SECTION AV
AUDIO, VISUAL & NAVIGATION SYSTEM

CONTENTS

AUDIO SYSTEM

PRECAUTION 7

PRECAUTIONS 7
Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER" 7
Precaution for Harness Repair 7
Precaution for Work 8

PREPARATION 9

PREPARATION 9
Special Service Tool 9
Commercial Service Tools 9

SYSTEM DESCRIPTION 10

COMPONENT PARTS 10
Component Parts Location 10
Audio Unit 11
Speakers 11
USB Interface and AUX in Jack 11
Steering Switches 12
Microphone 12
Steering Angle Sensor 12
Rod Antenna, Antenna Amp., Satellite Antenna and Antenna Feeder 12

SYSTEM 14
System Description 14

DIAGNOSIS SYSTEM (AUDIO UNIT) 15
Description 15
On Board Diagnosis Function 15

ECU DIAGNOSIS INFORMATION 20

AUDIO UNIT 20
Reference Value 20

WIRING DIAGRAM 23

AUDIO SYSTEM 23
Wiring Diagram 23

BASIC INSPECTION 35

DIAGNOSIS AND REPAIR WORKFLOW 35
Work Flow 35

DTC/CIRCUIT DIAGNOSIS 37

POWER SUPPLY AND GROUND CIRCUIT 37

AUDIO UNIT 37
AUDIO UNIT : Diagnosis Procedure 37

FRONT TWEETER 38
Diagnosis Procedure 38

FRONT DOOR SPEAKER 40
Diagnosis Procedure 40

REAR DOOR SPEAKER 42
Diagnosis Procedure 42

MICROPHONE SIGNAL CIRCUIT 44
Diagnosis Procedure 44

USB CONNECTOR 46
Diagnosis Procedure 46

AUXILIARY INPUT JACK 47
Diagnosis Procedure 47

SYMPTOM DIAGNOSIS 48

AUDIO SYSTEM 48
Symptom Table 48

NORMAL OPERATING CONDITION 51
Description 51

REMOVAL AND INSTALLATION 53

AUDIO UNIT 53

Exploded View 53
Removal and Installation 53

STEERING SWITCHES 54
Exploded View 54
Removal and Installation 54

FRONT TWEETER 55
Removal and Installation 55

FRONT DOOR SPEAKER 56
Exploded View 56
Removal and Installation 56

REAR DOOR SPEAKER 57
Exploded View 57
Removal and Installation 57

USB INTERFACE AND AUX IN JACK 58
Removal and Installation 58

MICROPHONE 59
Removal and Installation 59

AUDIO ANTENNA 60
Removal and Installation 60

ANTENNA FEEDER 61
Feeder Layout 61

DISPLAY AUDIO

PRECAUTION 62

PRECAUTIONS 62
Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER" 62
Precaution for Harness Repair 62
Precaution for Work 63

PREPARATION 64

PREPARATION 64
Special Service Tool 64
Commercial Service Tools 64

SYSTEM DESCRIPTION 65

COMPONENT PARTS 65
Component Parts Location 65
Audio Unit 66
Speakers 66
USB Interface and AUX in Jack 67
Steering Switches 67
Microphone 67
Rear View Camera 67
Steering Angle Sensor 68
Rod Antenna, Antenna Amp., Satellite Antenna and Antenna Feeder 68

SYSTEM 70
System Description 70

DIAGNOSIS SYSTEM (AUDIO UNIT) 72
Description 72
On Board Diagnosis Function 72

ECU DIAGNOSIS INFORMATION 78

AUDIO UNIT 78
Reference Value 78

WIRING DIAGRAM 81

DISPLAY AUDIO 81
Wiring Diagram 81

BASIC INSPECTION 93

DIAGNOSIS AND REPAIR WORKFLOW 93
Work Flow 93

INSPECTION AND ADJUSTMENT 95

PREDICTED COURSE LINE CENTER POSITION ADJUSTMENT 95
PREDICTED COURSE LINE CENTER POSITION ADJUSTMENT : Description 95
PREDICTED COURSE LINE CENTER POSITION ADJUSTMENT : Work Procedure 95

DTC/CIRCUIT DIAGNOSIS 96

POWER SUPPLY AND GROUND CIRCUIT 96

AUDIO UNIT 96
AUDIO UNIT : Diagnosis Procedure 96

FRONT TWEETER 97
Diagnosis Procedure 97

FRONT DOOR SPEAKER 99
Diagnosis Procedure 99

REAR DOOR SPEAKER 101
Diagnosis Procedure 101

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT 103
Diagnosis Procedure 103

MICROPHONE SIGNAL CIRCUIT 105
Diagnosis Procedure 105

USB CONNECTOR 107
Diagnosis Procedure 107

AUXILIARY INPUT JACK 108
Diagnosis Procedure 108

SYMPTOM DIAGNOSIS 109

AUDIO SYSTEM 109
Symptom Table 109

NORMAL OPERATING CONDITION 112
Description 112

REMOVAL AND INSTALLATION 114

AUDIO UNIT 114
Exploded View 114
Removal and Installation 114

STEERING SWITCHES 115
Exploded View 115
Removal and Installation 115

FRONT TWEETER 116
Removal and Installation 116

FRONT DOOR SPEAKER 117
Exploded View 117
Removal and Installation 117

REAR DOOR SPEAKER 118
Exploded View 118
Removal and Installation 118

USB INTERFACE AND AUX IN JACK 119
Removal and Installation 119

MICROPHONE 120
Removal and Installation 120

REAR VIEW CAMERA 121
Removal and Installation 121

AUDIO ANTENNA 122
Removal and Installation 122

ANTENNA FEEDER 123
Feeder Layout 123

NAVIGATION

PRECAUTION 124

PRECAUTIONS 124
Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER" 124
Precautions for Removing Battery Terminal 124
Precaution for Trouble Diagnosis 125
Precaution for Harness Repair 125
Precaution for Work 126

PREPARATION 127

PREPARATION 127
Special Service Tool 127
Commercial Service Tools 127

SYSTEM DESCRIPTION 128

COMPONENT PARTS 128
Component Parts Location 128
AV Control Unit 129
Speakers 129
USB Interface and AUX In Jack 130
Steering Switches 130
Microphone 130
Around View Monitor Control Unit 130
Rear View Camera 131
Side Cameras 131
Front Camera 131
Steering Angle Sensor 131
Rod Antenna, Antenna Amp., Satellite Antenna and Antenna Feeder 131
GPS Antenna 133
SD Card 133

SYSTEM 134
System Description 134

DIAGNOSIS SYSTEM (AV CONTROL UNIT) . 142
Description 142
On Board Diagnosis Function 142
CONSULT Function 143

DIAGNOSIS SYSTEM (AROUND VIEW MONITOR CONTROL UNIT) 144

WITHOUT DRIVER ASSISTANCE SYSTEM 144
WITHOUT DRIVER ASSISTANCE SYSTEM : CONSULT Function 144

WITH DRIVER ASSISTANCE SYSTEM 145
WITH DRIVER ASSISTANCE SYSTEM : CONSULT Function 145

ECU DIAGNOSIS INFORMATION 148

AV CONTROL UNIT 148
Reference Value 148
DTC Index 151

AROUND VIEW MONITOR CONTROL UNIT . 152

WITHOUT DRIVER ASSISTANCE SYSTEM 152
WITHOUT DRIVER ASSISTANCE SYSTEM : Reference Value 152
WITHOUT DRIVER ASSISTANCE SYSTEM : DTC Index 154

WITH DRIVER ASSISTANCE SYSTEM 155
WITH DRIVER ASSISTANCE SYSTEM : Reference Value 155
WITH DRIVER ASSISTANCE SYSTEM : DTC Index 158

WIRING DIAGRAM 159

NAVIGATION SYSTEM 159
Wiring Diagram 159

BASIC INSPECTION 174

DIAGNOSIS AND REPAIR WORKFLOW 174
Work Flow 174

INSPECTION AND ADJUSTMENT 176

ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT 176
ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Description 176
ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Work Procedure 176

ADDITIONAL SERVICE WHEN REPLACING AROUND VIEW MONITOR CONTROL UNIT 176
ADDITIONAL SERVICE WHEN REPLACING AROUND VIEW MONITOR CONTROL UNIT : Description 177
ADDITIONAL SERVICE WHEN REPLACING AROUND VIEW MONITOR CONTROL UNIT : Work Procedure 177

CONFIGURATION (AV CONTROL UNIT) 177
CONFIGURATION (AV CONTROL UNIT) : Description 178
CONFIGURATION (AV CONTROL UNIT) : Work Procedure 178
CONFIGURATION (AV CONTROL UNIT) : Configuration List 179

CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT) 179
CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT) : Description 179
CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT) : Work Procedure 179
CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT) : Configuration List 180

PREDICTED COURSE LINE CENTER POSITION ADJUSTMENT 180
PREDICTED COURSE LINE CENTER POSITION ADJUSTMENT : Description 180
PREDICTED COURSE LINE CENTER POSITION ADJUSTMENT : Work Procedure 180

CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) 180
CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Description 180
CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Work Procedure 181

DTC/CIRCUIT DIAGNOSIS 186

C1A00 CONTROL UNIT 186
DTC Logic 186
Diagnosis Procedure 186

C1B56 SONAR 187
DTC Logic 187
Diagnosis Procedure 187

U0428 STEERING ANGLE SENSOR 188
DTC Logic 188
Diagnosis Procedure 188

U1000 CAN COMM CIRCUIT 189

AV CONTROL UNIT 189
AV CONTROL UNIT : DTC Logic 189
AV CONTROL UNIT : Diagnosis Procedure 189

AROUND VIEW MONITOR CONTROL UNIT 189
AROUND VIEW MONITOR CONTROL UNIT : DTC Logic 189
AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure 189

U1010 CONTROL UNIT (CAN) 190

AV CONTROL UNIT 190
AV CONTROL UNIT : DTC Logic 190

AROUND VIEW MONITOR CONTROL UNIT 190
AROUND VIEW MONITOR CONTROL UNIT : DTC Logic 190

U111A REAR CAMERA IMAGE SIGNAL CIRCUIT 191
DTC Logic 191
Diagnosis Procedure 191

U111B SIDE CAMERA RH IMAGE SIGNAL CIRCUIT 195
DTC Logic 195
Diagnosis Procedure 195

U111C FRONT CAMERA IMAGE SIGNAL CIRCUIT 199
DTC Logic 199
Diagnosis Procedure 199

U111D SIDE CAMERA LH IMAGE SIGNAL CIRCUIT 203
DTC Logic 203
Diagnosis Procedure 203

U112F EPS CIRCUIT 207
DTC Logic 207
Diagnosis Procedure 207

U1217 AV CONTROL UNIT 208
DTC Logic 208

U1229 AV CONTROL UNIT 209
DTC Logic 209

U122F AV CONTROL UNIT 210
DTC Logic 210

U1232 STEERING ANGLE SENSOR 211
DTC Logic 211
Diagnosis Procedure 211

U1244 GPS ANTENNA 212
DTC Logic 212
Diagnosis Procedure 212

U1258 SATELLITE RADIO ANTENNA 213
DTC Logic 213

Diagnosis Procedure 213

U1263 USB 214
DTC Logic 214
Diagnosis Procedure 214

U12AA CONFIGURATION ERROR 215
DTC Logic 215
Diagnosis Procedure 215

U1264 ANTENNA AMP. 216
DTC Logic 216
Diagnosis Procedure 216

U12AC AV CONTROL UNIT 217
DTC Logic 217

U12AD AV CONTROL UNIT 218
DTC Logic 218

U12AE AV CONTROL UNIT 219
DTC Logic 219

U12AF AV CONTROL UNIT 220
DTC Logic 220

U1300 AV COMM CIRCUIT 221
DTC Logic 221
Diagnosis Procedure 221

U1304 CAMERA IMAGE CALIBRATION 223
DTC Logic 223
Diagnosis Procedure 223

U1305 CONFIG UNFINISH 224
DTC Logic 224
Diagnosis Procedure 224

U1310 CONTROL UNIT (AV) 225
DTC Logic 225

U1320 REPROGRAMMING 226
DTC Logic 226
Diagnosis Procedure 226

U150E BCM CIRCUIT 227
DTC Logic 227
Diagnosis Procedure 227

U1971 SONAR 228
DTC Logic 228
Diagnosis Procedure 228

U1972 EPS 229
DTC Logic 229
Diagnosis Procedure 229

POWER SUPPLY AND GROUND CIRCUIT ... 230

AV CONTROL UNIT 230
AV CONTROL UNIT : Diagnosis Procedure 230

AROUND VIEW MONITOR CONTROL UNIT 230
AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure 230

FRONT TWEETER 233
Diagnosis Procedure 233

FRONT DOOR SPEAKER 235
Diagnosis Procedure 235

REAR DOOR SPEAKER 237
Diagnosis Procedure 237

MICROPHONE SIGNAL CIRCUIT 239
Diagnosis Procedure 239

STEERING SWITCH 241
Diagnosis Procedure 241

USB CONNECTOR 243
Diagnosis Procedure 243

AUXILIARY INPUT JACK 244
Diagnosis Procedure 244

SYMPTOM DIAGNOSIS 245

MULTI AV SYSTEM 245
Symptom Table 245

NORMAL OPERATING CONDITION 250
Description 250

REMOVAL AND INSTALLATION 259

AV CONTROL UNIT 259
Exploded View 259
Removal and Installation 259

STEERING SWITCH 261
Exploded View 261
Removal and Installation 261

FRONT TWEETER 262
Removal and Installation 262

FRONT DOOR SPEAKER 263
Exploded View 263
Removal and Installation 263

REAR DOOR SPEAKER 264
Exploded View 264
Removal and Installation 264

USB INTERFACE AND AUX IN JACK 265
Removal and Installation 265

MICROPHONE 266
Removal and Installation 266

AROUND VIEW MONITOR CONTROL UNIT . 267
Exploded View 267
Removal and Installation 267

FRONT CAMERA 268

Exploded View 268
Removal and Installation 268

SIDE CAMERA 269
Removal and Installation 269

REAR VIEW CAMERA 270
Removal and Installation 270

GPS ANTENNA 271
Removal and Installation 271

AUDIO ANTENNA 272
Removal and Installation 272

ANTENNA FEEDER 273
Feeder Layout 273

PRECAUTION

PRECAUTIONS

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

INFOID:0000000010519272

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.

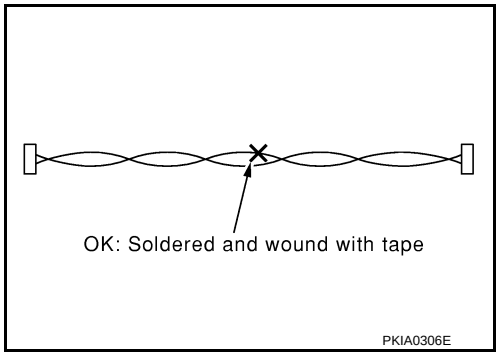
- **When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious 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.**

Precaution for Harness Repair

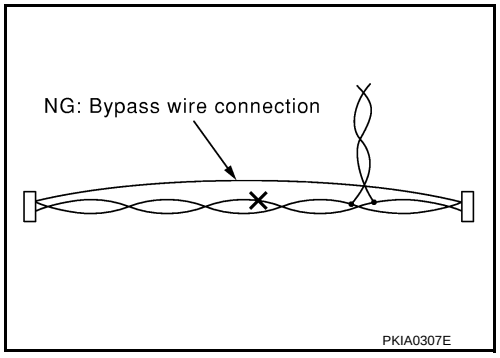
INFOID:0000000010502015

AV COMMUNICATION SYSTEM

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



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



Precaution for Work

INFOID:0000000010502016

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:

- Water soluble dirt:
- Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
- Then rub with a soft, dry cloth.

- Oily dirt:
- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.

- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

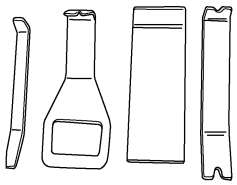
PREPARATION

PREPARATION

Special Service Tool

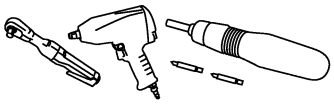
INFOID:0000000010502017

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

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

Commercial Service Tools

INFOID:0000000010502018

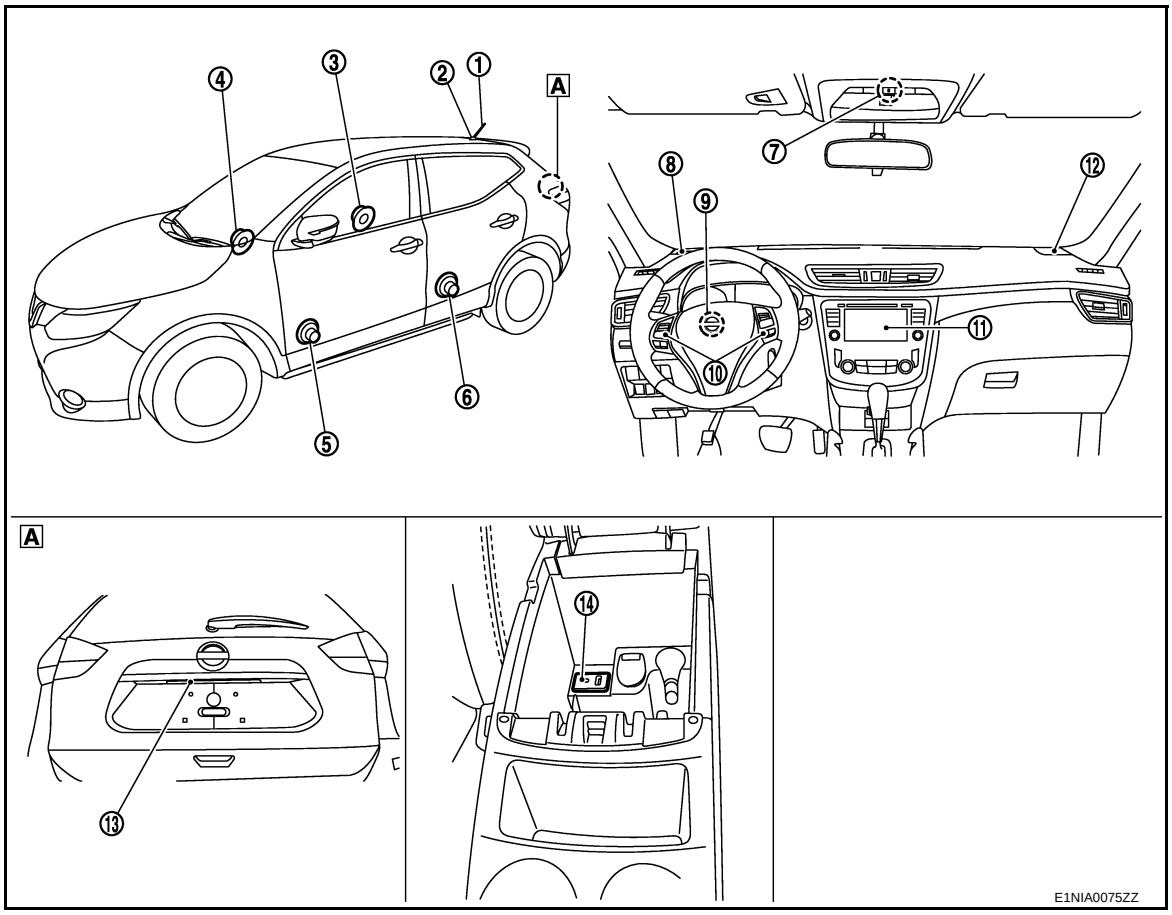
Tool name	Description
Power tool  PIIB1407E	Loosening nuts, screws and bolts

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000010502019



A. Center of back door

No.	Component	Function
1.	Rod antenna	Refer to AV-68, "Rod Antenna, Antenna Amp., Satellite Antenna and Antenna Feeder".
2.	Antenna base (antenna amp. and satellite antenna)	
3.	Rear door speaker RH	Refer to AV-66, "Speakers".
4.	Front door speaker RH	
5.	Front door speaker LH	
6.	Rear door speaker LH	
7.	Microphone	Refer to AV-67, "Microphone".
8.	Front tweeter LH	Refer to AV-66, "Speakers".
9.	Steering angle sensor	Refer to AV-68, "Steering Angle Sensor".
10.	Steering switches	Refer to AV-67, "Steering Switches".
11.	Audio unit	Refer to AV-66, "Audio Unit".
12.	Front tweeter RH	Refer to AV-66, "Speakers".
13.	Rear view camera (if equipped)	Refer to AV-67, "Rear View Camera".
14.	USB interface and AUX in jack	Refer to AV-67, "USB Interface and AUX in Jack".

Audio Unit

INFOID:0000000010502020

Description

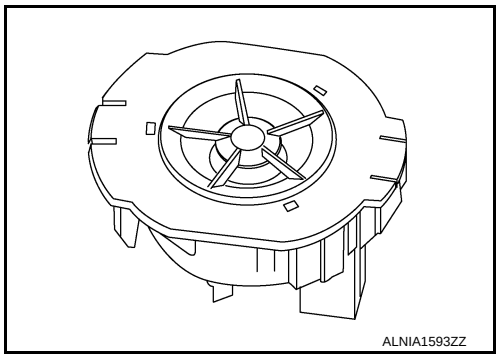
- AM/FM electronic tuner radio, CD drive.
- The display can show audio status.
- Music files stored in iPod®*/USB memory can be played using the separate USB connector.
- Music files stored in an external audio device can be played using the separate AUX in jack.

Speakers

INFOID:0000000010502021

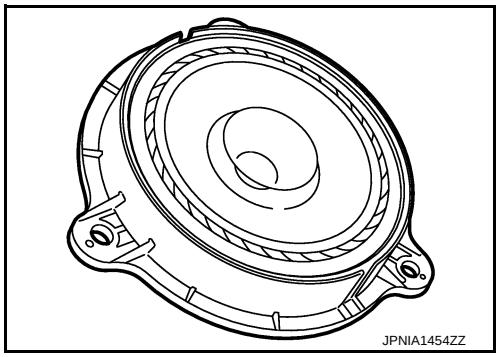
FRONT TWEETER

- 2.5 cm (1 in) tweeters are installed in the top front corners of the instrument panel.
- Sound signals are input from the audio unit to output high range sounds.


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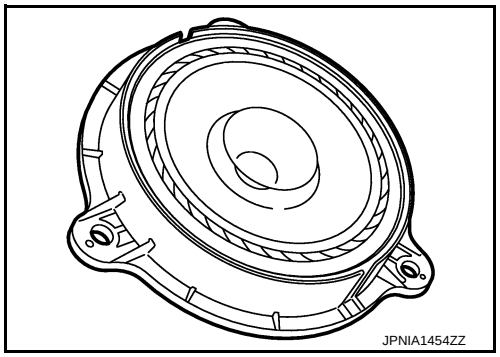
FRONT DOOR SPEAKER

- 16.5 cm (6.5 in) speakers are installed in the bottom of the front doors.
- Sound signals are input from the audio unit to output high, mid and low range sounds.


JPNIA1454ZZ

REAR DOOR SPEAKER

- 16.5 cm (6.5 in) speakers are installed in the bottom of the rear doors.
- Sound signals are input from the audio unit to output high, mid and low range sounds.


JPNIA1454ZZ

USB Interface and AUX in Jack

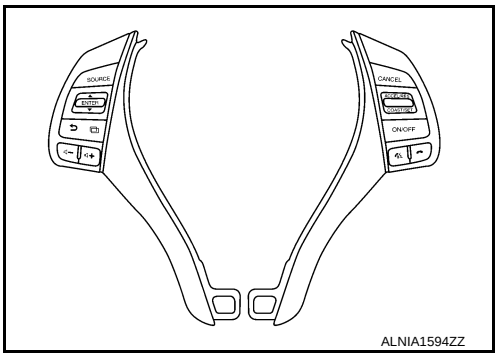
INFOID:0000000010502022

- USB Interface and AUX in jack is installed in the console.
- iPod® and USB memory can be connected to the audio unit through the USB interface.
- An external audio device can be connected to the audio unit through the AUX in jack.

Steering Switches

INFOID:0000000010502023

- Steering switches are installed in the steering wheel.
- Operations for audio and hands-free phone are possible.
- Switches are connected to the combination meter.
- Combination meter is connected to the audio unit via AV communication.



ALNIA1594ZZ

Microphone

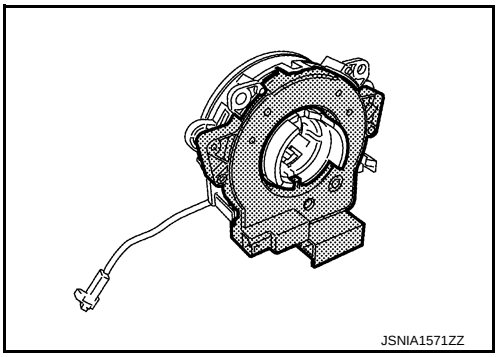
INFOID:0000000010502024

- The microphone is installed in the roof in the map lamp assembly.
- Power is supplied from the audio unit.

Steering Angle Sensor

INFOID:0000000010502026

- Steering sensor is installed to the spiral cable.
- Steering angle sends the steering signal necessary for predictive course line via CAN communication.

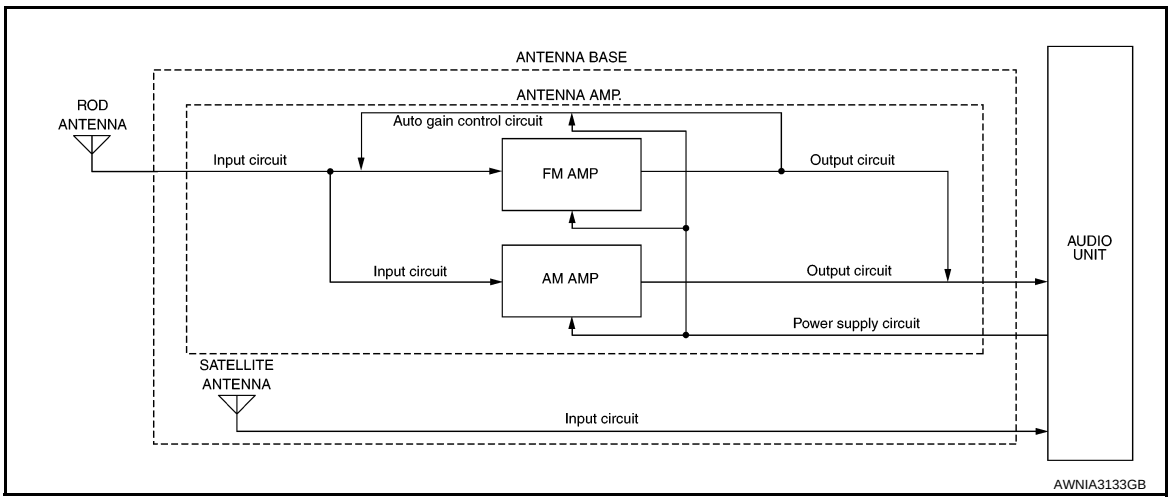

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Rod Antenna, Antenna Amp., Satellite Antenna and Antenna Feeder

INFOID:0000000010502027

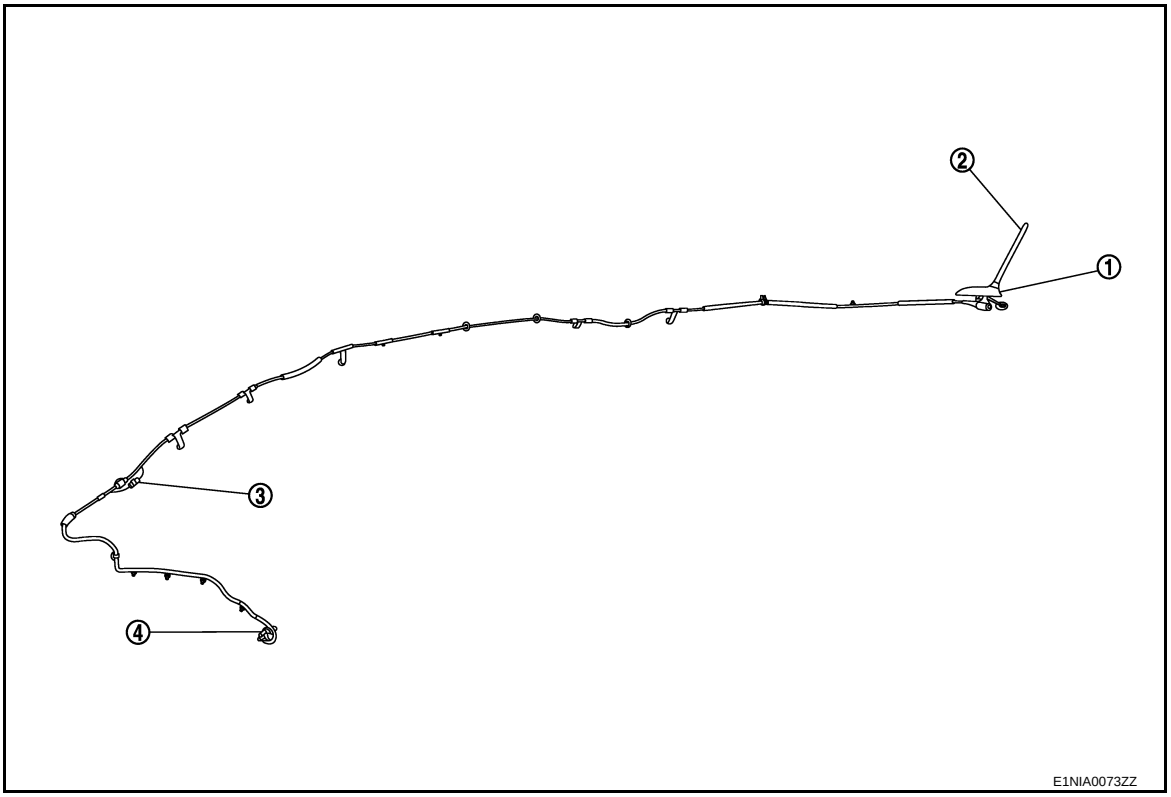
RADIO ANTENNA AND SATELLITE ANTENNA

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



AWNIA3133GB

ANTENNA FEEDER LAYOUT



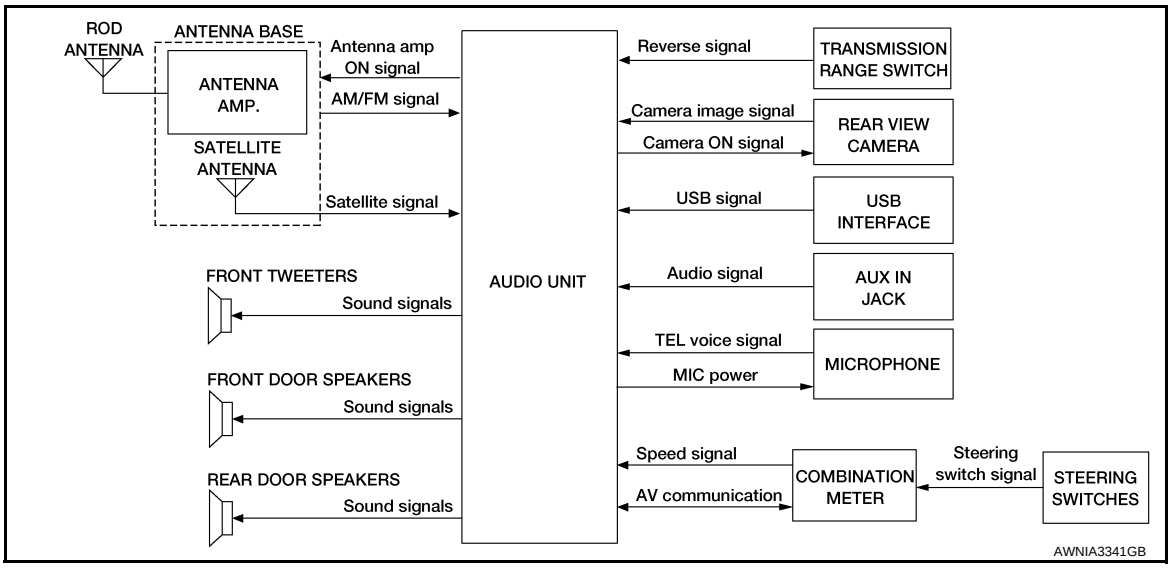
1. Antenna base (antenna amp. and satellite antenna)
2. Rod Antenna
3. M394
4. M385

SYSTEM

System Description

INFOID:0000000010502028

SYSTEM DIAGRAM



NOTE:
- There is no satellite Antenna connected to AUDIO SYSTEM.
- There is no Rear view camera connected to AUDIO SYSTEM.

AUDIO SYSTEM

The audio system consists of the following components
- Audio unit
- Front tweeters
- Front door speakers
- Rear door speakers
- USB interface
- AUX in jack
- Steering switches
- Antenna base (rod antenna, antenna amp. and satellite antenna)

When the audio system is on, AM/FM signals received by the rod antenna are amplified by the antenna amp. and sent to the audio unit. The audio unit then sends audio signals to the front tweeters, front door speakers and rear door speakers.
Refer to Owner's Manual for audio system operating instructions.

HANDS-FREE PHONE SYSTEM

- Bluetooth® control is built into audio unit.
- The connection between cellular phone and audio unit is performed with Bluetooth® communication.
- The voice guidance signal is input from the audio unit and output to the front speakers when operating the cellular phone.

When A Call Is Originated
- Spoken voice sound output from the microphone (microphone signal) is input to audio unit.
- Audio unit outputs to cellular phone with Bluetooth® communication as a TEL voice signal.
- Voice sound is then heard at the other party.

When Receiving A Call
- Voice sound is input to own cellular phone from the other party.
- TEL voice signal is input to audio unit by establishing Bluetooth® communication from cellular phone, and the signal is output to front speakers.

SPEED SENSITIVE VOLUME SYSTEM

Volume level of this system goes up and down automatically in proportion to the vehicle speed. The control level can be selected by the customer. Refer to Owner's Manual for operating instructions.

DIAGNOSIS SYSTEM (AUDIO UNIT)

Description

INFOID:0000000010502029

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

Mode		Description
Self Diagnosis		• Audio unit diagnosis. • Diagnoses the connections across system components.
Confirmation/ Adjustment	Display Diagnosis	The following check functions are available: color tone check by color bar display and white display, light and shade check by gray scale display.
	Vehicle Signals	Diagnosis of signals can be performed for vehicle speed, lights, reverse, EQ pin, destination and camera type.
	Speaker Test	The connection of a speaker can be confirmed by test tone.
	Error History	The system malfunction and the frequency when occurring in the past are displayed. When the malfunctioning item is selected, the time and place that the selected malfunction last occurred are displayed.
	Camera System	Displayed but not used.
	AV COMM Diagnosis	The communication condition of each unit of display audio system can be monitored.
	Delete Unit Connection Log	Erase the connection history of unit and error history.
	Version Information	Audio unit software and hardware versions are displayed.
	Initialize Setting	Initializes the audio unit memory.

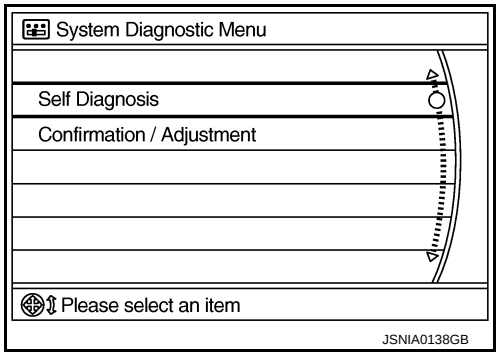
On Board Diagnosis Function

INFOID:0000000010502030

METHOD OF STARTING

1. Turn the ignition ON.
2. Turn the audio system OFF.
3. While pressing setup button, turn the tune encoder 3 clicks counterclockwise, then 3 clicks clockwise and 4 clicks counterclockwise. Shifting from current screen to previous screen is performed by pressing BACK button.

4. The trouble diagnosis initial screen is displayed, and Self Diagnosis or Confirmation/Adjustment can be selected.

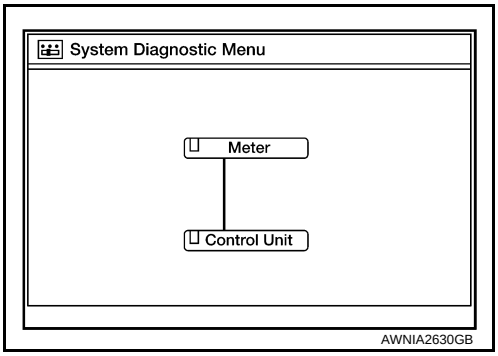


SELF DIAGNOSIS MODE

Audio Unit Self Diagnosis

1. Select Self Diagnosis.
2. Self diagnosis screen is displayed. The bar graph visible in center of screen indicates progress of self diagnosis.

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

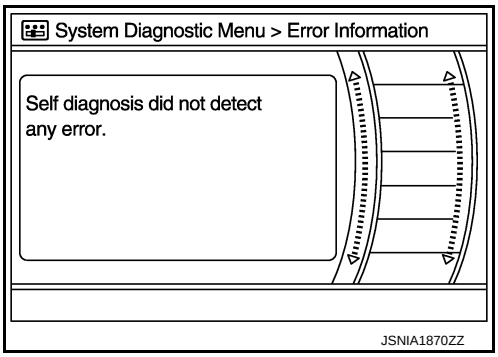


Diagnosis results	Unit	Connection line
Normal	Green	Green
Connection malfunction	Gray	Yellow
Unit malfunction [1]	Red	Green

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

- Replace audio unit if Self Diagnosis did not run because control unit malfunction is indicated. The symptom is audio unit internal error. Refer to AV-53, "Removal and Installation".
- If multiple errors occur at the same time for a single unit, the screen switch colors are determined according to the following order of priority: red > gray.

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



Audio Unit Self Diagnosis Results

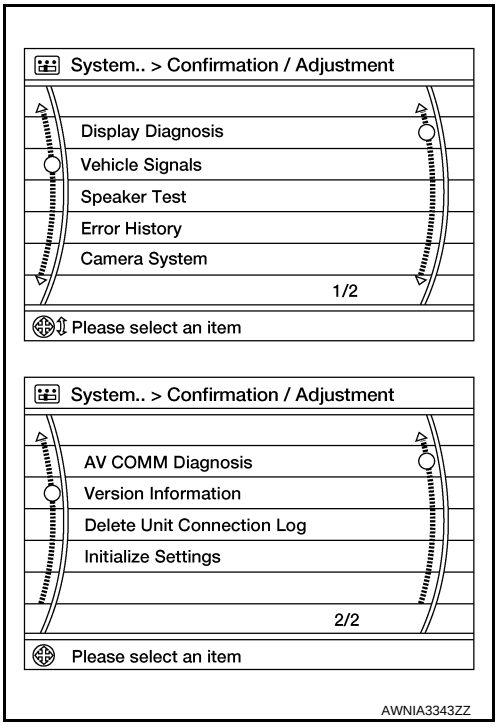
Only Unit Part Is Displayed In Red		
Screen switch	Description	Possible cause
Control unit	Malfunction is detected in audio unit power supply and ground circuits.	• Audio unit power supply or ground circuits. Refer to AV-37, "AUDIO UNIT : Diagnosis Procedure". • If no malfunction is detected in audio unit power supply and ground circuits, replace audio unit. Refer to AV-53, "Removal and Installation".

A Connecting Cable Between Units Is Displayed In Yellow		
Area with yellow connection lines	Description	Possible cause
Control unit ⇔ Meter	When one of the following is detected: • malfunction is detected in combination meter power supply and ground circuits. • malfunction is detected in AV communication circuits between audio unit and combination meter.	• Combination meter power supply or ground circuits. Refer to MWI-61, "COMBINATION METER : Diagnosis Procedure". • AV communication circuits between audio unit and combination meter.

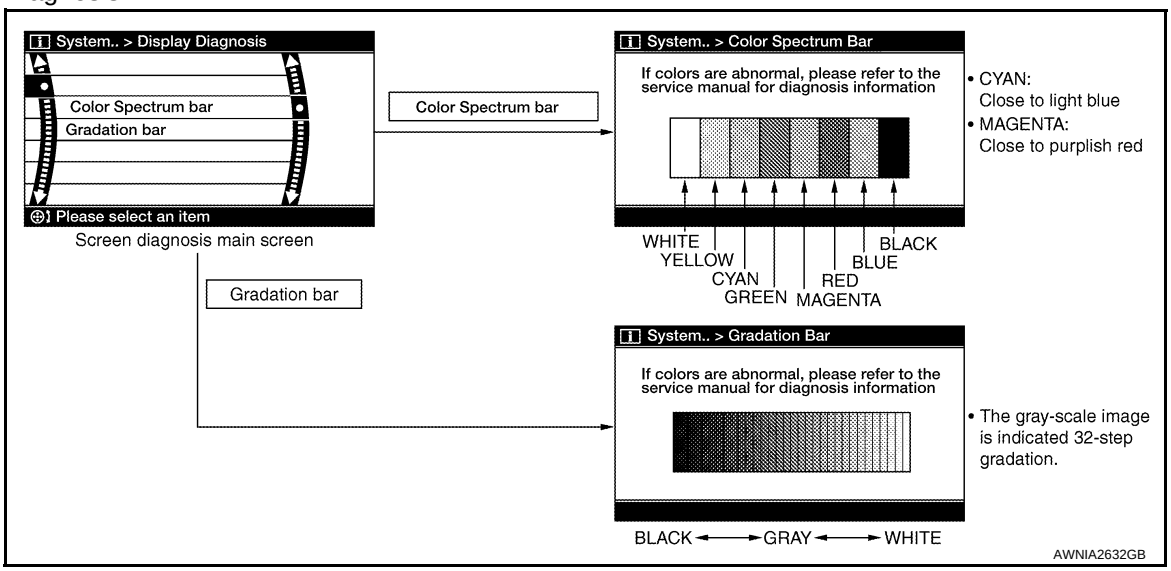
Audio Unit Confirmation/Adjustment

1. Select Confirmation/Adjustment.

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

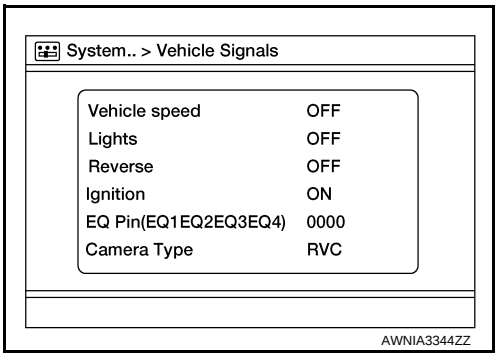


Display Diagnosis



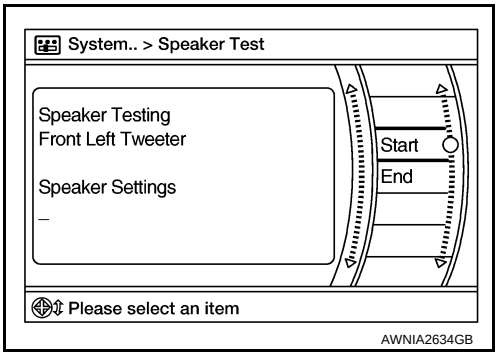
Vehicle Signals

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



Speaker Test

Select Speaker Test to display the Speaker Diagnosis screen. Press Start to generate a test tone in a speaker. Press Start again to generate a test tone in the next speaker. Press End to stop the test tones.



Error History

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

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

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

Count up method A

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

Count up method B

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

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

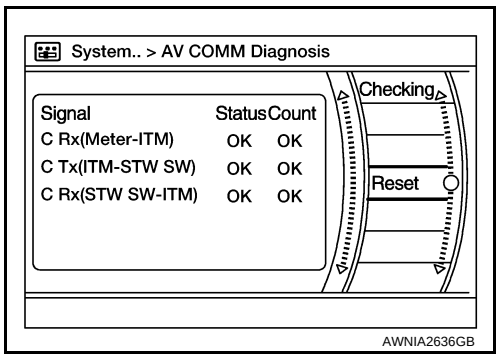
Error item

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

Error item	Description	Possible cause
CONTROL UNIT (AV)	AV communication circuit initial diagnosis malfunction is detected.	Replace the audio unit if the malfunction occurs constantly. Refer to AV-53, "Removal and Installation"
AV COMM CIRCUIT	When one of the following is detected: • malfunction is detected in combination meter power supply and ground circuits. • malfunction is detected in AV communication circuits between audio unit and combination meter.	• Combination meter power supply or ground circuits. Refer to AV-37, "AUDIO UNIT : Diagnosis Procedure". • AV communication circuits between audio unit and combination meter.

AV COMM Diagnosis

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

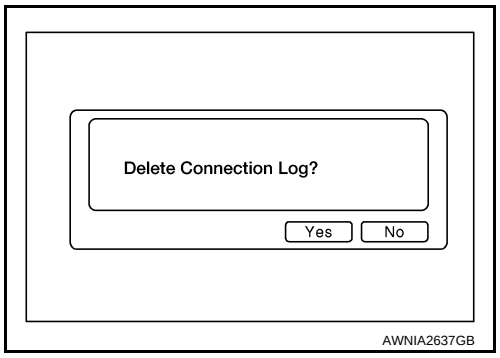


Items	Status (Current)	Counter (Past)
C Rx(Meter-ITM)	OK / ???	OK / 0 – 39
C Tx(ITM-TW SW)	OK / ???	OK / 0 – 39
C Rx(STW SW-ITM)	OK / ???	OK / 0 – 39

NOTE:
"???" indicates UNKWN.

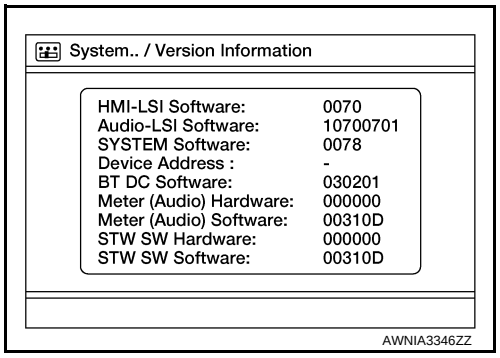
Delete Unit Connection Log

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



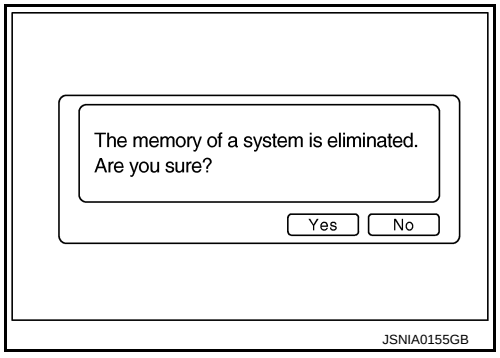
Version Information

Displays audio unit software and hardware version numbers.



Initialize Settings

Deletes data stored from the audio unit.



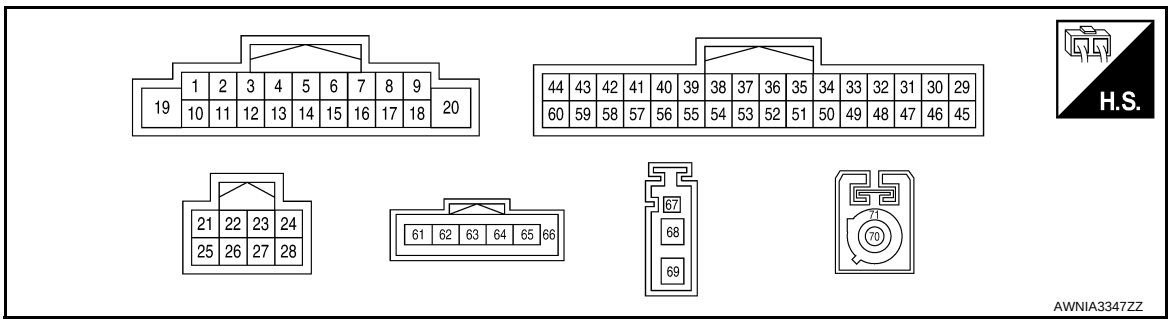
ECU DIAGNOSIS INFORMATION

AUDIO UNIT

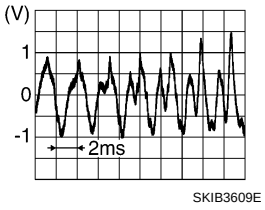
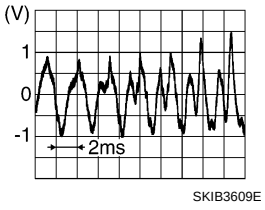
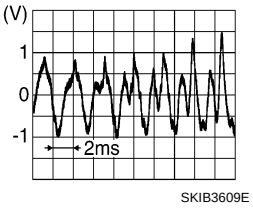
Reference Value

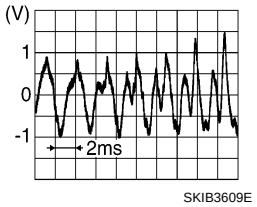
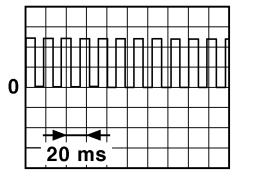
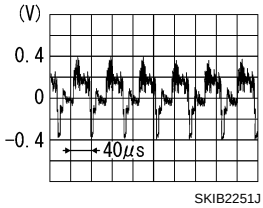
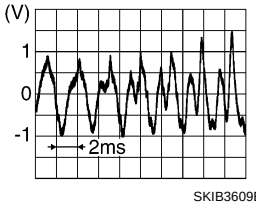
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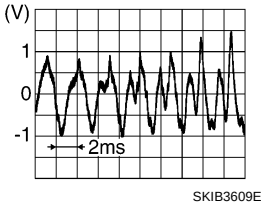
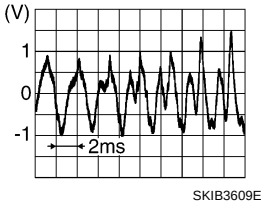
TERMINAL LAYOUT



PHYSICAL VALUES

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

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
13 (LG)	14 (GR)	Sound signal rear door speaker RH	Output	ON	Sound output	 SKIB3609E
17 (P)	Ground	Dongle / AUDIO LINK	—	—	—	—
18 (P)	Ground	Vehicle speed signal	Input	ON	When vehicle speed is approx. 40 km/h (25 MPH)	 JSNIA0012GB
19 (L)	Ground	Battery power supply	Input	OFF	—	Battery voltage
20 (B)	Ground	Ground	—	ON	—	0 V
27 (W)	Ground	ACC power supply	Input	ON	—	Battery voltage
31 (SB)	—	CAN H	—	—	—	—
32 (LG)	—	CAN L	—	—	—	—
33 (B)	Ground	Camera ground	—	ON	—	0 V
34 (R)	Ground	Camera power supply	Output	ON	Camera image displayed	6.0 V
					Except for above	0 V
34 (R)	44 (GR)	Camera image signal	Input	ON	Camera image displayed	 SKIB2251J
35 (W)	Ground	Camera detection	—	ON	—	0 V
37 (W)	39 (Shield)	Microphone signal	Input	ON	While speaking into microphone.	 SKIB3609E
38 (BG)	—	MIC VCC	Input	ON	—	—

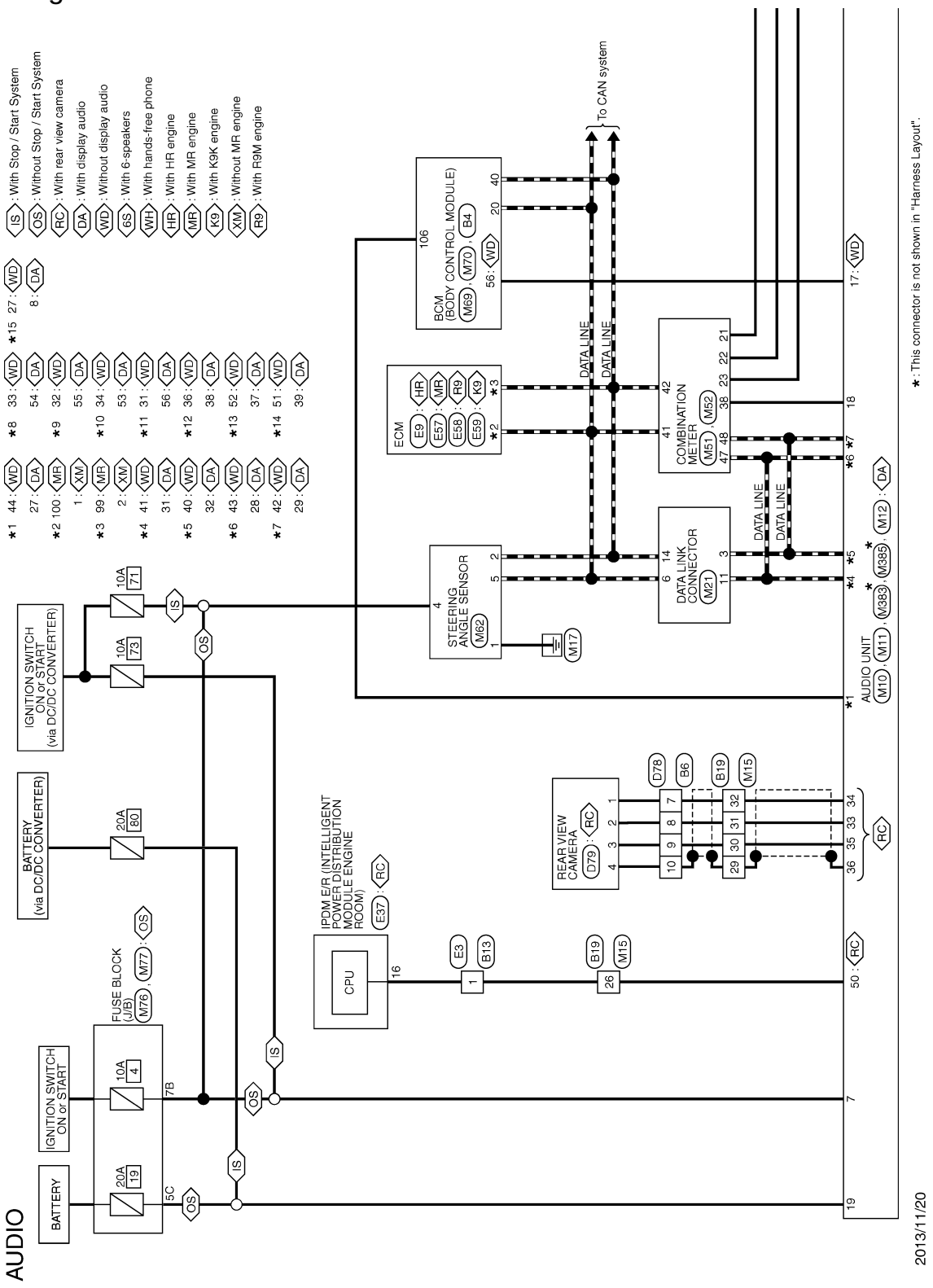
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
40 (LG)	—	AV communication (L)	Input/ Output	—	—	—
41 (SB)	—	AV communication (H)	Input/ Output	—	—	—
42 (LG)	—	AV communication (L)	Input/ Output	—	—	—
43 (SB)	—	AV communication (H)	Input/ Output	—	—	—
45 (B)	—	EQ1	—	—	—	—
50 (G)	Ground	Reverse signal	Input	ON	Selector lever in R (reverse)	Battery voltage
					Selector lever in any position other than R (reverse)	0 V
53 (B)	Ground	AUX jack audio signal LH	Input	ON	Received audio signal (AUX input)	 SKIB3609E
54 (R)	Ground	AUX jack audio signal RH	Input	ON	Received audio signal (AUX input)	 SKIB3609E
55 (W)	Ground	AUX ground	—	ON	—	0V
56 (Shield)	—	AUX signal shield	—	—	—	—
129 (G)	—	USB ground	—	—	—	—
130 (R)	—	USB D– signal	—	—	—	—
131 (W)	—	V BUS signal	—	—	—	—
133 (Shield)	—	USB shield	—	—	—	—
132 (L)	—	USB D+ signal	—	—	—	—
150 —	Ground	FN sub signal	Input	ON	Audio unit ON, XM selected.	5.0 V
152 —	Ground	Antenna amp. ON signal	Output	ON	Audio unit ON, FM-AM selected.	Battery voltage
151 —	Ground	AM/FM antenna signal	Input	ON	Audio unit ON, FM-AM selected.	5.0 V

WIRING DIAGRAM

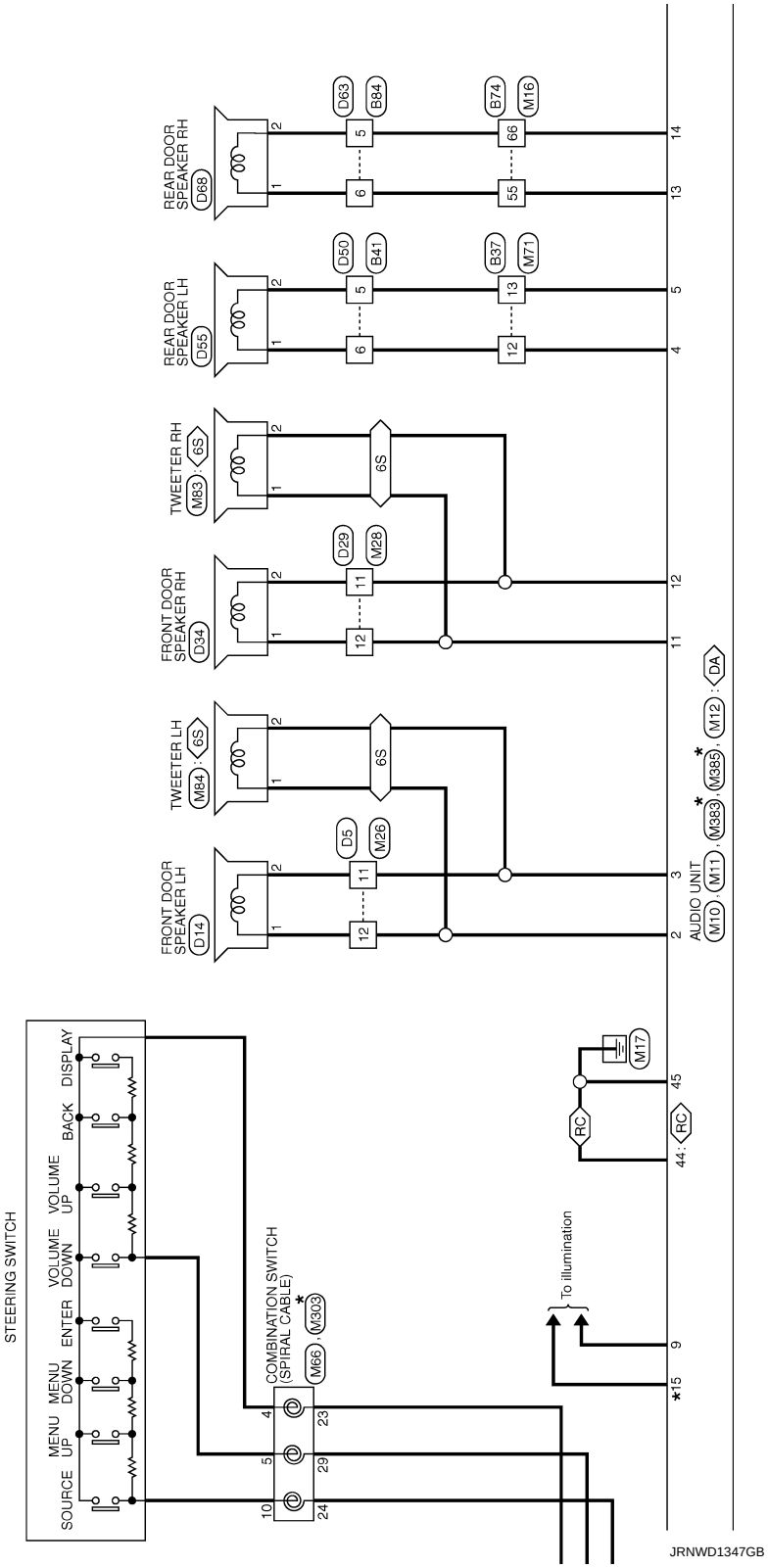
AUDIO SYSTEM

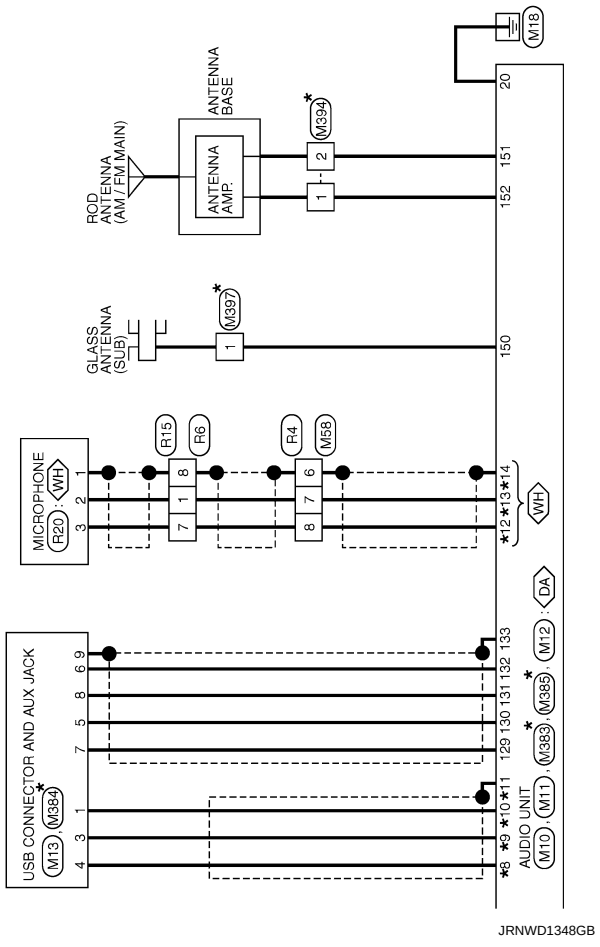
Wiring Diagram

INFOID:0000000010502032



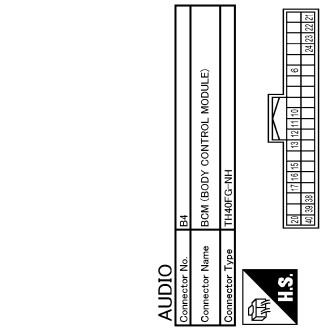
*: This connector is not shown in "Harness Layout".


REAR DOOR SPEAKER RH D68
REAR DOOR SPEAKER LH D55
TWEETER RH M83 : 6S
FRONT DOOR SPEAKER RH D34
TWEETER LH M84 : 6S
FRONT DOOR SPEAKER LH D14
D63
B84
B74
M16
D50
B41
B37
M71
D29
M28
D5
M26
6S
AUDIO UNIT M10 , M11 , *M383 , *M385 , M12 : DA
RC
M17
44: RC
To illumination
*15
STEERING SWITCH
SOURCE
MENU UP
MENU DOWN
ENTER
VOLUME DOWN
VOLUME UP
BACK
DISPLAY
COMBINATION SWITCH (SPIRAL CABLE) *M66 , *M303
JRNWD1347GB


ROD ANTENNA (AM / FM MAIN)
ANTENNA BASE
ANTENNA AMP.
M394
GLASS ANTENNA (SUB)
M397
MICROPHONE
R20 : WH
R15
R6
R4
M58
USB CONNECTOR AND AUX JACK
M13
M384
AUDIO UNIT
M10 , M11 , M383 , M385 , M12 : DA
M18
WH
JRNWD1348GB

AUDIO

Connector No.	B4
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FG-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
6	B	BACK DOOR OPENER REQUEST SW [For RHD models]
6	Y	BACK DOOR OPENER REQUEST SW [For LHD models]
10	R	REAR RH DOOR SW
11	B	BACK DOOR SW
12	W	REAR LH DOOR SW
13	R	PASSENGER DOOR SW
15	G/W	REAR WIPER AUTO STOP
16	B	BACK DOOR OPENER SW
17	SB	DRIVER DOOR SW
20	L	CAN-H
21	BR	REAR BMPR ANT –
22	Y	ROOM ANT 2 –
23	L	ROOM ANT 2 +
24	G	REAR BMPR ANT +
38	G	SIREN
39	W	HIGH-MOUNTED STOP LAMP
40	P	CAN-L

Connector No.	B6
Connector Name	WIRE TO WIRE
Connector Type	TH12FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	–
5	G	–
6	G/W	–
7	R	–
8	B	–
9	W	–
10	SHIELD	–
11	Y	–
12	G	–

Connector No.	B13
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4

Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	–
2	G	–
5	O	–
20	G	–
21	BR	–
22	SB	–
23	BG	–
24	SB	–
25	G	–
26	B	–
27	P	–

Connector No.	B19
Connector Name	WIRE TO WIRE
Connector Type	TH32MW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
2	R	–
3	V	–
4	GR	–
5	Y	–
6	W	–
10	W	–
11	Y	–
13	G	–
15	V	–
20	LG	–
21	G	–
22	V	–
23	BR	–
24	P	–
25	L	–
26	G	–
29	SHIELD	–
30	W	–
31	B	–
32	R	–

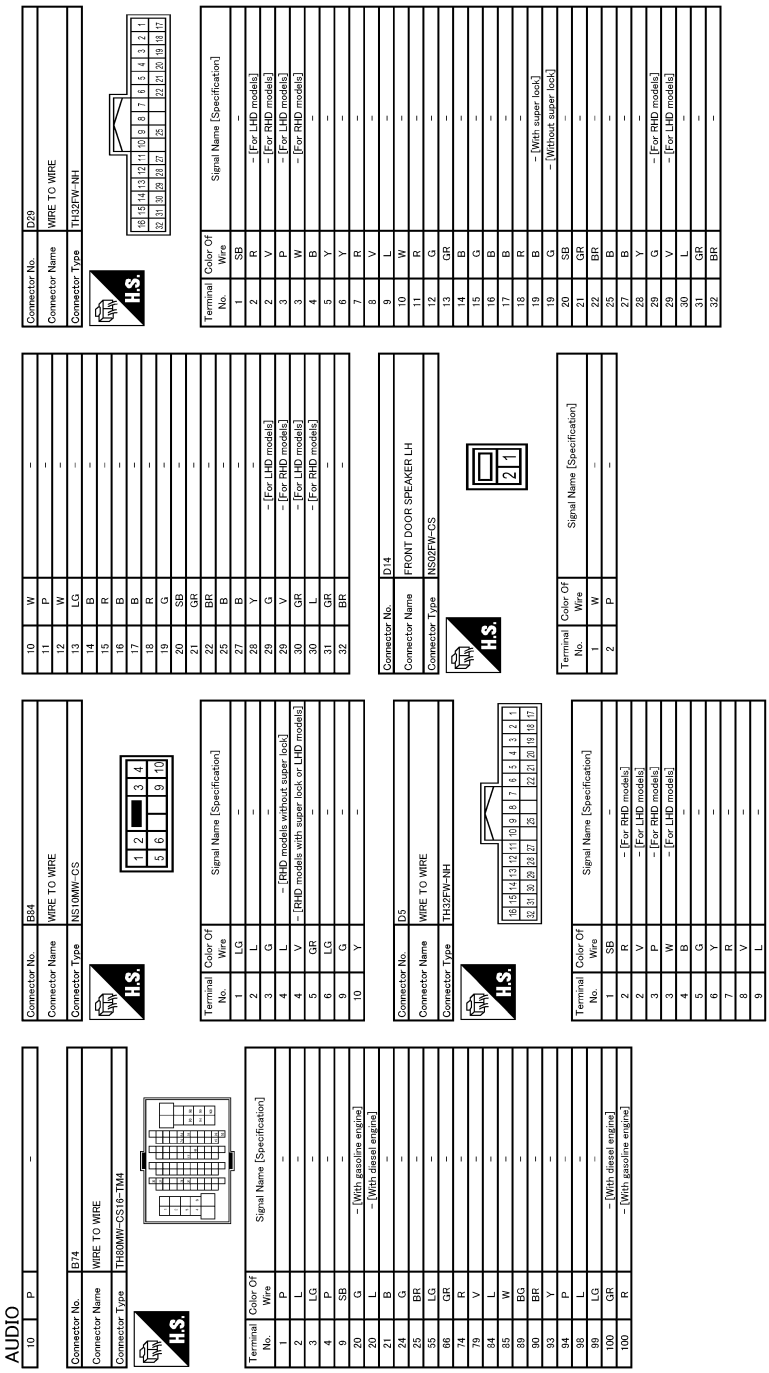
Connector No.	B37
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS

Terminal No.	Color Of Wire	Signal Name [Specification]
3	V	–
4	G	–
6	G	–
8	P	–
9	P	–
10	R	–
11	L	–
12	W	–
13	R	–
14	L	–
15	BR	–
16	G	–

Connector No.	B41
Connector Name	WIRE TO WIRE
Connector Type	NS10MW-CS

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	–
2	L	–
3	G	–
4	V	–
5	R	–
6	W	–
9	G	–

JRNWD1424GB



JRNWD1425GB

AUDIO

Connector No.	D34
Connector Name	FRONTDOOR SPEAKER RH
Connector Type	NS02FW-CS

H.S.



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

Connector No.	D50
Connector Name	WIRE TO WIRE
Connector Type	NS10FW-CS

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	–
2	L	–
3	G	–
4	GR	– [RHD models without super lock]
4	V	– [RHD models with super lock or LHD models]
5	R	–
6	W	–
9	G	–
10	P	–

Connector No.	D55
Connector Name	REAR DOOR SPEAKER LH
Connector Type	NS02FW-CS

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	–
2	R	–

Connector No.	D63
Connector Name	WIRE TO WIRE
Connector Type	NS10FW-CS

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	–
2	L	–
3	G	–
4	GR	– [RHD models without super lock]
4	V	– [RHD models with super lock or LHD models]
5	GR	–
6	LG	–
9	G	–
10	Y	–

Connector No.	D88
Connector Name	REAR DOOR SPEAKER RH
Connector Type	NS02FW-CS

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	–
2	GR	–

Connector No.	D78
Connector Name	WIRE TO WIRE
Connector Type	TH12MW-NH

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	–
5	G	–
6	G/W	–
7	R	–
8	B	–
9	W	–
10	V	–
11	Y	–
12	L	–

Connector No.	D79
Connector Name	REAR CAMERA
Connector Type	TH04MW-NH

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	CAMERA ON
2	B	GND
3	W	CAMERA +
4	V	CAMERA -

Connector No.	E3
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	–
2	W	–
5	BG	–
20	G	–
21	BR	–
22	SB	–
23	BG	–
24	SB	–
25	G	–
26	B	–
27	P	–

JRNWD1426GB

AUDIO

Connector No.	E9
Connector Name	ECM
Connector Type	RH24FB-RZ8-L-LH

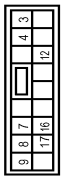
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H
2	P	CAN-L
3	SB	ASCD MAIN SWITCH
6	V	CLUTCH INTERLOCK SWITCH
9	R	CLUTCH PEDAL POSITION SWITCH
10	V	SPEED LIMITER MAIN SWITCH
14	BR	SENSOR GROUND
15	G	ASCD STEERING SWITCH
16	LG	IGNITION SWITCH
17	BG	STOP LAMP SWITCH
21	Y	SENSOR GROUND
22	W	ACCELERATOR PEDAL POSITION SENSOR 2
23	BG	SENSOR POWER SUPPLY
25	B	ECM GROUND
27	V	SENSOR POWER SUPPLY
28	G	POWER SUPPLY FOR ECM
29	B	ECM GROUND
30	GR	SENSOR GROUND
31	R	ACCELERATOR PEDAL POSITION SENSOR 1
32	B	ECM GROUND

Connector No.	E37
Connector Name	(PDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM))
Connector Type	NS16FGY-CS

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
3	P	–
4	GR	–
7	L	–
8	L	– [For grille shutter]
8	W	– [Except for grille shutter]
9	GR	–
12	GR	–
16	G	–
17	G	(This is the A/T assembly without CAN communication system.)
17	W	(This is the A/T assembly with CAN communication system.)

Connector No.	E57
Connector Name	ECM
Connector Type	RH24FB-RZ8-L-LH

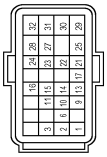
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
97	W	ATMOSPHERIC PRESSURE SENSOR
99	P	CAN-L
100	L	CAN-H
101	Y	SENSOR POWER SUPPLY (ATMOSPHERIC PRESSURE SENSOR)
108	R	CLUTCH PEDAL POSITION SENSOR
109	LG	IGNITION SWITCH
110	G	ASCD STEERING SWITCH
111	BR	SENSOR GROUND
115	Y	STOP LAMP SWITCH
116	GR	ASCD BRAKE SWITCH
118	BG	SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 2)
119	W	ACCELERATOR PEDAL POSITION SENSOR 2
120	Y	SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 2)
121	BR	POWER SUPPLY FOR ECM
122	V	SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 1)
123	B	ECM GROUND
124	R	SENSOR GROUND (ATMOSPHERIC PRESSURE SENSOR)
125	B	ECM GROUND
126	R	ACCELERATOR PEDAL POSITION SENSOR 1
127	GR	SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 1)
128	B	ECM GROUND

Connector No.	E58
Connector Name	ECM
Connector Type	RH24FB-RZ8-L-LH

H.S.

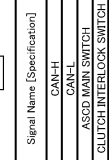


Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H
2	P	CAN-L
3	SB	ASCD MAIN SWITCH
6	V	CLUTCH INTERLOCK SWITCH
9	R	CLUTCH PEDAL POSITION SWITCH
10	V	SPEED LIMITER MAIN SWITCH
11	G	FUEL PUMP CONTROL MODULE (DIAGNOSIS)
13	BR	FUEL PUMP CONTROL MODULE (COMMAND)
14	BR	ASCD STEERING SWITCH GROUND
15	G	ASCD STEERING SWITCH
16	LG	IGNITION SWITCH
17	BG	STOP LAMP SWITCH [With M/T]
17	R	STOP LAMP SWITCH [With CVT]
21	P	SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 2)
22	V	ACCELERATOR PEDAL POSITION SENSOR 2
23	L	SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 2)
24	L	WATER IN FUEL LEVEL SENSOR
25	B	ECM GROUND
27	G	SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 1)
28	G	POWER SUPPLY FOR ECM
29	B	ECM GROUND
30	Y	SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 1)
31	W	ACCELERATOR PEDAL POSITION SENSOR 1

32	B	ECM GROUND

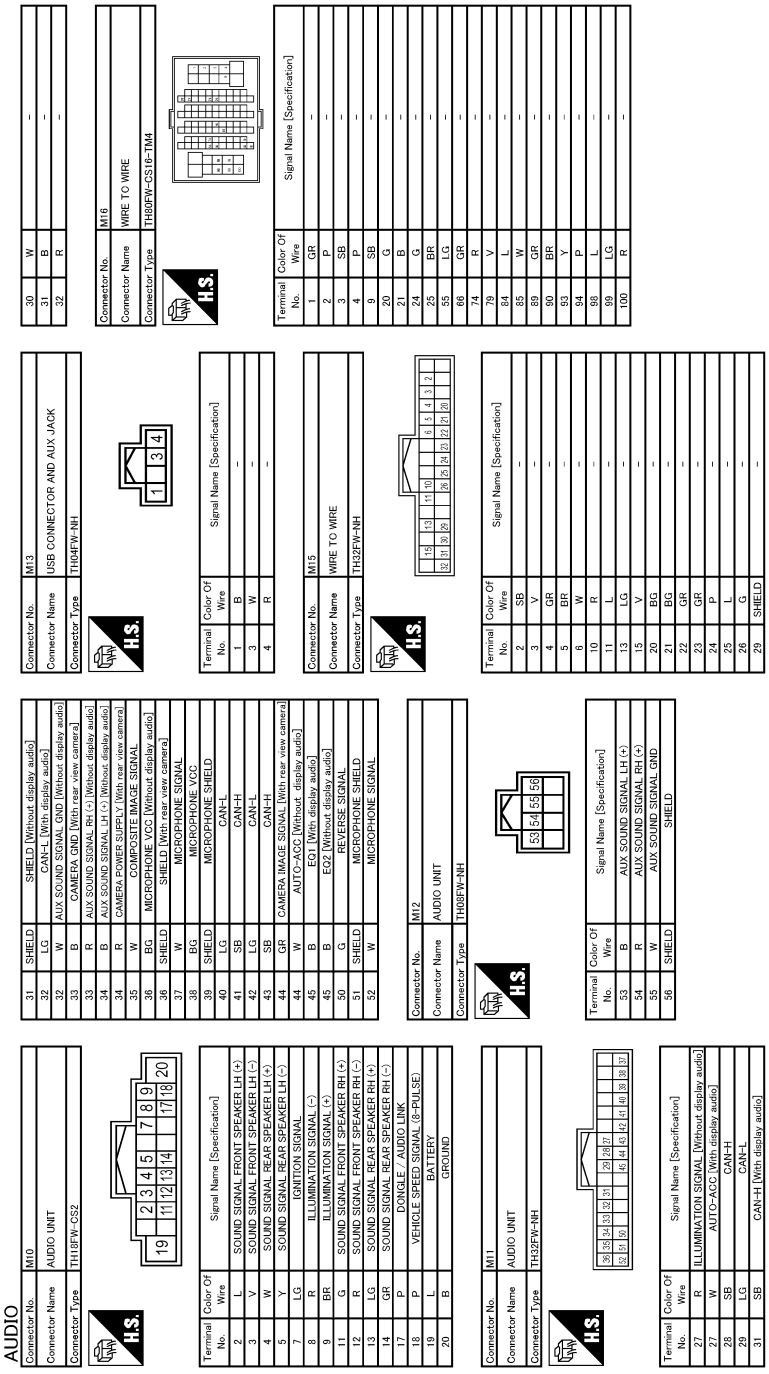
Connector No.	E59
Connector Name	ECM
Connector Type	RH24FB-RZ8-L-LH

H.S.

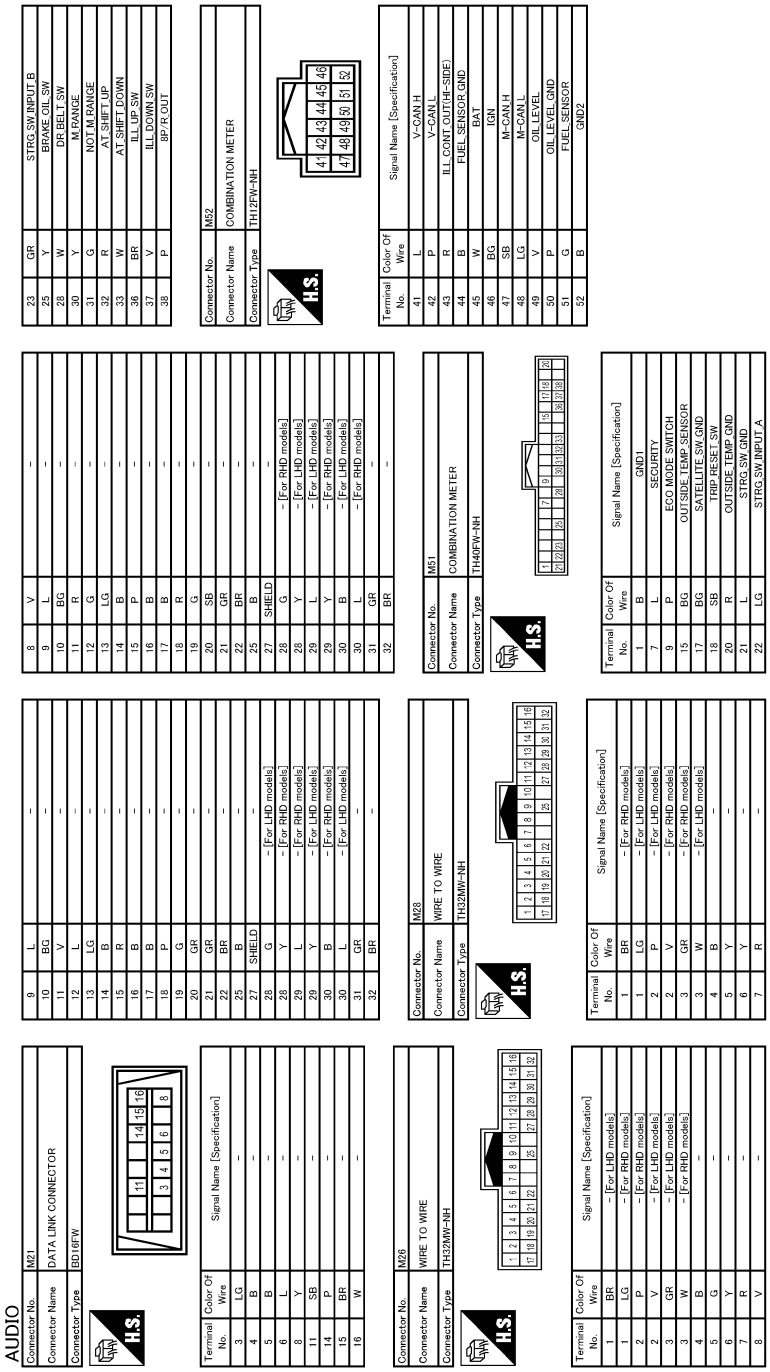


Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H
2	P	CAN-L
3	SB	ASCD MAIN SWITCH
6	V	CLUTCH INTERLOCK SWITCH
9	R	CLUTCH PEDAL POSITION SWITCH
10	V	SPEED LIMITER MAIN SWITCH
11	G	FUEL PUMP CONTROL MODULE (DIAGNOSIS)
13	BR	FUEL PUMP CONTROL MODULE (COMMAND)
14	BR	ASCD STEERING SWITCH GROUND
15	G	ASCD STEERING SWITCH
16	LG	ECM POWER SUPPLY (IGNITION)
17	BG	STOP LAMP SWITCH
21	Y	SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 2)
22	W	ACCELERATOR PEDAL POSITION SENSOR 2
23	BG	SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR)
24	L	FUEL HEATER AND WATER IN FUEL SENSOR
25	B	ECM GROUND
26	B	ECM GROUND
27	V	SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 1)
29	B	ECM GROUND
30	GR	SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR)
31	R	ACCELERATOR PEDAL POSITION SENSOR 1
32	B	ECM GROUND

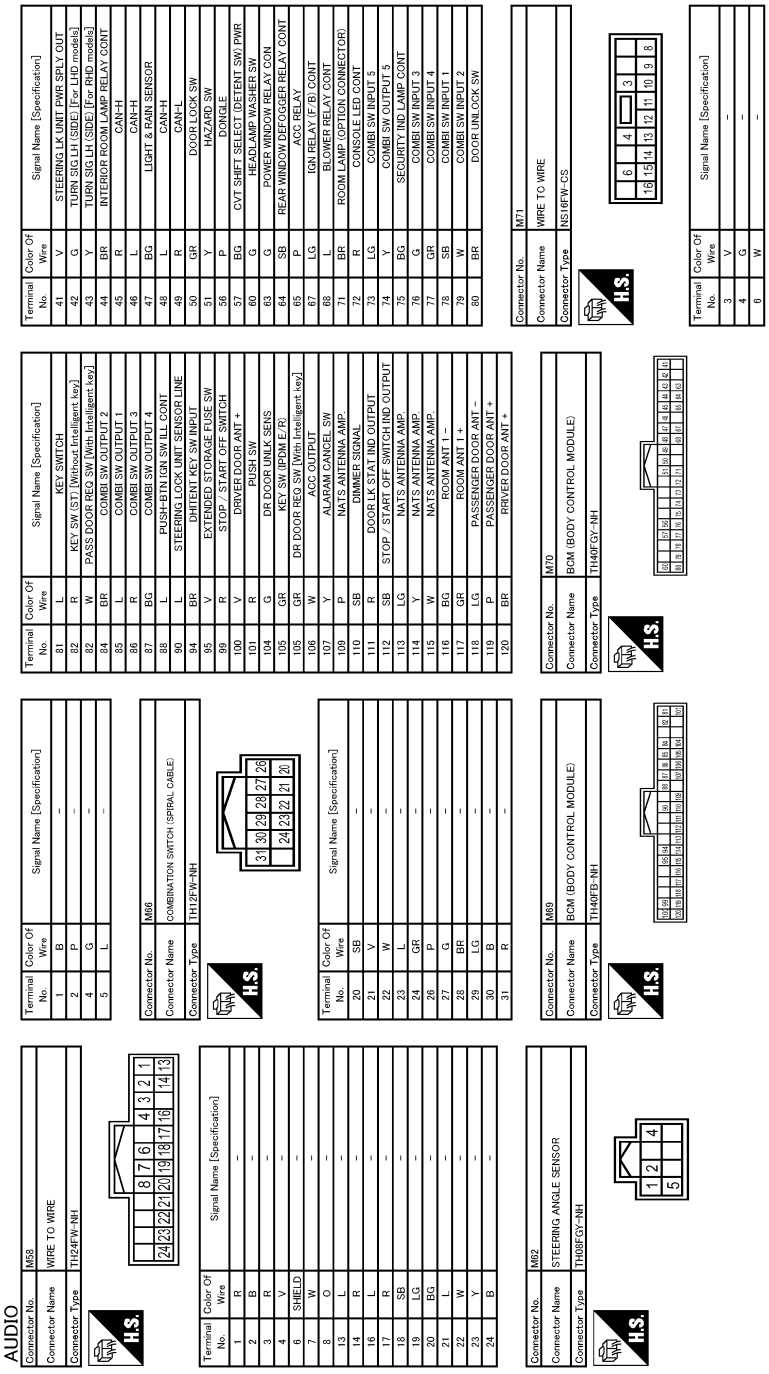
JRNWD1427GB



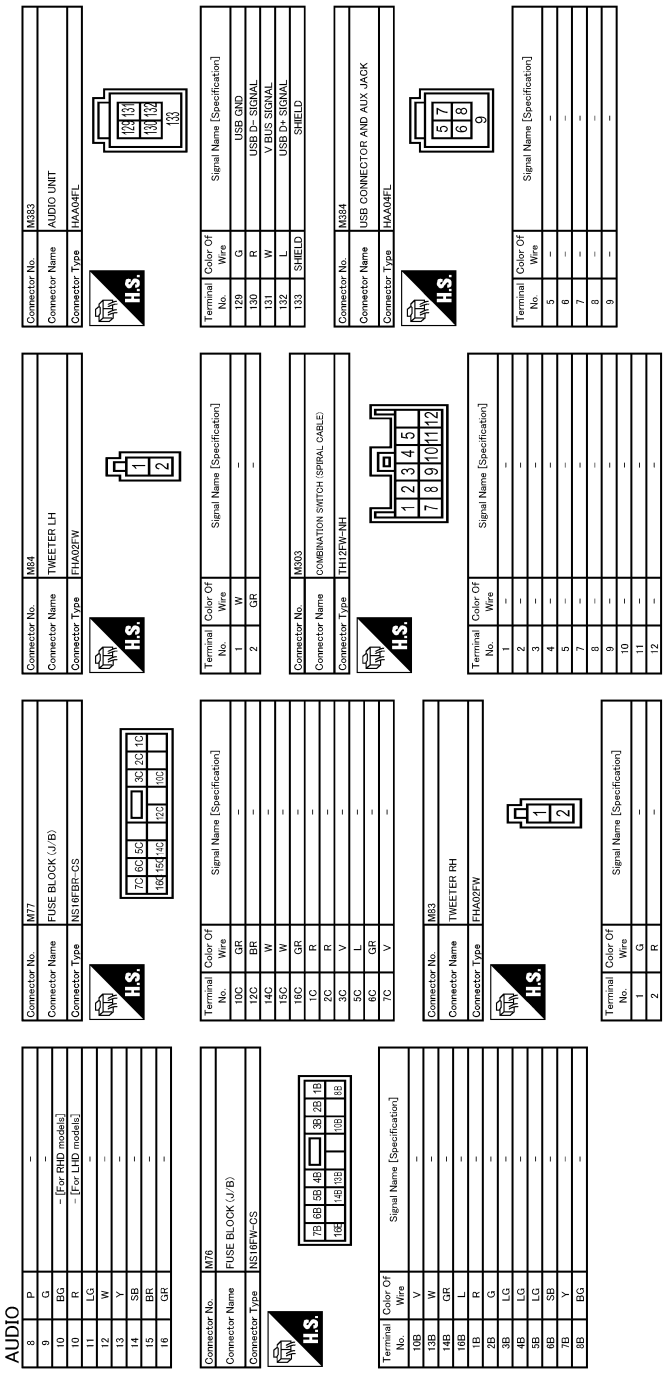
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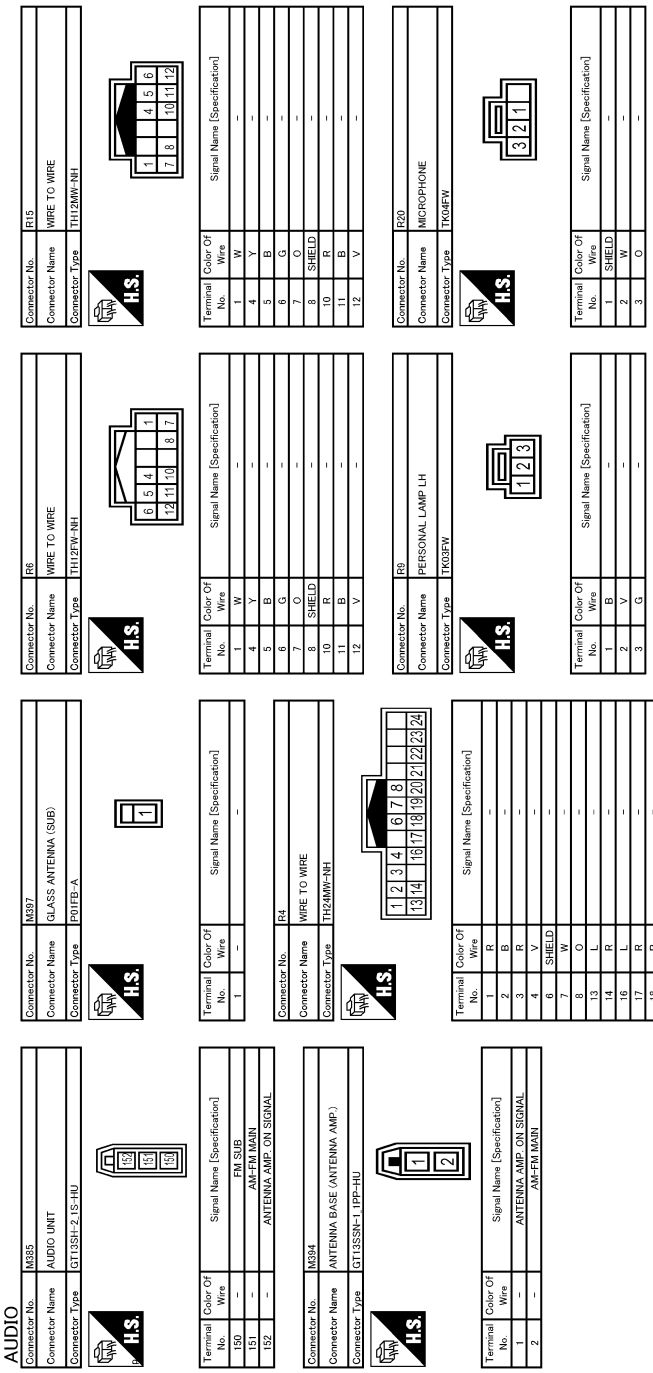
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JRNWD1430GB



JRNWD1431GB



JRNWD1432GB

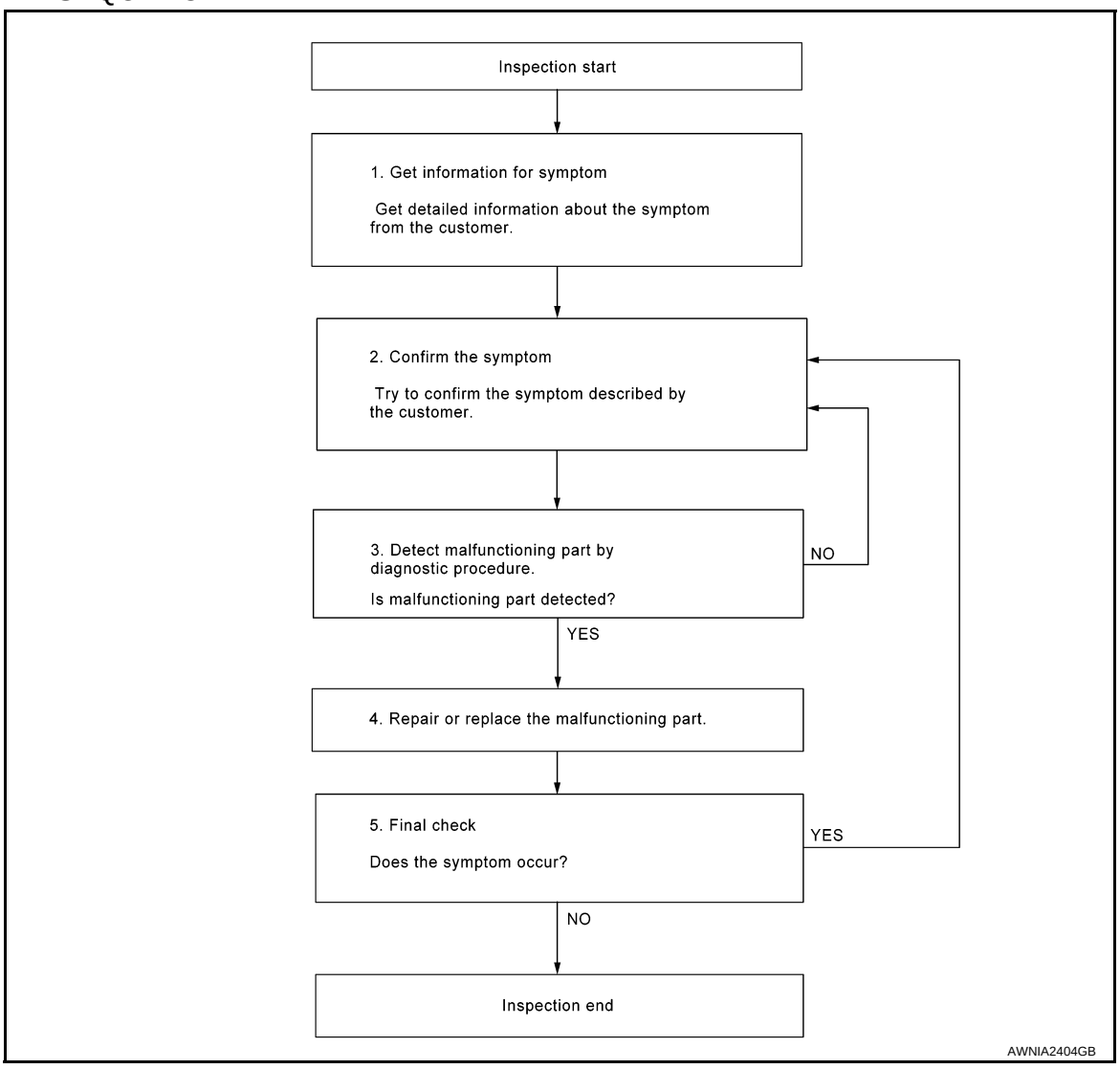
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000010502033

OVERALL SEQUENCE



DETAILED FLOW

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

2.CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer. Verify relation between the symptom and the condition when the symptom is detected. Refer to AV-48, "Symptom Table".

>> GO TO 3.

3.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

Is malfunctioning part detected?

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

4. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 5.

5. FINAL CHECK

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

Was the repair confirmed?

YES >> Inspection End.
NO >> GO TO 2.

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID:0000000010502034

Regarding Wiring Diagram information, refer to AV-23, "Wiring Diagram".

1.CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
7	Ignition power supply	4 (10A)
19	Battery power supply	19 (20A)

Are the fuses blown?

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

2.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M10.
3. Check voltage between audio unit connector M10 and ground.

Audio unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M10	7	—	Ignition switch: ON	Battery voltage
	19		Ignition switch: OFF	

Is the inspection result normal?

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

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M10.
3. Check continuity between audio unit connectors and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M10	20	—	Yes

Is the inspection result normal?

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

FRONT TWEETER

Diagnosis Procedure

INFOID:0000000010502035

Regarding Wiring Diagram information, refer to AV-23, "Wiring Diagram".

1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair the terminals or connectors.

2.CHECK FRONT TWEETER SIGNAL CIRCUIT CONTINUITY

1. Disconnect audio unit connector M10 and suspect front tweeter connector.
2. Check continuity between audio unit connector M10 and suspect front tweeter connector.

Audio unit		Front tweeter		Continuity
Connector	Terminal	Connector	Terminal	
M10	2	M84 (LH)	1	Yes
	3		2	
	11	M83 (RH)	1	
	12		2	

3. Check continuity between audio unit connector M10 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M10	2	—	No
	3		
	11		
	12		

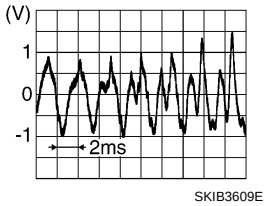
Is the inspection result normal?

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

3.CHECK FRONT TWEETER SIGNAL

1. Connect audio unit connector M10 and suspect front tweeter connector.
2. Turn ignition switch to ON.
3. Push audio unit POWER switch.
4. Check signal between the terminals of audio unit connector M10.

Audio unit connector M10		Condition	Reference value
(+)	(–)		
Terminal	Terminal		

2	3		
11	12	Audio signal output	 SKIB3609E

Is the inspection result normal?

YES >> Replace front tweeter. Refer to AV-55, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-53, "Removal and Installation".

FRONT DOOR SPEAKER

Diagnosis Procedure

INFOID:0000000010502036

Regarding Wiring Diagram information, refer to AV-23, "Wiring Diagram".

1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair the terminals or connectors.

2.CHECK FRONT DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY

1. Disconnect audio unit connector M10 and suspect front door speaker connector.
2. Check continuity between audio unit connector M10 and suspect front door speaker connector.

Audio unit		Front door speaker		Continuity
Connector	Terminal	Connector	Terminal	
M10	2	D14 (LH)	1	Yes
	3		2	
	11	D34 (RH)	1	
	12		2	

3. Check continuity between audio unit connector M10 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M10	2	—	No
	3		
	11		
	12		

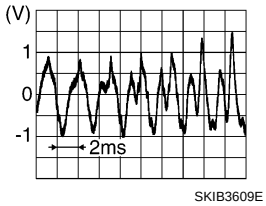
Is the inspection result normal?

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

3.CHECK FRONT DOOR SPEAKER SIGNAL

1. Connect audio unit connector M10 and suspect front door speaker connector.
2. Turn ignition switch to ON.
3. Push audio unit POWER switch.
4. Check signal between the terminals of audio unit connector M10.

Audio unit connector M10		Condition	Reference value
(+)	(–)		
Terminal	Terminal		

2	3	Audio signal output	 SKIB3609E
11	12		

Is the inspection result normal?

YES >> Replace front door speaker. Refer to AV-56, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-53, "Removal and Installation".

REAR DOOR SPEAKER

Diagnosis Procedure

INFOID:0000000010502037

Regarding Wiring Diagram information, refer to AV-23, "Wiring Diagram".

1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair the terminals or connectors.

2.CHECK REAR DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY

1. Disconnect audio unit connector M10 and suspect rear door speaker connector.
2. Check continuity between audio unit connector M10 and suspect rear door speaker connector.

Audio unit		Rear speaker		Continuity
Connector	Terminal	Connector	Terminal	
M10	4	D55 (LH)	1	Yes
	5		2	
	13	D68 (RH)	1	
	14		2	

3. Check continuity between audio unit connector M10 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M10	4	—	No
	5		
	13		
	14		

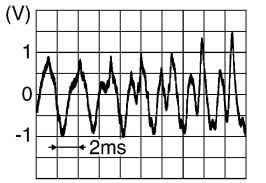
Is the inspection result normal?

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

3.CHECK REAR DOOR SPEAKER SIGNAL

1. Connect audio unit connector M10 and suspect rear door speaker connector.
2. Turn ignition switch to ON.
3. Push audio unit POWER switch.
4. Check signal between the terminals of audio unit connector M10.

Audio unit connector M10		Condition	Reference value
(+)	(–)		
Terminal	Terminal		

4	5	Audio signal output	 SKIB3609E
13	14		

Is the inspection result normal?

YES >> Replace rear door speaker. Refer to AV-57, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-53, "Removal and Installation".

MICROPHONE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000010502039

Regarding Wiring Diagram information, refer to AV-23, "Wiring Diagram".

1.CHECK HARNESS BETWEEN AUDIO UNIT AND MICROPHONE

1. Turn ignition switch OFF.
2. Disconnect audio unit connector and microphone connector R20.
3. Check continuity between audio unit connector and microphone connector R20.

Audio unit		Microphone		Continuity
Connector	Terminal	Connector	Terminal	
M11	36	R20	3	Yes
M12	52		2	
	51		1	

4. Check continuity between audio unit connector and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M11	36	—	No
M12	52		

Is the inspection result normal?

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

2.CHECK MICROPHONE POWER SUPPLY

1. Connect audio unit connector M11 and microphone connector R20.
2. Turn ignition switch ON.
3. Check voltage between microphone connector R20 and ground.

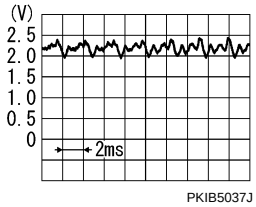
Microphone		Ground	Voltage (Approx.)
(+)		(-)	
Connector	Terminal		
R20	3	—	5V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace audio unit. Refer to AV-53, "Removal and Installation".

3.CHECK MICROPHONE SIGNAL

Check signal between terminals of audio unit connector.

Audio unit connector M11 and M12		Condition	Reference value
(+)	(-)		
Terminal	Terminal		
36	52	Speak into microphone.	 PKIB5037J

Is the inspection result normal?

YES >> Replace audio unit. Refer to AV-53, "Removal and Installation".
NO >> Replace microphone. Refer to AV-59, "Removal and Installation".

USB CONNECTOR

Diagnosis Procedure

INFOID:0000000010502041

Regarding Wiring Diagram information, refer to AV-23, "Wiring Diagram".

1.CHECK USB INTERFACE HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M383 and USB interface connector M384.
3. Check continuity between audio unit connector M383 and USB interface connector M384.

Audio unit		USB interface		Continuity
Connector	Terminal	Connector	Terminal	
M383	129	M384	7	Yes
	130		5	
	131		8	
	132		6	
	133		9	

4. Check continuity between audio unit connector M383 and ground.

Audio unit		—	Continuity
Connector	Terminal		
M383	129	Ground	No
	131		

Is the inspection result normal?

YES >> Replace the USB interface. Refer to AV-58, "Removal and Installation".
NO >> Repair or replace harness or connectors.

AUXILIARY INPUT JACK

Diagnosis Procedure

INFOID:0000000010502042

Regarding Wiring Diagram information, refer to AV-23, "Wiring Diagram".

1. CHECK AUX JACK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio control unit connector M11 and AUX in jack connector M13.
3. Check continuity between audio control unit connector M11 and AUX in jack connector M13.

Audio control unit		AUX in jack		Continuity
Connector	Terminal	Connector	Terminal	
M11	34	M13	1	Yes
	33		4	
	32		3	

4. Check continuity between audio control unit connector M88 and ground.

Audio control unit		—	Continuity
Connector	Terminal		
M11	33	Ground	No
	34		

Is the inspection result normal?

YES >> Replace the AUX in jack. Refer to AV-58, "Removal and Installation".
NO >> Repair or replace harness or connectors.

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:0000000010502043

RELATED TO AUDIO

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	Audio unit	Malfunction in audio unit. Refer to AV-15, "On Board Diagnosis Function".
No sound comes out or the level of the sound is low.	No sound from all speakers.	• Speaker circuit shorted to ground. Refer to AV-23, "Wiring Diagram". • Audio unit power supply and ground circuits malfunction. Refer to AV-37, "AUDIO UNIT : Diagnosis Procedure".
	Only a certain speaker (front tweeter LH, front tweeter RH, front door speaker LH, front door speaker RH, rear door speaker LH, rear door speaker RH) does not output sound.	• Poor connector connection of speaker. • Sound signal circuit malfunction between audio unit and speaker. Refer to: - AV-38, "Diagnosis Procedure" (front tweeter). - AV-40, "Diagnosis Procedure" (front door speaker). - AV-42, "Diagnosis Procedure" (rear door speaker). • Malfunction in speaker. Refer to: - AV-55, "Removal and Installation" (front tweeter). - AV-56, "Removal and Installation" (front door speaker). - AV-57, "Removal and Installation" (rear door speaker). • Malfunction in audio unit. Refer to AV-15, "On Board Diagnosis Function".

Symptoms	Check items	Probable malfunction location
Noise is mixed with audio.	Noise comes out from all speakers.	Malfunction in audio unit. Refer to AV-15, "On Board Diagnosis Function".
	Noise comes out only from a certain speaker (front tweeter LH, front tweeter RH, front door speaker LH, front door speaker RH, rear door speaker LH, rear door speaker RH).	• Poor connector connection of speaker. • Sound signal circuit malfunction between audio unit and speaker. Refer to: - AV-38, "Diagnosis Procedure" (front tweeter). - AV-40, "Diagnosis Procedure" (front door speaker). - AV-42, "Diagnosis Procedure" (rear door speaker). • Malfunction in speaker. • Poor Installation of speaker (e.g. backlash and looseness). Refer to: - AV-55, "Removal and Installation" (front tweeter). - AV-56, "Removal and Installation" (front door speaker). - AV-57, "Removal and Installation" (rear door speaker). • Malfunction in audio unit. Refer to AV-15, "On Board Diagnosis Function".
	Noise is mixed with radio only (when the vehicle hits a bump or while driving over bad roads)	Poor connector connection of antenna or antenna feeder. Refer to AV-12, "Rod Antenna, Antenna Amp., Satellite Antenna and Antenna Feeder".
No radio reception or poor reception.	• Other audio sounds are normal. • Any radio station cannot be received or poor reception is caused even after moving to a service area with good reception (e.g. a place with clear view and no obstacles generating external noises).	• Antenna amp. ON signal circuit malfunction. Refer to AV-20, "Reference Value". • Poor connector connection of antenna or antenna feeder. Refer to AV-12, "Rod Antenna, Antenna Amp., Satellite Antenna and Antenna Feeder".
Buzz/rattle sound from speaker	The majority of buzz/rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the buzz/rattle.	Refer to "SQUEAK AND RATTLE TROUBLE DIAGNOSIS" in the appropriate interior trim section.

RELATED TO HANDS-FREE PHONE

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

Check Compatibility

1. Make sure the customer's Bluetooth® related concern is understood.
2. Verify the customer's concern.
   NOTE:
   The customer's phone may be required, depending upon their concern.
3. Write down the customer's phone brand, model and service provider.
   NOTE:
   It is necessary to know the service provider. On occasion, a given phone may be on the approved list with one provider, but may not be on the approved list with other providers.

4. Perform diagnosis as per the following table.

Symptoms	Check items	Probable malfunction location
Does not recognize cellular phone connection (no connection is displayed on the display at the guide).	Repeat the registration of cellular phone.	Malfunction in audio unit. Replace audio unit. Refer to AV-53, "Removal and Installation".
Hands-free phone cannot be established.	• Hands-free phone operation can be made, but the communication cannot be established. • Hands-free phone operation can be performed, however, voice between each other cannot be heard during the conversation.	
The other party's voice cannot be heard by hands-free phone.	Check the "microphone speaker" in Inspection & Adjustment Mode if sound is heard.	
Originating sound is not heard by the other party with hands-free phone communication.	Sound operation function is normal.	
	Sound operation function does not work.	Microphone signal circuit malfunction. Refer to AV-44, "Diagnosis Procedure".
The system cannot be operated.	• The voice recognition can be controlled. • Steering switch's − , + , and switch works, but does not work.	Steering switch malfunction. Replace steering switch. Refer to AV-54, "Removal and Installation".
	Steering switch's , − , + , and switches do not work.	Steering switch signal circuit malfunction. Refer to MWI-71, "Diagnosis Procedure".
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to MWI-71, "Diagnosis Procedure".

NORMAL OPERATING CONDITION

Description

INFOID:0000000010502044

RELATED TO NOISE

The majority of the audio concerns are the result of outside causes (bad CD, electromagnetic interference, etc.).
The following noise results from variations in field strength, such as fading noise and multi-path noise, or external noise from trains and other sources. It is not a malfunction.

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

The vehicle itself can be a source of noise if noise prevention parts or electrical equipment 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 determine the cause.

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

Type of Noise and Possible Cause

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

RELATED TO HANDS-FREE PHONE

Symptom	Cause and Counter measure
Does not recognize cellular phone connection (No connection is displayed on the display at the guide).	Some Bluetooth® enabled cellular phones may not be recognized by the in-vehicle phone module. Refer to “RELATED TO HANDS-FREE PHONE (Check Compatibility)” in AV-48, "Symptom Table".
Cannot use hands-free phone.	Customer will not be able to use a hands-free phone under the following conditions: • The vehicle is outside of the telephone service area. • The vehicle is in an area where it is difficult to receive radio waves; such as in a tunnel, in an underground parking garage, near a tall building or in a mountainous area. • The cellular phone is locked to prevent it from being dialed. **NOTE:** While a 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.

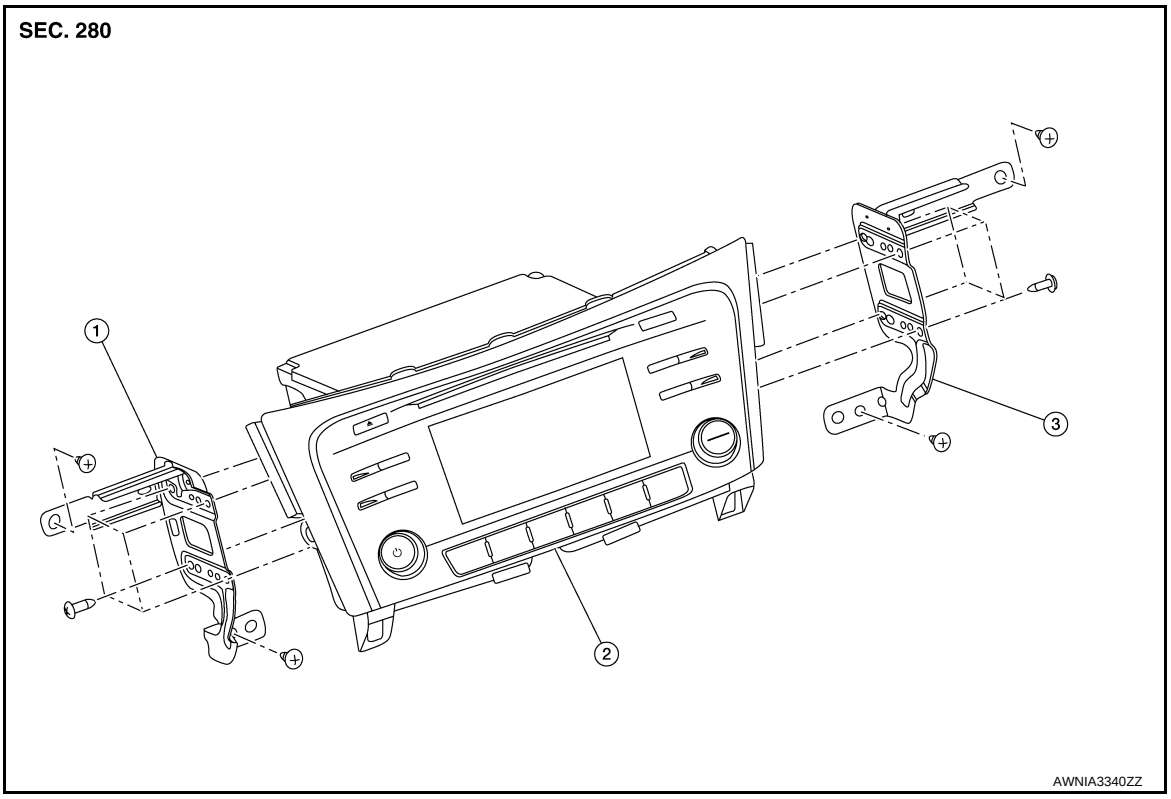
Symptom	Cause and Counter measure
The other party′s voice cannot be heard by hands-free phone.	When the radio wave condition is not ideal or ambient sound is too loud, it may be difficult to hear the other person′s voice during a call.
Poor sound quality.	Do not place the cellular phone in an area surrounded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

REMOVAL AND INSTALLATION

AUDIO UNIT

Exploded View

INFOID:0000000010502045



1. Audio unit bracket (LH)
2. Audio unit
3. Audio unit bracket (RH)

NOTE:
The following figures show the image of the inspection procedure. (Existing parts are not the same shape as the parts in the figure.)

Removal and Installation

INFOID:0000000010502046

REMOVAL

1. Disconnect the negative battery terminal. Refer to PG-154, "Exploded View".
2. Remove A/C switch (AUTOMATIC AIR CONDITIONING) or front air control (MANUAL AIR CONDITIONING).
3. Remove instrument finisher B. Refer to IP-12, "Exploded View".
4. Remove instrument finisher E. Refer to IP-12, "Exploded View".
5. Remove the audio unit screws, then pull out the audio unit.
6. Disconnect the harness connectors from the audio unit and remove.
7. Remove the audio unit bracket (LH/RH) screws and the audio unit brackets (LH/RH) (if necessary).

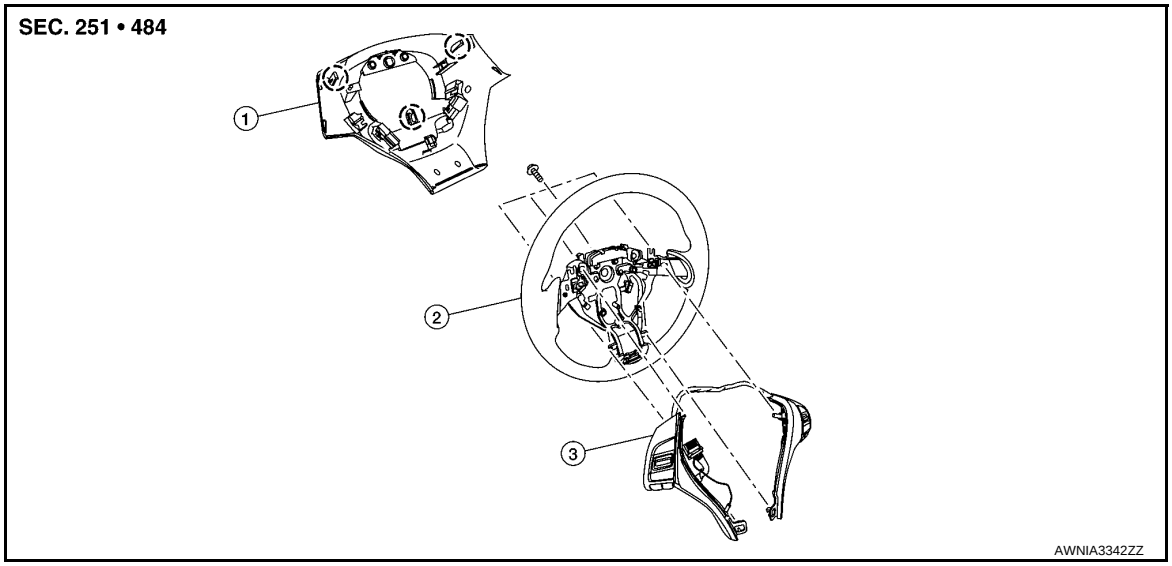
INSTALLATION

Installation is in the reverse order of removal.

STEERING SWITCHES

Exploded View

INFOID:0000000010502047



1. Steering wheel rear finisher
2. Steering wheel
3. Steering switches

Pawl

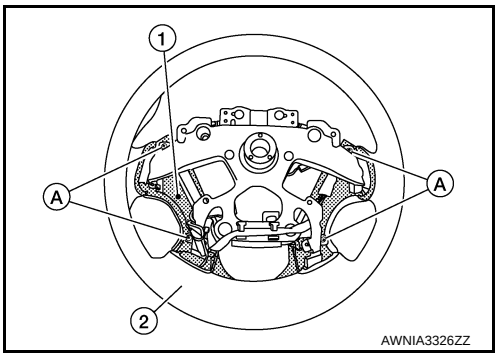
Removal and Installation

INFOID:0000000010502048

REMOVAL

NOTE:
The steering switches are serviced as an assembly.

1. Remove steering wheel. Refer to ST-8, "Exploded View".
2. Release pawls on the steering wheel rear finisher and remove.
3. Remove screws (A) and steering switches (1) from steering wheel (2).



INSTALLATION

Installation is in the reverse order of removal.

FRONT TWEETER

Removal and Installation

INFOID:0000000010502049

REMOVAL

1. Remove defroster grille. Refer to IP-12, "Exploded View".
2. Remove bolts and pull out the front tweeter.
3. Disconnect the harness connector from the front tweeter and remove.

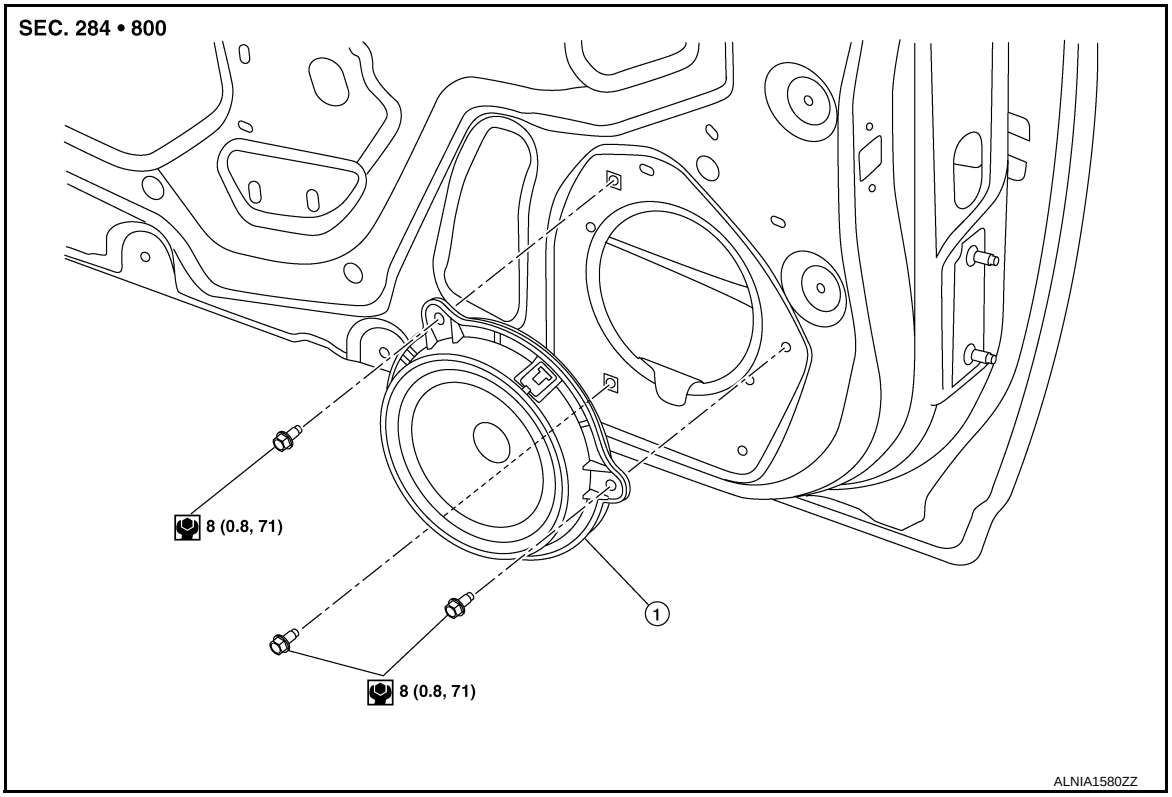
INSTALLATION

Installation is in the reverse order of removal.

FRONT DOOR SPEAKER

Exploded View

INFOID:0000000010502050



1. Front door speaker

Removal and Installation

INFOID:0000000010502051

REMOVAL

1. Remove front door finisher. Refer to INT-12, "FRONT DOOR FINISHER : Exploded View".
2. Remove front door speaker bolts, then pull out front door speaker.
3. Disconnect the harness connector from front door speaker and remove.

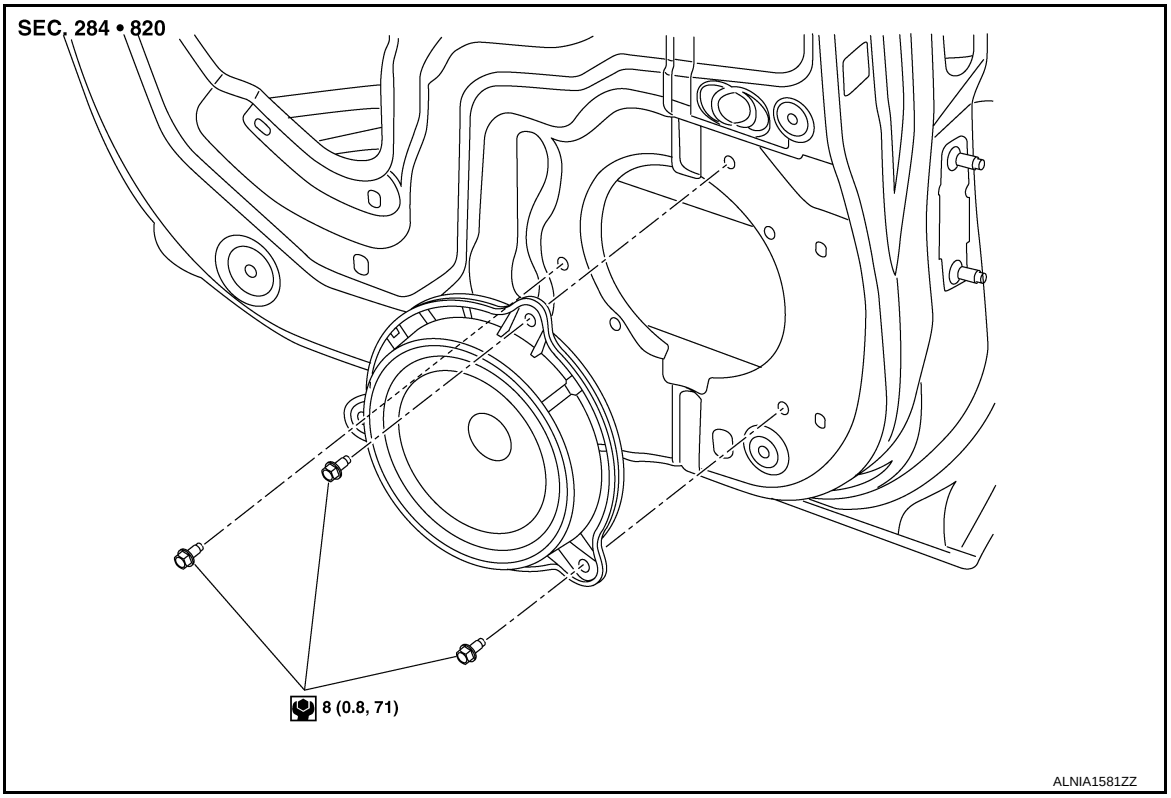
INSTALLATION

Installation is in the reverse order of removal.

REAR DOOR SPEAKER

Exploded View

INFOID:0000000010502052



1. Rear door speaker

Removal and Installation

INFOID:0000000010502053

REMOVAL

1. Remove rear door finisher. Refer to INT-15, "REAR DOOR FINISHER : Exploded View".
2. Remove rear door speaker bolts, then pull out rear door speaker.
3. Disconnect the harness connector from the rear door speaker and remove.

INSTALLATION

Installation is in the reverse order of removal.

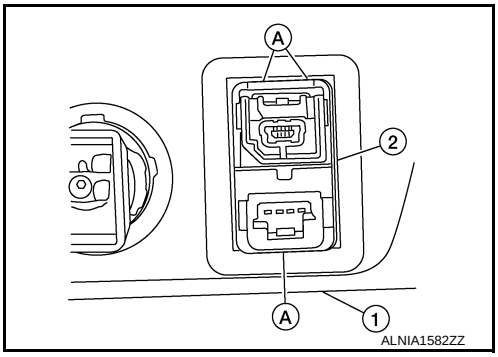
USB INTERFACE AND AUX IN JACK

Removal and Installation

INFOID:0000000010502054

REMOVAL

1. Remove center console. Refer to IP-18, "Exploded View".
2. Release the pawls (A) on the back of USB interface and AUX in jack (2).



INSTALLATION

Installation is in the reverse order of removal.

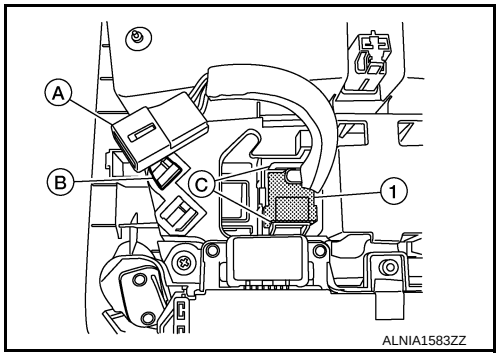
MICROPHONE

Removal and Installation

INFOID:0000000010502055

REMOVAL

1. Remove the map lamp assembly. Refer to INT-24, "Exploded View".
2. Release harness connector (A) by sliding rearward to remove from the pawl (B).
3. Release pawls (C) and remove the microphone (1) from the front room/map lamp assembly.
   NOTE:
   The following figures show the image of the inspection procedure. (Existing parts are not the same shape as the parts in the figure.)



INSTALLATION

Installation is in the reverse order of removal.

AUDIO ANTENNA

Removal and Installation

INFOID:0000000010502057

REMOVAL

1. Remove the luggage side upper finisher (RH). Refer to INT-28, "Exploded View".
2. Partially lower headlining (rear). Refer to INT-24, "Exploded View".
3. Disconnect harness connectors from antenna feeder.
4. Remove nut from audio antenna and remove.

INSTALLATION

Installation is in the reverse order of removal.

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

CAUTION:

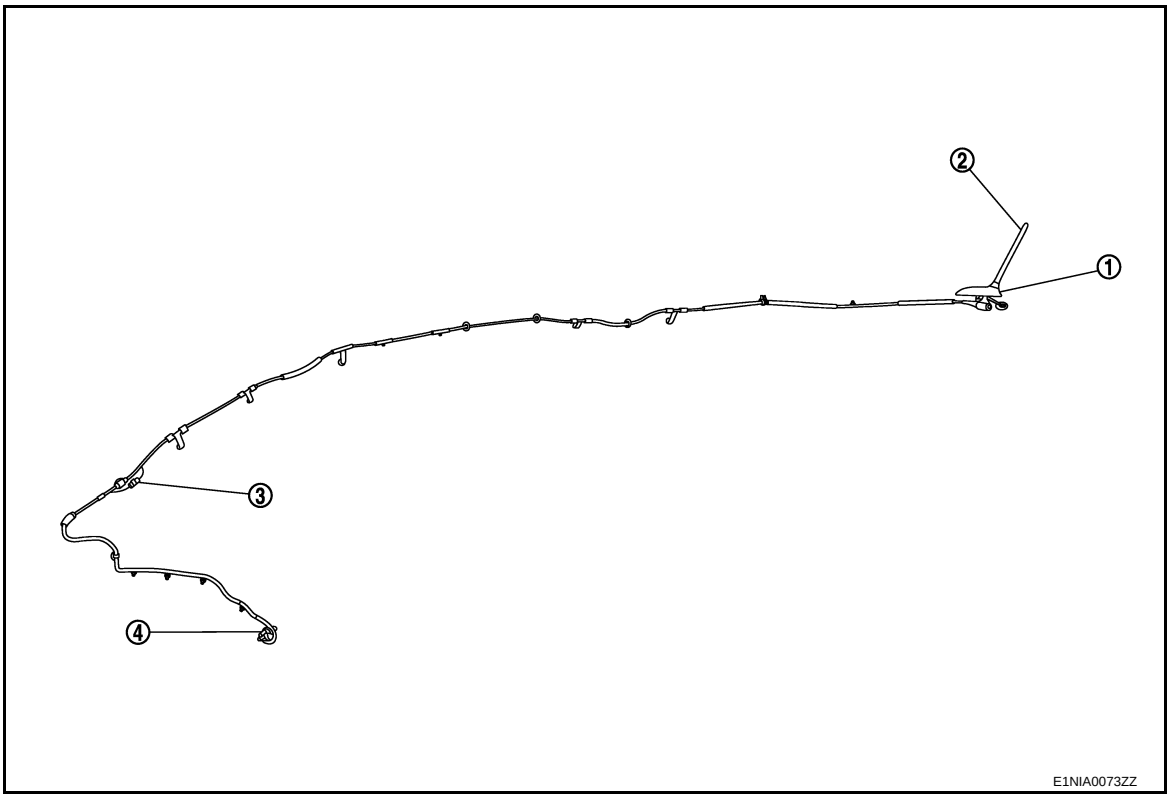
If the audio antenna nut is not properly tightened, lower sensitivity of the antenna may be experienced. If the nut is over tightened, this will deform the roof panel.

ANTENNA FEEDER

Feeder Layout

INFOID:0000000010502285

ANTENNA FEEDER LAYOUT



1. Antenna base (antenna amp. and satellite antenna)
2. Rod Antenna
3. M394
4. M385

PRECAUTION

PRECAUTIONS

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

INFOID:0000000010519310

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.

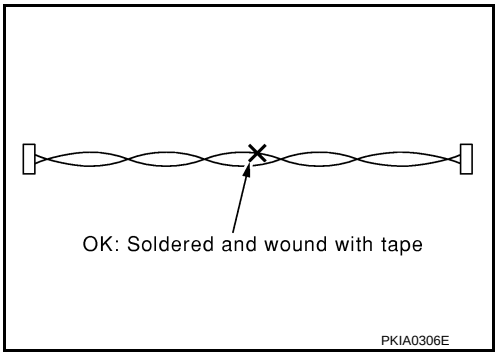
- **When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious 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.**

Precaution for Harness Repair

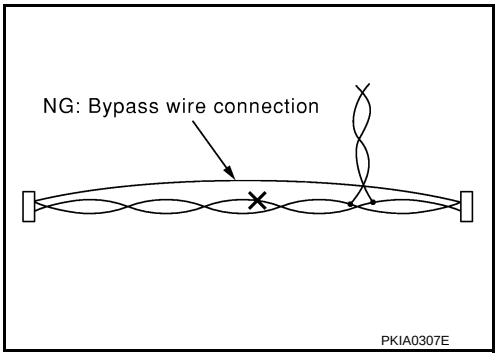
INFOID:0000000010435589

AV COMMUNICATION SYSTEM

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



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



Precaution for Work

INFOID:0000000010435590

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:

- Water soluble dirt:
- Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
- Then rub with a soft, dry cloth.

- Oily dirt:
- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.

- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

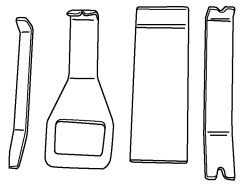
PREPARATION

PREPARATION

Special Service Tool

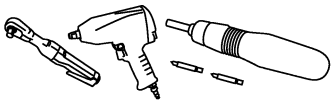
INFOID:0000000010435591

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

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

Commercial Service Tools

INFOID:0000000010435592

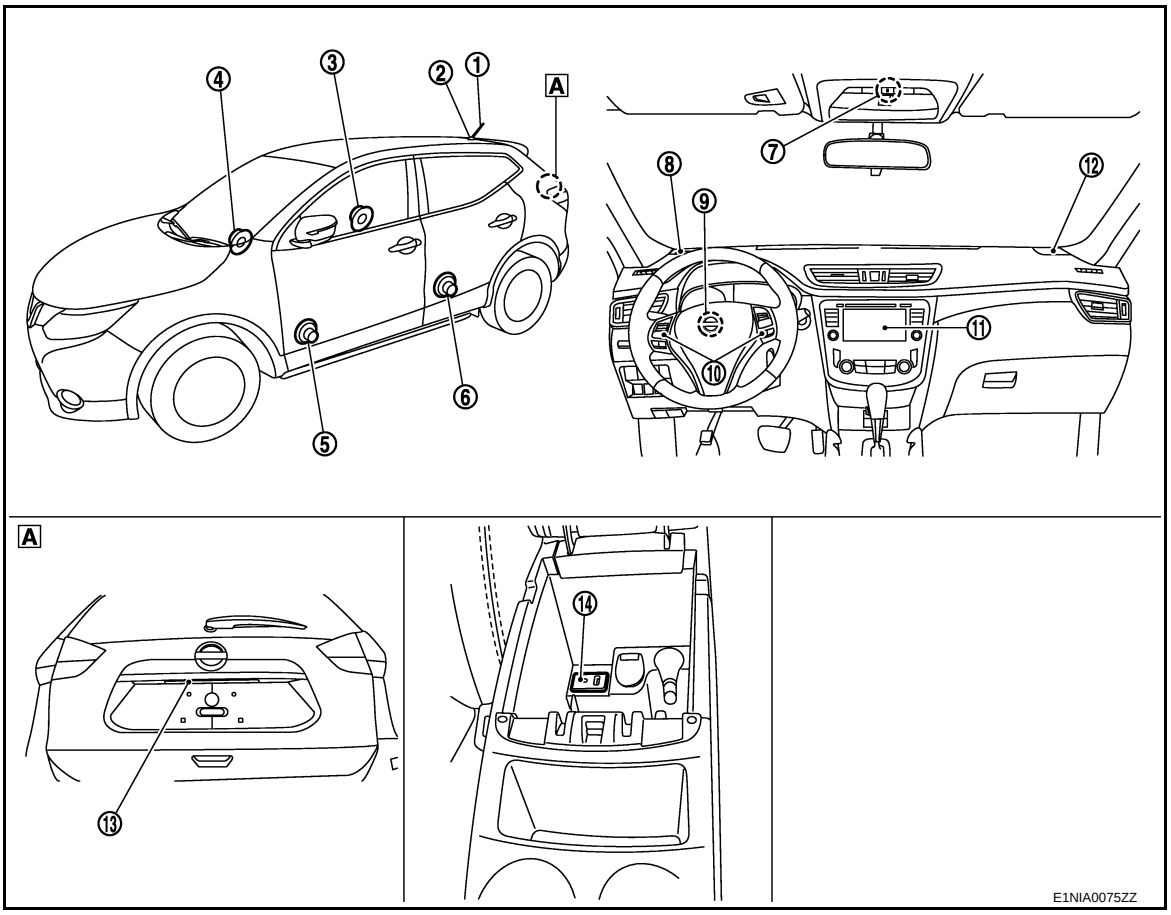
Tool name	Description
Power tool  PIIB1407E	Loosening nuts, screws and bolts

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000010435593



A. Center of back door

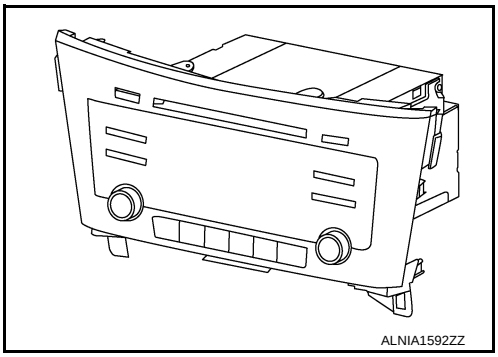
No.	Component	Function
1.	Rod antenna	Refer to AV-68, "Rod Antenna, Antenna Amp., Satellite Antenna and Antenna Feeder".
2.	Antenna base (antenna amp. and satellite antenna)	
3.	Rear door speaker RH	Refer to AV-66, "Speakers".
4.	Front door speaker RH	
5.	Front door speaker LH	
6.	Rear door speaker LH	
7.	Microphone	Refer to AV-67, "Microphone".
8.	Front tweeter LH	Refer to AV-66, "Speakers".
9.	Steering angle sensor	Refer to AV-68, "Steering Angle Sensor".
10.	Steering switches	Refer to AV-67, "Steering Switches".
11.	Audio unit	Refer to AV-66, "Audio Unit".
12.	Front tweeter RH	Refer to AV-66, "Speakers".
13.	Rear view camera	Refer to AV-67, "Rear View Camera".
14.	USB interface and AUX in jack	Refer to AV-67, "USB Interface and AUX in Jack".

Audio Unit

INFOID:0000000010435594

Description

- AM/FM electronic tuner radio, CD drive and camera controller are integrated into the audio unit.
- The display can show audio status and rear view monitor images.
- Music files stored in iPod®*/USB memory can be played using the separate USB connector.
- Music files stored in an external audio device can be played using the separate AUX in jack.

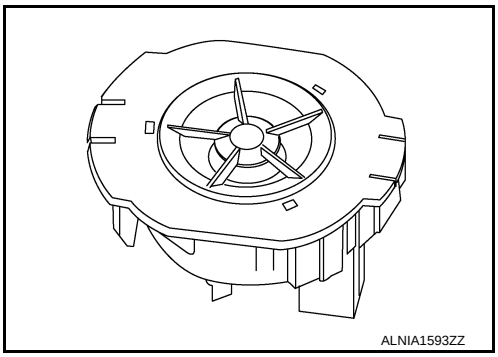

ALNIA1592ZZ

Speakers

INFOID:0000000010435595

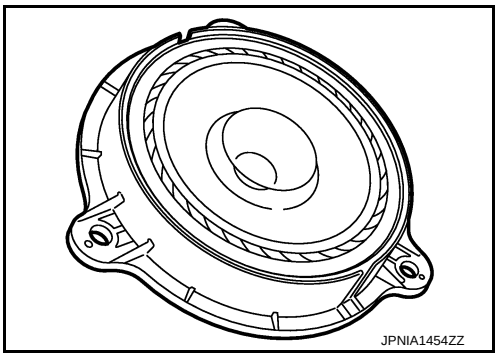
FRONT TWEETER

- 2.5 cm (1 in) tweeters are installed in the top front corners of the instrument panel.
- Sound signals are input from the audio unit to output high range sounds.


ALNIA1593ZZ

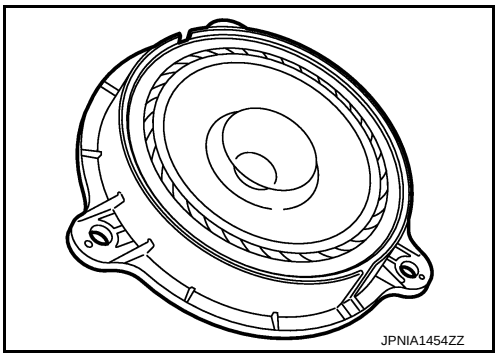
FRONT DOOR SPEAKER

- 16.5 cm (6.5 in) speakers are installed in the bottom of the front doors.
- Sound signals are input from the audio unit to output high, mid and low range sounds.


JPNIA1454ZZ

REAR DOOR SPEAKER

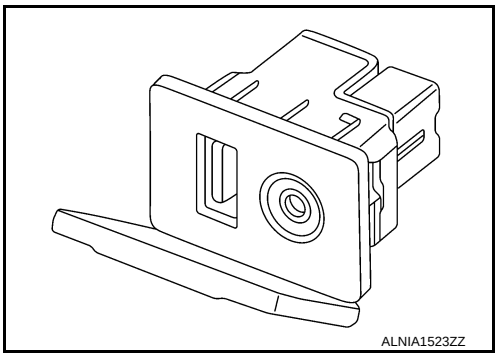
- 16.5 cm (6.5 in) speakers are installed in the bottom of the rear doors.
- Sound signals are input from the audio unit to output high, mid and low range sounds.


JPNIA1454ZZ

USB Interface and AUX in Jack

INFOID:0000000010435596

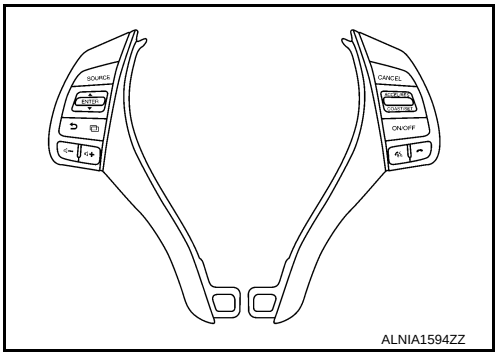
- USB Interface and AUX in jack is installed in the console.
- iPod® and USB memory can be connected to the audio unit through the USB interface.
- An external audio device can be connected to the audio unit through the AUX in jack.


ALNIA1523ZZ

Steering Switches

INFOID:0000000010435597

- Steering switches are installed in the steering wheel.
- Operations for audio and hands-free phone are possible.
- Switches are connected to the combination meter.
- Combination meter is connected to the audio unit via AV communication.

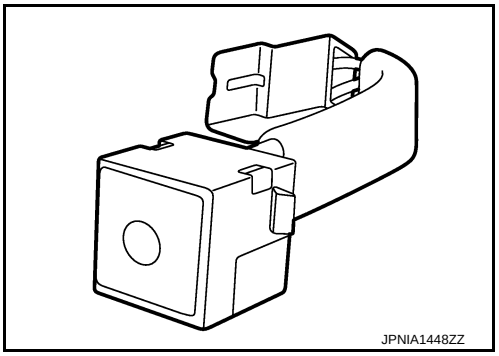


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Microphone

INFOID:0000000010435598

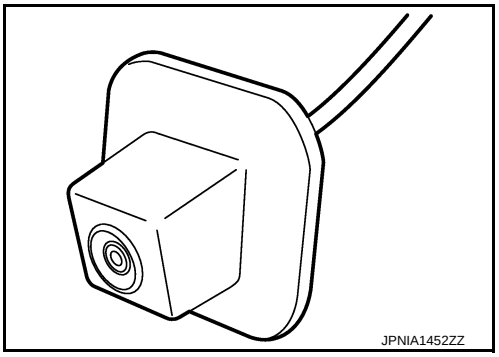
- The microphone is installed in the roof in the map lamp assembly.
- Power is supplied from the audio unit.


JPNIA1448ZZ

Rear View Camera

INFOID:0000000010435599

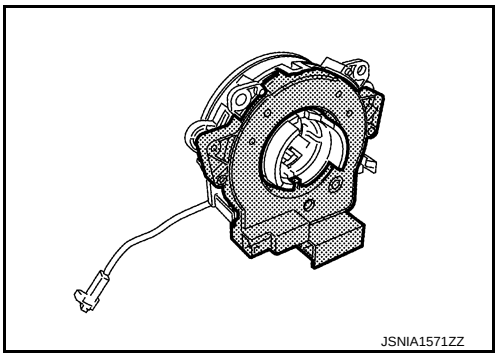
- The rear view camera is installed to the back door finisher.
- Power is supplied from the audio unit.


JPNIA1452ZZ

Steering Angle Sensor

INFOID:0000000010435600

- Steering sensor is installed to the spiral cable.
- Steering angle sends the steering signal necessary for predictive course line via CAN communication.

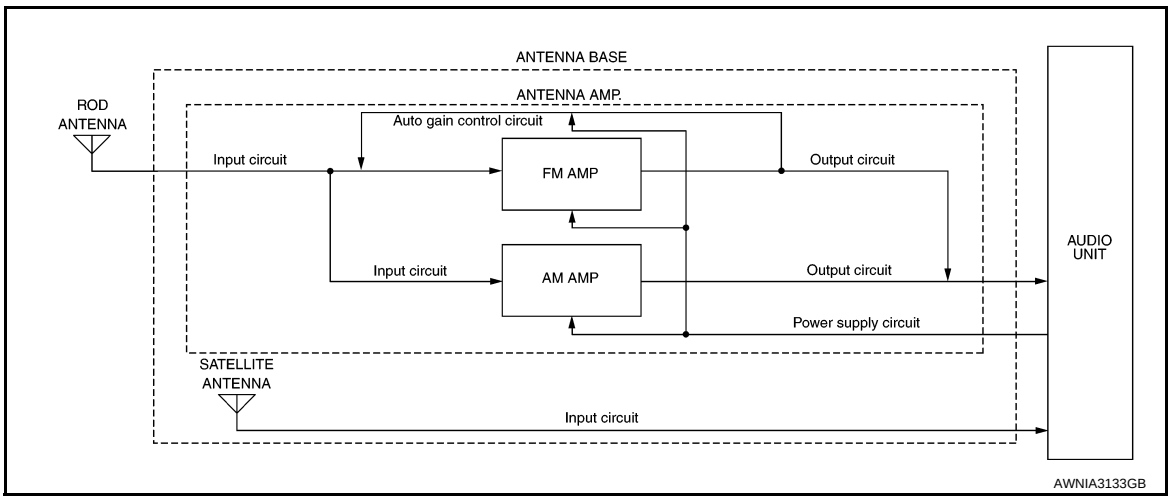


Rod Antenna, Antenna Amp., Satellite Antenna and Antenna Feeder

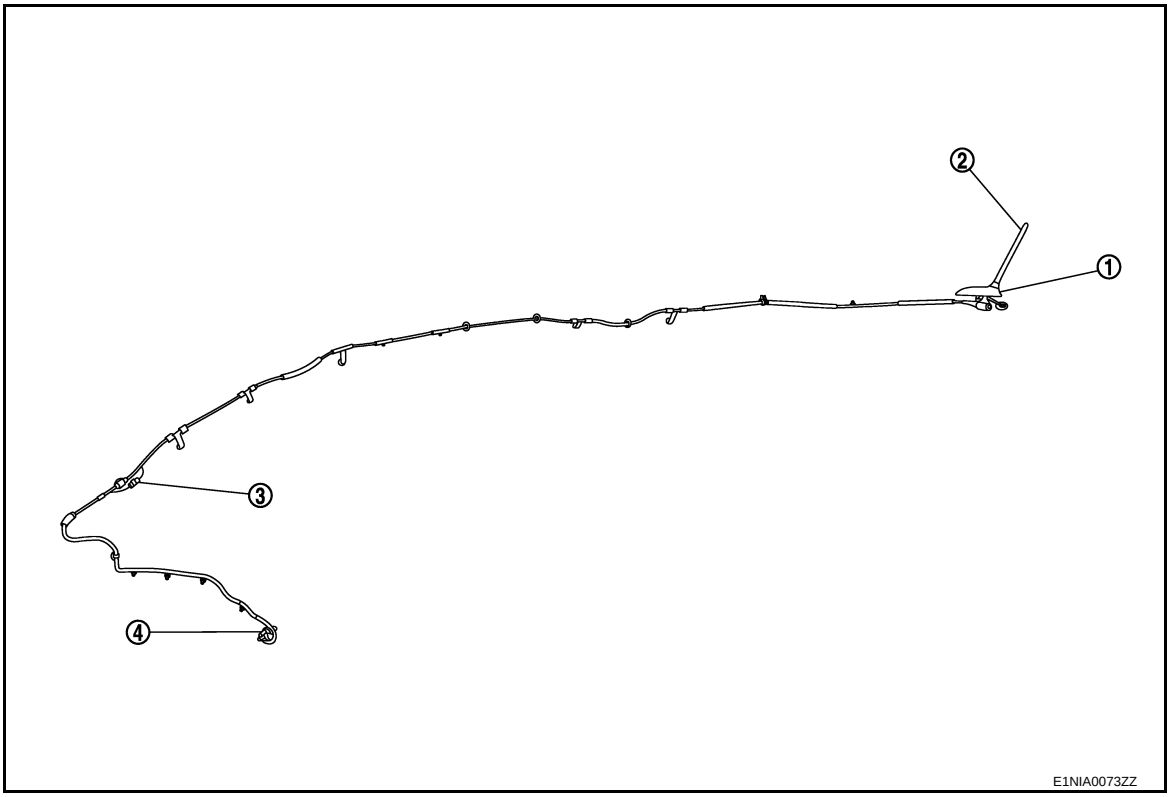
INFOID:0000000010435601

RADIO ANTENNA AND SATELLITE ANTENNA

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



ANTENNA FEEDER LAYOUT



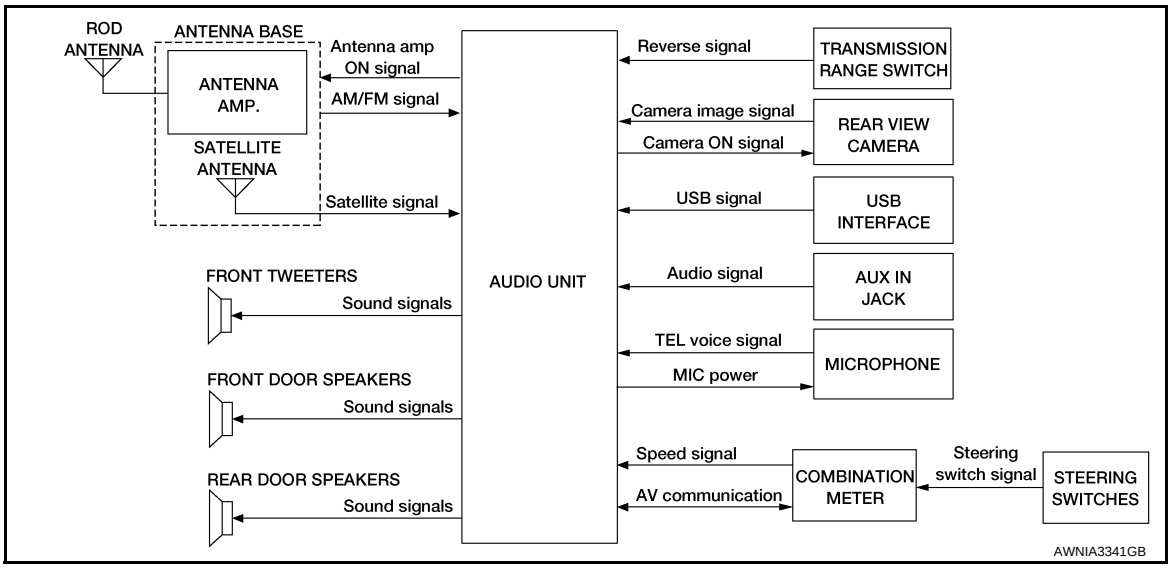
1. Antenna base (antenna amp. and satellite antenna)
2. Rod Antenna
3. M394
4. M385

SYSTEM

System Description

INFOID:0000000010435602

SYSTEM DIAGRAM



AUDIO SYSTEM

The audio system consists of the following components

- Audio unit
- Front tweeters
- Front door speakers
- Rear door speakers
- USB interface
- AUX in jack
- Steering switches
- Antenna base (rod antenna, antenna amp. and satellite antenna)

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

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

HANDS-FREE PHONE SYSTEM

- Bluetooth® control is built into audio unit.
- The connection between cellular phone and audio unit is performed with Bluetooth® communication.
- The voice guidance signal is input from the audio unit and output to the front speakers when operating the cellular phone.

When A Call Is Originated

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

When Receiving A Call

- Voice sound is input to own cellular phone from the other party.
- TEL voice signal is input to audio unit by establishing Bluetooth® communication from cellular phone, and the signal is output to front speakers.

SPEED SENSITIVE VOLUME SYSTEM

Volume level of this system goes up and down automatically in proportion to the vehicle speed. The control level can be selected by the customer. Refer to Owner's Manual for operating instructions.

REAR VIEW MONITOR FUNCTION

Camera Image Operation Principle

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

DIAGNOSIS SYSTEM (AUDIO UNIT)

Description

INFOID:0000000010435603

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

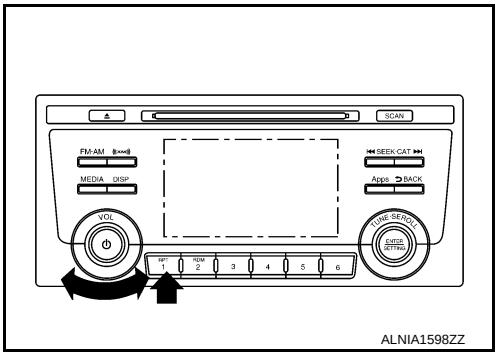
Mode		Description
Self Diagnosis		• Audio unit diagnosis. • Diagnoses the connections across system components.
Confirmation/ Adjustment	Display Diagnosis	The following check functions are available: color tone check by color bar display and white display, light and shade check by gray scale display.
	Vehicle Signals	Diagnosis of signals can be performed for vehicle speed, lights, reverse, EQ pin, destination and camera type.
	Speaker Test	The connection of a speaker can be confirmed by test tone.
	Error History	The system malfunction and the frequency when occurring in the past are displayed. When the malfunctioning item is selected, the time and place that the selected malfunction last occurred are displayed.
	Camera System	Displayed but not used.
	AV COMM Diagnosis	The communication condition of each unit of display audio system can be monitored.
	Delete Unit Connection Log	Erase the connection history of unit and error history.
	Version Information	Audio unit software and hardware versions are displayed.
	Initialize Setting	Initializes the audio unit memory.

On Board Diagnosis Function

INFOID:0000000010435604

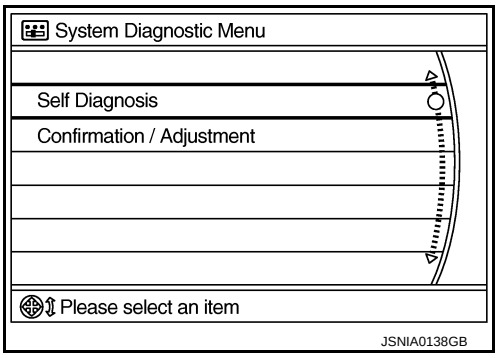
METHOD OF STARTING

1. Turn the ignition ON.
2. Turn the audio system OFF.
3. While pressing the preset 1 button, turn the volume control dial clockwise or counterclockwise for 40 clicks or more. Shifting from current screen to previous screen is performed by pressing BACK button.



ALNIA1598ZZ

4. The trouble diagnosis initial screen is displayed, and Self Diagnosis or Confirmation/Adjustment can be selected.



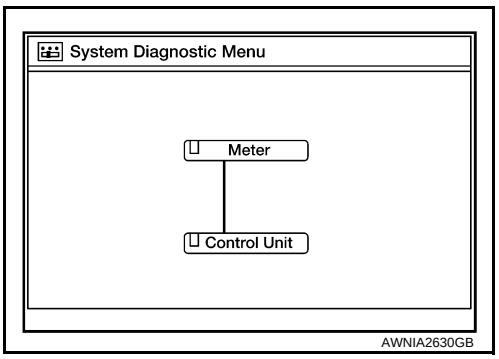
JSNIA0138GB

SELF DIAGNOSIS MODE

Audio Unit Self Diagnosis

1. Select Self Diagnosis.

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

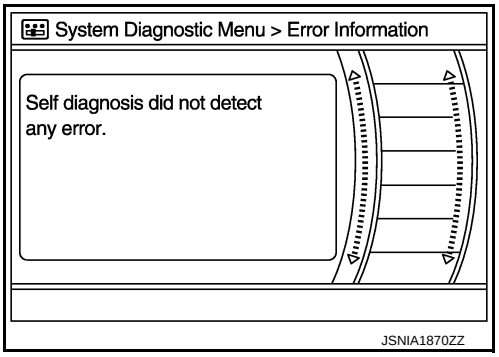


Diagnosis results	Unit	Connection line
Normal	Green	Green
Connection malfunction	Gray	Yellow
Unit malfunction [1]	Red	Green

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

- Replace audio unit if Self Diagnosis did not run because control unit malfunction is indicated. The symptom is audio unit internal error. Refer to AV-114, "Removal and Installation".
- If multiple errors occur at the same time for a single unit, the screen switch colors are determined according to the following order of priority: red > gray.

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



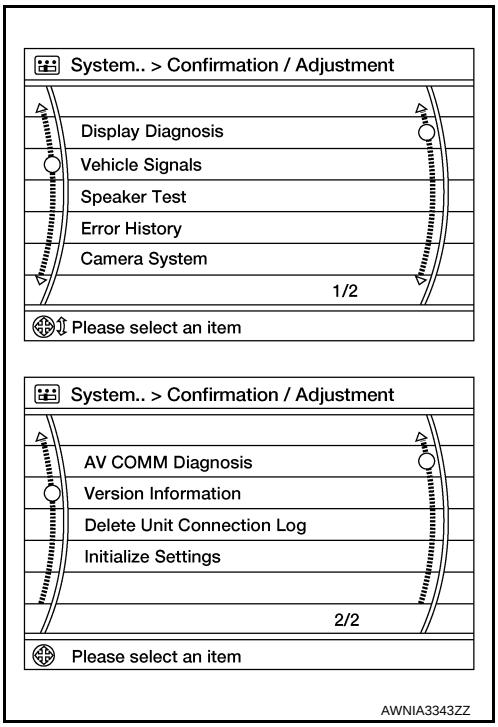
Audio Unit Self Diagnosis Results

Only Unit Part Is Displayed In Red		
Screen switch	Description	Possible cause
Control unit	Malfunction is detected in audio unit power supply and ground circuits.	• Audio unit power supply or ground circuits. Refer to AV-96, "AUDIO UNIT : Diagnosis Procedure". • If no malfunction is detected in audio unit power supply and ground circuits, replace audio unit. Refer to AV-114, "Removal and Installation".

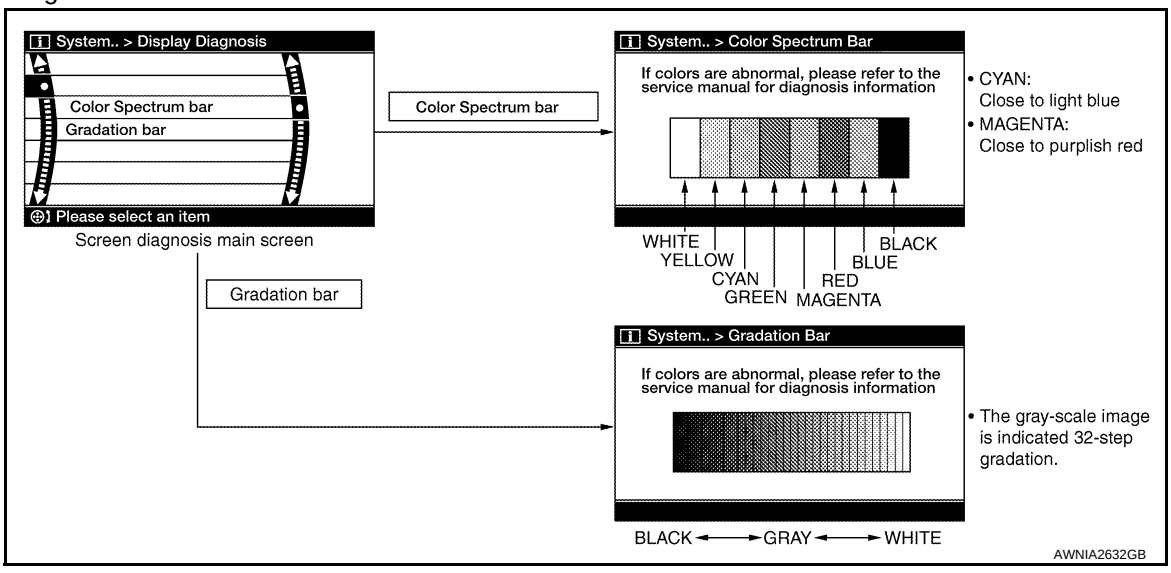
A Connecting Cable Between Units Is Displayed In Yellow		
Area with yellow connection lines	Description	Possible cause
Control unit ⇔ Meter	When one of the following is detected: • malfunction is detected in combination meter power supply and ground circuits. • malfunction is detected in AV communication circuits between audio unit and combination meter.	• Combination meter power supply or ground circuits. Refer to MWI-61, "COMBINATION METER : Diagnosis Procedure". • AV communication circuits between audio unit and combination meter.

Audio Unit Confirmation/Adjustment

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

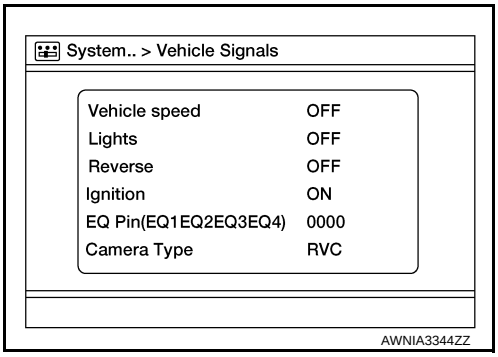


Display Diagnosis



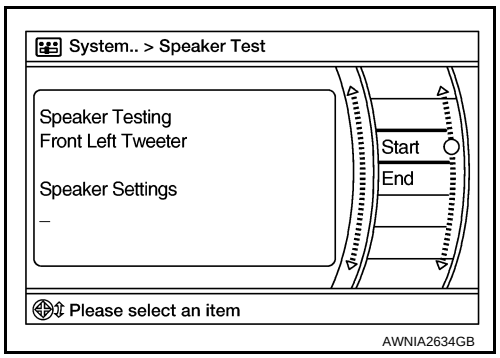
Vehicle Signals

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



Speaker Test

Select Speaker Test to display the Speaker Diagnosis screen. Press Start to generate a test tone in a speaker. Press Start again to generate a test tone in the next speaker. Press End to stop the test tones.



Error History

The self diagnosis results are judged depending on whether any error occurs from when Self Diagnosis is selected until the self diagnosis results are displayed.
However, the diagnosis results are judged normal if an error has occurred before the ignition switch is turned ON and then no error has occurred until the self diagnosis start. Check the Error Record to detect any error that may have occurred before the self diagnosis start because of this situation.
The frequency of occurrence is displayed in a count up manner. The actual count up method differs depending on the error item.

Count up method A

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

Count up method B

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

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

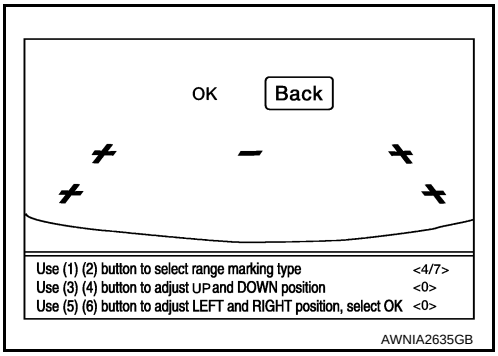
Error item

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

Error item	Description	Possible cause
CONTROL UNIT (AV)	AV communication circuit initial diagnosis malfunction is detected.	Replace the audio unit if the malfunction occurs constantly. Refer to AV-114, "Removal and Installation"
AV COMM CIRCUIT	When one of the following is detected: • malfunction is detected in combination meter power supply and ground circuits. • malfunction is detected in AV communication circuits between audio unit and combination meter.	• Combination meter power supply or ground circuits. Refer to MWI-61, "COMBINATION METER : Diagnosis Procedure". • AV communication circuits between audio unit and combination meter.

Camera System

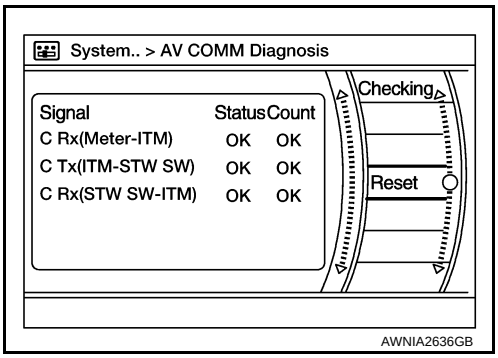
This mode is used to adjust the guide line display position of the rear view camera.



AWNIA2635GB

AV COMM Diagnosis

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



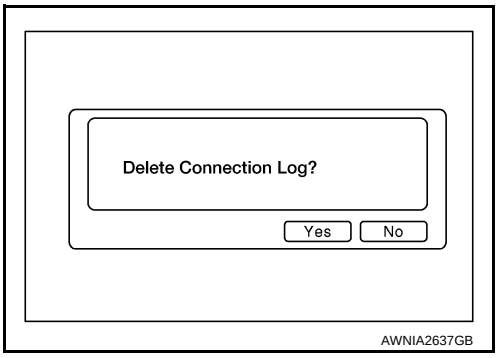
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Items	Status (Current)	Counter (Past)
C Rx(Meter-ITM)	OK / ???	OK / 0 – 39
C Tx(ITM-TW SW)	OK / ???	OK / 0 – 39
C Rx(STW SW-ITM)	OK / ???	OK / 0 – 39

NOTE:
"???" indicates UNKWN.

Delete Unit Connection Log

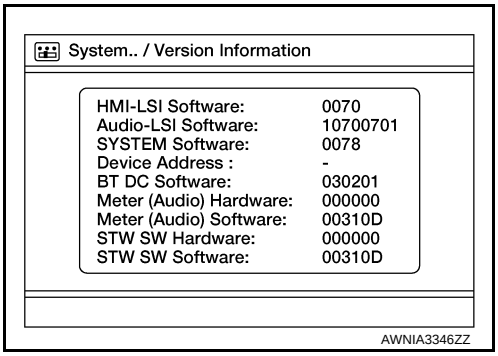
Deletes any unit connection records and error records from the audio unit memory (clears the records of the unit that has been removed).



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Version Information

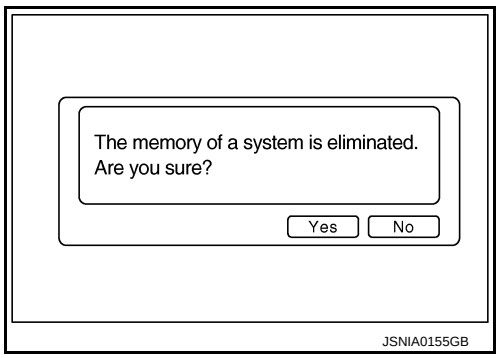
Displays audio unit software and hardware version numbers.



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Initialize Settings

Deletes data stored from the audio unit.



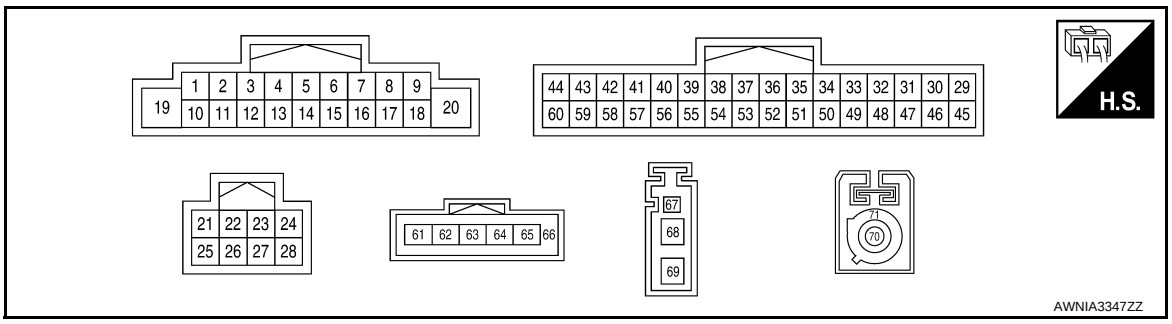
ECU DIAGNOSIS INFORMATION

AUDIO UNIT

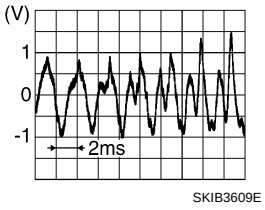
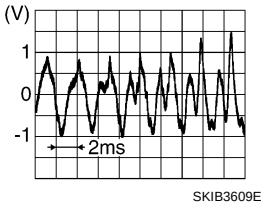
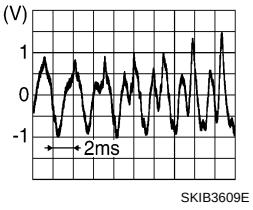
Reference Value

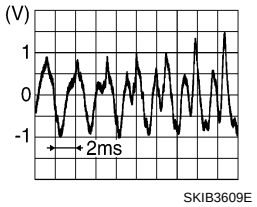
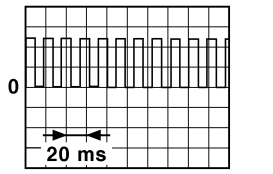
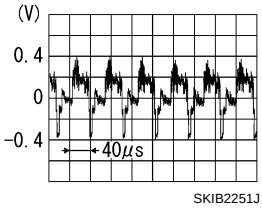
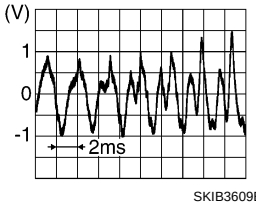
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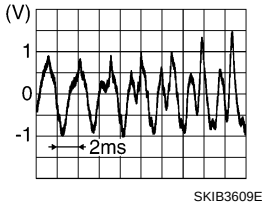
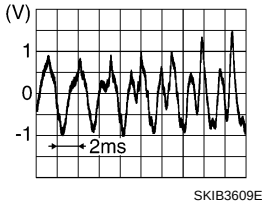
TERMINAL LAYOUT



PHYSICAL VALUES

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

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
13 (LG)	14 (GR)	Sound signal rear door speaker RH	Output	ON	Sound output	 SKIB3609E
17 (P)	Ground	Dongle / AUDIO LINK	—	—	—	—
18 (P)	Ground	Vehicle speed signal	Input	ON	When vehicle speed is approx. 40 km/h (25 MPH)	 JSNIA0012GB
19 (L)	Ground	Battery power supply	Input	OFF	—	Battery voltage
20 (B)	Ground	Ground	—	ON	—	0 V
27 (W)	Ground	ACC power supply	Input	ON	—	Battery voltage
31 (SB)	—	CAN H	—	—	—	—
32 (LG)	—	CAN L	—	—	—	—
33 (B)	Ground	Camera ground	—	ON	—	0 V
34 (R)	Ground	Camera power supply	Output	ON	Camera image displayed	6.0 V
					Except for above	0 V
34 (R)	44 (GR)	Camera image signal	Input	ON	Camera image displayed	 SKIB2251J
35 (W)	Ground	Camera detection	—	ON	—	0 V
37 (W)	39 (Shield)	Microphone signal	Input	ON	While speaking into microphone.	 SKIB3609E
38 (BG)	—	MIC VCC	Input	ON	—	—

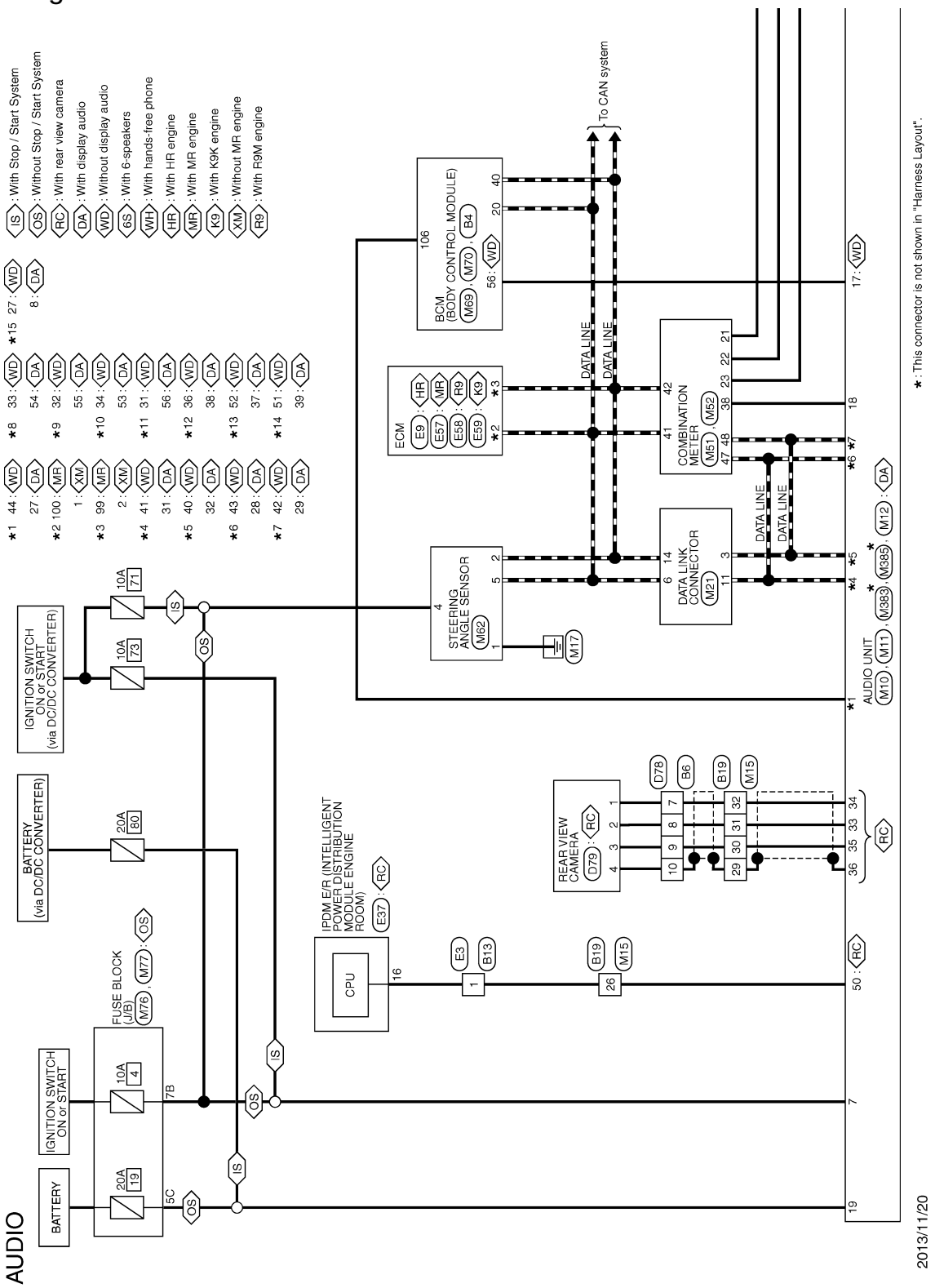
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
40 (LG)	—	AV communication (L)	Input/ Output	—	—	—
41 (SB)	—	AV communication (H)	Input/ Output	—	—	—
42 (LG)	—	AV communication (L)	Input/ Output	—	—	—
43 (SB)	—	AV communication (H)	Input/ Output	—	—	—
45 (B)	—	EQ1	—	—	—	—
50 (G)	Ground	Reverse signal	Input	ON	Selector lever in R (reverse)	Battery voltage
					Selector lever in any position other than R (reverse)	0 V
53 (B)	Ground	AUX jack audio signal LH	Input	ON	Received audio signal (AUX input)	 SKIB3609E
54 (R)	Ground	AUX jack audio signal RH	Input	ON	Received audio signal (AUX input)	 SKIB3609E
55 (W)	Ground	AUX ground	—	ON	—	0V
56 (Shield)	—	AUX signal shield	—	—	—	—
129 (G)	—	USB ground	—	—	—	—
130 (R)	—	USB D– signal	—	—	—	—
131 (W)	—	V BUS signal	—	—	—	—
133 (Shield)	—	USB shield	—	—	—	—
132 (L)	—	USB D+ signal	—	—	—	—
150 —	Ground	FN sub signal	Input	ON	Audio unit ON, XM selected.	5.0 V
152 —	Ground	Antenna amp. ON signal	Output	ON	Audio unit ON, FM-AM selected.	Battery voltage
151 —	Ground	AM/FM antenna signal	Input	ON	Audio unit ON, FM-AM selected.	5.0 V

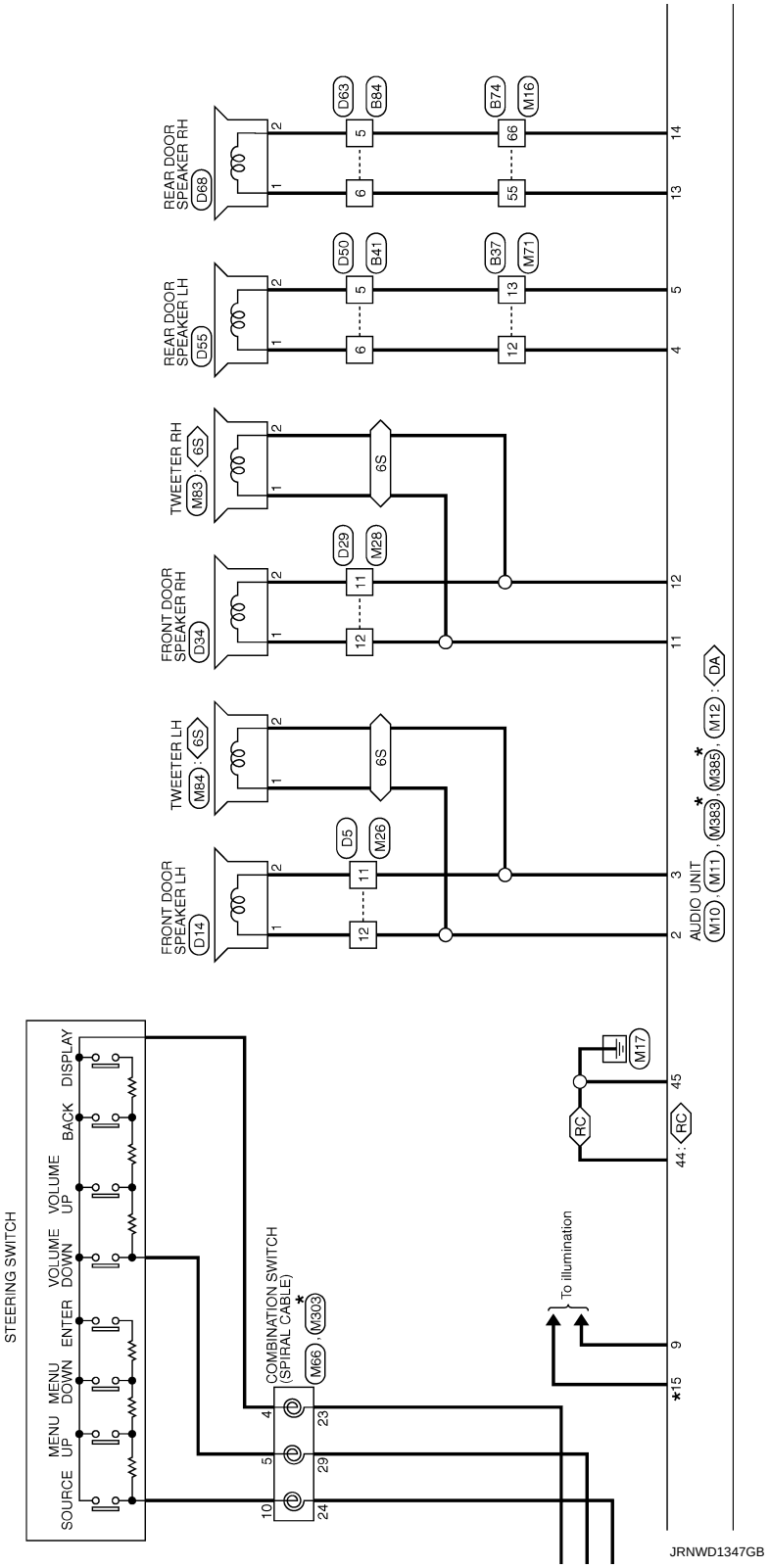
WIRING DIAGRAM

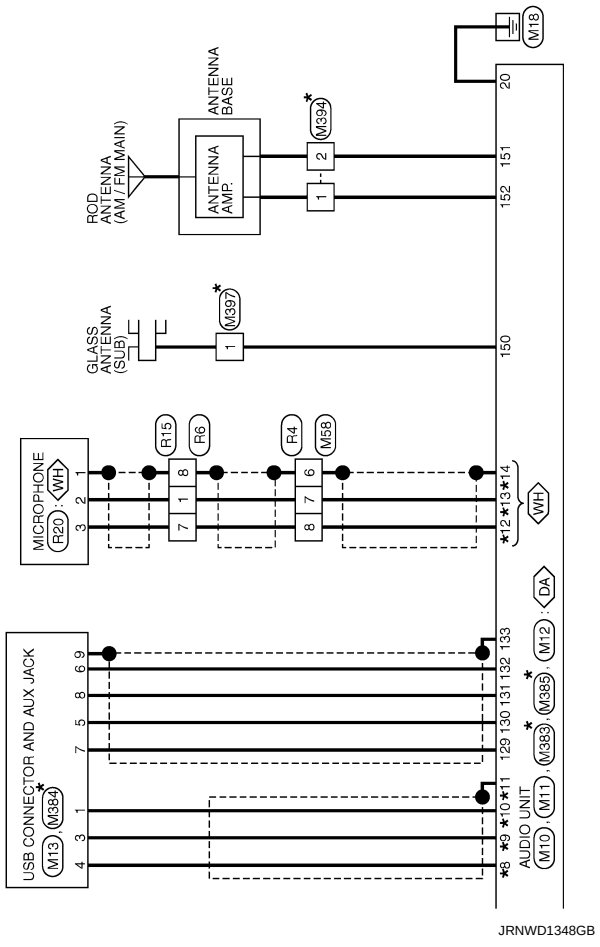
DISPLAY AUDIO

Wiring Diagram

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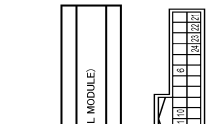



REAR DOOR SPEAKER RH D68
REAR DOOR SPEAKER LH D55
TWEETER RH M83 : 6S
FRONT DOOR SPEAKER RH D34
TWEETER LH M84 : 6S
FRONT DOOR SPEAKER LH D14
6S
D63
B84
B74
M16
D50
B41
B37
M71
D29
M28
D5
M26
AUDIO UNIT M10 , M11 , *M383 , *M385 , M12 : DA
RC
M17
44: RC
45
*15
9
To illumination
STEERING SWITCH
SOURCE
MENU UP
MENU DOWN
ENTER
VOLUME DOWN
VOLUME UP
BACK
DISPLAY
COMBINATION SWITCH (SPIRAL CABLE) *M66 , *M303
JRNWD1347GB


M18
20
ANTENNA BASE
ROD ANTENNA (AM / FM MAIN)
ANTENNA AMP.
M394
2
1
151
152
GLASS ANTENNA (SUB)
M397
150
MICROPHONE
R20 : WH
R15
R6
R4
M58
WH
DA
M12
M385
M383
M11
M10
AUDIO UNIT
USB CONNECTOR AND AUX JACK
M13
M384
133
132
131
130
129
14
13
12
11
10
9
8
JRNWD1348GB

AUDIO

Connector No.	B4
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FG-NH

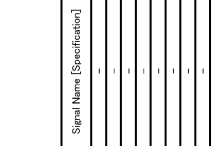


Terminal No.	Color Of Wire	Signal Name [Specification]
6	B	BACK DOOR OPENER REQUEST SW [For RHD models]
6	Y	BACK DOOR OPENER REQUEST SW [For LHD models]
10	R	REAR RH DOOR SW
11	B	BACK DOOR SW
12	W	REAR LH DOOR SW
13	R	PASSENGER DOOR SW
15	G/W	REAR WIPER AUTO STOP
16	B	BACK DOOR OPENER SW
17	SB	DRIVER DOOR SW
20	L	CAN-H
21	BR	REAR BMPR ANT –
22	Y	ROOM ANT 2 –
23	L	ROOM ANT 2 +
24	G	REAR BMPR ANT +
38	G	SIREN
39	W	HIGH-MOUNTED STOP LAMP
40	P	CAN-L

Connector No.	B6
Connector Name	WIRE TO WIRE
Connector Type	TH12FW-NH

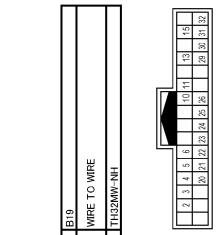
Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	–
5	G	–
6	G/W	–
7	R	–
8	B	–
9	W	–
10	SHIELD	–
11	Y	–
12	G	–

Connector No.	B13
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4



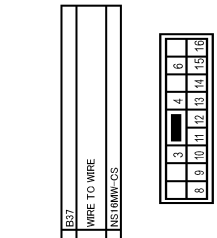
Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	–
2	G	–
5	O	–
20	G	–
21	BR	–
22	SB	–
23	BG	–
24	SB	–
25	G	–
26	B	–
27	P	–

Connector No.	B19
Connector Name	WIRE TO WIRE
Connector Type	TH32MW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
2	R	–
3	V	–
4	GR	–
5	Y	–
6	W	–
10	W	–
11	Y	–
13	G	–
15	V	–
20	LG	–
21	G	–
22	V	–
23	BR	–
24	P	–
25	L	–
26	G	–
29	SHIELD	–
30	W	–
31	B	–
32	R	–

Connector No.	B37
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS

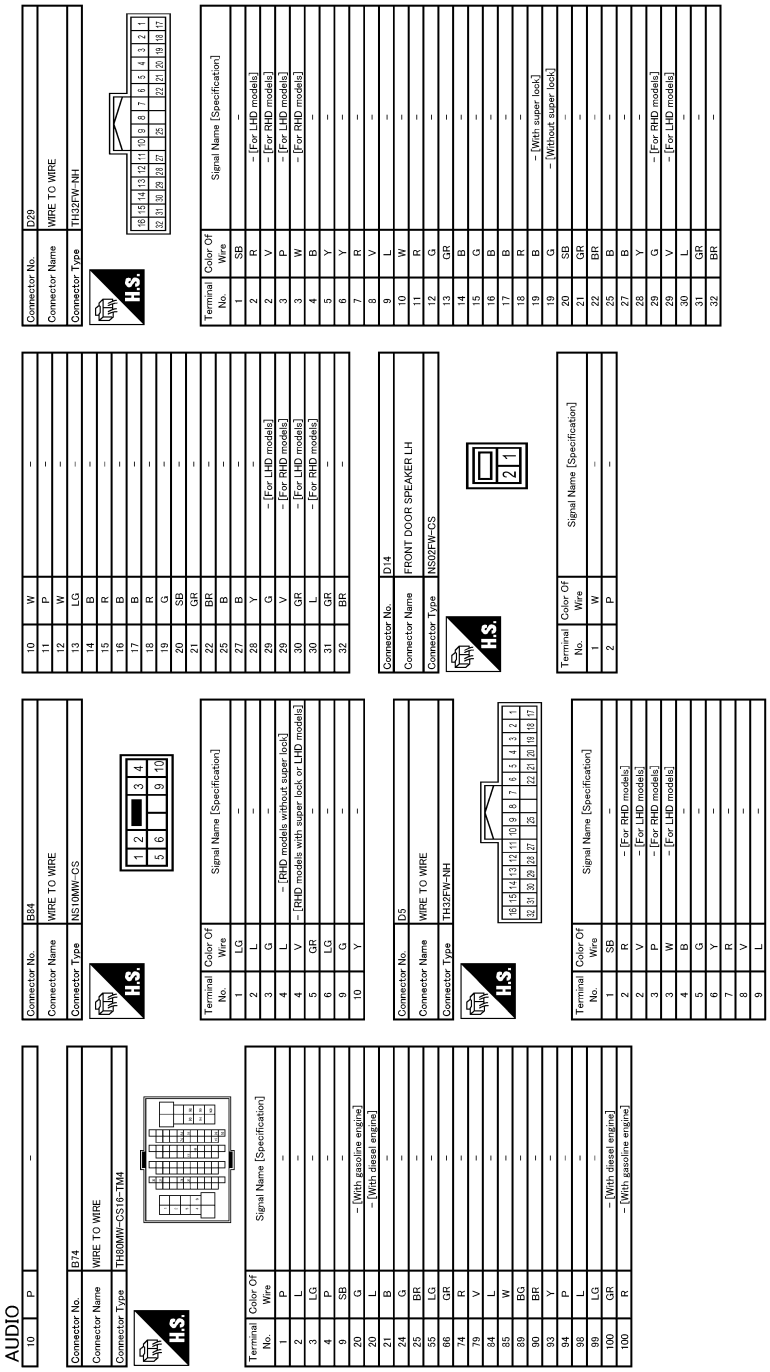


Terminal No.	Color Of Wire	Signal Name [Specification]
3	V	–
4	G	–
6	G	–
8	P	–
9	P	–
10	R	–
11	L	–
12	W	–
13	R	–
14	L	–
15	BR	–
16	G	–

Connector No.	B41
Connector Name	WIRE TO WIRE
Connector Type	NS10MW-CS

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	–
2	L	–
3	G	–
4	V	–
5	R	–
6	W	–
9	G	–

JRNWD1424GB



JRNWD1425GB

AUDIO

Connector No.	D34
Connector Name	FRONTDOOR SPEAKER RH
Connector Type	NS02FW-CS

H.S.



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

Connector No.	D50
Connector Name	WIRE TO WIRE
Connector Type	NS10FW-CS

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	–
2	L	–
3	G	–
4	GR	– [RHD models without super lock]
4	V	– [RHD models with super lock or LHD models]
5	R	–
6	W	–
9	G	–
10	P	–

Connector No.	D55
Connector Name	REAR DOOR SPEAKER LH
Connector Type	NS02FW-CS

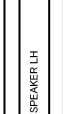
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	–
2	R	–

Connector No.	D63
Connector Name	WIRE TO WIRE
Connector Type	NS10FW-CS

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	–
2	L	–
3	G	–
4	GR	– [RHD models without super lock]
4	V	– [RHD models with super lock or LHD models]
5	GR	–
6	LG	–
9	G	–
10	Y	–

Connector No.	D88
Connector Name	REAR DOOR SPEAKER RH
Connector Type	NS02FW-CS

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	–
2	GR	–

Connector No.	D78
Connector Name	WIRE TO WIRE
Connector Type	TH12MW-NH

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	–
5	G	–
6	G/W	–
7	R	–
8	B	–
9	W	–
10	V	–
11	Y	–
12	L	–

Connector No.	D79
Connector Name	REAR CAMERA
Connector Type	TH04MW-NH

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	CAMERA ON
2	B	GND
3	W	CAMERA +
4	V	CAMERA -

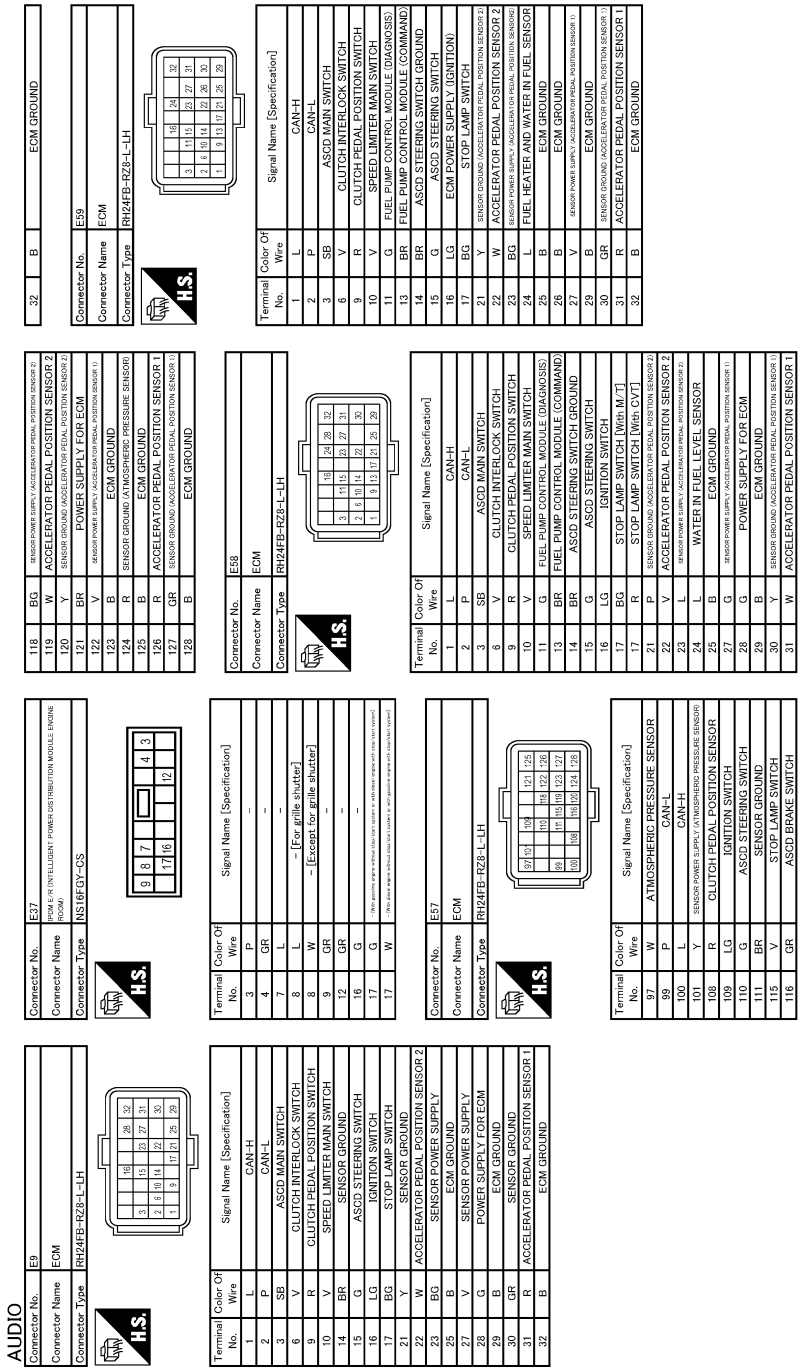
Connector No.	E3
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4

H.S.

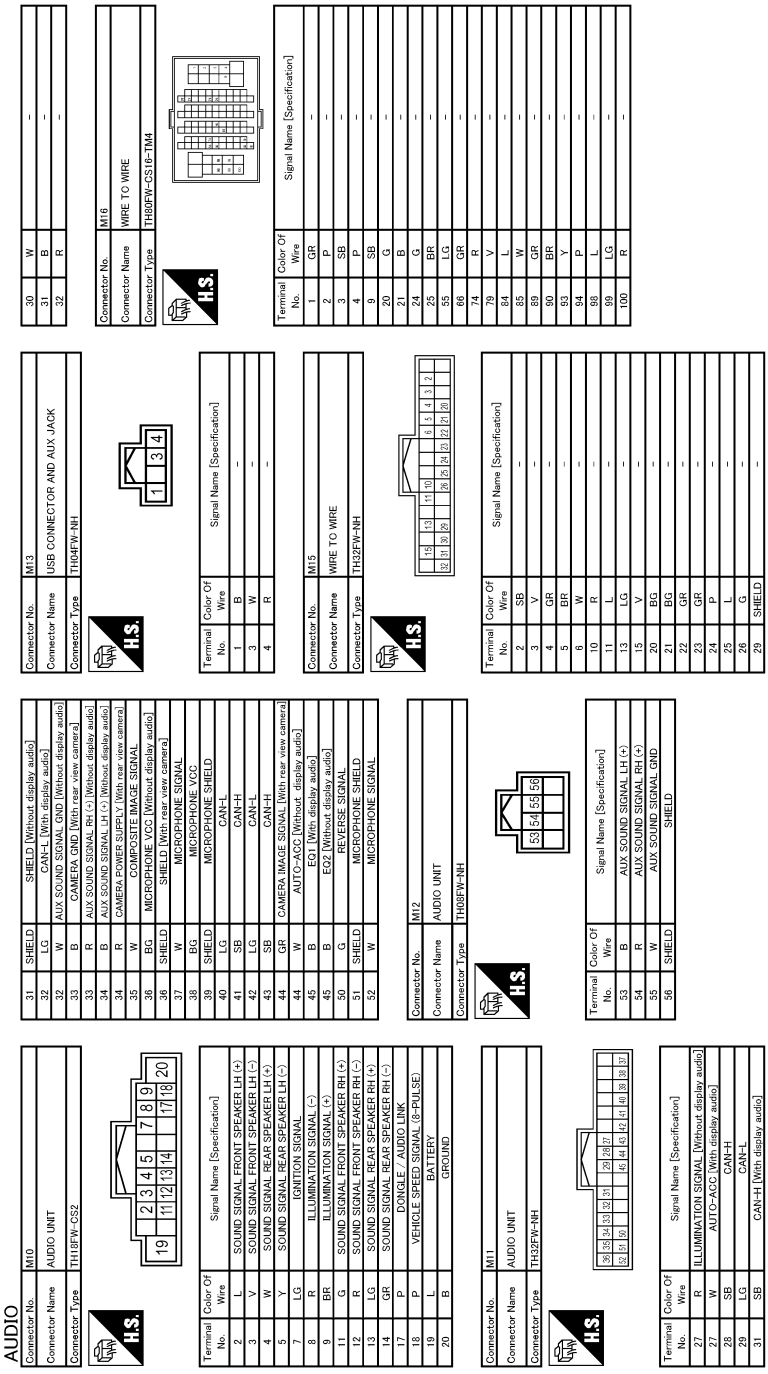


Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	–
2	W	–
5	BG	–
20	G	–
21	BR	–
22	SB	–
23	BG	–
24	SB	–
25	G	–
26	B	–
27	P	–

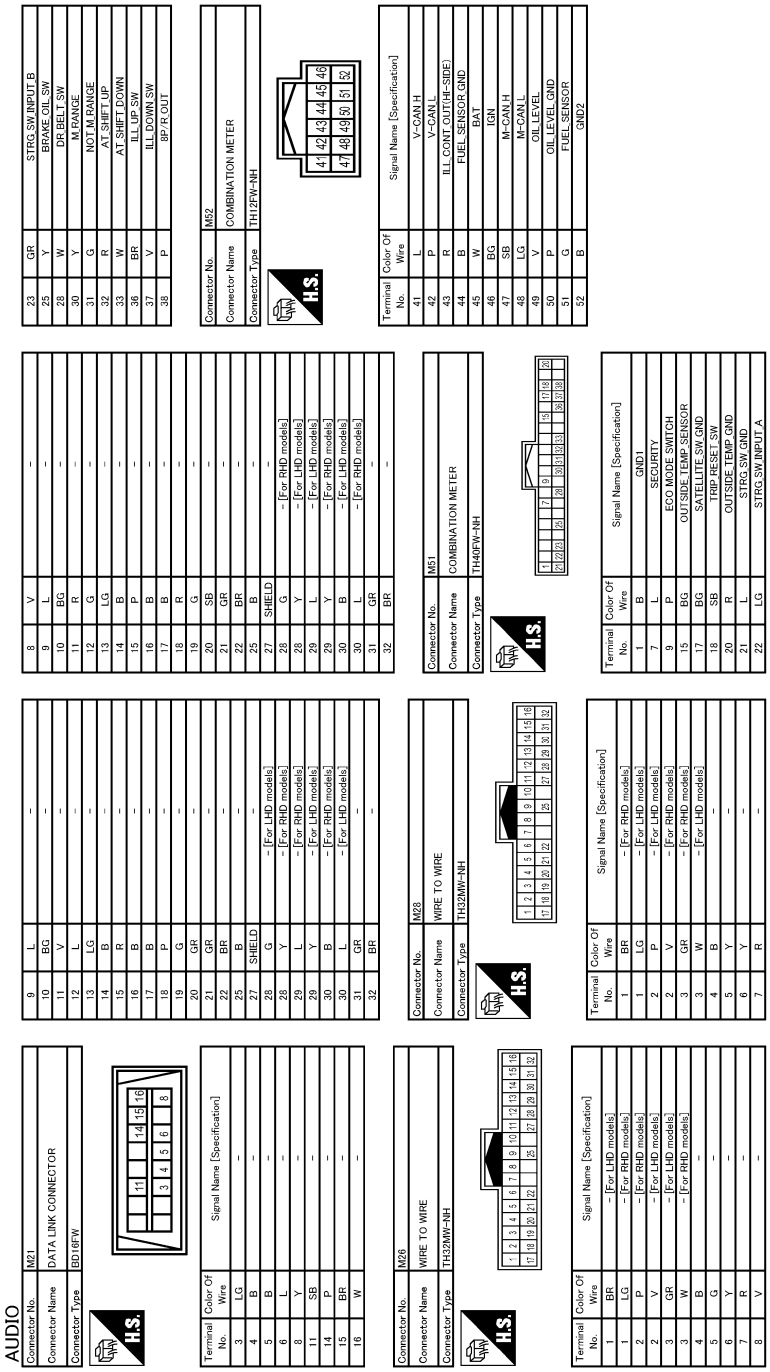
JRNWD1426GB



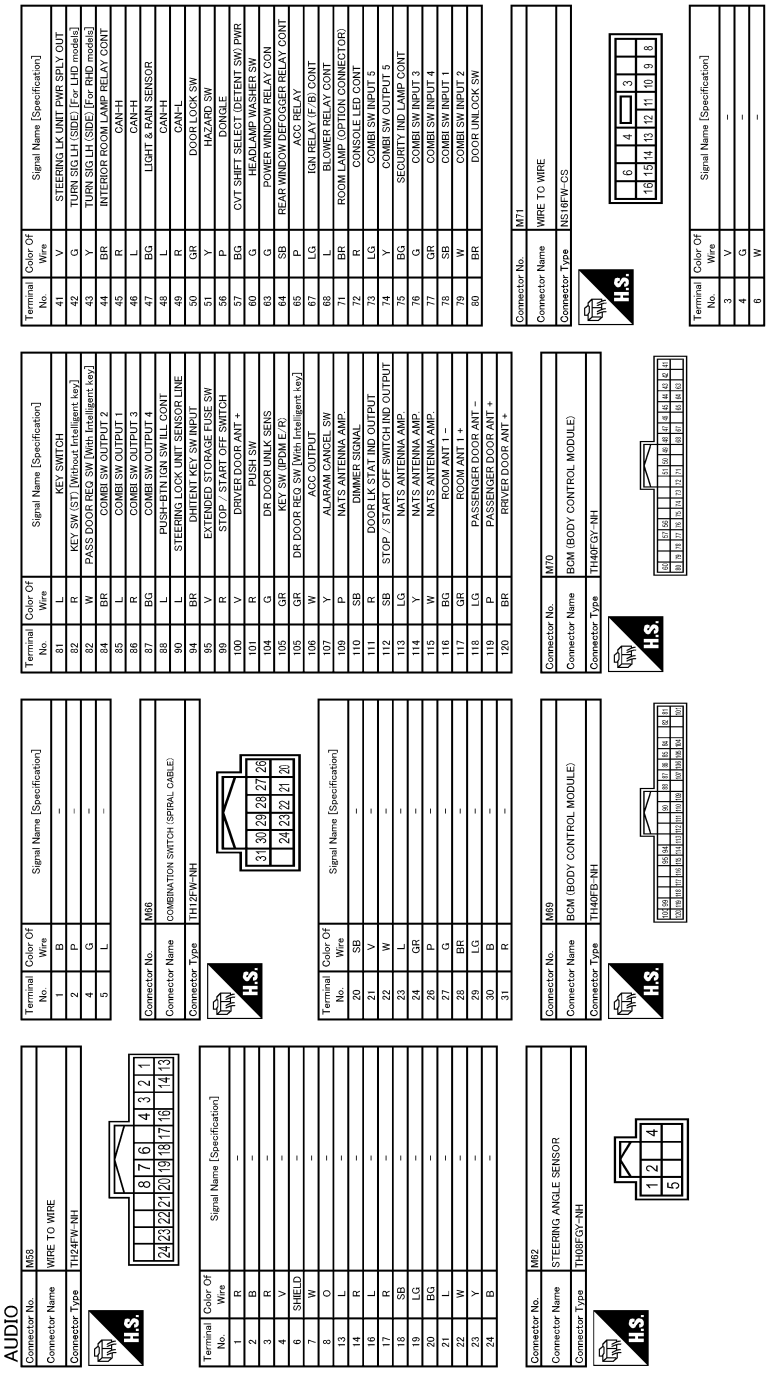
JRNWD1427GB



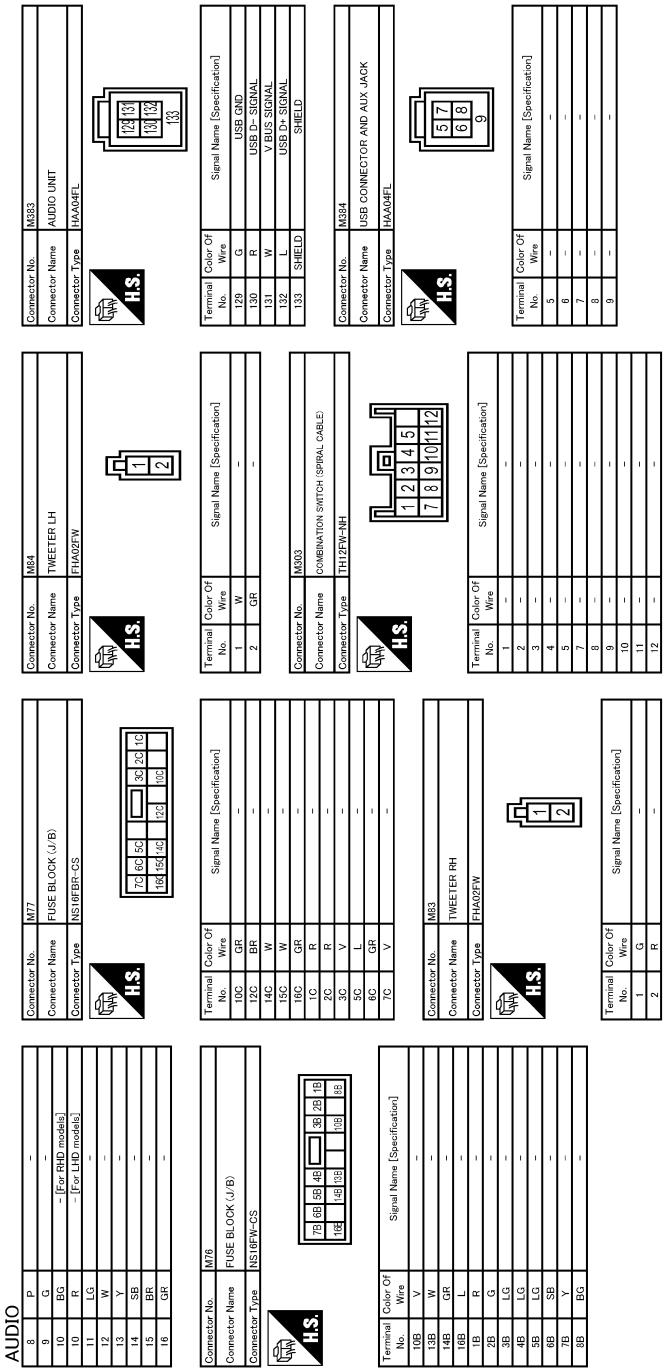
JRNWD1428GB



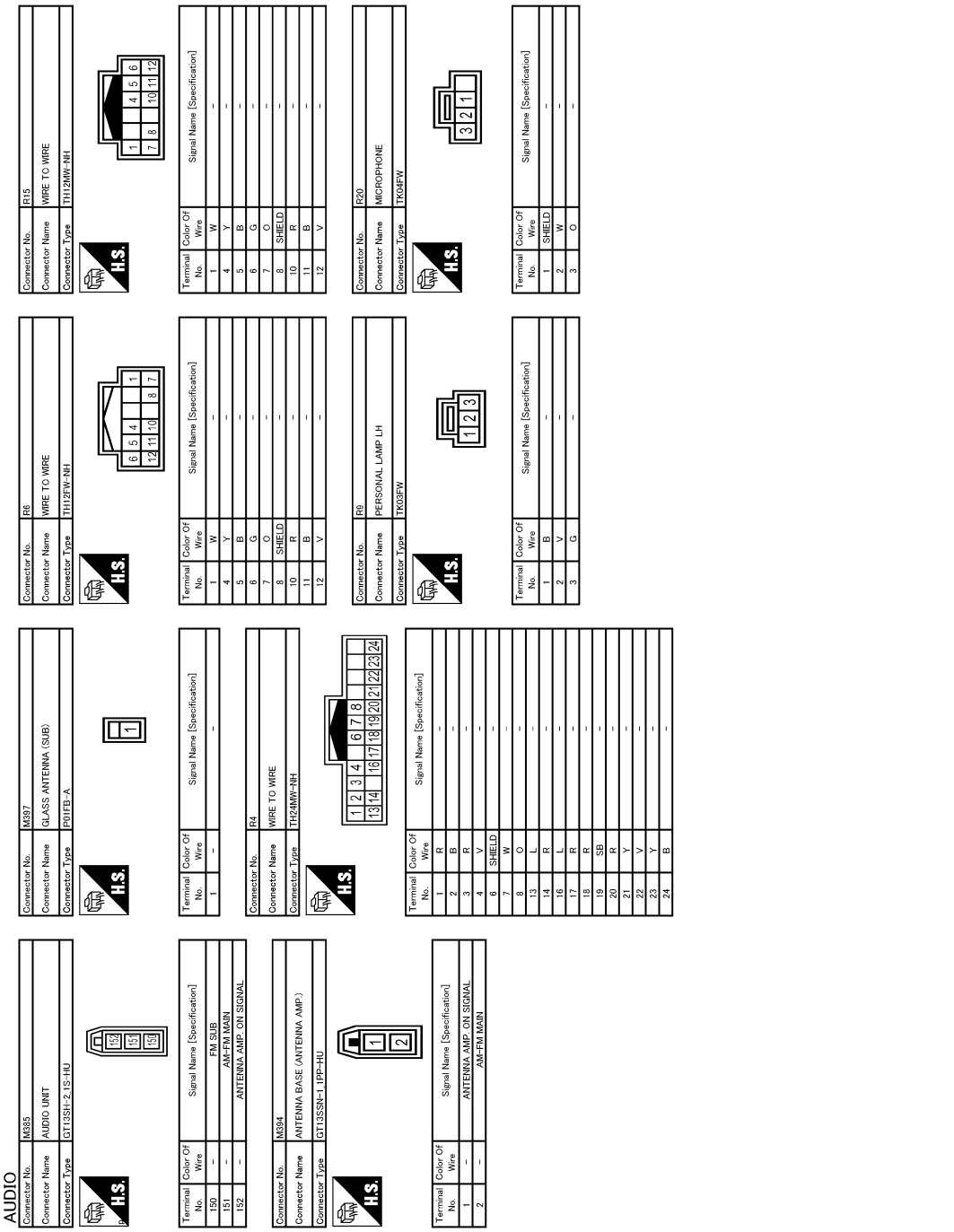
JRNWD1429GB



JRNWD1430GB



JRNWD1431GB



JRNWD1432GB

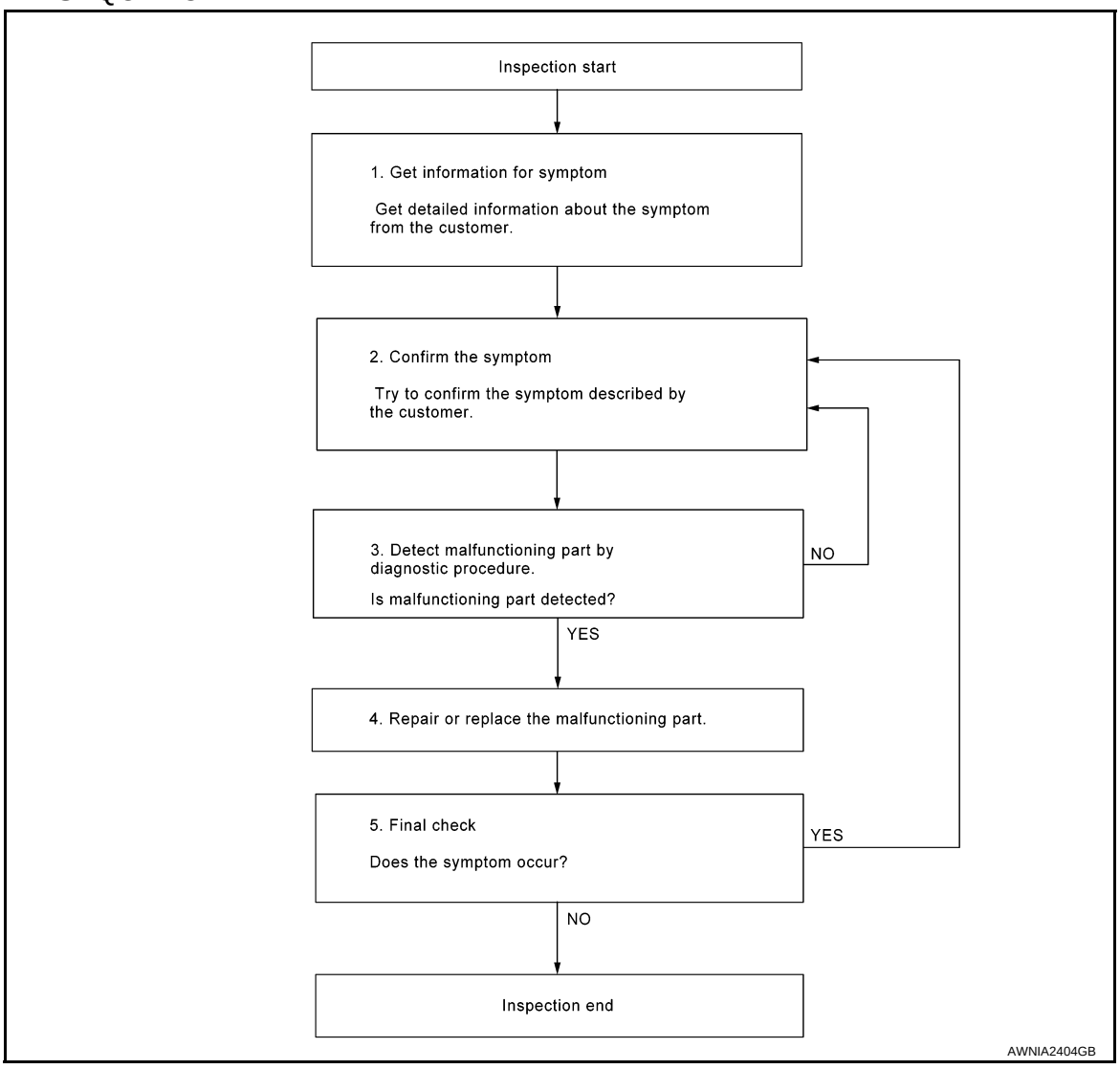
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000010435607

OVERALL SEQUENCE



DETAILED FLOW

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

2.CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer. Verify relation between the symptom and the condition when the symptom is detected. Refer to AV-109, "Symptom Table".

>> GO TO 3.

3.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

Is malfunctioning part detected?

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

4. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 5.

5. FINAL CHECK

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

Was the repair confirmed?

YES >> Inspection End.
NO >> GO TO 2.

INSPECTION AND ADJUSTMENT

PREDICTED COURSE LINE CENTER POSITION ADJUSTMENT

PREDICTED COURSE LINE CENTER POSITION ADJUSTMENT : Description

INFOID:0000000010500878

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

PREDICTED COURSE LINE CENTER POSITION ADJUSTMENT : Work Procedure

INFOID:0000000010500879

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

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID:0000000010435608

Regarding Wiring Diagram information, refer to AV-81, "Wiring Diagram".

1.CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
7	Ignition power supply	4 (10A)
19	Battery power supply	19 (20A)

Are the fuses blown?

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

2.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M10.
3. Check voltage between audio unit connector M10 and ground.

Audio unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M10	7	—	Ignition switch: ON	Battery voltage
	19		Ignition switch: OFF	

Is the inspection result normal?

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

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M10.
3. Check continuity between audio unit connectors and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M10	20	—	Yes

Is the inspection result normal?

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

FRONT TWEETER

Diagnosis Procedure

INFOID:0000000010435609

Regarding Wiring Diagram information, refer to AV-81, "Wiring Diagram".

1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair the terminals or connectors.

2.CHECK FRONT TWEETER SIGNAL CIRCUIT CONTINUITY

1. Disconnect audio unit connector M10 and suspect front tweeter connector.
2. Check continuity between audio unit connector M10 and suspect front tweeter connector.

Audio unit		Front tweeter		Continuity
Connector	Terminal	Connector	Terminal	
M10	2	M84 (LH)	1	Yes
	3		2	
	11	M83 (RH)	1	
	12		2	

3. Check continuity between audio unit connector M10 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M10	2	—	No
	3		
	11		
	12		

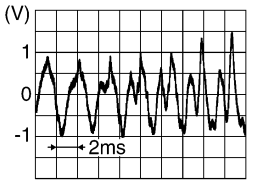
Is the inspection result normal?

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

3.CHECK FRONT TWEETER SIGNAL

1. Connect audio unit connector M10 and suspect front tweeter connector.
2. Turn ignition switch to ON.
3. Push audio unit POWER switch.
4. Check signal between the terminals of audio unit connector M10.

Audio unit connector M10		Condition	Reference value
(+)	(–)		
Terminal	Terminal		

2	3		
11	12	Audio signal output	 SKIB3609E

Is the inspection result normal?

YES >> Replace front tweeter. Refer to AV-116, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-114, "Removal and Installation".

FRONT DOOR SPEAKER

Diagnosis Procedure

INFOID:0000000010435610

Regarding Wiring Diagram information, refer to AV-81, "Wiring Diagram".

1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair the terminals or connectors.

2.CHECK FRONT DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY

1. Disconnect audio unit connector M10 and suspect front door speaker connector.
2. Check continuity between audio unit connector M10 and suspect front door speaker connector.

Audio unit		Front door speaker		Continuity
Connector	Terminal	Connector	Terminal	
M10	2	D14 (LH)	1	Yes
	3		2	
	11	D34 (RH)	1	
	12		2	

3. Check continuity between audio unit connector M10 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M10	2	—	No
	3		
	11		
	12		

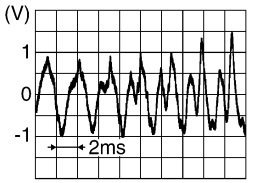
Is the inspection result normal?

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

3.CHECK FRONT DOOR SPEAKER SIGNAL

1. Connect audio unit connector M10 and suspect front door speaker connector.
2. Turn ignition switch to ON.
3. Push audio unit POWER switch.
4. Check signal between the terminals of audio unit connector M10.

Audio unit connector M10		Condition	Reference value
(+)	(–)		
Terminal	Terminal		

2	3		
11	12	Audio signal output	 SKIB3609E

Is the inspection result normal?

YES >> Replace front door speaker. Refer to AV-117, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-114, "Removal and Installation".

REAR DOOR SPEAKER

Diagnosis Procedure

INFOID:0000000010435611

Regarding Wiring Diagram information, refer to AV-81, "Wiring Diagram".

1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair the terminals or connectors.

2.CHECK REAR DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY

1. Disconnect audio unit connector M10 and suspect rear door speaker connector.
2. Check continuity between audio unit connector M10 and suspect rear door speaker connector.

Audio unit		Rear speaker		Continuity
Connector	Terminal	Connector	Terminal	
M10	4	D55 (LH)	1	Yes
	5		2	
	13	D68 (RH)	1	
	14		2	

3. Check continuity between audio unit connector M10 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M10	4	—	No
	5		
	13		
	14		

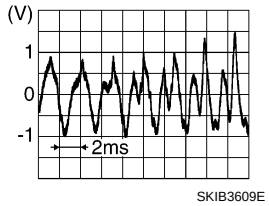
Is the inspection result normal?

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

3.CHECK REAR DOOR SPEAKER SIGNAL

1. Connect audio unit connector M10 and suspect rear door speaker connector.
2. Turn ignition switch to ON.
3. Push audio unit POWER switch.
4. Check signal between the terminals of audio unit connector M10.

Audio unit connector M10		Condition	Reference value
(+)	(–)		
Terminal	Terminal		

4	5	Audio signal output	 SKIB3609E
13	14		

Is the inspection result normal?

YES >> Replace rear door speaker. Refer to AV-118, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-114, "Removal and Installation".

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000010435612

Regarding Wiring Diagram information, refer to AV-81, "Wiring Diagram".

1.CHECK REVERSE INPUT SIGNAL

1. Turn ignition switch ON.
2. Shift the selector lever to R (reverse).
3. Check voltage between audio unit connector M11 and ground.

Audio unit		Ground	Condition	Voltage (Approx.)
(+)		(–)		
Connector	Terminal			
M11	50	—	Selector lever in R (reverse)	Battery Voltage

Is inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harness or connectors.

2.CHECK CAMERA POWER SUPPLY CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M11 and rear view camera connector.
3. Check continuity between audio unit connector M11 and rear view camera connector D79.

Audio unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M11	34	D79	1	Yes

4. Check continuity between audio unit connector M11 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M11	34		No

Is inspection result normal?

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

3.CHECK CAMERA POWER SUPPLY VOLTAGE

1. Connect audio unit connector M11 and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever to R (reverse).
4. Check voltage between audio unit connector M11 and ground.

Audio unit		Ground	Condition	Voltage (Approx.)
(+)		(–)		
Connector	Terminal			
M11	34	—	Selector lever is in “R”.	6.0 V

Is inspection result normal?

YES >> GO TO 4.
NO >> Replace audio unit. Refer to AV-114, "Removal and Installation".

4.CHECK CAMERA IMAGE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M11 and rear view camera connector.
3. Check continuity between audio unit connector M11 and rear view camera connector D79.

Audio unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M11	35	D79	3	Yes

4. Check continuity between audio unit connector M87 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M11	35		No

Is inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness or connectors.

5.CHECK CAMERA GROUND CIRCUIT CONTINUITY

Check continuity between audio unit connector M11 and rear view camera connector D79.

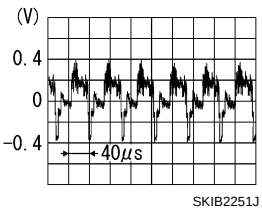
Audio unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M11	33	D79	2	Yes

Is inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness or connectors.

6.CHECK CAMERA IMAGE SIGNAL

1. Connect audio unit connector M11 and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever to R (reverse).
4. Check signal between audio unit connector M11 and ground.

Audio unit (+)		Ground (–)	Condition	Reference value
Connector	Terminal			
M11	33	—	Camera image displayed.	

SKIB2251J

Is inspection result normal?

YES >> Replace audio unit. Refer to AV-114, "Removal and Installation".
NO >> Replace rear view camera. Refer to AV-121, "Removal and Installation".

MICROPHONE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000010435613

Regarding Wiring Diagram information, refer to AV-81, "Wiring Diagram".

1.CHECK HARNESS BETWEEN AUDIO UNIT AND MICROPHONE

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M11 and microphone connector R20.
3. Check continuity between audio unit connector M11 and microphone connector R20.

Audio unit		Microphone		Continuity
Connector	Terminal	Connector	Terminal	
M11	37	R20	2	Yes
	38		1	
	39		3	

4. Check continuity between audio unit connector M11 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M11	38	—	No
	37		

Is the inspection result normal?

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

2.CHECK MICROPHONE POWER SUPPLY

1. Connect audio unit connector M11 and microphone connector R20.
2. Turn ignition switch ON.
3. Check voltage between microphone connector R20 and ground.

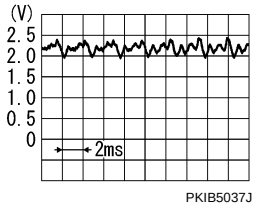
Microphone		Ground	Voltage (Approx.)
(+)		(-)	
Connector	Terminal		
R20	3	—	5V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace audio unit. Refer to AV-114, "Removal and Installation".

3.CHECK MICROPHONE SIGNAL

Check signal between terminals of audio unit connector M11.

Audio unit connector M87		Condition	Reference value
(+)	(-)		
Terminal	Terminal		
45	47	Speak into microphone.	 PKIB5037J

Is the inspection result normal?

YES >> Replace audio unit. Refer to AV-114, "Removal and Installation".
NO >> Replace microphone. Refer to AV-120, "Removal and Installation".

USB CONNECTOR

Diagnosis Procedure

INFOID:0000000010435615

Regarding Wiring Diagram information, refer to AV-81, "Wiring Diagram".

1.CHECK USB INTERFACE HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M383 and USB interface connector M384.
3. Check continuity between audio unit connector M383 and USB interface connector M384.

Audio unit		USB interface		Continuity
Connector	Terminal	Connector	Terminal	
M383	129	M384	7	Yes
	130		5	
	131		8	
	132		6	
	133		9	

4. Check continuity between audio unit connector M383 and ground.

Audio unit		—	Continuity
Connector	Terminal		
M383	130	Ground	No
	132		

Is the inspection result normal?

YES >> Replace the USB interface. Refer to AV-119, "Removal and Installation".
NO >> Repair or replace harness or connectors.

AUXILIARY INPUT JACK

Diagnosis Procedure

INFOID:0000000010435616

Regarding Wiring Diagram information, refer to AV-81, "Wiring Diagram".

1.CHECK AUX JACK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio control unit connector M12 and AUX in jack connector M13.
3. Check continuity between audio control unit connector M12 and AUX in jack connector M13.

Audio control unit		AUX in jack		Continuity
Connector	Terminal	Connector	Terminal	
M12	53	M13	1	Yes
	55		3	
	54		4	

4. Check continuity between audio control unit connector M12 and ground.

Audio control unit		—	Continuity
Connector	Terminal		
M12	53	Ground	No
	54		

Is the inspection result normal?

YES >> Replace the AUX in jack. Refer to AV-119, "Removal and Installation".
NO >> Repair or replace harness or connectors.

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:0000000010435617

RELATED TO AUDIO

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	Audio unit	Malfunction in audio unit. Refer to AV-72, "On Board Diagnosis Function".
No sound comes out or the level of the sound is low.	No sound from all speakers.	• Speaker circuit shorted to ground. Refer to AV-81, "Wiring Diagram". • Audio unit power supply and ground circuits malfunction. Refer to AV-96, "AUDIO UNIT : Diagnosis Procedure".
	Only a certain speaker (front tweeter LH, front tweeter RH, front door speaker LH, front door speaker RH, rear door speaker LH, rear door speaker RH) does not output sound.	• Poor connector connection of speaker. • Sound signal circuit malfunction between audio unit and speaker. Refer to: - AV-97, "Diagnosis Procedure" (front tweeter). - AV-99, "Diagnosis Procedure" (front door speaker). - AV-101, "Diagnosis Procedure" (rear door speaker). • Malfunction in speaker. Refer to: - AV-116, "Removal and Installation" (front tweeter). - AV-117, "Removal and Installation" (front door speaker). - AV-118, "Removal and Installation" (rear door speaker). • Malfunction in audio unit. Refer to AV-72, "On Board Diagnosis Function".

Symptoms	Check items	Probable malfunction location
Noise is mixed with audio.	Noise comes out from all speakers.	Malfunction in audio unit. Refer to AV-72, "On Board Diagnosis Function".
	Noise comes out only from a certain speaker (front tweeter LH, front tweeter RH, front door speaker LH, front door speaker RH, rear door speaker LH, rear door speaker RH).	• Poor connector connection of speaker. • Sound signal circuit malfunction between audio unit and speaker. Refer to: - AV-97, "Diagnosis Procedure" (front tweeter). - AV-99, "Diagnosis Procedure" (front door speaker). - AV-101, "Diagnosis Procedure" (rear door speaker). • Malfunction in speaker. • Poor Installation of speaker (e.g. backlash and looseness). Refer to: - AV-116, "Removal and Installation" (front tweeter). - AV-117, "Removal and Installation" (front door speaker). - AV-118, "Removal and Installation" (rear door speaker). • Malfunction in audio unit. Refer to AV-72, "On Board Diagnosis Function".
	Noise is mixed with radio only (when the vehicle hits a bump or while driving over bad roads)	Poor connector connection of antenna or antenna feeder. Refer to AV-123, "Feeder Layout".
No radio reception or poor reception.	• Other audio sounds are normal. • Any radio station cannot be received or poor reception is caused even after moving to a service area with good reception (e.g. a place with clear view and no obstacles generating external noises).	• Antenna amp. ON signal circuit malfunction. Refer to AV-78, "Reference Value". • Poor connector connection of antenna or antenna feeder. Refer to AV-123, "Feeder Layout".
No satellite radio reception.	Satellite radio antenna malfunction.	• Poor continuity in antenna feeder. • Poor connector connection of antenna or antenna feeder. • Loose satellite radio antenna mounting nut. Refer to AV-123, "Feeder Layout".
Buzz/rattle sound from speaker	The majority of buzz/rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the buzz/rattle.	Refer to "SQUEAK AND RATTLE TROUBLE DIAGNOSIS" in the appropriate interior trim section.

RELATED TO HANDS-FREE PHONE

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

Check Compatibility

1. Make sure the customer's Bluetooth® related concern is understood.
2. Verify the customer's concern.
   NOTE:
   The customer's phone may be required, depending upon their concern.
3. Write down the customer's phone brand, model and service provider.
   NOTE:

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

4. Go to “www.nissanusa.com/bluetooth/”.

a. Using the website′s search engine, find out if the customer′s phone is on the approved list.

b. If the customer′s phone is NOT on the approved list:
Stop diagnosis here. The customer needs to obtain a Bluetooth® phone that is on the approved list before any further action.

c. If the feature related to the customer′s concern shows as “N” (not compatible):
Stop diagnosis here. If the customer still wants the feature to function, they will need to get an approved phone showing the feature as “Y” (compatible) in the “Basic Features”.

d. If the feature related to the customer′s concern shows as “Y” (compatible):
Perform diagnosis as per the following table.

Symptoms	Check items	Probable malfunction location
Does not recognize cellular phone connection (no connection is displayed on the display at the guide).	Repeat the registration of cellular phone.	Malfunction in audio unit. Replace audio unit. Refer to AV-114, "Removal and Installation".
Hands-free phone cannot be established.	• Hands-free phone operation can be made, but the communication cannot be established. • Hands-free phone operation can be performed, however, voice between each other cannot be heard during the conversation.	
The other party′s voice cannot be heard by hands-free phone.	Check the “microphone speaker” in Inspection & Adjustment Mode if sound is heard.	
Originating sound is not heard by the other party with hands-free phone communication.	Sound operation function is normal.	
	Sound operation function does not work.	Microphone signal circuit malfunction. Refer to AV-105, "Diagnosis Procedure".
The system cannot be operated.	• The voice recognition can be controlled. • Steering switch′s − , + , and switch works, but does not work.	Steering switch malfunction. Replace steering switch. Refer to AV-115, "Removal and Installation".
	Steering switch′s , − , + , and switches do not work.	Steering switch signal circuit malfunction. Refer to MWI-71, "Diagnosis Procedure".
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to MWI-71, "Diagnosis Procedure".

RELATED TO REAR VIEW CAMERA

Symptoms	Check items	Probable malfunction location
Rear view camera is inoperative.	Reverse signal circuit malfunction.	Reverse signal circuit malfunction between BCM and audio unit. Refer to AV-103, "Diagnosis Procedure".
	Camera image signal circuit malfunction.	Camera image signal circuit malfunction between rear view camera and audio unit. Refer to AV-103, "Diagnosis Procedure".
	Rear view camera malfunction.	Replace rear view camera. Refer to AV-121, "Removal and Installation".

NORMAL OPERATING CONDITION

Description

INFOID:0000000010435618

RELATED TO NOISE

The majority of the audio concerns are the result of outside causes (bad CD, electromagnetic interference, etc.).
The following noise results from variations in field strength, such as fading noise and multi-path noise, or external noise from trains and other sources. It is not a malfunction.

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

The vehicle itself can be a source of noise if noise prevention parts or electrical equipment 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 determine the cause.

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

Type of Noise and Possible Cause

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

RELATED TO HANDS-FREE PHONE

Symptom	Cause and Counter measure
Does not recognize cellular phone connection (No connection is displayed on the display at the guide).	Some Bluetooth® enabled cellular phones may not be recognized by the in-vehicle phone module. Refer to “RELATED TO HANDS-FREE PHONE (Check Compatibility)” in AV-109, "Symptom Table".
Cannot use hands-free phone.	Customer will not be able to use a hands-free phone under the following conditions: • The vehicle is outside of the telephone service area. • The vehicle is in an area where it is difficult to receive radio waves; such as in a tunnel, in an underground parking garage, near a tall building or in a mountainous area. • The cellular phone is locked to prevent it from being dialed. **NOTE:** While a 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.

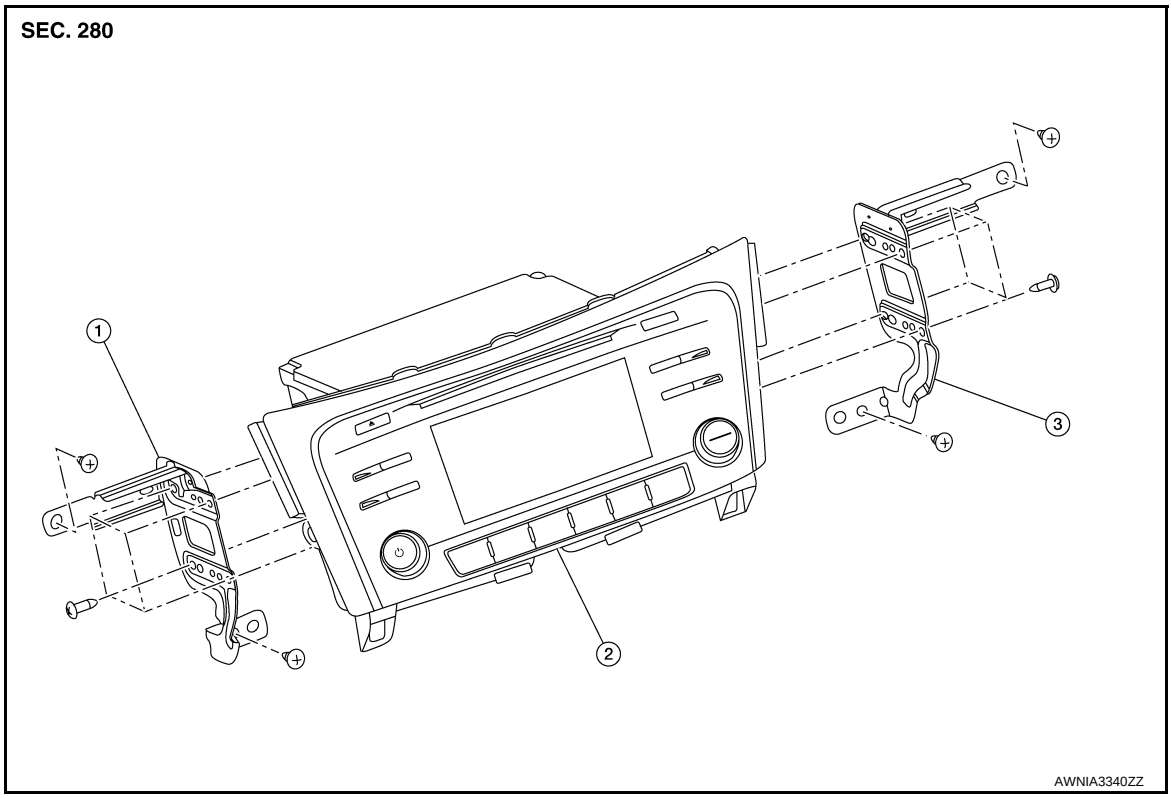
Symptom	Cause and Counter measure
The other party's voice cannot be heard by hands-free phone.	When the radio wave condition is not ideal or ambient sound is too loud, it may be difficult to hear the other person's voice during a call.
Poor sound quality.	Do not place the cellular phone in an area surrounded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

REMOVAL AND INSTALLATION

AUDIO UNIT

Exploded View

INFOID:0000000010435619



1. Audio unit bracket (LH)
2. Audio unit
3. Audio unit bracket (RH)

Removal and Installation

INFOID:0000000010435620

REMOVAL

1. Disconnect the negative battery terminal. Refer to PG-155, "Removal and Installation".
2. Remove A/C switch (AUTOMATIC AIR CONDITIONING) or front air control (MANUAL AIR CONDITIONING).
3. Remove instrument finisher B. Refer to IP-12, "Exploded View".
4. Remove instrument finisher E. Refer to IP-12, "Exploded View".
5. Remove the audio unit screws, then pull out the audio unit.
6. Disconnect the harness connectors from the audio unit and remove.
7. Remove the audio unit bracket (LH/RH) screws and the audio unit brackets (LH/RH) (if necessary).

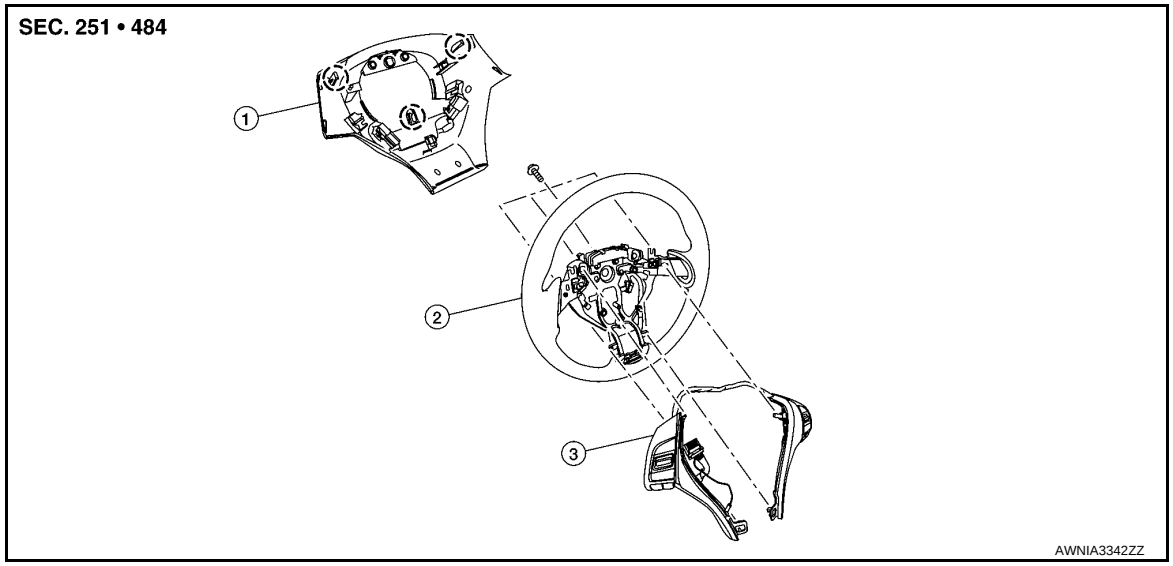
INSTALLATION

Installation is in the reverse order of removal.

STEERING SWITCHES

Exploded View

INFOID:0000000010435621



1. Steering wheel rear finisher
2. Steering wheel
3. Steering switches

Pawl

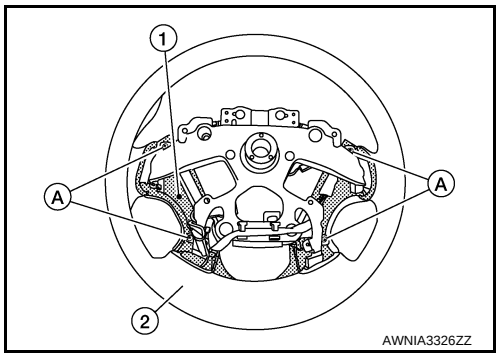
Removal and Installation

INFOID:0000000010435622

REMOVAL

NOTE:
The steering switches are serviced as an assembly.

1. Remove steering wheel. Refer to ST-8, "Exploded View".
2. Release pawls on the steering wheel rear finisher and remove.
3. Remove screws (A) and steering switches (1) from steering wheel (2).



INSTALLATION

Installation is in the reverse order of removal.

FRONT TWEETER

Removal and Installation

INFOID:0000000010435623

REMOVAL

1. Remove defroster grille. Refer to IP-12, "Exploded View".
2. Remove bolts and pull out the front tweeter.
3. Disconnect the harness connector from the front tweeter and remove.

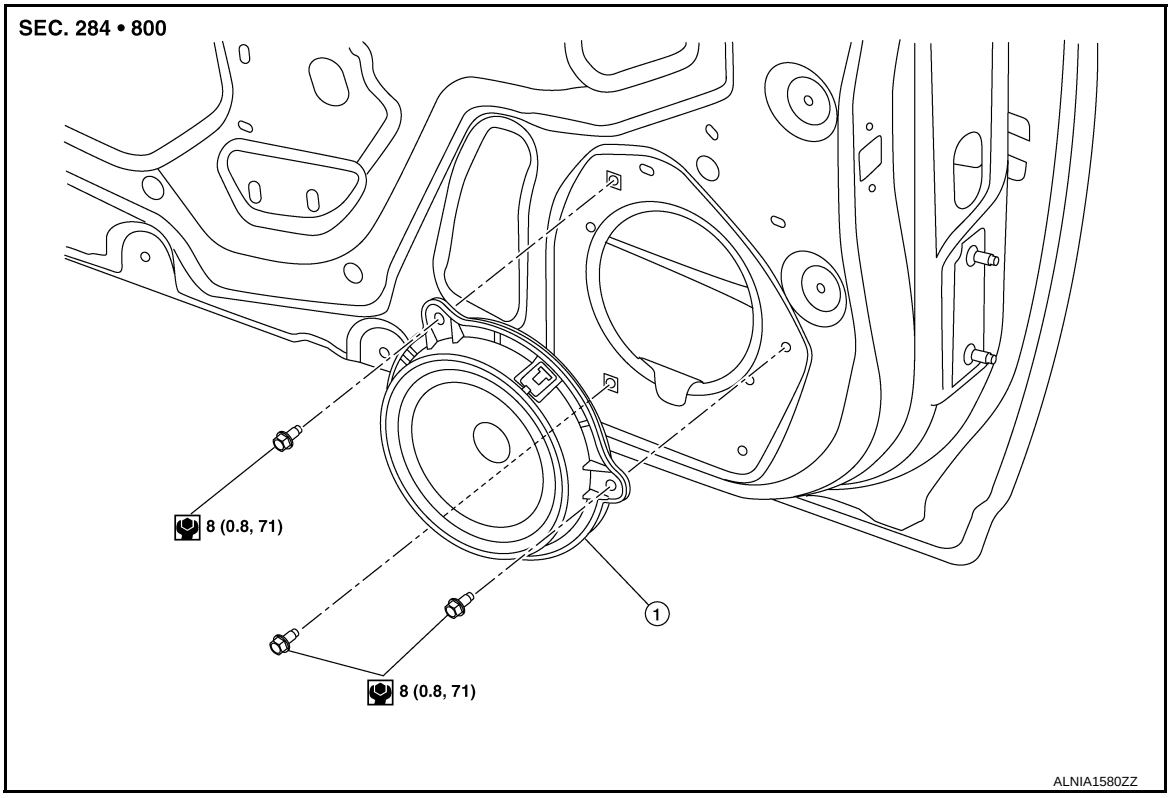
INSTALLATION

Installation is in the reverse order of removal.

FRONT DOOR SPEAKER

Exploded View

INFOID:0000000010435624



1. Front door speaker

Removal and Installation

INFOID:0000000010435625

REMOVAL

1. Remove front door finisher. Refer to INT-12, "FRONT DOOR FINISHER : Exploded View".
2. Remove front door speaker bolts, then pull out front door speaker.
3. Disconnect the harness connector from front door speaker and remove.

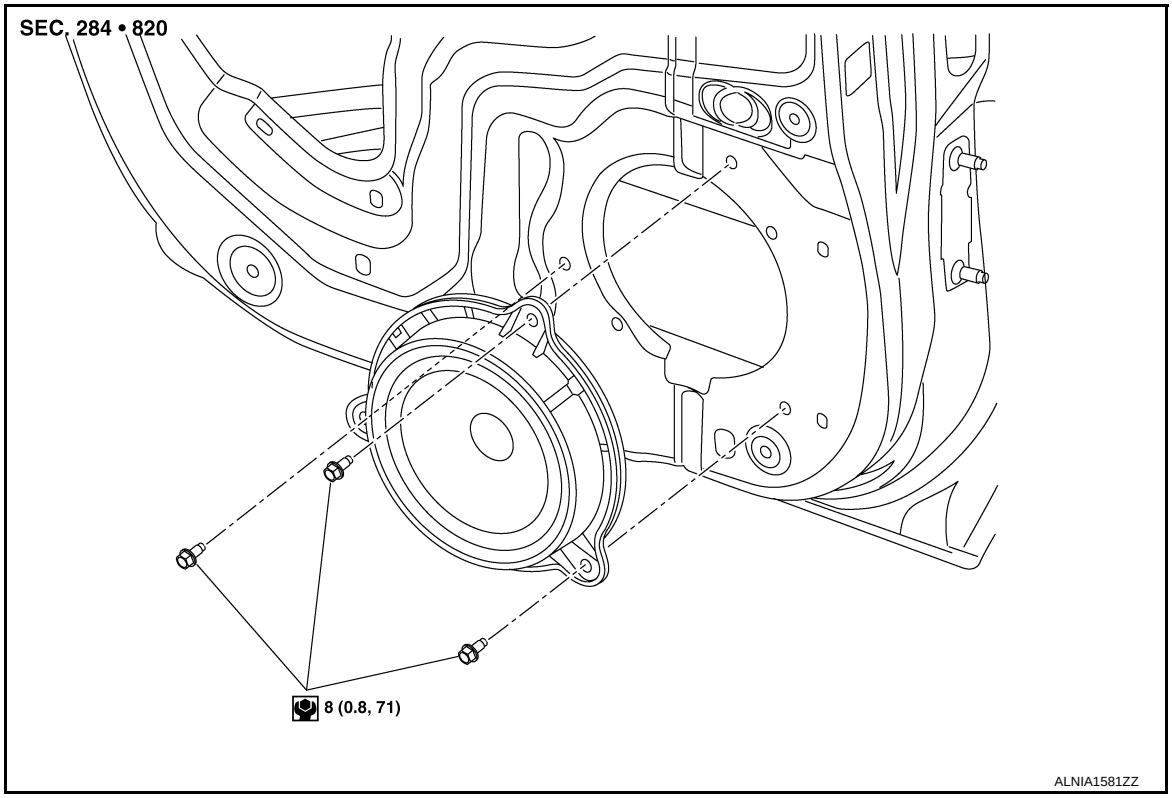
INSTALLATION

Installation is in the reverse order of removal.

REAR DOOR SPEAKER

Exploded View

INFOID:0000000010435626



1. Rear door speaker

Removal and Installation

INFOID:0000000010435627

REMOVAL

1. Remove rear door finisher. Refer to INT-15, "REAR DOOR FINISHER : Exploded View".
2. Remove rear door speaker bolts, then pull out rear door speaker.
3. Disconnect the harness connector from the rear door speaker and remove.

INSTALLATION

Installation is in the reverse order of removal.

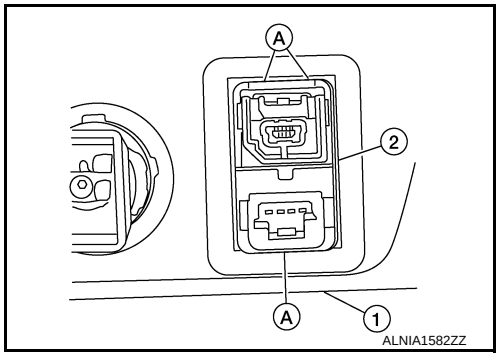
USB INTERFACE AND AUX IN JACK

Removal and Installation

INFOID:0000000010435628

REMOVAL

1. Remove center console. Refer to IP-18, "Exploded View".
2. Release the pawls (A) on the back of USB interface and AUX in jack (2).



INSTALLATION

Installation is in the reverse order of removal.

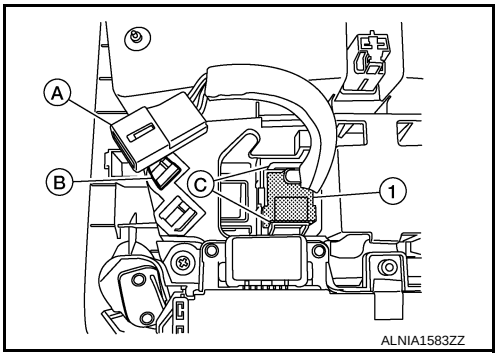
MICROPHONE

Removal and Installation

INFOID:0000000010435629

REMOVAL

1. Remove the map lamp assembly. Refer to INT-24, "Exploded View".
2. Release harness connector (A) by sliding rearward to remove from the pawl (B).
3. Release pawls (C) and remove the microphone (1) from the front room/map lamp assembly.



INSTALLATION

Installation is in the reverse order of removal.

REAR VIEW CAMERA

Removal and Installation

INFOID:0000000010435630

REMOVAL

1. Remove the back door outer finisher. Refer to EXT-45, "Exploded View".
2. Release pawl, disconnect harness connector from rear view camera and remove.

INSTALLATION

Installation is in the reverse order of removal.

AUDIO ANTENNA

Removal and Installation

INFOID:0000000010435631

REMOVAL

1. Remove the luggage side upper finisher (RH). Refer to INT-28, "Exploded View".
2. Partially lower headlining (rear). Refer to INT-24, "Exploded View".
3. Disconnect harness connectors from antenna feeder.
4. Remove nut from audio antenna and remove.

INSTALLATION

Installation is in the reverse order of removal.

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

CAUTION:

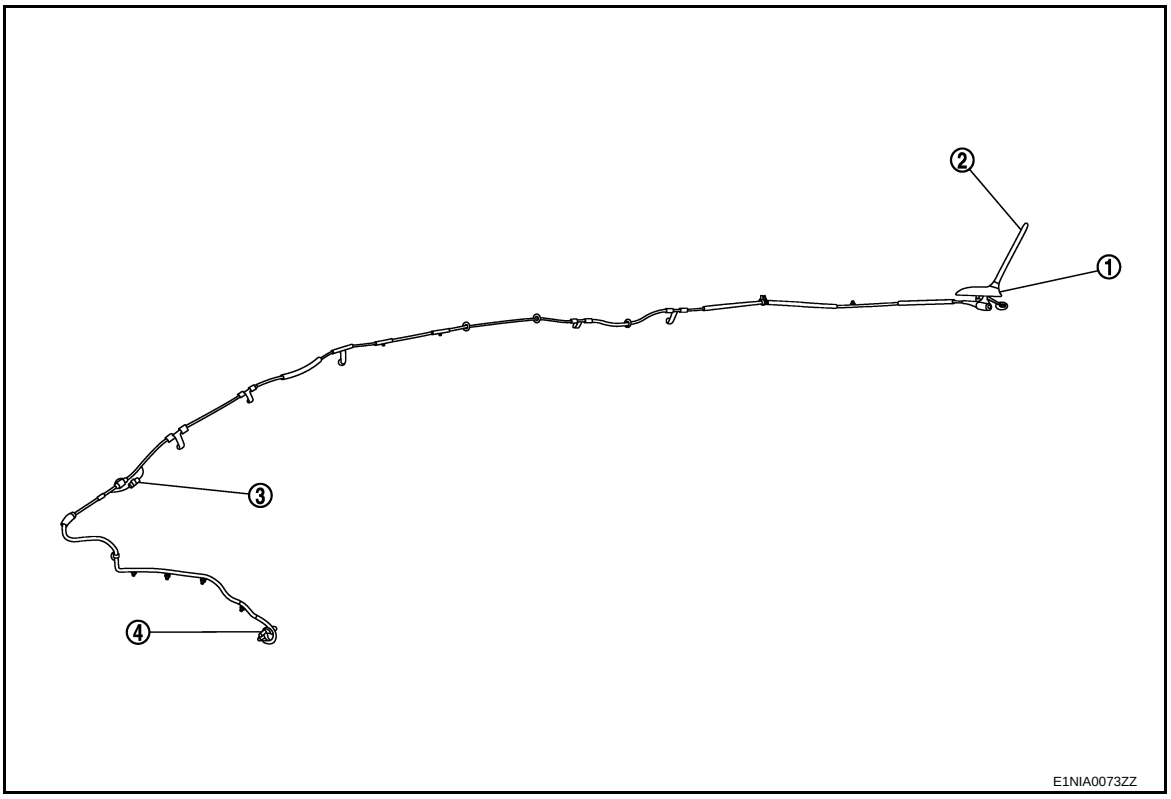
If the audio antenna nut is not properly tightened, lower sensitivity of the antenna may be experienced. If the nut is over tightened, this will deform the roof panel.

ANTENNA FEEDER

Feeder Layout

INFOID:0000000010435632

ANTENNA FEEDER LAYOUT



1. Antenna base (antenna amp. and satellite antenna)
2. Rod Antenna
3. M394
4. M385

PRECAUTION

PRECAUTIONS

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

INFOID:0000000010519312

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:

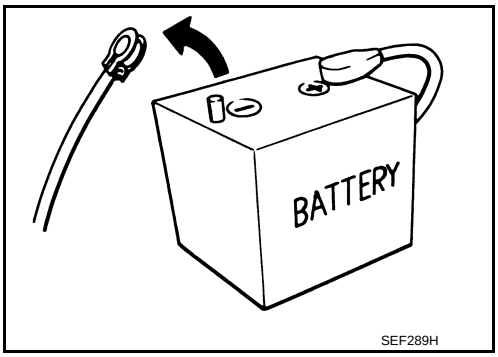
Always observe the following items for preventing accidental activation.

- **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:0000000010519319

- 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.



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
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.

- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.
  NOTE:
  If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.
- After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.
  NOTE:
  The removal of 12V battery may cause a DTC detection error.

Precaution for Trouble Diagnosis

INFOID:0000000010435635

AV COMMUNICATION SYSTEM

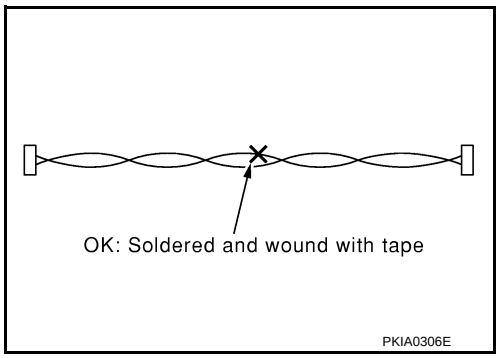
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

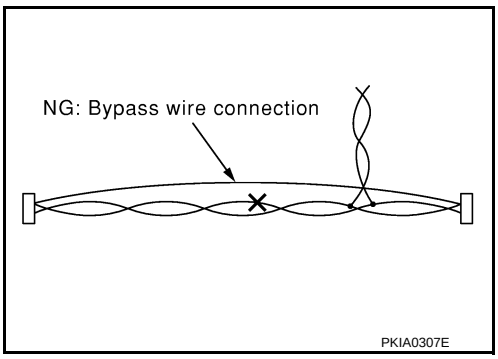
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AV COMMUNICATION SYSTEM

- 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.)



Precaution for Work

INFOID:0000000010435637

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:

- Water soluble dirt:

- Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
- Then rub with a soft, dry cloth.

- Oily dirt:

- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.

- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

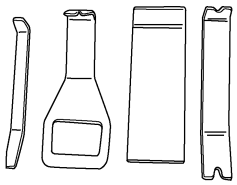
PREPARATION

PREPARATION

Special Service Tool

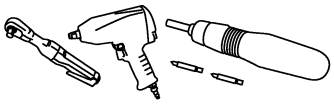
INFOID:0000000010435638

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

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

Commercial Service Tools

INFOID:0000000010435639

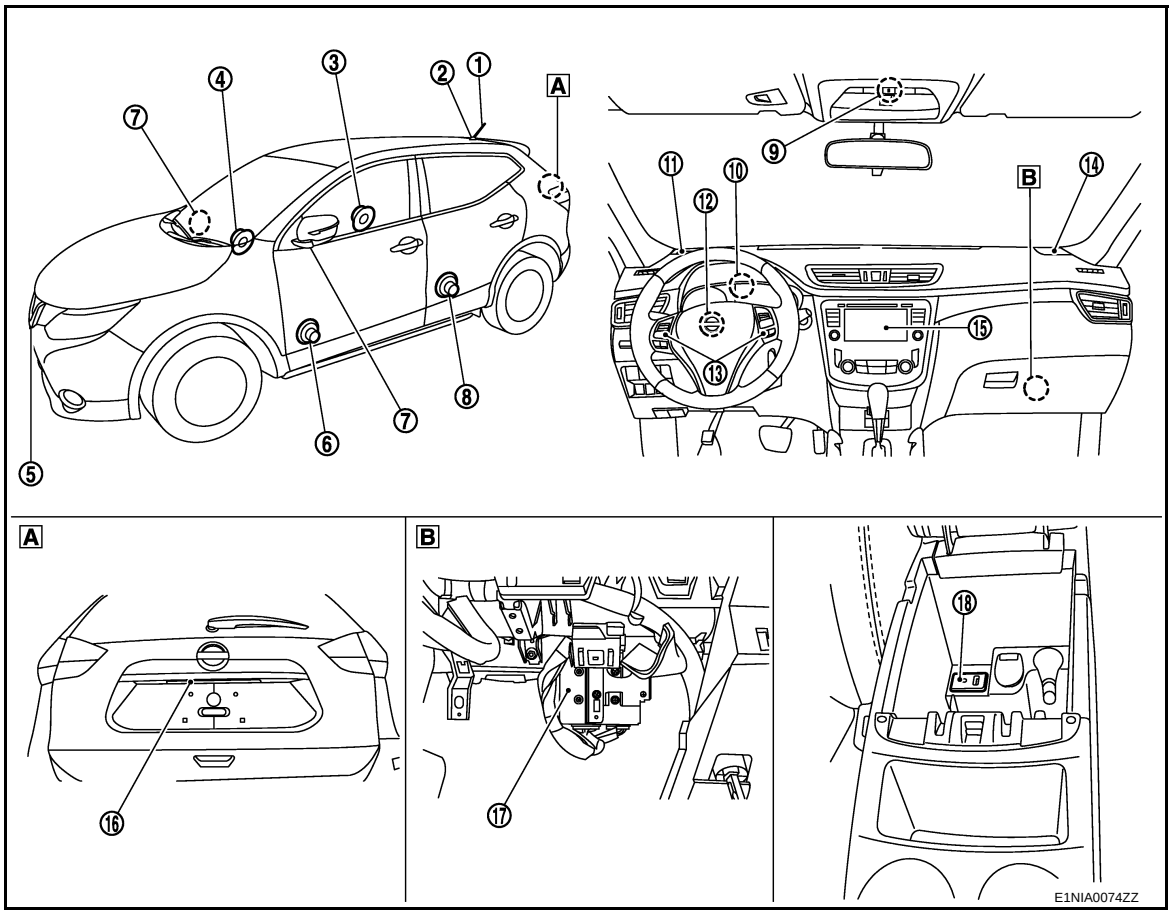
Tool name	Description
Power tool  PIIB1407E	Loosening nuts, screws and bolts

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000010435640



A. Center of back door B. View with glove box removed

No.	Component	Function
1.	Rod antenna	Refer to AV-131, "Rod Antenna, Antenna Amp., Satellite Antenna and Antenna Feeder".
2.	Antenna base (antenna amp. and satellite antenna)	
3.	Rear door speaker RH	Refer to AV-129, "Speakers".
4.	Front door speaker RH	
5.	Front camera	Refer to AV-131, "Front Camera".
6.	Front door speaker LH	Refer to AV-129, "Speakers".
7.	Side camera	Refer to AV-131, "Side Cameras".
8.	Rear door speaker LH	Refer to AV-129, "Speakers".
9.	Microphone	Refer to AV-130, "Microphone".
10.	GPS antenna	Refer to AV-133, "GPS Antenna".
11.	Front tweeter LH	Refer to AV-129, "Speakers".
12.	Steering angle sensor	Refer to AV-131, "Steering Angle Sensor".
13.	Steering switches	Refer to AV-130, "Steering Switches".
14.	Front tweeter RH	Refer to AV-129, "Speakers".

No.	Component	Function
15.	AV control unit	Refer to AV-129, "AV Control Unit".
16.	Rear view camera	Refer to AV-131, "Rear View Camera".
17.	Around View®* Monitor control unit	Refer to AV-130, "Around View Monitor Control Unit".
18.	USB interface and AUX in jack	Refer to AV-130, "USB Interface and AUX In Jack".

*: Around View Monitor is a parking aid/convenience feature. Around View Monitor cannot completely eliminate blind spots. Around View Monitor may not detect every object and does not warn of moving objects. Always check surroundings before moving vehicle. Around View Monitor is not a substitute for proper backing procedures. Always turn to check what is behind you before backing up.

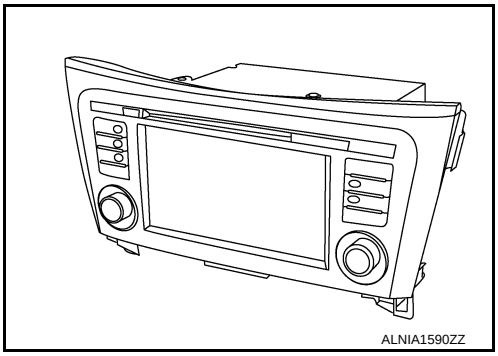
AV Control Unit

INFOID:0000000010435641

Description

- A 7-inch WVGA display, an AM/FM electronic tuner radio, CD drive, audio amplifier are integrated into the AV control unit.
- The 7-inch display is a high resolution monitor that includes touch panel functions.
- Music files stored in iPod®*/USB memory can be played using the separate USB interface.
- Music files stored in an external audio device can be played using the separate AUX in jack.

*: iPod® is a registered trademark of Apple, Inc. All rights reserved.

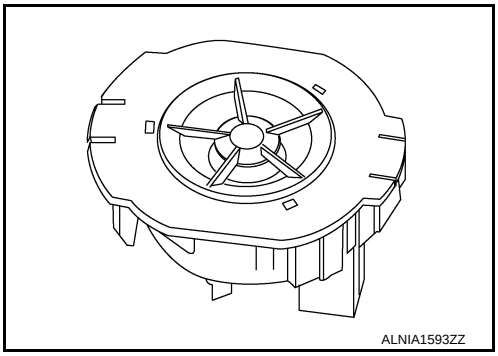

ALNIA1590ZZ

Speakers

INFOID:0000000010435642

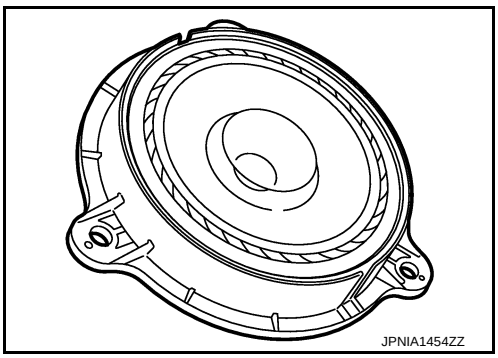
FRONT TWEETER

- 2.5 cm (1 in) tweeters are installed in the top front corners of the instrument panel.
- Sound signals are input from the AV control unit to output high range sounds.


ALNIA1593ZZ

FRONT DOOR SPEAKER

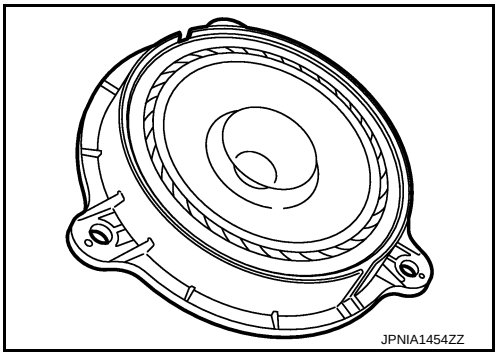
- 16.5 cm (6.5 in) speakers are installed in the bottom of the front doors.
- Sound signals are input from the AV control unit to output high, mid and low range sounds.


JPNIA1454ZZ

REAR DOOR SPEAKER

- 16.5 cm (6.5 in) speakers are installed in the bottom of the rear doors.

- Sound signals are input from the AV control unit to output high, mid and low range sounds.


JPNIA1454ZZ

USB Interface and AUX In Jack

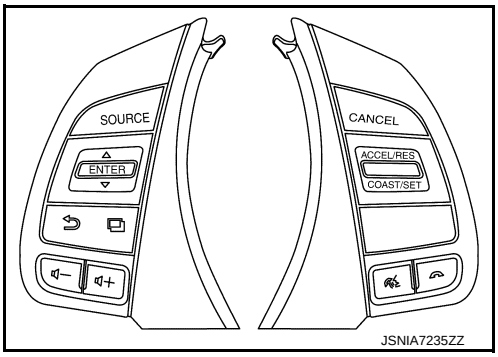
INFOID:0000000010435643

- USB Interface and AUX in jack is installed in the console.
- iPod® and USB memory can be connected to the AV control unit through the USB interface.
- An external audio device can be connected to the AV control unit through the AUX in jack.

Steering Switches

INFOID:0000000010435644

- Steering switches are installed in the steering wheel.
- Operations for audio and hands-free phone are possible.
- Switches are connected to the combination meter.
- Combination meter is connected to the AV control unit via AV communication.

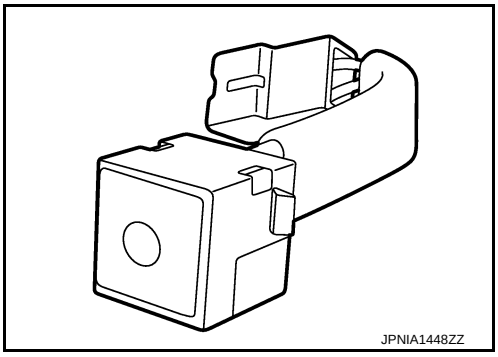


JSNIA7235ZZ

Microphone

INFOID:0000000010435645

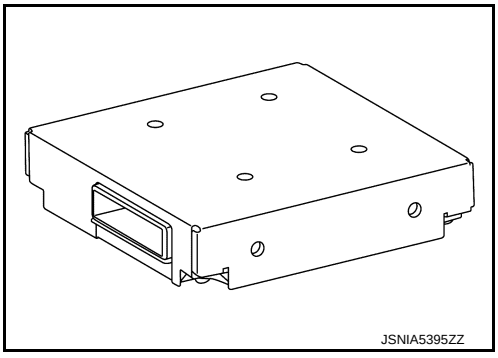
- The microphone is installed in the roof in the map lamp assembly.
- Power is supplied from the AV control unit.


JPNIA1448ZZ

Around View Monitor Control Unit

INFOID:0000000010435646

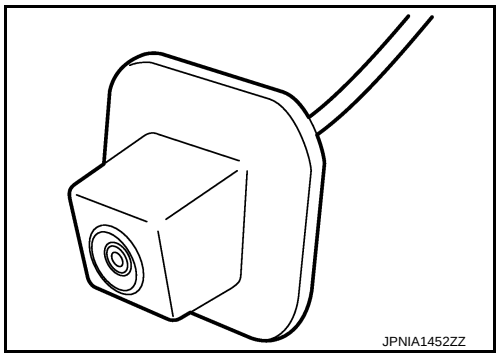
- The around view monitor control unit is installed behind the glove box.
- Vehicle width guide lines, predicted course line, vehicle front guiding line and vehicle side line, and vehicle icon are displayed and combined with camera images.


JSNIA5395ZZ

Rear View Camera

INFOID:0000000010435647

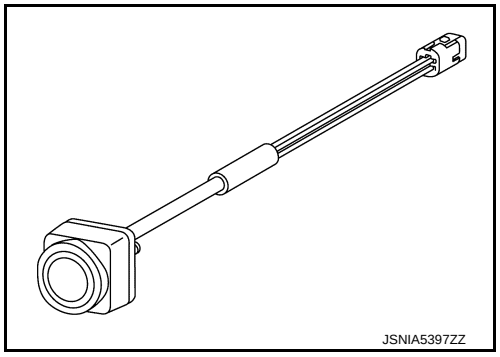
- The rear view camera is installed in the back door finisher.
- Power is supplied from the around view monitor control unit.


JPNIA1452ZZ

Side Cameras

INFOID:0000000010435648

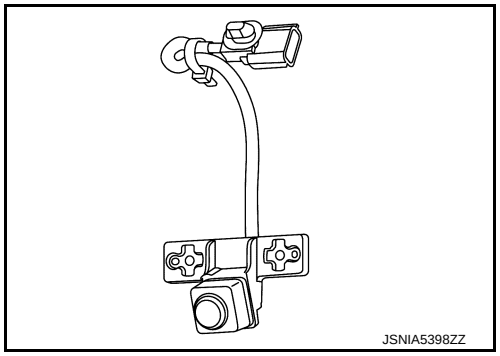
- The side cameras are installed in the door mirrors.
- Power is supplied from the around view monitor control unit.


JSNIA5397ZZ

Front Camera

INFOID:0000000010435649

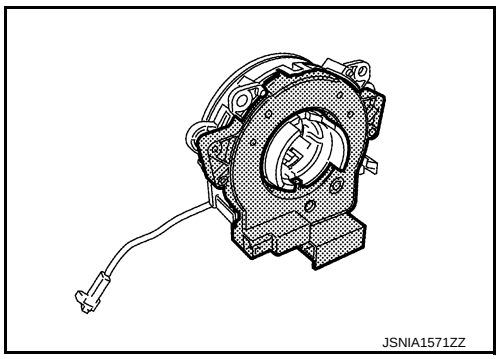
- The front camera is installed in the front grille.
- Power is supplied from the around view monitor control unit.


JSNIA5398ZZ

Steering Angle Sensor

INFOID:0000000010435650

- Steering sensor is installed to the spiral cable.
- Steering angle sends the steering signal necessary for predictive course line via CAN communication.

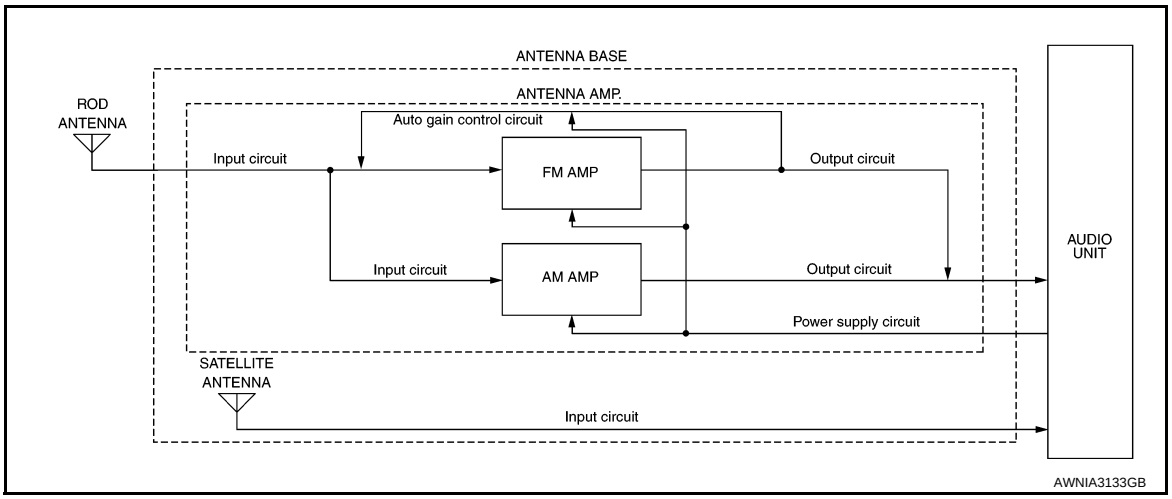

JSNIA1571ZZ

Rod Antenna, Antenna Amp., Satellite Antenna and Antenna Feeder

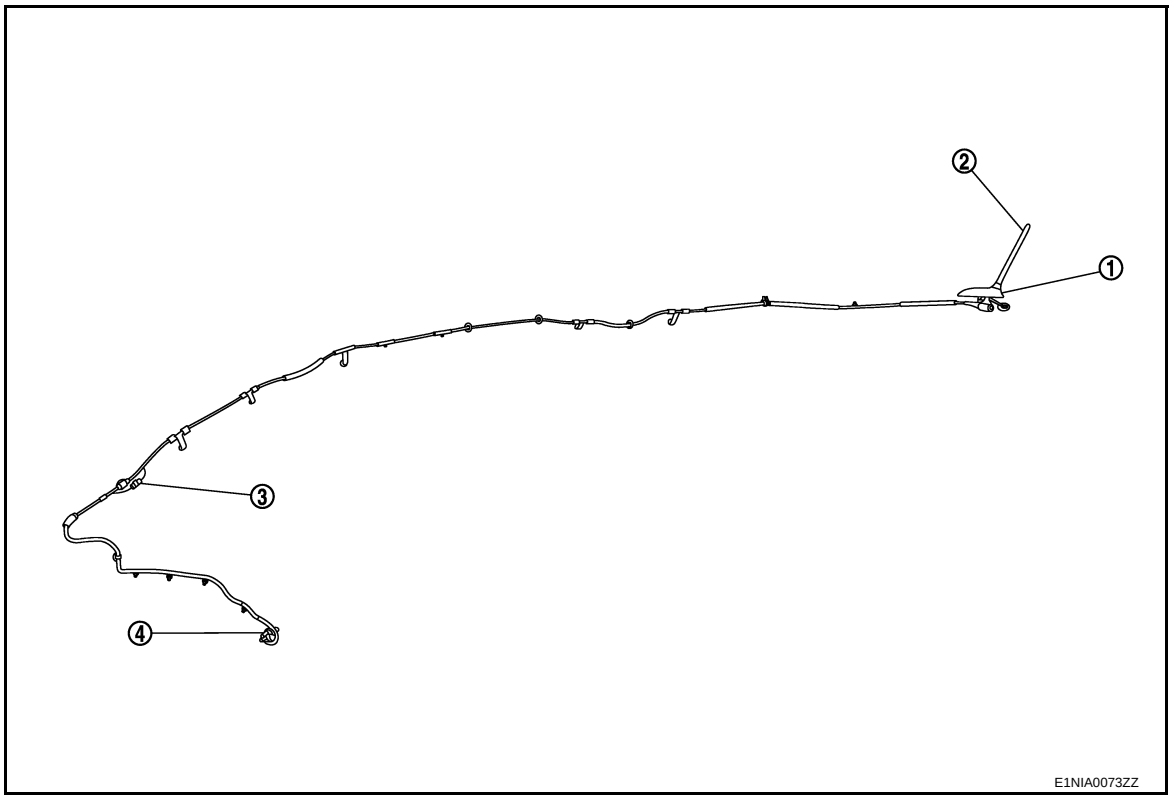
INFOID:0000000010435651

RADIO ANTENNA AND SATELLITE ANTENNA

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



ANTENNA FEEDER LAYOUT

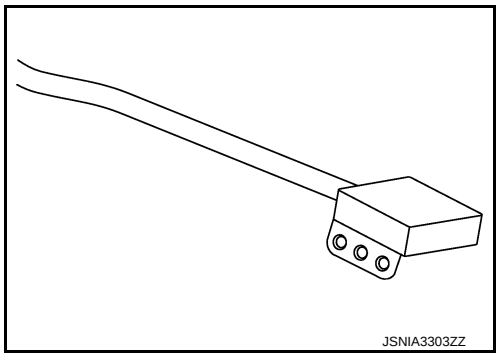


1. Antenna base (antenna amp. and satellite antenna)
2. Rod Antenna
3. M394
4. M399

GPS Antenna

INFOID:0000000010435652

- GPS antenna is installed in the instrument panel, behind the combination meter.
- Power is supplied from the AV control unit.



SD Card

INFOID:0000000010435653

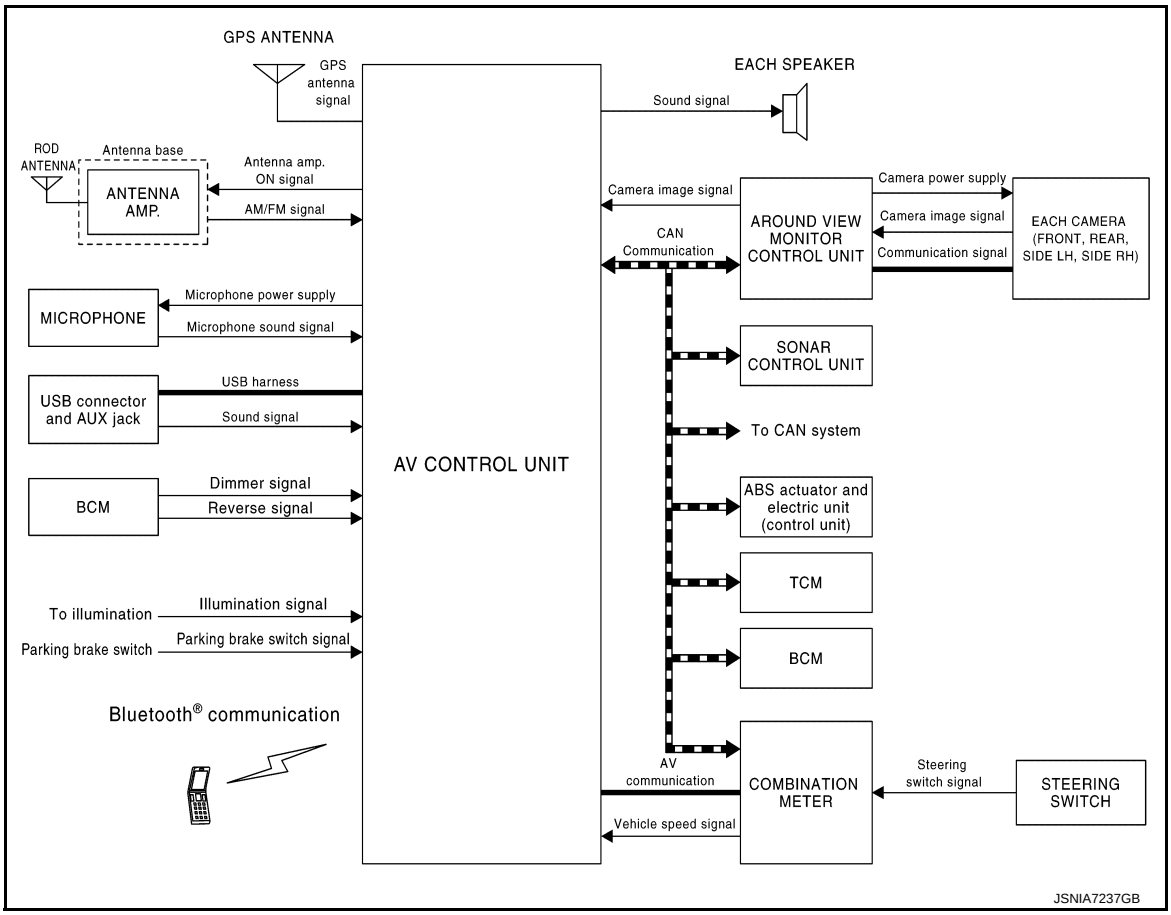
- Map data is memorized in the SD card.
- Map data is sent to the AV control unit from the SD slot.

SYSTEM

System Description

INFOID:0000000010435654

SYSTEM DIAGRAM



AUDIO SYSTEM

The audio system consists of the following component:

- AV control unit
- Front tweeters
- Front door speakers
- Rear door speakers
- USB interface
- AUX in jack
- Steering switches
- Antenna base (rod antenna, antenna amp.)

When the audio system is on, AM/FM signals received by the rod antenna are amplified by the antenna amp. and sent to the AV control unit. The AV control unit then sends audio signals to the front tweeters, front door speakers and rear door speakers.
Refer to Owner's Manual for audio system operating instructions.

NAVIGATION SYSTEM

Description

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

POSITION DETECTION PRINCIPLE

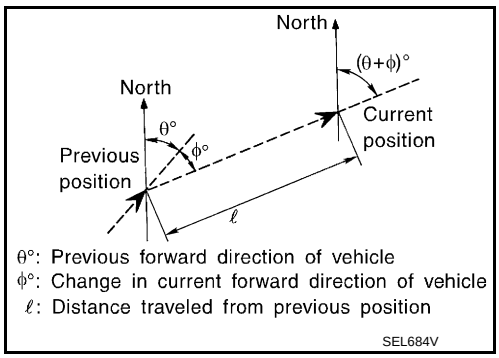
The navigation system periodically calculates the vehicle's current position according to the following three signals:

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

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



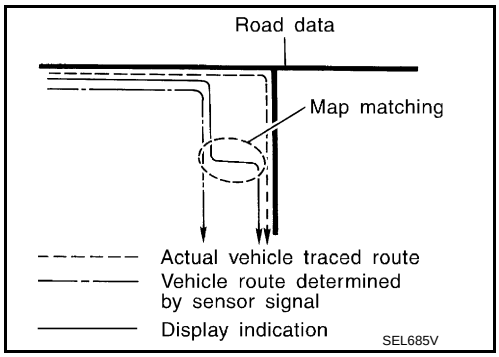
Type	Advantage	Disadvantage
Gyroscope (angular velocity sensor)	Can detect the vehicle's turning angle quite accurately.	Direction errors may accumulate when vehicle is driven for long distances without stopping.
GPS antenna (GPS information)	Can detect the vehicle's travel direction (North/South/East/West).	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

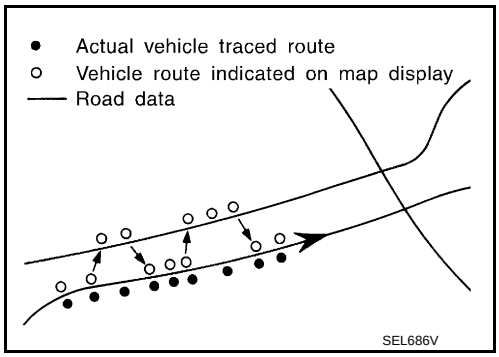
Map-matching compares a current location detected by the method in the “Location Detection Principle” with a road map data from map SD-card.

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

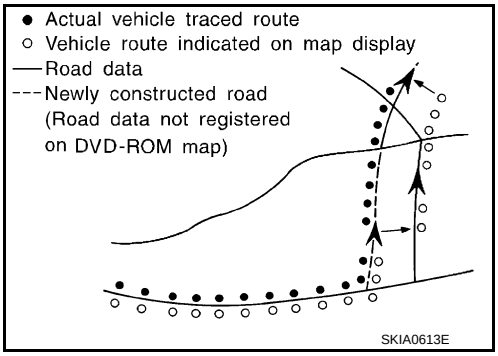


The vehicle position may not be corrected under the following circumstances and after driving for a certain time when GPS information is difficult to receive. In this case, the vehicle mark on the display must be corrected manually.

- 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.
  Routes 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.

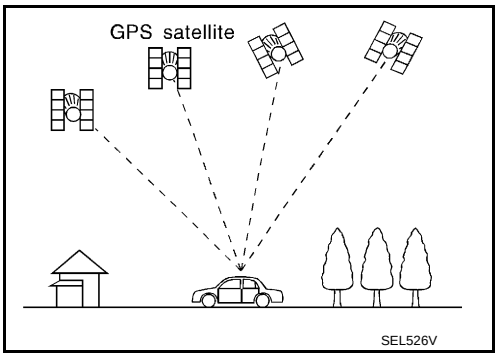


- Map-matching does not function correctly when a road on which the vehicle is driving is new and not recorded in the map SD-card, or when road pattern stored in the map data and the actual road pattern are different due to repair.
  The map-matching function may find another road and position the vehicle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

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.

USB INTERFACE

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

AUX IN JACK

- Sound can be output from an external device by connecting a device to the AUX in jack.
- AUX sound signals are transmitted to each speaker via AV control unit.

SPEED SENSITIVE VOLUME SYSTEM

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

HANDS-FREE PHONE SYSTEM

- Bluetooth® control is built into AV control unit.
- The connection between cellular phone and AV control unit is performed with Bluetooth® communication.
- The voice guidance signal is input from the AV control unit and output to the front speakers when operating the cellular phone.

When A Call Is Originated

- Spoken voice sound output from the microphone (microphone signal) is input to AV control unit.

- AV control unit outputs to cellular phone with Bluetooth® communication as a TEL voice signal.
- Voice sound is then heard at the other party.

When Receiving A Call

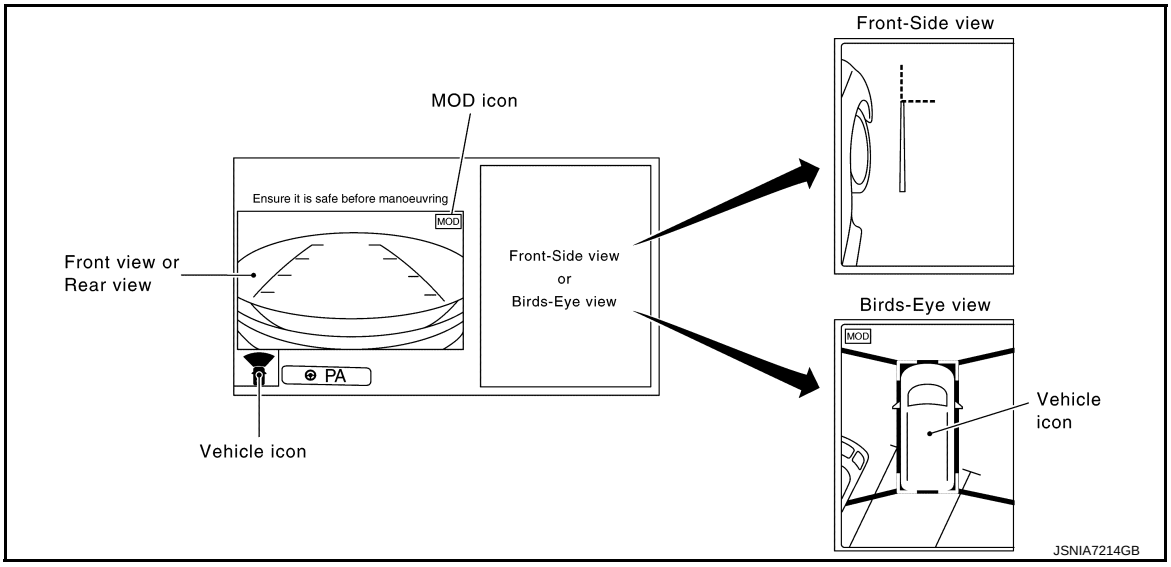
- Voice sound is input to own cellular phone from the other party.
- TEL voice signal is input to AV control unit by establishing Bluetooth® communication from cellular phone, and the signal is output to front speakers.

AROUND VIEW MONITOR FUNCTION

- This system is equipped with wide-angle cameras on the front, rear and right and left door mirrors.
- Images from front view, rear view, front-side view (RH side), and birds-eye view are displayed to monitor the vehicle surroundings.
- Around view monitor control unit 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 displayed.
- In front-side view, the vehicle distance guiding line and vehicle width guiding line are displayed.
- Birds-eye view converts the images from the cameras into an overhead view and displays the status of the vehicle on the display. The vehicle icon that is displayed in the birds-eye view is depicted by the around view monitor control unit.

Display

The around view monitor combines and displays travel direction view (front or rear), front-side view and birds-eye view.



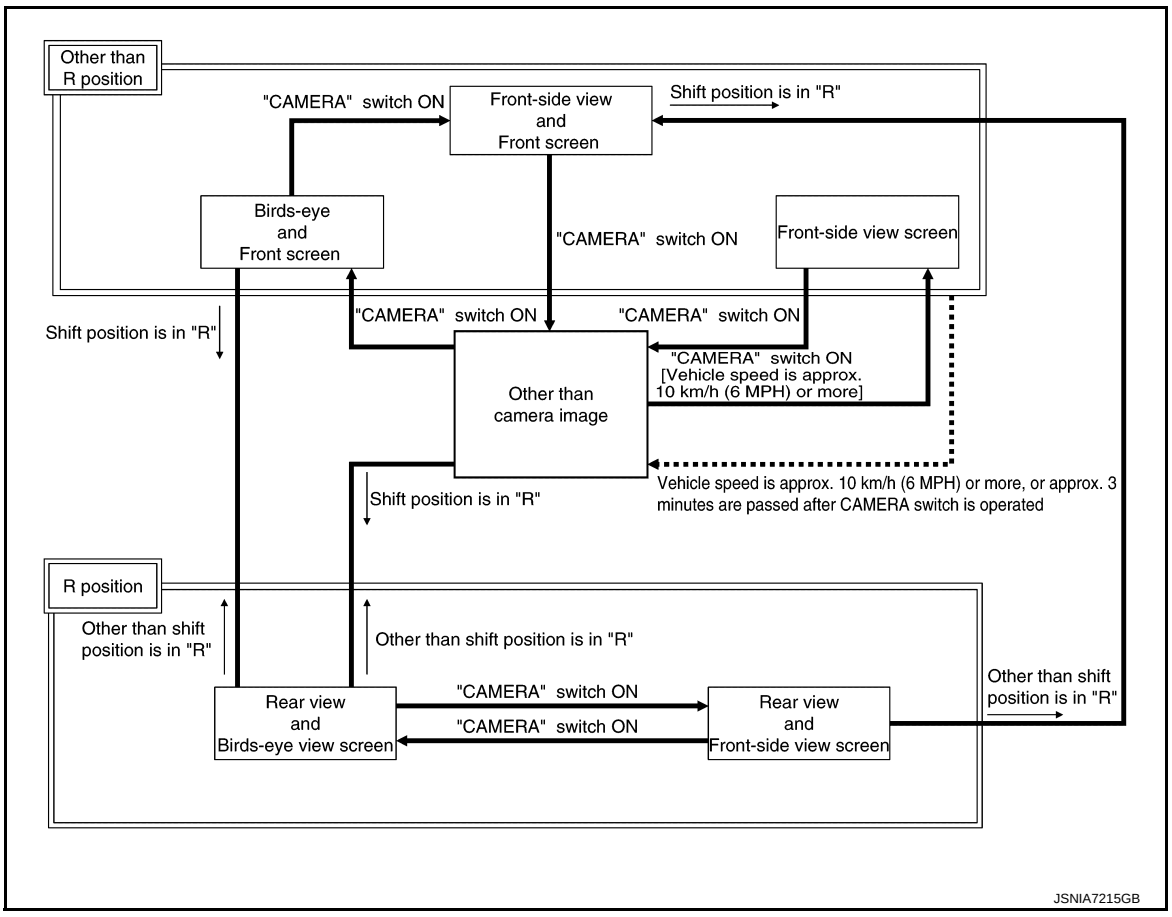
Operation

- The around view monitor operates by pressing the CAMERA switch on the AV control unit or by shifting the selector lever to the R (reverse) position.
- When the selector lever is in any position other than R (reverse) and the CAMERA switch is pressed, the screen displays front travel direction view and birds-eye view. Pressing the CAMERA switch again changes birds-eye view to front-side view
- When the selector lever is placed in R (reverse), the screen displays rear travel direction view and birds-eye view. Pressing the CAMERA switch changes birds-eye view to front-side view
- In birds-eye view, the blind spot area is displayed in black to show the border of the camera images. In addition, red fixed lines are displayed in the 4 corners of the vehicle icon. After pressing the CAMERA switch for the first time or placing the selector lever in R (reverse) for the first time, the blind spot area is highlighted in yellow for 3 seconds and the red fixed lines blink five times.
- With the selector lever in any position other than R (reverse), the around view monitor screen display is cancelled 3 minutes after pressing the CAMERA switch. The screen returns to the AV control unit display.
- With the selector lever in R (reverse) position, the around view monitor screen display remains on constantly. To return to the AV control unit display, place the selector lever is in any position other than R (reverse).
- If camera image calibration is incomplete, the applicable camera position is indicated as an error on the birds-eye view display.

NOTE:

Calibration is necessary when replacing each camera or when replacing around view monitor control unit.

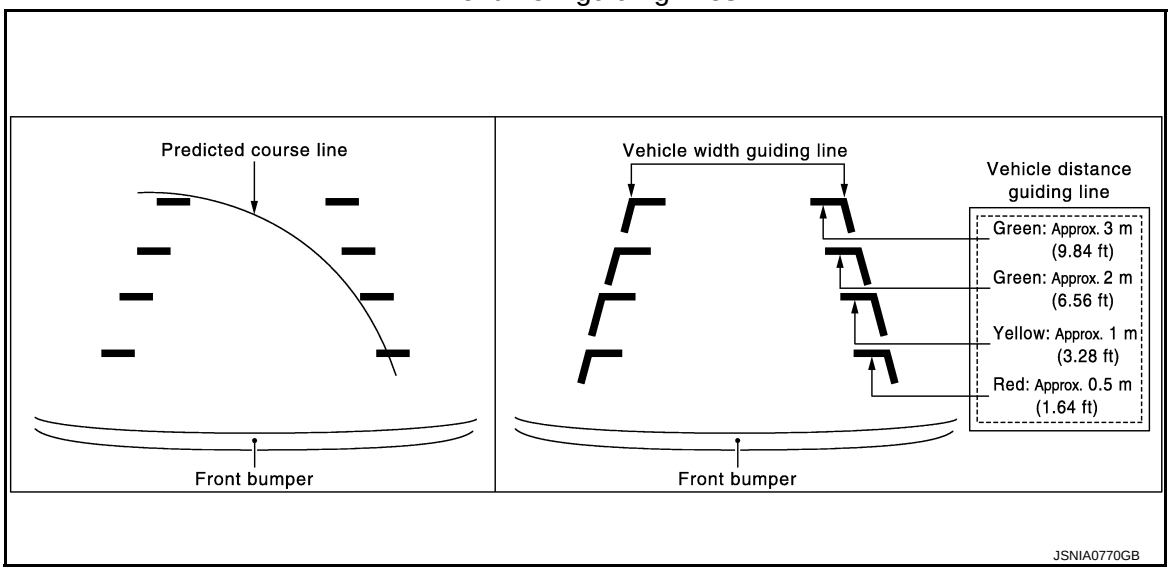
Around view monitor screen transition



Front View

- The front view image improves the visibility of obstacles in front of the vehicle and assists driving by displaying images from birds-eye view and front-side view.
- The front view image displays the vehicle width guiding line and vehicle distance guiding line, in addition to 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 exceeds approximately 90 degrees, only the predictive course line on the outside is displayed (opposite side of steering direction).
- The 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 using CONSULT.

Front view guiding lines



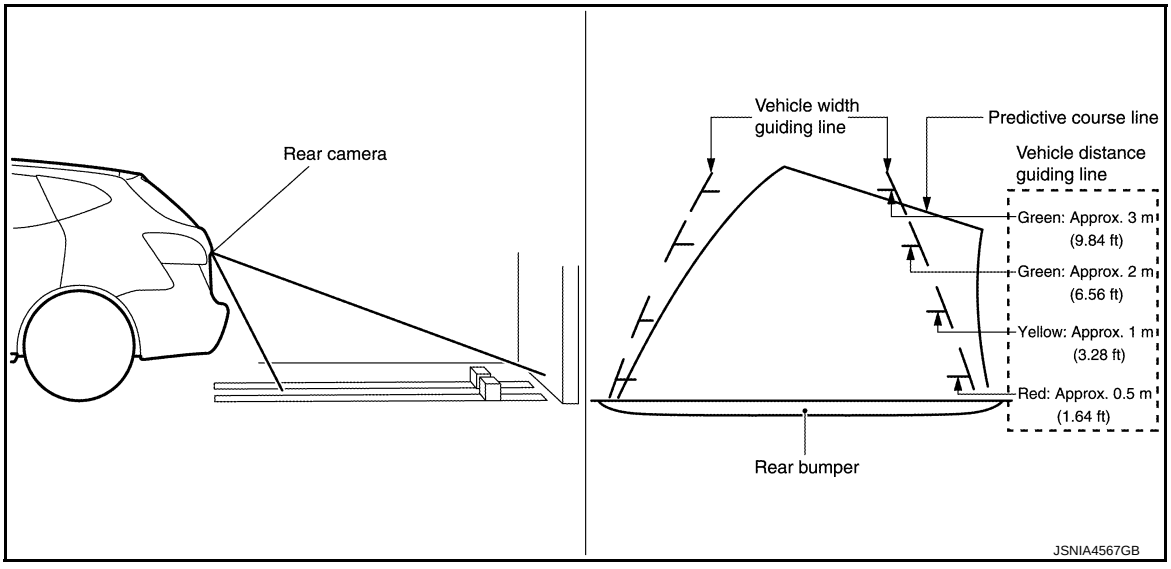
Rear View

- The rear view image improves the visibility of obstacles in the rear of the vehicle and assists backing and parking by displaying images from birds-eye view and front side view.
- The rear view image displays the vehicle width guiding line and vehicle distance guiding line, in addition to the predictive course line according to the steering angle.

  NOTE:

  The predictive course line is not displayed at the steering neutral position.
- The 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 using CONSULT.

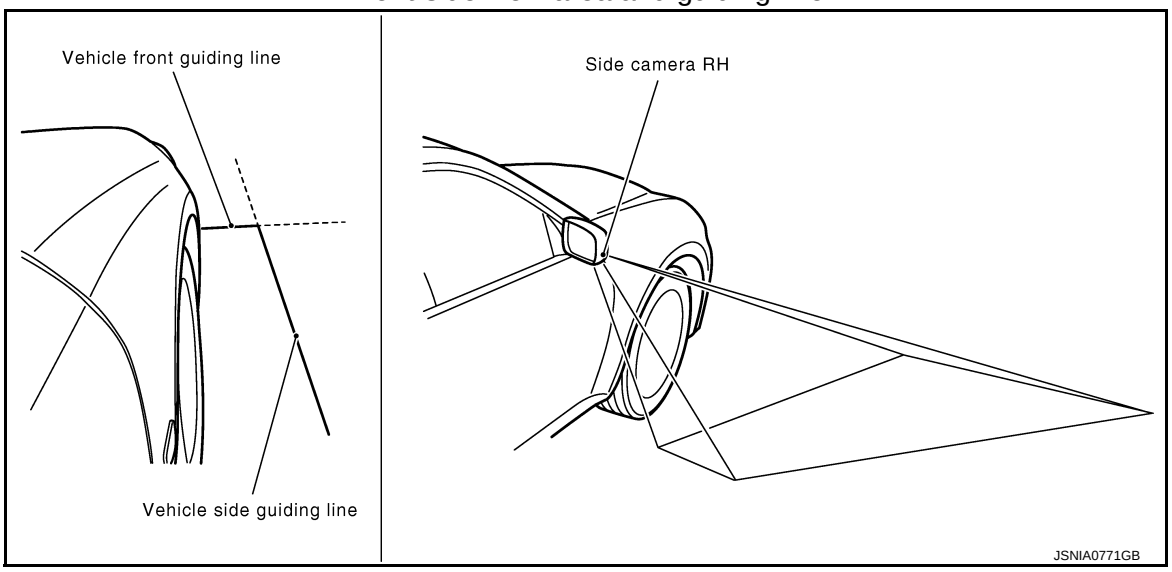
Rear view guiding lines



Front-Side View

- The front-side view image improves the visibility of obstacles in the front RH side of the vehicle and assists backing and parking.
- The front-side view image displays the vehicle distance guiding line and vehicle width guiding line.

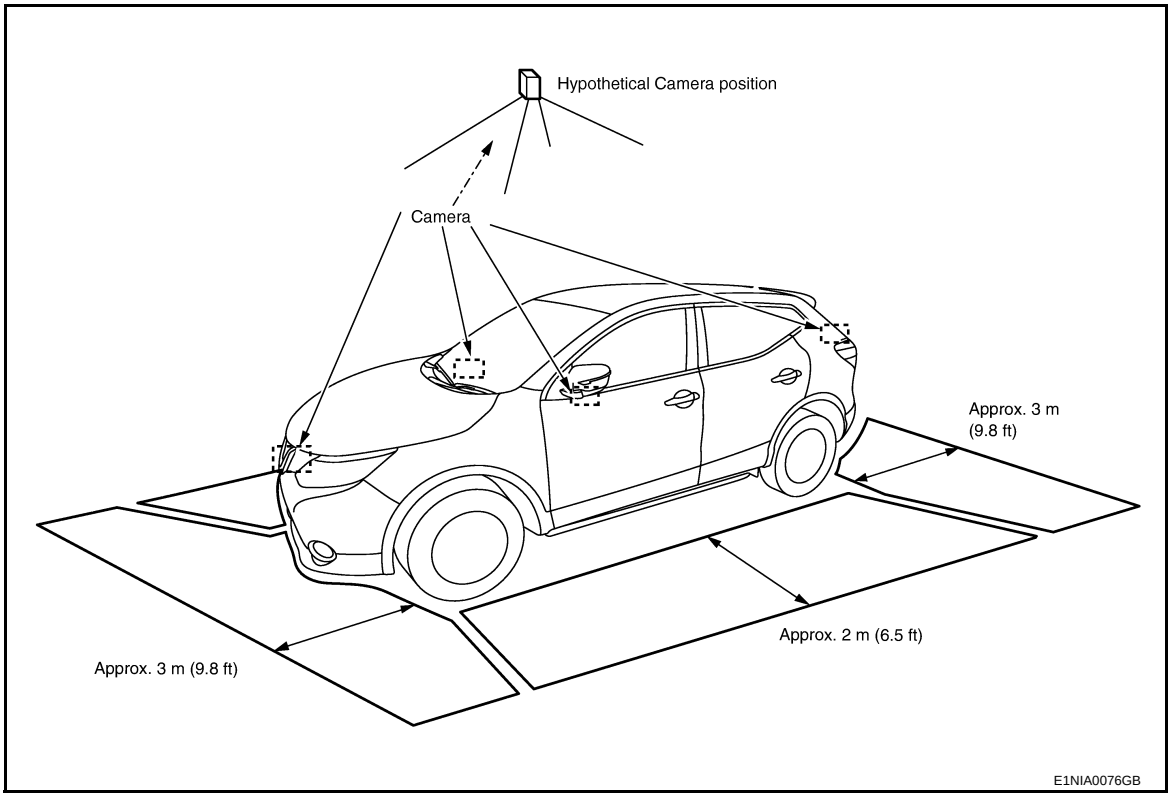
Front-side view area and guiding line



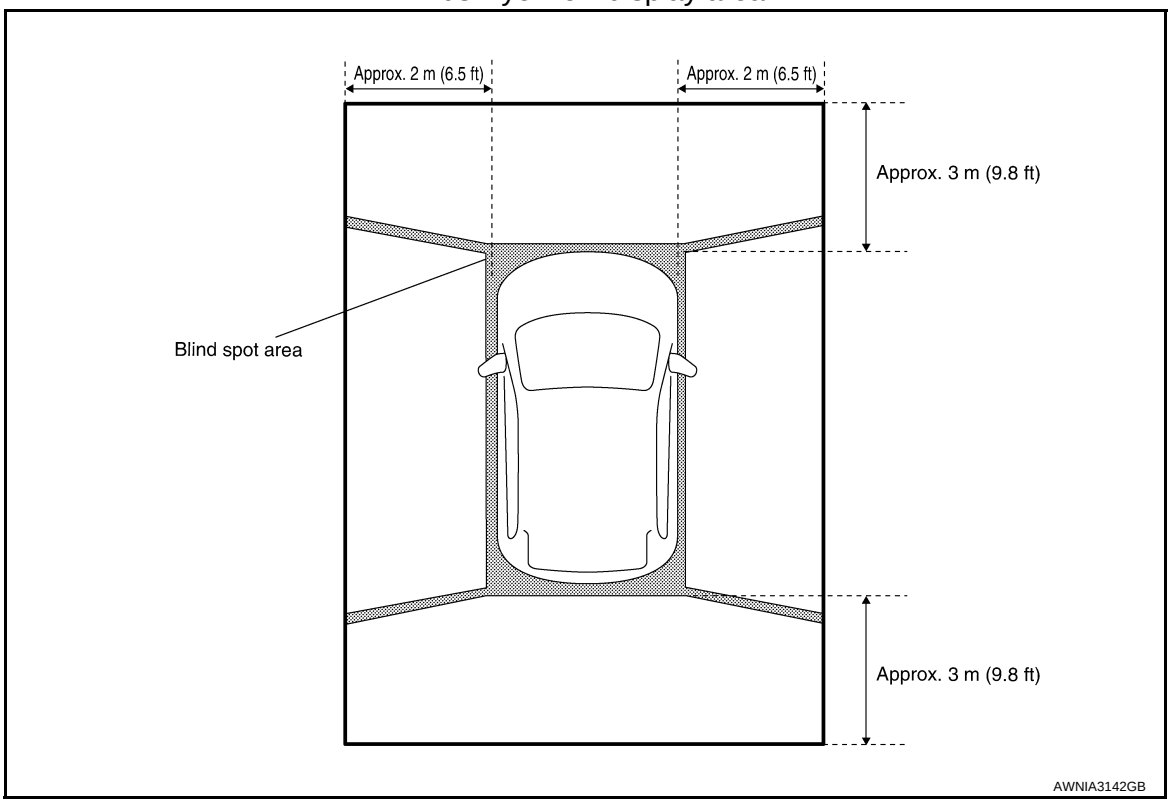
Birds-Eye View

- The birds-eye view image improves the visibility of obstacles all around the vehicle and assists backing and parking.
- The images from the four cameras are converted into an overhead view, and the surroundings of the vehicle are displayed.
- The blind spot area is displayed on the image to specify the boundary of the four cameras.

Birds-Eye view display image



Birds-Eye view display area



DIAGNOSIS SYSTEM (AV CONTROL UNIT)

Description

INFOID:0000000010435655

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

Mode		Item	Content
Version		—	Version data of the AV control unit is displayed.
User Configuration	Touch Display Calibration	—	Allows correction of the position detection accuracy of the touch panel.
Radio	FM monitor	—	Monitors the dynamic values of the current tuner
	AM monitor	—	
	SXM monitor	—	Version data is displayed.
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 • Steering wheel key • Radio Antenna • SXM Antenna • USB Device • iPod® firmware version • BT Status	The current system status is displayed.
	Speaker Test 4kHz	—	This activates a sequence of test tone outputs to the audio circuits one after the other for 1 second.
	Speaker Test 100Hz		
	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 • Radio Antenna • GPS Antenna • SXM Antenna	A system self test is executed and the results are stored into the error memory.

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

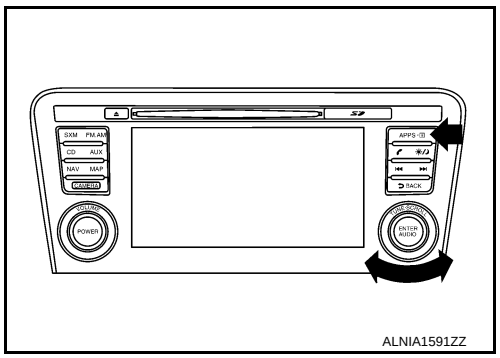
On Board Diagnosis Function

INFOID:0000000010435656

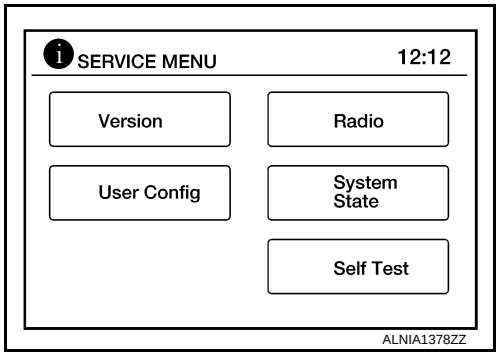
METHOD OF STARTING

1. Turn the ignition ON.

2. While pressing the APPS button, turn the TUNE-SCROLL dial counterclockwise 3 or more clicks, then clockwise 3 or more clicks, then counterclockwise 3 or more clicks. Shifting from current screen to previous screen is performed by pressing BACK button.



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



CONSULT Function

INFOID:0000000010435657

CONSULT FUNCTIONS

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

Direct Diagnostic Mode	Description
Ecu Identification	The AV control unit part number is displayed.
Self Diagnostic Result	The AV control unit self diagnostic results are displayed.
Data Monitor	The AV control unit input/output data is displayed in real time.
Configuration	• The vehicle specification can be read and saved. • The vehicle specification can be written when replacing AV control unit.
CAN Diag Support Mntr	• The result of transmit/receive diagnosis of AV communication is displayed. • The result of transmit/receive diagnosis of CAN communication is displayed.

ECU IDENTIFICATION

The part number of AV control unit is displayed.

SELF DIAGNOSTIC RESULT

Refer to AV-151, "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 AV control unit.
IGN SIG [On/Off]	Indicates condition of ignition signal.
REV SIG [On/Off]	Indicates condition of reverse signal received from BCM.

CONFIGURATION

Refer to AV-178, "CONFIGURATION (AV CONTROL UNIT) : Description".

CAN DIAG SUPPORT MNTR

Refer to LAN-21, "CAN Diagnostic Support Monitor".

DIAGNOSIS SYSTEM (AROUND VIEW MONITOR CONTROL UNIT) WITHOUT DRIVER ASSISTANCE SYSTEM

WITHOUT DRIVER ASSISTANCE SYSTEM : CONSULT Function

INFOID:0000000010435658

CONSULT FUNCTIONS

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

Direct Diagnostic Mode	Description
Ecu Identification	The around view monitor control unit part number is displayed.
Self Diagnostic Result	The around view monitor control unit self diagnostic results are displayed.
Data Monitor	The around view monitor control unit input/output data is displayed in real time.
Work support	The settings for around view monitor control unit functions can be changed.
Configuration	• The vehicle specification can be read and saved. • The vehicle specification can be written when replacing around view monitor control unit.
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.

ECU IDENTIFICATION

The part number of around view monitor control unit is displayed.

SELF DIAGNOSTIC RESULT

Refer to AV-154, "WITHOUT DRIVER ASSISTANCE SYSTEM : DTC Index".

DATA MONITOR

Monitor Item	Description
ST ANGLE SENSOR SIGNAL [On/Off]	Indicates condition of steering angle sensor signal.
REVERSE SIGNAL [On/Off]	Indicates selector lever position.
VEHICLE SPEED SIGNAL [mph/km/h]	Indicates condition of vehicle speed signal.
CAMERA SWITCH SIGNAL [On/Off]	Indicates condition of camera switch signal.
CAMERA OFF SIGNAL [On/Off]	Indicates condition of camera OFF signal.
ST ANGLE SENSOR TYPE [Absolute]	Indicates steering angle sensor type.
ST GEAR RATIO TYPE [Type O]	Indicates steering gear ratio type.
STEERING POSITION [LHD/RHD]	Indicates LH or RH drive type.
SHIFT LEVER POSITION	Indicates Shift Lever Position.
WHEEL SPEED	• Recieve the Wheel Speed signal → ON. • Not recieve the Wheel Speed signal → OFF
REAR CAMERA IMAGE SIGNAL [OK/NG]	Indicates condition of camera image signal.
F-CAMERA IMAGE SIGNAL [OK/NG]	Indicates condition of camera image signal.
DR-SIDE CAMERA IMAGE SIG [OK/NG]	Indicates condition of camera image signal.
PA-SIDE CAMERA IMAGE SIG [OK/NG]	Indicates condition of camera image signal.

WORK SUPPORT

Support Item	Setting	Description
NON-VIEWABLE AREA REMINDER	ON	ON/OFF setting of non-viewable area can be performed.
	OFF	
PREDICTIVE COURSE LINE DISPLAY	ON	ON/OFF setting of predictive course line display can be performed.
	OFF	

Support Item	Setting	Description
INITIALIZE CAMERA IMAGE CALIBRATION	—	Factory image calibration restoration can be performed.
STEERING ANGLE SENSOR ADJUSTMENT	—	Steering angle sensor neutral position adjustment can be performed.
CALIBRATING CAMERA IMAGE (FRONT CAMERA)	STATUS	Performs calibration of front camera.
	AXIS X	
	AXIS Y	
	ROTATE	
CALIBRATING CAMERA IMAGE (PASS-SIDE CAMERA)	STATUS	Performs calibration of passenger side camera.
	AXIS X	
	AXIS Y	
	ROTATE	
CALIBRATING CAMERA IMAGE (DR-SIDE CAMERA)	STATUS	Performs calibration of driver side camera.
	AXIS X	
	AXIS Y	
	ROTATE	
CALIBRATING CAMERA IMAGE (REAR CAMERA)	STATUS	Performs calibration of rear camera.
	AXIS X	
	AXIS Y	
	ROTATE	
FINE TUNING OF BIRDS-EYE VIEW	STATUS	Confirmation and adjustment of difference between each camera can be performed.
	SELECT	
	AXIS X	
	AXIS Y	
	ROTATE	

CONFIGURATION

Refer to AV-179, "CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT) : Description".

CAN DIAG SUPPORT MNTR

Refer to LAN-21, "CAN Diagnostic Support Monitor".

WITH DRIVER ASSISTANCE SYSTEM

WITH DRIVER ASSISTANCE SYSTEM : CONSULT Function

INFOID:0000000010435659

CONSULT FUNCTIONS

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

Direct Diagnostic Mode	Description
Ecu Identification	The around view monitor control unit part number is displayed.
Self Diagnostic Result	The around view monitor control unit self diagnostic results are displayed.
Data Monitor	The around view monitor control unit input/output data is displayed in real time.
Work support	The settings for around view monitor control unit functions can be changed.
Configuration	• The vehicle specification can be read and saved. • The vehicle specification can be written when replacing around view monitor control unit.
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.

ECU IDENTIFICATION

The part number of around view monitor control unit is displayed.

SELF DIAGNOSTIC RESULT

Refer to AV-154, "WITHOUT DRIVER ASSISTANCE SYSTEM : DTC Index".

DATA MONITOR

Monitor Item	Description
ST ANGLE SENSOR SIGNAL [On/Off]	Indicates condition of steering angle sensor signal.
REVERSE SIGNAL [On/Off]	Indicates selector lever position.
VEHICLE SPEED SIGNAL [mph/km/h]	Indicates condition of vehicle speed signal.
CAMERA SWITCH SIGNAL [On/Off]	Indicates condition of camera switch signal.
CAMERA OFF SIGNAL [On/Off]	Indicates condition of camera OFF signal.
ST ANGLE SENSOR TYPE [Absolute]	Indicates steering angle sensor type.
ST GEAR RATIO TYPE [Type O]	Indicates steering gear ratio type.
STEERING POSITION [LHD/RHD]	Indicates LH or RH drive type.
REAR CAMERA IMAGE SIGNAL [OK/NG]	Indicates condition of camera image signal.
WASH SW [On/Off]	Indicates state of wash switch indicator output.
R-CAMERA COMM STATUS [OK/Not]	Indicates status of rear camera communication.
R-CAMERA COMM LINE [OK/Not]	Indicates condition of rear camera communication line.
F-CAMERA IMAGE SIGNAL [OK/NG]	Indicates condition of camera image signal.
DR-SIDE CAMERA IMAGE SIG [OK/NG]	Indicates condition of camera image signal.
PA-SIDE CAMERA IMAGE SIG [OK/NG]	Indicates condition of camera image signal.
PUMP COMM STATUS [OK/Not]	Indicates state of communication signal from pump control unit.
ILL [On/Off]	Indicates status of illumination signal.
ITS SW 1 [On/Off]	Indicates state of warning system switch.
ITS SW 1 IND [On/Off]	Indicates state of warning system switch indicator output.
TURN SIGNAL [Left/N/Right]	Indicates status of turn signal output.
ITS SW 2 [ON/OFF/No setting]	Indicates state of warning system secondary switch.
ITS SW 2 IND [ON/OFF/No setting]	Indicates state of warning system secondary switch indicator output.

ACTIVE TEST

Test item	Description
LED RH INDICATOR	This test is able to check RH LED indicator operation [LED Off/LED On].
LED LH INDICATOR	This test is able to check LH LED indicator operation [LED Off/LED On].
WASH ACTIVE	This test is able to check rear camera wash operation [WASH Off/WASH On].
AIR ACTIVE	This test is able to check rear camera air operation [AIR Off/AIR On].
AIR & WASH ACTIVE	This test is able to check rear camera air and wash operation [Off/On].
AVM BUZZER CONTROL	This test is able to check AVM buzzer operation [Off/On].

WORK SUPPORT

Support Item	Setting	Description
REAR CAMERA ITS	—	Displays and sets camera image calibration values.
CAUSE OF LDW CANCEL	—	Displays the information about reason of LDW cancellation.
CAUSE OF BSW CANCEL	—	Displays the information about reason of BSW cancellation.

Support Item	Setting	Description
CALIBRATING CAMERA IMAGE (FRONT CAMERA)	STATUS	Performs calibration of front camera.
	AXIS X	
	AXIS Y	
	ROTATE	
CALIBRATING CAMERA IMAGE (PASS-SIDE CAMERA)	STATUS	Performs calibration of passenger side camera.
	AXIS X	
	AXIS Y	
	ROTATE	
CALIBRATING CAMERA IMAGE (DR-SIDE CAMERA)	STATUS	Performs calibration of driver side camera.
	AXIS X	
	AXIS Y	
	ROTATE	
CALIBRATING CAMERA IMAGE (REAR CAMERA)	STATUS	Performs calibration of rear camera.
	AXIS X	
	AXIS Y	
	ROTATE	
FINE TUNING OF BIRDS-EYE VIEW	STATUS	Confirmation and adjustment of difference between each camera can be performed.
	SELECT	
	AXIS X	
	AXIS Y	
	ROTATE	
REAR WIDE-VIEW FIXED GUIDE LINE CORRECTION	STATUS	Adjusts position of fixed guide line on rear wide view
	AXIS X	
	AXIS Y	
	Pattern	
FRONT WIDE-VIEW FIXED GUIDE LINE CORRECTION	STATUS	Adjusts position of fixed guide line on front wide view
	AXIS X	
	AXIS Y	
	Pattern	
NON-VIEWABLE AREA REMINDER	ON	ON/OFF setting of non-viewable area can be performed.
	OFF	
PREDICTIVE COURSE LINE DISPLAY	ON	ON/OFF setting of predictive course line display can be performed.
	OFF	
INITIALIZE CAMERA IMAGE CALIBRATION	—	Factory image calibration restoration can be performed.
STEERING ANGLE SENSOR ADJUSTMENT	—	Steering angle sensor neutral position adjustment can be performed.

CONFIGURATION

Refer to AV-179, "CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT) : Description".

CAN DIAG SUPPORT MNTR

Refer to LAN-21, "CAN Diagnostic Support Monitor".

ECU DIAGNOSIS INFORMATION

AV CONTROL UNIT

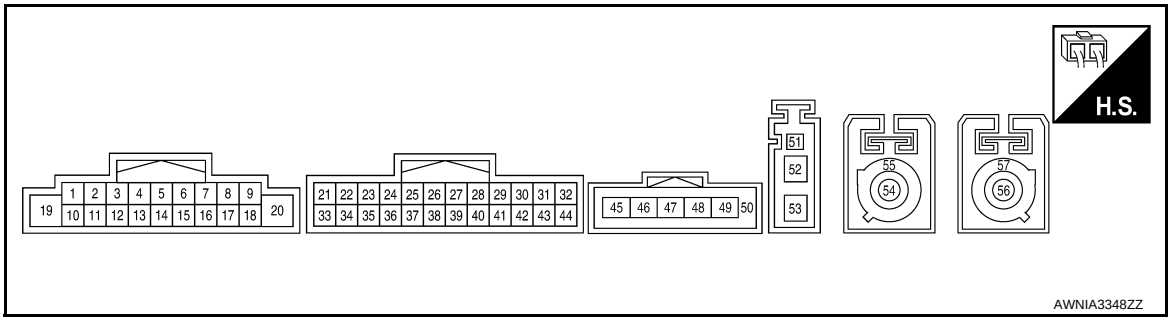
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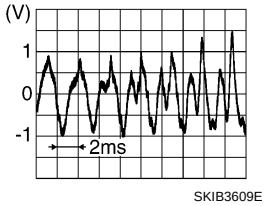
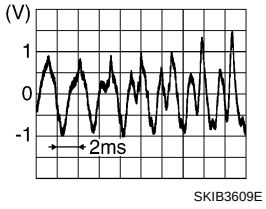
VALUES ON THE DIAGNOSIS TOOL

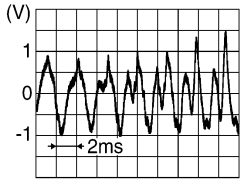
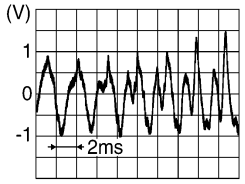
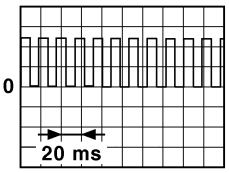
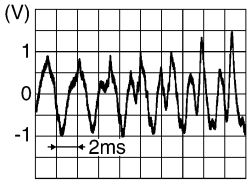
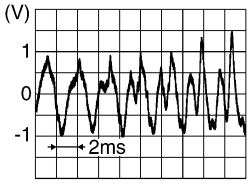
Monitor Item	Condition	Value/Status
VHCL SPD SIG	Vehicle speed = 0 km/h (0 MPH).	Off
	Vehicle speed > 0 km/h (0 MPH).	On
ILLUM SIG	Illumination signal is not received.	Off
	Illumination signal is received.	On
IGN SIG	Ignition switch OFF.	Off
	Ignition switch ON.	On
REV SIG	Selector lever in any position other than R.	Off
	Selector lever in R position.	On

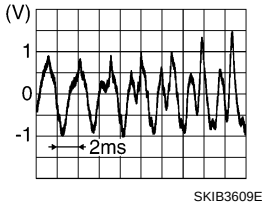
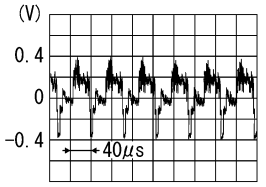
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
2 (L)	3 (V)	Sound signal front speaker and tweeter LH	Output	ON	Sound output	 SKIB3609E
4 (W)	5 (Y)	Sound signal rear speaker LH	Output	ON	Sound output	 SKIB3609E
7 (W)	Ground	ACC power supply	Input	ON	—	Battery voltage
8 (L)	—	AV communication (H)	Input/ Output	—	—	—

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
9 (BG)	Ground	Illumination control signal	Input	ON	Headlamps ON	Battery voltage
11 (G)	12 (R)	Sound signal front speaker and tweeter RH	Output	ON	Sound output	 SKIB3609E
13 (LG)	14 (GR)	Sound signal rear speaker RH	Output	ON	Sound output	 SKIB3609E
17 (R)	—	AV communication (L)	Input/ Output	—	—	—
18 (P)	Ground	Vehicle speed signal (8 pulse)	Input	ON	When vehicle speed is approx. 40 km/h (25 MPH)	 JSNIA0012GB
19 (L)	Ground	Battery power supply	Input	OFF	—	Battery voltage
20 (B)	Ground	Ground	—	ON	—	0 V
21 (R)	Ground	AUX jack audio signal RH	Input	ON	Received audio signal (AUX input)	 SKIB3609E
22 (W)	Ground	AUX ground	—	ON	—	0V
23 (B)	Ground	AUX jack audio signal LH	Input	ON	Received audio signal (AUX input)	 SKIB3609E
25 (G)	Ground	Reverse signal	Input	ON	Selector lever in R (reverse)	Battery voltage
					Selector lever in any position other than R (reverse)	0 V

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
30 (SB)	—	MR output	Output	—	—	—
31 (SB)	—	CAN (H)	Input/ Output	—	—	—
32 (LG)	—	CAN (L)	Input/ Output	—	—	—
34 (W)	36 (Shield)	Microphone signal	Input	ON	While speaking into microphone.	 SKIB3609E
35 (O)	—	MIC VCC	Input	ON	—	—
37 (Shield)	—	AUX signal shield	—	—	—	—
38 (SB)	—	CAN (H)	Input/ Output	—	—	—
39 (LG)	—	CAN (L)	Input/ Output	—	—	—
40 (LG)	Ground	Ignition power supply	Input	ON	—	Battery voltage
41 (W)*1 (G)*2	Ground	Camera image signal	Input	ON	When camera image is displayed	 SKIB2251J
42 (Shield)	—	Camera image signal shield	—	—	—	—
43 (R)	Ground	Camera power supply	Input	ON	—	Battery voltage
44 (B)	Ground	Camera ground	Input	ON	—	0 V
56 —	Ground	GPS antenna signal	Input	ON	AV control unit ON, NAV selected.	5.0 V
57 (Shield)	—	GPS antenna shield	—	—	—	—
58 (R)	—	USB D– signal	—	—	—	—
59 (W)	—	V BUS signal	—	—	—	—
60 (G)	—	USB ground	—	—	—	—
61 (L)	—	USB + signal	—	—	—	—

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
62 —	—	USB shield	—	—	—	—
150 —	Ground	FM sub signal	Output	ON	AV control unit ON, FM-AM selected.	Battery voltage
151 —	Ground	AM-FM main antenna	Input	ON	AV control unit ON, FM-AM selected.	5.0 V
152 —	Ground	Antenna amp. ON signal	Output	ON	AV control unit ON, FM-AM selected.	Battery voltage

*1:WITHOUT AROUND VIEW MONITOR

*2:WITH AROUND VIEW MONITOR

DTC Index

INFOID:0000000010435661

CONSULT Display	Reference Page
U1000: CAN COMM CIRCUIT	AV-189, "AV CONTROL UNIT : DTC Logic"
U1010: CONTROL UNIT (CAN)	AV-190, "AV CONTROL UNIT : DTC Logic"
U1217: BLUETOOTH MODULE	AV-208, "DTC Logic"
U1229: iPod CERTIFICATION	AV-209, "DTC Logic"
U122F: Digital broadcasting connection error	AV-210, "DTC Logic"
U1244: GPS ANTENNA CONN	AV-212, "DTC Logic"
U1258: SXM ANTENNA CONN	AV-213, "DTC Logic"
U1263: USB OVERCURRENT	AV-214, "DTC Logic"
U12AA: Configuration Error	AV-215, "DTC Logic"
U12AB: FM Antenna error	AV-216, "DTC Logic"
U12AC: Display Temperature too High	AV-217, "DTC Logic"
U12AD: ECU Temperature too High	AV-218, "DTC Logic"
U12AE: Internal Amplifier temperature Warning	AV-219, "DTC Logic"
U12AF: CD Mechanism Temperature Warning	AV-220, "DTC Logic"
U1300: AV COMM CIRCUIT	AV-221, "DTC Logic"
U1310: CONTROL UNIT(AV)	AV-225, "DTC Logic"

AROUND VIEW MONITOR CONTROL UNIT
WITHOUT DRIVER ASSISTANCE SYSTEM

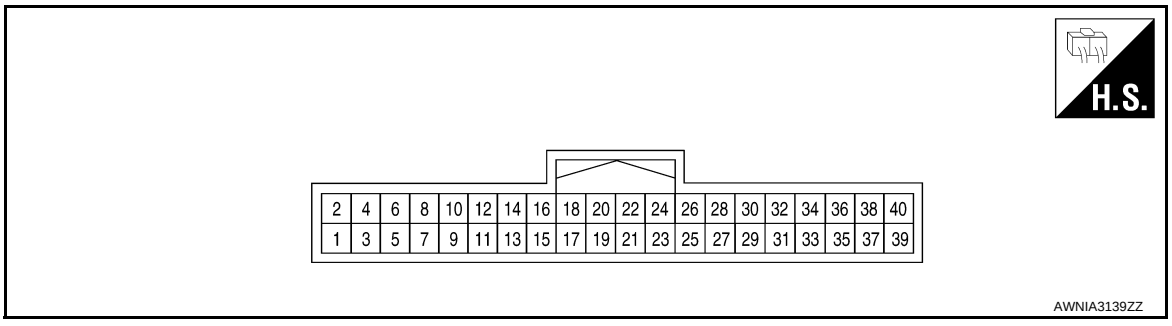
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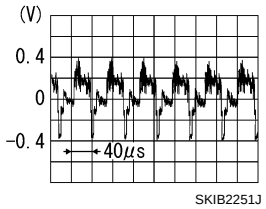
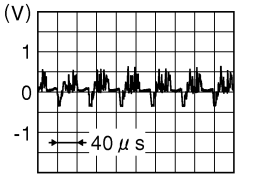
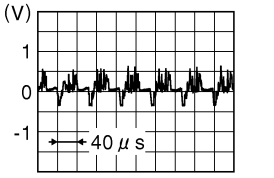
VALUES ON THE DIAGNOSIS TOOL

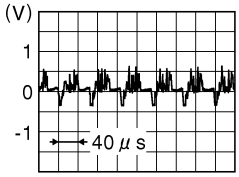
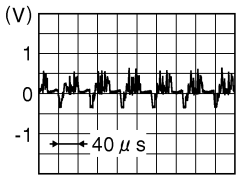
Monitor Item	Condition	Value/Status
CAMERA OFF SIGNAL	CAMERA switch ON.	Off
	CAMERA switch OFF.	On
CAMERA SWITCH SIGNAL	CAMERA switch OFF.	Off
	CAMERA switch ON.	On
DR-SIDE CAMERA IMAGE SIG	Side camera LH inoperative.	NG
	Side camera LH operative.	OK
F-CAMERA IMAGE SIG	Front camera inoperative.	NG
	Front camera operative.	OK
PA-SIDE CAMERA IMAGE SIG	Side camera RH inoperative.	NG
	Side camera RH operative.	OK
REAR CAMERA IMAGE SIGNAL	Rear camera LH inoperative.	NG
	Rear camera LH operative.	OK
REVERSE SIGNAL	When selector lever is in any position other than R (reverse).	Off
	When selector lever in R (reverse).	On
ST ANGLE SENSOR SIGNAL	Around view monitor control unit is not receiving steering angle sensor signal.	Off
	Around view monitor control unit is receiving steering angle sensor signal.	On
ST ANGLE SENSOR TYPE	Steering angle sensor type.	Absolute
ST GEAR RATIO TYPE	Steering gear ratio type.	Type O
STEERING POSITION	Left hand drive vehicle.	LHD
	Right hand drive vehicle.	RHD
VEHICLE SPEED SIGNAL	While driving, equivalent to speedometer reading	mph, km/h

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
1 (B)	Ground	Ground	—	ON	—	0 V
2 (Y)	Ground	Battery power supply	Input	OFF	—	Battery voltage
4 (SB)	Ground	Ignition signal	Input	ON	—	Battery voltage
10 (R)	—	CAN (L)	Input/ Output	—	—	—
12 (L)	—	CAN (H)	Input/ Output	—	—	—
23 (Shield)	—	Camera image signal shield	—	—	—	—
24 (G)	Ground	Camera image signal	Output	ON	When camera image display	 SKIB2251J
25 (B)	Ground	Rear camera ground	—	ON	—	0 V
26 (R)	Ground	Rear camera power supply	Output	ON	CAMERA selected or Shift selector in R (reverse) position.	6.0 V
28 (W)	27 (Shield)	Rear camera image signal	Input	ON	CAMERA selected or Shift selector in R (reverse) position.	 JSNIA0834GB
29 (Y)	Ground	Side camera LH ground	—	ON	—	0 V
30 (L)	Ground	Side camera LH power supply	Output	ON	CAMERA selected or Shift selector in R (reverse) position.	6.0 V
32 (G)	31 (Shield)	Side camera LH image signal	Input	ON	CAMERA selected or Shift selector in R (reverse) position.	 JSNIA0834GB
33 (L)	Ground	Side camera RH ground	—	ON	—	0 V

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
34 (B)	Ground	Side camera RH power supply	Output	ON	CAMERA selected or Shift selector in R (reverse) position.	6.0 V
36 (Y)	35 (Shield)	Side camera RH image signal	Input	ON	CAMERA selected or Shift selector in R (reverse) position.	 JSNIA0834GB
37 (V)	Ground	Front camera ground	—	ON	—	0 V
38 (L)	Ground	Front camera power supply	Output	ON	CAMERA selected or Shift selector in R (reverse) position.	6.0 V
40 (LG)	39 (Shield)	Front camera image signal	Input	ON	CAMERA selected or Shift selector in R (reverse) position.	 JSNIA0834GB

WITHOUT DRIVER ASSISTANCE SYSTEM : DTC Index

INFOID:0000000010435663

CONSULT Display	Reference Page
C1A00: CONTROL UNIT	AV-186, "DTC Logic"
C1B56: SONAR	AV-187, "DTC Logic"
U0428: ST ANG SEN CALIB	AV-188, "DTC Logic"
U1000: CAN COMM CIRCUIT	AV-189, "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"
U1010: CONTROL UNIT (CAN)	AV-190, "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"
U111A: Rear display output signal diagnosis (Harness disconnection)	AV-191, "DTC Logic"
U111B: Right side display output signal diagnosis (Harness disconnection)	AV-195, "DTC Logic"
U111C: Front display output signal diagnosis (Harness disconnection)	AV-199, "DTC Logic"
U111D: Left side display output signal diagnosis (Harness disconnection)	AV-203, "DTC Logic"
U112F: EPS circuit	AV-207, "DTC Logic"
U1232: ST ANG SEN CALIB	AV-211, "DTC Logic"
U1304: Non-completion of the calibration	AV-223, "DTC Logic"
U1305: Non-completion of the configuration	AV-224, "DTC Logic"
U1320: Reprogramming	AV-226, "DTC Logic"
U150E: BCM CIRCUIT	AV-227, "DTC Logic"
U1971: SONAR	AV-228, "DTC Logic"
U1972: EPS	AV-229, "DTC Logic"

WITH DRIVER ASSISTANCE SYSTEM

WITH DRIVER ASSISTANCE SYSTEM : Reference Value

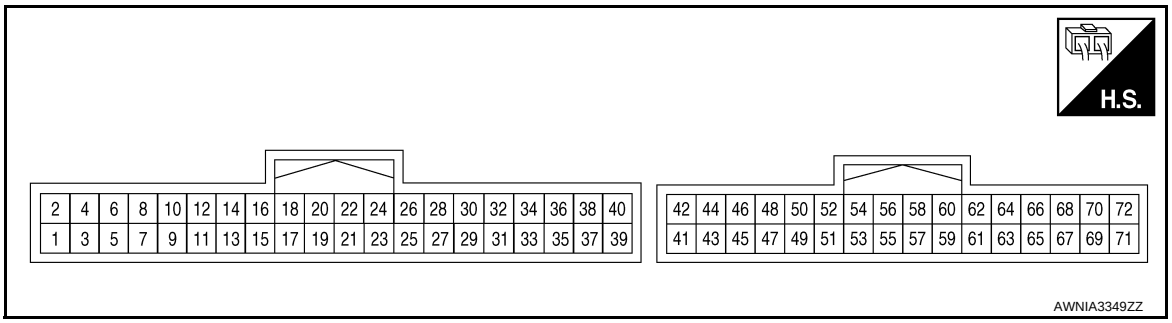
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VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
CAMERA OFF SIGNAL	CAMERA switch ON.	Off
	CAMERA switch OFF.	On
CAMERA SWITCH SIGNAL	CAMERA switch OFF.	Off
	CAMERA switch ON.	On
DR-SIDE CAMERA IMAGE SIG	Side camera LH inoperative.	NG
	Side camera LH operative.	OK
ILL	Illumination is ON	On
	Illumination is OFF	Off
ITS SW 1	ITS switch is pressed	On
	ITS switch is not pressed	Off
ITS SW 1 IND	Indicator of ITS switch 1 is lighting	On
	Indicator of ITS switch 1 is not lighting	Off
ITS SW 2	For this vehicle, the displaying is fixed	No SET
ITS SW 2 IND	For this vehicle, the displaying is fixed	No SET
F-CAMERA IMAGE SIG	Front camera inoperative.	NG
	Front camera operative.	OK
PA-SIDE CAMERA IMAGE SIG	Side camera RH inoperative.	NG
	Side camera RH operative.	OK
PUMP COMM STATUS	Pump communication signal is received	On
	Pump communication signal is not received	Off
R-CAMERA COMM STATUS	Rear camera serial status is OK	OK
	Rear camera serial status is not OK	NG
R-CAMERA COMM LINE	Rear camera serial communication signal is received	OK
	Rear camera serial communication signal is not received	NG
REAR CAMERA IMAGE SIGNAL	Rear camera LH inoperative.	NG
	Rear camera LH operative.	OK
REVERSE SIGNAL	When selector lever is in any position other than R (reverse).	Off
	When selector lever in R (reverse).	On
ST ANGLE SENSOR SIGNAL	Around view monitor control unit is not receiving steering angle sensor signal.	Off
	Around view monitor control unit is receiving steering angle sensor signal.	On
ST ANGLE SENSOR TYPE	Steering angle sensor type.	Absolute
ST GEAR RATIO TYPE	Steering gear ratio type.	Type O
STEERING POSITION	Left hand drive vehicle.	LHD
	Right hand drive vehicle.	RHD
TURN SIGNAL	Turn signal left is received	Left
	Turn signal neutral is received	N
	Turn signal right is received	Right
VEHICLE SPEED SIGNAL	While driving, equivalent to speedometer reading	mph, km/h

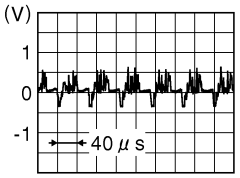
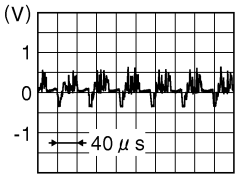
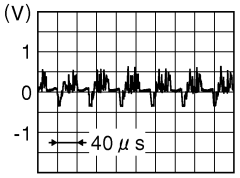
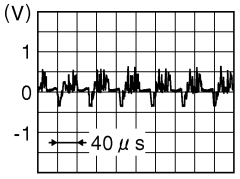
Monitor Item	Condition	Value/Status
WASH SW	Wash switch signal is pressed	On
	Wash switch signal is not pressed	Off

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
1 (B)	Ground	Ground	—	ON	—	0 V
2 (Y)	Ground	Battery power supply	Input	OFF	—	Battery voltage
3 (SB)	Ground	Ignition signal	Input	ON	—	Battery voltage
7 (R)	Ground	SOW LED signal L	Output	—	LDW/BSW detected (while driving)	12 V
					LDW/BSW is not detected (while driving)	0 V
8 (P)	Ground	SOW LED signal R	Output	—	LDW/BSW detected (while driving)	12 V
					LDW/BSW is not detected (while driving)	0 V
27 (L)	—	CAN (H)	Input/ Output	—	—	—
28 (R)	—	CAN (L)	Input/ Output	—	—	—
36 (BR)	Ground	Washer signal AVM to pump	Output	ON	Rear view camera washer motor operated	5 V
37 (V)	Ground	Pump signal ground	Input	ON	—	0 V
38 (GR)	Ground	Washer signal pump to AVM	Input	ON	Rear view camera washer motor operated	5 V
47 (G)	Ground	COMP OUT (+) Signal	—	—	—	—
48 (Shield)	—	COMP OUT (-) signal shield	—	—	—	—
49 (LG)	—	Rear view serial signal	Input/ Output	—	—	—
50 (R)	Ground	Rear camera power supply	Output	ON	CAMERA selected or Shift selector in R (reverse) position.	6.0 V

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
52 (B)	Ground	Rear camera ground	—	ON	—	0 V
53 (W)	54 (Shield)	Rear camera image signal	Input	ON	CAMERA selected or Shift selector in R (reverse) position.	 JSNIA0834GB
56 (L)	Ground	Side camera LH power supply	Output	ON	CAMERA selected or Shift selector in R (reverse) position.	6.0 V
58 (Y)	Ground	Side camera LH ground	—	ON	—	0 V
59 (G)	60 (Shield)	Side camera LH image signal	Input	ON	CAMERA selected or Shift selector in R (reverse) position.	 JSNIA0834GB
62 (B)	Ground	Side camera RH power supply	Output	ON	CAMERA selected or Shift selector in R (reverse) position.	6.0 V
64 (L)	Ground	Side camera RH ground	—	ON	—	0 V
65 (Y)	66 (Shield)	Side camera RH image signal	Input	ON	CAMERA selected or Shift selector in R (reverse) position.	 JSNIA0834GB
68 (L)	Ground	Front camera power supply	Output	ON	CAMERA selected or Shift selector in R (reverse) position.	6.0 V
70 (V)	Ground	Front camera ground	—	ON	—	0 V
71 (LG)	72 (Shield)	Front camera image signal	Input	ON	CAMERA selected or Shift selector in R (reverse) position.	 JSNIA0834GB

WITH DRIVER ASSISTANCE SYSTEM : DTC Index

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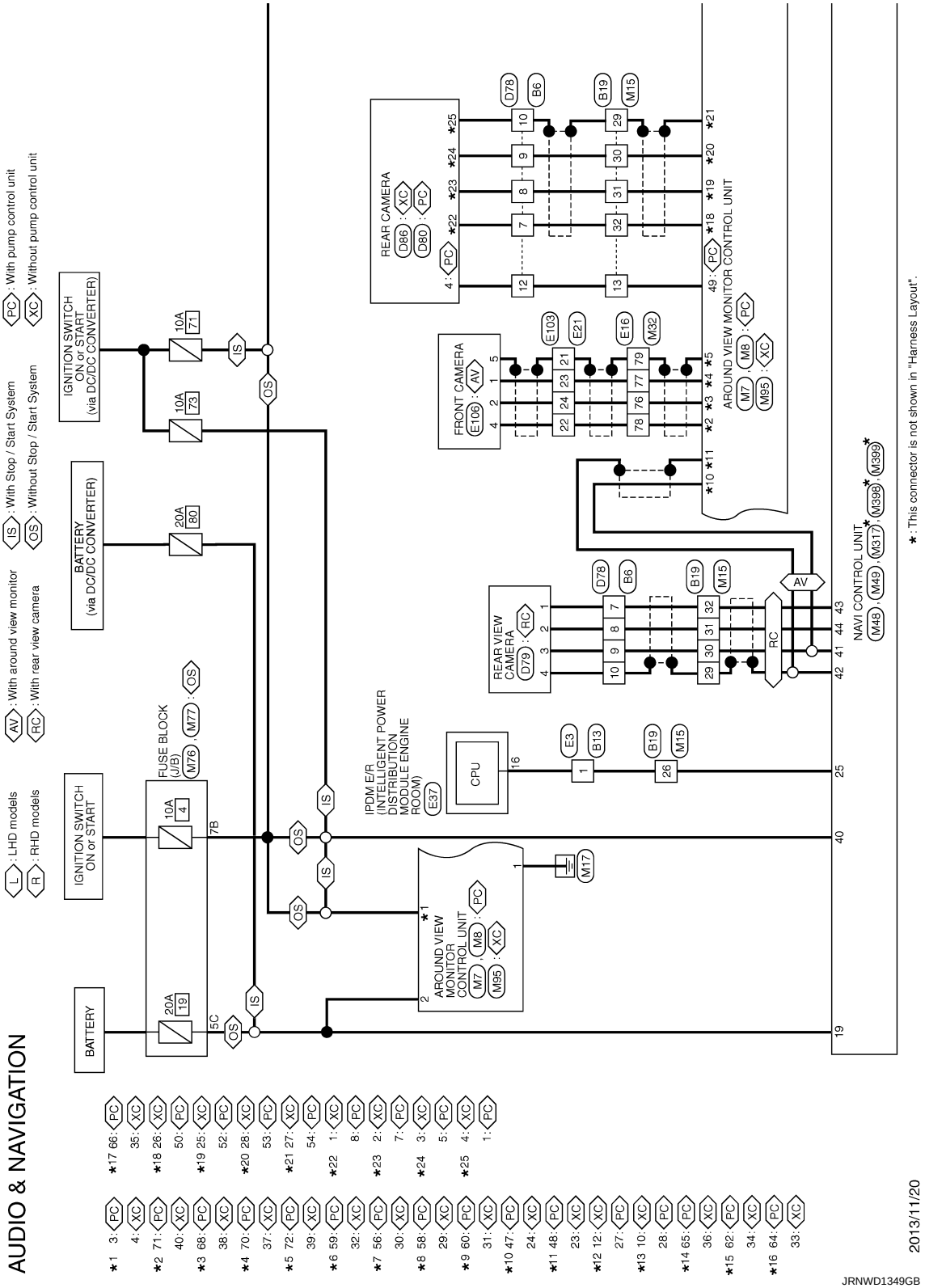
CONSULT Display	Reference Page
C1A00: CONTROL UNIT	AV-186, "DTC Logic"
C1B56: SONAR	AV-187, "DTC Logic"
U0428: ST ANG SEN CALIB	AV-188, "DTC Logic"
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U150E: BCM CIRCUIT	AV-227, "DTC Logic"
U1971: SONAR	AV-228, "DTC Logic"
U1972: EPS	AV-229, "DTC Logic"

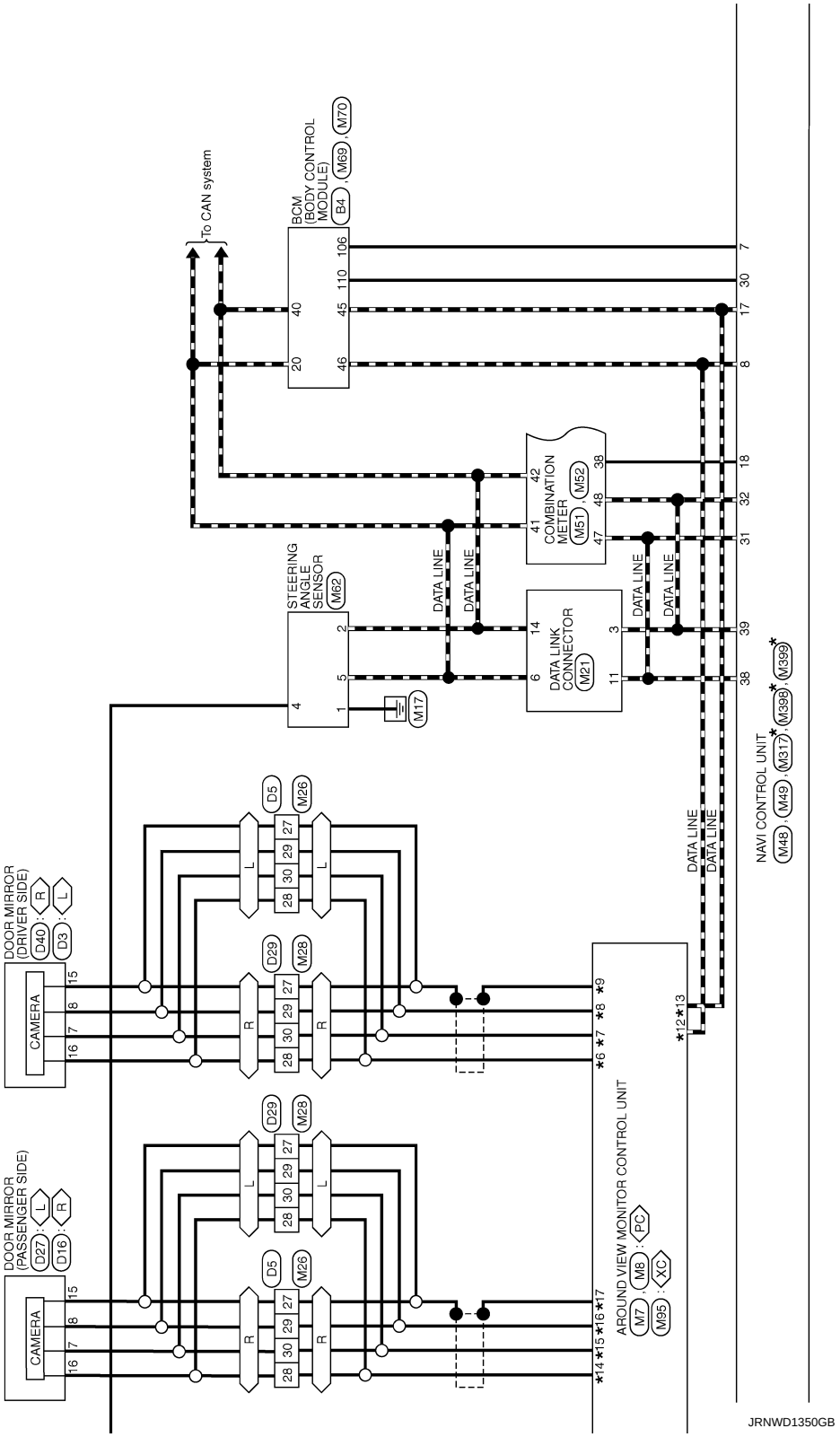
WIRING DIAGRAM

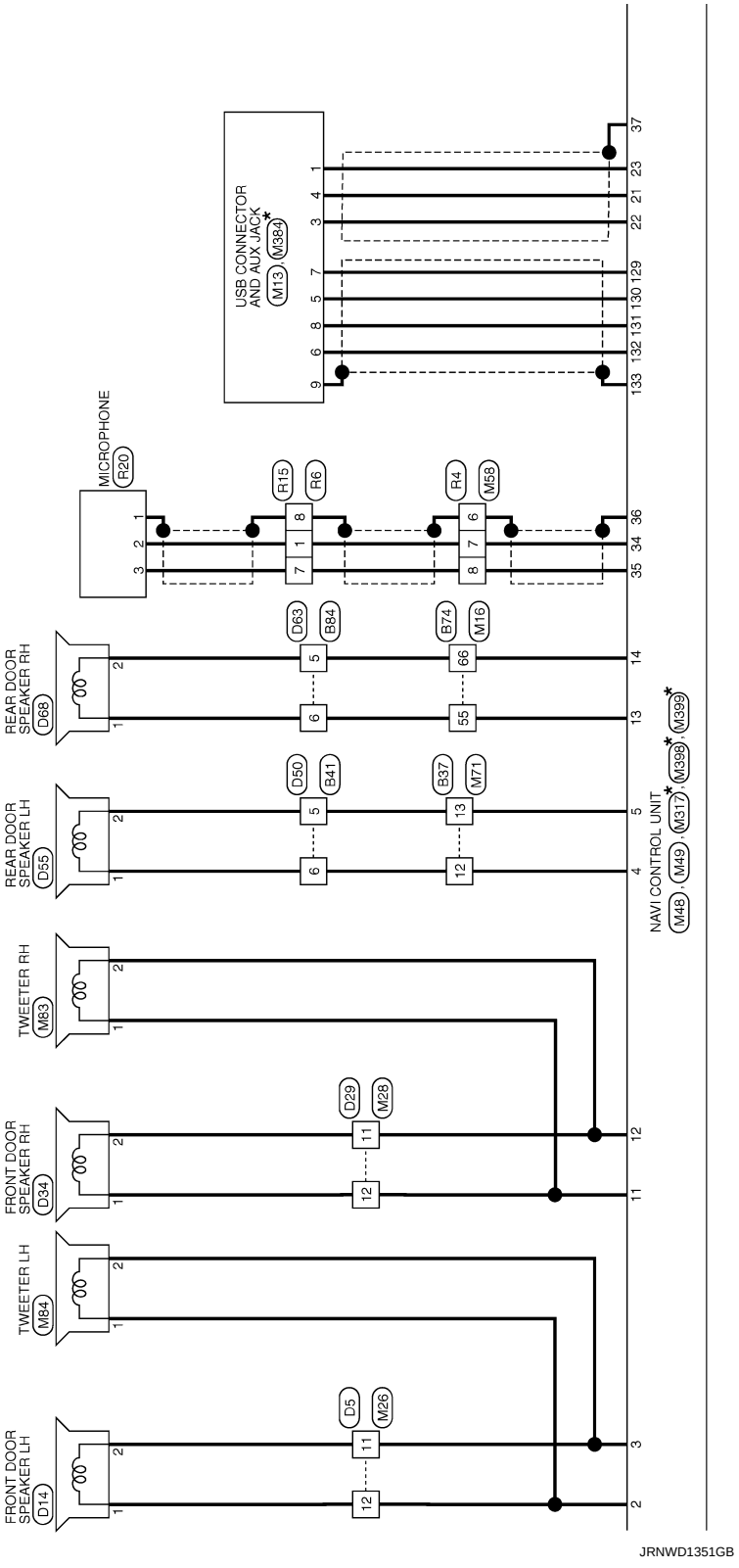
NAVIGATION SYSTEM

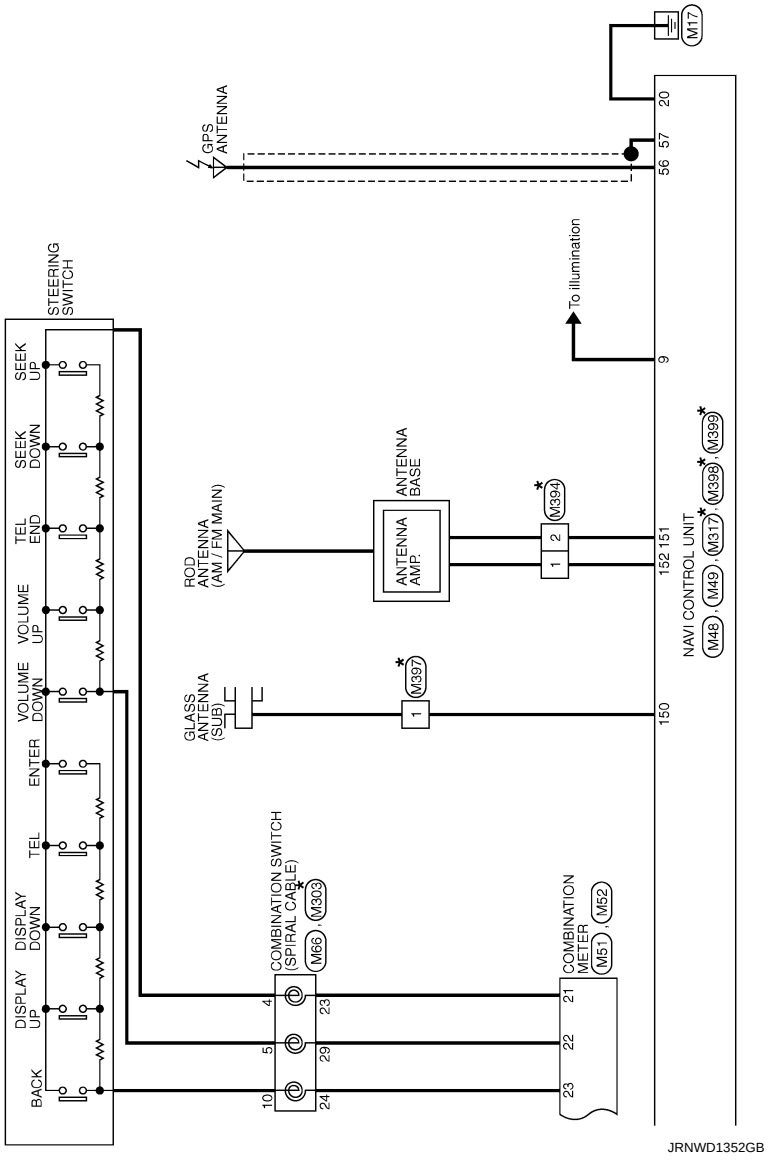
Wiring Diagram

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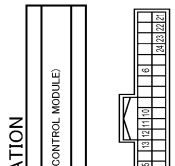

To CAN system
BCM (BODY CONTROL MODULE) B4, M69, M70
STEERING ANGLE SENSOR M62
COMBINATION METER M51, M52
DATA LINK CONNECTOR M21
DATA LINE
DOOR MIRROR (DRIVER SIDE) D40, D3
DOOR MIRROR (PASSENGER SIDE) D27, D16
CAMERA
AROUND VIEW MONITOR CONTROL UNIT M7, M8, M95, PC, XC
NAVI CONTROL UNIT M48, M49, M317, M398, M399
JRNWD1350GB


USB CONNECTOR AND AUX JACK
M13
M384*
MICROPHONE
R20
R15
R6
R4
M58
REAR DOOR SPEAKER RH
D68
D63
B84
B74
M16
REAR DOOR SPEAKER LH
D55
D50
B41
B37
M71
TWEETER RH
M83
FRONT DOOR SPEAKER RH
D34
D29
M28
TWEETER LH
M84
FRONT DOOR SPEAKER LH
D14
D5
M26
NAVI CONTROL UNIT
M48
M49
M317*
M398*
M399*
JRNWD1351GB


M17
GPS ANTENNA
20
57
56
To illumination
9
STEERING SWITCH
SEEK UP
SEEK DOWN
TEL END
VOLUME UP
VOLUME DOWN
ENTER
TEL
DISPLAY DOWN
DISPLAY UP
BACK
ROD ANTENNA (AM / FM MAIN)
ANTENNA BASE
ANTENNA AMP.
M394
2
1
152 151
NAVI CONTROL UNIT
M48, M49, M317, M398, M399
GLASS ANTENNA (SUB)
M397
150
COMBINATION SWITCH (SPIRAL CABLE)
M66, M303
4
5
10
23
29
24
COMBINATION METER
M51, M52
21
22
23
JRNWD1352GB

AUDIO & NAVIGATION

Connector No.	B4
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FG-NH



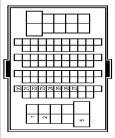
Terminal No.	Color Of Wire	Signal Name [Specification]
6	B	BACK DOOR OPENER REQUEST SW [For RHD models]
6	Y	BACK DOOR OPENER REQUEST SW [For LHD models]
10	R	REAR RH DOOR SW
11	B	BACK DOOR SW
12	W	REAR LH DOOR SW
13	R	PASSENGER DOOR SW
15	G/W	REAR WIPER AUTO STOP
16	B	BACK DOOR OPENER SW
17	SB	DRIVER DOOR SW
20	L	CAN-H
21	BR	REAR BMPR ANT –
22	Y	ROOM ANT 2 –
23	L	ROOM ANT 2 +
24	G	REAR BMPR ANT +
38	G	SIREN
39	W	HIGH-MOUNTED STOP LAMP
40	P	CAN-L

Connector No.	B6
Connector Name	WIRE TO WIRE
Connector Type	TH12FW-NH



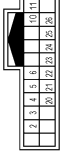
Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	–
5	G	–
6	G/W	–
7	R	–
8	B	–
9	W	–
10	SHIELD	–
11	Y	–
12	G	–

Connector No.	B13
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4



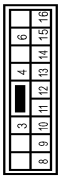
Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	–
2	G	–
5	O	–
20	G	–
21	BR	–
22	SB	–
23	BG	–
24	SB	–
25	G	–
26	B	–
27	P	–

Connector No.	B19
Connector Name	WIRE TO WIRE
Connector Type	TH32MW-NH



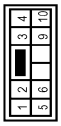
Terminal No.	Color Of Wire	Signal Name [Specification]
2	R	–
3	V	–
4	GR	–
5	Y	–
6	W	–
10	W	–
11	Y	–
13	G	–
15	V	–
20	LG	–
21	G	–
22	V	–
23	BR	–
24	P	–
25	L	–
26	G	–
29	SHIELD	–
30	W	–
31	B	–
32	R	–

Connector No.	B37
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS



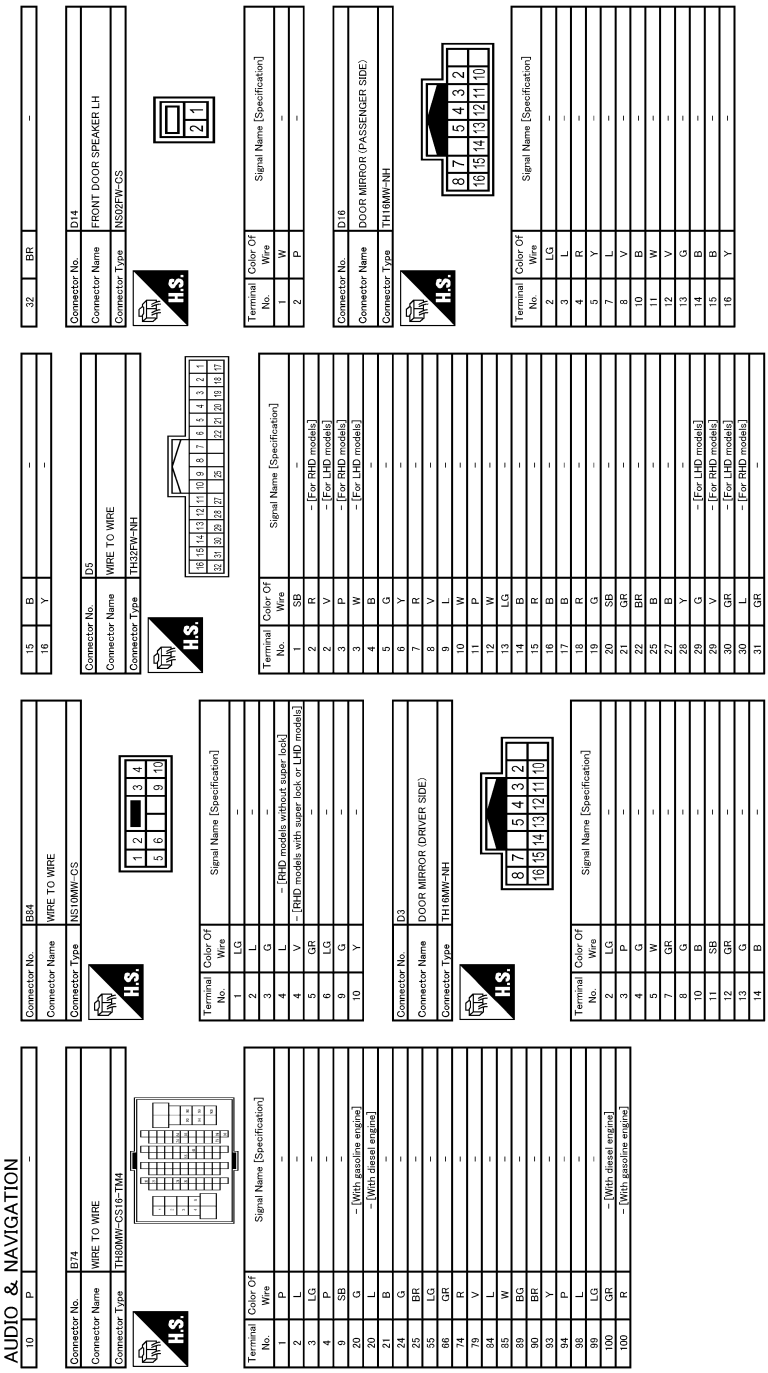
Terminal No.	Color Of Wire	Signal Name [Specification]
3	V	–
4	G	–
6	G	–
8	P	–
9	P	–
10	R	–
11	L	–
12	W	–
13	R	–
14	L	–
15	BR	–
16	G	–

Connector No.	B41
Connector Name	WIRE TO WIRE
Connector Type	NS10MW-CS

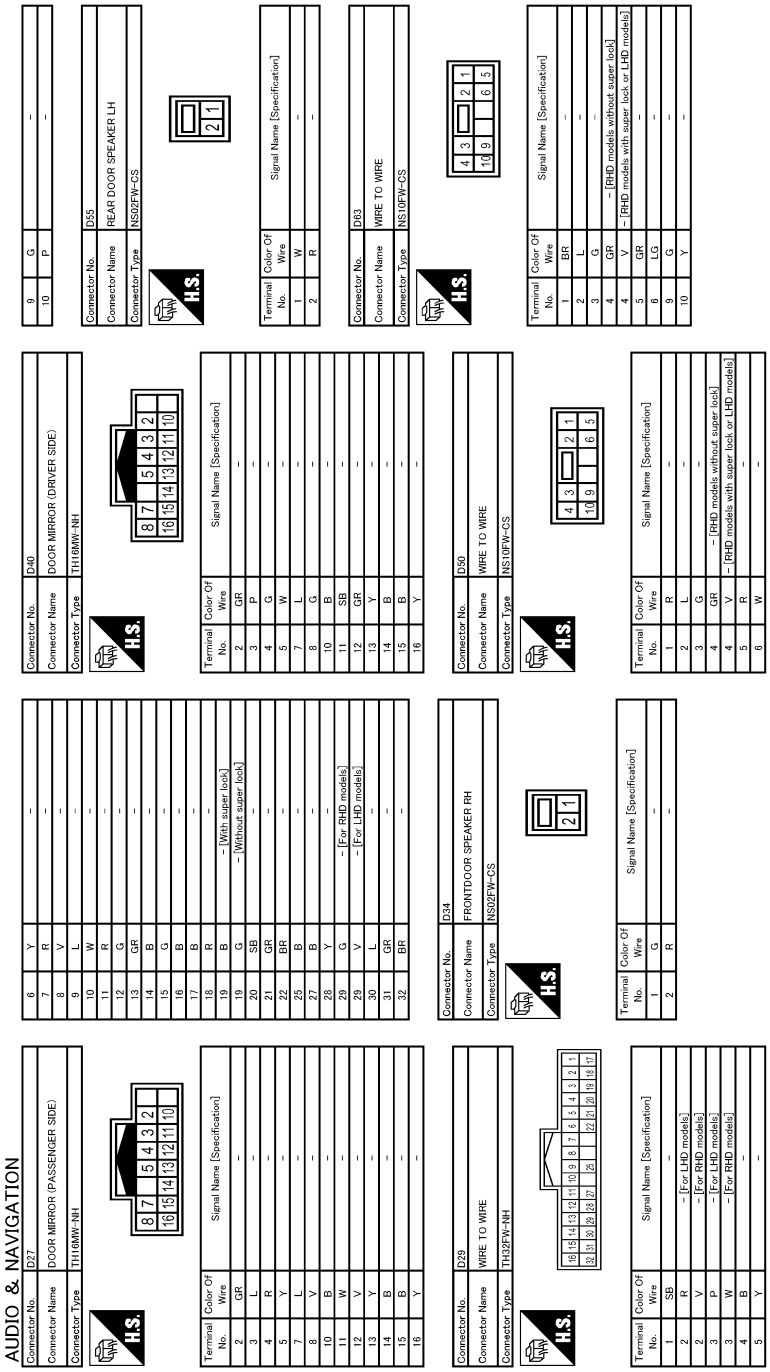


Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	–
2	L	–
3	G	–
4	V	–
5	R	–
6	W	–
9	G	–

JRNWD1433GB



JRNWD1434GB



JRNWD1435GB

AUDIO & NAVIGATION

Connector No.	D88
Connector Name	REAR DOOR SPEAKER RH
Connector Type	NS02FW-CS

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	–
2	GR	–

Connector No.	D78
Connector Name	WIRE TO WIRE
Connector Type	TH12MW-NH

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	–
5	G	–
6	G/W	–
7	R	–
8	B	–
9	W	–
10	V	–
11	Y	–
12	L	–

Connector No.	D79
Connector Name	REAR CAMERA
Connector Type	TH04MW-NH

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	CAMERA ON
2	B	GND
3	W	CAMERA +
4	V	CAMERA –

Connector No.	D80
Connector Name	REAR CAMERA
Connector Type	TH08MW-NH

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	VIDEO–
4	L	SERIAL–SIGNAL
5	W	VIDEO+
7	B	GND
8	R	POWER

Connector No.	D86
Connector Name	REAR CAMERA
Connector Type	TH04MW-NH

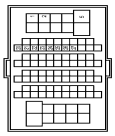
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	POWER
2	B	GND
3	W	VIDEO +
4	V	VIDEO –

Connector No.	E3
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4

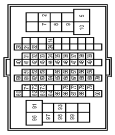
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	–
2	W	–
5	BG	–
20	G	–
21	BR	–
22	SB	–
23	BG	–
24	SB	–
25	G	–
26	B	–
27	P	–

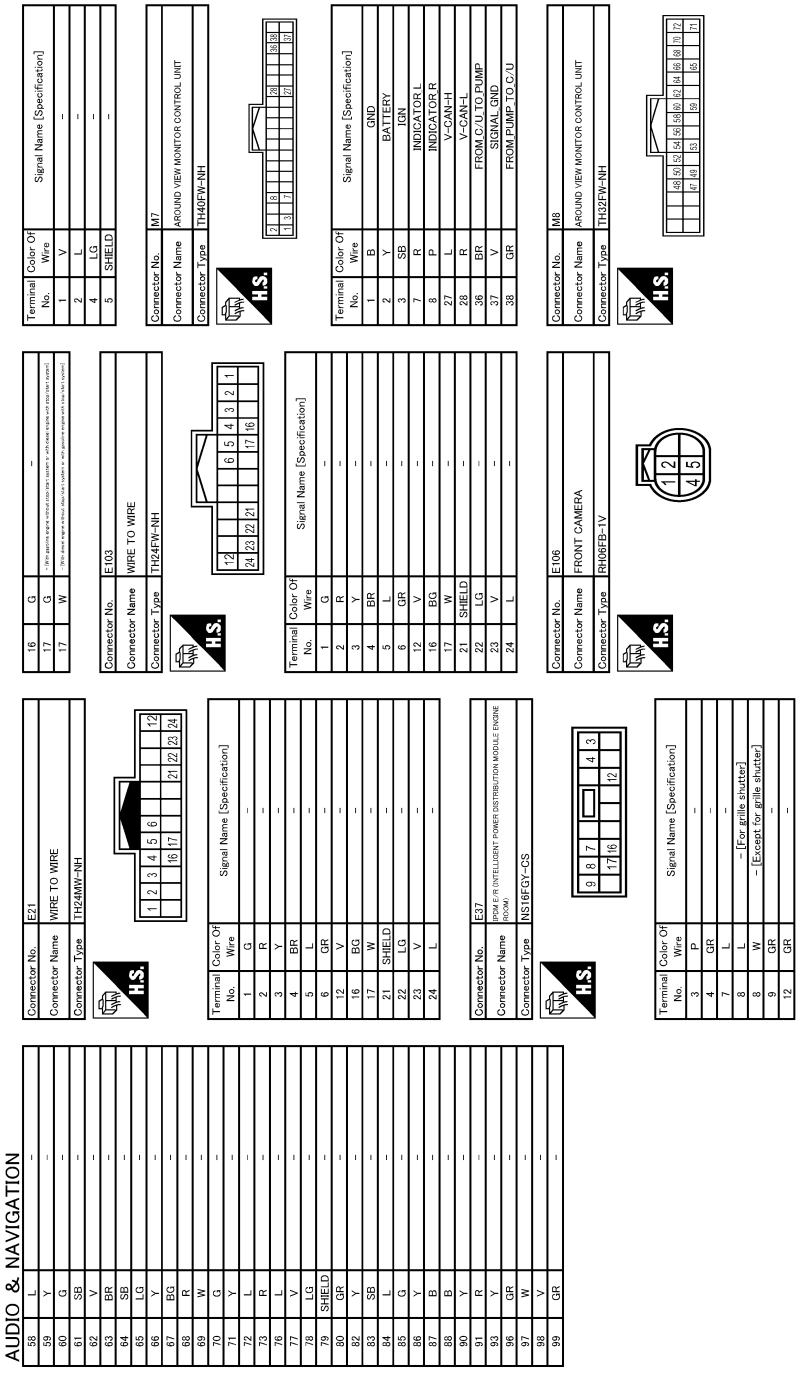
Connector No.	E16
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
2	W	–
5	V	–
7	BG	–
8	L	–
9	LG	–
10	W	–
14	BG	–
20	L	–
21	P	–
22	SHIELD	–
24	W	–
31	V	–
32	W	–
33	SB	–
34	LG	–
35	BG	–
36	LG	–
37	V	–
38	G	–
39	BR	–
40	L	–
41	P	–
42	G	–
43	R	–
44	Y	–
45	BR	–
46	L	–
47	GR	–
48	Y	–
49	P	–
51	P	–
52	W	–
53	R	–
55	BR	–
56	P	–
57	B	–

JRNWD1436GB



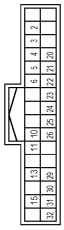
JRNWD1437GB

AUDIO & NAVIGATION

Terminal No.	Color Of Wire	Signal Name [Specification]
47	G	COMP OUT+
48	SHIELD	COMP OUT–
49	LG	RV–SERIAL–SIGNAL
50	R	RV–POWER
52	B	RV–GND
53	W	RV–VIDEO+
54	SHIELD	RV–VIDEO–
56	L	SIDE–DR POWER
58	Y	SIDE–DR GND
59	G	SIDE–DR GND
60	SHIELD	SIDE–DR VIDEO–
82	B	SIDE–AS POWER
84	L	SIDE–AS GND
85	Y	SIDE–AS VIDEO+
86	SHIELD	SIDE–AS VIDEO–
68	L	FV–POWER
70	V	FV–GND
71	LG	FV–VIDEO+
72	SHIELD	FV–VIDEO–

Connector No.	M15
Connector Name	WIRE TO WIRE
Connector Type	TH32FW-NH

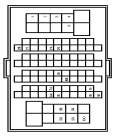
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
2	SB	–
3	V	–
4	GR	–
5	BR	–
6	W	–
10	R	–
11	L	–
13	LG	–
15	V	–
20	BG	–
21	BG	–
22	GR	–
23	GR	–
24	P	–
25	L	–
26	G	–
29	SHIELD	–
30	W	–
31	B	–
32	R	–

Connector No.	M16
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4

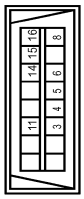
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	GR	–
2	P	–
3	SB	–
4	P	–
9	SB	–
20	G	–
21	B	–
24	G	–
25	BR	–
55	LG	–
66	GR	–
74	R	–
79	V	–
84	L	–
85	W	–
89	GR	–
90	BR	–
93	Y	–
94	P	–
98	L	–
99	LG	–
100	R	–

Connector No.	M21
Connector Name	DATA LINK CONNECTOR
Connector Type	BD16FW

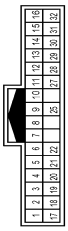
H.S.



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.	M26
Connector Name	WIRE TO WIRE
Connector Type	TH32MW-NH

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	– [For LHD models]
1	LG	– [For RHD models]
2	P	– [For RHD models]
2	V	– [For LHD models]
3	GR	– [For LHD models]
3	W	– [For RHD models]
4	B	–
5	G	–
6	Y	–
7	R	–
8	V	–

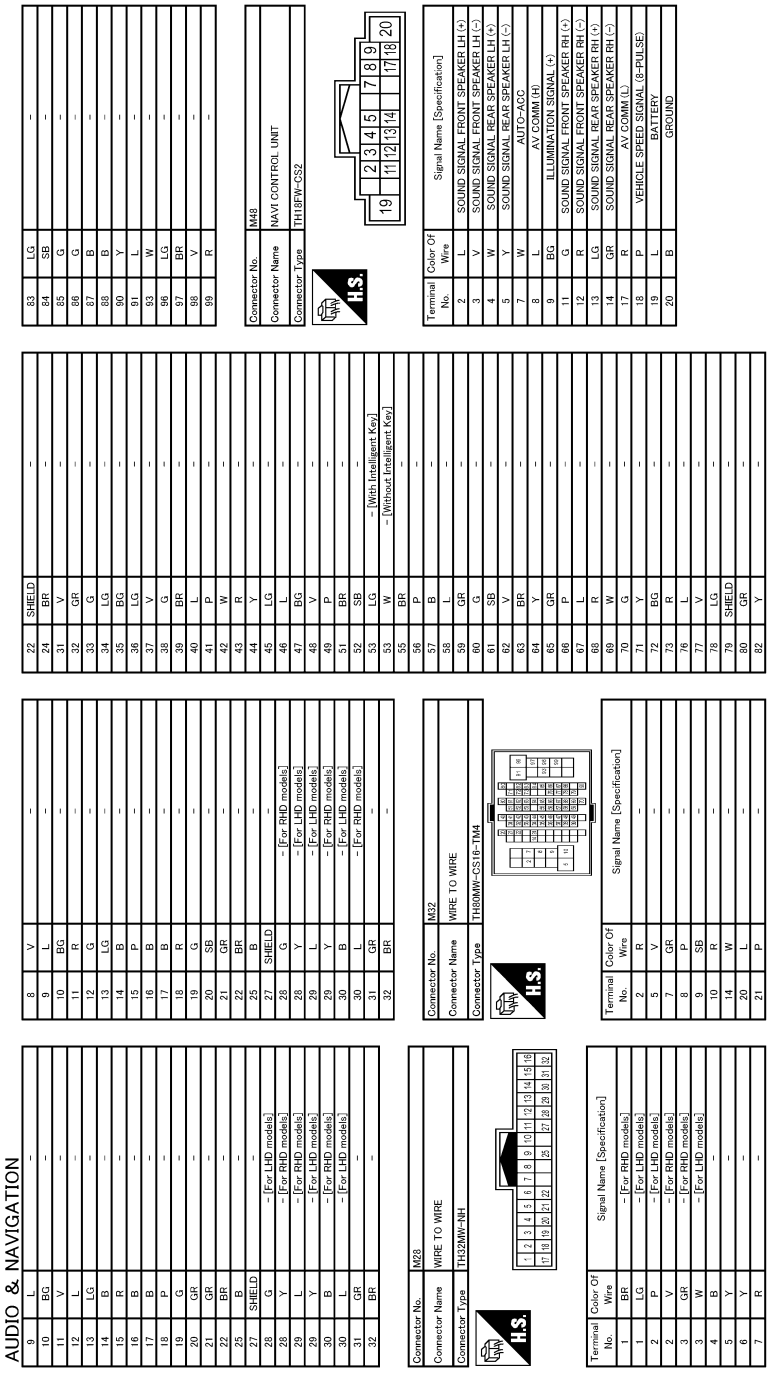
Connector No.	M13
Connector Name	USB CONNECTOR AND AUX JACK
Connector Type	TH04FW-NH

H.S.

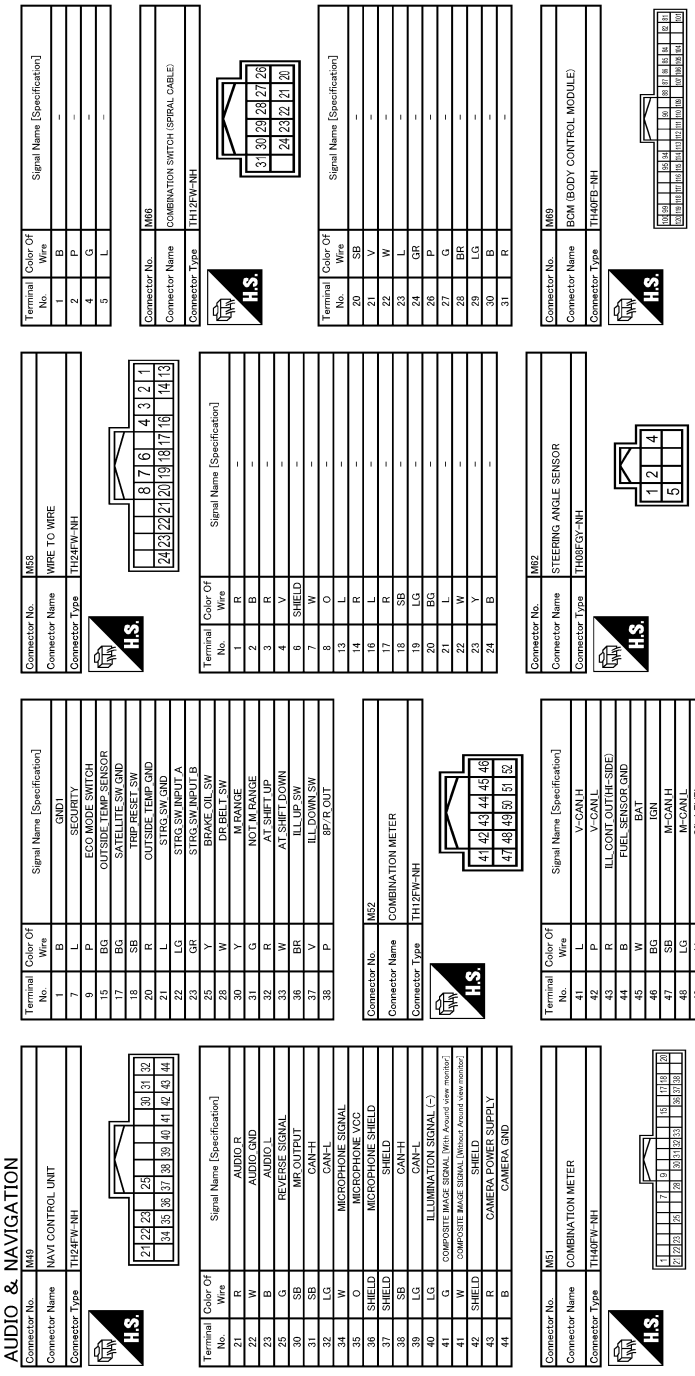


Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	–
3	W	–
4	R	–

JRNWD1438GB



JRNWD1439GB

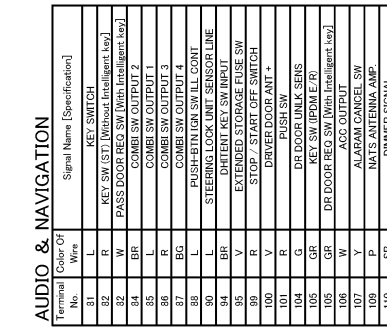


JRNWD1440GB

AUDIO & NAVIGATION

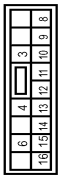
Terminal No.	Color Of Wire	Signal Name [Specification]
81	L	KEY SWITCH
82	R	KEY SW (ST) [Without Intelligent key]
82	W	PASS DOOR REQ SW [With Intelligent key]
84	BR	COMBI SW OUTPUT 2
85	L	COMBI SW OUTPUT 1
86	R	COMBI SW OUTPUT 3
87	BG	COMBI SW OUTPUT 4
88	L	PUSH-BTN IGN SW ILL CONT
90	L	STEERING LOCK UNIT SENSOR LINE
94	BR	DHTENT KEY SW INPUT
95	Y	EXTENDED STORAGE FUSE SW
99	R	STOP - START OFF SWITCH
100	V	DRIVER DOOR ANT +
101	R	PUSH SW
104	G	DR DOOR UNLK SENS
105	GR	KEY SW (IPDM E/R)
105	GR	DR DOOR REQ SW [With Intelligent key]
106	W	ACC OUTPUT
107	Y	ALARM CANCEL SW
109	P	NATS ANTENNA AMP.
110	SB	DIMMER SIGNAL
111	R	DOOR LK STAT IND OUTPUT
112	SB	STOP - START OFF SWITCH IND OUTPUT
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	LG	PASSENGER DOOR ANT -
119	P	PASSENGER DOOR ANT +
120	BR	DRIVER DOOR ANT +

Connector No.	M70
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FGY-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
41	V	STEERING LK UNIT PWR SPLY OUT
42	G	TURN SIG LH (SIDE) [For LHD models]
43	Y	TURN SIG LH (SIDE) [For RHD models]
44	BR	INTERIOR ROOM LAMP RELAY CONT
45	R	CAN-H
46	L	CAN-H
47	BG	LIGHT & RAIN SENSOR
48	L	CAN-H
49	R	CAN-L
50	GR	DOOR LOCK SW
51	Y	HAZARD SW
56	P	DONGLE
57	BG	CVT SHIFT SELECT (DETENT SW) PWR
60	G	HEADLAMP WASHER SW
63	G	POWER WINDOW RELAY CON
64	SB	REAR WINDOW DEFOGGER RELAY CONT
65	P	ACC RELAY
67	LG	IGN RELAY (F/B) CONT
68	L	BLOWER RELAY CONT
71	BR	ROOM LAMP (OPTION CONNECTOR)
72	R	CONSOLE LED 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	SB	COMBI SW INPUT 1
79	W	COMBI SW INPUT 2
80	BR	DOOR UNLOCK SW

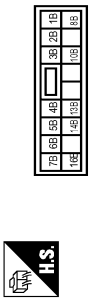
Connector No.	M71
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
3	V	–
4	G	–
6	W	–

8	P	–
9	G	–
10	BG	– [For RHD models]
10	R	– [For LHD models]
11	LG	–
12	W	–
13	Y	–
14	SB	–
15	BR	–
16	GR	–

Connector No.	M76
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS16FW-CS



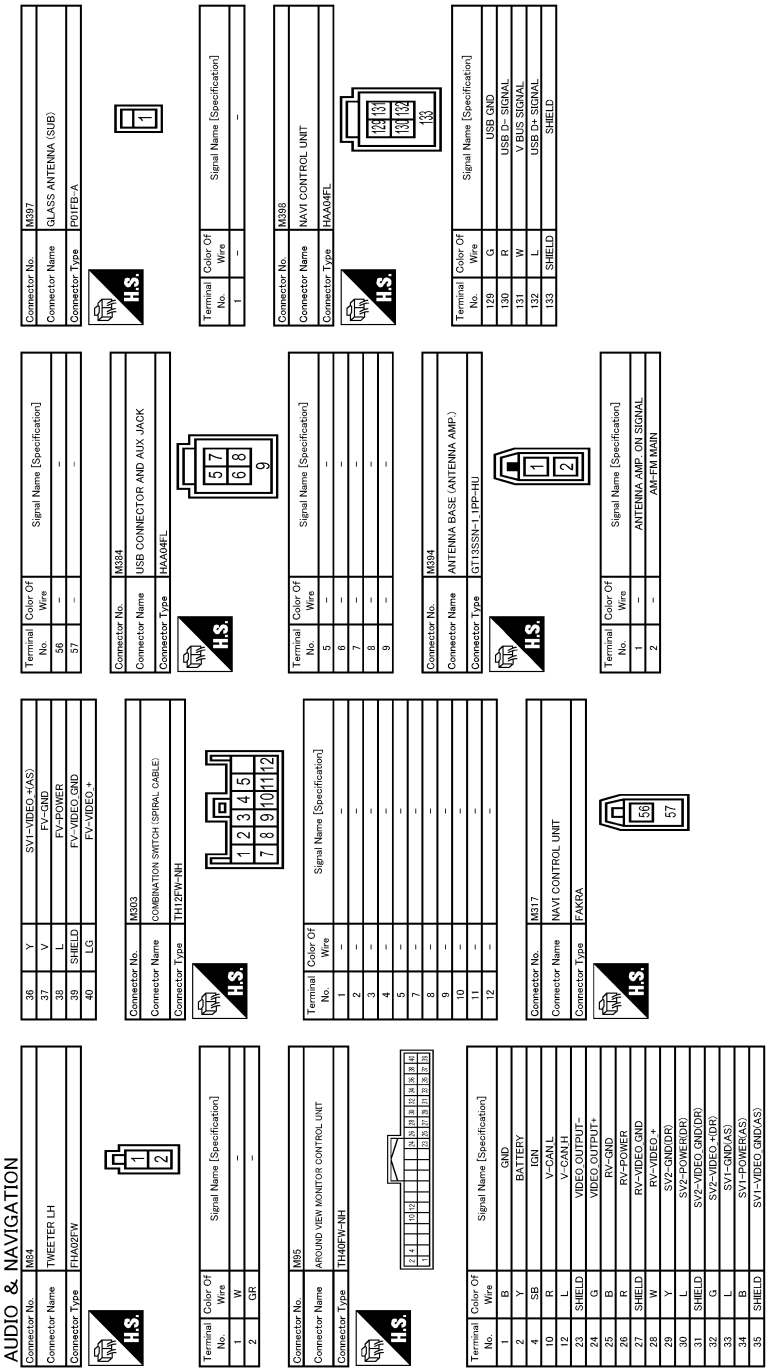
Terminal No.	Color Of Wire	Signal Name [Specification]
10B	V	–
13B	W	–
14B	GR	–
16B	L	–
1B	R	–
2B	G	–
3B	LG	–
4B	LG	–
5B	LG	–
6B	SB	–
7B	Y	–
8B	BG	–

Connector No.	M77
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS16FBR-CS

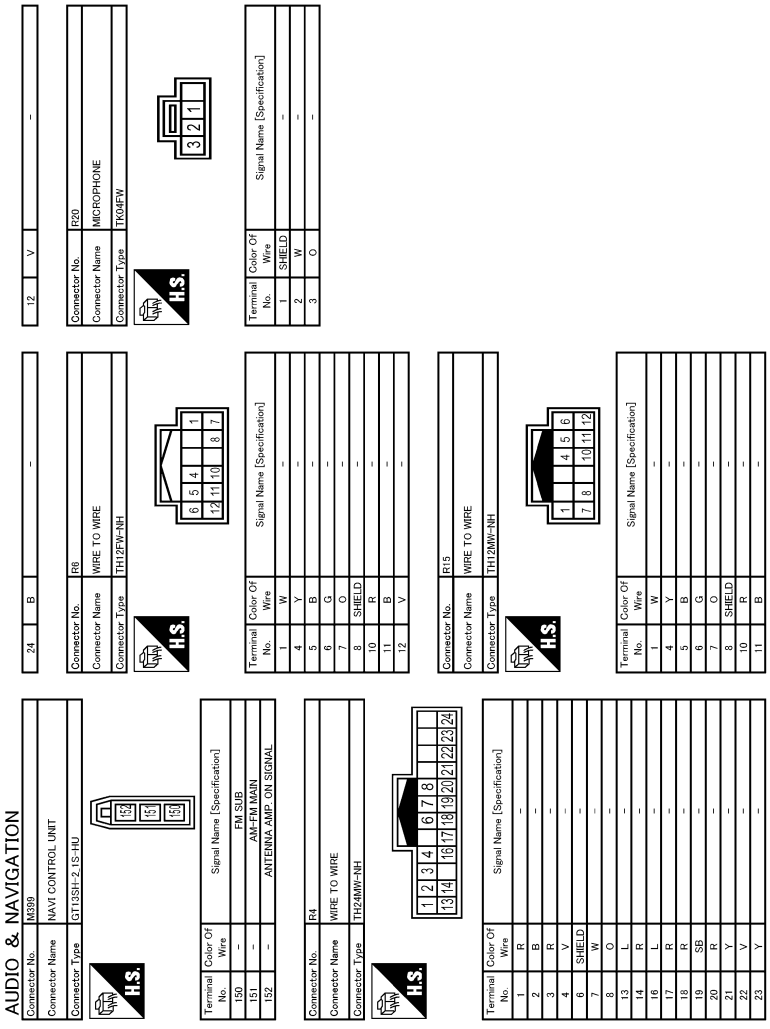
Terminal No.	Color Of Wire	Signal Name [Specification]
10C	GR	–
12C	BR	–
14C	W	–
15C	W	–
16C	GR	–
1C	R	–
2C	R	–
3C	V	–
5C	L	–
6C	GR	–
7C	V	–

Connector No.	M83
Connector Name	TWEETER RH
Connector Type	FHA02FW

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



JRNWD1442GB



JRNWD1443GB

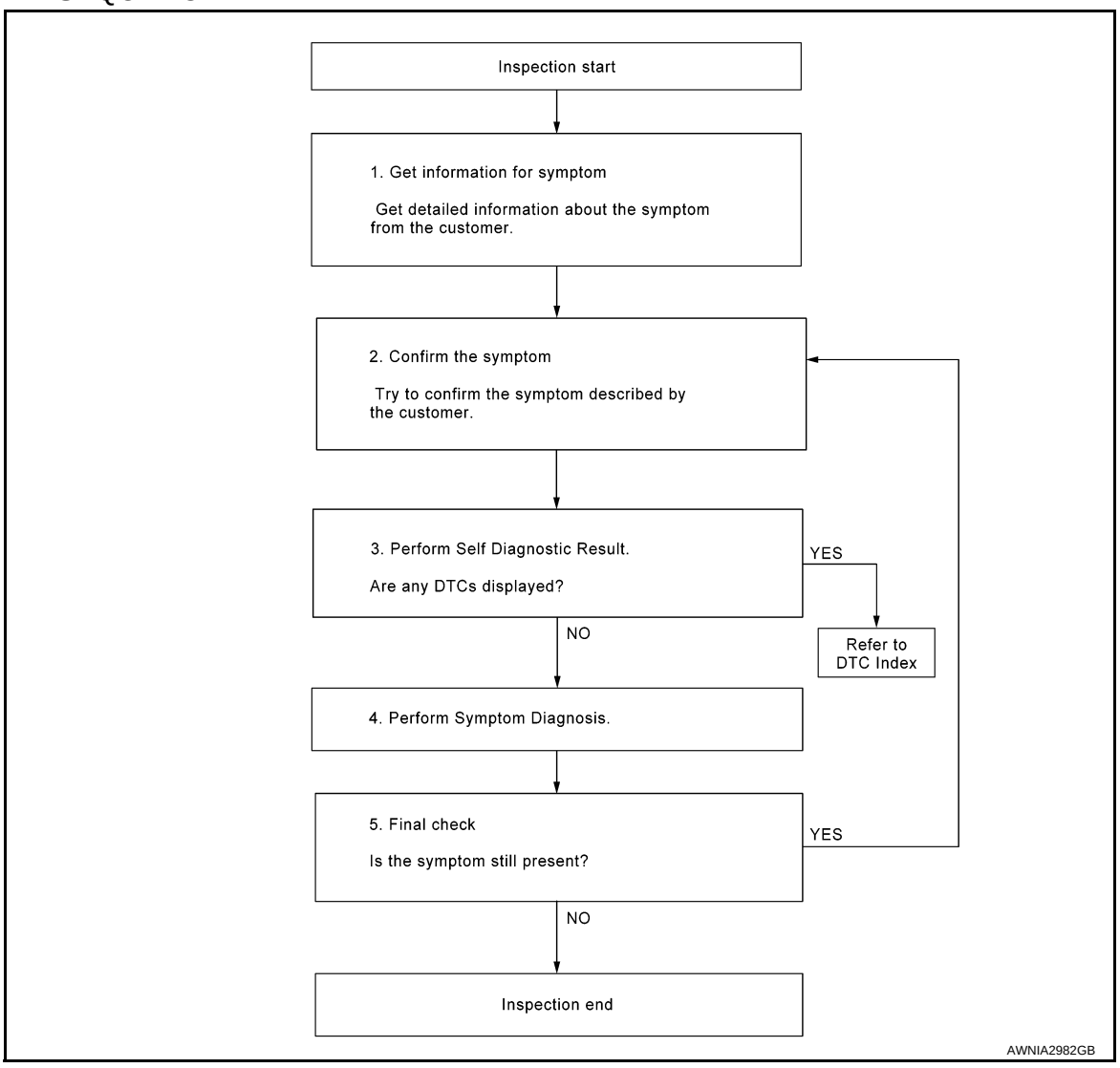
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000010435667

OVERALL SEQUENCE



DETAILED FLOW

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

2.CONFIRM THE SYMPTOM

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

>> GO TO 3.

3.PERFORM SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON and wait for 2 seconds or more.

2. Depending on system being diagnosed, perform Self Diagnostic Result for:
- MULTI AV.
- AVM.

Are any DTCs displayed?

YES >> Refer to AV-151, "DTC Index" (MULTI AV) or AV-154, "WITHOUT DRIVER ASSISTANCE SYSTEM : DTC Index" (AVM).
NO >> GO TO 4.

4. PERFORM SYMPTOM DIAGNOSIS

Refer to AV-245, "Symptom Table".

>> GO TO 5.

5. FINAL CHECK

Refer to symptom described by the customer in step 1.

Is the symptom still present?

YES >> GO TO 2.
NO >> Inspection End.

INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Description

INFOID:0000000010435668

BEFORE REPLACEMENT

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

NOTE:

If “Before Replace ECU” cannot be used, use the “After Replace ECU” or “Manual Configuration” after replacing AV control unit.

AFTER REPLACEMENT

CAUTION:

When replacing AV control unit, you must perform “After Replace ECU” with CONSULT.

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

ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Work Procedure

INFOID:0000000010435669

1. SAVING VEHICLE SPECIFICATION

-CONSULT

Enter “Re/Programming, Configuration” and perform “Before Replace ECU” to save or print current vehicle specification.

NOTE:

If “Before Replace ECU” cannot be used, use the “After Replace ECU” or “Manual Configuration” after replacing AV control unit.

>> GO TO 2.

2. REPLACE AV CONTROL UNIT

Replace AV control unit. Refer to AV-259, "Removal and Installation".

>> GO TO 3.

3. WRITING VEHICLE SPECIFICATION

CONSULT

1. Enter "Re/Programming, Configuration".
2. If “Before Replace ECU” operation was performed, automatically an "Operation Log Selection" screen will be displayed. Select the applicable file from the "Saved Data List" and press “Confirm” to write vehicle specification. Refer to AV-178, "CONFIGURATION (AV CONTROL UNIT) : Work Procedure".
3. If “Before Replace ECU” operation was not performed, select "After Replace ECU" or "Manual Configuration" to write vehicle specification. Refer to AV-178, "CONFIGURATION (AV CONTROL UNIT) : Work Procedure".

>> GO TO 4.

4. OPERATION CHECK

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

>> Work End.

ADDITIONAL SERVICE WHEN REPLACING AROUND VIEW MONITOR CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING AROUND VIEW MONITOR CONTROL UNIT : Description

INFOID:0000000010435670

BEFORE REPLACEMENT

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

NOTE:

If “Before Replace ECU” cannot be used, use the “After Replace ECU” or “Manual Configuration” after replacing around view monitor control unit.

AFTER REPLACEMENT

CAUTION:

When replacing around view monitor control unit, you must perform “After Replace ECU” with CONSULT.

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

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

INFOID:0000000010435671

1.SAVING VEHICLE SPECIFICATION

-CONSULT

Enter “Re/Programming, Configuration” and perform “Before Replace ECU” to save or print current vehicle specification.

NOTE:

If “Before Replace ECU” cannot be used, use the “After Replace ECU” or “Manual Configuration” after replacing around view monitor control unit.

>> GO TO 2.

2.REPLACE AROUND VIEW MONITOR CONTROL UNIT

Replace around view monitor control unit. Refer to AV-267, "Removal and Installation".

>> GO TO 3.

3.WRITING VEHICLE SPECIFICATION

CONSULT

1. Enter "Re/Programming, Configuration".
2. If “Before Replace ECU” operation was performed, automatically an "Operation Log Selection" screen will be displayed. Select the applicable file from the "Saved Data List" and press “Confirm” to write vehicle specification. Refer to AV-179, "CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT) : Work Procedure".
3. If “Before Replace ECU” operation was not performed, select "After Replace ECU" or "Manual Configuration" to write vehicle specification. Refer to AV-179, "CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT) : Work Procedure".

>> GO TO 4.

4.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.

CONFIGURATION (AV CONTROL UNIT)

CONFIGURATION (AV CONTROL UNIT) : Description

INFOID:0000000010435672

Vehicle specification needs to be written with CONSULT because it is not written after replacing AV control unit.
Configuration has three functions as follows:

Function	Description
"Before Replace ECU"	• Reads the vehicle configuration of current AV control unit. • Saves the read vehicle configuration.
"After Replace ECU"	Writes the vehicle configuration with manual selection.
"Select Saved Data List"	Writes the vehicle configuration with saved data.

CAUTION:
- **When replacing AV control unit, you must perform “Select Saved Data List” or "After Replace ECU" with CONSULT.**
- **Complete the procedure of “Select Saved Data List” or "After Replace ECU" in order.**
- **If you set incorrect “Select Saved Data List” or "After Replace ECU", incidents might occur.**
- **Configuration is different for each vehicle model. Confirm configuration of each vehicle model.**
- **Never perform “Select Saved Data List” or "After Replace ECU" except for new AV control unit.**

CONFIGURATION (AV CONTROL UNIT) : Work Procedure

INFOID:0000000010435673

1.WRITING MODE SELECTION

CONSULT
Select “Reprogramming, Configuration” of AV control unit.

When writing saved data>>GO TO 2.
When writing manually>>GO TO 3.

2.PERFORM “SAVED DATA LIST”

CONSULT
Automatically “Operation Log Selection” window will display if “Before Replace ECU” was performed. Select applicable file from the “Save Data List” and press “Confirm”.

>> Work End.

3.PERFORM “AFTER REPLACE ECU” OR “MANUAL CONFIGURATION”

CONSULT
1. Select “After Replace ECU” or “Manual Configuration”.
2. Identify the correct model and configuration list. Refer to AV-179, "CONFIGURATION (AV CONTROL UNIT) : Configuration List".
3. Confirm and/or change setting value for each item.
   CAUTION:
   Thoroughly read and understand the vehicle specification. ECU control may not operate normally if the setting is not correct.
4. Select “Next”.
   CAUTION:
   Make sure to select “Next”, confirm each setting value and press “OK” even if the indicated configuration of brand new AV control unit is same as the desirable configuration. If not, configuration which is set automatically by selecting vehicle model can not be memorized.
5. When "Completed", select "End".

>> GO TO 4.

4.OPERATION CHECK

Confirm that each function controlled by AV control unit operates normally.

>> Work End.

CONFIGURATION (AV CONTROL UNIT) : Configuration List

INFOID:0000000010435674

CAUTION:
Thoroughly read and understand the vehicle specification. Incorrect settings may result in abnormal control of ECU.

MANUAL SETTING ITEM	
Items	Setting value
SOUND SYSTEM	BASE ⇔ BOSE
CAMERA SYSTEM	NONE/AVM ⇔ REAR CAMERA

⇔: Items which confirm vehicle specifications

CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT)

CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT) : Description

INFOID:0000000010435675

Vehicle specification needs to be written with CONSULT because it is not written after replacing around view monitor control unit.
Configuration has three functions as follows:

Function	Description
"Before Replace ECU"	• Reads the vehicle configuration of current around view monitor control unit. • Saves the read vehicle configuration.
"After Replace ECU"	Writes the vehicle configuration with manual selection.
"Select Saved Data List"	Writes the vehicle configuration with saved data.

CAUTION:
- **When replacing around view monitor control unit, you must perform “Select Saved Data List” or "After Replace ECU" with CONSULT.**
- **Complete the procedure of “Select Saved Data List” or "After Replace ECU" in order.**
- **If you set incorrect “Select Saved Data List” or "After Replace ECU", incidents might occur.**
- **Configuration is different for each vehicle model. Confirm configuration of each vehicle model.**
- **Never perform “Select Saved Data List” or "After Replace ECU" except for new around view monitor control unit.**

CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT) : Work Procedure

INFOID:0000000010435676

1. WRITING MODE SELECTION

CONSULT
Select “Reprogramming, Configuration” of around view monitor control unit.

When writing saved data>>GO TO 2.
When writing manually>>GO TO 3.

2. PERFORM “SAVED DATA LIST”

CONSULT
Automatically “Operation Log Selection” window will display if “Before Replace ECU” was performed. Select applicable file from the “Save Data List” and press “Confirm”.

>> Work End.

3. PERFORM “AFTER REPLACE ECU” OR “MANUAL CONFIGURATION”

CONSULT
1. Select “After Replace ECU” or “Manual Configuration”.

2. Identify the correct model and configuration list. Refer to AV-180, "CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT) : Configuration List".
3. Confirm and/or change setting value for each item.
   CAUTION:
   Thoroughly read and understand the vehicle specification. ECU control may not operate normally if the setting is not correct.
4. Select “Next”.
   CAUTION:
   Make sure to select “Next”, confirm each setting value and press “OK” even if the indicated configuration of brand new around view monitor control unit is same as the desirable configuration. If not, configuration which is set automatically by selecting vehicle model can not be memorized.
5. When "Completed", select "End".

>> GO TO 4.

4. OPERATION CHECK

Confirm that each function controlled by around view monitor control unit operates normally.

>> Work End.

CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT) : Configuration List

INFOID:0000000010435677

CAUTION:
Thoroughly read and understand the vehicle specification. Incorrect settings may result in abnormal control of ECU.

MANUAL SETTING ITEM	
Items	Setting value
BCI FUNCTION	WITH ⇔ WITHOUT

⇔: Items which confirm vehicle specifications

PREDICTED COURSE LINE CENTER POSITION ADJUSTMENT

PREDICTED COURSE LINE CENTER POSITION ADJUSTMENT : Description

INFOID:0000000010435678

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

PREDICTED COURSE LINE CENTER POSITION ADJUSTMENT : Work Procedure

INFOID:0000000010435679

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:0000000010435680

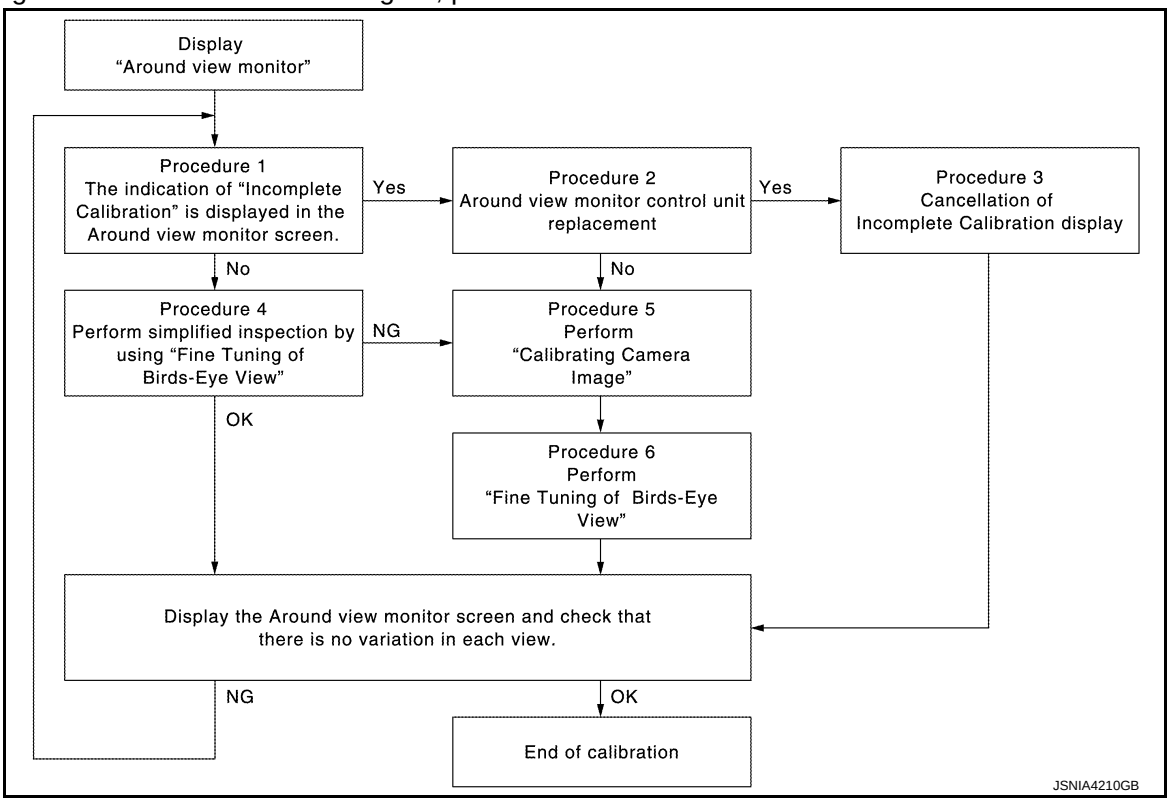
- Calibration must be performed after removing/replacing the cameras, removing parts (e.g. front grille, door mirror, and others) mounted on the cameras, or replacing the Around view monitor control unit.
- The use of CONSULT is required to perform calibration or writing of calibration results to the 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:0000000010435681

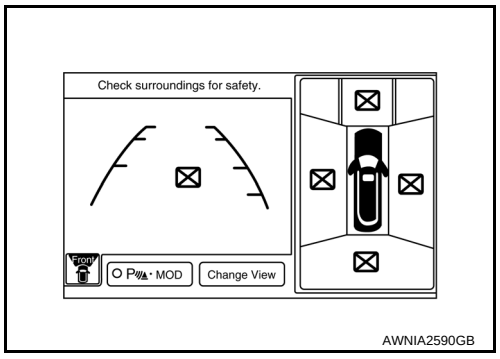
CALIBRATION FLOWCHART

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.



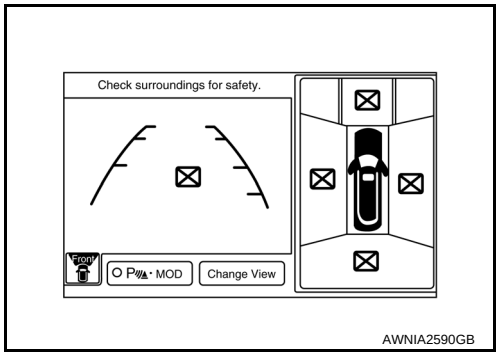
CALIBRATION PROCEDURE

1. AROUND VIEW MONITOR SCREEN CONFIRMATION

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

Is the “Incomplete calibration” display visible?

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



2. CHECK THAT AROUND VIEW MONITOR CONTROL UNIT IS REPLACED

Check that the around view monitor control unit is replaced.

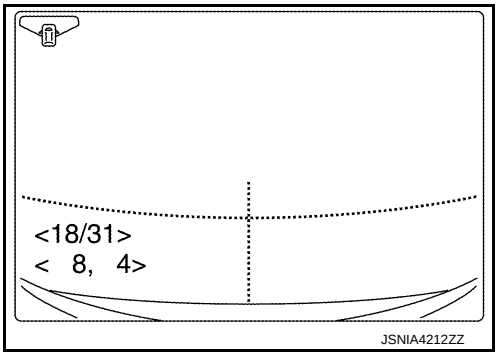
Is the around view monitor control unit replaced?

YES >> GO TO 3.
NO >> GO TO 5.

3. CANCEL THE INDICATION OF INCOMPLETE CALIBRATION (PERFORM THIS ONLY AFTER REPLACING AROUND VIEW MONITOR CONTROL UNIT.)

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, touch “APPLY” button. After this, touch “OK” button.
   CAUTION:
   - **Never perform operations other than those mentioned above.**
   - **Never perform “Initialize Camera Image Calibration”.**
3. Display the around view monitor screen to check that there is no errors, such as deviations among the camera images.



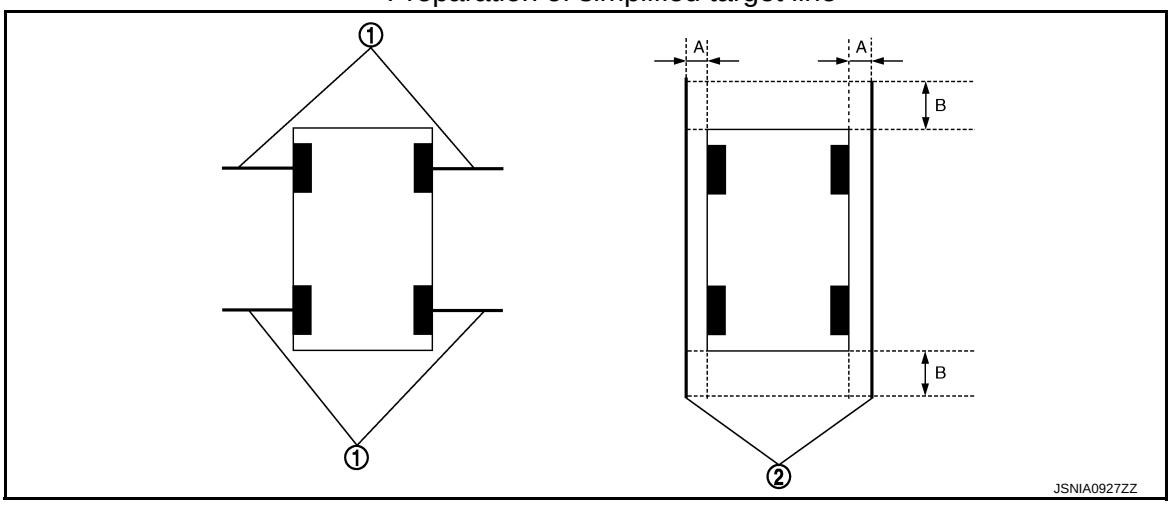
Is there a malfunction?

YES >> Calibration End.
NO >> GO TO 1.

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

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

Preparation of simplified target line



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

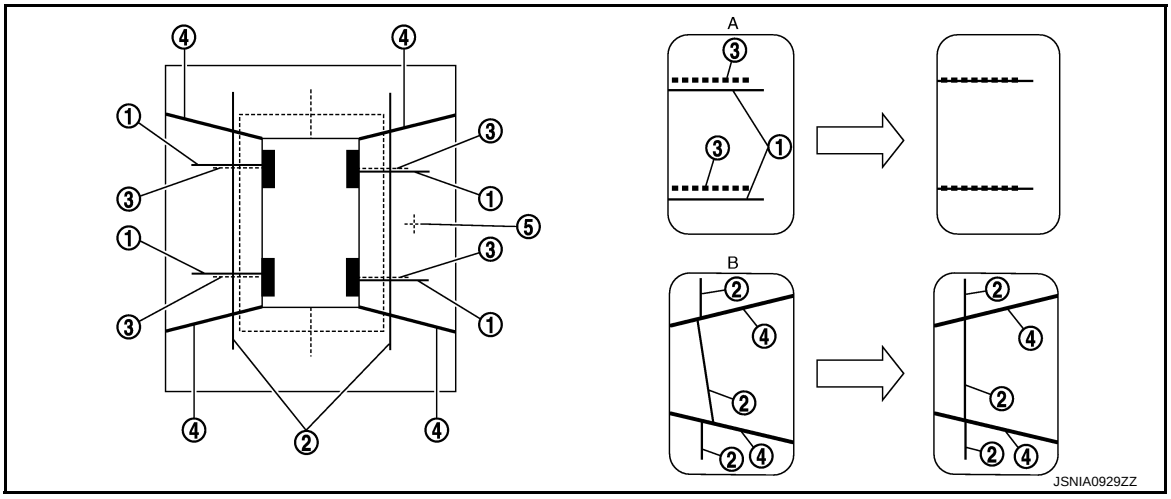
3. CONSULT work support
   Touch “FINE TUNING OF BIRDS-EYE VIEW” on the CONSULT screen.
4. On the CONSULT screen, touch “SELECT” button to select right or left camera and perform camera calibration as instructed below:

- 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?

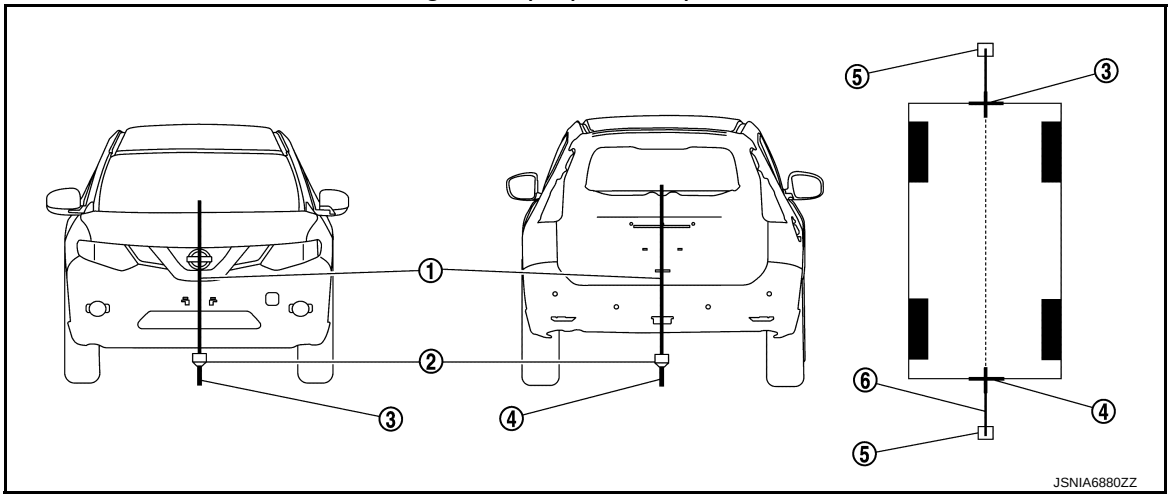
YES >> On the CONSULT screen, touch “OK” button to complete writing to the around view monitor control unit.
NO >> GO TO 5.

5. PERFORM “CALIBRATING CAMERA IMAGE”

Preparation of target line

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

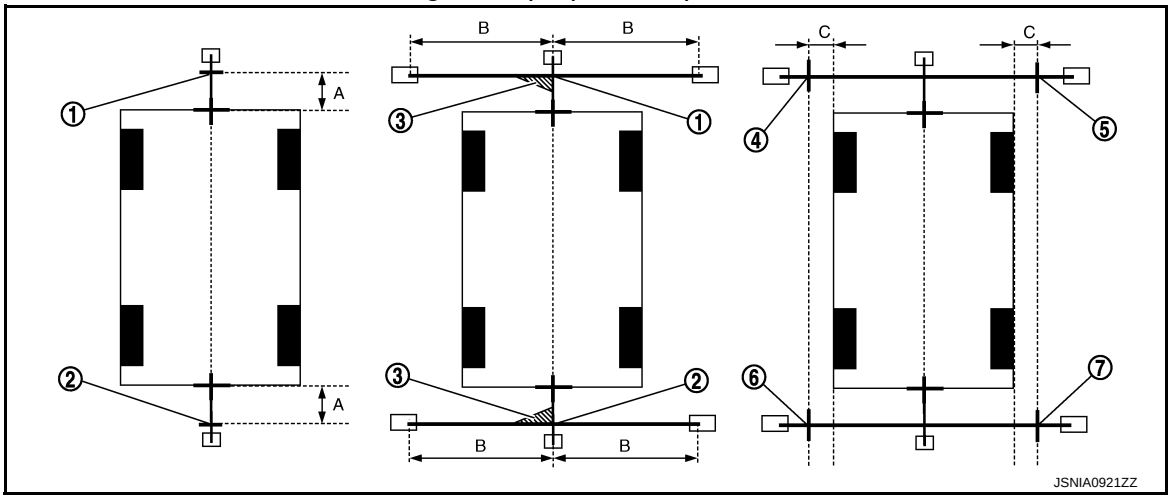
Target line preparation procedure 1



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

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

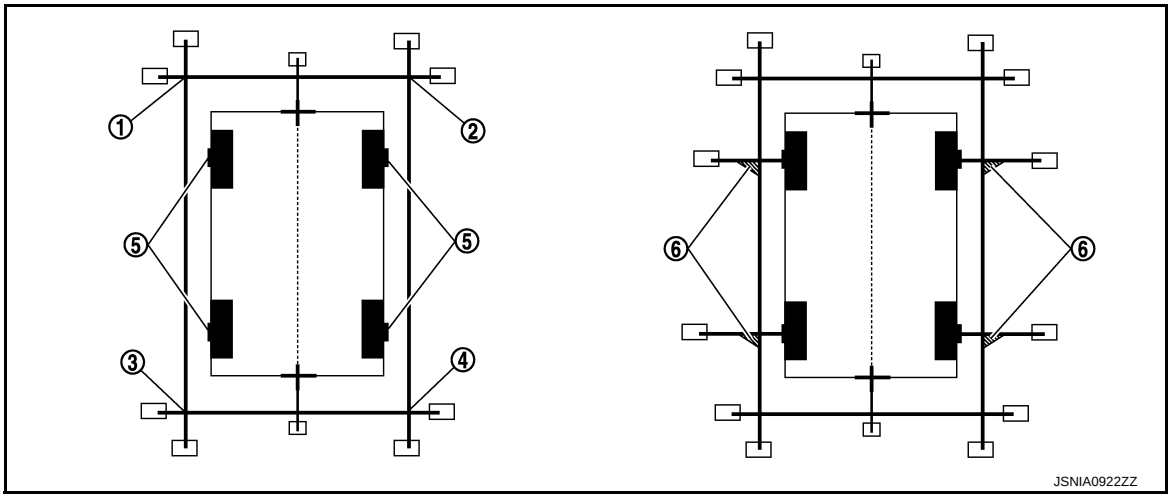


1. Point FM
2. Point RM
3. Triangle scale
4. Point FL (mark)
5. Point FR (mark)
6. Point RL (mark)
7. Point RR (mark)

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.

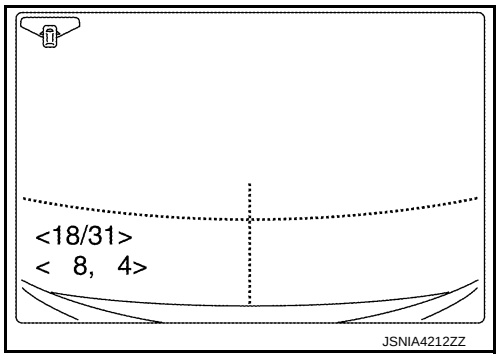
Target line preparation procedure 3



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. 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.

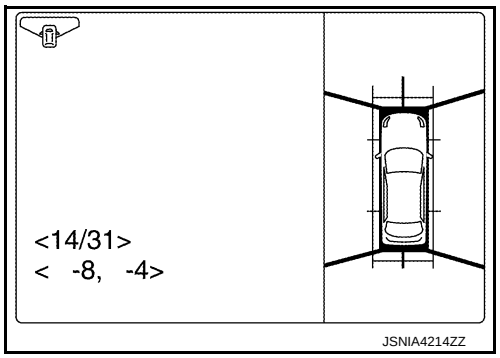
>> GO TO 6.

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

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

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.



JSNIA4214ZZ

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. 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 Logic

INFOID:0000000010944751

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-186, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010944752

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-154, "WITHOUT DRIVER ASSISTANCE SYSTEM : DTC Index".
NO >> Replace around view monitor control unit. Refer to AV-267, "Removal and Installation".

C1B56 SONAR

DTC Logic

INFOID:0000000010944764

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-187, "DTC Logic".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010944765

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-189, "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-67, "DTC Index".
NO >> Replace the around view monitor control unit. Refer to AV-267, "Removal and Installation".

U0428 STEERING ANGLE SENSOR

DTC Logic

INFOID:0000000010435682

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
ST ANG SEN CALIB [U0428]	The neutral position adjustment of the steering angle sensor is incomplete.	Adjust neutral position of the steering angle sensor.

Diagnosis Procedure

INFOID:0000000010435683

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 AV-144, "WITHOUT DRIVER ASSISTANCE SYSTEM : CONSULT Function".

U1000 CAN COMM CIRCUIT

AV CONTROL UNIT

AV CONTROL UNIT : DTC Logic

INFOID:0000000010435684

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
CAN COMM CIRCUIT [U1000]	AV control unit is not transmitting or receiving CAN communication signal for 2 seconds or more.	CAN communication system.

AV CONTROL UNIT : Diagnosis Procedure

INFOID:0000000010435685

1. PERFORM SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Perform “Self Diagnostic Result” for “MULTI AV”.

Is CAN COMM CIRCUIT displayed?

YES >> Refer to LAN-24, "Trouble Diagnosis Flow Chart".
NO >> Refer to GI-41, "Intermittent Incident".

AROUND VIEW MONITOR CONTROL UNIT

AROUND VIEW MONITOR CONTROL UNIT : DTC Logic

INFOID:0000000010435686

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
CAN COMM CIRCUIT [U1000]	Around view monitor control unit is not transmitting or receiving CAN communication signal for 2 seconds or more.	CAN communication system.

AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure

INFOID:0000000010435687

1. PERFORM SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Perform “Self Diagnostic Result” for “AVM”.

Is CAN COMM CIRCUIT displayed?

YES >> Refer to LAN-24, "Trouble Diagnosis Flow Chart".
NO >> Refer to GI-41, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

AV CONTROL UNIT

AV CONTROL UNIT : DTC Logic

INFOID:0000000010435688

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
CONTROL UNIT (CAN) [U1010]	Error during CAN controller hardware initialization (VCAN).	Replace the AV control unit if the malfunction occurs constantly. Refer to AV-259, "Removal and Installation".

AROUND VIEW MONITOR CONTROL UNIT

AROUND VIEW MONITOR CONTROL UNIT : DTC Logic

INFOID:0000000010435689

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
CONTROL UNIT (CAN) [U1010]	Error during CAN controller hardware initialization (VCAN).	Replace the Around view monitor control unit if the malfunction occurs constantly. Refer to AV-267, "Removal and Installation".

U111A REAR CAMERA IMAGE SIGNAL CIRCUIT

DTC Logic

INFOID:0000000010435690

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Rear display output signal diagnosis (Harness disconnection) [U111A]	Rear view camera image signal circuit open or short.	Check rear view camera image signal circuit.

Diagnosis Procedure

INFOID:0000000010435691

Regarding Wiring Diagram information, refer to AV-159, "Wiring Diagram".

WITHOUT DRIVER ASSISTANCE SYSTEM

1.CHECK REAR VIEW CAMERA POWER SUPPLY AND GROUND CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and rear view camera connectors.
3. Check continuity between around view monitor control unit connector M95 and rear view camera connector D86.

Around view monitor control unit		Rear view camera		Continuity
Connector	Terminals	Connector	Terminals	
M95	26	D86	2	Yes
	25		1	

4. Check continuity between around view monitor control unit connector M95 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M95	26		No

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harness or connectors.

2.CHECK REAR VIEW CAMERA POWER SUPPLY VOLTAGE

1. Connect around view monitor control unit and rear view camera connectors.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit connector M95 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M95	26	—	CAMERA switch is ON or selector lever in R (reverse).	6.0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace around view monitor control unit. Refer to AV-267, "Removal and Installation".

3.CHECK REAR VIEW CAMERA IMAGE SIGNAL AND IMAGE SIGNAL GROUND CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and rear view camera connectors.

3. Check continuity between around view monitor control unit connector M95 and rear view camera connector D86.

Around view monitor control unit		Rear view camera		Continuity
Connector	Terminals	Connector	Terminals	
M95	28	D86	4	Yes
	27		5	

4. Check continuity between around view monitor control unit connector M95 and ground.

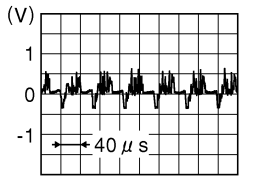
Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M95	28		No

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness or connectors.

4.CHECK REAR VIEW CAMERA IMAGE SIGNAL

1. Connect around view monitor control unit and rear view camera connectors.
2. Turn ignition switch ON.
3. Check signal between the terminals of around view monitor control unit connector M95.

Around view monitor control unit connector M95		Condition	Reference value
(+)	(–)		
Terminal	Terminal		
28	27	CAMERA switch is ON or selector lever in R (reverse).	

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Is the inspection result normal?

YES >> Replace around view monitor control unit. Refer to AV-267, "Removal and Installation".
NO >> Replace rear view camera. Refer to AV-270, "Removal and Installation".

WITH DRIVER ASSISTANCE SYSTEM

1.CHECK REAR VIEW CAMERA POWER SUPPLY AND GROUND CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and rear view camera connectors.
3. Check continuity between around view monitor control unit connector M8 and rear view camera connector D80.

Around view monitor control unit		Rear view camera		Continuity
Connector	Terminals	Connector	Terminals	
M8	50	D80	8	Yes
	52		7	

4. Check continuity between around view monitor control unit connector M8 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M8	50		No

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harness or connectors.

2.CHECK REAR VIEW CAMERA POWER SUPPLY VOLTAGE

1. Connect around view monitor control unit and rear view camera connectors.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit connector M8 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M8	50	—	CAMERA switch is ON or selector lever in R (reverse).	6.0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace around view monitor control unit. Refer to AV-267, "Removal and Installation".

3.CHECK REAR VIEW CAMERA IMAGE SIGNAL AND IMAGE SIGNAL GROUND CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and rear view camera connectors.
3. Check continuity between around view monitor control unit connector M8 and rear view camera connector D80.

Around view monitor control unit		Rear view camera		Continuity
Connector	Terminals	Connector	Terminals	
M8	53	D80	5	Yes
	54		1	

4. Check continuity between around view monitor control unit connector M8 and ground.

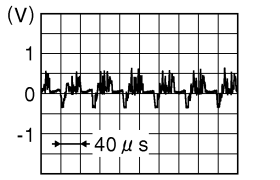
Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M8	53		No

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness or connectors.

4.CHECK REAR VIEW CAMERA IMAGE SIGNAL

1. Connect around view monitor control unit and rear view camera connectors.
2. Turn ignition switch ON.
3. Check signal between the terminals of around view monitor control unit connector M8.

Around view monitor control unit connector M8		Condition	Reference value
(+)	(–)		
Terminal	Terminal		
53	54	CAMERA switch is ON or selector lever in R (reverse).	 JSNIA0834GB

Is the inspection result normal?

YES >> Replace around view monitor control unit. Refer to AV-267, "Removal and Installation".
NO >> Replace rear view camera. Refer to AV-270, "Removal and Installation".

U111B SIDE CAMERA RH IMAGE SIGNAL CIRCUIT

DTC Logic

INFOID:0000000010435692

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Right side display output signal diagnosis (Harness disconnection) [U111B]	Right side camera image signal circuit open or short.	Check right side camera image signal circuit.

Diagnosis Procedure

INFOID:0000000010435693

Regarding Wiring Diagram information, refer to AV-159, "Wiring Diagram".

WITHOUT DRIVER ASSISTANCE SYSTEM

1.CHECK RH SIDE CAMERA POWER SUPPLY AND GROUND CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and RH side camera connectors.
3. Check continuity between around view monitor control unit connector M103 and RH side camera connector D107.

Around view monitor control unit		RH side camera		Continuity
Connector	Terminals	Connector	Terminals	
M95	34	D27	7	Yes
	33		8	

4. Check continuity between around view monitor control unit connector M95 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M95	34		No

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harness or connectors.

2.CHECK RH SIDE CAMERA POWER SUPPLY VOLTAGE

1. Connect around view monitor control unit and RH side camera connectors.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit connector M95 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M95	34	—	CAMERA switch is ON or selector lever in R (reverse).	6.0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace around view monitor control unit. Refer to AV-267, "Removal and Installation".

3.CHECK RH SIDE CAMERA IMAGE SIGNAL AND IMAGE SIGNAL GROUND CIRCUIT CONTINUITY

1. Turn ignition switch OFF.

2. Disconnect around view monitor control unit and RH side camera connectors.
3. Check continuity between around view monitor control unit connector M95 and RH side camera connector D27.

Around view monitor control unit		RH side camera		Continuity
Connector	Terminals	Connector	Terminals	
M95	36	D27	16	Yes
	35		15	

4. Check continuity between around view monitor control unit connector M103 and ground.

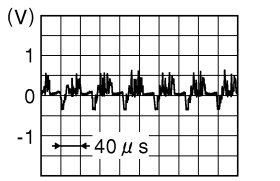
Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M95	36		No

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness or connectors.

4.CHECK RH SIDE CAMERA IMAGE SIGNAL

1. Connect around view monitor control unit and RH side camera connectors.
2. Turn ignition switch ON.
3. Check signal between the terminals of around view monitor control unit connector M95.

Around view monitor control unit connector M95		Condition	Reference value
(+)	(–)		
Terminal	Terminal		
36	35	CAMERA switch is ON or selector lever in R (reverse).	

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Is the inspection result normal?

YES >> Replace around view monitor control unit. Refer to AV-267, "Removal and Installation".
NO >> Replace RH side camera. Refer to AV-269, "Removal and Installation".

WITH DRIVER ASSISTANCE SYSTEM

1.CHECK RH SIDE CAMERA POWER SUPPLY AND GROUND CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and RH side camera connectors.
3. Check continuity between around view monitor control unit connector M8 and RH side camera connector D27.

Around view monitor control unit		RH side camera		Continuity
Connector	Terminals	Connector	Terminals	
M8	62	D27	7	Yes
	64		8	

4. Check continuity between around view monitor control unit connector M8 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M8	62		No

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harness or connectors.

2.CHECK RH SIDE CAMERA POWER SUPPLY VOLTAGE

1. Connect around view monitor control unit and RH side camera connectors.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit connector M8 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M8	62	—	CAMERA switch is ON or selector lever in R (reverse).	6.0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace around view monitor control unit. Refer to AV-267, "Removal and Installation".

3.CHECK RH SIDE CAMERA IMAGE SIGNAL AND IMAGE SIGNAL GROUND CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and RH side camera connectors.
3. Check continuity between around view monitor control unit connector M8 and RH side camera connector D27.

Around view monitor control unit		RH side camera		Continuity
Connector	Terminals	Connector	Terminals	
M8	65	D27	16	Yes
	66		15	

4. Check continuity between around view monitor control unit connector M8 and ground.

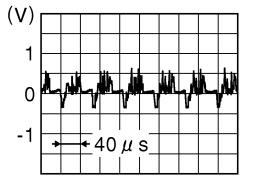
Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M8	65		No

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness or connectors.

4.CHECK RH SIDE CAMERA IMAGE SIGNAL

1. Connect around view monitor control unit and RH side camera connectors.
2. Turn ignition switch ON.
3. Check signal between the terminals of around view monitor control unit connector M8.

Around view monitor control unit connector M8		Condition	Reference value
(+)	(–)		
Terminal	Terminal		
65	66	CAMERA switch is ON or selector lever in R (reverse).	 JSNIA0834GB

Is the inspection result normal?

YES >> Replace around view monitor control unit. Refer to AV-267, "Removal and Installation".
NO >> Replace RH side camera. Refer to AV-269, "Removal and Installation".

U111C FRONT CAMERA IMAGE SIGNAL CIRCUIT

DTC Logic

INFOID:0000000010435694

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Front display output signal diagnosis (Harness disconnection) [U111C]	Front camera image signal circuit open or short.	Check front camera image signal circuit.

Diagnosis Procedure

INFOID:0000000010435695

Regarding Wiring Diagram information, refer to AV-159, "Wiring Diagram".

WITHOUT DRIVER ASSISTANCE SYSTEM

1.CHECK FRONT CAMERA POWER SUPPLY AND GROUND CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and front camera connectors.
3. Check continuity between around view monitor control unit connector M95 and front camera connector E106.

Around view monitor control unit		Front camera		Continuity
Connector	Terminals	Connector	Terminals	
M95	38	E106	2	Yes
	37		1	

4. Check continuity between around view monitor control unit connector M95 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M95	38		No

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harness or connectors.

2.CHECK FRONT CAMERA POWER SUPPLY VOLTAGE

1. Connect around view monitor control unit and front camera connectors.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit connector M95 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M95	38	—	CAMERA switch is ON or selector lever in R (reverse).	6.0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace around view monitor control unit. Refer to AV-267, "Removal and Installation".

3.CHECK FRONT CAMERA IMAGE SIGNAL AND IMAGE SIGNAL GROUND CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and front camera connectors.

3. Check continuity between around view monitor control unit connector M95 and front camera connector E106.

Around view monitor control unit		Front camera		Continuity
Connector	Terminals	Connector	Terminals	
M95	40	E106	4	Yes
	39		5	

4. Check continuity between around view monitor control unit connector M95 and ground.

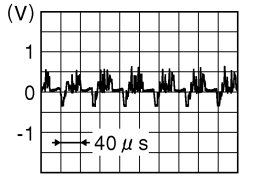
Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M95	40		No

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness or connectors.

4.CHECK FRONT CAMERA IMAGE SIGNAL

1. Connect around view monitor control unit and front camera connectors.
2. Turn ignition switch ON.
3. Check signal between the terminals of around view monitor control unit connector M95.

Around view monitor control unit connector M95		Condition	Reference value
(+)	(–)		
Terminal	Terminal		
40	39	CAMERA switch is ON or selector lever in R (reverse).	

JSNIA0834GB

Is the inspection result normal?

YES >> Replace around view monitor control unit. Refer to AV-267, "Removal and Installation".
NO >> Replace front camera. Refer to AV-268, "Removal and Installation".

WITH DRIVER ASSISTANCE SYSTEM

1.CHECK FRONT CAMERA POWER SUPPLY AND GROUND CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and front camera connectors.
3. Check continuity between around view monitor control unit connector M8 and front camera connector E106.

Around view monitor control unit		Front camera		Continuity
Connector	Terminals	Connector	Terminals	
M8	68	E106	2	Yes
	70		1	

4. Check continuity between around view monitor control unit connector M8 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M8	68		No

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harness or connectors.

2.CHECK FRONT CAMERA POWER SUPPLY VOLTAGE

1. Connect around view monitor control unit and front camera connectors.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit connector M8 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M8	68	—	CAMERA switch is ON or selector lever in R (reverse).	6.0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace around view monitor control unit. Refer to AV-267, "Removal and Installation".

3.CHECK FRONT CAMERA IMAGE SIGNAL AND IMAGE SIGNAL GROUND CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and front camera connectors.
3. Check continuity between around view monitor control unit connector M8 and front camera connector E106.

Around view monitor control unit		Front camera		Continuity
Connector	Terminals	Connector	Terminals	
M8	71	E106	4	Yes
	72		5	

4. Check continuity between around view monitor control unit connector M8 and ground.

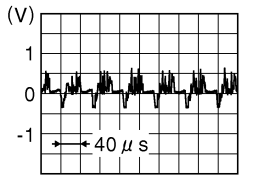
Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M8	71		No

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness or connectors.

4.CHECK FRONT CAMERA IMAGE SIGNAL

1. Connect around view monitor control unit and front camera connectors.
2. Turn ignition switch ON.
3. Check signal between the terminals of around view monitor control unit connector M8.

Around view monitor control unit connector M8		Condition	Reference value
(+)	(–)		
Terminal	Terminal		
71	72	CAMERA switch is ON or selector lever in R (reverse).	 JSNIA0834GB

Is the inspection result normal?

YES >> Replace around view monitor control unit. Refer to AV-267, "Removal and Installation".
NO >> Replace front camera. Refer to AV-268, "Removal and Installation".

U111D SIDE CAMERA LH IMAGE SIGNAL CIRCUIT

DTC Logic

INFOID:0000000010435696

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Left side display output signal diagnosis (Harness disconnection) [U111D]	Left side camera image signal circuit open or short.	Check left side camera image signal circuit.

Diagnosis Procedure

INFOID:0000000010435697

Regarding Wiring Diagram information, refer to AV-159, "Wiring Diagram".

WITHOUT DRIVER ASSISTANCE SYSTEM

1.CHECK LH SIDE CAMERA POWER SUPPLY AND GROUND CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and LH side camera connectors.
3. Check continuity between around view monitor control unit connector M95 and LH side camera connector D3.

Around view monitor control unit		LH side camera		Continuity
Connector	Terminals	Connector	Terminals	
M95	30	D3	7	Yes
	29		8	

4. Check continuity between around view monitor control unit connector M95 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M95	30		No

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harness or connectors.

2.CHECK LH SIDE CAMERA POWER SUPPLY VOLTAGE

1. Connect around view monitor control unit and LH side camera connectors.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit connector M95 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M95	30	—	CAMERA switch is ON or selector lever in R (reverse).	6.0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace around view monitor control unit. Refer to AV-267, "Removal and Installation".

3.CHECK LH SIDE CAMERA IMAGE SIGNAL AND IMAGE SIGNAL GROUND CIRCUIT CONTINUITY

1. Turn ignition switch OFF.

2. Disconnect around view monitor control unit and LH side camera connectors.
3. Check continuity between around view monitor control unit connector M95 and LH side camera connector D3.

Around view monitor control unit		LH side camera		Continuity
Connector	Terminals	Connector	Terminals	
M95	32	D3	16	Yes
	31		15	

4. Check continuity between around view monitor control unit connector M95 and ground.

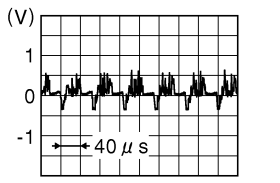
Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M95	32		No

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness or connectors.

4.CHECK LH SIDE CAMERA IMAGE SIGNAL

1. Connect around view monitor control unit and LH side camera connectors.
2. Turn ignition switch ON.
3. Check signal between the terminals of around view monitor control unit connector M95.

Around view monitor control unit connector M95		Condition	Reference value
(+)	(–)		
Terminal	Terminal		
32	31	CAMERA switch is ON or selector lever in R (reverse).	

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Is the inspection result normal?

YES >> Replace around view monitor control unit. Refer to AV-267, "Removal and Installation".
NO >> Replace LH side camera. Refer to AV-269, "Removal and Installation".

WITH DRIVER ASSISTANCE SYSTEM

1.CHECK LH SIDE CAMERA POWER SUPPLY AND GROUND CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and LH side camera connectors.
3. Check continuity between around view monitor control unit connector M8 and LH side camera connector D3.

Around view monitor control unit		LH side camera		Continuity
Connector	Terminals	Connector	Terminals	
M8	56	D3	7	Yes
	58		8	

4. Check continuity between around view monitor control unit connector M8 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M8	56		No

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harness or connectors.

2.CHECK LH SIDE CAMERA POWER SUPPLY VOLTAGE

1. Connect around view monitor control unit and LH side camera connectors.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit connector M8 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M8	56	—	CAMERA switch is ON or selector lever in R (reverse).	6.0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace around view monitor control unit. Refer to AV-267, "Removal and Installation".

3.CHECK LH SIDE CAMERA IMAGE SIGNAL AND IMAGE SIGNAL GROUND CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and LH side camera connectors.
3. Check continuity between around view monitor control unit connector M8 and LH side camera connector D3.

Around view monitor control unit		LH side camera		Continuity
Connector	Terminals	Connector	Terminals	
M8	59	D3	16	Yes
	60		15	

4. Check continuity between around view monitor control unit connector M8 and ground.

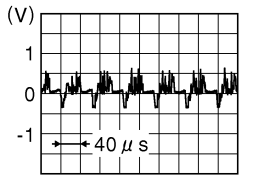
Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M8	59		No

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness or connectors.

4.CHECK LH SIDE CAMERA IMAGE SIGNAL

1. Connect around view monitor control unit and LH side camera connectors.
2. Turn ignition switch ON.
3. Check signal between the terminals of around view monitor control unit connector M8.

Around view monitor control unit connector M8		Condition	Reference value
(+)	(–)		
Terminal	Terminal		
59	60	CAMERA switch is ON or selector lever in R (reverse).	 JSNIA0834GB

Is the inspection result normal?

YES >> Replace around view monitor control unit. Refer to AV-267, "Removal and Installation".
NO >> Replace LH side camera. Refer to AV-269, "Removal and Installation".

U112F EPS CIRCUIT

DTC Logic

INFOID:0000000010944762

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-207, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010944763

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-189, "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-19, "DTC Index".
NO >> Replace the around view monitor control unit. Refer to AV-267, "Removal and Installation".

U1217 AV CONTROL UNIT

DTC Logic

INFOID:0000000010435698

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
BLUETOOTH MODULE [U1217]	Connection failure to the internal Blueooth® sub unit is detected.	Replace AV control unit if malfunction occurs constantly. Refer to AV-259, "Removal and Installation".

U1229 AV CONTROL UNIT

DTC Logic

INFOID:0000000010435699

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
iPod CERTIFICATION [U1229]	iPod authentication chip error.	Replace AV control unit if malfunction occurs constantly. Refer to AV-259, "Removal and Installation".

U122F AV CONTROL UNIT

DTC Logic

INFOID:0000000010435700

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Digital broadcasting connection error [U122F]	Communication error with digital audio broadcast module internal to AV control unit.	Replace AV control unit if malfunction occurs constantly. Refer to AV-259, "Removal and Installation".

U1232 STEERING ANGLE SENSOR

DTC Logic

INFOID:0000000010435701

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
ST ANG SEN CALIB [U1232]	The neutral position adjustment of the steering angle sensor is incomplete.	Adjust neutral position of the steering angle sensor.

Diagnosis Procedure

INFOID:0000000010435702

1.ADJUST THE NEUTRAL POSITION OF THE STEERING ANGLE SENSOR

When U1232 is detected, adjust the neutral position of the steering angle sensor.

>> Perform adjustment of the neutral position of the steering angle sensor. Refer to AV-144, "WITHOUT DRIVER ASSISTANCE SYSTEM : CONSULT Function".

U1244 GPS ANTENNA

DTC Logic

INFOID:0000000010435703

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
GPS ANTENNA CONN [U1244]	Open or short to ground is detected in GPS antenna connection.	• GPS antenna disconnection. • Open or short to ground in GPS antenna signal circuit.

Diagnosis Procedure

INFOID:0000000010435704

Regarding Wiring Diagram information, refer to AV-159, "Wiring Diagram".

1.GPS ANTENNA INSPECTION

Visually inspect the GPS antenna and antenna feeder. Refer to AV-271, "Removal and Installation".

Is inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace malfunctioning components.

2.CHECK AV CONTROL UNIT VOLTAGE

1. Disconnect AV control unit connector M317.
2. Turn ignition switch ON.
3. Check voltage between AV control unit connector M317 and ground.

AV control unit		Ground	Voltage
Connector	Terminal		
M317	56	—	5.0 V

Is inspection result normal?

YES >> Replace GPS antenna. Refer to AV-271, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-259, "Removal and Installation".

U1258 SATELLITE RADIO ANTENNA

DTC Logic

INFOID:0000000010435705

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
SXM ANTENNA CONN [U1258]	Open or short to ground is detected in satellite antenna connection.	• Satellite antenna disconnection. • Open or short to ground in satellite antenna signal circuit.

Diagnosis Procedure

INFOID:0000000010435706

Regarding Wiring Diagram information, refer to AV-159, "Wiring Diagram".

1. SATELLITE ANTENNA INSPECTION

Visually inspect the satellite antenna and antenna feeder. Refer to AV-273, "Feeder Layout".

Is inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace malfunctioning components.

2. CHECK AV CONTROL UNIT VOLTAGE

1. Turn ignition switch ON.
2. Check voltage between AV control unit connector M399 and ground.

AV control unit		Ground	Voltage
Connector	Terminal		
M399	152	—	5.0 V

Is inspection result normal?

YES >> Replace satellite radio antenna AV-272, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-259, "Removal and Installation".

U1263 USB

DTC Logic

INFOID:0000000010435707

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
USB OVERCURRENT [U1263]	Overcurrent in USB harness is detected.	• Device connected to USB interface. • Harness between the AV control unit and USB interface.

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

1. If there is a device connected to the USB interface, disconnect it.
2. Turn ignition switch ON and wait for 2 seconds or more.
3. Perform “Self Diagnostic Result” for “MULTI AV”.

Is DTC U1263 displayed?

YES >> Refer to AV-214, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000010435708

1.CHECK USB INTERFACE HARNESS

Visually inspect USB interface harness. Refer to AV-265, "Removal and Installation".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace USB interface harness. Refer to AV-265, "Removal and Installation".

2.CHECK USB INTERFACE HARNESS

Check USB interface harness. Refer to AV-243, "Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace AV control unit. Refer to AV-259, "Removal and Installation".
NO >> Replace USB interface harness. Refer to AV-265, "Removal and Installation".

U12AA CONFIGURATION ERROR

DTC Logic

INFOID:0000000010435709

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Configuration Error [U12AA]	AV control unit is not properly configured or configuration is corrupt.	Configuration data needs to be written. Refer to AV-178, "CONFIGURATION (AV CONTROL UNIT) : Work Procedure".

Diagnosis Procedure

INFOID:0000000010435710

1.PERFORM CONFIGURATION

When U12AA is detected, configuration data must be written.

>> Write configuration data with CONSULT. Refer to AV-178, "CONFIGURATION (AV CONTROL UNIT) : Work Procedure".

U1264 ANTENNA AMP.

DTC Logic

INFOID:0000000010435711

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
FM Antenna error [U12AB]	Open or short to ground is detected in AM-FM antenna connection.	• AM-FM antenna disconnection. • Open or short to ground in AM-FM antenna signal circuit.

Diagnosis Procedure

INFOID:0000000010435712

Regarding Wiring Diagram information, refer to AV-159, "Wiring Diagram".

1.AM-FM ANTENNA INSPECTION

Visually inspect the antenna base (AM-FM antenna) and antenna feeder. Refer to AV-273, "Feeder Layout".

Is inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace malfunctioning components.

2.CHECK CONTINUITY BETWEEN AV CONTROL UNIT AND ANTENNA BASE

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M399 and antenna base connector M394.
3. Check continuity between AV control unit connector M399 and antenna base connector M394.

AV control unit		Antenna base		Continuity
Connector	Terminal	Connector	Terminal	
M399	152	M394	1	Yes

4. Check continuity between AV control unit connector M139 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M399	152	—	No

Is the inspection result normal?

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

3.CHECK AV CONTROL UNIT VOLTAGE

1. Connect AV control unit connector M399.
2. Turn ignition switch ON.
3. Check voltage between AV control unit connector M399 and ground.

AV control unit		Ground	Voltage (Approx.)
Connector	Terminal		
M399	152	—	5.0 V

Is the inspection result normal?

YES >> Replace antenna base. Refer to AV-272, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-259, "Removal and Installation".

U12AC AV CONTROL UNIT

DTC Logic

INFOID:0000000010435713

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Display Temperature too High [U12AC]	Display temperature has exceeded maximum temperature. Display is switched OFF to avoid irreversible damage.	Replace AV control unit if malfunction occurs constantly. Refer to AV-259, "Removal and Installation".

U12AD AV CONTROL UNIT

DTC Logic

INFOID:0000000010435714

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
ECU Temperature too High [U12AD]	AV control unit temperature has exceeded maximum temperature.	Replace AV control unit if malfunction occurs constantly. Refer to AV-259, "Removal and Installation".

U12AE AV CONTROL UNIT

DTC Logic

INFOID:0000000010435715

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Internal Amplifier temperature Warning [U12AE]	Internal amplifier temperature has exceeded maximum temperature.	Replace AV control unit if malfunction occurs constantly. Refer to AV-259, "Removal and Installation".

U12AF AV CONTROL UNIT

DTC Logic

INFOID:0000000010435716

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
CD Mechanism Temperature Warning [U12AF]	CD drive temperature has exceeded maximum temperature. CD drive is switched OFF to avoid irreversible damage.	Replace AV control unit if malfunction occurs constantly. Refer to AV-259, "Removal and Installation".

U1300 AV COMM CIRCUIT

DTC Logic

INFOID:0000000010435721

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
AV COMM CIRCUIT [U1300]	AV communication circuit malfunction (MCAN) between AV control unit and combination meter.	AV communication circuits between AV control unit and combination meter.

Diagnosis Procedure

INFOID:0000000010435722

1.PERFORM SELF DIAGNOSTIC RESULT FOR METER M&A

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Perform “Self Diagnostic Result” for “METER M&A”.

Are any DTCs displayed?

YES >> Refer to MWI-39, "DTC Index".
NO >> GO TO 2.

2.CHECK AV COMMUNICATION CIRCUIT (MCAN L) CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M49 and combination meter connector M52.
3. Check continuity between AV control unit connector M49 and combination meter connector M52.

AV control unit		Combination meter		Continuity
Connector	Terminal	Connector	Terminal	
M49	32	M52	48	Yes
	39			

4. Check continuity between AV control unit connector M49 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M49	32	—	No
	39		

Is the inspection result normal?

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

3.CHECK AV COMMUNICATION CIRCUIT (MCAN H) CONTINUITY

1. Check continuity between AV control unit connector M49 and combination meter connector M52.

AV control unit		Combination meter		Continuity
Connector	Terminal	Connector	Terminal	
M49	31	M52	47	Yes
	38			

2. Check continuity between AV control unit connector M49 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M49	31	—	No
	38		

Is the inspection result normal?

YES >> Replace the AV control unit. Refer to AV-259, "Removal and Installation".
NO >> Repair or replace harness or connectors.

U1304 CAMERA IMAGE CALIBRATION

DTC Logic

INFOID:0000000010435723

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Non-completion of the calibration [U1304]	Camera image calibration is incomplete.	Perform calibration of camera image.

Diagnosis Procedure

INFOID:0000000010435724

1.PERFORM CALIBRATION

When U1304 is detected, perform calibration of camera image.

>> Refer to AV-181, "CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Work Procedure".

U1305 CONFIG UNFINISH

DTC Logic

INFOID:0000000010435725

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Non-completion of the configuration [U1305]	Configuration of around view monitor control unit is incomplete.	Perform configuration of around view monitor control unit.

Diagnosis Procedure

INFOID:0000000010435726

1.PERFORM CONFIGURATION

When U1305 is detected, perform configration of around view monitor control unit.

>> Refer to AV-179, "CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT) : Work Procedure".

U1310 CONTROL UNIT (AV)

DTC Logic

INFOID:0000000010435727

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
CONTROL UNIT (AV) [U1310]	Error during CAN controller hardware initialization (MCAN).	Replace AV control unit if malfunction occurs constantly. Refer to AV-259, "Removal and Installation".

U1320 REPROGRAMMING

DTC Logic

INFOID:0000000010944754

DTC DETECTION LOGIC

DTC	Trouble diagnosis (Trouble diagnosis contents)	Detecting condition
U1320	Reprogramming Failed (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-226, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010944755

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-226, "DTC Logic".

Is DTC U1320 detected again?

YES >> Replace around view monitor control unit. Refer to AV-267, "Removal and Installation".
NO >> INSPECTION END

U150E BCM CIRCUIT

DTC Logic

INFOID:0000000010944756

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-227, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010944757

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-189, "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-90, "DTC Index".
NO >> Replace the around view monitor control unit. Refer to AV-267, "Removal and Installation".

U1971 SONAR

DTC Logic

INFOID:0000000010944758

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-228, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010944759

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-189, "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-67, "DTC Index".
NO >> Replace the around view monitor control unit. Refer to AV-267, "Removal and Installation".

U1972 EPS

DTC Logic

INFOID:0000000010944760

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

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-229, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010944761

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-189, "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-19, "DTC Index".
NO >> Replace the around view monitor control unit. Refer to AV-267, "Removal and Installation".

POWER SUPPLY AND GROUND CIRCUIT

AV CONTROL UNIT

AV CONTROL UNIT : Diagnosis Procedure

INFOID:0000000010435728

Regarding Wiring Diagram information, refer to AV-159, "Wiring Diagram".

1.CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
19	Battery power supply	19 (20A)
40	Ignition power supply	4 (10A)

Are the fuses blown?

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

2.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit connectors M48 and M49.
3. Check voltage between AV control unit connectors M48 and M49 and ground.

AV control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M48	19	—	Ignition switch: OFF	Battery voltage
M49	40		Ignition switch: ON	

Is the inspection result normal?

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

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between AV control unit connector M49 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M49	20	—	Yes

Is the inspection result normal?

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

AROUND VIEW MONITOR CONTROL UNIT

AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure

INFOID:0000000010435729

Regarding Wiring Diagram information, refer to AV-159, "Wiring Diagram".

WITHOUT DRIVER ASSISTANCE SYSTEM

1.CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
2	Battery power supply	19 (20A)

Are the fuses blown?

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

2.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector M95.
3. Check voltage between around view monitor control unit connector M95 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M95	2	—	Ignition switch: OFF	Battery voltage

Is the inspection result normal?

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

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between around view monitor control unit connector M95 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M95	1	—	Yes

Is the inspection result normal?

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

WITH DRIVER ASSISTANCE SYSTEM

1.CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
2	Battery power supply	19 (20A)

Are the fuses blown?

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

2.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector M7.
3. Check voltage between around view monitor control unit connector M7 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M7	2	—	Ignition switch: OFF	Battery voltage

Is the inspection result normal?

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

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between around view monitor control unit connector M7 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M7	1	—	Yes

Is the inspection result normal?

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

FRONT TWEETER

Diagnosis Procedure

INFOID:0000000010435730

Regarding Wiring Diagram information, refer to AV-159, "Wiring Diagram".

1.CONNECTOR CHECK

Check the AV control unit and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair the terminals or connectors.

2.CHECK FRONT TWEETER SIGNAL CIRCUIT CONTINUITY

1. Disconnect AV control unit connector M48 and suspect front tweeter connector.
2. Check continuity between AV control unit connector M48 and suspect front tweeter connector.

AV control unit		Front tweeter		Continuity
Connector	Terminal	Connector	Terminal	
M48	2	M84 (LH)	1	Yes
	3		2	
	11	M83 (RH)	1	
	12		2	

3. Check continuity between AV control unit connector M48 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M48	2	—	No
	3		
	11		
	12		

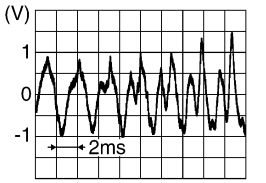
Is the inspection result normal?

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

3.CHECK FRONT TWEETER SIGNAL

1. Connect AV control unit connector M48 and suspect front tweeter connector.
2. Turn ignition switch to ON.
3. Push AV control unit POWER switch.
4. Check signal between the terminals of AV control unit connector M48.

AV control unit connector M48		Condition	Reference value
(+)	(–)		
Terminal	Terminal		

2	3	Audio signal output	 SKIB3609E
11	12		

Is the inspection result normal?

YES >> Replace front tweeter. Refer to AV-262, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-259, "Removal and Installation".

FRONT DOOR SPEAKER

Diagnosis Procedure

INFOID:0000000010435731

Regarding Wiring Diagram information, refer to AV-159, "Wiring Diagram".

1.CONNECTOR CHECK

Check the AV control unit and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair the terminals or connectors.

2.CHECK FRONT DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY

1. Disconnect AV control unit connector M48 and suspect front door speaker connector.
2. Check continuity between AV control unit connector M48 and suspect front door speaker connector.

AV control unit		Front door speaker		Continuity
Connector	Terminal	Connector	Terminal	
M48	2	D14 (LH)	1	Yes
	3		2	
	11	D34 (RH)	1	
	12		2	

3. Check continuity between AV control unit connector M48 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M48	2	—	No
	3		
	11		
	12		

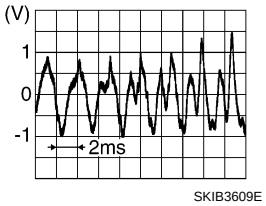
Is the inspection result normal?

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

3.CHECK FRONT DOOR SPEAKER SIGNAL

1. Connect AV control unit connector M48 and suspect front door speaker connector.
2. Turn ignition switch to ON.
3. Push AV control unit POWER switch.
4. Check signal between the terminals of AV control unit connector M48.

AV control unit connector M48		Condition	Reference value
(+)	(–)		
Terminal	Terminal		

2	3	Audio signal output	 SKIB3609E
11	12		

Is the inspection result normal?

YES >> Replace front door speaker. Refer to AV-263, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-259, "Removal and Installation".

REAR DOOR SPEAKER

Diagnosis Procedure

INFOID:0000000010435732

Regarding Wiring Diagram information, refer to AV-159, "Wiring Diagram".

1.CONNECTOR CHECK

Check the AV control unit and speaker connectors for the following:
- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair the terminals or connectors.

2.CHECK REAR DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY

1. Disconnect AV control unit connector M48 and suspect rear door speaker connector.
2. Check continuity between AV control unit connector M48 and suspect rear door speaker connector.

AV control unit		Rear door speaker		Continuity
Connector	Terminal	Connector	Terminal	
M48	4	D55 (LH)	1	Yes
	5		2	
	13	D69 (RH)	1	
	14		2	

3. Check continuity between AV control unit connector M48 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M48	4	—	No
	5		
	13		
	14		

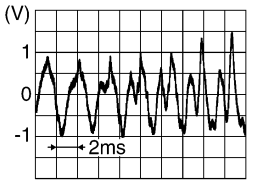
Is the inspection result normal?

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

3.CHECK REAR DOOR SPEAKER SIGNAL

1. Connect AV control unit connector M48 and suspect rear door speaker connector.
2. Turn ignition switch to ON.
3. Push AV control unit POWER switch.
4. Check signal between the terminals of AV control unit connector M48.

AV control unit connector M48		Condition	Reference value
(+)	(–)		
Terminal	Terminal		

4	5	Audio signal output	 SKIB3609E
13	14		

Is the inspection result normal?

YES >> Replace rear door speaker. Refer to AV-264, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-259, "Removal and Installation".

MICROPHONE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000010435733

Regarding Wiring Diagram information, refer to AV-159, "Wiring Diagram".

1.CHECK HARNESS BETWEEN AV CONTROL UNIT AND MICROPHONE

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M49 and microphone connector R20.
3. Check continuity between AV control unit connector M49 and microphone connector R20.

AV control unit		Microphone		Continuity
Connector	Terminal	Connector	Terminal	
M49	34	R20	2	Yes
	35		3	
	36		1	

4. Check continuity between AV control unit connector M49 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M49	34	—	No
	35		

Is the inspection result normal?

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

2.CHECK MICROPHONE POWER SUPPLY

1. Connect AV control unit connector M49 and microphone connector R20.
2. Turn ignition switch ON.
3. Check voltage between microphone connector R20 and ground.

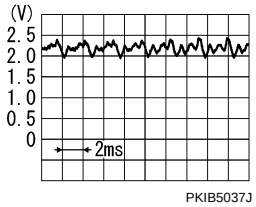
Microphone		Ground	Voltage (Approx.)
(+)		(-)	
Connector	Terminal		
R20	3	—	5V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace AV control unit. Refer to AV-259, "Removal and Installation".

3.CHECK MICROPHONE SIGNAL

Check signal between terminals of AV control unit connector M49.

AV control unit connector M102		Condition	Reference value
(+)	(-)		
Terminal	Terminal		
34	36	Speak into microphone.	 PKIB5037J

Is the inspection result normal?

YES >> Replace AV control unit. Refer to AV-259, "Removal and Installation".
NO >> Replace microphone. Refer to AV-266, "Removal and Installation".

STEERING SWITCH

Diagnosis Procedure

INFOID:0000000010435734

Regarding Wiring Diagram information, refer to AV-159, "Wiring Diagram".

1.CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

1. Turn ignition switch OFF.
2. Disconnect combination switch connector M66.
3. Check resistance between the terminals of combination switch connector M66.

Combination switch connector M66		Condition	Resistance Ω (Approx.)
Terminal	Terminal		
29	23	Depress SOURCE switch.	1
		Depress △ switch.	121
		Depress ▽ switch.	321
		Depress switch.	723
		Depress ENTER switch.	2023
24		Depress − switch.	1
		Depress + switch.	121
		Depress switch.	321
		Depress switch.	723
		Depress DISPLAY switch.	2023

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace steering switches. Refer to AV-261, "Removal and Installation".

2.CHECK HARNESS BETWEEN COMBINATION METER AND COMBINATION SWITCH

1. Disconnect combination meter connector M51 and combination switch connector M66.
2. Check continuity between combination meter connector M51 and combination switch connector M66.

Combination meter		Combination switch		Continuity
Connector	Terminal	Connector	Terminal	
M51	22	M66	29	Yes
	23		24	
	21		23	

3. Check continuity between combination meter connector M51 and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M51	22	—	No
	23		
	21		

Is the inspection result normal?

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

3.CHECK COMBINATION SWITCH

Check continuity between combination switch connectors M66 and M303.

Combination switch				Continuity
Connector	Terminal	Connector	Terminal	
M66	29	M303	5	Yes
	24		10	
	23		4	

Is the inspection result normal?

YES >> INSPECTION END.
NO >> Replace spiral cable. Refer to SR-17, "Exploded View".

USB CONNECTOR

Diagnosis Procedure

INFOID:0000000010435735

Regarding Wiring Diagram information, refer to AV-159, "Wiring Diagram".

1.CHECK USB INTERFACE HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector and USB interface connector M384.
3. Check continuity between AV control unit connector and USB interface connector M384.

AV control unit		USB interface		Continuity
Connector	Terminal	Connector	Terminal	
M	58	M384	5	Yes
	61		6	
	60		7	
	59		8	
	62		9	

Is the inspection result normal?

YES >> Replace the USB interface. Refer to AV-265, "Removal and Installation".
NO >> Repair or replace harness or connectors.

AUXILIARY INPUT JACK

Diagnosis Procedure

INFOID:0000000010435736

Regarding Wiring Diagram information, refer to AV-159, "Wiring Diagram".

1.CHECK AUX IN JACK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M49 and AUX in jack connector M13.
3. Check continuity between AV control unit connector M49 and AUX in jack connector M13.

AV control unit		AUX in jack		Continuity
Connector	Terminal	Connector	Terminal	
M49	21	M13	4	Yes
	22		3	
	23		1	

4. Check continuity between AV control unit connector M49 and ground.

AV control unit		—	Continuity
Connector	Terminal		
M49	21	Ground	No
	23		

Is the inspection result normal?

YES >> Replace the AUX in jack. Refer to AV-265, "Removal and Installation".
NO >> Repair or replace harness or connectors.

SYMPTOM DIAGNOSIS

MULTI AV SYSTEM

Symptom Table

INFOID:0000000010435737

RELATED TO AUDIO

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	AV control unit	Malfunction in AV control unit. Refer to AV-142, "On Board Diagnosis Function".
No sound comes out or the level of the sound is low.	No sound from all speakers.	• Speaker circuit shorted to ground. Refer to AV-159, "Wiring Diagram". • AV control unit power supply and ground circuits malfunction. Refer to AV-230, "AV CONTROL UNIT : Diagnosis Procedure".
	Only a certain speaker (front tweeter LH, front tweeter RH, front door speaker LH, front door speaker RH, rear door speaker LH, rear door speaker RH) does not output sound.	• Poor connector connection of speaker. • Sound signal circuit malfunction between AV control unit and speaker. Refer to: - AV-233, "Diagnosis Procedure" (front tweeter). - AV-235, "Diagnosis Procedure" (front door speaker). - AV-237, "Diagnosis Procedure" (rear door speaker). • Malfunction in speaker. Refer to: - AV-262, "Removal and Installation" (front tweeter). - AV-263, "Removal and Installation" (front door speaker). - AV-264, "Removal and Installation" (rear door speaker). • Malfunction in AV control unit. Refer to AV-142, "On Board Diagnosis Function".

Symptoms	Check items	Probable malfunction location
Noise is mixed with audio.	Noise comes out from all speakers.	Malfunction in AV control unit. Refer to AV-142, "On Board Diagnosis Function".
	Noise comes out only from a certain speaker (front tweeter LH, front tweeter RH, front door speaker LH, front door speaker RH, rear door speaker LH, rear door speaker RH).	• Poor connector connection of speaker. • Sound signal circuit malfunction between AV control unit and speaker. Refer to: - AV-233, "Diagnosis Procedure" (front tweeter). - AV-235, "Diagnosis Procedure" (front door speaker). - AV-237, "Diagnosis Procedure" (rear door speaker). • Malfunction in speaker. • Poor Installation of speaker (e.g. backlash and looseness). Refer to: - AV-262, "Removal and Installation" (front tweeter). - AV-263, "Removal and Installation" (front door speaker). - AV-264, "Removal and Installation" (rear door speaker). • Malfunction in AV control unit. Refer to AV-142, "On Board Diagnosis Function".
	Noise is mixed with radio only (when the vehicle hits a bump or while driving over bad roads)	Poor connector connection of antenna or antenna feeder. Refer to AV-273, "Feeder Layout".
No radio reception or poor reception.	• Other audio sounds are normal. • Any radio station cannot be received or poor reception is caused even after moving to a service area with good reception (e.g. a place with clear view and no obstacles generating external noises).	• Antenna amp. ON signal circuit malfunction. Refer to AV-216, "Diagnosis Procedure". • Poor connector connection of antenna or antenna feeder. Refer to AV-273, "Feeder Layout".
No satellite radio reception.	There is malfunction in the CONSULT self diagnosis result. Refer to AV-143, "CONSULT Function".	• Malfunction in antenna, antenna feeder or AV control unit. Perform DTC diagnosis. Refer to AV-213, "Diagnosis Procedure". • Poor continuity in antenna feeder. • Poor connector connection of antenna or antenna feeder. Refer to AV-273, "Feeder Layout".
	There is no malfunction in the CONSULT self diagnosis result. Refer to AV-143, "CONSULT Function".	• Poor continuity in antenna feeder. • Poor connector connection of antenna or antenna feeder. • Loose satellite radio antenna mounting nut. Refer to AV-273, "Feeder Layout".
Buzz/rattle sound from speaker	The majority of buzz/rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the buzz/rattle.	Refer to "SQUEAK AND RATTLE TROUBLE DIAGNOSIS" in the appropriate interior trim section.

RELATED TO HANDS-FREE PHONE

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

Check Compatibility

1. Make sure the customer′s Bluetooth® related concern is understood.
2. Verify the customer′s concern.
   NOTE:
   The customer′s phone may be required, depending upon their concern.
3. Write down the customer′s phone brand, model and service provider.
   NOTE:
   It is necessary to know the service provider. On occasion, a given phone may be on the approved list with one provider, but may not be on the approved list with other providers.
4. Go to “www.nissanusa.com/bluetooth/”.

a. Using the website′s search engine, find out if the customer′s phone is on the approved list.

b. If the customer′s phone is NOT on the approved list:
   Stop diagnosis here. The customer needs to obtain a Bluetooth® phone that is on the approved list before any further action.

c. If the feature related to the customer′s concern shows as “N” (not compatible):
   Stop diagnosis here. If the customer still wants the feature to function, they will need to get an approved phone showing the feature as “Y” (compatible) in the “Basic Features”.

d. If the feature related to the customer′s concern shows as “Y” (compatible):
   Perform diagnosis as per the following table.

Symptoms	Check items	Probable malfunction location
Does not recognize cellular phone connection (no connection is displayed on the display at the guide).	Repeat the registration of cellular phone.	Malfunction in AV control unit. Replace AV control unit. Refer to AV-259, "Removal and Installation".
Hands-free phone cannot be established.	• Hands-free phone operation can be made, but the communication cannot be established. • Hands-free phone operation can be performed, however, voice between each other cannot be heard during the conversation.	
The other party′s voice cannot be heard by hands-free phone.	Check the “microphone speaker” in Inspection & Adjustment Mode if sound is heard.	
Originating sound is not heard by the other party with hands-free phone communication.	Sound operation function is normal.	
	Sound operation function does not work.	Microphone signal circuit malfunction. Refer to AV-239, "Diagnosis Procedure".
The system cannot be operated.	• The voice recognition can be controlled. • Steering switch′s − , + , and switch works, but does not work.	Steering switch malfunction. Replace steering switch. Refer to AV-261, "Removal and Installation".
	Steering switch′s , − , + , and switches do not work.	Steering switch signal circuit malfunction. Refer to AV-241, "Diagnosis Procedure".
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to AV-241, "Diagnosis Procedure".

RELATED TO NAVIGATION

Symptoms	Check items	Probable malfunction location
Navigation system is inoperative.	Navigation malfunction.	• Malfunction in SD card. • Malfunction in AV control unit. Refer to AV-142, "On Board Diagnosis Function".
	Steering switches malfunction.	Steering switch signal circuit malfunction. Refer to AV-241, "Diagnosis Procedure".
	Voice activated control malfunction.	Microphone signal circuit malfunction. Refer to AV-239, "Diagnosis Procedure". Steering switch signal circuit malfunction. Refer to AV-241, "Diagnosis Procedure".

RELATED TO AROUND VIEW MONITOR

Symptoms	Check items	Probable malfunction location
Display does not switch to camera image when CAMERA switch is pressed or selector lever is in R (reverse).	Around view monitor control unit malfunction.	Around view monitor control unit power supply and ground circuits malfunction. Refer to AV-230, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure".
	Camera image signal circuit (output) malfunction.	Camera image signal circuit (output) malfunction between around view monitor control unit and display unit. Refer to AV-152, "WITHOUT DRIVER ASSISTANCE SYSTEM : Reference Value".
Display switches to camera image when CAMERA switch is pressed or selector lever is in R (reverse), but all views are not displayed.	Camera image signal circuit (input) malfunction.	Camera image signal circuit (input) malfunction between camera and around view monitor control unit. Refer to: • AV-199, "Diagnosis Procedure" (front camera). • AV-191, "Diagnosis Procedure" (rear camera). • AV-203, "Diagnosis Procedure" (side camera LH). • AV-195, "Diagnosis Procedure" (side camera RH).
Camera image is rolling.	Camera image signal circuit (output) malfunction.	Camera image signal circuit (output) malfunction between around view monitor control unit and display unit. Refer to AV-152, "WITHOUT DRIVER ASSISTANCE SYSTEM : Reference Value".
Display does not switch to rear view monitor even when selector lever is in R (reverse).	Reverse signal circuit malfunction.	Reverse signal circuit between BCM and around view monitor control unit. Refer to AV-152, "WITHOUT DRIVER ASSISTANCE SYSTEM : Reference Value".
Predicted course line display in front view and rear view is malfunctioning.	Steering angle sensor malfunction.	Predicted course line center position is malfunctioning. Refer to AV-180, "PREDICTED COURSE LINE CENTER POSITION ADJUSTMENT : Work Procedure".
Front view and front of birds-eye view is not displayed.	• Front camera malfunction. • Front camera image signal circuit malfunction.	• Front camera power supply and ground circuits malfunction. • Front camera image signal circuit malfunction between front camera and around view monitor control unit. Refer to AV-199, "Diagnosis Procedure".
Rear view and rear of birds-eye view is not displayed.	• Rear view camera malfunction. • Rear view camera image signal circuit malfunction.	• Rear view camera power supply and ground circuits malfunction. • Rear view camera image signal circuit malfunction between rear view camera and around view monitor control unit. Refer to AV-191, "Diagnosis Procedure".

Symptoms	Check items	Probable malfunction location
Driver side of birds-eye view is not displayed.	• Side camera LH malfunction. • Side camera LH image signal circuit malfunction.	• Side camera LH power supply and ground circuits malfunction. • Side camera LH image signal circuit malfunction between side camera LH and around view monitor control unit. Refer to AV-203, "Diagnosis Procedure".
Front-side and passenger side of birds-eye view is not displayed.	• Side camera RH malfunction. • Side camera RH image signal circuit malfunction.	• Side camera RH power supply and ground circuits malfunction. • Side camera RH image signal circuit malfunction between side camera RH and around view monitor control unit. Refer to AV-195, "Diagnosis Procedure".
Selector lever is in a position other than R (reverse) and front, rear, front-side and Birds-Eye views are displayed even as vehicle speed increases.	Vehicle speed signal malfunction.	Vehicle speed signal malfunction between ABS actuator and electric unit (control unit) and around view monitor control unit. Refer to AV-152, "WITHOUT DRIVER ASSISTANCE SYSTEM : Reference Value".

NORMAL OPERATING CONDITION

Description

INFOID:0000000010435738

RELATED TO NOISE

The majority of the audio concerns are the result of outside causes (bad CD, electromagnetic interference, etc.).
The following noise results from variations in field strength, such as fading noise and multi-path noise, or external noise from trains and other sources. It is not a malfunction.

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

The vehicle itself can be a source of noise if noise prevention parts or electrical equipment 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 determine the cause.

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

Type of Noise and Possible Cause

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

RELATED TO HANDS-FREE PHONE

Symptom	Cause and Counter measure
Does not recognize cellular phone connection (No connection is displayed on the display at the guide).	Some Bluetooth® enabled cellular phones may not be recognized by the in-vehicle phone module. Refer to “RELATED TO HANDS-FREE PHONE (Check Compatibility)” in AV-245, "Symptom Table".
Cannot use hands-free phone.	Customer will not be able to use a hands-free phone under the following conditions: • The vehicle is outside of the telephone service area. • The vehicle is in an area where it is difficult to receive radio waves; such as in a tunnel, in an underground parking garage, near a tall building or in a mountainous area. • The cellular phone is locked to prevent it from being dialed. **NOTE:** While a 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.

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

RELATED TO NAVIGATION

Basic Operation

Symptom	Cause	Remedy
No image is shown.	Display brightness adjustment is set fully to DARK side.	Adjust the display brightness.
No guide sound is heard. Audio guide volume is too low or too high.	Volume control is set to OFF, MIN or MAX.	Adjust the audio guide volume or set it to ON.
Screen is too dark. Motion of the image is too slow.	Temperature inside the vehicle is low.	Wait until the temperature inside the vehicle reaches the proper temperature.
Small black or bright spots appear on the screen.	Symptom peculiar to a liquid crystal display (display unit).	System is not malfunction.

Vehicle Mark

Symptom	Cause	Remedy
Map screen and BIRDVIEW™ Name of the place vary with the screen.	Some thinning of the character data is done to prevent the display becoming to complex. In some cases and in some locations, the display contents may differ. The same place name, street name, etc. may not be displayed every time on account of the data processing.	System is not malfunctioning.
Vehicle mark is not positioned correctly.	Vehicle is transferred by ferry or by towing after its ignition switch is turned to OFF.	Drive the vehicle for a while in the GPS satellite signal receiving condition.
Screen will not switch to nighttime mode after the lighting switch is turned ON.	The daytime screen is selected by the "SWITCH SCREENS" when the last time the screen dimming setting is done. Switching between daytime/nighttime screen may be inhibited by the automatic illumination adjustment function.	Perform screen dimming and select the nighttime screen by "SWITCH SCREENS".
Map screen will not scroll in accordance with the vehicle travel.	Current location is not displayed.	Press "MAP" button to display the current location.
Vehicle mark will not be shown.	Current location is not displayed.	Press "MAP" button to display the current location.
Accuracy indicator (GPS satellite mark) on the map screen stays gray.	GPS satellite signal is intercepted because the vehicle is in or behind a building.	Move the vehicle out to an open space.
	GPS satellite signal cannot be received because an obstacle is placed on top of the instrument panel.	Do not place anything on top of the meter display (instrument panel).
	GPS satellites are not visible from current location.	Wait until GPS satellites are visible by moving the vehicle.

Symptom	Cause	Remedy
Vehicle location accuracy is low.	Accuracy indicator (GPS satellite mark) on the map screen stays gray.	Current location is not determined.
	Vehicle speed setting by the vehicle speed pulse has been deviated (advanced or retarded) from the actual vehicle speed because tire chain is fitted or the system has been used on another vehicle.	Drive the vehicle for a while [for approx. 30 minutes at approx. 30 km/h (19 MPH)] and the deviation will be automatically adjusted. If advancement or retard still occur, perform the distance adjustment by CONFIRMATION/ADJUSTMENT mode of diagnosis function.
	Map data has error or omission. (Vehicle mark is always deviated to the same position.)	As a rule, an updated map DVD–ROM will be released once a year.

Destination, Passing Points and Menu Items Cannot be Selected/Set

Symptom	Cause	Remedy
Destination cannot be set.	Destination to be set is on an expressway.	Set the destination on an ordinary road.
Passing point is not searched when re-searching the route.	The vehicle has already passed the passing point, or the system judged so.	To include the passing points that have been passed into the route again, set the route again.
Route information will not be displayed.	Route searching has not been done.	Set the destination and perform route searching.
	Vehicle mark is not on the recommended route.	Drive on the recommended route.
	Route guide is turned OFF.	Turn route guide ON.
	Route information is not available on the dark pink route.	System is not malfunctioning.
After the route searching, no guide sign will appear as the vehicle goes near the entrance/exit to the toll road.	Vehicle mark is not on the recommended route. (On the display, only guide signs related to the recommended route will be shown.)	Drive on the recommended route.
Automatic route searching is not possible.	Vehicle is driving on a highway (gray route), or no recommended route is available.	Drive on a road to be searched. Or re–search the route manually. In this case, however, the whole route will be searched.
Performed automatic detour search (or detour search). However, the result is the same as that of the previous search.	Performed search with every conditions considered. However, the result is the same as that of the previous search.	System is not malfunctioning.
Passing points cannot be set.	More than five passing points were set.	Passing points can be set up to five. To stop at more than five points, perform sharing in several steps.
When setting the route, the starting point cannot be selected.	The current vehicle location is always set as the starting point of a route.	System is not malfunctioning.
Some menu items cannot be selected.	The vehicle is being driven.	Stop the vehicle at a safe place and then operate the system.

Voice Guide

Symptom	Cause	Remedy
Voice guide will not operate.	Note: Voice guide is only available at intersections that satisfy certain conditions (indicated by ● on the map). Therefore, guidance may not be given even when the route on the map changes direction.	System is not malfunctioning.
	The vehicle is not on the recommended route.	Return to the recommended route or re-search the route.
	Voice guide is turned OFF.	Turn voice guide ON.
	Route guide is turned OFF.	Turn route guide ON.
Voice guide does not match the actual road pattern.	Voice guide may vary with the direction to which the vehicle is turn and the connection of the road to other roads.	Drive in conformity to the actual traffic rules.

Route Search

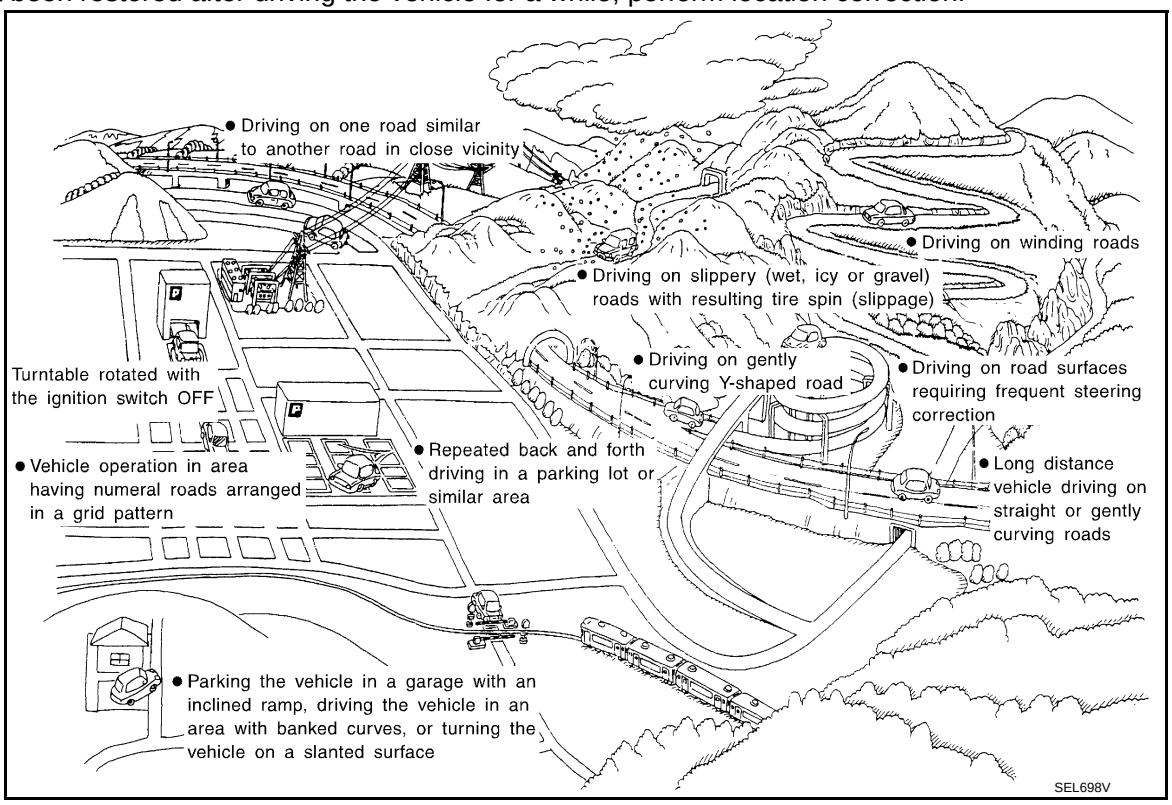
Symptom	Cause	Remedy
No route is shown.	No road to be searched is found around the destination.	Find wider road (orange road or wider) nearby and reset the destination and passing points onto it. Take care of the traveling direction when there are separate up and down roads.
	Starting point and the destination are too close.	Set the destination at more distant point.
	Conditional traffic regulation (day of the week/ time of the day) is set at the area around the current location or the destination.	Turn the time-regulating search conditions OFF. Turn “Avoid regulation time” in the search conditions OFF.
Indicated route is intermittent.	In some areas, highways (gray routes) are not used for the search(Note)Therefore, the route to the current location or the passing points may be intermittent.	System is not malfunctioning.
When the vehicle has passed the recommended route, it is deleted from the screen.	A recommended route is controlled by each section. When the vehicle has passed the passing point 1, then the map data from the starting point up to the passing point 1 will be deleted. (The data may remain undeleted in some area.)	System is not malfunctioning.
Detouring route is recommended.	In some areas, highways (gray routes) are not used for the search. (Note). Therefore, detour route may be recommended.	Set the route closer to the basic route (gray route).
	A detour route may be shown when some traffic regulation (one-way traffic, etc.) is set at the area around the starting point or the destination.	Slightly move the starting point or the destination, or set the passing point on the route of your choice.
	In the area where highways (gray routes) are used for the search, left turn has priority around the current location and the destination (passing points). For this reason, the recommended route may be detouring.	System is not malfunctioning.
Landmarks on the map do not match the actual ones.	This can be happen due to omission or error in the map data.	As a rule, an updated map DVD-ROM will be released once a year. Wait until the latest map has become available.
Recommended route is far from the starting point, passing points, and destination.	Starting point, passing points, and destination of the route guide were set far from the desired points because route searching data around these area were not stored.	Reset the destination onto the road nearby. If this road is one of the highways (gray routes), an ordinary road nearby may be displayed as the recommended route.

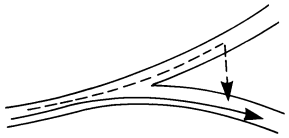
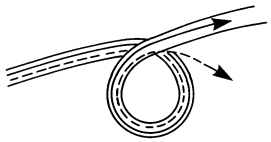
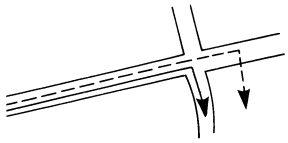
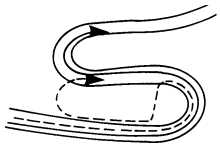
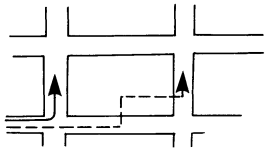
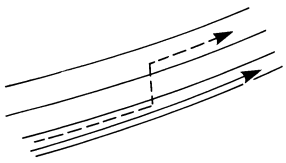
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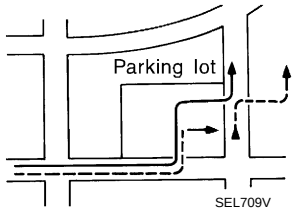
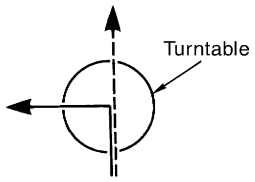
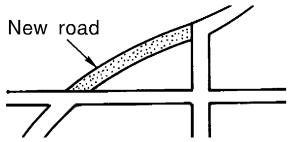
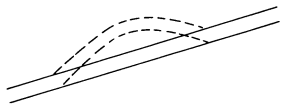
Except for the ordinance-designated cities. (Malfunctioning areas may be changed in the updated map disc.)

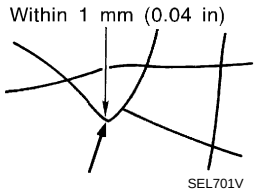
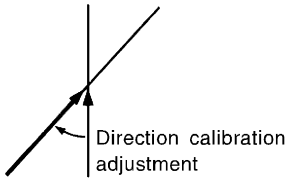
Examples of Current-Location Mark Displacement

Vehicle's travel amount is calculated by reading its travel distance and turning angle. Therefore, if the vehicle is driven in the following manner, an error will occur in the vehicle's current location display. If correct location has not been restored after driving the vehicle for a while, perform location correction.



Cause (condition) –: While driving ooo: Display		Driving condition	Remarks (correction, etc.)
Road configuration	Y–intersections  ELK0192D	At a Y intersection or similar gradual division of roads, an error in the direction of travel deduced by the sensor may result in the current-location mark appearing on the wrong road.	If after travelling about 10 km (6 miles) the correct location has not been restored, perform location correction and, if necessary, direction correction.
	Spiral roads  ELK0193D	When driving on a large, continuous spiral road (such as loop bridge), turning angle error is accumulated and the vehicle mark may deviate from the correct location.	
	Straight roads  ELK0194D	When driving on a long, straight road and slow curve without stopping, map-matching does not work effectively enough and distance errors may accumulate. As a result, the vehicle mark may deviate from the correct location when the vehicle is turned at a corner.	
	Zigzag roads  ELK0195D	When driving on a zigzag road, the map may be matched to other roads in the similar direction nearby at every turn, and the vehicle mark may deviate from the correct location.	
	Roads laid out in a grid pattern  ELK0196D	When driving where roads are laid out in a grid pattern, or where many roads are running in the similar direction nearby, the map may be matched to them by mistake and the vehicle mark may deviate from the correct location.	
	Parallel roads  ELK0197D	When two roads are running in parallel (such as highway and sideway), the map may be matched to the other road by mistake and the vehicle mark may deviate from the correct location.	

Cause (condition) –: While driving ooo: Display		Driving condition	Remarks (correction, etc.)
Place	In a parking lot  SEL709V	When driving in a parking lot, or other location where there are no roads on the map, matching may place the vehicle mark on a nearby road. When the vehicle returns to the road, the vehicle mark may have deviated from the correct location. When driving in circle or turning the steering wheel repeatedly, direction errors accumulate, and the vehicle mark may deviate from the correct location.	If after travelling about 10 km (6 miles) the correct location has not been restored, perform location correction and, if necessary, direction correction.
	Turntable  SEL710V	When the ignition switch is OFF, the navigation system cannot get the signal from the gyroscope (angular speed sensor). Therefore, the displayed direction may be wrong and the correct road may not be easily returned to after rotating the vehicle on a turntable with the ignition OFF.	
	Slippery roads	On snow, wet roads, gravel, or other roads where tires may slip easily, accumulated mileage errors may cause the vehicle mark to deviate from the correct road.	
	Slopes	When parking in sloped garages, when travelling on banked roads, or in other cases where the vehicle turns when tilted, an error in the turning angle will occur, and the vehicle mark may deviate from the road.	
Map data	Road not displayed on the map screen  SEL699V	When driving on new roads or other roads not displayed on the map screen, map matching does not function correctly and matches the location to a nearby road. When the vehicle returns to a road which is on the map, the vehicle mark may deviate from the correct road.	
	Different road pattern (Changed due to repair)  ELK0201D	If the road pattern stored in the map data and the actual road pattern are different, map matching does not function correctly and matches the location to a nearby road. The vehicle mark may deviate from the correct road.	
Vehicle	Use of tire chains	When tire chains are used, the mileage is not correctly detected, and the vehicle mark may deviate from the correct road.	Drive the vehicle for a while. If the distance still deviates, adjust it by using the distance adjustment function. (If the tire chain is removed, recover the original value.)

Cause (condition) –: While driving ooo: Display		Driving condition	Remarks (correction, etc.)
Precautions for driving	Just after the engine is started	If the vehicle is driven just after the engine is started when the gyroscope (angular speed sensor) correction is not completed, the vehicle can lose its direction and may have deviated from the correct location.	Wait for a short while before driving after starting the engine.
	Continuous driving without stopping	When driving long distances without stopping, direction errors may accumulate, and the current-location mark may deviate from the correct road.	Stop and adjust the orientation.
	Abusive driving	Spinning the wheels or engaging in other kinds of abusive driving may result in the system being unable perform correct detection, and may cause the vehicle mark to deviate from the correct road.	If after travelling about 10 km (6 miles) the correct location has not been restored, perform location correction and, if necessary, direction correction.
How to correct location	Position correction accuracy  SEL701V	If the accuracy of location settings is poor, accuracy may be reduced when the correct road cannot be found, particularly in places where there are many roads.	Enter in the road displayed on the screen with an accuracy of approx. 1mm. Caution: Whenever possible, use detailed map for the correction.
	Direction when location is corrected  SEL702V	If the accuracy of location settings during correction is poor, accuracy may be reduced afterwards.	Perform direction correction.

Location Correction by Map-Matching is Slow

- The map-matching function needs to refer to the data of the surrounding area. It is necessary to drive some distance for the function to work.
- Because map-matching operates on this principle, when there are many roads running in similar directions in the surrounding area, no matching determination may be made. The location may not be corrected until some special feature is found.

Name of Road is Not Displayed

The current road name may not be displayed if there are no road names displayed on the map screen.

Contents of Display Differ for Birdview™ and the (Flat) Map Screen

Difference of the BIRDVIEW™ screen from the flat map screen are as follows.

- The current place name displays names which are primarily in the direction of vehicle travel.
- The amount of time before the vehicle travel or turn angle is updated on the screen is longer than for the (flat) map display.
- The conditions for display of place names, roads, and other data are different for nearby areas and for more distant areas.
- Some thinning of the character data is done to prevent the display becoming too complex. In some cases and in some locations, the display contents may differ.
- The same place name, street name, etc. may be displayed multiple times.

Vehicle Mark Shows a Position Which is Completely Wrong

In the following cases, the vehicle mark may appear on completely different position in the map depending on the GPS satellite signal receiving conditions. In this case, perform location correction and direction correction.

- When location correction has not been done
  - If the receiving conditions of the GPS satellite signal is poor, if the vehicle mark becomes out of place, it may move to a completely different location and not come back if location correction is not done. The position will be corrected if the GPS signal can be received.
- When the vehicle has traveled by ferry, or when the vehicle has been being towed

- Because calculation of the current location cannot be done when traveling with the ignition off, for example when traveling by ferry or when being towed, the location before travel is displayed. If the precise location can be detected with GPS, the location will be corrected.

Vehicle Mark Jumps

In the following cases, the vehicle mark may appear to jump as a result of automatic correction of the current location.

• When map matching has been done
- If the current location and the vehicle mark are different when map matching is done, the vehicle mark may seem to jump. At this time, the location may be “corrected” to the wrong road or to a location which is not on a road.
• When GPS location correction has been done
- If the current location and the vehicle mark are different when the location is corrected using GPS measurements, the vehicle mark may seem to jump. At this time, the location may be “corrected” to a location which is not on a road.

Vehicle Mark is in a River or Sea

The navigation system moves the vehicle mark with no distinction between land and rivers or sea. If the vehicle mark is somehow out of place, it may appear that the vehicle is driving in a river or the sea.

Vehicle Mark Automatically Rotates

The system wrongly memorizes the rotating status as stopping when the ignition switch is turned ON with the turntable rotating. That causes the vehicle mark to rotate when the vehicle is stopped.

When Driving on Same Road, Sometimes Vehicle Mark is in Right Place and Sometimes it is in Wrong Place

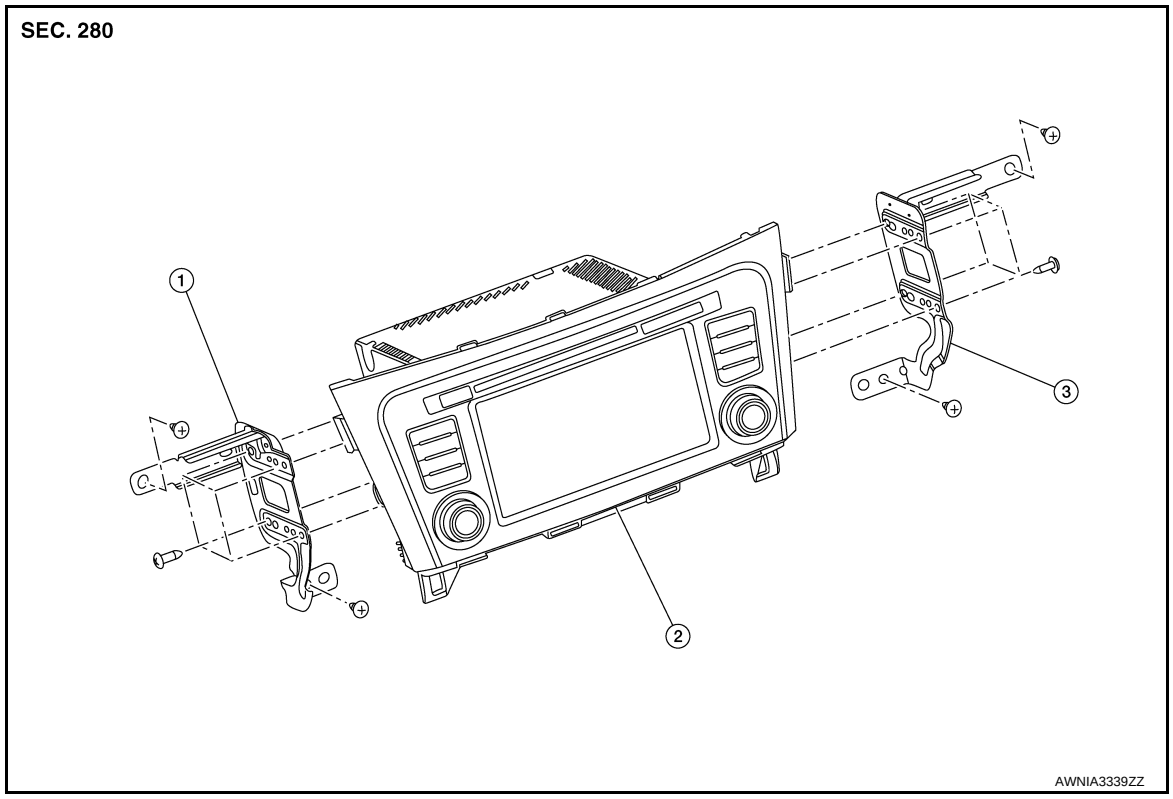
The conditions of the GPS antenna (GPS data) and gyroscope (angular speed sensor) change gradually. Depending on the road traveled and the operation of the steering wheel, the location detection results will be different. Therefore, even on a road on which the location has never been wrong, conditions may cause the vehicle mark to deviate.

REMOVAL AND INSTALLATION

AV CONTROL UNIT

Exploded View

INFOID:0000000010435739



1. AV control unit bracket (LH)
2. AV control unit
3. AV control unit bracket (RH)

Removal and Installation

INFOID:0000000010435740

REMOVAL

CAUTION:

- **Before disconnecting the AV control unit and battery terminals, turn the ignition switch OFF and wait at least 30 seconds.**
- **Before replacing AV control unit, perform READ "CONFIGURATION" to save current vehicle specification. Refer to AV-179, "CONFIGURATION (AV CONTROL UNIT) : Configuration List".**

NOTE:

After the ignition switch is turned OFF, the AV control unit continues operating for approximately 30 seconds. Therefore, data corruption may occur if battery voltage is cut off within 30 seconds.

1. Disconnect the negative battery terminal. Refer to PG-155, "Removal and Installation".
2. Remove A/C switch (AUTOMATIC AIR CONDITIONING) or front air control (MANUAL AIR CONDITIONING).
3. Remove instrument finisher B. Refer to IP-12, "Exploded View".
4. Remove instrument finisher E. Refer to IP-12, "Exploded View".
5. Remove the AV control unit screws, then pull out the AV control unit.
6. Disconnect the harness connectors from the AV control unit and remove.
7. Remove the AV control unit bracket (LH/RH) screws and the AV control unit brackets (LH/RH) (if necessary).

INSTALLATION

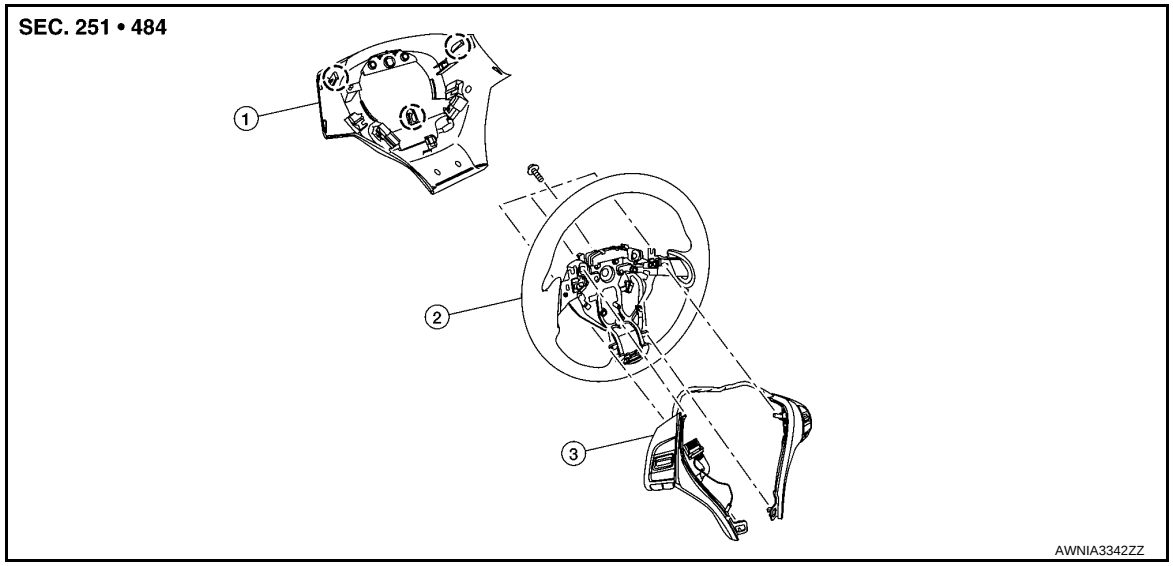
Installation is in the reverse order of removal.

CAUTION:
When replacing AV control unit, perform “WRITE CONFIGURATION”. Refer to AV-179, "CONFIGURATION (AV CONTROL UNIT) : Configuration List".

STEERING SWITCH

Exploded View

INFOID:0000000010435741



1. Steering wheel rear finisher
2. Steering wheel
3. Steering switches

Pawl

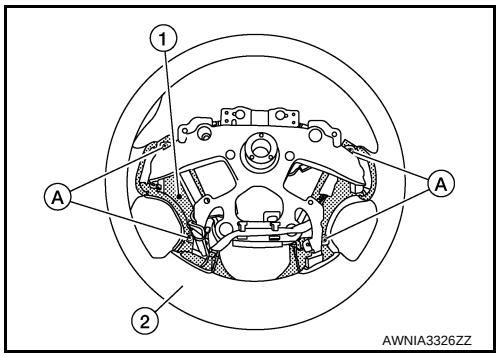
Removal and Installation

INFOID:0000000010435742

REMOVAL

NOTE:
The steering switches are serviced as an assembly.

1. Remove steering wheel. Refer to ST-8, "Exploded View".
2. Release pawls on the steering wheel rear finisher and remove.
3. Remove screws (A) and steering switches (1) from steering wheel (2).



INSTALLATION

Installation is in the reverse order of removal.

FRONT TWEETER

Removal and Installation

INFOID:0000000010435743

REMOVAL

1. Remove defroster grille. Refer to IP-12, "Exploded View".
2. Remove bolts and pull out the front tweeter.
3. Disconnect the harness connector from the front tweeter and remove.

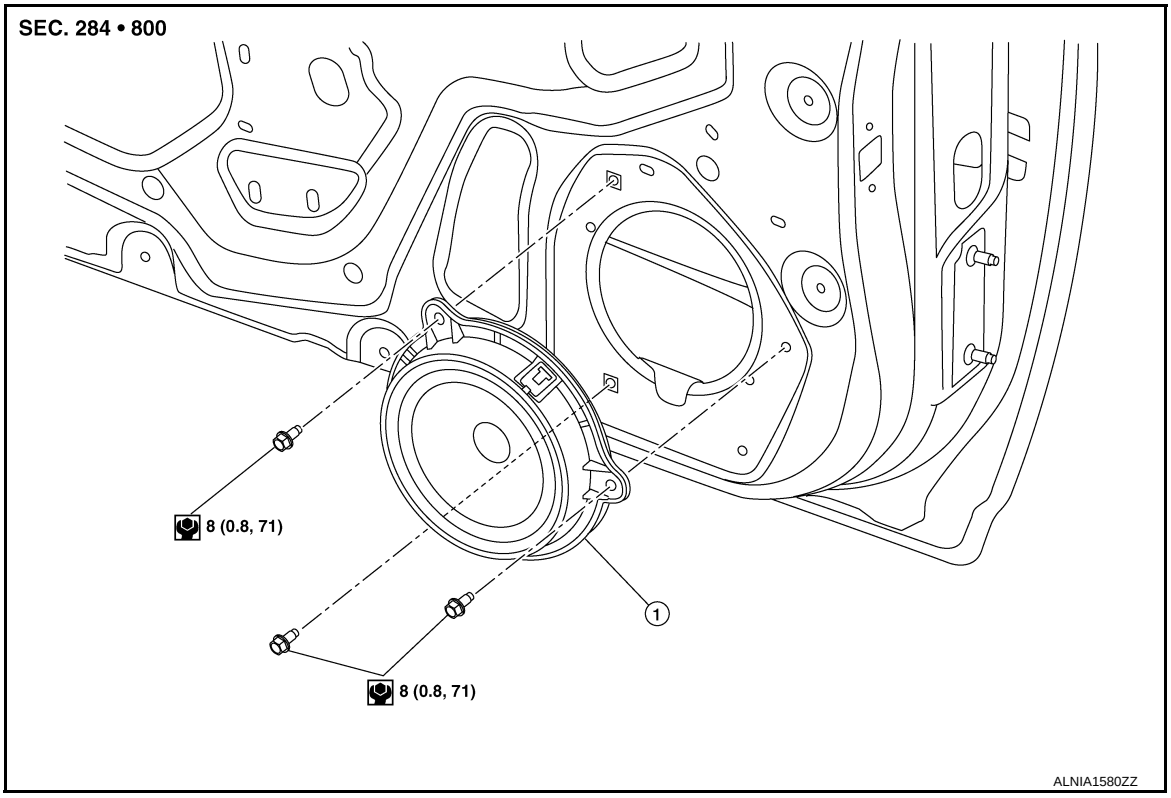
INSTALLATION

Installation is in the reverse order of removal.

FRONT DOOR SPEAKER

Exploded View

INFOID:0000000010435744



1. Front door speaker

Removal and Installation

INFOID:0000000010435745

REMOVAL

1. Remove front door finisher. Refer to INT-12, "FRONT DOOR FINISHER : Exploded View".
2. Remove front door speaker bolts, then pull out front door speaker.
3. Disconnect the harness connector from front door speaker and remove.

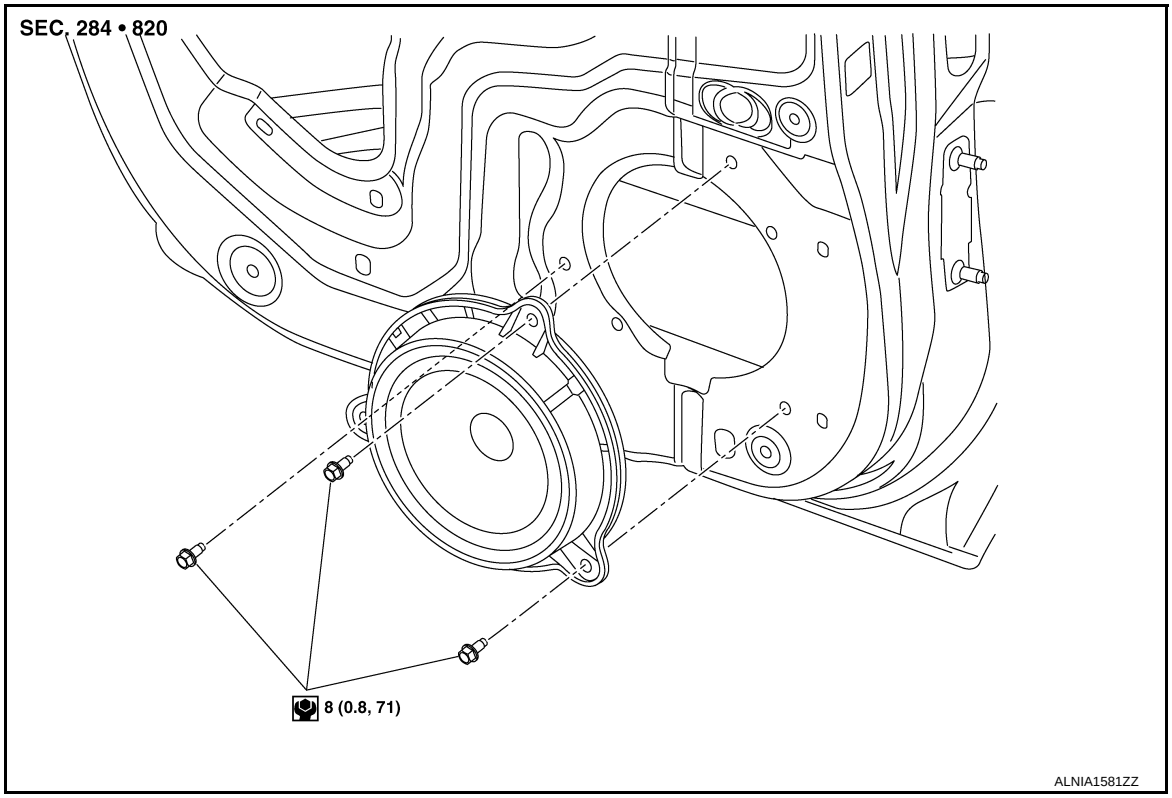
INSTALLATION

Installation is in the reverse order of removal.

REAR DOOR SPEAKER

Exploded View

INFOID:0000000010435746



1. Rear door speaker

Removal and Installation

INFOID:0000000010435747

REMOVAL

1. Remove rear door finisher. Refer to INT-15, "REAR DOOR FINISHER : Exploded View".
2. Remove rear door speaker bolts, then pull out rear door speaker.
3. Disconnect the harness connector from the rear door speaker and remove.

INSTALLATION

Installation is in the reverse order of removal.

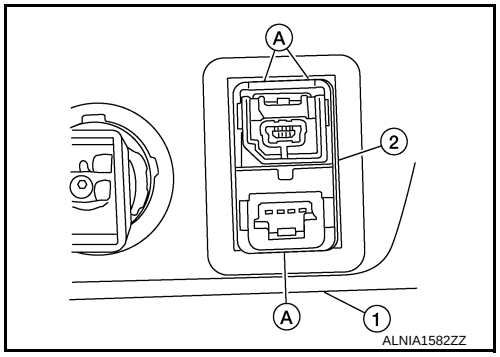
USB INTERFACE AND AUX IN JACK

Removal and Installation

INFOID:0000000010435748

REMOVAL

1. Remove center console. Refer to IP-18, "Exploded View".
2. Release the pawls (A) on the back of USB interface and AUX in jack (2).



INSTALLATION

Installation is in the reverse order of removal.

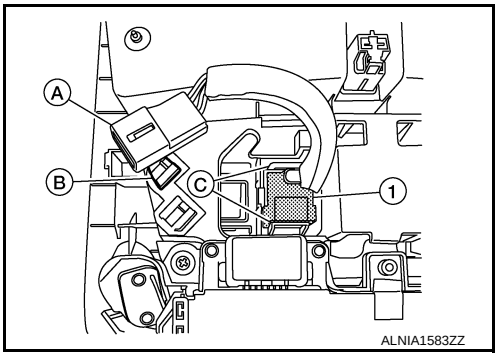
MICROPHONE

Removal and Installation

INFOID:0000000010435749

REMOVAL

1. Remove the map lamp assembly. Refer to INT-24, "Exploded View".
2. Release harness connector (A) by sliding rearward to remove from the pawl (B).
3. Release pawls (C) and remove the microphone (1) from the front room/map lamp assembly.



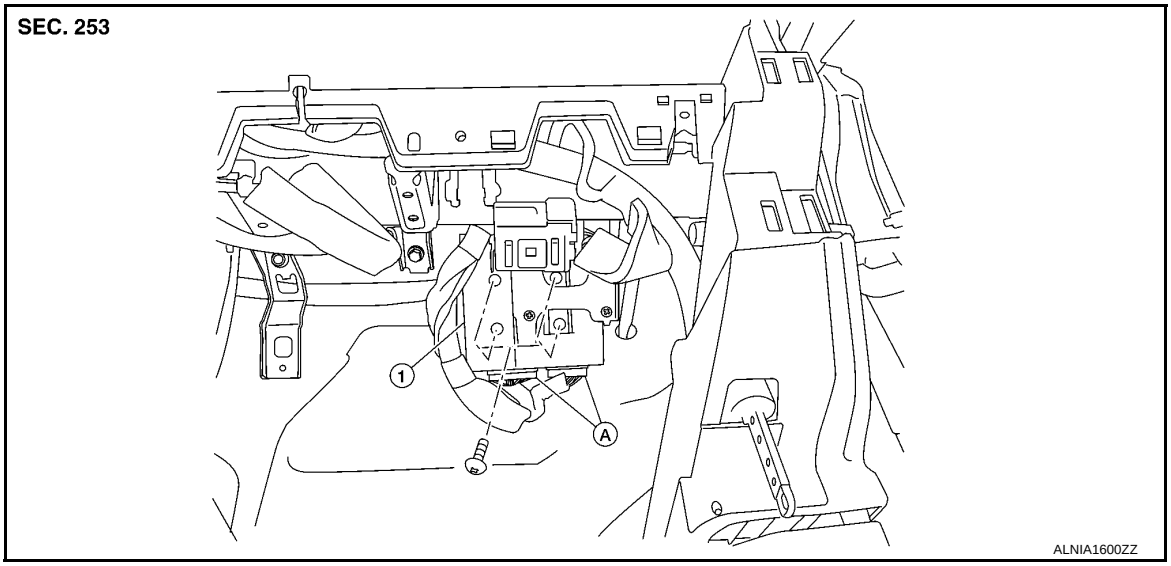
INSTALLATION

Installation is in the reverse order of removal.

AROUND VIEW MONITOR CONTROL UNIT

Exploded View

INFOID:0000000010435750



1. Around view monitor control unit A. Harness connector

Removal and Installation

INFOID:0000000010435751

REMOVAL

CAUTION:

Before replacing around view monitor control unit, save or print current vehicle specification with CONSULT configuration before replacement. Refer to AV-177, "ADDITIONAL SERVICE WHEN REPLACING AROUND VIEW MONITOR CONTROL UNIT : Work Procedure".

1. Remove glove box assembly. Refer to IP-12, "Exploded View".
2. Remove around view monitor control unit screws.
3. Disconnect the harness connector from the around view monitor control unit and remove.

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

- **Replace the around view monitor control unit if it has been dropped or sustained an impact.**
- **When replacing around view monitor control unit, you must perform "After Replace ECU" with CONSULT. Refer to AV-177, "ADDITIONAL SERVICE WHEN REPLACING AROUND VIEW MONITOR CONTROL UNIT : Work Procedure".**

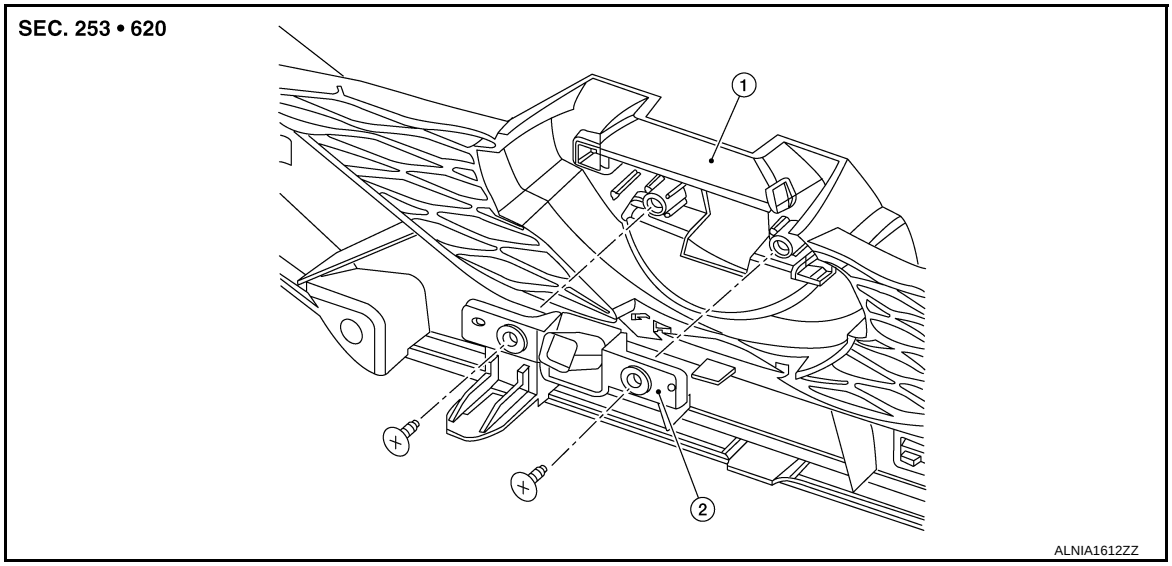
NOTE:

Perform camera image calibration. Refer to AV-181, "CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Work Procedure".

FRONT CAMERA

Exploded View

INFOID:0000000010435752



1. Front grille
2. Front camera

Removal and Installation

INFOID:0000000010435753

REMOVAL

1. Remove the front grille. Refer to EXT-25, "Exploded View".
2. Remove screws and front camera.

INSTALLATION

Installation is in the reverse order of removal.

NOTE:

Perform camera image calibration. Refer to AV-181, "CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Work Procedure".

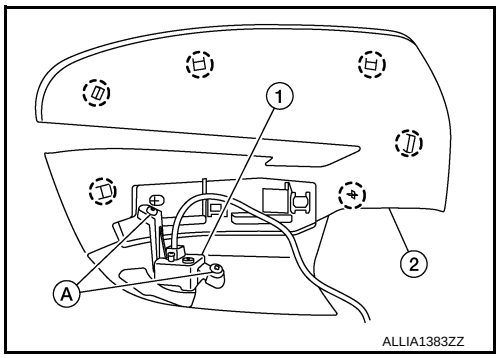
SIDE CAMERA

Removal and Installation

INFOID:0000000010435754

REMOVAL

1. Remove door mirror rear finisher (2). Refer to MIR-31, "Exploded View".
2. Remove screws (A) and side camera (1).
   : Pawl



INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

Perform camera image calibration (if equipped with around view camera). Refer to AV-180, "CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Description".

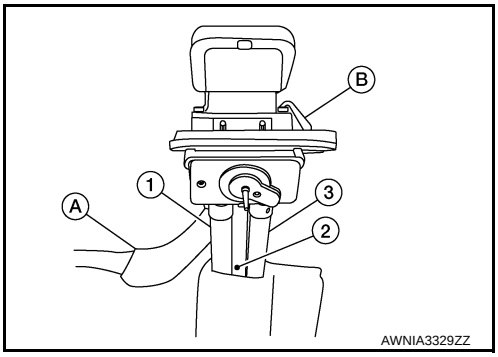
REAR VIEW CAMERA

Removal and Installation

INFOID:0000000010435755

REMOVAL

1. Remove the back door outer finisher. Refer to EXT-45, "Exploded View".
2. Disconnect washer tubes (1,3) and air tube (2) (if equipped).
3. Release pawl (B), disconnect harness connector (A) from rear view camera and remove.



INSTALLATION

Installation is in the reverse order of removal.

GPS ANTENNA

Removal and Installation

INFOID:0000000010435756

REMOVAL

1. Remove instrument panel. Refer to IP-12, "Exploded View".
2. Remove screw and the GPS antenna.

INSTALLATION

Installation is in the reverse order of removal.

AUDIO ANTENNA

Removal and Installation

INFOID:0000000010435757

REMOVAL

1. Remove the luggage side upper finisher (RH). Refer to INT-28, "Exploded View".
2. Partially lower headlining (rear). Refer to INT-24, "Exploded View".
3. Disconnect harness connectors from antenna feeder.
4. Remove nut from audio antenna and remove.

INSTALLATION

Installation is in the reverse order of removal.

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

CAUTION:

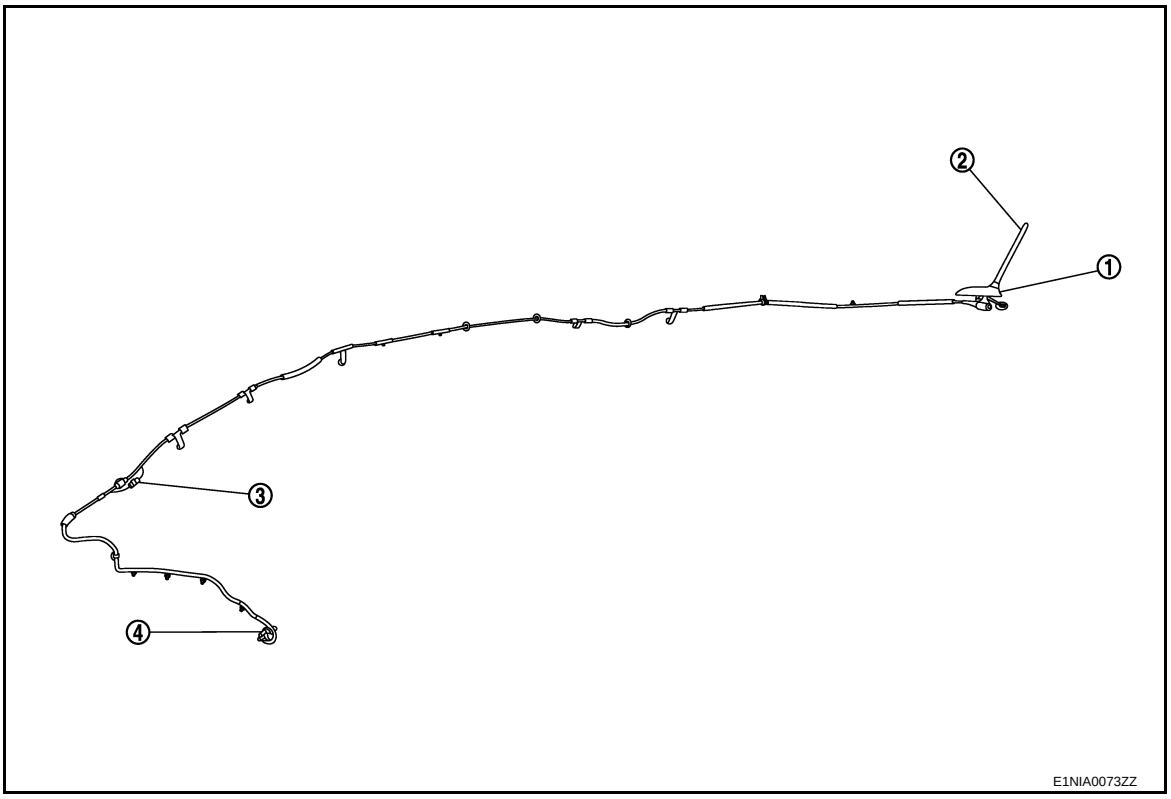
If the audio antenna nut is not properly tightened, lower sensitivity of the antenna may be experienced. If the nut is over tightened, this will deform the roof panel.

ANTENNA FEEDER

Feeder Layout

INFOID:0000000010435758

ANTENNA FEEDER LAYOUT



1. Antenna base (antenna amp. and satellite antenna)
2. Rod Antenna
3. M394
4. M399