SECTION AV

AUDIO, VISUAL & NAVIGATION SYSTEM

CONTENTS

BASE AUDIO

PRECAUTION 8

PRECAUTIONS 8
Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER" 8
Precaution for Trouble Diagnosis 8
Precaution for Harness Repair 8
Precaution for Work 9

PREPARATION 10

PREPARATION 10
Special Service Tools 10
Commercial Service Tools 10

SYSTEM DESCRIPTION 11

COMPONENT PARTS 11
Component Parts Location 11
Component Description 11

SYSTEM 13
System Diagram 13
System Description 13

DIAGNOSIS SYSTEM (AUDIO UNIT) 14
Diagnosis Description 14
On Board Diagnosis Function 14

ECU DIAGNOSIS INFORMATION 17

AUDIO UNIT 17
Reference Value 17

WIRING DIAGRAM 19

BASE AUDIO 19
Wiring Diagram 19

BASIC INSPECTION 27

DIAGNOSIS AND REPAIR WORKFLOW 27
Work Flow 27

DTC/CIRCUIT DIAGNOSIS 29

POWER SUPPLY AND GROUND CIRCUIT 29

AUDIO UNIT 29
AUDIO UNIT : Diagnosis Procedure 29

FRONT DOOR SPEAKER 30
Diagnosis Procedure 30

FRONT SPEAKER 32
Diagnosis Procedure 32

REAR SPEAKER 34
Diagnosis Procedure 34

MICROPHONE SIGNAL CIRCUIT 36
Diagnosis Procedure 36

STEERING SWITCH 38
Diagnosis Procedure 38

SYMPTOM DIAGNOSIS 40

AUDIO SYSTEM 40
Symptom Table 40

NORMAL OPERATING CONDITION 43
Description 43

REMOVAL AND INSTALLATION 45

AUDIO UNIT 45
Exploded View 45
Removal and Installation 45

FRONT SPEAKER 46
Removal and Installation 46

FRONT DOOR SPEAKER 47
Removal and Installation 47

REAR SPEAKER 48
Removal and Installation 48

STEERING SWITCH 49
Exploded View 49
Removal and Installation 49

ANTENNA AMP. 50
Removal and Installation 50

ANTENNA FEEDER 51
Location of Antenna 51
Window Antenna Repair 51

MICROPHONE 54
Removal and Installation 54

DISPLAY AUDIO WITHOUT BOSE

PRECAUTION 55

PRECAUTIONS 55
Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER" 55
Precaution for Trouble Diagnosis 55
Precaution for Harness Repair 55
Precaution for Work 56

PREPARATION 57

PREPARATION 57
Special Service Tools 57
Commercial Service Tools 57

SYSTEM DESCRIPTION 58

COMPONENT PARTS 58
Component Parts Location 58
Component Description 58

SYSTEM 60
System Diagram 60
System Description 60

DIAGNOSIS SYSTEM (AUDIO UNIT) 62
Description 62
On Board Diagnosis Function 62

ECU DIAGNOSIS INFORMATION 68

AUDIO UNIT 68
Reference Value 68

WIRING DIAGRAM 71

DISPLAY AUDIO WITHOUT BOSE 71
Wiring Diagram 71

BASIC INSPECTION 83

DIAGNOSIS AND REPAIR WORKFLOW 83
Work Flow 83

DTC/CIRCUIT DIAGNOSIS 85

POWER SUPPLY AND GROUND CIRCUIT 85

AUDIO UNIT 85
AUDIO UNIT : Diagnosis Procedure 85

FRONT DOOR SPEAKER 86
Diagnosis Procedure 86

FRONT SPEAKER 88
Diagnosis Procedure 88

REAR SPEAKER 90
Diagnosis Procedure 90

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT 92
Diagnosis Procedure 92

MICROPHONE SIGNAL CIRCUIT 94
Diagnosis Procedure 94

STEERING SWITCH 96
Diagnosis Procedure 96

USB CONNECTOR 98
Diagnosis Procedure 98

SYMPTOM DIAGNOSIS 99

AUDIO SYSTEM 99
Symptom Table 99

NORMAL OPERATING CONDITION 102
Description 102

REMOVAL AND INSTALLATION 104

AV CONTROL UNIT 104
Exploded View 104
Removal and Installation 104

USB CONNECTOR 105
Removal and Installation 105

FRONT SPEAKER 106
Removal and Installation 106

FRONT DOOR SPEAKER 107
Removal and Installation 107

REAR SPEAKER 108
Removal and Installation 108

SATELLITE RADIO ANTENNA 109
Removal and Installation 109

GPS ANTENNA 110
Removal and Installation 110

STEERING SWITCH 111
Exploded View 111
Removal and Installation 111

ANTENNA FEEDER 112
Location of Antenna 112
Window Antenna Repair 112

ANTENNA AMP. 115
Removal and Installation 115

MICROPHONE 116
Removal and Installation 116

REAR VIEW CAMERA 117
Removal and Installation 117

DISPLAY AUDIO WITH BOSE

PRECAUTION 118

PRECAUTIONS 118
Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER" 118
Precaution for Trouble Diagnosis 118
Precaution for Harness Repair 118
Precaution for Work 119

PREPARATION 120

PREPARATION 120
Special Service Tools 120
Commercial Service Tools 120

SYSTEM DESCRIPTION 121

COMPONENT PARTS 121
Component Parts Location 121
Component Description 122

SYSTEM 123
System Diagram 123
System Description 123

DIAGNOSIS SYSTEM (AUDIO UNIT) 125
Description 125
On Board Diagnosis Function 125

ECU DIAGNOSIS INFORMATION 131

AUDIO UNIT 131
Reference Value 131

BOSE SPEAKER AMP 134
Reference Value 134

WIRING DIAGRAM 137

DISPLAY AUDIO WITH BOSE 137
Wiring Diagram 137

BASIC INSPECTION 153

DIAGNOSIS AND REPAIR WORKFLOW 153
Work Flow 153

DTC/CIRCUIT DIAGNOSIS 155

POWER SUPPLY AND GROUND CIRCUIT 155

AUDIO UNIT 155
AUDIO UNIT : Diagnosis Procedure 155

BOSE SPEAKER AMP 155
BOSE SPEAKER AMP : Diagnosis Procedure 155

FRONT DOOR SPEAKER 157
Diagnosis Procedure 157

FRONT SPEAKER 160
Diagnosis Procedure 160

CENTER SPEAKER 163
Diagnosis Procedure 163

REAR DOOR SPEAKER 165
Diagnosis Procedure 165

REAR SPEAKER 168
Diagnosis Procedure 168

AMP ON SIGNAL CIRCUIT 171
Diagnosis Procedure 171

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT 172
Diagnosis Procedure 172

MICROPHONE SIGNAL CIRCUIT 174
Diagnosis Procedure 174

STEERING SWITCH 176
Diagnosis Procedure 176

USB CONNECTOR 178
Diagnosis Procedure 178

SYMPTOM DIAGNOSIS 179

AUDIO SYSTEM 179
Symptom Table 179

NORMAL OPERATING CONDITION 184
Description 184

REMOVAL AND INSTALLATION 186

AV CONTROL UNIT 186
Exploded View 186
Removal and Installation 186

USB CONNECTOR 187
Removal and Installation 187

FRONT SPEAKER 188
Removal and Installation 188

CENTER SPEAKER 189
Removal and Installation 189

FRONT DOOR SPEAKER 190
Removal and Installation 190

REAR DOOR SPEAKER 191
Removal and Installation 191

REAR SPEAKER 192
Removal and Installation 192

BOSE SPEAKER AMP 193
Removal and Installation 193

SATELLITE RADIO ANTENNA 194
Removal and Installation 194

GPS ANTENNA 195
Removal and Installation 195

STEERING SWITCH 196
Exploded View 196
Removal and Installation 196

ANTENNA FEEDER 197
Location of Antenna 197
Window Antenna Repair 197

ANTENNA AMP. 200
Removal and Installation 200

MICROPHONE 201
Removal and Installation 201

REAR VIEW CAMERA 202
Removal and Installation 202

NAVIGATION WITHOUT BOSE

PRECAUTION 203

PRECAUTIONS 203
Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER" 203
Precaution for Trouble Diagnosis 203
Precaution for Harness Repair 203
Precaution for Work 204

PREPARATION 205

PREPARATION 205
Special Service Tools 205
Commercial Service Tools 205

SYSTEM DESCRIPTION 206

COMPONENT PARTS 206
Component Parts Location 206
Component Description 206

SYSTEM 208
System Diagram 208
System Description 208

DIAGNOSIS SYSTEM (AV CONTROL UNIT) . 212
Description 212
On Board Diagnosis Function 212
CONSULT Function 213

ECU DIAGNOSIS INFORMATION 214

AV CONTROL UNIT 214
Reference Value 214
DTC Index 216

WIRING DIAGRAM 218

NAVIGATION WITHOUT BOSE 218
Wiring Diagram 218

BASIC INSPECTION 230

DIAGNOSIS AND REPAIR WORKFLOW 230
Work Flow 230

INSPECTION AND ADJUSTMENT 232

ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT 232
ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Description 232
ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Work Procedure 232

CONFIGURATION (AV CONTROL UNIT) 232
CONFIGURATION (AV CONTROL UNIT) : Description 233
CONFIGURATION (AV CONTROL UNIT) : Work Procedure 233
CONFIGURATION (AV CONTROL UNIT) : Configuration List 234

DTC/CIRCUIT DIAGNOSIS 235

U1000 CAN COMM CIRCUIT 235
DTC Logic 235
Diagnosis Procedure 235

U1010 CONTROL UNIT (CAN) 236
DTC Logic 236

U1217 AV CONTROL UNIT 237
DTC Logic 237

U1229 AV CONTROL UNIT 238
DTC Logic 238

U122F AV CONTROL UNIT 239
DTC Logic 239

U1244 GPS ANTENNA 240
DTC Logic 240
Diagnosis Procedure 240

U1258 SATELLITE RADIO ANTENNA 241
DTC Logic 241
Diagnosis Procedure 241

U1263 USB 242
DTC Logic 242

Diagnosis Procedure 242

U1264 ANTENNA AMP. 243
DTC Logic 243
Diagnosis Procedure 243

U12AA CONFIGURATION ERROR 244
DTC Logic 244
Diagnosis Procedure 244

U12AB ANTENNA 245
DTC Logic 245
Diagnosis Procedure 245

U12AC AV CONTROL UNIT 246
DTC Logic 246

U12AD AV CONTROL UNIT 247
DTC Logic 247

U12AE AV CONTROL UNIT 248
DTC Logic 248

U12AF AV CONTROL UNIT 249
DTC Logic 249

U12B0 POWER SUPPLY VOLTAGE 250
DTC Logic 250
Diagnosis Procedure 250

U12B1 POWER SUPPLY VOLTAGE 251
DTC Logic 251
Diagnosis Procedure 251

U1300 AV COMM CIRCUIT 252
DTC Logic 252
Diagnosis Procedure 252

U1310 AV CONTROL UNIT 254
DTC Logic 254

POWER SUPPLY AND GROUND CIRCUIT ... 255

AV CONTROL UNIT 255
AV CONTROL UNIT : Diagnosis Procedure 255

FRONT DOOR SPEAKER 256
Diagnosis Procedure 256

FRONT SPEAKER 258
Diagnosis Procedure 258

REAR SPEAKER 260
Diagnosis Procedure 260

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT 262
Diagnosis Procedure 262

MICROPHONE SIGNAL CIRCUIT 264
Diagnosis Procedure 264

STEERING SWITCH 266
Diagnosis Procedure 266

USB CONNECTOR 268
Diagnosis Procedure 268

SYMPTOM DIAGNOSIS 269

MULTI AV SYSTEM 269
Symptom Table 269

NORMAL OPERATING CONDITION 273
Description 273

REMOVAL AND INSTALLATION 282

AV CONTROL UNIT 282
Exploded View 282
Removal and Installation 282

USB CONNECTOR 283
Removal and Installation 283

FRONT SPEAKER 284
Removal and Installation 284

FRONT DOOR SPEAKER 285
Removal and Installation 285

REAR SPEAKER 286
Removal and Installation 286

SATELLITE RADIO ANTENNA 287
Removal and Installation 287

GPS ANTENNA 288
Removal and Installation 288

STEERING SWITCH 289
Exploded View 289
Removal and Installation 289

ANTENNA FEEDER 290
Location of Antenna 290
Window Antenna Repair 290

ANTENNA AMP. 293
Removal and Installation 293

MICROPHONE 294
Removal and Installation 294

REAR VIEW CAMERA 295
Removal and Installation 295

NAVIGATION WITH BOSE

PRECAUTION 296

PRECAUTIONS 296
Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER" 296
Precaution for Trouble Diagnosis 296
Precaution for Harness Repair 296

Precaution for Work 297

PREPARATION 298

PREPARATION 298
Special Service Tools 298
Commercial Service Tools 298

SYSTEM DESCRIPTION 299

COMPONENT PARTS 299
Component Parts Location 299
Component Description 300

SYSTEM 301
System Diagram 301
System Description 301

DIAGNOSIS SYSTEM (AV CONTROL UNIT) . 305
Description 305
On Board Diagnosis Function 305
CONSULT Function 306

ECU DIAGNOSIS INFORMATION 307

AV CONTROL UNIT 307
Reference Value 307
DTC Index 309

BOSE SPEAKER AMP 311
Reference Value 311

WIRING DIAGRAM 314

NAVIGATION WITH BOSE 314
Wiring Diagram 314

BASIC INSPECTION 331

DIAGNOSIS AND REPAIR WORKFLOW 331
Work Flow 331

INSPECTION AND ADJUSTMENT 333

ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT 333
ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Description 333
ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Work Procedure 333

CONFIGURATION (AV CONTROL UNIT) 333
CONFIGURATION (AV CONTROL UNIT) : Description 334
CONFIGURATION (AV CONTROL UNIT) : Work Procedure 334
CONFIGURATION (AV CONTROL UNIT) : Configuration List 335

DTC/CIRCUIT DIAGNOSIS 336

U1000 CAN COMM CIRCUIT 336
DTC Logic 336
Diagnosis Procedure 336

U1010 CONTROL UNIT (CAN) 337
DTC Logic 337

U1217 AV CONTROL UNIT 338
DTC Logic 338

U1229 AV CONTROL UNIT 339
DTC Logic 339

U122F AV CONTROL UNIT 340
DTC Logic 340

U1244 GPS ANTENNA 341
DTC Logic 341
Diagnosis Procedure 341

U1258 SATELLITE RADIO ANTENNA 342
DTC Logic 342
Diagnosis Procedure 342

U1263 USB 343
DTC Logic 343
Diagnosis Procedure 343

U1264 ANTENNA AMP. 344
DTC Logic 344
Diagnosis Procedure 344

U1265 BOSE AMP. 345
DTC Logic 345
Diagnosis Procedure 345

U12AA CONFIGURATION ERROR 346
DTC Logic 346
Diagnosis Procedure 346

U12AB ANTENNA 347
DTC Logic 347
Diagnosis Procedure 347

U12AC AV CONTROL UNIT 348
DTC Logic 348

U12AD AV CONTROL UNIT 349
DTC Logic 349

U12AE AV CONTROL UNIT 350
DTC Logic 350

U12AF AV CONTROL UNIT 351
DTC Logic 351

U12B0 POWER SUPPLY VOLTAGE 352
DTC Logic 352
Diagnosis Procedure 352

U12B1 POWER SUPPLY VOLTAGE 353
DTC Logic 353
Diagnosis Procedure 353

U1300 AV COMM CIRCUIT 354

DTC Logic 354
Diagnosis Procedure 354

U1310 AV CONTROL UNIT 356
DTC Logic 356

POWER SUPPLY AND GROUND CIRCUIT ... 357

AV CONTROL UNIT 357
AV CONTROL UNIT : Diagnosis Procedure 357

BOSE SPEAKER AMP 357
BOSE SPEAKER AMP : Diagnosis Procedure 357

FRONT DOOR SPEAKER 359
Diagnosis Procedure 359

FRONT SPEAKER 362
Diagnosis Procedure 362

CENTER SPEAKER 365
Diagnosis Procedure 365

REAR DOOR SPEAKER 367
Diagnosis Procedure 367

REAR SPEAKER 370
Diagnosis Procedure 370

AMP ON SIGNAL CIRCUIT 373
Diagnosis Procedure 373

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT 374
Diagnosis Procedure 374

MICROPHONE SIGNAL CIRCUIT 377
Diagnosis Procedure 377

STEERING SWITCH 379
Diagnosis Procedure 379

USB CONNECTOR 381
Diagnosis Procedure 381

SYMPTOM DIAGNOSIS 382

MULTI AV SYSTEM 382
Symptom Table 382

NORMAL OPERATING CONDITION 387
Description 387

REMOVAL AND INSTALLATION 396

AV CONTROL UNIT 396
Exploded View 396
Removal and Installation 396

USB CONNECTOR 397
Removal and Installation 397

FRONT SPEAKER 398
Removal and Installation 398

CENTER SPEAKER 399
Removal and Installation 399

FRONT DOOR SPEAKER 400
Removal and Installation 400

REAR DOOR SPEAKER 401
Removal and Installation 401

REAR SPEAKER 402
Removal and Installation 402

BOSE SPEAKER AMP 403
Removal and Installation 403

SATELLITE RADIO ANTENNA 404
Removal and Installation 404

GPS ANTENNA 405
Removal and Installation 405

STEERING SWITCH 406
Exploded View 406
Removal and Installation 406

ANTENNA FEEDER 407
Location of Antenna 407
Window Antenna Repair 407

ANTENNA AMP. 410
Removal and Installation 410

MICROPHONE 411
Removal and Installation 411

REAR VIEW CAMERA 412
Removal and Installation 412

ITS CONTROL UNIT 413
Removal and Installation 413

PRECAUTION

PRECAUTIONS

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

INFOID:0000000008729188

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 SR and SB section of this Service Manual.

WARNING:

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

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

WARNING:

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

Precaution for Trouble Diagnosis

INFOID:0000000007985880

AV COMMUNICATION SYSTEM

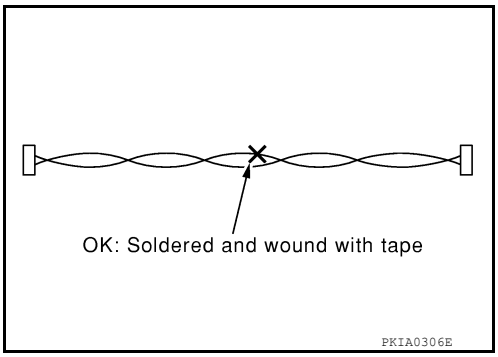
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

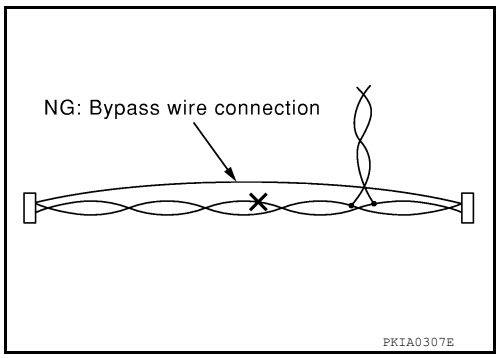
INFOID:0000000007985881

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:0000000008527552

- 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.

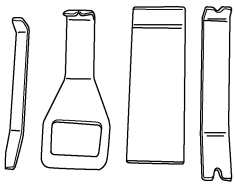
PREPARATION

PREPARATION

Special Service Tools

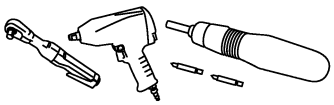
INFOID:0000000007985883

The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

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

Commercial Service Tools

INFOID:0000000007985884

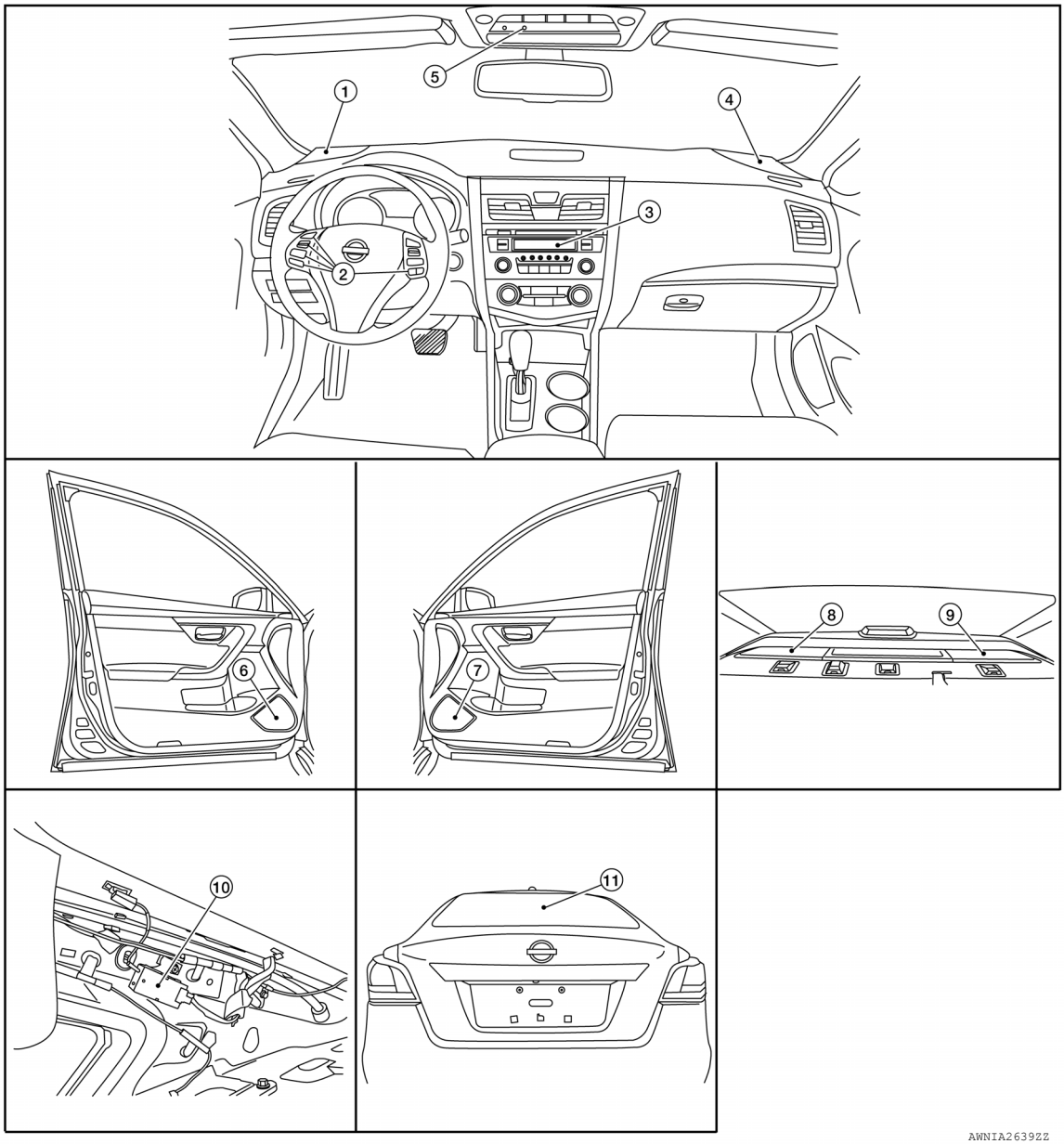
Tool name	Description
Power tool  PIIB1407E	Loosening nuts, screws and bolts

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000007985825



1. Front speaker LH
2. Steering switches
3. Audio unit
4. Front speaker RH
5. Microphone
6. Front door speaker LH
7. Front door speaker RH
8. Rear speaker RH
9. Rear speaker LH
10. Antenna amp.
11. Window antenna

Component Description

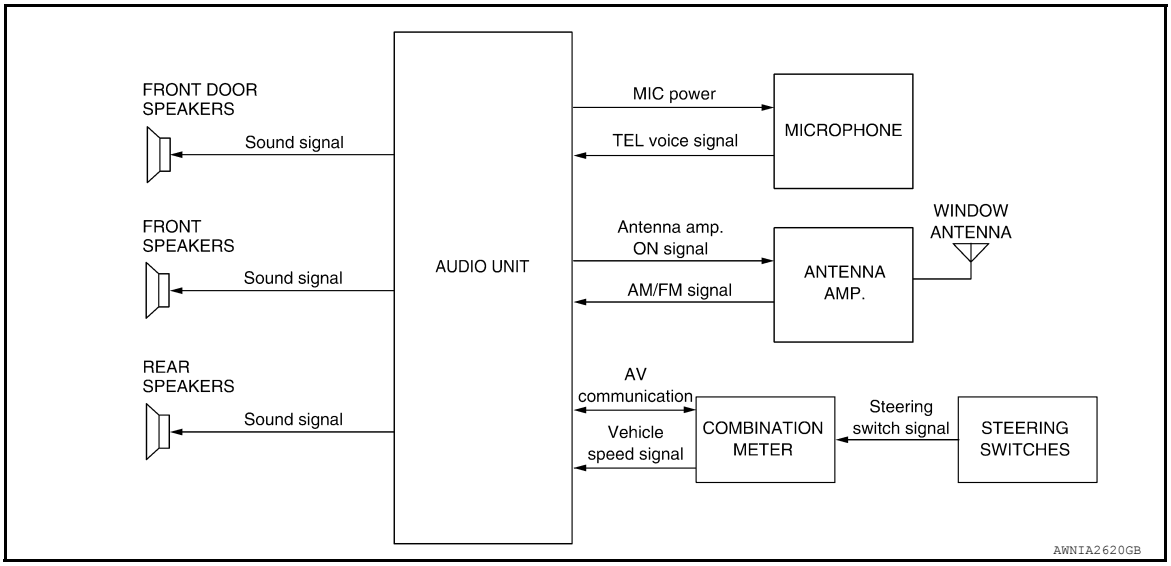
INFOID:0000000007985826

Part name	Description
Audio unit	• Controls audio, hands-free phone and AUX IN connection functions. • Display unit is built in to audio unit.
Front door speakers	Outputs high, mid and low range audio signals from audio unit.
Front speakers	
Rear speakers	
Steering switches	• Operations for audio, hands-free phone and voice recognition are possible. • Steering switch signal is output to combination meter. • Combination meter outputs steering switch signal to audio unit.
Microphone	• Used for hands-free phone operations. • Microphone signal is transmitted to audio unit. • Power is supplied from audio unit.
Antenna amp.	• AM/FM signal received by window antenna is amplified and transmitted to audio unit. • Power is supplied from audio unit.
Window antenna	AM/FM signal is received and transmitted to antenna amp.

SYSTEM

System Diagram

INFOID:0000000007985823



System Description

INFOID:0000000007985824

AUDIO SYSTEM

The audio system consists of the following components

- Audio unit
- Front door speakers
- Front speakers
- Rear speakers
- Steering switches
- Microphone
- Antenna amp.
- Window antenna

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

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

DIAGNOSIS SYSTEM (AUDIO UNIT)

Diagnosis Description

INFOID:0000000007985831

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

Mode	Description
Hardware/Software Versions	Hardware and software versions are available for: • audio unit. • combination meter • Bluetooth® control unit. EEPROM version and EQ pin info are also available for the audio unit.
Speaker Channel Check	The connection of the speakers to the audio unit can be confirmed.
Communication Diagnosis	The AV communication (M-CAN) message history can be monitored.

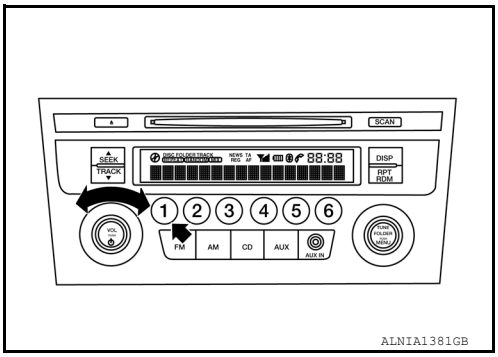
On Board Diagnosis Function

INFOID:0000000008540689

METHOD OF STARTING

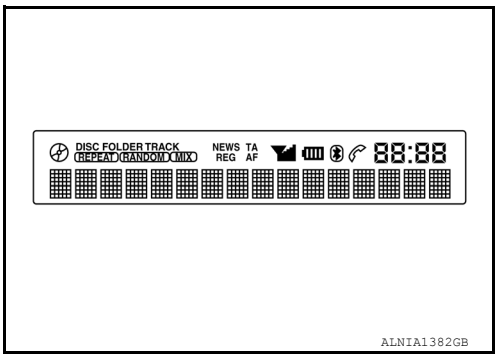
Hardware/Software Versions and Speaker Channel Check

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 30 clicks or more.



ALNIA1381GB

4. Initially, all display segments will be illuminated.



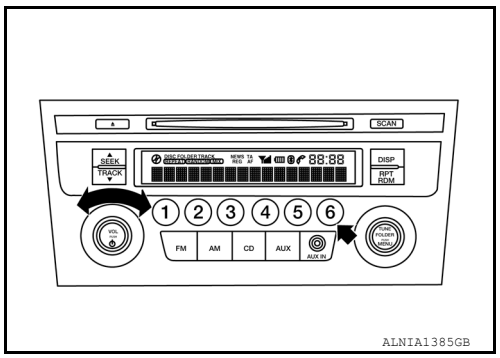
ALNIA1382GB

5. To exit hardware/software versions and speaker channel check, turn the ignition OFF.

Communication Diagnosis

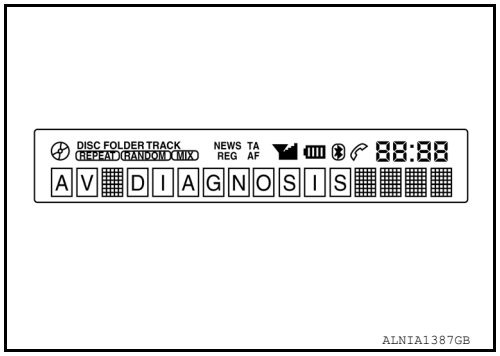
1. Turn the ignition ON.
2. Turn the audio system OFF.

3. While pressing the preset 6 button, turn the volume control dial clockwise or counterclockwise 30 clicks or more.



ALNIA1385GB

4. Initially, the communication diagnosis mode is displayed.



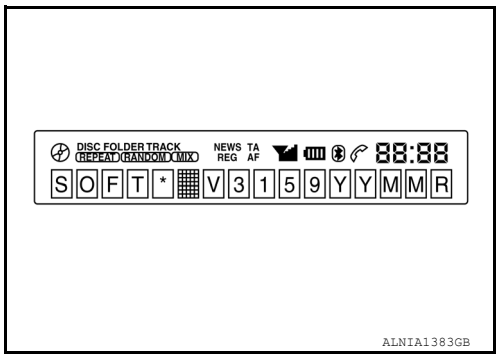
ALNIA1387GB

5. To exit communication diagnosis, turn the ignition OFF.

SELF DIAGNOSIS MODE

Hardware/Software Versions

1. Press the DISP button to enter versions display, and the audio head unit software version is displayed.



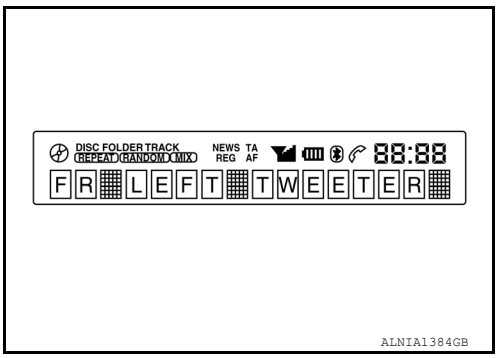
ALNIA1383GB

2. With each additional press of the DISP button, the following information is available:
- HARD V###### (hardware version)
- EEP V###### (EEPROM version)
- MeterS V###### (combination meter software version)
- MeterH V###### (combination meter hardware version)
- @@@@ EQ1-4 # (EQ pin info)
  If an EQ error is present, INVALID EQ is displayed
- BTSOFT ####### (internal Bluetooth® module software version)
- BTHARD ########## (internal Bluetooth® module hardware version)
- BTCONF #####00 (internal Bluetooth® module configuration)

3. Hold the DISP button down to return to all display segments screen.

Speaker Channel Check

1. Press the RPT/DRM button to enter speaker channel check, and the front left tweeter (front speaker LH) is displayed.

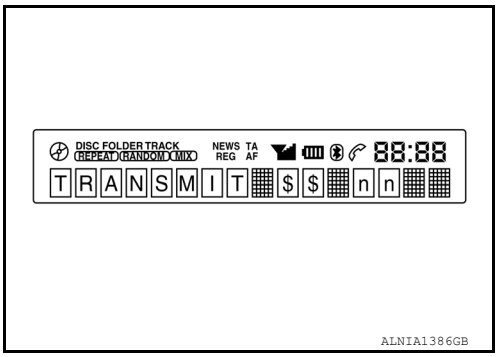


2. With each additional press of the RPT/DRM button, the following information is available:
- FR RIGHT TWEETER (front speaker RH)
- FR RIGHT (front door speaker RH)
- RR RIGHT (rear speaker RH)
- RR LEFT (rear speaker LH)
- FR LEFT (front door speaker LH)

3. Hold the RPT/DRM button down to return to all display segments screen.

Communication Diagnosis

1. Press the DISP button, and the M-CAN message transmission error history screen is displayed.



2. Press the DISP button again, and the METER $$ nn (CMF message reception error history from M-CAN METER) screen is displayed.
3. Press the DISP button again, and the TROUBLE DEL. (deletion of M-CAN message communication history) screen is displayed. To retain the M-CAN message communication history and return to the communication diagnosis mode screen, press the DISP button.
4. To proceed to the M-CAN message communication history deletion screen, press the SEEK/TRACK △ button. The REC DEL-NO? (selection of M-CAN message communication history deletion) screen is displayed. To cancel M-CAN message communication history deletion, wait 6 seconds and you will be returned to the TROUBLE DEL. (deletion of M-CAN message communication history) screen. To proceed with M-CAN message communication history deletion, press the SEEK/TRACK △ button again.
5. The REC DEL-YES?@ (selection of M-CAN message communication history deletion) screen is displayed. To cancel M-CAN message communication history deletion, press the SEEK/TRACK ▽ button and you will be returned to the REC DEL-NO? (selection of M-CAN message communication history deletion) screen. To proceed with M-CAN message communication history deletion, wait 6 seconds and the communication history deletion will be executed. After the communication history deletion has been executed, you will be returned to the TROUBLE DEL. (deletion of M-CAN message communication history) screen. To return to the communication diagnosis mode screen, press the DISP button.

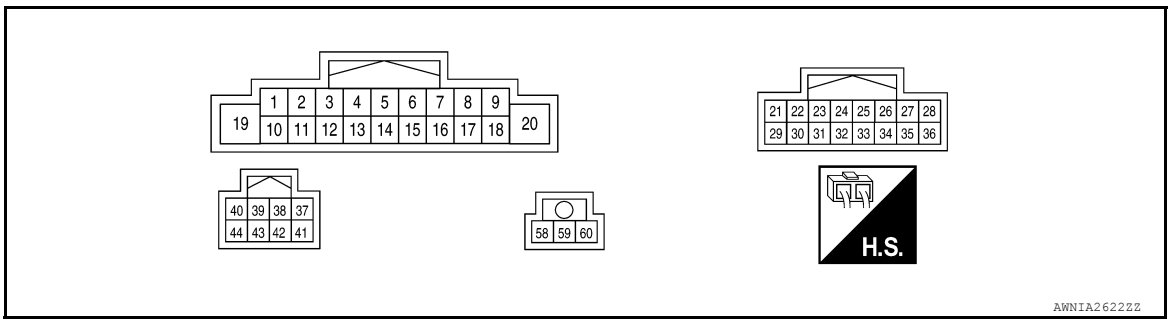
ECU DIAGNOSIS INFORMATION

AUDIO UNIT

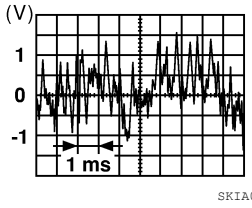
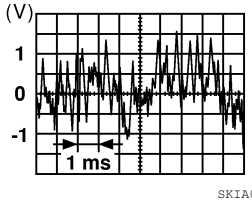
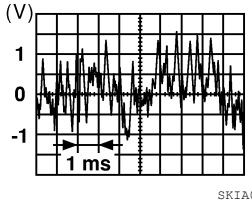
Reference Value

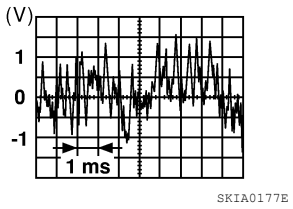
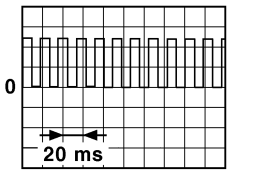
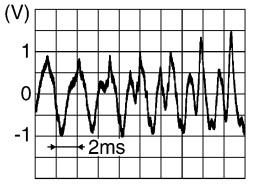
INFOID:0000000007985865

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
2 (V)	3 (SB)	Sound signal front speaker LH	Output	ON	Sound output	 SKIA0177E
4 (BR)	5 (Y)	Sound signal rear speaker LH	Output	ON	Sound output	 SKIA0177E
7 (P)	Ground	ACC power supply	Input	ACC	Ignition switch ACC or ON	Battery voltage
9 (R)	8 (GR)	Illumination control signal	Input	ON	Headlamps ON	Battery voltage
11 (Y)	12 (BR)	Sound signal front speaker RH	Output	ON	Sound output	 SKIA0177E

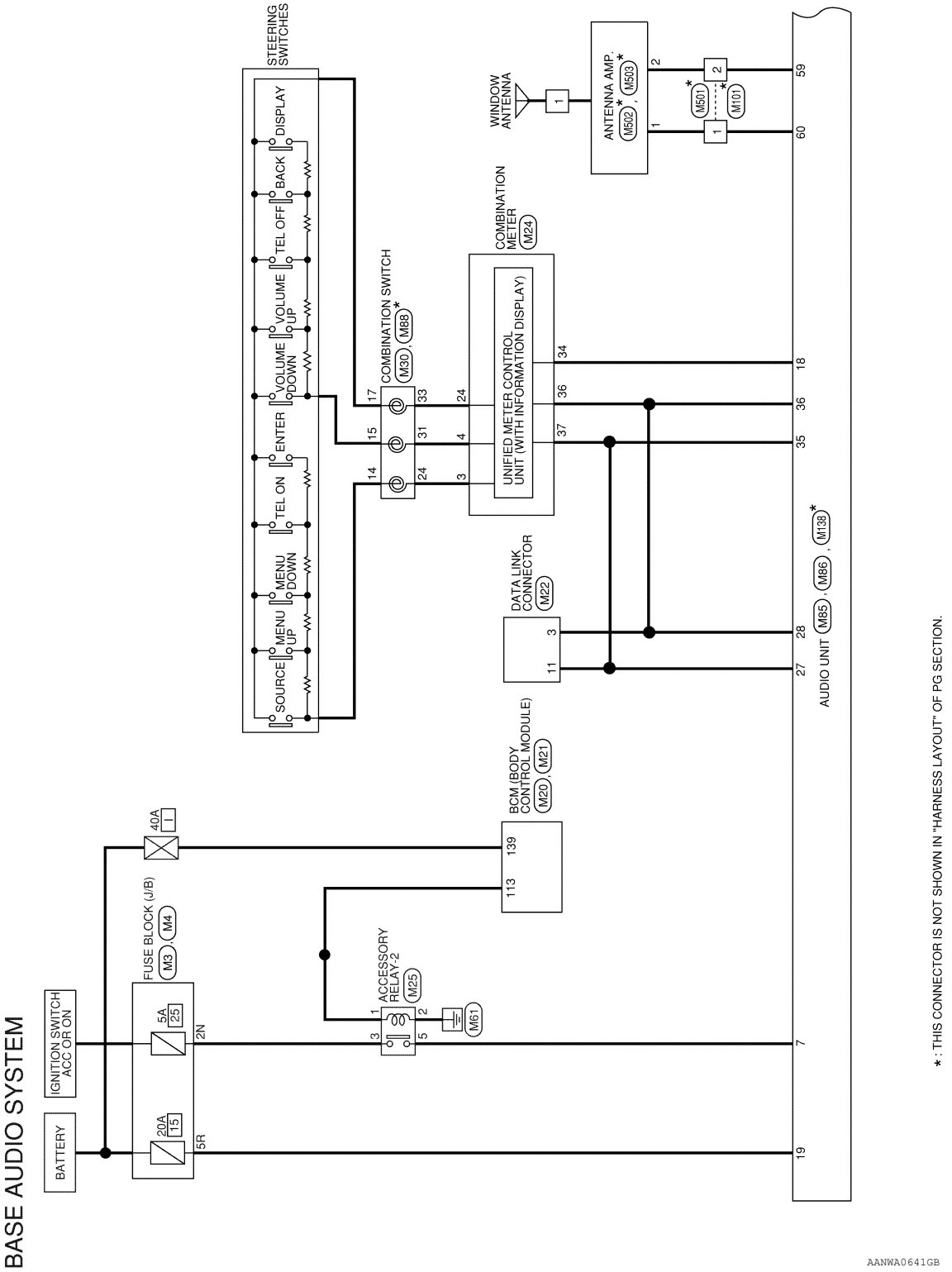
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
13 (LG)	14 (V)	Sound signal rear speaker RH	Output	ON	Sound output	 SKIA0177E
18 (G)	Ground	Vehicle speed signal	Input	ON	When vehicle speed is approx. 40 km/h (25 MPH).	 JSNIA0012GB
19 (G)	Ground	Battery power supply	Input	–	–	Battery voltage
27 (SB)	—	M-CAN (H)	Input/ Output	—	—	—
28 (LG)	—	M-CAN (L)	Input/ Output	—	—	—
35 (SB)	—	M-CAN (H)	Input/ Output	—	—	—
36 (LG)	—	M-CAN (L)	Input/ Output	—	—	—
38 (W)	Ground	Microphone power supply	Output	ON	—	5.0 V
40 (B)	39 (Shield)	Microphone signal	Input	ON	While speaking into microphone.	 SKIB3609E
59 (B)	Ground	AM/FM antenna signal	Input	ON	—	5.0 V
60 (B)	Ground	Antenna amp. ON signal	Output	ON	—	Battery voltage

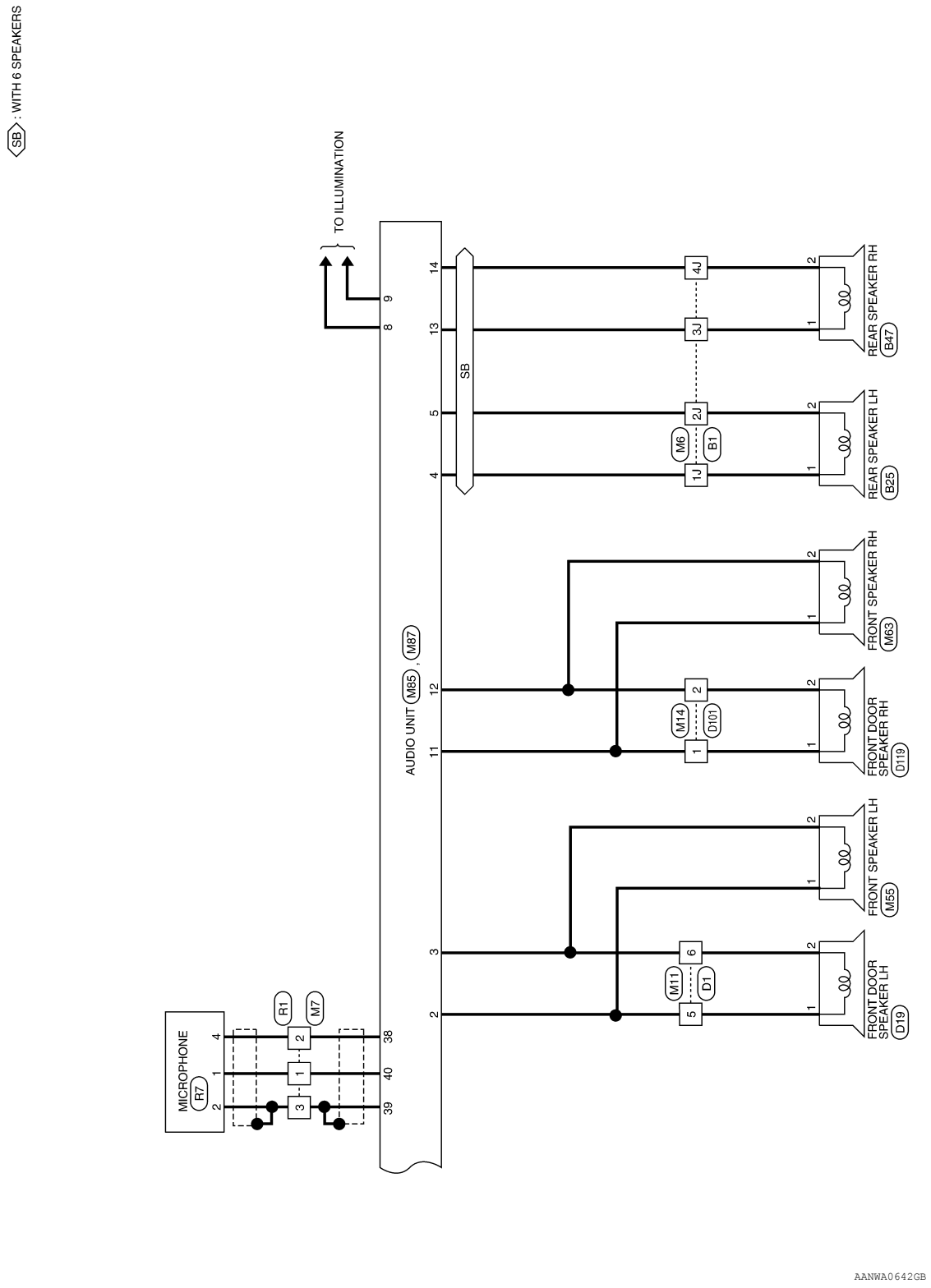
WIRING DIAGRAM

BASE AUDIO

Wiring Diagram

INFOID:0000000007985870

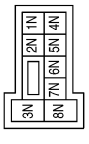



SB : WITH 6 SPEAKERS
TO ILLUMINATION
AUDIO UNIT (M85), (M87)
MICROPHONE
R7
R1
M7
REAR SPEAKER RH
B47
REAR SPEAKER LH
B25
FRONT SPEAKER RH
M63
FRONT SPEAKER LH
M55
FRONT DOOR SPEAKER RH
D119
FRONT DOOR SPEAKER LH
D19
SB
M6
B1
M14
D101
M11
D1
AANWA0642GB

BASE AUDIO SYSTEM CONNECTORS

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
2N	LG	–

Connector No.	M4
Connector Name	FUSE BLOCK (J/B)
Connector Color	BROWN

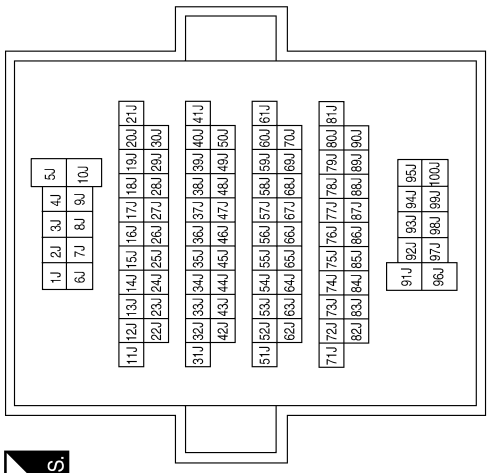
H.S.



Terminal No.	Color of Wire	Signal Name
5R	G	–

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Color	GRAY

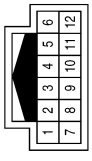
H.S.



Terminal No.	Color of Wire	Signal Name
1J	BR	–
2J	Y	–
3J	LG	–
4J	V	–

Connector No.	M7
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
1	B	–
2	W	–
3	SHIELD	–

AANIA0941GB

Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK

H.S.

116	115	114	113	112	111	110	109	108	107	106	105
128	127	126	125	124	123	122	121	120	119	118	117

Terminal No.	Color of Wire	Signal Name
113	P	ACC RELAY OUT

Connector No.	M14
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3
4	5	6	7	8

Terminal No.	Color of Wire	Signal Name
1	Y	–
2	BR	–

Connector No.	M11
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
5	V	–
6	SB	–

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21

Terminal No.	Color of Wire	Signal Name
3	P	STRG SW INPUT1
4	R	STRG SW INPUT2
24	W	STRG SW GND
34	G	SPEED 8P/R
36	LG	M-CAN-L
37	SB	M-CAN-H

Connector No.	M22
Connector Name	DATA LINK CONNECTOR
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
3	LG	–
11	SB	–

Connector No.	M21
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE

H.S.

137	136	135	134	133	132	131	130	129
143	142	141	140	139	138			

Terminal No.	Color of Wire	Signal Name
139	W	BAT POWER F/L

AANIA0942GB

Connector No.	M55
Connector Name	FRONT SPEAKER LH
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	V	–
2	SB	–

Connector No.	M30
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
24	P	–
31	R	–
33	W	–

Connector No.	M25
Connector Name	ACCESSORY RELAY-2
Connector Color	BLUE

H.S.

Terminal No.	Color of Wire	Signal Name
1	W	–
2	B	–
3	LG	–
5	P	–

Connector No.	M85
Connector Name	AUDIO UNIT
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	–	–
2	V	FR SP LH (+)
3	SB	FR SP LH (-)
4	BR	RR SP (+)
5	Y	RR SP (-)
6	–	–
7	P	ACC
8	GR	ILLUMINATION GND

Terminal No.	Color of Wire	Signal Name
9	R	ILL(+), LIGHT SW
10	–	–
11	Y	FR SP RH (+)
12	BR	FR SP RH (-)
13	LG	RR SP RH (+)
14	V	RR SP RH (-)
15	–	–
16	–	–
17	–	–
18	G	SPEED SIGNAL
19	G	BAT
20	–	–

Connector No.	M63
Connector Name	FRONT SPEAKER RH
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	Y	–
2	BR	–

AANIA0943GB

Connector No.	M87
Connector Name	AUDIO UNIT
Connector Color	WHITE

H.S.

40	39	38	37
44	43	42	41

Terminal No.	Color of Wire	Signal Name
38	W	MIC VCC
39	SHIELD	MIC GND
40	B	MIC SIG

Terminal No.	Color of Wire	Signal Name
28	LG	M-CAN-L
29	–	–
30	–	–
31	–	–
32	–	–
33	–	–
34	–	–
35	SB	M-CAN-H
36	LG	M-CAN-L

Connector No.	M138
Connector Name	AUDIO UNIT
Connector Color	GRAY

H.S.

58	59	60

Terminal No.	Color of Wire	Signal Name
58	–	–
59	B	MAIN ANT
60	B	ANT ON

Connector No.	M101
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

1	2	3

Terminal No.	Color of Wire	Signal Name
1	B	–
2	B	–

Connector No.	M86
Connector Name	AUDIO UNIT
Connector Color	WHITE

H.S.

21	22	23	24	25	26	27	28
29	30	31	32	33	34	35	36

Terminal No.	Color of Wire	Signal Name
21	–	–
22	–	–
23	–	–
24	–	–
25	–	–
26	–	–
27	SB	M-CAN-H

Connector No.	M88
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY

H.S.

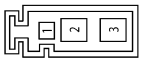
20	19	18	17	16	15	14	13

Terminal No.	Color of Wire	Signal Name
14	W	–
15	L	–
17	BR	–

AANIA0944GB

Connector No.	M501
Connector Name	WIRE TO WIRE
Connector Color	GRAY

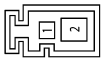
H.S.



Terminal No.	Color of Wire	Signal Name
1	B	–
2	B	–

Connector No.	M502
Connector Name	ANTENNA AMP.
Connector Color	GRAY

H.S.



Terminal No.	Color of Wire	Signal Name
1	B	–
2	B	–

Connector No.	M503
Connector Name	ANTENNA AMP.
Connector Color	BLACK

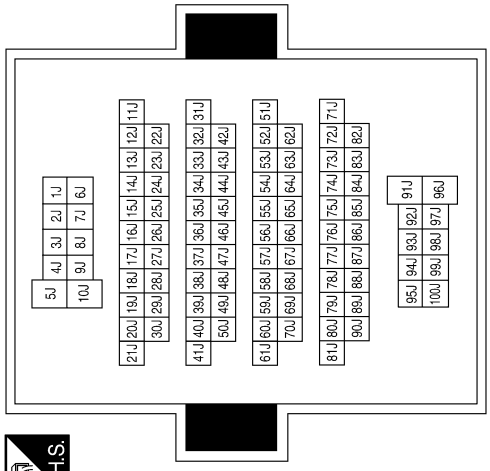
H.S.



Terminal No.	Color of Wire	Signal Name
1	B	–

Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.



Terminal No.	Color of Wire	Signal Name
1J	Y	–
2J	LG	–
3J	LG	–
4J	L	–

Connector No.	B25
Connector Name	REAR SPEAKER LH (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

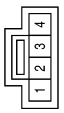


Terminal No.	Color of Wire	Signal Name
1	Y	–
2	LG	–

AANIA0945GB

Connector No.	R7
Connector Name	MICROPHONE
Connector Color	WHITE

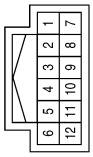
H.S.



Terminal No.	Color of Wire	Signal Name
1	L	–
2	SHIELD	–
3	–	–
4	Y	–

Connector No.	R1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
1	L	–
2	Y	–
2	SHIELD	–

Connector No.	B47
Connector Name	REAR SPEAKER RH (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE

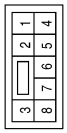
H.S.



Terminal No.	Color of Wire	Signal Name
1	LG	–
2	L	–

Connector No.	D101
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
1	G	–
2	W	–

Connector No.	D19
Connector Name	FRONT DOOR SPEAKER LH (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE

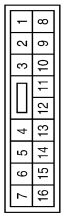
H.S.



Terminal No.	Color of Wire	Signal Name
1	G	–
2	W	–

Connector No.	D1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
5	G	–
6	W	–

AANIA0947GB

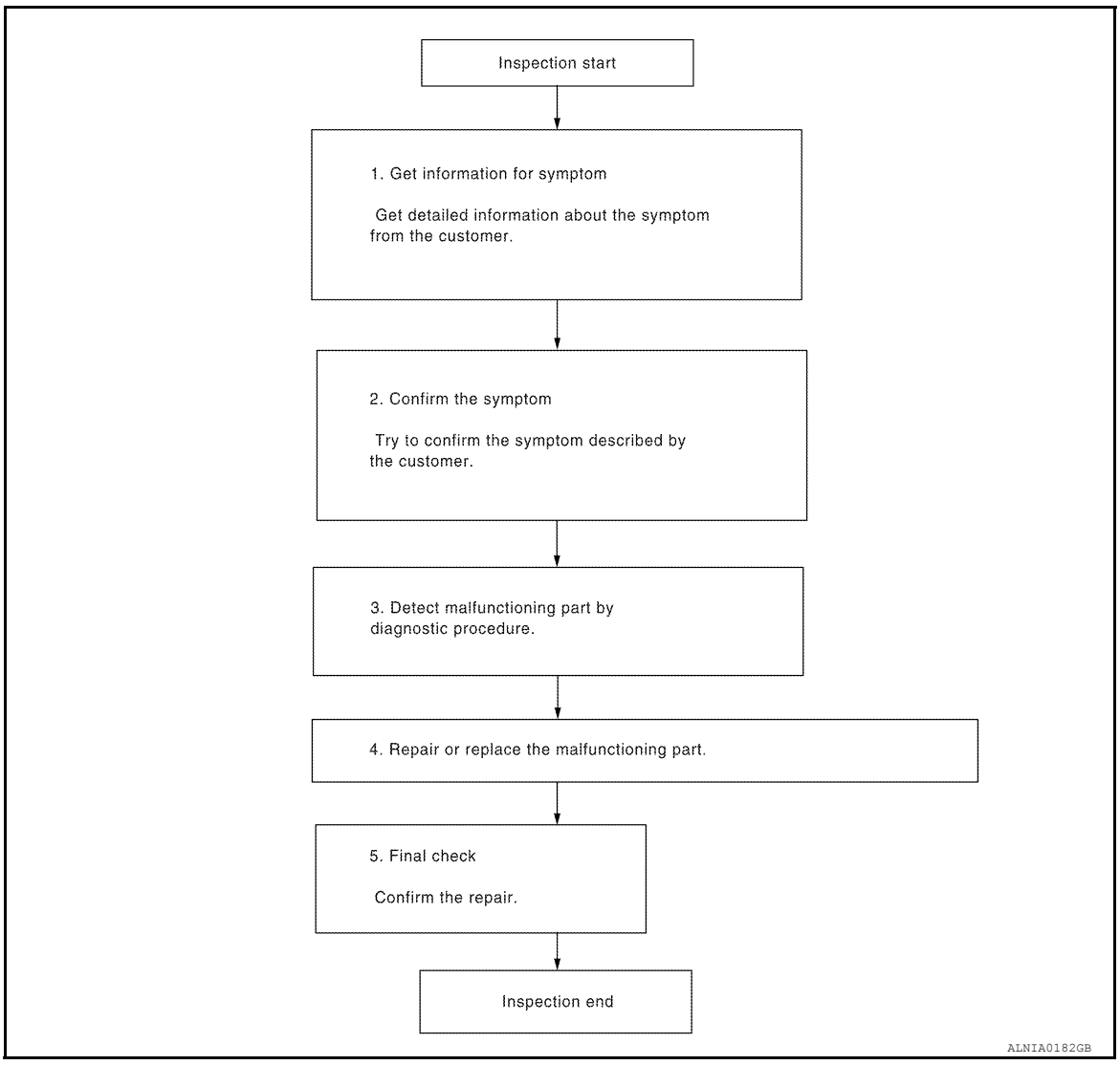
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000007985818

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.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.

Has the symptom been repaired?

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

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT
AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID:0000000007985836

Regarding Wiring Diagram information, refer to AV-19, "Wiring Diagram".

1.CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
7	ACC power supply	25 (5A)
19	Battery power supply	15 (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 M85.
3. Check voltage between audio unit connector M85 and ground.

Audio unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M85	7	—	Ignition switch: ON	Battery voltage
	19		Ignition switch: OFF	

Is the inspection result normal?

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

FRONT DOOR SPEAKER

Diagnosis Procedure

INFOID:0000000007985843

Regarding Wiring Diagram information, refer to AV-19, "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 M85 and suspect front door speaker connector.
2. Check continuity between audio unit connector M85 and suspect front door speaker connector.

Audio unit		Front door speaker		Continuity
Connector	Terminal	Connector	Terminal	
M85	2	D19 (LH)	1	Yes
	3		2	
	11	D119 (RH)	1	
	12		2	

3. Check continuity between audio unit connector M85 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M85	2	—	No
	3		
	11		
	12		

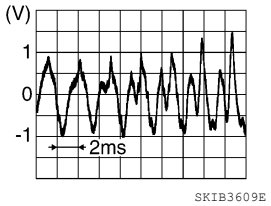
Is the inspection result normal?

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

3.CHECK FRONT DOOR SPEAKER SIGNAL

1. Connect audio unit connector M85 and suspect front door speaker connector.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between audio unit connector M85 and ground.

Audio unit connector M85		Condition	Reference value
(+)	(−)		
Terminal	Terminal		

2	3		
11	12	Audio signal output	

Is the inspection result normal?

YES >> Replace front door speaker. Refer to AV-47, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-45, "Removal and Installation".

FRONT SPEAKER

Diagnosis Procedure

INFOID:0000000007985847

Regarding Wiring Diagram information, refer to AV-19, "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 SPEAKER SIGNAL CIRCUIT CONTINUITY

1. Disconnect audio unit connector M85 and suspect front speaker connector.
2. Check continuity between audio unit connector M85 and suspect front speaker connector.

Audio unit		Front speaker		Continuity
Connector	Terminal	Connector	Terminal	
M85	2	M55 (LH)	1	Yes
	3		2	
	11	M63 (RH)	1	
	12		2	

3. Check continuity between audio unit connector M85 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M85	2	—	No
	3		
	11		
	12		

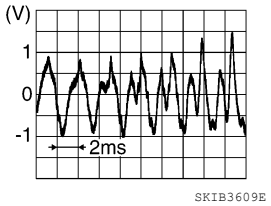
Is the inspection result normal?

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

3.CHECK FRONT SPEAKER SIGNAL

1. Connect audio unit connector M85 and suspect front speaker connector.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between audio unit connector M85 and ground.

Audio unit connector M85		Condition	Reference value
(+)	(−)		
Terminal	Terminal		

2	3		
11	12	Audio signal output	

Is the inspection result normal?

YES >> Replace front speaker. Refer to AV-46, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-45, "Removal and Installation".

REAR SPEAKER

Diagnosis Procedure

INFOID:0000000007985849

Regarding Wiring Diagram information, refer to AV-19, "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 SPEAKER SIGNAL CIRCUIT CONTINUITY

1. Disconnect audio unit connector M85 and suspect rear speaker connector.
2. Check continuity between audio unit connector M85 and suspect rear speaker connector.

Audio unit		Rear speaker		Continuity
Connector	Terminal	Connector	Terminal	
M85	4	B25 (LH)	1	Yes
	5		2	
	13	B47 (RH)	1	
	14		2	

3. Check continuity between audio unit connector M85 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M85	4	—	No
	5		
	13		
	14		

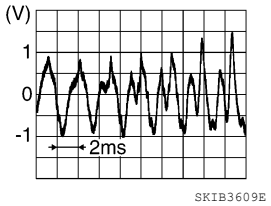
Is the inspection result normal?

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

3.CHECK REAR SPEAKER SIGNAL

1. Connect audio unit connector M85 and suspect rear speaker connector.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between audio unit connector M85 and ground.

Audio unit connector M85		Condition	Reference value
(+)	(−)		
Terminal	Terminal		

2	3		
11	12	Audio signal output	

Is the inspection result normal?

YES >> Replace rear speaker. Refer to AV-48, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-45, "Removal and Installation".

MICROPHONE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000007985863

Regarding Wiring Diagram information, refer to AV-19, "Wiring Diagram".

1.CHECK MICROPHONE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M87 and microphone connector R7.
3. Check continuity between audio unit connector M87 and microphone connector R7.

Audio unit		Microphone		Continuity
Connector	Terminal	Connector	Terminal	
M87	39	R7	2	Yes
	38		4	
	40		1	

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

Audio unit		Ground	Continuity
Connector	Terminal		
M87	39	—	No
	38		
	40		

Is inspection result normal?

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

2.CHECK MICROPHONE VCC VOLTAGE

1. Connect audio unit connector M87.
2. Turn ignition switch ON.
3. Check voltage between terminals of audio unit connector M87.

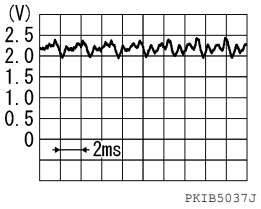
Audio unit connector M87		Voltage (Approx.)
(+)	(−)	
Terminal	Terminal	
38	39	5.0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace audio unit. Refer to AV-45, "Removal and Installation".

3.CHECK MICROPHONE SIGNAL

1. Connect microphone connector.
2. Check signal between terminals of audio unit connector M87.

Audio unit connector M87		Condition	Reference value
(+)	(−)		
Terminal	Terminal		
40	39	Speak into microphone.	

Is the inspection result normal?

YES >> Replace audio unit. Refer to AV-45, "Removal and Installation".
NO >> Replace microphone. Refer to AV-54, "Removal and Installation".

STEERING SWITCH

Diagnosis Procedure

INFOID:0000000007985853

Regarding Wiring Diagram information, refer to AV-19, "Wiring Diagram".

1.CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

1. Turn ignition switch OFF.
2. Disconnect combination switch connector M88.
3. Check resistance between combination switch connector terminals.

Combination switch connector M88		Condition	Resistance Ω (Approx.)
Terminal	Terminal		
14	17	Depress SOURCE switch.	1
		Depress △ switch.	121
		Depress ▽ switch.	321
		Depress switch.	723
		Depress ENTER switch.	2023
15		Depress switch.	1
		Depress switch.	121
		Depress switch.	321
		Depress switch.	723
		Depress DISP switch.	2023

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace steering switches. Refer to AV-49, "Removal and Installation".

2.CHECK HARNESS BETWEEN COMBINATION SWITCH AND COMBINATION METER

1. Disconnect combination meter connector M24 and combination switch connector M30.
2. Check continuity between combination meter connector M24 and combination switch connector M30.

Combination meter		Combination switch		Continuity
Connector	Terminal	Connector	Terminal	
M24	3	M30	24	Yes
	24		33	
	4		31	

3. Check continuity between combination meter connector M24 and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M24	3	—	No
	24		
	4		

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 M30 and M88.

Combination switch				Continuity
Connector	Terminal	Connector	Terminal	
M30	24	M88	14	Yes
	31		15	
	33		17	

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace spiral cable. Refer to SR-15, "Removal and Installation".

4. CHECK HARNESS BETWEEN COMBINATION METER AND AUDIO UNIT

1. Disconnect audio unit connector M86.
2. Check continuity between combination meter connector M24 and audio unit connector M86.

Combination meter		Audio unit		Continuity
Connector	Terminal	Connector	Terminal	
M24	37	M86	35	Yes
	36		36	

3. Check continuity between combination meter connector M24 and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M24	37	—	No
	36		

Is the inspection result normal?

YES >> Replace audio unit. Refer to AV-45, "Removal and Installation".
NO >> Repair or replace harness or connectors.

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:0000000008656040

RELATED TO AUDIO

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	Audio unit	Malfunction in audio unit. Refer to AV-14, "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-19, "Wiring Diagram". • Audio unit power supply and ground circuits malfunction. Refer to AV-29, "AUDIO UNIT : Diagnosis Procedure".
	Only a certain speaker (front door speaker LH, front door speaker RH, front speaker LH, front speaker RH, rear speaker LH, rear speaker RH) does not output sound.	• Poor connector connection of speaker. • Sound signal circuit malfunction between audio unit and speaker. Refer to: - AV-30, "Diagnosis Procedure" (front door speaker). - AV-32, "Diagnosis Procedure" (front speaker). - AV-34, "Diagnosis Procedure" (rear speaker). • Malfunction in speaker. Refer to: - AV-47, "Removal and Installation" (front door speaker). - AV-46, "Removal and Installation" (front speaker). - AV-48, "Removal and Installation" (rear speaker). • Malfunction in audio unit. Refer to AV-14, "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-14, "On Board Diagnosis Function".
	Noise comes out only from a certain speaker (front door speaker LH, front door speaker RH, front speaker LH, front speaker RH, rear speaker LH, rear speaker RH).	• Poor connector connection of speaker. • Sound signal circuit malfunction between audio unit and speaker. Refer to: - AV-30, "Diagnosis Procedure" (front door speaker). - AV-32, "Diagnosis Procedure" (front speaker). - AV-34, "Diagnosis Procedure" (rear speaker). • Malfunction in speaker. • Poor Installation of speaker (e.g. backlash and looseness). Refer to: - AV-47, "Removal and Installation" (front door speaker). - AV-46, "Removal and Installation" (front speaker). - AV-48, "Removal and Installation" (rear speaker). • Malfunction in audio unit. Refer to AV-14, "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-51, "Location of Antenna".
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-17, "Reference Value". • Poor connector connection of antenna or antenna feeder. Refer to AV-51, "Location of Antenna".
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-51, "Location of Antenna".
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-45, "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-36, "Diagnosis Procedure".
The system cannot be operated.	• The voice recognition can be controlled. • Steering switch’s VOL+ , VOL− , and ↩ switch works, but 🎤 does not work.	Steering switch malfunction. Replace steering switch. Refer to AV-49, "Removal and Installation".
	Steering switch’s 🎤, VOL+ , VOL− , and ↩ switches do not work.	Steering switch signal circuit malfunction. Refer to AV-38, "Diagnosis Procedure".
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to AV-38, "Diagnosis Procedure".

NORMAL OPERATING CONDITION

Description

INFOID:0000000007985878

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-40, "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.

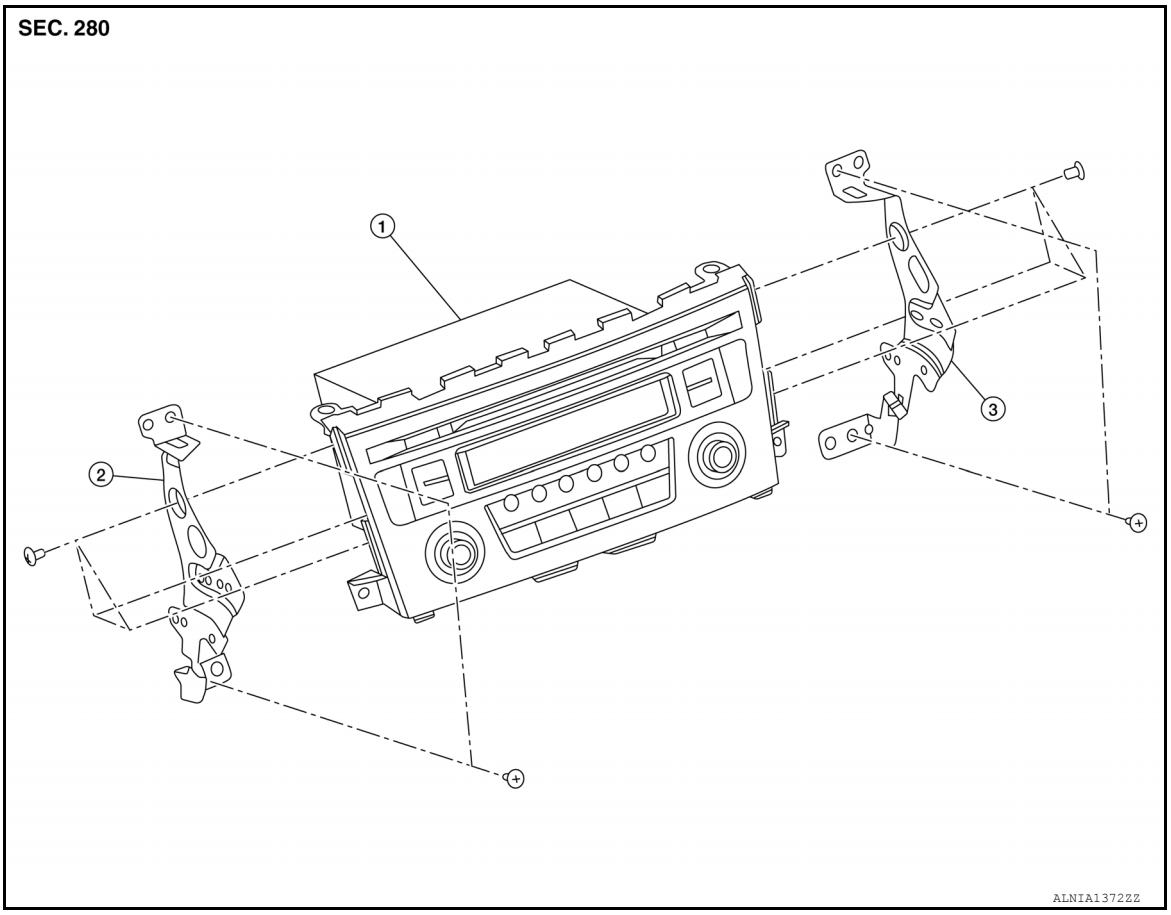
Symptom	Cause and Counter measure
The other party’s voice cannot be heard by hands-free phone.	When the radio wave condition is not ideal or ambient sound is too loud, it may be difficult to hear the other person’s voice during a call.
Poor sound quality.	Do not place the cellular phone in an area surrounded 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:0000000008542356



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

Removal and Installation

INFOID:0000000008542357

REMOVAL

1. Disconnect the negative battery terminal. Refer to PG-72, "Removal and Installation (Battery)".
2. Remove cluster lid C. Refer to IP-20, "Cluster Lid C".
3. Remove the front air control. Refer to HAC-162, "Removal and Installation".
4. Remove the audio unit screws, then pull out the audio unit.
5. Disconnect the harness connectors from the audio unit and remove.

INSTALLATION

Installation is in the reverse order of removal.

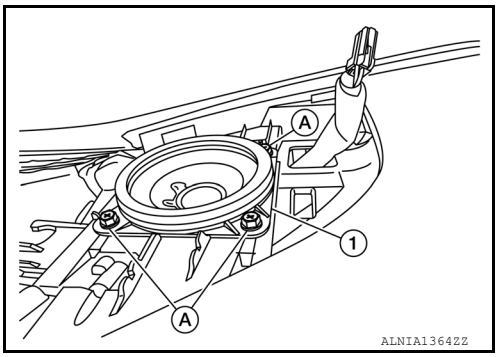
FRONT SPEAKER

Removal and Installation

INFOID:0000000007985886

REMOVAL

1. Remove the front pillar finisher. Refer to INT-21, "FRONT PILLAR FINISHER : Removal and Installation".
2. Remove the front speaker grille using a suitable tool.
3. Remove the front speaker screws (A).
4. Pull out the front speaker (1), disconnect the harness connector from front speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

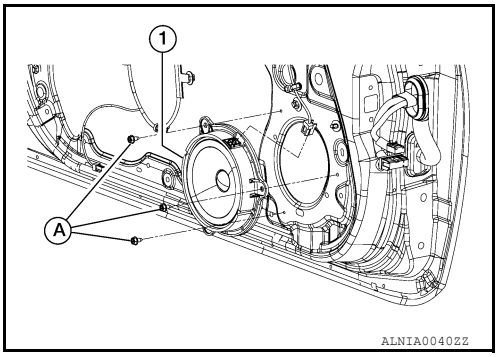
FRONT DOOR SPEAKER

Removal and Installation

INFOID:0000000007985887

REMOVAL

1. Remove the front door finisher. Refer to INT-15, "Removal and Installation".
2. Remove the front door speaker screws (A).
3. Disconnect the harness connector from the front door speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

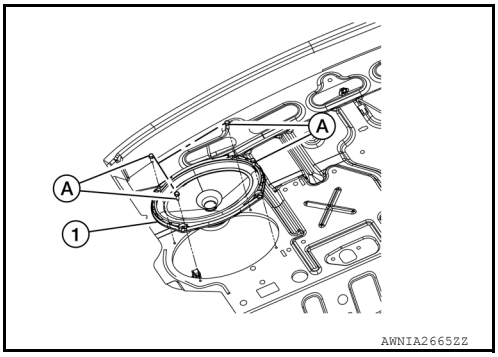
REAR SPEAKER

Removal and Installation

INFOID:0000000008659214

REMOVAL

1. Remove the rear parcel shelf finisher. Refer to INT-26, "Removal and Installation".
2. Remove the rear speaker screws (A).
3. Disconnect the harness connector from the rear speaker (1) and remove.



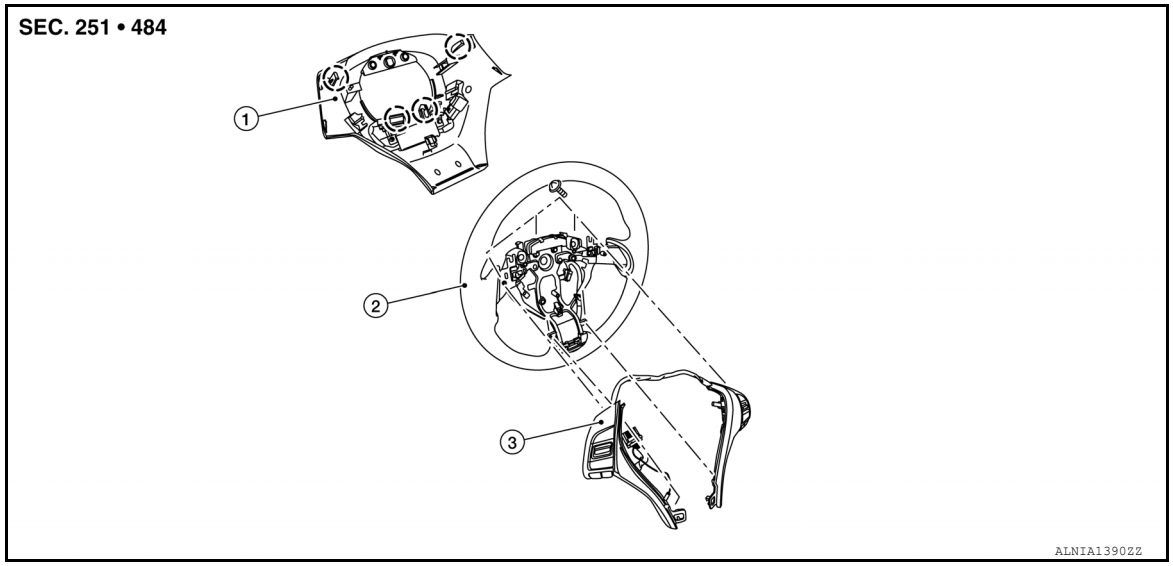
INSTALLATION

Installation is in the reverse order of removal.

STEERING SWITCH

Exploded View

INFOID:0000000008542305



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

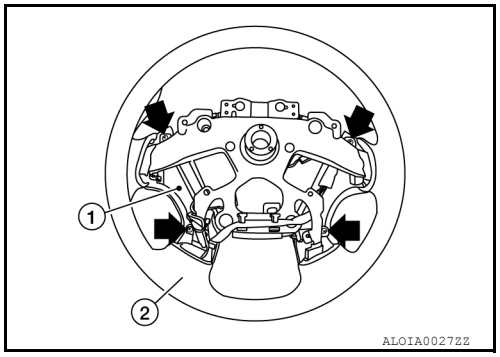
Pawl

Removal and Installation

INFOID:0000000008542304

REMOVAL

1. Remove the steering wheel. Refer to ST-31, "Removal and Installation"
2. Release the pawls on the steering wheel rear finisher and remove.
3. Remove the steering switches screws (⬅).
4. Remove the steering switches (1) from steering wheel (2).



INSTALLATION

Installation is in the reverse order of removal.

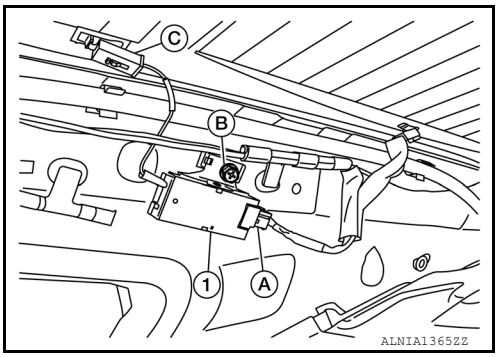
ANTENNA AMP.

Removal and Installation

INFOID:0000000007985895

REMOVAL

1. Remove the rear pillar finisher RH. Refer to INT-25, "REAR PILLAR FINISHER : Removal and Installation".
2. Disconnect the harness connector (A) from the antenna amp. (1).
3. Disconnect the antenna amp. harness connector (C) from the rear window glass.
4. Remove the antenna amp. screw (B) and the antenna amp. (1).



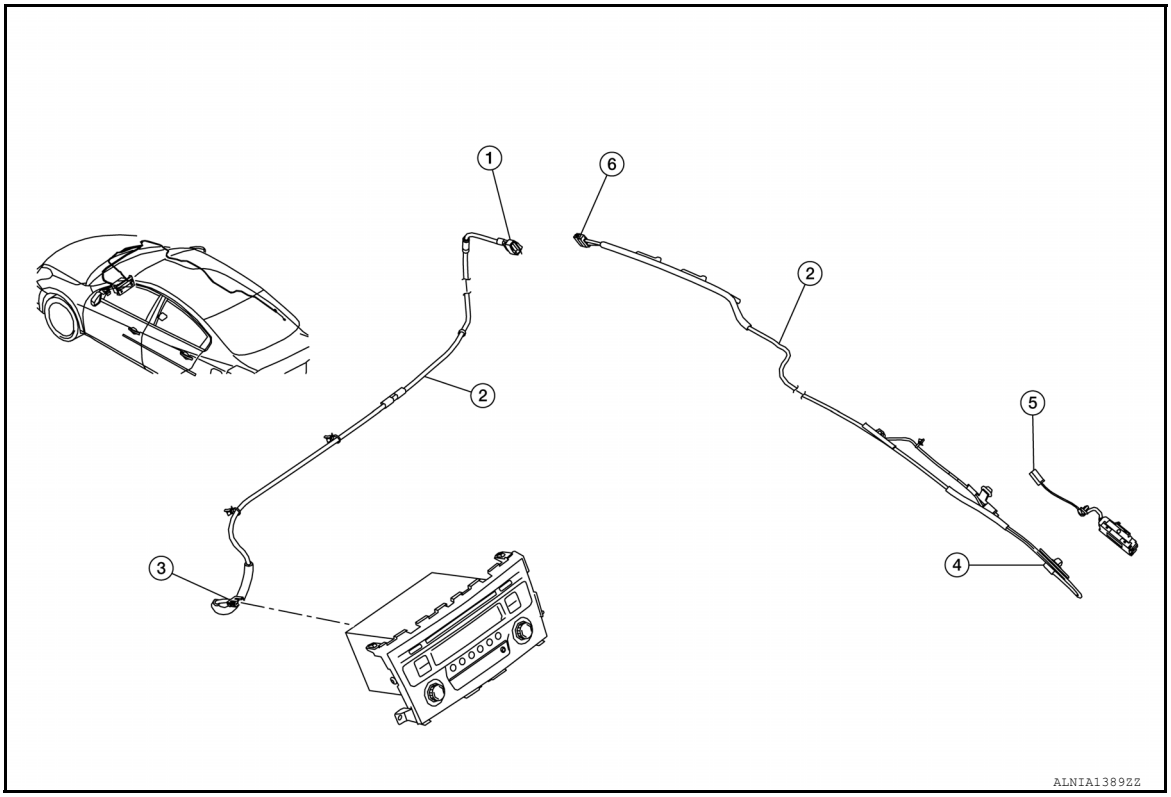
INSTALLATION

Installation is in the reverse order of removal.

ANTENNA FEEDER

Location of Antenna

INFOID:0000000007985898



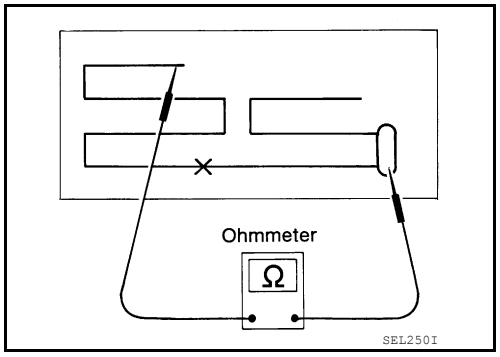
1. M101
2. Antenna feeder
3. M138
4. M502
5. M503
6. M501

Window Antenna Repair

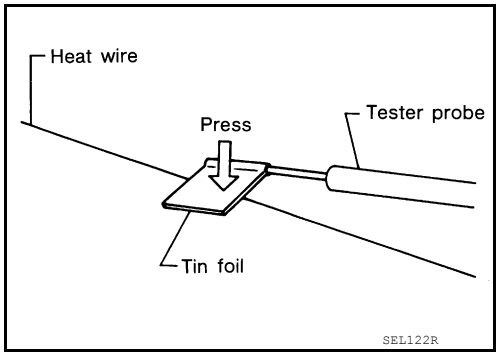
INFOID:0000000007985899

ELEMENT CHECK

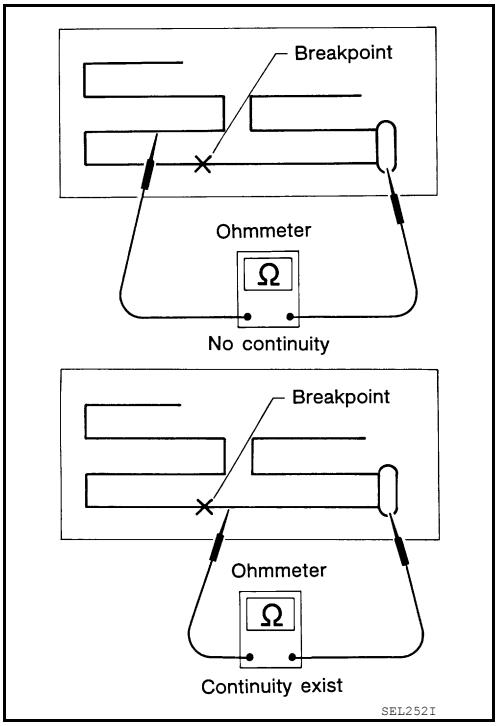
1. Attach probe circuit tester (ohm setting) to antenna terminal on each side.



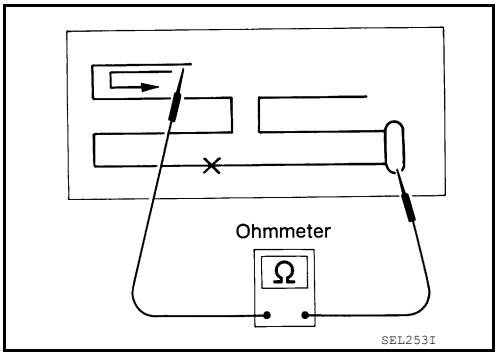
- **When measuring continuity, wrap tin foil around the top of probe. Then, press the foil against the wire with your finger.**



2. If an element is broken, no continuity will exist.



3. To locate a break, move probe along element. Tester indication will change abruptly when probe passes the broken point.

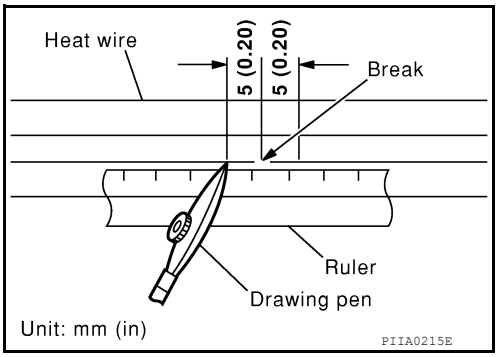


REPAIR EQUIPMENT

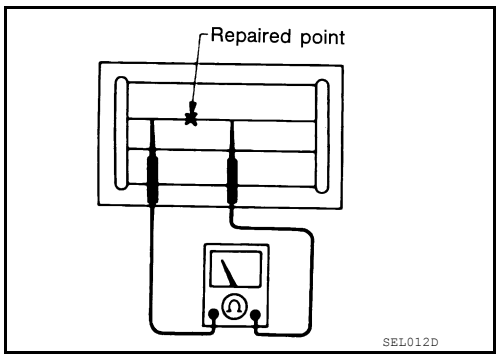
- Conductive silver composition (DuPont No. 4817 or equivalent)
- Ruler 30 cm (11.8 in) long
- Drawing pen
- Heat gun
- Alcohol
- Cloth

REPAIRING PROCEDURE

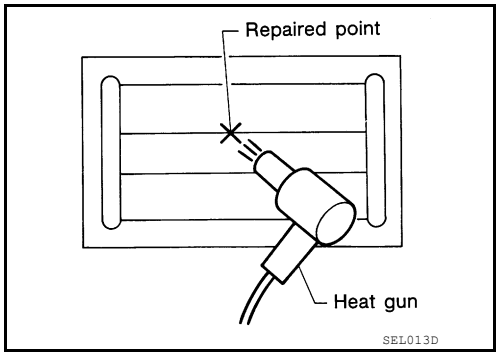
1. Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
2. Apply a small amount of conductive silver composition to tip of drawing pen.
   Shake silver composition container before use.
3. Place ruler on glass along broken line. Deposit conductive silver composition on break with drawing pen. Slightly overlap existing heat wire on both sides [preferably 5 mm (0.20 in)] of the break.



4. After repair has been completed, check repaired wire for continuity. This check should be conducted 10 minutes after silver composition is deposited.
   Do not touch repaired area while test is being conducted.



5. Apply a constant stream of hot air directly to the repaired area for approximately 20 minutes with a heat gun. A minimum distance of 3 cm (1.2 in) should be kept between repaired area and hot air outlet.
   If a heat gun is not available, let the repaired area dry for 24 hours.



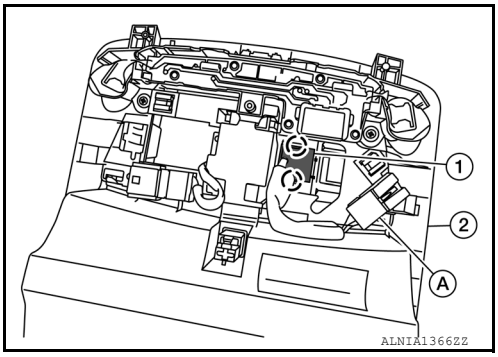
MICROPHONE

Removal and Installation

INFOID:0000000007985900

REMOVAL

1. Remove the front room/map lamp assembly. Refer to INL-63, "Removal and Installation".
2. Disconnect the microphone connector (A) from the front room/ map lamp assembly (2).
3. Release the microphone pawls, then remove the microphone (1).
   ◌: Pawl



INSTALLATION

Installation is in the reverse order of removal.

PRECAUTION

PRECAUTIONS

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

INFOID:0000000008729189

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 SR and SB section of this Service Manual.

WARNING:

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

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

WARNING:

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

Precaution for Trouble Diagnosis

INFOID:0000000007985999

AV COMMUNICATION SYSTEM

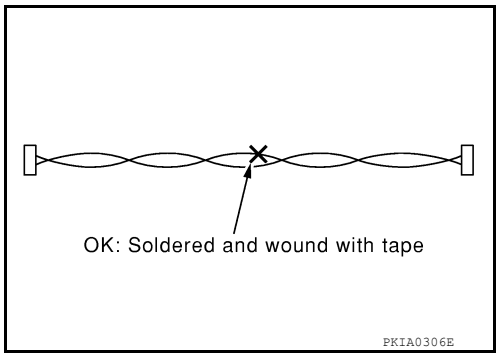
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

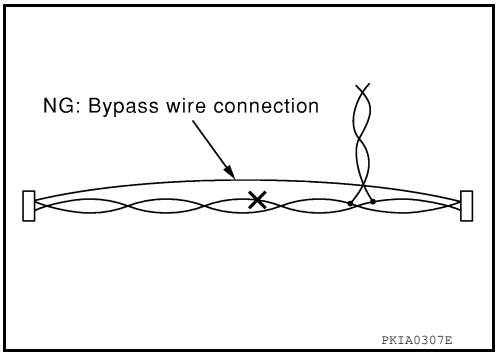
INFOID:0000000007986000

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:0000000008527554

- 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.

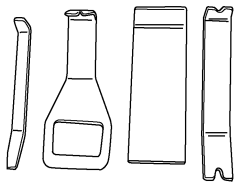
PREPARATION

PREPARATION

Special Service Tools

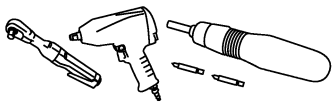
INFOID:0000000007986002

The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

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

Commercial Service Tools

INFOID:0000000007986003

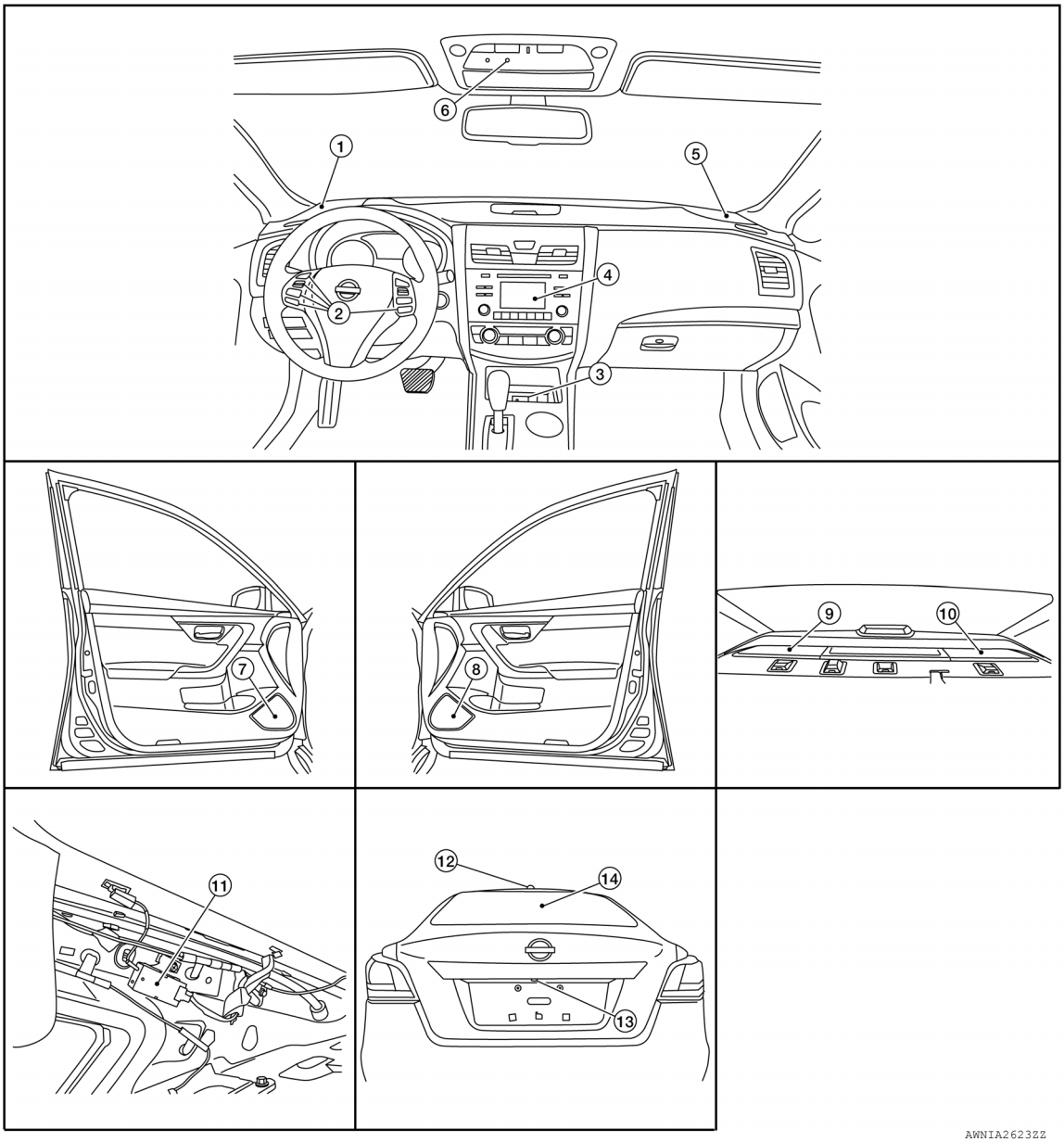
Tool name	Description
Power tool  PIIB1407E	Loosening nuts, screws and bolts

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000008541237



1. Front speaker LH
2. Steering switches
3. USB interface
4. Audio unit
5. Front speaker RH
6. Microphone
7. Front door speaker LH
8. Front door speaker RH
9. Rear speaker RH
10. Rear speaker LH
11. Antenna amp.
12. Satellite antenna
13. Rear view camera
14. Window antenna

Component Description

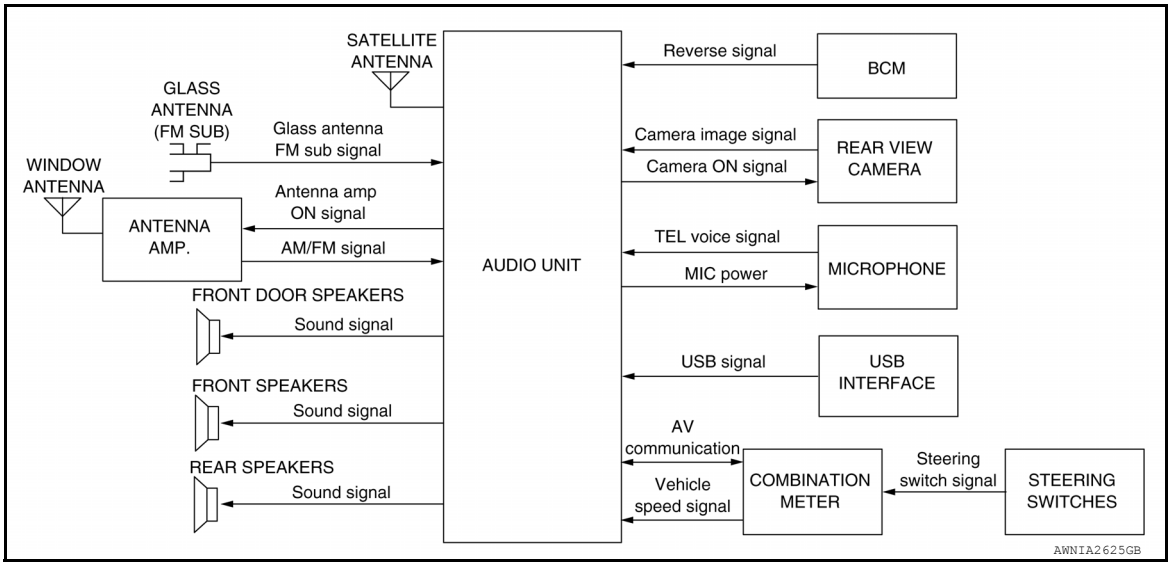
INFOID:0000000008541238

Part name	Description
Audio unit	• Controls audio, hands-free phone, USB connection, AUX IN connection, satellite radio and rear view camera functions. • Display unit is built in to audio unit.
Front door speakers	Outputs high, mid and low range audio signals from audio unit.
Front speakers	
Rear speakers	
Steering switches	• Operations for audio, hands-free phone and voice recognition are possible. • Steering switch signal is output to combination meter. • Combination meter outputs steering switch signal to audio unit.
Microphone	• Used for hands-free phone operations. • Microphone signal is transmitted to audio unit. • Power is supplied from audio unit.
USB interface	USB sound and data input signals are transmitted to audio unit.
Rear view camera	• Outputs image of vehicle rear to audio unit. • Power is supplied from audio unit.
Satellite antenna	Satellite radio signal is received and transmitted to audio unit.
Antenna amp.	• AM/FM signal received by window antenna is amplified and transmitted to audio unit. • Power is supplied from audio unit.
Window antenna	AM/FM signal is received and transmitted to antenna amp.

SYSTEM

System Diagram

INFOID:0000000008541239



System Description

INFOID:0000000008541240

AUDIO SYSTEM

The audio system consists of the following components

- Audio unit
- Front door speakers
- Front speakers
- Rear speakers
- Steering switches
- Microphone
- USB interface
- Rear view camera
- satellite antenna
- Antenna amp.
- Window antenna

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

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

HANDS-FREE PHONE SYSTEM

System Operation

NOTE:

Cellular telephones must have their wireless connection set up (paired) before using the Bluetooth® telephone system.

The Bluetooth® telephone system allows users who have a Bluetooth® cellular telephone to make a wireless connection between their cellular telephone and the audio unit. Hands-free cellular telephone calls can be sent and received. Some Bluetooth® cellular telephones may not be recognized by the audio unit. When a cellular telephone or the audio unit is replaced, the telephone must be paired with the audio unit. Different cellular telephones may have different pairing procedures, refer to the cellular telephone operating manual.

Refer to the Owner's Manual for Bluetooth® telephone system operating instructions.

AV Control Unit

When the ignition switch is turned to ACC or ON, the audio unit will power up. During power up, the audio unit is initialized and performs various self-checks. Initialization may take up to 20 seconds.

Steering Switches

When buttons on the steering switches are pushed, the resistance in steering switches circuits change, depending on which button is pushed.
The following functions can be performed using the steering switches:

- Initiate self-diagnosis of the Bluetooth® telephone system
- Start a voice recognition session
- Answer and end telephone calls
- Adjust the volume of calls
- Record memos

Microphone

The microphone is located in the roof console assembly. The microphone sends a signal to the audio unit.

REAR VIEW CAMERA SYSTEM

- The audio unit supplies power to the rear view camera when the reverse signal is received from the BCM.
- The rear view camera transmits rear view 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:0000000008541241

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

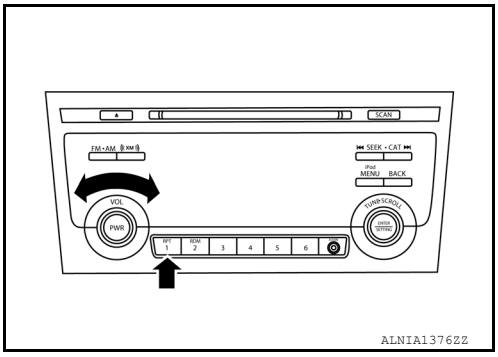
Mode		Description
Self Diagnosis		• Audio unit diagnosis. • Diagnoses the connections across system components.
Confirmation/ Adjustment	Display Diagnosis	The following check functions are available: color tone check by color bar display and white display, light and shade check by gray scale display.
	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	Guiding line position that overlaps rear view camera image can be adjusted.
	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.
	Initialize Setting	Initializes the audio unit memory.

On Board Diagnosis Function

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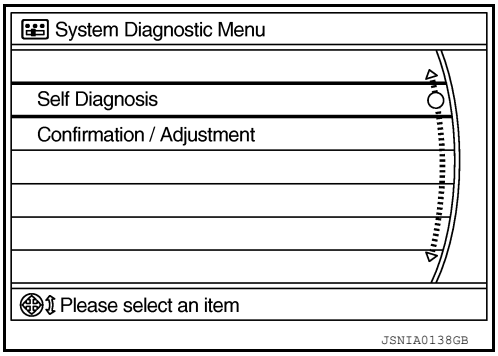
METHOD OF STARTING

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. When self-diagnosis mode begins, a short beep will be heard. Shifting from current screen to previous screen is performed by pressing BACK button.



ALNIA1376ZZ

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



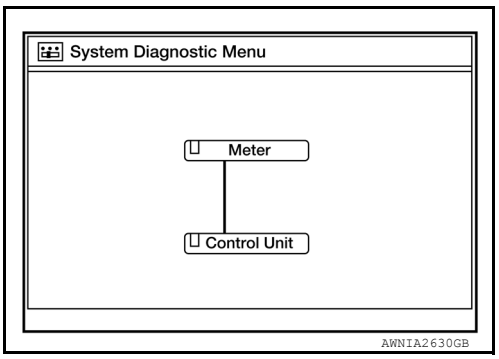
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SELF DIAGNOSIS MODE

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.

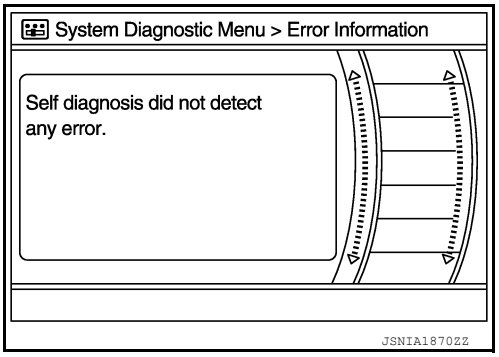


Diagnosis results	Unit	Connection line
Normal	Green	Green
Connection malfunction	Gray	Yellow
Unit malfunction [1]	Red	Green

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-104, "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.



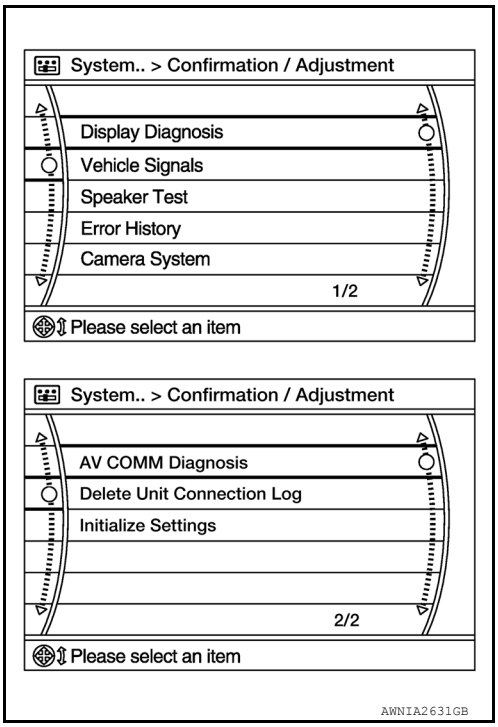
Audio Unit Self Diagnosis Results

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-85, "AUDIO UNIT : Diagnosis Procedure". • If no malfunction is detected in audio unit power supply and ground circuits, replace audio unit. Refer to AV-104, "Removal and Installation".

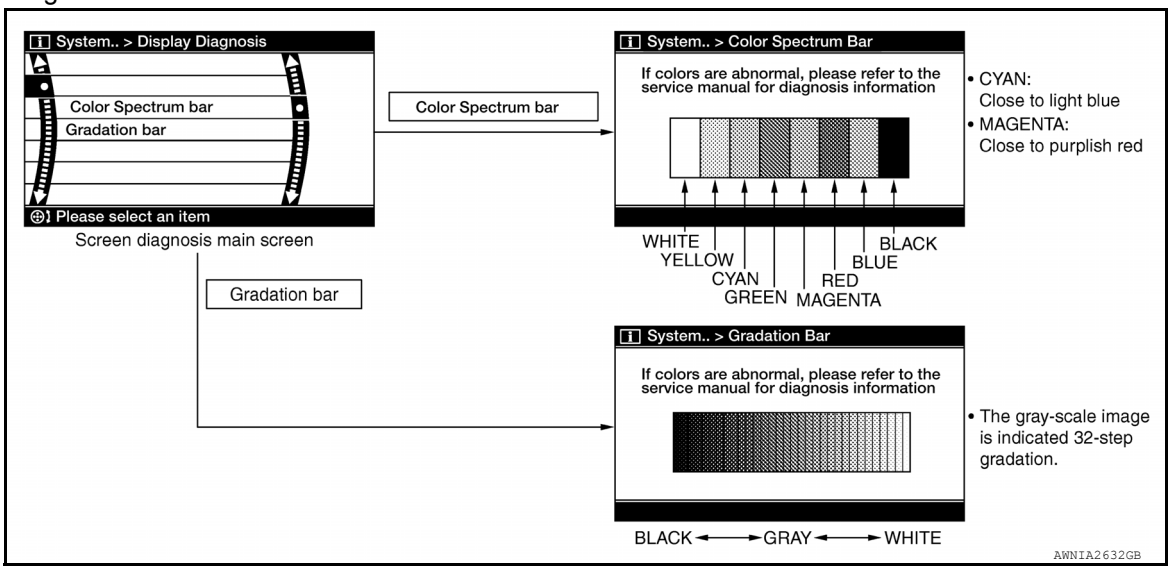
A Connecting Cable Between Units Is Displayed In Yellow		
Area with yellow connection lines	Description	Possible cause
Control unit ⇔ Meter	When one of the following is detected: • malfunction is detected in combination meter power supply and ground circuits. • malfunction is detected in AV communication circuits between audio unit and combination meter.	• Combination meter power supply or ground circuits. Refer to MWI-57, "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.

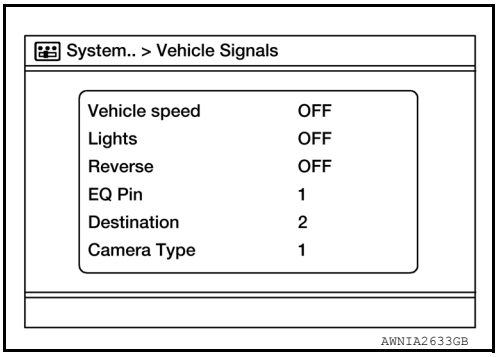


Display Diagnosis



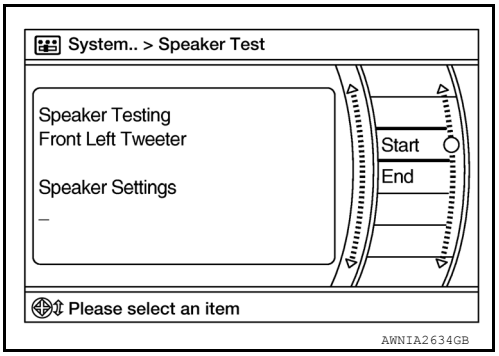
Vehicle Signals

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.

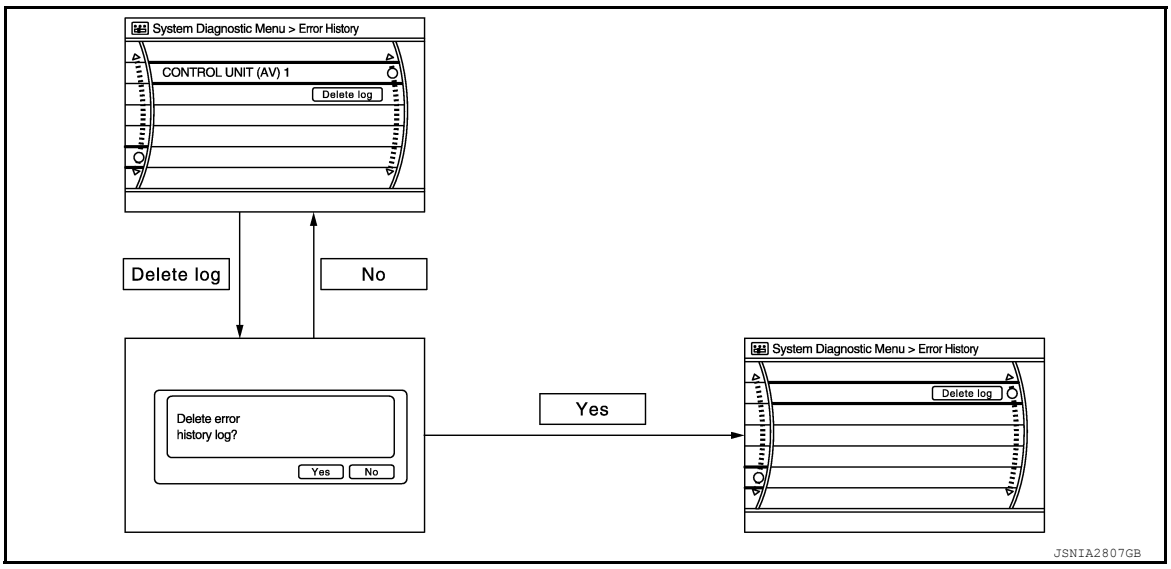
Count up method A

- 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



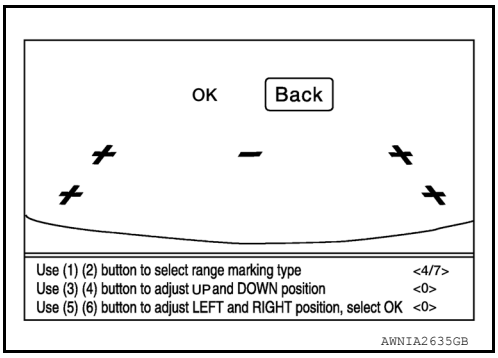
Error item

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-104, "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-57, "COMBINATION METER : Diagnosis Procedure". • AV communication circuits between audio unit and combination meter.

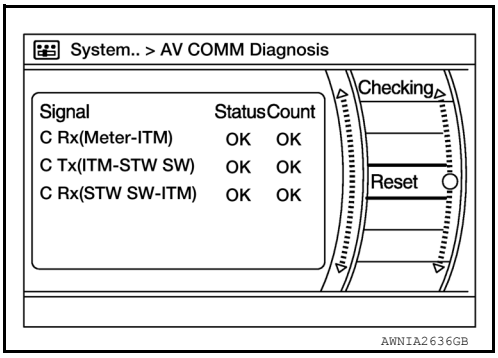
Camera System

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



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.

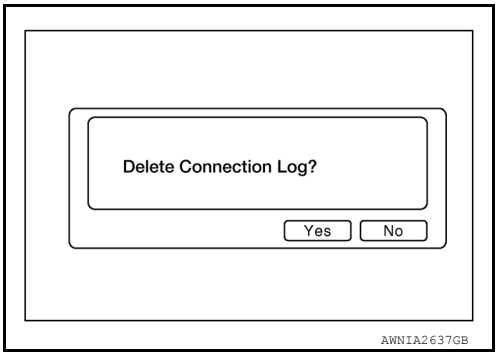


Items	Status (Current)	Counter (Past)
C Rx(Meter-ITM)	OK / ???	OK / 0 – 39
C Tx(ITM-TW SW)	OK / ???	OK / 0 – 39
C Rx(STW SW-ITM)	OK / ???	OK / 0 – 39

NOTE:
"???" indicates UNKWN.

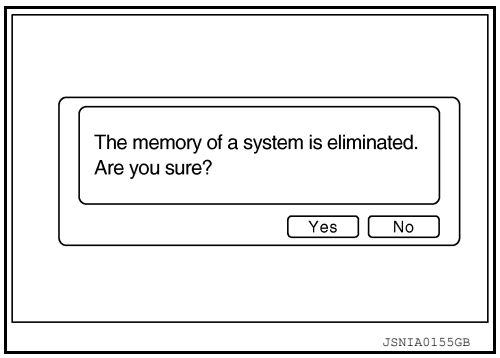
Delete Unit Connection Log

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



Initialize Settings

Deletes data stored from the audio unit.



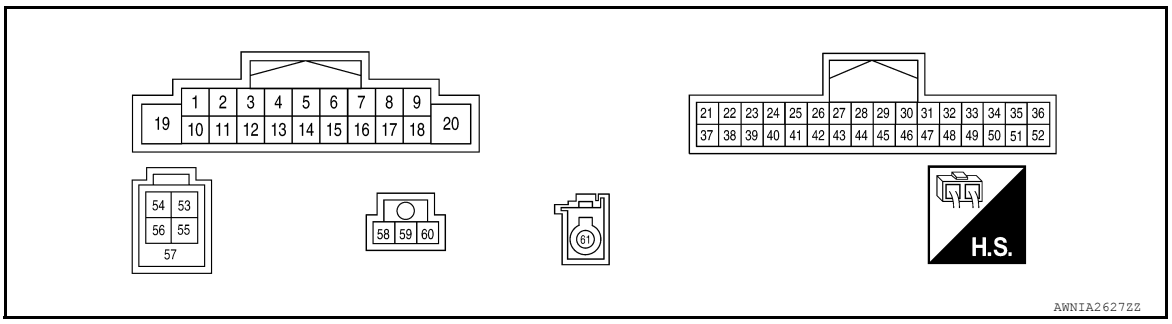
ECU DIAGNOSIS INFORMATION

AUDIO UNIT

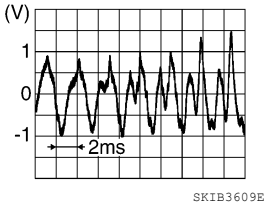
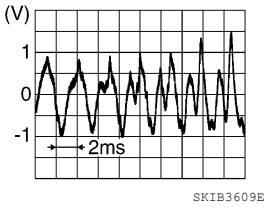
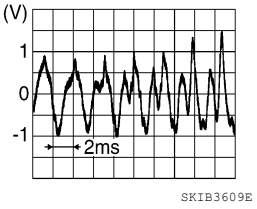
Reference Value

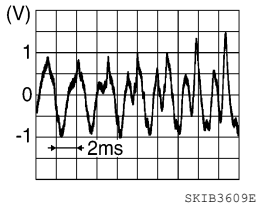
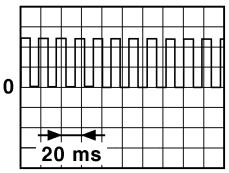
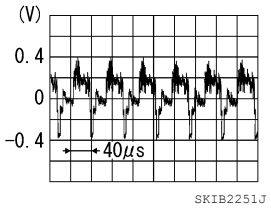
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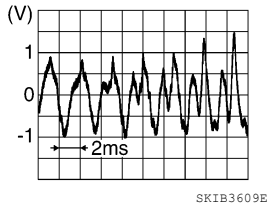
TERMINAL LAYOUT



PHYSICAL VALUES

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

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
13 (LG)	14 (V)	Sound signal rear speaker RH	Output	ON	Sound output	 SKIB3609E
18 (G)	Ground	Vehicle speed signal	Input	ON	When vehicle speed is approx. 40 km/h (25 MPH)	 JSNIA0012GB
19 (G)	Ground	Battery power supply	Input	OFF	—	Battery voltage
20 (GR)	Ground	Ground	—	ON	—	0 V
21	—	Shield	—	—	—	—
22 (B)	Ground	Camera image signal	Input	ON	When camera image is displayed	 SKIB2251J
23 (W)	Ground	Camera power supply	Output	ON	When camera image is displayed	6.0 V
					Except for above	0 V
24 (R)	Ground	Camera ground	—	ON	—	0 V
25 (LG)	—	M-CAN (L)	Input/ Output	—	—	—
26 (SB)	—	M-CAN (H)	Input/ Output	—	—	—
28 (LG)	—	M-CAN (L)	Input/ Output	—	—	—
29 (SB)	—	M-CAN (H)	Input/ Output	—	—	—
39 (G)	Ground	Reverse signal	Input	ON	Selector lever in R (reverse)	Battery voltage
					Selector lever in any position other than R (reverse)	0 V
45 (B)	Ground	Camera ground	—	ON	—	0 V
51 (W)	Ground	Microphone power supply	Output	ON	—	5.0 V

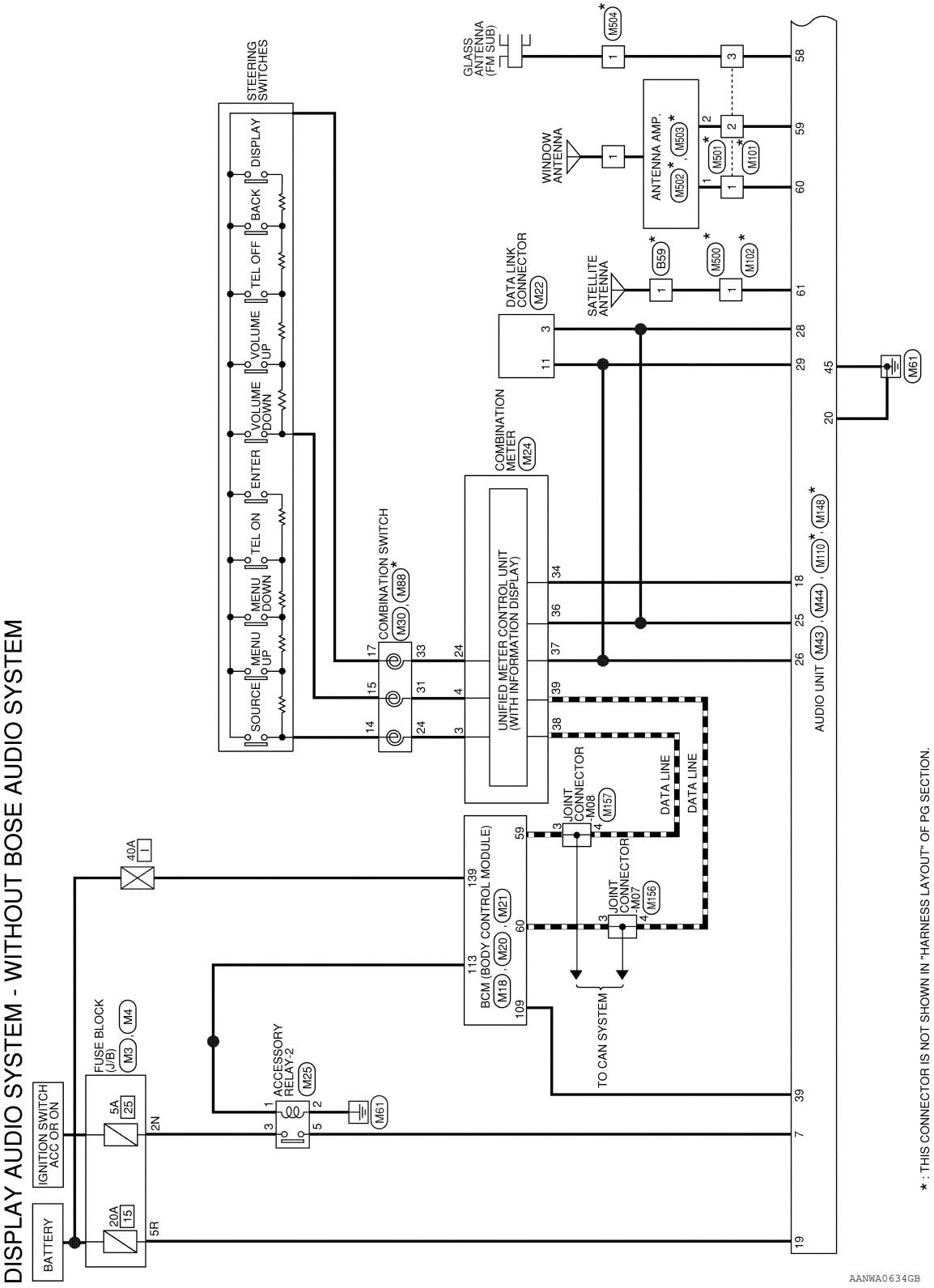
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
52 (B)	50 (Shield)	Microphone signal	Input	ON	While speaking into microphone.	
53 (W)	—	USB ground	—	—	—	—
54 (G)	—	V BUS signal	—	—	—	—
55 (L)	—	USB D– signal	—	—	—	—
56 (R)	—	USB D+ signal	—	—	—	—
57	—	Shield	—	—	—	—
58 (B)	Ground	Glass antenna (FM sub) signal	Input	ON	—	5.0 V
59 (B)	Ground	AM/FM antenna signal	Input	ON	—	5.0 V
60 (B)	Ground	Antenna amp. ON signal	Output	ON	—	Battery voltage
61 (B)	Ground	Satellite antenna signal	Input	ON	—	5.0 V

WIRING DIAGRAM

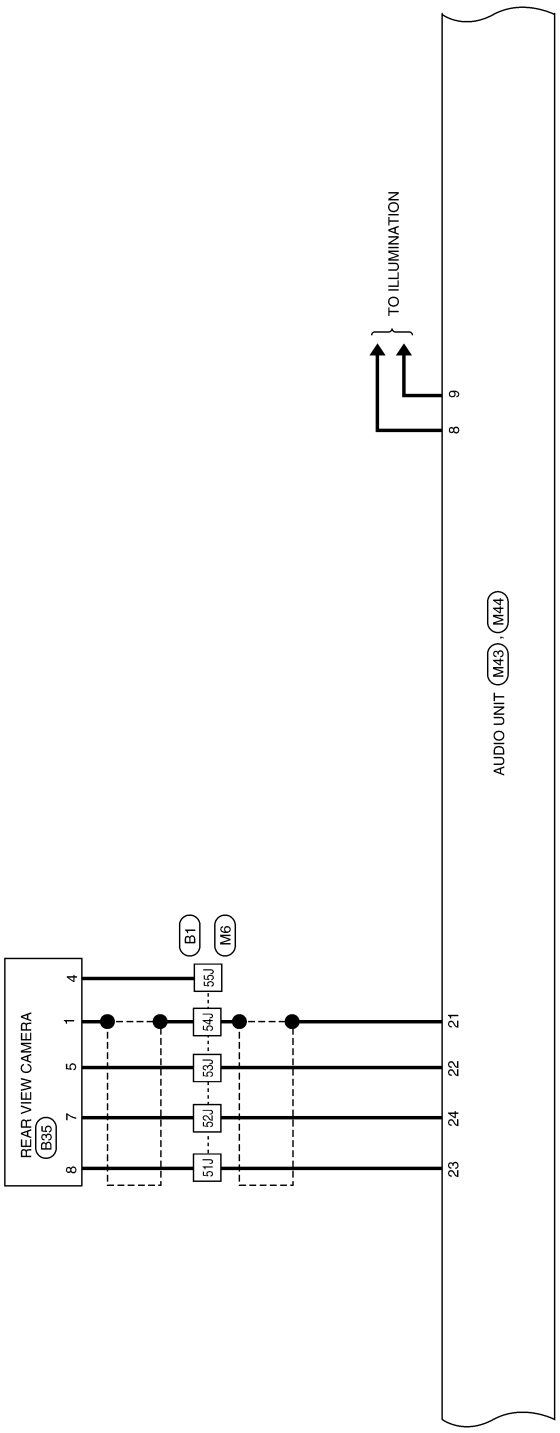
DISPLAY AUDIO WITHOUT BOSE

Wiring Diagram

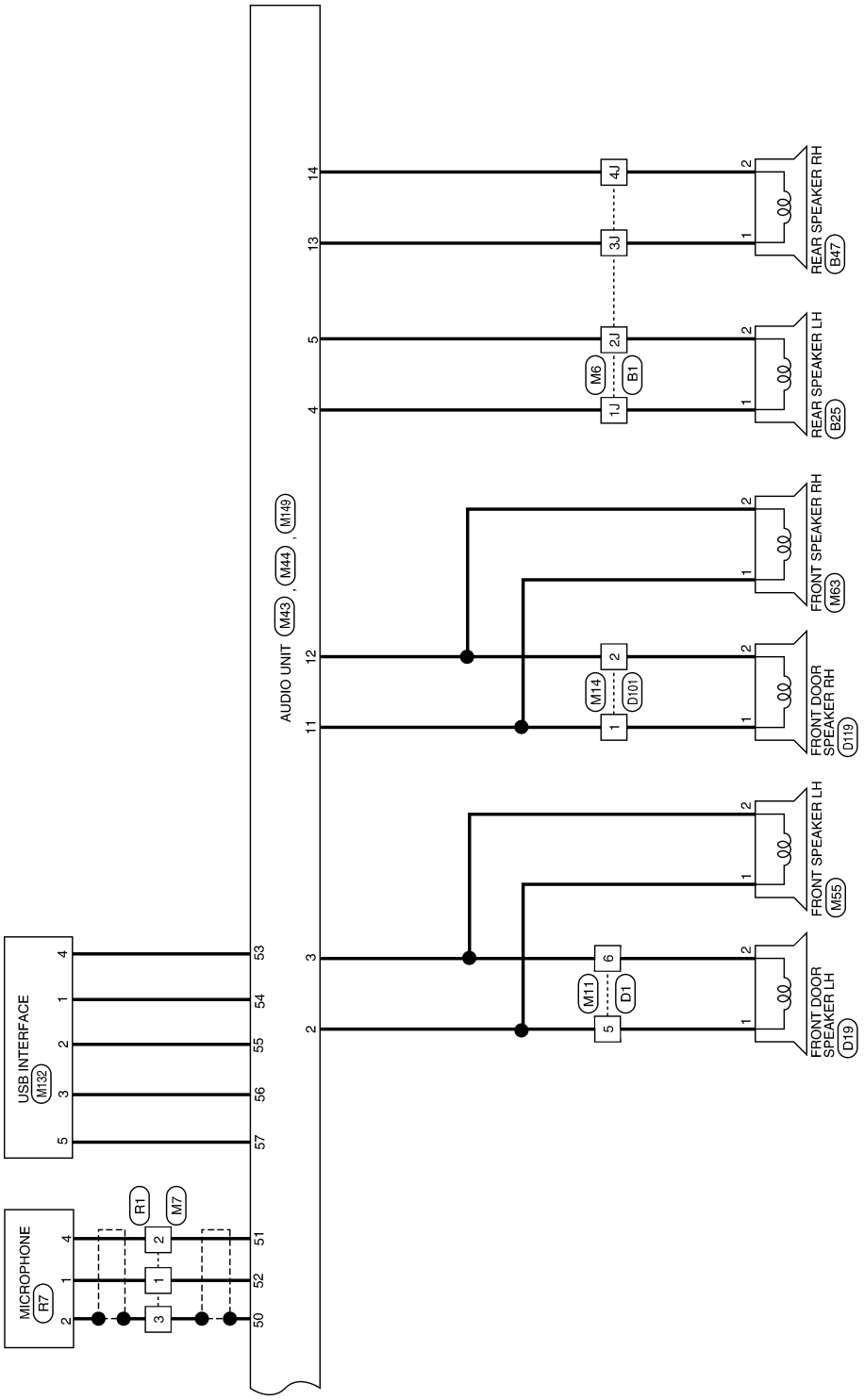
INFOID:0000000007985993



* : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.



AANWA0635GB

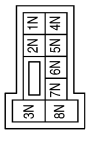


AANWA0636GB

DISPLAY AUDIO SYSTEM CONNECTORS - WITHOUT BOSE AUDIO SYSTEM

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
2N	LG	–

Connector No.	M4
Connector Name	FUSE BLOCK (J/B)
Connector Color	BROWN

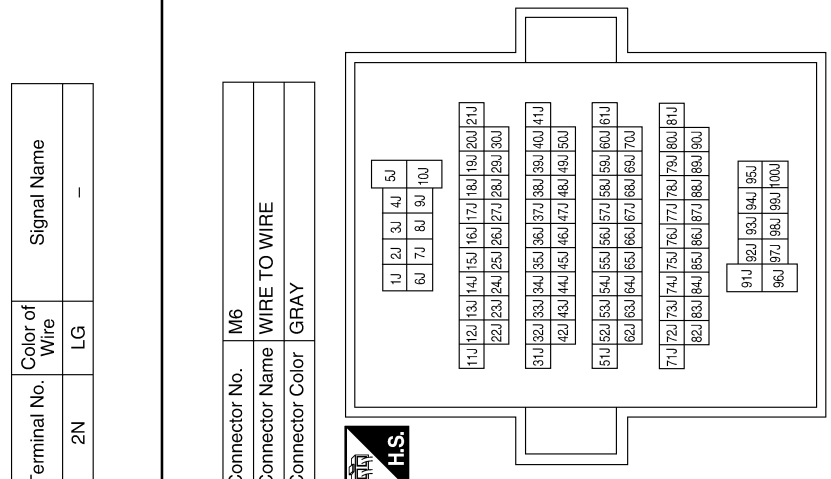
H.S.



Terminal No.	Color of Wire	Signal Name
5R	G	–

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Color	GRAY

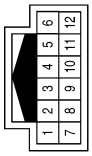
H.S.



Terminal No.	Color of Wire	Signal Name
1J	BR	–
2J	Y	–
3J	LG	–
4J	V	–
51J	W	–
52J	R	–
53J	B	–
54J	SHIELD	–

Connector No.	M7
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
1	B	–
2	W	–
3	SHIELD	–

AANIA0924GB

Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK

H.S.

60	59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41
80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	64	63	62	61

Terminal No.	Color of Wire	Signal Name
59	P	CAN-L
60	L	CAN-H

Connector No.	M14
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3
4	5	6	7	8

Terminal No.	Color of Wire	Signal Name
1	Y	–
2	BR	–

Connector No.	M11
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
5	V	–
6	SB	–

Connector No.	M22
Connector Name	DATA LINK CONNECTOR
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
3	LG	–
11	SB	–

Connector No.	M21
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE

H.S.

137	136	135	134	133	132	131	130	129
143	142	141	140	139	138

Terminal No.	Color of Wire	Signal Name
139	W	BAT POWER F/L

Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK

H.S.

116	115	114	113	112	111	110	109	108	107	106	105
128	127	126	125	124	123	122	121	120	119	118	117

Terminal No.	Color of Wire	Signal Name
109	G	REVERSE SIGNAL
113	P	ACC RELAY OUT

AANIA0925GB

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
3	P	STRG SW INPUT1
4	R	STRG SW INPUT2
24	W	STRG SW GND
34	G	SPEED 8P/R
36	LG	M-CAN-L
37	SB	M-CAN-H
38	P	CAN-L
39	L	CAN-H

Connector No.	M25
Connector Name	ACCESSORY RELAY-2
Connector Color	BLUE

H.S.

Terminal No.	Color of Wire	Signal Name
1	W	–
2	B	–
3	LG	–
5	P	–

Connector No.	M30
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
24	P	–
31	R	–
33	W	–

Connector No.	M43
Connector Name	AUDIO UNIT
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	–	–
2	V	FR SP LH (+)
3	SB	FR SP LH (-)
4	BR	RR SP (+)
5	Y	RR SP (-)
6	–	–
7	P	ACC
8	GR	CAN-H
9	R	ILL (+), LIGHT SW
10	–	–
11	Y	FR SP RH (+)
12	BR	FR SP RH (-)
13	LG	RR SP RH (+)
14	V	RR SP RH (-)
15	–	–
16	–	–
17	–	–
18	G	SPEED SIGNAL
19	G	BAT
20	GR	GND

AANIA0926GB

Connector No.	M44
Connector Name	AUDIO UNIT
Connector Color	WHITE

H.S.

21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52

Terminal No.	Color of Wire	Signal Name
21	SHIELD	COMPOSITE -
22	B	COMPOSITE +
23	W	CAMERA 6.2V
24	R	CAMERA GND
25	LG	M-CAN1-L
26	SB	M-CAN1-H
27	–	–
28	LG	M-CAN2-L
29	SB	M-CAN2-H

Terminal No.	Color of Wire	Signal Name
30	–	–
31	–	–
32	–	–
33	–	–
34	–	–
35	–	–
36	–	–
37	–	–
38	–	–
39	G	REVERSE
40	–	–
41	–	–
42	–	–
43	–	–

Terminal No.	Color of Wire	Signal Name
44	–	–
45	B	CAMERA GND
46	–	–
47	–	–
48	–	–
49	–	–
50	SHIELD	MIC GND
51	W	MIC VCC
52	B	MIC SIG

Connector No.	M55
Connector Name	FRONT SPEAKER LH
Connector Color	BROWN

H.S.

2	1

Terminal No.	Color of Wire	Signal Name
1	V	–
2	SB	–

Connector No.	M63
Connector Name	FRONT SPEAKER RH
Connector Color	BROWN

H.S.

2	1

Terminal No.	Color of Wire	Signal Name
1	Y	–
2	BR	–

Connector No.	M88
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY

H.S.

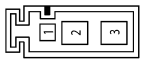
20	19	18	17	16	15	14	13

Terminal No.	Color of Wire	Signal Name
14	W	–
15	L	–
17	BR	–

AANIA0927GB

Connector No.	M101
Connector Name	WIRE TO WIRE
Connector Color	GRAY

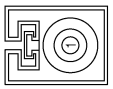
H.S.



Terminal No.	Color of Wire	Signal Name
1	B	–
2	B	–
3	B	–

Connector No.	M102
Connector Name	WIRE TO WIRE
Connector Color	GREEN

H.S.



Terminal No.	Color of Wire	Signal Name
1	B	–

Connector No.	M110
Connector Name	AUDIO UNIT
Connector Color	PURPLE

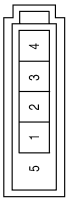
H.S.



Terminal No.	Color of Wire	Signal Name
61	B	–

Connector No.	M132
Connector Name	USB INTERFACE
Connector Color	BLUE

H.S.



Terminal No.	Color of Wire	Signal Name
1	G	–
2	L	–
3	R	–
4	W	–
5	SHIELD	–

Connector No.	M148
Connector Name	AUDIO UNIT
Connector Color	GRAY

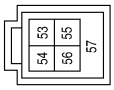
H.S.



Terminal No.	Color of Wire	Signal Name
58	B	ANT SUB
59	B	MAIN ANT
60	B	ANT ON

Connector No.	M149
Connector Name	AUDIO UNIT
Connector Color	BLUE

H.S.



Terminal No.	Color of Wire	Signal Name
53	W	VCC
54	G	GND
55	L	D+
56	R	D-
57	SHIELD	–

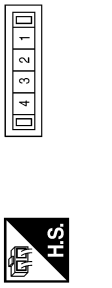
AANIA0928GB

Connector No.	M500
Connector Name	WIRE TO WIRE
Connector Color	GREEN



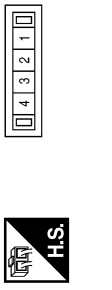
Terminal No.	Color of Wire	Signal Name
1	B	–

Connector No.	M157
Connector Name	JOINT CONNECTOR-M08
Connector Color	WHITE



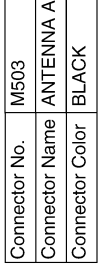
Terminal No.	Color of Wire	Signal Name
3	P	–
4	P	–

Connector No.	M156
Connector Name	JOINT CONNECTOR-M07
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
3	L	–
4	L	–

Connector No.	M503
Connector Name	ANTENNA AMP.
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
1	B	–

Connector No.	M502
Connector Name	ANTENNA AMP.
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
1	B	–
2	B	–

Connector No.	M501
Connector Name	WIRE TO WIRE
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
1	B	–
2	B	–
3	B	–

AANIA0929GB

Connector No.	M504
Connector Name	WIRE TO WIRE
Connector Color	BLACK

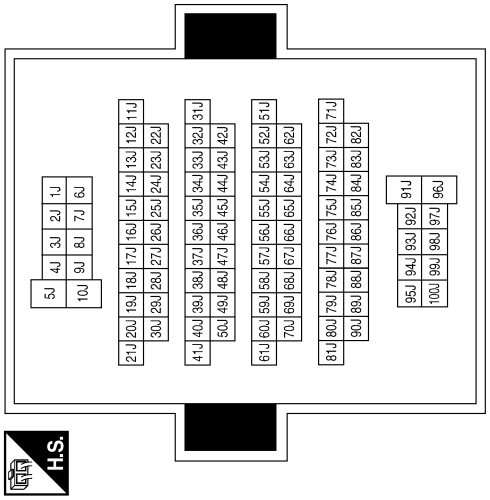
H.S.



Terminal No.	Color of Wire	Signal Name
1	B	–

Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.



Terminal No.	Color of Wire	Signal Name
1J	Y	–
2J	LG	–
3J	LG	–
4J	L	–
51J	W	–
52J	B	–
53J	R	–
54J	SHIELD	–
55J	G	–

Connector No.	B25
Connector Name	REAR SPEAKER LH (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE

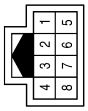
H.S.



Terminal No.	Color of Wire	Signal Name
1	Y	–
2	LG	–

Connector No.	B35
Connector Name	REAR VIEW CAMERA
Connector Color	WHITE

H.S.

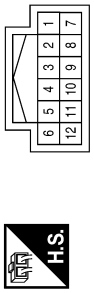


Terminal No.	Color of Wire	Signal Name
1	SHIELD	COMP
2	–	–
3	–	–
4	G	CONT

Terminal No.	Color of Wire	Signal Name
5	R	COMP +
6	–	–
7	B	GND
8	W	CAMERA ON

AANIA0930GB

Connector No.	R1
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	L	–
2	Y	–
3	SHIELD	–

Connector No.	B59
Connector Name	SATELLITE RADIO ANTENNA
Connector Color	GREEN



Terminal No.	Color of Wire	Signal Name
1	B	–

Connector No.	B47
Connector Name	REAR SPEAKER RH (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE



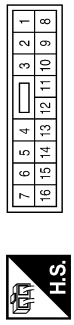
Terminal No.	Color of Wire	Signal Name
1	LG	–
2	L	–

Connector No.	D19
Connector Name	FRONT DOOR SPEAKER LH (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	G	–
2	W	–

Connector No.	D1
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
5	G	–
6	W	–

Connector No.	R7
Connector Name	MICROPHONE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	L	–
2	SHIELD	–
3	–	–
4	Y	–

ABNIA3657GB

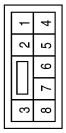
Connector No.	D119
Connector Name	FRONT DOOR SPEAKER RH (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	G	–
2	W	–

Connector No.	D101
Connector Name	WIRE TO WIRE
Connector Color	WHITE





Terminal No.	Color of Wire	Signal Name
1	G	–
2	W	–

AANIA0981GB

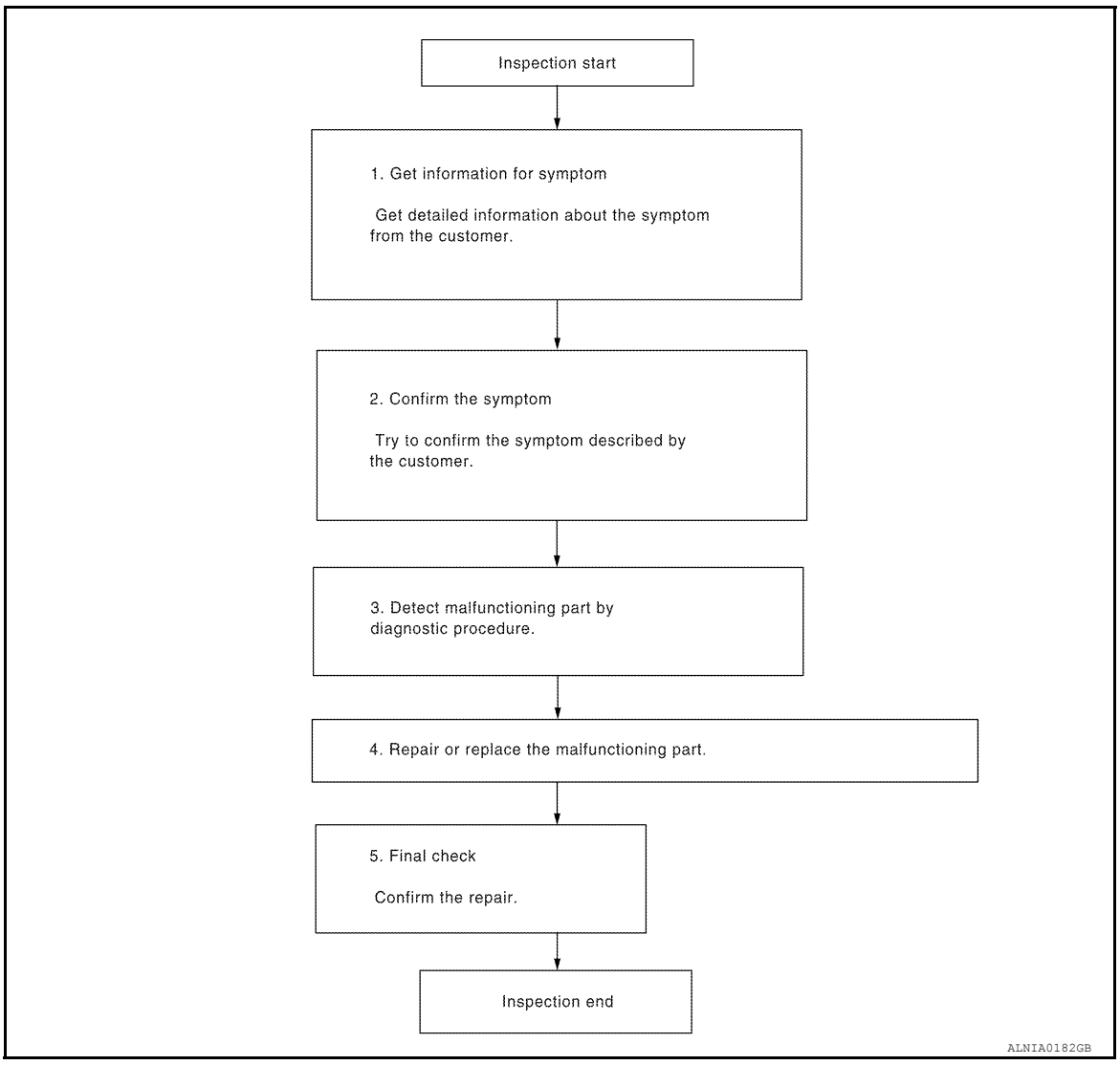
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000007985904

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.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:0000000007985937

Regarding Wiring Diagram information, refer to AV-71, "Wiring Diagram".

1.CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
7	ACC power supply	25 (5A)
19	Battery power supply	15 (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 M43.
3. Check voltage between audio unit connector M43 and ground.

Audio unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M43	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 M44.
3. Check continuity between audio unit connectors and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M43	20	—	Yes
M44	45		

Is the inspection result normal?

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

FRONT DOOR SPEAKER

Diagnosis Procedure

INFOID:0000000007985946

Regarding Wiring Diagram information, refer to AV-71, "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 M43 and suspect front door speaker connector.
2. Check continuity between audio unit connector M43 and suspect front door speaker connector.

Audio unit		Front door speaker		Continuity
Connector	Terminal	Connector	Terminal	
M43	2	D19 (LH)	1	Yes
	3		2	
	11	D119 (RH)	1	
	12		2	

3. Check continuity between audio unit connector M43 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M43	2	—	No
	3		
	11		
	12		

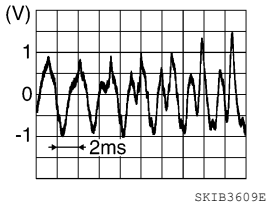
Is the inspection result normal?

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

3.CHECK FRONT DOOR SPEAKER SIGNAL

1. Connect audio unit connector M43 and suspect front door speaker connector.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between audio unit connector M43 and ground.

Audio unit connector M43		Condition	Reference value
(+)	(−)		
Terminal	Terminal		

2	3		
11	12	Audio signal output	

Is the inspection result normal?

YES >> Replace front door speaker. Refer to AV-107, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-104, "Removal and Installation".

FRONT SPEAKER

Diagnosis Procedure

INFOID:0000000007985950

Regarding Wiring Diagram information, refer to AV-71, "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 SPEAKER SIGNAL CIRCUIT CONTINUITY

1. Disconnect audio unit connector M43 and suspect front speaker connector.
2. Check continuity between audio unit connector M43 and suspect front speaker connector.

Audio unit		Front speaker		Continuity
Connector	Terminal	Connector	Terminal	
M43	2	M55 (LH)	1	Yes
	3		2	
	11	M63 (RH)	1	
	12		2	

3. Check continuity between audio unit connector M43 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M43	2	—	No
	3		
	11		
	12		

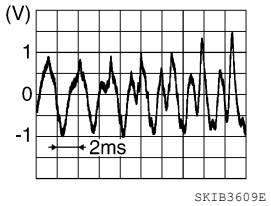
Is the inspection result normal?

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

3.CHECK FRONT SPEAKER SIGNAL

1. Connect audio unit connector M43 and suspect front speaker connector.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between audio unit connector M43 and ground.

Audio unit connector M43		Condition	Reference value
(+)	(−)		
Terminal	Terminal		

2	3		
11	12	Audio signal output	

Is the inspection result normal?

YES >> Replace front speaker. Refer to AV-106, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-104, "Removal and Installation".

REAR SPEAKER

Diagnosis Procedure

INFOID:0000000007985956

Regarding Wiring Diagram information, refer to AV-71, "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 SPEAKER SIGNAL CIRCUIT CONTINUITY

1. Disconnect audio unit connector M43 and suspect rear speaker connector.
2. Check continuity between audio unit connector M43 and suspect rear speaker connector.

Audio unit		Rear speaker		Continuity
Connector	Terminal	Connector	Terminal	
M43	4	B25 (LH)	1	Yes
	5		2	
	13	B47 (RH)	1	
	14		2	

3. Check continuity between audio unit connector M43 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M43	4	—	No
	5		
	13		
	14		

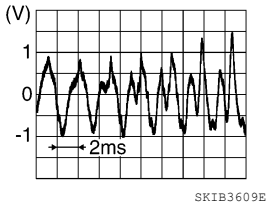
Is the inspection result normal?

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

3.CHECK REAR SPEAKER SIGNAL

1. Connect audio unit connector M43 and suspect rear speaker connector.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between audio unit connector M43 and ground.

Audio unit connector M43		Condition	Reference value
(+)	(−)		
Terminal	Terminal		

4	5		
13	14	Audio signal output	

Is the inspection result normal?

YES >> Replace rear speaker. Refer to AV-108, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-104, "Removal and Installation".

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000007985983

Regarding Wiring Diagram information, refer to AV-71, "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 M44 and ground.

Audio unit		Ground	Condition	Voltage (Approx.)
(+)		(−)		
Connector	Terminal			
M44	39	—	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 M44 and rear view camera connector.
3. Check continuity between audio unit connector M44 and rear view camera connector B35.

Audio unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M44	23	B35	8	Yes

4. Check continuity between audio unit connector M44 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M44	23		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 M44 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 M44 and ground.

Audio unit		Ground	Condition	Voltage (Approx.)
(+)		(−)		
Connector	Terminal			
M44	23	—	Selector lever is in “R”.	6.0 V

Is inspection result normal?

YES >> GO TO 4.
NO >> Replace audio unit. Refer to AV-104, "Removal and Installation".

4. CHECK CAMERA IMAGE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M44 and rear view camera connector.
3. Check continuity between audio unit connector M44 and rear view camera connector B35.

Audio unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M44	22	B35	5	Yes

4. Check continuity between audio unit connector M44 terminal 82 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M44	22		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 M44 and rear view camera connector B35.

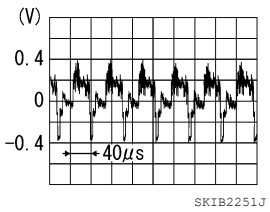
Audio unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M44	24	B35	7	Yes

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 M44 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 M44 and ground.

Audio unit (+)		Ground (−)	Condition	Reference value
Connector	Terminal			
M44	22	—	Camera image displayed.	

Is inspection result normal?

YES >> Replace audio unit. Refer to AV-104, "Removal and Installation".
NO >> Replace rear view camera. Refer to AV-117, "Removal and Installation".

MICROPHONE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000007985980

Regarding Wiring Diagram information, refer to AV-71, "Wiring Diagram".

1.CHECK MICROPHONE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M44 and microphone connector R7.
3. Check continuity between audio unit connector M44 and microphone connector R7.

Audio unit		Microphone		Continuity
Connector	Terminal	Connector	Terminal	
M44	50	R7	2	Yes
	51		4	
	52		1	

4. Check continuity between audio unit connector M44 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M44	50	—	No
	51		
	52		

Is inspection result normal?

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

2.CHECK MICROPHONE VCC VOLTAGE

1. Connect audio unit connector M44.
2. Turn ignition switch ON.
3. Check voltage between terminals of audio unit connector M44.

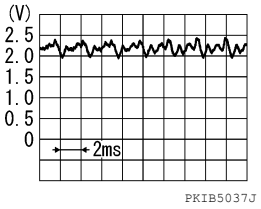
Audio unit connector M44		Voltage (Approx.)
(+)	(−)	
Terminal	Terminal	
51	50	5.0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace audio unit. Refer to AV-104, "Removal and Installation".

3.CHECK MICROPHONE SIGNAL

1. Connect microphone connector.
2. Check signal between terminals of audio unit connector M44.

Audio unit connector M44		Condition	Reference value
(+)	(–)		
Terminal	Terminal		
52	50	Speak into microphone.	

Is the inspection result normal?

YES >> Replace audio unit. Refer to AV-104, "Removal and Installation".
NO >> Replace microphone. Refer to AV-116, "Removal and Installation".

STEERING SWITCH

Diagnosis Procedure

INFOID:0000000007985967

Regarding Wiring Diagram information, refer to AV-71, "Wiring Diagram".

1.CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

1. Turn ignition switch OFF.
2. Disconnect combination switch connector M88.
3. Check resistance between combination switch connector terminals.

Combination switch connector M88		Condition	Resistance Ω (Approx.)
Terminal	Terminal		
14	17	Depress SOURCE switch.	1
		Depress △ switch.	121
		Depress ▽ switch.	321
		Depress switch.	723
		Depress ENTER switch.	2023
15		Depress − switch.	1
		Depress + switch.	121
		Depress switch.	321
		Depress switch.	723
		Depress DISP switch.	2023

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace steering switches. Refer to AV-111, "Removal and Installation".

2.CHECK HARNESS BETWEEN COMBINATION SWITCH AND COMBINATION METER

1. Disconnect combination meter connector M24 and combination switch connector M30.
2. Check continuity between combination meter connector M24 and combination switch connector M30.

Combination meter		Combination switch		Continuity
Connector	Terminal	Connector	Terminal	
M24	3	M30	24	Yes
	24		33	
	4		31	

3. Check continuity between combination meter connector M24 and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M24	3	—	No
	24		
	4		

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 M30 and M88.

Combination switch				Continuity
Connector	Terminal	Connector	Terminal	
M30	24	M88	14	Yes
	31		15	
	33		17	

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace spiral cable. Refer to SR-15, "Removal and Installation".

4. CHECK HARNESS BETWEEN COMBINATION METER AND AUDIO UNIT

1. Disconnect audio unit connector M44.
2. Check continuity between combination meter connector M24 and audio unit connector M44.

Combination meter		Audio unit		Continuity
Connector	Terminal	Connector	Terminal	
M24	37	M44	26	Yes
	36		25	

3. Check continuity between combination meter connector M24 and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M24	37	—	No
	36		

Is the inspection result normal?

YES >> Replace audio unit. Refer to AV-104, "Removal and Installation".
NO >> Repair or replace harness or connectors.

USB CONNECTOR

Diagnosis Procedure

INFOID:0000000008542211

Regarding Wiring Diagram information, refer to AV-71, "Wiring Diagram".

1.CHECK USB INTERFACE HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M149 and USB interface connector M132.
3. Check continuity between audio unit connector M149 and USB interface connector M132.

Audio unit		USB interface		Continuity
Connector	Terminal	Connector	Terminal	
M149	53	M132	4	Yes
	54		1	
	55		2	
	56		3	
	57		5	

4. Check continuity between audio unit connector M149 and ground.

Audio unit		—	Continuity
Connector	Terminal		
M149	54	Ground	No
	57		

Is the inspection result normal?

YES >> Replace the USB interface. Refer to AV-105, "Removal and Installation".
NO >> Repair or replace harness or connectors.

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:0000000008659216

RELATED TO AUDIO

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	Audio unit	Malfunction in audio unit. Refer to AV-62, "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-71, "Wiring Diagram". • Audio unit power supply and ground circuits malfunction. Refer to AV-85, "AUDIO UNIT : Diagnosis Procedure".
	Only a certain speaker (front door speaker LH, front door speaker RH, front speaker LH, front speaker RH, rear speaker LH, rear speaker RH) does not output sound.	• Poor connector connection of speaker. • Sound signal circuit malfunction between audio unit and speaker. Refer to: - AV-86, "Diagnosis Procedure" (front door speaker). - AV-88, "Diagnosis Procedure" (front speaker). - AV-90, "Diagnosis Procedure" (rear speaker). • Malfunction in speaker. Refer to: - AV-107, "Removal and Installation" (front door speaker). - AV-107, "Removal and Installation" (front speaker). - AV-108, "Removal and Installation" (rear speaker). • Malfunction in audio unit. Refer to AV-62, "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-62, "On Board Diagnosis Function".
	Noise comes out only from a certain speaker (front door speaker LH, front door speaker RH, front speaker LH, front speaker RH, rear speaker LH, rear speaker RH).	• Poor connector connection of speaker. • Sound signal circuit malfunction between audio unit and speaker. Refer to: - AV-86, "Diagnosis Procedure" (front door speaker). - AV-88, "Diagnosis Procedure" (front speaker). - AV-90, "Diagnosis Procedure" (rear speaker). • Malfunction in speaker. • Poor Installation of speaker (e.g. backlash and looseness). Refer to: - AV-107, "Removal and Installation" (front door speaker). - AV-107, "Removal and Installation" (front speaker). - AV-108, "Removal and Installation" (rear speaker). • Malfunction in audio unit. Refer to AV-62, "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-112, "Location of Antenna".
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-68, "Reference Value". • Poor connector connection of antenna or antenna feeder. Refer to AV-112, "Location of Antenna".
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-112, "Location of Antenna".
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-104, "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-94, "Diagnosis Procedure".
The system cannot be operated.	• The voice recognition can be controlled. • Steering switch’s VOL+ , VOL− , and ↩ switch works, but 🎤 does not work.	Steering switch malfunction. Replace steering switch. Refer to AV-111, "Removal and Installation".
	Steering switch’s 🎤, VOL+ , VOL− , and ↩ switches do not work.	Steering switch signal circuit malfunction. Refer to AV-96, "Diagnosis Procedure".
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to AV-96, "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-92, "Diagnosis Procedure".
	Camera image signal circuit malfunction.	Camera image signal circuit malfunction between rear view camera and audio unit. Refer to AV-92, "Diagnosis Procedure".
	Rear view camera malfunction.	Replace rear view camera. Refer to AV-117, "Removal and Installation".

NORMAL OPERATING CONDITION

Description

INFOID:0000000008659217

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-99, "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.

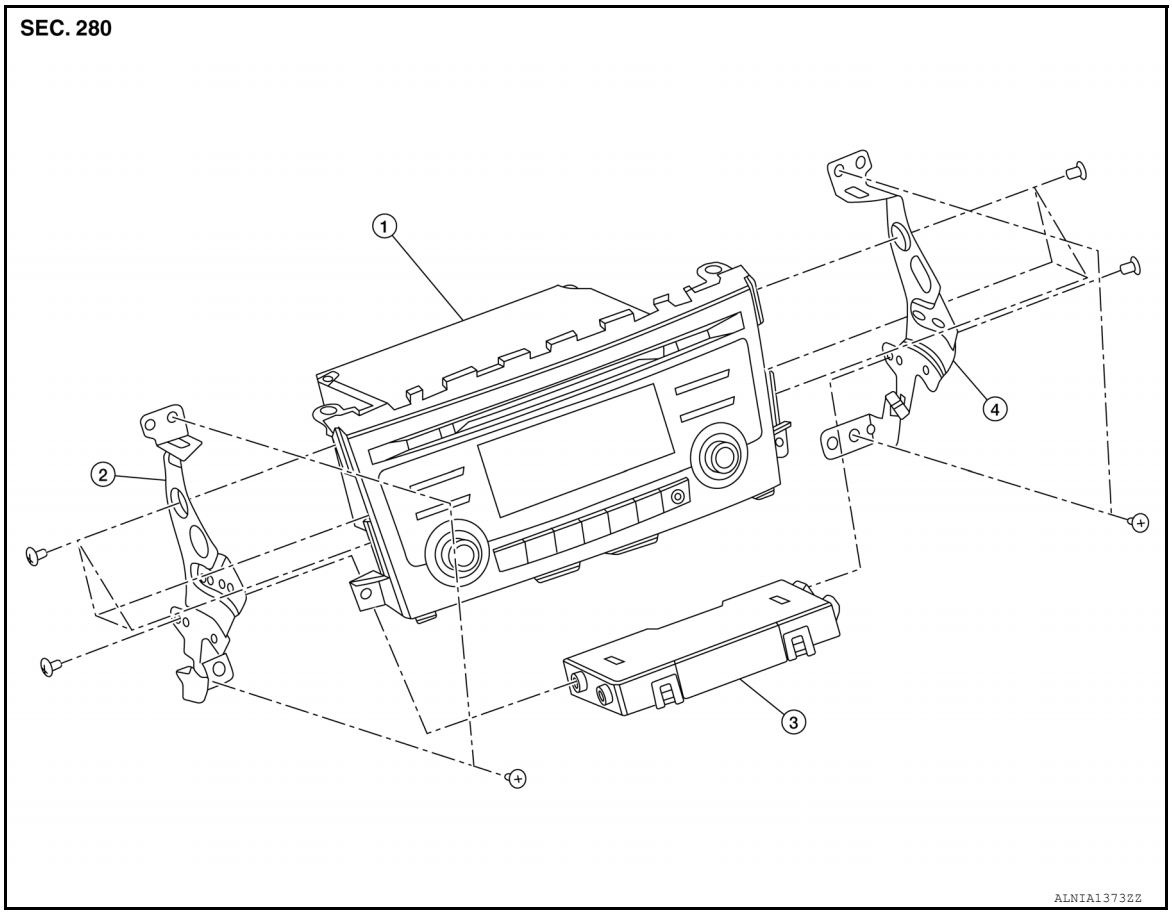
Symptom	Cause and Counter measure
The other party's voice cannot be heard by hands-free phone.	When the radio wave condition is not ideal or ambient sound is too loud, it may be difficult to hear the other person's voice during a call.
Poor sound quality.	Do not place the cellular phone in an area surrounded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

REMOVAL AND INSTALLATION

AV CONTROL UNIT

Exploded View

INFOID:0000000008542365



1. AV control unit
2. AV control unit bracket LH
3. A/C auto amp.
4. AV control unit bracket RH

Removal and Installation

INFOID:0000000008542366

REMOVAL

1. Disconnect the negative battery terminal. Refer to PG-72, "Removal and Installation (Battery)".
2. Remove cluster lid C. Refer to IP-20, "Cluster Lid C".
3. Remove the A/C switch assembly. Refer to HAC-101, "Removal and Installation".
4. Remove the AV control unit screws, then pull out the AV control unit.
5. Disconnect the harness connectors from the AV control unit and remove.

INSTALLATION

Installation is in the reverse order of removal.

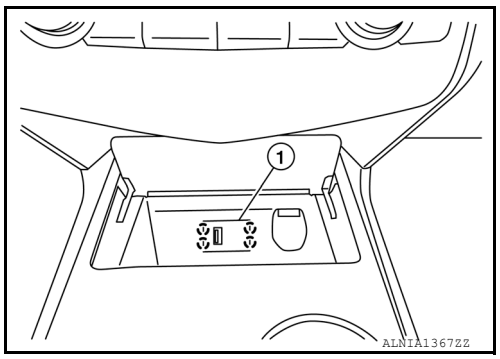
USB CONNECTOR

Removal and Installation

INFOID:0000000007986007

Removal

1. Remove the CVT finisher. Refer to IP-23, "Exploded View".
2. Release the pawls and remove the USB interface (1) from the back of the CVT finisher.
   ( ): Pawl



Installation

Installation is in the reverse order of removal.

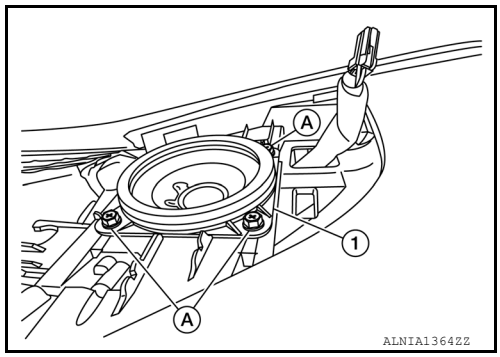
FRONT SPEAKER

Removal and Installation

INFOID:0000000008666209

REMOVAL

1. Remove the front pillar finisher. Refer to INT-21, "FRONT PILLAR FINISHER : Removal and Installation".
2. Remove the front speaker grille using a suitable tool.
3. Remove the front speaker screws (A).
4. Pull out the front speaker (1), disconnect the harness connector from front speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

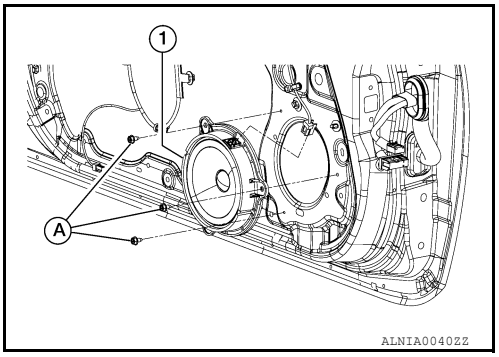
FRONT DOOR SPEAKER

Removal and Installation

INFOID:0000000008527556

REMOVAL

1. Remove the front door finisher. Refer to INT-15, "Removal and Installation".
2. Remove the front door speaker screws (A).
3. Disconnect the harness connector from the front door speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

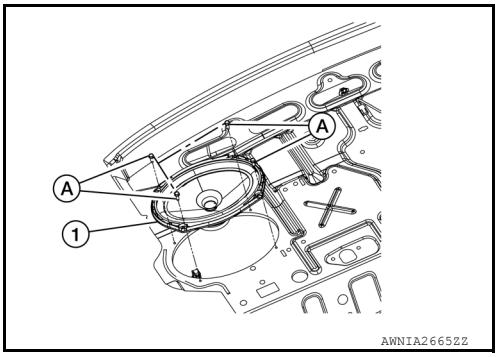
REAR SPEAKER

Removal and Installation

INFOID:0000000008746523

REMOVAL

1. Remove the rear parcel shelf finisher. Refer to INT-26, "Removal and Installation".
2. Remove the rear speaker screws (A).
3. Disconnect the harness connector from the rear speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

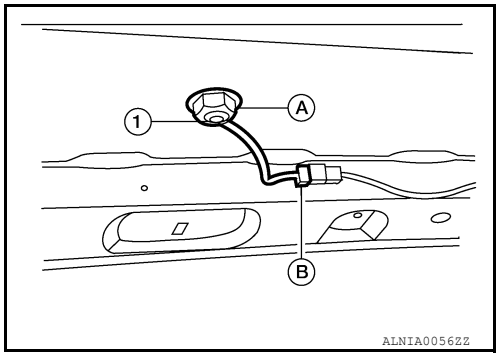
SATELLITE RADIO ANTENNA

Removal and Installation

INFOID:0000000007986017

REMOVAL

1. Lower the headlining at the rear. Refer to INT-30, "Removal and Installation".
2. Remove the satellite radio antenna nut (A).
3. Disconnect the harness connector (B) from the satellite radio antenna (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

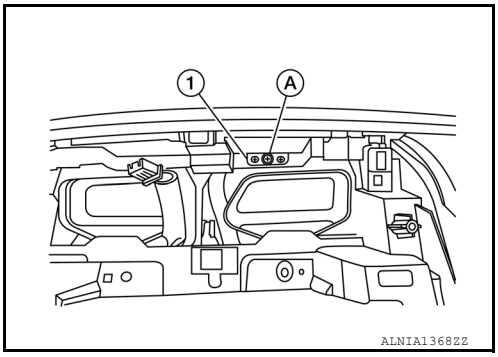
GPS ANTENNA

Removal and Installation

INFOID:0000000008527542

REMOVAL

1. Remove the AV control unit. Refer to AV-104, "Removal and Installation".
2. Remove the GPS antenna screw (A) and the GPS antenna (1).



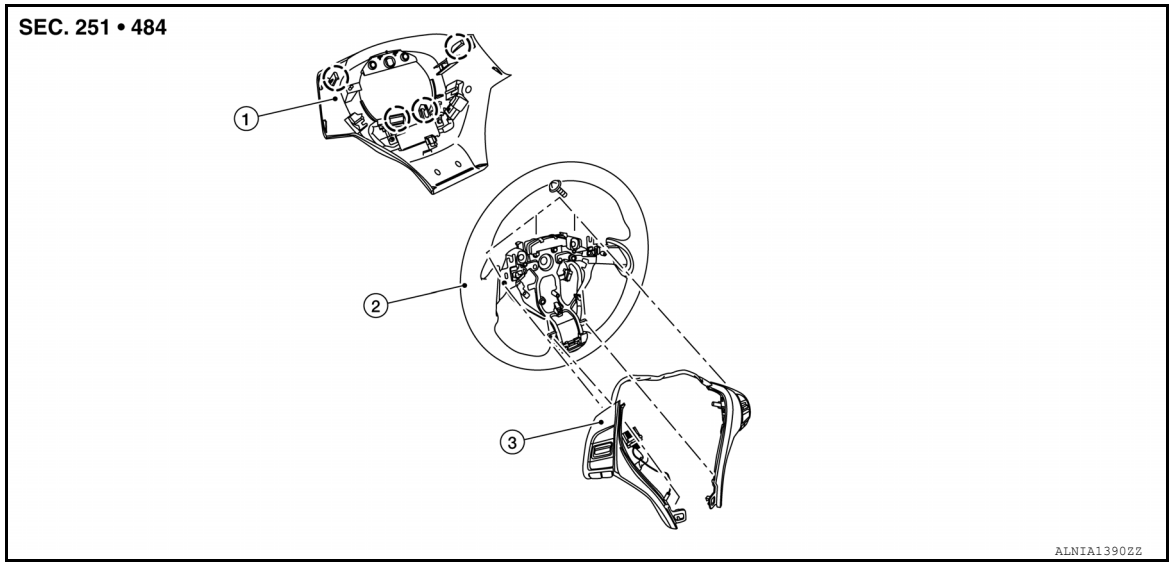
INSTALLATION

Installation is in the reverse order of removal.

STEERING SWITCH

Exploded View

INFOID:0000000008542315



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

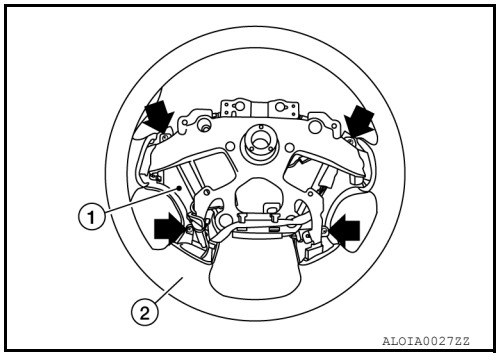
Pawl

Removal and Installation

INFOID:0000000008542316

REMOVAL

1. Remove the steering wheel. Refer to ST-31, "Removal and Installation"
2. Release the pawls on the steering wheel rear finisher and remove.
3. Remove the steering switches screws (⬅).
4. Remove the steering switches (1) from steering wheel (2).



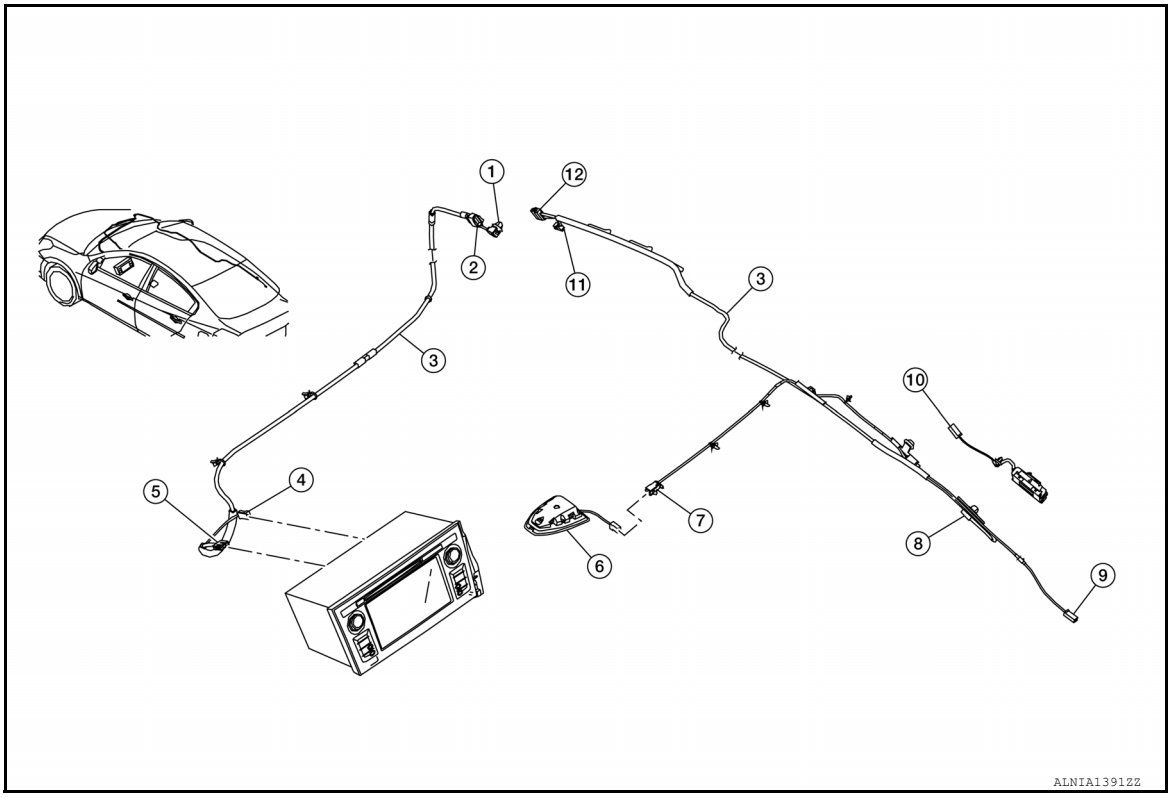
INSTALLATION

Installation is in the reverse order of removal.

ANTENNA FEEDER

Location of Antenna

INFOID:0000000007986021



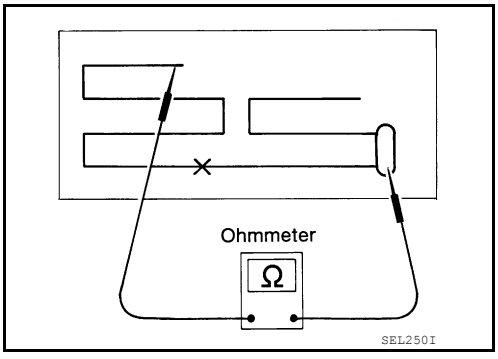
1. M102
2. M101
3. Antenna feeder
4. M110
5. M148
6. Satellite antenna
7. B59
8. M502
9. M504
10. M503
11. M500
12. M501

Window Antenna Repair

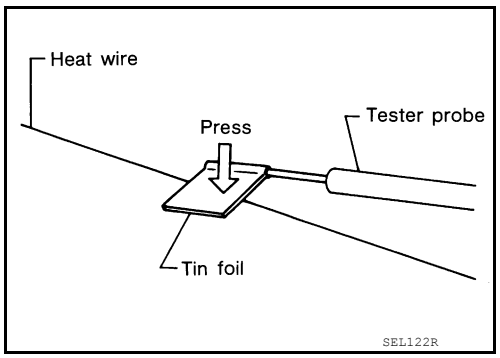
INFOID:0000000007986022

ELEMENT CHECK

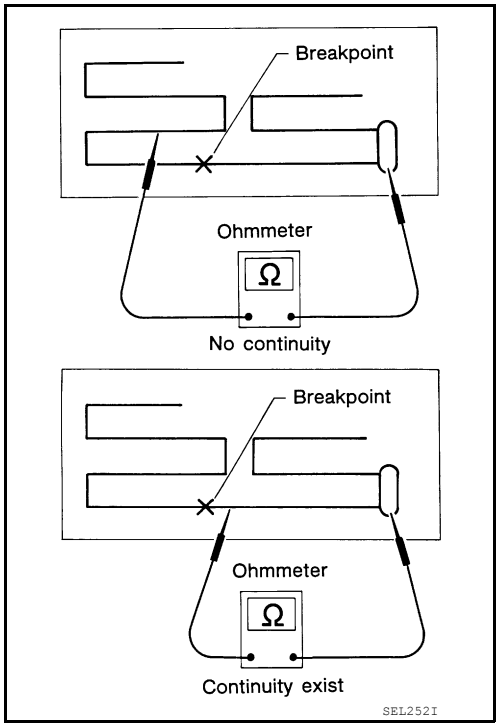
1. Attach probe circuit tester (ohm setting) to antenna terminal on each side.



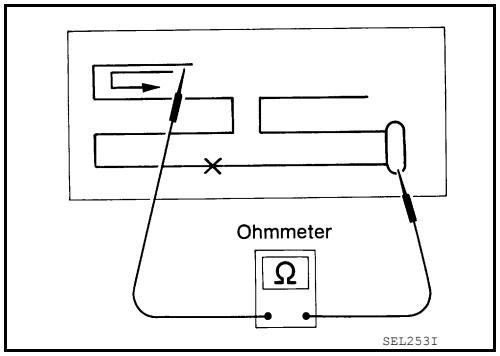
- **When measuring continuity, wrap tin foil around the top of probe. Then, press the foil against the wire with your finger.**



2. If an element is broken, no continuity will exist.



3. To locate a break, move probe along element. Tester indication will change abruptly when probe passes the broken point.

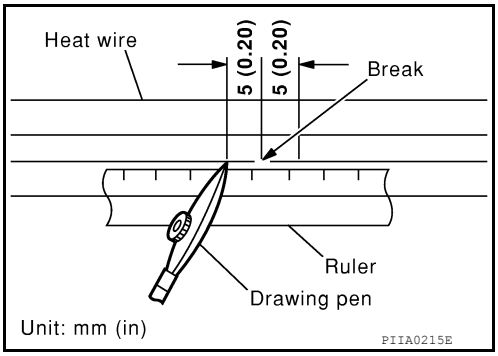


REPAIR EQUIPMENT

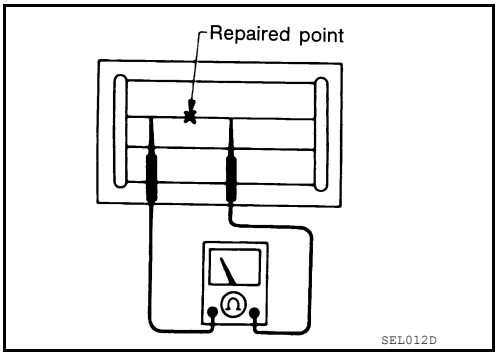
- Conductive silver composition (DuPont No. 4817 or equivalent)
- Ruler 30 cm (11.8 in) long
- Drawing pen
- Heat gun
- Alcohol
- Cloth

REPAIRING PROCEDURE

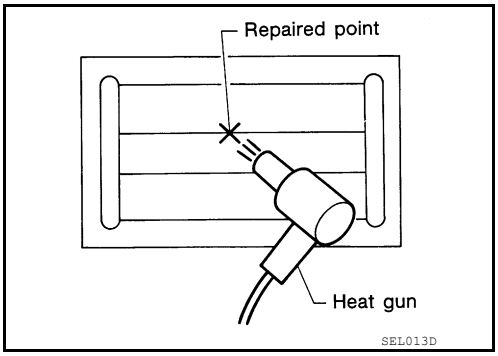
1. Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
2. Apply a small amount of conductive silver composition to tip of drawing pen.
   Shake silver composition container before use.
3. Place ruler on glass along broken line. Deposit conductive silver composition on break with drawing pen. Slightly overlap existing heat wire on both sides [preferably 5 mm (0.20 in)] of the break.



4. After repair has been completed, check repaired wire for continuity. This check should be conducted 10 minutes after silver composition is deposited.
   Do not touch repaired area while test is being conducted.



5. Apply a constant stream of hot air directly to the repaired area for approximately 20 minutes with a heat gun. A minimum distance of 3 cm (1.2 in) should be kept between repaired area and hot air outlet.
   If a heat gun is not available, let the repaired area dry for 24 hours.



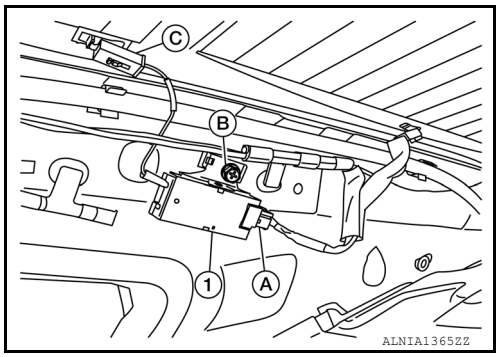
ANTENNA AMP.

Removal and Installation

INFOID:0000000008527558

REMOVAL

1. Remove the rear pillar finisher RH. Refer to INT-25, "REAR PILLAR FINISHER : Removal and Installation".
2. Disconnect the harness connector (A) from the antenna amp. (1).
3. Disconnect the antenna amp. harness connector (C) from the rear window glass.
4. Remove the antenna amp. screw (B) and the antenna amp. (1).



INSTALLATION

Installation is in the reverse order of removal.

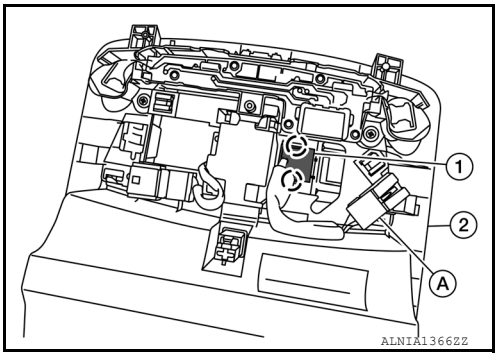
MICROPHONE

Removal and Installation

INFOID:0000000008671069

REMOVAL

1. Remove the front room/map lamp assembly. Refer to INL-63, "Removal and Installation".
2. Disconnect the microphone connector (A) from the front room/ map lamp assembly (2).
3. Release the microphone pawls, then remove the microphone (1).
   ◌: Pawl



INSTALLATION

Installation is in the reverse order of removal.

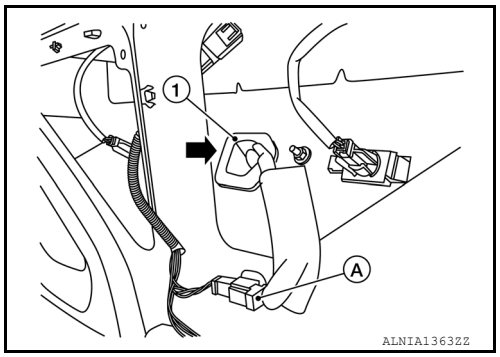
REAR VIEW CAMERA

Removal and Installation

INFOID:0000000007986030

REMOVAL

1. Remove trunk lid finisher. Refer to INT-34, "TRUNK SIDE FINISHER : Removal and Installation".
2. Disconnect the harness connector (A) from rear view camera.
3. Push the rear view camera (1) in direction shown (⬅) and pull out to remove.



INSTALLATION

Installation is in the reverse order of removal.

PRECAUTION

PRECAUTIONS

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

INFOID:0000000008729190

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 SR and SB section of this Service Manual.

WARNING:

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

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

WARNING:

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

Precaution for Trouble Diagnosis

INFOID:0000000007986127

AV COMMUNICATION SYSTEM

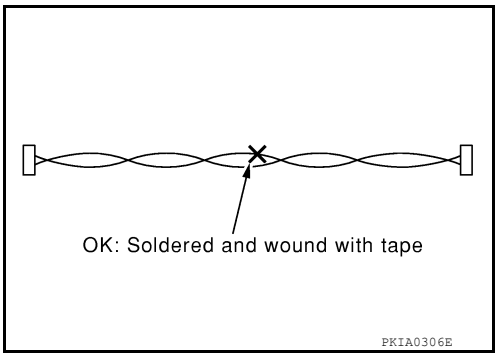
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

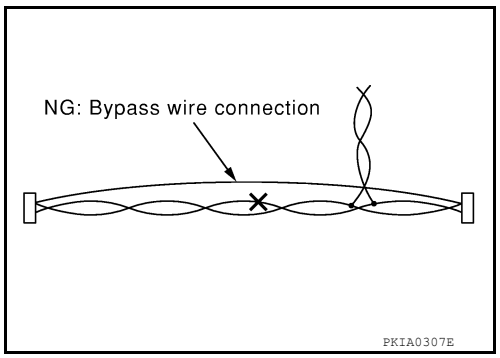
INFOID:0000000007986128

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:0000000008527561

- 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.

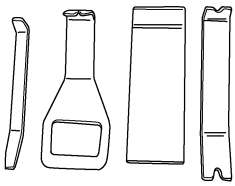
PREPARATION

PREPARATION

Special Service Tools

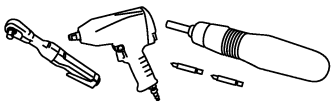
INFOID:0000000008527562

The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

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

Commercial Service Tools

INFOID:0000000008527563

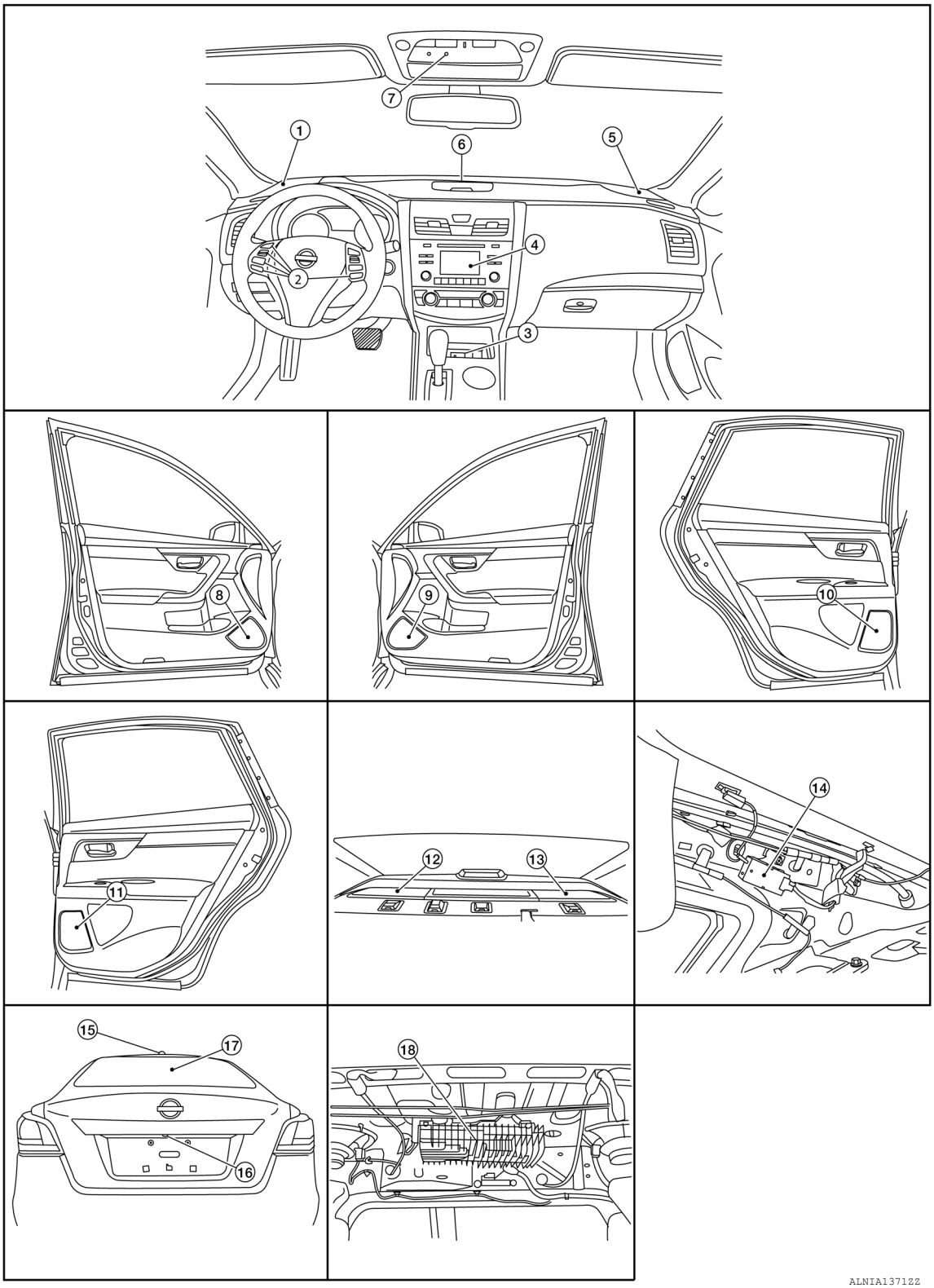
Tool name	Description
Power tool  PIIB1407E	Loosening nuts, screws and bolts

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000008541388



ALNIA1371ZZ

1. Front speaker LH
2. Steering switches
3. USB interface
4. Audio unit
5. Front speaker RH
6. Center speaker
7. Microphone
8. Front door speaker LH
9. Front door speaker RH
10. Rear door speaker LH
11. Rear door speaker RH
12. Rear speaker RH
13. Rear speaker LH
14. Antenna amp.
15. Satellite antenna
16. Rear view camera
17. Window antenna
18. Bose speaker amp.

Component Description

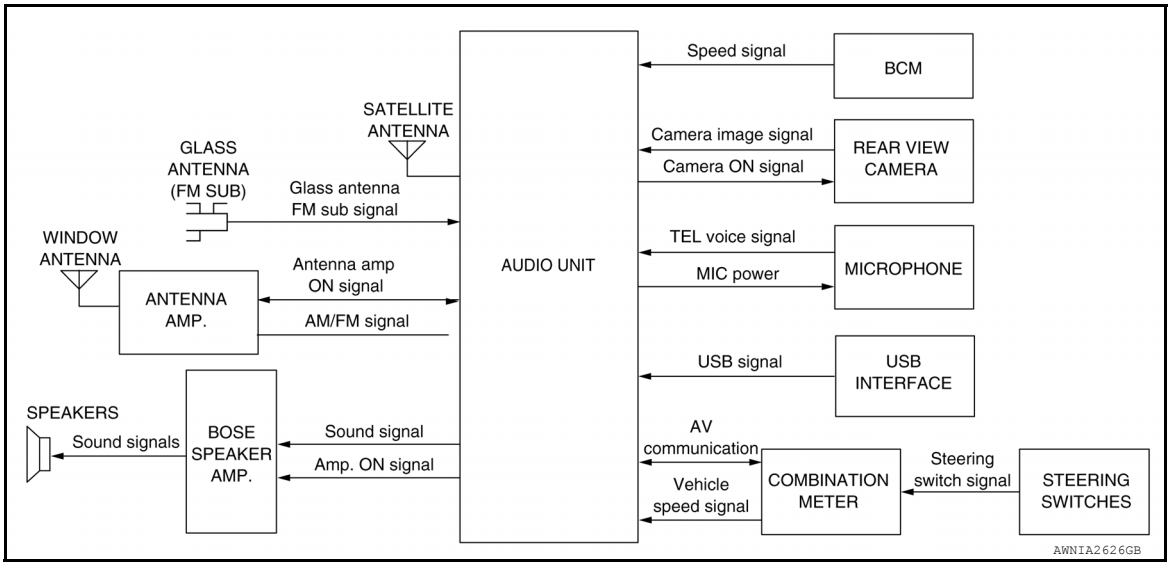
INFOID:0000000008541389

Part name	Description
Audio unit	• Controls audio, hands-free phone, USB connection, AUX IN connection, satellite radio and rear view camera functions. • Display unit is built in to audio unit.
Bose speaker amp.	Receives audio signals from audio unit and outputs audio signals to each speaker.
Front speakers	Outputs high, mid and low range audio signals from Bose speaker amp.
Center speaker	
Front door speakers	
Rear door speakers	
Rear speakers	
Steering switches	• Operations for audio, hands-free phone and voice recognition are possible. • Steering switch signal is output to combination meter. • Combination meter outputs steering switch signal to audio unit.
Microphone	• Used for hands-free phone operations. • Microphone signal is transmitted to audio unit. • Power is supplied from audio unit.
USB interface	USB sound and data input signals are transmitted to audio unit.
Rear view camera	• Outputs image of vehicle rear to audio unit. • Power is supplied from audio unit.
Satellite antenna	Satellite radio signal is received and transmitted to audio unit.
Antenna amp.	• AM/FM signal received by window antenna is amplified and transmitted to audio unit. • Power is supplied from audio unit.
Window antenna	AM/FM signal is received and transmitted to antenna amp.

SYSTEM

System Diagram

INFOID:0000000008541390



System Description

INFOID:0000000008541391

AUDIO SYSTEM

The audio system consists of the following components

- Audio unit
- Bose speaker amp.
- Front speakers
- Center speaker
- Front door speakers
- Rear door speakers
- Rear speakers
- Steering switches
- Microphone
- USB interface
- Rear view camera
- satellite antenna
- Antenna amp.
- Window antenna

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

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

HANDS-FREE PHONE SYSTEM

System Operation

NOTE:

Cellular telephones must have their wireless connection set up (paired) before using the Bluetooth® telephone system.

The Bluetooth® telephone system allows users who have a Bluetooth® cellular telephone to make a wireless connection between their cellular telephone and the audio unit. Hands-free cellular telephone calls can be sent and received. Some Bluetooth® cellular telephones may not be recognized by the audio unit. When a cellular telephone or the audio unit is replaced, the telephone must be paired with the audio unit. Different cellular telephones may have different pairing procedures, refer to the cellular telephone operating manual.

Refer to the Owner's Manual for Bluetooth® telephone system operating instructions.

AV Control Unit

When the ignition switch is turned to ACC or ON, the audio unit will power up. During power up, the audio unit is initialized and performs various self-checks. Initialization may take up to 20 seconds.

Steering Switches

When buttons on the steering switches are pushed, the resistance in steering switches circuits change, depending on which button is pushed.

The following functions can be performed using the steering switches:

- Initiate self-diagnosis of the Bluetooth® telephone system
- Start a voice recognition session
- Answer and end telephone calls
- Adjust the volume of calls
- Record memos

Microphone

The microphone is located in the roof console assembly. The microphone sends a signal to the audio unit.

REAR VIEW CAMERA SYSTEM

- The audio unit supplies power to the rear view camera when the reverse signal is received from the BCM.
- The rear view camera transmits rear view 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:0000000008541392

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

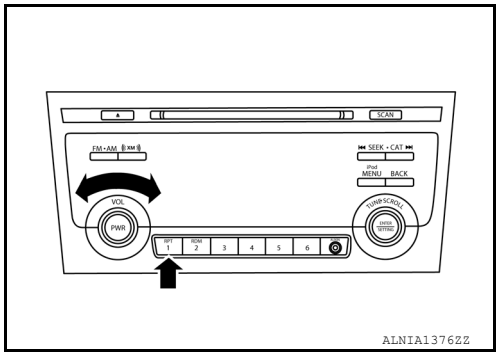
Mode		Description
Self Diagnosis		• Audio unit diagnosis. • Diagnoses the connections across system components.
Confirmation/ Adjustment	Display Diagnosis	The following check functions are available: color tone check by color bar display and white display, light and shade check by gray scale display.
	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	Guiding line position that overlaps rear view camera image can be adjusted.
	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.
	Initialize Setting	Initializes the audio unit memory.

On Board Diagnosis Function

INFOID:0000000008541393

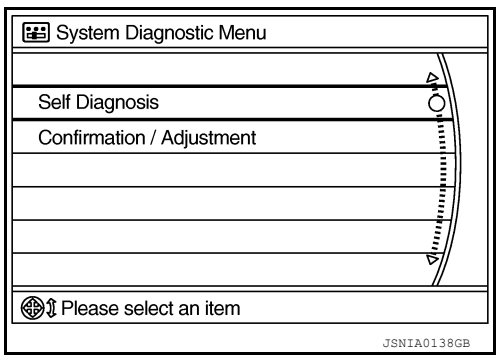
METHOD OF STARTING

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. When self-diagnosis mode begins, a short beep will be heard. Shifting from current screen to previous screen is performed by pressing BACK button.



ALNIA1376ZZ

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



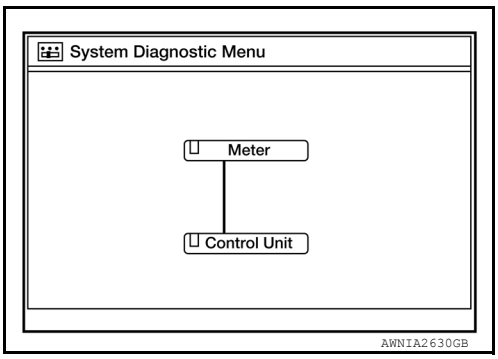
JSNIA0138GB

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.

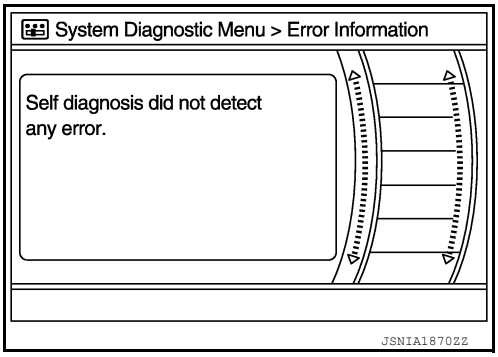


Diagnosis results	Unit	Connection line
Normal	Green	Green
Connection malfunction	Gray	Yellow
Unit malfunction [1]	Red	Green

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-186, "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.



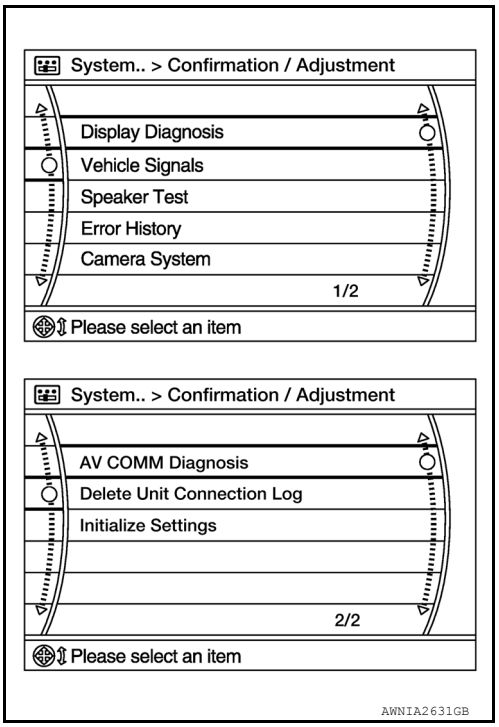
Audio Unit Self Diagnosis Results

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-155, "AUDIO UNIT : Diagnosis Procedure". • If no malfunction is detected in audio unit power supply and ground circuits, replace audio unit. Refer to AV-186, "Removal and Installation".

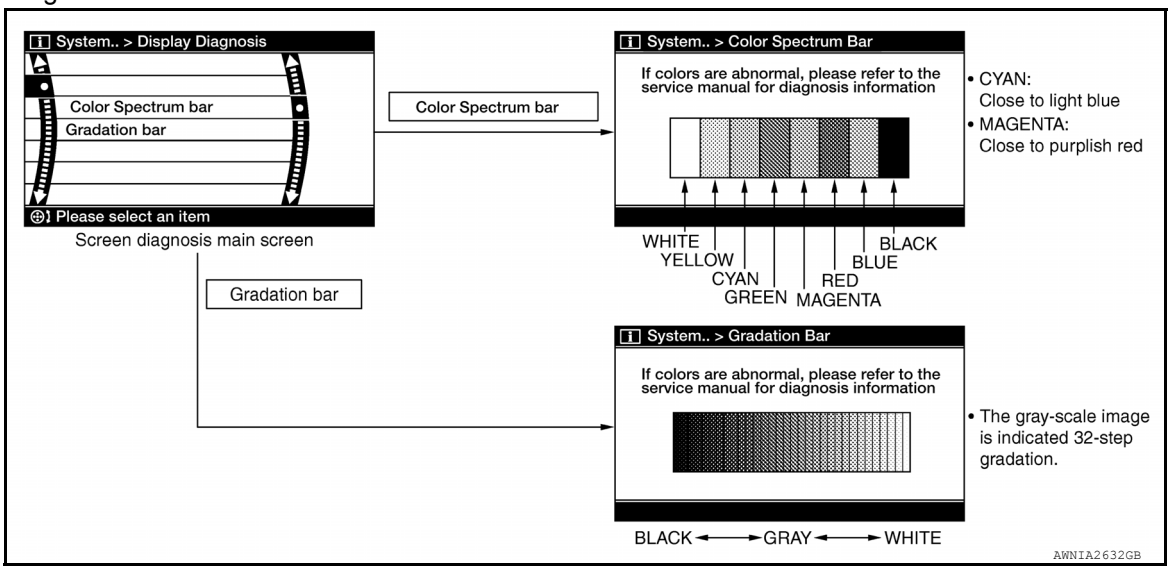
A Connecting Cable Between Units Is Displayed In Yellow		
Area with yellow connection lines	Description	Possible cause
Control unit ⇔ Meter	When one of the following is detected: • malfunction is detected in combination meter power supply and ground circuits. • malfunction is detected in AV communication circuits between audio unit and combination meter.	• Combination meter power supply or ground circuits. Refer to MWI-57, "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.

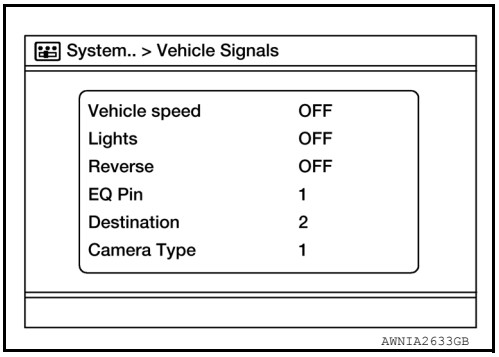


Display Diagnosis



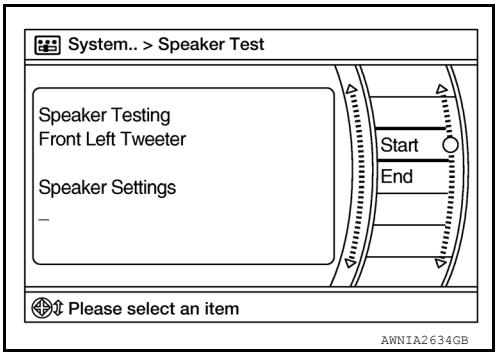
Vehicle Signals

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.

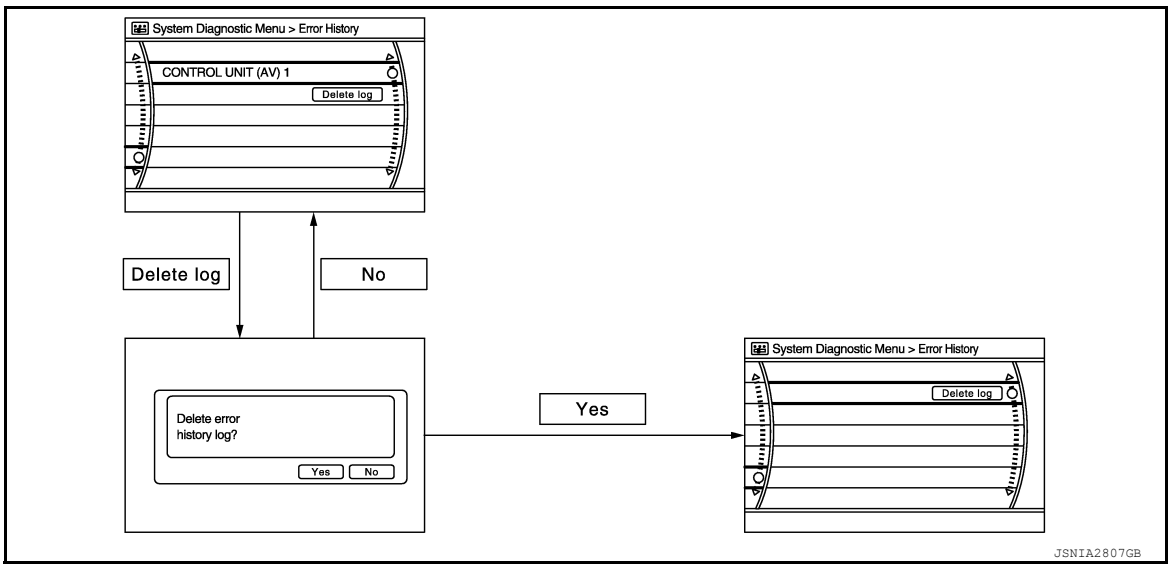
Count up method A

- 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



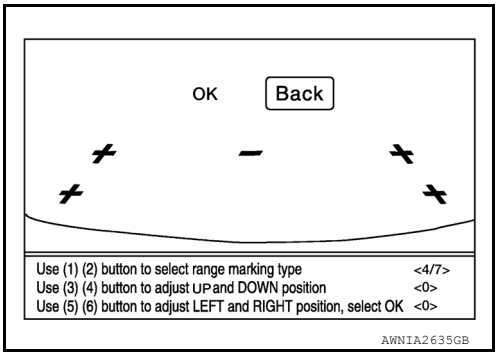
Error item

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-186, "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-57, "COMBINATION METER : Diagnosis Procedure". • AV communication circuits between audio unit and combination meter.

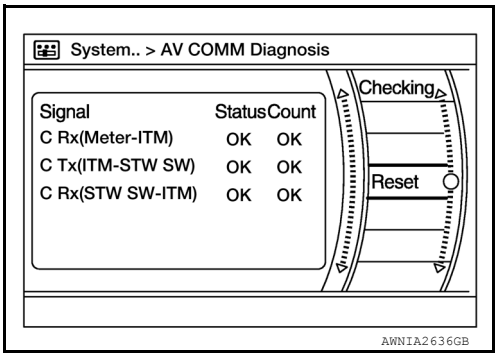
Camera System

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



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.

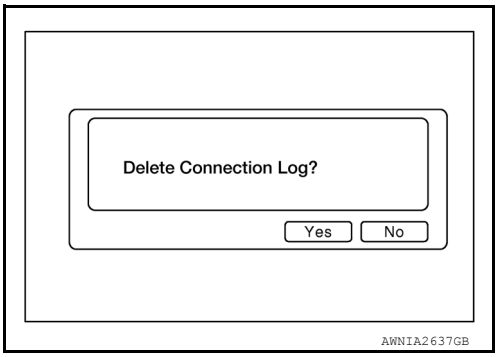


Items	Status (Current)	Counter (Past)
C Rx(Meter-ITM)	OK / ???	OK / 0 – 39
C Tx(ITM-TW SW)	OK / ???	OK / 0 – 39
C Rx(STW SW-ITM)	OK / ???	OK / 0 – 39

NOTE:
"???" indicates UNKWN.

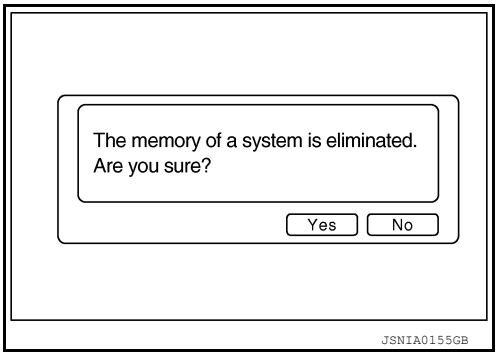
Delete Unit Connection Log

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



Initialize Settings

Deletes data stored from the audio unit.



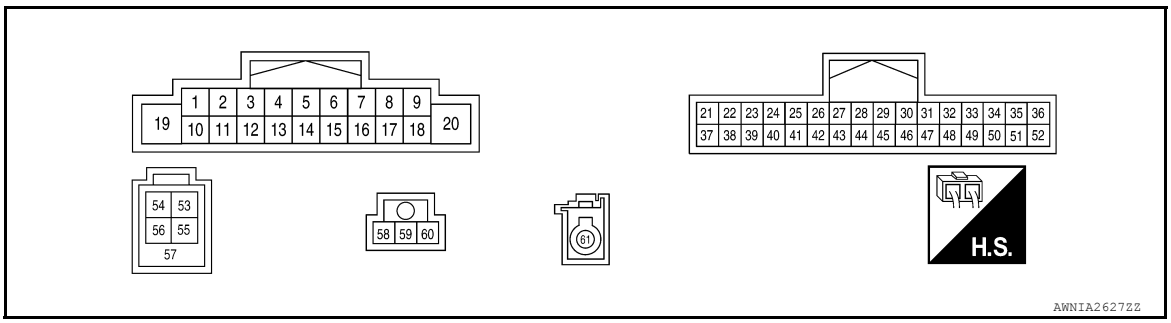
ECU DIAGNOSIS INFORMATION

AUDIO UNIT

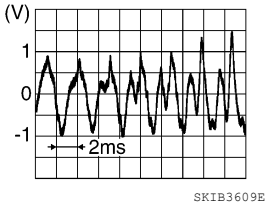
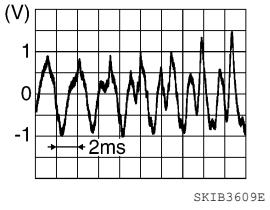
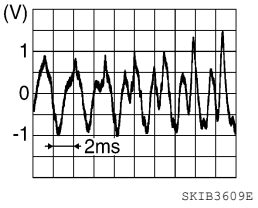
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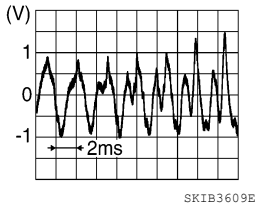
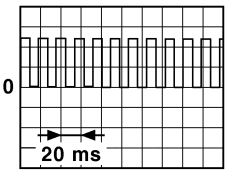
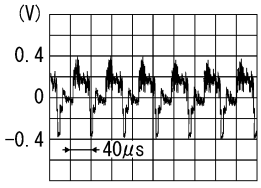
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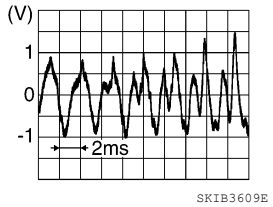
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
1 (W)	Ground	BOSE amp. ON signal	Output	ACC	—	Battery voltage
2 (B)	3 (W)	Sound signal front speaker LH	Output	ON	Sound output	
4 (G)	5 (R)	Sound signal rear speaker LH	Output	ON	Sound output	
7 (P)	Ground	ACC power supply	Input	ACC	—	Battery voltage
9 (R)	8 (GR)	Illumination control signal	Input	ON	Headlamps ON	Battery voltage
10	—	Shield	—	—	—	—
11 (B)	12 (W)	Sound signal front speaker RH	Output	ON	Sound output	

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
13 (G)	14 (R)	Sound signal rear speaker RH	Output	ON	Sound output	 SKIB3609E
18 (G)	Ground	Vehicle speed signal	Input	ON	When vehicle speed is approx. 40 km/h (25 MPH)	 JSNIA0012GB
19 (G)	Ground	Battery power supply	Input	OFF	—	Battery voltage
20 (GR)	Ground	Ground	—	ON	—	0 V
21	—	Shield	—	—	—	—
22 (B)	Ground	Camera image signal	Input	ON	When camera image is displayed	 SKIB2251J
23 (W)	Ground	Camera power supply	Output	ON	When camera image is displayed	6.0 V
					Except for above	0 V
24 (R)	Ground	Camera ground	—	ON	—	0 V
25 (LG)	—	M-CAN (L)	Input/ Output	—	—	—
26 (SB)	—	M-CAN (H)	Input/ Output	—	—	—
28 (LG)	—	M-CAN (L)	Input/ Output	—	—	—
29 (SB)	—	M-CAN (H)	Input/ Output	—	—	—
39 (G)	Ground	Reverse signal	Input	ON	Selector lever in R (reverse)	Battery voltage
					Selector lever in any position other than R (reverse)	0 V
44 (B)	Ground	Ground	—	ON	—	0 V
51 (W)	Ground	Microphone power supply	Output	ON	—	5.0 V

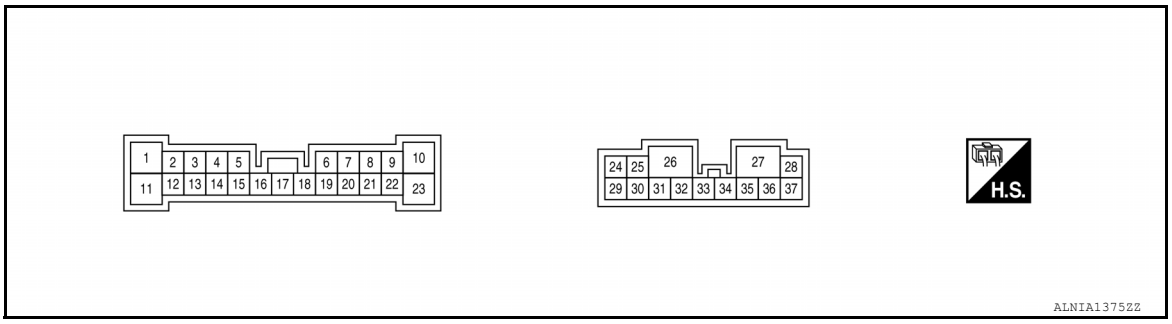
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
52 (B)	50 (Shield)	Microphone signal	Input	ON	While speaking into microphone.	
53 (W)	—	USB ground	—	—	—	—
54 (G)	—	V BUS signal	—	—	—	—
55 (L)	—	USB D– signal	—	—	—	—
56 (R)	—	USB D+ signal	—	—	—	—
57	—	Shield	—	—	—	—
58 (B)	Ground	Glass antenna (FM sub) signal	Input	ON	—	5.0 V
59 (B)	Ground	AM/FM antenna signal	Input	ON	—	5.0 V
60 (B)	Ground	Antenna amp. ON signal	Output	ON	—	Battery voltage
61 (B)	Ground	Satellite antenna signal	Input	ON	—	5.0 V

BOSE SPEAKER AMP

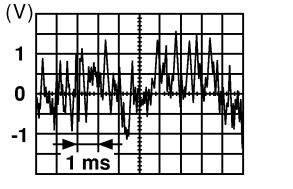
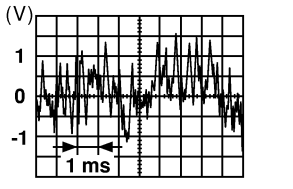
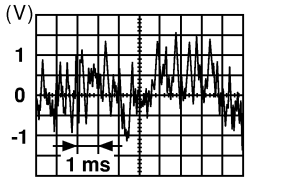
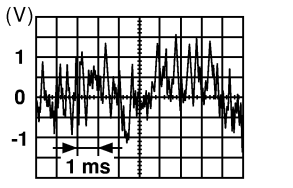
Reference Value

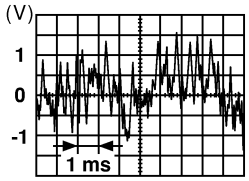
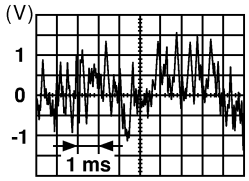
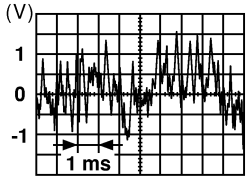
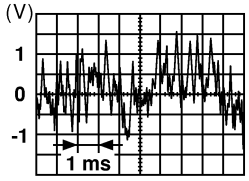
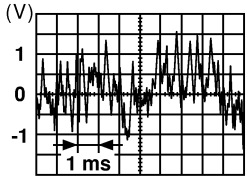
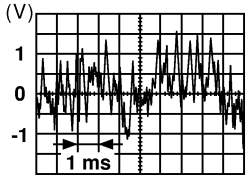
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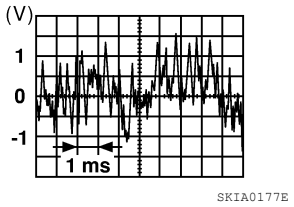
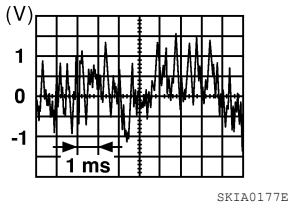
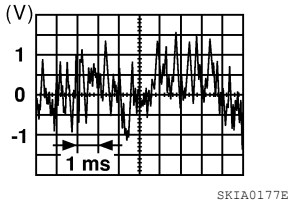
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
3 (G)	2 (R)	Sound signal front speaker LH	Input	ON	Sound output	
5 (G)	4 (R)	Sound signal front speaker RH	Input	ON	Sound output	
7 (P)	6 (BG)	Front door speaker signal RH	Output	ON	Sound output	
9 (G)	8 (R)	Center speaker signal	Output	ON	Sound output	

Terminal (wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
10 (G)	23 (W)	Rear door speaker signal LH	Output	ON	Sound output	 SKIA0177E
12 (B)	13 (W)	Sound signal rear speaker RH	Input	ON	Sound output	 SKIA0177E
14 (B)	15 (W)	Sound signal rear speaker LH	Input	ON	Sound output	 SKIA0177E
18 (G)	Ground	Amp. ON signal	Input	ON	–	Greater than 6.5V
20 (P)	19 (R)	Front door speaker signal LH	Output	ON	Sound output	 SKIA0177E
24 (G)	29 (W)	Rear door speaker signal RH	Output	ON	Sound output	 SKIA0177E
25 (W)	30 (G)	Rear speaker signal LH	Output	ON	Sound output	 SKIA0177E
26 (GR)	Ground	Ground	–	ON	–	0V

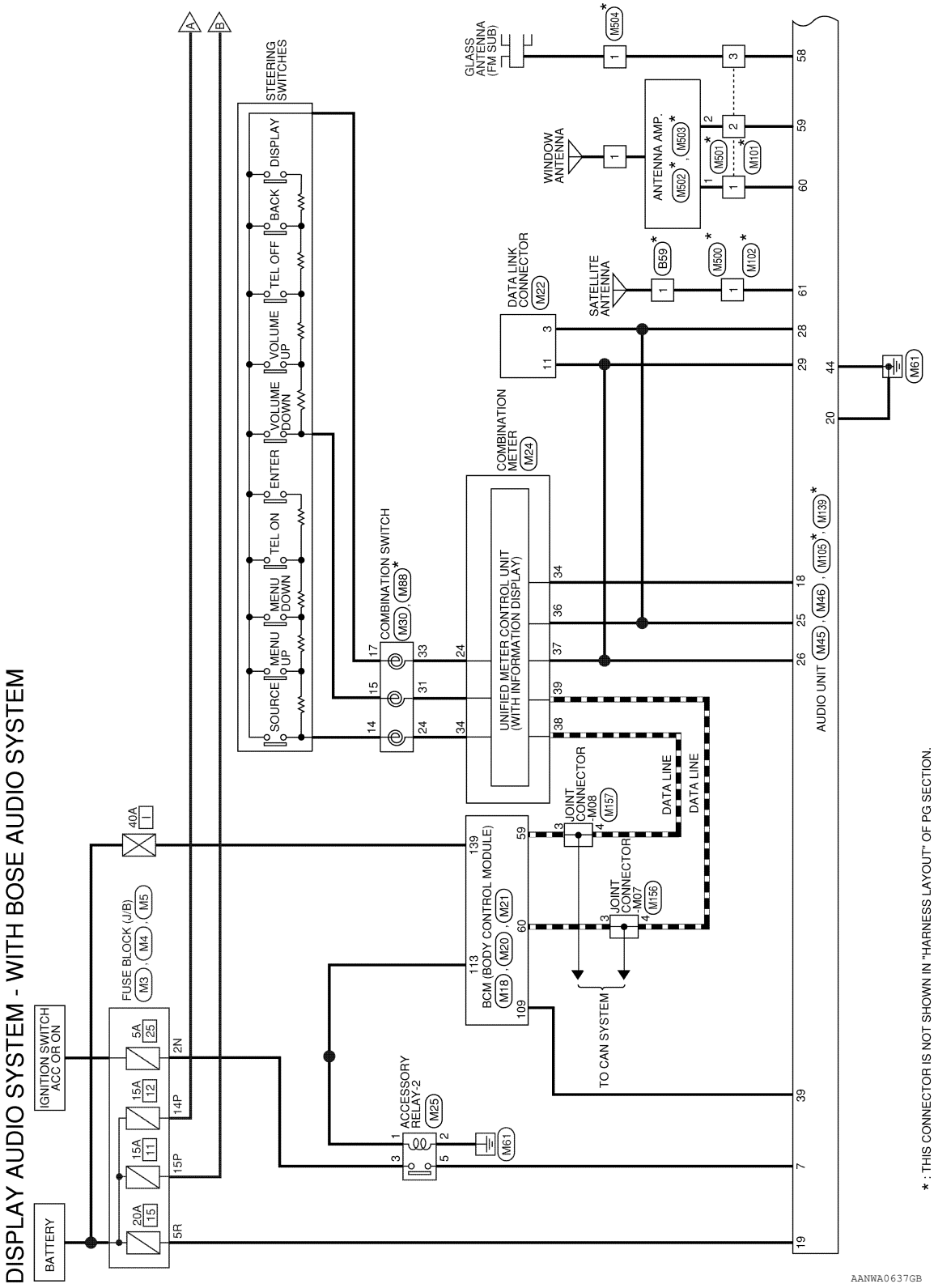
Terminal (wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
27 (G)	Ground	Battery power supply	Input	–	–	Battery voltage
28 (SB)						
31 (GR)	Ground	Ground	–	ON	–	0V
33 (W)	32 (G)	Rear speaker signal RH	Output	ON	Sound output	 SKIA0177E
34 (P)	35 (W)	Front speaker signal RH	Output	ON	Sound output	 SKIA0177E
37 (G)	36 (R)	Front speaker signal LH	Output	ON	Sound output	 SKIA0177E

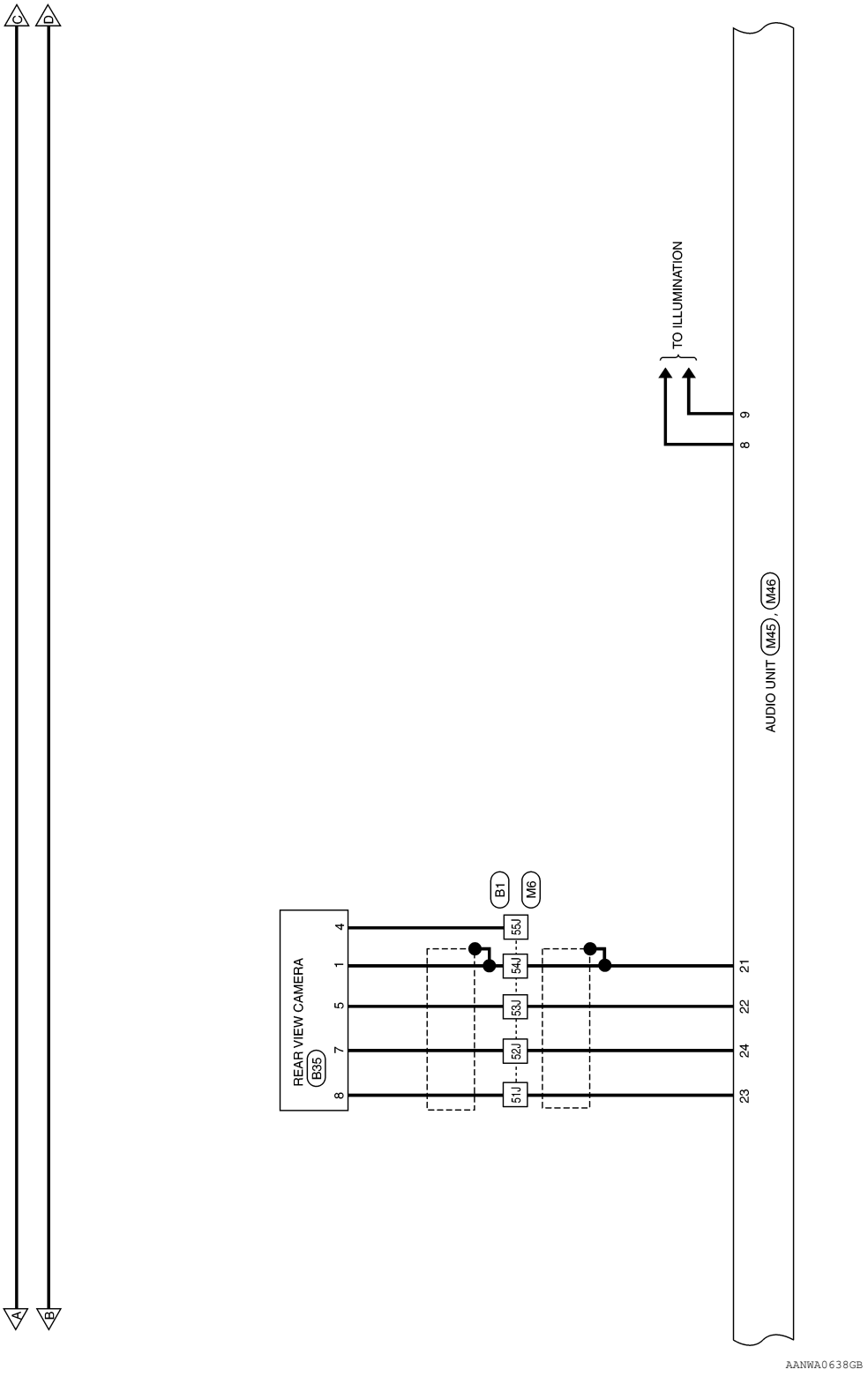
WIRING DIAGRAM

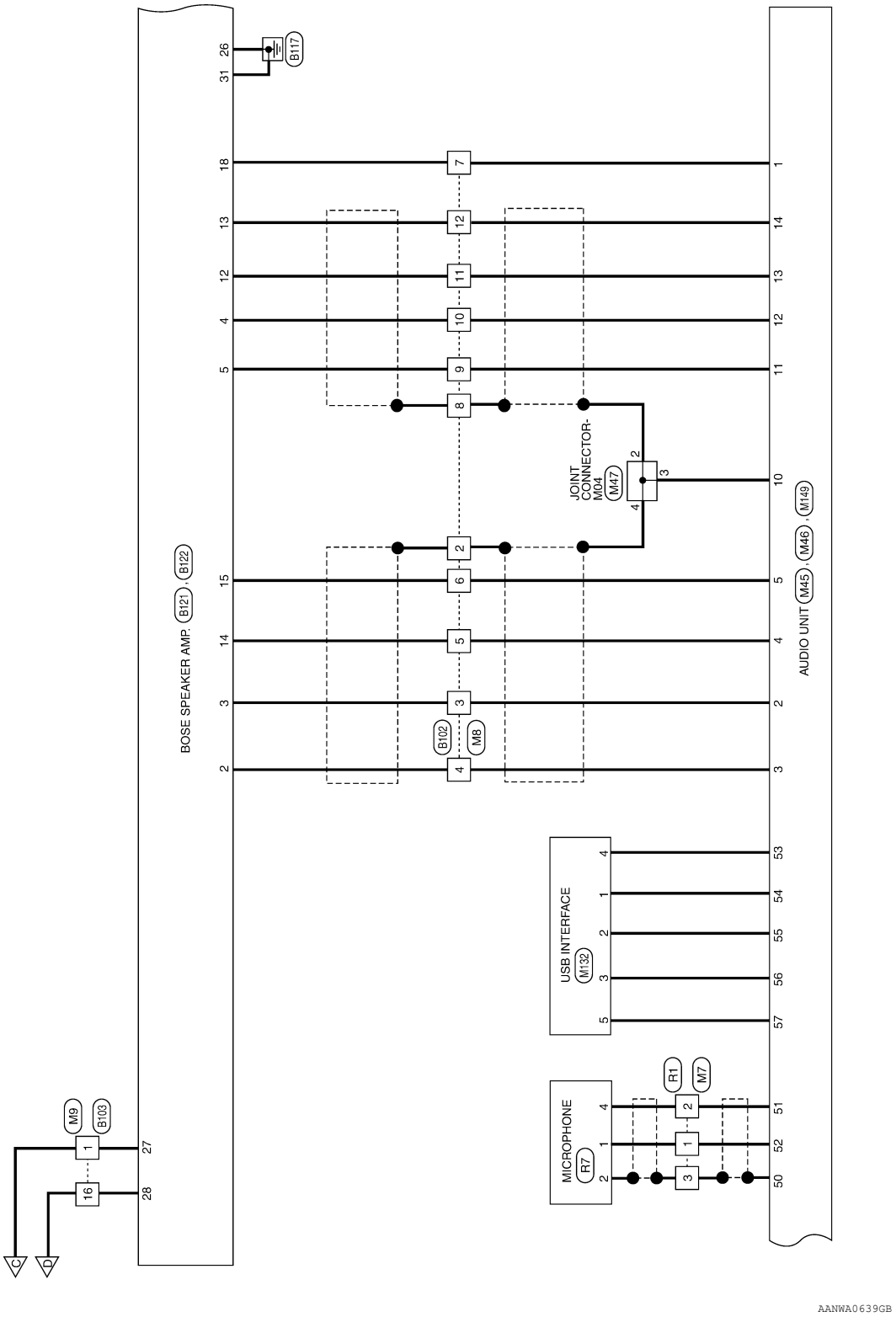
DISPLAY AUDIO WITH BOSE

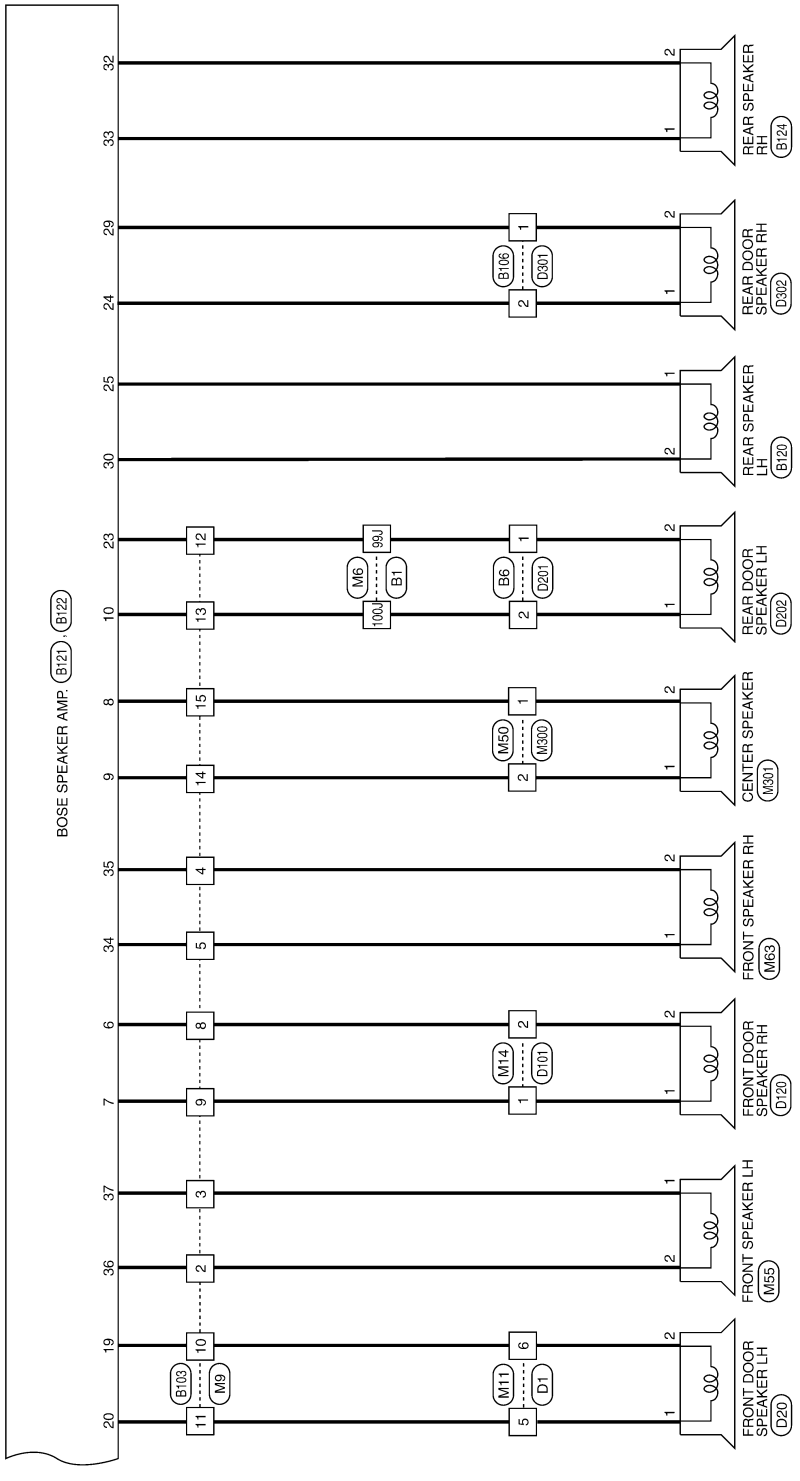
Wiring Diagram

INFOID:0000000007986121




C
D
A
B
TO ILLUMINATION
9
8
AUDIO UNIT (M45), (M46)
B1
M6
REAR VIEW CAMERA
B35
4
1
5
7
8
55J
54J
53J
52J
51J
21
22
24
23
AANWA0638GB


BOSE SPEAKER AMP. B121, B122
AUDIO UNIT M45, M46, M149
JOINT CONNECTOR-M04 M47
USB INTERFACE M132
MICROPHONE R7
B117
B102 M8
M9 B103
R1 M7
AANWA0639GB


BOSE SPEAKER AMP. B121 B122
32
33
29
24
25
30
23
10
8
9
35
34
6
7
37
36
19
20
REAR SPEAKER RH B124
REAR DOOR SPEAKER RH D302
REAR SPEAKER LH B120
REAR DOOR SPEAKER LH D202
CENTER SPEAKER M301
FRONT SPEAKER RH M63
FRONT DOOR SPEAKER RH D120
FRONT SPEAKER LH M55
FRONT DOOR SPEAKER LH D20
B106 D301
M6 99J 100J B1
B6 D201
M50 M300
M14 D101
B103 M9
M11 D1
AANWA0640GB

DISPLAY AUDIO SYSTEM CONNECTORS - WITH BOSE AUDIO SYSTEM

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2N	LG	–

Connector No.	M4
Connector Name	FUSE BLOCK (J/B)
Connector Color	BROWN

H.S.



Terminal No.	Color of Wire	Signal Name
5R	G	–

Connector No.	M5
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

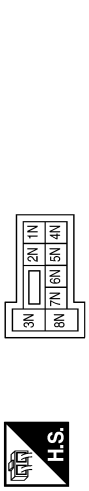
H.S.



Terminal No.	Color of Wire	Signal Name
14P	G	–
15P	SB	–

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Color	GRAY

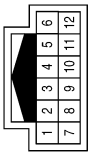
H.S.



Terminal No.	Color of Wire	Signal Name
51J	W	–
52J	R	–
53J	B	–
54J	SHIELD	–
99J	R	–
100J	G	–

Connector No.	M7
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
1	B	–
2	W	–
3	SHIELD	–

AANIA0931GB

Connector No.	M8
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
2	SHIELD	–
3	B	–
4	W	–
5	G	–
6	R	–
7	W	–
8	SHIELD	–
9	B	–
10	W	–
11	G	–
12	R	–

Connector No.	M9
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	G	–
2	P	–
3	R	–
4	W	–
5	G	–
8	BG	–
9	W	–
10	R	–
11	G	–
12	R	–
13	G	–
14	P	–
15	R	–
16	SB	–

Connector No.	M11
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
5	G	–
6	R	–

Connector No.	M14
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3
4	5	6	7	8

Terminal No.	Color of Wire	Signal Name
1	W	–
2	BG	–

Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK

H.S.

60	59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41
80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	64	63	62	61

Terminal No.	Color of Wire	Signal Name
59	P	CAN-L
60	L	CAN-H

Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK

H.S.

116	115	114	113	112	111	110	109	108	107	106	105
128	127	126	125	124	123	122	121	120	119	118	117

Terminal No.	Color of Wire	Signal Name
109	G	REVERSE SIGNAL
113	P	ACC RELAY OUT

AANIA0932GB

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21

Terminal No.	Color of Wire	Signal Name
3	P	STRG SW INPUT1
4	R	STRG SW INPUT2
24	W	STRG SW GND
34	G	SPEED 8P/R
36	LG	M-CAN-L
37	SB	M-CAN-H
38	P	CAN-L
39	L	CAN-H

Connector No.	M22
Connector Name	DATA LINK CONNECTOR
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
3	LG	–
11	SB	–

Connector No.	M21
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE

H.S.

137	136	135	134	133	132	131	130	129
143	142	141	140	139	138			

Terminal No.	Color of Wire	Signal Name
139	W	BAT POWER F/L

Connector No.	M30
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY

H.S.

24	25	26	27
31	32	33	34

Terminal No.	Color of Wire	Signal Name
24	P	–
31	R	–
33	W	–

Connector No.	M25
Connector Name	ACCESSORY RELAY-2
Connector Color	BLUE

H.S.

3	
5	
2	1

Terminal No.	Color of Wire	Signal Name
1	W	–
2	B	–
3	LG	–
5	P	–

AANIA0933GB

Connector No.	M45
Connector Name	AUDIO UNIT
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	W	AMP ON
2	B	FR SP LH (+)
3	W	FR SP LH (-)
4	G	RR SP (+)
5	R	RR SP (-)
6	–	–
7	P	ACC
8	GR	ILLUMINATION GND
9	R	ILL (+),LIGHT SW
10	B	PREAMP SHIELD
11	B	FR SP RH (+)
12	W	FR SP RH (-)
13	G	RR SP RH (+)
14	R	RR SP RH (-)
15	–	–
16	–	–
17	–	–
18	G	SPEED SIGNAL
19	G	BAT
20	GR	GND

Connector No.	M46
Connector Name	AUDIO UNIT
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
21	SHIELD	COMPOSITE -
22	B	COMPOSITE +
23	W	CAMERA 6.2V
24	R	CAMERA GND
25	LG	M-CAN1-L
26	SB	M-CAN1-H
27	–	–
28	LG	M-CAN2-L
29	SB	M-CAN2-H
30	–	–
31	–	–
32	–	–
33	–	–
34	–	–
35	–	–
36	–	–
37	–	–
38	–	–
39	G	REVERSE
40	–	–
41	–	–
42	–	–
43	–	–
44	B	GND
45	B	CAMERA GND
46	–	–
47	–	–
48	–	–
49	–	–
50	SHIELD	MIC GND
51	W	MIC VCC
52	B	MIC SIG

AANIA0934GB

Connector No.	M47
Connector Name	JOINT CONNECTOR-M04
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2	SHIELD	–
3	B	–
4	SHIELD	–

Connector No.	M50
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	R	–
2	P	–

Connector No.	M55
Connector Name	FRONT SPEAKER LH
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	R	–
2	P	–

Connector No.	M63
Connector Name	FRONT SPEAKER RH
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	G	–
2	W	–

Connector No.	M88
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
14	W	–
15	L	–
17	BR	–

Connector No.	M101
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–
2	B	–
3	B	–

AANIA0935GB

Connector No.	M102
Connector Name	WIRE TO WIRE
Connector Color	GREEN

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–

Connector No.	M105
Connector Name	AUDIO UNIT
Connector Color	PURPLE

H.S.

Terminal No.	Color of Wire	Signal Name
61	B	–

Connector No.	M132
Connector Name	USB INTERFACE
Connector Color	BLUE

H.S.

Terminal No.	Color of Wire	Signal Name
1	G	–
2	L	–
3	R	–
4	W	–
5	SHIELD	–

Connector No.	M139
Connector Name	AUDIO UNIT
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
58	B	ANT SUB
59	B	MAIN ANT
60	B	ANT ON

Connector No.	M149
Connector Name	AUDIO UNIT
Connector Color	BLUE

H.S.

Terminal No.	Color of Wire	Signal Name
53	W	VCC
54	G	GND
55	L	D+
56	R	D-
57	SHIELD	–

Connector No.	M156
Connector Name	JOINT CONNECTOR-M07
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
3	L	–
4	L	–

AANIA0936GB

Connector No.	M157
Connector Name	JOINT CONNECTOR-M08
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
3	P	–
4	P	–

Connector No.	M300
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
1	W	–
2	G	–

Connector No.	M301
Connector Name	CENTER SPEAKER
Connector Color	BROWN

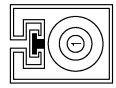
H.S.



Terminal No.	Color of Wire	Signal Name
1	G	–
2	W	–

Connector No.	M500
Connector Name	WIRE TO WIRE
Connector Color	GREEN

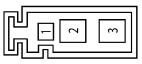
H.S.



Terminal No.	Color of Wire	Signal Name
1	B	–

Connector No.	M501
Connector Name	WIRE TO WIRE
Connector Color	GRAY

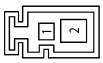
H.S.



Terminal No.	Color of Wire	Signal Name
1	B	–
2	B	–
3	B	–

Connector No.	M502
Connector Name	ANTENNA AMP.
Connector Color	GRAY

H.S.



Terminal No.	Color of Wire	Signal Name
1	B	–
2	B	–

AANIA0937GB

Connector No.	M503
Connector Name	ANTENNA AMP.
Connector Color	BLACK

H.S.

1

Terminal No.	Color of Wire	Signal Name
1	B	–

Connector No.	M504
Connector Name	WIRE TO WIRE
Connector Color	BLACK

H.S.

1

Terminal No.	Color of Wire	Signal Name
1	B	–

Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
51J	W	–
52J	B	–
53J	R	–
54J	SHIELD	–
55J	G	–
99J	R	–
100J	P	–

Connector No.	B6
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1 2 3
4 5 6 7 8

Terminal No.	Color of Wire	Signal Name
1	R	–
2	P	–

AANIA0938GB

Connector No.	B102
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
2	SHIELD	–
3	G	–
4	R	–
5	B	–
6	W	–
7	G	–
8	SHIELD	–
9	G	–
10	R	–
11	B	–
12	W	–

Connector No.	B106
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3
4	5	6	7	8

Terminal No.	Color of Wire	Signal Name
1	W	–
2	G	–

Connector No.	B59
Connector Name	SATELLITE RADIO ANTENNA
Connector Color	GREEN

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–

Terminal No.	Color of Wire	Signal Name
5	P	–
8	BG	–
9	P	–
10	R	–
11	P	–
12	W	–
13	G	–
14	G	–
15	R	–
16	SB	–

Connector No.	B35
Connector Name	REAR VIEW CAMERA
Connector Color	WHITE

H.S.

4	3	2	1
8	7	6	5

Terminal No.	Color of Wire	Signal Name
1	SHIELD	COMP
2	–	–
3	–	–
4	G	CONT
5	R	COMP +
6	–	–
7	B	GND
8	W	CAMERA ON

Connector No.	B103
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	G	–
2	R	–
3	G	–
4	W	–

AANIA0939GB

Connector No.	B120
Connector Name	REAR SPEAKER LH (WITH BOSE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	W	–
2	G	–

Connector No.	B121
Connector Name	BOSE SPEAKER AMP.
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	–	–
2	R	–
3	G	–
4	R	–
5	G	–
6	BG	–
7	P	–
8	R	–

Terminal No.	Color of Wire	Signal Name
9	G	–
10	G	–
11	–	–
12	B	–
13	W	–
14	B	–
15	W	–
16	–	–
17	–	–
18	G	–
19	R	–
20	P	–
21	–	–
22	–	–
23	W	–

Connector No.	B122
Connector Name	BOSE SPEAKER AMP.
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
24	G	–
25	W	–
26	GR	–
27	G	–
28	SB	–
29	W	–

Terminal No.	Color of Wire	Signal Name
30	G	–
31	GR	–
32	G	–
33	W	–
34	P	–
35	W	–
36	R	–
37	G	–

Connector No.	B124
Connector Name	REAR SPEAKER RH (WITH BOSE AUDIO SYSTEM)
Connector Color	WHITE

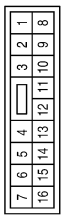
H.S.

Terminal No.	Color of Wire	Signal Name
1	W	–
2	G	–

AANIA0940GB

Connector No.	D1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
5	G	–
6	W	–

Connector No.	D120
Connector Name	FRONT DOOR SPEAKER RH (WITH BOSE AUDIO SYSTEM)
Connector Color	BROWN

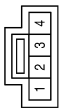
H.S.



Terminal No.	Color of Wire	Signal Name
1	G	–
2	W	–

Connector No.	R7
Connector Name	MICROPHONE
Connector Color	WHITE

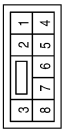
H.S.



Terminal No.	Color of Wire	Signal Name
1	L	–
2	SHIELD	–
3	–	–
4	Y	–

Connector No.	D101
Connector Name	WIRE TO WIRE
Connector Color	WHITE

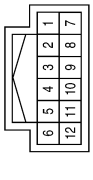
H.S.



Terminal No.	Color of Wire	Signal Name
1	G	–
2	W	–

Connector No.	R1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
1	L	–
2	Y	–
3	SHIELD	–

Connector No.	D20
Connector Name	FRONT DOOR SPEAKER LH (WITH BOSE AUDIO SYSTEM)
Connector Color	BROWN

H.S.



Terminal No.	Color of Wire	Signal Name
1	G	–
2	W	–

AANIA0946GB

Connector No.	D201
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	Y	–
2	LG	–

Connector No.	D202
Connector Name	REAR DOOR SPEAKER LH
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	LG	–
2	Y	–

Connector No.	D301
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	Y	–
2	LG	–

Connector No.	D302
Connector Name	REAR DOOR SPEAKER LH
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	LG	–
2	Y	–

AANIA0980GB

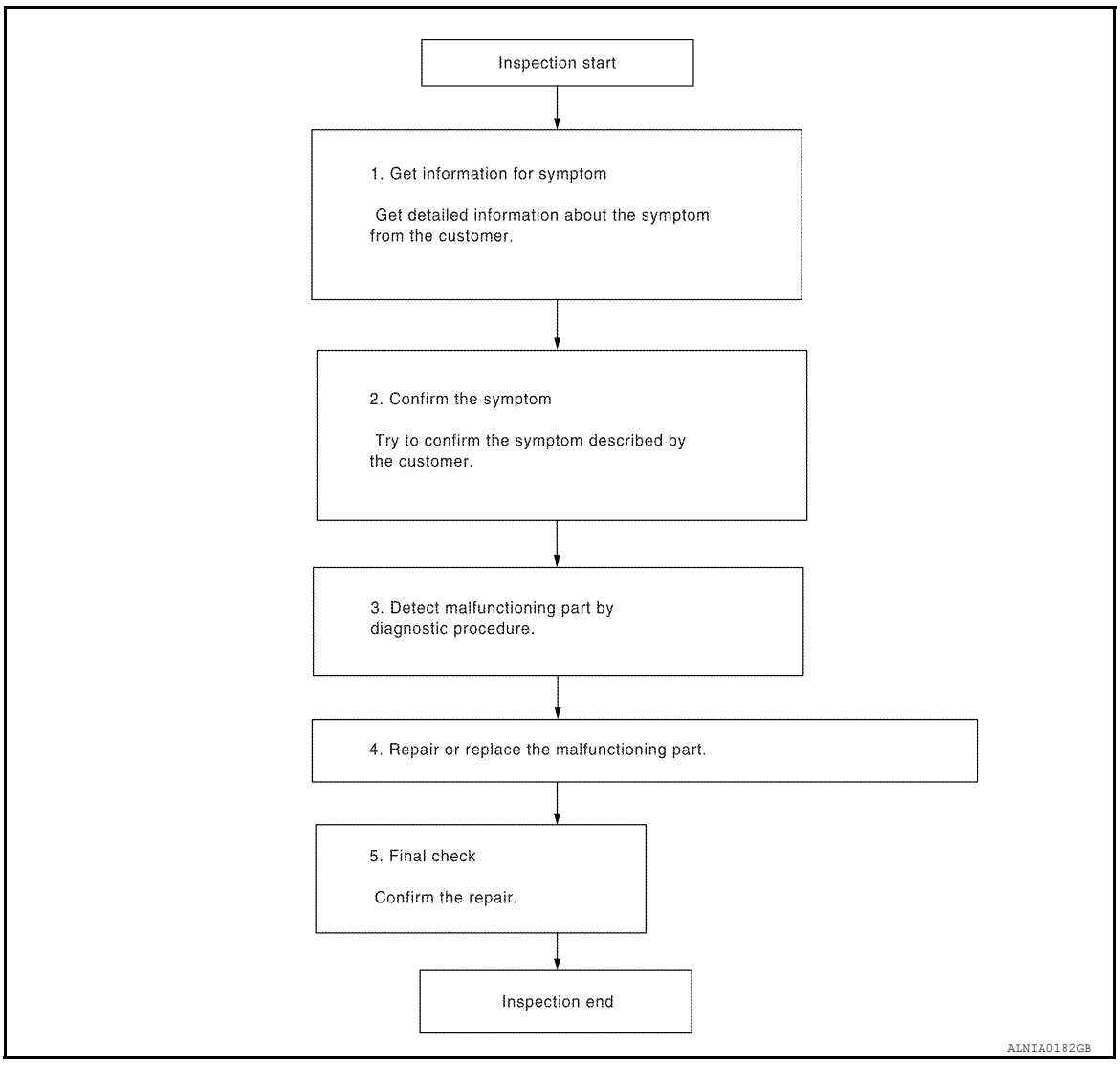
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000007986032

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.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:0000000007986065

Regarding Wiring Diagram information, refer to AV-137, "Wiring Diagram".

1.CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
7	ACC power supply	25 (5A)
19	Battery power supply	15 (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 M45.
3. Check voltage between audio unit connector M45 and ground.

Audio unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M45	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 M46.
3. Check continuity between audio unit connectors and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M45	20	—	Yes
M46	45		

Is the inspection result normal?

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

BOSE SPEAKER AMP

BOSE SPEAKER AMP : Diagnosis Procedure

INFOID:0000000007986066

Regarding Wiring Diagram information, refer to AV-137, "Wiring Diagram".

1.CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
27	Battery power supply	12 (15A)
28		11 (15A)

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 Bose speaker amp. connector B122.
3. Check voltage between Bose speaker amp. connector B122 and ground.

Bose speaker amp.		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
B122	27	—	Ignition switch: OFF	Battery voltage
	28			

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 Bose speaker amp. connector B122.
3. Check continuity between Bose speaker amp. connector B122 and ground.

Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B122	26	—	Yes
	31		

Is the inspection result normal?

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

FRONT DOOR SPEAKER

Diagnosis Procedure

INFOID:0000000007986074

Regarding Wiring Diagram information, refer to AV-137, "Wiring Diagram".

1.CONNECTOR CHECK

Check the audio unit, Bose speaker amp. 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 (BOSE SPEAKER AMP.)

1. Disconnect Bose speaker amp. connector B121 and suspect front door speaker connector.
2. Check continuity between Bose speaker amp. connector B121 and suspect front door speaker connector.

Bose speaker amp.		Front door speaker		Continuity
Connector	Terminal	Connector	Terminal	
B121	20	D20 (LH)	1	Yes
	19		2	
	7	D120 (RH)	1	
	6		2	

3. Check continuity between Bose speaker amp. connector B121 and ground.

Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B121	20	—	No
	19		
	7		
	6		

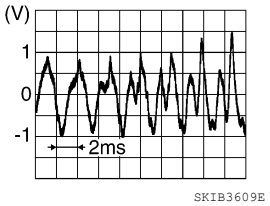
Is the inspection result normal?

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

3.CHECK FRONT DOOR SPEAKER SIGNAL (BOSE SPEAKER AMP.)

1. Connect Bose speaker amp. connector B121 and suspect front door speaker connector.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between Bose speaker amp. connector B121 and ground.

Bose speaker amp. connector B121		Condition	Reference value
(+)	(–)		
Terminal	Terminal		

20	19	Audio signal output	
7	6		

Is the inspection result normal?

YES >> Replace front door speaker. Refer to AV-190, "Removal and Installation".
NO >> GO TO 4

4. CHECK FRONT DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY (AUDIO UNIT)

1. Turn ignition switch to OFF.
2. Disconnect Bose speaker amp. connector B121 and audio unit connector M45.
3. Check continuity between Bose speaker amp. connector B121 and audio unit connector M45.

Bose speaker amp.		Audio unit		Continuity
Connector	Terminal	Connector	Terminal	
B121	2	M45	3	Yes
	3		2	
	4		12	
	5		11	

4. Check continuity between Bose speaker amp. connector B121 and ground.

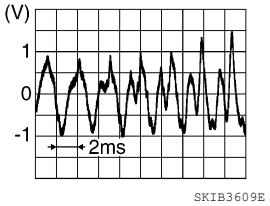
Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B121	2	—	No
	3		
	4		
	5		

Is the inspection result normal?

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

5. CHECK FRONT DOOR SPEAKER SIGNAL (AUDIO UNIT)

1. Connect Bose speaker amp. connector B121 and audio unit connector M45.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between audio unit connector M45 and ground.

Audio unit connector M45		Condition	Reference value
(+)	(−)		
Terminal	Terminal		
2	3	Audio signal output	
11	12		

Is the inspection result normal?

YES >> Replace Bose speaker amp. Refer to AV-193, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-186, "Removal and Installation".

FRONT SPEAKER

Diagnosis Procedure

INFOID:0000000007986078

Regarding Wiring Diagram information, refer to AV-137, "Wiring Diagram".

1.CONNECTOR CHECK

Check the audio unit, Bose speaker amp. 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 SPEAKER SIGNAL CIRCUIT CONTINUITY (BOSE SPEAKER AMP.)

1. Disconnect Bose speaker amp. connector B122 and suspect front speaker connector.
2. Check continuity between Bose speaker amp. connector B122 and suspect front speaker connector.

Bose speaker amp.		Front speaker		Continuity
Connector	Terminal	Connector	Terminal	
B122	37	M55 (LH)	1	Yes
	36		2	
	34	M63 (RH)	1	
	35		2	

3. Check continuity between Bose speaker amp. connector B122 and ground.

Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B122	36	—	No
	37		
	34		
	35		

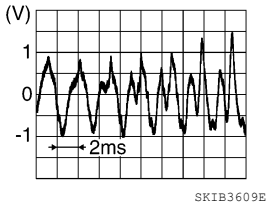
Is the inspection result normal?

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

3.CHECK FRONT SPEAKER SIGNAL (BOSE SPEAKER AMP.)

1. Connect Bose speaker amp. connector B122 and suspect front speaker connector.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between Bose speaker amp. connector B122 and ground.

Bose speaker amp. connector B122		Condition	Reference value
(+)	(–)		
Terminal	Terminal		

37	36	Audio signal output	
34	35		

Is the inspection result normal?

YES >> Replace front speaker. Refer to AV-188, "Removal and Installation".
NO >> GO TO 4

4. CHECK FRONT SPEAKER SIGNAL CIRCUIT CONTINUITY (AUDIO UNIT)

1. Turn ignition switch to OFF.
2. Disconnect Bose speaker amp. connector B121 and audio unit connector M45.
3. Check continuity between Bose speaker amp. connector B121 and audio unit connector M45.

Bose speaker amp.		Audio unit		Continuity
Connector	Terminal	Connector	Terminal	
B121	2	M45	3	Yes
	3		2	
	4		12	
	5		11	

4. Check continuity between Bose speaker amp. connector B121 and ground.

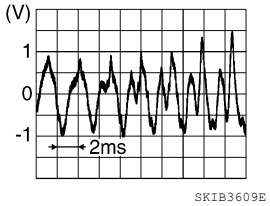
Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B121	2	—	No
	3		
	4		
	5		

Is the inspection result normal?

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

5. CHECK FRONT SPEAKER SIGNAL (AUDIO UNIT)

1. Connect Bose speaker amp. connector B121 and audio unit connector M45.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between audio unit connector M45 and ground.

Audio unit connector M45		Condition	Reference value
(+)	(−)		
Terminal	Terminal		
2	3	Audio signal output	
11	12		

Is the inspection result normal?

YES >> Replace Bose speaker amp. Refer to AV-193, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-186, "Removal and Installation".

CENTER SPEAKER

Diagnosis Procedure

INFOID:0000000007986080

Regarding Wiring Diagram information, refer to AV-137, "Wiring Diagram".

1.CONNECTOR CHECK

Check the audio unit, Bose speaker amp. 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 CENTER SPEAKER SIGNAL CIRCUIT CONTINUITY (BOSE SPEAKER AMP.)

1. Disconnect Bose speaker amp. connector B121 and center speaker connector M301.
2. Check continuity between Bose speaker amp. connector B121 and center speaker connector M301.

Bose speaker amp.		Center speaker		Continuity
Connector	Terminal	Connector	Terminal	
B121	9	M301	1	Yes
	8		2	

3. Check continuity between Bose speaker amp. connector B121 and ground.

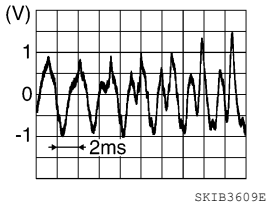
Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B121	9	—	No
	8		

Is the inspection result normal?

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

3.CHECK CENTER SPEAKER SIGNAL (BOSE SPEAKER AMP.)

1. Connect Bose speaker amp. connector B121 and center speaker connector M301.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between Bose speaker amp. connector B121 and ground.

Bose speaker amp. connector B121		Condition	Reference value
(+)	(–)		
Terminal	Terminal		
9	8	Audio signal output	

Is the inspection result normal?

YES >> Replace center speaker. Refer to AV-189, "Removal and Installation".
NO >> GO TO 4

4. CHECK CENTER SPEAKER SIGNAL CIRCUIT CONTINUITY (AUDIO UNIT)

1. Turn ignition switch to OFF.
2. Disconnect Bose speaker amp. connector B121 and audio unit connector M45.
3. Check continuity between Bose speaker amp. connector B121 and audio unit connector M45.

Bose speaker amp.		Audio unit		Continuity
Connector	Terminal	Connector	Terminal	
B121	2	M45	3	Yes
	3		2	
	4		12	
	5		11	

4. Check continuity between Bose speaker amp. connector B121 and ground.

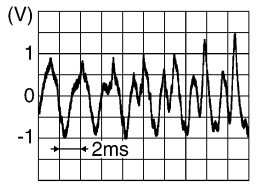
Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B121	2	—	No
	3		
	4		
	5		

Is the inspection result normal?

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

5. CHECK CENTER SPEAKER SIGNAL (AUDIO UNIT)

1. Connect Bose speaker amp. connector B121 and audio unit connector M45.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between audio unit connector M45 and ground.

Audio unit connector M45		Condition	Reference value
(+)	(−)		
Terminal	Terminal		
2	3	Audio signal output	
11	12		

Is the inspection result normal?

YES >> Replace Bose speaker amp. Refer to AV-193, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-186, "Removal and Installation".

REAR DOOR SPEAKER

Diagnosis Procedure

INFOID:0000000007986084

Regarding Wiring Diagram information, refer to AV-137, "Wiring Diagram".

1.CONNECTOR CHECK

Check the audio unit, Bose speaker amp. 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 (BOSE SPEAKER AMP.)

1. Disconnect Bose speaker amp. connectors and suspect rear door speaker connector.
2. Check continuity between Bose speaker amp. connectors and suspect rear door speaker connector.

Bose speaker amp.		Rear door speaker		Continuity
Connector	Terminal	Connector	Terminal	
B121	10	D202 (LH)	1	Yes
	23		2	
B122	24	D302 (RH)	1	
	29		2	

3. Check continuity between Bose speaker amp. connectors and ground.

Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B121	10	—	No
	23		
B122	24		
	29		

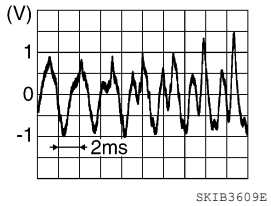
Is the inspection result normal?

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

3.CHECK REAR DOOR SPEAKER SIGNAL (BOSE SPEAKER AMP.)

1. Connect Bose speaker amp. connectors and suspect rear door speaker connector.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between Bose speaker amp. connectors and ground.

Bose speaker amp.			Condition	Reference value
Connector	(+)	(–)		
	Terminal	Terminal		

B121	10	23	Audio signal output	
B122	24	29		

Is the inspection result normal?

YES >> Replace rear door speaker. Refer to AV-191, "Removal and Installation".
NO >> GO TO 4

4. CHECK REAR DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY (AUDIO UNIT)

1. Turn ignition switch to OFF.
2. Disconnect Bose speaker amp. connector B121 and audio unit connector M45.
3. Check continuity between Bose speaker amp. connector B121 and audio unit connector M45.

Bose speaker amp.		Audio unit		Continuity
Connector	Terminal	Connector	Terminal	
B121	14	M45	4	Yes
	15		5	
	12		13	
	13		14	

4. Check continuity between Bose speaker amp. connector B121 and ground.

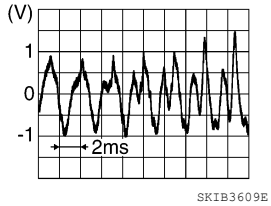
Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B121	14	—	No
	15		
	12		
	13		

Is the inspection result normal?

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

5. CHECK REAR DOOR SPEAKER SIGNAL (AUDIO UNIT)

1. Connect Bose speaker amp. connector B121 and audio unit connector M45.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between audio unit connector M45 and ground.

Audio unit connector M45		Condition	Reference value
(+)	(−)		
Terminal	Terminal		
4	5	Audio signal output	
13	14		

Is the inspection result normal?

YES >> Replace Bose speaker amp. Refer to AV-193, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-186, "Removal and Installation".

REAR SPEAKER

Diagnosis Procedure

INFOID:0000000007986088

Regarding Wiring Diagram information, refer to AV-137, "Wiring Diagram".

1.CONNECTOR CHECK

Check the audio unit, Bose speaker amp. 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 SPEAKER SIGNAL CIRCUIT CONTINUITY (BOSE SPEAKER AMP.)

1. Disconnect Bose speaker amp. connector B122 and suspect rear speaker connector.
2. Check continuity between Bose speaker amp. connector B122 and suspect rear speaker connector.

Bose speaker amp.		Rear speaker		Continuity
Connector	Terminal	Connector	Terminal	
B122	25	B120 (LH)	1	Yes
	30		2	
	33	B124 (RH)	1	
	32		2	

3. Check continuity between Bose speaker amp. connector B122 and ground.

Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B122	30	—	No
	25		
	33		
	32		

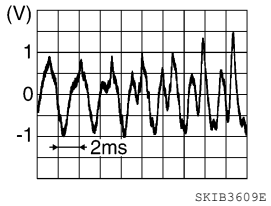
Is the inspection result normal?

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

3.CHECK REAR SPEAKER SIGNAL (BOSE SPEAKER AMP.)

1. Connect Bose speaker amp. connector B122 and suspect rear door speaker connector.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between Bose speaker amp. connector B122 and ground.

Bose speaker amp. connector B122		Condition	Reference value
(+)	(−)		
Terminal	Terminal		

25	30	Audio signal output	
33	32		

Is the inspection result normal?

YES >> Replace rear speaker. Refer to AV-192, "Removal and Installation".
NO >> GO TO 4

4. CHECK REAR SPEAKER SIGNAL CIRCUIT CONTINUITY (AUDIO UNIT)

1. Turn ignition switch to OFF.
2. Disconnect Bose speaker amp. connector B121 and audio unit connector M45.
3. Check continuity between Bose speaker amp. connector B121 and audio unit connector M45.

Bose speaker amp.		Audio unit		Continuity
Connector	Terminal	Connector	Terminal	
B121	14	M45	4	Yes
	15		5	
	12		13	
	13		14	

4. Check continuity between Bose speaker amp. connector B121 and ground.

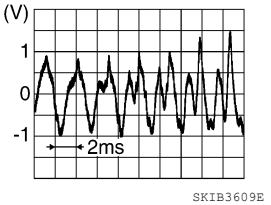
Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B121	14	—	No
	15		
	12		
	13		

Is the inspection result normal?

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

5. CHECK REAR SPEAKER SIGNAL (AUDIO UNIT)

1. Connect Bose speaker amp. connector B121 and audio unit connector M45.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between audio unit connector M45 and ground.

Audio unit connector M45		Condition	Reference value
(+)	(−)		
Terminal	Terminal		
4	5	Audio signal output	
13	14		

Is the inspection result normal?

YES >> Replace Bose speaker amp. Refer to AV-193, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-186, "Removal and Installation".

AMP ON SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000007986090

Regarding Wiring Diagram information, refer to AV-137, "Wiring Diagram".

1.CHECK CONTINUITY BETWEEN AUDIO UNIT AND BOSE SPEAKER AMP.

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M45 and Bose speaker amp. connector B121.
3. Check continuity between audio unit connector M45 and Bose speaker amp. connector M121.

Audio unit		Bose speaker amp.		Continuity
Connector	Terminal	Connector	Terminal	
M45	1	B121	18	Yes

4. Check continuity between audio unit connector M45 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M45	1	—	No

Is the inspection result normal?

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

2.CHECK AUDIO UNIT VOLTAGE

1. Connect audio unit connector M45.
2. Turn ignition switch ON.
3. Check voltage between audio unit connector M45 and ground.

Audio unit		Ground	Voltage (Approx.)
(+)		(–)	
Connector	Terminal		
M45	1	—	Battery voltage

Is the inspection result normal?

YES >> Replace Bose speaker amp. Refer to AV-193, "Removal and Installation".
NO >> Replace audio unit. Refer to AV-186, "Removal and Installation".

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000007986111

Regarding Wiring Diagram information, refer to AV-137, "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 M46 and ground.

Audio unit		Ground	Condition	Voltage (Approx.)
(+)		(−)		
Connector	Terminal			
M46	39	—	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 M46 and rear view camera connector.
3. Check continuity between audio unit connector M46 and rear view camera connector B35.

Audio unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M46	23	B35	8	Yes

4. Check continuity between audio unit connector M46 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M46	23		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 M46 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 M46 and ground.

Audio unit		Ground	Condition	Voltage (Approx.)
(+)		(−)		
Connector	Terminal			
M46	23	—	Selector lever is in “R”.	6.0 V

Is inspection result normal?

YES >> GO TO 4.
NO >> Replace audio unit. Refer to AV-186, "Removal and Installation".

4. CHECK CAMERA IMAGE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M46 and rear view camera connector.
3. Check continuity between audio unit connector M46 and rear view camera connector B35.

Audio unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M46	22	B35	5	Yes

4. Check continuity between audio unit connector M44 terminal 82 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M44	22		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 M46 and rear view camera connector B35.

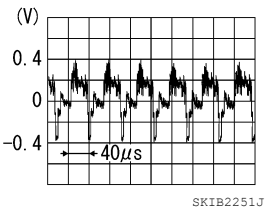
Audio unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M46	24	B35	7	Yes

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 M46 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 M46 and ground.

Audio unit (+)		Ground (−)	Condition	Reference value
Connector	Terminal			
M46	22	—	Camera image displayed.	

Is inspection result normal?

YES >> Replace audio unit. Refer to AV-186, "Removal and Installation".
NO >> Replace rear view camera. Refer to AV-202, "Removal and Installation".

MICROPHONE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000007986108

Regarding Wiring Diagram information, refer to AV-137, "Wiring Diagram".

1.CHECK MICROPHONE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M46 and microphone connector R7.
3. Check continuity between audio unit connector M46 and microphone connector R7.

Audio unit		Microphone		Continuity
Connector	Terminal	Connector	Terminal	
M46	50	R7	2	Yes
	51		4	
	52		1	

4. Check continuity between audio unit connector M46 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M46	50	—	No
	51		
	52		

Is inspection result normal?

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

2.CHECK MICROPHONE VCC VOLTAGE

1. Connect audio unit connector M46.
2. Turn ignition switch ON.
3. Check voltage between terminals of audio unit connector M46.

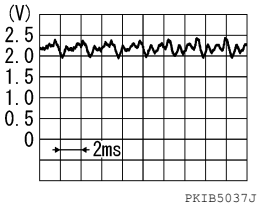
Audio unit connector M46		Voltage (Approx.)
(+)	(−)	
Terminal	Terminal	
51	50	5.0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace audio unit. Refer to AV-186, "Removal and Installation".

3.CHECK MICROPHONE SIGNAL

1. Connect microphone connector.
2. Check signal between terminals of audio unit connector M46.

Audio unit connector M46		Condition	Reference value
(+)	(–)		
Terminal	Terminal		
52	50	Speak into microphone.	

Is the inspection result normal?

YES >> Replace audio unit. Refer to AV-186, "Removal and Installation".
NO >> Replace microphone. Refer to AV-201, "Removal and Installation".

STEERING SWITCH

Diagnosis Procedure

INFOID:0000000007986095

Regarding Wiring Diagram information, refer to AV-137, "Wiring Diagram".

1.CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

1. Turn ignition switch OFF.
2. Disconnect combination switch connector M88.
3. Check resistance between combination switch connector terminals.

Combination switch connector M88		Condition	Resistance Ω (Approx.)
Terminal	Terminal		
14	17	Depress SOURCE switch.	1
		Depress △ switch.	121
		Depress ▽ switch.	321
		Depress switch.	723
		Depress ENTER switch.	2023
15		Depress − switch.	1
		Depress + switch.	121
		Depress switch.	321
		Depress switch.	723
		Depress DISP switch.	2023

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace steering switches. Refer to AV-196, "Removal and Installation".

2.CHECK HARNESS BETWEEN COMBINATION SWITCH AND COMBINATION METER

1. Disconnect combination meter connector M24 and combination switch connector M30.
2. Check continuity between combination meter connector M24 and combination switch connector M30.

Combination meter		Combination switch		Continuity
Connector	Terminal	Connector	Terminal	
M24	3	M30	24	Yes
	24		33	
	4		31	

3. Check continuity between combination meter connector M24 and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M24	3	—	No
	24		
	4		

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 M30 and M88.

Combination switch				Continuity
Connector	Terminal	Connector	Terminal	
M30	24	M88	14	Yes
	31		15	
	33		17	

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace spiral cable. Refer to SR-15, "Removal and Installation".

4. CHECK HARNESS BETWEEN COMBINATION METER AND AUDIO UNIT

1. Disconnect audio unit connector M46.
2. Check continuity between combination meter connector M24 and audio unit connector M46.

Combination meter		Audio unit		Continuity
Connector	Terminal	Connector	Terminal	
M24	37	M46	26	Yes
	36		25	

3. Check continuity between combination meter connector M24 and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M24	37	—	No
	36		

Is the inspection result normal?

YES >> Replace audio unit. Refer to AV-186, "Removal and Installation".
NO >> Repair or replace harness or connectors.

USB CONNECTOR

Diagnosis Procedure

INFOID:0000000008542212

Regarding Wiring Diagram information, refer to AV-137, "Wiring Diagram".

1.CHECK USB INTERFACE HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M147 and USB interface connector M132.
3. Check continuity between audio unit connector M147 and USB interface connector M132.

Audio unit		USB interface		Continuity
Connector	Terminal	Connector	Terminal	
M147	53	M132	4	Yes
	54		1	
	55		2	
	56		3	
	57		5	

4. Check continuity between audio unit connector M147 and ground.

Audio unit		—	Continuity
Connector	Terminal		
M147	54	Ground	No
	57		

Is the inspection result normal?

YES >> Replace the USB interface. Refer to AV-187, "Removal and Installation".
NO >> Repair or replace harness or connectors.

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:0000000008659219

RELATED TO AUDIO

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	Audio unit	Malfunction in audio unit. Refer to AV-125, "On Board Diagnosis Function".

Symptoms	Check items	Probable malfunction location
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-137, "Wiring Diagram". • Bose amp. ON signal circuit malfunction. Refer to AV-171, "Diagnosis Procedure". • Bose speaker amp. power supply and ground circuits malfunction. Refer to AV-155, "BOSE SPEAKER AMP : Diagnosis Procedure".
	Only a certain speaker (front door speaker LH, front door speaker RH, front speaker LH, front speaker RH, center speaker, rear door speaker LH, rear door speaker RH, rear speaker LH, rear speaker RH) does not output sound.	• Poor connector connection of speaker. • Sound signal circuit malfunction between audio unit and Bose speaker amp. Refer to: - AV-157, "Diagnosis Procedure" (front door speaker). - AV-160, "Diagnosis Procedure" (front speaker). - AV-163, "Diagnosis Procedure" (center speaker). - AV-165, "Diagnosis Procedure" (rear door speaker). - AV-168, "Diagnosis Procedure" (rear speaker). • Sound signal circuit malfunction between Bose speaker amp. and speaker. Refer to: - AV-157, "Diagnosis Procedure" (front door speaker). - AV-160, "Diagnosis Procedure" (front speaker). - AV-163, "Diagnosis Procedure" (center speaker). - AV-165, "Diagnosis Procedure" (rear door speaker). - AV-168, "Diagnosis Procedure" (rear speaker). • Malfunction in speaker. Refer to: - AV-190, "Removal and Installation" (front door speaker). - AV-188, "Removal and Installation" (front speaker). - AV-189, "Removal and Installation" (center speaker). - AV-191, "Removal and Installation" (rear door speaker). - AV-192, "Removal and Installation" (rear speaker). • Malfunction in audio unit. Refer to AV-125, "On Board Diagnosis Function". • Malfunction in Bose speaker amp. Replace Bose speaker amp. Refer to AV-193, "Removal and Installation".

Symptoms	Check items	Probable malfunction location
Noise is mixed with audio.	Noise comes out from all speakers.	• Malfunction in audio unit. Refer to AV-125, "On Board Diagnosis Function". • Malfunction in Bose speaker amp. Replace Bose speaker amp. Refer to AV-193, "Removal and Installation".
	Noise comes out only from a certain speaker (front door speaker LH, front door speaker RH, front speaker LH, front speaker RH, center speaker, rear speaker door LH, rear door speaker RH, rear speaker LH, rear speaker RH).	• Poor connector connection of speaker. • Sound signal circuit malfunction between audio unit and Bose speaker amp. Refer to: - AV-157, "Diagnosis Procedure" (front door speaker). - AV-160, "Diagnosis Procedure" (front speaker). - AV-163, "Diagnosis Procedure" (center speaker). - AV-165, "Diagnosis Procedure" (rear door speaker). - AV-168, "Diagnosis Procedure" (rear speaker). • Sound signal circuit malfunction between Bose speaker amp. and speaker. Refer to: - AV-157, "Diagnosis Procedure" (front door speaker). - AV-160, "Diagnosis Procedure" (front speaker). - AV-163, "Diagnosis Procedure" (center speaker). - AV-165, "Diagnosis Procedure" (rear door speaker). - AV-168, "Diagnosis Procedure" (rear speaker). • Malfunction in speaker. • Poor Installation of speaker (e.g. backlash and looseness). Refer to: - AV-190, "Removal and Installation" (front door speaker). - AV-188, "Removal and Installation" (front speaker). - AV-189, "Removal and Installation" (center speaker). - AV-191, "Removal and Installation" (rear door speaker). - AV-192, "Removal and Installation" (rear speaker). • Malfunction in audio unit. Refer to AV-125, "On Board Diagnosis Function". • Malfunction in Bose speaker amp. Replace Bose speaker amp. Refer to AV-193, "Removal and Installation".
	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-197, "Location of Antenna".
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-131, "Reference Value". • Poor connector connection of antenna or antenna feeder. Refer to AV-197, "Location of Antenna".

Symptoms	Check items	Probable malfunction location
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-197, "Location of Antenna".
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-186, "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-174, "Diagnosis Procedure".

Symptoms	Check items	Probable malfunction location
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-196, "Removal and Installation".
	Steering switch's 🎤, +, −, and ↩ switches do not work.	Steering switch signal circuit malfunction. Refer to AV-176, "Diagnosis Procedure".
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to AV-176, "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-172, "Diagnosis Procedure".
	Camera image signal circuit malfunction.	Camera image signal circuit malfunction between rear view camera and audio unit. Refer to AV-172, "Diagnosis Procedure".
	Rear view camera malfunction.	Replace rear view camera. Refer to AV-202, "Removal and Installation".

NORMAL OPERATING CONDITION

Description

INFOID:0000000008659220

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-179, "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.

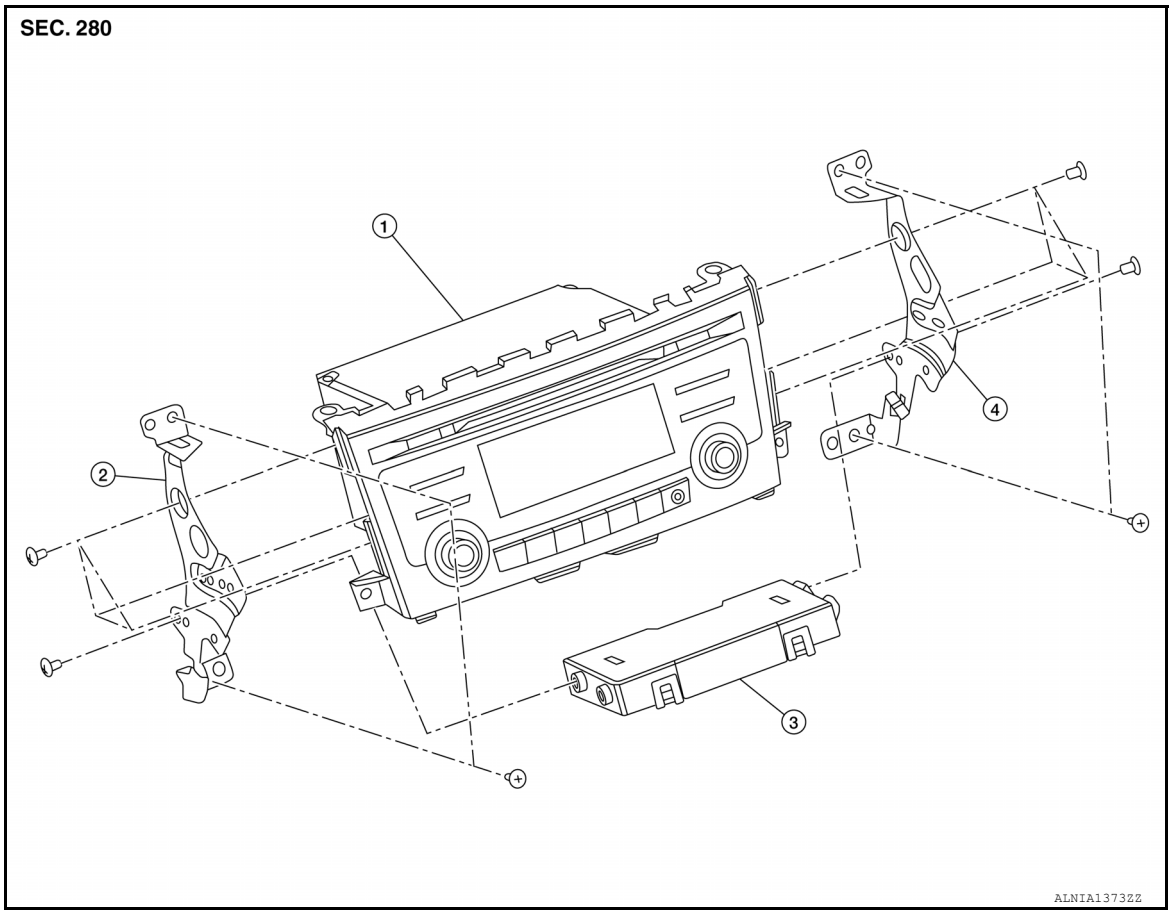
Symptom	Cause and Counter measure
The other party's voice cannot be heard by hands-free phone.	When the radio wave condition is not ideal or ambient sound is too loud, it may be difficult to hear the other person's voice during a call.
Poor sound quality.	Do not place the cellular phone in an area surrounded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

REMOVAL AND INSTALLATION

AV CONTROL UNIT

Exploded View

INFOID:0000000008571559



1. AV control unit
2. AV control unit bracket LH
3. A/C auto amp.
4. AV control unit bracket RH

Removal and Installation

INFOID:0000000008571560

REMOVAL

1. Disconnect the negative battery terminal. Refer to PG-72, "Removal and Installation (Battery)".
2. Remove cluster lid C. Refer to IP-20, "Cluster Lid C".
3. Remove the A/C switch assembly. Refer to HAC-101, "Removal and Installation".
4. Remove the AV control unit screws, then pull out the AV control unit.
5. Disconnect the harness connectors from the AV control unit and remove.

INSTALLATION

Installation is in the reverse order of removal.

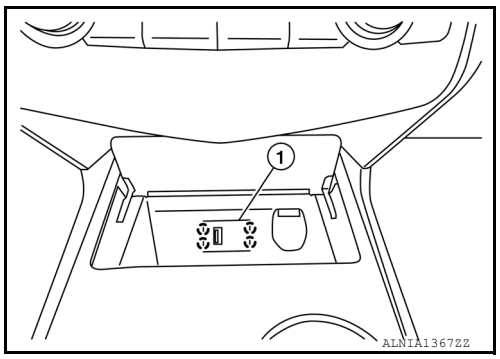
USB CONNECTOR

Removal and Installation

INFOID:0000000008542292

Removal

1. Remove the CVT finisher. Refer to IP-14, "Exploded View".
2. Release the pawls and remove the USB interface (1) from the back of the CVT finisher.
   ( ): Pawl



Installation

Installation is in the reverse order of removal.

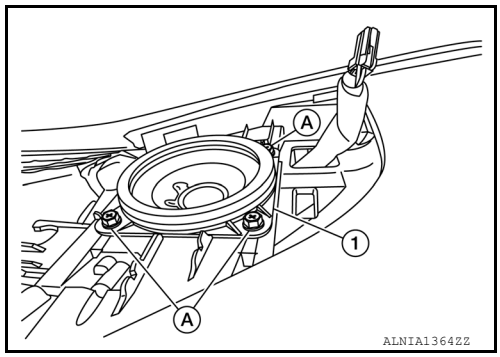
FRONT SPEAKER

Removal and Installation

INFOID:0000000008668909

REMOVAL

1. Remove the front pillar finisher. Refer to INT-21, "FRONT PILLAR FINISHER : Removal and Installation".
2. Remove the front speaker grille using a suitable tool.
3. Remove the front speaker screws (A).
4. Pull out the front speaker (1), disconnect the harness connector from front speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

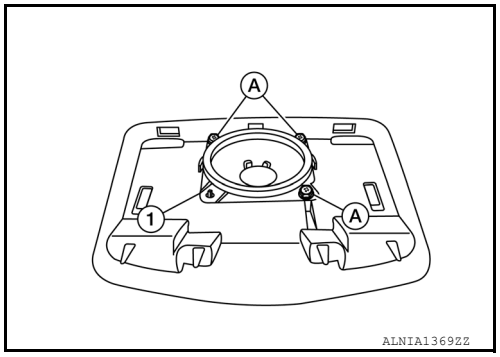
CENTER SPEAKER

Removal and Installation

INFOID:0000000007986137

REMOVAL

1. Remove the center speaker grille using a suitable tool.
2. Remove the center speaker screws (A).
3. Pull out the center speaker (1), disconnect the harness connector from the center speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

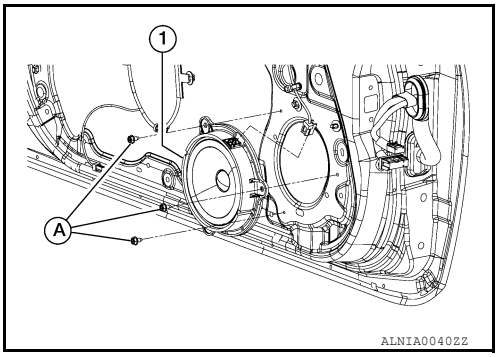
FRONT DOOR SPEAKER

Removal and Installation

INFOID:0000000008527602

REMOVAL

1. Remove the front door finisher. Refer to INT-15, "Removal and Installation".
2. Remove the front door speaker screws (A).
3. Disconnect the harness connector from the front door speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

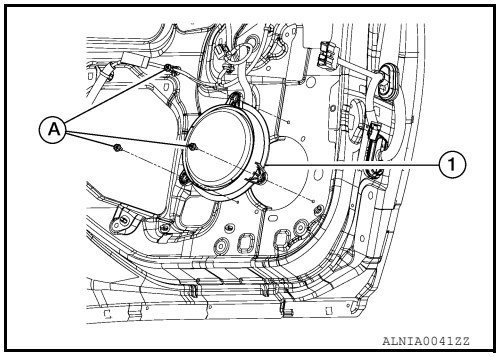
REAR DOOR SPEAKER

Removal and Installation

INFOID:0000000007986139

REMOVAL

1. Remove the rear door finisher. Refer to INT-18, "Removal and Installation".
2. Remove the rear door speaker screws (A).
3. Disconnect the harness connector from the rear door speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

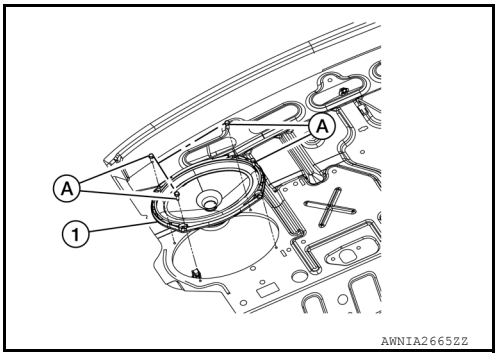
REAR SPEAKER

Removal and Installation

INFOID:0000000008746526

REMOVAL

1. Remove the rear parcel shelf finisher. Refer to INT-26, "Removal and Installation".
2. Remove the rear speaker screws (A).
3. Disconnect the harness connector from the rear speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

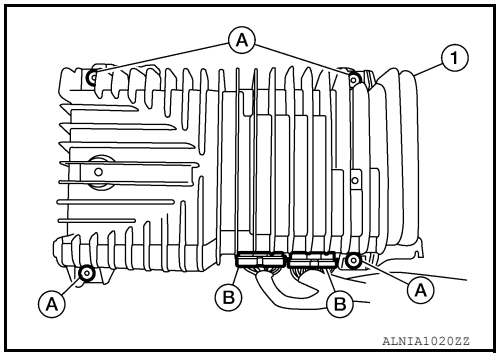
BOSE SPEAKER AMP

Removal and Installation

INFOID:0000000007986134

REMOVAL

1. Open the trunk lid.
2. Remove the Bose speaker amp. screws (A).
3. Disconnect the harness connectors (B) from the Bose speaker amp. (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

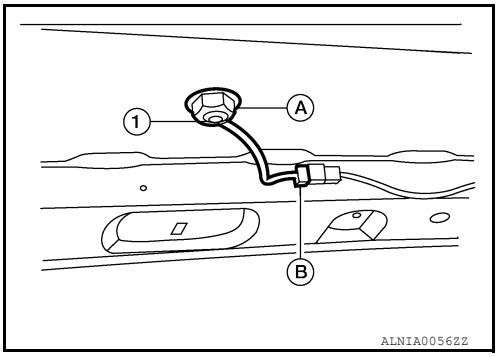
SATELLITE RADIO ANTENNA

Removal and Installation

INFOID:0000000008668911

REMOVAL

1. Lower the headlining at the rear. Refer to INT-30, "Removal and Installation".
2. Remove the satellite radio antenna nut (A).
3. Disconnect the harness connector (B) from the satellite radio antenna (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

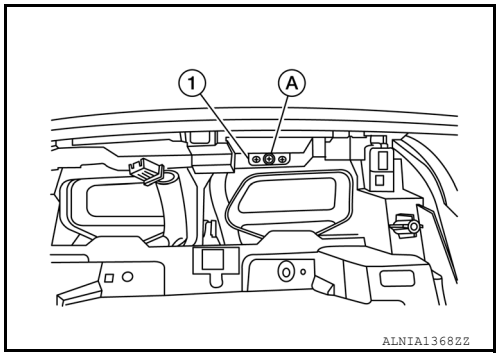
GPS ANTENNA

Removal and Installation

INFOID:0000000008668912

REMOVAL

1. Remove the AV control unit. Refer to AV-104, "Removal and Installation".
2. Remove the GPS antenna screw (A) and the GPS antenna (1).



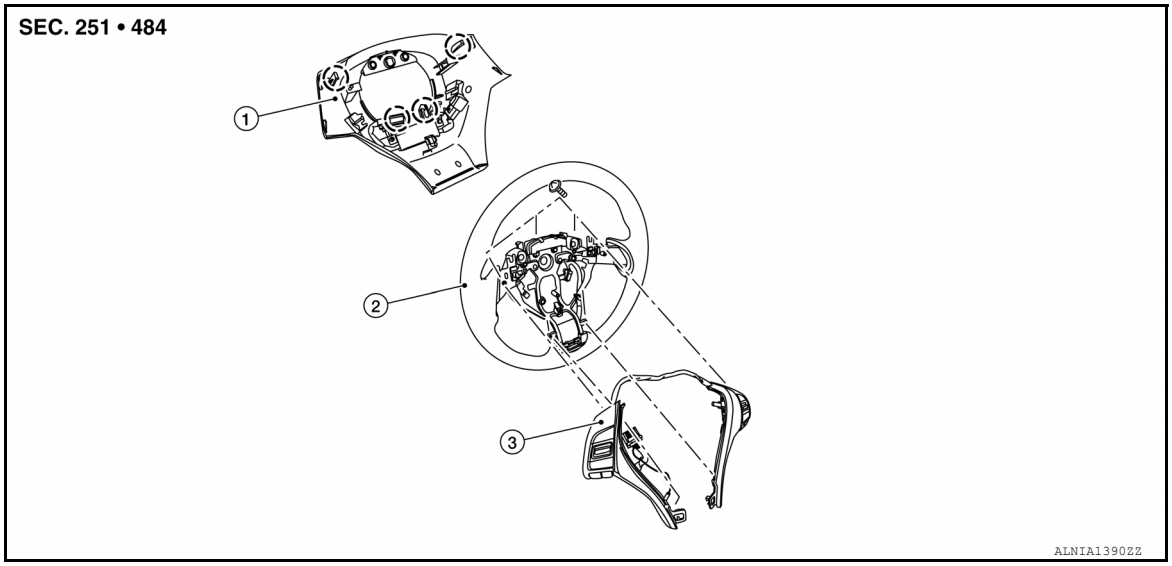
INSTALLATION

Installation is in the reverse order of removal.

STEERING SWITCH

Exploded View

INFOID:0000000008542319



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

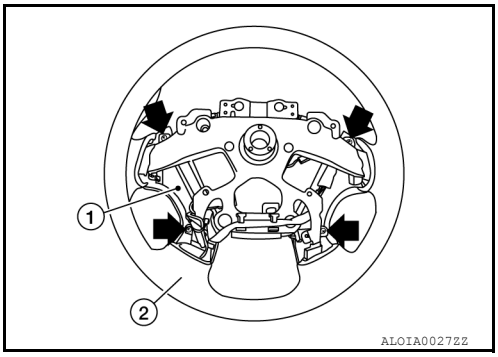
Pawl

Removal and Installation

INFOID:0000000008668918

REMOVAL

1. Remove the steering wheel. Refer to ST-31, "Removal and Installation"
2. Release the pawls on the steering wheel rear finisher and remove.
3. Remove the steering switches screws (⬅).
4. Remove the steering switches (1) from steering wheel (2).



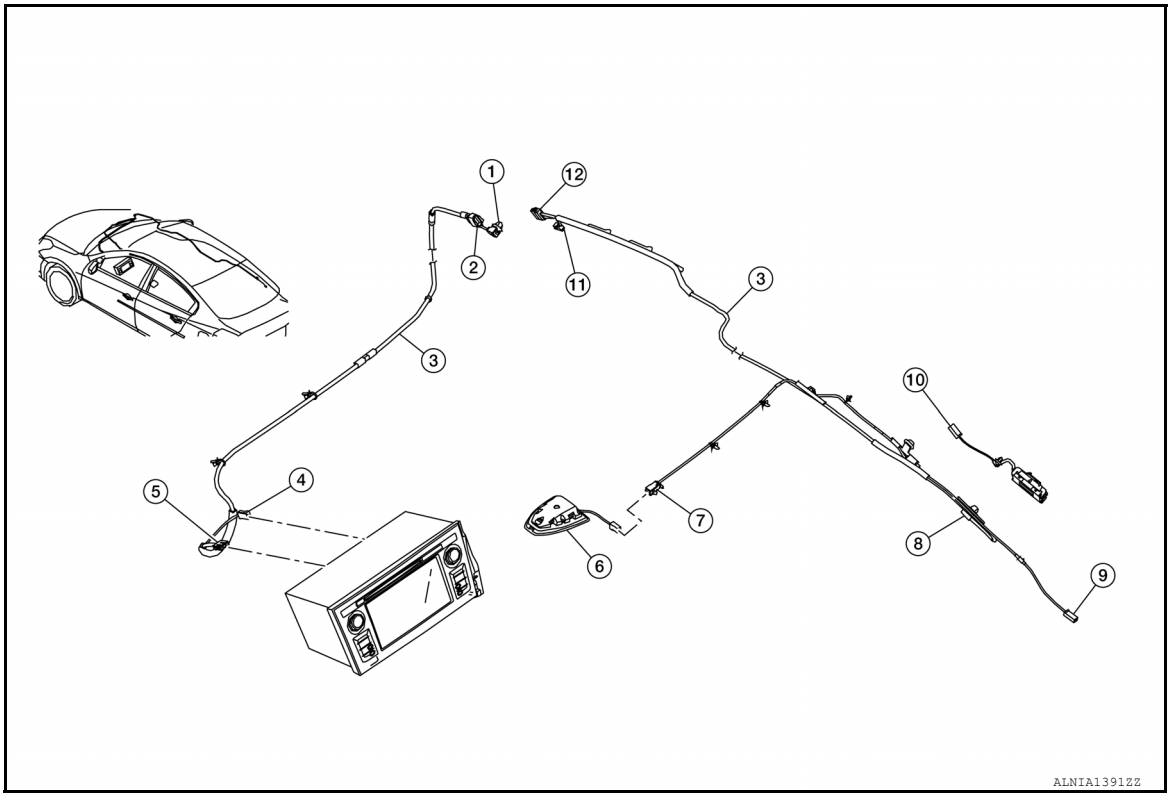
INSTALLATION

Installation is in the reverse order of removal.

ANTENNA FEEDER

Location of Antenna

INFOID:0000000007986149



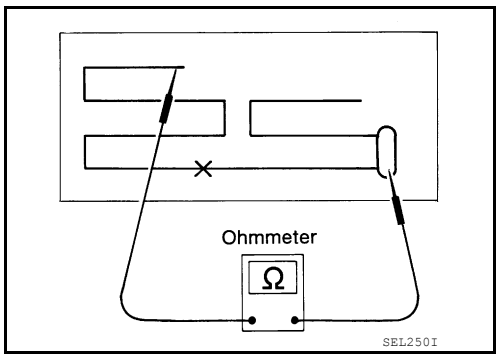
1. M102
2. M101
3. Antenna feeder
4. M105
5. M139
6. Satellite antenna
7. B59
8. M502
9. M504
10. M503
11. M500
12. M501

Window Antenna Repair

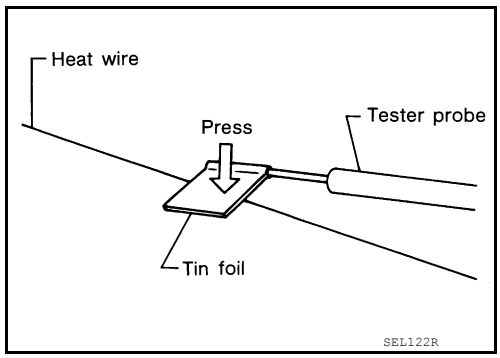
INFOID:0000000007986150

ELEMENT CHECK

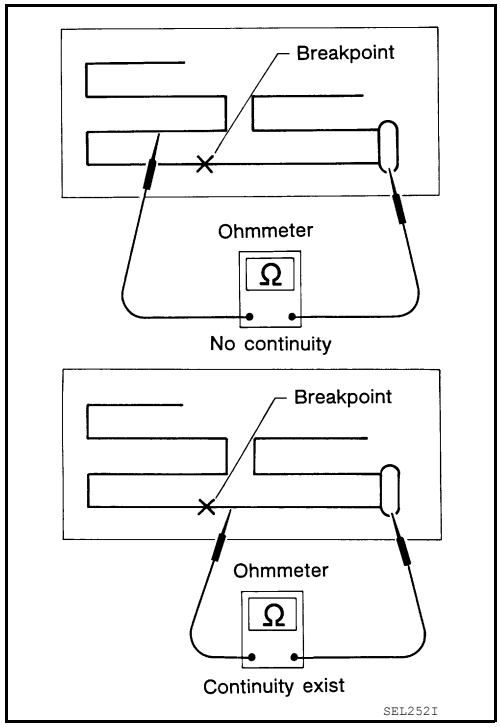
1. Attach probe circuit tester (ohm setting) to antenna terminal on each side.



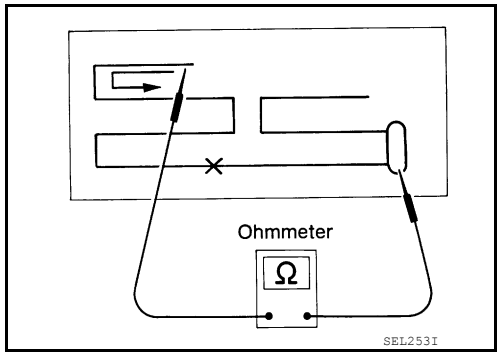
- **When measuring continuity, wrap tin foil around the top of probe. Then, press the foil against the wire with your finger.**



2. If an element is broken, no continuity will exist.



3. To locate a break, move probe along element. Tester indication will change abruptly when probe passes the broken point.

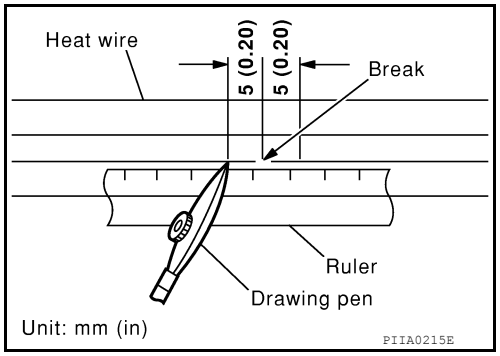


REPAIR EQUIPMENT

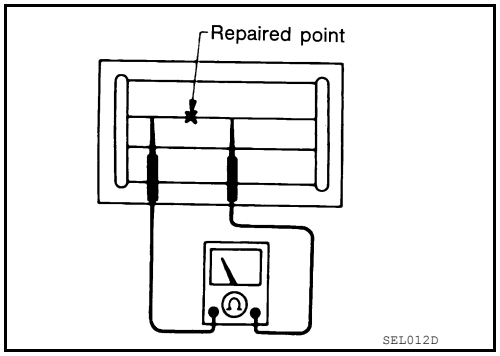
- Conductive silver composition (DuPont No. 4817 or equivalent)
- Ruler 30 cm (11.8 in) long
- Drawing pen
- Heat gun
- Alcohol
- Cloth

REPAIRING PROCEDURE

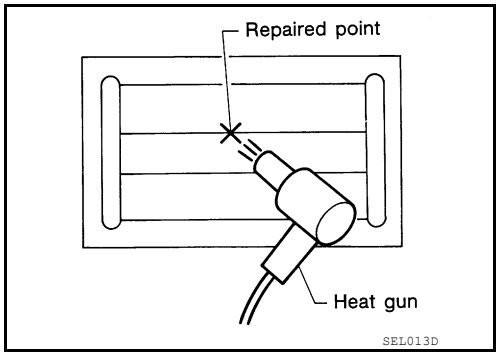
1. Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
2. Apply a small amount of conductive silver composition to tip of drawing pen.
   Shake silver composition container before use.
3. Place ruler on glass along broken line. Deposit conductive silver composition on break with drawing pen. Slightly overlap existing heat wire on both sides [preferably 5 mm (0.20 in)] of the break.



4. After repair has been completed, check repaired wire for continuity. This check should be conducted 10 minutes after silver composition is deposited.
   Do not touch repaired area while test is being conducted.



5. Apply a constant stream of hot air directly to the repaired area for approximately 20 minutes with a heat gun. A minimum distance of 3 cm (1.2 in) should be kept between repaired area and hot air outlet.
   If a heat gun is not available, let the repaired area dry for 24 hours.



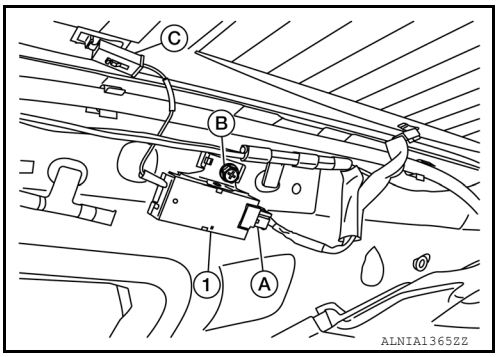
ANTENNA AMP.

Removal and Installation

INFOID:0000000008668919

REMOVAL

1. Remove the rear pillar finisher RH. Refer to INT-25, "REAR PILLAR FINISHER : Removal and Installation".
2. Disconnect the harness connector (A) from the antenna amp. (1).
3. Disconnect the antenna amp. harness connector (C) from the rear window glass.
4. Remove the antenna amp. screw (B) and the antenna amp. (1).



INSTALLATION

Installation is in the reverse order of removal.

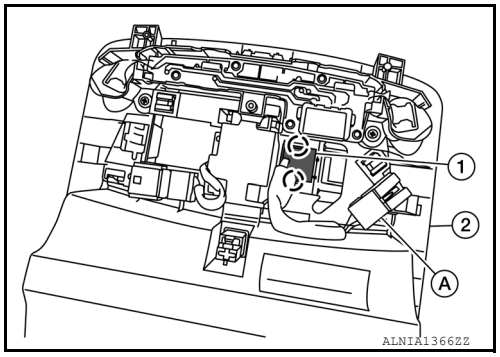
MICROPHONE

Removal and Installation

INFOID:0000000008668920

REMOVAL

1. Remove the front room/map lamp assembly. Refer to INL-63, "Removal and Installation".
2. Disconnect the microphone connector (A) from the front room/ map lamp assembly (2).
3. Release the microphone pawls, then remove the microphone (1).
   : Pawl



INSTALLATION

Installation is in the reverse order of removal.

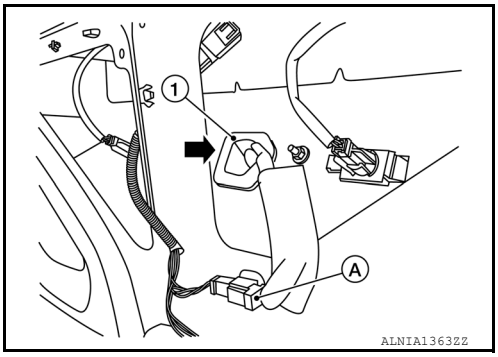
REAR VIEW CAMERA

Removal and Installation

INFOID:0000000008527606

REMOVAL

1. Remove trunk lid finisher. Refer to INT-33, "Exploded View".
2. Disconnect the harness connector (A) from rear view camera.
3. Push the rear view camera (1) in direction shown (⬅) and pull out to remove.



INSTALLATION

Installation is in the reverse order of removal.

PRECAUTION

PRECAUTIONS

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

INFOID:0000000008729191

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 SR and SB section of this Service Manual.

WARNING:

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

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

WARNING:

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

Precaution for Trouble Diagnosis

INFOID:0000000007986306

AV COMMUNICATION SYSTEM

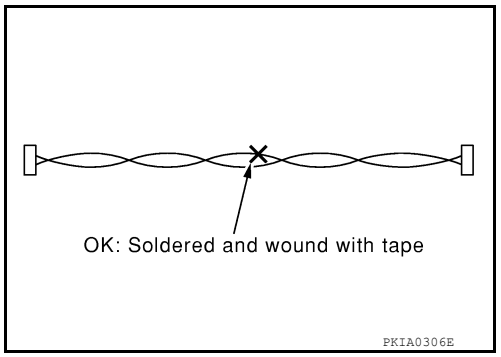
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

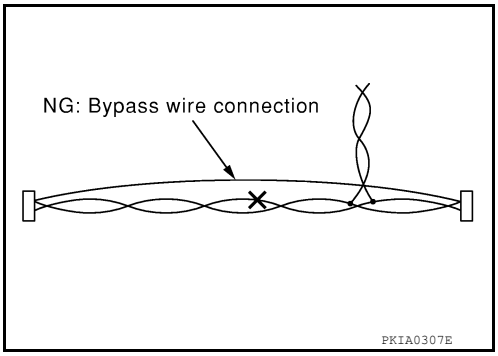
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AV COMMUNICATION SYSTEM

- 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:0000000008527612

- 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.

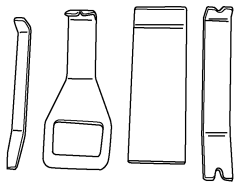
PREPARATION

PREPARATION

Special Service Tools

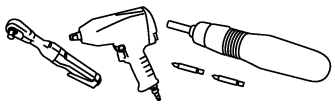
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The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

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

Commercial Service Tools

INFOID:0000000008527685

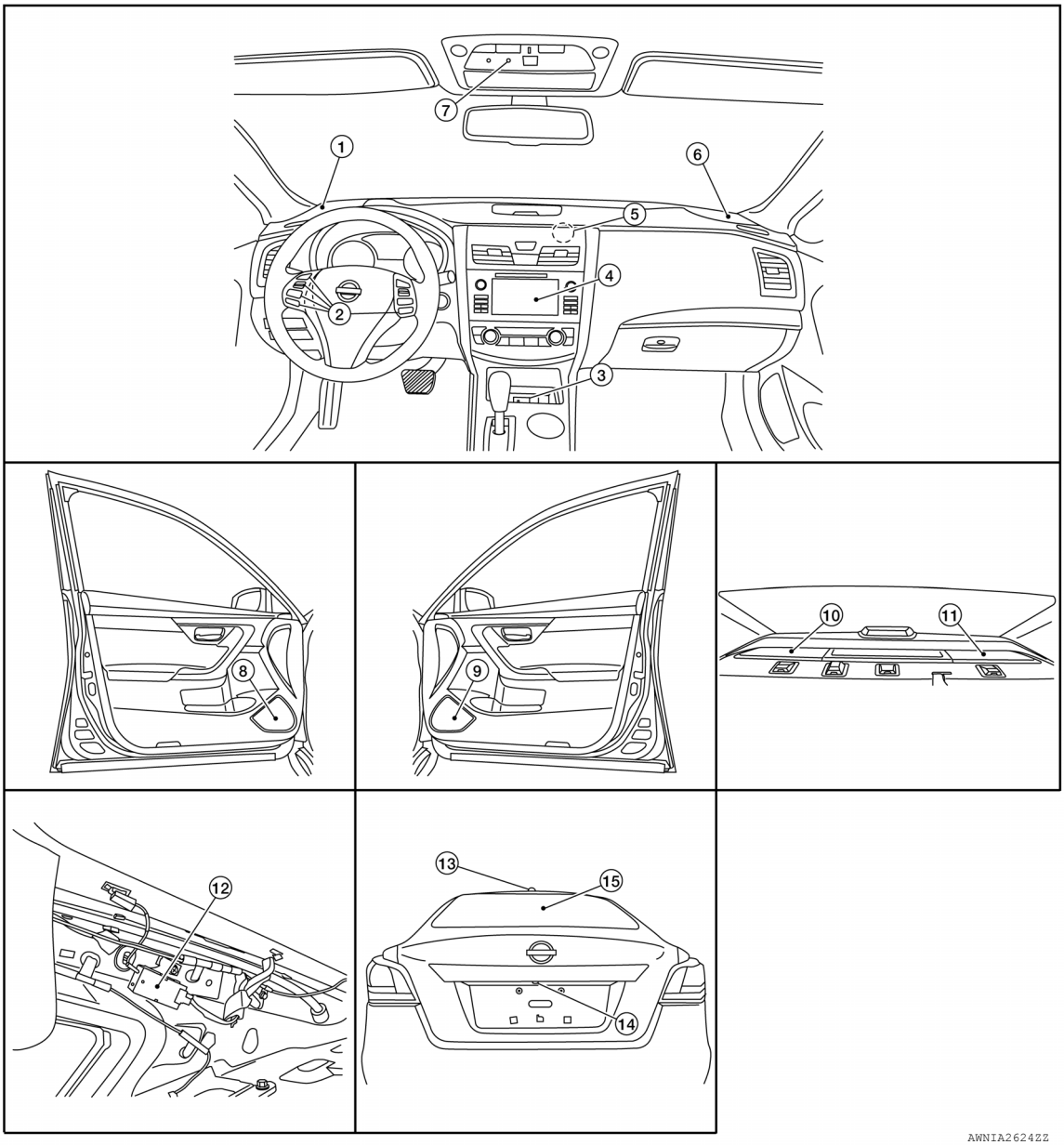
Tool name	Description
Power tool  PIIB1407E	Loosening nuts, screws and bolts

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000008542255



1. Front speaker LH
2. Steering switches
3. USB interface
4. AV control unit
5. GPS antenna
6. Front speaker RH
7. Microphone
8. Front door speaker LH
9. Front door speaker RH
10. Rear speaker RH
11. Rear speaker LH
12. Antenna amp.
13. Satellite antenna
14. Rear view camera
15. Window antenna

Component Description

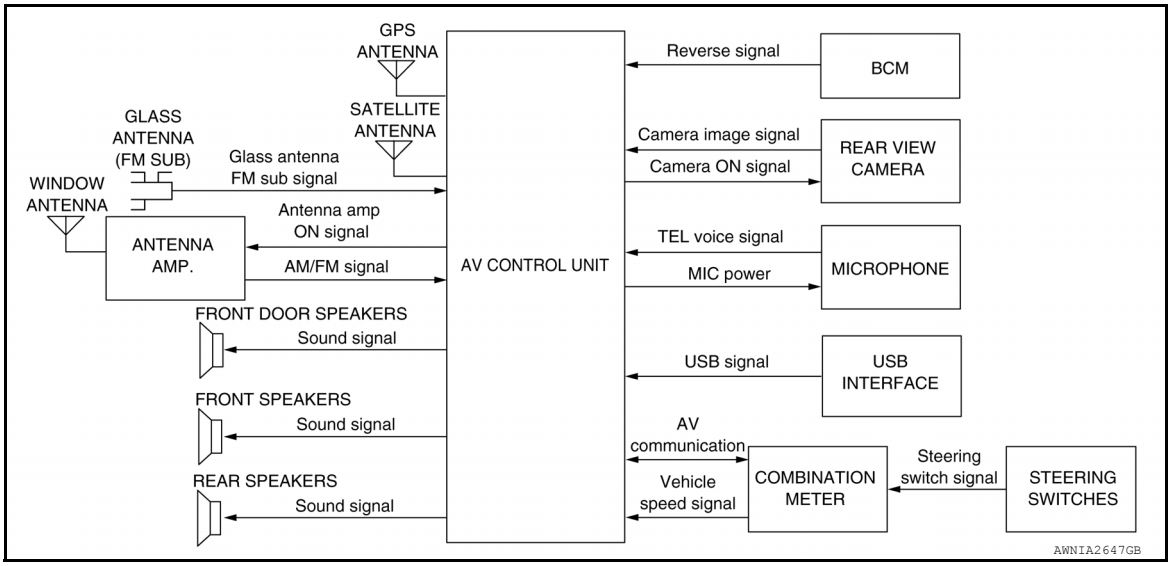
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Part name	Description
AV control unit	• Operation of navigation and audio systems are integrated. • Includes the audio, hands-free phone, navigation, satellite radio, rear view monitor, USB connection and AUX IN connection functions. • Map data can be loaded from SD-card inserted in SD-card slot. • Audio signals are output to each speaker. • Inputs illumination signals required for display dimming control. • Inputs signals for driving status recognition (vehicle speed and reverse). • Touch panel functions can be operated by touching display directly.
Map SD-card	A collection of Map data.
Front door speakers	Outputs high, mid and low range audio signals from AV control unit.
Front speakers	
Rear speakers	
Steering switches	• Operations for audio, hands-free phone and voice recognition are possible. • Steering switch signal is output to combination meter. • Combination meter outputs steering switch signal to AV control unit.
Microphone	• Used for hands-free phone operations. • Microphone signal is transmitted to AV control unit. • Power is supplied from AV control unit.
USB interface	USB sound and data input signals are transmitted to AV control unit.
Rear view camera	• Outputs image of vehicle rear to AV control unit. • Power is supplied from AV control unit.
Satellite antenna	Satellite radio signal is received and transmitted to AV control unit.
GPS antenna	GPS signal is received and transmitted to AV control unit.
Antenna amp.	• AM/FM signal received by window antenna is amplified and transmitted to AV control unit. • Power is supplied from AV control unit.
Window antenna	AM/FM signal is received and transmitted to antenna amp.

SYSTEM

System Diagram

INFOID:0000000008542257



System Description

INFOID:0000000008542258

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

- Map data on SD-card
- Full support for playback of music from iPod® and USB device
- High resolution color 5 inch display with touch panel function
- FM/AM twin digital tuner
- USB mass storage connection
- Satellite radio
- Hands-free phone system

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

NAVIGATION SYSTEM FUNCTION

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 speakers.
- 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

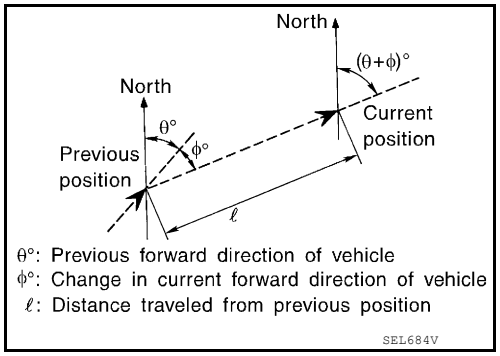
The navigation system periodically calculates the vehicle's current position according to the following three signals:

- 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.



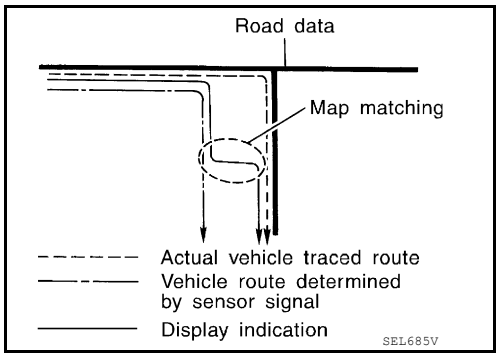
Type	Advantage	Disadvantage
Gyroscope (angular velocity sensor)	Can detect the vehicle's turning angle quite accurately.	Direction errors may accumulate when vehicle is driven for long distances without stopping.
GPS antenna (GPS information)	Can detect the vehicle's travel direction (North/South/East/West).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

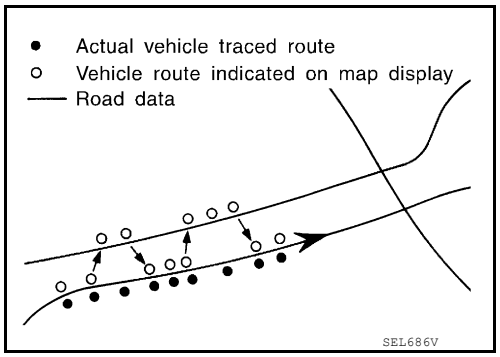
Map-matching compares a current location detected by the method in the “Location Detection Principle” with a road map data from map SD-card.

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

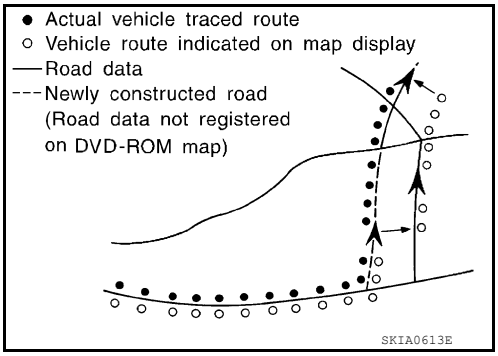


The vehicle position may not be corrected under the following circumstances and after driving for a certain time when GPS information is difficult to receive. In this case, the vehicle mark on the display must be corrected manually.

- 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.



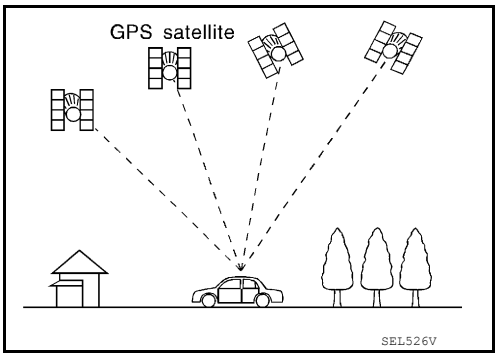
- Map-matching does not function correctly when a road on which the vehicle is driving is new and not recorded in the map SD-card, or when road pattern stored in the map data and the actual road pattern are different due to repair.
  The map-matching function may find another road and position the vehicle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

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

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



Accuracy of the GPS will deteriorate under the following conditions:

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

NOTE:

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

SATELLITE RADIO FUNCTION

- Satellite radio function is built into AV control unit.
- Sound signal (satellite radio) is received by satellite antenna and transmitted to AV control unit. AV control unit outputs sound signal to each speaker.

AUXILIARY INPUT FUNCTION

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

REAR VIEW MONITOR FUNCTION

Camera Image Operation Principle

- The AV control unit supplies power to the rear view camera when receiving a reverse signal.
- The rear view camera transmits camera images to the AV control unit when power is supplied from the AV control unit.
- The AV control unit 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.

USB CONNECTION FUNCTION

- iPod® or music files in USB memory can be played.

- Sound signals are transmitted from USB connector and AUX jack to the AV control unit and output to each speaker and tweeter.
- iPod® is recharged when connected to USB connector and AUX jack.

NOTE:

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

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

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.

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

Description

INFOID:0000000008628260

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	—	
	XM monitor	—	Version data is displayed.
	XM functions	• Clear XM Chipset NVM • Reset All XM Settings • Clear IGS • XM CBM Debug Mode • External Diag Mode	Current status 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 • BTHFU Status • Radio Antenna • USB Device • iPod® firmware version • Steering wheel key	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 • Radio Antenna • GPS Antenna • XM 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.

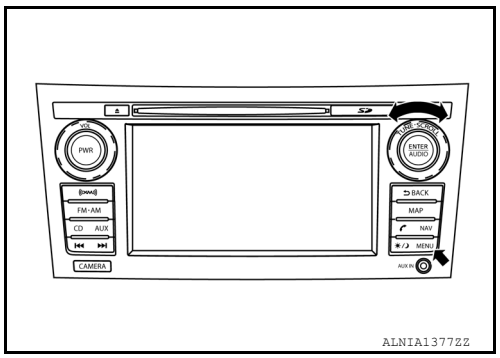
On Board Diagnosis Function

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METHOD OF STARTING

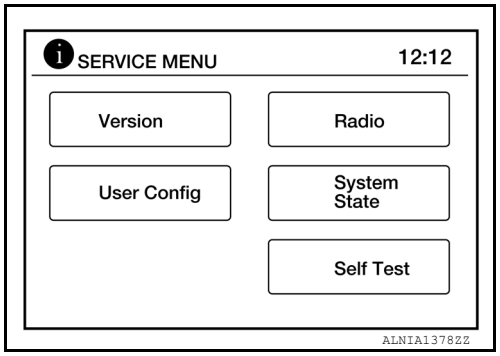
1. Turn the ignition ON.
2. Turn the audio system OFF.

3. While pressing the MENU button, turn the TUNE-SCROLL dial counterclockwise 3 or more clicks, then clockwise 3 or more clicks, then counterclockwise 3 or more clicks. When self diagnosis mode begins, a short beep will be heard. Shifting from current screen to previous screen is performed by pressing BACK button.



ALNIA1377ZZ

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



ALNIA1378ZZ

CONSULT Function

INFOID:0000000008659093

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-216, "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-233, "CONFIGURATION (AV CONTROL UNIT) : Description".

CAN DIAG SUPPORT MNTR

Refer to LAN-15, "CAN Diagnostic Support Monitor".

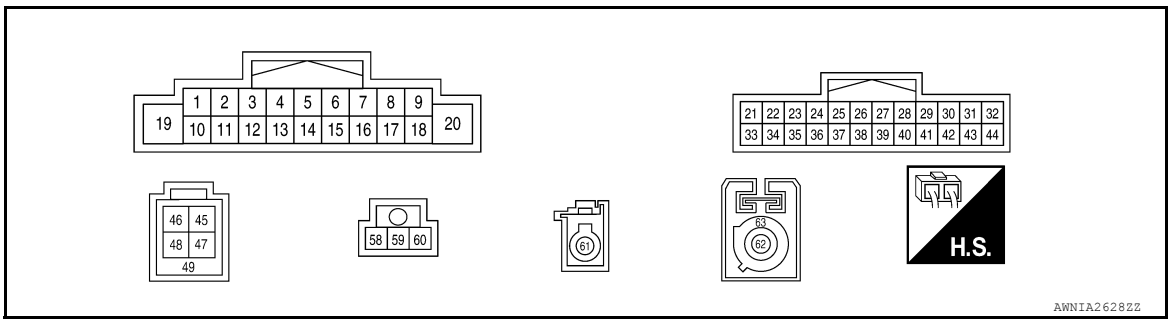
ECU DIAGNOSIS INFORMATION

AV CONTROL UNIT

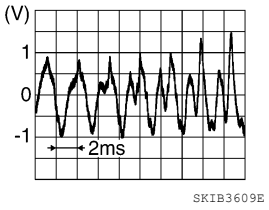
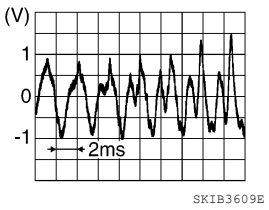
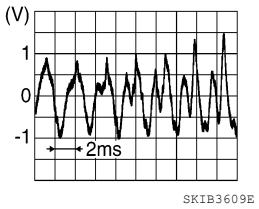
Reference Value

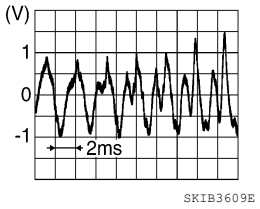
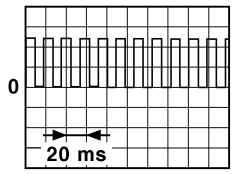
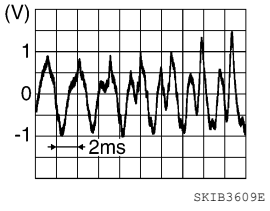
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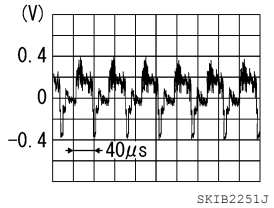
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
2 (B)	3 (W)	Sound signal front speaker LH	Output	ON	Sound output	
4 (G)	5 (R)	Sound signal rear speaker LH	Output	ON	Sound output	
7 (P)	Ground	ACC power supply	Input	ACC	—	Battery voltage
8 (L)	—	CAN (H)	Input/ Output	—	—	—
9 (R)	33 (GR)	Illumination control signal	Input	ON	Headlamps ON	Battery voltage
11 (B)	12 (W)	Sound signal front speaker RH	Output	ON	Sound output	

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
13 (G)	14 (R)	Sound signal rear speaker RH	Output	ON	Sound output	 SKIB3609E
17 (P)	—	CAN (L)	Input/ Output	—	—	—
18 (G)	Ground	Vehicle speed signal	Input	ON	When vehicle speed is approx. 40 km/h (25 MPH)	 JSNIA0012GB
19 (G)	Ground	Battery power supply	Input	OFF	—	Battery voltage
20 (GR)	Ground	Ground	—	ON	—	0 V
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
30 (P)	—	MR output	Output	—	—	—
31 (SB)	—	M-CAN (H)	Input/ Output	—	—	—
32 (LG)	—	M-CAN (L)	Input/ Output	—	—	—
34 (B)	36 (Shield)	Microphone signal	Input	ON	While speaking into microphone.	 SKIB3609E
35 (W)	Ground	Microphone power supply	Output	ON	—	5.0 V
38 (SB)	—	M-CAN (H)	Input/ Output	—	—	—
39 (LG)	—	M-CAN (L)	Input/ Output	—	—	—
40 (BG)	Ground	Ignition power supply	Input	ON or START	—	Battery voltage

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
41 (B)	Ground	Camera image signal	Input	ON	When camera image is displayed	 SKIB2251J
42	—	Shield	—	—	—	—
43 (W)	Ground	Camera power supply	Output	ON	When camera image is displayed	6.0 V
					Except for above	0 V
44 (R)	Ground	Camera ground	—	ON	—	0 V
45 (W)	—	USB ground	—	—	—	—
46 (G)	—	V BUS signal	—	—	—	—
47 (L)	—	USB D– signal	—	—	—	—
48 (R)	—	USB D+ signal	—	—	—	—
49	—	Shield	—	—	—	—
58 (B)	Ground	Glass antenna (FM sub) signal	Input	ON	—	5.0 V
59 (B)	Ground	AM/FM antenna signal	Input	ON	—	5.0 V
60 (B)	Ground	Antenna amp. ON signal	Output	ON	—	Battery voltage
61 (B)	Ground	Satellite antenna signal	Input	ON	—	5.0 V
62 (B)	Ground	GPS antenna signal	Input	ON	—	5.0 V
63	—	Shield	—	—	—	—

DTC Index

INFOID:0000000008713806

CONSULT Display	Reference Page
U1000: CAN COMM CIRCUIT	AV-235, "DTC Logic"
U1010: CONTROL UNIT (CAN)	AV-236, "DTC Logic"
U1217: BLUETOOTH MODULE	AV-237, "DTC Logic"
U1229: iPod CERTIFICATION	AV-238, "DTC Logic"
U122F: Digital broadcasting connection error	AV-239, "DTC Logic"
U1244: GPS ANTENNA CONN	AV-240, "DTC Logic"
U1258: XM ANTENNA CONN	AV-241, "DTC Logic"
U1263: USB OVERCURRENT	AV-242, "DTC Logic"
U1264: ANTENNA AMP TERMINAL	AV-243, "DTC Logic"
U12AA: Configuration Error	AV-244, "DTC Logic"

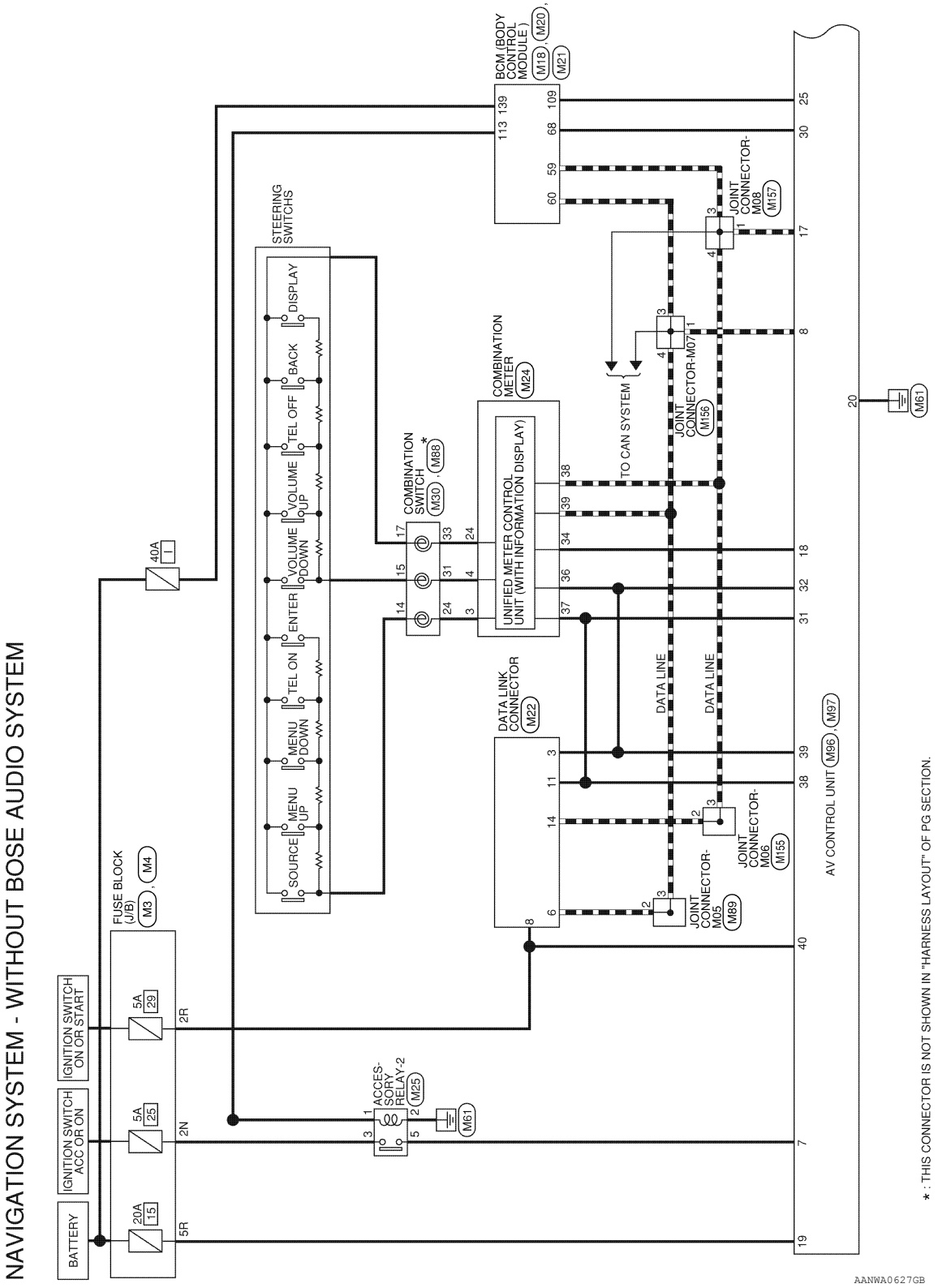
CONSULT Display	Reference Page
U12AB: FM Antenna error	AV-245, "DTC Logic"
U12AC: Display Temperature too High	AV-246, "DTC Logic"
U12AD: ECU Temperature too High	AV-247, "DTC Logic"
U12AE: Internal Amplifier temperature Warning	AV-248, "DTC Logic"
U12AF: CD Mechanism Temperature Warning	AV-249, "DTC Logic"
U12B0: Supply Voltage Goes below 9V > 20s	AV-250, "DTC Logic"
U12B1: Supply Voltage Goes High > 16V for 20s	AV-251, "DTC Logic"
U1300: AV COMM CIRCUIT	AV-252, "DTC Logic"
U1310: CONTROL UNIT (AV)	AV-254, "DTC Logic"

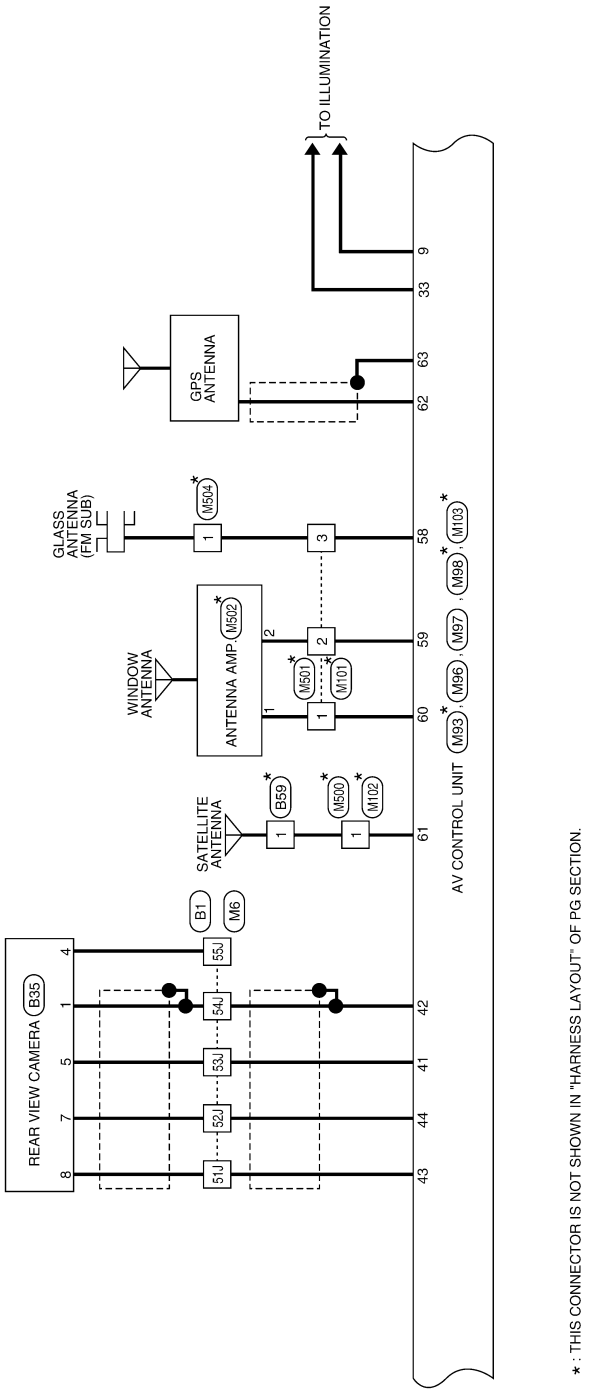
WIRING DIAGRAM

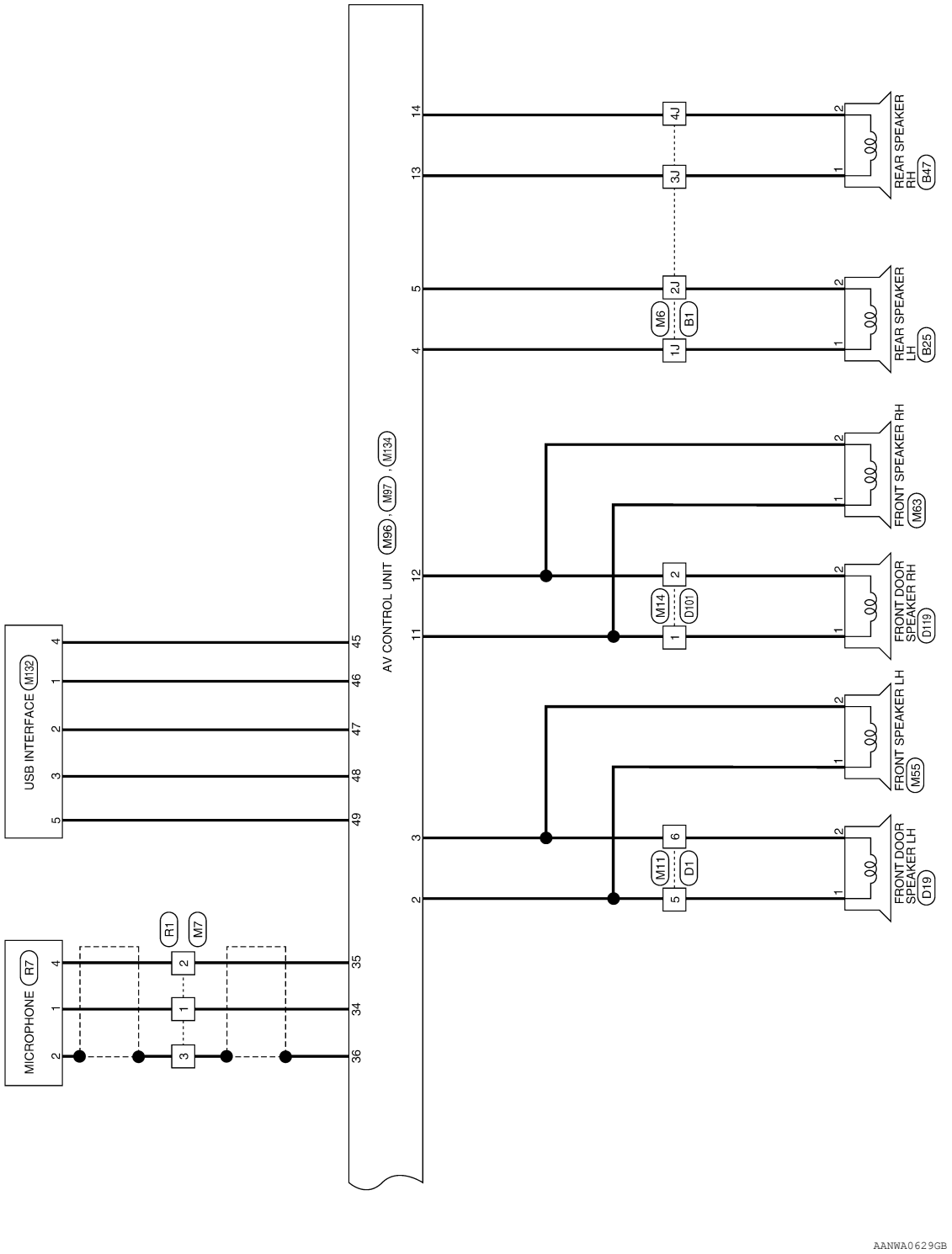
NAVIGATION WITHOUT BOSE

Wiring Diagram

INFOID:0000000007986301



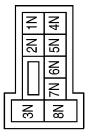

TO ILLUMINATION
GPS ANTENNA
GLASS ANTENNA (FM SUB)
WINDOW ANTENNA
ANTENNA AMP.
SATELLITE ANTENNA
REAR VIEW CAMERA
AV CONTROL UNIT
★: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.
AANWA0628GB


AV CONTROL UNIT
M96
M97
M134
USB INTERFACE
M132
MICROPHONE
R7
R1
M7
REAR SPEAKER RH
B47
REAR SPEAKER LH
B25
FRONT SPEAKER RH
M63
FRONT SPEAKER LH
M55
FRONT DOOR SPEAKER RH
D119
FRONT DOOR SPEAKER LH
D19
M6
B1
M14
D101
M11
D1
AANWA0629GB

NAVIGATION SYSTEM CONNECTORS - WITHOUT BOSE AUDIO SYSTEM

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
2N	LG	–

Connector No.	M4
Connector Name	FUSE BLOCK (J/B)
Connector Color	BROWN

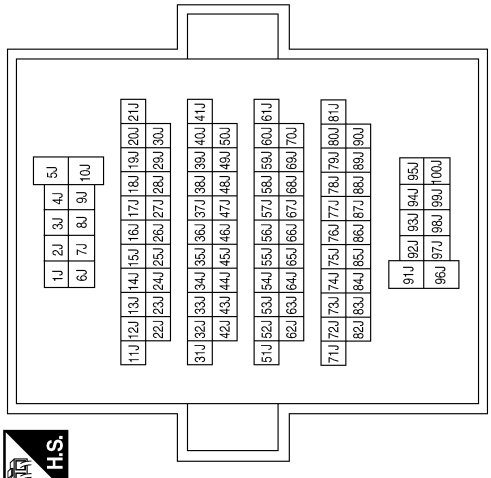
H.S.



Terminal No.	Color of Wire	Signal Name
2R	BG	–
5R	G	–

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Color	GRAY

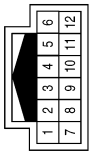
H.S.



Terminal No.	Color of Wire	Signal Name
1J	BR	–
2J	Y	–
3J	LG	–
4J	V	–
51J	W	–
52J	R	–
53J	B	–
54J	SHIELD	–

Connector No.	M7
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
1	B	–
2	W	–
3	SHIELD	–

AANIA0907GB

Connector No.	M11
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
5	V	–
6	SB	–

Connector No.	M14
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2		3
4	5	6	7	8

Terminal No.	Color of Wire	Signal Name
1	Y	–
2	BR	–

Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK

H.S.

60	59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41
80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	64	63	62	61

Terminal No.	Color of Wire	Signal Name
59	P	CAN-L
60	L	CAN-N
68	P	MR OUTPUT

Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK

H.S.

116	115	114	113	112	111	110	109	108	107	106	105
128	127	126	125	124	123	122	121	120	119	118	117

Terminal No.	Color of Wire	Signal Name
109	G	REVERSE SIGNAL
113	P	ACC RELAY OUT

Connector No.	M21
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE

H.S.

137	136	135	134	133	132	131	130	129
143	142	141	140	139	138			

Terminal No.	Color of Wire	Signal Name
139	W	BAT POWER F/L

Connector No.	M22
Connector Name	DATA LINK CONNECTOR
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
3	LG	–
6	L	–
8	BG	–
11	SB	–
14	P	–

AANIA0908GB

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21

Terminal No.	Color of Wire	Signal Name
3	P	STRG SW INPUT1
4	R	STRG SW INPUT2
24	W	STRG SW GND
34	G	SPEED 8P/R
36	LG	M-CAN-L
37	SB	M-CAN-H
38	P	CAN-L
39	L	CAN-H

Connector No.	M25
Connector Name	ACCESSORY RELAY-2
Connector Color	BLUE

H.S.

3	5
2	1

Terminal No.	Color of Wire	Signal Name
1	W	–
2	B	–
3	LG	–
5	P	–

Connector No.	M30
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY

H.S.

24	25	26	27
31	32	33	34

Terminal No.	Color of Wire	Signal Name
24	P	–
31	R	–
33	W	–

Connector No.	M55
Connector Name	FRONT SPEAKER LH
Connector Color	BROWN

H.S.

2	1

Terminal No.	Color of Wire	Signal Name
1	V	–
2	SB	–

Connector No.	M63
Connector Name	FRONT SPEAKER LH
Connector Color	BROWN

H.S.

2	1

Terminal No.	Color of Wire	Signal Name
1	Y	–
2	BR	–

Connector No.	M88
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY

H.S.

20	19	18	17	16	15	14	13

Terminal No.	Color of Wire	Signal Name
14	W	–
15	L	–
17	BR	–

AANIA0909GB

Connector No.	M89
Connector Name	JOINT CONNECTOR-M05
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2	L	–
3	L	–

Connector No.	M93
Connector Name	AV CONTROL UNIT
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
58	B	–
59	B	–
60	B	–

Connector No.	M96
Connector Name	AV CONTROL UNIT
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	W	AMP ON
2	V	FR SP LH (+)
3	SB	FR SP LH (-)
4	BR	RR SP (+)
5	Y	RR SP (-)
6	–	–

Terminal No.	Color of Wire	Signal Name
7	P	ACC
8	L	CAN-H
9	R	ILL (+),LIGHT SW
10	B	PREAMP SHIELD
11	Y	FR SP RH (+)
12	BR	FR SP RH (-)
13	LG	RR SP RH (+)
14	V	RR SP RH (-)
15	–	–
16	–	–

Terminal No.	Color of Wire	Signal Name
17	P	CAN-L
18	G	SPEED SIGNAL
19	G	BAT
20	GR	GND

AANIA0910GB

Connector No.	M97
Connector Name	AV CONTROL UNIT
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
21	–	–
22	–	–
23	–	–
24	–	–
25	G	REVERSE
26	–	–
27	–	–
28	–	–
29	–	–

Terminal No.	Color of Wire	Signal Name
30	P	MR OUTPUT
31	SB	M-CAN-H
32	LG	M-CAN-L
33	GR	ILL(-)
34	B	MIC SIGNAL
35	W	MIC VCC
36	SHIELD	MIC GND
37	–	–
38	SB	M-CAN-H
39	LG	M-CAN-L
40	BG	IGNITION
41	B	CAMERA +
42	SHIELD	CAMERA - (SHIELD)
43	W	CAMERA ON
44	R	CAMERA GND

Connector No.	M98
Connector Name	AV CONTROL UNIT
Connector Color	PURPLE

H.S.

Terminal No.	Color of Wire	Signal Name
61	B	–

Connector No.	M101
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–
2	B	–
3	B	–

Connector No.	M102
Connector Name	WIRE TO WIRE
Connector Color	GREEN

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–

Connector No.	M103
Connector Name	AV CONTROL UNIT
Connector Color	BLUE

H.S.

Terminal No.	Color of Wire	Signal Name
62	B	–
63	SHIELD	–

AANIA0911GB

Connector No.	M132
Connector Name	USB INTERFACE
Connector Color	BLUE

H.S.

Terminal No.	Color of Wire	Signal Name
1	G	–
2	L	–
3	R	–
4	W	–
5	SHIELD	–

Connector No.	M134
Connector Name	AV CONTROL UNIT
Connector Color	BLUE

H.S.

Terminal No.	Color of Wire	Signal Name
45	W	VCC
46	G	GND
47	L	D+
48	R	D-
49	SHIELD	–

Connector No.	M155
Connector Name	JONIT CONNECTOR-M06
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2	P	–
3	P	–

Connector No.	M156
Connector Name	JOINT CONNECTOR-M07
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	–
3	L	–
4	L	–

Connector No.	M157
Connector Name	JOINT CONNECTOR-M08
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	P	–
3	P	–
4	P	–

Connector No.	M500
Connector Name	WIRE TO WIRE
Connector Color	GREEN

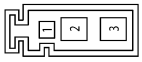
H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–

AANIA0912GB

Connector No.	M501
Connector Name	WIRE TO WIRE
Connector Color	GRAY

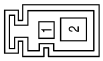
H.S.



Terminal No.	Color of Wire	Signal Name
1	B	–
2	B	–
3	B	–

Connector No.	M502
Connector Name	ANTENNA AMP.
Connector Color	GRAY

H.S.



Terminal No.	Color of Wire	Signal Name
1	B	–
2	B	–

Connector No.	M503
Connector Name	ANTENNA AMP.
Connector Color	BLACK

H.S.



Terminal No.	Color of Wire	Signal Name
1	B	–

Connector No.	M504
Connector Name	WIER TO WIRE
Connector Color	BLACK

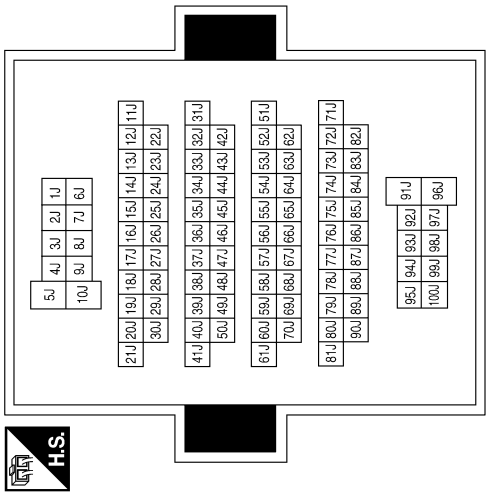
H.S.



Terminal No.	Color of Wire	Signal Name
1	B	–

Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.



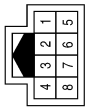
Terminal No.	Color of Wire	Signal Name
1J	Y	–
2J	LG	–
3J	LG	–
4J	L	–
51J	W	–
52J	B	–
53J	R	–
54J	SHIELD	–
55J	G	–

AANIA0913GB

Terminal No.	Color of Wire	Signal Name
5	R	COMP +
6	–	–
7	B	GND
8	W	CAMERA ON

Connector No.	B35
Connector Name	REAR VIEW CAMERA
Connector Color	WHITE

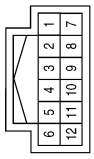
H.S.



Terminal No.	Color of Wire	Signal Name
1	SHIELD	COMP
2	–	–
3	–	–
4	G	CONT

Connector No.	R1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
1	L	–
2	Y	–
3	SHIELD	–

Connector No.	B25
Connector Name	REAR SPEAKER LH (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
1	Y	–
2	LG	–

Connector No.	B59
Connector Name	SATELLITE RADIO ANTENNA
Connector Color	GREEN

H.S.



Terminal No.	Color of Wire	Signal Name
1	B	–

Connector No.	B47
Connector Name	REAR SPEAKER RH (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
1	LG	–
2	L	–

AANIA0949GB

Connector No.	D19
Connector Name	FRONT DOOR SPEAKER LH (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE

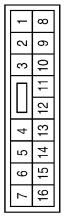
H.S.



Terminal No.	Color of Wire	Signal Name
1	G	–
2	W	–

Connector No.	D1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
5	G	–
6	W	–

Connector No.	D119
Connector Name	FRONT DOOR SPEAKER RH (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE

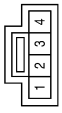
H.S.



Terminal No.	Color of Wire	Signal Name
1	G	–
2	W	–

Connector No.	R7
Connector Name	MICROPHONE
Connector Color	WHITE

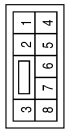
H.S.



Terminal No.	Color of Wire	Signal Name
1	L	–
2	SHIELD	–
3	–	–
4	Y	–

Connector No.	D101
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
1	G	–
2	W	–

ABNIA3656GB

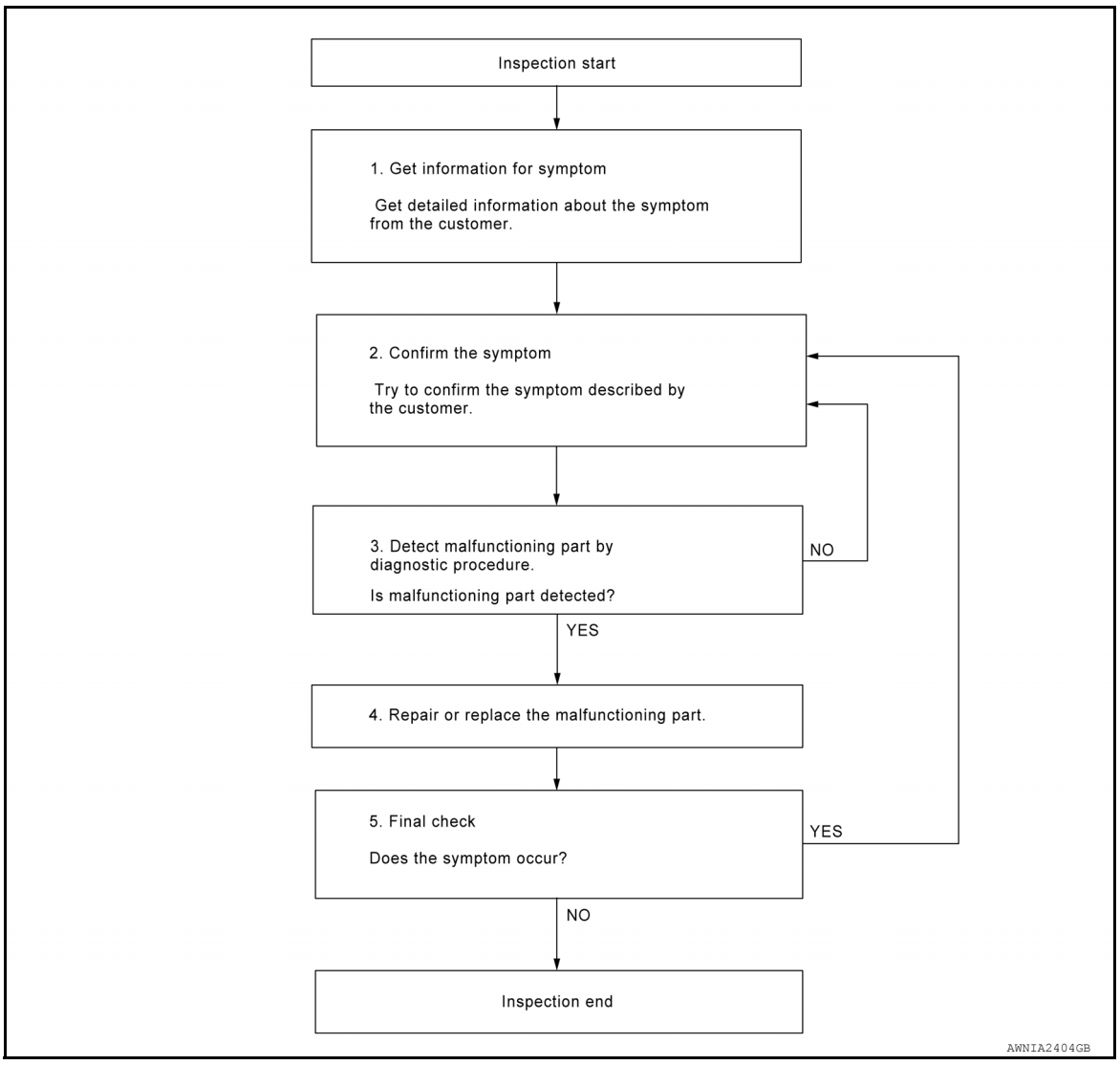
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000008542267

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-269, "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

ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Description

INFOID:0000000008659094

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:0000000008659095

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-282, "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-233, "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-233, "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.

CONFIGURATION (AV CONTROL UNIT)

CONFIGURATION (AV CONTROL UNIT) : Description

INFOID:0000000008659096

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:0000000008659097

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-234, "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:0000000008659098

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

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

DTC Logic

INFOID:0000000008707298

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.

Diagnosis Procedure

INFOID:0000000008707299

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-18, "Trouble Diagnosis Flow Chart".
NO >> Refer to GI-47, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

DTC Logic

INFOID:0000000008707300

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-282, "Removal and Installation".

U1217 AV CONTROL UNIT

DTC Logic

INFOID:0000000008707301

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-282, "Removal and Installation".

U1229 AV CONTROL UNIT

DTC Logic

INFOID:0000000008707302

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-282, "Removal and Installation".

U122F AV CONTROL UNIT

DTC Logic

INFOID:0000000008707303

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-282, "Removal and Installation".

U1244 GPS ANTENNA

DTC Logic

INFOID:0000000008707304

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:0000000008707305

Regarding Wiring Diagram information, refer to AV-218, "Wiring Diagram".

1.GPS ANTENNA INSPECTION

Visually inspect the GPS antenna and antenna feeder. Refer to AV-288, "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 M103.
2. Turn ignition switch ON.
3. Check voltage between AV control unit terminal 62 and ground.

AV control unit terminal	Ground	Voltage
(+)	(−)	
62	—	5.0 V

Is inspection result normal?

YES >> Replace GPS antenna. Refer to AV-288, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-282, "Removal and Installation".

U1258 SATELLITE RADIO ANTENNA

DTC Logic

INFOID:0000000008707306

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
XM 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:0000000008707307

Regarding Wiring Diagram information, refer to AV-218, "Wiring Diagram".

1.SATELLITE ANTENNA INSPECTION

Visually inspect the satellite antenna and antenna feeder. Refer to AV-290, "Location of Antenna".

Is inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace malfunctioning components.

2.CHECK SATELLITE ANTENNA FEEDER CONTINUITY

1. Disconnect AV control unit connector M98 and satellite radio antenna connector B59.
2. Check continuity between AV control unit connector M98 and satellite radio antenna connector B59.

AV control unit		Satellite radio antenna		Continuity
Connector	Terminal	Connector	Terminal	
M98	61	B59	1	Yes

3. Check continuity between AV control unit connector M98 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M98	61	—	No

Is the inspection result normal?

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

3.CHECK AV CONTROL UNIT VOLTAGE

1. Turn ignition switch ON.
2. Check voltage between AV control unit terminal 61 and ground.

AV control unit terminal	Ground	Voltage
(+)	(−)	
61	—	5.0 V

Is inspection result normal?

YES >> Replace satellite radio antenna AV-287, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-282, "Removal and Installation".

U1263 USB

DTC Logic

INFOID:0000000008707308

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-242, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000008707309

1.CHECK USB INTERFACE HARNESS

Visually inspect USB interface harness. Refer to AV-283, "Removal and Installation".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace USB interface harness. Refer to AV-283, "Removal and Installation".

2.CHECK USB INTERFACE HARNESS

Check USB interface harness. Refer to AV-268, "Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace AV control unit. Refer to AV-282, "Removal and Installation".
NO >> Replace USB interface harness. Refer to AV-283, "Removal and Installation".

U1264 ANTENNA AMP.

DTC Logic

INFOID:0000000008707310

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
ANTENNA AMP TERMINAL [U1264]	Open or short to ground is detected in Antenna amp. connection.	• Antenna amp. disconnection. • Open or short to ground in antenna amp. ON signal circuit.

Diagnosis Procedure

INFOID:0000000008707311

Regarding Wiring Diagram information, refer to AV-218, "Wiring Diagram".

1.ANTENNA AMP. INSPECTION

Visually inspect the antenna amp. and antenna feeder. Refer to AV-290, "Location of Antenna".

Is inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace malfunctioning components.

2.CHECK CONTINUITY BETWEEN AV CONTROL UNIT AND ANTENNA AMP.

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M93 and antenna amp. connector M502.
3. Check continuity between AV control unit connector M93 and antenna amp. connector M502.

AV control unit		Antenna amp.		Continuity
Connector	Terminal	Connector	Terminal	
M93	60	M502	1	Yes

4. Check continuity between AV control unit connector M93 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M93	60	—	No

Is the inspection result normal?

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

3.CHECK AV CONTROL UNIT VOLTAGE

1. Connect AV control unit connector M93.
2. Turn ignition switch ON.
3. Check voltage between AV control unit connector M93 and ground.

AV control unit		Ground	Voltage (Approx.)
(+)		(–)	
Connector	Terminal		
M93	60	—	Battery voltage

Is the inspection result normal?

YES >> Replace antenna amp. Refer to AV-293, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-282, "Removal and Installation".

U12AA CONFIGURATION ERROR

DTC Logic

INFOID:0000000008707314

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-233, "CONFIGURATION (AV CONTROL UNIT) : Work Procedure".

Diagnosis Procedure

INFOID:0000000008707315

1.PERFORM CONFIGURATION

When U12AA is detected, configuration data must be written.

>> Write configuration data with CONSULT. Refer to AV-233, "CONFIGURATION (AV CONTROL UNIT) : Work Procedure".

U12AB ANTENNA

DTC Logic

INFOID:0000000008707316

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
FM Antenna error [U12AB]	Open or short to ground is detected in glass antenna (FM sub) connection.	• Glass antenna (FM sub) disconnection. • Open or short to ground in glass antenna (FM sub) signal circuit.

Diagnosis Procedure

INFOID:0000000008707317

Regarding Wiring Diagram information, refer to AV-218, "Wiring Diagram".

1.GLASS ANTENNA (FM SUB) INSPECTION

Visually inspect the glass antenna (FM sub) and antenna feeder. Refer to AV-290, "Location of Antenna".

Is inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace malfunctioning components.

2.CHECK GLASS ANTENNA (FM SUB) FEEDER CONTINUITY

1. Disconnect AV control unit connector M93 and inline connector M504.
2. Check continuity between AV control unit connector M93 and inline connector M504.

AV control unit		Inline		Continuity
Connector	Terminal	Connector	Terminal	
M93	58	M504	1	Yes

3. Check continuity between AV control unit connector M93 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M93	58	—	No

Is the inspection result normal?

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

3.CHECK AV CONTROL UNIT VOLTAGE

1. Disconnect AV control unit connector M93.
2. Turn ignition switch ON.
3. Check voltage between AV control unit terminal 58 and ground.

AV control unit terminal	Ground	Voltage
(+)	(–)	
58	—	5.0 V

Is inspection result normal?

YES >> Replace glass antenna (FM sub). Refer to GW-25, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-282, "Removal and Installation".

U12AC AV CONTROL UNIT

DTC Logic

INFOID:0000000008707318

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-282, "Removal and Installation".

U12AD AV CONTROL UNIT

DTC Logic

INFOID:0000000008707319

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-282, "Removal and Installation".

U12AE AV CONTROL UNIT

DTC Logic

INFOID:0000000008707320

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-282, "Removal and Installation".

U12AF AV CONTROL UNIT

DTC Logic

INFOID:0000000008707321

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-282, "Removal and Installation".

U12B0 POWER SUPPLY VOLTAGE

DTC Logic

INFOID:0000000008707322

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Supply Voltage Goes below 9V > 20s [U12B0]	AV control unit supply voltage exceeds lower limits.	• Charging system malfunction. • AV control unit power supply or ground circuits.

Diagnosis Procedure

INFOID:0000000008707323

1.CHECK CHARGING SYSTEM

Check the vehicle charging system. Refer to CHG-17, "Work Flow (With EXP-800 NI or GR8-1200 NI)" or CHG-20, "Work Flow (Without EXP-800 NI or GR8-1200 NI)".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning components.

2.CHECK AV CONTROL UNIT POWER SUPPLY AND GROUND CIRCUITS

Perform the AV control unit power supply and ground circuit diagnosis procedure. Refer to AV-255, "AV CONTROL UNIT : Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace the AV control unit. Refer to AV-282, "Removal and Installation".
NO >> Repair or replace harness or connectors.

U12B1 POWER SUPPLY VOLTAGE

DTC Logic

INFOID:0000000008707324

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Supply Voltage Goes High > 16V for 20s [U12B1]	AV control unit supply voltage exceeds upper limits.	Charging system malfunction.

Diagnosis Procedure

INFOID:0000000008707325

1.CHECK CHARGING SYSTEM

Check the vehicle charging system. Refer to CHG-17, "Work Flow (With EXP-800 NI or GR8-1200 NI)" or CHG-20, "Work Flow (Without EXP-800 NI or GR8-1200 NI)".

Is the inspection result normal?

YES >> Replace the AV control unit. Refer to AV-282, "Removal and Installation".
NO >> Repair or replace the malfunctioning components.

U1300 AV COMM CIRCUIT

DTC Logic

INFOID:0000000008707312

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:0000000008713805

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-27, "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 M97 and combination meter connector M24.
3. Check continuity between AV control unit connector M97 and combination meter connector M24.

AV control unit		Combination meter		Continuity
Connector	Terminal	Connector	Terminal	
M97	32	M24	36	Yes
	39			

4. Check continuity between AV control unit connector M97 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M97	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 M97 and combination meter connector M24.

AV control unit		Combination meter		Continuity
Connector	Terminal	Connector	Terminal	
M97	31	M24	37	Yes
	38			

2. Check continuity between AV control unit connector M97 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M97	31	—	No
	38		

Is the inspection result normal?

YES >> Replace the AV control unit. Refer to AV-282, "Removal and Installation".
NO >> Repair or replace harness or connectors.

U1310 AV CONTROL UNIT

DTC Logic

INFOID:0000000008707327

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-282, "Removal and Installation".

POWER SUPPLY AND GROUND CIRCUIT
AV CONTROL UNIT
AV CONTROL UNIT : Diagnosis Procedure

INFOID:0000000007986263

Regarding Wiring Diagram information, refer to AV-218, "Wiring Diagram".

1.CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
7	ACC power supply	25 (5A)
19	Battery power supply	15 (20A)
40	Ignition power supply	29 (5A)

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 M96 and M97.
3. Check voltage between AV control unit connectors M96 and M97 and ground.

AV control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M96	19	—	Ignition switch: OFF	Battery voltage
	7		Ignition switch: ON	
M97	40			

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 M96 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M96	20	—	Yes

Is the inspection result normal?

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

FRONT DOOR SPEAKER

Diagnosis Procedure

INFOID:0000000007986270

Regarding Wiring Diagram information, refer to AV-218, "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 M96 and suspect front door speaker connector.
2. Check continuity between AV control unit connector M96 and suspect front door speaker connector.

AV control unit		Front door speaker		Continuity
Connector	Terminal	Connector	Terminal	
M96	2	D19 (LH)	1	Yes
	3		2	
	11	D119 (RH)	1	
	12		2	

3. Check continuity between AV control unit connector M96 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M96	2	—	No
	3		
	11		
	12		

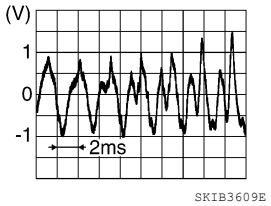
Is the inspection result normal?

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

3.CHECK FRONT DOOR SPEAKER SIGNAL

1. Connect AV control unit connector M96 and suspect front door speaker connector.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between AV control unit connector M96 and ground.

AV control unit connector M96		Condition	Reference value
(+)	(−)		
Terminal	Terminal		

2	3		
11	12	Audio signal output	

Is the inspection result normal?

YES >> Replace front door speaker. Refer to AV-285, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-282, "Removal and Installation".

FRONT SPEAKER

Diagnosis Procedure

INFOID:0000000007986274

Regarding Wiring Diagram information, refer to AV-218, "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 SPEAKER SIGNAL CIRCUIT CONTINUITY

1. Disconnect AV control unit connector M96 and suspect front speaker connector.
2. Check continuity between AV control unit connector M96 and suspect front speaker connector.

AV control unit		Front speaker		Continuity
Connector	Terminal	Connector	Terminal	
M96	2	M55 (LH)	1	Yes
	3		2	
	11	M63 (RH)	1	
	12		2	

3. Check continuity between AV control unit connector M96 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M96	2	—	No
	3		
	11		
	12		

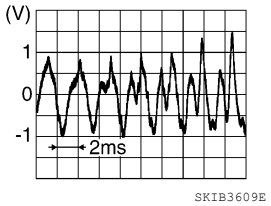
Is the inspection result normal?

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

3.CHECK FRONT SPEAKER SIGNAL

1. Connect AV control unit connector M96 and suspect front speaker connector.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between AV control unit connector M96 and ground.

AV control unit connector M96		Condition	Reference value
(+)	(−)		
Terminal	Terminal		

2	3		
11	12	Audio signal output	

Is the inspection result normal?

YES >> Replace front speaker. Refer to AV-284, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-282, "Removal and Installation".

REAR SPEAKER

Diagnosis Procedure

INFOID:0000000007986278

Regarding Wiring Diagram information, refer to AV-218, "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 SPEAKER SIGNAL CIRCUIT CONTINUITY

1. Disconnect AV control unit connector M96 and suspect rear speaker connector.
2. Check continuity between AV control unit connector M96 and suspect rear speaker connector.

AV control unit		Rear speaker		Continuity
Connector	Terminal	Connector	Terminal	
M96	4	B25 (LH)	1	Yes
	5		2	
	13	B47 (RH)	1	
	14		2	

3. Check continuity between AV control unit connector M96 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M96	4	—	No
	5		
	13		
	14		

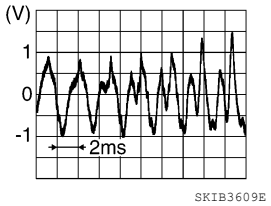
Is the inspection result normal?

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

3.CHECK REAR SPEAKER SIGNAL

1. Connect AV control unit connector M96 and suspect rear speaker connector.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between AV control unit connector M96 and ground.

AV control unit connector M96		Condition	Reference value
(+)	(−)		
Terminal	Terminal		

2	3		
11	12	Audio signal output	

Is the inspection result normal?

YES >> Replace rear speaker. Refer to AV-286, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-282, "Removal and Installation".

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000007986294

Regarding Wiring Diagram information, refer to AV-218, "Wiring Diagram".

1.CHECK REVERSE INPUT SIGNAL

1. Turn ignition switch ON.
2. Shift the selector lever to R (reverse).
3. Check voltage between AV control unit connector M97 and ground.

AV control unit		Ground	Condition	Voltage (Approx.)
(+)		(−)		
Connector	Terminal			
M97	25	—	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 AV control unit connector M97 and rear view camera connector.
3. Check continuity between AV control unit connector M97 and rear view camera connector B35.

AV control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M97	43	B35	8	Yes

4. Check continuity between AV control unit connector M97 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M97	43		No

Is inspection result normal?

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

3.CHECK CAMERA POWER SUPPLY VOLTAGE

1. Connect AV control unit connector M97 and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever to R (reverse).
4. Check voltage between AV control unit connector M97 and ground.

AV control unit		Ground	Condition	Voltage (Approx.)
(+)		(−)		
Connector	Terminal			
M97	43	—	Selector lever is in “R”.	6.0 V

Is inspection result normal?

YES >> GO TO 4.
NO >> Replace AV control unit. Refer to AV-282, "Removal and Installation".

4. CHECK CAMERA IMAGE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M97 and rear view camera connector.
3. Check continuity between AV control unit connector M97 and rear view camera connector B35.

AV control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M97	41	B35	5	Yes

4. Check continuity between AV control unit connector M97 terminal 82 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M97	41		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 AV control unit connector M97 and rear view camera connector B35.

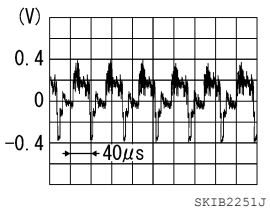
AV control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M97	44	B35	7	Yes

Is inspection result normal?

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

6. CHECK CAMERA IMAGE SIGNAL

1. Connect AV control unit connector M97 and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever to R (reverse).
4. Check signal between AV control unit connector M97 and ground.

AV control unit (+)		Ground (−)	Condition	Reference value
Connector	Terminal			
M97	41	—	Camera image displayed.	

Is inspection result normal?

YES >> Replace AV control unit. Refer to AV-282, "Removal and Installation".
NO >> Replace rear view camera. Refer to AV-295, "Removal and Installation".

MICROPHONE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000007986292

Regarding Wiring Diagram information, refer to AV-218, "Wiring Diagram".

1.CHECK MICROPHONE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M97 and microphone connector R7.
3. Check continuity between AV control unit connector M97 and microphone connector R7.

AV control unit		Microphone		Continuity
Connector	Terminal	Connector	Terminal	
M97	36	R7	2	Yes
	35		4	
	34		1	

4. Check continuity between AV control unit connector M97 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M97	36	—	No
	35		
	34		

Is inspection result normal?

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

2.CHECK MICROPHONE VCC VOLTAGE

1. Connect AV control unit connector M97.
2. Turn ignition switch ON.
3. Check voltage between terminals of AV control unit connector M97.

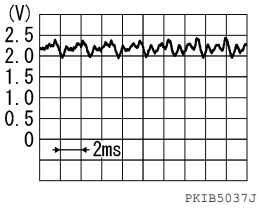
AV control unit connector M97		Voltage (Approx.)
(+)	(−)	
Terminal	Terminal	
35	36	5.0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace AV control unit. Refer to AV-282, "Removal and Installation".

3.CHECK MICROPHONE SIGNAL

1. Connect microphone connector.
2. Check signal between terminals of AV control unit connector M97.

AV control unit connector M97		Condition	Reference value
(+)	(–)		
Terminal	Terminal		
34	36	Speak into microphone.	

Is the inspection result normal?

YES >> Replace AV control unit. Refer to AV-282, "Removal and Installation".
NO >> Replace microphone. Refer to AV-294, "Removal and Installation".

STEERING SWITCH

Diagnosis Procedure

INFOID:0000000007986286

Regarding Wiring Diagram information, refer to AV-218, "Wiring Diagram".

1.CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

1. Turn ignition switch OFF.
2. Disconnect combination switch connector M88.
3. Check resistance between combination switch connector terminals.

Combination switch connector M88		Condition	Resistance Ω (Approx.)
Terminal	Terminal		
14	17	Depress SOURCE switch.	1
		Depress △ switch.	121
		Depress ▽ switch.	321
		Depress switch.	723
		Depress ENTER switch.	2023
15		Depress − switch.	1
		Depress + switch.	121
		Depress switch.	321
		Depress switch.	723
		Depress DISP switch.	2023

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace steering switches. Refer to AV-289, "Removal and Installation".

2.CHECK HARNESS BETWEEN COMBINATION SWITCH AND COMBINATION METER

1. Disconnect combination meter connector M24 and combination switch connector M30.
2. Check continuity between combination meter connector M24 and combination switch connector M30.

Combination meter		Combination switch		Continuity
Connector	Terminal	Connector	Terminal	
M24	3	M30	24	Yes
	24		33	
	4		31	

3. Check continuity between combination meter connector M24 and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M24	3	—	No
	24		
	4		

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 M30 and M88.

Combination switch				Continuity
Connector	Terminal	Connector	Terminal	
M30	24	M88	14	Yes
	31		15	
	33		17	

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace spiral cable. Refer to SR-15, "Removal and Installation".

4. CHECK HARNESS BETWEEN COMBINATION METER AND AV CONTROL UNIT

1. Disconnect AV control unit connector M97.
2. Check continuity between combination meter connector M24 and AV control unit connector M97.

Combination meter		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M24	37	M97	31	Yes
	36		32	

3. Check continuity between combination meter connector M24 and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M24	37	—	No
	36		

Is the inspection result normal?

YES >> Replace AV control unit. Refer to AV-282, "Removal and Installation".
NO >> Repair or replace harness or connectors.

USB CONNECTOR

Diagnosis Procedure

INFOID:0000000008542277

Regarding Wiring Diagram information, refer to AV-218, "Wiring Diagram".

1.CHECK USB INTERFACE HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M134 and USB interface connector M132.
3. Check continuity between AV control unit connector M134 and USB interface connector M132.

AV control unit		USB interface		Continuity
Connector	Terminal	Connector	Terminal	
M134	45	M132	4	Yes
	46		1	
	47		2	
	48		3	
	49		5	

4. Check continuity between AV control unit connector M134 and ground.

AV control unit		—	Continuity
Connector	Terminal		
M134	46	Ground	No
	49		

Is the inspection result normal?

YES >> Replace the USB interface. Refer to AV-283, "Removal and Installation".
NO >> Repair or replace harness or connectors.

SYMPTOM DIAGNOSIS

MULTI AV SYSTEM

Symptom Table

INFOID:0000000008664271

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-212, "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-218, "Wiring Diagram". • AV control unit power supply and ground circuits malfunction. Refer to AV-255, "AV CONTROL UNIT : Diagnosis Procedure".
	Only a certain speaker (front door speaker LH, front door speaker RH, front speaker LH, front speaker RH, rear speaker LH, rear speaker RH) does not output sound.	• Poor connector connection of speaker. • Sound signal circuit malfunction between AV control unit and speaker. Refer to: - AV-256, "Diagnosis Procedure" (front door speaker). - AV-258, "Diagnosis Procedure" (front speaker). - AV-260, "Diagnosis Procedure" (rear speaker). • Malfunction in speaker. Refer to: - AV-285, "Removal and Installation" (front door speaker). - AV-284, "Removal and Installation" (front speaker). - AV-286, "Removal and Installation" (rear speaker). • Malfunction in AV control unit. Refer to AV-212, "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-212, "On Board Diagnosis Function".
	Noise comes out only from a certain speaker (front door speaker LH, front door speaker RH, front speaker LH, front speaker RH, rear speaker LH, rear speaker RH).	• Poor connector connection of speaker. • Sound signal circuit malfunction between AV control unit and speaker. Refer to: - AV-256, "Diagnosis Procedure" (front door speaker). - AV-258, "Diagnosis Procedure" (front speaker). - AV-260, "Diagnosis Procedure" (rear speaker). • Malfunction in speaker. • Poor Installation of speaker (e.g. backlash and looseness). Refer to: - AV-285, "Removal and Installation" (front door speaker). - AV-284, "Removal and Installation" (front speaker). - AV-286, "Removal and Installation" (rear speaker). • Malfunction in AV control unit. Refer to AV-212, "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-290, "Location of Antenna".
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-214, "Reference Value". • Poor connector connection of antenna or antenna feeder. Refer to AV-290, "Location of Antenna".
No satellite radio reception.	There is malfunction in the CONSULT self diagnosis result. Refer to AV-213, "CONSULT Function".	• Malfunction in antenna, antenna feeder or AV control unit. Perform DTC diagnosis. Refer to AV-241, "Diagnosis Procedure". • Poor continuity in antenna feeder. • Poor connector connection of antenna or antenna feeder. Refer to AV-290, "Location of Antenna".
	There is no malfunction in the CONSULT self diagnosis result. Refer to AV-213, "CONSULT Function".	• Poor continuity in antenna feeder. • Poor connector connection of antenna or antenna feeder. • Loose satellite radio antenna mounting nut. Refer to AV-290, "Location of Antenna".
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-282, "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-264, "Diagnosis Procedure".
The system cannot be operated.	• The voice recognition can be controlled. • Steering switch's VOL+, VOL−, and ↩ switch works, but 🎤 does not work.	Steering switch malfunction. Replace steering switch. Refer to AV-289, "Removal and Installation".
	Steering switch's 🎤, VOL+, VOL−, and ↩ switches do not work.	Steering switch signal circuit malfunction. Refer to AV-266, "Diagnosis Procedure".
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to AV-266, "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-212, "On Board Diagnosis Function".
	Steering switches malfunction.	Steering switch signal circuit malfunction. Refer to AV-266, "Diagnosis Procedure".
	Voice activated control malfunction.	Microphone signal circuit malfunction. Refer to AV-264, "Diagnosis Procedure". Steering switch signal circuit malfunction. Refer to AV-266, "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 AV control unit. Refer to AV-262, "Diagnosis Procedure".
	Camera image signal circuit malfunction.	Camera image signal circuit malfunction between rear view camera and AV control unit. Refer to AV-262, "Diagnosis Procedure".
	Rear view camera malfunction.	Replace rear view camera. Refer to AV-295, "Removal and Installation".

NORMAL OPERATING CONDITION

Description

INFOID:0000000008664272

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-269, "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.
	Audio guidance is not available while the vehicle is driving on a dark pink route.	System is not malfunctioning.
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

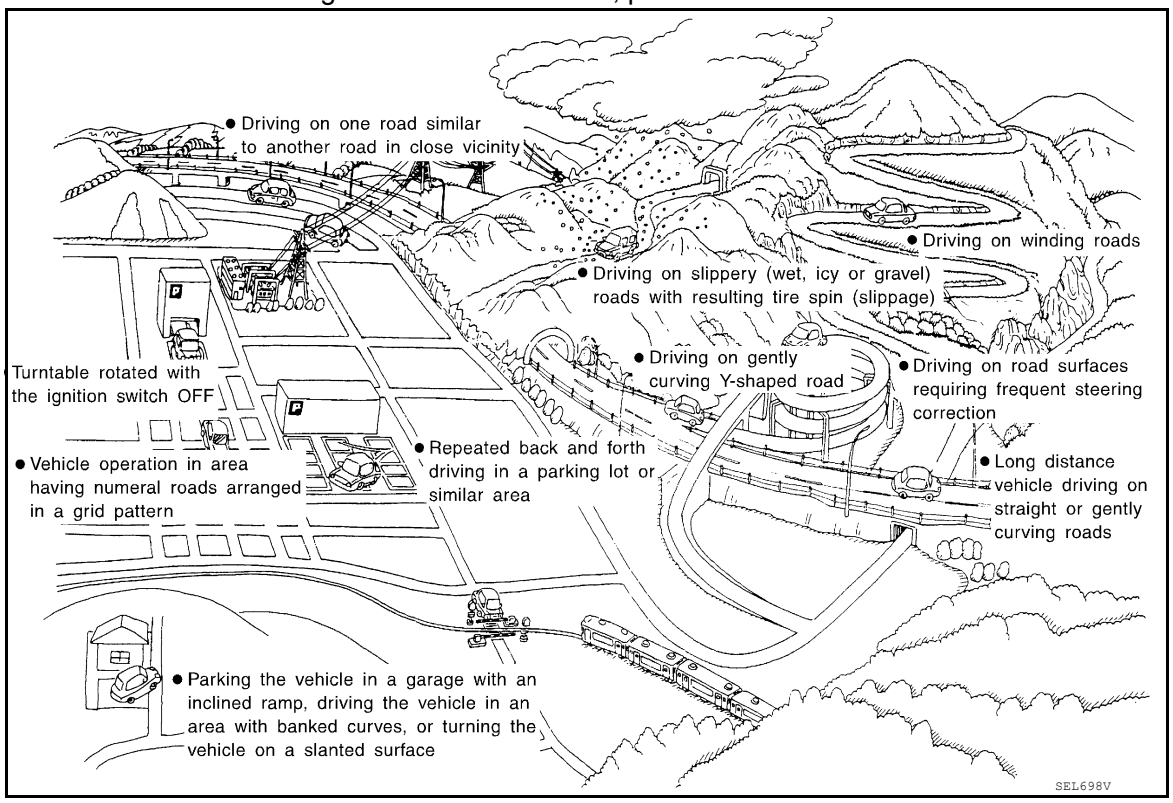
Symptom	Cause	Remedy
No route is shown.	No road to be searched is found around the destination.	Find wider road (orange road or wider) nearby and reset the destination and passing points onto it. Take care of the traveling direction when there are separate up and down roads.
	Starting point and the destination 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.

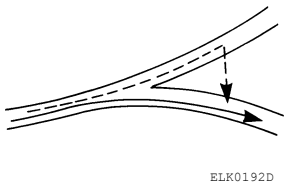
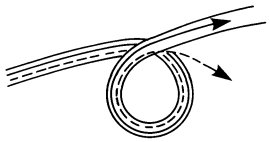
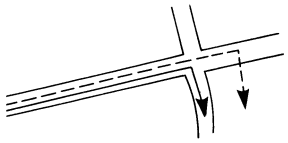
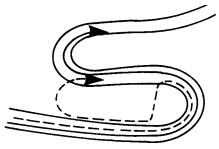
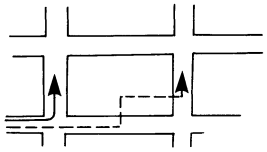
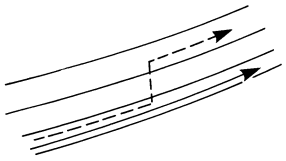
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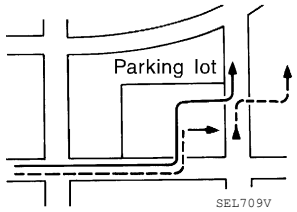
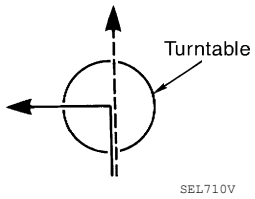
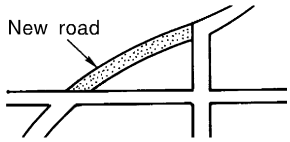
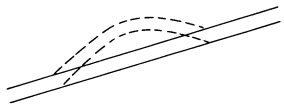
Except for the ordinance-designated cities. (Malfunctioning areas may be changed in the updated map disc.)

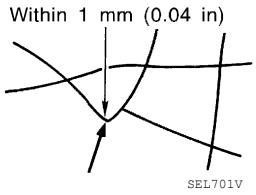
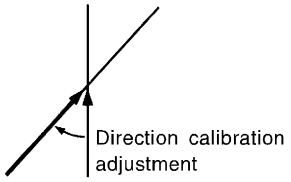
Examples of Current-Location Mark Displacement

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 	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 	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 	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) 	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

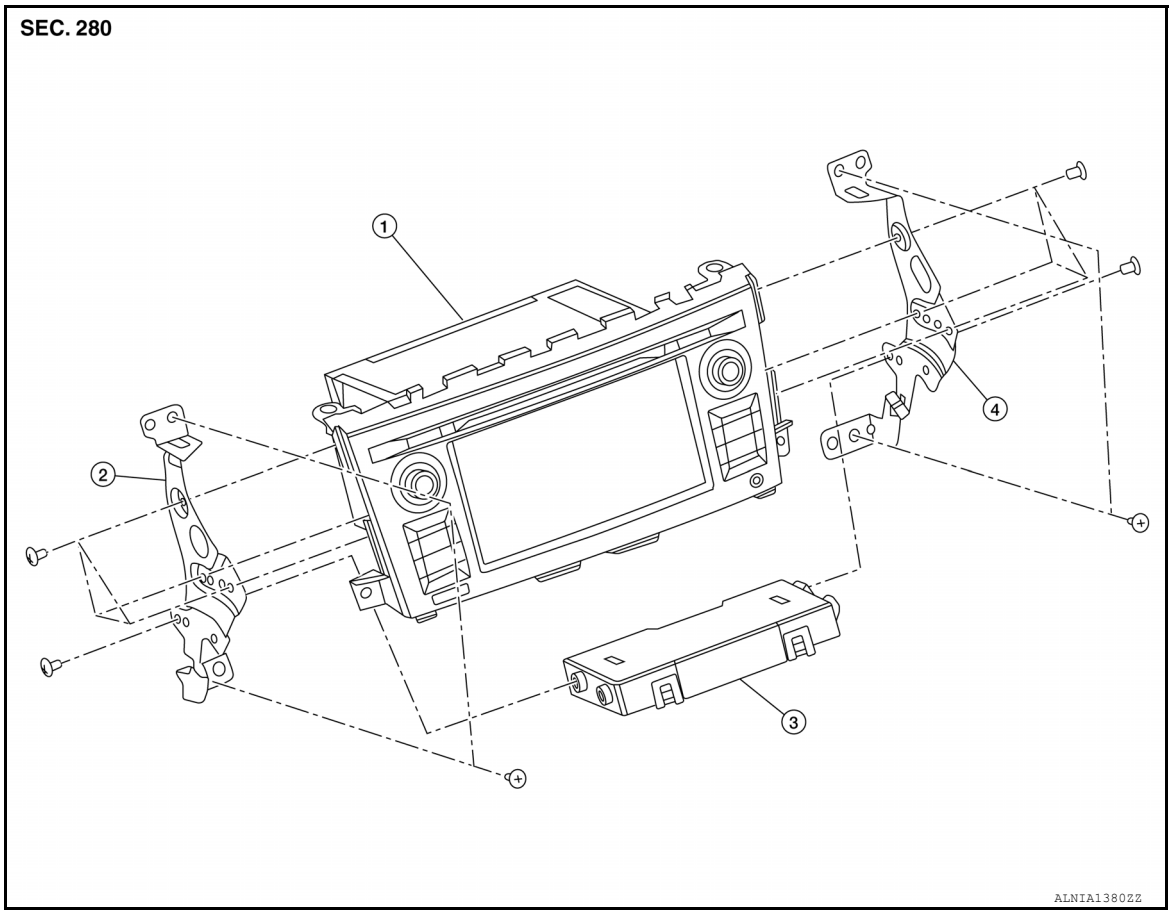
The conditions of the GPS antenna (GPS data) and gyroscope (angular speed sensor) change gradually. Depending on the road traveled and the operation of the steering wheel, the location detection results will be different. Therefore, even on a road on which the location has never been wrong, conditions may cause the vehicle mark to deviate.

REMOVAL AND INSTALLATION

AV CONTROL UNIT

Exploded View

INFOID:0000000008571568



1. AV control unit
2. AV control unit bracket LH
3. A/C auto amp.
4. AV control unit bracket RH

Removal and Installation

INFOID:0000000008668924

REMOVAL

CAUTION:

Before replacing AV control unit, perform "READ CONFIGURATION" to save current vehicle specification. Refer to AV-233, "CONFIGURATION (AV CONTROL UNIT) : Description".

1. Disconnect the negative battery terminal. Refer to PG-72, "Removal and Installation (Battery)".
2. Remove cluster lid C. Refer to IP-20, "Cluster Lid C".
3. Remove the A/C switch assembly. Refer to HAC-101, "Removal and Installation".
4. Remove the AV control unit screws, then pull out the AV control unit.
5. Disconnect the harness connectors from the AV control unit and remove.

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

When replacing AV control unit, perform "WRITE CONFIGURATION". Refer to AV-234, "CONFIGURATION (AV CONTROL UNIT) : Configuration List".

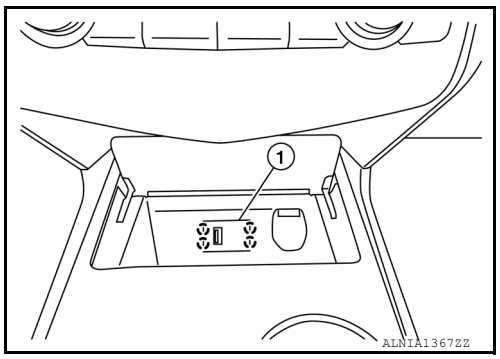
USB CONNECTOR

Removal and Installation

INFOID:0000000008527860

Removal

1. Remove the CVT finisher. Refer to IP-18, "Removal and Installation".
2. Release the pawls and remove the USB interface (1) from the back of the CVT finisher.
   ( ): Pawl



Installation

Installation is in the reverse order of removal.

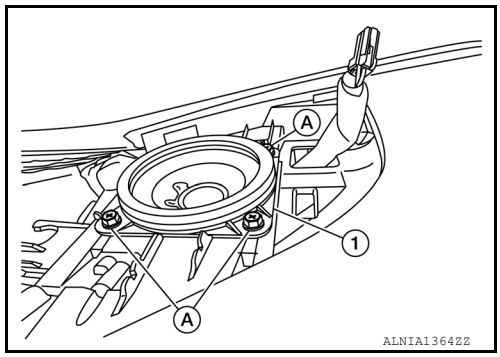
FRONT SPEAKER

Removal and Installation

INFOID:0000000008527861

REMOVAL

1. Remove the front pillar finisher. Refer to INT-21, "FRONT PILLAR FINISHER : Removal and Installation".
2. Remove the front speaker grille using a suitable tool.
3. Remove the front speaker screws (A).
4. Pull out the front speaker (1), disconnect the harness connector from front speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

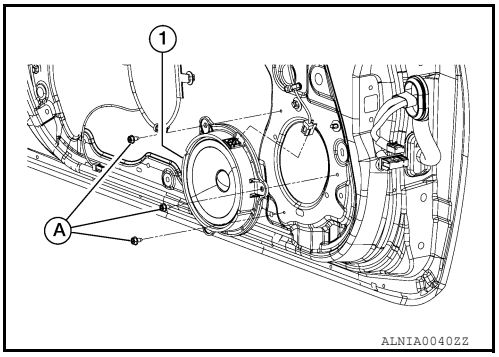
FRONT DOOR SPEAKER

Removal and Installation

INFOID:0000000008527862

REMOVAL

1. Remove the front door finisher. Refer to INT-15, "Removal and Installation".
2. Remove the front door speaker screws (A).
3. Disconnect the harness connector from the front door speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

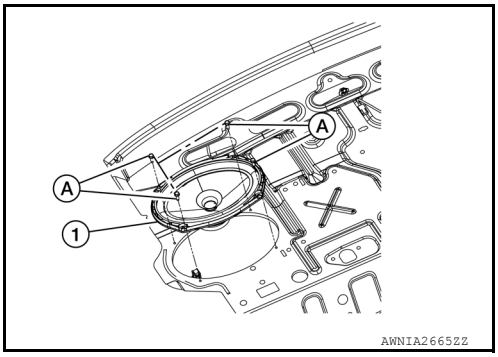
REAR SPEAKER

Removal and Installation

INFOID:0000000008746524

REMOVAL

1. Remove the rear parcel shelf finisher. Refer to INT-26, "Removal and Installation".
2. Remove the rear speaker screws (A).
3. Disconnect the harness connector from the rear speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

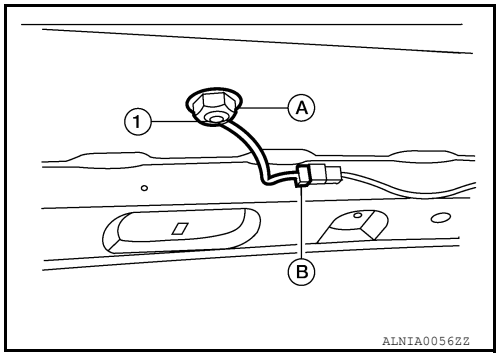
SATELLITE RADIO ANTENNA

Removal and Installation

INFOID:0000000008668933

REMOVAL

1. Lower the headlining at the rear. Refer to INT-30, "Removal and Installation".
2. Remove the satellite radio antenna nut (A).
3. Disconnect the harness connector (B) from the satellite radio antenna (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

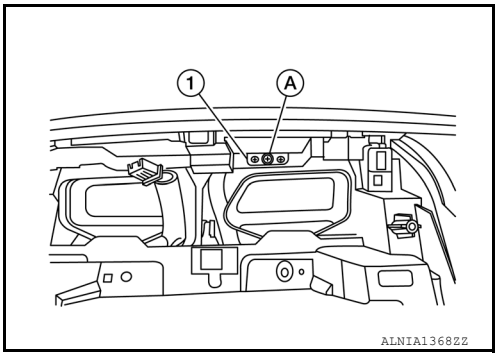
GPS ANTENNA

Removal and Installation

INFOID:0000000008668934

REMOVAL

1. Remove the AV control unit. Refer to AV-104, "Removal and Installation".
2. Remove the GPS antenna screw (A) and the GPS antenna (1).



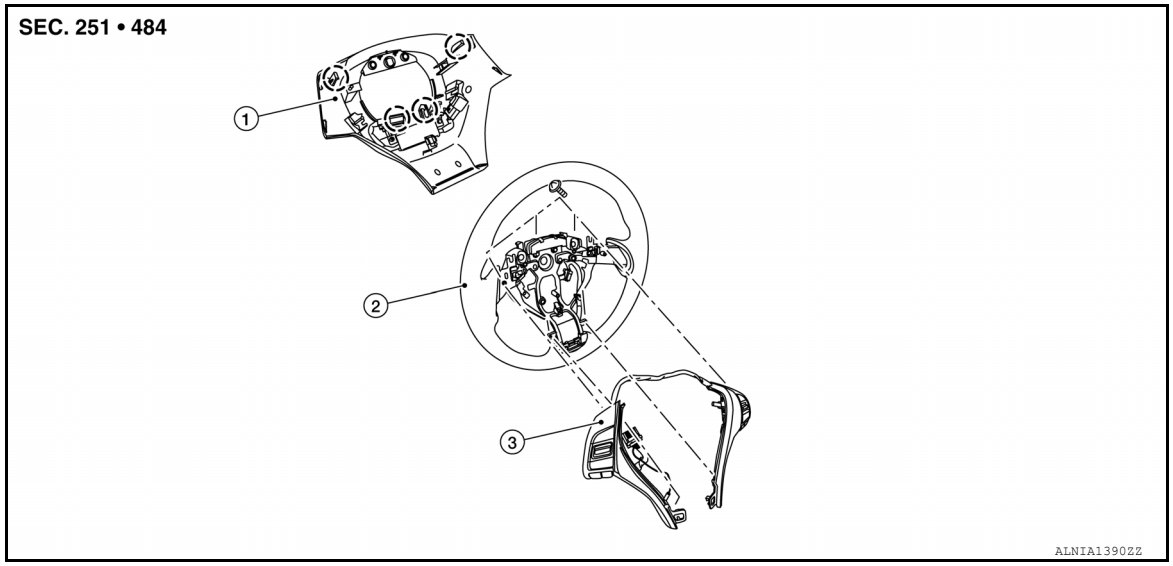
INSTALLATION

Installation is in the reverse order of removal.

STEERING SWITCH

Exploded View

INFOID:0000000008542321



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

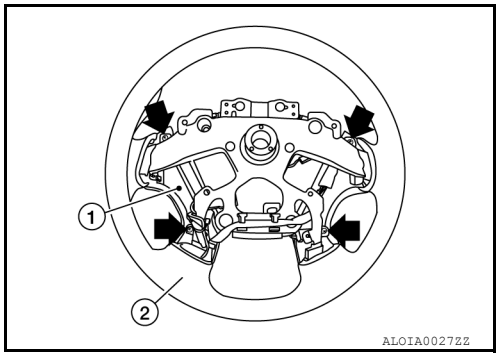
Pawl

Removal and Installation

INFOID:0000000008542322

REMOVAL

1. Remove the steering wheel. Refer to ST-31, "Removal and Installation"
2. Release the pawls on the steering wheel rear finisher and remove.
3. Remove the steering switches screws (⬅).
4. Remove the steering switches (1) from steering wheel (2).



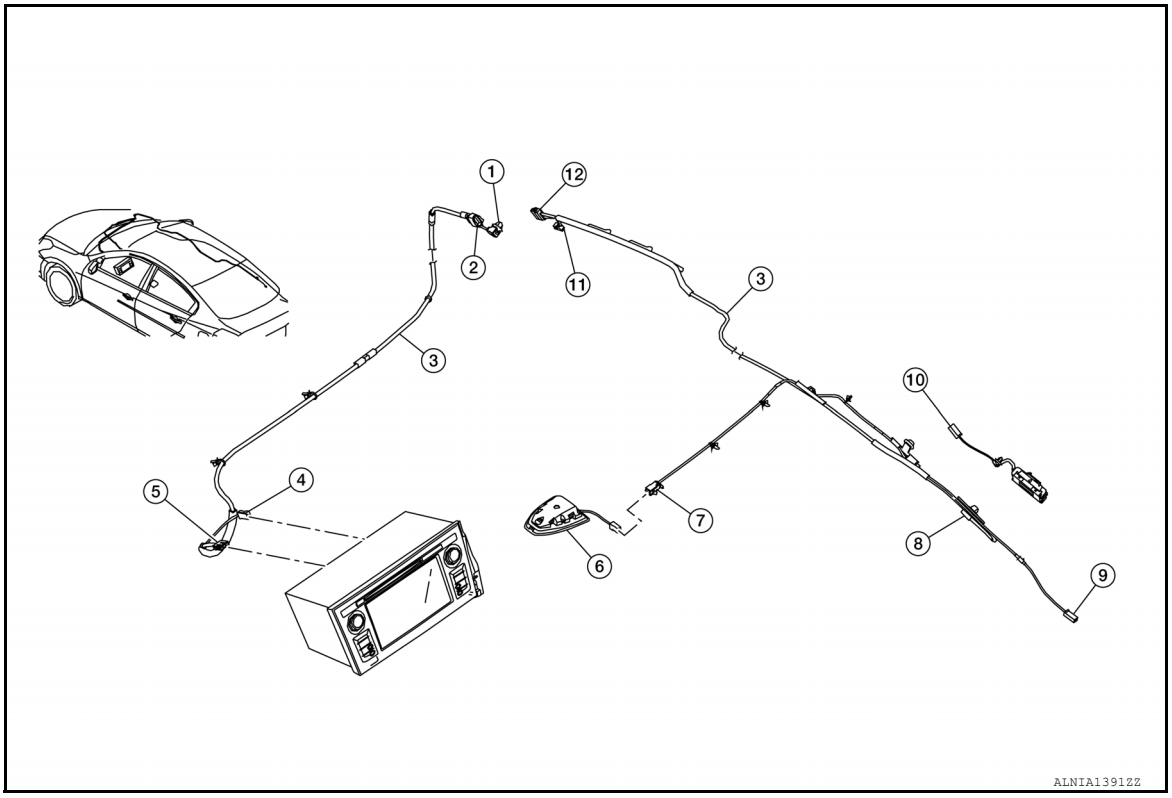
INSTALLATION

Installation is in the reverse order of removal.

ANTENNA FEEDER

Location of Antenna

INFOID:0000000007986328



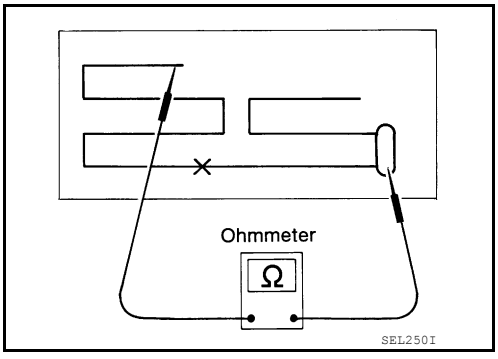
1. M102
2. M101
3. Antenna feeder
4. M98
5. M93
6. Satellite antenna
7. B59
8. M502
9. M504
10. M503
11. M500
12. M501

Window Antenna Repair

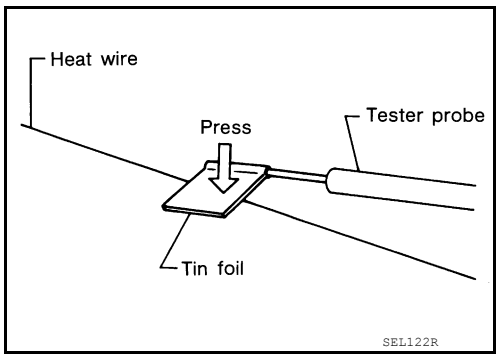
INFOID:0000000007986329

ELEMENT CHECK

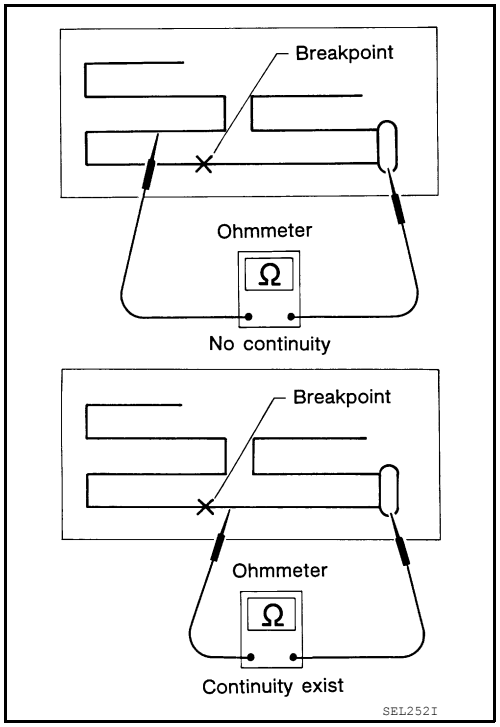
1. Attach probe circuit tester (ohm setting) to antenna terminal on each side.



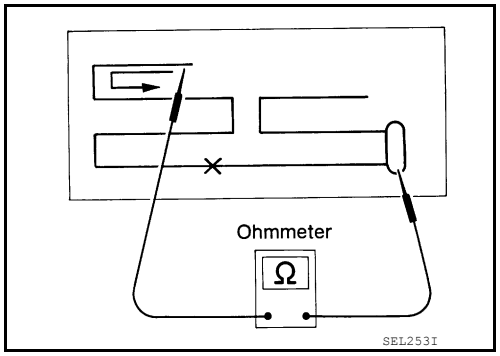
- **When measuring continuity, wrap tin foil around the top of probe. Then, press the foil against the wire with your finger.**



2. If an element is broken, no continuity will exist.



3. To locate a break, move probe along element. Tester indication will change abruptly when probe passes the broken point.

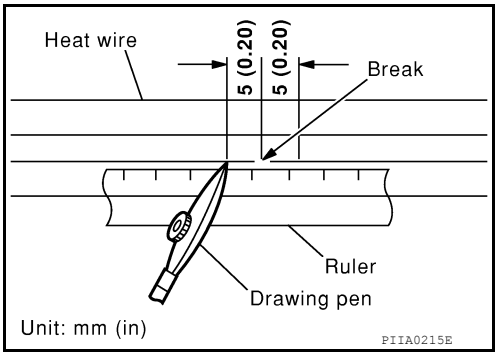


REPAIR EQUIPMENT

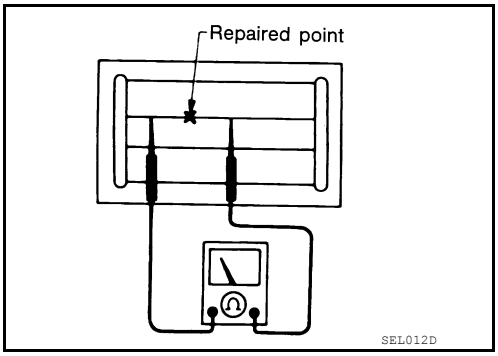
- Conductive silver composition (DuPont No. 4817 or equivalent)
- Ruler 30 cm (11.8 in) long
- Drawing pen
- Heat gun
- Alcohol
- Cloth

REPAIRING PROCEDURE

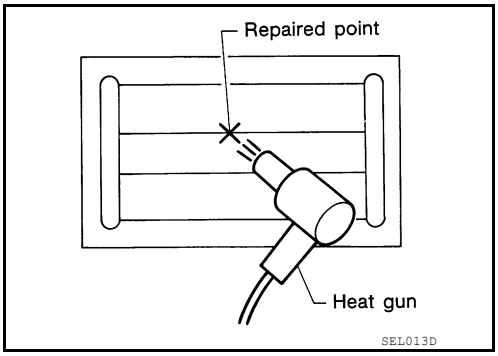
1. Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
2. Apply a small amount of conductive silver composition to tip of drawing pen.
   Shake silver composition container before use.
3. Place ruler on glass along broken line. Deposit conductive silver composition on break with drawing pen. Slightly overlap existing heat wire on both sides [preferably 5 mm (0.20 in)] of the break.



4. After repair has been completed, check repaired wire for continuity. This check should be conducted 10 minutes after silver composition is deposited.
   Do not touch repaired area while test is being conducted.



5. Apply a constant stream of hot air directly to the repaired area for approximately 20 minutes with a heat gun. A minimum distance of 3 cm (1.2 in) should be kept between repaired area and hot air outlet.
   If a heat gun is not available, let the repaired area dry for 24 hours.



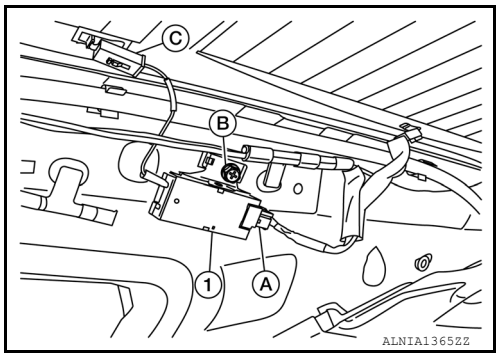
ANTENNA AMP.

Removal and Installation

INFOID:0000000008528276

REMOVAL

1. Remove the rear pillar finisher RH. Refer to INT-25, "REAR PILLAR FINISHER : Removal and Installation".
2. Disconnect the harness connector (A) from the antenna amp. (1).
3. Disconnect the antenna amp. harness connector (C) from the rear window glass.
4. Remove the antenna amp. screw (B) and the antenna amp. (1).



INSTALLATION

Installation is in the reverse order of removal.

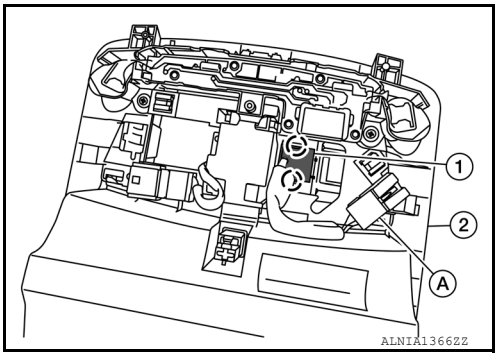
MICROPHONE

Removal and Installation

INFOID:0000000008668935

REMOVAL

1. Remove the front room/map lamp assembly. Refer to INL-63, "Removal and Installation".
2. Disconnect the microphone connector (A) from the front room/ map lamp assembly (2).
3. Release the microphone pawls, then remove the microphone (1).
   ◌: Pawl



INSTALLATION

Installation is in the reverse order of removal.

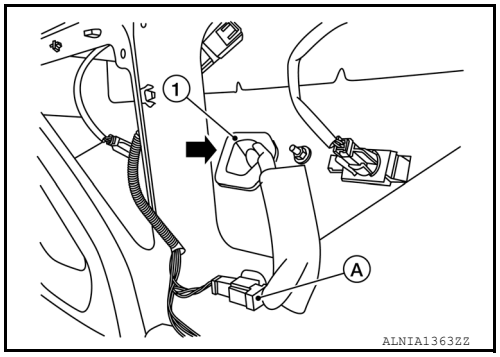
REAR VIEW CAMERA

Removal and Installation

INFOID:0000000008526428

REMOVAL

1. Remove trunk lid finisher. Refer to INT-33, "Exploded View".
2. Disconnect the harness connector (A) from rear view camera.
3. Push the rear view camera (1) in direction shown (⬅) and pull out to remove.



INSTALLATION

Installation is in the reverse order of removal.

PRECAUTION

PRECAUTIONS

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

INFOID:0000000008729195

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 SR and SB section of this Service Manual.

WARNING:

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

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

WARNING:

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

Precaution for Trouble Diagnosis

INFOID:0000000008527482

AV COMMUNICATION SYSTEM

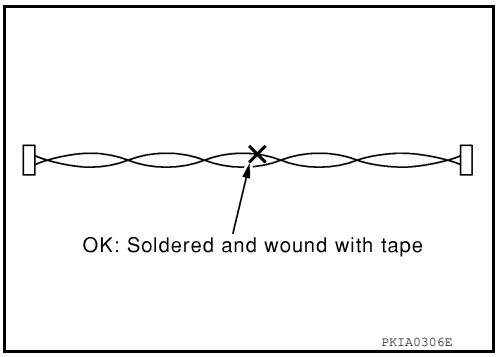
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

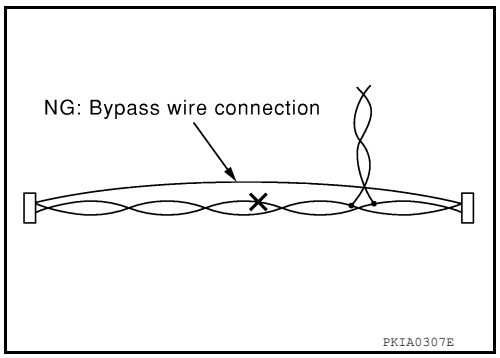
INFOID:0000000008527483

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:0000000008528546

- 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.

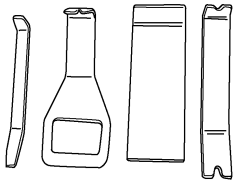
PREPARATION

PREPARATION

Special Service Tools

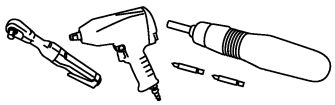
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The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

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

Commercial Service Tools

INFOID:0000000008528649

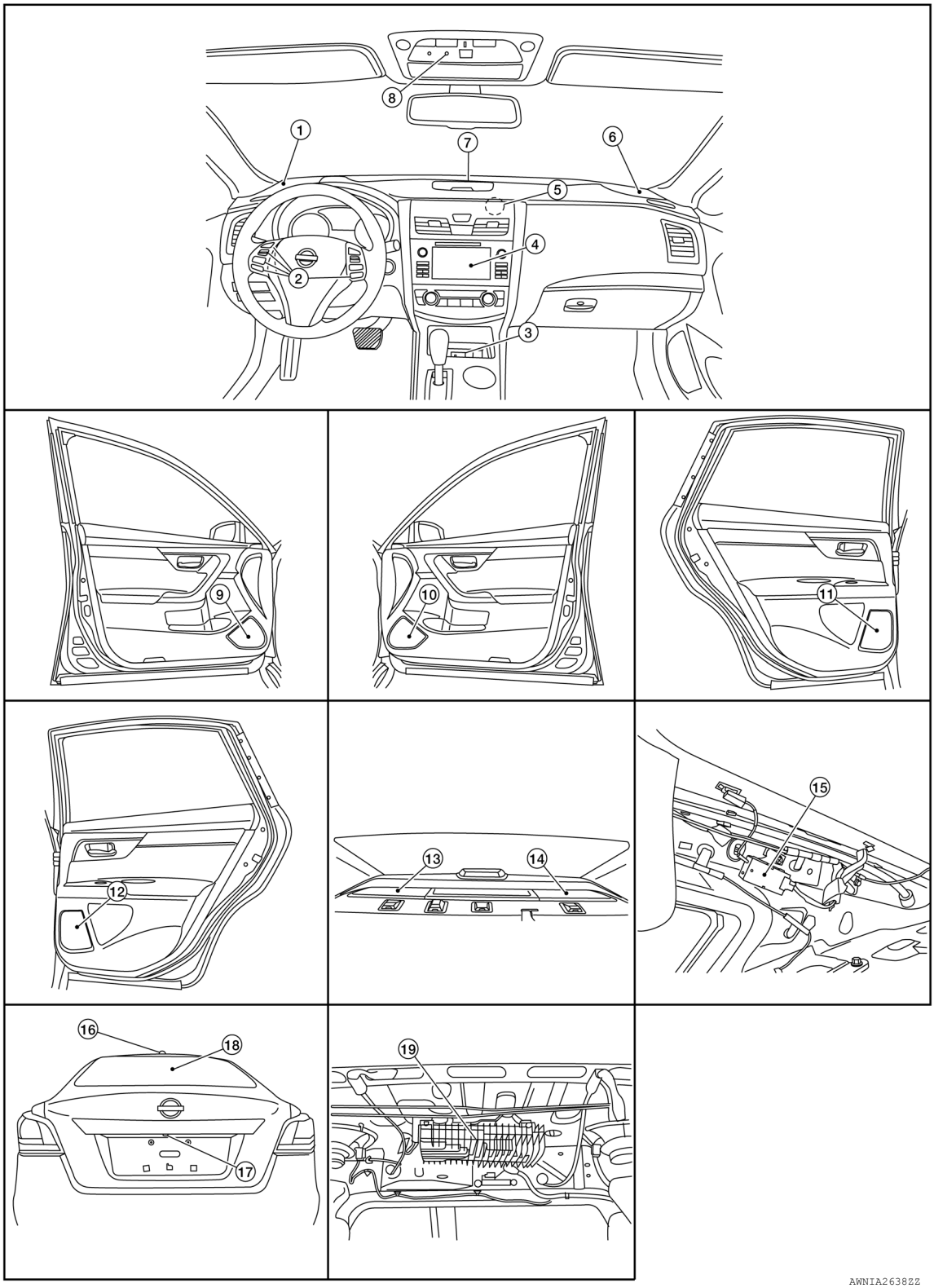
Tool name	Description
Power tool  PIIB1407E	Loosening nuts, screws and bolts

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000008542272



AWNIA2638ZZ

1. Front speaker LH
2. Steering switches
3. USB interface
4. AV control unit
5. GPS antenna
6. Front speaker RH
7. Center speaker
8. Microphone
9. Front door speaker LH
10. Front door speaker RH
11. Rear door speaker LH
12. Rear door speaker RH
13. Rear speaker RH
14. Rear speaker LH
15. Antenna amp.
16. Satellite antenna
17. Rear view camera
18. Window antenna
19. Bose speaker amp.

Component Description

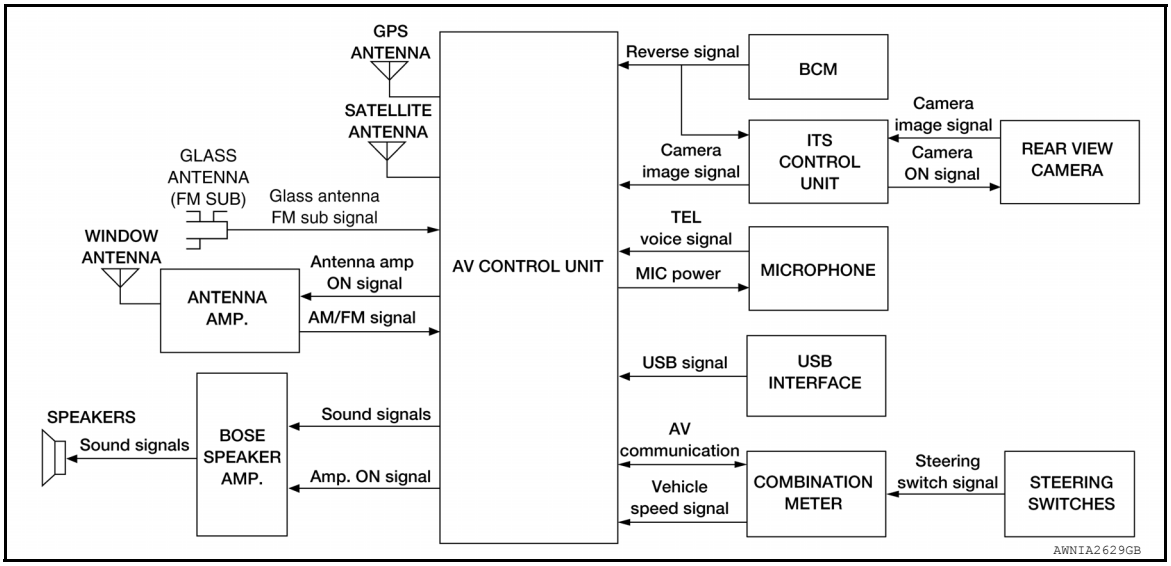
INFOID:0000000008542273

Part name	Description
AV control unit	• Operation of navigation and audio systems are integrated. • Includes the audio, hands-free phone, navigation, satellite radio, rear view monitor, USB connection and AUX IN connection functions. • Map data can be loaded from SD-card inserted in SD-card slot. • Audio signals are output to Bose speaker amp. • Inputs illumination signals required for display dimming control. • Inputs signals for driving status recognition (vehicle speed and reverse). • Touch panel functions can be operated by touching display directly.
Map SD-card	A collection of Map data.
Bose speaker amp.	Receives audio signals from AV control unit and outputs audio signals to each speaker.
Front speakers	Outputs high, mid and low range audio signals from Bose speaker amp.
Center speaker	
Front door speakers	
Rear door speakers	
Rear speakers	
Steering switches	• Operations for audio, hands-free phone and voice recognition are possible. • Steering switch signal is output to combination meter. • Combination meter outputs steering switch signal to AV control unit.
Microphone	• Used for hands-free phone operations. • Microphone signal is transmitted to AV control unit. • Power is supplied from AV control unit.
USB interface	USB sound and data input signals are transmitted to AV control unit.
Rear view camera	• Outputs image of vehicle rear to AV control unit. • Power is supplied from AV control unit.
Satellite antenna	Satellite radio signal is received and transmitted to AV control unit.
GPS antenna	GPS signal is received and transmitted to AV control unit.
Antenna amp.	• AM/FM signal received by window antenna is amplified and transmitted to AV control unit. • Power is supplied from AV control unit.
Window antenna	AM/FM signal is received and transmitted to antenna amp.

SYSTEM

System Diagram

INFOID:0000000008542274



System Description

INFOID:0000000008659107

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

- Map data on SD-card
- Full support for playback of music from iPod® and USB device
- High resolution color 5 inch display with touch panel function
- FM/AM twin digital tuner
- USB mass storage connection
- Satellite radio
- Hands-free phone system

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

NAVIGATION SYSTEM FUNCTION

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 speakers.
- 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

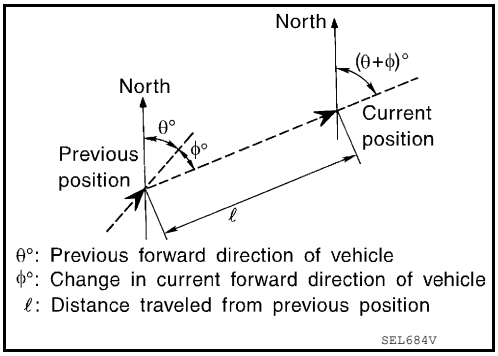
The navigation system periodically calculates the vehicle's current position according to the following three signals:

- 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.

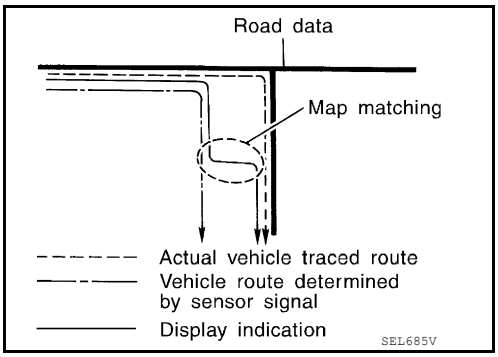
More accurate traveling direction is detected because priorities are set for the signals from these two devices according to the situation.

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.

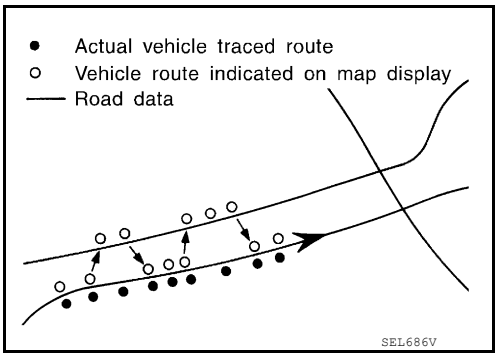
NOTE:

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

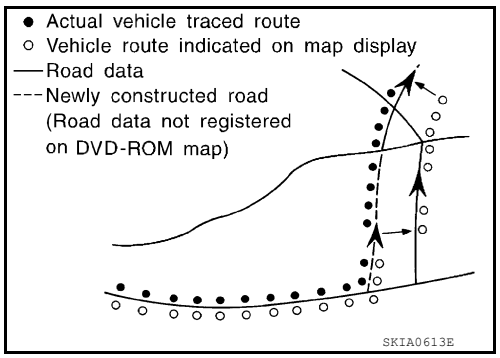


The vehicle position may not be corrected under the following circumstances and after driving for a certain time when GPS information is difficult to receive. In this case, the vehicle mark on the display must be corrected manually.

- 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.

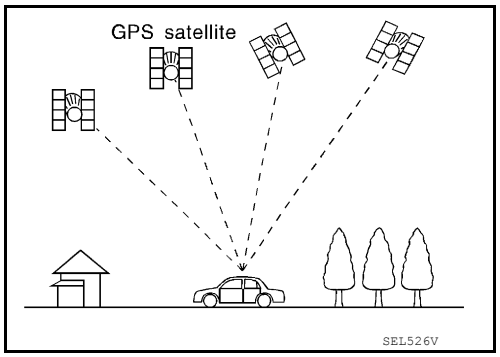


- Map-matching does not function correctly when a road on which the vehicle is driving is new and not recorded in the map SD-card, or when road pattern stored in the map data and the actual road pattern are different due to repair.
  The map-matching function may find another road and position the vehicle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

GPS (Global Positioning System) is developed for and is controlled by the US Department of Defense. The system utilizes GPS satellites (NAVSTAR), transmitting out radio waves while flying on an orbit around the earth at an altitude of approximately 21,000 km (13,049 mile).
The receiver calculates the travel position in three dimensions (latitude/longitude/altitude) according to the time lag of the radio waves that four or more GPS satellites transmit (three-dimensional positioning). The GPS receiver calculates the travel position in two dimensions (latitude/longitude) with the previous altitude data if the GPS receiver receives only three radio waves (two-dimensional positioning). GPS position correction is not performed while stopping the vehicle.



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

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

SATELLITE RADIO FUNCTION

- Satellite radio function is built into AV control unit.
- Sound signal (satellite radio) is received by satellite antenna and transmitted to AV control unit. AV control unit outputs sound signal to each speaker.

AUXILIARY INPUT FUNCTION

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

REAR VIEW MONITOR FUNCTION

Camera Image Operation Principle

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

USB CONNECTION FUNCTION

- iPod® or music files in USB memory can be played.

- Sound signals are transmitted from USB connector and AUX jack to the AV control unit and output to each speaker and tweeter.
- iPod® is recharged when connected to USB connector and AUX jack.

NOTE:

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

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

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.

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

Description

INFOID:0000000008659099

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	—	
	XM monitor	—	Version data is displayed.
	XM functions	• Clear XM Chipset NVM • Reset All XM Settings • Clear IGS • XM CBM Debug Mode • External Diag Mode	Current status 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 • BTHFU Status • Radio Antenna • USB Device • iPod® firmware version • Steering wheel key	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 • Radio Antenna • GPS Antenna • XM 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.

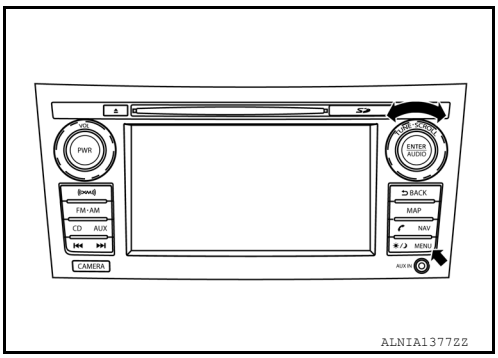
On Board Diagnosis Function

INFOID:0000000008659100

METHOD OF STARTING

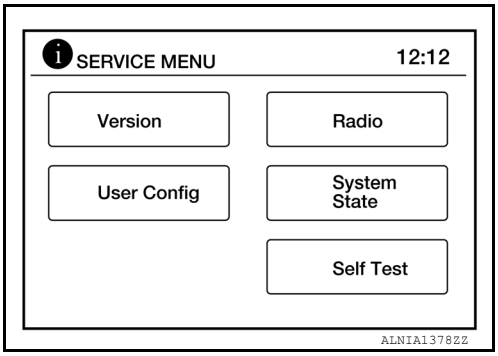
1. Turn the ignition ON.
2. Turn the audio system OFF.

3. While pressing the MENU button, turn the TUNE-SCROLL dial counterclockwise 3 or more clicks, then clockwise 3 or more clicks, then counterclockwise 3 or more clicks. When self diagnosis mode begins, a short beep will be heard. Shifting from current screen to previous screen is performed by pressing BACK button.



ALNIA1377ZZ

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



ALNIA1378ZZ

CONSULT Function

INFOID:0000000008659101

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-309, "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-334, "CONFIGURATION (AV CONTROL UNIT) : Description".

CAN DIAG SUPPORT MNTR

Refer to LAN-15, "CAN Diagnostic Support Monitor".

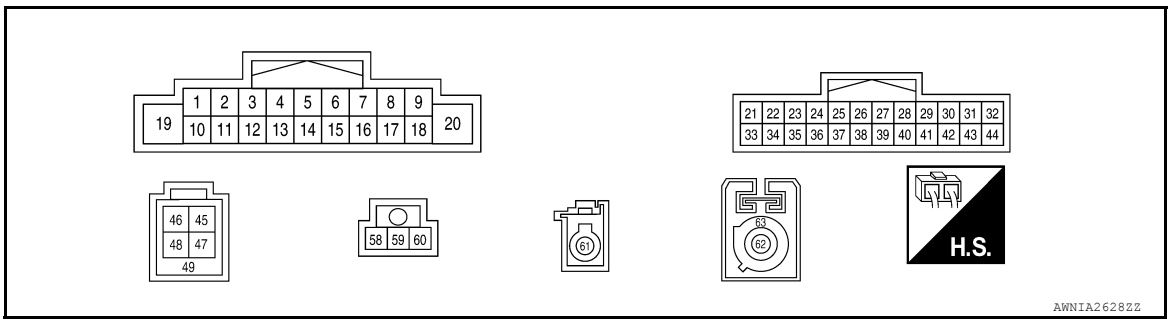
ECU DIAGNOSIS INFORMATION

AV CONTROL UNIT

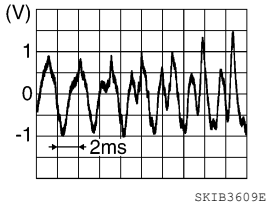
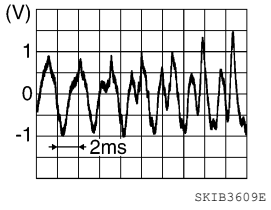
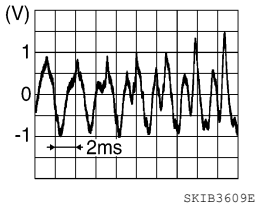
Reference Value

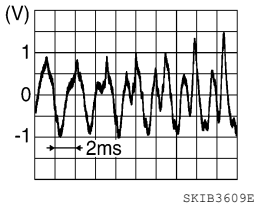
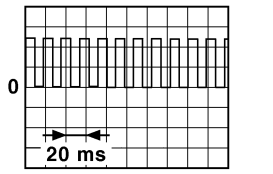
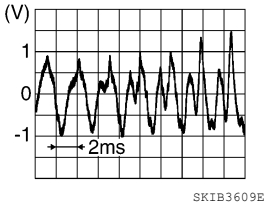
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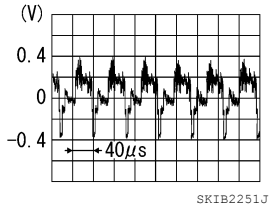
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
1 (W)	Ground	BOSE amp. ON signal	Output	ACC	—	Battery voltage
2 (B)	3 (W)	Sound signal front speaker LH	Output	ON	Sound output	
4 (G)	5 (R)	Sound signal rear speaker LH	Output	ON	Sound output	
7 (P)	Ground	ACC power supply	Input	ACC	—	Battery voltage
8 (L)	—	CAN (H)	Input/ Output	—	—	—
9 (R)	33 (GR)	Illumination control signal	Input	ON	Headlamps ON	Battery voltage
10	—	Shield	—	—	—	—
11 (B)	12 (W)	Sound signal front speaker RH	Output	ON	Sound output	

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
13 (G)	14 (R)	Sound signal rear speaker RH	Output	ON	Sound output	 SKIB3609E
17 (P)	—	CAN (L)	Input/ Output	—	—	—
18 (G)	Ground	Vehicle speed signal	Input	ON	When vehicle speed is approx. 40 km/h (25 MPH)	 JSNIA0012GB
19 (G)	Ground	Battery power supply	Input	OFF	—	Battery voltage
20 (GR)	Ground	Ground	—	ON	—	0 V
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
30 (P)	—	MR output	Output	—	—	—
31 (SB)	—	M-CAN (H)	Input/ Output	—	—	—
32 (LG)	—	M-CAN (L)	Input/ Output	—	—	—
34 (B)	36 (Shield)	Microphone signal	Input	ON	While speaking into microphone.	 SKIB3609E
35 (W)	Ground	Microphone power supply	Output	ON	—	5.0 V
38 (SB)	—	M-CAN (H)	Input/ Output	—	—	—
39 (LG)	—	M-CAN (L)	Input/ Output	—	—	—
40 (BG)	Ground	Ignition power supply	Input	ON or START	—	Battery voltage

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
41 (B)	42 (Shield)	Camera image signal	Input	ON	When camera image is displayed	
45 (W)	—	USB ground	—	—	—	—
46 (G)	—	V BUS signal	—	—	—	—
47 (L)	—	USB D– signal	—	—	—	—
48 (R)	—	USB D+ signal	—	—	—	—
49	—	Shield	—	—	—	—
58 (B)	Ground	Glass antenna (FM sub) signal	Input	ON	—	5.0 V
59 (B)	Ground	AM/FM antenna signal	Input	ON	—	5.0 V
60 (B)	Ground	Antenna amp. ON signal	Output	ON	—	Battery voltage
61 (B)	Ground	Satellite antenna signal	Input	ON	—	5.0 V
62 (B)	Ground	GPS antenna signal	Input	ON	—	5.0 V
63	—	Shield	—	—	—	—

DTC Index

INFOID:0000000008713815

CONSULT Display	Reference Page
U1000: CAN COMM CIRCUIT	AV-336, "DTC Logic"
U1010: CONTROL UNIT (CAN)	AV-337, "DTC Logic"
U1217: BLUETOOTH MODULE	AV-338, "DTC Logic"
U1229: iPod CERTIFICATION	AV-339, "DTC Logic"
U122F: Digital broadcasting connection error	AV-340, "DTC Logic"
U1244: GPS ANTENNA CONN	AV-341, "DTC Logic"
U1258: XM ANTENNA CONN	AV-342, "DTC Logic"
U1263: USB OVERCURRENT	AV-343, "DTC Logic"
U1264: ANTENNA AMP TERMINAL	AV-344, "DTC Logic"
U1265: AMP ON TERMINAL	AV-345, "DTC Logic"
U12AA: Configuration Error	AV-346, "DTC Logic"
U12AB: FM Antenna error	AV-347, "DTC Logic"
U12AC: Display Temperature too High	AV-348, "DTC Logic"
U12AD: ECU Temperature too High	AV-349, "DTC Logic"
U12AE: Internal Amplifier temperature Warning	AV-350, "DTC Logic"

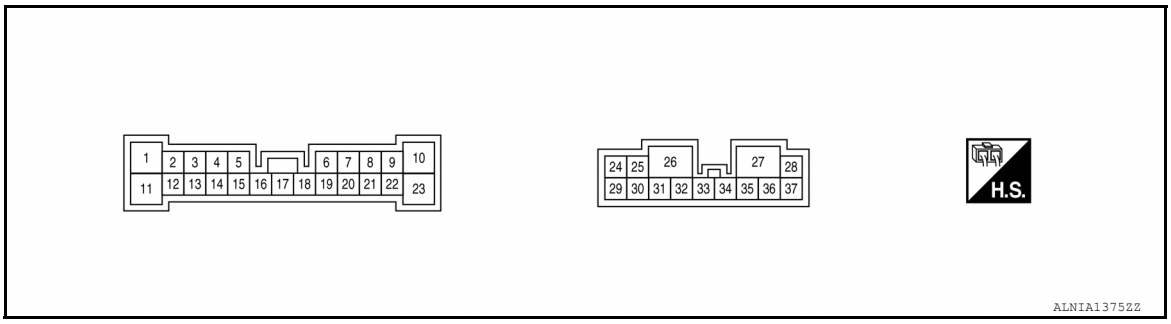
CONSULT Display	Reference Page
U12AF: CD Mechanism Temperature Warning	AV-351, "DTC Logic"
U12B0: Supply Voltage Goes below 9V > 20s	AV-352, "DTC Logic"
U12B1: Supply Voltage Goes High > 16V for 20s	AV-353, "DTC Logic"
U1300: AV COMM CIRCUIT	AV-354, "DTC Logic"
U1310: CONTROL UNIT (AV)	AV-356, "DTC Logic"

BOSE SPEAKER AMP

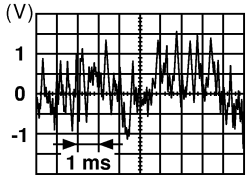
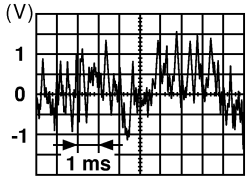
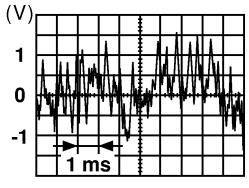
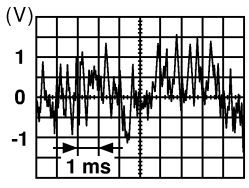
Reference Value

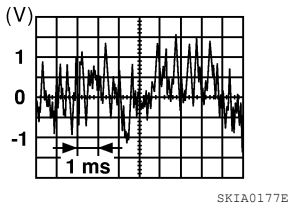
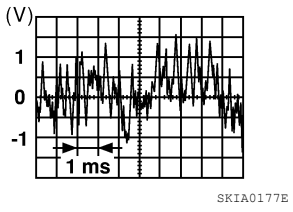
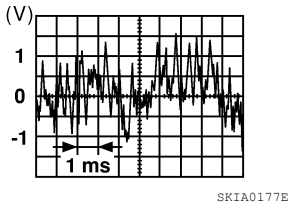
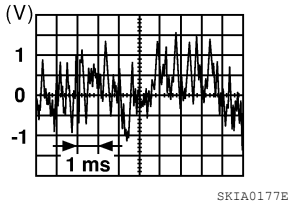
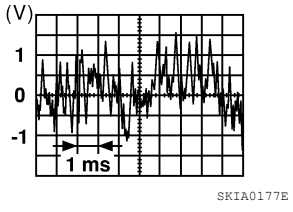
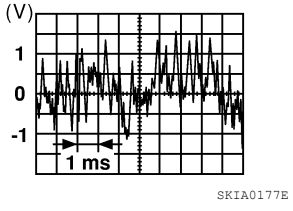
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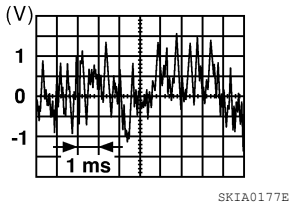
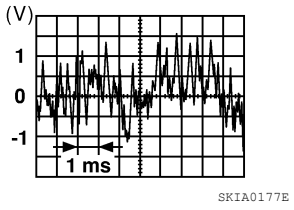
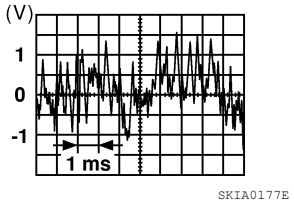
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
3 (G)	2 (R)	Sound signal front speaker LH	Input	ON	Sound output	 SKIA0177E
5 (G)	4 (R)	Sound signal front speaker RH	Input	ON	Sound output	 SKIA0177E
7 (P)	6 (BG)	Front door speaker signal RH	Output	ON	Sound output	 SKIA0177E
9 (G)	8 (R)	Center speaker signal	Output	ON	Sound output	 SKIA0177E

Terminal (wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
10 (G)	23 (W)	Rear door speaker signal LH	Output	ON	Sound output	 SKIA0177E
12 (B)	13 (W)	Sound signal rear speaker RH	Input	ON	Sound output	 SKIA0177E
14 (B)	15 (W)	Sound signal rear speaker LH	Input	ON	Sound output	 SKIA0177E
18 (G)	Ground	Amp. ON signal	Input	ON	–	Greater than 6.5V
20 (P)	19 (R)	Front door speaker signal LH	Output	ON	Sound output	 SKIA0177E
24 (G)	29 (W)	Rear door speaker signal RH	Output	ON	Sound output	 SKIA0177E
25 (W)	30 (G)	Rear speaker signal LH	Output	ON	Sound output	 SKIA0177E
26 (GR)	Ground	Ground	–	ON	–	0V

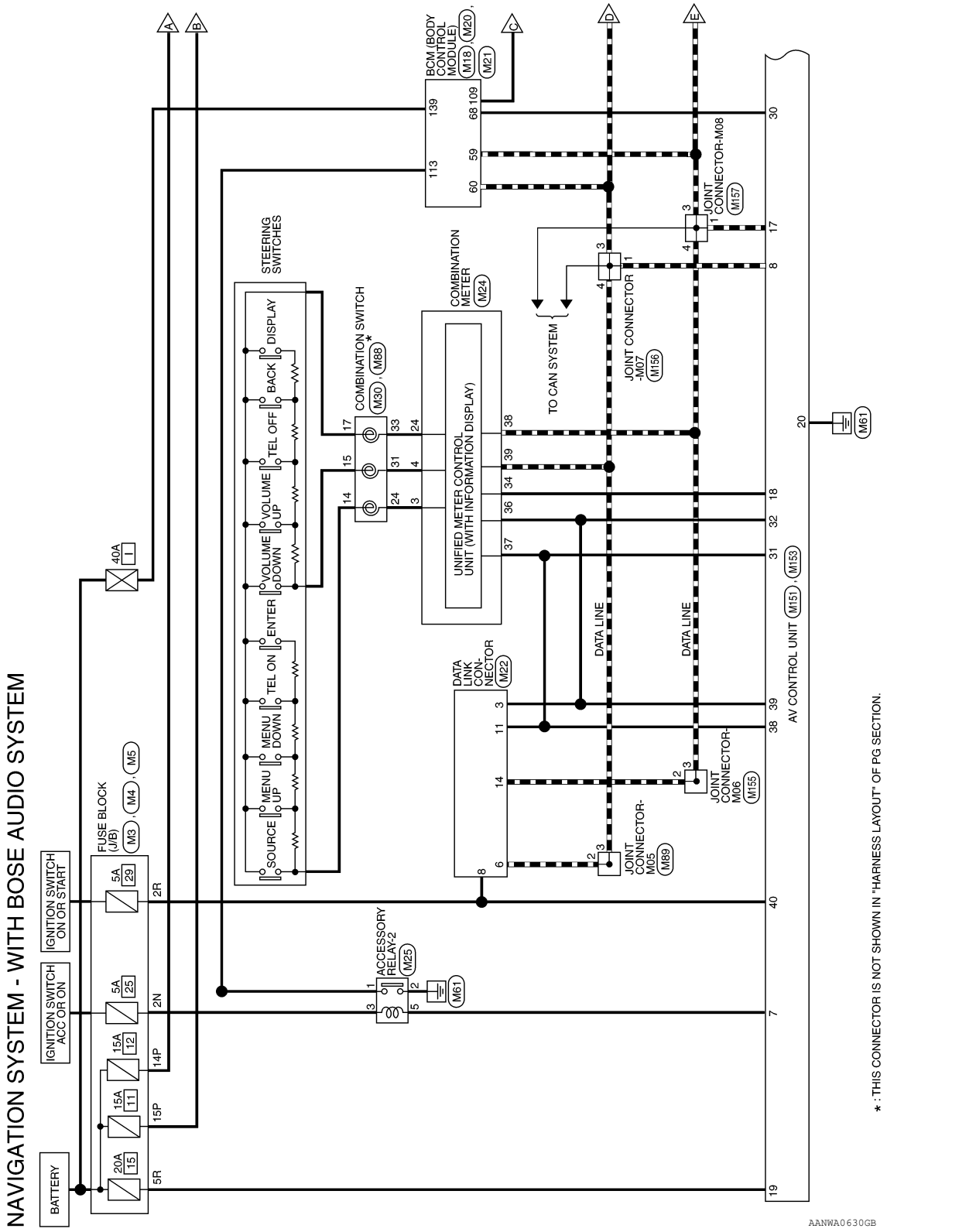
Terminal (wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
27 (G)	Ground	Battery power supply	Input	–	–	Battery voltage
28 (SB)						
31 (GR)	Ground	Ground	–	ON	–	0V
33 (W)	32 (G)	Rear speaker signal RH	Output	ON	Sound output	 SKIA0177E
34 (P)	35 (W)	Front speaker signal RH	Output	ON	Sound output	 SKIA0177E
37 (G)	36 (R)	Front speaker signal LH	Output	ON	Sound output	 SKIA0177E

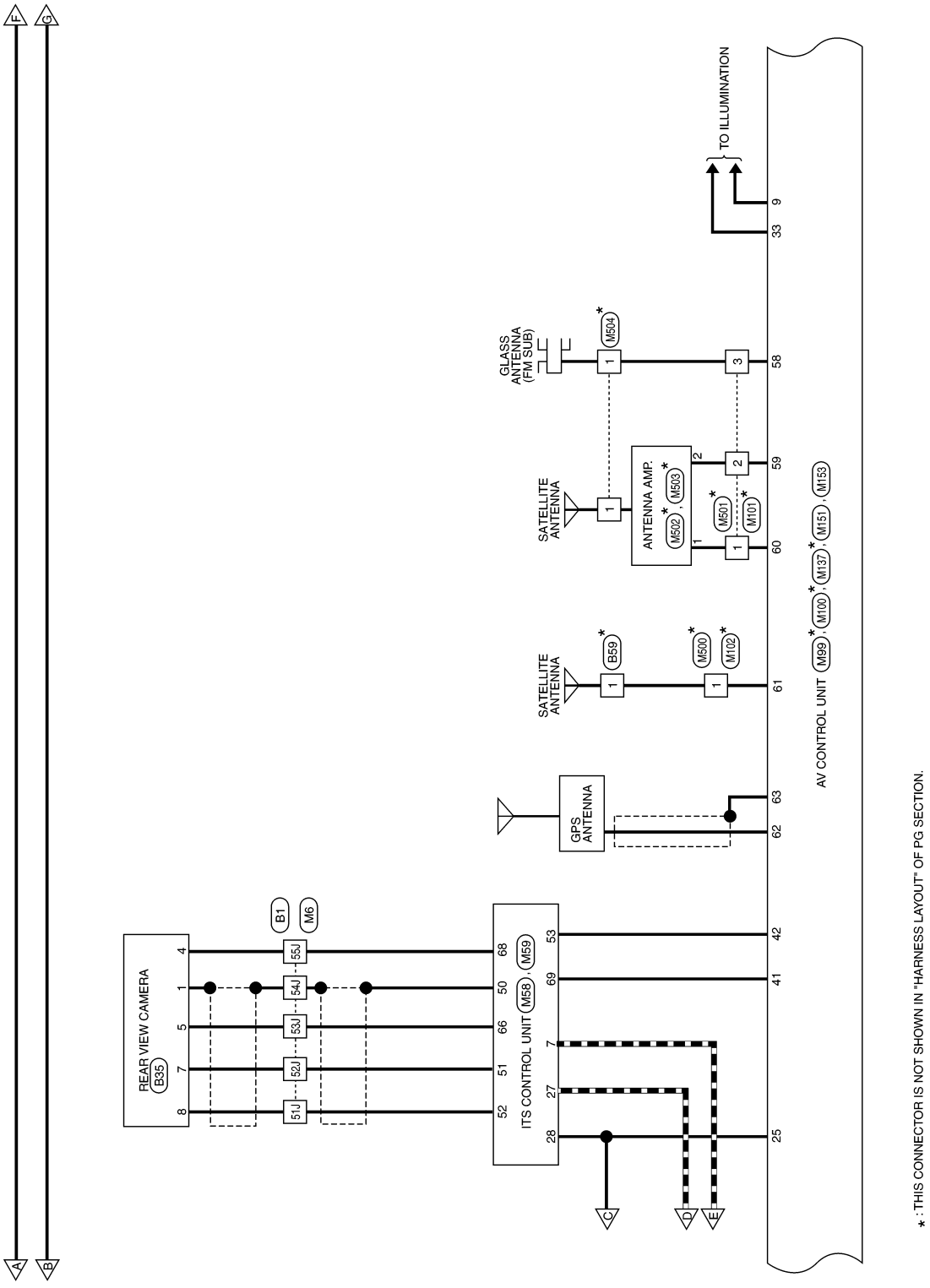
WIRING DIAGRAM

NAVIGATION WITH BOSE

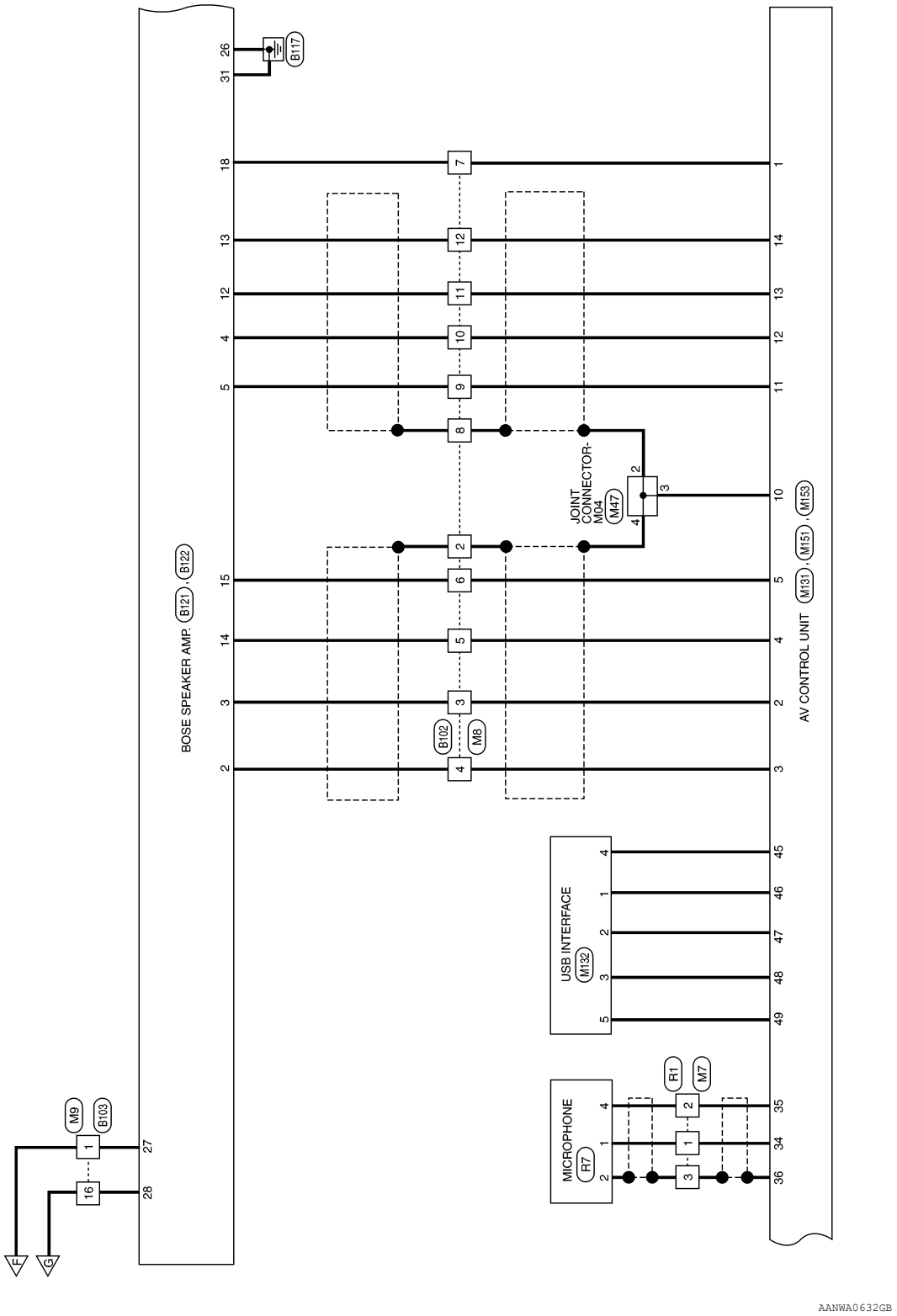
Wiring Diagram

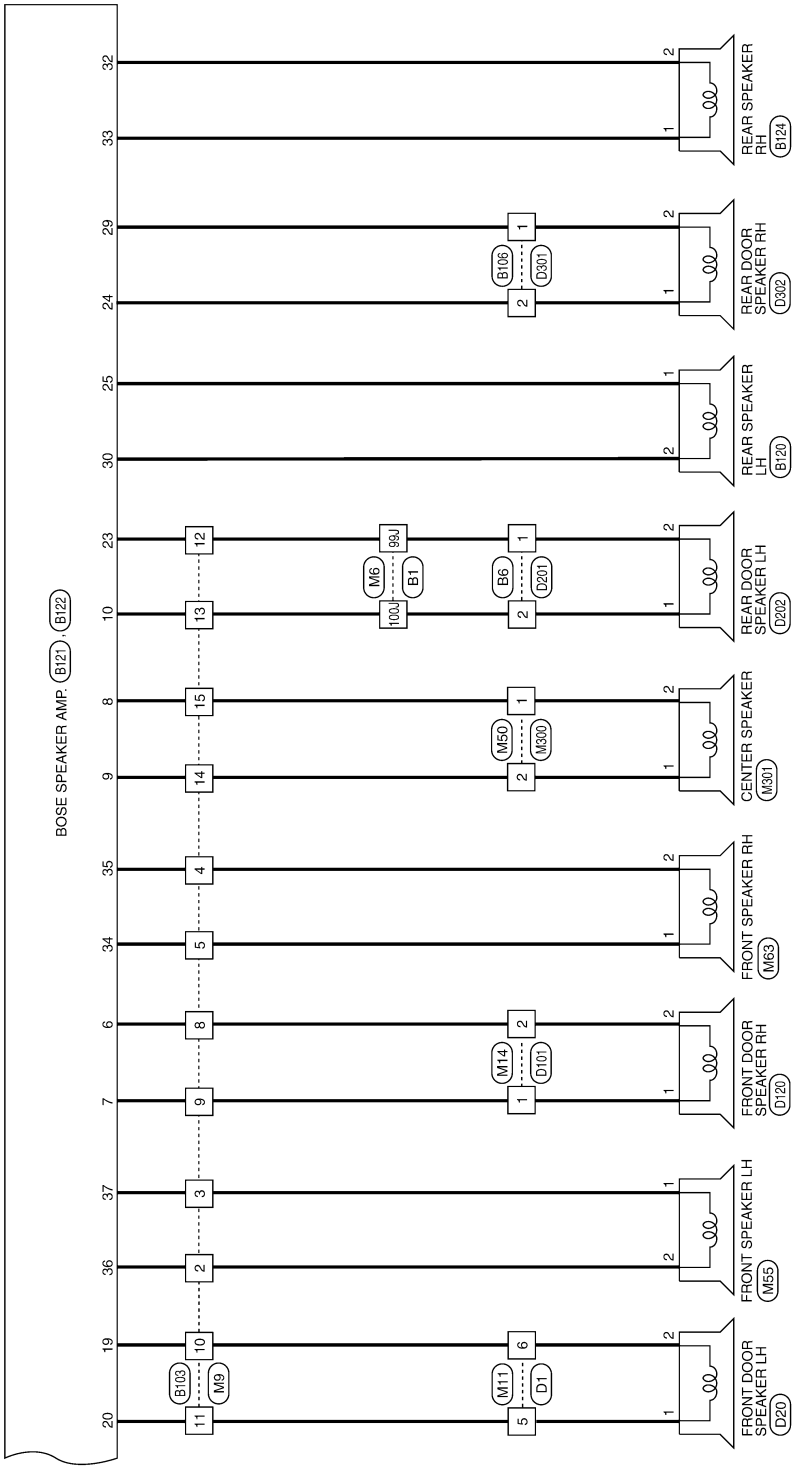
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AANWA0631GB


BOSE SPEAKER AMP. B121, B122
AV CONTROL UNIT M131, M151, M153
JOINT CONNECTOR-M04 M47
USB INTERFACE M132
MICROPHONE R7
B117
B102 M8
B103 M9
R1 M7
AANWA0632GB



AANWA0633GB

NAVIGATION SYSTEM CONNECTORS - WITH BOSE AUDIO SYSTEM

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2N	LG	–

Connector No.	M4
Connector Name	FUSE BLOCK (J/B)
Connector Color	BROWN

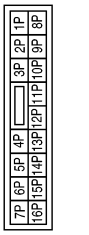
H.S.



Terminal No.	Color of Wire	Signal Name
2R	BG	–
5R	G	–

Connector No.	M5
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

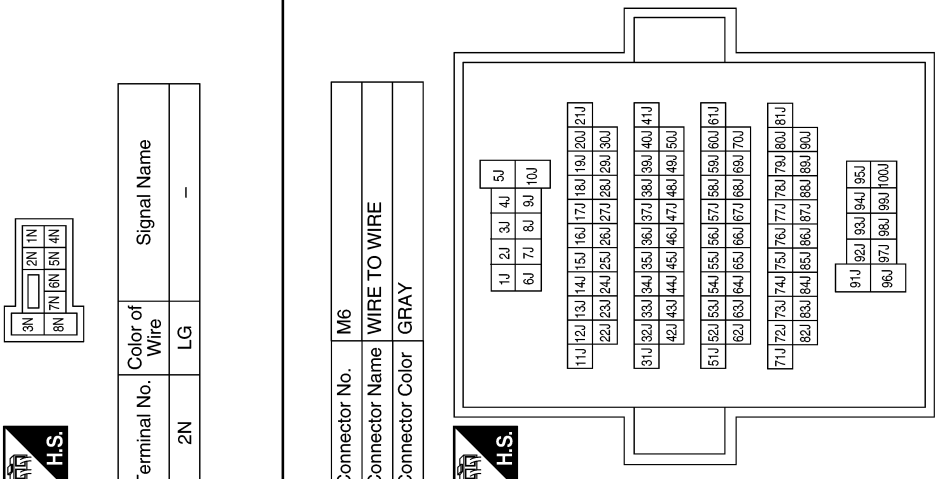
H.S.



Terminal No.	Color of Wire	Signal Name
14P	G	–
15P	SB	–

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Color	GRAY

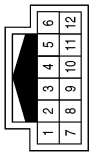
H.S.



Terminal No.	Color of Wire	Signal Name
51J	W	–
52J	R	–
53J	B	–
54J	SHIELD	–
55J	G	–
99J	R	–
100J	G	–

Connector No.	M7
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
1	B	–
2	W	–
3	SHIELD	–

AANIA0914GB

Connector No.	M8
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
2	SHIELD	–
3	B	–
4	W	–
5	G	–
6	R	–
7	W	–
8	SHIELD	–
9	B	–
10	W	–
11	G	–
12	R	–

Connector No.	M9
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	G	–
2	P	–
3	R	–
4	W	–
5	G	–
6	R	–
7	W	–
8	BG	–
9	W	–
10	R	–
11	G	–
12	R	–
13	G	–
14	P	–
15	R	–
16	SB	–

Connector No.	M11
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
5	G	–
6	R	–

Connector No.	M14
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3
4	5	6	7	8

Terminal No.	Color of Wire	Signal Name
1	W	–
2	BG	–

Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK

H.S.

60	59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41
80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	64	63	62	61

Terminal No.	Color of Wire	Signal Name
59	P	CAN-L
60	L	CAN-H
68	P	MR OUTPUT

Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK

H.S.

116	115	114	113	112	111	110	109	108	107	106	105
128	127	126	125	124	123	122	121	120	119	118	117

Terminal No.	Color of Wire	Signal Name
109	G	REVERSE SIGNAL
113	P	ACC RELAY OUT

AANIA0915GB

Connector No.	M21
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE

H.S.

137	136	135	134	133	132	131	130	129
143	142	141	140	139	138			

Terminal No.	Color of Wire	Signal Name
139	W	BAT POWER F/L

Connector No.	M22
Connector Name	DATA LINK CONNECTOR
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
3	LG	–
6	L	–
8	BG	–
11	SB	–
14	P	–

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21

Terminal No.	Color of Wire	Signal Name
3	P	STRG SW INPUT1
4	R	STRG SW INPUT2
24	W	STRG SW GND
34	G	SPEED 8P/R
36	LG	M-CAN-L
37	SB	M-CAN-H
38	P	CAN-L
39	L	CAN-H

Connector No.	M25
Connector Name	ACCESSORY RELAY-2
Connector Color	BLUE

H.S.

3	
5	
2	1

Terminal No.	Color of Wire	Signal Name
1	W	–
2	B	–
3	LG	–
5	P	–

Connector No.	M30
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY

H.S.

24	25	26	27
31	32	33	34

Terminal No.	Color of Wire	Signal Name
24	P	–
31	R	–
33	W	–

Connector No.	M47
Connector Name	JOINT CONNECTOR-M04
Connector Color	WHITE

H.S.

4	3	2	1

Terminal No.	Color of Wire	Signal Name
2	SHIELD	–
3	B	–
4	SHIELD	–

AANIA0916GB

Connector No.	M50
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	R	–
2	P	–

Connector No.	M55
Connector Name	FRONT SPEAKER LH
Connector Color	BROWN

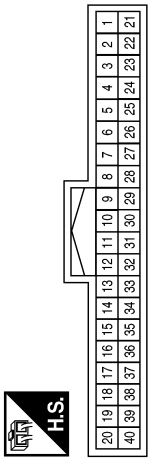
H.S.



Terminal No.	Color of Wire	Signal Name
1	R	–
2	P	–

Connector No.	M58
Connector Name	ITS CONTROL UNIT
Connector Color	WHITE

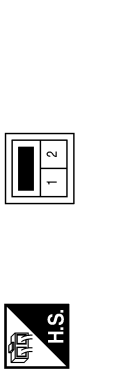
H.S.



Terminal No.	Color of Wire	Signal Name
7	P	CAN-L
27	L	CAN-H
28	R	REV

Connector No.	M59
Connector Name	ITS CONTROL UNIT
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
50	SHIELD	–
51	R	RR CAM GND
52	W	RR CAM ON
53	SHIELD	–
66	B	RR CAM COMP +
68	G	RR CAM CONT
69	B	COMP OUT +

Connector No.	M63
Connector Name	FRONT SPEAKER RH
Connector Color	BROWN

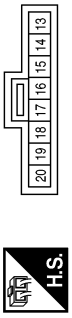
H.S.



Terminal No.	Color of Wire	Signal Name
1	G	–
2	W	–

Connector No.	M88
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY

H.S.

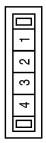


Terminal No.	Color of Wire	Signal Name
14	W	–
15	L	–
17	BR	–

AANIA0917GB

Connector No.	M89
Connector Name	JOINT CONNECTOR-M05
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
2	L	–
3	L	–

Connector No.	M99
Connector Name	AV CONTROL UNIT
Connector Color	PURPLE

H.S.



Terminal No.	Color of Wire	Signal Name
61	B	–

Connector No.	M100
Connector Name	AV CONTROL UNIT
Connector Color	BLUE

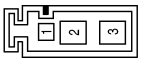
H.S.



Terminal No.	Color of Wire	Signal Name
62	B	–
63	SHIELD	–

Connector No.	M101
Connector Name	WIRE TO WIRE
Connector Color	GRAY

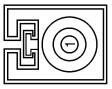
H.S.



Terminal No.	Color of Wire	Signal Name
1	B	–
2	B	–
3	B	–

Connector No.	M102
Connector Name	WIRE TO WIRE
Connector Color	GREEN

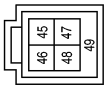
H.S.



Terminal No.	Color of Wire	Signal Name
1	B	–

Connector No.	M131
Connector Name	AV CONTROL UNIT
Connector Color	BLUE

H.S.



Terminal No.	Color of Wire	Signal Name
45	W	VCC
46	G	GND
47	L	D+
48	R	D-
49	SHIELD	–

AANIA0918GB

Connector No.	M132
Connector Name	USB INTERFACE
Connector Color	BLUE

H.S.

Terminal No.	Color of Wire	Signal Name
1	G	–
2	L	–
3	R	–
4	W	–
5	SHIELD	–

Connector No.	M137
Connector Name	AV CONTROL UNIT
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
58	B	ANT SUB
59	B	MAIN ANT
60	B	ANT ON

Connector No.	M151
Connector Name	AV CONTROL UNIT
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	W	AMP ON
2	B	FR SP LH (+)
3	W	FR SP LH (-)
4	G	RR SP (+)
5	R	RR SP (-)
6	–	–
7	P	ACC
8	L	CAN-H

Terminal No.	Color of Wire	Signal Name
9	R	ILL (+), LIGHT SW
10	B	PREAMP SHIELD
11	B	FR SP RH (+)
12	W	FR SP RH (-)
13	G	RR SP RH (+)
14	R	RR SP RH (-)
15	–	–
16	–	–
17	P	CAN-L
18	G	SPEED SIGNAL
19	G	BAT
20	GR	GND

AANIA0919GB

Connector No.	M153
Connector Name	AV CONTROL UNIT
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
21	–	–
22	–	–
23	–	–
24	–	–
25	G	REVERSE
26	–	–
27	–	–
28	–	–

Terminal No.	Color of Wire	Signal Name
29	–	–
30	P	MR OUTPUT
31	SB	M-CAN-H
32	LG	M-CAN-L
33	GR	ILL(-)
34	B	MIC SIGNAL
35	W	MIC VCC
36	SHIELD	MIC GND
37	–	–
38	SB	M-CAN-H
39	LG	M-CAN-L
40	BG	IGNITION
41	B	CAMERA +
42	SHIELD	CAMERA - (SHIELD)
43	–	–
44	–	–

Connector No.	M155
Connector Name	JOINT CONNECTOR-M06
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2	P	–
3	P	–

Connector No.	M300
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	W	–
2	G	–

Connector No.	M157
Connector Name	JOINT CONNECTOR-M08
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	P	–
3	P	–
4	P	–

Connector No.	M156
Connector Name	JOINT CONNECTOR-M07
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	–
3	L	–
4	L	–

AANIA0920GB

Connector No.	M501
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–
2	B	–
3	B	–

Connector No.	M500
Connector Name	WIRE TO WIRE
Connector Color	GREEN

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–

Connector No.	M301
Connector Name	CENTER SPEAKER
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	G	–
2	W	–

Connector No.	M504
Connector Name	WIRE TO WIRE
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–

Connector No.	M503
Connector Name	ANTENNA AMP.
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–

Connector No.	M502
Connector Name	ANTENNA AMP.
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–
2	B	–

AANIA0921GB

Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
51J	W	–
52J	B	–
53J	R	–
54J	SHIELD	–
55J	G	–
99J	R	–
100J	P	–

Connector No.	B6
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	R	–
2	P	–

Connector No.	B35
Connector Name	REAR VIEW CAMERA
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	SHIELD	COMP
2	–	–
3	–	–

Terminal No.	Color of Wire	Signal Name
4	G	CONT
5	R	COMP +
6	–	–
7	B	GND
8	W	CAMERA ON

Connector No.	B59
Connector Name	SATELLITE RADIO ANTENNA
Connector Color	GREEN

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–

AANIA0922GB

Terminal No.	Color of Wire	Signal Name
9	P	–
10	R	–
11	P	–
12	W	–
13	G	–
14	G	–
15	R	–
16	SB	–

Connector No.	B103
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	G	–
2	R	–
3	G	–
4	W	–
5	P	–
8	BG	–

Connector No.	B120
Connector Name	REAR SPEAKER LH (WITH BOSE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

2	1

Terminal No.	Color of Wire	Signal Name
1	W	–
2	G	–

Connector No.	B102
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
2	SHIELD	–
3	G	–
4	R	–
5	B	–
6	W	–
7	G	–
8	SHIELD	–
9	G	–
10	R	–
11	B	–
12	W	–

Connector No.	B106
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3
4	5	6	7	8

Terminal No.	Color of Wire	Signal Name
1	W	–
2	G	–

AANIA0923GB

Connector No.	B121
Connector Name	BOSE SPEAKER AMP.
Connector Color	BROWN

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	–	–
2	R	–
3	G	–
4	R	–
5	G	–
6	BG	–
7	P	–
8	R	–

Connector No.	B122
Connector Name	BOSE SPEAKER AMP.
Connector Color	BROWN

H.S.

24	25	26	27	28
29	30	31	32	33	34	35	36	37
---	---	---	---	---	---	---	---	---

Terminal No.	Color of Wire	Signal Name
24	G	–
25	W	–
26	GR	–
27	G	–
28	SB	–
29	W	–
30	G	–
31	GR	–
32	G	–
33	W	–
34	P	–
35	W	–
36	R	–
37	G	–

Terminal No.	Color of Wire	Signal Name
9	G	–
10	G	–
11	–	–
12	B	–
13	W	–
14	B	–
15	W	–
16	–	–
17	–	–
18	G	–
19	R	–
20	P	–
21	–	–
22	–	–
23	W	–

Connector No.	R1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	L	–
2	Y	–
3	SHIELD	–

Connector No.	B124
Connector Name	REAR SPEAKER RH (WITH BOSE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

2	1

Terminal No.	Color of Wire	Signal Name
1	W	–
2	G	–

AANIA0948GB

Connector No.	D20
Connector Name	FRONT DOOR SPEAKER LH (WITH BOSE AUDIO SYSTEM)
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	G	–
2	W	–

Connector No.	D1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
5	G	–
6	W	–

Connector No.	R7
Connector Name	MICROPHONE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	–
2	SHIELD	–
3	–	–
4	Y	–

Connector No.	D201
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	Y	–
2	LG	–

Connector No.	D120
Connector Name	FRONT DOOR SPEAKER RH (WITH BOSE AUDIO SYSTEM)
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	G	–
2	W	–

Connector No.	D101
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	G	–
2	W	–

ABNIA3655GB

Connector No.	D202
Connector Name	REAR DOOR SPEAKER LH
Connector Color	BROWN

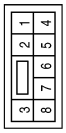
H.S.



Terminal No.	Color of Wire	Signal Name
1	LG	–
2	Y	–

Connector No.	D301
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
1	Y	–
2	LG	–

Connector No.	D302
Connector Name	REAR DOOR SPEAKER RH
Connector Color	BROWN

H.S.



Terminal No.	Color of Wire	Signal Name
1	LG	–
2	Y	–

AANIA1021GB

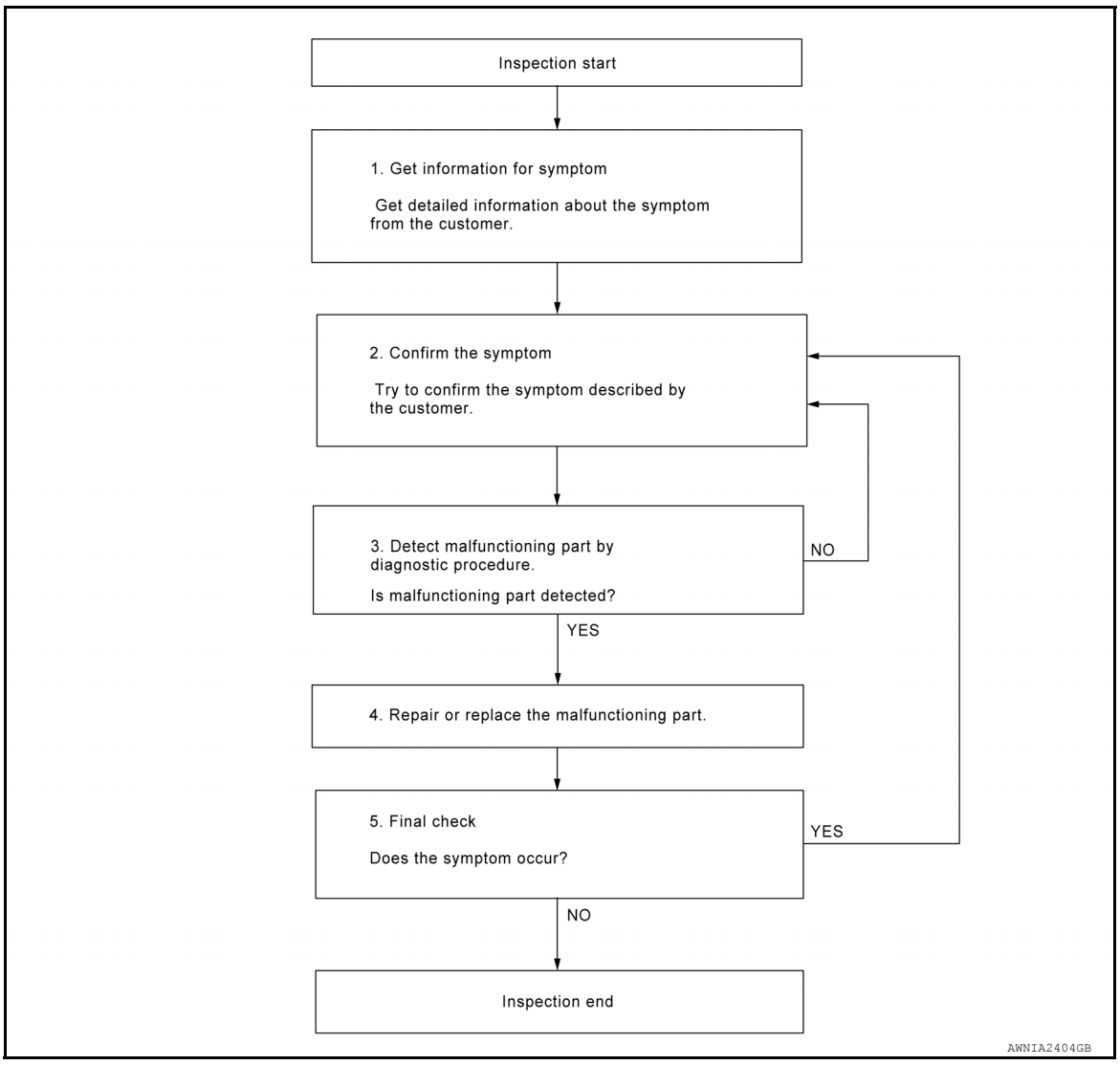
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000008542270

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-382, "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

ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Description

INFOID:0000000008659102

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:0000000008659103

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-396, "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-334, "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-334, "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.

CONFIGURATION (AV CONTROL UNIT)

CONFIGURATION (AV CONTROL UNIT) : Description

INFOID:0000000008659104

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:0000000008659105

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-335, "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:0000000008659106

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

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

DTC Logic

INFOID:0000000008713817

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.

Diagnosis Procedure

INFOID:0000000008713818

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-18, "Trouble Diagnosis Flow Chart".
NO >> Refer to GI-47, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

DTC Logic

INFOID:0000000008713819

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-396, "Removal and Installation".

U1217 AV CONTROL UNIT

DTC Logic

INFOID:0000000008713820

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-396, "Removal and Installation".

U1229 AV CONTROL UNIT

DTC Logic

INFOID:0000000008713821

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-396, "Removal and Installation".

U122F AV CONTROL UNIT

DTC Logic

INFOID:0000000008713822

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-396, "Removal and Installation".

U1244 GPS ANTENNA

DTC Logic

INFOID:0000000008713823

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:0000000008713824

Regarding Wiring Diagram information, refer to AV-314, "Wiring Diagram".

1.GPS ANTENNA INSPECTION

Visually inspect the GPS antenna and antenna feeder. Refer to AV-405, "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 M100.
2. Turn ignition switch ON.
3. Check voltage between AV control unit terminal 62 and ground.

AV control unit terminal	Ground	Voltage
(+)	(–)	
62	—	5.0 V

Is inspection result normal?

YES >> Replace GPS antenna. Refer to AV-405, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-396, "Removal and Installation".

U1258 SATELLITE RADIO ANTENNA

DTC Logic

INFOID:0000000008713825

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
XM 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:0000000008713826

Regarding Wiring Diagram information, refer to AV-314, "Wiring Diagram".

1.SATELLITE ANTENNA INSPECTION

Visually inspect the satellite antenna and antenna feeder. Refer to AV-407, "Location of Antenna".

Is inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace malfunctioning components.

2.CHECK SATELLITE ANTENNA FEEDER CONTINUITY

1. Disconnect AV control unit connector M99 and satellite radio antenna connector B59.
2. Check continuity between AV control unit connector M99 and satellite radio antenna connector B59.

AV control unit		Satellite radio antenna		Continuity
Connector	Terminal	Connector	Terminal	
M99	61	B59	1	Yes

3. Check continuity between AV control unit connector M99 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M99	61	—	No

Is the inspection result normal?

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

3.CHECK AV CONTROL UNIT VOLTAGE

1. Turn ignition switch ON.
2. Check voltage between AV control unit terminal 61 and ground.

AV control unit terminal	Ground	Voltage
(+)	(−)	
61	—	5.0 V

Is inspection result normal?

YES >> Replace satellite radio antenna. Refer to AV-404, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-396, "Removal and Installation".

U1263 USB

DTC Logic

INFOID:0000000008713827

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-343, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000008713828

1.CHECK USB INTERFACE HARNESS

Visually inspect USB interface harness. Refer to AV-397, "Removal and Installation".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace USB interface harness. Refer to AV-397, "Removal and Installation".

2.CHECK USB INTERFACE HARNESS

Check USB interface harness. Refer to AV-381, "Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace AV control unit. Refer to AV-396, "Removal and Installation".
NO >> Replace USB interface harness. Refer to AV-397, "Removal and Installation".

U1264 ANTENNA AMP.

DTC Logic

INFOID:0000000008713829

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
ANTENNA AMP TERMINAL [U1264]	Open or short to ground is detected in Antenna amp. connection.	• Antenna amp. disconnection. • Open or short to ground in antenna amp. ON signal circuit.

Diagnosis Procedure

INFOID:0000000008713830

Regarding Wiring Diagram information, refer to AV-314, "Wiring Diagram".

1.ANTENNA AMP. INSPECTION

Visually inspect the antenna amp. and antenna feeder. Refer to AV-407, "Location of Antenna".

Is inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace malfunctioning components.

2.CHECK CONTINUITY BETWEEN AV CONTROL UNIT AND ANTENNA AMP.

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M137 and antenna amp. connector M502.
3. Check continuity between AV control unit connector M137 and antenna amp. connector M502.

AV control unit		Antenna amp.		Continuity
Connector	Terminal	Connector	Terminal	
M137	60	M502	1	Yes

4. Check continuity between AV control unit connector M137 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M137	60	—	No

Is the inspection result normal?

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

3.CHECK AV CONTROL UNIT VOLTAGE

1. Connect AV control unit connector M137.
2. Turn ignition switch ON.
3. Check voltage between AV control unit connector M137 and ground.

AV control unit		Ground	Voltage (Approx.)
(+)		(–)	
Connector	Terminal		
M137	60	—	Battery voltage

Is the inspection result normal?

YES >> Replace antenna amp. Refer to AV-410, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-396, "Removal and Installation".

U1265 BOSE AMP.

DTC Logic

INFOID:0000000008707342

CONSULT Display	DTC Detection Condition	Possible Cause
AMP ON TERMINAL [U1265]	Open or short to ground is detected in BOSE amp. ON signal circuit.	Open or short to ground in BOSE amp. ON signal circuit.

Diagnosis Procedure

INFOID:0000000008707343

Regarding Wiring Diagram information, refer to AV-314, "Wiring Diagram".

1.CHECK CONTINUITY BETWEEN AV CONTROL UNIT AND BOSE SPEAKER AMP.

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M151 and Bose speaker amp. connector B121.
3. Check continuity between AV control unit connector M151 and Bose speaker amp. connector B121.

AV control unit		Bose speaker amp.		Continuity
Connector	Terminal	Connector	Terminal	
M151	1	B121	18	Yes

4. Check continuity between AV control unit connector M151 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M151	1	—	No

Is the inspection result normal?

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

2.CHECK AV CONTROL UNIT VOLTAGE

1. Connect AV control unit connector M151.
2. Turn ignition switch ON.
3. Check voltage between AV control unit connector M151 and ground.

AV control unit		Ground	Voltage (Approx.)
(+)		(–)	
Connector	Terminal		
M151	1	—	Battery voltage

Is the inspection result normal?

YES >> Replace Bose speaker amp. Refer to AV-403, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-396, "Removal and Installation".

U12AA CONFIGURATION ERROR

DTC Logic

INFOID:0000000008713833

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-334, "CONFIGURATION (AV CONTROL UNIT) : Work Procedure".

Diagnosis Procedure

INFOID:0000000008713834

1.PERFORM CONFIGURATION

When U12AA is detected, configuration data must be written.

>> Write configuration data with CONSULT. Refer to AV-334, "CONFIGURATION (AV CONTROL UNIT) : Work Procedure".

U12AB ANTENNA

DTC Logic

INFOID:0000000008713835

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
FM Antenna error [U12AB]	Open or short to ground is detected in glass antenna (FM sub) connection.	• Glass antenna (FM sub) disconnection. • Open or short to ground in glass antenna (FM sub) signal circuit.

Diagnosis Procedure

INFOID:0000000008713836

Regarding Wiring Diagram information, refer to AV-314, "Wiring Diagram".

1.GLASS ANTENNA (FM SUB) INSPECTION

Visually inspect the glass antenna (FM sub) and antenna feeder. Refer to AV-407, "Location of Antenna".

Is inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace malfunctioning components.

2.CHECK GLASS ANTENNA (FM SUB) FEEDER CONTINUITY

1. Disconnect AV control unit connector M1317 and inline connector M504.
2. Check continuity between AV control unit connector M137 and inline connector M504.

AV control unit		Inline		Continuity
Connector	Terminal	Connector	Terminal	
M137	58	M504	1	Yes

3. Check continuity between AV control unit connector M137 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M137	58	—	No

Is the inspection result normal?

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

3.CHECK AV CONTROL UNIT VOLTAGE

1. Disconnect AV control unit connector M137.
2. Turn ignition switch ON.
3. Check voltage between AV control unit terminal 58 and ground.

AV control unit terminal	Ground	Voltage
(+)	(–)	
58	—	5.0 V

Is inspection result normal?

YES >> Replace glass antenna (FM sub). Refer to GW-25, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-396, "Removal and Installation".

U12AC AV CONTROL UNIT

DTC Logic

INFOID:0000000008713837

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-396, "Removal and Installation".

U12AD AV CONTROL UNIT

DTC Logic

INFOID:0000000008713838

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-396, "Removal and Installation".

U12AE AV CONTROL UNIT

DTC Logic

INFOID:0000000008713839

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-396, "Removal and Installation".

U12AF AV CONTROL UNIT

DTC Logic

INFOID:0000000008713840

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-396, "Removal and Installation".

U12B0 POWER SUPPLY VOLTAGE

DTC Logic

INFOID:0000000008713841

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Supply Voltage Goes below 9V > 20s [U12B0]	AV control unit supply voltage exceeds lower limits.	• Charging system malfunction. • AV control unit power supply or ground circuits.

Diagnosis Procedure

INFOID:0000000008713842

1.CHECK CHARGING SYSTEM

Check the vehicle charging system. Refer to CHG-17, "Work Flow (With EXP-800 NI or GR8-1200 NI)" or CHG-20, "Work Flow (Without EXP-800 NI or GR8-1200 NI)".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning components.

2.CHECK AV CONTROL UNIT POWER SUPPLY AND GROUND CIRCUITS

Perform the AV control unit power supply and ground circuit diagnosis procedure. Refer to AV-357, "AV CONTROL UNIT : Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace the AV control unit. Refer to AV-396, "Removal and Installation".
NO >> Repair or replace harness or connectors.

U12B1 POWER SUPPLY VOLTAGE

DTC Logic

INFOID:0000000008713843

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Supply Voltage Goes High > 16V for 20s [U12B1]	AV control unit supply voltage exceeds upper limits.	Charging system malfunction.

Diagnosis Procedure

INFOID:0000000008713844

1.CHECK CHARGING SYSTEM

Check the vehicle charging system. Refer to CHG-17, "Work Flow (With EXP-800 NI or GR8-1200 NI)" or CHG-20, "Work Flow (Without EXP-800 NI or GR8-1200 NI)".

Is the inspection result normal?

YES >> Replace the AV control unit. Refer to AV-396, "Removal and Installation".
NO >> Repair or replace the malfunctioning components.

U1300 AV COMM CIRCUIT

DTC Logic

INFOID:0000000008713845

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:0000000008713846

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-27, "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 M153 and combination meter connector M24.
3. Check continuity between AV control unit connector M153 and combination meter connector M24.

AV control unit		Combination meter		Continuity
Connector	Terminal	Connector	Terminal	
M153	32	M24	36	Yes
	39			

4. Check continuity between AV control unit connector M153 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M153	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 M153 and combination meter connector M24.

AV control unit		Combination meter		Continuity
Connector	Terminal	Connector	Terminal	
M153	31	M24	37	Yes
	38			

2. Check continuity between AV control unit connector M153 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M153	31	—	No
	38		

Is the inspection result normal?

YES >> Replace the AV control unit. Refer to AV-396, "Removal and Installation".
NO >> Repair or replace harness or connectors.

U1310 AV CONTROL UNIT

DTC Logic

INFOID:0000000008713847

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-396, "Removal and Installation".

POWER SUPPLY AND GROUND CIRCUIT

AV CONTROL UNIT

AV CONTROL UNIT : Diagnosis Procedure

INFOID:0000000008654286

Regarding Wiring Diagram information, refer to AV-314, "Wiring Diagram".

1.CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
7	ACC power supply	25 (5A)
19	Battery power supply	15 (20A)
40	Ignition power supply	29 (5A)

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 M151 and M153.
3. Check voltage between AV control unit connectors M151 and M153 and ground.

AV control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M151	19	—	Ignition switch: OFF	Battery voltage
	7		Ignition switch: ON	
M153	40			

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 M151 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M151	20	—	Yes

Is the inspection result normal?

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

BOSE SPEAKER AMP

BOSE SPEAKER AMP : Diagnosis Procedure

INFOID:0000000008654287

Regarding Wiring Diagram information, refer to AV-314, "Wiring Diagram".

1.CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
27	Battery power supply	12 (15A)
28		11 (15A)

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 Bose speaker amp. connector B122.
3. Check voltage between Bose speaker amp. connector B122 and ground.

Bose speaker amp.		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
B122	27	—	Ignition switch: OFF	Battery voltage
	28			

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 Bose speaker amp. connector B122.
3. Check continuity between Bose speaker amp. connector B122 and ground.

Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B122	26	—	Yes
	31		

Is the inspection result normal?

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

FRONT DOOR SPEAKER

Diagnosis Procedure

INFOID:0000000008654288

Regarding Wiring Diagram information, refer to AV-314, "Wiring Diagram".

1.CONNECTOR CHECK

Check the AV control unit, Bose speaker amp. 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 (BOSE SPEAKER AMP.)

1. Disconnect Bose speaker amp. connector B121 and suspect front door speaker connector.
2. Check continuity between Bose speaker amp. connector B121 and suspect front door speaker connector.

Bose speaker amp.		Front door speaker		Continuity
Connector	Terminal	Connector	Terminal	
B121	20	D20 (LH)	1	Yes
	19		2	
	7	D120 (RH)	1	
	6		2	

3. Check continuity between Bose speaker amp. connector B121 and ground.

Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B121	20	—	No
	19		
	7		
	6		

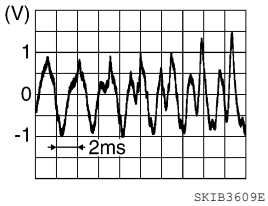
Is the inspection result normal?

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

3.CHECK FRONT DOOR SPEAKER SIGNAL (BOSE SPEAKER AMP.)

1. Connect Bose speaker amp. connector B121 and suspect front door speaker connector.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between Bose speaker amp. connector B121 and ground.

Bose speaker amp. connector B121		Condition	Reference value
(+)	(–)		
Terminal	Terminal		

20	19	Audio signal output	
7	6		

Is the inspection result normal?

YES >> Replace front door speaker. Refer to AV-400, "Removal and Installation".
NO >> GO TO 4

4. CHECK FRONT DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY (AV CONTROL UNIT)

1. Turn ignition switch to OFF.
2. Disconnect Bose speaker amp. connector B121 and AV control unit connector M151.
3. Check continuity between Bose speaker amp. connector B121 and AV control unit connector M151.

Bose speaker amp.		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
B121	2	M151	3	Yes
	3		2	
	4		12	
	5		11	

4. Check continuity between Bose speaker amp. connector B121 and ground.

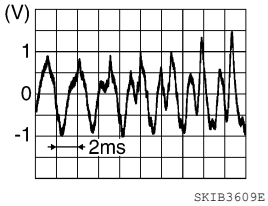
Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B121	2	—	No
	3		
	4		
	5		

Is the inspection result normal?

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

5. CHECK FRONT DOOR SPEAKER SIGNAL (AV CONTROL UNIT)

1. Connect Bose speaker amp. connector B121 and AV control unit connector M151.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between AV control unit connector M151 and ground.

AV control unit connector M151		Condition	Reference value
(+)	(−)		
Terminal	Terminal		
2	3	Audio signal output	
11	12		

Is the inspection result normal?

YES >> Replace Bose speaker amp. Refer to AV-403, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-396, "Removal and Installation".

FRONT SPEAKER

Diagnosis Procedure

INFOID:0000000008654289

Regarding Wiring Diagram information, refer to AV-314, "Wiring Diagram".

1.CONNECTOR CHECK

Check the AV control unit, Bose speaker amp. 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 SPEAKER SIGNAL CIRCUIT CONTINUITY (BOSE SPEAKER AMP.)

1. Disconnect Bose speaker amp. connector B122 and suspect front speaker connector.
2. Check continuity between Bose speaker amp. connector B122 and suspect front speaker connector.

Bose speaker amp.		Front speaker		Continuity
Connector	Terminal	Connector	Terminal	
B122	37	M55 (LH)	1	Yes
	36		2	
	34	M63 (RH)	1	
	35		2	

3. Check continuity between Bose speaker amp. connector B122 and ground.

Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B122	36	—	No
	37		
	34		
	35		

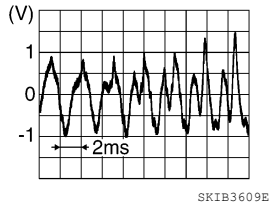
Is the inspection result normal?

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

3.CHECK FRONT SPEAKER SIGNAL (BOSE SPEAKER AMP.)

1. Connect Bose speaker amp. connector B122 and suspect front speaker connector.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between Bose speaker amp. connector B122 and ground.

Bose speaker amp. connector B122		Condition	Reference value
(+)	(−)		
Terminal	Terminal		

37	36	Audio signal output	
34	35		

Is the inspection result normal?

YES >> Replace front speaker. Refer to AV-398, "Removal and Installation".
NO >> GO TO 4

4. CHECK FRONT SPEAKER SIGNAL CIRCUIT CONTINUITY (AV CONTROL UNIT)

1. Turn ignition switch to OFF.
2. Disconnect Bose speaker amp. connector B121 and AV control unit connector M151.
3. Check continuity between Bose speaker amp. connector B121 and AV control unit connector M151.

Bose speaker amp.		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
B121	2	M151	3	Yes
	3		2	
	4		12	
	5		11	

4. Check continuity between Bose speaker amp. connector B121 and ground.

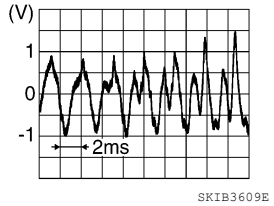
Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B121	2	—	No
	3		
	4		
	5		

Is the inspection result normal?

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

5. CHECK FRONT SPEAKER SIGNAL (AV CONTROL UNIT)

1. Connect Bose speaker amp. connector B121 and AV control unit connector M151.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between AV control unit connector M151 and ground.

AV control unit connector M151		Condition	Reference value
(+)	(−)		
Terminal	Terminal		
2	3	Audio signal output	
11	12		

Is the inspection result normal?

YES >> Replace Bose speaker amp. Refer to AV-403, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-396, "Removal and Installation".

CENTER SPEAKER

Diagnosis Procedure

INFOID:0000000008654290

Regarding Wiring Diagram information, refer to AV-314, "Wiring Diagram".

1.CONNECTOR CHECK

Check the AV control unit, Bose speaker amp. 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 CENTER SPEAKER SIGNAL CIRCUIT CONTINUITY (BOSE SPEAKER AMP.)

1. Disconnect Bose speaker amp. connector B121 and center speaker connector M301.
2. Check continuity between Bose speaker amp. connector B121 and center speaker connector M301.

Bose speaker amp.		Center speaker		Continuity
Connector	Terminal	Connector	Terminal	
B121	9	M301	1	Yes
	8		2	

3. Check continuity between Bose speaker amp. connector B121 and ground.

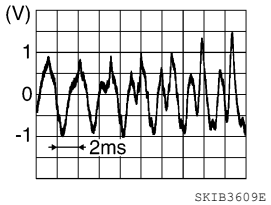
Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B121	9	—	No
	8		

Is the inspection result normal?

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

3.CHECK CENTER SPEAKER SIGNAL (BOSE SPEAKER AMP.)

1. Connect Bose speaker amp. connector B121 and center speaker connector M301.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between Bose speaker amp. connector B121 and ground.

Bose speaker amp. connector B121		Condition	Reference value
(+)	(–)		
Terminal	Terminal		
9	8	Audio signal output	

Is the inspection result normal?

YES >> Replace center speaker. Refer to AV-399, "Removal and Installation".
NO >> GO TO 4

4. CHECK CENTER SPEAKER SIGNAL CIRCUIT CONTINUITY (AV CONTROL UNIT)

1. Turn ignition switch to OFF.
2. Disconnect Bose speaker amp. connector B121 and AV control unit connector M151.
3. Check continuity between Bose speaker amp. connector B121 and AV control unit connector M151.

Bose speaker amp.		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
B121	2	M151	3	Yes
	3		2	
	4		12	
	5		11	

4. Check continuity between Bose speaker amp. connector B121 and ground.

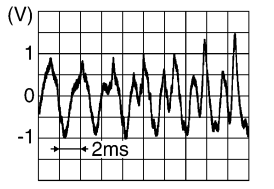
Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B121	2	—	No
	3		
	4		
	5		

Is the inspection result normal?

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

5. CHECK CENTER SPEAKER SIGNAL (AV CONTROL UNIT)

1. Connect Bose speaker amp. connector B121 and AV control unit connector M151.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between AV control unit connector M151 and ground.

AV control unit connector M151		Condition	Reference value
(+)	(−)		
Terminal	Terminal		
2	3	Audio signal output	
11	12		

Is the inspection result normal?

YES >> Replace Bose speaker amp. Refer to AV-403, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-396, "Removal and Installation".

REAR DOOR SPEAKER

Diagnosis Procedure

INFOID:0000000008654291

Regarding Wiring Diagram information, refer to AV-314, "Wiring Diagram".

1.CONNECTOR CHECK

Check the AV control unit, Bose speaker amp. 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 (BOSE SPEAKER AMP.)

1. Disconnect Bose speaker amp. connectors and suspect rear door speaker connector.
2. Check continuity between Bose speaker amp. connectors and suspect rear door speaker connector.

Bose speaker amp.		Rear door speaker		Continuity
Connector	Terminal	Connector	Terminal	
B121	10	D202 (LH)	1	Yes
	23		2	
B122	24	D302 (RH)	1	
	29		2	

3. Check continuity between Bose speaker amp. connectors and ground.

Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B121	10	—	No
	23		
B122	24		
	29		

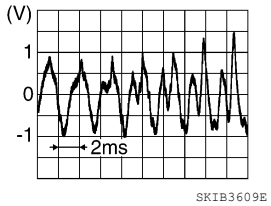
Is the inspection result normal?

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

3.CHECK REAR DOOR SPEAKER SIGNAL (BOSE SPEAKER AMP.)

1. Connect Bose speaker amp. connectors and suspect rear door speaker connector.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between Bose speaker amp. connectors and ground.

Bose speaker amp.			Condition	Reference value
Connector	(+)	(–)		
	Terminal	Terminal		

B121	10	23	Audio signal output	
B122	24	29		

Is the inspection result normal?

YES >> Replace rear door speaker. Refer to AV-401, "Removal and Installation".
NO >> GO TO 4

4. CHECK REAR DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY (AV CONTROL UNIT)

1. Turn ignition switch to OFF.
2. Disconnect Bose speaker amp. connector B121 and AV control unit connector M151.
3. Check continuity between Bose speaker amp. connector B121 and AV control unit connector M151.

Bose speaker amp.		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
B121	14	M151	4	Yes
	15		5	
	12		13	
	13		14	

4. Check continuity between Bose speaker amp. connector B121 and ground.

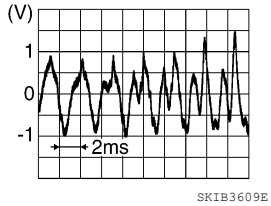
Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B121	14	—	No
	15		
	12		
	13		

Is the inspection result normal?

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

5. CHECK REAR DOOR SPEAKER SIGNAL (AV CONTROL UNIT)

1. Connect Bose speaker amp. connector B121 and AV control unit connector M151.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between AV control unit connector M151 and ground.

AV control unit connector M151		Condition	Reference value
(+)	(−)		
Terminal	Terminal		
4	5	Audio signal output	
13	14		

Is the inspection result normal?

YES >> Replace Bose speaker amp. Refer to AV-403, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-396, "Removal and Installation".

REAR SPEAKER

Diagnosis Procedure

INFOID:0000000008654292

Regarding Wiring Diagram information, refer to AV-314, "Wiring Diagram".

1.CONNECTOR CHECK

Check the AV control unit, Bose speaker amp. 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 SPEAKER SIGNAL CIRCUIT CONTINUITY (BOSE SPEAKER AMP.)

1. Disconnect Bose speaker amp. connector B122 and suspect rear speaker connector.
2. Check continuity between Bose speaker amp. connector B122 and suspect rear speaker connector.

Bose speaker amp.		Rear speaker		Continuity
Connector	Terminal	Connector	Terminal	
B122	25	B120 (LH)	1	Yes
	30		2	
	33	B124 (RH)	1	
	32		2	

3. Check continuity between Bose speaker amp. connector B122 and ground.

Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B122	30	—	No
	25		
	33		
	32		

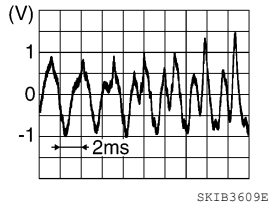
Is the inspection result normal?

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

3.CHECK REAR SPEAKER SIGNAL (BOSE SPEAKER AMP.)

1. Connect Bose speaker amp. connector B122 and suspect rear door speaker connector.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between Bose speaker amp. connector B122 and ground.

Bose speaker amp. connector B122		Condition	Reference value
(+)	(−)		
Terminal	Terminal		

25	30	Audio signal output	
33	32		

Is the inspection result normal?

YES >> Replace rear speaker. Refer to AV-402, "Removal and Installation".
NO >> GO TO 4

4. CHECK REAR SPEAKER SIGNAL CIRCUIT CONTINUITY (AV CONTROL UNIT)

1. Turn ignition switch to OFF.
2. Disconnect Bose speaker amp. connector B121 and AV control unit connector M151.
3. Check continuity between Bose speaker amp. connector B121 and AV control unit connector M151.

Bose speaker amp.		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
B121	14	M45	4	Yes
	15		5	
	12		13	
	13		14	

4. Check continuity between Bose speaker amp. connector B121 and ground.

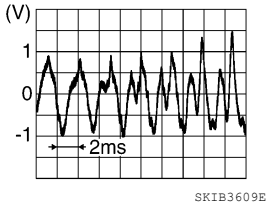
Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B121	14	—	No
	15		
	12		
	13		

Is the inspection result normal?

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

5. CHECK REAR SPEAKER SIGNAL (AV CONTROL UNIT)

1. Connect Bose speaker amp. connector B121 and AV control unit connector M151.
2. Turn ignition switch to ACC.
3. Push AV control unit POWER switch.
4. Check signal between AV control unit connector M151 and ground.

AV control unit connector M151		Condition	Reference value
(+)	(−)		
Terminal	Terminal		
4	5	Audio signal output	
13	14		

Is the inspection result normal?

YES >> Replace Bose speaker amp. Refer to AV-403, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-396, "Removal and Installation".

AMP ON SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000008654293

Regarding Wiring Diagram information, refer to AV-314, "Wiring Diagram".

1.CHECK CONTINUITY BETWEEN AV CONTROL UNIT AND BOSE SPEAKER AMP.

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M151 and Bose speaker amp. connector B121.
3. Check continuity between audio unit connector M151 and Bose speaker amp. connector M121.

AV control unit		Bose speaker amp.		Continuity
Connector	Terminal	Connector	Terminal	
M151	1	B121	18	Yes

4. Check continuity between AV control unit connector M151 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M151	1	—	No

Is the inspection result normal?

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

2.CHECK AV CONTROL UNIT VOLTAGE

1. Connect AV control unit connector M151.
2. Turn ignition switch ON.
3. Check voltage between AV control unit connector M151 and ground.

AV control unit		Ground	Voltage (Approx.)
(+)		(–)	
Connector	Terminal		
M151	1	—	Battery voltage

Is the inspection result normal?

YES >> Replace Bose speaker amp. Refer to AV-403, "Removal and Installation".
NO >> Replace AV control unit. Refer to AV-396, "Removal and Installation".

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000008654294

Regarding Wiring Diagram information, refer to AV-314, "Wiring Diagram".

1.CHECK REVERSE INPUT SIGNAL

1. Turn ignition switch ON.
2. Shift the selector lever to R (reverse).
3. Check voltage between ITS control unit connector M58 and ground.

ITS control unit		Ground	Condition	Voltage (Approx.)
(+)		(−)		
Connector	Terminal			
M58	28	—	Selector lever in R (reverse)	Battery Voltage

4. Check voltage between AV control unit connector M153 and ground.

AV control unit		Ground	Condition	Voltage (Approx.)
(+)		(−)		
Connector	Terminal			
M153	25	—	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 ITS control unit connector M59 and rear view camera connector.
3. Check continuity between ITS control unit connector M59 and rear view camera connector B35.

ITS control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M59	52	B35	8	Yes

4. Check continuity between ITS control unit connector M59 and ground.

ITS control unit		Ground	Continuity
Connector	Terminal		
M59	52		No

Is inspection result normal?

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

3.CHECK CAMERA POWER SUPPLY VOLTAGE

1. Connect ITS control unit connector M59 and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever to R (reverse).
4. Check voltage between ITS control unit connector M59 and ground.

ITS control unit		Ground	Condition	Voltage (Approx.)
(+)		(−)		
Connector	Terminal			
M59	52	—	Selector lever in R (reverse)	6.0 V

Is inspection result normal?

YES >> GO TO 4.
NO >> Replace ITS control unit. Refer to AV-413, "Removal and Installation".

4. CHECK CAMERA IMAGE SIGNAL CIRCUIT CONTINUITY (ITS CONTROL UNIT)

1. Turn ignition switch OFF.
2. Disconnect ITS control unit connector M59 and rear view camera connector.
3. Check continuity between ITS control unit connector M59 and rear view camera connector B35.

ITS control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M59	66	B35	5	Yes

4. Check continuity between ITS control unit connector M59 and ground.

ITS control unit		Ground	Continuity
Connector	Terminal		
M59	66		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 ITS control unit connector M59 and rear view camera connector B35.

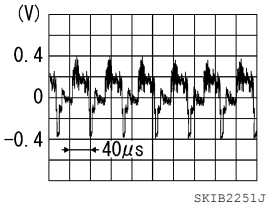
ITS control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M59	51	B35	7	Yes

Is inspection result normal?

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

6. CHECK CAMERA IMAGE SIGNAL (ITS CONTROL UNIT)

1. Connect ITS control unit connector M59 and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever to R (reverse).
4. Check signal between ITS control unit connector M59 and ground.

ITS control unit		Ground	Condition	Reference value
(+)		(−)		
Connector	Terminal			
M59	66	—	Camera image displayed.	

Is inspection result normal?

YES >> GO TO 7.
NO >> Replace ITS control unit. Refer to AV-413, "Removal and Installation".

7. CHECK CAMERA IMAGE SIGNAL CIRCUIT CONTINUITY (AV CONTROL UNIT)

1. Turn ignition switch OFF.
2. Disconnect ITS control unit connector M59 and AV control unit connector M153.
3. Check continuity between ITS control unit connector M59 and AV control unit connector M153.

ITS control unit		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M59	69	M153	41	Yes

4. Check continuity between ITS control unit connector M59 and ground.

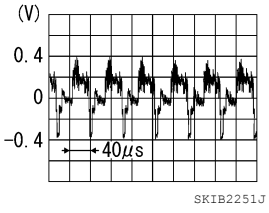
ITS control unit		Ground	Continuity
Connector	Terminal		
M59	69		No

Is inspection result normal?

YES >> GO TO 8.
NO >> Repair or replace harness or connectors.

8. CHECK CAMERA IMAGE SIGNAL (AV CONTROL UNIT)

1. Connect ITS control unit connector M59 and AV control unit connector M153.
2. Turn ignition switch ON.
3. Shift the selector lever to R (reverse).
4. Check signal between AV control unit connector M153 and ground.

AV control unit		Ground	Condition	Reference value
(+)		(−)		
Connector	Terminal			
M153	41	—	Camera image displayed.	

Is inspection result normal?

YES >> Replace AV control unit. Refer to AV-396, "Removal and Installation".
NO >> Replace rear view camera. Refer to AV-412, "Removal and Installation".

MICROPHONE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000008654295

Regarding Wiring Diagram information, refer to AV-314, "Wiring Diagram".

1.CHECK MICROPHONE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M153 and microphone connector R7.
3. Check continuity between AV control unit connector M153 and microphone connector R7.

AV control unit		Microphone		Continuity
Connector	Terminal	Connector	Terminal	
M153	36	R7	2	Yes
	35		4	
	34		1	

4. Check continuity between AV control unit connector M153 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M153	36	—	No
	35		
	34		

Is inspection result normal?

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

2.CHECK MICROPHONE VCC VOLTAGE

1. Connect AV control unit connector M153.
2. Turn ignition switch ON.
3. Check voltage between terminals of AV control unit connector M153.

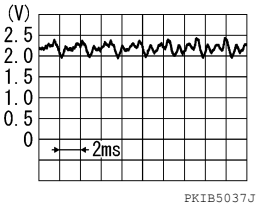
AV control unit connector M153		Voltage (Approx.)
(+)	(–)	
Terminal	Terminal	
35	36	5.0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace AV control unit. Refer to AV-396, "Removal and Installation".

3.CHECK MICROPHONE SIGNAL

1. Connect microphone connector.
2. Check signal between terminals of AV control unit connector M153.

AV control unit connector M153		Condition	Reference value
(+)	(−)		
Terminal	Terminal		
34	36	Speak into microphone.	

Is the inspection result normal?

YES >> Replace AV control unit. Refer to AV-396, "Removal and Installation".
NO >> Replace microphone. Refer to AV-411, "Removal and Installation".

STEERING SWITCH

Diagnosis Procedure

INFOID:0000000008654296

Regarding Wiring Diagram information, refer to AV-314, "Wiring Diagram".

1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

1. Turn ignition switch OFF.
2. Disconnect combination switch connector M88.
3. Check resistance between combination switch connector terminals.

Combination switch connector M88		Condition	Resistance Ω (Approx.)
Terminal	Terminal		
14	17	Depress SOURCE switch.	1
		Depress △ switch.	121
		Depress ▽ switch.	321
		Depress switch.	723
		Depress ENTER switch.	2023
15		Depress − switch.	1
		Depress + switch.	121
		Depress switch.	321
		Depress switch.	723
		Depress DISP switch.	2023

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace steering switches. Refer to AV-406, "Removal and Installation".

2. CHECK HARNESS BETWEEN COMBINATION SWITCH AND COMBINATION METER

1. Disconnect combination meter connector M24 and combination switch connector M30.
2. Check continuity between combination meter connector M24 and combination switch connector M30.

Combination meter		Combination switch		Continuity
Connector	Terminal	Connector	Terminal	
M24	3	M30	24	Yes
	24		33	
	4		31	

3. Check continuity between combination meter connector M24 and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M24	3	—	No
	24		
	4		

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 M30 and M88.

Combination switch				Continuity
Connector	Terminal	Connector	Terminal	
M30	24	M88	14	Yes
	31		15	
	33		17	

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace spiral cable. Refer to SR-15, "Removal and Installation".

4. CHECK HARNESS BETWEEN COMBINATION METER AND AV CONTROL UNIT

1. Disconnect AV control unit connector M97.
2. Check continuity between combination meter connector M24 and AV control unit connector M153.

Combination meter		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M24	37	M153	31	Yes
	36		32	

3. Check continuity between combination meter connector M24 and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M24	37	—	No
	36		

Is the inspection result normal?

YES >> Replace AV control unit. Refer to AV-396, "Removal and Installation".
NO >> Repair or replace harness or connectors.

USB CONNECTOR

Diagnosis Procedure

INFOID:0000000008654297

Regarding Wiring Diagram information, refer to AV-314, "Wiring Diagram".

1.CHECK USB INTERFACE HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M131 and USB interface connector M132.
3. Check continuity between AV control unit connector M131 and USB interface connector M132.

AV control unit		USB interface		Continuity
Connector	Terminal	Connector	Terminal	
M131	45	M132	4	Yes
	46		1	
	47		2	
	48		3	
	49		5	

4. Check continuity between AV control unit connector M131 and ground.

AV control unit		—	Continuity
Connector	Terminal		
M131	46	Ground	No
	49		

Is the inspection result normal?

YES >> Replace the USB interface. Refer to AV-397, "Removal and Installation".
NO >> Repair or replace harness or connectors.

SYMPTOM DIAGNOSIS

MULTI AV SYSTEM

Symptom Table

INFOID:0000000008664273

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-305, "On Board Diagnosis Function".

Symptoms	Check items	Probable malfunction location
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-314, "Wiring Diagram". • Bose amp. ON signal circuit malfunction. Refer to AV-373, "Diagnosis Procedure". • Bose speaker amp. power supply and ground circuits malfunction. Refer to AV-357, "BOSE SPEAKER AMP : Diagnosis Procedure".
	Only a certain speaker (front door speaker LH, front door speaker RH, front speaker LH, front speaker RH, center speaker, rear door speaker LH, rear door speaker RH, rear speaker LH, rear speaker RH) does not output sound.	• Poor connector connection of speaker. • Sound signal circuit malfunction between AV control unit and Bose speaker amp. Refer to: - AV-359, "Diagnosis Procedure" (front door speaker). - AV-362, "Diagnosis Procedure" (front speaker). - AV-365, "Diagnosis Procedure" (center speaker). - AV-367, "Diagnosis Procedure" (rear door speaker). - AV-370, "Diagnosis Procedure" (rear speaker). • Sound signal circuit malfunction between Bose speaker amp. and speaker. Refer to: - AV-359, "Diagnosis Procedure" (front door speaker). - AV-362, "Diagnosis Procedure" (front speaker). - AV-365, "Diagnosis Procedure" (center speaker). - AV-367, "Diagnosis Procedure" (rear door speaker). - AV-370, "Diagnosis Procedure" (rear speaker). • Malfunction in speaker. Refer to: - AV-400, "Removal and Installation" (front door speaker). - AV-398, "Removal and Installation" (front speaker). - AV-399, "Removal and Installation" (center speaker). - AV-401, "Removal and Installation" (rear door speaker). - AV-402, "Removal and Installation" (rear speaker). • Malfunction in AV control unit. Refer to AV-305, "On Board Diagnosis Function". • Malfunction in Bose speaker amp. Replace Bose speaker amp. Refer to AV-403, "Removal and Installation".

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-305, "On Board Diagnosis Function". • Malfunction in Bose speaker amp. Replace Bose speaker amp. Refer to AV-403, "Removal and Installation".
	Noise comes out only from a certain speaker (front door speaker LH, front door speaker RH, front speaker LH, front speaker RH, center speaker, rear door speaker LH, rear door speaker RH, rear speaker LH, rear speaker RH).	• Poor connector connection of speaker. • Sound signal circuit malfunction between AV control unit and Bose speaker amp. Refer to: - AV-359, "Diagnosis Procedure" (front door speaker). - AV-362, "Diagnosis Procedure" (front speaker). - AV-365, "Diagnosis Procedure" (center speaker). - AV-367, "Diagnosis Procedure" (rear door speaker). - AV-370, "Diagnosis Procedure" (rear speaker). • Sound signal circuit malfunction between Bose speaker amp. and speaker. Refer to: - AV-359, "Diagnosis Procedure" (front door speaker). - AV-362, "Diagnosis Procedure" (front speaker). - AV-365, "Diagnosis Procedure" (center speaker). - AV-367, "Diagnosis Procedure" (rear door speaker). - AV-370, "Diagnosis Procedure" (rear speaker). • Malfunction in speaker. • Poor Installation of speaker (e.g. backlash and looseness). Refer to: - AV-400, "Removal and Installation" (front door speaker). - AV-398, "Removal and Installation" (front speaker). - AV-399, "Removal and Installation" (center speaker). - AV-401, "Removal and Installation" (rear door speaker). - AV-402, "Removal and Installation" (rear speaker). • Malfunction in AV control unit. Refer to AV-305, "On Board Diagnosis Function". • Malfunction in Bose speaker amp. Replace Bose speaker amp. Refer to AV-403, "Removal and Installation".
	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-407, "Location of Antenna".
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-307, "Reference Value". • Poor connector connection of antenna or antenna feeder. Refer to AV-407, "Location of Antenna".

Symptoms	Check items	Probable malfunction location
No satellite radio reception.	There is malfunction in the CONSULT self diagnosis result. Refer to AV-306, "CONSULT Function".	• Malfunction in antenna, antenna feeder or AV control unit. Perform DTC diagnosis. Refer to AV-342, "Diagnosis Procedure". • Poor continuity in antenna feeder. • Poor connector connection of antenna or antenna feeder. Refer to AV-407, "Location of Antenna".
	There is no malfunction in the CONSULT self diagnosis result. Refer to AV-306, "CONSULT Function".	• Poor continuity in antenna feeder. • Poor connector connection of antenna or antenna feeder. • Loose satellite radio antenna mounting nut. Refer to AV-407, "Location of Antenna".
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-406, "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-377, "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-406, "Removal and Installation".
	Steering switch's , , , and switches do not work.	Steering switch signal circuit malfunction. Refer to AV-379, "Diagnosis Procedure".
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to AV-379, "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-305, "On Board Diagnosis Function".
	Steering switches malfunction.	Steering switch signal circuit malfunction. Refer to AV-379, "Diagnosis Procedure".
	Voice activated control malfunction.	Microphone signal circuit malfunction. Refer to AV-377, "Diagnosis Procedure". Steering switch signal circuit malfunction. Refer to AV-379, "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 AV control unit. Refer to AV-374, "Diagnosis Procedure".
	Camera image signal circuit malfunction.	Camera image signal circuit malfunction between rear view camera and AV control unit. Refer to AV-374, "Diagnosis Procedure".
	Rear view camera malfunction.	Replace rear view camera. Refer to AV-412, "Removal and Installation".

NORMAL OPERATING CONDITION

Description

INFOID:0000000008664274

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-382, "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.
	Audio guidance is not available while the vehicle is driving on a dark pink route.	System is not malfunctioning.
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

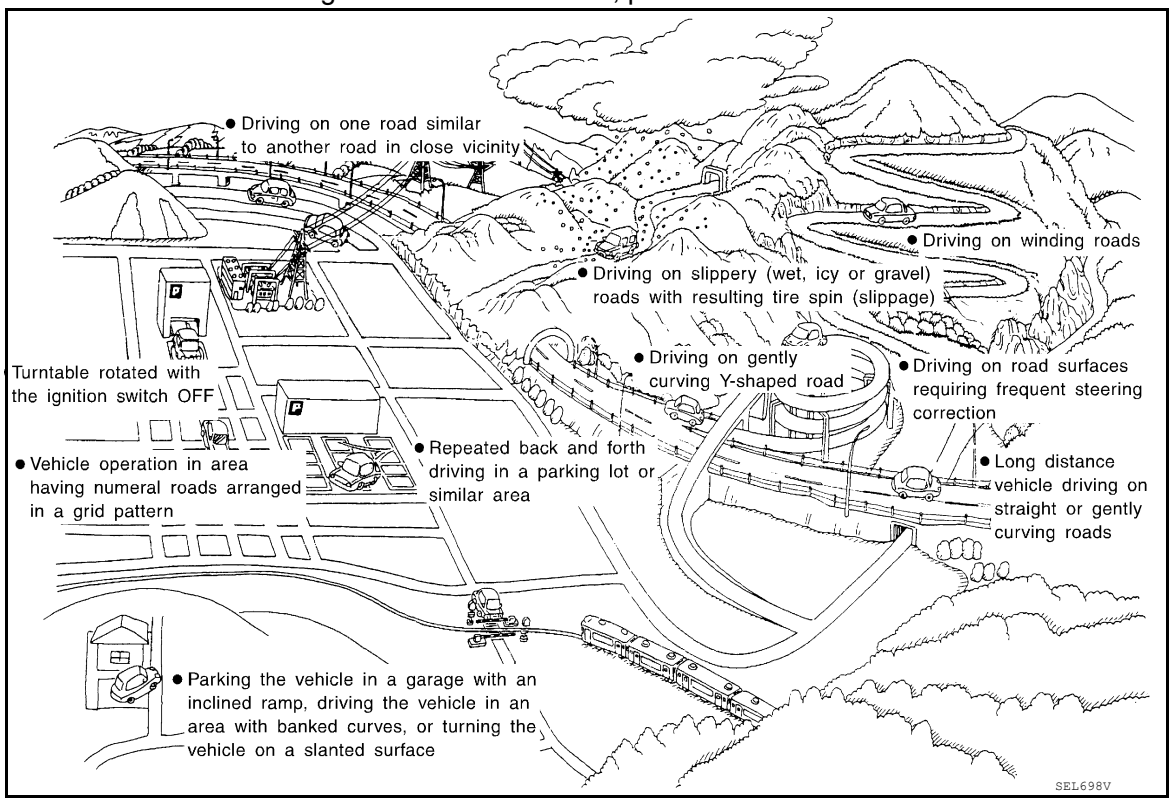
Symptom	Cause	Remedy
No route is shown.	No road to be searched is found around the destination.	Find wider road (orange road or wider) nearby and reset the destination and passing points onto it. Take care of the traveling direction when there are separate up and down roads.
	Starting point and the destination 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.

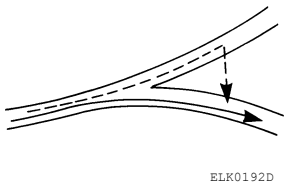
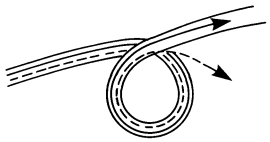
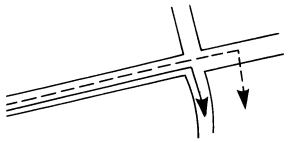
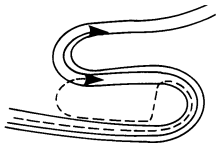
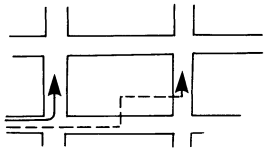
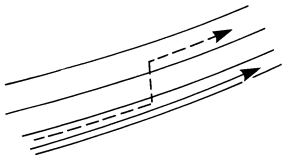
NOTE:

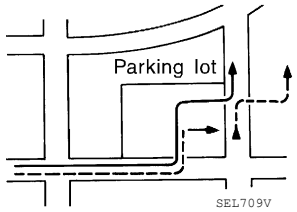
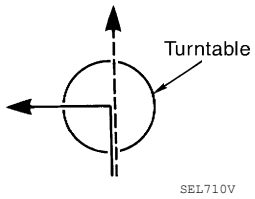
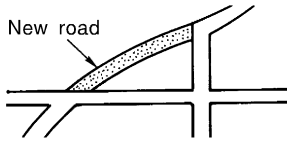
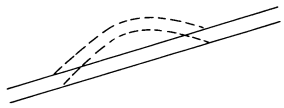
Except for the ordinance-designated cities. (Malfunctioning areas may be changed in the updated map disc.)

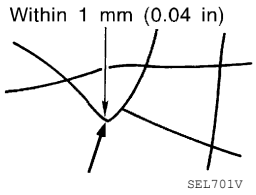
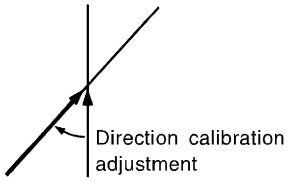
Examples of Current-Location Mark Displacement

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 	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 	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 	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) 	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

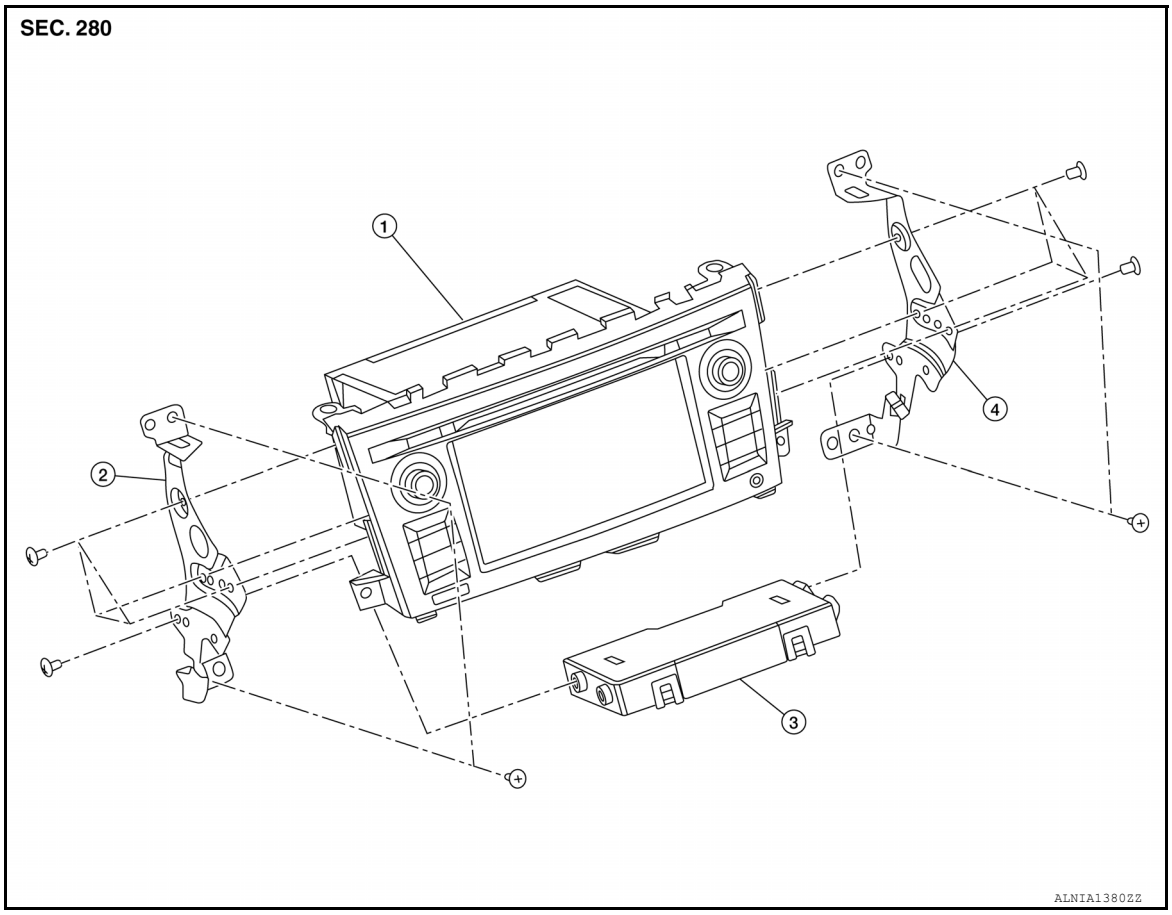
The conditions of the GPS antenna (GPS data) and gyroscope (angular speed sensor) change gradually. Depending on the road traveled and the operation of the steering wheel, the location detection results will be different. Therefore, even on a road on which the location has never been wrong, conditions may cause the vehicle mark to deviate.

REMOVAL AND INSTALLATION

AV CONTROL UNIT

Exploded View

INFOID:0000000008571573



1. AV control unit
2. AV control unit bracket LH
3. A/C auto amp.
4. AV control unit bracket RH

Removal and Installation

INFOID:0000000008668936

REMOVAL

CAUTION:

Before replacing AV control unit, perform "READ CONFIGURATION" to save current vehicle specification. Refer to AV-233, "CONFIGURATION (AV CONTROL UNIT) : Description".

1. Disconnect the negative battery terminal. Refer to PG-72, "Removal and Installation (Battery)".
2. Remove cluster lid C. Refer to IP-20, "Cluster Lid C".
3. Remove the A/C switch assembly. Refer to HAC-101, "Removal and Installation".
4. Remove the AV control unit screws, then pull out the AV control unit.
5. Disconnect the harness connectors from the AV control unit and remove.

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

When replacing AV control unit, perform "WRITE CONFIGURATION". Refer to AV-234, "CONFIGURATION (AV CONTROL UNIT) : Configuration List".

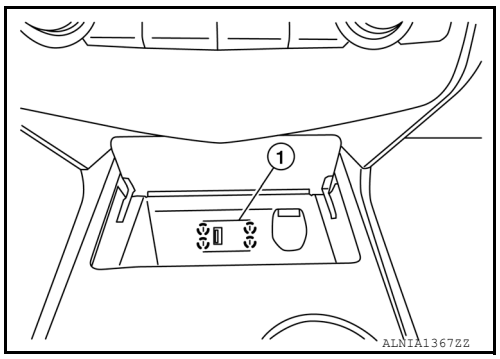
USB CONNECTOR

Removal and Installation

INFOID:0000000008528811

Removal

1. Remove the CVT finisher. Refer to IP-23, "Exploded View".
2. Release the pawls and remove the USB interface (1) from the back of the CVT finisher.
   ( ): Pawl



Installation

Installation is in the reverse order of removal.

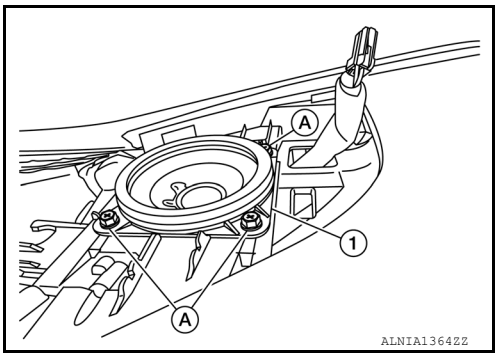
FRONT SPEAKER

Removal and Installation

INFOID:0000000008528815

REMOVAL

1. Remove the front pillar finisher. Refer to INT-21, "FRONT PILLAR FINISHER : Removal and Installation".
2. Remove the front speaker grille using a suitable tool.
3. Remove the front speaker screws (A).
4. Pull out the front speaker (1), disconnect the harness connector from front speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

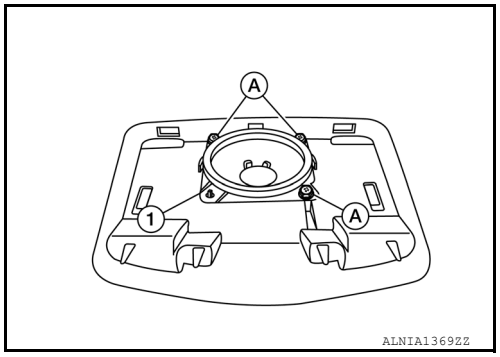
CENTER SPEAKER

Removal and Installation

INFOID:0000000008528904

REMOVAL

1. Remove the center speaker grille using a suitable tool.
2. Remove the center speaker screws (A).
3. Pull out the center speaker (1), disconnect the harness connector from the center speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

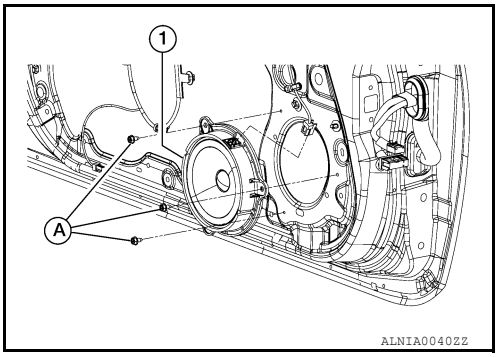
FRONT DOOR SPEAKER

Removal and Installation

INFOID:0000000008529116

REMOVAL

1. Remove the front door finisher. Refer to INT-15, "Removal and Installation".
2. Remove the front door speaker screws (A).
3. Disconnect the harness connector from the front door speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

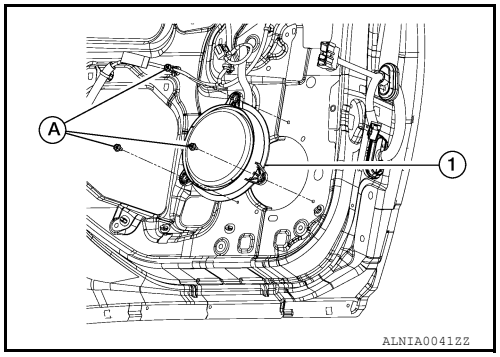
REAR DOOR SPEAKER

Removal and Installation

INFOID:0000000008529158

REMOVAL

1. Remove the rear door finisher. Refer to INT-18, "Removal and Installation".
2. Remove the rear door speaker screws (A).
3. Disconnect the harness connector from the rear door speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

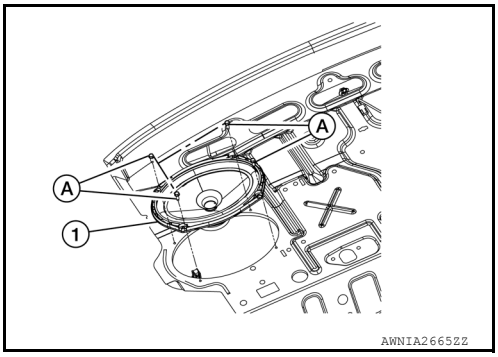
REAR SPEAKER

Removal and Installation

INFOID:0000000008746525

REMOVAL

1. Remove the rear parcel shelf finisher. Refer to INT-26, "Removal and Installation".
2. Remove the rear speaker screws (A).
3. Disconnect the harness connector from the rear speaker (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

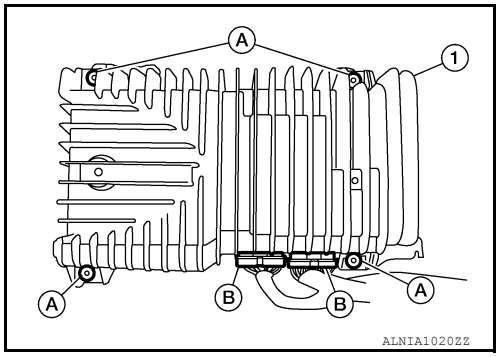
BOSE SPEAKER AMP

Removal and Installation

INFOID:0000000008529160

REMOVAL

1. Open the trunk lid.
2. Remove the Bose speaker amp. screws (A).
3. Disconnect the harness connectors (B) from the Bose speaker amp. (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

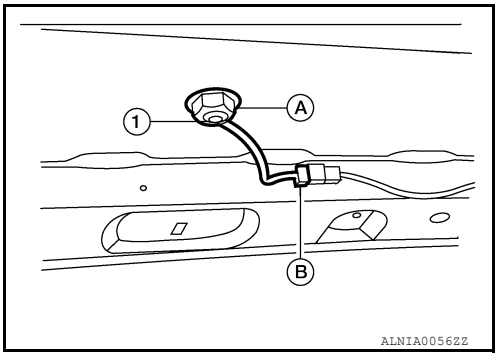
SATELLITE RADIO ANTENNA

Removal and Installation

INFOID:0000000008668938

REMOVAL

1. Lower the headlining at the rear. Refer to INT-30, "Removal and Installation".
2. Remove the satellite radio antenna nut (A).
3. Disconnect the harness connector (B) from the satellite radio antenna (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

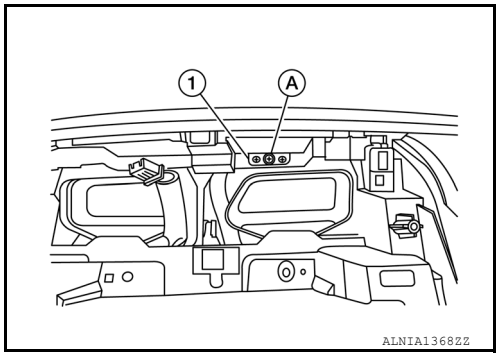
GPS ANTENNA

Removal and Installation

INFOID:0000000008668944

REMOVAL

1. Remove the AV control unit. Refer to AV-104, "Removal and Installation".
2. Remove the GPS antenna screw (A) and the GPS antenna (1).



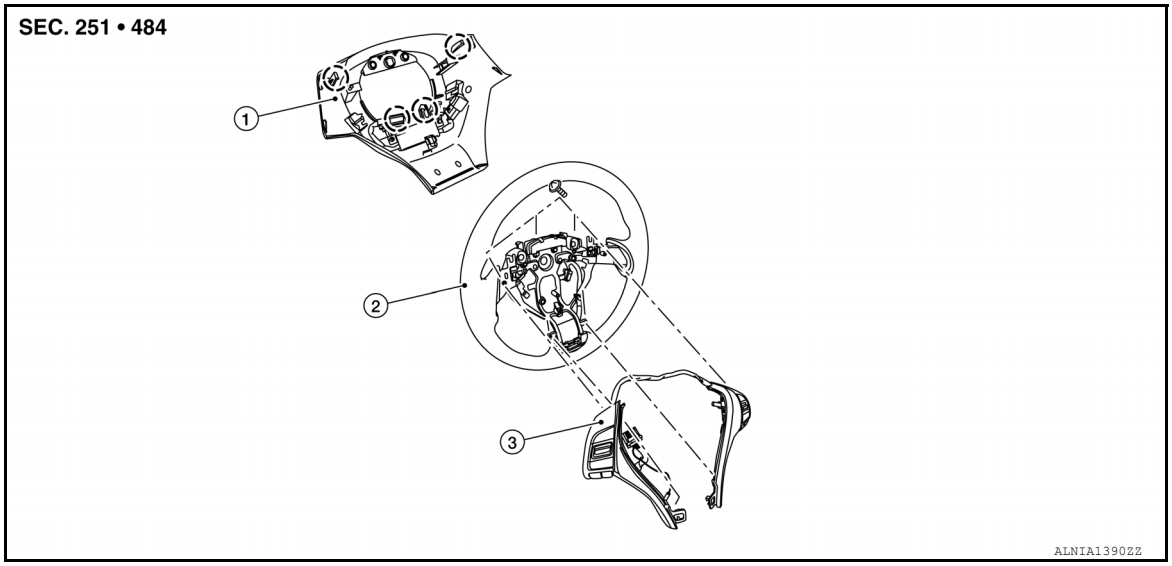
INSTALLATION

Installation is in the reverse order of removal.

STEERING SWITCH

Exploded View

INFOID:0000000008542324



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

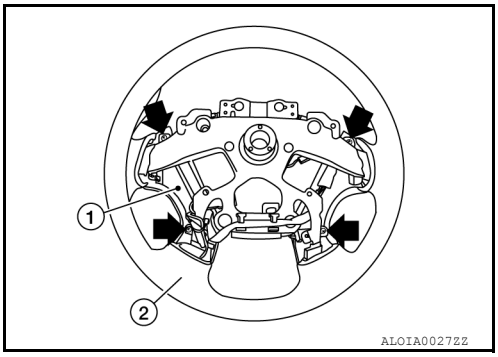
Pawl

Removal and Installation

INFOID:0000000008542325

REMOVAL

1. Remove the steering wheel. Refer to ST-31, "Removal and Installation"
2. Release the pawls on the steering wheel rear finisher and remove.
3. Remove the steering switches screws (⬅).
4. Remove the steering switches (1) from steering wheel (2).



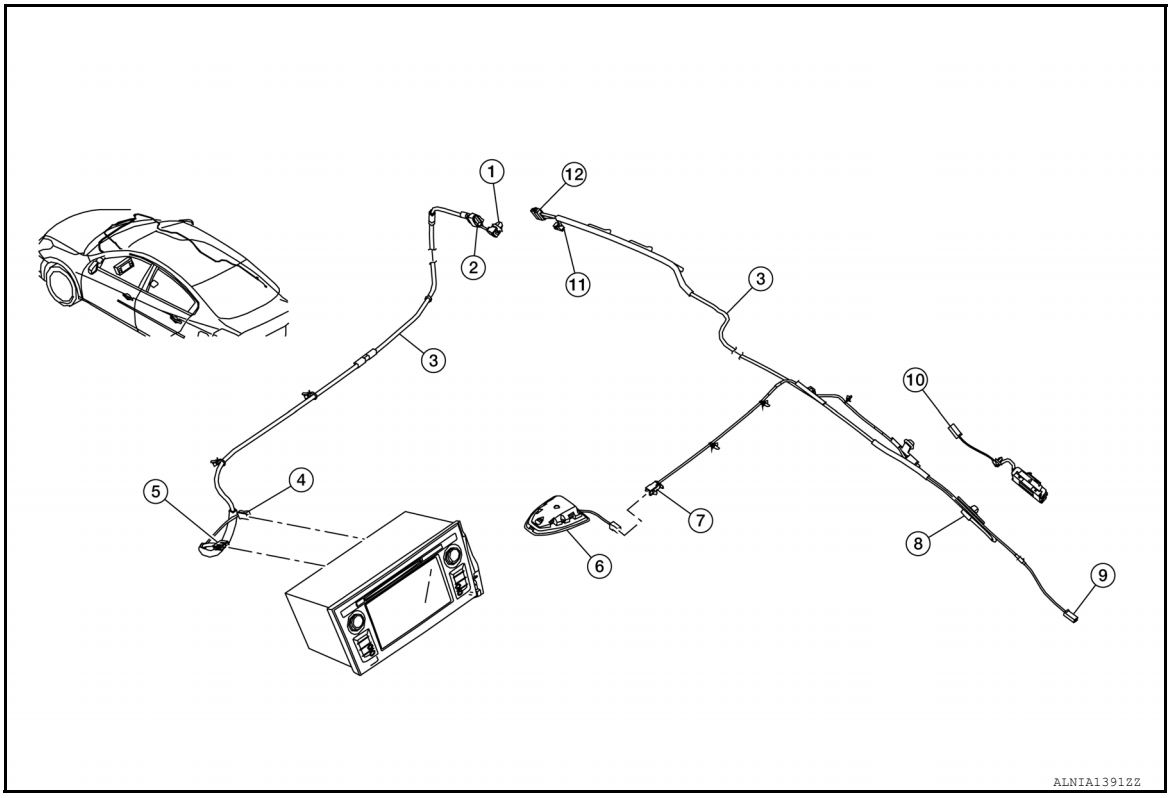
INSTALLATION

Installation is in the reverse order of removal.

ANTENNA FEEDER

Location of Antenna

INFOID:0000000008527504



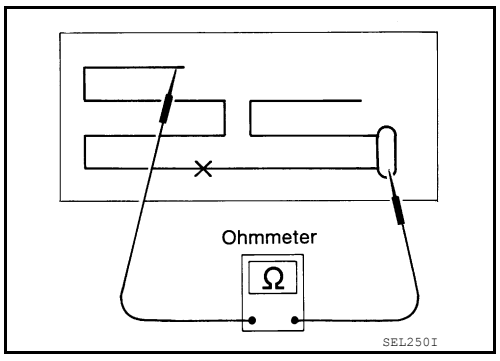
1. M102
2. M101
3. Antenna feeder
4. M99
5. M137
6. Satellite antenna
7. B59
8. M502
9. M504
10. M503
11. M500
12. M501

Window Antenna Repair

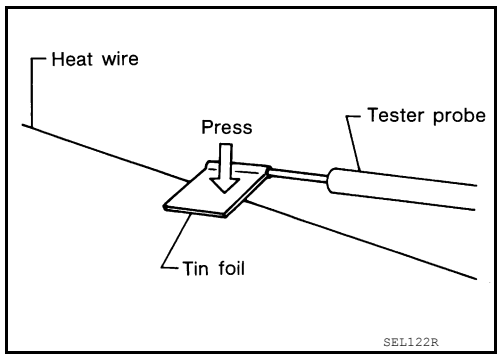
INFOID:0000000008527505

ELEMENT CHECK

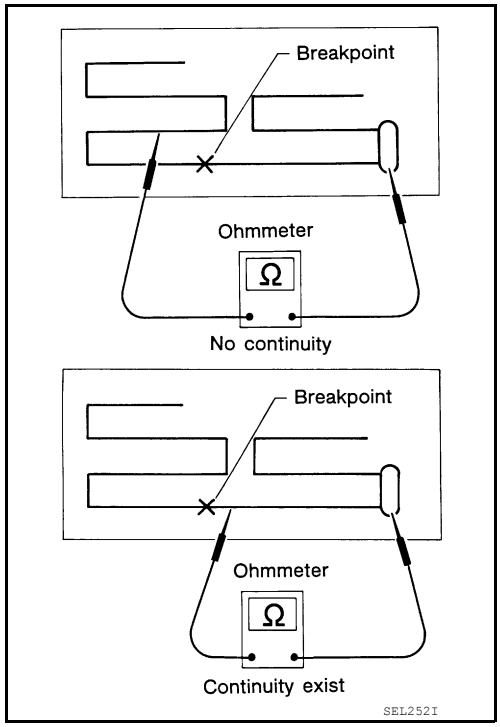
1. Attach probe circuit tester (ohm setting) to antenna terminal on each side.



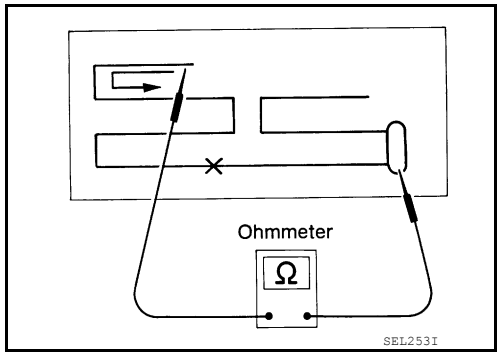
- **When measuring continuity, wrap tin foil around the top of probe. Then, press the foil against the wire with your finger.**



2. If an element is broken, no continuity will exist.



3. To locate a break, move probe along element. Tester indication will change abruptly when probe passes the broken point.

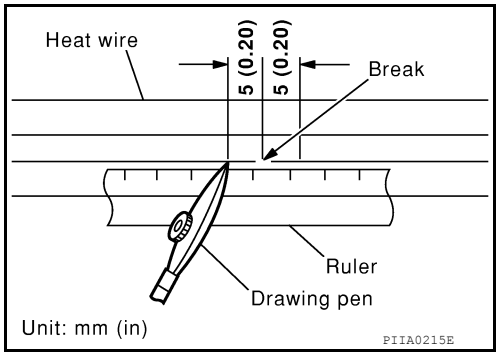


REPAIR EQUIPMENT

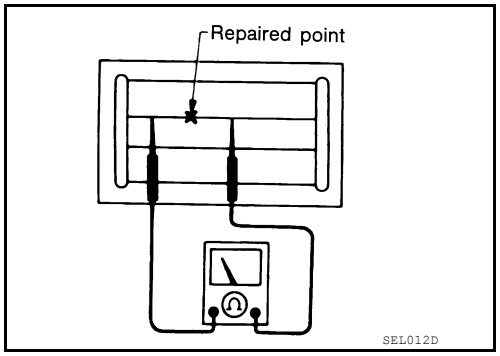
- Conductive silver composition (DuPont No. 4817 or equivalent)
- Ruler 30 cm (11.8 in) long
- Drawing pen
- Heat gun
- Alcohol
- Cloth

REPAIRING PROCEDURE

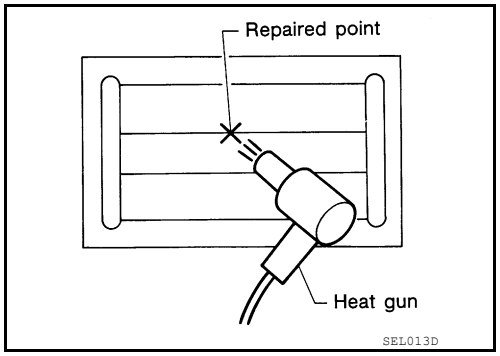
1. Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
2. Apply a small amount of conductive silver composition to tip of drawing pen.
   Shake silver composition container before use.
3. Place ruler on glass along broken line. Deposit conductive silver composition on break with drawing pen. Slightly overlap existing heat wire on both sides [preferably 5 mm (0.20 in)] of the break.



4. After repair has been completed, check repaired wire for continuity. This check should be conducted 10 minutes after silver composition is deposited.
   Do not touch repaired area while test is being conducted.



5. Apply a constant stream of hot air directly to the repaired area for approximately 20 minutes with a heat gun. A minimum distance of 3 cm (1.2 in) should be kept between repaired area and hot air outlet.
   If a heat gun is not available, let the repaired area dry for 24 hours.



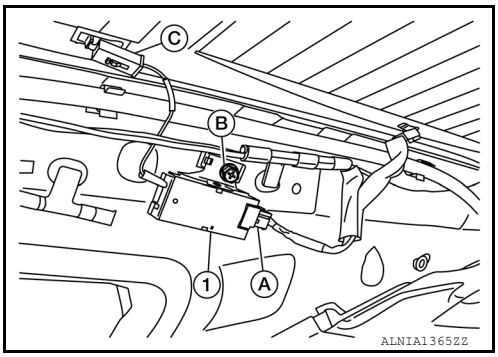
ANTENNA AMP.

Removal and Installation

INFOID:0000000008668946

REMOVAL

1. Remove the rear pillar finisher RH. Refer to INT-25, "REAR PILLAR FINISHER : Removal and Installation".
2. Disconnect the harness connector (A) from the antenna amp. (1).
3. Disconnect the antenna amp. harness connector (C) from the rear window glass.
4. Remove the antenna amp. screw (B) and the antenna amp. (1).



INSTALLATION

Installation is in the reverse order of removal.

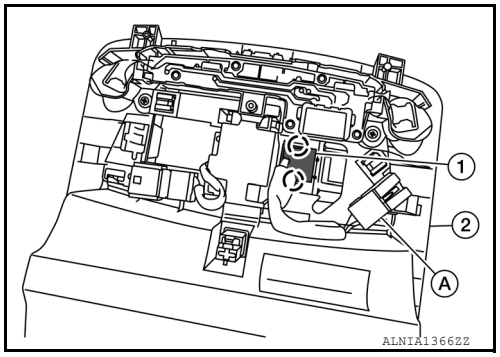
MICROPHONE

Removal and Installation

INFOID:0000000008668949

REMOVAL

1. Remove the front room/map lamp assembly. Refer to INL-63, "Removal and Installation".
2. Disconnect the microphone connector (A) from the front room/ map lamp assembly (2).
3. Release the microphone pawls, then remove the microphone (1).
   : Pawl



INSTALLATION

Installation is in the reverse order of removal.

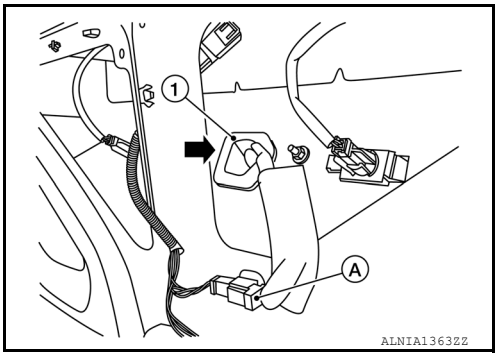
REAR VIEW CAMERA

Removal and Installation

INFOID:0000000008529425

REMOVAL

1. Remove trunk lid finisher. Refer to INT-33, "Exploded View".
2. Disconnect the harness connector (A) from rear view camera.
3. Push the rear view camera (1) in direction shown (⬅) and pull out to remove.



INSTALLATION

Installation is in the reverse order of removal.

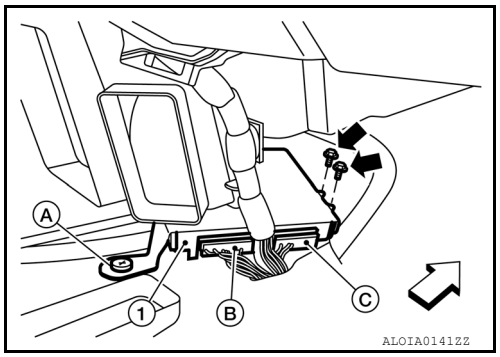
ITS CONTROL UNIT

Removal and Installation

INFOID:0000000008668950

REMOVAL

1. Disconnect the battery negative terminal. Refer to PG-72, "Removal and Installation (Battery)".
2. Remove the center console assembly. Refer to IP-18, "Removal and Installation".
3. Disconnect the harness connectors (B,C) from the ITS control unit (1).
   ⇦: Front
4. Remove bolts (⬅) and plastic screw (A) that retain the ITS control unit (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.