (Approx.)
Connector	Terminal (+)	Terminal (–)		
M24	34	33	5.0 - 9.0 V	6.0 V

RHD models with BSW

Around view monitor control unit			Standard voltage	Reference voltage (Approx.)
Connector	Terminal (+)	Terminal (–)		
M102	56	58	5.0 - 9.0 V	6.0 V

RHD models without BSW

Around view monitor control unit			Standard voltage	Reference voltage (Approx.)
Connector	Terminal (+)	Terminal (–)		
M24	30	29	5.0 - 9.0 V	6.0 V

Is inspection result normal?

YES >> GO TO 3.
NO >> Replace around view monitor control unit. Refer to AV-268, "Removal and Installation".

3. CHECK CONTINUITY CAMERA IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector and door mirror (driver side) connector.
3. Check continuity between around view monitor control unit harness connector and door mirror (driver side) harness connector.

LHD models with BSW

Around view monitor control unit		Door mirror (passenger side)		Continuity
Connector	Terminals	Connector	Terminals	
M102	65	D43	16	Existed
	66		15	

LHD models without BSW

Around view monitor control unit		Door mirror (passenger side)		Continuity
Connector	Terminals	Connector	Terminals	
M24	35	D43	15	Existed
	36		16	

RHD models with BSW

Around view monitor control unit		Door mirror (driver side)		Continuity
Connector	Terminals	Connector	Terminals	
M102	59	D23	16	Existed
	60		15	

RHD models without BSW

Around view monitor control unit		Door mirror (driver side)		Continuity
Connector	Terminals	Connector	Terminals	
M24	31	D23	15	Existed
	32		16	

4. Check continuity between around view monitor control unit harness connector and ground.

LHD models with BSW

Around view monitor control unit		Ground	Continuity
Connector	Terminals		
M102	65		Not existed
	66		

LHD models without BSW

Around view monitor control unit		Ground	Continuity
Connector	Terminals		
M24	35		Not existed
	36		

RHD models with BSW

Around view monitor control unit		Ground	Continuity
Connector	Terminals		
M102	59		Not existed
	60		

RHD models without BSW

Around view monitor control unit		Ground	Continuity
Connector	Terminals		
M24	31		Not existed
	32		

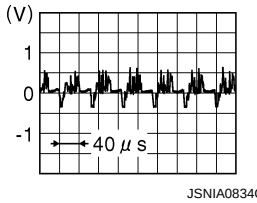
Is inspection result normal?

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

4. CHECK CAMERA IMAGE SIGNAL

1. Connect around view monitor control unit connector and door mirror (driver side) connector.
2. Turn ignition switch ON.
3. Check signal between around view monitor control unit harness connector terminals.

LHD models with BSW

Around view monitor control unit			Reference value
Terminal			
Connector	(+)	(–)	
	Terminal		
M102	65	66	

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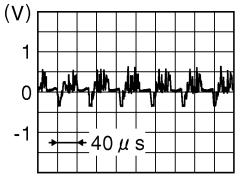
LHD models without BSW

Around view monitor control unit			Reference value
Terminal			
Connector	(+)	(–)	
	Terminal		
M24	36	35	

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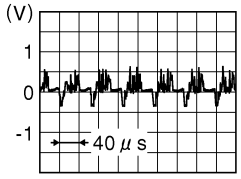
RHD models with BSW

Around view monitor control unit			Reference value
Terminal			
Connector	(+)	(–)	
	Terminal		
M102	59	60	

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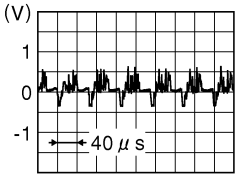
RHD models without BSW

Around view monitor control unit			Reference value
Terminal			
Connector	(+)	(–)	
	Terminal		
M24	32	31	

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Is inspection result normal?

YES >> Replace around view monitor control unit. Refer to AV-268, "Removal and Installation".
NO >> Replace side camera RH. Refer to AV-271, "Removal and Installation".

U111C FRONT CAMERA IMAGE SIGNAL CIRCUIT

DTC Description

INFOID:0000000010714853

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
U111C	FRONT CAMERA IMAGE SIGNAL (Front camera image signal)	Camera image signal circuit is open or shorted.

POSSIBLE CAUSE

- Camera image signal circuit between front camera and around view monitor control unit

FAIL-SAFE

Camera image is not displayed (Gray screen display)

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn the ignition switch ON.
2. Turn ignition switch OFF and wait at least 30 seconds.
3. Turn ignition switch ON and wait at least 30 seconds.
4. Perform “All DTC Reading” with CONSULT.
5. Check if the “U111C” is detected as the current malfunction in “Self Diagnostic Result” of “AVM”.

Is “U111C” detected as the current malfunction?

YES >> Refer to AV-192, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010714854

1.CHECK CONTINUITY FRONT CAMERA POWER SUPPLY AND GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector and front camera connector.
3. Check continuity between around view monitor control unit harness connector and front camera harness connector.

With BSW

Around view monitor control unit		Front camera		Continuity
Connector	Terminals	Connector	Terminals	
M102	68	E165	2	Existed
	70		1	

Without BSW

Around view monitor control unit		Front camera		Continuity
Connector	Terminals	Connector	Terminals	
M24	38	E165	2	Existed
	37		1	

4. Check continuity between around view monitor control unit harness connector and ground.

With BSW

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M102	68		Not existed

Without BSW

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M24	38		Not existed

Is inspection result normal?

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

2.CHECK VOLTAGE FRONT CAMERA POWER SUPPLY

1. Connect around view monitor control unit connector and front camera connector.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit harness connector and ground.

With BSW

Around view monitor control unit			Standard voltage	Reference voltage (Approx.)
Connector	Terminal (+)	Terminal (–)		
M102	68	70	5.0 - 9.0 V	6.0 V

Without BSW

Around view monitor control unit			Standard voltage	Reference voltage (Approx.)
Connector	Terminal (+)	Terminal (–)		
M24	38	37	5.0 - 9.0 V	6.0 V

Is inspection result normal?

YES >> GO TO 3.
NO >> Replace around view monitor control unit. Refer to AV-268, "Removal and Installation".

3.CHECK CONTINUITY CAMERA IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector and front camera connector.
3. Check continuity between around view monitor control unit harness connector and front camera harness connector.

With BSW

Around view monitor control unit		Front camera		Continuity
Connector	Terminals	Connector	Terminals	
M102	71	E165	4	Existed
	72		5	

Without BSW

Around view monitor control unit		Front camera		Continuity
Connector	Terminals	Connector	Terminals	
M24	40	E165	4	Existed
	39		5	

4. Check continuity between around view monitor control unit harness connector and ground.

With BSW

Around view monitor control unit		Ground	Continuity
Connector	Terminals		
M102	71		Not existed
	72		

Without BSW

Around view monitor control unit		Ground	Continuity
Connector	Terminals		
M24	40		Not existed
	39		

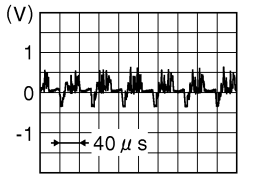
Is inspection result normal?

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

4. CHECK CAMERA IMAGE SIGNAL

1. Connect around view monitor control unit connector and front camera connector.
2. Turn ignition switch ON.
3. Check signal between around view monitor control unit harness connector terminals.

With BSW

Around view monitor control unit			Reference value
Connector	Terminal (+)	Terminal (–)	
M102	71	72	

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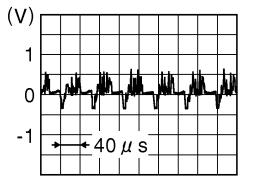
Without BSW

Around view monitor control unit			Reference value
Connector	Terminal (+)	Terminal (–)	
M24	40	39	

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Is inspection result normal?

YES >> Replace around view monitor control unit. Refer to AV-268, "Removal and Installation".
NO >> Replace front camera. Refer to AV-269, "Removal and Installation".

U111D SIDE CAMERA LH IMAGE SIGNAL CIRCUIT

DTC Description

INFOID:0000000010714855

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
U111D	SIDE CAMERA LH IMAGE SIGNAL (Side camera left image signal)	Camera image signal circuit is open or shorted.

POSSIBLE CAUSE

- Camera image signal circuit between side camera LH and around view monitor control unit

FAIL-SAFE

Camera image is not displayed (Gray screen display)

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn the ignition switch ON.
2. Turn ignition switch OFF and wait at least 30 seconds.
3. Turn ignition switch ON and wait at least 30 seconds.
4. Perform “All DTC Reading” with CONSULT.
5. Check if the “U111D” is detected as the current malfunction in “Self Diagnostic Result” of “AVM”.

Is “U111D” detected as the current malfunction?

YES >> Refer to AV-195, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010714856

1.CHECK CONTINUITY SIDE CAMERA LH POWER SUPPLY AND GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector and door mirror (passenger side) connector.
3. Check continuity between around view monitor control unit harness connector and door mirror (passenger side) harness connector.

LHD models with BSW

Around view monitor control unit		Door mirror (driver side)		Continuity
Connector	Terminals	Connector	Terminals	
M102	56	D3	7	Existed
	58		8	

LHD models without BSW

Around view monitor control unit		Door mirror (driver side)		Continuity
Connector	Terminals	Connector	Terminals	
M24	29	D3	8	Existed
	30		7	

RHD models with BSW

Around view monitor control unit		Door mirror (passenger side)		Continuity
Connector	Terminals	Connector	Terminals	

M102	62	D98	7	Existed
	64		8	

RHD models without BSW

Around view monitor control unit		Door mirror (passenger side)		Continuity
Connector	Terminals	Connector	Terminals	
M24	33	D98	8	Existed
	34		7	

4. Check continuity between around view monitor control unit harness connector and ground.

LHD models with BSW

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M102	56		Not existed

LHD models without BSW

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M24	30		Not existed

RHD models with BSW

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M102	62		Not existed

RHD models without BSW

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M24	34		Not existed

Is inspection result normal?

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

2.CHECK VOLTAGE SIDE CAMERA LH POWER SUPPLY

1. Connect around view monitor control unit connector and door mirror (passenger side) connector.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit harness connector and ground.

LHD models with BSW

Around view monitor control unit			Standard voltage	Reference voltage (Approx.)
Connector	Terminal			
	(+)	(–)		
	Terminal			
M102	56	58	5.0 - 9.0 V	6.0 V

LHD models without BSW

Around view monitor control unit			Standard voltage	Reference voltage (Approx.)
Connector	Terminal (+)	Terminal (–)		
M24	30	29	5.0 - 9.0 V	6.0 V

RHD models with BSW

Around view monitor control unit			Standard voltage	Reference voltage (Approx.)
Connector	Terminal (+)	Terminal (–)		
M102	62	64	5.0 - 9.0 V	6.0 V

RHD models without BSW

Around view monitor control unit			Standard voltage	Reference voltage (Approx.)
Connector	Terminal (+)	Terminal (–)		
M24	34	33	5.0 - 9.0 V	6.0 V

Is inspection result normal?

YES >> GO TO 3.
NO >> Replace around view monitor control unit. Refer to AV-268, "Removal and Installation".

3. CHECK CONTINUITY CAMERA IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector and door mirror (passenger side) connector.
3. Check continuity between around view monitor control unit harness connector and door mirror (passenger side) harness connector.

LHD models with BSW

Around view monitor control unit		Door mirror (driver side)		Continuity
Connector	Terminals	Connector	Terminals	
M102	59	D3	16	Existed
	60		15	

LHD models without BSW

Around view monitor control unit		Door mirror (driver side)		Continuity
Connector	Terminals	Connector	Terminals	
M24	31	D3	15	Existed
	32		16	

RHD models with BSW

Around view monitor control unit		Door mirror (passenger side)		Continuity
Connector	Terminals	Connector	Terminals	
M102	65	D98	16	Existed
	66		15	

RHD models without BSW

Around view monitor control unit		Door mirror (passenger side)		Continuity
Connector	Terminals	Connector	Terminals	
M24	35	D98	15	Existed
	36		16	

4. Check continuity between around view monitor control unit harness connector and ground.

LHD models with BSW

Around view monitor control unit		Ground	Continuity
Connector	Terminals		
M102	59		Not existed
	60		

RHD models without BSW

Around view monitor control unit		Ground	Continuity
Connector	Terminals		
M24	31		Not existed
	32		

RHD models with BSW

Around view monitor control unit		Ground	Continuity
Connector	Terminals		
M102	65		Not existed
	66		

RHD models without BSW

Around view monitor control unit		Ground	Continuity
Connector	Terminals		
M24	36		Not existed
	35		

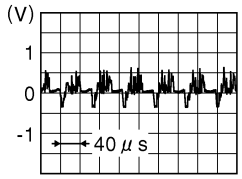
Is inspection result normal?

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

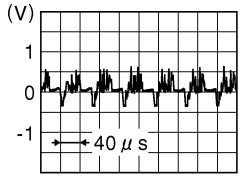
4. CHECK CAMERA IMAGE SIGNAL

1. Connect around view monitor control unit connector and door mirror (passenger side) connector.
2. Turn ignition switch ON.
3. Check signal between around view monitor control unit harness connector terminals.

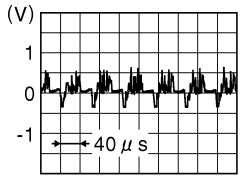
LHD models with BSW

Around view monitor control unit			Reference value
Connector	Terminal (+)	Terminal (–)	
M102	59	60	 JSNIA0834GB

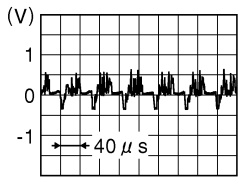
LHD models without BSW

Around view monitor control unit			Reference value
Connector	Terminal (+)	Terminal (–)	
M24	32	31	 JSNIA0834GB

RHD models with BSW

Around view monitor control unit			Reference value
Connector	Terminal (+)	Terminal (–)	
M102	65	66	 JSNIA0834GB

RHD models without BSW

Around view monitor control unit			Reference value
Connector	Terminal (+)	Terminal (–)	
M24	36	35	 JSNIA0834GB

Is inspection result normal?

YES >> Replace around view monitor control unit. Refer to AV-268, "Removal and Installation".
NO >> Replace side camera LH. Refer to AV-271, "Removal and Installation".

U112F EPS CIRCUIT

DTC Description

INFOID:0000000010923282

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	DTC detecting condition
U112F	EPS CIRC (EPS circuit)	The around view monitor control unit detects that EPS has a malfunction.

POSSIBLE CAUSE

EPS

FAIL-SAFE

Around view monitor with Park Assist is cancel

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

WITH CONSULT

1. Turn the ignition switch ON
2. Perform “All DTC Reading” with CONSULT.
3. Check if the “U112F” is detected as the current malfunction in “Self Diagnostic Result” of “AVM”.

“U112F” detected as the current malfunction?

YES >> Refer to AV-201, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010923283

1.CHECK SELF-DIAGNOSIS RESULTS

With CONSULT.

Check if the “U1000” is detected other than “U112F” in “Self Diagnostic Result” of “AVM”.

“U1000” detected?

YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to AV-178, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure".
NO >> GO TO 2.

2.CHECK SELF-DIAGNOSIS RESULTS

With CONSULT.

Check if any DTC is detected in “Self Diagnostic Result” of “EPS/DAST3”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to STC-21, "DTC Index".
NO >> Replace the around view monitor control unit. Refer to AV-268, "Removal and Installation".

U1217 NAVI CONTROL UNIT

DTC Description

INFOID:0000000010714857

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
U1217	BLUETOOTH MODULE (Bluetooth module connection)	NAVI control unit malfunction is detected.

POSSIBLE CAUSE

NAVI control unit

FAIL-SAFE

The function of some multi-AV systems does not operate

DTC CONFIRMATION PROCEDURE

NOTE:

- The auto ACC function allows the accessory power supply for a certain period of time even after ignition switch OFF. For this reason, when performing diagnosis, turn the ignition switch OFF and wait for 3 minutes with the driver's door opened.
- The operation of the vehicle during standby may cause an accessory power supply.

1. PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait for 3 minutes with the driver's door opened.
3. Turn ignition switch ON and wait at least 30 seconds or more.
4. Select “Self Diagnostic Result” mode of “MULTI AV” using CONSULT.
5. Check DTC.

Is DTC U1217 detected?

YES >> Proceed to AV-202, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010714858

1. PERFORM DTC CONFIRMATION PROCEDURE AGAIN

With CONSULT

1. Turn ignition switch ON.
2. Erase DTC.
3. Perform DTC confirmation procedure again. Refer to AV-202, "DTC Description".

Is DTC U1217 detected again?

YES >> Replace NAVI control unit. Refer to AV-262, "Removal and Installation".
NO >> INSPECTION END

U1229 NAVI CONTROL UNIT

DTC Description

INFOID:0000000010714859

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
U1229	iPod CERTIFICATION (iPod certification error)	NAVI control unit malfunction is detected.

POSSIBLE CAUSE

NAVI control unit

FAIL-SAFE

The function of some multi-AV systems does not operate

DTC CONFIRMATION PROCEDURE

NOTE:

- The auto ACC function allows the accessory power supply for a certain period of time even after ignition switch OFF. For this reason, when performing diagnosis, turn the ignition switch OFF and wait for 3 minutes with the driver's door opened.
- The operation of the vehicle during standby may cause an accessory power supply.

1. PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait for 3 minutes with the driver's door opened.
3. Turn ignition switch ON and wait at least 30 seconds.
4. Select “Self Diagnostic Result” mode of “MULTI AV” using CONSULT.
5. Check DTC.

Is DTC U1229 detected?

YES >> Proceed to AV-203, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010714860

1. PERFORM DTC CONFIRMATION PROCEDURE AGAIN

With CONSULT

1. Turn ignition switch ON.
2. Erase DTC.
3. Perform DTC confirmation procedure again. Refer to AV-203, "DTC Description".

Is DTC U1229 detected again?

YES >> Replace NAVI control unit. Refer to AV-262, "Removal and Installation".
NO >> INSPECTION END

U122F NAVI CONTROL UNIT

DTC Description

INFOID:0000000010714861

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
U122F	DAB CONN ERROR (Digital broadcasting connection error)	Communication error with digital audio broadcast module internal to NAVI control unit.

POSSIBLE CAUSE

NAVI control unit

FAIL-SAFE

DAB radio is not received

DTC CONFIRMATION PROCEDURE

NOTE:

- The auto ACC function allows the accessory power supply for a certain period of time even after ignition switch OFF. For this reason, when performing diagnosis, turn the ignition switch OFF and wait for 3 minutes with the driver's door opened.
- The operation of the vehicle during standby may cause an accessory power supply.

1. PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait for 3 minutes with the driver's door opened.
3. Turn ignition switch ON and wait at least 30 seconds.
4. Select “Self Diagnostic Result” mode of “MULTI AV” using CONSULT.
5. Check DTC.

Is DTC U122F detected?

YES >> Proceed to AV-204, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010714862

1. PERFORM DTC CONFIRMATION PROCEDURE AGAIN

With CONSULT

1. Turn ignition switch ON.
2. Erase DTC.
3. Perform DTC confirmation procedure again. Refer to AV-204, "DTC Description".

Is DTC U122F detected again?

YES >> Replace NAVI control unit. Refer to AV-262, "Removal and Installation".
NO >> INSPECTION END

U1232 STEERING ANGLE SENSOR

DTC Description

INFOID:0000000010714863

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
U1232	ST ANGLE SEN CALIB (Steering angle sensor calibration)	The neutral position registration of the steering angle sensor can not finish.

POSSIBLE CAUSE

Steering angle sensor

FAIL-SAFE

- Predicted course line is not displayed
- DAA system is cancel
- BSW system is cancel
- MOD (Moving Object Detection) function is cancel
- Around view monitor with Park Assist is cancel

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

WITH CONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait at least 30 seconds.
3. Turn ignition switch ON and wait at least 30 seconds or more.
4. Select “Self Diagnostic Result” mode of “AVM” using CONSULT.
5. Check DTC.

Is DTC U1232 detected?

YES >> Refer to AV-205, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010714864

1.PERFORM DTC CONFIRMATION PROCEDURE AGAIN

With CONSULT

1. Turn ignition switch ON.
2. Erase DTC.
3. Perform DTC confirmation procedure again. Refer to AV-205, "DTC Description".

Is DTC U1232 detected again?

YES >> Replace steering angle sensor. Refer to BRC-222, "Removal and Installation".
NO >> INSPECTION END

U1244 GPS ANTENNA

DTC Description

INFOID:0000000010714865

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
U1244	GPS ANTENNA CONN (GPS antenna connection)	GPS antenna connection malfunction is detected.

POSSIBLE CAUSE

- GPS antenna is not connected
- GPS antenna

FAIL-SAFE

The vehicle positions of a navigation screen differ.

DTC CONFIRMATION PROCEDURE

NOTE:

- The auto ACC function allows the accessory power supply for a certain period of time even after ignition switch OFF. For this reason, when performing diagnosis, turn the ignition switch OFF and wait for 3 minutes with the driver's door opened.
- The operation of the vehicle during standby may cause an accessory power supply.

1. PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait for 3 minutes with the driver's door opened.
3. Turn ignition switch ON and wait at least 30 seconds.
4. Select “Self Diagnostic Result” mode of “MULTI AV” using CONSULT.
5. Check DTC.

Is DTC U1244 detected?

YES >> Proceed to AV-206, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010714866

1. CHECK GPS ANTENNA

Visually check GPS antenna and antenna feeder.

Is the inspection result normal?

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

2. CHECK NAVI CONTROL UNIT VOLTAGE

1. Disconnect GPS antenna connector.
2. Turn ignition switch ON.
3. Check the voltage between NAVI control unit connector and ground.

Terminals		Voltage (Approx.)
(+) NAVI control unit Terminal	(–)	
86	Ground	5.0 V

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace NAVI control unit. Refer to AV-262, "Removal and Installation".

U1263 USB

DTC Description

INFOID:0000000010714867

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
U1263	USB OVERCURRENT (USB over current error)	Overcurrent of the USB connector and AUX jack is detected.

POSSIBLE CAUSE

- Harness or connectors (USB harness between the NAVI control unit and USB connector and AUX jack)
- USB connector and AUX jack

FAIL-SAFE

Audio equipment which connected to USB does not operate

DTC CONFIRMATION PROCEDURE

NOTE:

- The auto ACC function allows the accessory power supply for a certain period of time even after ignition switch OFF. For this reason, when performing diagnosis, turn the ignition switch OFF and wait for 3 minutes with the driver's door opened.
- The operation of the vehicle during standby may cause an accessory power supply.

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait for 3 minutes with the driver's door opened.
3. Turn ignition switch ON and wait at least 30 seconds.
4. Select “Self Diagnostic Result” mode of “MULTI AV” using CONSULT.
5. Check DTC.

Is DTC U1263 detected?

YES >> Proceed to AV-208, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010714868

1.CHECK USB HARNESS

Visually check USB harness.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace USB harness.

2.CHECK USB CONNECTOR AND AUX JACK.

Visually check USB connector and AUX jack.

Is the inspection result normal?

YES >> Replace NAVI control unit. Refer to AV-262, "Removal and Installation".
NO >> Replace USB connector and AUX jack. Refer to AV-266, "Removal and Installation".

U12AA CONFIGURATION ERROR

DTC Description

INFOID:0000000010714869

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
U12AA	CONFIGURATION ERROR (Configuration Error)	NAVI control unit is not properly configured or configuration is not recognized.

POSSIBLE CAUSE

NAVI control unit

FAIL-SAFE

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

DTC CONFIRMATION PROCEDURE

NOTE:

- The auto ACC function allows the accessory power supply for a certain period of time even after ignition switch OFF. For this reason, when performing diagnosis, turn the ignition switch OFF and wait for 3 minutes with the driver's door opened.
- The operation of the vehicle during standby may cause an accessory power supply.

1. PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait for 3 minutes with the driver's door opened.
3. Turn ignition switch ON and wait at least 30 seconds.
4. Select “Self Diagnostic Result” mode of “MULTI AV” using CONSULT.
5. Check DTC.

Is DTC U12AA detected?

YES >> Proceed to AV-209, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010714870

1. PERFORM CONFIGURATION

When U12AA is detected, configuration data must be written.

>> Write configuration data with CONSULT. Refer to AV-157, "CONFIGURATION (NAVI CONTROL UNIT) : Work Procedure".

U12AB ANTENNA

DTC Description

INFOID:0000000010714871

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
U12AB	FM ANTENNA ERROR (Frequency modulation antenna error)	FM antenna connection error is detected.

POSSIBLE CAUSE

- FM antenna feeder connection
- FM antenna feeder

FAIL-SAFE

Radio is not received

DTC CONFIRMATION PROCEDURE

NOTE:

- The auto ACC function allows the accessory power supply for a certain period of time even after ignition switch OFF. For this reason, when performing diagnosis, turn the ignition switch OFF and wait for 3 minutes with the driver's door opened.
- The operation of the vehicle during standby may cause an accessory power supply.

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait for 3 minutes with the driver's door opened.
3. Turn ignition switch ON and wait at least 30 seconds.
4. Select “Self Diagnostic Result” mode of “MULTI AV” using CONSULT.
5. Check DTC.

Is DTC U12AB detected?

YES >> Proceed to AV-210, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010714872

NOTE:

- The auto ACC function allows the accessory power supply for a certain period of time even after ignition switch OFF. For this reason, when performing diagnosis, turn the ignition switch OFF and wait for 3 minutes with the driver's door opened.
- The operation of the vehicle during standby may cause an accessory power supply.

1.ANTENNA INSPECTION

Visually inspect the antenna rod and antenna feeder. Refer to AV-276, "Feeder Layout".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace malfunctioning part.

2.CHECK CONTINUITY BETWEEN NAVI CONTROL UNIT AND ANTENNA AMP.(ANTENNA BASE)

1. Turn ignition switch OFF.
2. Disconnect base harness connector and NAVI control unit harness connector.
3. Check the continuity between NAVI control unit harness connector and antenna base harness connector.

NAVI control unit		Antenna base		Continuity
Connector	Terminals	Connector	Terminals	
M352	88	M375	1	Existed
	89		2	

4. Check the continuity between NAVI control unit harness connector and ground.

NAVI control unit		Ground	Continuity
Connector	Terminals		
M352	88		Not existed
	89		

Is the inspection result normal?

YES >> Replace NAVI control unit. Refer to AV-262, "Removal and Installation".
NO >> Repair harness or connector.

U12AC NAVI CONTROL UNIT

DTC Description

INFOID:0000000010714873

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
U12AC	DISPLAY TEMPERATURE TOO HIGH (Display temperature too high)	Excessive display circuit temperature is detected.

POSSIBLE CAUSE

NAVI control unit

FAIL-SAFE

The function of some multi-AV systems does not operate

DTC CONFIRMATION PROCEDURE

NOTE:

- The auto ACC function allows the accessory power supply for a certain period of time even after ignition switch OFF. For this reason, when performing diagnosis, turn the ignition switch OFF and wait for 3 minutes with the driver's door opened.
- The operation of the vehicle during standby may cause an accessory power supply.

1. PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait for 3 minutes with the driver's door opened.
3. Turn ignition switch ON and wait at least 30 seconds.
4. Select “Self Diagnostic Result” mode of “MULTI AV” using CONSULT.
5. Check DTC.

Is DTC U12AC detected?

YES >> Proceed to AV-212, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010714874

1. PERFORM DTC CONFIRMATION PROCEDURE AGAIN

With CONSULT

1. Turn ignition switch ON.
2. Erase DTC.
3. Perform DTC confirmation procedure again. Refer to AV-212, "DTC Description".

Is DTC U12AC detected again?

YES >> Replace NAVI control unit. Refer to AV-262, "Removal and Installation".
NO >> INSPECTION END

U12AD NAVI CONTROL UNIT

DTC Description

INFOID:0000000010714875

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
U12AD	ECU TEMPERATURE TOO HIGH (Electronic control unit temperature too High)	Excessive internal ECU circuit temperature is detected.

POSSIBLE CAUSE

NAVI control unit

FAIL-SAFE

The function of some multi-AV systems does not operate

DTC CONFIRMATION PROCEDURE

NOTE:

- The auto ACC function allows the accessory power supply for a certain period of time even after ignition switch OFF. For this reason, when performing diagnosis, turn the ignition switch OFF and wait for 3 minutes with the driver's door opened.
- The operation of the vehicle during standby may cause an accessory power supply.

1. PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait for 3 minutes with the driver's door opened.
3. Turn ignition switch ON and wait at least 30 seconds.
4. Select “Self Diagnostic Result” mode of “MULTI AV” using CONSULT.
5. Check DTC.

Is DTC U12AD detected?

YES >> Proceed to AV-213, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010714876

1. PERFORM DTC CONFIRMATION PROCEDURE AGAIN

With CONSULT

1. Turn ignition switch ON.
2. Erase DTC.
3. Perform DTC confirmation procedure again. Refer to AV-213, "DTC Description".

Is DTC U12AD detected again?

YES >> Replace NAVI control unit. Refer to AV-262, "Removal and Installation".
NO >> INSPECTION END

U12AE NAVI CONTROL UNIT

DTC Description

INFOID:0000000010714877

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
U12AE	INTERNAL AMP TEMP WARNING (Internal amplifier temperature warning)	Excessive internal amplifier circuit temperature is detected.

POSSIBLE CAUSE

NAVI control unit

FAIL-SAFE

The function of some multi-AV systems does not operate

DTC CONFIRMATION PROCEDURE

NOTE:

- The auto ACC function allows the accessory power supply for a certain period of time even after ignition switch OFF. For this reason, when performing diagnosis, turn the ignition switch OFF and wait for 3 minutes with the driver's door opened.
- The operation of the vehicle during standby may cause an accessory power supply.

1. PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait for 3 minutes with the driver's door opened.
3. Turn ignition switch ON and wait at least 30 seconds.
4. Select “Self Diagnostic Result” mode of “MULTI AV” using CONSULT.
5. Check DTC.

Is DTC U12AE detected?

YES >> Proceed to AV-214, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010714878

1. PERFORM DTC CONFIRMATION PROCEDURE AGAIN

With CONSULT

1. Turn ignition switch ON.
2. Erase DTC.
3. Perform DTC confirmation procedure again. Refer to AV-214, "DTC Description".

Is DTC U12AE detected again?

YES >> Replace NAVI control unit. Refer to AV-262, "Removal and Installation".
NO >> INSPECTION END

U12AF NAVI CONTROL UNIT

DTC Description

INFOID:0000000010714879

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
U12AF	CD MECHANISM TEMP WARNING (CD mechanism temperature warning)	Excessive CD mechanism circuit temperature is detected.

POSSIBLE CAUSE

NAVI control unit

FAIL-SAFE

The function of some multi-AV systems does not operate

DTC CONFIRMATION PROCEDURE

NOTE:

- The auto ACC function allows the accessory power supply for a certain period of time even after ignition switch OFF. For this reason, when performing diagnosis, turn the ignition switch OFF and wait for 3 minutes with the driver's door opened.
- The operation of the vehicle during standby may cause an accessory power supply.

1. PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait for 3 minutes with the driver's door opened.
3. Turn ignition switch ON and wait at least 30 seconds.
4. Select “Self Diagnostic Result” mode of “MULTI AV” using CONSULT.
5. Check DTC.

Is DTC U12AF detected?

YES >> Proceed to AV-215, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010714880

1. PERFORM DTC CONFIRMATION PROCEDURE AGAIN

With CONSULT

1. Turn ignition switch ON.
2. Erase DTC.
3. Perform DTC confirmation procedure again. Refer to AV-215, "DTC Description".

Is DTC U12AF detected again?

YES >> Replace NAVI control unit. Refer to AV-262, "Removal and Installation".
NO >> INSPECTION END

U12B0 POWER SUPPLY VOLTAGE

DTC Description

INFOID:0000000010714881

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
U12B0	SUPPLY VOLTAGE UNDER 9V (Supply of the battery voltage less than 9V continued for 20 seconds)	NAVI control unit power supply voltage is less than the lower limit.

POSSIBLE CAUSE

- NAVI control unit power supply circuit
- NAVI control unit

FAIL-SAFE

The function of some multi-AV systems does not operate

DTC CONFIRMATION PROCEDURE

NOTE:

- The auto ACC function allows the accessory power supply for a certain period of time even after ignition switch OFF. For this reason, when performing diagnosis, turn the ignition switch OFF and wait for 3 minutes with the driver's door opened.
- The operation of the vehicle during standby may cause an accessory power supply.

1. PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait for 3 minutes with the driver's door opened.
3. Turn ignition switch ON and wait at least 30 seconds.
4. Select “Self Diagnostic Result” mode of “MULTI AV” using CONSULT.
5. Check DTC.

Is DTC U12B0 detected?

YES >> Proceed to AV-216, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010714882

1. CHECK NAVI CONTROL UNIT POWER SUPPLY CIRCUIT

Check NAVI control unit power supply circuit. Refer to AV-241, "NAVI CONTROL UNIT : Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace NAVI control unit. Refer to AV-262, "Removal and Installation".
NO >> Repair or replace malfunctioning parts.

U12B1 POWER SUPPLY VOLTAGE

DTC Description

INFOID:0000000010714883

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
U12B1	SUPPLY VOLTAGE OVER 16V (Supply of the battery voltage more than 16V continued for 20 seconds)	NAVI control unit power supply voltage is more than the upper limit.

POSSIBLE CAUSE

- NAVI control unit power supply circuit
- NAVI control unit

FAIL-SAFE

The function of some multi-AV systems does not operate

DTC CONFIRMATION PROCEDURE

NOTE:

- The auto ACC function allows the accessory power supply for a certain period of time even after ignition switch OFF. For this reason, when performing diagnosis, turn the ignition switch OFF and wait for 3 minutes with the driver's door opened.
- The operation of the vehicle during standby may cause an accessory power supply.

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait for 3 minutes with the driver's door opened.
3. Turn ignition switch ON and wait at least 30 seconds.
4. Select “Self Diagnostic Result” mode of “MULTI AV” using CONSULT.
5. Check DTC.

Is DTC U12B1 detected?

YES >> Proceed to AV-217, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010714884

1.CHECK NAVI CONTROL UNIT POWER SUPPLY CIRCUIT

Check NAVI control unit power supply circuit. Refer to AV-241, "NAVI CONTROL UNIT : Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace NAVI control unit. Refer to AV-262, "Removal and Installation".
NO >> Repair or replace malfunctioning parts.

U12B2 DAB ANTENNA

DTC Description

INFOID:0000000010714885

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
U12B2	DAB ANTENNA CONN (DAB antenna connection error)	DAB antenna connection and circuit malfunction is detected.

POSSIBLE CAUSE

- DAB antenna is unconnected
- Harness or connector (DAB antenna circuit is open or short)

FAIL-SAFE

DAB radio is not received

DTC CONFIRMATION PROCEDURE

NOTE:

- The auto ACC function allows the accessory power supply for a certain period of time even after ignition switch OFF. For this reason, when performing diagnosis, turn the ignition switch OFF and wait for 3 minutes with the driver's door opened.
- The operation of the vehicle during standby may cause an accessory power supply.

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait for 3 minutes with the driver's door opened.
3. Turn ignition switch ON and wait at least 30 seconds.
4. Select “Self Diagnostic Result” mode of “MULTI AV” using CONSULT.
5. Check DTC.

Is DTC U12B2 detected?

YES >> Proceed to AV-218, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010714886

NOTE:

- The auto ACC function allows the accessory power supply for a certain period of time even after ignition switch OFF. For this reason, when performing diagnosis, turn the ignition switch OFF and wait for 3 minutes with the driver's door opened.
- The operation of the vehicle during standby may cause an accessory power supply.

1.CHECK ANTENNA BASE (DAB ANTENNA) HARNESS CONNECTOR

1. Turn ignition switch OFF.
2. Visually check antenna base (DAB antenna) and antenna feeder.

Is the inspection result normal?

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

2.CHECK CONTINUITY BETWEEN NAVI CONTROL UNIT AND ANTENNA AMP.(ANTENNA BASE)

1. Turn ignition switch OFF.
2. Disconnect base harness connector and NAVI control unit harness connector.
3. Check the continuity between NAVI control unit harness connector and antenna base harness connector.

NAVI control unit		Antenna base		Continuity
Connector	Terminals	Connector	Terminals	
M390	90	M375	3	Existed

4. Check the continuity between NAVI control unit harness connector and ground.

NAVI control unit		Ground	Continuity
Connector	Terminals		
M390	90		Not existed

Is the inspection result normal?

YES >> Replace NAVI control unit. Refer to AV-262, "Removal and Installation".
NO >> Repair harness or connector.

U1300 AV COMM CIRCUIT

DTC Description

INFOID:0000000010714887

U1300 is displayed when the AV signal error is detected for the multi AV system. It is always displayed together with the error of the control unit connected to the NAVI control unit via AV communication.

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
U1300	AV COMM CIRCUIT (AV communication circuit)	• AV communication signal cannot be transmitted by the abnormalities in NAVI control unit. • AV communication signal cannot receive by the abnormalities of ECU connected to AV communication circuit.

POSSIBLE CAUSE

- AV communication circuit
- NAVI control unit
- Combination meter

FAIL-SAFE

The system of ECU which detected abnormalities does not operate.

DTC CONFIRMATION PROCEDURE

NOTE:

- The auto ACC function allows the accessory power supply for a certain period of time even after ignition switch OFF. For this reason, when performing diagnosis, turn the ignition switch OFF and wait for 3 minutes with the driver's door opened.
- The operation of the vehicle during standby may cause an accessory power supply.

1. PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait for 3 minutes with the driver's door opened.
3. Turn ignition switch ON.
4. Select “Self Diagnostic Result” mode of “MULTI AV” using CONSULT.
5. Check DTC.

Is DTC U1300 detected?

YES >> Refer to AV-220, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010714888

NOTE:

- The auto ACC function allows the accessory power supply for a certain period of time even after ignition switch OFF. For this reason, when performing diagnosis, turn the ignition switch OFF and wait for 3 minutes with the driver's door opened.
- The operation of the vehicle during standby may cause an accessory power supply.

1. CHECK CONTINUITY OF AV COMMUNICATION CIRCUIT (NAVI CONTROL UNIT ⇔ COMBINATION METER)

1. Turn the ignition switch OFF.
2. Disconnect the connectors of NAVI control unit and combination meter.
3. Check continuity between NAVI control unit harness connector and combination meter harness connector.

NAVI control unit		Combination meter		Continuity
Connector	Terminal	Connector	Terminal	
M28	38	M42	47	Existed
	39		48	

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

NAVI control unit		Ground	Continuity
Connector	Terminal		
M28	38		Not existed
	39		

Is the inspection result normal?

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

2. CHECK CONTINUITY OF NAVI COMMUNICATION CIRCUIT (COMBINATION METER ⇔ NAVI CONTROL UNIT)

1. Turn the ignition switch OFF.
2. Disconnect the connectors of combination meter and NAVI control unit.
3. Check continuity between combination meter harness connector and NAVI control unit harness connector.

Combination meter		NAVI control unit		Continuity
Connector	Terminal	Connector	Terminal	
M42	47	M28	31	Existed
	48		32	

4. Check continuity between combination meter harness connector and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M42	47		Not existed
	48		

Is the inspection result normal?

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

3. CHECK COMBINATION METER POWER SUPPLY AND GROUND CIRCUIT

Check the combination meter power supply and ground circuit. Refer to MWI-129, "COMBINATION METER : Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-151, "Removal and Installation".
NO >> Repair or replace malfunctioning parts.

U1302 CAMERA POWER VOLT

DTC Description

INFOID:0000000011009296

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
U1302	CAMERA POWER VOLT (Camera power voltage)	Camera power supply voltage does not satisfy the following conditions for 2 seconds or more when ignition switch is turned ON. • When camera power supply output is ON: 5.9 - 6.5 V • When OFF: 0 V by camera power supply measurement.

POSSIBLE CAUSE

- Harness or connector (Camera power supply circuit)
- Around view monitor control unit

FAIL-SAFE

Camera power output is stopped

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait at least 30 seconds.
3. Turn ignition switch ON and wait at least 30 seconds or more.
4. Select “Self Diagnostic Result” mode of “AVM” using CONSULT.
5. Check DTC.

Is DTC U1302 detected?

YES >> Refer to AV-222, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000011009297

1.CHECK AROUND VIEW MONITOR CONTROL UNIT POWER SUPPLY AND GROUND CIRCUIT

Check the around view monitor control unit power supply and ground circuit. Refer to AV-241, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure".

Is the inspection result normal?

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

2.CHECK REAR CAMERA POWER SUPPLY OUTPUT CIRCUIT (CHECK FOR SHORT CIRCUIT)

1. Disconnect around view monitor control unit harness connector and rear camera harness connector.
2. Check the continuity between around view monitor control unit harness connector and ground.

With BSW

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M102	50		Not existed

Without BSW

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M24	26		Not existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the harness or connectors.

3. CHECK REAR CAMERA POWER SUPPLY (1)

1. Connect around view monitor control unit harness connector.
2. Turn ignition switch ON.
3. Check the voltage between around view monitor control unit terminals.

With BSW

Around view monitor control unit			Reference value (Approx.)
Connector	Terminal (+)	Terminal (–)	
M102	50	52	6.0 V

Without BSW

Around view monitor control unit			Reference value (Approx.)
Connector	Terminal (+)	Terminal (–)	
M24	26	25	6.0 V

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace around view monitor control unit. Refer to AV-268, "Removal and Installation".

4. CHECK REAR CAMERA POWER SUPPLY (2)

1. Turn ignition switch OFF.
2. Connect rear camera harness connector.
3. Turn ignition switch ON.
4. Check the voltage between around view monitor control unit terminals.

With BSW

Around view monitor control unit			Reference value (Approx.)
Connector	Terminal (+)	Terminal (–)	
M102	50	52	6.0 V

Without BSW

Around view monitor control unit			Reference value (Approx.)
Connector	Terminal (+)	Terminal (–)	
M24	26	25	6.0 V

Is the inspection result normal?

YES >> GO TO 5.
NO >> Replace rear camera. Refer to AV-270, "Removal and Installation".

5. CHECK FRONT CAMERA POWER SUPPLY OUTPUT CIRCUIT (CHECK FOR SHORT CIRCUIT)

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit harness connector and front camera harness connector.
3. Check the continuity between around view monitor control unit harness connector and ground.

With BSW

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M102	68		Not existed

Without BSW

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M24	38		Not existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair the harness or connectors.

6.CHECK FRONT CAMERA POWER SUPPLY (1)

1. Connect around view monitor control unit harness connector.
2. Turn ignition switch ON.
3. Check the voltage between around view monitor control unit terminals.

With BSW

Around view monitor control unit			Reference value (Approx.)
Connector	Terminal		
	(+)	(–)	
	Terminal		
M102	68	70	6.0 V

Without BSW

Around view monitor control unit			Reference value (Approx.)
Connector	Terminal		
	(+)	(–)	
	Terminal		
M24	38	37	6.0 V

Is the inspection result normal?

YES >> GO TO 7.
NO >> Replace around view monitor control unit. Refer to AV-268, "Removal and Installation".

7.CHECK FRONT CAMERA POWER SUPPLY (2)

1. Turn ignition switch OFF.
2. Connect front camera harness connector.
3. Turn ignition switch ON.
4. Check the voltage between around view monitor control unit terminals.

With BSW

Around view monitor control unit			Reference value (Approx.)
Connector	Terminal		
	(+)	(–)	
	Terminal		
M102	68	70	6.0 V

Without BSW

Around view monitor control unit			Reference value (Approx.)
Connector	Terminal (+)	Terminal (–)	
M24	38	37	6.0 V

Is the inspection result normal?

YES >> GO TO 8.
NO >> Replace front camera. Refer to AV-269, "Removal and Installation".

8. CHECK SIDE CAMERA RH POWER SUPPLY OUTPUT CIRCUIT (CHECK FOR SHORT CIRCUIT)

1. Turn ignition switch OFF.
2. Disconnect following harness connector .
- Around view monitor control unit
- Door mirror (passenger side) (LHD models)
- Door mirror (driver side) (RHD models)
3. Check the continuity between around view monitor control unit harness connector and ground.

LHD models with BSW

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M102	62		Not existed

LHD models without BSW

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M24	34		Not existed

RHD models with BSW

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M102	56		Not existed

RHD models without BSW

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M24	30		Not existed

Is the inspection result normal?

YES >> GO TO 9.
NO >> Repair the harness or connectors.

9. CHECK SIDE CAMERA RH POWER SUPPLY (1)

1. Connect around view monitor control unit harness connector.
2. Turn ignition switch ON.
3. Check the voltage between around view monitor control unit terminals.

LHD models with BSW

Around view monitor control unit			Reference value (Approx.)
Connector	Terminals +	Terminals –	
	Terminal		
M102	62	64	6.0 V

LHD models without BSW

Around view monitor control unit			Reference value (Approx.)
Connector	Terminals		
	+	–	
	Terminal		
M24	34	33	6.0 V

RHD models with BSW

Around view monitor control unit			Reference value (Approx.)
Connector	Terminals		
	+	–	
	Terminal		
M102	56	58	6.0 V

RHD models without BSW

Around view monitor control unit			Reference value (Approx.)
Connector	Terminals		
	+	–	
	Terminal		
M24	30	29	6.0 V

Is the inspection result normal?

YES >> GO TO 10.
NO >> Replace around view monitor control unit. Refer to AV-268, "Removal and Installation".

10. CHECK SIDE CAMERA RH POWER SUPPLY (2)

1. Turn ignition switch OFF.
2. Connect following harness connector.
- Door mirror (passenger side) (LHD models)
- Door mirror (driver side) (RHD models)
3. Turn ignition switch ON.
4. Check the voltage between around view monitor control unit terminals.

LHD models with BSW

Around view monitor control unit			Reference value (Approx.)
Connector	Terminals		
	+	–	
	Terminal		
M102	62	64	6.0 V

LHD models without BSW

Around view monitor control unit			Reference value (Approx.)
Connector	Terminals		
	+	–	
	Terminal		
M24	34	33	6.0 V

RHD models with BSW

Around view monitor control unit			Reference value (Approx.)
Connector	Terminals		
	+	–	
	Terminal		
M102	56	58	6.0 V

RHD models without BSW

Around view monitor control unit			Reference value (Approx.)
Connector	Terminals		
	+	–	
	Terminal		
M24	30	29	6.0 V

Is the inspection result normal?

YES >> GO TO 11.
NO >> Replace side camera RH. Refer to AV-271, "Removal and Installation".

11. CHECK SIDE CAMERA LH POWER SUPPLY OUTPUT CIRCUIT (CHECK FOR SHORT CIRCUIT)

1. Turn ignition switch OFF.
2. Disconnect following harness connector .
- Around view monitor control unit
- Door mirror (driver side) (LHD models)
- Door mirror (passenger side) (RHD models)
3. Check the continuity between around view monitor control unit harness connector and ground.

LHD models with BSW

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M102	56		Not existed

LHD models without BSW

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M24	30		Not existed

RHD models with BSW

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M102	62		Not existed

RHD models without BSW

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M24	34		Not existed

Is the inspection result normal?

YES >> GO TO 12.
NO >> Repair the harness or connectors.

12. CHECK SIDE CAMERA LH POWER SUPPLY (1)

1. Connect around view monitor control unit harness connector.
2. Turn ignition switch ON.
3. Check the voltage between around view monitor control unit terminals.

LHD models with BSW

Around view monitor control unit			Reference value (Approx.)
Connector	Terminals		
	+	–	
	Terminal		
M102	56	58	6.0 V

LHD models without BSW

Around view monitor control unit			Reference value (Approx.)
Connector	Terminals		
	+	–	
	Terminal		
M24	30	29	6.0 V

RHD models with BSW

Around view monitor control unit			Reference value (Approx.)
Connector	Terminals		
	+	–	
	Terminal		
M102	62	64	6.0 V

RHD models without BSW

Around view monitor control unit			Reference value (Approx.)
Connector	Terminals		
	+	–	
	Terminal		
M24	34	33	6.0 V

Is the inspection result normal?

YES >> GO TO 13.
NO >> Replace around view monitor control unit. Refer to AV-268, "Removal and Installation".

13. CHECK SIDE CAMERA LH POWER SUPPLY (2)

1. Turn ignition switch OFF.
2. Connect following harness connector.
- Door mirror (driver side) (LHD models)
- Door mirror (passenger side) (RHD models)
3. Turn ignition switch ON.
4. Check the voltage between around view monitor control unit terminals.

LHD models with BSW

Around view monitor control unit			Reference value (Approx.)
Connector	Terminals		
	+	–	
	Terminal		
M102	56	58	6.0 V

LHD models without BSW

Around view monitor control unit			Reference value (Approx.)
Connector	Terminals		
	+	–	
	Terminal		
M24	30	29	6.0 V

RHD models with BSW

Around view monitor control unit			Reference value (Approx.)
Connector	Terminals		
	+	–	
	Terminal		
M102	62	64	6.0 V

RHD models without BSW

Around view monitor control unit			Reference value (Approx.)
Connector	Terminals		
	+	–	
	Terminal		
M24	34	33	6.0 V

Is the inspection result normal?

YES >> Replace around view monitor control unit. Refer to AV-268, "Removal and Installation".
NO >> Replace side camera RH. Refer to AV-271, "Removal and Installation".

U1304 CAMERA IMAGE CALIBRATION

DTC Description

INFOID:0000000010714889

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detection condition
U1304	CAMERA IMAGE CALIB (Camera image calibration)	Camera calibration is incomplete. **NOTE:** Current malfunction is displayed only and is not saved.

POSSIBLE CAUSE

Perform camera calibration

FAIL-SAFE

Unmatched icon ☒ display (red) is displayed (applicable for unmatched camera only).

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

Ⓗ WITH CONSULT

1. Turn the ignition switch ON.
2. Turn ignition switch OFF and wait at least 30 seconds.
3. Turn ignition switch ON and wait at least 30 seconds or more.
4. Select “Self Diagnostic Result” mode of “AVM” using CONSULT.
5. Check DTC.

Is DTC U1304 detected?

YES >> Refer to AV-230, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010714890

1.PERFORM CALIBRATING CAMERA IMAGE

Perform camera calibration when DTC U1304 is detected.

>> Perform camera calibration. Refer to AV-161, "CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Description".

U1305 CONFIG UNFINISH

DTC Description

INFOID:0000000010923284

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
U1305	CONFIG UNFINISH (Configuration unfinish)	The vehicle specifications of around view monitor control unit is incomplete. **NOTE:** Current malfunction is displayed only and is not saved.

POSSIBLE CAUSE

Vehicle specifications for around view monitor control unit is incomplete

FAIL-SAFE

- On applicable camera screen ⚠ marking (Red) is displayed.
- Around view monitor with Park Assist is cancel.

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

WITH CONSULT

1. Turn the ignition switch ON.
2. Turn ignition switch OFF and wait at least 30 seconds.
3. Turn ignition switch ON and wait at least 30 seconds or more.
4. Select “Self Diagnostic Result” mode of “AVM” using CONSULT.
5. Check DTC.

Is DTC U1305 detected?

YES >> Refer to AV-231, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010923285

1.PERFORM CONFIGURATION OF AROUND VIEW MONITOR CONTROL UNIT

Perform configuration of around view monitor control unit when DTC U1305 is detected.

>> Perform configuration of around view monitor control unit. Refer to AV-159, "CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT) : Work Procedure".

U1308 REAR CAMERA

DTC Description

INFOID:0000000010714891

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
U1308	R-CAMERA (R&L) CALIB JDG-MNT (Rear camera (right & left) calibration judgment)	Camera image calibration is incomplete

POSSIBLE CAUSE

- Calibration for camera image is incomplete
- Camera communication line

FAIL-SAFE

- BSW system is cancel
- Around view monitor with Park Assist is cancel

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC U1308 is displayed with DTC U130B, first perform the confirmation procedure (trouble diagnosis) for DTC U130B.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to AV-235, "DTC Description".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the LDW system ON.
3. Perform “ALL DTC Reading” with CONSULT.
4. Check if the “U1308” is detected as the current malfunction in “Self Diagnostic Result” of “AVM”.

Is “U1308” detected as the current malfunction?

YES >> Refer to AV-232, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010714892

1.PERFORM CALIBRATION OF CAMERA IMAGE

Perform calibration of camera image when DTC U1308 is detected.

>> Perform calibration of camera image. Refer to DAS-100, "Work Procedure (Preparation)".

U1309 AIR PUMP

DTC Description

INFOID:0000000010714893

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
U1309	PUMP INPUT CURRENT JUDGE (Pump input current judge)	Around view monitor control unit detects the value of current from air pump is incorrect

POSSIBLE CAUSE

Air pump

FAIL-SAFE

- MOD (Moving Object Detection) function is cancel
- BSW system is cancel

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the LDW system ON.
3. Perform “ALL DTC Reading” with CONSULT.
4. Check if the “U1309” is detected as the current malfunction in “Self Diagnostic Result” of “AVM”.

Is “U1309” detected as the current malfunction?

YES >> Refer to AV-233, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010714894

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the LDW system ON.
3. Perform “All DTC Reading” with CONSULT.
4. Check if the “U1309” is detected as the current malfunction in “Self Diagnostic Result” of “AVM”.

Is “U1309” detected as the current malfunction?

YES >> Replace the air pump. Refer to DAS-154, "Removal and Installation".
NO >> Refer to GI-44, "Intermittent Incident".

U130A PUMP CONTROL UNIT

DTC Description

INFOID:0000000010714895

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
U130A	PUMP ECU JUDGE (Pump control unit judgement)	If the pump control unit is malfunction

POSSIBLE CAUSE

Pump control unit

FAIL-SAFE

- MOD (Moving Object Detection) function is cancel
- BSW system is cancel

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the LDW system ON.
3. Perform “All DTC Reading” with CONSULT.
4. Check if the “U130A” is detected as the current malfunction in “Self Diagnostic Result” of “AVM”.

Is “U130A” detected as the current malfunction?

YES >> Refer to AV-234, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010714896

1.CHECK VOLTAGE PUMP CONTROL UNIT POWER SUPPLY

Check pump control unit power supply and ground circuit. Refer to DAS-131, "PUMP CONTROL UNIT : Diagnosis Procedure".

Is inspection result normal?

YES >> Replace the pump control unit. Refer to DAS-153, "Removal and Installation".
NO >> Repair the pump control unit power supply and ground circuit.

U130B REAR CAMERA

DTC Description

INFOID:0000000010714897

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
U130B	REAR CAMERA COMM ERROR (Rear camera communication error)	Around view monitor control unit receives the incorrect communication signal from rear camera unit

POSSIBLE CAUSE

- Rear camera
- Around view monitor control unit

FAIL-SAFE

- MOD (Moving Object Detection) function is cancel
- BSW system is cancel

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn the ignition switch ON.
2. Shift the selector lever to “R” position.
3. Perform “All DTC Reading” with CONSULT.
4. Check if the “U130B” is detected as the current malfunction in “Self Diagnostic Result” of “AVM”.

Is “U130B” detected as the current malfunction?

YES >> Refer to AV-235, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010714898

1.REPLACE REAR CAMERA

1. Turn ignition switch OFF.
2. Replace the rear camera. Refer to AV-270, "Removal and Installation".
3. Turn ignition switch ON.
4. Erases All self-diagnosis results.
5. Shift selector lever to “R” position.
6. Perform “All DTC Reading” again.
7. Check if the “U130B” is detected in self-diagnosis results of “AVM”.

Is inspection result normal?

YES >> Refer to INSPECTION END.
NO >> Replace around view monitor control unit. Refer to AV-270, "Removal and Installation".

U1310 NAVI CONTROL UNIT

DTC Description

INFOID:0000000010714899

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detection condition
U1310	CONTROL UNIT (AV) [Control unit (AV)]	AV communication circuit initial diagnosis malfunction is detected

POSSIBLE CAUSE

NAVI control unit

FAIL-SAFE

The system which is using AV communication does not operate

DTC CONFIRMATION PROCEDURE

NOTE:

- The auto ACC function allows the accessory power supply for a certain period of time even after ignition switch OFF. For this reason, when performing diagnosis, turn the ignition switch OFF and wait for 3 minutes with the driver's door opened.
- The operation of the vehicle during standby may cause an accessory power supply.

1. PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait for 3 minutes with the driver's door opened.
3. Turn ignition switch ON and wait at least 30 seconds or more.
4. Select “Self Diagnostic Result” mode of “MULTI AV” using CONSULT.
5. Check DTC.

Is DTC U1310 detected?

YES >> Refer to AV-236, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010714900

1. PERFORM DTC CONFIRMATION PROCEDURE AGAIN

With CONSULT

1. Turn the ignition switch ON.
2. Erase DTC.
3. Perform DTC confirmation procedure again. Refer to AV-236, "DTC Description".

Is DTC U1310 detected again?

YES >> Replace NAVI control unit. Refer to AV-262, "Removal and Installation".
NO >> INSPECTION END

U1320 REPROGRAMMING

DTC Description

INFOID:0000000010923286

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
U1320	REPROGRAMMING (Reprogramming failed)	Reprogramming of around view monitor control unit is incomplete

POSSIBLE CAUSE

Around view monitor control unit

FAIL-SAFE

Around view monitor with Park Assist is cancel

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

WITH CONSULT

1. Turn the ignition switch ON and wait at least a minute.
2. Perform “All DTC Reading” with CONSULT.
3. If “U1320” is detected in “Self Diagnostic Result” of “AVM”, erase it.
4. Turn the ignition switch OFF.
5. Turn the ignition switch ON and wait at least a minute.
6. Check if the “U1320” is detected as the current malfunction in “Self Diagnostic Result” of “AVM”.

Is “U1320” detected as the current malfunction?

YES >> Refer to AV-237, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010923287

1.PERFORM REPROGRAMMING

Perform reprogramming of the around view monitor control unit again.

>> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE AGAIN

Perform DTC confirmation procedure again. Refer to AV-237, "DTC Description".

Is DTC U1320 detected again?

YES >> Replace around view monitor control unit. Refer to AV-268, "Removal and Installation".
NO >> INSPECTION END

U150E BCM CIRCUIT

DTC Description

INFOID:0000000010923288

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
U150E	BCM CIRC (Body control module circuit)	BCM malfunction is detected

POSSIBLE CAUSE

- BCM
- Around view monitor control unit

FAIL-SAFE

Around view monitor with Park Assist is cancel

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

WITH CONSULT

1. Turn the ignition switch ON
2. Perform “All DTC Reading” with CONSULT.
3. Check if the “U150E” is detected as the current malfunction in “Self Diagnostic Result” of “AVM”.

Is “U150E” detected as the current malfunction?

YES >> Refer to AV-238, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010923289

1.CHECK AROUND VIEW MONITOR CONTROL UNIT SELF-DIAGNOSIS RESULTS

With CONSULT.

Check if the “U1000” is detected other than “U150E” in “Self Diagnostic Result” of “AVM”.

Is “U1000” detected?

YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to AV-181, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure".
NO >> GO TO 2.

2.CHECK BCM SELF-DIAGNOSIS RESULTS

With CONSULT.

Check if any DTC is detected in “Self Diagnostic Result” of “BCM”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to BCS-78, "DTC Index".
NO >> Replace the around view monitor control unit. Refer to AV-268, "Removal and Installation".

U1971 SONAR

DTC Description

INFOID:0000000010923290

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
U1971	SONAR Message Counter (Sonar message counter)	Around view monitor control unit receives an incorrect signal from sonar control unit via CAN communication

POSSIBLE CAUSE

Sonar control unit

FAIL-SAFE

Around view monitor with Park Assist is cancel

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

WITH CONSULT

1. Perform “All DTC Reading” with CONSULT.
2. Check if the “U1971” is detected as the current malfunction in “Self Diagnostic Result” of “AVM”.

Is “U1971” detected as the current malfunction?

YES >> Refer to AV-239, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010923291

1.CHECK SELF-DIAGNOSIS RESULTS

With CONSULT.

Check if the “U1000” is detected other than “U1971” in “Self Diagnostic Result” of “AVM”.

Is “U1000” detected?

YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to AV-178, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure".
NO >> GO TO 2.

2.CHECK SELF-DIAGNOSIS RESULTS

With CONSULT.

Check if any DTC is detected in “Self Diagnostic Result” of “SONAR”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to SN-143, "DTC Index".
NO >> Replace the around view monitor control unit. Refer to AV-268, "Removal and Installation".

U1972 EPS

DTC Description

INFOID:0000000010923292

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
U1972	EPS Message Counter (Electronically controlled power steering message counter)	Around view monitor control unit receives an incorrect signal from EPS control unit via CAN communication

POSSIBLE CAUSE

EPS control unit

FAIL-SAFE

Around view monitor with Park Assist is cancel

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

WITH CONSULT

1. Perform “All DTC Reading” with CONSULT.
2. Check if the “U1972” is detected as the current malfunction in “Self Diagnostic Result” of “AVM”.

“U1972” detected as the current malfunction?

YES >> Refer to AV-240, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-44, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010923293

1.CHECK SELF-DIAGNOSIS RESULTS

With CONSULT.

Check if the “U1000” is detected other than “U1972” in “Self Diagnostic Result” of “AVM”.

Is “U1000” detected?

YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to AV-181, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure".
NO >> GO TO 2.

2.CHECK SELF-DIAGNOSIS RESULTS

With CONSULT.

Check if any DTC is detected in “Self Diagnostic Result” of “EPS/DAST3”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to STC-21, "DTC Index".
NO >> Replace the around view monitor control unit. Refer to AV-268, "Removal and Installation".

POWER SUPPLY AND GROUND CIRCUIT

NAVI CONTROL UNIT

NAVI CONTROL UNIT : Diagnosis Procedure

INFOID:0000000010714901

1.CHECK FUSE

Check for blown fuses.

With stop/start system

Power source	Fuse No.
Battery	#63
Ignition switch ON or START	#56

Without stop/start system

Power source	Fuse No.
Battery	#16
Ignition switch ON or START	#30

Is inspection result OK?

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

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between NAVI control unit harness connector and ground.

Signal name	Terminal			Ignition switch position	Standard	Value (Approx.)
	(+)		(–)			
	NAVI control unit					
	Connector	Terminal				
Battery power supply	M27	19	Ground	OFF	10.8 V – 15.6 V	Battery voltage
Ignition signal	M28	40		ON	10.8 V – 15.6 V	12.0 V

Is inspection result OK?

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

AROUND VIEW MONITOR CONTROL UNIT

AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure

INFOID:0000000010714902

1.CHECK FUSE

Check for blown fuses.

With stop/start system

Power source	Fuse No.
Battery	#63
Ignition switch ON or START	#56

Without stop/start system

Power source	Fuse No.
Battery	#16
Ignition switch ON or START	#30

Is the inspection result normal?

YES >> GO TO 2.

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

2.CHECK AROUND VIEW MONITOR CONTROL UNIT POWER SUPPLY CIRCUIT

Check voltage between around view monitor control unit harness connector and ground.

With BSW

Around view monitor control unit			Condition	Standard voltage	Reference voltage (Approx.)
Connector	Terminal				
	(+)	(–)	Ignition switch		
	Terminal				
M101	2	1	OFF	9.5 - 16 V	Battery voltage
	3		ON		

Without BSW

Around view monitor control unit			Condition	Standard voltage	Reference voltage (Approx.)
Connector	Terminal				
	(+)	(–)	Ignition switch		
	Terminal				
M24	2	1	OFF	9.5 - 16 V	Battery voltage
	4		ON		

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair the around view monitor control unit power supply circuit.

3.CHECK AROUND VIEW MONITOR CONTROL UNIT GROUND CIRCUIT

1. Turn the ignition switch OFF.
2. Disconnect the around view monitor control unit connector.
3. Check for continuity between around view monitor control unit harness connector and ground.

With BSW

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M101	1		Existed

Without BSW

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M24	1		Existed

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair the around view monitor control unit ground circuit.

MICROPHONE SIGNAL CIRCUIT

Description

INFOID:0000000010714903

NAVI control unit supplies power to microphone. The microphone transmits the sound voice to the NAVI control unit.

Diagnosis Procedure

INFOID:0000000010714904

NOTE:
- The auto ACC function allows the accessory power supply for a certain period of time even after ignition switch OFF. For this reason, when performing diagnosis, turn the ignition switch OFF and wait for 3 minutes with the driver's door opened.
- The operation of the vehicle during standby may cause an accessory power supply.

1.CHECK CONTINUITY BETWEEN NAVI CONTROL UNIT AND MICROPHONE CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect NAVI control unit harness connector and microphone harness connector.
3. Check the continuity between NAVI control unit harness connector and microphone harness connector.

NAVI control unit		Microphone		Continuity
Connector	Terminal	Connector	Terminal	
M28	34	R21	1	Existed
	35		4	
	36		2	

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

NAVI control unit		Ground	Continuity
Connector	Terminal		
M28	34		Not existed
	35		

Is the inspection result normal?

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

2.CHECK VOLTAGE MICROPHONE VCC

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

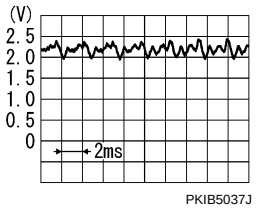
Terminal			Standard	Voltage (Approx.)
NAVI control unit		(–)		
Connector	Terminal			
NAVI control unit				
M28	35	Ground	—	5.0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace NAVI control unit. Refer to AV-262, "Removal and Installation".

3.CHECK MICROPHONE SIGNAL

1. Turn ignition switch OFF.
2. Connect microphone harness connector.
3. Turn ignition switch ON.
4. Check the signal between NAVI control unit harness connector.

NAVI control unit			Condition	Standard	Reference value
Connector	Terminal (+)	Terminal (–)			
M28	34	36	Give a voice.	The value between the maximum input voltage and the minimum input voltage is 4.72V or less.	 PKIB5037J

Is the inspection result normal?

YES >> Replace NAVI control unit. Refer to AV-262, "Removal and Installation".
NO >> Replace microphone. Refer to AV-272, "Removal and Installation".

CAMERA IMAGE SIGNAL CIRCUIT

Description

INFOID:0000000010714905

Around view monitor control unit supplies to the front camera, rear camera and side camera. And then it superimpose the images from each camera and outputs then to the NAVI control unit.

Diagnosis Procedure

INFOID:0000000010714906

NOTE:
- The auto ACC function allows the accessory power supply for a certain period of time even after ignition switch OFF. For this reason, when performing diagnosis, turn the ignition switch OFF and wait for 3 minutes with the driver's door opened.
- The operation of the vehicle during standby may cause an accessory power supply.

1.CHECK CONTINUITY CAMERA IMAGE SIGNAL CIRCUIT FOR OPEN

1. Turn ignition switch OFF.
2. Disconnect NAVI control unit harness connector and around view monitor control unit harness connector.
3. Check continuity between NAVI control unit harness connector and around view monitor control unit harness connector.

Without BSW

NAVI control unit		Around view monitor control unit		Continuity
Connector	Terminal	Connector	Terminal	
M28	41	M24	24	Existed
	42		23	

With BSW

NAVI control unit		Around view monitor control unit		Continuity
Connector	Terminal	Connector	Terminal	
M28	41	M102	47	Existed
	42		48	

Is the inspection result normal?

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

2.CHECK CONTINUITY CAMERA IMAGE SIGNAL CIRCUIT FOR SHORT

Check continuity between NAVI control unit harness connector and ground.

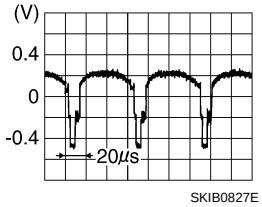
NAVI control unit		Ground	Continuity
Connector	Terminal		
M28	41		Not existed

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace malfunctioning parts.

3.CHECK CAMERA IMAGE SIGNAL

1. Connect NAVI control unit harness connector and around view monitor control unit harness connector.
2. Turn ignition switch ON.
3. Check the signal between NAVI control unit harness connector and ground.

Terminal			Condition	Reference value
(+)		(–)		
NAVI control unit				
Connector	Terminal			
M28	41	Ground	At camera image is displayed.	 SKIB0827E

Is the inspection result normal?

YES >> Replace NAVI control unit. Refer to AV-262, "Removal and Installation".
NO >> Replace around view monitor control unit. Refer to AV-268, "Removal and Installation".

STEERING SWITCH SIGNAL A CIRCUIT

Diagnosis Procedure

INFOID:0000000010714907

1.CHECK STEERING SWITCH SIGNAL A CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect combination meter harness connector and spiral cable harness connector.
3. Check continuity between combination meter harness connector and spiral cable harness connector.

Combination meter		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M34	22	M33	29	Existed

4. Check continuity between combination meter harness connector and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M34	22		Not existed

Is the inspection result normal?

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

2.CHECK SPIRAL CABLE

1. Disconnect steering switch connector.
2. Check continuity between spiral cable harness connectors.

Spiral cable				Continuity
Connector	Terminal	Connector	Terminal	
M33	29	M303	10	Existed

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace spiral cable. Refer to SR-23, "Removal and Installation".

3.CHECK COMBINATION METER VOLTAGE

1. Connect combination meter harness connector, steering switch connector and spiral cable connector.
2. Turn ignition switch ON.
3. Check the voltage between combination meter harness connector.

Combination meter			Condition	Voltage (Approx.)
Connector	+	-		
	Terminal			
M34	22	21	Keep pressing SOURCE switch	0 V
			Keep pressing MENU UP switch	0.5 V
			Keep pressing MENU DOWN switch	1.2 V
			Keep pressing TEL switch	2.1 V
			Keep pressing ENTER switch	3.3 V

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace combination meter. Refer to MWI-151, "Removal and Installation".

4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.

2. Check steering switch. Refer to AV-248, "Component Inspection".

Is the inspection result normal?

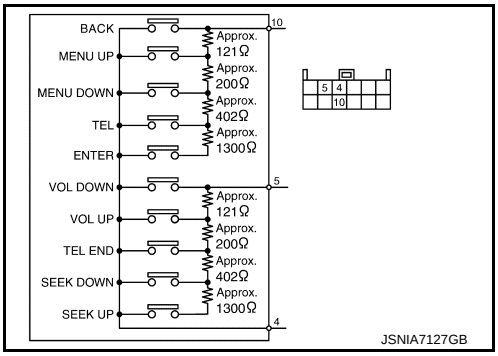
YES >> INSPECTION END
NO >> Replace steering switch. Refer to AV-273, "Removal and Installation".

Component Inspection

INFOID:0000000010714908

Measure the resistance between the steering switch connector.

Steering switch		Condition	Resistance (Approx.) Ω
Terminal	Terminal		
10	4	ENTER switch is pressed	1982 – 2064
		TEL switch is pressed	708 – 738
		MENU DOWN switch is pressed	314 – 328
		MENU UP switch is pressed	118 – 124
		SOURCE switch is pressed	0
5		SEEK UP switch is pressed	1982 – 2064
		SEEK DOWN switch is pressed	708 – 738
		TEL END switch is pressed	314 – 328
		VOL UP switch is pressed	118 – 124
		VOL DOWN switch is pressed	0



STEERING SWITCH SIGNAL B CIRCUIT

Diagnosis Procedure

INFOID:0000000010714909

1.CHECK STEERING SWITCH SIGNAL B CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect combination meter harness connector and spiral cable harness connector.
3. Check continuity between combination meter harness connector and spiral cable harness connector.

Combination meter		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M34	23	M33	24	Existed

4. Check continuity between combination meter harness connector and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M34	23		Not existed

Is the inspection result normal?

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

2.CHECK SPIRAL CABLE

1. Disconnect steering switch connector.
2. Check continuity between spiral cable harness connectors.

Spiral cable				Continuity
Connector	Terminal	Connector	Terminal	
M33	24	M303	5	Existed

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace spiral cable. Refer to SR-23, "Removal and Installation".

3.CHECK COMBINATION METER VOLTAGE

1. Connect combination meter harness connector, steering switch connector and spiral cable connector.
2. Turn ignition switch ON.
3. Check the voltage between combination meter harness connector.

combination meter			Condition	Voltage (Approx.)
Connector	+	-		
	Terminal			
M34	23	21	Keep pressing VOLUME DOWN switch	0 V
			Keep pressing VOLUME UP switch	0.5 V
			Keep pressing TEL END switch	1.2 V
			Keep pressing SEEK UP switch	2.1 V
			Keep pressing SEEK DOWN switch	3.3 V

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace combination meter. Refer to MWI-151, "Removal and Installation".

4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.

2. Check steering switch. Refer to AV-250, "Component Inspection".

Is the inspection result normal?

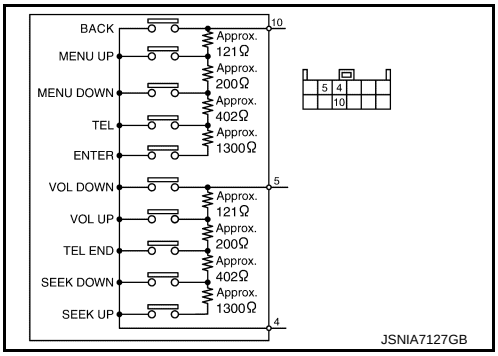
YES >> INSPECTION END
NO >> Replace steering switch. Refer to AV-273, "Removal and Installation".

Component Inspection

INFOID:0000000010714910

Measure the resistance between the steering switch connector.

Steering switch		Condition	Resistance (Approx.) Ω
Terminal	Terminal		
10	4	ENTER switch is pressed	1982 – 2064
		TEL switch is pressed	708 – 738
		MENU DOWN switch is pressed	314 – 328
		MENU UP switch is pressed	118 – 124
		SOURCE switch is pressed	0
5		SEEK UP switch is pressed	1982 – 2064
		SEEK DOWN switch is pressed	708 – 738
		TEL END switch is pressed	314 – 328
		VOL UP switch is pressed	118 – 124
		VOL DOWN switch is pressed	0



STEERING SWITCH GROUND CIRCUIT

Diagnosis Procedure

INFOID:0000000010714911

1.CHECK STEERING SWITCH SIGNAL GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect combination meter harness connector and spiral cable harness connector.
3. Check continuity between combination meter harness connector and spiral cable harness connector.

Combination meter		Spiral cable		Continuity
Connector	Terminal	Connector	Terminal	
M34	21	M33	23	Existed

Is the inspection result normal?

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

2.CHECK SPIRAL CABLE

1. Disconnect steering switch connector.
2. Check continuity between spiral cable harness connectors.

Spiral cable				Continuity
Connector	Terminal	Connector	Terminal	
M33	23	M303	4	Existed

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace spiral cable. Refer to SR-23, "Removal and Installation".

3.CHECK STEERING SWITCH

Check steering switch. Refer to AV-251, "Component Inspection".

Is the inspection result normal?

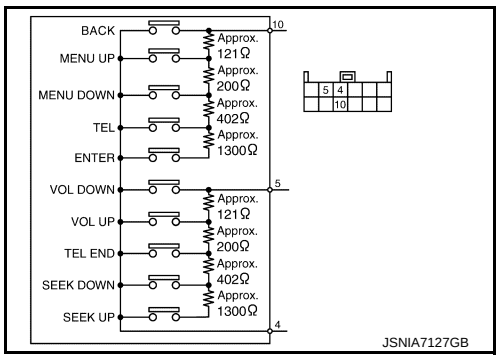
YES >> INSPECTION END
NO >> Replace steering switch. Refer to AV-273, "Removal and Installation".

Component Inspection

INFOID:0000000010714912

Measure the resistance between the steering switch connector.

Steering switch		Condition	Resistance (Approx.) Ω
Terminal	Terminal		
10	4	ENTER switch is pressed	1982 – 2064
		TEL switch is pressed	708 – 738
		MENU DOWN switch is pressed	314 – 328
		MENU UP switch is pressed	118 – 124
		SOURCE switch is pressed	0
5		SEEK UP switch is pressed	1982 – 2064
		SEEK DOWN switch is pressed	708 – 738
		TEL END switch is pressed	314 – 328
		VOL UP switch is pressed	118 – 124
		VOL DOWN switch is pressed	0



SYMPTOM DIAGNOSIS

MULTI AV SYSTEM

Symptom Table

INFOID:0000000010714913

RELATED TO NAVIGATION

NOTE:

Combined part of AV switch and NAVI control unit.

Symptoms	Check items		Probable malfunction location / Action to take
Display does not turn ON.	All switches cannot be operated.		• NAVI control unit power supply and ground circuit. Refer to AV-241, "NAVI CONTROL UNIT : Diagnosis Procedure". • Disconnect the battery negative terminal. Reconnect the terminal. If the same symptom occurs, replace NAVI control unit. Refer to AV-262, "Removal and Installation".
	All switches can be operated.		Disconnect the battery negative terminal. Reconnect the terminal. If the same symptom occurs, replace NAVI control unit. Refer to AV-262, "Removal and Installation".
All switches cannot be operated.	Display does not turn ON.		• NAVI control unit power supply and ground circuit. Refer to AV-241, "NAVI CONTROL UNIT : Diagnosis Procedure". • Disconnect the battery negative terminal. Reconnect the terminal. If the same symptom occurs, replace NAVI control unit. Refer to AV-262, "Removal and Installation".
	Display turn ON.		Disconnect the battery negative terminal. Reconnect the terminal. If the same symptom occurs, replace NAVI control unit. Refer to AV-262, "Removal and Installation".
Only specified switch cannot be operated.	–		Disconnect the battery negative terminal. Reconnect the terminal. If the same symptom occurs, replace NAVI control unit. Refer to AV-262, "Removal and Installation".
Map screen is not displayed. (RGB image other than map is normal.)	• Check that the map SD card is in the SD card slot. • Check “SD Card Access” in “SERVICE SYSTEM SELF TEST”, “SERVICE MENU”.	“OK” is displayed for “SD Card Access”.	Disconnect the battery negative terminal. Reconnect the terminal. If the same symptom occurs, replace Map SD card.
		“OK” is not displayed for “SD Card Access”.	Disconnect the battery negative terminal. Reconnect the terminal. If the same symptom occurs, replace NAVI control unit or Map SD card.
Voice guidance is not heard*	Check that the map SD card is in the SD card slot.	“OK” is displayed for SD Card Access.	Disconnect the battery negative terminal. Reconnect the terminal. If the same symptom occurs, replace Map SD card.
	Check “SD Card Access” in “SERVICE SYSTEM SELF TEST”, “SERVICE MENU”.	“OK” is not displayed for SD Card Access.	Disconnect the battery negative terminal. Reconnect the terminal. If the same symptom occurs, replace NAVI control unit. Refer to AV-262, "Removal and Installation".

Symptoms	Check items		Probable malfunction location / Action to take
Display does not dim.	Check “Illumination Signal” in “SERVICE SYSTEM STATUS”, “SERVICE MENU”.	“Illumination Signal” reaches 100% when the lighting switch is ON.	Disconnect the battery negative terminal. Reconnect the terminal. If the same symptom occurs, replace NAVI control unit. Refer to AV-262, "Removal and Installation".
		“Illumination Signal” does not reach 100% when the lighting switch is ON.	Illumination signal circuit
Vehicle icon does not move.	Check “Speed Signal” in “SERVICE SYSTEM STATUS”, “SERVICE MENU”.	A value of “Speed Signal” changes according to vehicle speeds.	Disconnect the battery negative terminal. Reconnect the terminal. If the same symptom occurs, replace NAVI control unit or GPS antenna.
		A value of “Speed Signal” does not change according to vehicle speeds.	Vehicle speed signal circuit

*: check that voice guidance is set to on in the set up menu of navigation.
*: check that the volume of voice guidance is not set to low.

RELATED TO AUDIO

Symptoms	Check items	Probable malfunction location
No sound comes out or the level of the sound is low.	No sound from all speakers.	NAVI control unit power supply and ground circuits malfunction. Refer to AV-241, "NAVI CONTROL UNIT : Diagnosis Procedure".
	Only a certain speaker (front right, front left, rear right, or rear left) does not output sound.	• Poor connector connection of speaker. • Sound signal circuit malfunction between NAVI control unit and speaker. • Malfunction in speaker. • Malfunction in NAVI control unit.
Noise is mixed with audio.	Noise comes out from all speaker.	Malfunction in NAVI control unit.
	Noise comes out only from a certain speaker (front right, front left, rear right, or rear left).	• Poor connector connection of speaker. • Sound signal circuit malfunction between NAVI control unit and speaker. • Malfunction in speaker. • Poor installation of speaker (e.g. backlash and looseness) • Malfunction in NAVI control unit.
	Noise is mixed with radio only (when the car hits a bump or while driving over bad roads).	Poor connector connection of antenna or antenna feeder.
Radio is not received or poor reception.	• Other audio sounds are normal. • Any radio cannot be received or poor reception is caused even after moving to a service area with good reception (e.g. a place with clear view and no obstacles generating external noises).	• Antenna amp. ON signal circuit malfunction. • Poor connector connection of antenna or antenna feeder.

RELATED TO USB

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

Symptoms	Check items		Probable malfunction location / Action to take
iPod or USB memory can not be recognized.	With iPod or USB memory Connected, check “USB Device” in “SERVICE STATUS”, “SERVICE MENU”.	iPod or USB memory name is displayed for “USB Device”.	• USB and AUX harness • USB connector and AUX jack • NAVI control unit
		“Removed” is displayed for “USB Device”.	• USB and AUX harness • USB connector and AUX jack

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

RELATED TO AUXILIARY INPUT

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

Symptoms	Check items	Probable malfunction location
No voice sound is heard when AUX mode is selected.	Voice sound is heard when other modes are selected.	• USB and AUX harness • USB connector and AUX jack

RELATED TO CAMERA

Symptoms	Check items	Probable malfunction location / Action to take
Camera image is not displayed. (Only warning message under area is displayed.)	—	Reverse signal circuit malfunction (around view monitor control unit).
Camera image does not switch.	—	Reverse signal circuit malfunction (NAVI control unit).
The screen switches when pressing the “CAMERA” switch or the shift position is in “R”, however, all views are not displayed.	—	Camera image signal circuit. Refer to AV-245, "Diagnosis Procedure".
It cannot be switched to rear view monitor even when the shift position is in “R”.	The front view image is normal.	Reverse signal circuit (around view monitor control unit).
The predictive course line display in front view and rear view is malfunctioning.	—	Perform “Self Diagnostic Result” of “AVM” with CONSULT. Refer to AV-99, "CONSULT Function".
• The front view screen is not displayed. • The front of Birds-Eye view screen is not displayed.	—	
• The rear view screen is not displayed. • The rear of Birds-Eye view screen is not displayed.	—	
• The front-side screen is not displayed. • The passenger side of Birds-Eye view screen is not displayed.	—	
The driver side of Birds-eye view screen is not displayed.	—	
When shift position is in other than “R”, the front-side and front screen or the Birds-Eye view and front screen remain displaying even if the vehicle speed increases.	—	

RELATED TO STEERING SWITCH

Symptoms	Possible malfunction location / Action to take
All steering switches are not operated.	Steering switch signal ground circuit. Refer to AV-251, "Diagnosis Procedure".
Only specified switch cannot be operated.	Replace steering switch. Refer to AV-273, "Removal and Installation".
“SOURCE”, “MENU UP”, “MENU DOWN”, “TEL” and “ENTER” switches are not operated.	Steering switch signal A circuit. Refer to AV-247, "Diagnosis Procedure".
“VOL DOWN”, “VOL UP”, “TEL END”, “SEEK UP” and “SEEK DOWN” switches are not operated.	Steering switch signal B circuit. Refer to AV-249, "Diagnosis Procedure".

HANDS-FREE PHONE SYMPTOMS

Symptom Table

INFOID:0000000010714914

RELATED TO HANDS-FREE PHONE

Symptoms	Check items	Possible malfunction location/Action to take
Does not recognize cellular phone connection.	Repeat the registration of cellular phone.	NAVI control unit
Hands-free phone cannot be established.	—	NAVI control unit power supply and ground circuit. Refer to AV-241, "NAVI CONTROL UNIT : Diagnosis Procedure".
The other party's voice cannot be heard by hands-free phone.	Audio system sound is normal.	Sound signal (TEL voice, TEL guidance) circuit
	Audio system sound does not sound.	Refer to AV-252, "Symptom Table".

RELATED TO STEERING SWITCH

Symptoms	Possible malfunction location / Action to take
All steering switches are not operated.	Steering switch signal ground circuit. Refer to AV-251, "Diagnosis Procedure".
Only specified switch cannot be operated.	Replace steering switch. Refer to AV-273, "Removal and Installation".
“SOURCE”, “MENU UP”, “MENU DOWN”, “TEL” and “ENTER” switches are not operated.	Steering switch signal A circuit. Refer to AV-247, "Diagnosis Procedure".
“VOL DOWN”, “VOL UP”, “TEL END”, “SEEK UP” and “SEEK DOWN” switches are not operated.	Steering switch signal B circuit. Refer to AV-249, "Diagnosis Procedure".

NORMAL OPERATING CONDITION

Description

INFOID:0000000010714915

NOTE:
For Navigation system operation information, refer to Navigation system Owner's Manual.

BASIC OPERATIONS

Symptom	Possible cause	Possible solution
No image is displayed.	The brightness is at the lowest setting.	Adjust the brightness of the display.
	The display is turned off.	Press "☀/☽" to turn on the display.
No voice guidance is available or the volume is too high or too low.	The volume is not set correctly, or it is turned off.	Adjust the voice guidance volume level.
No map is displayed on the screen.	The map SD card is not inserted.	Insert the map SD card correctly.
	A screen other than map screen is displayed.	Press "MAP".
The screen is too dim. The movement is slow.	The temperature in the interior of the vehicle is low.	Wait until the interior of the vehicle has warmed up.
Some pixels in the display are darker or brighter than others.	This condition is an inherent characteristic of liquid crystal displays.	This is not a malfunction.

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

RELATED TO AUDIO

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

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

Symptom	Cause and Counter measure
Cannot play	Check if the CD was inserted correctly.
	Check if the CD is scratched or dirty.
	Check if there is condensation inside the player, and if there is, wait until the condensation is gone (about 1 hour) before using the player.
	If there is a temperature increase error, the player will play correctly after it returns to the normal temperature.
	If there is a mixture of music CD files (CD-DA data) and MP3/WMA files on a CD, only the music CD files (CD-DA data) will be played.
	Files with extensions other than ".MP3", ".WMA", ".mp3", or ".wma" cannot be played. In addition, the character codes and number of characters for folder names and file names should be in compliance with the specifications.
	Check if the disc or the file is generated in an irregular format, This may occur depending on the variation or the setting of MP3/WMA writing applications or other text editing applications.
	Check if the finalization process, such as session close and disc close, is done for the CD.
	Check if the CD is protected by copyright.
Poor sound quality	Check if the CD is scratched or dirty.

Symptom	Cause and Counter measure
It takes a relatively long time before the music starts playing.	If there are many folder or file levels on the MP3/WMA CD, or if it is a multi session disc, some time may be required before the music starts playing.
Music cuts off or skips	The writing software and hardware combination might not match, or the writing speed, writing depth, writing width might not match the specifications. Try using the slowest writing speed.
Skipping with high bit rate files	Skipping may occur with large quantities if data such as for high bit rate data.
Move immediately to the next song when playing	When a non-MP3/WMA file has been given an extension of ".MP3", ".WMA", ".mp3" or ".wma", or when play is prohibited by copyright protection, the player will skip to the next song.
The songs do not play back in the desired order.	The playback order is the order in which the files were written by the software, so the files might not play in the desired order.
Poor reception only from a certain radio broadcast station.	Check incoming radio wave signal strength of applicable broadcast station.
Buzz/rattle sound from speaker	The majority of rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the rattle.

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

NOTE:

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

MAP SD CARD

Symptom	Possible cause	Possible solution
The message "Error" appears.	The SD card is not recognized by the system.	Check the map SD card data. Files can be lost.
		If you see any damage, replace the map SD card.

RELATED TO ROUTE CALCULATION AND VISUAL GUIDANCE

Symptom	Possible cause	Possible solution
Route information is not displayed.	Route calculation has not yet been performed.	Set the destination and perform route calculation.
	You are not driving on the suggested route.	Drive on the suggested route.
	Route guidance is cancelled.	Turn on the route guidance.
The auto reroute calculation (or detour calculation) suggests the same route as the one previously suggested.	Route calculations took priority conditions into consideration, but the same route was calculated.	This is not a malfunction.
The suggested route is not displayed.	Roads near the destination cannot be calculated.	Reset the destination to a main or ordinary road, and recalculate the route.
	The starting point and destination are too close.	Set a more distant destination.
	The starting point and destination are too far away.	Divide your trip by selecting one or two intermediate destinations, and perform a global route calculation based on multiple route calculations.
An indirect route is suggested.	If there are restrictions (such as one-way streets) on roads close to the starting point or destination, the system may suggest an indirect route.	Adjust the location of the starting point or destination.
	The system may suggest an indirect route because route calculation does not take into consideration some areas such as narrow streets.	Reset the destination to a main or ordinary road, and recalculate the route.

Symptom	Possible cause	Possible solution
The landmark information does not correspond to the actual information.	This may be caused by insufficient or incorrect data on the map SD card.	Updated information will be included in the next version of the map SD card.
The suggested route does not exactly connect to the starting point, waypoints, or destination.	There is no data for route calculation closes to these locations.	Set the starting point, waypoints and destination on a main road, and perform route calculation.

RELATED TO VEHICLE ICON

Symptom	Possible cause	Possible solution
Names of roads and locations differ between 2D and 3D view.	This is because the quantity of the displayed information is reduced so that the screen does not become difficult to read. There is also a chance that the names of roads or locations may be displayed several times, and that the names appearing on the screen may be different because of a processing procedure.	This is not a malfunction.
The vehicle icon is not displayed in the correct position.	The vehicle was transported after the ignition switch was pressed off, for example, by a ferry or car transporter.	Drive the vehicle for a while on a road where GPS signals can be received.
	The position and direction of the vehicle icon may be incorrect depending on the driving environments and the levels of positioning accuracy of the navigation system.	This is not a malfunction. Drive the vehicle for a while to automatically correct the position and direction of the vehicle icon.
When the vehicle is travelling on a new road, the vehicle icon is located on another nearby road.	The system automatically places the vehicle icon on the nearest available road, because the new road is not stored in the map data.	Updated road information will be included in the next version of the map SD card.
The screen does not switch to the night screen even after turning on the headlights.	The daytime screen was set the last time the headlights were turned on.	Set the screen to the night screen mode using <Day/Night> when you turn on the headlights.
The map does not scroll even when the vehicle is moving.	The current location map screen is not displayed.	Press “MAP”.
The vehicle icon is not displayed.	The current location map screen is not displayed.	Press “MAP”.
The location of the vehicle icon is misaligned from the actual position.	When using tire chains or replacing the tires, speed calculations based on the speed sensor may be incorrect.	Drive the vehicle for a while [at approximately 30 km/h (19 MPH) for about 30 minutes] to automatically correct the vehicle icon position.
	The map data has an error or is incomplete (the vehicle icon position is always misaligned in the same area).	Updated road information will be included in the next version of the map SD card.

RELATED TO VOICE GUIDANCE

Symptom	Possible cause	Possible solution
Voice guidance is not available	In some cases, voice guidance is not available even when the vehicle should make a turn.	This is not a malfunction.
	The vehicle has deviated from the suggested route.	Go back to the suggested route or request route calculation again
	Voice guide is set to off.	Turn voice guidance ON.
	Route guidance is set to off.	Route guidance is set to ON.
The guidance contact does not correspond to the actual condition.	The contact of voice guidance may vary, depending on the types of intersections at which turn are made.	Follow all traffic rules and regulations.

RELATED TO TRAFFIC INFORMATION

Symptom	Possible cause	Possible solution
The traffic information is not displayed	The traffic information is not set to on.	Set the traffic information to on.
	You are in an area where traffic information is not available	Scroll to an area where traffic information is available
	The map scale is set at a level where the display of icons is impossible.	Check that the map scale is set at a level in which the display of icons is possible.
With the automatic detour route search ON, no detour route is set to avoid congested areas.	There is no faster route compared to the current route, based on the road network and traffic information.	The automatic detour search is not intended for avoiding traffic jams. It searches for the fasted rote taking into consideration such things as traffic jams.
The route does not avoid road section with traffic information stating it is closed due to road construction.	The navigation system is designed not to avoid this event because the actual period of closure may differ from the declared roadwork period.	Observe the actual road condition and follow the instructions on road for detour when necessary. If the road closure is for certain, use detour function and set the detour distance to avoid the closed road section.
Traffic information displayed differs from information from other media (e.g. radio).	Other media may use different information sources.	Observe the actual road conditions and regulations. Always observe safe driving practices and follow all traffic regulations.

RELATED TO HANDS-FREE PHONE

Symptom	Cause and Counter measure
Cannot use hands-free phone	Customer will not be able to use a hands-free phone under the following conditions. • The vehicle is outside of the telephone service area. • The vehicle is in an area where it is difficult to receive radio waves; such as in a tunnel, in an underground parking garage, near a tall building or in a mountainous area. • The cellular phone is locked to prevent it from being dialed. **NOTE:** While a cellular phone is connected through the Bluetooth® wireless connection, the battery power of the cellular phone may discharge quicker than usual. The Bluetooth® Hands-Free Phone System cannot charge cellular phones.
The other party's voice cannot be heard by hands-free phone.	When the radio wave condition is not ideal or ambient sound is too loud, it may be difficult to hear the other person's voice during a call.
Poor sound quality	Do not place the cellular phone in an area surrounded by metal or far away from the in-vehicle phone module to prevent tone quality degradation and wireless connection disruption.

RELATED TO TELEPHONE

Symptoms	Cause and Counter measure
System fails to interpret the command correctly.	1. Ensure that the command format is valid.
	2. Ensure that the command is spoken after the tone.
	3. Speak clearly without pausing between words and at a level appropriate to the ambient noise level in the vehicle.
	4. Ensure that the ambient noise level is not excessive (for example, windows open or defroster on). **NOTE:** If it is too noisy to use the phone, it is likely that the voice commands will not be recognized.
	5. If more than one command was said at a time, try saying the commands separately.
	6. If the system consistently fails to recognize commands, the voice training procedure should be carried out to improve the recognition response for the speaker. Refer to AV-96, "On Board Diagnosis Function".

Symptoms	Cause and Counter measure
The system consistently selects the wrong entry from the phone book.	1. Ensure that the phone book entry name requested matches what was originally stored. This can be confirmed by using the “List Names” command.
	2. Replace one of the names being confused with a new name.

REMOVAL AND INSTALLATION

NAVI CONTROL UNIT

Removal and Installation

INFOID:0000000010714916

REMOVAL

CAUTION:

- **The auto ACC function allows the accessory power supply for a certain period of time even after ignition switch OFF. For this reason, when performing diagnosis, turn the ignition switch OFF and wait for 3 minutes with the driver's door opened.**
- **The operation of the vehicle during standby may cause an accessory power supply.**
- **Before replacing NAVI control unit, perform “Read/Write Configuration” to save or print current vehicle specification. For details, refer to AV-157, "ADDITIONAL SERVICE WHEN REPLACING NAVI CONTROL UNIT : Description".**

1. Remove instrument finisher B. Refer to IP-13, "Exploded View" (LHD models), IP-40, "Exploded View" (RHD models).
2. Remove instrument finisher E. Refer to IP-13, "Exploded View" (LHD models), IP-40, "Exploded View" (RHD models).
3. Remove A/C control. Refer to HAC-125, "Removal and Installation" (automatic air conditioning), HAC-222, "Removal and Installation" (manual air conditioning).
4. Remove the NAVI control unit screws, then pull out the NAVI control unit.
5. Disconnect the harness connectors from the NAVI control unit and remove.
6. Remove the NAVI control unit bracket screws and the NAVI control unit brackets.

INSTALLATION

Install in the reverse order of removal.

CAUTION:

Be sure to perform “Read/Write Configuration” when replacing NAVI control unit. For details, refer to AV-157, "CONFIGURATION (NAVI CONTROL UNIT) : Work Procedure".

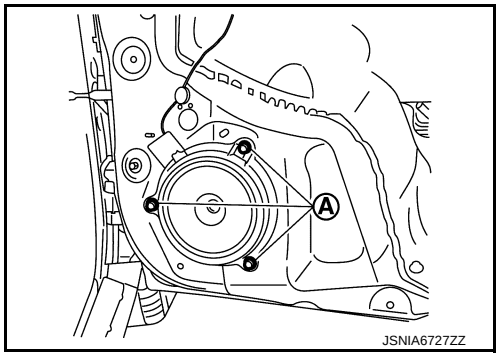
FRONT DOOR SPEAKER

Removal and Installation

INFOID:0000000010714917

REMOVAL

1. Remove the front door finisher. Refer to INT-14, "Removal and Installation".
2. Remove the front door speaker screws Ⓐ.
3. Disconnect the harness connector from the front door speaker and remove.



INSTALLATION

Install in the reverse order of removal.

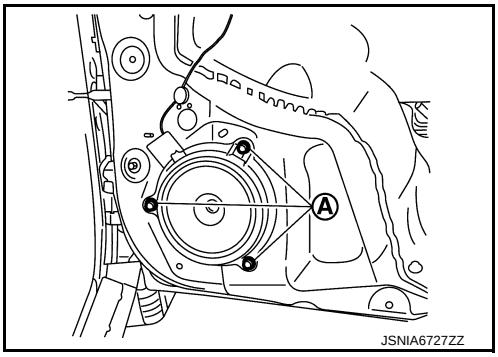
REAR DOOR SPEAKER

Removal and Installation

INFOID:0000000010714918

REMOVAL

1. Remove the rear door finisher. Refer to INT-19, "Removal and Installation".
2. Remove the rear door speaker screws Ⓐ.
3. Disconnect the harness connector from the rear door speaker and remove.



INSTALLATION

Install in the reverse order of removal.

FRONT SQUAWKER

Removal and Installation

INFOID:0000000010714919

REMOVAL

1. Remove the front pillar garnish. Refer to INT-23, "FRONT PILLAR GARNISH : Removal and Installation".
2. Remove the front squawker grille using a suitable tool. Refer to IP-13, "Exploded View" (LHD models), IP-40, "Exploded View" (RHD models).
3. Pull out the front squawker, disconnect the harness connector from front squawker and remove.

INSTALLATION

Installation is in the reverse order of removal.

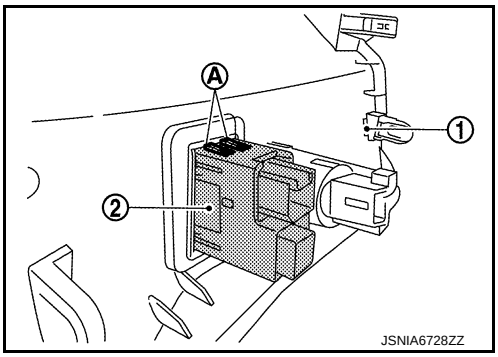
USB CONNECTOR AND AUX JACK

Removal and Installation

INFOID:0000000010714920

REMOVAL

1. Remove the instrument lower panel. Refer to IP-13, "Exploded View" (LHD models), IP-40, "Exploded View" (RHD models).
2. Release the pawls Ⓐ and remove the USB connector AUX jack ② from the instrument lower panel ①.



INSTALLATION

Installation is in the reverse order of removal.

GPS ANTENNA

Feeder Layout

INFOID:0000000010714921

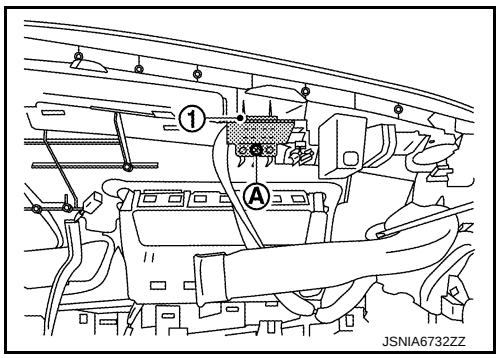
Refer to AV-276, "Feeder Layout".

Removal and Installation

INFOID:0000000010714922

REMOVAL

1. Remove the instrument panel assembly. Refer to IP-13, "Exploded View" (LHD models), IP-40, "Exploded View" (RHD models).
2. Remove the GPS antenna screw Ⓐ and the GPS antenna ①.



INSTALLATION

Installation is in the reverse order of removal.

AROUND VIEW MONITOR CONTROL UNIT

Removal and Installation

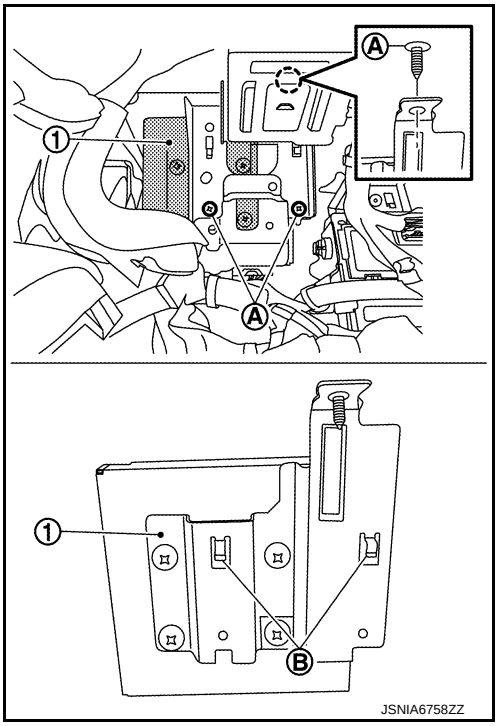
INFOID:0000000010714923

REMOVAL

CAUTION:

Before replacing around view monitor control unit, perform "Read/Write Configuration" to save or print current vehicle specification. For details, refer to AV-158, "ADDITIONAL SERVICE WHEN REPLACING AROUND VIEW MONITOR CONTROL UNIT : Description".

1. Remove the glove box. Refer to IP-13, "Exploded View" (LHD models), IP-40, "Exploded View" (RHD models).
2. Remove the around view monitor control unit bracket mounting screws Ⓐ, and disconnect the harness connector, And then around view monitor control unit assembly ① is raised upwards and remove the pawls Ⓑ.
3. Remove the around view monitor control unit assembly from the vehicle.
4. Remove the around view monitor control unit mounting screws, And then remove the around view monitor control unit from bracket.



INSTALLATION

Install in the reverse order of removal.

CAUTION:

- **Must be perform additional service when replacing around view monitor control unit. Refer to AV-158, "ADDITIONAL SERVICE WHEN REPLACING AROUND VIEW MONITOR CONTROL UNIT : Description".**
- **Perform the calibration and perform the writing to the around view monitor control unit when removing and replacing each camera, removing the camera mounting parts (front grille, door mirror, etc.).**

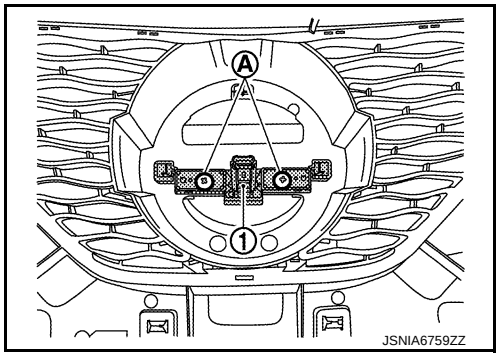
FRONT CAMERA

Removal and Installation

INFOID:0000000010714924

REMOVAL

1. Remove the front grille. Refer to EXT-22, "Removal and Installation".
2. Remove the front camera mounting screws Ⓐ, And then remove the front camera ① from the front grille.



INSTALLATION

1. Install in the reverse order of removal.
2. Perform camera image calibration. Refer to AV-161, "CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Description".

CAUTION:

Perform the calibration and perform the writing to the around view monitor control unit when removing and replacing each camera, removing the camera mounting parts (front grille, door mirror, etc.).

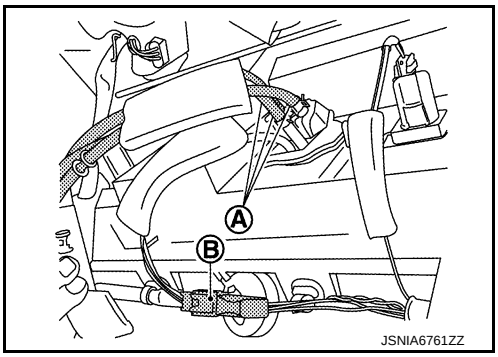
REAR CAMERA

Removal and Installation

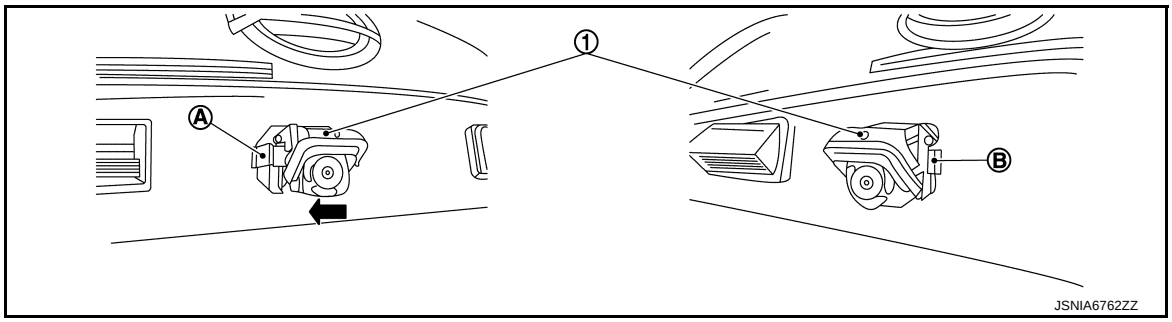
INFOID:0000000010714925

REMOVAL

1. Remove the back door finisher. Refer to INT-47, "Exploded View".
2. Remove the back door finisher cap. Refer to INT-47, "Exploded View".
3. Remove the air tube, washer tube Ⓐ and rear camera harness connector Ⓑ.



4. Push camera ① in the direction shown by arrow, compress the pawl Ⓐ, and disengage pawl Ⓑ to remove rear camera from the back door.



INSTALLATION

1. Install in the reverse order of removal.
2. Perform camera image calibration (around view monitor system). Refer to AV-161, "CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Description".
3. Perform calibrating camera image (LDW/BSW system). Refer to DAS-110, "Description".

CAUTION:

Perform the calibration and perform the writing to the around view monitor control unit when removing and replacing each camera, removing the camera mounting parts (front grille, door mirror, etc.).

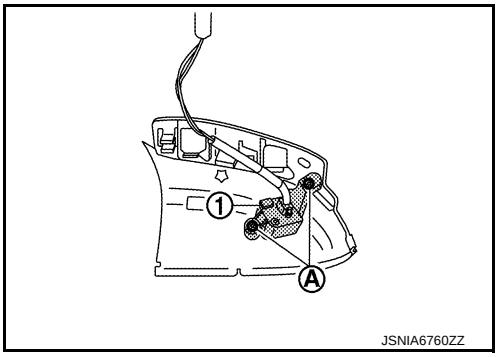
SIDE CAMERA

Removal and Installation

INFOID:0000000010714926

REMOVAL

1. Remove the door mirror finisher. Refer to MIR-27, "Exploded View".
2. Remove the side camera mounting screws Ⓐ, And than remove the side camera ① from the door mirror finisher.



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INSTALLATION

1. Install in the reverse order of removal.
2. Perform camera image calibration. Refer to AV-161, "CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Description".

CAUTION:

Perform the calibration and perform the writing to the around view monitor control unit when removing and replacing each camera, removing the camera mounting parts (front grille, door mirror, etc.).

MICROPHONE

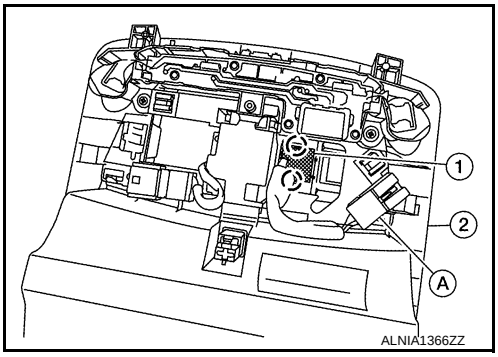
Removal and Installation

INFOID:0000000010714927

REMOVAL

1. Remove the map lamp assembly. Refer to INL-76, "Exploded View".
2. Disconnect the microphone connector Ⓐ from the map lamp assembly ②.
3. Release the microphone pawls, then remove the microphone ①.

◌ : Pawl



INSTALLATION

Installation is in the reverse order of removal.

STEERING SWITCH

Removal and Installation

INFOID:0000000010714928

Refer to ST-12, "Exploded View".

NOTE:

Always remove steering switch together with steering wheel.

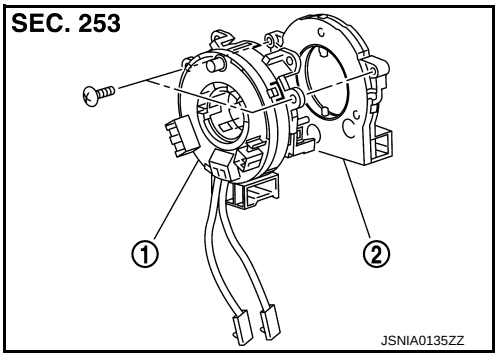
STEERING ANGLE SENSOR

Exploded View

INFOID:0000000010714929

DISASSEMBLY

① Spiral cable
② Steering angle sensor



Removal and Installation

INFOID:0000000010714930

REMOVAL

1. Remove spiral cable. Refer to SR-23, "Exploded View".
2. Remove steering angle sensor from spiral cable.

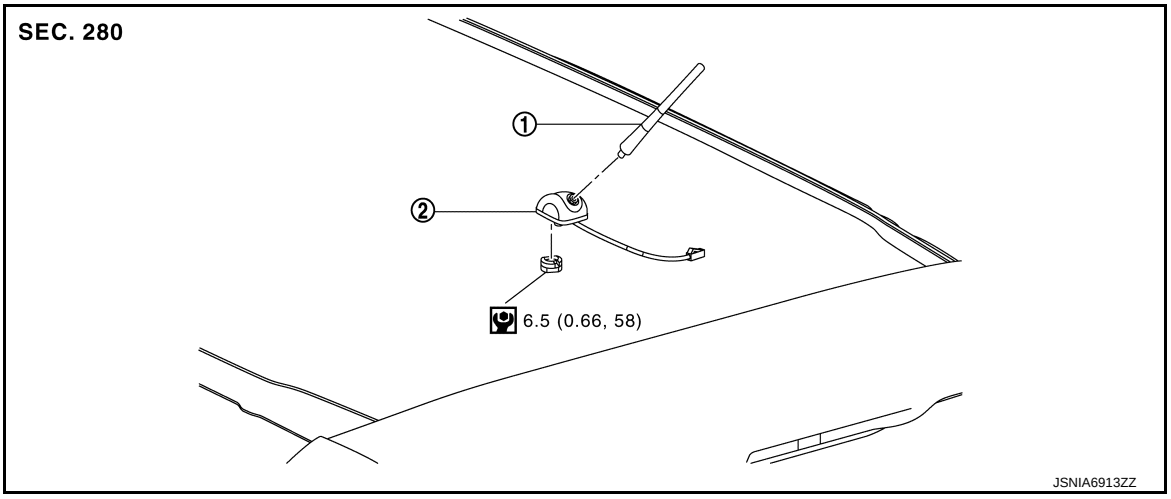
INSTALLATION

1. Install in the reverse order of removal.
2. Perform steering angle sensor neutral position adjustment. Refer to BRC-99, "Work Procedure".

ROOF ANTENNA

Exploded View

INFOID:0000000010714931



① Antenna rod ② Antenna base

: N·m (kg-m, in-lb)

Removal and Installation

INFOID:0000000010714932

REMOVAL

1. Remove the antenna rod.
2. Remove the headlining assembly. Refer to INT-37, "Removal and Installation".
3. Remove the mounting nut to remove the antenna base from the roof panel.

INSTALLATION

Install in the reverse order of removal.

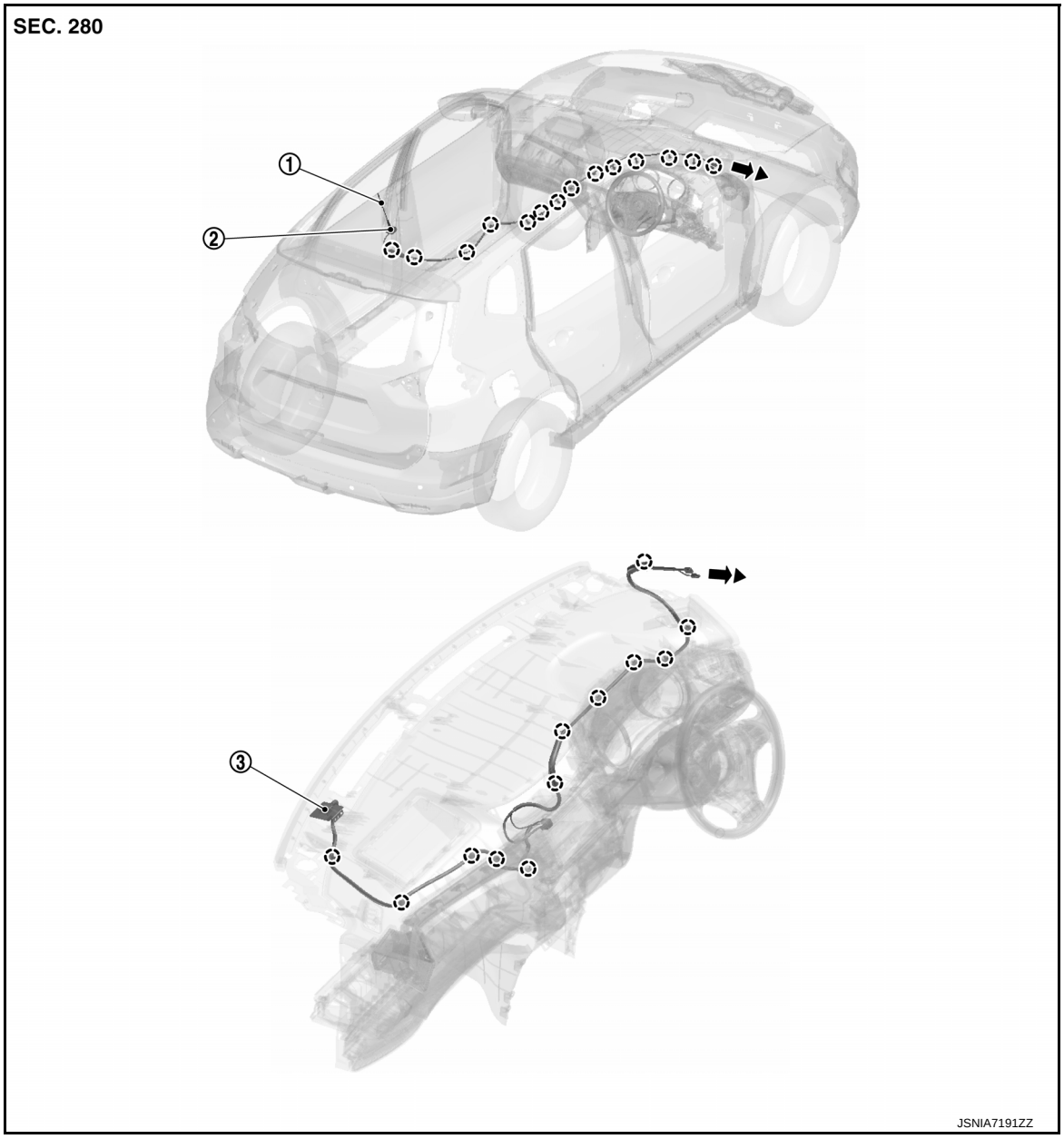
CAUTION:

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

ANTENNA FEEDER

Feeder Layout

INFOID:0000000010714933



① Antenna rod ② Antenna base ③ GPS antenna

: Clips

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