

SECTION **AV**

AUDIO, VISUAL & NAVIGATION SYSTEM

CONTENTS

DISPLAY AUDIO	WIRING DIAGRAM	27	F
PRECAUTION	DISPLAY AUDIO	27	G
PRECAUTIONS	Wiring Diagram	27	
Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"	BASIC INSPECTION	42	H
Precaution for Harness Repair	DIAGNOSIS AND REPAIR WORKFLOW	42	
Precaution for Work	Work Flow	42	I
PREPARATION	DTC/CIRCUIT DIAGNOSIS	44	J
PREPARATION	POWER SUPPLY AND GROUND CIRCUIT	44	K
Special Service Tool	AUDIO UNIT	44	L
Commercial Service Tools	AUDIO UNIT : Diagnosis Procedure	44	M
SYSTEM DESCRIPTION	FRONT TWEETER	45	AV
COMPONENT PARTS	Diagnosis Procedure	45	
Component Parts Location	FRONT DOOR SPEAKER	47	O
Audio Unit	Diagnosis Procedure	47	P
Speakers	REAR DOOR SPEAKER	49	
USB Interface and AUX in Jack	Diagnosis Procedure	49	
Steering Switches	REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT	51	
Microphone	Diagnosis Procedure	51	
Rear View Camera	MICROPHONE SIGNAL CIRCUIT	53	
Steering Angle Sensor	Diagnosis Procedure	53	
Rod Antenna, Antenna Amp., Satellite Antenna and Antenna Feeder	STEERING SWITCH	55	
SYSTEM	Diagnosis Procedure	55	
System Description	USB CONNECTOR	57	
DIAGNOSIS SYSTEM (AUDIO UNIT)	Diagnosis Procedure	57	
Description	AUXILIARY INPUT JACK	58	
On Board Diagnosis Function	Diagnosis Procedure	58	
ECU DIAGNOSIS INFORMATION	SYMPTOM DIAGNOSIS	59	
AUDIO UNIT			
Reference Value			

AUDIO SYSTEM	59	COMPONENT PARTS	77
Symptom Table	59	Component Parts Location	77
NORMAL OPERATING CONDITION	62	AV Control Unit	78
Description	62	Speakers	78
REMOVAL AND INSTALLATION	64	USB Interface and AUX In Jack	79
AUDIO UNIT	64	Steering Switches	79
Exploded View	64	Microphone	79
Removal and Installation	64	Around View Monitor Control Unit	80
STEERING SWITCHES	65	Rear View Camera	80
Exploded View	65	Side Cameras	80
Removal and Installation	65	Front Camera	80
FRONT TWEETER	66	Steering Angle Sensor	81
Removal and Installation	66	Rod Antenna, Antenna Amp., Satellite Antenna and Antenna Feeder	81
FRONT DOOR SPEAKER	67	GPS Antenna	82
Exploded View	67	SD Card	82
Removal and Installation	67	SYSTEM	83
REAR DOOR SPEAKER	68	System Description	83
Exploded View	68	DIAGNOSIS SYSTEM (AV CONTROL UNIT)...	91
Removal and Installation	68	Description	91
USB INTERFACE AND AUX IN JACK	69	On Board Diagnosis Function	91
Removal and Installation	69	CONSULT Function	92
MICROPHONE	70	DIAGNOSIS SYSTEM (AROUND VIEW MON- ITOR CONTROL UNIT)	93
Removal and Installation	70	WITHOUT DRIVER ASSISTANCE SYSTEM	93
REAR VIEW CAMERA	71	WITHOUT DRIVER ASSISTANCE SYSTEM :	
Removal and Installation	71	CONSULT Function	93
AUDIO ANTENNA	72	WITH DRIVER ASSISTANCE SYSTEM	94
Removal and Installation	72	WITH DRIVER ASSISTANCE SYSTEM : CON- SULT Function	94
ANTENNA FEEDER	73	ECU DIAGNOSIS INFORMATION	97
Feeder Layout	73	AV CONTROL UNIT	97
NAVIGATION WITHOUT BOSE		Reference Value	97
PRECAUTION	74	DTC Index	100
PRECAUTIONS	74	AROUND VIEW MONITOR CONTROL UNIT ..	101
Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TEN- SIONER"	74	WITHOUT DRIVER ASSISTANCE SYSTEM	101
Cautions in Removing Battery Terminal and AV Control Unit (Models with AV Control Unit)	74	WITHOUT DRIVER ASSISTANCE SYSTEM :	
Precaution for Trouble Diagnosis	74	Reference Value	101
Precaution for Harness Repair	74	WITHOUT DRIVER ASSISTANCE SYSTEM :	
Precaution for Work	75	DTC Index	103
PREPARATION	76	WITH DRIVER ASSISTANCE SYSTEM	103
PREPARATION	76	WITH DRIVER ASSISTANCE SYSTEM : Refer- ence Value	103
Special Service Tool	76	WITH DRIVER ASSISTANCE SYSTEM : DTC In- dex	107
Commercial Service Tools	76	WIRING DIAGRAM	108
SYSTEM DESCRIPTION	77	NAVIGATION WITHOUT BOSE	108
		Wiring Diagram	108
		BASIC INSPECTION	129

DIAGNOSIS AND REPAIR WORKFLOW	129	AV CONTROL UNIT : Diagnosis Procedure	142
Work Flow	129	AROUND VIEW MONITOR CONTROL UNIT	142
INSPECTION AND ADJUSTMENT	131	AROUND VIEW MONITOR CONTROL UNIT :	
ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT	131	DTC Logic	142
ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Description	131	AROUND VIEW MONITOR CONTROL UNIT : Di-	
ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Work Procedure	131	agnosis Procedure	142
ADDITIONAL SERVICE WHEN REPLACING AROUND VIEW MONITOR CONTROL UNIT	131	U1010 CONTROL UNIT (CAN)	143
ADDITIONAL SERVICE WHEN REPLACING AROUND VIEW MONITOR CONTROL UNIT :		AV CONTROL UNIT	143
Description	132	AV CONTROL UNIT : DTC Logic	143
ADDITIONAL SERVICE WHEN REPLACING AROUND VIEW MONITOR CONTROL UNIT :		AROUND VIEW MONITOR CONTROL UNIT	143
Work Procedure	132	AROUND VIEW MONITOR CONTROL UNIT :	
CONFIGURATION (AV CONTROL UNIT)	132	DTC Logic	143
CONFIGURATION (AV CONTROL UNIT) : De-		U111A REAR CAMERA IMAGE SIGNAL CIR-	
scription	133	CUIT	144
CONFIGURATION (AV CONTROL UNIT) : Work		DTC Logic	144
Procedure	133	Diagnosis Procedure	144
CONFIGURATION (AV CONTROL UNIT) : Con-		U111B SIDE CAMERA RH IMAGE SIGNAL	
figuration List	134	CIRCUIT	148
CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT)	134	DTC Logic	148
CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT) : Description	134	Diagnosis Procedure	148
CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT) : Work Procedure	134	U111C FRONT CAMERA IMAGE SIGNAL	
CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT) : Configuration List	135	CIRCUIT	152
PREDICTED COURSE LINE CENTER POSITION ADJUSTMENT	135	DTC Logic	152
PREDICTED COURSE LINE CENTER POSITION ADJUSTMENT : Description	135	Diagnosis Procedure	152
PREDICTED COURSE LINE CENTER POSITION ADJUSTMENT : Work Procedure	135	U111D SIDE CAMERA LH IMAGE SIGNAL	
CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR)	135	CIRCUIT	156
CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Description	135	DTC Logic	156
CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Work Procedure	136	Diagnosis Procedure	156
DTC/CIRCUIT DIAGNOSIS	141	U1217 AV CONTROL UNIT	160
U0428 STEERING ANGLE SENSOR	141	DTC Logic	160
DTC Logic	141	U1229 AV CONTROL UNIT	161
Diagnosis Procedure	141	DTC Logic	161
U1000 CAN COMM CIRCUIT	142	U122F AV CONTROL UNIT	162
AV CONTROL UNIT	142	DTC Logic	162
AV CONTROL UNIT : DTC Logic	142	U1232 STEERING ANGLE SENSOR	163
		DTC Logic	163
		Diagnosis Procedure	163
		U1244 GPS ANTENNA	164
		DTC Logic	164
		Diagnosis Procedure	164
		U1258 SATELLITE RADIO ANTENNA	165
		DTC Logic	165
		Diagnosis Procedure	165
		U1263 USB	166
		DTC Logic	166
		Diagnosis Procedure	166
		U12AA CONFIGURATION ERROR	167

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

DTC Logic	167	Diagnosis Procedure	191
Diagnosis Procedure	167	USB CONNECTOR	193
U12AB ANTENNA	168	Diagnosis Procedure	193
DTC Logic	168	AUXILIARY INPUT JACK	194
Diagnosis Procedure	168	Diagnosis Procedure	194
U12AC AV CONTROL UNIT	169	SYMPTOM DIAGNOSIS	195
DTC Logic	169	MULTI AV SYSTEM	195
U12AD AV CONTROL UNIT	170	Symptom Table	195
DTC Logic	170	NORMAL OPERATING CONDITION	200
U12AE AV CONTROL UNIT	171	Description	200
DTC Logic	171	REMOVAL AND INSTALLATION	209
U12AF AV CONTROL UNIT	172	AV CONTROL UNIT	209
DTC Logic	172	Exploded View	209
U12B0 POWER SUPPLY VOLTAGE	173	Removal and Installation	209
DTC Logic	173	STEERING SWITCH	211
Diagnosis Procedure	173	Exploded View	211
U12B1 POWER SUPPLY VOLTAGE	174	Removal and Installation	211
DTC Logic	174	FRONT TWEETER	212
Diagnosis Procedure	174	Removal and Installation	212
U1300 AV COMM CIRCUIT	175	FRONT DOOR SPEAKER	213
DTC Logic	175	Exploded View	213
Diagnosis Procedure	175	Removal and Installation	213
U1304 CAMERA IMAGE CALIBRATION	177	REAR DOOR SPEAKER	214
DTC Logic	177	Exploded View	214
Diagnosis Procedure	177	Removal and Installation	214
U1305 CONFIG UNFINISH	178	USB INTERFACE AND AUX IN JACK	215
DTC Logic	178	Removal and Installation	215
Diagnosis Procedure	178	MICROPHONE	216
U1310 CONTROL UNIT (AV)	179	Removal and Installation	216
DTC Logic	179	AROUND VIEW MONITOR CONTROL UNIT	217
POWER SUPPLY AND GROUND CIRCUIT ..	180	Exploded View	217
AV CONTROL UNIT	180	Removal and Installation	217
AV CONTROL UNIT : Diagnosis Procedure	180	FRONT CAMERA	218
AROUND VIEW MONITOR CONTROL UNIT	180	Exploded View	218
AROUND VIEW MONITOR CONTROL UNIT : Di-		Removal and Installation	218
agnosis Procedure	180	SIDE CAMERA	219
FRONT TWEETER	183	Removal and Installation	219
Diagnosis Procedure	183	REAR VIEW CAMERA	220
FRONT DOOR SPEAKER	185	Removal and Installation	220
Diagnosis Procedure	185	GPS ANTENNA	221
REAR DOOR SPEAKER	187	Removal and Installation	221
Diagnosis Procedure	187	AUDIO ANTENNA	222
MICROPHONE SIGNAL CIRCUIT	189	Removal and Installation	222
Diagnosis Procedure	189	ANTENNA FEEDER	223
STEERING SWITCH	191		

Feeder Layout	223	AV CONTROL UNIT	248	
NAVIGATION WITH BOSE		Reference Value	248	A
PRECAUTION	224	DTC Index	251	
PRECAUTIONS	224	BOSE SPEAKER AMP	252	B
Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"	224	Reference Value	252	
Cautions in Removing Battery Terminal and AV Control Unit (Models with AV Control Unit)	224	AROUND VIEW MONITOR CONTROL UNIT .	255	C
Precaution for Trouble Diagnosis	224	WITHOUT DRIVER ASSISTANCE SYSTEM	255	
Precaution for Harness Repair	224	WITHOUT DRIVER ASSISTANCE SYSTEM :		D
Precaution for Work	225	Reference Value	255	
PREPARATION	226	WITHOUT DRIVER ASSISTANCE SYSTEM :		D
PREPARATION	226	DTC Index	257	
Special Service Tool	226	WITH DRIVER ASSISTANCE SYSTEM	257	E
Commercial Service Tools	226	WITH DRIVER ASSISTANCE SYSTEM : Refer-		
SYSTEM DESCRIPTION	227	ence Value	257	
COMPONENT PARTS	227	WITH DRIVER ASSISTANCE SYSTEM : DTC In-		F
Component Parts Location	227	dex	261	
AV Control Unit	228	WIRING DIAGRAM	262	
BOSE Speaker Amp.	228	NAVIGATION WITH BOSE	262	G
Speakers	229	Wiring Diagram	262	
USB Interface and AUX In Jack	230	BASIC INSPECTION	285	H
Steering Switches	230	DIAGNOSIS AND REPAIR WORKFLOW	285	
Microphone	230	Work Flow	285	I
Around View Monitor Control Unit	231	INSPECTION AND ADJUSTMENT	287	
Rear View Camera	231	ADDITIONAL SERVICE WHEN REPLACING AV		J
Side Cameras	231	CONTROL UNIT	287	
Front Camera	231	ADDITIONAL SERVICE WHEN REPLACING AV		
Steering Angle Sensor	232	CONTROL UNIT : Description	287	K
Rod Antenna, Antenna Amp., Satellite Antenna and Antenna Feeder	232	ADDITIONAL SERVICE WHEN REPLACING AV		
GPS Antenna	233	CONTROL UNIT : Work Procedure	287	L
SD Card	233	ADDITIONAL SERVICE WHEN REPLACING		
SYSTEM	234	AROUND VIEW MONITOR CONTROL UNIT	287	
System Description	234	ADDITIONAL SERVICE WHEN REPLACING		
DIAGNOSIS SYSTEM (AV CONTROL UNIT)..	242	AROUND VIEW MONITOR CONTROL UNIT :		M
Description	242	Description	288	
On Board Diagnosis Function	242	ADDITIONAL SERVICE WHEN REPLACING		
CONSULT Function	243	AROUND VIEW MONITOR CONTROL UNIT :		
DIAGNOSIS SYSTEM (AROUND VIEW MON-		Work Procedure	288	AV
ITOR CONTROL UNIT)	244	CONFIGURATION (AV CONTROL UNIT)	288	
WITHOUT DRIVER ASSISTANCE SYSTEM	244	CONFIGURATION (AV CONTROL UNIT) : De-		O
WITHOUT DRIVER ASSISTANCE SYSTEM :		scription	289	
CONSULT Function	244	CONFIGURATION (AV CONTROL UNIT) : Work		
WITH DRIVER ASSISTANCE SYSTEM	245	Procedure	289	P
WITH DRIVER ASSISTANCE SYSTEM : CON-		CONFIGURATION (AV CONTROL UNIT) : Con-		
SULT Function	245	figuration List	290	
ECU DIAGNOSIS INFORMATION	248	CONFIGURATION (AROUND VIEW MONITOR		
		CONTROL UNIT)	290	
		CONFIGURATION (AROUND VIEW MONITOR		
		CONTROL UNIT) : Description	290	

CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT) : Work Procedure	290	U111D SIDE CAMERA LH IMAGE SIGNAL CIRCUIT	312
CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT) : Configuration List	291	DTC Logic	312
PREDICTED COURSE LINE CENTER POSITION ADJUSTMENT	291	Diagnosis Procedure	312
PREDICTED COURSE LINE CENTER POSITION ADJUSTMENT : Description	291	U1217 AV CONTROL UNIT	316
PREDICTED COURSE LINE CENTER POSITION ADJUSTMENT : Work Procedure	291	DTC Logic	316
CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR)	291	U1229 AV CONTROL UNIT	317
CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Description	291	DTC Logic	317
CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Work Procedure	292	U122F AV CONTROL UNIT	318
DTC/CIRCUIT DIAGNOSIS	297	DTC Logic	318
U0428 STEERING ANGLE SENSOR	297	U1232 STEERING ANGLE SENSOR	319
DTC Logic	297	DTC Logic	319
Diagnosis Procedure	297	Diagnosis Procedure	319
U1000 CAN COMM CIRCUIT	298	U1244 GPS ANTENNA	320
AV CONTROL UNIT	298	DTC Logic	320
AV CONTROL UNIT : DTC Logic	298	Diagnosis Procedure	320
AV CONTROL UNIT : Diagnosis Procedure	298	U1258 SATELLITE RADIO ANTENNA	321
AROUND VIEW MONITOR CONTROL UNIT	298	DTC Logic	321
AROUND VIEW MONITOR CONTROL UNIT : DTC Logic	298	Diagnosis Procedure	321
AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure	298	U1263 USB	322
U1010 CONTROL UNIT (CAN)	299	DTC Logic	322
AV CONTROL UNIT	299	Diagnosis Procedure	322
AV CONTROL UNIT : DTC Logic	299	U1265 BOSE AMP.	323
AROUND VIEW MONITOR CONTROL UNIT	299	DTC Logic	323
AROUND VIEW MONITOR CONTROL UNIT : DTC Logic	299	Diagnosis Procedure	323
U111A REAR CAMERA IMAGE SIGNAL CIRCUIT	300	U12AA CONFIGURATION ERROR	324
DTC Logic	300	DTC Logic	324
Diagnosis Procedure	300	Diagnosis Procedure	324
U111B SIDE CAMERA RH IMAGE SIGNAL CIRCUIT	304	U12AB ANTENNA	325
DTC Logic	304	DTC Logic	325
Diagnosis Procedure	304	Diagnosis Procedure	325
U111C FRONT CAMERA IMAGE SIGNAL CIRCUIT	308	U12AC AV CONTROL UNIT	326
DTC Logic	308	DTC Logic	326
Diagnosis Procedure	308	U12AD AV CONTROL UNIT	327
U111D SIDE CAMERA LH IMAGE SIGNAL CIRCUIT	312	DTC Logic	327
DTC Logic	312	U12AE AV CONTROL UNIT	328
Diagnosis Procedure	312	DTC Logic	328
U1217 AV CONTROL UNIT	316	U12AF AV CONTROL UNIT	329
DTC Logic	316	DTC Logic	329
U1229 AV CONTROL UNIT	317	U12B0 POWER SUPPLY VOLTAGE	330
DTC Logic	317	DTC Logic	330
U122F AV CONTROL UNIT	318	Diagnosis Procedure	330
DTC Logic	318	U12B1 POWER SUPPLY VOLTAGE	331
U1232 STEERING ANGLE SENSOR	319	DTC Logic	331
DTC Logic	319	Diagnosis Procedure	331
Diagnosis Procedure	319	U1300 AV COMM CIRCUIT	332
U1244 GPS ANTENNA	320		
DTC Logic	320		
Diagnosis Procedure	320		
U1258 SATELLITE RADIO ANTENNA	321		
DTC Logic	321		
Diagnosis Procedure	321		
U1263 USB	322		
DTC Logic	322		
Diagnosis Procedure	322		
U1265 BOSE AMP.	323		
DTC Logic	323		
Diagnosis Procedure	323		
U12AA CONFIGURATION ERROR	324		
DTC Logic	324		
Diagnosis Procedure	324		
U12AB ANTENNA	325		
DTC Logic	325		
Diagnosis Procedure	325		
U12AC AV CONTROL UNIT	326		
DTC Logic	326		
U12AD AV CONTROL UNIT	327		
DTC Logic	327		
U12AE AV CONTROL UNIT	328		
DTC Logic	328		
U12AF AV CONTROL UNIT	329		
DTC Logic	329		
U12B0 POWER SUPPLY VOLTAGE	330		
DTC Logic	330		
Diagnosis Procedure	330		
U12B1 POWER SUPPLY VOLTAGE	331		
DTC Logic	331		
Diagnosis Procedure	331		
U1300 AV COMM CIRCUIT	332		

DTC Logic	332	NORMAL OPERATING CONDITION	367	
Diagnosis Procedure	332	Description	367	A
U1304 CAMERA IMAGE CALIBRATION	334	REMOVAL AND INSTALLATION	376	
DTC Logic	334	AV CONTROL UNIT	376	B
Diagnosis Procedure	334	Exploded View	376	
U1305 CONFIG UNFINISH	335	Removal and Installation	376	C
DTC Logic	335	STEERING SWITCH	378	
Diagnosis Procedure	335	Exploded View	378	
U1310 CONTROL UNIT (AV)	336	Removal and Installation	378	D
DTC Logic	336	BOSE SPEAKER AMP	379	
POWER SUPPLY AND GROUND CIRCUIT ...	337	Removal and Installation	379	E
AV CONTROL UNIT	337	FRONT TWEETER	380	
AV CONTROL UNIT : Diagnosis Procedure	337	Removal and Installation	380	
BOSE SPEAKER AMP	337	FRONT DOOR SPEAKER	381	F
BOSE SPEAKER AMP : Diagnosis Procedure	337	Exploded View	381	
AROUND VIEW MONITOR CONTROL UNIT	338	Removal and Installation	381	G
AROUND VIEW MONITOR CONTROL UNIT : Di-		CENTER SPEAKER	382	
agnosis Procedure	338	Removal and Installation	382	
FRONT TWEETER	340	REAR DOOR SPEAKER	383	H
Diagnosis Procedure	340	Exploded View	383	
CENTER SPEAKER	343	Removal and Installation	383	I
Diagnosis Procedure	343	SUBWOOFER	384	
FRONT DOOR SPEAKER	345	Removal and Installation	384	J
Diagnosis Procedure	345	USB INTERFACE AND AUX IN JACK	385	
REAR DOOR SPEAKER	348	Removal and Installation	385	K
Diagnosis Procedure	348	MICROPHONE	386	
SUBWOOFER	351	Removal and Installation	386	L
Diagnosis Procedure	351	AROUND VIEW MONITOR CONTROL UNIT .	387	
AMP ON SIGNAL CIRCUIT	354	Exploded View	387	
Diagnosis Procedure	354	Removal and Installation	387	M
MICROPHONE SIGNAL CIRCUIT	355	FRONT CAMERA	388	
Diagnosis Procedure	355	Exploded View	388	
STEERING SWITCH	357	Removal and Installation	388	AV
Diagnosis Procedure	357	SIDE CAMERA	389	
USB CONNECTOR	359	Removal and Installation	389	O
Diagnosis Procedure	359	REAR VIEW CAMERA	390	
AUXILIARY INPUT JACK	360	Removal and Installation	390	P
Diagnosis Procedure	360	GPS ANTENNA	391	
SYMPTOM DIAGNOSIS	361	Removal and Installation	391	
MULTI AV SYSTEM	361	AUDIO ANTENNA	392	
Symptom Table	361	Removal and Installation	392	
		ANTENNA FEEDER	393	
		Feeder Layout	393	

PRECAUTION

PRECAUTIONS

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

INFOID:000000010197340

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:

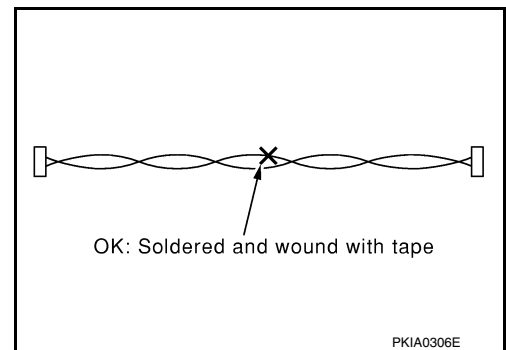
- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious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

Precaution for Harness Repair

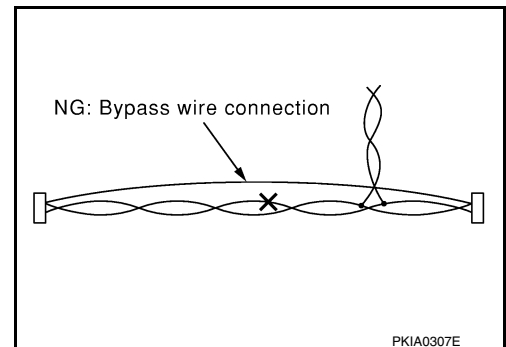
INFOID:000000010197351

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.)



PRECAUTIONS

< PRECAUTION >

[DISPLAY AUDIO]

Precaution for Work

INFOID:000000010197352

- 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.

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

AV

PREPARATION

< PREPARATION >

[DISPLAY AUDIO]

PREPARATION

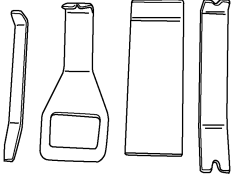
PREPARATION

Special Service Tool

INFOID:000000010197485

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

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




AWJIA0483ZZ

Commercial Service Tools

INFOID:000000010197484

Tool name	Description
Power tool	Loosening nuts, screws and bolts



PIIB1407E

COMPONENT PARTS

< SYSTEM DESCRIPTION >

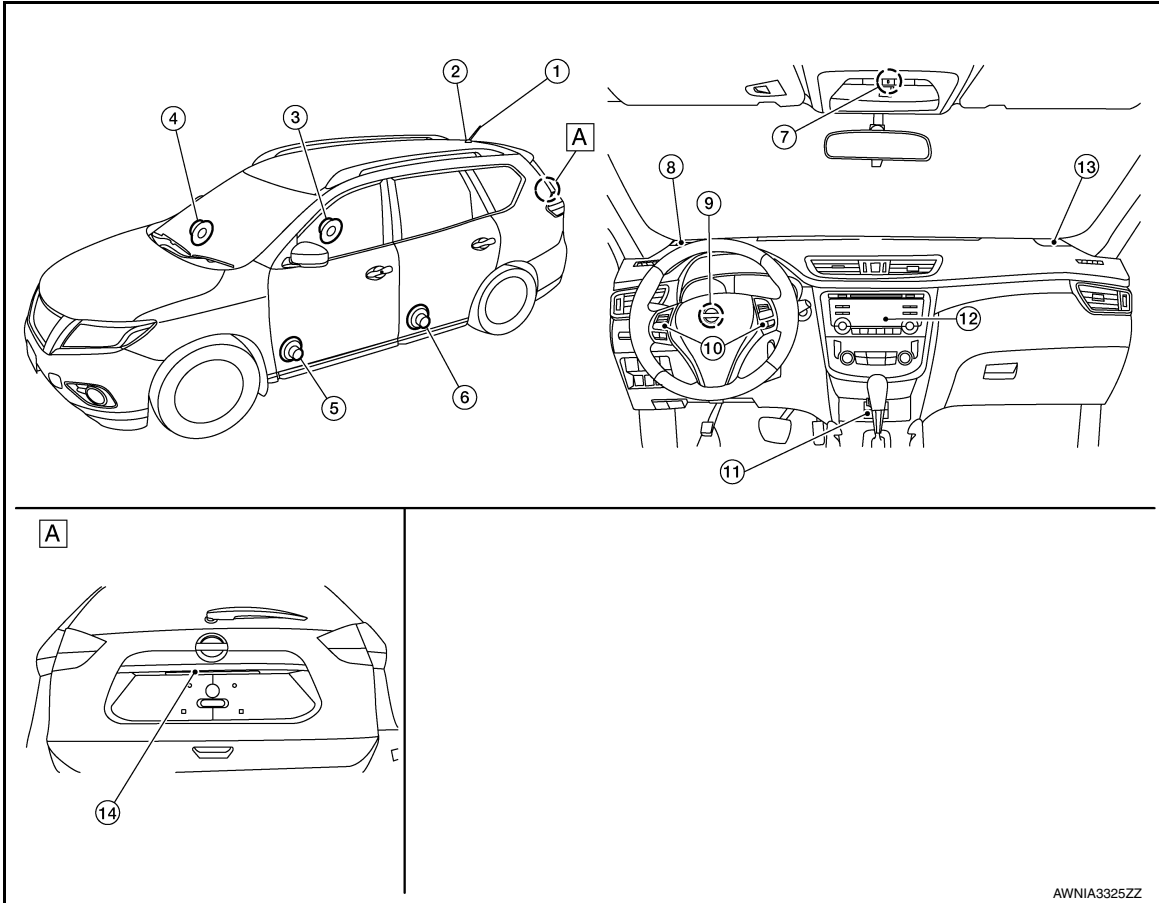
[DISPLAY AUDIO]

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:000000010245811



A. Center of back door

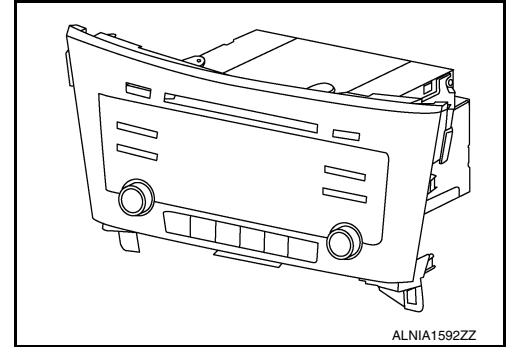
No.	Component	Function
1.	Rod antenna	Refer to AV-14, "Rod Antenna, Antenna Amp., Satellite Antenna and Antenna Feeder" .
2.	Antenna base (antenna amp. and satellite antenna)	
3.	Rear door speaker RH	Refer to AV-12, "Speakers" .
4.	Front door speaker RH	
5.	Front door speaker LH	
6.	Rear door speaker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

Audio Unit

INFOID:000000010245812

Description

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

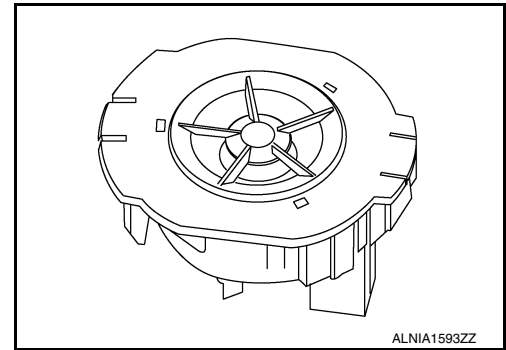


Speakers

INFOID:000000010245813

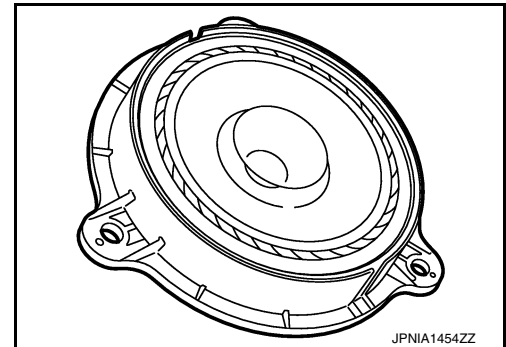
FRONT TWEETER

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



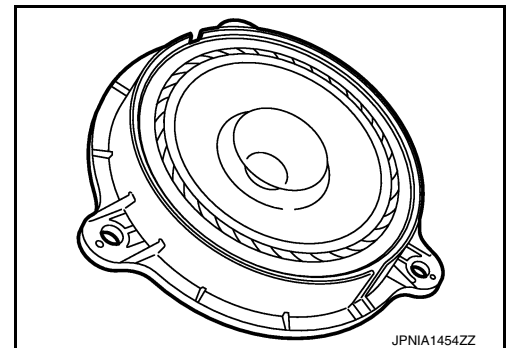
FRONT DOOR SPEAKER

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



REAR DOOR SPEAKER

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



COMPONENT PARTS

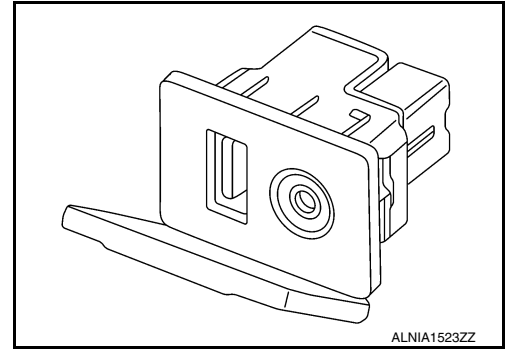
< SYSTEM DESCRIPTION >

[DISPLAY AUDIO]

USB Interface and AUX in Jack

INFOID:000000010245814

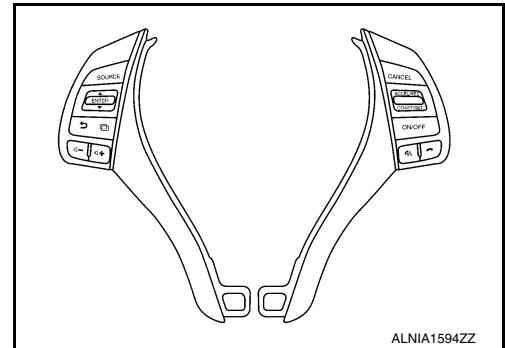
- USB Interface and AUX in jack is installed in the console.
- iPod® and USB memory can be connected to the audio unit through the USB interface.
- An external audio device can be connected to the audio unit through the AUX in jack.



Steering Switches

INFOID:000000010245817

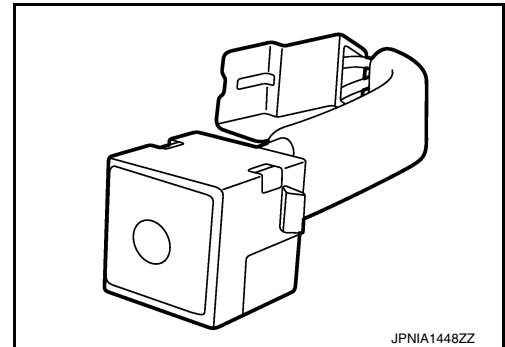
- Steering switches are installed in the steering wheel.
- Operations for audio and hands-free phone are possible.
- Switches are connected to the combination meter.
- Combination meter is connected to the audio unit via AV communication.



Microphone

INFOID:000000010245818

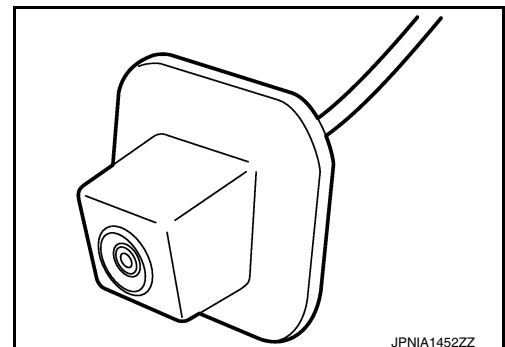
- The microphone is installed in the roof in the map lamp assembly.
- Power is supplied from the audio unit.



Rear View Camera

INFOID:000000010245819

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



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

AV

COMPONENT PARTS

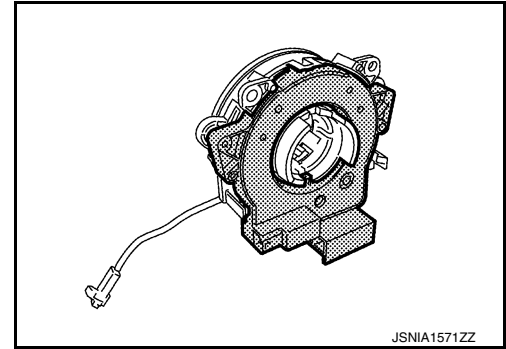
< SYSTEM DESCRIPTION >

[DISPLAY AUDIO]

Steering Angle Sensor

INFOID:000000010249286

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

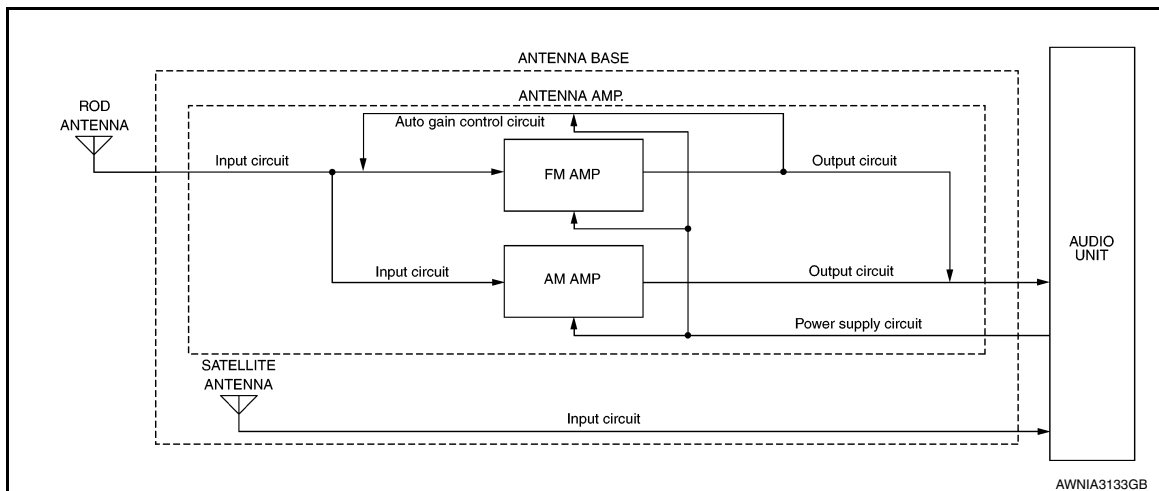


Rod Antenna, Antenna Amp., Satellite Antenna and Antenna Feeder

INFOID:000000010245820

RADIO ANTENNA AND SATELLITE ANTENNA

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

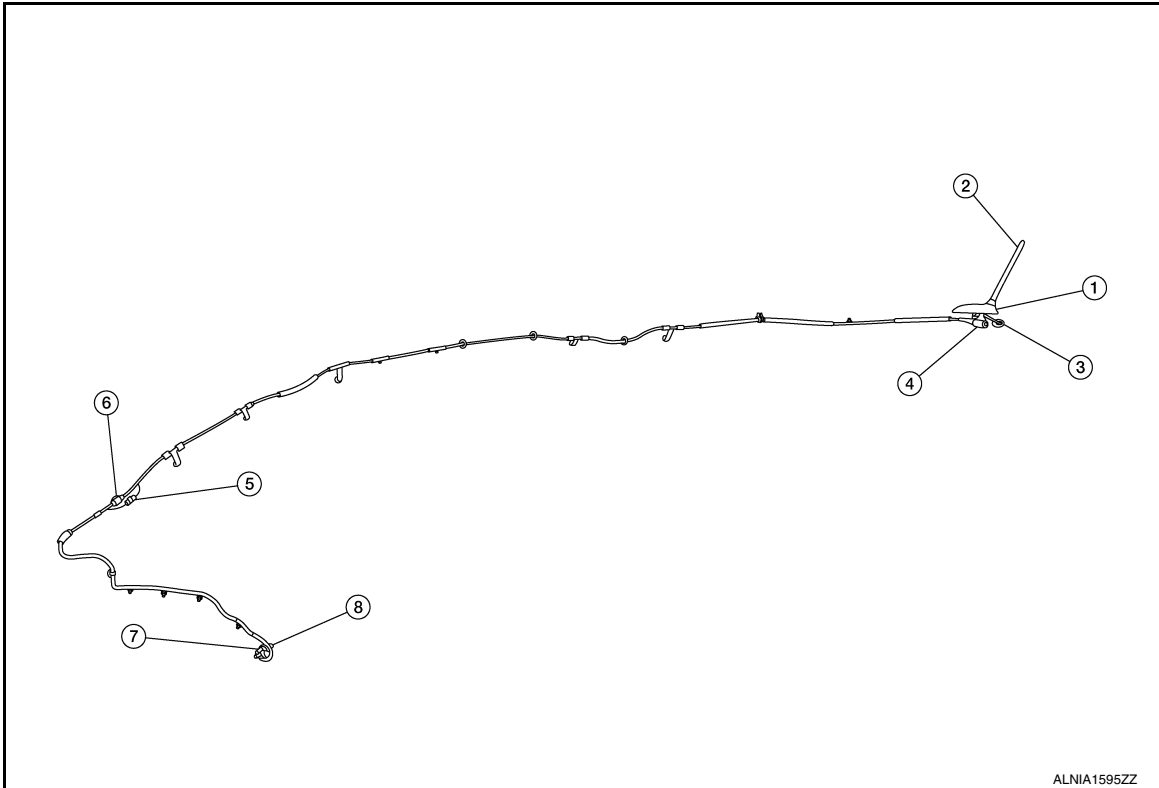


ANTENNA FEEDER LAYOUT

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[DISPLAY AUDIO]



- | | | |
|--|----------------|---------------|
| 1. Antenna base (antenna amp. and satellite antenna) | 2. Rod Antenna | 3. M503 |
| 4. M502 | 5. M130, M501 | 6. M129, M500 |
| 7. M126 | 8. M124 | |

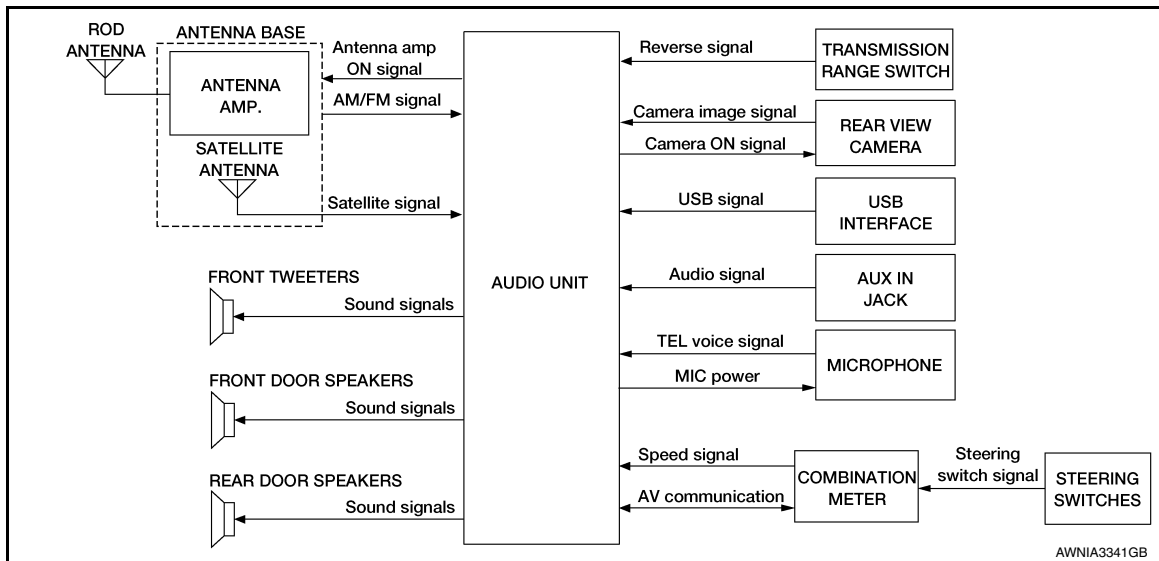
A
B
C
D
E
F
G
H
I
J
K
L
M
AV
O
P

SYSTEM

System Description

INFOID:000000010245821

SYSTEM DIAGRAM



AUDIO SYSTEM

The audio system consists of the following components

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

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

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

HANDS-FREE PHONE SYSTEM

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

When A Call Is Originated

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

When Receiving A Call

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

SPEED SENSITIVE VOLUME SYSTEM

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

REAR VIEW MONITOR FUNCTION

Camera Image Operation Principle

SYSTEM

< SYSTEM DESCRIPTION >

[DISPLAY AUDIO]

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

A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

P

DIAGNOSIS SYSTEM (AUDIO UNIT)

< SYSTEM DESCRIPTION >

[DISPLAY AUDIO]

DIAGNOSIS SYSTEM (AUDIO UNIT)

Description

INFOID:000000010245822

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

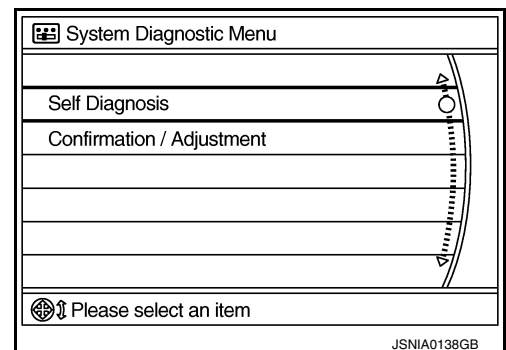
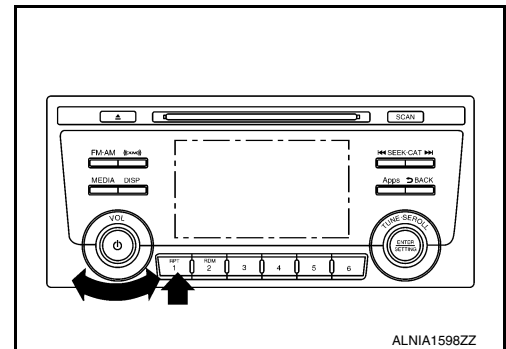
Mode		Description
Self Diagnosis		<ul style="list-style-type: none"> • Audio unit diagnosis. • Diagnoses the connections across system components.
Confirmation/ Adjustment	Display Diagnosis	The following check functions are available: color tone check by color bar display and white display, light and shade check by gray scale display.
	Vehicle Signals	Diagnosis of signals can be performed for vehicle speed, lights, reverse, EQ pin, destination and camera type.
	Speaker Test	The connection of a speaker can be confirmed by test tone.
	Error History	The system malfunction and the frequency when occurring in the past are displayed. When the malfunctioning item is selected, the time and place that the selected malfunction last occurred are displayed.
	Camera System	Displayed but not used.
	AV COMM Diagnosis	The communication condition of each unit of display audio system can be monitored.
	Delete Unit Connection Log	Erase the connection history of unit and error history.
	Version Information	Audio unit software and hardware versions are displayed.
	Initialize Setting	Initializes the audio unit memory.

On Board Diagnosis Function

INFOID:000000010245823

METHOD OF STARTING

1. Turn the ignition ON.
2. Turn the audio system OFF.
3. While pressing the preset 1 button, turn the volume control dial clockwise or counterclockwise for 40 clicks or more. Shifting from current screen to previous screen is performed by pressing BACK button.
4. The trouble diagnosis initial screen is displayed, and Self Diagnosis or Confirmation/Adjustment can be selected.



SELF DIAGNOSIS MODE

Audio Unit Self Diagnosis

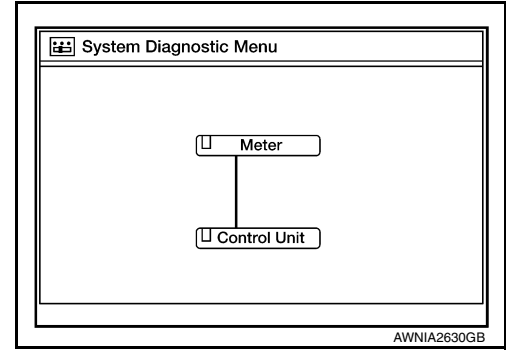
1. Select Self Diagnosis.

DIAGNOSIS SYSTEM (AUDIO UNIT)

< SYSTEM DESCRIPTION >

[DISPLAY AUDIO]

- Self diagnosis screen is displayed. The bar graph visible in center of screen indicates progress of self diagnosis.
- 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.

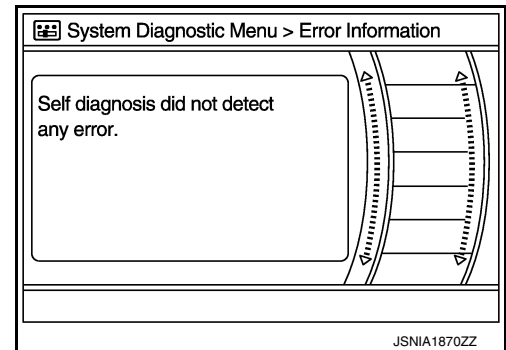


Diagnosis results	Unit	Connection line
Normal	Green	Green
Connection malfunction	Gray	Yellow
Unit malfunction ¹	Red	Green

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-64, "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.

- 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.	<ul style="list-style-type: none"> Audio unit power supply or ground circuits. Refer to AV-44, "AUDIO UNIT : Diagnosis Procedure". If no malfunction is detected in audio unit power supply and ground circuits, replace audio unit. Refer to AV-64, "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: <ul style="list-style-type: none"> malfunction is detected in combination meter power supply and ground circuits. malfunction is detected in AV communication circuits between audio unit and combination meter. 	<ul style="list-style-type: none"> Combination meter power supply or ground circuits. Refer to MWI-59, "COMBINATION METER : Diagnosis Procedure". AV communication circuits between audio unit and combination meter.

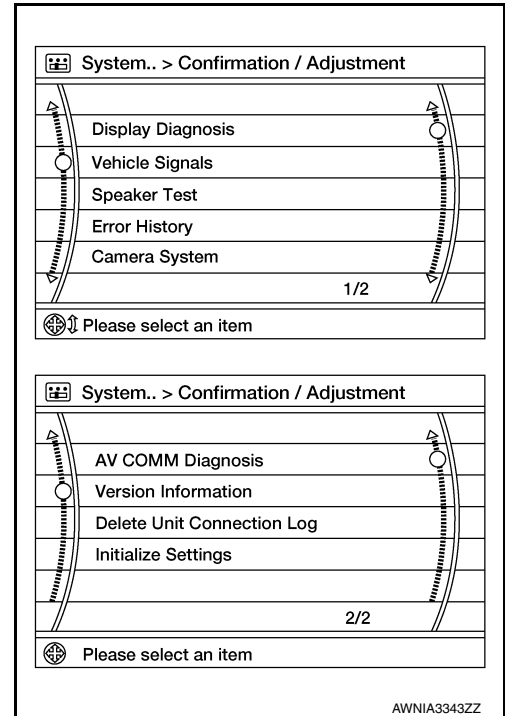
DIAGNOSIS SYSTEM (AUDIO UNIT)

< SYSTEM DESCRIPTION >

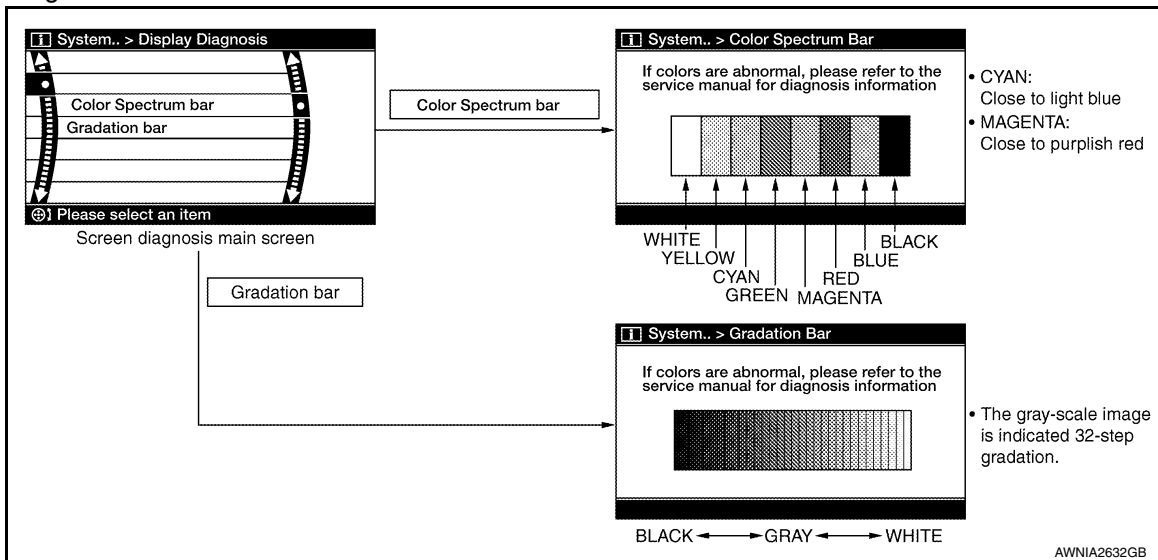
[DISPLAY AUDIO]

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.

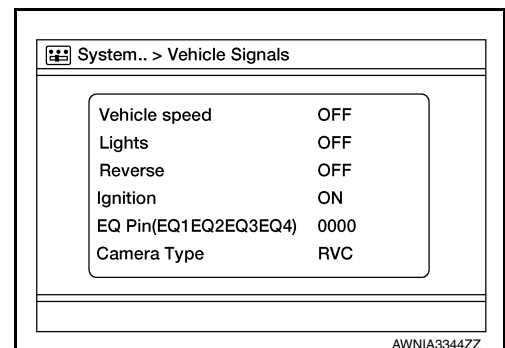


Display Diagnosis



Vehicle Signals

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



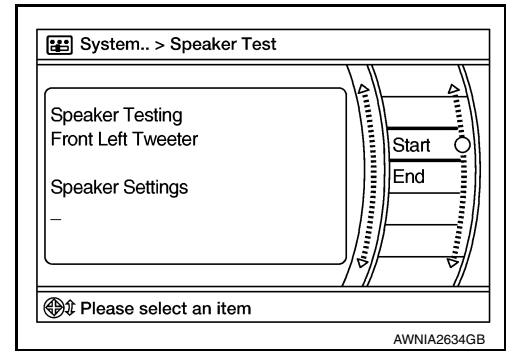
Speaker Test

DIAGNOSIS SYSTEM (AUDIO UNIT)

< SYSTEM DESCRIPTION >

[DISPLAY AUDIO]

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-64. "Removal and Installation"
AV COMM CIRCUIT	When one of the following is detected: <ul style="list-style-type: none"> • malfunction is detected in combination meter power supply and ground circuits. • malfunction is detected in AV communication circuits between audio unit and combination meter. 	<ul style="list-style-type: none"> • Combination meter power supply or ground circuits. Refer to MWI-59. "COMBINATION METER : Diagnosis Procedure". • AV communication circuits between audio unit and combination meter.

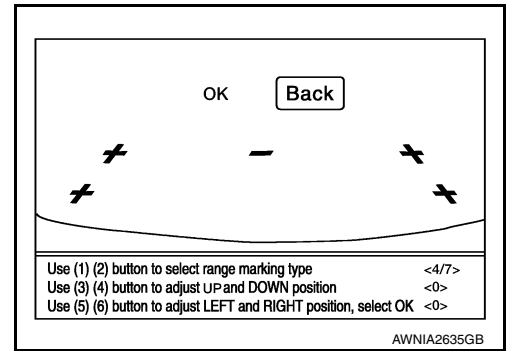
Camera System

DIAGNOSIS SYSTEM (AUDIO UNIT)

< SYSTEM DESCRIPTION >

[DISPLAY AUDIO]

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



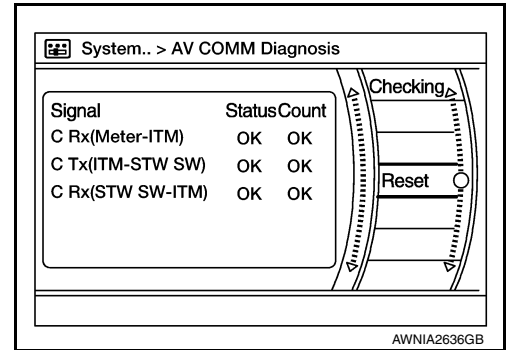
AV COMM Diagnosis

- 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

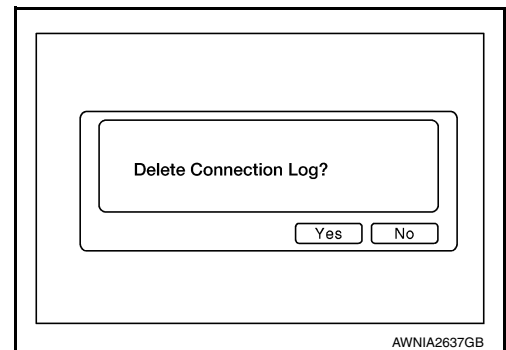
NOTE:

“???” indicates UNKWN.



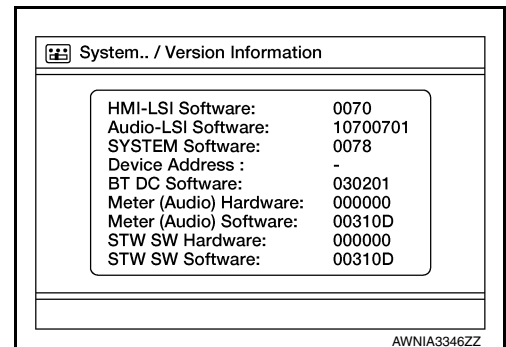
Delete Unit Connection Log

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



Version Information

Displays audio unit software and hardware version numbers.



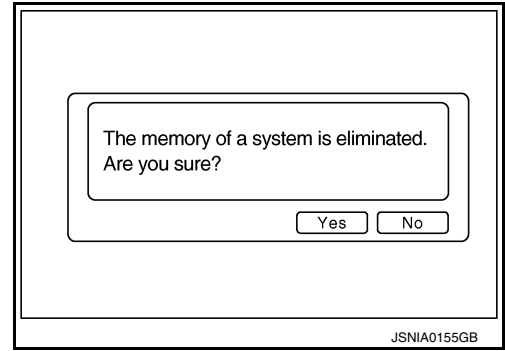
Initialize Settings

DIAGNOSIS SYSTEM (AUDIO UNIT)

< SYSTEM DESCRIPTION >

[DISPLAY AUDIO]

Deletes data stored from the audio unit.



A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

P

AUDIO UNIT

< ECU DIAGNOSIS INFORMATION >

[DISPLAY AUDIO]

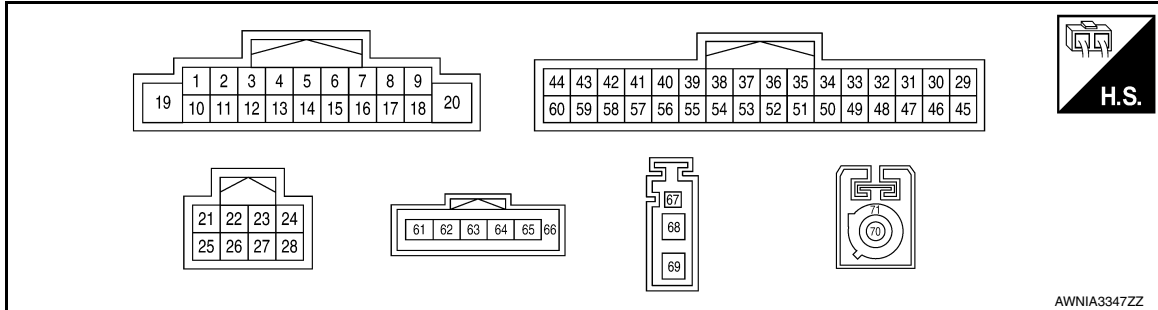
ECU DIAGNOSIS INFORMATION

AUDIO UNIT

Reference Value

INFOID:000000010245826

TERMINAL LAYOUT



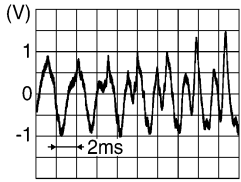
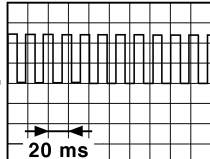
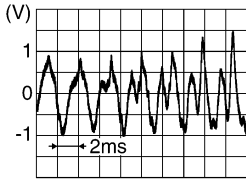
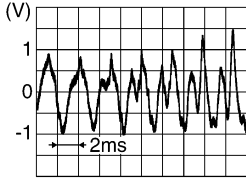
PHYSICAL VALUES

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

AUDIO UNIT

< ECU DIAGNOSIS INFORMATION >

[DISPLAY AUDIO]

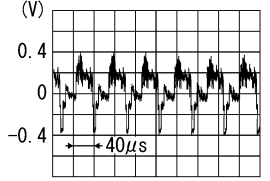
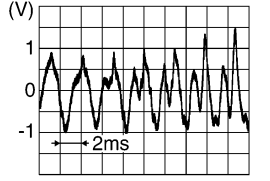
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output	Ignition switch	Operation	
13 (LG)	14 (Y)	Sound signal rear door speaker RH	Output	ON	Sound output	 <p style="text-align: right; font-size: small;">SKIB3609E</p>
18 (G)	Ground	Vehicle speed signal	Input	ON	When vehicle speed is approx. 40 km/h (25 MPH)	 <p style="text-align: right; font-size: small;">JSNIA0012GB</p>
19 (L)	Ground	Battery power supply	Input	OFF	—	Battery voltage
20 (B)	Ground	Ground	—	ON	—	0 V
21 (L)	Ground	AUX jack audio signal LH	Input	ON	Received audio signal (AUX input)	 <p style="text-align: right; font-size: small;">SKIB3609E</p>
22 (G)	Ground	AUX jack audio signal RH	Input	ON	Received audio signal (AUX input)	 <p style="text-align: right; font-size: small;">SKIB3609E</p>
23 (Y)	Ground	AUX ground	—	ON	—	0V
24 (Shield)	—	AUX signal shield	—	—	—	—
35 (W)	Ground	ACC power supply	Input	ON	—	Battery voltage
36 (SB)	—	AV communication (H)	Input/ Output	—	—	—
37 (LG)	—	AV communication (L)	Input/ Output	—	—	—
39 (SB)	—	AV communication (H)	Input/ Output	—	—	—
40 (LG)	—	AV communication (L)	Input/ Output	—	—	—
41 (B)	Ground	Camera ground	—	ON	—	0 V

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

AUDIO UNIT

< ECU DIAGNOSIS INFORMATION >

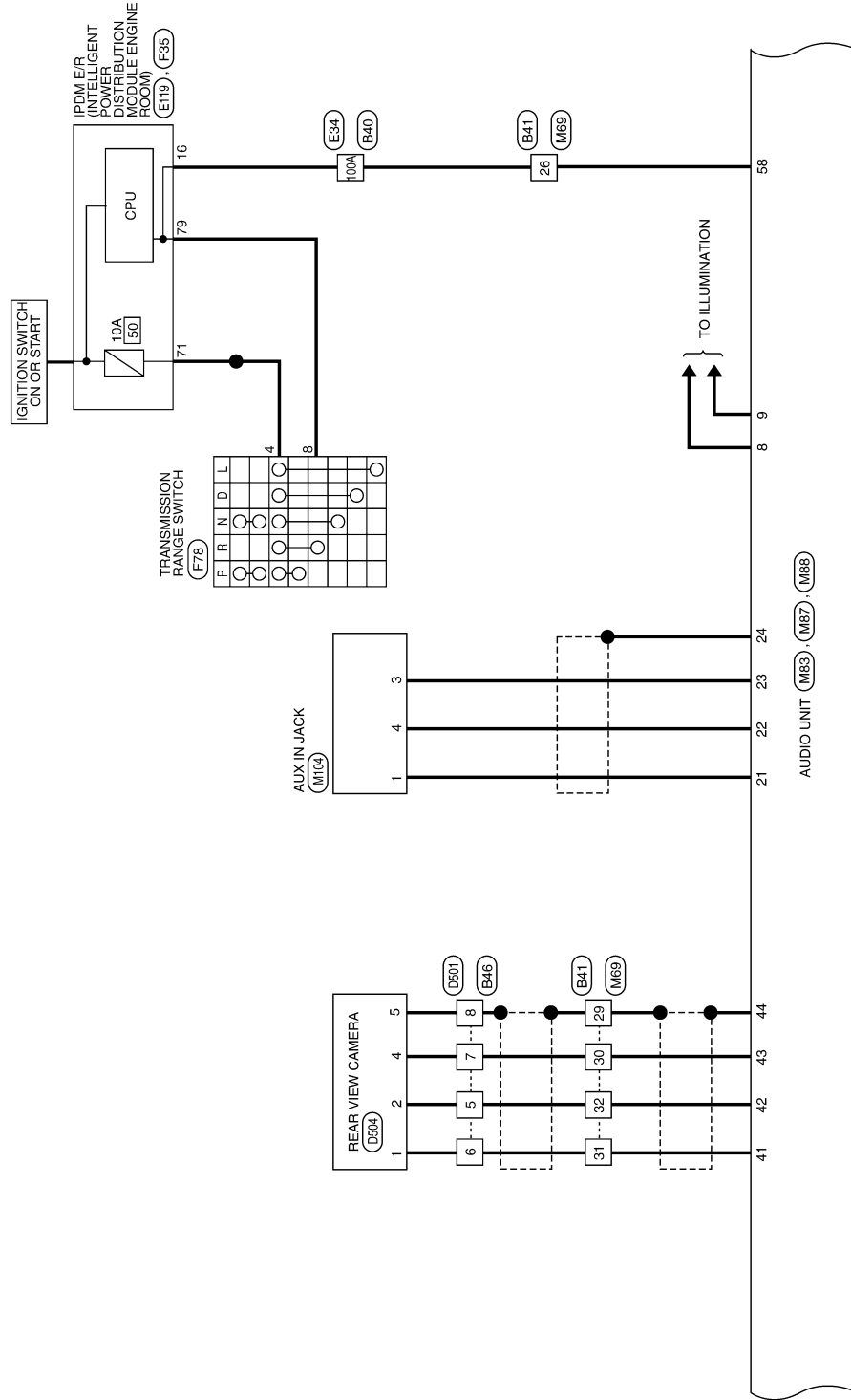
[DISPLAY AUDIO]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output	Ignition switch	Operation	
42 (R)	Ground	Camera power supply	Output	ON	Camera image displayed	6.0 V
					Except for above	0 V
43 (W)	44 (Shield)	Camera image signal	Input	ON	Camera image displayed	 <p style="text-align: right; font-size: small;">SKIB2251J</p>
45 (W)	47 (Shield)	Microphone signal	Input	ON	While speaking into microphone.	 <p style="text-align: right; font-size: small;">SKIB3609E</p>
46 (B)	—	MIC VCC	Input	ON	—	—
52 (B)	Ground	Camera detection	—	ON	—	0 V
58 (BR)	Ground	Reverse signal	Input	ON	Selector lever in R (reverse)	Battery voltage
					Selector lever in any position other than R (reverse)	0 V
61 (R)	—	V BUS signal	—	—	—	—
62 (W)	—	USB D- signal	—	—	—	—
63 (G)	—	USB D+ signal	—	—	—	—
65 (B)	—	USB ground	—	—	—	—
66 (Shield)	—	USB shield	—	—	—	—
67 (B)	Ground	Antenna amp. ON signal	Output	ON	Audio unit ON, FM-AM selected.	Battery voltage
68 (B)	Ground	AM/FM antenna signal	Input	ON	Audio unit ON, FM-AM selected.	5.0 V
70 (B)	Ground	Satellite antenna signal	Input	ON	Audio unit ON, XM selected.	5.0 V
71 (B)	—	Satellite antenna shield	—	—	—	—

DISPLAY AUDIO

< WIRING DIAGRAM >

[DISPLAY AUDIO]



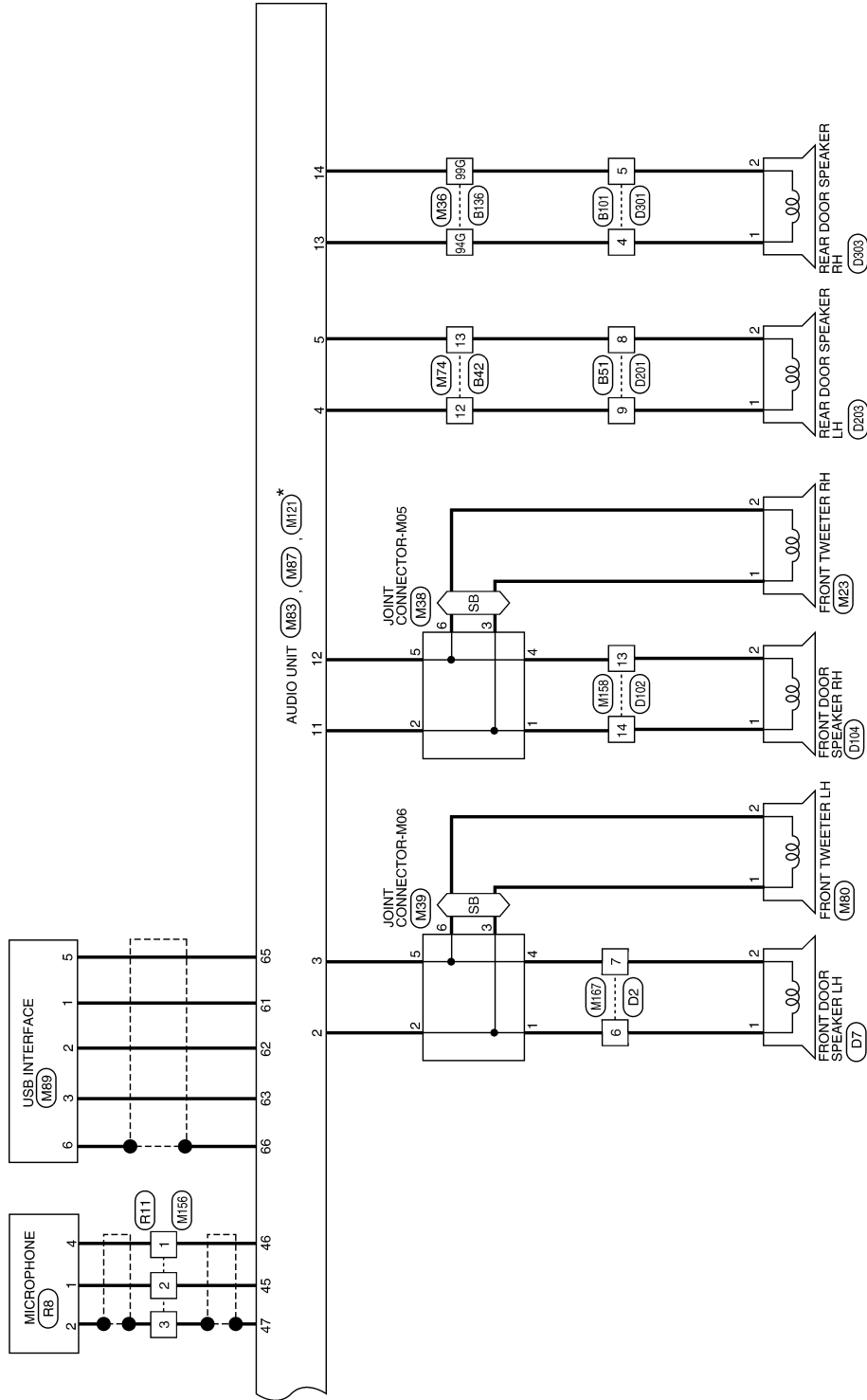
AANWA1004GB

DISPLAY AUDIO

< WIRING DIAGRAM >

[DISPLAY AUDIO]

SB WITH 6 SPEAKERS

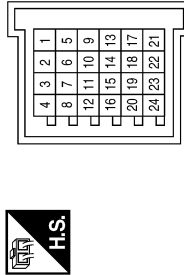


A
B
C
D
E
F
G
H
I
J
K
L
M
AV
O
P

AANWA1005GB

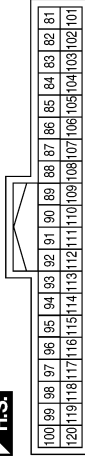
DISPLAY AUDIO SYSTEM CONNECTORS

Connector No.	M6
Connector Name	JOINT CONNECTOR-M01
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
3	P	-
4	L	-
7	P	-
8	L	-

Connector No.	M19
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK



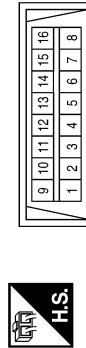
Terminal No.	Color of Wire	Signal Name
95	V	I SHORTING PIN
106	W	O AUTO ACC2

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



Terminal No.	Color of Wire	Signal Name
161	W	I PWR ECU

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



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

Connector No.	M23
Connector Name	FRONT TWEETER RH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	G	-
2	R	-

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



Terminal No.	Color of Wire	Signal Name
8	Y	-
14	L	-
15	GR	-

DISPLAY AUDIO

< WIRING DIAGRAM >

[DISPLAY AUDIO]

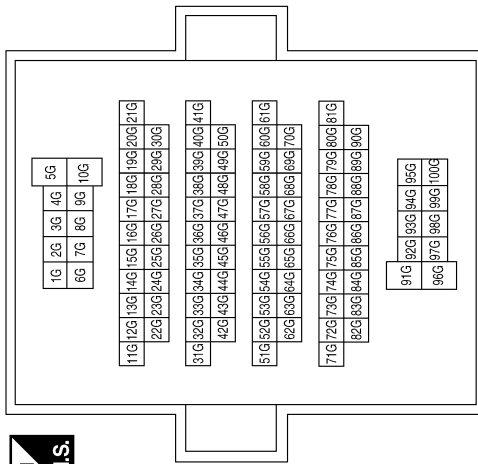
Connector No.	M38
Connector Name	JOINT CONNECTOR-M05
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	W	-
2	G	-
3	G	-
4	GR	-
5	V	-
6	R	-

Terminal No.	Color of Wire	Signal Name
94G	LG	-
99G	Y	-

Connector No.	M36
Connector Name	WIRE TO WIRE
Connector Color	WHITE

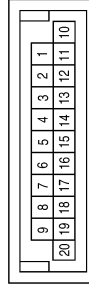


Connector No.	M44
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



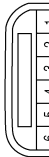
Terminal No.	Color of Wire	Signal Name
7P	Y	-

Connector No.	M43
Connector Name	JOINT CONNECTOR-M02
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
2	L	-
5	L	-
12	P	-
15	P	-

Connector No.	M39
Connector Name	JOINT CONNECTOR-M06
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	Y	-
2	W	-
3	W	-
4	R	-
5	P	-
6	GR	-

AANIA2412GB

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



AV

DISPLAY AUDIO

< WIRING DIAGRAM >


[DISPLAY AUDIO]

Connector No.	M69
Connector Name	WIRE TO WIRE
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
24	P	-
25	L	-
26	BR	-
29	SHIELD	-
30	W	-
31	B	-
32	R	-

Connector No.	M68
Connector Name	FUSE BLOCK (J/B)
Connector Color	BROWN

Terminal No.	Color of Wire	Signal Name
3R	V	-
5R	L	-
14R	W	-

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




Terminal No.	Color of Wire	Signal Name
1	SB	-
2	SB	-
4	SB	-
5	SB	-
11	LG	-
12	LG	-
14	LG	-
15	LG	-

Connector No.	M77
Connector Name	COMBINATION METER
Connector Color	WHITE




Terminal No.	Color of Wire	Signal Name
41	L	CAN-H
42	P	CAN-L
47	SB	M-CAN H
48	LG	M-CAN L

Connector No.	M76
Connector Name	COMBINATION METER
Connector Color	WHITE




Terminal No.	Color of Wire	Signal Name
21	L	STRG SW GND
22	Y	STRG SW INPUT1
23	GR	STRG SW INPUT2
38	G	8P/R OUT

Connector No.	M74
Connector Name	WIRE TO WIRE
Connector Color	WHITE




Terminal No.	Color of Wire	Signal Name
12	GR	-
13	BR	-

AANIA2413GB

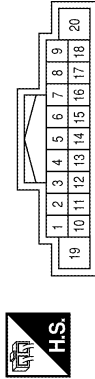
DISPLAY AUDIO

< WIRING DIAGRAM >

[DISPLAY AUDIO]

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

Connector No.	M83
Connector Name	AUDIO UNIT
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	-	-
2	W	FR SP LH+
3	P	FR SP LH-
4	GR	RR SP LH+
5	BR	RR SP LH-
6	-	-
7	LG	IGN2
8	R	ILL-

Connector No.	M80
Connector Name	FRONT TWEETER LH
Connector Color	WHITE

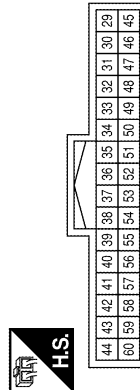


Terminal No.	Color of Wire	Signal Name
1	W	-
2	GR	-

Terminal No.	Color of Wire	Signal Name
46	B	MIC V+
47	SHIELD	MIC GND
48	-	-
49	-	-
50	-	-
51	-	-
52	B	CAM DET
53	-	-
54	-	-
55	-	-
56	-	-
57	-	-
58	BR	REV (FOR RR VIEW)
59	-	-
60	-	-

Terminal No.	Color of Wire	Signal Name
33	-	-
34	-	-
35	W	AUTO ACC
36	SB	MCAN2 H
37	LG	MCAN2 L
38	-	-
39	SB	MCAN1 H
40	LG	MCAN1 L
41	B	CAM GND
42	R	CAM 6.2V
43	W	COMPOSITE+ (CAMNTSC)
44	SHIELD	COMPOSITE- (CAM GND)
45	W	MIC +

Connector No.	M87
Connector Name	AUDIO UNIT
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
29	-	-
30	-	-
31	-	-
32	-	-

AANIA2414GB

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

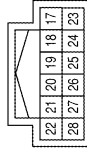
AV

DISPLAY AUDIO

< WIRING DIAGRAM >

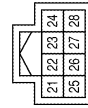
[DISPLAY AUDIO]

Connector No.	M89
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	WHITE



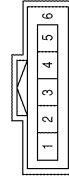
Terminal No.	Color of Wire	Signal Name
18	L	-
19	G	-
25	P	-

Connector No.	M88
Connector Name	AUDIO UNIT
Connector Color	WHITE



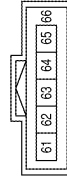
Terminal No.	Color of Wire	Signal Name
21	L	AUXIN-L
22	G	AUXIN-R
23	Y	AUXIN-GND
24	SHIELD	AUXIN-SHIELD
25	-	-
26	-	-
27	-	-
28	-	-

Connector No.	M89
Connector Name	USB INTERFACE
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
1	R	-
2	W	-
3	G	-
5	B	-
6	SHIELD	-

Connector No.	M121
Connector Name	AUDIO UNIT
Connector Color	BLACK



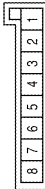
Terminal No.	Color of Wire	Signal Name
61	R	V BUS
62	W	USB D-
63	G	USB D+
64	-	-
65	B	USB GND
66	SHIELD	USB SHIELD

Connector No.	M104
Connector Name	AUX IN JACK
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	L	-
3	Y	-
4	G	-

Connector No.	M97
Connector Name	JOINT CONNECTOR-M24
Connector Color	WHITE



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

AANIA2415GB

DISPLAY AUDIO

< WIRING DIAGRAM >

[DISPLAY AUDIO]

Connector No.	M129
Connector Name	WIRE TO WIRE
Connector Color	GRAY



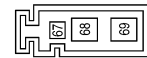
Terminal No.	Color of Wire	Signal Name
1	B	-
2	B	-

Connector No.	M126
Connector Name	AUDIO UNIT
Connector Color	PINK



Terminal No.	Color of Wire	Signal Name
70	B	SAT ANT
71	B	SAT SHIELD

Connector No.	M124
Connector Name	AUDIO UNIT
Connector Color	GRAY



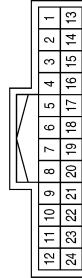
Terminal No.	Color of Wire	Signal Name
67	B	ANT+B
68	B	ANT MAIN
69	-	-

Connector No.	M158
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
13	GR	-(WITHOUT BOSE AUDIO SYSTEM)
14	W	-(WITHOUT BOSE AUDIO SYSTEM)

Connector No.	M156
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

Connector No.	M130
Connector Name	WIRE TO WIRE
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	B	-

AANIA2416GB

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

AV

DISPLAY AUDIO

< WIRING DIAGRAM >

[DISPLAY AUDIO]

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



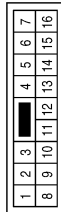
Terminal No.	Color of Wire	Signal Name
1	B	—

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



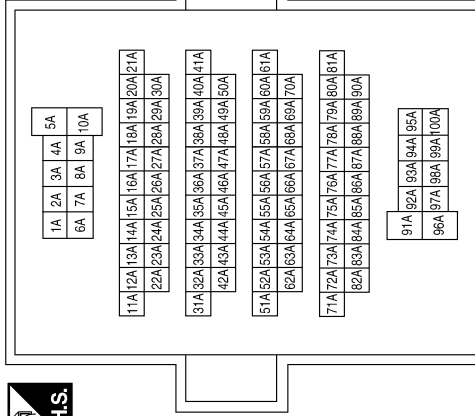
Terminal No.	Color of Wire	Signal Name
1	B	—
2	B	—

Connector No.	M167
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
6	Y	-(WITHOUT BOSE AUDIO SYSTEM)
7	R	-(WITHOUT BOSE AUDIO SYSTEM)

Connector No.	E34
Connector Name	WIRE TO WIRE
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
100A	G	—

Connector No.	M503
Connector Name	ANTENNA BASE (SATELLITE RADIO ANTENNA)
Connector Color	GREEN



Terminal No.	Color of Wire	Signal Name
3	B	—

Connector No.	M502
Connector Name	ANTENNA BASE (ANTENNA AMP)
Connector Color	GRAY



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

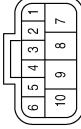
AANIA2417GB

DISPLAY AUDIO

< WIRING DIAGRAM >

[DISPLAY AUDIO]

Connector No.	F78
Connector Name	TRANSMISSION RANGE SWITCH
Connector Color	BLACK



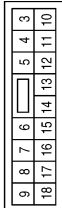
Terminal No.	Color of Wire	Signal Name
4	W	-
8	G	-

Connector No.	F35
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE



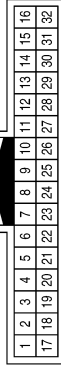
Terminal No.	Color of Wire	Signal Name
71	SB	O IGN REVERSE SW AC VALVE
79	G	LI LIGHT REVERSE SW

Connector No.	E119
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	GRAY



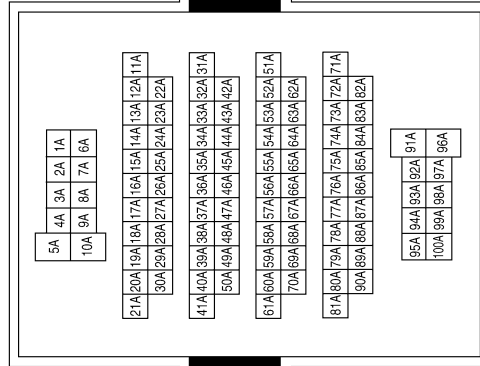
Terminal No.	Color of Wire	Signal Name
16	G	O LIGHT REVERSE LAMP

Connector No.	B41
Connector Name	WIRE TO WIRE
Connector Color	WHITE



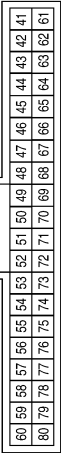
Terminal No.	Color of Wire	Signal Name
24	P	-
25	L	-
26	G	-
29	SHIELD	-
30	W	-
31	B	-
32	R	-

Connector No.	B40
Connector Name	WIRE TO WIRE
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
100A	G	-

Connector No.	B16
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	GREEN



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

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

AV

AANIA2418GB

DISPLAY AUDIO

< WIRING DIAGRAM >

[DISPLAY AUDIO]

Connector No.	B51
Connector Name	WIRE TO WIRE
Connector Color	WHITE

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



Terminal No.	Color of Wire	Signal Name
8	LA/GR	-(WITHOUT BOSE AUDIO SYSTEM)
9	LA/Y	-(WITHOUT BOSE AUDIO SYSTEM)

Connector No.	B46
Connector Name	WIRE TO WIRE
Connector Color	WHITE

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



Terminal No.	Color of Wire	Signal Name
5	R	-
6	B	-
7	W	-
8	SHIELD	-

Connector No.	B42
Connector Name	WIRE TO WIRE
Connector Color	WHITE

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



Terminal No.	Color of Wire	Signal Name
12	LA/Y	-
13	LA/GR	-

Connector No.	B101
Connector Name	WIRE TO WIRE
Connector Color	WHITE

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



Terminal No.	Color of Wire	Signal Name
4	LA/V	-(WITHOUT BOSE AUDIO SYSTEM)
5	LA/Y	-(WITHOUT BOSE AUDIO SYSTEM)

Connector No.	B63
Connector Name	JOINT CONNECTOR-B01
Connector Color	GRAY

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



Terminal No.	Color of Wire	Signal Name
3	P	-
4	L	-
7	P	-
8	L	-

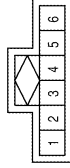
AANIA2419GB

DISPLAY AUDIO

< WIRING DIAGRAM >

[DISPLAY AUDIO]

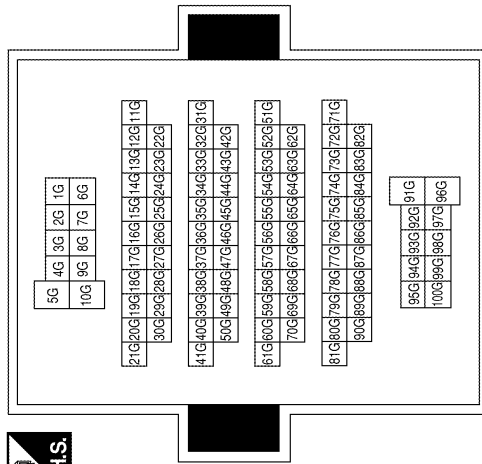
Connector No.	R8
Connector Name	MICROPHONE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	W	-
2	SHIELD	-
4	B	-

Terminal No.	Color of Wire	Signal Name
94G	LAV	-
99G	LAY	-

Connector No.	B136
Connector Name	WIRE TO WIRE
Connector Color	WHITE

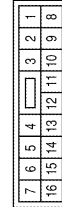


Connector No.	D7
Connector Name	FRONT DOOR SPEAKER LH (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE



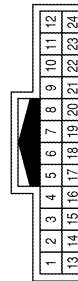
Terminal No.	Color of Wire	Signal Name
1	LA/L	-
2	LA/BR	-

Connector No.	D2
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
6	LA/L	-
7	LA/BR	-

Connector No.	R11
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

AANIA2420GB

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

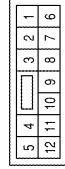
AV

DISPLAY AUDIO

< WIRING DIAGRAM >

[DISPLAY AUDIO]

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



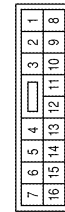
Terminal No.	Color of Wire	Signal Name
8	LA/R	--
9	LA/L	--

Connector No.	D104
Connector Name	FRONT DOOR SPEAKER RH (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	LA/G	--
2	LA/R	--

Connector No.	D102
Connector Name	WIRE TO WIRE
Connector Color	WHITE



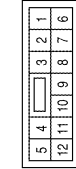
Terminal No.	Color of Wire	Signal Name
13	LA/R	--
14	LA/G	--

Connector No.	D303
Connector Name	REAR DOOR SPEAKER RH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	LA/V	--
2	LA/Y	--

Connector No.	B301
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
4	LA/V	--(WITHOUT BOSE AUDIO SYSTEM)
5	LA/Y	--(WITHOUT BOSE AUDIO SYSTEM)

Connector No.	D203
Connector Name	REAR DOOR SPEAKER LH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	LA/L	--
2	LA/R	--

AANIA2421GB

DISPLAY AUDIO

< WIRING DIAGRAM >

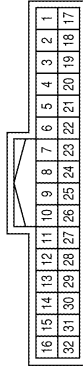
[DISPLAY AUDIO]

Connector No.	D504
Connector Name	REAR VIEW CAMERA (WITHOUT DRIVER ASSISTANCE SYSTEM)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
1	B	-
2	R	-
4	W	-
5	V	-

Connector No.	D501
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
5	R	-
6	B	-
7	W	-
8	V	-

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

AANIA2422GB

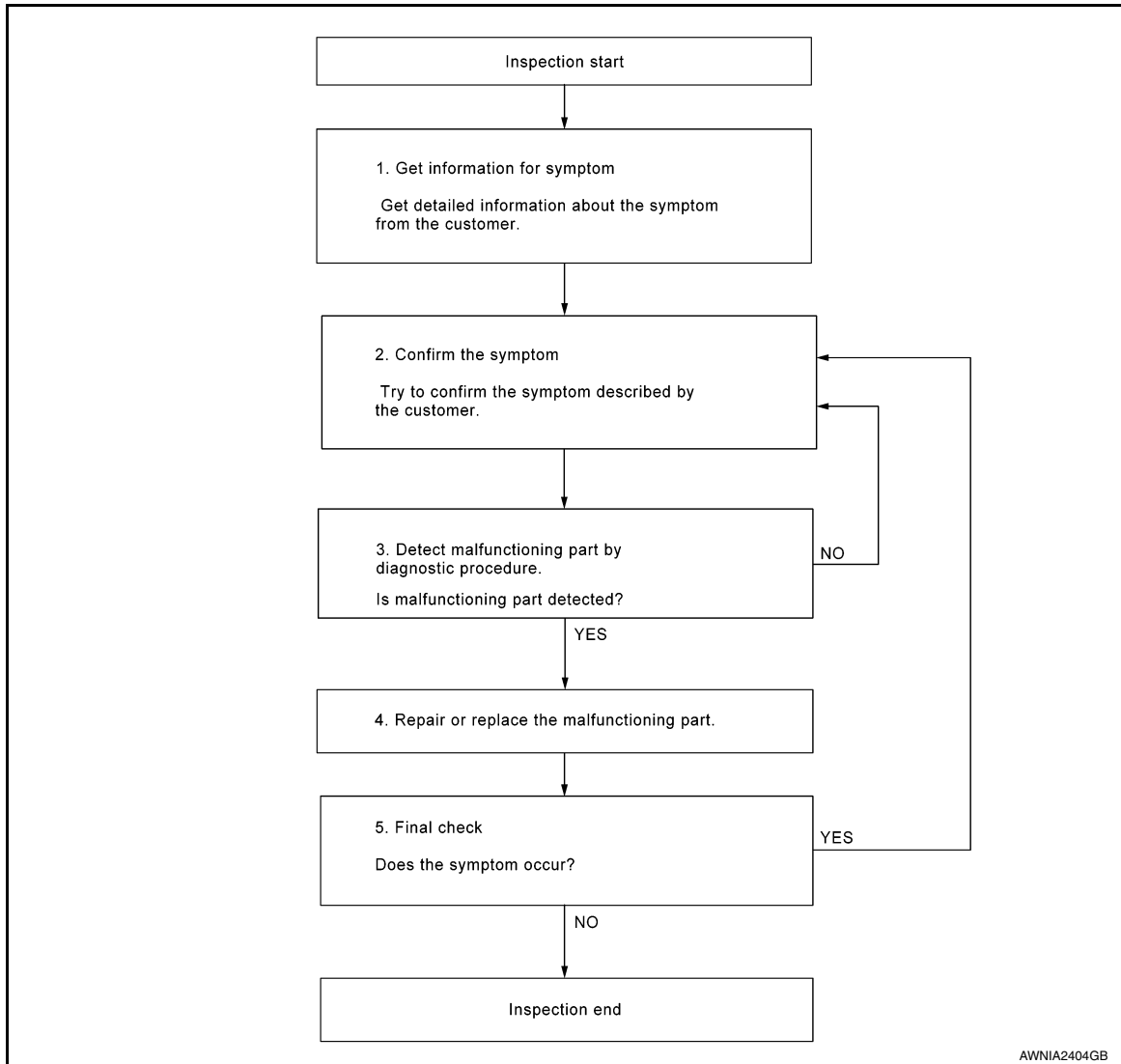
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000010245828

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-59, "Symptom Table"](#).

>> GO TO 3.

3.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[DISPLAY AUDIO]

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.

A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

P

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO]

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID:000000010245829

Regarding Wiring Diagram information, refer to [AV-27, "Wiring Diagram"](#).

1. CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
7	Ignition power supply	30 (10A)
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 M83.
3. Check voltage between audio unit connector M83 and ground.

Audio unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M83	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 M87.
3. Check continuity between audio unit connectors and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M83	20	—	Yes
M87	52		

Is the inspection result normal?

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

FRONT TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO]

FRONT TWEETER

Diagnosis Procedure

INFOID:000000010245842

Regarding Wiring Diagram information, refer to [AV-27. "Wiring Diagram"](#).

1. CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminals or connectors.

2. CHECK FRONT TWEETER SIGNAL CIRCUIT CONTINUITY

1. Disconnect audio unit connector M83 and suspect front tweeter connector.
2. Check continuity between audio unit connector M83 and suspect front tweeter connector.

Audio unit		Front tweeter		Continuity
Connector	Terminal	Connector	Terminal	
M83	2	M80 (LH)	1	Yes
	3		2	
	11	M23 (RH)	1	
	12		2	

3. Check continuity between audio unit connector M83 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M83	2	—	No
	3		
	11		
	12		

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

3. CHECK FRONT TWEETER SIGNAL

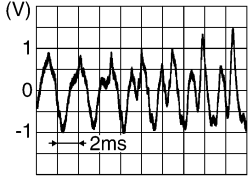
1. Connect audio unit connector M83 and suspect front tweeter connector.
2. Turn ignition switch to ON.
3. Push audio unit POWER switch.
4. Check signal between the terminals of audio unit connector M83.

Audio unit connector M83		Condition	Reference value
(+)	(-)		
Terminal	Terminal		

FRONT TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO]

2	3		
11	12	Audio signal output	

Is the inspection result normal?

- YES >> Replace front tweeter. Refer to [AV-66. "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-64. "Removal and Installation"](#).

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO]

FRONT DOOR SPEAKER

Diagnosis Procedure

INFOID:000000010245831

Regarding Wiring Diagram information, refer to [AV-27. "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 M83 and suspect front door speaker connector.
2. Check continuity between audio unit connector M83 and suspect front door speaker connector.

Audio unit		Front door speaker		Continuity
Connector	Terminal	Connector	Terminal	
M83	2	D7 (LH)	1	Yes
	3		2	
	11	D104 (RH)	1	
	12		2	

3. Check continuity between audio unit connector M83 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M83	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

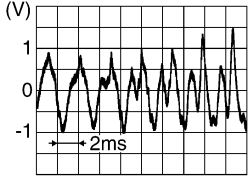
1. Connect audio unit connector M83 and suspect front door speaker connector.
2. Turn ignition switch to ON.
3. Push audio unit POWER switch.
4. Check signal between the terminals of audio unit connector M83.

Audio unit connector M83		Condition	Reference value
(+)	(-)		
Terminal	Terminal		

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO]

2	3		
11	12	Audio signal output	

Is the inspection result normal?

- YES >> Replace front door speaker. Refer to [AV-67. "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-64. "Removal and Installation"](#).

REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO]

REAR DOOR SPEAKER

Diagnosis Procedure

INFOID:000000010245832

Regarding Wiring Diagram information, refer to [AV-27. "Wiring Diagram"](#).

1. CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminals or connectors.

2. CHECK REAR DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY

1. Disconnect audio unit connector M83 and suspect rear door speaker connector.
2. Check continuity between audio unit connector M83 and suspect rear door speaker connector.

Audio unit		Rear speaker		Continuity
Connector	Terminal	Connector	Terminal	
M83	4	D203 (LH)	1	Yes
	5		2	
	13	D303 (RH)	1	
	14		2	

3. Check continuity between audio unit connector M83 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M83	4	—	No
	5		
	13		
	14		

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

3. CHECK REAR DOOR SPEAKER SIGNAL

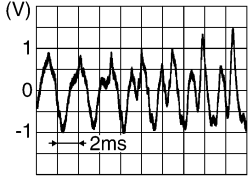
1. Connect audio unit connector M83 and suspect rear door speaker connector.
2. Turn ignition switch to ON.
3. Push audio unit POWER switch.
4. Check signal between the terminals of audio unit connector M83.

Audio unit connector M83		Condition	Reference value
(+)	(-)		
Terminal	Terminal		

REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO]

4	5		
13	14	Audio signal output	

Is the inspection result normal?

- YES >> Replace rear door speaker. Refer to [AV-68. "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-64. "Removal and Installation"](#).

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO]

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:000000010245835

Regarding Wiring Diagram information, refer to [AV-27. "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 M87 and ground.

Audio unit		Ground	Condition	Voltage (Approx.)
(+)		(-)		
Connector	Terminal			
M87	58	—	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 M87 and rear view camera connector.
3. Check continuity between audio unit connector M87 and rear view camera connector D504.

Audio unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M87	42	D504	2	Yes

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

Audio unit		Ground	Continuity
Connector	Terminal		
M87	42		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 M87 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 M87 and ground.

Audio unit		Ground	Condition	Voltage (Approx.)
(+)		(-)		
Connector	Terminal			
M87	42	—	Selector lever is in "R".	6.0 V

Is inspection result normal?

- YES >> GO TO 4.
NO >> Replace audio unit. Refer to [AV-64. "Removal and Installation"](#).

A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

P

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO]

4. CHECK CAMERA IMAGE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M87 and rear view camera connector.
3. Check continuity between audio unit connector M87 and rear view camera connector D504.

Audio unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M87	43	D504	4	Yes

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

Audio unit		Ground	Continuity
Connector	Terminal		
M87	43		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 M87 and rear view camera connector D504.

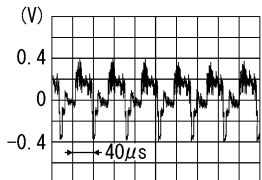
Audio unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M87	41	D504	1	Yes

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 M87 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 M87 and ground.

Audio unit		Ground	Condition	Reference value
(+)		(-)		
Connector	Terminal			
M87	43	—	Camera image displayed.	 <p style="font-size: small; text-align: right;">SKIB2251J</p>

Is inspection result normal?

- YES >> Replace audio unit. Refer to [AV-64, "Removal and Installation"](#).
 NO >> Replace rear view camera. Refer to [AV-71, "Removal and Installation"](#).

MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO]

MICROPHONE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:000000010245836

Regarding Wiring Diagram information, refer to [AV-27. "Wiring Diagram"](#).

1. CHECK HARNESS BETWEEN AUDIO UNIT AND MICROPHONE

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M87 and microphone connector R8.
3. Check continuity between audio unit connector M87 and microphone connector R8.

Audio unit		Microphone		Continuity
Connector	Terminal	Connector	Terminal	
M87	45	R8	1	Yes
	46		4	
	47		2	

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

Audio unit		Ground	Continuity
Connector	Terminal		
M87	45	—	No
	46		

Is the inspection result normal?

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

2. CHECK MICROPHONE POWER SUPPLY

1. Connect audio unit connector M87 and microphone connector R8.
2. Turn ignition switch ON.
3. Check voltage between microphone connector R8 and ground.

Microphone (+)		Ground (-)	Voltage (Approx.)
Connector	Terminal		
R8	4	—	5V

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Replace audio unit. Refer to [AV-64. "Removal and Installation"](#).

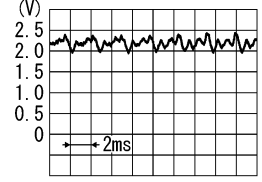
3. CHECK MICROPHONE SIGNAL

Check signal between terminals of audio unit connector M87.

MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO]

Audio unit connector M87		Condition	Reference value
(+)	(-)		
Terminal	Terminal		
45	47	Speak into microphone.	 <p style="text-align: right; font-size: small;">PKIB5037J</p>

Is the inspection result normal?

- YES >> Replace audio unit. Refer to [AV-64. "Removal and Installation"](#).
- NO >> Replace microphone. Refer to [AV-70. "Removal and Installation"](#).

STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO]

STEERING SWITCH






Diagnosis Procedure

INFOID:000000010245837

Regarding Wiring Diagram information, refer to [AV-27. "Wiring Diagram"](#).

1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

1. Turn ignition switch OFF.
2. Disconnect combination switch connector M90.
3. Check resistance between the terminals of combination switch connector M90.

Combination switch connector M88		Condition	Resistance Ω (Approx.)
Terminal	Terminal		
25	19	Depress SOURCE switch.	1
		Depress Δ switch.	121
		Depress ∇ switch.	321
		Depress  switch.	723
		Depress ENTER switch.	2023
18		Depress -  switch.	1
		Depress  + switch.	121
		Depress  switch.	321
		Depress  switch.	723
		Depress DISPLAY switch.	2023

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace steering switches. Refer to [AV-65. "Removal and Installation"](#).

2. CHECK HARNESS BETWEEN COMBINATION METER AND COMBINATION SWITCH

1. Disconnect combination meter connector M76 and combination switch connector M30.
2. Check continuity between combination meter connector M76 and combination switch connector M30.

Combination meter		Combination switch		Continuity
Connector	Terminal	Connector	Terminal	
M76	22	M30	8	Yes
	23		15	
	21		14	

3. Check continuity between combination meter connector M76 and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M76	22	—	No
	23		
	21		

Is the inspection result normal?

STEERING SWITCH

[DISPLAY AUDIO]

< DTC/CIRCUIT DIAGNOSIS >

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

3. CHECK COMBINATION SWITCH

Check continuity between combination switch connectors M90 and M30.

Combination switch				Continuity
Connector	Terminal	Connector	Terminal	
M90	25	M30	8	Yes
	18		15	
	19		14	

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 combination meter connector M77 and audio unit connector M87.
2. Check continuity between combination meter connector M77 and audio unit connector M87.

Combination meter		Audio unit		Continuity
Connector	Terminal	Connector	Terminal	
M77	47	M87	36	Yes
	48		37	

3. Check continuity between combination meter connector M77 and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M77	47	—	No
	48		

Is the inspection result normal?

- YES >> Replace audio unit. Refer to [AV-64. "Removal and Installation"](#).
NO >> Repair or replace harness or connectors.

USB CONNECTOR

Diagnosis Procedure

INFOID:000000010245838

Regarding Wiring Diagram information, refer to [AV-27. "Wiring Diagram"](#).

1. CHECK USB INTERFACE HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M121 and USB interface connector M89.
3. Check continuity between audio unit connector M121 and USB interface connector M89.

Audio unit		USB interface		Continuity
Connector	Terminal	Connector	Terminal	
M121	61	M89	1	Yes
	62		2	
	63		3	
	65		5	
	66		6	

4. Check continuity between audio unit connector M121 and ground.

Audio unit		—	Continuity
Connector	Terminal		
M121	61	Ground	No
	63		

Is the inspection result normal?

- YES >> Replace the USB interface. Refer to [AV-69. "Removal and Installation"](#).
 NO >> Repair or replace harness or connectors.

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

AV

AUXILIARY INPUT JACK

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO]

AUXILIARY INPUT JACK

Diagnosis Procedure

INFOID:000000010245841

Regarding Wiring Diagram information, refer to [AV-27. "Wiring Diagram"](#).

1. CHECK AUX JACK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio control unit connector M88 and AUX in jack connector M104.
3. Check continuity between audio control unit connector M88 and AUX in jack connector M104.

Audio control unit		AUX in jack		Continuity
Connector	Terminal	Connector	Terminal	
M88	21	M104	1	Yes
	22		4	
	23		3	

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

Audio control unit		—	Continuity
Connector	Terminal		
M88	21	Ground	No
	22		

Is the inspection result normal?

- YES >> Replace the AUX in jack. Refer to [AV-69. "Removal and Installation"](#).
NO >> Repair or replace harness or connectors.

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:0000000010245839

RELATED TO AUDIO

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	Audio unit	Malfunction in audio unit. Refer to AV-18, "On Board Diagnosis Function" .
No sound comes out or the level of the sound is low.	No sound from all speakers.	<ul style="list-style-type: none"> • Speaker circuit shorted to ground. Refer to AV-27, "Wiring Diagram". • Audio unit power supply and ground circuits malfunction. Refer to AV-44, "AUDIO UNIT : Diagnosis Procedure".
	Only a certain speaker (front tweeter LH, front tweeter RH, front door speaker LH, front door speaker RH, rear door speaker LH, rear door speaker RH) does not output sound.	<ul style="list-style-type: none"> • Poor connector connection of speaker. • Sound signal circuit malfunction between audio unit and speaker. Refer to: <ul style="list-style-type: none"> - AV-45, "Diagnosis Procedure" (front tweeter). - AV-47, "Diagnosis Procedure" (front door speaker). - AV-49, "Diagnosis Procedure" (rear door speaker). • Malfunction in speaker. Refer to: <ul style="list-style-type: none"> - AV-66, "Removal and Installation" (front tweeter). - AV-67, "Removal and Installation" (front door speaker). - AV-68, "Removal and Installation" (rear door speaker). • Malfunction in audio unit. Refer to AV-18, "On Board Diagnosis Function".

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

AV

O
P

AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[DISPLAY AUDIO]

Symptoms	Check items	Probable malfunction location
Noise is mixed with audio.	Noise comes out from all speakers.	Malfunction in audio unit. Refer to AV-18, "On Board Diagnosis Function" .
	Noise comes out only from a certain speaker (front tweeter LH, front tweeter RH, front door speaker LH, front door speaker RH, rear door speaker LH, rear door speaker RH).	<ul style="list-style-type: none"> • Poor connector connection of speaker. • Sound signal circuit malfunction between audio unit and speaker. Refer to: <ul style="list-style-type: none"> - AV-45, "Diagnosis Procedure" (front tweeter). - AV-47, "Diagnosis Procedure" (front door speaker). - AV-49, "Diagnosis Procedure" (rear door speaker). • Malfunction in speaker. • Poor Installation of speaker (e.g. backlash and looseness). Refer to: <ul style="list-style-type: none"> - AV-66, "Removal and Installation" (front tweeter). - AV-67, "Removal and Installation" (front door speaker). - AV-68, "Removal and Installation" (rear door speaker). • Malfunction in audio unit. Refer to AV-18, "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-73, "Feeder Layout" .
No radio reception or poor reception.	<ul style="list-style-type: none"> • 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). 	<ul style="list-style-type: none"> • Antenna amp. ON signal circuit malfunction. Refer to AV-24, "Reference Value". • Poor connector connection of antenna or antenna feeder. Refer to AV-73, "Feeder Layout".
No satellite radio reception.	Satellite radio antenna malfunction.	<ul style="list-style-type: none"> • Poor continuity in antenna feeder. • Poor connector connection of antenna or antenna feeder. • Loose satellite radio antenna mounting nut. Refer to AV-73, "Feeder Layout".
Buzz/rattle sound from speaker	The majority of buzz/rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the buzz/rattle.	Refer to "SQUEAK AND RATTLE TROUBLE DIAGNOSIS" in the appropriate interior trim section.

RELATED TO HANDS-FREE PHONE

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

Check Compatibility

1. Make sure the customer's Bluetooth[®] related concern is understood.
2. Verify the customer's concern.

NOTE:

The customer's phone may be required, depending upon their concern.

3. Write down the customer's phone brand, model and service provider.

NOTE:

AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[DISPLAY AUDIO]

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.	
Hands-free phone cannot be established.	<ul style="list-style-type: none"> • 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. 	Malfunction in audio unit. Replace audio unit. Refer to AV-64, "Removal and Installation" .
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-53, "Diagnosis Procedure" .
The system cannot be operated.	<ul style="list-style-type: none"> • 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-65, "Removal and Installation" .
	Steering switch's , , and switches do not work.	Steering switch signal circuit malfunction. Refer to AV-55, "Diagnosis Procedure" .
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to AV-55, "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-51, "Diagnosis Procedure" .
	Camera image signal circuit malfunction.	Camera image signal circuit malfunction between rear view camera and audio unit. Refer to AV-51, "Diagnosis Procedure" .
	Rear view camera malfunction.	Replace rear view camera. Refer to AV-71, "Removal and Installation" .

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[DISPLAY AUDIO]

NORMAL OPERATING CONDITION

Description

INFOID:000000010245840

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.	<ul style="list-style-type: none"> • Ignition components
The occurrence of the noise is linked with the operation of the fuel pump.		<ul style="list-style-type: none"> • Fuel pump condenser
Noise only occurs when various electrical components are operating.	A cracking or snapping sound occurs with the operation of various switches.	<ul style="list-style-type: none"> • Relay malfunction, audio unit malfunction
	The noise occurs when various motors are operating.	<ul style="list-style-type: none"> • Motor case ground • Motor
The noise occurs constantly, not just under certain conditions.		<ul style="list-style-type: none"> • 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.		<ul style="list-style-type: none"> • 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).	<p>Some Bluetooth® enabled cellular phones may not be recognized by the in-vehicle phone module.</p> <p>Refer to "RELATED TO HANDS-FREE PHONE (Check Compatibility)" in AV-59, "Symptom Table".</p>
Cannot use hands-free phone.	<p>Customer will not be able to use a hands-free phone under the following conditions:</p> <ul style="list-style-type: none"> • 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. <p>NOTE:</p> <p>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.</p>

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[DISPLAY AUDIO]

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.

A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

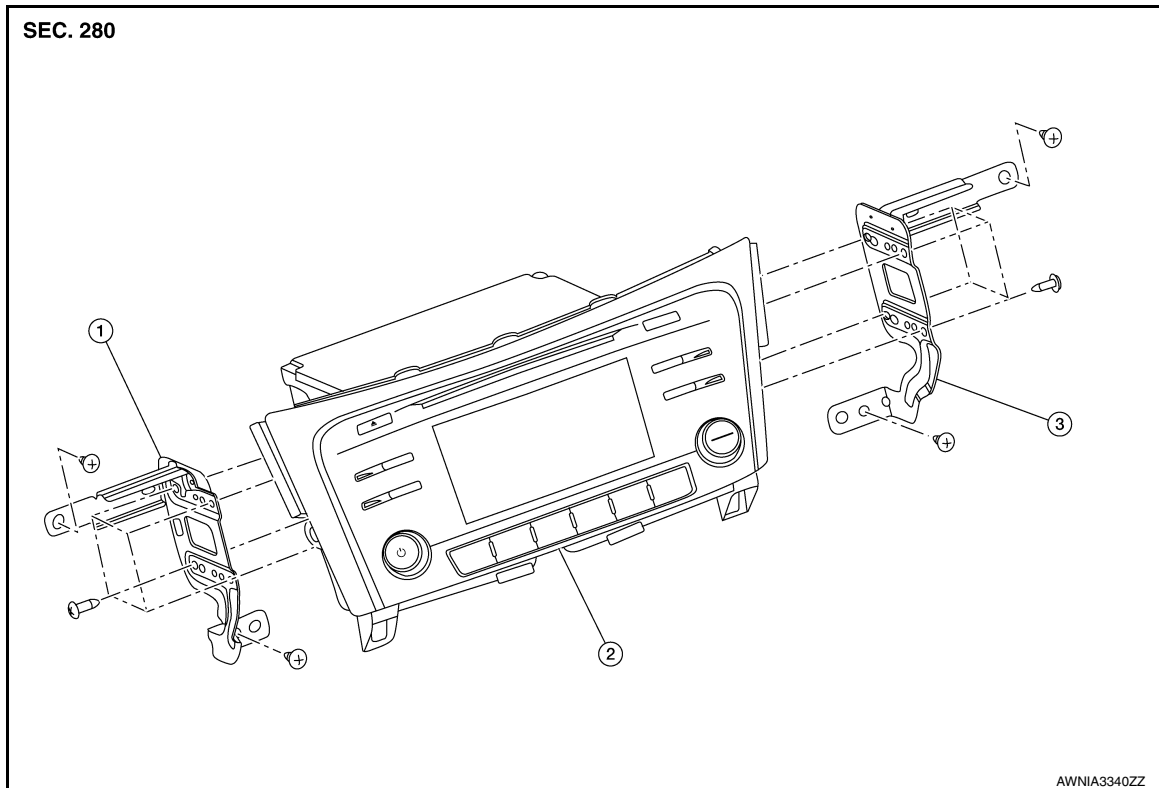
P

REMOVAL AND INSTALLATION

AUDIO UNIT

Exploded View

INFOID:000000010197923



1. Audio unit bracket (LH)

2. Audio unit

3. Audio unit bracket (RH)

Removal and Installation

INFOID:000000010197924

REMOVAL

1. Disconnect the negative battery terminal. Refer to [PG-75. "Removal and Installation \(Battery\)"](#).
2. Remove A/C switch (AUTOMATIC AIR CONDITIONING) or front air control (MANUAL AIR CONDITIONING). Refer to [HAC-102. "Removal and Installation"](#) (AUTOMATIC AIR CONDITIONING) or [HAC-181. "Removal and Installation"](#) (MANUAL AIR CONDITIONING).
3. Remove instrument finisher B. Refer to [IP-16. "INSTRUMENT FINISHER B : Removal and Installation"](#).
4. Remove instrument finisher E. Refer to [IP-16. "INSTRUMENT FINISHER E : Removal and Installation"](#).
5. Remove the audio unit screws, then pull out the audio unit.
6. Disconnect the harness connectors from the audio unit and remove.
7. Remove the audio unit bracket (LH/RH) screws and the audio unit brackets (LH/RH) (if necessary).

INSTALLATION

Installation is in the reverse order of removal.

STEERING SWITCHES

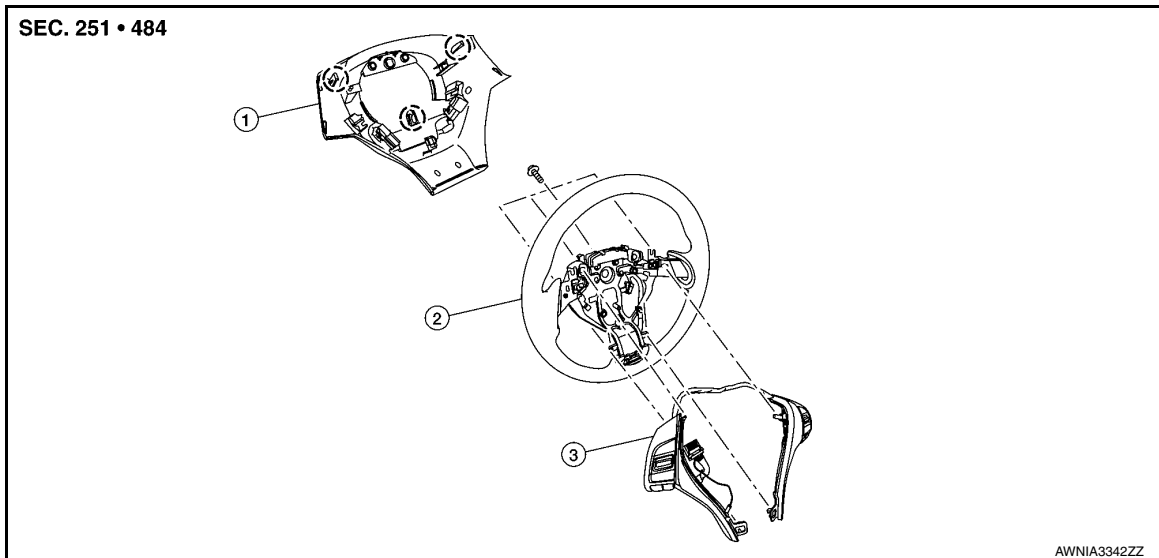
< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO]

STEERING SWITCHES

Exploded View

INFOID:000000010197930



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

Removal and Installation

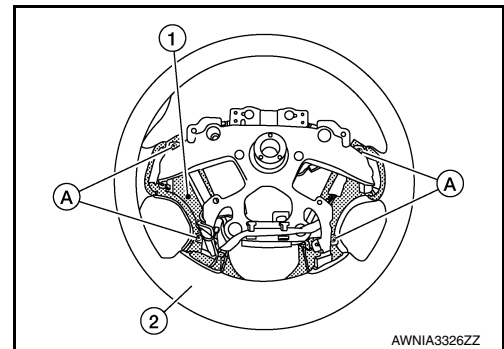
INFOID:000000010197931

REMOVAL

NOTE:

The steering switches are serviced as an assembly.

1. Remove steering wheel. Refer to [ST-11, "Removal and Installation"](#).
2. Release pawls on the steering wheel rear finisher and remove.
3. Remove screws (A) and steering switches (1) from steering wheel (2).



INSTALLATION

Installation is in the reverse order of removal.

FRONT TWEETER

Removal and Installation

INFOID:000000010198035

REMOVAL

1. Remove defroster grille. Refer to [VTL-12. "DEFROSTER GRILLE : Removal and Installation"](#).
2. Remove bolts and pull out the front tweeter.
3. Disconnect the harness connector from the front tweeter and remove.

INSTALLATION

Installation is in the reverse order of removal.

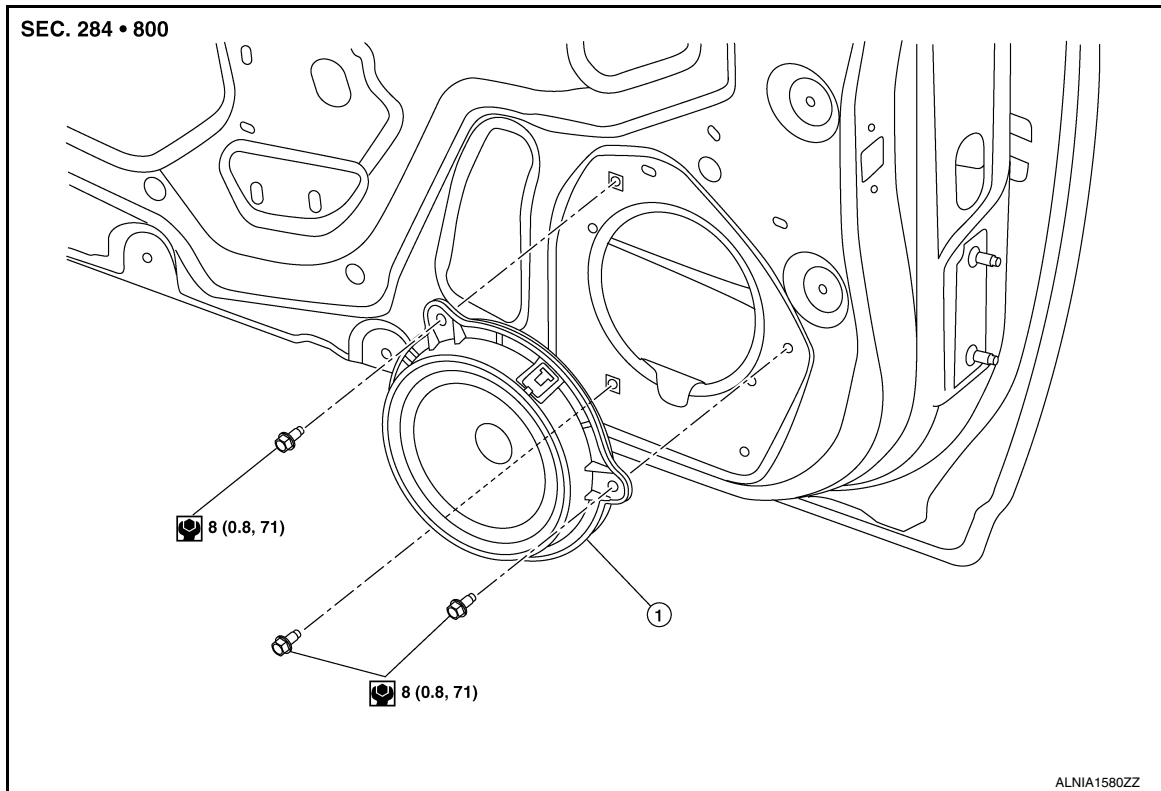
FRONT DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO]

FRONT DOOR SPEAKER

Exploded View



1. Front door speaker

Removal and Installation

INFOID:000000010198034

REMOVAL

1. Remove front door finisher. Refer to [INT-15. "Removal and Installation"](#).
2. Remove front door speaker bolts, then pull out front door speaker.
3. Disconnect the harness connector from front door speaker and remove.

INSTALLATION

Installation is in the reverse order of removal.

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

AV

REAR DOOR SPEAKER

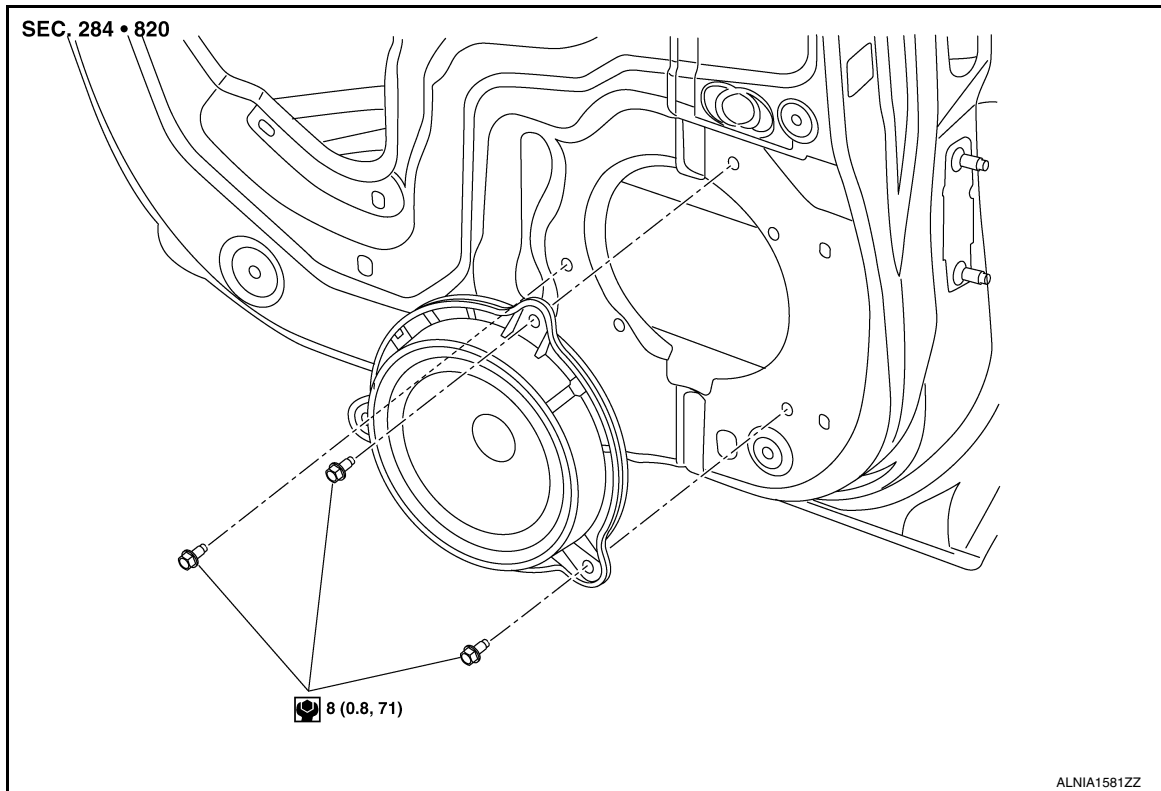
< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO]

REAR DOOR SPEAKER

Exploded View

INFOID:000000010198036



1. Rear door speaker

Removal and Installation

INFOID:000000010198037

REMOVAL

1. Remove rear door finisher. Refer to [INT-18. "Removal and Installation"](#).
2. Remove rear door speaker bolts, then pull out rear door speaker.
3. Disconnect the harness connector from the rear door speaker and remove.

INSTALLATION

Installation is in the reverse order of removal.

USB INTERFACE AND AUX IN JACK

< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO]

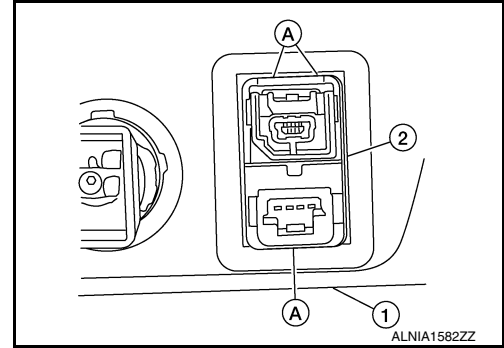
USB INTERFACE AND AUX IN JACK

Removal and Installation

INFOID:000000010198038

REMOVAL

1. Remove cluster lid C. Refer to [IP-21. "Removal and Installation"](#).
2. Release the pawls (A) on the back of USB interface and AUX in jack (2), then remove from the front of cluster lid C (1).



INSTALLATION

Installation is in the reverse order of removal.

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

AV

MICROPHONE

< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO]

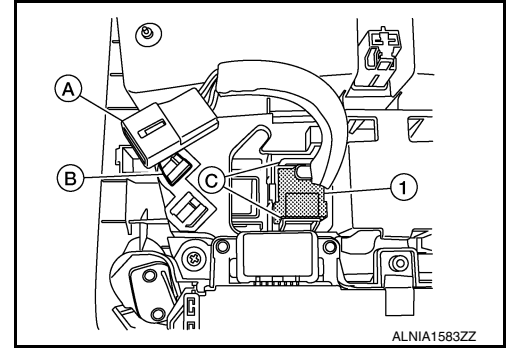
MICROPHONE

Removal and Installation

INFOID:000000010198042

REMOVAL

1. Remove the map lamp assembly. Refer to [INL-55. "Removal and Installation"](#).
2. Release harness connector (A) by sliding rearward to remove from the pawl (B).
3. Release pawls (C) and remove the microphone (1) from the front room/map lamp assembly.



INSTALLATION

Installation is in the reverse order of removal.

REAR VIEW CAMERA

< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO]

REAR VIEW CAMERA

Removal and Installation

INFOID:000000010198043

REMOVAL

1. Remove the back door outer finisher. Refer to [EXT-50. "Removal and Installation"](#).
2. Release pawl, disconnect harness connector from rear view camera and remove.

INSTALLATION

Installation is in the reverse order of removal.

A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

P

AUDIO ANTENNA

Removal and Installation

INFOID:000000010198047

REMOVAL

1. Remove the luggage side upper finisher (RH). Refer to [INT-36. "LUGGAGE SIDE UPPER FINISHER : Removal and Installation"](#).
2. Partially lower headlining (rear). Refer to [INT-30. "Removal and Installation"](#).
3. Disconnect harness connectors from antenna feeder.
4. Remove nut from audio antenna and remove.

INSTALLATION

Installation is in the reverse order of removal.

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

CAUTION:

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

ANTENNA FEEDER

< REMOVAL AND INSTALLATION >

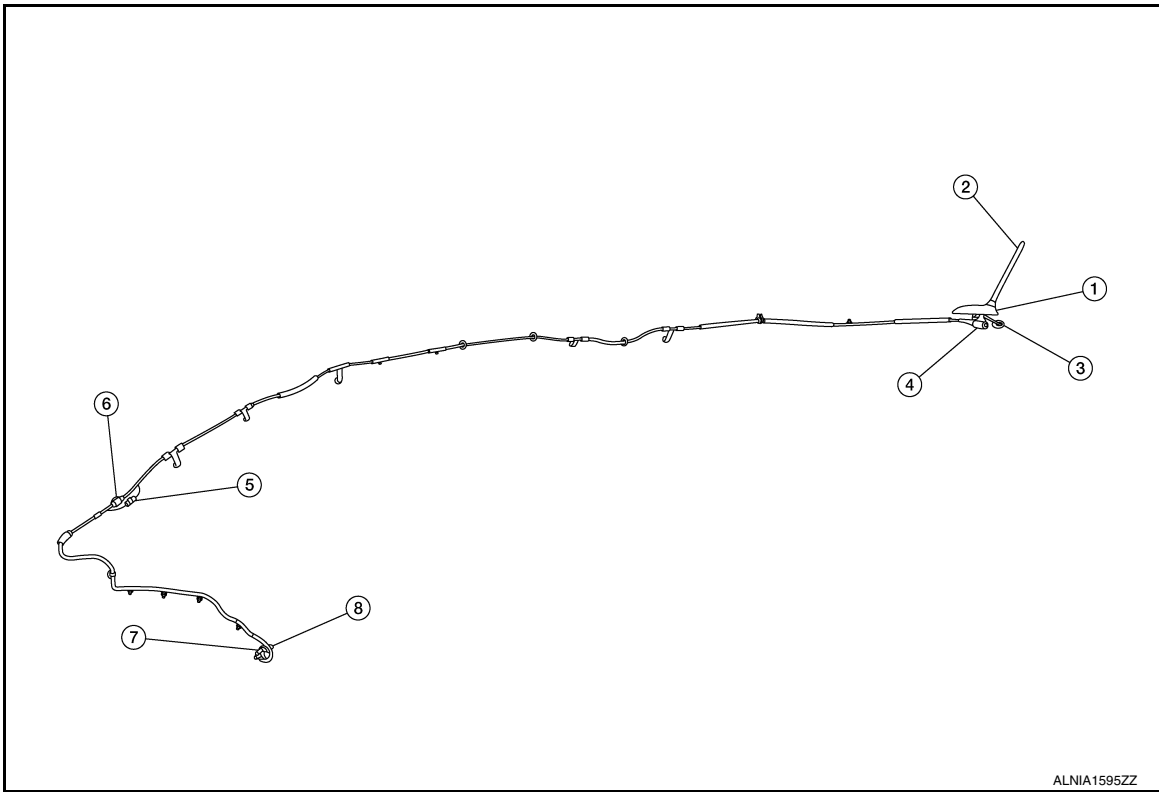
[DISPLAY AUDIO]

ANTENNA FEEDER

Feeder Layout

INFOID:000000010270716

ANTENNA FEEDER LAYOUT



- | | | |
|--|----------------|---------------|
| 1. Antenna base (antenna amp. and satellite antenna) | 2. Rod Antenna | 3. M503 |
| 4. M502 | 5. M130, M501 | 6. M129, M500 |
| 7. M126 | 8. M124 | |

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

PRECAUTION

PRECAUTIONS

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

INFOID:000000010197341

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 three minutes before performing any service.

Cautions in Removing Battery Terminal and AV Control Unit (Models with AV Control Unit)

INFOID:000000010275668

CAUTION:

Remove battery terminal and AV control unit 30 seconds or more after turning the ignition switch OFF.

NOTE:

After the ignition switch is turned OFF, the AV control unit continues operating for approximately 30 seconds. Therefore, data corruption may occur if battery voltage is cut off within 30 seconds.

Precaution for Trouble Diagnosis

INFOID:000000010275669

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:000000010197353

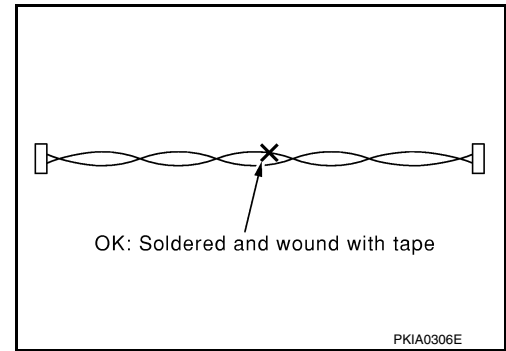
AV COMMUNICATION SYSTEM

PRECAUTIONS

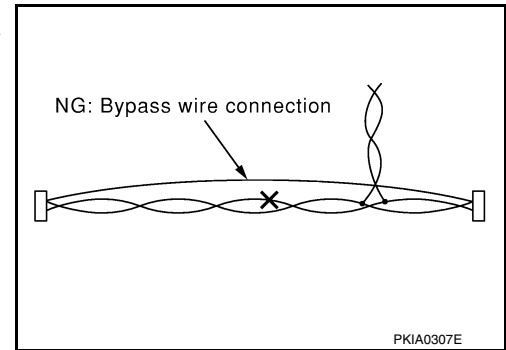
[NAVIGATION WITHOUT BOSE]

< PRECAUTION >

- 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:000000010197354

- 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 >

[NAVIGATION WITHOUT BOSE]

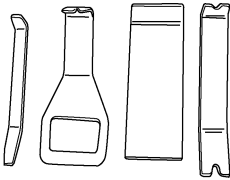
PREPARATION

PREPARATION

Special Service Tool

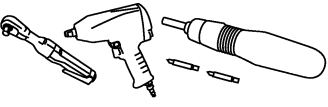
INFOID:000000010197481

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

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

Commercial Service Tools

INFOID:000000010197480

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

COMPONENT PARTS

< SYSTEM DESCRIPTION >

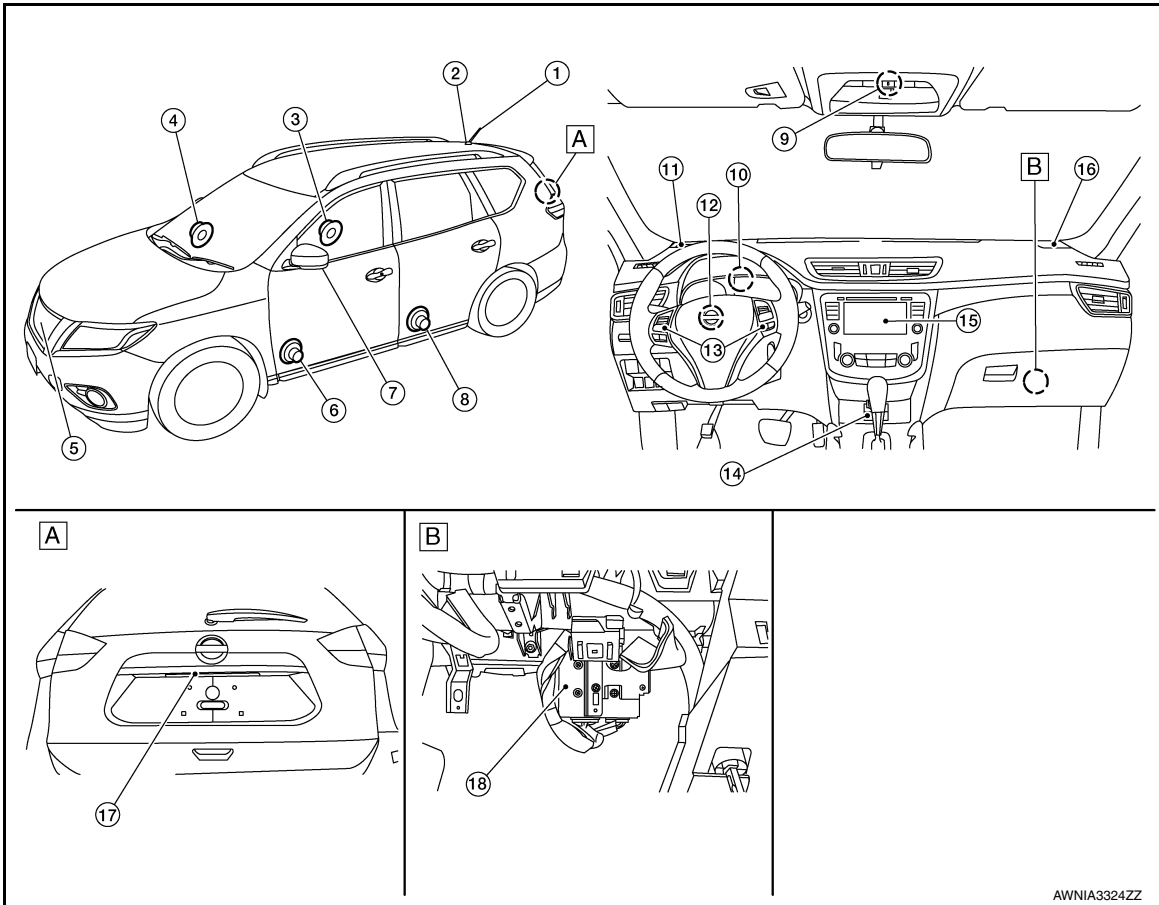
[NAVIGATION WITHOUT BOSE]

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:000000010244496



A. Center of back door

B. View with glove box removed

No.	Component	Function
1.	Rod antenna	Refer to AV-232, "Rod Antenna, Antenna Amp., Satellite Antenna and Antenna Feeder" .
2.	Antenna base (antenna amp. and satellite antenna)	
3.	Rear door speaker RH	Refer to AV-229, "Speakers" .
4.	Front door speaker RH	
5.	Front camera	Refer to AV-231, "Front Camera" .
6.	Front door speaker LH	Refer to AV-229, "Speakers" .
7.	Side camera	Refer to AV-231, "Side Cameras" .
8.	Rear door speaker LH	Refer to AV-229, "Speakers" .
9.	Microphone	Refer to AV-230, "Microphone" .
10.	GPS antenna	Refer to AV-233, "GPS Antenna" .
11.	Front tweeter LH	Refer to AV-229, "Speakers" .
12.	Steering angle sensor	Refer to AV-232, "Steering Angle Sensor" .
13.	Steering switches	Refer to AV-230, "Steering Switches" .
14.	USB interface and AUX in jack	Refer to AV-230, "USB Interface and AUX In Jack" .

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[NAVIGATION WITHOUT BOSE]

No.	Component	Function
15.	AV control unit	Refer to AV-228, "AV Control Unit" .
16.	Front tweeter RH	Refer to AV-229, "Speakers" .
17.	Rear view camera	Refer to AV-231, "Rear View Camera" .
18.	Around View [®] * Monitor control unit	Refer to AV-231, "Around View Monitor Control Unit" .

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

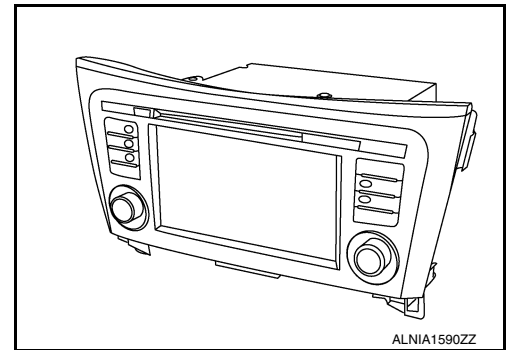
AV Control Unit

INFOID:0000000010244497

Description

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

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

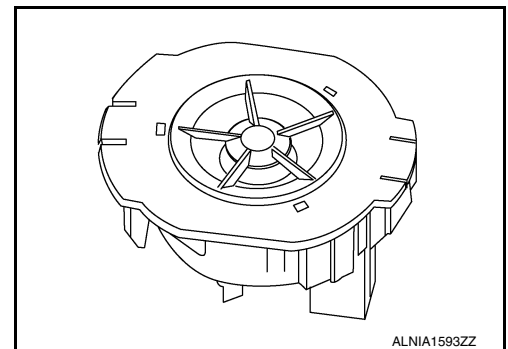


Speakers

INFOID:0000000010244498

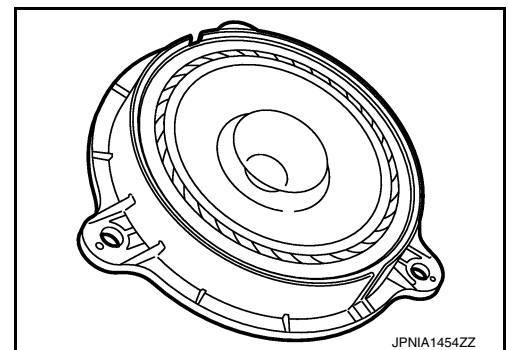
FRONT TWEETER

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



FRONT DOOR SPEAKER

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



REAR DOOR SPEAKER

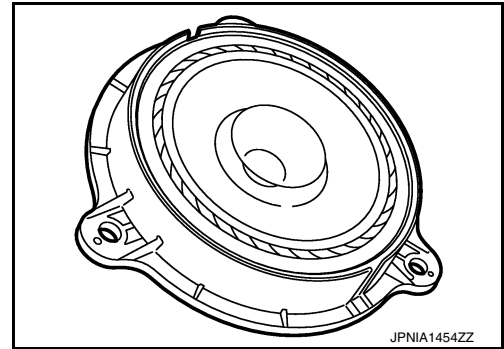
- 16.5 cm (6.5 in) speakers are installed in the bottom of the rear doors.

COMPONENT PARTS

< SYSTEM DESCRIPTION >

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

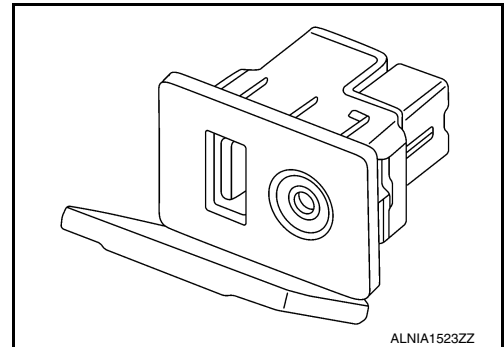
[NAVIGATION WITHOUT BOSE]



INFOID:000000010244499

USB Interface and AUX In Jack

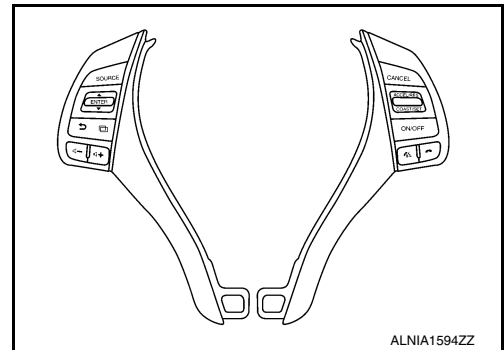
- USB Interface and AUX in jack is installed in the console.
- iPod® and USB memory can be connected to the AV control unit through the USB interface.
- An external audio device can be connected to the AV control unit through the AUX in jack.



INFOID:000000010244500

Steering Switches

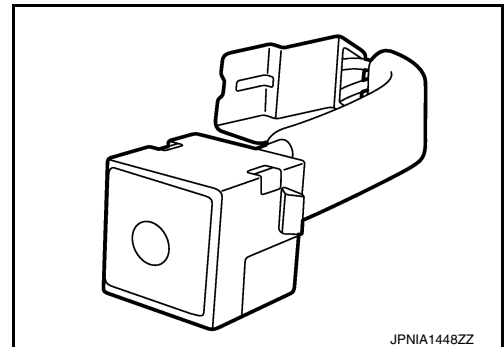
- Steering switches are installed in the steering wheel.
- Operations for audio and hands-free phone are possible.
- Switches are connected to the combination meter.
- Combination meter is connected to the AV control unit via AV communication.



INFOID:000000010244501

Microphone

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



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

COMPONENT PARTS

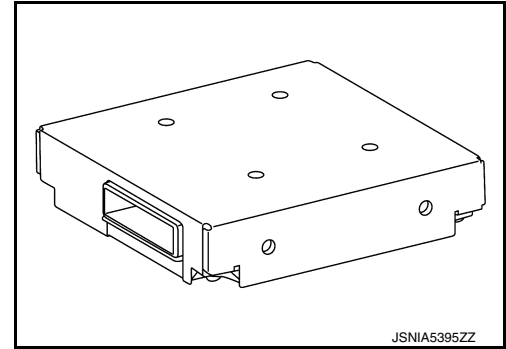
< SYSTEM DESCRIPTION >

[NAVIGATION WITHOUT BOSE]

Around View Monitor Control Unit

INFOID:000000010244502

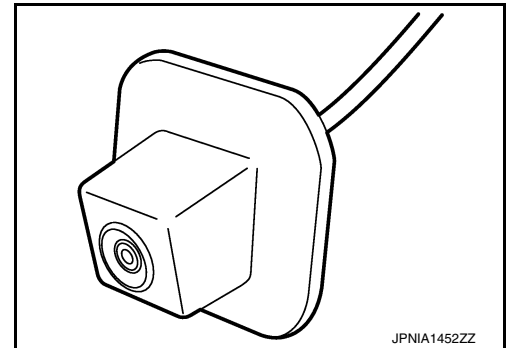
- The around view monitor control unit is installed behind the glove box.
- Vehicle width guide lines, predicted course line, vehicle front guiding line and vehicle side line, and vehicle icon are displayed and combined with camera images.



Rear View Camera

INFOID:000000010244503

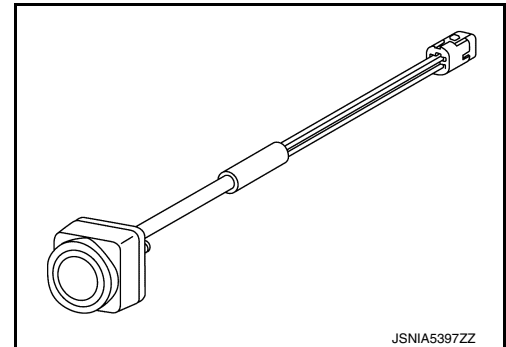
- The rear view camera is installed in the back door finisher.
- Power is supplied from the around view monitor control unit.



Side Cameras

INFOID:000000010244504

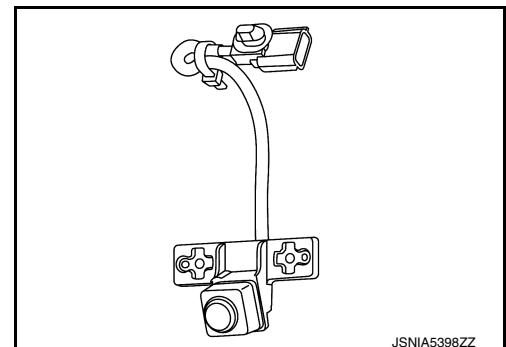
- The side cameras are installed in the door mirrors.
- Power is supplied from the around view monitor control unit.



Front Camera

INFOID:000000010244505

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



COMPONENT PARTS

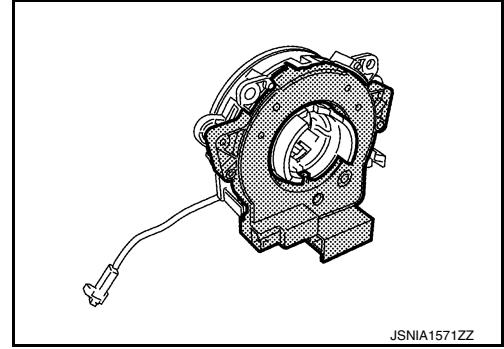
< SYSTEM DESCRIPTION >

[NAVIGATION WITHOUT BOSE]

Steering Angle Sensor

INFOID:000000010244506

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

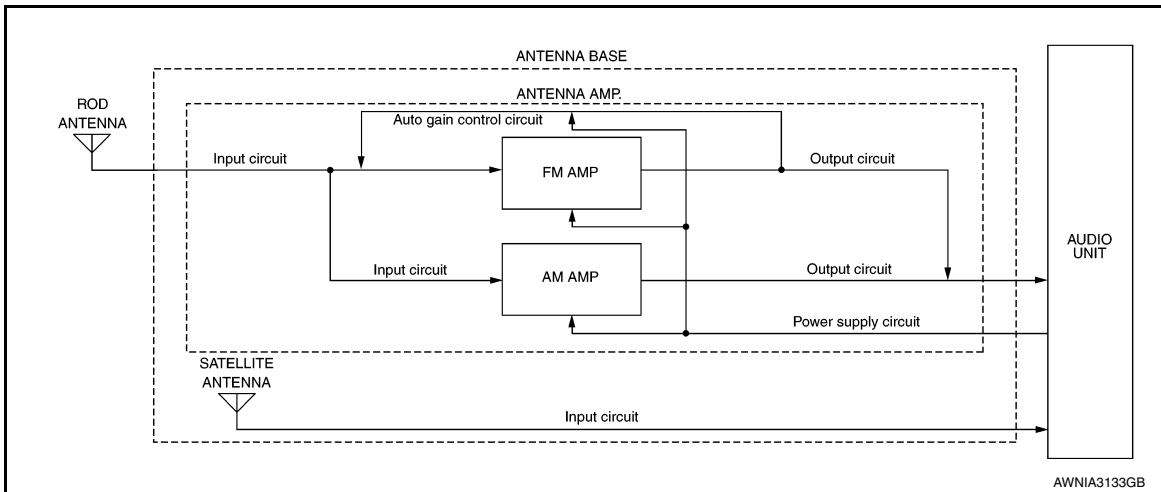


Rod Antenna, Antenna Amp., Satellite Antenna and Antenna Feeder

INFOID:000000010244507

RADIO ANTENNA AND SATELLITE ANTENNA

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



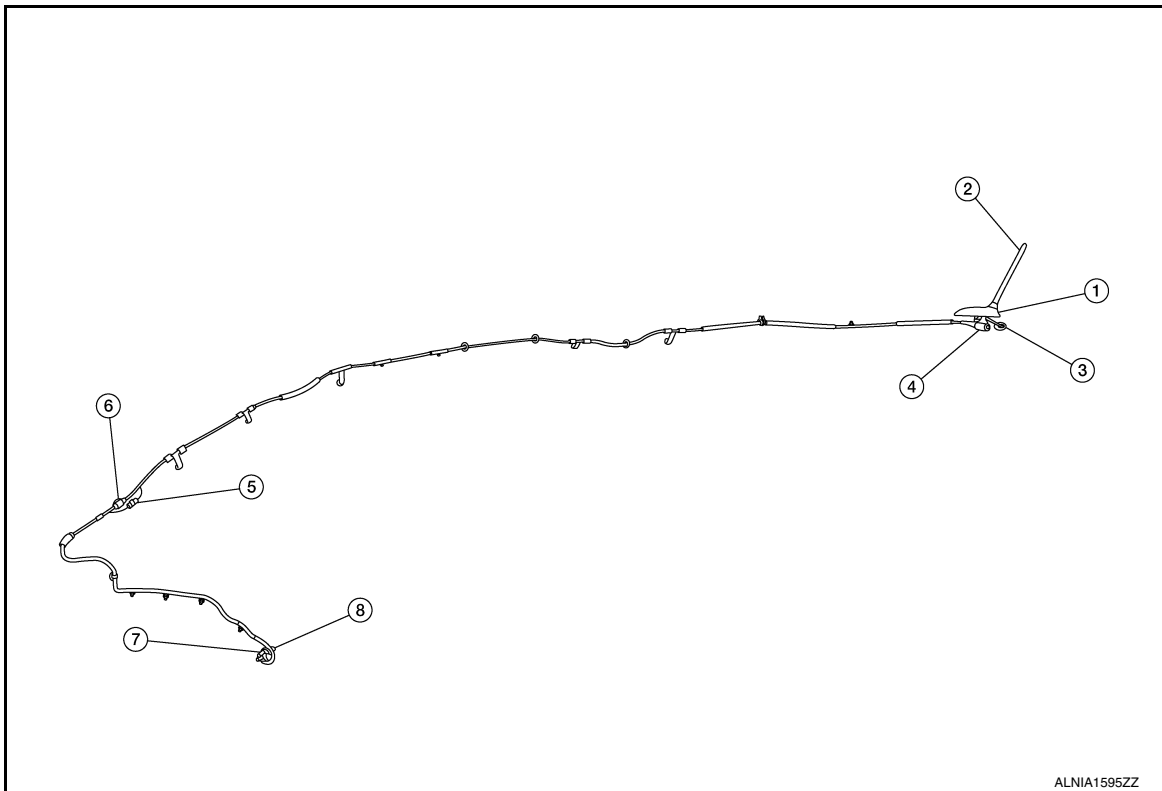
ANTENNA FEEDER LAYOUT

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

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[NAVIGATION WITHOUT BOSE]

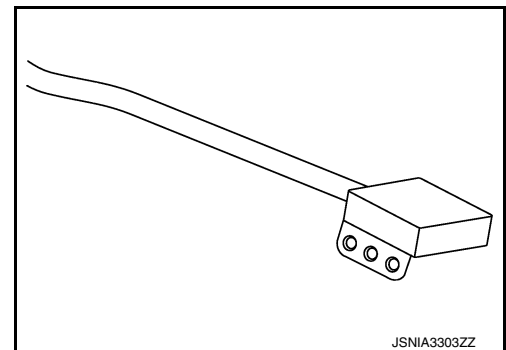


- | | | |
|--|----------------|---------------|
| 1. Antenna base (antenna amp. and satellite antenna) | 2. Rod Antenna | 3. M503 |
| 4. M502 | 5. M130, M501 | 6. M129, M500 |
| 7. M142 | 8. M139 | |

GPS Antenna

INFOID:000000010244508

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



INFOID:000000010244509

SD Card

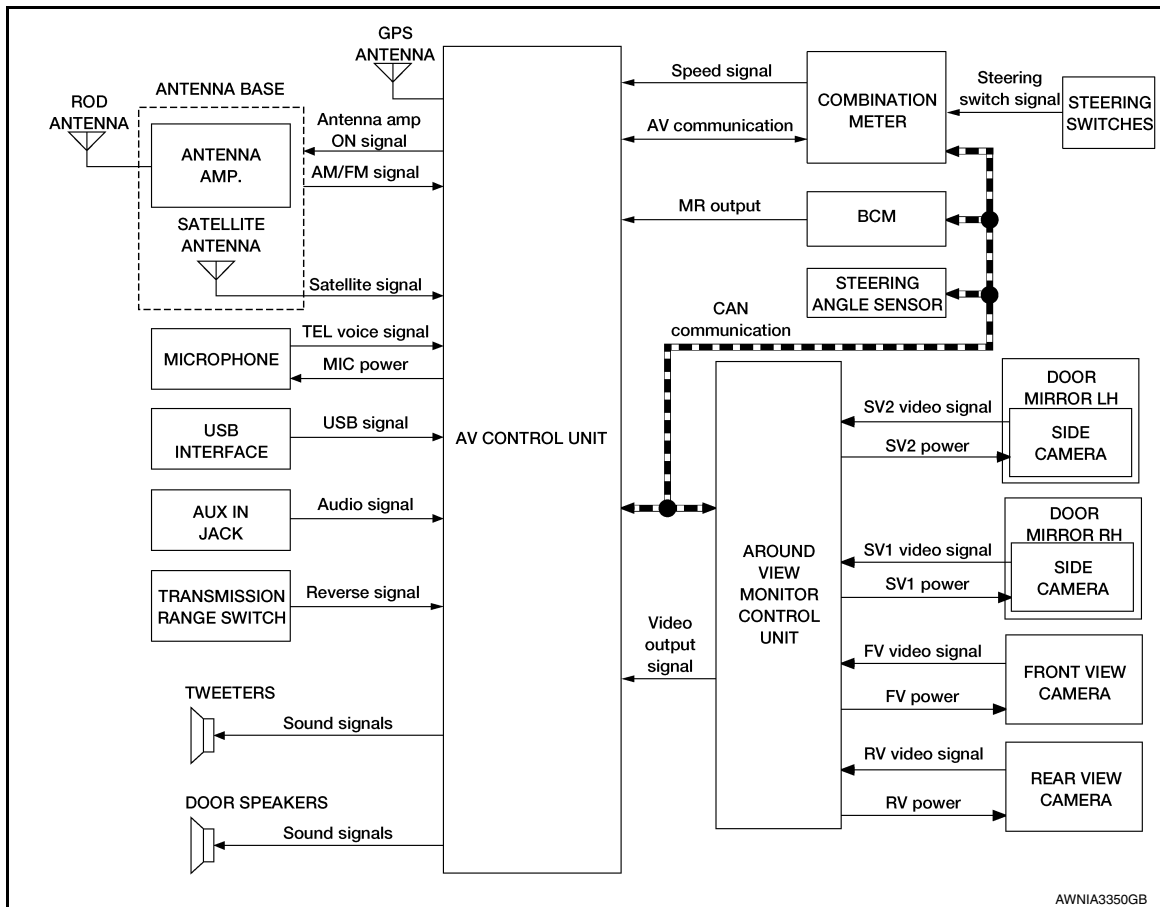
- Map data is memorized in the SD card.
- Map data is sent to the AV control unit from the SD slot.

SYSTEM

System Description

INFOID:000000010244510

SYSTEM DIAGRAM



AUDIO SYSTEM

The audio system consists of the following component:

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

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

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

NAVIGATION SYSTEM

Description

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

POSITION DETECTION PRINCIPLE

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

AV

O

P

SYSTEM

< SYSTEM DESCRIPTION >

[NAVIGATION WITHOUT BOSE]

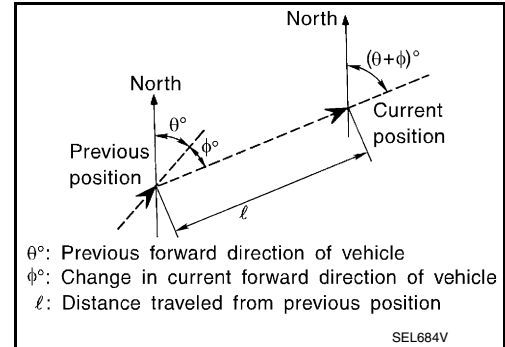
The navigation system periodically calculates the vehicle's current position according to the following three signals:

- 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.

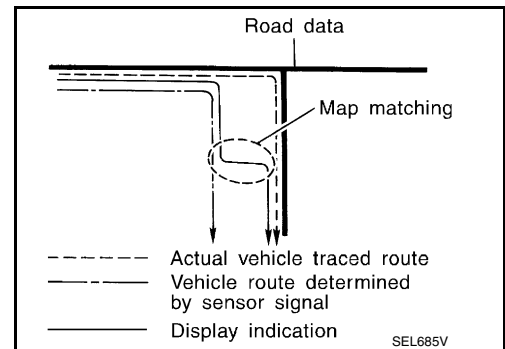
More accurate traveling direction is detected because priorities are set for the signals from these two devices according to the situation.

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.

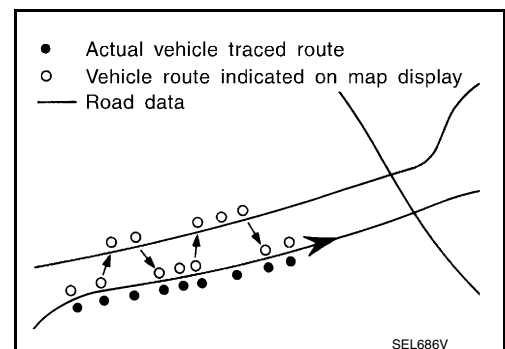
NOTE:

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.

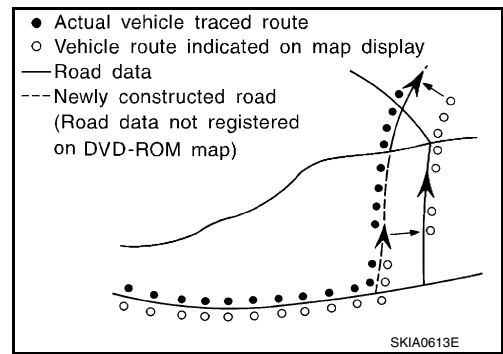


SYSTEM

< SYSTEM DESCRIPTION >

[NAVIGATION WITHOUT BOSE]

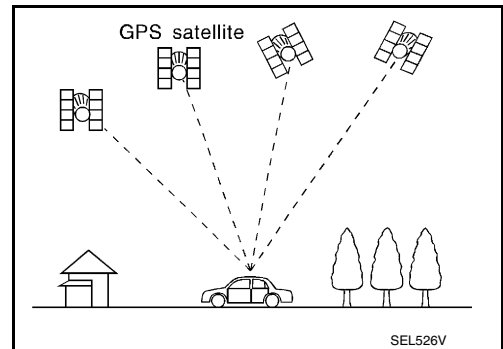
- Map-matching does not function correctly when a road on which the vehicle is driving is new and not recorded in the map SD-card, or when road pattern stored in the map data and the actual road pattern are different due to repair. The map-matching function may find another road and position the vehicle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

USB INTERFACE

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

AUX IN JACK

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

SPEED SENSITIVE VOLUME SYSTEM

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

HANDS-FREE PHONE SYSTEM

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

When A Call Is Originated

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

AV

SYSTEM

< SYSTEM DESCRIPTION >

[NAVIGATION WITHOUT BOSE]

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

When Receiving A Call

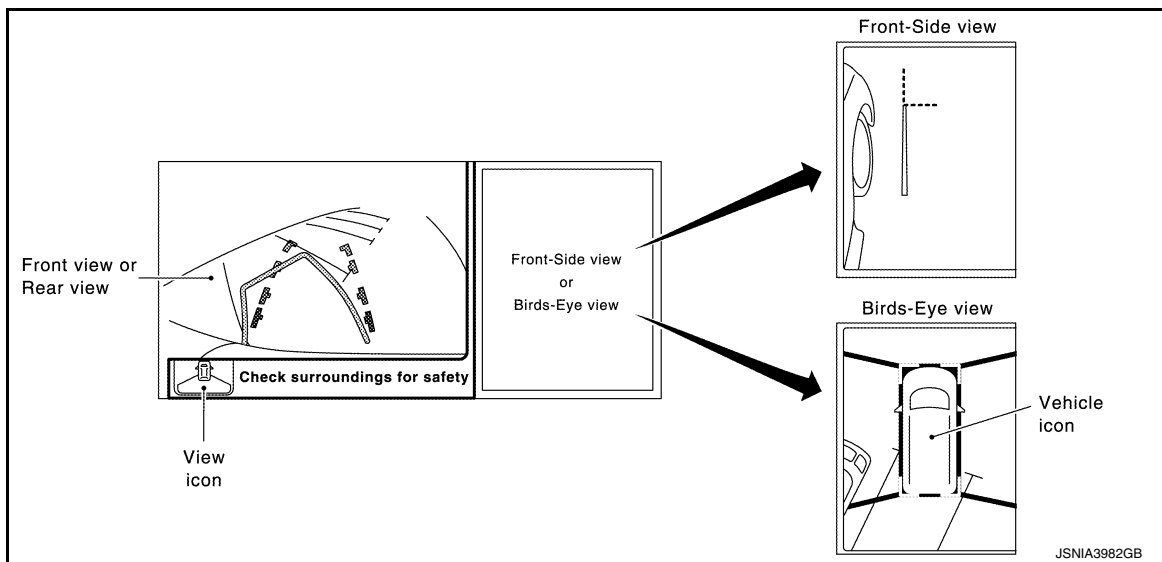
- Voice sound is input to own cellular phone from the other party.
- TEL voice signal is input to AV control unit by establishing Bluetooth® communication from cellular phone, and the signal is output to front speakers.

AROUND VIEW MONITOR FUNCTION

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

Display

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



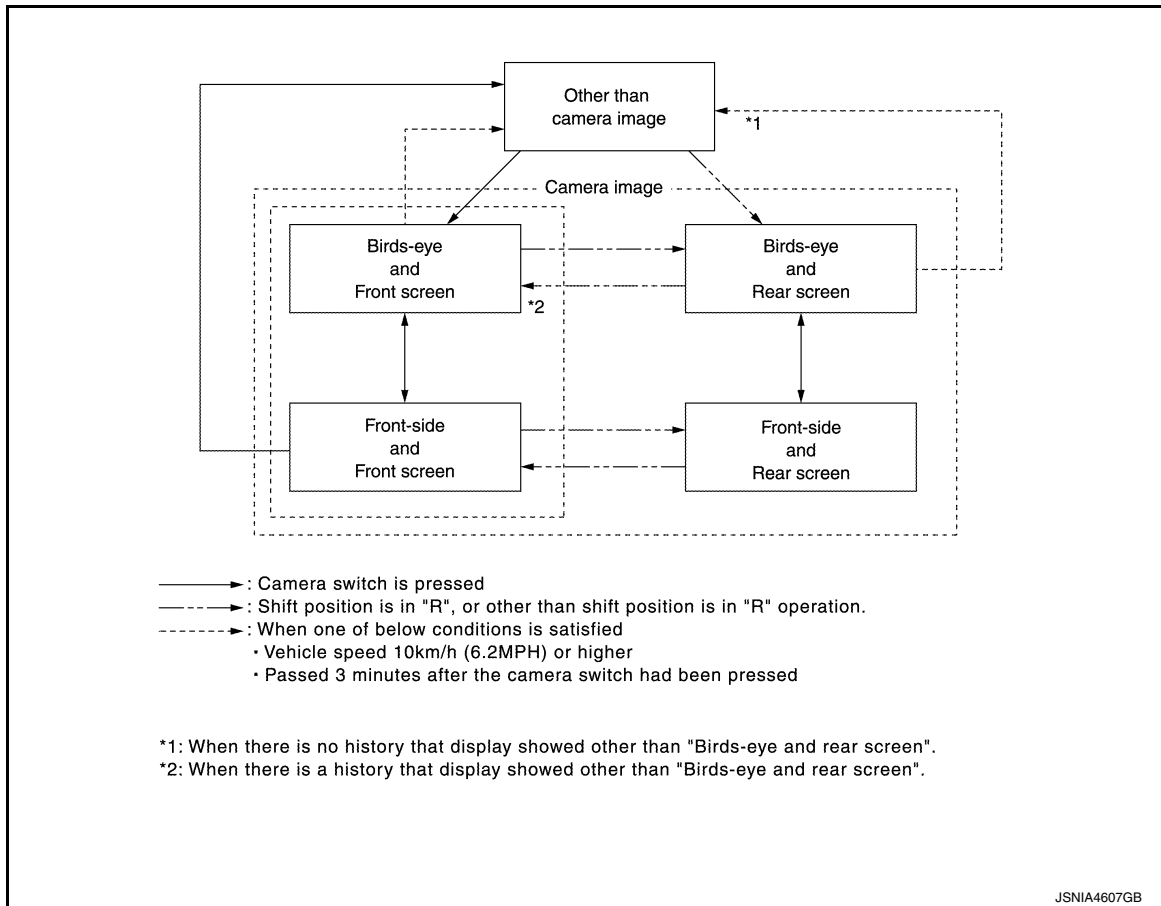
Operation

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

NOTE:

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

Around view monitor screen transition

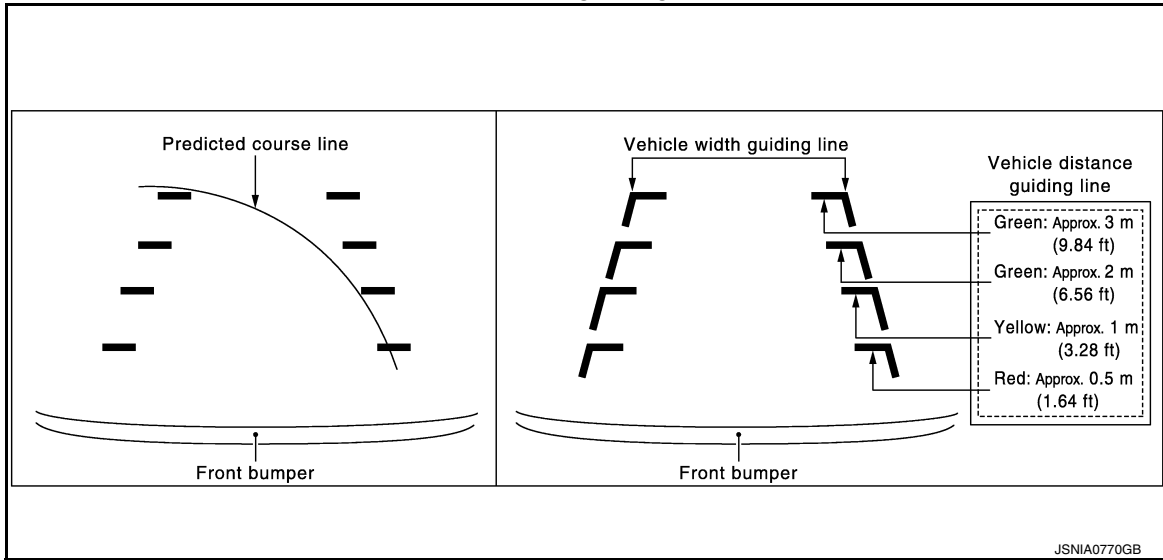


Front View

- The front view image improves the visibility of obstacles in front of the vehicle and assists driving by displaying images from birds-eye view and front-side view.
- The front view image displays the vehicle width guiding line and vehicle distance guiding line, in addition to the predictive course line according to the steering angle.
- If the steering angle is within approximately 90 degrees, the predictive course lines on the left/right side are displayed. If the steering angle exceeds approximately 90 degrees, only the predictive course line on the outside is displayed (opposite side of steering direction).
- The around view monitor control unit receives the steering angle signal from steering angle sensor via CAN communication, and controls the direction and distance of the predictive course line.
- ON/OFF setting of predictive course line can be performed using CONSULT.

AV

Front view guiding lines



Rear View

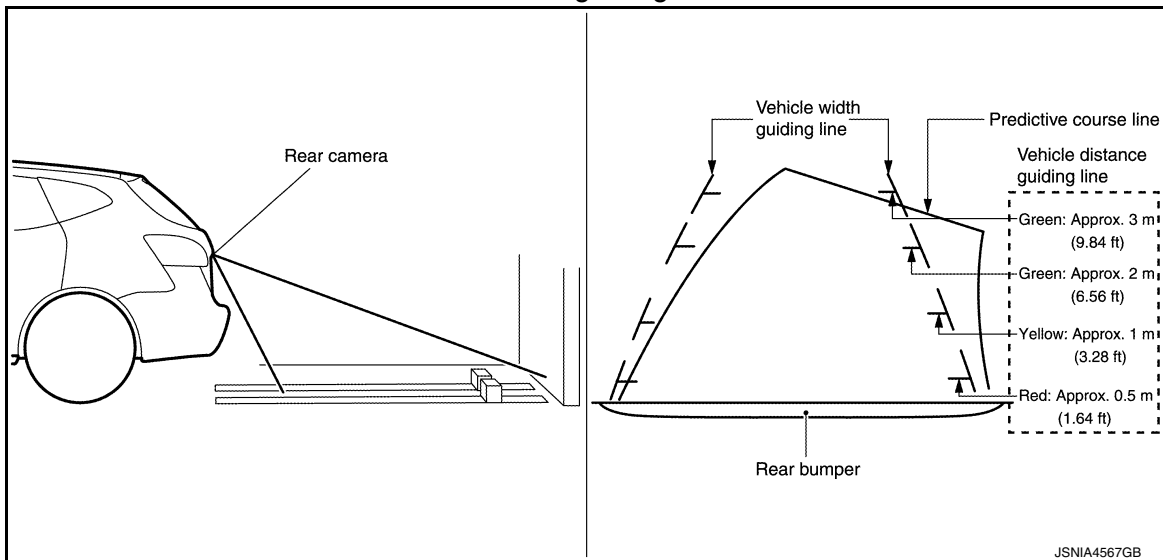
- The rear view image improves the visibility of obstacles in the rear of the vehicle and assists backing and parking by displaying images from birds-eye view and front side view.
- The rear view image displays the vehicle width guiding line and vehicle distance guiding line, in addition to the predictive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

NOTE:

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

- The around view monitor control unit receives the steering angle signal from steering angle sensor via CAN communication, and controls the direction and distance of the predictive course line.
- ON/OFF setting of predictive course line can be performed using CONSULT.

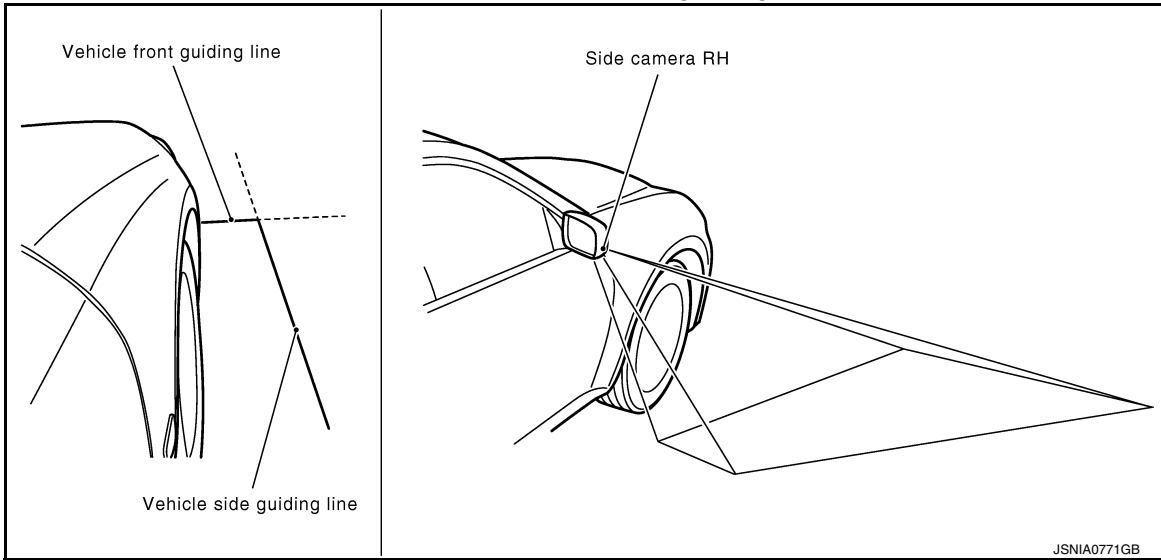
Rear view guiding lines



Front-Side View

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

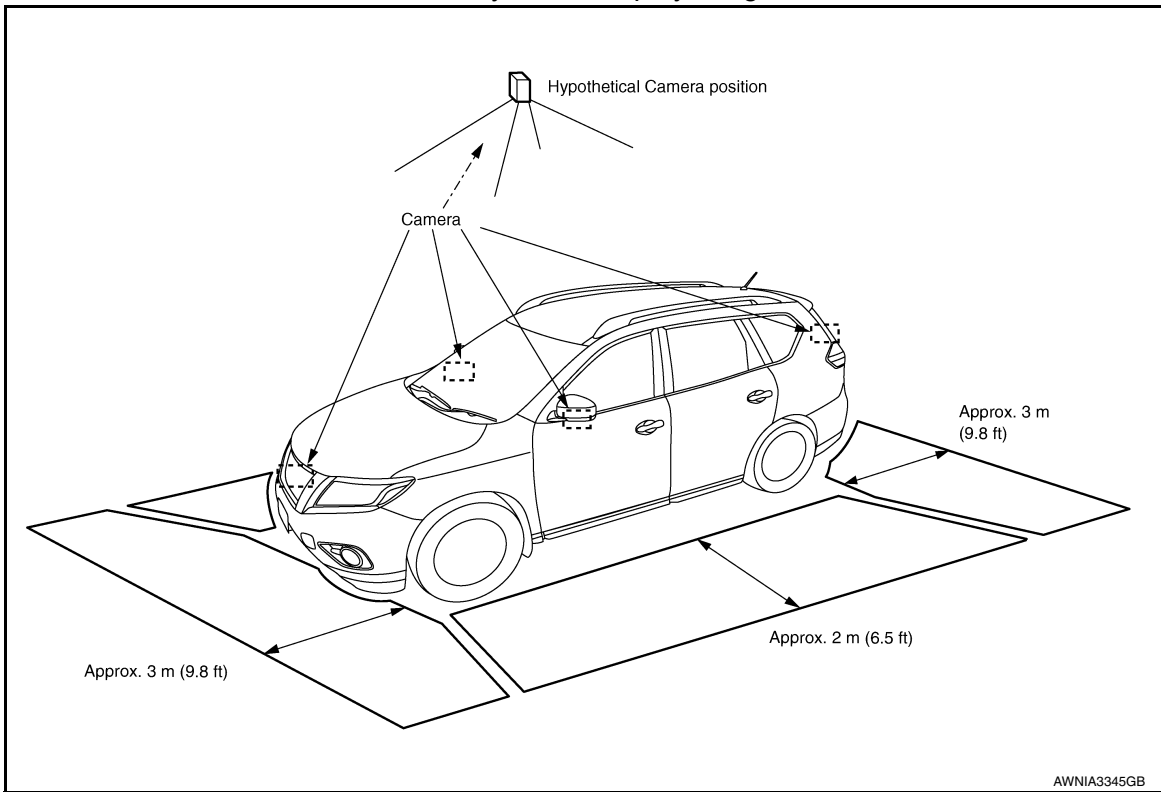
Front-side view area and guiding line



Birds-Eye View

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

Birds-Eye view display image



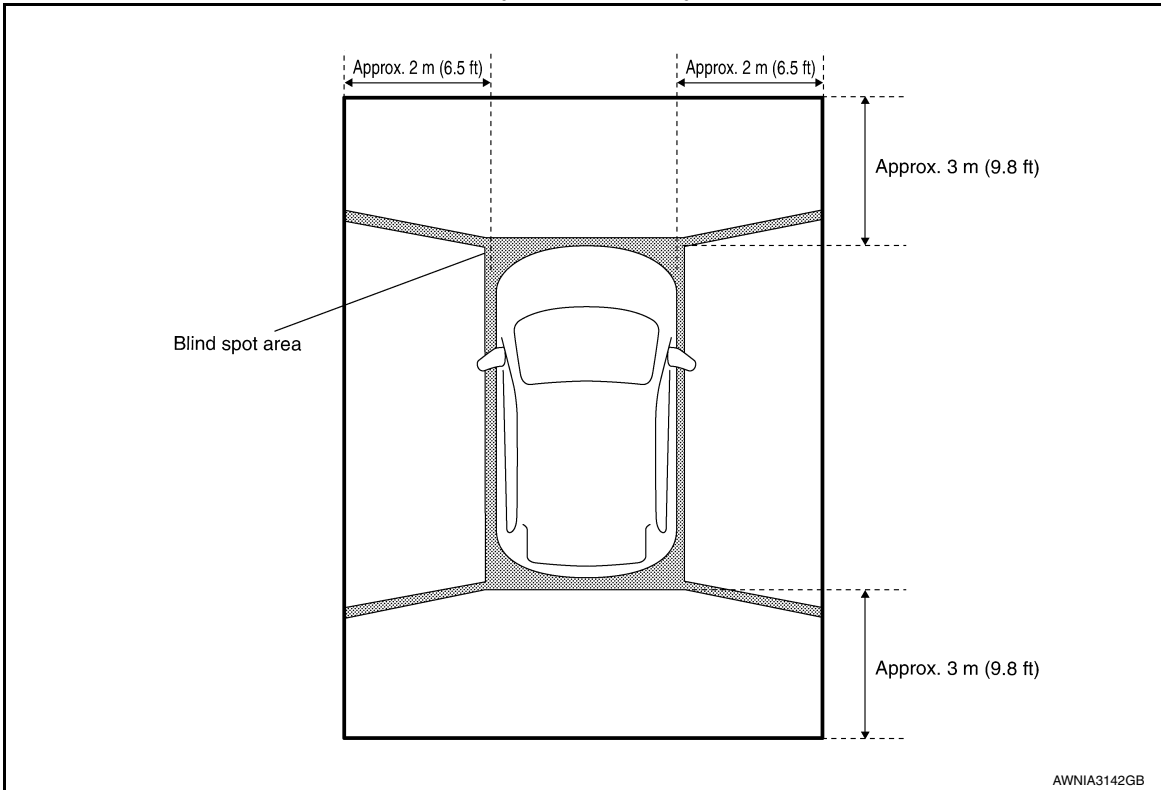
A
B
C
D
E
F
G
H
I
J
K
L
M
AV
O
P

SYSTEM

< SYSTEM DESCRIPTION >

[NAVIGATION WITHOUT BOSE]

Birds-Eye view display area



DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION WITHOUT BOSE]

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

Description

INFOID:0000000010244511

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

Mode	Item	Content	
Version	—	Version data of the AV control unit is displayed.	
User Configuration	Touch Display Calibration	Allows correction of the position detection accuracy of the touch panel.	
Radio	FM monitor	Monitors the dynamic values of the current tuner	
	AM monitor		
	SXM monitor	Version data is displayed.	
System State	Running System Status	<ul style="list-style-type: none"> • SD card slot Access • Power Supply • Speed Signal • Direction Signal • Illumination Signal • GPS Antenna • GPS Tracking • Satellites Visible • Satellites Tracked • Microphone Current • Steering wheel key • Radio Antenna • SXM Antenna • USB Device • iPod® firmware version • BT Status The current system status is displayed.	
	Speaker Test 4kHz	—	This activates a sequence of test tone outputs to the audio circuits one after the other for 1 second.
	Speaker Test 100Hz		
	Display-Test	—	This provides a test sequence where test displays (plain colored display: e.g. white, black, red, blue, green) are shown one after the other. The respective color is shown for an indicated period of time (parameter). After the display test, the design of the display previously available is stored. While the screen shows a plain colored display, a pixel malfunction may be detected.
Self Test	<ul style="list-style-type: none"> • SD Card Access • BT Module Access • Radio Antenna • GPS Antenna • SXM Antenna 	A system self test is executed and the results are stored into the error memory.	

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

On Board Diagnosis Function

INFOID:0000000010244512

METHOD OF STARTING

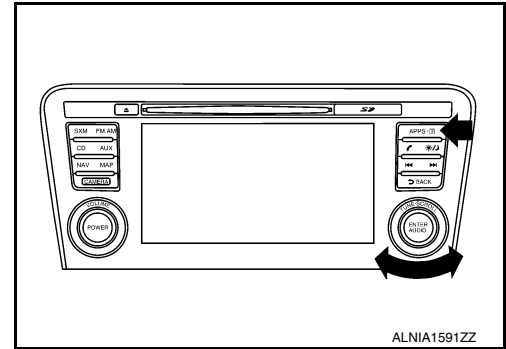
1. Turn the ignition ON.

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

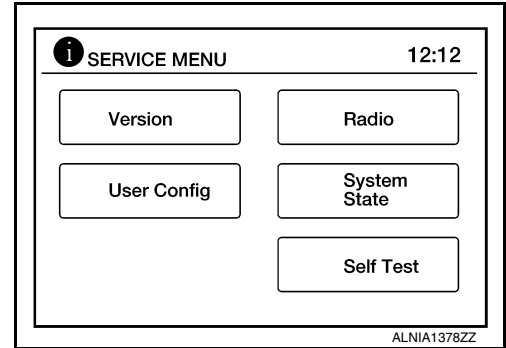
[NAVIGATION WITHOUT BOSE]

< SYSTEM DESCRIPTION >

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



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



CONSULT Function

INFOID:000000010244513

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	<ul style="list-style-type: none"> The vehicle specification can be read and saved. The vehicle specification can be written when replacing AV control unit.
CAN Diag Support Mntr	<ul style="list-style-type: none"> 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-100. "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-133. "CONFIGURATION \(AV CONTROL UNIT\) : Description"](#).

CAN DIAG SUPPORT MNTR

Refer to [LAN-14. "CAN Diagnostic Support Monitor"](#).

DIAGNOSIS SYSTEM (AROUND VIEW MONITOR CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION WITHOUT BOSE]

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

WITHOUT DRIVER ASSISTANCE SYSTEM : CONSULT Function

INFOID:000000010244514

CONSULT FUNCTIONS

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

Direct Diagnostic Mode	Description
Ecu Identification	The around view monitor control unit part number is displayed.
Self Diagnostic Result	The around view monitor control unit self diagnostic results are displayed.
Data Monitor	The around view monitor control unit input/output data is displayed in real time.
Work support	The settings for around view monitor control unit functions can be changed.
Configuration	<ul style="list-style-type: none">The vehicle specification can be read and saved.The vehicle specification can be written when replacing around view monitor control unit.
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.

ECU IDENTIFICATION

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

SELF DIAGNOSTIC RESULT

Refer to [AV-103, "WITHOUT DRIVER ASSISTANCE SYSTEM : DTC Index"](#).

DATA MONITOR

Monitor Item	Description
ST ANGLE SENSOR SIGNAL [On/Off]	Indicates condition of steering angle sensor signal.
REVERSE SIGNAL [On/Off]	Indicates selector lever position.
VEHICLE SPEED SIGNAL [mph/km/h]	Indicates condition of vehicle speed signal.
CAMERA SWITCH SIGNAL [On/Off]	Indicates condition of camera switch signal.
CAMERA OFF SIGNAL [On/Off]	Indicates condition of camera OFF signal.
ST ANGLE SENSOR TYPE [Absolute]	Indicates steering angle sensor type.
ST GEAR RATIO TYPE [Type O]	Indicates steering gear ratio type.
STEERING POSITION [LHD/RHD]	Indicates LH or RH drive type.
REAR CAMERA IMAGE SIGNAL [OK/NG]	Indicates condition of camera image signal.
F-CAMERA IMAGE SIGNAL [OK/NG]	Indicates condition of camera image signal.
DR-SIDE CAMERA IMAGE SIG [OK/NG]	Indicates condition of camera image signal.
PA-SIDE CAMERA IMAGE SIG [OK/NG]	Indicates condition of camera image signal.

WORK SUPPORT

Support Item	Setting	Description
NON-VIEWABLE AREA REMINDER	ON	ON/OFF setting of non-viewable area can be performed.
	OFF	
PREDICTIVE COURSE LINE DISPLAY	ON	ON/OFF setting of predictive course line display can be performed.
	OFF	
INITIALIZE CAMERA IMAGE CALIBRATION	—	Factory image calibration restoration can be performed.
STEERING ANGLE SENSOR ADJUSTMENT	—	Steering angle sensor neutral position adjustment can be performed.

DIAGNOSIS SYSTEM (AROUND VIEW MONITOR CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION WITHOUT BOSE]

Support Item	Setting	Description
CALIBRATING CAMERA IMAGE (FRONT CAMERA)	STATUS	Performs calibration of front camera.
	AXIS X	
	AXIS Y	
	ROTATE	
CALIBRATING CAMERA IMAGE (PASS-SIDE CAMERA)	STATUS	Performs calibration of passenger side camera.
	AXIS X	
	AXIS Y	
	ROTATE	
CALIBRATING CAMERA IMAGE (DR-SIDE CAMERA)	STATUS	Performs calibration of driver side camera.
	AXIS X	
	AXIS Y	
	ROTATE	
CALIBRATING CAMERA IMAGE (REAR CAMERA)	STATUS	Performs calibration of rear camera.
	AXIS X	
	AXIS Y	
	ROTATE	
FINE TUNING OF BIRDS-EYE VIEW	STATUS	Confirmation and adjustment of difference between each camera can be performed.
	SELECT	
	AXIS X	
	AXIS Y	
	ROTATE	

CONFIGURATION

Refer to [AV-134. "CONFIGURATION \(AROUND VIEW MONITOR CONTROL UNIT\) : Description"](#).

CAN DIAG SUPPORT MNTR

Refer to [LAN-14. "CAN Diagnostic Support Monitor"](#).

WITH DRIVER ASSISTANCE SYSTEM

WITH DRIVER ASSISTANCE SYSTEM : CONSULT Function

INFOID:000000010271360

CONSULT FUNCTIONS

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

Direct Diagnostic Mode	Description
Ecu Identification	The around view monitor control unit part number is displayed.
Self Diagnostic Result	The around view monitor control unit self diagnostic results are displayed.
Data Monitor	The around view monitor control unit input/output data is displayed in real time.
Work support	The settings for around view monitor control unit functions can be changed.
Configuration	<ul style="list-style-type: none"> The vehicle specification can be read and saved. The vehicle specification can be written when replacing around view monitor control unit.
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.

ECU IDENTIFICATION

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

SELF DIAGNOSTIC RESULT

Refer to [AV-103. "WITHOUT DRIVER ASSISTANCE SYSTEM : DTC Index"](#).

DATA MONITOR

DIAGNOSIS SYSTEM (AROUND VIEW MONITOR CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION WITHOUT BOSE]

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

ACTIVE TEST

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

WORK SUPPORT

Support Item	Setting	Description
REAR CAMERA ITS	—	Displays and sets camera image calibration values.
CAUSE OF LDW CANCEL	—	Displays the information about reason of LDW cancellation.
CAUSE OF BSW CANCEL	—	Displays the information about reason of BSW cancellation.
CALIBRATING CAMERA IMAGE (FRONT CAMERA)	STATUS	Performs calibration of front camera.
	AXIS X	
	AXIS Y	
	ROTATE	

DIAGNOSIS SYSTEM (AROUND VIEW MONITOR CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION WITHOUT BOSE]

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

CONFIGURATION

Refer to [AV-134, "CONFIGURATION \(AROUND VIEW MONITOR CONTROL UNIT\) : Description"](#).

CAN DIAG SUPPORT MNTR

Refer to [LAN-14, "CAN Diagnostic Support Monitor"](#).

AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITHOUT BOSE]

ECU DIAGNOSIS INFORMATION

AV CONTROL UNIT

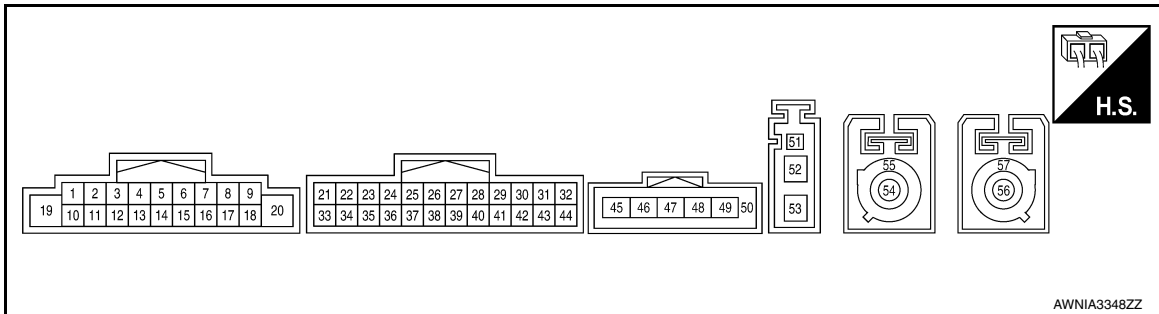
Reference Value

INFOID:000000010244515

VALUES ON THE DIAGNOSIS TOOL

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

TERMINAL LAYOUT



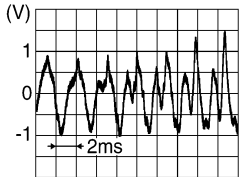
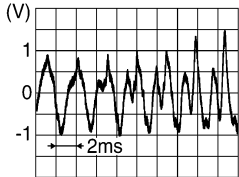
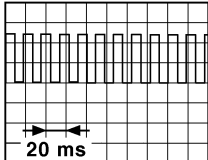
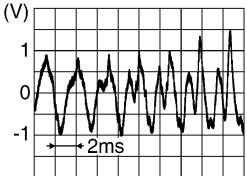
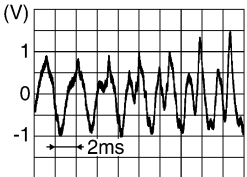
PHYSICAL VALUES

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

AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

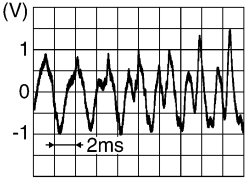
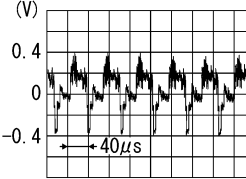
[NAVIGATION WITHOUT BOSE]

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

AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITHOUT BOSE]

Terminal (Wire color)		Description	Condition			Reference value (Approx.)
+	-		Signal name	Input/ Output	Ignition switch	
30 (BG)	—	MR output	Output	—	—	—
31 (SB)	—	AV communication (H)	Input/ Output	—	—	—
32 (LG)	—	AV communication (L)	Input/ Output	—	—	—
34 (W)	36 (Shield)	Microphone signal	Input	ON	While speaking into microphone.	 <small>SKIB3609E</small>
35 (B)	—	MIC VCC	Input	ON	—	—
37 (Shield)	—	AUX signal shield	—	—	—	—
38 (SB)	—	AV communication (H)	Input/ Output	—	—	—
39 (LG)	—	AV communication (L)	Input/ Output	—	—	—
40 (LG)	Ground	Ignition power supply	Input	ON	—	Battery voltage
41 (W)	Ground	Camera image signal	Input	ON	When camera image is displayed	 <small>SKIB2251J</small>
42 (Shield)	—	Camera image signal shield	—	—	—	—
45 (R)	—	V BUS signal	—	—	—	—
46 (W)	—	USB D- signal	—	—	—	—
47 (G)	—	USB + signal	—	—	—	—
49 (B)	—	USB ground	—	—	—	—
50 (Shield)	—	USB shield	—	—	—	—
51 (B)	Ground	Antenna amp. ON signal	Output	ON	AV control unit ON, FM-AM selected.	Battery voltage
52 (B)	Ground	AM-FM main antenna	Input	ON	AV control unit ON, FM-AM selected.	5.0 V
54 (B)	Ground	GPS antenna signal	Input	ON	AV control unit ON, NAV selected.	5.0 V

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

AV

AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITHOUT BOSE]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output	Ignition switch	Operation	
55 (Shield)	—	GPS antenna shield	—	—	—	—
56 (B)	Ground	Satellite antenna signal	Input	ON	AV control unit ON, SXM selected.	5.0 V
57 (Shield)	—	Satellite antenna shield	—	—	—	—

DTC Index

INFOID:0000000010244516

CONSULT Display	Reference Page
U1000: CAN COMM CIRCUIT	AV-142, "AV CONTROL UNIT : DTC Logic"
U1010: CONTROL UNIT (CAN)	AV-143, "AV CONTROL UNIT : DTC Logic"
U1217: BLUETOOTH MODULE	AV-160, "DTC Logic"
U1229: iPod CERTIFICATION	AV-161, "DTC Logic"
U122F: Digital broadcasting connection error	AV-162, "DTC Logic"
U1244: GPS ANTENNA CONN	AV-164, "DTC Logic"
U1258: SXM ANTENNA CONN	AV-165, "DTC Logic"
U1263: USB OVERCURRENT	AV-166, "DTC Logic"
U12AA: Configuration Error	AV-167, "DTC Logic"
U12AB: FM Antenna error	AV-168, "DTC Logic"
U12AC: Display Temperature too High	AV-169, "DTC Logic"
U12AD: ECU Temperature too High	AV-170, "DTC Logic"
U12AE: Internal Amplifier temperature Warning	AV-171, "DTC Logic"
U12AF: CD Mechanism Temperature Warning	AV-172, "DTC Logic"
U12B0: Supply Voltage Goes below 9V > 20s	AV-173, "DTC Logic"
U12B1: Supply Voltage Goes High > 16V for 20s	AV-174, "DTC Logic"
U1300: AV COMM CIRCUIT	AV-175, "DTC Logic"
U1310: CONTROL UNIT(AV)	AV-179, "DTC Logic"

AROUND VIEW MONITOR CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITHOUT BOSE]

AROUND VIEW MONITOR CONTROL UNIT WITHOUT DRIVER ASSISTANCE SYSTEM

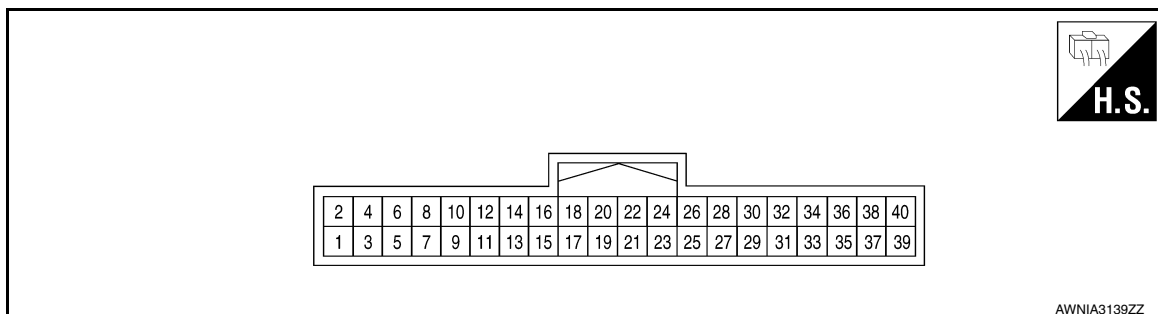
WITHOUT DRIVER ASSISTANCE SYSTEM : Reference Value

INFOID:000000010244517

VALUES ON THE DIAGNOSIS TOOL

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

TERMINAL LAYOUT

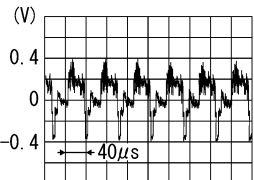
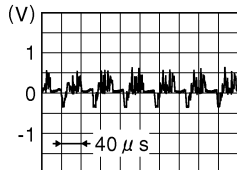
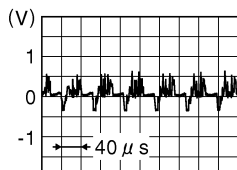


PHYSICAL VALUES

AROUND VIEW MONITOR CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

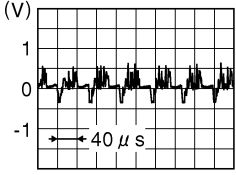
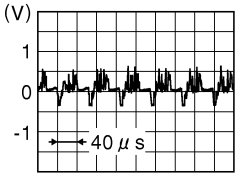
[NAVIGATION WITHOUT BOSE]

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

AROUND VIEW MONITOR CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITHOUT BOSE]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output	Ignition switch	Operation	
34 (B)	Ground	Side camera RH power supply	Output	ON	CAMERA selected or Shift selector in R (reverse) position.	6.0 V
36 (Y)	35 (Shield)	Side camera RH image signal	Input	ON	CAMERA selected or Shift selector in R (reverse) position.	 <p style="text-align: right; font-size: small;">JSNIA0834GB</p>
37 (V)	Ground	Front camera ground	—	ON	—	0 V
38 (L)	Ground	Front camera power supply	Output	ON	CAMERA selected or Shift selector in R (reverse) position.	6.0 V
40 (LG)	39 (Shield)	Front camera image signal	Input	ON	CAMERA selected or Shift selector in R (reverse) position.	 <p style="text-align: right; font-size: small;">JSNIA0834GB</p>

WITHOUT DRIVER ASSISTANCE SYSTEM : DTC Index

INFOID:000000010244518

CONSULT Display	Reference Page
U0428: ST ANG SEN CALIB	AV-141. "DTC Logic"
U1000: CAN COMM CIRCUIT	AV-142. "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"
U1010: CONTROL UNIT (CAN)	AV-143. "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"
U111A: Rear display output signal diagnosis (Harness disconnection)	AV-144. "DTC Logic"
U111B: Right side display output signal diagnosis (Harness disconnection)	AV-148. "DTC Logic"
U111C: Front display output signal diagnosis (Harness disconnection)	AV-152. "DTC Logic"
U111D: Left side display output signal diagnosis (Harness disconnection)	AV-156. "DTC Logic"
U1232: ST ANG SEN CALIB	AV-163. "DTC Logic"
U1304: Non-completion of the calibration	AV-177. "DTC Logic"
U1305: Non-completion of the configuration	AV-178. "DTC Logic"

WITH DRIVER ASSISTANCE SYSTEM

WITH DRIVER ASSISTANCE SYSTEM : Reference Value

INFOID:000000010269693

VALUES ON THE DIAGNOSIS TOOL

AROUND VIEW MONITOR CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITHOUT BOSE]

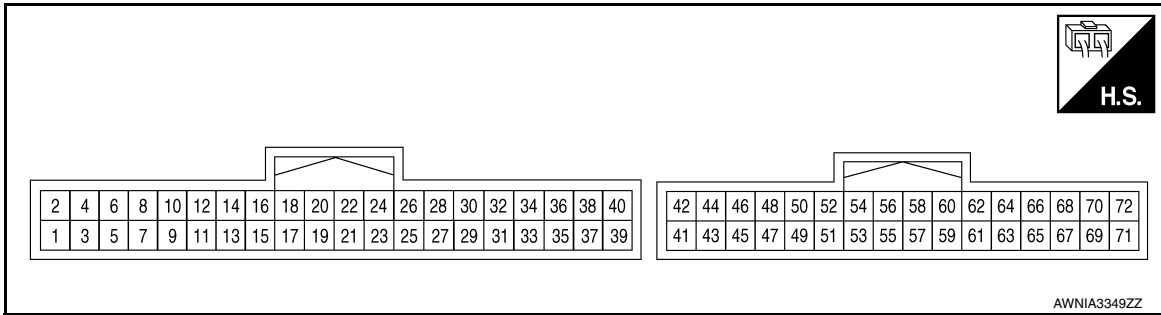
Monitor Item	Condition	Value/Status
CAMERA OFF SIGNAL	CAMERA switch ON.	Off
	CAMERA switch OFF.	On
CAMERA SWITCH SIGNAL	CAMERA switch OFF.	Off
	CAMERA switch ON.	On
DR-SIDE CAMERA IMAGE SIG	Side camera LH inoperative.	NG
	Side camera LH operative.	OK
ILL	Illumination is ON	On
	Illumination is OFF	Off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

AROUND VIEW MONITOR CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITHOUT BOSE]

TERMINAL LAYOUT



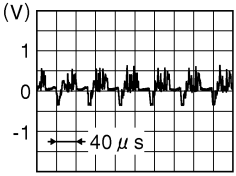
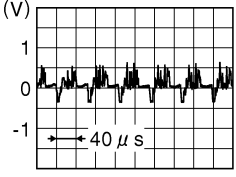
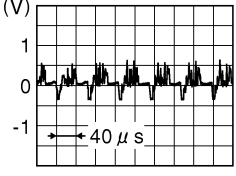
PHYSICAL VALUES

Terminal (Wire color)		Description	Condition		Reference value (Approx.)	
+	-	Signal name	Input/ Output	Ignition switch		Operation
1 (B)	Ground	Ground	—	ON	—	0 V
2 (Y)	Ground	Battery power supply	Input	OFF	—	Battery voltage
3 (SB)	Ground	Ignition signal	Input	ON	—	Battery voltage
7 (R)	Ground	SOW LED signal L	Output	—	LDW/BSW detected (while driving)	12 V
					LDW/BSW is not detected (while driving)	0 V
8 (G)	Ground	SOW LED signal R	Output	—	LDW/BSW detected (while driving)	12 V
					LDW/BSW is not detected (while driving)	0 V
15 (BR)	Ground	ITS sw indicator	Output	ON	Warning system is ON	12 V
					Warning system is OFF	0 V
16 (Y)	Ground	Warning buzzer control	Output	—	—	—
17 (W)	Ground	ITS OFF sw	Input	ON	Cancel switch pressed	0 V
					Cancel switch released	12 V
27 (L)	—	CAN (H)	Input/ Output	—	—	—
28 (R)	—	CAN (L)	Input/ Output	—	—	—
36 (Y)	Ground	Washer signal AVM to pump	Output	ON	Rear view camera washer motor operated	5 V
37 (V)	Ground	Pump signal ground	Input	ON	—	0 V
38 (SB)	Ground	Washer signal pump to AVM	Input	ON	Rear view camera washer motor operated	5 V
47 (G)	Ground	Camera image signal	Output	ON	When camera image display	

AROUND VIEW MONITOR CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

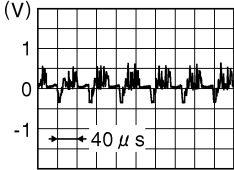
[NAVIGATION WITHOUT BOSE]

Terminal (Wire color)		Description	Condition		Reference value (Approx.)	
+	-	Signal name	Input/ Output	Ignition switch		Operation
48 (Shield)	—	Camera image signal shield	—	—	—	
49 (LG)	—	Rear view serial signal	Input/ Output	—	—	
50 (R)	Ground	Rear camera power supply	Output	ON	CAMERA selected or Shift selector in R (reverse) position.	6.0 V
52 (B)	Ground	Rear camera ground	—	ON	—	0 V
53 (W)	54 (Shield)	Rear camera image signal	Input	ON	CAMERA selected or Shift selector in R (reverse) position.	 <p style="text-align: right; font-size: small;">JSNIA0834GB</p>
56 (L)	Ground	Side camera LH power supply	Output	ON	CAMERA selected or Shift selector in R (reverse) position.	6.0 V
58 (Y)	Ground	Side camera LH ground	—	ON	—	0 V
59 (G)	60 (Shield)	Side camera LH image signal	Input	ON	CAMERA selected or Shift selector in R (reverse) position.	 <p style="text-align: right; font-size: small;">JSNIA0834GB</p>
62 (B)	Ground	Side camera RH power supply	Output	ON	CAMERA selected or Shift selector in R (reverse) position.	6.0 V
64 (L)	Ground	Side camera RH ground	—	ON	—	0 V
65 (Y)	66 (Shield)	Side camera RH image signal	Input	ON	CAMERA selected or Shift selector in R (reverse) position.	 <p style="text-align: right; font-size: small;">JSNIA0834GB</p>
68 (L)	Ground	Front camera power supply	Output	ON	CAMERA selected or Shift selector in R (reverse) position.	6.0 V

AROUND VIEW MONITOR CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITHOUT BOSE]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output	Ignition switch	Operation	
70 (V)	Ground	Front camera ground	—	ON	—	0 V
71 (LG)	72 (Shield)	Front camera image signal	Input	ON	CAMERA selected or Shift selector in R (reverse) position.	

WITH DRIVER ASSISTANCE SYSTEM : DTC Index

INFOID:000000010269694

CONSULT Display	Reference Page
U0428: ST ANG SEN CALIB	AV-141. "DTC Logic"
U1000: CAN COMM CIRCUIT	AV-142. "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"
U1010: CONTROL UNIT (CAN)	AV-143. "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"
U111A: Rear display output signal diagnosis (Harness disconnection)	AV-144. "DTC Logic"
U111B: Right side display output signal diagnosis (Harness disconnection)	AV-148. "DTC Logic"
U111C: Front display output signal diagnosis (Harness disconnection)	AV-152. "DTC Logic"
U111D: Left side display output signal diagnosis (Harness disconnection)	AV-156. "DTC Logic"
U1232: ST ANG SEN CALIB	AV-163. "DTC Logic"
U1304: Non-completion of the calibration	AV-177. "DTC Logic"
U1305: Non-completion of the configuration	AV-178. "DTC Logic"

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

AV

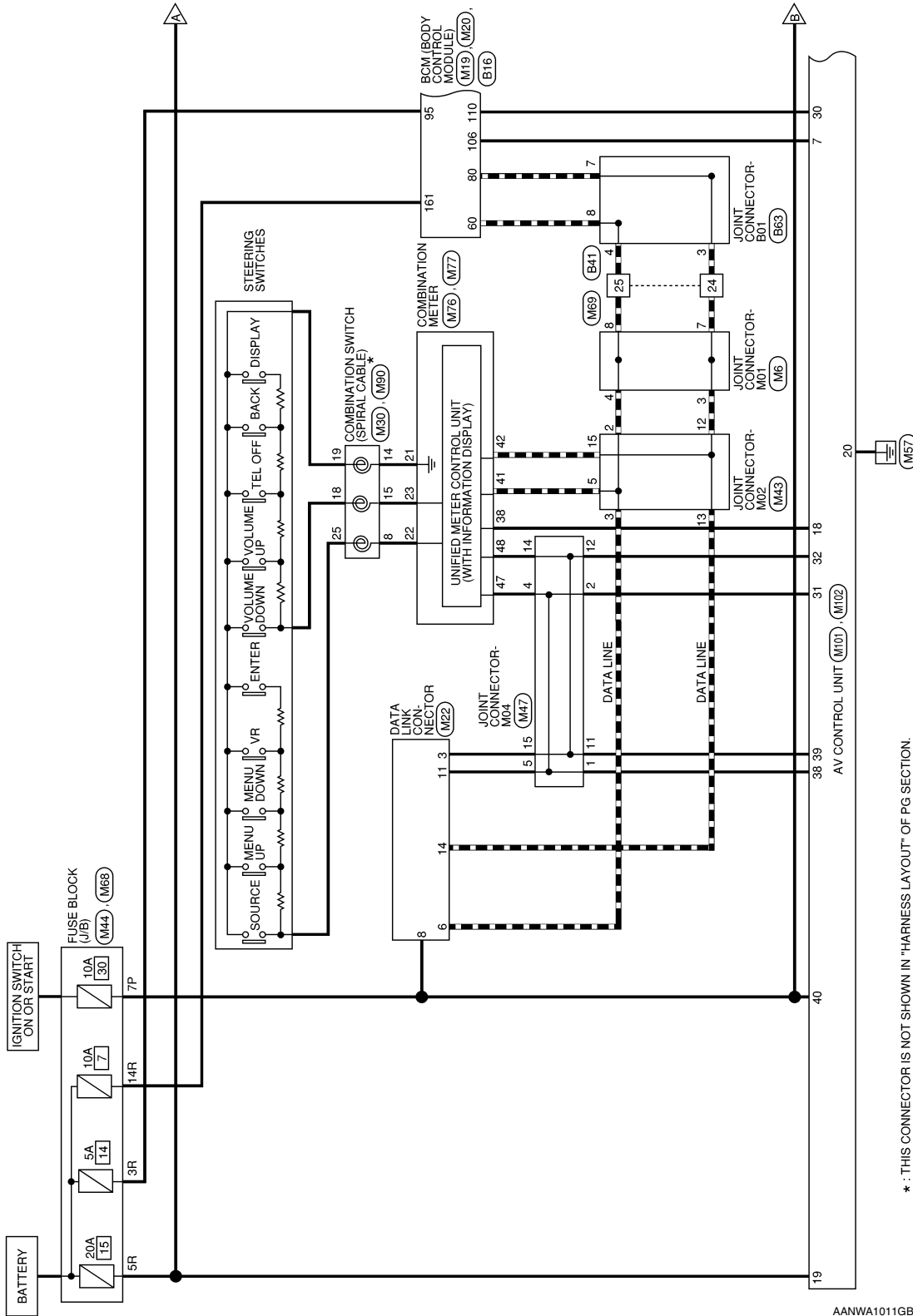
WIRING DIAGRAM

NAVIGATION WITHOUT BOSE

Wiring Diagram

INFOID:000000009795497

NAVIGATION SYSTEM - WITHOUT BOSE AUDIO SYSTEM



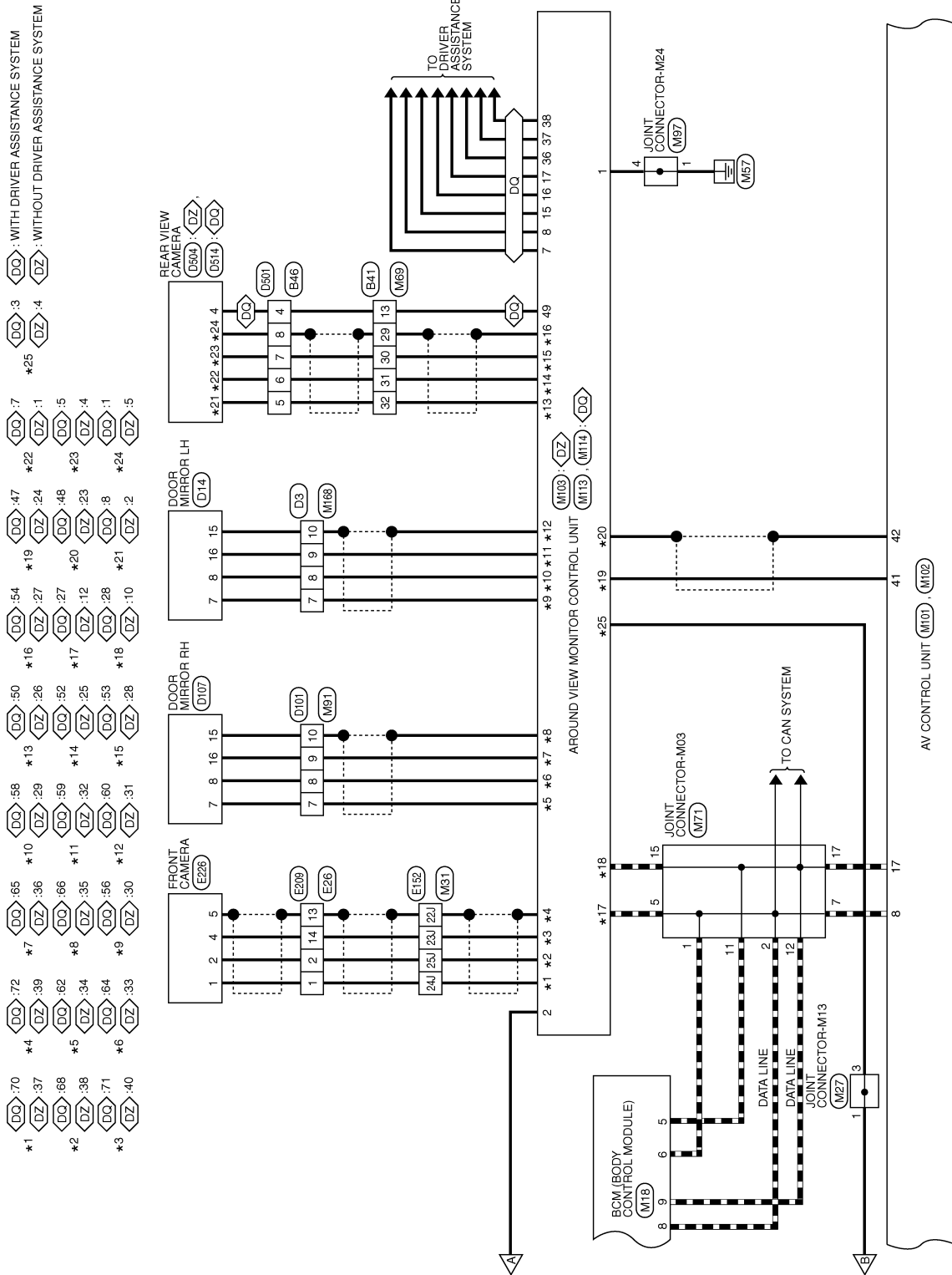
* : THIS CONNECTOR IS NOT SHOWN IN "HARNES LAYOUT" OF PG SECTION.

AANWA1011GB

NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

[NAVIGATION WITHOUT BOSE]



AANWA1012GB

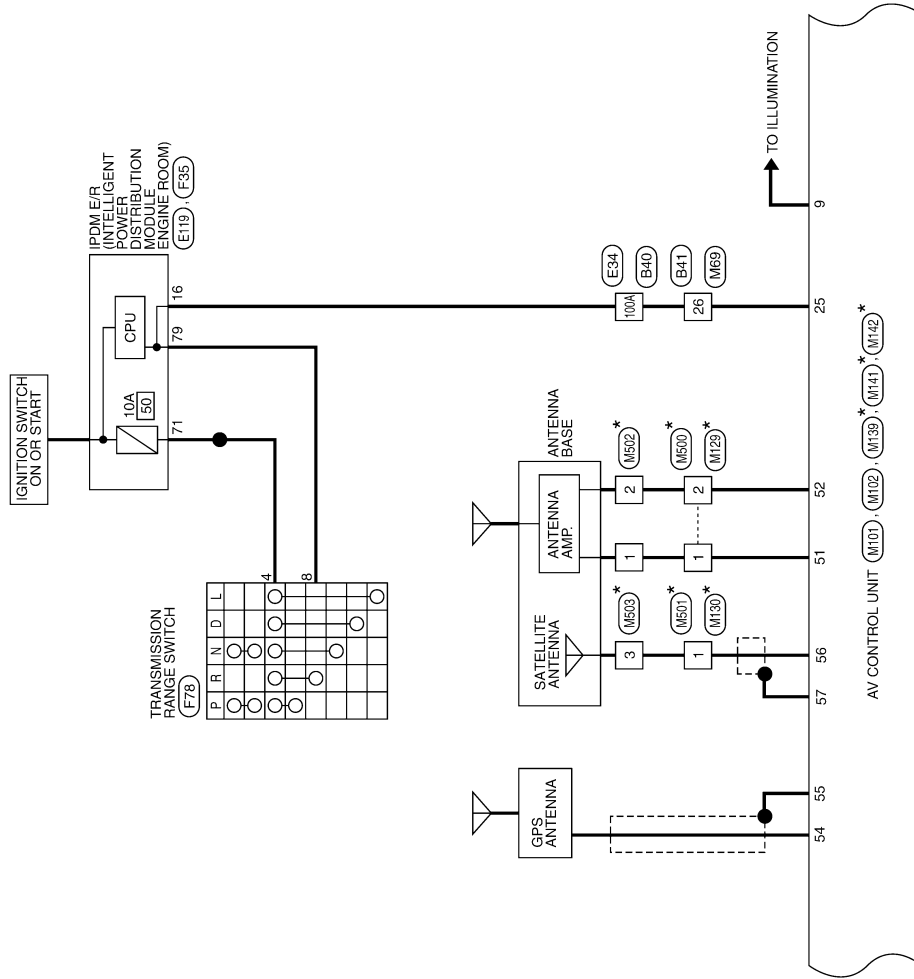
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P

AV

NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

[NAVIGATION WITHOUT BOSE]



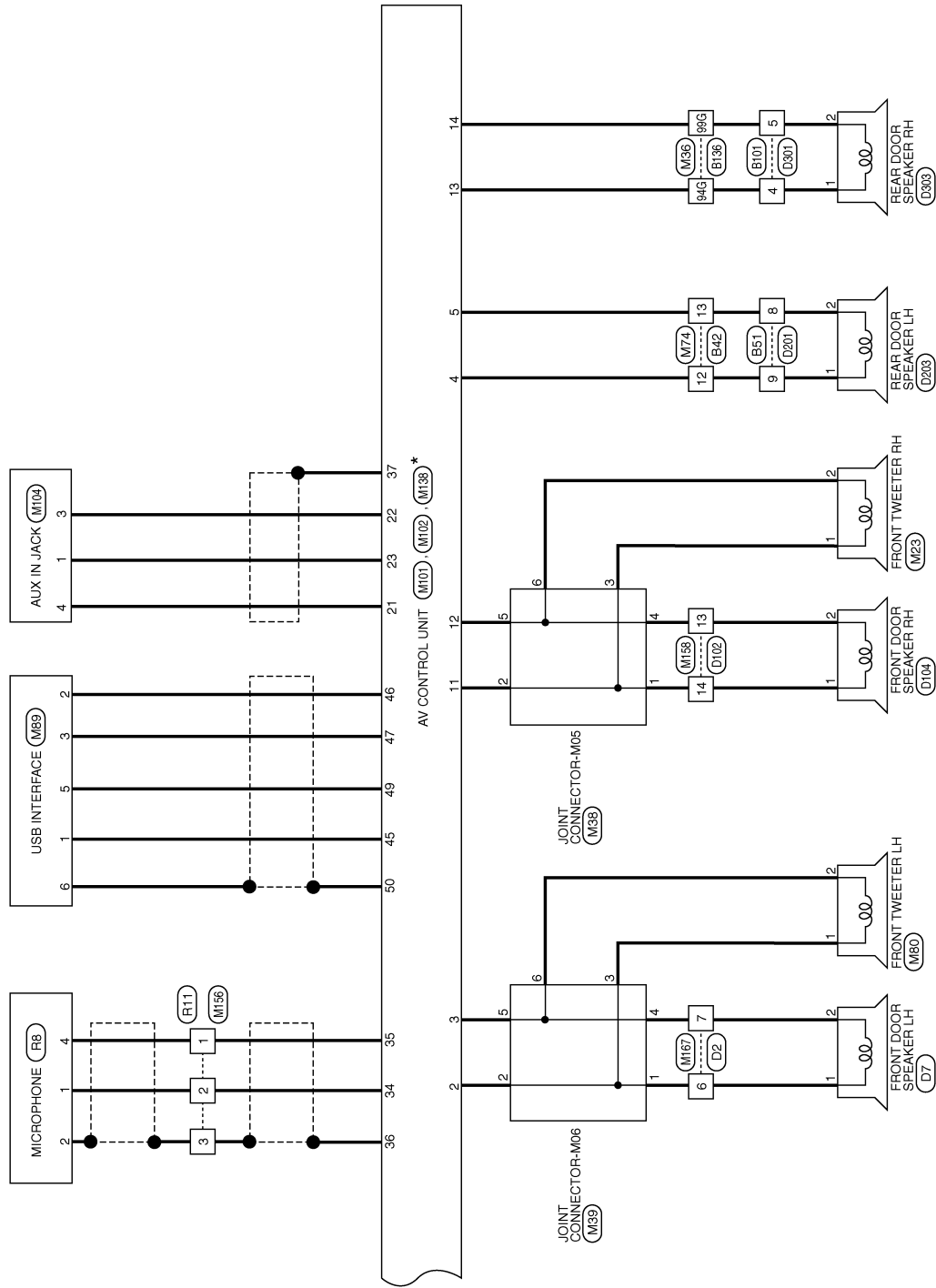
* : THIS CONNECTOR IS NOT SHOWN IN 'HARNES LAYOUT' OF PG SECTION.

AANWA1013GB

NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

[NAVIGATION WITHOUT BOSE]



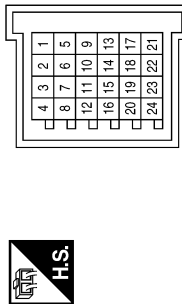
* THIS CONNECTOR IS NOT SHOWN IN "HARNES LAYOUT" OF PG SECTION.

AANWA1014GB

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

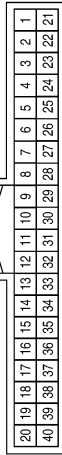
NAVIGATION SYSTEM CONNECTORS - WITHOUT BOSE AUDIO SYSTEM

Connector No.	M6
Connector Name	JOINT CONNECTOR-M01
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
3	P	-
4	L	-
7	P	-
8	L	-

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



Terminal No.	Color of Wire	Signal Name
5	R	CAN-L
6	L	CAN-H
8	L	CAN-H
9	R	CAN-L

Connector No.	M19
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK



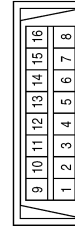
Terminal No.	Color of Wire	Signal Name
95	V	I SHORTING PIN
106	W	O AUTO ACC2
110	BG	O GND AUTOLIGHT SENSOR

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



Terminal No.	Color of Wire	Signal Name
161	W	I PWR ECU

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



Terminal No.	Color of Wire	Signal Name
3	LG	-
6	L	-
8	Y	-
11	SB	-
14	P	-

Connector No.	M23
Connector Name	FRONT TWEETER RH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	G	-
2	R	-

NAVIGATION WITHOUT BOSE

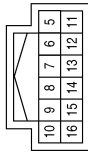
< WIRING DIAGRAM >

[NAVIGATION WITHOUT BOSE]

Connector No.	M27
Connector Name	JOINT CONNECTOR-M13
Connector Color	WHITE



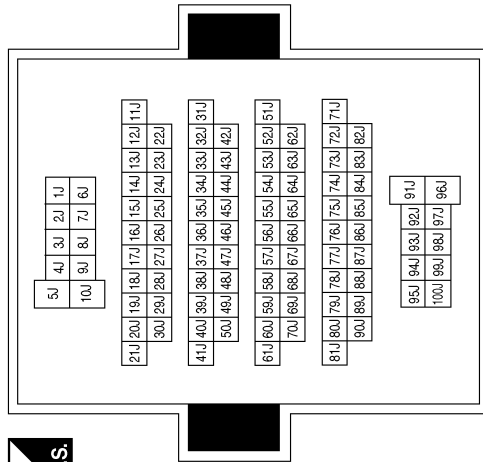
Connector No.	M30
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	SB	-
3	SB	-

Terminal No.	Color of Wire	Signal Name
8	Y	-
14	L	-
15	GR	-

Connector No.	M31
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
22J	SHIELD	-
23J	LG	-
24J	V	-
25J	L	-

AANIA2425GB

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

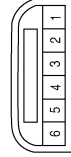
AV

NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

[NAVIGATION WITHOUT BOSE]

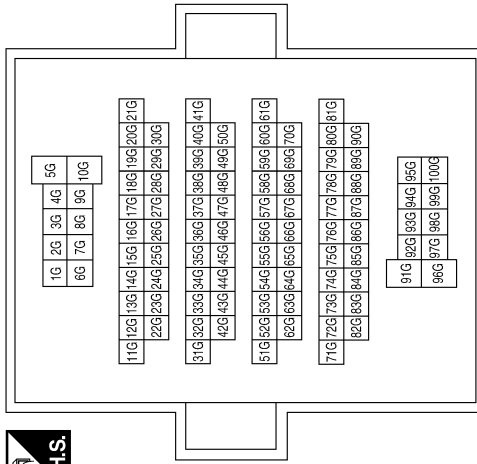
Connector No.	M38
Connector Name	JOINT CONNECTOR-M05
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	W	-
2	G	-
3	G	-
4	GR	-
5	V	-
6	R	-

Terminal No.	Color of Wire	Signal Name
94G	LG	-
99G	Y	-

Connector No.	M36
Connector Name	WIRE TO WIRE
Connector Color	WHITE

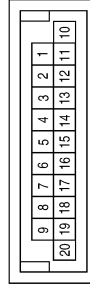


Connector No.	M44
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
7P	Y	-

Connector No.	M43
Connector Name	JOINT CONNECTOR-M02
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
2	L	-
3	L	-
5	L	-
12	P	-
13	P	-
15	P	-

Connector No.	M39
Connector Name	JOINT CONNECTOR-M06
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	Y	-
2	W	-
3	W	-
4	R	-
5	P	-
6	GR	-

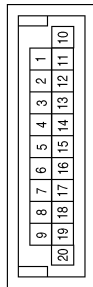
AANIA2426GB

NAVIGATION WITHOUT BOSE

[NAVIGATION WITHOUT BOSE]

< WIRING DIAGRAM >

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



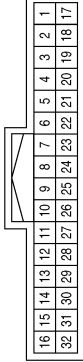
Terminal No.	Color of Wire	Signal Name
1	SB	-
2	SB	-
4	SB	-
5	SB	-
11	LG	-
12	LG	-
14	LG	-
15	LG	-

Connector No.	M68
Connector Name	FUSE BLOCK (J/B)
Connector Color	BROWN



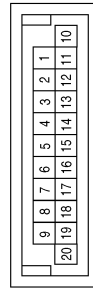
Terminal No.	Color of Wire	Signal Name
3R	V	-
5R	L	-
14R	W	-

Connector No.	M69
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
13	LG	-
24	P	-
25	L	-
26	BR	-
29	SHIELD	-
30	W	-
31	B	-
32	R	-

Connector No.	M71
Connector Name	JOINT CONNECTOR- M03
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
1	L	-
2	L	-
5	L	-
7	L	-
11	R	-
12	R	-
15	R	-
17	R	-

Connector No.	M74
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
12	GR	-
13	BR	-

AANIA2427GB

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

AV

NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

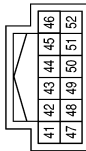
[NAVIGATION WITHOUT BOSE]

Connector No.	M80
Connector Name	FRONT TWEETER LH
Connector Color	WHITE



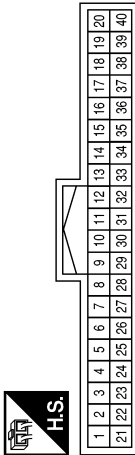
Terminal No.	Color of Wire	Signal Name
1	W	-
2	GR	-

Connector No.	M77
Connector Name	COMBINATION METER
Connector Color	WHITE



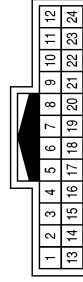
Terminal No.	Color of Wire	Signal Name
41	L	CAN-H
42	P	CAN-L
47	SB	M-CAN H
48	LG	M-CAN L

Connector No.	M76
Connector Name	COMBINATION METER
Connector Color	WHITE



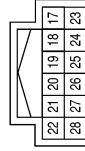
Terminal No.	Color of Wire	Signal Name
21	L	STRG SW GND
22	Y	STRG SW INPUT1
23	GR	STRG SW INPUT2
38	G	8P/R OUT

Connector No.	M91
Connector Name	WIRE TO WIRE
Connector Color	WHITE



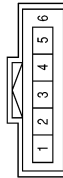
Terminal No.	Color of Wire	Signal Name
7	B	-
8	L	-
9	Y	-
10	SHIELD	-

Connector No.	M90
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
18	L	-
19	G	-
25	P	-

Connector No.	M89
Connector Name	USB INTERFACE
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
1	R	-
2	W	-
3	G	-
5	B	-
6	SHIELD	-

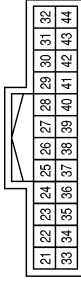
AANIA2428GB

NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

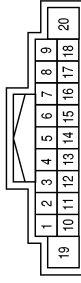
[NAVIGATION WITHOUT BOSE]

Connector No.	M102
Connector Name	AV CONTROL UNIT (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE



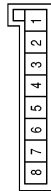
Terminal No.	Color of Wire	Signal Name
21	G	AUX R
22	Y	AUX GND
23	L	AUX L
24	-	-
25	BR	REVERSE
26	-	-
27	-	-
28	-	-
29	-	-
30	BG	MR OUTPUT
31	SB	M-CAN TERMINATION
32	LG	M-CAN TERMINATION
33	-	-
34	W	MIC SIGNAL
35	B	MIC VCC
36	SHIELD	MIC GND
37	SHIELD	SUB OUT/AUX SHIELD
38	SB	MCAN +
39	LG	MCAN -
40	LG	IGNITION
41	G	CAMERA+
42	SHIELD	CAMERA- (SHIELD)
43	-	-
44	-	-

Connector No.	M101
Connector Name	AV CONTROL UNIT (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE



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

Connector No.	M97
Connector Name	JOINT CONNECTOR- M24
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	B	-
4	B	-

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

AV

AANIA2429GB

NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

[NAVIGATION WITHOUT BOSE]

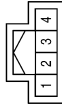
Connector No.	M113
Connector Name	AROUND VIEW MONITOR CONTROL UNIT (WITH DRIVER ASSISTANCE SYSTEM)
Connector Color	WHITE



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

Terminal No.	Color of Wire	Signal Name
1	B	GND
2	Y	+B
3	SB	IGN
7	R	INDICATOR L
8	G	INDICATOR R
15	BR	ITS SW INDICATOR
16	Y	BUZZER CONT
17	W	ITS SW
27	L	CAN-H
28	R	CAN-L
36	Y	FROM C/U TO PUMP
37	V	SIGNAL GND
38	SB	FROM PUMP TO C/U

Connector No.	M104
Connector Name	AUX IN JACK
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	L	-
3	Y	-
4	G	-

Connector No.	M103
Connector Name	AROUND VIEW MONITOR CONTROL UNIT (WITHOUT DRIVER ASSISTANCE SYSTEM)
Connector Color	WHITE



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

Terminal No.	Color of Wire	Signal Name
1	B	GND
2	Y	+B
4	SB	IGN
10	R	CAN-L
12	L	CAN-H
23	SHIELD	VIDEO OUTPUT GND
24	G	VIDEO OUTPUT SIGNAL
25	B	RV POWER GND
26	R	RV POWER 6.2V
27	SHIELD	RV VIDEO GND
28	W	RV VIDEO SIGNAL
29	Y	SV2 POWER GND
30	L	SV2 POWER 6.2V
31	SHIELD	SV2 VIDEO GND
32	G	SV2 VIDEO SIGNAL
33	L	SV1 POWER GND
34	B	SV1 POWER 6.2V
35	SHIELD	SV1 VIDEO GND
36	Y	SV1 VIDEO SIGNAL
37	V	FV POWER GND
38	L	FV POWER 6.2V
39	SHIELD	FV VIDEO GND
40	LG	FV VIDEO SIGNAL

AANIA2430GB

NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

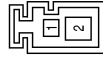
[NAVIGATION WITHOUT BOSE]

Connector No.	M130
Connector Name	WIRE TO WIRE
Connector Color	BROWN



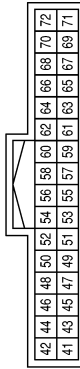
Terminal No.	Color of Wire	Signal Name
1	B	-

Connector No.	M129
Connector Name	WIRE TO WIRE
Connector Color	GRAY



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

Connector No.	M114
Connector Name	AROUND VIEW MONITOR CONTROL UNIT (WITH DRIVER ASSISTANCE SYSTEM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
47	G	VIDEO OUTPUT SIGNAL
48	SHIELD	VIDEO OUTPUT GND
49	LG	RV SERIAL SIGNAL
50	R	RV POWER 6.2V
52	B	RV POWER GND
53	W	RV POWER SIGNAL
54	SHIELD	RV VIDEO GND
56	L	SV2 POWER 6.2V
58	Y	SV2 POWER GND
59	G	SV2 VIDEO SIGNAL
60	SHIELD	SV2 VIDEO GND
62	B	SV1 POWER 6.2V
64	L	SV1 POWER GND
65	Y	SV1 VIDEO SIGNAL
66	SHIELD	SV1 VIDEO GND
68	L	FV POWER 6.2V
70	V	FV POWER GND
71	LG	FV VIDEO SIGNAL
72	SHIELD	FV VIDEO GND

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

AV

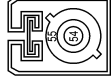
AANIA2431GB

NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

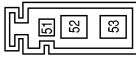
[NAVIGATION WITHOUT BOSE]

Connector No.	M141
Connector Name	AV CONTROL UNIT
Connector Color	BLUE



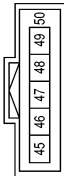
Terminal No.	Color of Wire	Signal Name
54	B	GPS ANT
55	SHIELD	GPS SHIELD

Connector No.	M139
Connector Name	AV CONTROL UNIT
Connector Color	GRAY



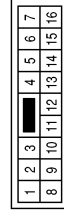
Terminal No.	Color of Wire	Signal Name
51	B	ANT +B
52	B	ANT MAIN
53	-	-

Connector No.	M138
Connector Name	AV CONTROL UNIT
Connector Color	BLACK



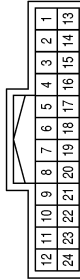
Terminal No.	Color of Wire	Signal Name
45	R	V BUS
46	W	USB D-
47	G	USB D+
48	-	-
49	B	USB GND
50	SHIELD	USB SHIELD

Connector No.	M158
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
13	GR	-(WITHOUT BOSE AUDIO SYSTEM)
14	W	-(WITHOUT BOSE AUDIO SYSTEM)

Connector No.	M156
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

Connector No.	M142
Connector Name	AV CONTROL UNIT
Connector Color	PINK



Terminal No.	Color of Wire	Signal Name
56	B	SAT ANT
57	SHIELD	SAT SHIELD

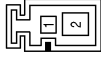
AANIA2432GB

NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

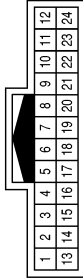
[NAVIGATION WITHOUT BOSE]

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



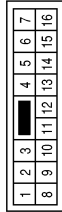
Terminal No.	Color of Wire	Signal Name
1	B	-
2	B	-

Connector No.	M168
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
7	L	-
8	Y	-
9	G	-
10	SHIELD	-

Connector No.	M167
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
6	Y	-(WITHOUT BOSE AUDIO SYSTEM)
7	R	-(WITHOUT BOSE AUDIO SYSTEM)

Connector No.	M503
Connector Name	ANTENNA BASE (SATELLITE RADIO ANTENNA)
Connector Color	GREEN



Terminal No.	Color of Wire	Signal Name
3	B	-

Connector No.	M502
Connector Name	ANTENNA BASE (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	BROWN



Terminal No.	Color of Wire	Signal Name
1	B	-

AANIA2433GB

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

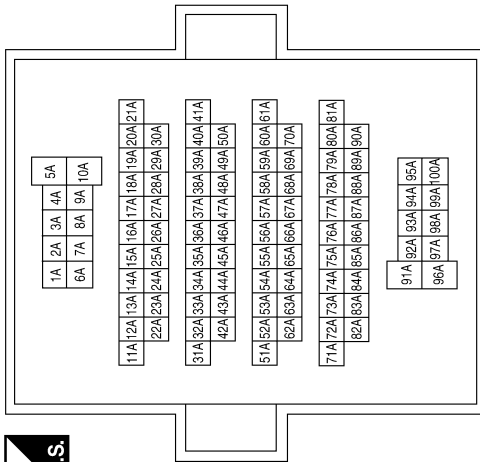
NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

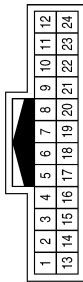
[NAVIGATION WITHOUT BOSE]

Terminal No.	Color of Wire	Signal Name
100A	G	-

Connector No.	E34
Connector Name	WIRE TO WIRE
Connector Color	GRAY

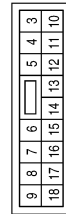


Connector No.	E26
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	V	-
2	L	-
13	SHIELD	-
14	LG	-

Connector No.	E119
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
16	G	O LIGHT REVERSE LAMP

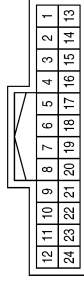
AANIA2434GB

NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

[NAVIGATION WITHOUT BOSE]

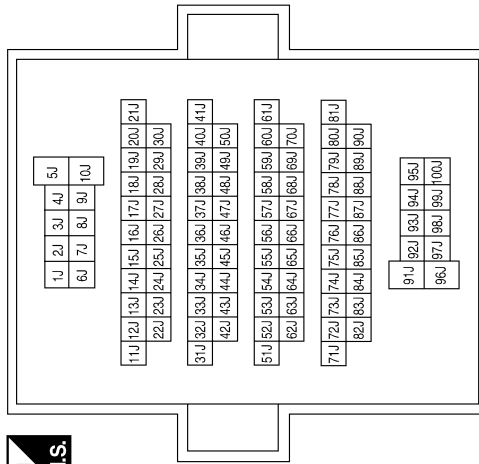
Connector No.	E209
Connector Name	WIRE TO WIRE
Connector Color	WHITE



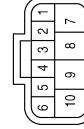
Terminal No.	Color of Wire	Signal Name
1	V	-
2	L	-
13	SHIELD	-
14	LG	-

Terminal No.	Color of Wire	Signal Name
22J	SHIELD	-
23J	LG	-
24J	V	-
25J	L	-

Connector No.	E152
Connector Name	WIRE TO WIRE
Connector Color	WHITE

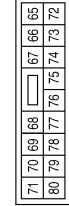


Connector No.	F78
Connector Name	TRANSMISSION RANGE SWITCH
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
4	W	-
8	G	-

Connector No.	F35
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
71	SB	OIGN AT LPG
79	G	LI LIGHT REVERSE SW

Connector No.	E226
Connector Name	FRONT CAMERA
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
1	V	-
2	L	-
4	LG	-
5	SHIELD	-

AANIA2435GB

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

AV

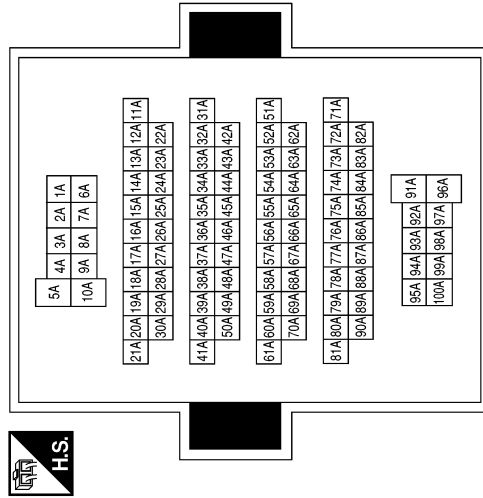
NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

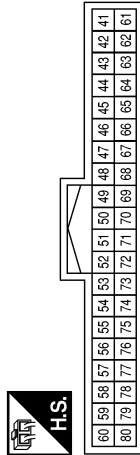
[NAVIGATION WITHOUT BOSE]

Terminal No.	Color of Wire	Signal Name
100A	G	-

Connector No.	B40
Connector Name	WIRE TO WIRE
Connector Color	GRAY

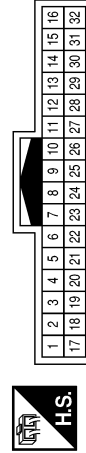


Connector No.	B16
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	GREEN



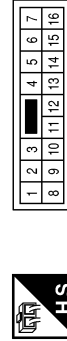
Terminal No.	Color of Wire	Signal Name
60	L	CAN-H
80	P	CAN-L

Connector No.	B46
Connector Name	WIRE TO WIRE
Connector Color	WHITE



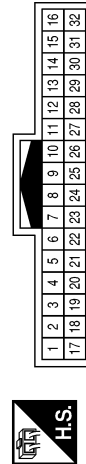
Terminal No.	Color of Wire	Signal Name
4	W	-
5	R	-
6	B	-
7	W	-
8	SHIELD	-

Connector No.	B42
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
12	LA/Y	-
13	LA/GR	-

Connector No.	B41
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
13	W	-
24	P	-
25	L	-
26	G	-
29	SHIELD	-
30	W	-
31	B	-
32	R	-

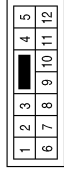
AANIA2436GB

NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

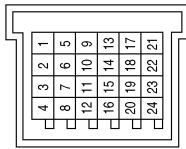
[NAVIGATION WITHOUT BOSE]

Connector No.	B101
Connector Name	WIRE TO WIRE
Connector Color	WHITE



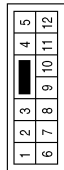
Terminal No.	Color of Wire	Signal Name
4	LAV	-(WITHOUT BOSE AUDIO SYSTEM)
5	LAY	-(WITHOUT BOSE AUDIO SYSTEM)

Connector No.	B63
Connector Name	JOINT CONNECTOR-B01
Connector Color	GRAY



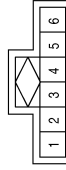
Terminal No.	Color of Wire	Signal Name
3	P	-
4	L	-
7	P	-
8	L	-

Connector No.	B51
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
8	LA/GR	-(WITHOUT BOSE AUDIO SYSTEM)
9	LAY	-(WITHOUT BOSE AUDIO SYSTEM)

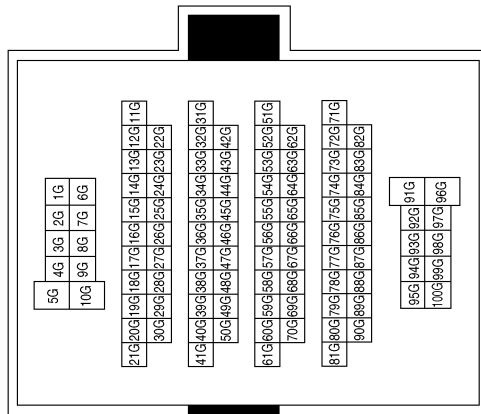
Connector No.	R8
Connector Name	MICROPHONE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	W	-
2	SHIELD	-
4	B	-

Terminal No.	Color of Wire	Signal Name
94G	LAV	-
99G	LAY	-

Connector No.	B136
Connector Name	WIRE TO WIRE
Connector Color	WHITE



AANIA2437GB

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

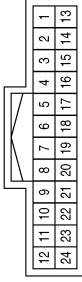
AV

NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

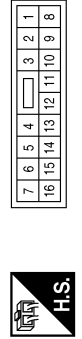
[NAVIGATION WITHOUT BOSE]

Connector No.	D3
Connector Name	WIRE TO WIRE
Connector Color	WHITE



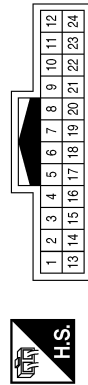
Terminal No.	Color of Wire	Signal Name
7	GR	-
8	G	-
9	Y	-
10	B	-

Connector No.	D2
Connector Name	WIRE TO WIRE
Connector Color	WHITE



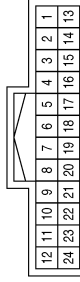
Terminal No.	Color of Wire	Signal Name
6	LA/L	-
7	LA/BR	-

Connector No.	R11
Connector Name	WIRE TO WIRE
Connector Color	WHITE



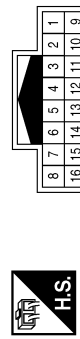
Terminal No.	Color of Wire	Signal Name
1	B	-
2	W	-
3	SHIELD	-

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



Terminal No.	Color of Wire	Signal Name
7	L	-
8	V	-
9	Y	-
10	B	-

Connector No.	D14
Connector Name	DOOR MIRROR LH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
7	GR	-
8	G	-
15	B	-
16	Y	-

Connector No.	D7
Connector Name	FRONT DOOR SPEAKER LH (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	LA/L	-
2	LA/BR	-

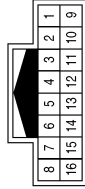
AANIA2438GB

NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

[NAVIGATION WITHOUT BOSE]

Connector No.	D107
Connector Name	DOOR MIRROR RH
Connector Color	WHITE



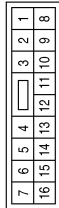
Terminal No.	Color of Wire	Signal Name
7	L	-
8	V	-
15	B	-
16	Y	-

Connector No.	D104
Connector Name	FRONT DOOR SPEAKER RH (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	LA/G	-
2	LA/R	-

Connector No.	D102
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
13	LA/R	-
14	LA/G	-

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



Terminal No.	Color of Wire	Signal Name
4	LA/V	-
5	LA/Y	-

Connector No.	D203
Connector Name	REAR DOOR SPEAKER LH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	LA/L	-
2	LA/R	-

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



Terminal No.	Color of Wire	Signal Name
8	LA/R	-
9	LA/L	-

AANIA2457GB

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

AV

NAVIGATION WITHOUT BOSE

< WIRING DIAGRAM >

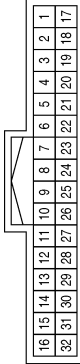
[NAVIGATION WITHOUT BOSE]

Connector No.	D504
Connector Name	REAR VIEW CAMERA (WITHOUT DRIVER ASSISTANCE SYSTEM)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
1	B	-
2	R	-
4	W	-
5	V	-

Connector No.	D501
Connector Name	WIRE TO WIRE
Connector Color	WHITE



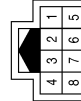
Terminal No.	Color of Wire	Signal Name
4	L	-
5	R	-
6	B	-
7	W	-
8	V	-

Connector No.	D303
Connector Name	REAR DOOR SPEAKER RH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	LAV	-
2	LAV	-

Connector No.	D514
Connector Name	REAR VIEW CAMERA (WITH DRIVER ASSISTANCE SYSTEM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	V	-
4	L	-
5	W	-
7	B	-
8	R	-

AANIA2458GB

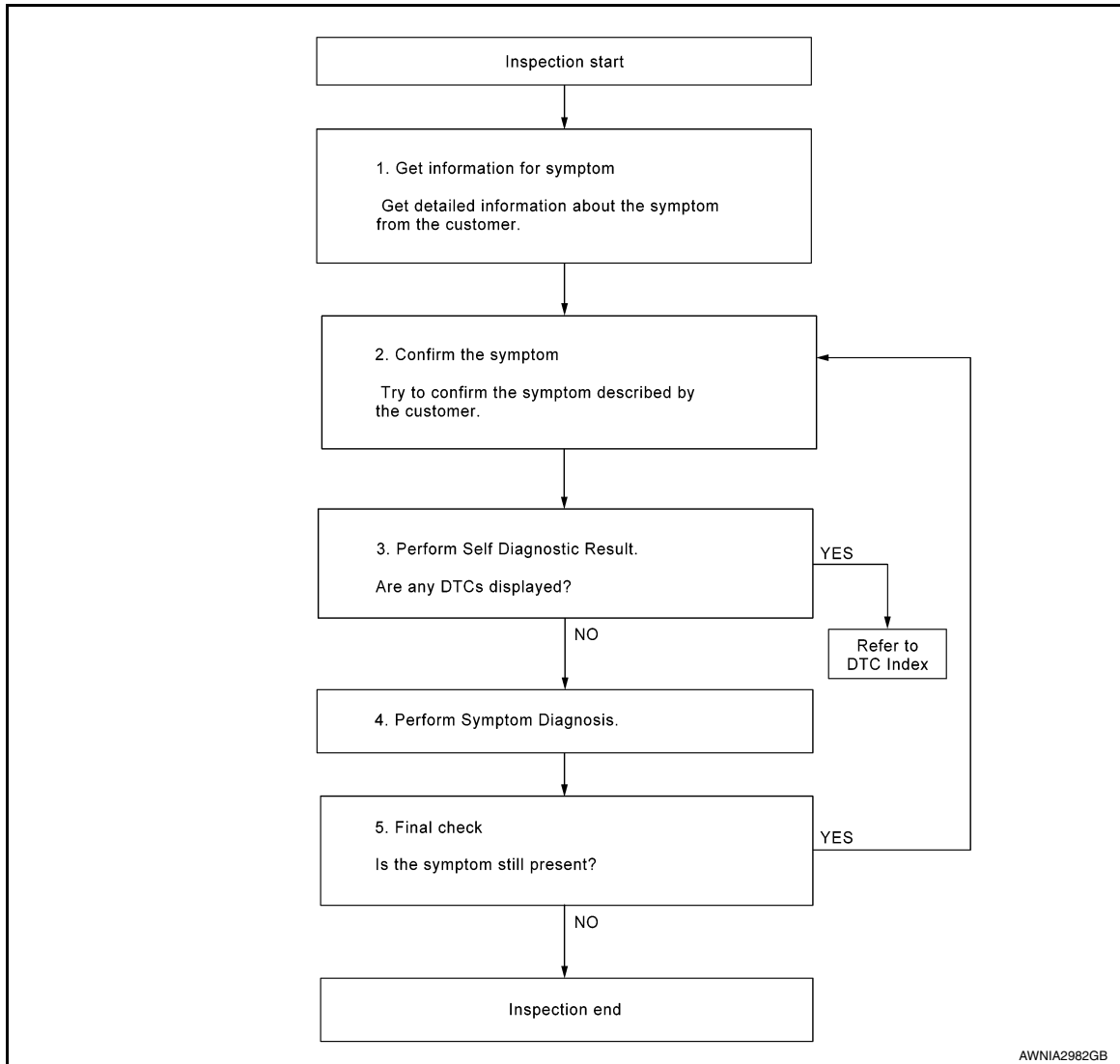
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000010244519

OVERALL SEQUENCE



DETAILED FLOW

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

2.CONFIRM THE SYMPTOM

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

>> GO TO 3.

3.PERFORM SELF DIAGNOSTIC RESULT

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

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

AV

O

P

DIAGNOSIS AND REPAIR WORKFLOW

[NAVIGATION WITHOUT BOSE]

< BASIC INSPECTION >

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

Are any DTCs displayed?

YES >> Refer to [AV-100, "DTC Index"](#) (MULTI AV) or [AV-103, "WITHOUT DRIVER ASSISTANCE SYSTEM : DTC Index"](#) (AVM).

NO >> GO TO 4.

4. PERFORM SYMPTOM DIAGNOSIS

Refer to [AV-195, "Symptom Table"](#).

>> GO TO 5.

5. FINAL CHECK

Refer to symptom described by the customer in step 1.

Is the symptom still present?

YES >> GO TO 2.

NO >> Inspection End.

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[NAVIGATION WITHOUT BOSE]

INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Description

INFOID:000000010244520

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:000000010244521

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-209, "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-133, "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-133, "CONFIGURATION \(AV CONTROL UNIT\) : Work Procedure"](#).

>> GO TO 4.

4. OPERATION CHECK

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

>> Work End.

ADDITIONAL SERVICE WHEN REPLACING AROUND VIEW MONITOR CONTROL UNIT

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

AV

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[NAVIGATION WITHOUT BOSE]

ADDITIONAL SERVICE WHEN REPLACING AROUND VIEW MONITOR CONTROL

UNIT : Description

INFOID:000000010244522

BEFORE REPLACEMENT

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

NOTE:

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

AFTER REPLACEMENT

CAUTION:

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

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

ADDITIONAL SERVICE WHEN REPLACING AROUND VIEW MONITOR CONTROL

UNIT : Work Procedure

INFOID:000000010244523

1. SAVING VEHICLE SPECIFICATION

Ⓟ-CONSULT

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

NOTE:

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

>> GO TO 2.

2. REPLACE AROUND VIEW MONITOR CONTROL UNIT

Replace around view monitor control unit. Refer to [AV-217, "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-134, "CONFIGURATION \(AROUND VIEW MONITOR CONTROL UNIT\) : Work Procedure"](#).
3. If "Before Replace ECU" operation was not performed, select "After Replace ECU" or "Manual Configuration" to write vehicle specification. Refer to [AV-134, "CONFIGURATION \(AROUND VIEW MONITOR CONTROL UNIT\) : Work Procedure"](#).

>> GO TO 4.

4. OPERATION CHECK

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

>> Work End.

CONFIGURATION (AV CONTROL UNIT)

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[NAVIGATION WITHOUT BOSE]

CONFIGURATION (AV CONTROL UNIT) : Description

INFOID:000000010244524

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"	<ul style="list-style-type: none">• 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:000000010244525

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-134. "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.

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

AV

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[NAVIGATION WITHOUT BOSE]

>> Work End.

CONFIGURATION (AV CONTROL UNIT) : Configuration List

INFOID:000000010244526

CAUTION:

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

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

↔: Items which confirm vehicle specifications

CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT)

CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT) : Description

INFOID:000000010244527

Vehicle specification needs to be written with CONSULT because it is not written after replacing around view monitor control unit.

Configuration has three functions as follows:

Function	Description
"Before Replace ECU"	<ul style="list-style-type: none">• Reads the vehicle configuration of current around view monitor control unit.• Saves the read vehicle configuration.
"After Replace ECU"	Writes the vehicle configuration with manual selection.
"Select Saved Data List"	Writes the vehicle configuration with saved data.

CAUTION:

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

CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT) : Work Procedure

INFOID:000000010244528

1. WRITING MODE SELECTION

CONSULT

Select "Reprogramming, Configuration" of around view monitor control unit.

When writing saved data>>GO TO 2.

When writing manually>>GO TO 3.

2. PERFORM "SAVED DATA LIST"

CONSULT

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

>> Work End.

3. PERFORM "AFTER REPLACE ECU" OR "MANUAL CONFIGURATION"

CONSULT

1. Select "After Replace ECU" or "Manual Configuration".

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[NAVIGATION WITHOUT BOSE]

2. Identify the correct model and configuration list. Refer to [AV-135. "CONFIGURATION \(AROUND VIEW MONITOR CONTROL UNIT\) : Configuration List"](#).
3. Confirm and/or change setting value for each item.
CAUTION:
Thoroughly read and understand the vehicle specification. ECU control may not operate normally if the setting is not correct.
4. Select "Next".
CAUTION:
Make sure to select "Next", confirm each setting value and press "OK" even if the indicated configuration of brand new around view monitor control unit is same as the desirable configuration. If not, configuration which is set automatically by selecting vehicle model can not be memorized.
5. When "Completed", select "End".

>> GO TO 4.

4. OPERATION CHECK

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

>> Work End.

CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT) : Configuration List

INFOID:000000010244529

CAUTION:

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

MANUAL SETTING ITEM	
Items	Setting value
BCI FUNCTION	WITH ↔ WITHOUT

↔: Items which confirm vehicle specifications

PREDICTED COURSE LINE CENTER POSITION ADJUSTMENT

PREDICTED COURSE LINE CENTER POSITION ADJUSTMENT : Description

INFOID:000000010244530

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

PREDICTED COURSE LINE CENTER POSITION ADJUSTMENT : Work Procedure

INFOID:000000010244531

1. DRIVING

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

>> End.

CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR)

CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Description

INFOID:000000010244532

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

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

AV

O
P

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

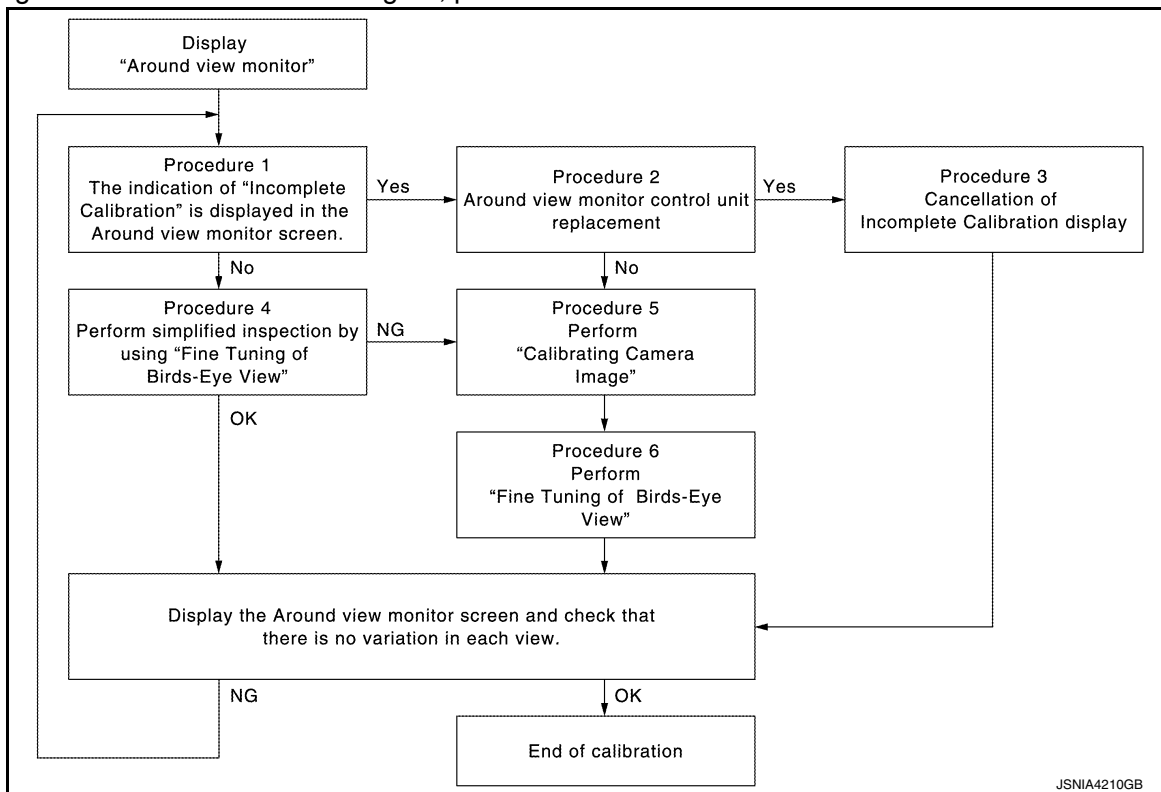
[NAVIGATION WITHOUT BOSE]

CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Work Procedure

INFOID:000000010244533

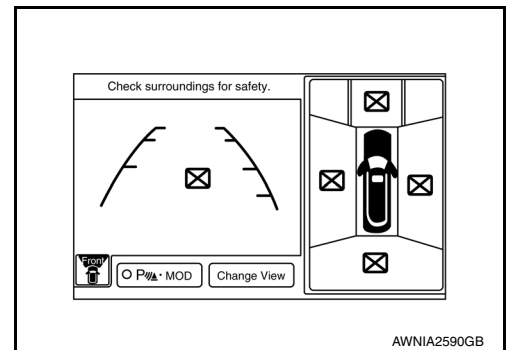
CALIBRATION FLOWCHART

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



NOTE:

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



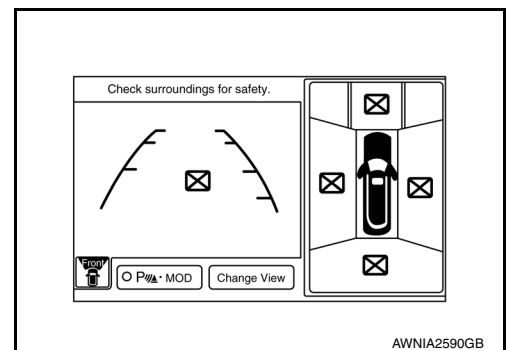
CALIBRATION PROCEDURE

1. AROUND VIEW MONITOR SCREEN CONFIRMATION

Check that there is no indication of "Incomplete calibration".

Is the "Incomplete calibration" display visible?

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



2. CHECK THAT AROUND VIEW MONITOR CONTROL UNIT IS REPLACED

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[NAVIGATION WITHOUT BOSE]

Check that the around view monitor control unit is replaced.

Is the around view monitor control unit replaced?

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

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

 CONSULT work support

1. On the CONSULT screen, touch “CALIBRATING CAMERA IMAGE (FRONT CAMERA)”, “CALIBRATING CAMERA IMAGE (PASS-SIDE CAMERA)”, “CALIBRATING CAMERA IMAGE (DR-SIDE CAMERA)”, or “CALIBRATING CAMERA IMAGE (REAR CAMERA)” to accept the selection.

NOTE:

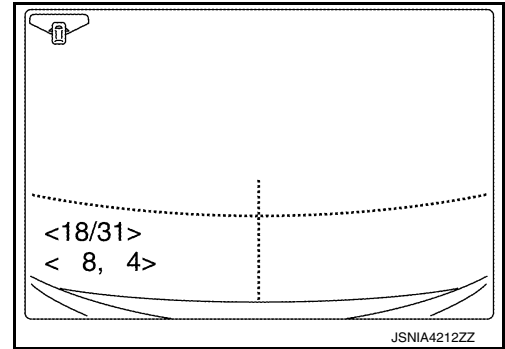
To cancel the indication of Incomplete calibration, select items based on the target camera.

2. On the adjustment screen of each camera, touch “APPLY” button. After this, touch “OK” button.

CAUTION:

- Never perform operations other than those mentioned above.
- Never perform “Initialize Camera Image Calibration”.

3. Display the around view monitor screen to check that there is no errors, such as deviations among the camera images.



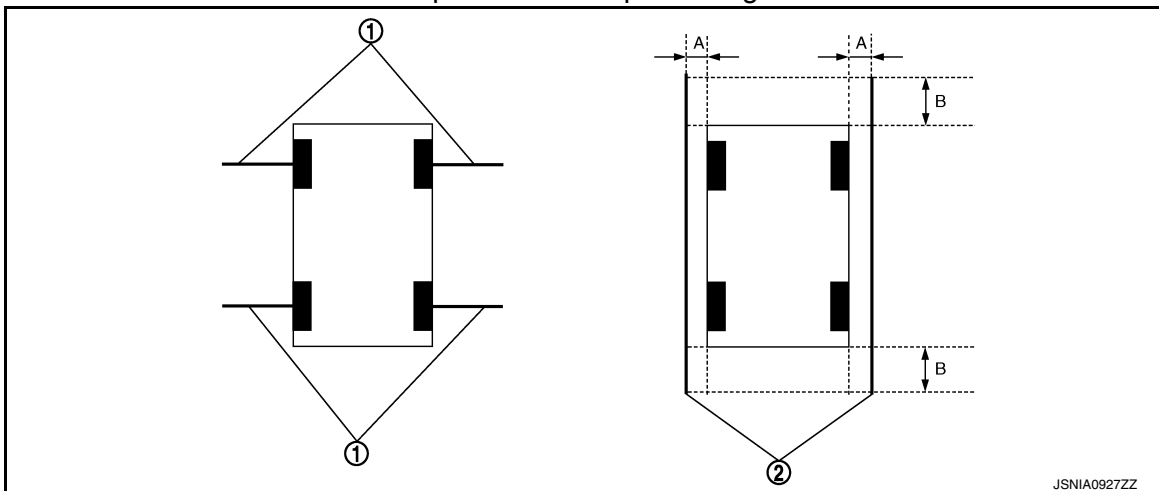
Is there a malfunction?

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

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

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

Preparation of simplified target line



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

3.  CONSULT work support

Touch “FINE TUNING OF BIRDS-EYE VIEW” on the CONSULT screen.

4. On the CONSULT screen, touch “SELECT” button to select right or left camera and perform camera calibration as instructed below:
 - If the marker on the screen deviates from Target line 1, touch “AXIS X” button and “AXIS Y” button to adjust so that the marker is placed on the Target line 1.
 - If Target line 2 is misaligned among the cameras, adjust each camera image to bring Target line 2 into a straight line.

CAUTION:

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

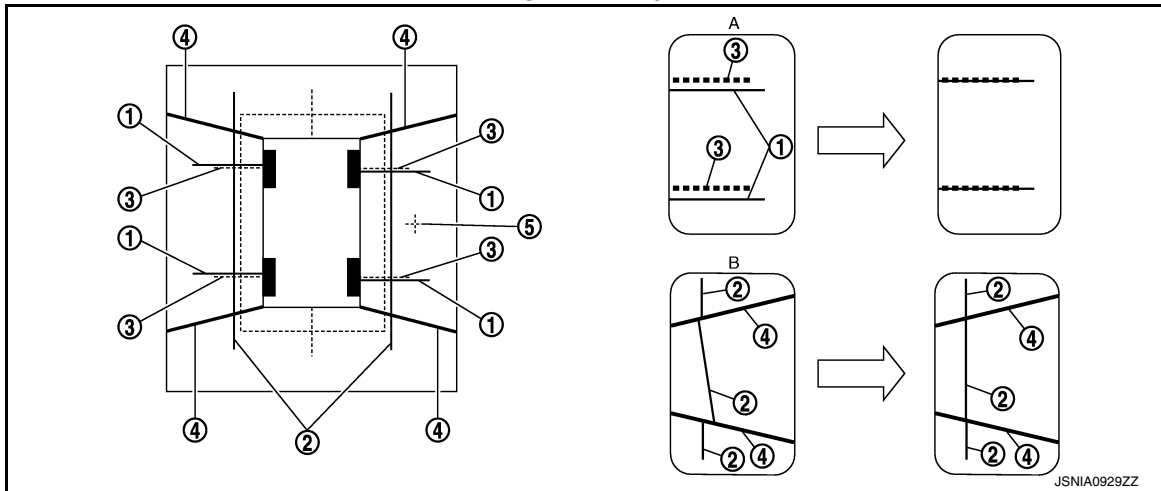
INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[NAVIGATION WITHOUT BOSE]

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

Simplified target line adjustment method



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

- Adjust right and left cameras. Touch "APPLY" on the CONSULT screen to display adjustment results.
- After adjusting right and left cameras, check that the marker is properly placed on the screen and there is no deviation in Target line 1.

NOTE:

- It can be initialized to the NISSAN factory default condition with "Initialize Camera Image Calibration".
- The adjustment value is cancelled on this mode by performing "Initialize Camera Image Calibration".

Is the difference corrected?

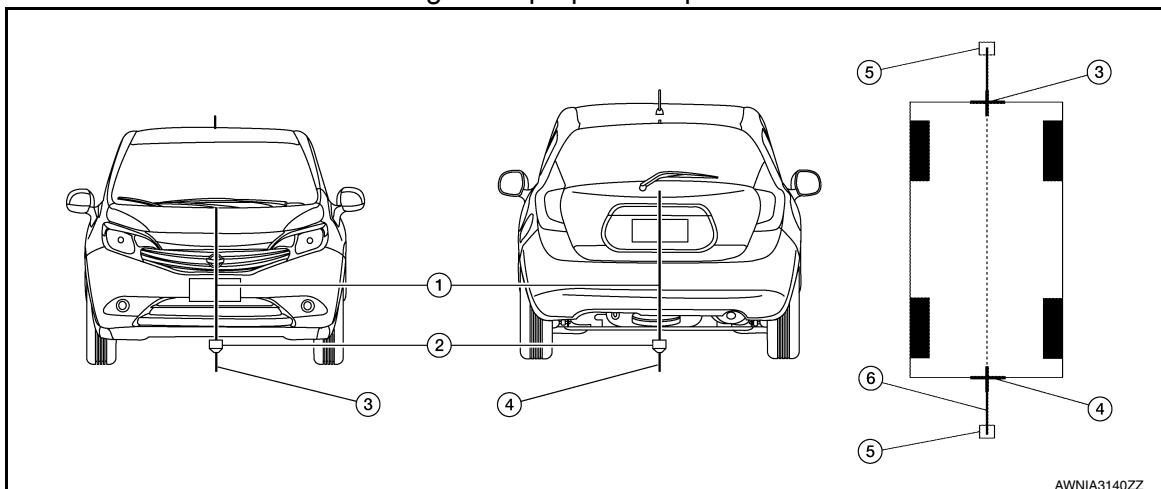
- YES >> On the CONSULT screen, touch "OK" button to complete writing to the around view monitor control unit.
- NO >> GO TO 5.

5.PERFORM "CALIBRATING CAMERA IMAGE"

Preparation of target line

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

Target line preparation procedure 1



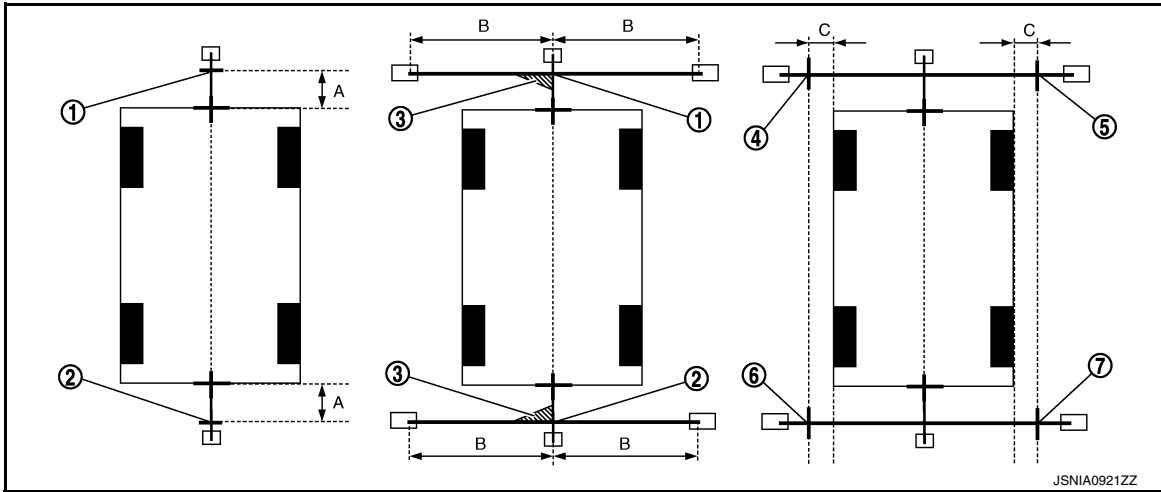
INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[NAVIGATION WITHOUT BOSE]

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

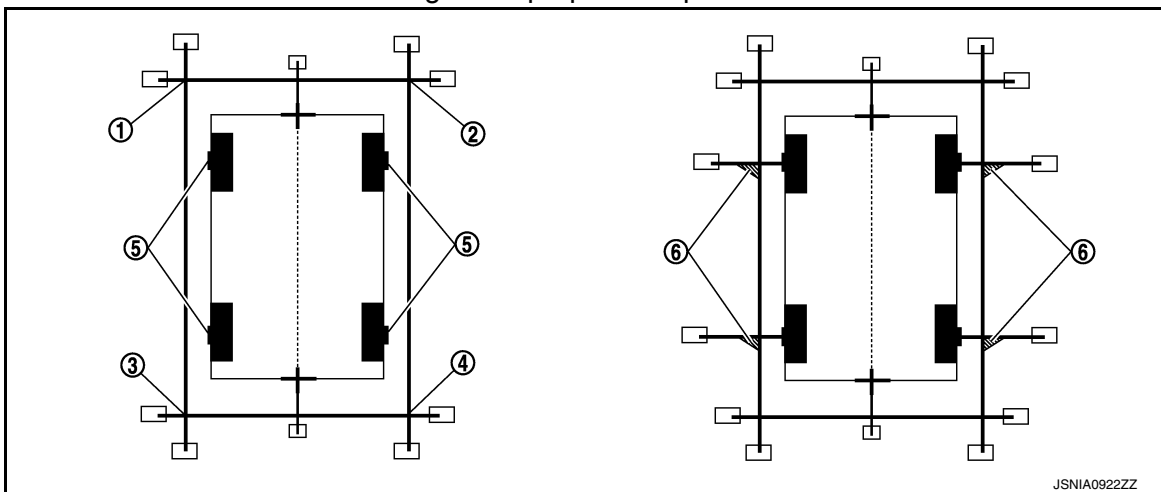
Target line preparation procedure 2



1. Point FM
 2. Point RM
 3. Triangle scale
 4. Point FL (mark)
 5. Point FR (mark)
 6. Point RL (mark)
 7. Point RR (mark)
- A. 75 cm (29.5 in) B. Approx. 1.5 m (59 in) C. 30 cm (11.8 in)
 [Vehicle width / 2 + 30 cm (11.8 in) from the points FM and RM]

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

Target line preparation procedure 3



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

Perform “Calibrating Camera Image”

CONSULT work support

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

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[NAVIGATION WITHOUT BOSE]

1. On the CONSULT screen, touch “CALIBRATING CAMERA IMAGE (FRONT CAMERA)”, “CALIBRATING CAMERA IMAGE (PASS-SIDE CAMERA)”, “CALIBRATING CAMERA IMAGE (DR-SIDE CAMERA)”, or “CALIBRATING CAMERA IMAGE (REAR CAMERA)” to accept the selection.

NOTE:

To cancel the indication of Incomplete calibration, select items based on the target camera.

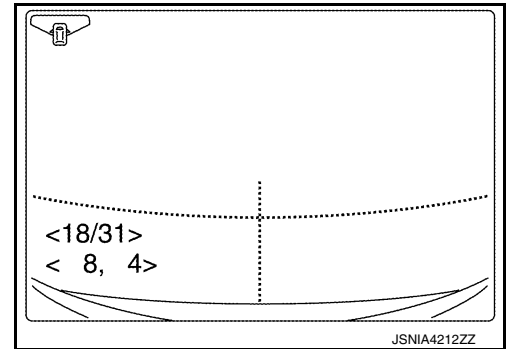
2. On the adjustment screen of each camera, adjust the parameter by touching the “AXIS X” button, “AXIS Y” button, and “ROTATE” button to place the calibration marker shown on the camera screen on the target line drawn on the ground.

Adjustment range

Rotation direction (Center dial) : 31 patterns (16 on the center)

Upper/lower direction (upper/lower switch) : -22 – 22

Left/right direction (left/right switch) : -22 – 22



3. Touch “APPLY” button on the CONSULT screen. “PRCSNG” is displayed and adjustment results are shown on the camera screen.

CAUTION:

Check that “PRCSNG” is displayed. Never perform other operations while “PRCSNG” is displayed.

4. Touch “OK” button on the CONSULT screen. “PRCSNG” is displayed and adjustment results are written to the around view monitor control unit.

CAUTION:

Check that “PRCSNG” is displayed. Never perform other operations while “PRCSNG” is displayed.

>> GO TO 6.

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

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

CONSULT work support

1. Select “FINE TUNING OF BIRDS-EYE VIEW” by touching CONSULT screen.

2. On the adjustment screen of each camera, adjust the parameter by touching the “AXIS X” button, “AXIS Y” button”, and “ROTATE” button to place the calibration marker shown on the camera screen on the target line drawn on the ground.

NOTE:

Touch “SELECT” button on the CONSULT screen to select the target camera.

3. Touch “APPLY” button on the CONSULT screen. “PRCSNG” is displayed and adjustment results are shown on the camera screen.

CAUTION:

Check that “PRCSNG” is displayed. Never perform other operations while “PRCSNG” is displayed.

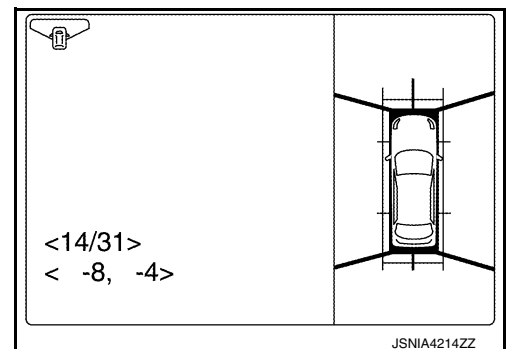
4. Touch “OK” button on the CONSULT screen. “PRCSNG” is displayed and adjustment results are written to the around view monitor control unit.

CAUTION:

- Check that “PRCSNG” is displayed. Never perform other operations while “PRCSNG” is displayed.
- After pressing the “OK” button, never press buttons other than the “BACK” button.

NOTE:

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



>> Calibration End.

U0428 STEERING ANGLE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

DTC/CIRCUIT DIAGNOSIS

U0428 STEERING ANGLE SENSOR

DTC Logic

INFOID:0000000010244536

DTC DETECTION LOGIC

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

Diagnosis Procedure

INFOID:0000000010244537

1. ADJUST THE NEUTRAL POSITION OF THE STEERING ANGLE SENSOR

When U0428 is detected, adjust the neutral position of the steering angle sensor.

>> Perform adjustment of the neutral position of the steering angle sensor. Refer to [AV-93. "WITHOUT DRIVER ASSISTANCE SYSTEM : CONSULT Function"](#).

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

AV

U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U1000 CAN COMM CIRCUIT

AV CONTROL UNIT

AV CONTROL UNIT : DTC Logic

INFOID:000000010244538

DTC DETECTION LOGIC

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

AV CONTROL UNIT : Diagnosis Procedure

INFOID:000000010244539

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-17, "Trouble Diagnosis Flow Chart"](#).

NO >> Refer to [GI-41, "Intermittent Incident"](#).

AROUND VIEW MONITOR CONTROL UNIT

AROUND VIEW MONITOR CONTROL UNIT : DTC Logic

INFOID:000000010244540

DTC DETECTION LOGIC

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

AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure

INFOID:000000010244541

1.PERFORM SELF DIAGNOSTIC RESULT

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

Is CAN COMM CIRCUIT displayed?

YES >> Refer to [LAN-17, "Trouble Diagnosis Flow Chart"](#).

NO >> Refer to [GI-41, "Intermittent Incident"](#).

U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U1010 CONTROL UNIT (CAN)

AV CONTROL UNIT

AV CONTROL UNIT : DTC Logic

INFOID:0000000010244542

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-209 , "Removal and Installation".

AROUND VIEW MONITOR CONTROL UNIT

AROUND VIEW MONITOR CONTROL UNIT : DTC Logic

INFOID:0000000010244543

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
CONTROL UNIT (CAN) [U1010]	Error during CAN controller hardware initialization (VCAN).	Replace the Around view monitor control unit if the malfunction occurs constantly. Refer to AV-217 , "Removal and Installation".

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

AV

O
P

U111A REAR CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U111A REAR CAMERA IMAGE SIGNAL CIRCUIT

DTC Logic

INFOID:000000010244544

DTC DETECTION LOGIC

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

Diagnosis Procedure

INFOID:000000010244545

Regarding Wiring Diagram information, refer to [AV-108, "Wiring Diagram"](#).

WITHOUT DRIVER ASSISTANCE SYSTEM

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

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and rear view camera connectors.
3. Check continuity between around view monitor control unit connector M103 and rear view camera connector D504.

Around view monitor control unit		Rear view camera		Continuity
Connector	Terminals	Connector	Terminals	
M103	26	D504	2	Yes
	25		1	

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

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M103	26		No

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

2. CHECK REAR VIEW CAMERA POWER SUPPLY VOLTAGE

1. Connect around view monitor control unit and rear view camera connectors.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit connector M103 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M103	26	—	CAMERA switch is ON or selector lever in R (reverse).	6.0 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace around view monitor control unit. Refer to [AV-217, "Removal and Installation"](#).

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

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

U111A REAR CAMERA IMAGE SIGNAL CIRCUIT

[NAVIGATION WITHOUT BOSE]

< DTC/CIRCUIT DIAGNOSIS >

- Check continuity between around view monitor control unit connector M103 and rear view camera connector D504.

Around view monitor control unit		Rear view camera		Continuity
Connector	Terminals	Connector	Terminals	
M103	28	D504	4	Yes
	27		5	

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

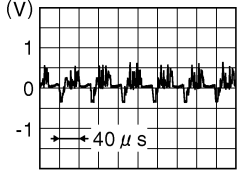
Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M103	28		No

Is the inspection result normal?

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

4.CHECK REAR VIEW CAMERA IMAGE SIGNAL

- Connect around view monitor control unit and rear view camera connectors.
- Turn ignition switch ON.
- Check signal between the terminals of around view monitor control unit connector M103.

Around view monitor control unit connector M103		Condition	Reference value
(+) Terminal	(-) Terminal		
28	27	CAMERA switch is ON or selector lever in R (reverse).	 <p style="text-align: right; font-size: small;">JSNIA0834GB</p>

Is the inspection result normal?

- YES >> Replace around view monitor control unit. Refer to [AV-217, "Removal and Installation"](#).
 NO >> Replace rear view camera. Refer to [AV-220, "Removal and Installation"](#).

WITH DRIVER ASSISTANCE SYSTEM

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

- Turn ignition switch OFF.
- Disconnect around view monitor control unit and rear view camera connectors.
- Check continuity between around view monitor control unit connector M114 and rear view camera connector D514.

Around view monitor control unit		Rear view camera		Continuity
Connector	Terminals	Connector	Terminals	
M114	50	D514	8	Yes
	52		7	

- Check continuity between around view monitor control unit connector M114 and ground.

U111A REAR CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M114	50		No

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

2. CHECK REAR VIEW CAMERA POWER SUPPLY VOLTAGE

1. Connect around view monitor control unit and rear view camera connectors.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit connector M114 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M114	50	—	CAMERA switch is ON or selector lever in R (reverse).	6.0 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace around view monitor control unit. Refer to [AV-217, "Removal and Installation"](#).

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

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and rear view camera connectors.
3. Check continuity between around view monitor control unit connector M114 and rear view camera connector D514.

Around view monitor control unit		Rear view camera		Continuity
Connector	Terminals	Connector	Terminals	
M114	53	D514	5	Yes
	54		1	

4. Check continuity between around view monitor control unit connector M114 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M114	53		No

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness or connectors.

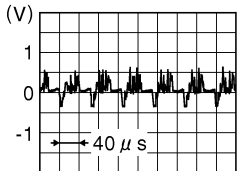
4. CHECK REAR VIEW CAMERA IMAGE SIGNAL

1. Connect around view monitor control unit and rear view camera connectors.
2. Turn ignition switch ON.
3. Check signal between the terminals of around view monitor control unit connector M114.

U111A REAR CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

Around view monitor control unit connector M114		Condition	Reference value
(+)	(-)		
Terminal	Terminal		
53	54	CAMERA switch is ON or selector lever in R (reverse).	 <p style="text-align: right; font-size: small;">JSNIA0834GB</p>

Is the inspection result normal?

- YES >> Replace around view monitor control unit. Refer to [AV-217, "Removal and Installation"](#).
- NO >> Replace rear view camera. Refer to [AV-220, "Removal and Installation"](#).

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

AV

O
P

U111B SIDE CAMERA RH IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U111B SIDE CAMERA RH IMAGE SIGNAL CIRCUIT

DTC Logic

INFOID:000000010244546

DTC DETECTION LOGIC

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

Diagnosis Procedure

INFOID:000000010244547

Regarding Wiring Diagram information, refer to [AV-108, "Wiring Diagram"](#).

WITHOUT DRIVER ASSISTANCE SYSTEM

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

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

Around view monitor control unit		RH side camera		Continuity
Connector	Terminals	Connector	Terminals	
M103	34	D107	7	Yes
	33		8	

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

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M103	34		No

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

2. CHECK RH SIDE CAMERA POWER SUPPLY VOLTAGE

- Connect around view monitor control unit and RH side camera connectors.
- Turn ignition switch ON.
- Check voltage between around view monitor control unit connector M103 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M103	34	—	CAMERA switch is ON or selector lever in R (reverse).	6.0 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace around view monitor control unit. Refer to [AV-217, "Removal and Installation"](#).

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

- Turn ignition switch OFF.

U111B SIDE CAMERA RH IMAGE SIGNAL CIRCUIT

[NAVIGATION WITHOUT BOSE]

< DTC/CIRCUIT DIAGNOSIS >

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

Around view monitor control unit		RH side camera		Continuity
Connector	Terminals	Connector	Terminals	
M103	36	D107	16	Yes
	35		15	

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

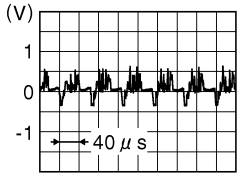
Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M103	36		No

Is the inspection result normal?

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

4.CHECK RH SIDE CAMERA IMAGE SIGNAL

1. Connect around view monitor control unit and RH side camera connectors.
2. Turn ignition switch ON.
3. Check signal between the terminals of around view monitor control unit connector M103.

Around view monitor control unit connector M103		Condition	Reference value
(+) Terminal	(-) Terminal		
36	35	CAMERA switch is ON or selector lever in R (reverse).	 <p style="text-align: right; font-size: small;">JSNIA0834GB</p>

Is the inspection result normal?

- YES >> Replace around view monitor control unit. Refer to [AV-217, "Removal and Installation"](#).
 NO >> Replace RH side camera. Refer to [AV-219, "Removal and Installation"](#).

WITH DRIVER ASSISTANCE SYSTEM

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

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and RH side camera connectors.
3. Check continuity between around view monitor control unit connector M114 and RH side camera connector D107.

Around view monitor control unit		RH side camera		Continuity
Connector	Terminals	Connector	Terminals	
M114	62	D107	7	Yes
	64		8	

4. Check continuity between around view monitor control unit connector M114 and ground.

U111B SIDE CAMERA RH IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M114	62		No

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

2. CHECK RH SIDE CAMERA POWER SUPPLY VOLTAGE

1. Connect around view monitor control unit and RH side camera connectors.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit connector M114 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M114	62	—	CAMERA switch is ON or selector lever in R (reverse).	6.0 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace around view monitor control unit. Refer to [AV-217, "Removal and Installation"](#).

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

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and RH side camera connectors.
3. Check continuity between around view monitor control unit connector M114 and RH side camera connector D107.

Around view monitor control unit		RH side camera		Continuity
Connector	Terminals	Connector	Terminals	
M114	65	D107	16	Yes
	66		15	

4. Check continuity between around view monitor control unit connector M114 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M114	65		No

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness or connectors.

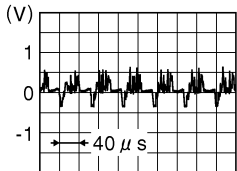
4. CHECK RH SIDE CAMERA IMAGE SIGNAL

1. Connect around view monitor control unit and RH side camera connectors.
2. Turn ignition switch ON.
3. Check signal between the terminals of around view monitor control unit connector M114.

U111B SIDE CAMERA RH IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

Around view monitor control unit connector M114		Condition	Reference value
(+)	(-)		
Terminal	Terminal		
65	66	CAMERA switch is ON or selector lever in R (reverse).	 <p style="text-align: right; font-size: small;">JSNIA0834GB</p>

Is the inspection result normal?

- YES >> Replace around view monitor control unit. Refer to [AV-217, "Removal and Installation"](#).
- NO >> Replace RH side camera. Refer to [AV-219, "Removal and Installation"](#).

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

AV

O
P

U111C FRONT CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U111C FRONT CAMERA IMAGE SIGNAL CIRCUIT

DTC Logic

INFOID:000000010244548

DTC DETECTION LOGIC

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

Diagnosis Procedure

INFOID:000000010244549

Regarding Wiring Diagram information, refer to [AV-108, "Wiring Diagram"](#).

WITHOUT DRIVER ASSISTANCE SYSTEM

1. CHECK FRONT CAMERA POWER SUPPLY AND GROUND CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and front camera connectors.
3. Check continuity between around view monitor control unit connector M103 and front camera connector E226.

Around view monitor control unit		Front camera		Continuity
Connector	Terminals	Connector	Terminals	
M103	38	E226	2	Yes
	37		1	

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

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M103	38		No

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

2. CHECK FRONT CAMERA POWER SUPPLY VOLTAGE

1. Connect around view monitor control unit and front camera connectors.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit connector M103 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M103	38	—	CAMERA switch is ON or selector lever in R (reverse).	6.0 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace around view monitor control unit. Refer to [AV-217, "Removal and Installation"](#).

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

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

U111C FRONT CAMERA IMAGE SIGNAL CIRCUIT

[NAVIGATION WITHOUT BOSE]

< DTC/CIRCUIT DIAGNOSIS >

3. Check continuity between around view monitor control unit connector M103 and front camera connector E226.

Around view monitor control unit		Front camera		Continuity
Connector	Terminals	Connector	Terminals	
M103	40	E226	4	Yes
	39		5	

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

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M103	40		No

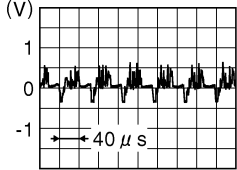
Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness or connectors.

4.CHECK FRONT CAMERA IMAGE SIGNAL

1. Connect around view monitor control unit and front camera connectors.
2. Turn ignition switch ON.
3. Check signal between the terminals of around view monitor control unit connector M103.

Around view monitor control unit connector M103		Condition	Reference value
(+) Terminal	(-) Terminal		
40	39	CAMERA switch is ON or selector lever in R (reverse).	 <p style="text-align: right; font-size: small;">JSNIA0834GB</p>

Is the inspection result normal?

YES >> Replace around view monitor control unit. Refer to [AV-217, "Removal and Installation"](#).

NO >> Replace front camera. Refer to [AV-218, "Removal and Installation"](#).

WITH DRIVER ASSISTANCE SYSTEM

1.CHECK FRONT CAMERA POWER SUPPLY AND GROUND CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and front camera connectors.
3. Check continuity between around view monitor control unit connector M114 and front camera connector E226.

Around view monitor control unit		Front camera		Continuity
Connector	Terminals	Connector	Terminals	
M114	68	E226	2	Yes
	70		1	

4. Check continuity between around view monitor control unit connector M114 and ground.

U111C FRONT CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M114	68		No

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

2. CHECK FRONT CAMERA POWER SUPPLY VOLTAGE

1. Connect around view monitor control unit and front camera connectors.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit connector M114 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M114	68	—	CAMERA switch is ON or selector lever in R (reverse).	6.0 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace around view monitor control unit. Refer to [AV-217, "Removal and Installation"](#).

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

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and front camera connectors.
3. Check continuity between around view monitor control unit connector M114 and front camera connector E226.

Around view monitor control unit		Front camera		Continuity
Connector	Terminals	Connector	Terminals	
M114	71	E226	4	Yes
	72		5	

4. Check continuity between around view monitor control unit connector M114 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M114	71		No

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness or connectors.

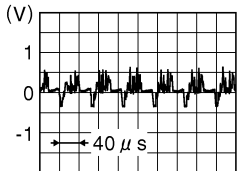
4. CHECK FRONT CAMERA IMAGE SIGNAL

1. Connect around view monitor control unit and front camera connectors.
2. Turn ignition switch ON.
3. Check signal between the terminals of around view monitor control unit connector M114.

U111C FRONT CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

Around view monitor control unit connector M114		Condition	Reference value
(+)	(-)		
Terminal	Terminal		
71	72	CAMERA switch is ON or selector lever in R (reverse).	<div style="display: flex; align-items: center;"> <div style="margin-right: 5px;">(V)</div>  </div> <p style="text-align: right; font-size: small;">JSNIA0834GB</p>

Is the inspection result normal?

- YES >> Replace around view monitor control unit. Refer to [AV-217, "Removal and Installation"](#).
- NO >> Replace front camera. Refer to [AV-218, "Removal and Installation"](#).

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

AV

O
P

U111D SIDE CAMERA LH IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U111D SIDE CAMERA LH IMAGE SIGNAL CIRCUIT

DTC Logic

INFOID:000000010244550

DTC DETECTION LOGIC

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

Diagnosis Procedure

INFOID:000000010244551

Regarding Wiring Diagram information, refer to [AV-108, "Wiring Diagram"](#).

WITHOUT DRIVER ASSISTANCE SYSTEM

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

- Turn ignition switch OFF.
- Disconnect around view monitor control unit and LH side camera connectors.
- Check continuity between around view monitor control unit connector M103 and LH side camera connector D14.

Around view monitor control unit		LH side camera		Continuity
Connector	Terminals	Connector	Terminals	
M103	30	D14	7	Yes
	29		8	

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

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M103	30		No

Is the inspection result normal?

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

2. CHECK LH SIDE CAMERA POWER SUPPLY VOLTAGE

- Connect around view monitor control unit and LH side camera connectors.
- Turn ignition switch ON.
- Check voltage between around view monitor control unit connector M103 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M103	30	—	CAMERA switch is ON or selector lever in R (reverse).	6.0 V

Is the inspection result normal?

- YES >> GO TO 3.
 NO >> Replace around view monitor control unit. Refer to [AV-217, "Removal and Installation"](#).

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

- Turn ignition switch OFF.

U111D SIDE CAMERA LH IMAGE SIGNAL CIRCUIT

[NAVIGATION WITHOUT BOSE]

< DTC/CIRCUIT DIAGNOSIS >

2. Disconnect around view monitor control unit and LH side camera connectors.
3. Check continuity between around view monitor control unit connector M103 and LH side camera connector D14.

Around view monitor control unit		LH side camera		Continuity
Connector	Terminals	Connector	Terminals	
M103	32	D14	16	Yes
	31		15	

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

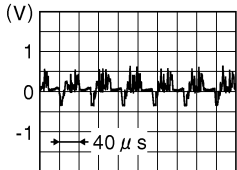
Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M103	32		No

Is the inspection result normal?

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

4.CHECK LH SIDE CAMERA IMAGE SIGNAL

1. Connect around view monitor control unit and LH side camera connectors.
2. Turn ignition switch ON.
3. Check signal between the terminals of around view monitor control unit connector M103.

Around view monitor control unit connector M103		Condition	Reference value
(+) Terminal	(-) Terminal		
32	31	CAMERA switch is ON or selector lever in R (reverse).	 <p style="text-align: right; font-size: small;">JSNIA0834GB</p>

Is the inspection result normal?

- YES >> Replace around view monitor control unit. Refer to [AV-217, "Removal and Installation"](#).
 NO >> Replace LH side camera. Refer to [AV-219, "Removal and Installation"](#).

WITH DRIVER ASSISTANCE SYSTEM

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

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and LH side camera connectors.
3. Check continuity between around view monitor control unit connector M114 and LH side camera connector D14.

Around view monitor control unit		LH side camera		Continuity
Connector	Terminals	Connector	Terminals	
M114	56	D14	7	Yes
	58		8	

4. Check continuity between around view monitor control unit connector M114 and ground.

U111D SIDE CAMERA LH IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M114	56		No

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

2. CHECK LH SIDE CAMERA POWER SUPPLY VOLTAGE

1. Connect around view monitor control unit and LH side camera connectors.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit connector M114 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M114	56	—	CAMERA switch is ON or selector lever in R (reverse).	6.0 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace around view monitor control unit. Refer to [AV-217, "Removal and Installation"](#).

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

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and LH side camera connectors.
3. Check continuity between around view monitor control unit connector M114 and LH side camera connector D14.

Around view monitor control unit		LH side camera		Continuity
Connector	Terminals	Connector	Terminals	
M114	59	D14	16	Yes
	60		15	

4. Check continuity between around view monitor control unit connector M114 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M114	59		No

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness or connectors.

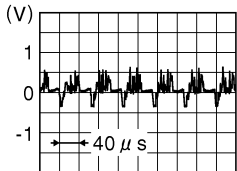
4. CHECK LH SIDE CAMERA IMAGE SIGNAL

1. Connect around view monitor control unit and LH side camera connectors.
2. Turn ignition switch ON.
3. Check signal between the terminals of around view monitor control unit connector M114.

U111D SIDE CAMERA LH IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

Around view monitor control unit connector M114		Condition	Reference value
(+)	(-)		
Terminal	Terminal		
59	60	CAMERA switch is ON or selector lever in R (reverse).	 <p style="text-align: right; font-size: small;">JSNIA0834GB</p>

Is the inspection result normal?

- YES >> Replace around view monitor control unit. Refer to [AV-217, "Removal and Installation"](#).
- NO >> Replace LH side camera. Refer to [AV-219, "Removal and Installation"](#).

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

AV

O
P

U1217 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U1217 AV CONTROL UNIT

DTC Logic

INFOID:000000010244553

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
BLUETOOTH MODULE [U1217]	Connection failure to the internal Bluetooth® sub unit is detected.	Replace AV control unit if malfunction occurs constantly. Refer to AV-209, "Removal and Installation" .

U1229 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U1229 AV CONTROL UNIT

DTC Logic

INFOID:000000010244554

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-209, "Removal and Installation" .

A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

P

U122F AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U122F AV CONTROL UNIT

DTC Logic

INFOID:000000010244555

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-209, "Removal and Installation" .

U1232 STEERING ANGLE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U1232 STEERING ANGLE SENSOR

DTC Logic

INFOID:000000010244556

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
ST ANG SEN CALIB [U1232]	The neutral position adjustment of the steering angle sensor is incomplete.	Adjust neutral position of the steering angle sensor.

Diagnosis Procedure

INFOID:000000010244557

1. ADJUST THE NEUTRAL POSITION OF THE STEERING ANGLE SENSOR

When U1232 is detected, adjust the neutral position of the steering angle sensor.

>> Perform adjustment of the neutral position of the steering angle sensor. Refer to [AV-93. "WITHOUT DRIVER ASSISTANCE SYSTEM : CONSULT Function"](#).

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

AV

O
P

U1244 GPS ANTENNA

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U1244 GPS ANTENNA

DTC Logic

INFOID:000000010244558

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.	<ul style="list-style-type: none">• GPS antenna disconnection.• Open or short to ground in GPS antenna signal circuit.

Diagnosis Procedure

INFOID:000000010244559

Regarding Wiring Diagram information, refer to [AV-108, "Wiring Diagram"](#).

1. GPS ANTENNA INSPECTION

Visually inspect the GPS antenna and antenna feeder. Refer to [AV-221, "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 M141.
2. Turn ignition switch ON.
3. Check voltage between AV control unit connector M141 and ground.

AV control unit		Ground	Voltage
Connector	Terminal		
M141	54	—	5.0 V

Is inspection result normal?

YES >> Replace GPS antenna. Refer to [AV-221, "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-209, "Removal and Installation"](#).

U1258 SATELLITE RADIO ANTENNA

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U1258 SATELLITE RADIO ANTENNA

DTC Logic

INFOID:000000010244560

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
SXM ANTENNA CONN [U1258]	Open or short to ground is detected in satellite antenna connection.	<ul style="list-style-type: none">Satellite antenna disconnection.Open or short to ground in satellite antenna signal circuit.

Diagnosis Procedure

INFOID:000000010244561

Regarding Wiring Diagram information, refer to [AV-108, "Wiring Diagram"](#).

1. SATELLITE ANTENNA INSPECTION

Visually inspect the satellite antenna and antenna feeder. Refer to [AV-223, "Feeder Layout"](#).

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace malfunctioning components.

2. CHECK AV CONTROL UNIT VOLTAGE

- Turn ignition switch ON.
- Check voltage between AV control unit connector M142 and ground.

AV control unit		Ground	Voltage
Connector	Terminal		
M142	56	—	5.0 V

Is inspection result normal?

YES >> Replace satellite radio antenna [AV-222, "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-209, "Removal and Installation"](#).

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

AV

U1263 USB

DTC Logic

INFOID:000000010244562

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
USB OVERCURRENT [U1263]	Overcurrent in USB harness is detected.	<ul style="list-style-type: none"> 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-166, "Diagnosis Procedure"](#).
 NO >> Inspection End.

Diagnosis Procedure

INFOID:000000010244563

1. CHECK USB INTERFACE HARNESS

Visually inspect USB interface harness. Refer to [AV-215, "Removal and Installation"](#).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Replace USB interface harness. Refer to [AV-215, "Removal and Installation"](#).

2. CHECK USB INTERFACE HARNESS

Check USB interface harness. Refer to [AV-193, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES >> Replace AV control unit. Refer to [AV-209, "Removal and Installation"](#).
 NO >> Replace USB interface harness. Refer to [AV-215, "Removal and Installation"](#).

U12AA CONFIGURATION ERROR

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U12AA CONFIGURATION ERROR

DTC Logic

INFOID:000000010244577

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-133, "CONFIGURATION (AV CONTROL UNIT) : Work Procedure" .

Diagnosis Procedure

INFOID:000000010244578

1.PERFORM CONFIGURATION

When U12AA is detected, configuration data must be written.

>> Write configuration data with CONSULT. Refer to [AV-133, "CONFIGURATION \(AV CONTROL UNIT\) : Work Procedure"](#).

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

AV

U12AB ANTENNA

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U12AB ANTENNA

DTC Logic

INFOID:000000010244564

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
FM Antenna error [U12AB]	Open or short to ground is detected in AM-FM antenna connection.	<ul style="list-style-type: none">• AM-FM antenna disconnection.• Open or short to ground in AM-FM antenna signal circuit.

Diagnosis Procedure

INFOID:000000010244565

Regarding Wiring Diagram information, refer to [AV-108, "Wiring Diagram"](#).

1. AM-FM ANTENNA INSPECTION

Visually inspect the antenna base (AM-FM antenna) and antenna feeder. Refer to [AV-223, "Feeder Layout"](#).

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace malfunctioning components.

2. CHECK CONTINUITY BETWEEN AV CONTROL UNIT AND ANTENNA BASE

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M139 and antenna base connector M502.
3. Check continuity between AV control unit connector M139 and antenna base connector M502.

AV control unit		Antenna base		Continuity
Connector	Terminal	Connector	Terminal	
M139	52	M502	2	Yes

4. Check continuity between AV control unit connector M139 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M139	52	—	No

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

3. CHECK AV CONTROL UNIT VOLTAGE

1. Connect AV control unit connector M139.
2. Turn ignition switch ON.
3. Check voltage between AV control unit connector M139 and ground.

AV control unit		Ground	Voltage (Approx.)
Connector	Terminal		
M139	52	—	5.0 V

Is the inspection result normal?

YES >> Replace antenna base. Refer to [AV-222, "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-209, "Removal and Installation"](#).

U12AC AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U12AC AV CONTROL UNIT

DTC Logic

INFOID:000000010244579

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-209, "Removal and Installation" .

A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

P

U12AD AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U12AD AV CONTROL UNIT

DTC Logic

INFOID:000000010244580

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-209, "Removal and Installation" .

U12AE AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U12AE AV CONTROL UNIT

DTC Logic

INFOID:000000010244581

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-209, "Removal and Installation" .

A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

P

U12AF AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U12AF AV CONTROL UNIT

DTC Logic

INFOID:000000010244582

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-209, "Removal and Installation" .

U12B0 POWER SUPPLY VOLTAGE

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U12B0 POWER SUPPLY VOLTAGE

DTC Logic

INFOID:000000010244583

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.	<ul style="list-style-type: none">• Charging system malfunction.• AV control unit power supply or ground circuits.

Diagnosis Procedure

INFOID:000000010244584

1. CHECK CHARGING SYSTEM

Check the vehicle charging system. Refer to [CHG-11, "Work Flow \(With EXP-800 NI or GR8-1200 NI\)"](#) or [CHG-14, "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-180, "AV CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> Replace the AV control unit. Refer to [AV-209, "Removal and Installation"](#).

NO >> Repair or replace harness or connectors.

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

AV

U12B1 POWER SUPPLY VOLTAGE

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U12B1 POWER SUPPLY VOLTAGE

DTC Logic

INFOID:000000010244585

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:000000010244586

1. CHECK CHARGING SYSTEM

Check the vehicle charging system. Refer to [CHG-11, "Work Flow \(With EXP-800 NI or GR8-1200 NI\)"](#) or [CHG-14, "Work Flow \(Without EXP-800 NI or GR8-1200 NI\)"](#).

Is the inspection result normal?

- YES >> Replace the AV control unit. Refer to [AV-209, "Removal and Installation"](#).
- NO >> Repair or replace the malfunctioning components.

U1300 AV COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U1300 AV COMM CIRCUIT

DTC Logic

INFOID:000000010365209

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:000000010365210

1. PERFORM SELF DIAGNOSTIC RESULT FOR METER M&A

- Turn ignition switch ON and wait for 2 seconds or more.
- Perform "Self Diagnostic Result" for "METER M&A".

Are any DTCs displayed?

YES >> Refer to [MWI-30, "DTC Index"](#).

NO >> GO TO 2.

2. CHECK AV COMMUNICATION CIRCUIT (MCAN L) CONTINUITY

- Turn ignition switch OFF.
- Disconnect AV control unit connector M102 and combination meter connector M77.
- Check continuity between AV control unit connector M102 and combination meter connector M77.

AV control unit		Combination meter		Continuity
Connector	Terminal	Connector	Terminal	
M102	32	M77	48	Yes
	39			

- Check continuity between AV control unit connector M102 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M102	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

- Check continuity between AV control unit connector M102 and combination meter connector M77.

AV control unit		Combination meter		Continuity
Connector	Terminal	Connector	Terminal	
M102	31	M77	47	Yes
	38			

- Check continuity between AV control unit connector M102 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M102	31	—	No
	38		

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

AV

U1300 AV COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

Is the inspection result normal?

- YES >> Replace the AV control unit. Refer to [AV-209, "Removal and Installation"](#).
- NO >> Repair or replace harness or connectors.

U1304 CAMERA IMAGE CALIBRATION

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U1304 CAMERA IMAGE CALIBRATION

DTC Logic

INFOID:000000010244587

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Non-completion of the calibration [U1304]	Camera image calibration is incomplete.	Perform calibration of camera image.

Diagnosis Procedure

INFOID:000000010244588

1.PERFORM CALIBRATION

When U1304 is detected, perform calibration of camera image.

>> Refer to [AV-136, "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Work Procedure"](#).

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

AV

U1305 CONFIG UNFINISH

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U1305 CONFIG UNFINISH

DTC Logic

INFOID:000000010244589

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Non-completion of the configuration [U1305]	Configuration of around view monitor control unit is incomplete.	Perform configuration of around view monitor control unit.

Diagnosis Procedure

INFOID:000000010244590

1.PERFORM CONFIGURATION

When U1305 is detected, perform configuration of around view monitor control unit.

>> Refer to [AV-134, "CONFIGURATION \(AROUND VIEW MONITOR CONTROL UNIT\) : Work Procedure"](#).

U1310 CONTROL UNIT (AV)

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

U1310 CONTROL UNIT (AV)

DTC Logic

INFOID:000000010244591

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-209, "Removal and Installation" .

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

AV

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

POWER SUPPLY AND GROUND CIRCUIT

AV CONTROL UNIT

AV CONTROL UNIT : Diagnosis Procedure

INFOID:000000010244592

Regarding Wiring Diagram information, refer to [AV-108. "Wiring Diagram"](#).

1.CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
19	Battery power supply	15 (20A)
40	Ignition power supply	30 (10A)

Are the fuses blown?

YES >> Replace the blown fuse after repairing the affected circuit.

NO >> GO TO 2.

2.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit connectors M101 and M102.
3. Check voltage between AV control unit connectors M101 and M102 and ground.

AV control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M101	19	—	Ignition switch: OFF	Battery voltage
M102	40		Ignition switch: ON	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between AV control unit connector M101 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M101	20	—	Yes

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

AROUND VIEW MONITOR CONTROL UNIT

AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure

INFOID:000000010244593

Regarding Wiring Diagram information, refer to [AV-108. "Wiring Diagram"](#).

WITHOUT DRIVER ASSISTANCE SYSTEM

1.CHECK FUSE

Check that the following fuses are not blown.

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

Terminal No.	Signal name	Fuse No.
2	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 around view monitor control unit connector M103.
3. Check voltage between around view monitor control unit connector M103 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M103	2	—	Ignition switch: OFF	Battery voltage

Is the inspection result normal?

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

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between around view monitor control unit connector M103 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M103	1	—	Yes

Is the inspection result normal?

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

WITH DRIVER ASSISTANCE SYSTEM

1.CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
2	Battery power supply	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 around view monitor control unit connector M113.
3. Check voltage between around view monitor control unit connector M113 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M113	2	—	Ignition switch: OFF	Battery voltage

Is the inspection result normal?

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

3.CHECK GROUND CIRCUIT

A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

P

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

1. Turn ignition switch OFF.
2. Check continuity between around view monitor control unit connector M113 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M113	1	—	Yes

Is the inspection result normal?

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

FRONT TWEETER

Diagnosis Procedure

INFOID:000000010244595

Regarding Wiring Diagram information, refer to [AV-108. "Wiring Diagram"](#).

1.CONNECTOR CHECK

Check the AV control unit and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminals or connectors.

2.CHECK FRONT TWEETER SIGNAL CIRCUIT CONTINUITY

1. Disconnect AV control unit connector M101 and suspect front tweeter connector.
2. Check continuity between AV control unit connector M101 and suspect front tweeter connector.

AV control unit		Front tweeter		Continuity
Connector	Terminal	Connector	Terminal	
M101	2	M80 (LH)	1	Yes
	3		2	
	11	M23 (RH)	1	
	12		2	

3. Check continuity between AV control unit connector M101 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M101	2	—	No
	3		
	11		
	12		

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

3.CHECK FRONT TWEETER SIGNAL

1. Connect AV control unit connector M101 and suspect front tweeter connector.
2. Turn ignition switch to ON.
3. Push AV control unit POWER switch.
4. Check signal between the terminals of AV control unit connector M101.

AV control unit connector M101		Condition	Reference value
(+)	(-)		
Terminal	Terminal		

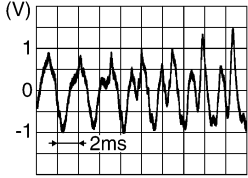
A
B
C
D
E
F
G
H
I
J
K
L
M
O
P

AV

FRONT TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

2	3		
11	12	Audio signal output	

Is the inspection result normal?

YES >> Replace front tweeter. Refer to [AV-212. "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-209. "Removal and Installation"](#).

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

FRONT DOOR SPEAKER

Diagnosis Procedure

INFOID:000000010244594

Regarding Wiring Diagram information, refer to [AV-108. "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 M101 and suspect front door speaker connector.
2. Check continuity between AV control unit connector M101 and suspect front door speaker connector.

AV control unit		Front door speaker		Continuity
Connector	Terminal	Connector	Terminal	
M101	2	D7 (LH)	1	Yes
	3		2	
	11	D104 (RH)	1	
	12		2	

3. Check continuity between AV control unit connector M101 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M101	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 M101 and suspect front door speaker connector.
2. Turn ignition switch to ON.
3. Push AV control unit POWER switch.
4. Check signal between the terminals of AV control unit connector M101.

AV control unit connector M101		Condition	Reference value
(+)	(-)		
Terminal	Terminal		

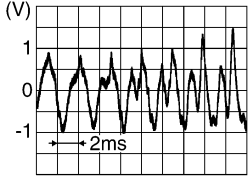
A
B
C
D
E
F
G
H
I
J
K
L
M
O
P

AV

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

2	3		
11	12	Audio signal output	

Is the inspection result normal?

- YES >> Replace front door speaker. Refer to [AV-213. "Removal and Installation"](#).
- NO >> Replace AV control unit. Refer to [AV-209. "Removal and Installation"](#).

REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

REAR DOOR SPEAKER

Diagnosis Procedure

INFOID:000000010244605

Regarding Wiring Diagram information, refer to [AV-108. "Wiring Diagram"](#).

1. CONNECTOR CHECK

Check the AV control unit and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminals or connectors.

2. CHECK REAR DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY

1. Disconnect AV control unit connector M101 and suspect rear door speaker connector.
2. Check continuity between AV control unit connector M101 and suspect rear door speaker connector.

AV control unit		Rear door speaker		Continuity
Connector	Terminal	Connector	Terminal	
M101	4	D203 (LH)	1	Yes
	5		2	
	13	D303 (RH)	1	
	14		2	

3. Check continuity between AV control unit connector M101 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M101	4	—	No
	5		
	13		
	14		

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

3. CHECK REAR DOOR SPEAKER SIGNAL

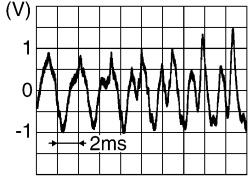
1. Connect AV control unit connector M101 and suspect rear door speaker connector.
2. Turn ignition switch to ON.
3. Push AV control unit POWER switch.
4. Check signal between the terminals of AV control unit connector M101.

AV control unit connector M101		Condition	Reference value
(+)	(-)		
Terminal	Terminal		

REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

4	5	Audio signal output	
13	14		

SKIB3609E

Is the inspection result normal?

- YES >> Replace rear door speaker. Refer to [AV-214. "Removal and Installation"](#).
- NO >> Replace AV control unit. Refer to [AV-209. "Removal and Installation"](#).

MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

MICROPHONE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:000000010244606

Regarding Wiring Diagram information, refer to [AV-108. "Wiring Diagram"](#).

1. CHECK HARNESS BETWEEN AV CONTROL UNIT AND MICROPHONE

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M102 and microphone connector R8.
3. Check continuity between AV control unit connector M102 and microphone connector R8.

AV control unit		Microphone		Continuity
Connector	Terminal	Connector	Terminal	
M102	34	R8	1	Yes
	35		4	
	36		2	

4. Check continuity between AV control unit connector M102 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M102	34	—	No
	35		

Is the inspection result normal?

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

2. CHECK MICROPHONE POWER SUPPLY

1. Connect AV control unit connector M102 and microphone connector R8.
2. Turn ignition switch ON.
3. Check voltage between microphone connector R8 and ground.

Microphone (+)		Ground (-)	Voltage (Approx.)
Connector	Terminal		
R8	4	—	5V

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Replace AV control unit. Refer to [AV-209. "Removal and Installation"](#).

3. CHECK MICROPHONE SIGNAL

Check signal between terminals of AV control unit connector M102.

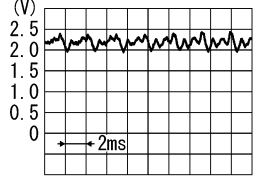
A
B
C
D
E
F
G
H
I
J
K
L
M
O
P

AV

MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

AV control unit connector M102		Condition	Reference value
(+)	(-)		
Terminal	Terminal		
34	36	Speak into microphone.	 <p style="text-align: right;">PKIB5037J</p>

Is the inspection result normal?

- YES >> Replace AV control unit. Refer to [AV-209. "Removal and Installation"](#).
- NO >> Replace microphone. Refer to [AV-216. "Removal and Installation"](#).

STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

STEERING SWITCH






Diagnosis Procedure

INFOID:000000010244607

Regarding Wiring Diagram information, refer to [AV-108. "Wiring Diagram"](#).

1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

1. Turn ignition switch OFF.
2. Disconnect combination switch connector M90.
3. Check resistance between the terminals of combination switch connector M90.

Combination switch connector M90		Condition	Resistance Ω (Approx.)
Terminal	Terminal		
25	19	Depress SOURCE switch.	1
		Depress Δ switch.	121
		Depress ∇ switch.	321
		Depress  switch.	723
		Depress ENTER switch.	2023
18		Depress -  switch.	1
		Depress  + switch.	121
		Depress  switch.	321
		Depress  switch.	723
		Depress DISPLAY switch.	2023

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace steering switches. Refer to [AV-211. "Removal and Installation"](#).

2. CHECK HARNESS BETWEEN COMBINATION METER AND COMBINATION SWITCH

1. Disconnect combination meter connector M76 and combination switch connector M30.
2. Check continuity between combination meter connector M76 and combination switch connector M30.

Combination meter		Combination switch		Continuity
Connector	Terminal	Connector	Terminal	
M76	22	M30	8	Yes
	23		15	
	21		14	

3. Check continuity between combination meter connector M76 and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M76	22	—	No
	23		
	21		

Is the inspection result normal?

STEERING SWITCH

[NAVIGATION WITHOUT BOSE]

< DTC/CIRCUIT DIAGNOSIS >

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

3. CHECK COMBINATION SWITCH

Check continuity between combination switch connectors M90 and M30.

Combination switch				Continuity
Connector	Terminal	Connector	Terminal	
M90	25	M30	8	Yes
	18		15	
	19		14	

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 combination meter connector M77 and AV control unit connector M102.
2. Check continuity between combination meter connector M77 and AV control unit connector M102.

Combination meter		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M77	47	M102	31	Yes
	48		32	

3. Check continuity between combination meter connector M77 and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M77	47	—	No
	48		

Is the inspection result normal?

- YES >> Replace AV control unit. Refer to [AV-209. "Removal and Installation"](#).
NO >> Repair or replace harness or connectors.

USB CONNECTOR

Diagnosis Procedure

INFOID:000000010244608

Regarding Wiring Diagram information, refer to [AV-108. "Wiring Diagram"](#).

1. CHECK USB INTERFACE HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M138 and USB interface connector M89.
3. Check continuity between AV control unit connector M138 and USB interface connector M89.

AV control unit		USB interface		Continuity
Connector	Terminal	Connector	Terminal	
M138	45	M89	1	Yes
	46		2	
	47		3	
	49		5	
	50		6	

4. Check continuity between AV control unit connector M138 and ground.

AV control unit		—	Continuity
Connector	Terminal		
M138	45	Ground	No
	47		

Is the inspection result normal?

- YES >> Replace the USB interface. Refer to [AV-215. "Removal and Installation"](#).
 NO >> Repair or replace harness or connectors.

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

AV

AUXILIARY INPUT JACK

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

AUXILIARY INPUT JACK

Diagnosis Procedure

INFOID:000000010244609

Regarding Wiring Diagram information, refer to [AV-108. "Wiring Diagram"](#).

1. CHECK AUX IN JACK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M102 and AUX in jack connector M104.
3. Check continuity between AV control unit connector M102 and AUX in jack connector M104.

AV control unit		AUX in jack		Continuity
Connector	Terminal	Connector	Terminal	
M102	21	M104	4	Yes
	22		3	
	23		1	

4. Check continuity between AV control unit connector M102 and ground.

AV control unit		—	Continuity
Connector	Terminal		
M102	21	Ground	No
	23		

Is the inspection result normal?

- YES >> Replace the AUX in jack. Refer to [AV-215. "Removal and Installation"](#).
NO >> Repair or replace harness or connectors.

SYMPTOM DIAGNOSIS

MULTI AV SYSTEM

Symptom Table

INFOID:000000010244534

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-91, "On Board Diagnosis Function" .
No sound comes out or the level of the sound is low.	No sound from all speakers.	<ul style="list-style-type: none"> • Speaker circuit shorted to ground. Refer to AV-108, "Wiring Diagram". • AV control unit power supply and ground circuits malfunction. Refer to AV-180, "AV CONTROL UNIT : Diagnosis Procedure".
	Only a certain speaker (front tweeter LH, front tweeter RH, front door speaker LH, front door speaker RH, rear door speaker LH, rear door speaker RH) does not output sound.	<ul style="list-style-type: none"> • Poor connector connection of speaker. • Sound signal circuit malfunction between AV control unit and speaker. Refer to: <ul style="list-style-type: none"> - AV-183, "Diagnosis Procedure" (front tweeter). - AV-185, "Diagnosis Procedure" (front door speaker). - AV-187, "Diagnosis Procedure" (rear door speaker). • Malfunction in speaker. Refer to: <ul style="list-style-type: none"> - AV-212, "Removal and Installation" (front tweeter). - AV-213, "Removal and Installation" (front door speaker). - AV-214, "Removal and Installation" (rear door speaker). • Malfunction in AV control unit. Refer to AV-91, "On Board Diagnosis Function".

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

AV

MULTI AV SYSTEM

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

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-91, "On Board Diagnosis Function" .
	Noise comes out only from a certain speaker (front tweeter LH, front tweeter RH, front door speaker LH, front door speaker RH, rear door speaker LH, rear door speaker RH).	<ul style="list-style-type: none"> Poor connector connection of speaker. Sound signal circuit malfunction between AV control unit and speaker. Refer to: <ul style="list-style-type: none"> AV-183, "Diagnosis Procedure" (front tweeter). AV-185, "Diagnosis Procedure" (front door speaker). AV-187, "Diagnosis Procedure" (rear door speaker). Malfunction in speaker. Poor Installation of speaker (e.g. backlash and looseness). Refer to: <ul style="list-style-type: none"> AV-212, "Removal and Installation" (front tweeter). AV-213, "Removal and Installation" (front door speaker). AV-214, "Removal and Installation" (rear door speaker). Malfunction in AV control unit. Refer to AV-91, "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-223, "Feeder Layout" .
No radio reception or poor reception.	<ul style="list-style-type: none"> 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). 	<ul style="list-style-type: none"> Antenna amp. ON signal circuit malfunction. Refer to AV-168, "Diagnosis Procedure". Poor connector connection of antenna or antenna feeder. Refer to AV-223, "Feeder Layout".
No satellite radio reception.	There is malfunction in the CONSULT self diagnosis result. Refer to AV-92, "CONSULT Function" .	<ul style="list-style-type: none"> Malfunction in antenna, antenna feeder or AV control unit. Perform DTC diagnosis. Refer to AV-165, "Diagnosis Procedure". Poor continuity in antenna feeder. Poor connector connection of antenna or antenna feeder. Refer to AV-223, "Feeder Layout".
	There is no malfunction in the CONSULT self diagnosis result. Refer to AV-92, "CONSULT Function" .	<ul style="list-style-type: none"> Poor continuity in antenna feeder. Poor connector connection of antenna or antenna feeder. Loose satellite radio antenna mounting nut. Refer to AV-223, "Feeder Layout".
Buzz/rattle sound from speaker	The majority of buzz/rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the buzz/rattle.	Refer to "SQUEAK AND RATTLE TROUBLE DIAGNOSIS" in the appropriate interior trim section.

RELATED TO HANDS-FREE PHONE

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

MULTI AV SYSTEM

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

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.	
Hands-free phone cannot be established.	<ul style="list-style-type: none"> • 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. 	Malfunction in AV control unit. Replace AV control unit. Refer to AV-209, "Removal and Installation" .
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-189, "Diagnosis Procedure" .
The system cannot be operated.	<ul style="list-style-type: none"> • 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-211, "Removal and Installation" .
	Steering switch's  ,  ,  , and  switches do not work.	Steering switch signal circuit malfunction. Refer to AV-191, "Diagnosis Procedure" .
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to AV-191, "Diagnosis Procedure" .

RELATED TO NAVIGATION

MULTI AV SYSTEM

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

Symptoms	Check items	Probable malfunction location
Navigation system is inoperative.	Navigation malfunction.	<ul style="list-style-type: none"> Malfunction in SD card. Malfunction in AV control unit. Refer to AV-91, "On Board Diagnosis Function".
	Steering switches malfunction.	Steering switch signal circuit malfunction. Refer to AV-191, "Diagnosis Procedure" .
	Voice activated control malfunction.	Microphone signal circuit malfunction. Refer to AV-189, "Diagnosis Procedure" . Steering switch signal circuit malfunction. Refer to AV-191, "Diagnosis Procedure" .

RELATED TO AROUND VIEW MONITOR

Symptoms	Check items	Probable malfunction location
Display does not switch to camera image when CAMERA switch is pressed or selector lever is in R (reverse).	Around view monitor control unit malfunction.	Around view monitor control unit power supply and ground circuits malfunction. Refer to AV-180, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure" .
	Camera image signal circuit (output) malfunction.	Camera image signal circuit (output) malfunction between around view monitor control unit and display unit. Refer to AV-101, "WITHOUT DRIVER ASSISTANCE SYSTEM : Reference Value" .
Display switches to camera image when CAMERA switch is pressed or selector lever is in R (reverse), but all views are not displayed.	Camera image signal circuit (input) malfunction.	Camera image signal circuit (input) malfunction between camera and around view monitor control unit. Refer to: <ul style="list-style-type: none"> AV-152, "Diagnosis Procedure" (front camera). AV-144, "Diagnosis Procedure" (rear camera). AV-156, "Diagnosis Procedure" (side camera LH). AV-148, "Diagnosis Procedure" (side camera RH).
Camera image is rolling.	Camera image signal circuit (output) malfunction.	Camera image signal circuit (output) malfunction between around view monitor control unit and display unit. Refer to AV-101, "WITHOUT DRIVER ASSISTANCE SYSTEM : Reference Value" .
Display does not switch to rear view monitor even when selector lever is in R (reverse).	Reverse signal circuit malfunction.	Reverse signal circuit between BCM and around view monitor control unit. Refer to AV-101, "WITHOUT DRIVER ASSISTANCE SYSTEM : Reference Value" .
Predicted course line display in front view and rear view is malfunctioning.	Steering angle sensor malfunction.	Predicted course line center position is malfunctioning. Refer to AV-135, "PREDICTED COURSE LINE CENTER POSITION ADJUSTMENT : Work Procedure" .
Front view and front of birds-eye view is not displayed.	<ul style="list-style-type: none"> Front camera malfunction. Front camera image signal circuit malfunction. 	<ul style="list-style-type: none"> Front camera power supply and ground circuits malfunction. Front camera image signal circuit malfunction between front camera and around view monitor control unit. Refer to AV-152, "Diagnosis Procedure" .
Rear view and rear of birds-eye view is not displayed.	<ul style="list-style-type: none"> Rear view camera malfunction. Rear view camera image signal circuit malfunction. 	<ul style="list-style-type: none"> Rear view camera power supply and ground circuits malfunction. Rear view camera image signal circuit malfunction between rear view camera and around view monitor control unit. Refer to AV-144, "Diagnosis Procedure" .

MULTI AV SYSTEM

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

Symptoms	Check items	Probable malfunction location
Driver side of birds-eye view is not displayed.	<ul style="list-style-type: none"> Side camera LH malfunction. Side camera LH image signal circuit malfunction. 	<ul style="list-style-type: none"> Side camera LH power supply and ground circuits malfunction. Side camera LH image signal circuit malfunction between side camera LH and around view monitor control unit. Refer to AV-156, "Diagnosis Procedure" .
Front-side and passenger side of birds-eye view is not displayed.	<ul style="list-style-type: none"> Side camera RH malfunction. Side camera RH image signal circuit malfunction. 	<ul style="list-style-type: none"> Side camera RH power supply and ground circuits malfunction. Side camera RH image signal circuit malfunction between side camera RH and around view monitor control unit. Refer to AV-148, "Diagnosis Procedure" .
Selector lever is in a position other than R (reverse) and front, rear, front-side and Birds-Eye views are displayed even as vehicle speed increases.	Vehicle speed signal malfunction.	Vehicle speed signal malfunction between ABS actuator and electric unit (control unit) and around view monitor control unit. Refer to AV-101, "WITHOUT DRIVER ASSISTANCE SYSTEM : Reference Value" .

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

AV

O
P

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

NORMAL OPERATING CONDITION

Description

INFOID:000000010244535

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.	<ul style="list-style-type: none"> • Ignition components
The occurrence of the noise is linked with the operation of the fuel pump.		<ul style="list-style-type: none"> • Fuel pump condenser
Noise only occurs when various electrical components are operating.	A cracking or snapping sound occurs with the operation of various switches.	<ul style="list-style-type: none"> • Relay malfunction, AV control unit malfunction
	The noise occurs when various motors are operating.	<ul style="list-style-type: none"> • Motor case ground • Motor
The noise occurs constantly, not just under certain conditions.		<ul style="list-style-type: none"> • 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.		<ul style="list-style-type: none"> • 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).	<p>Some Bluetooth[®] enabled cellular phones may not be recognized by the in-vehicle phone module.</p> <p>Refer to "RELATED TO HANDS-FREE PHONE (Check Compatibility)" in AV-195, "Symptom Table".</p>
Cannot use hands-free phone.	<p>Customer will not be able to use a hands-free phone under the following conditions:</p> <ul style="list-style-type: none"> • 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. <p>NOTE:</p> <p>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.</p>

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

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 malfunctioning.

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.

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

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

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

Symptom	Cause	Remedy	A
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.	B
	The vehicle is not on the recommended route.	Return to the recommended route or re-search the route.	C
	Voice guide is turned OFF.	Turn voice guide ON.	D
	Route guide is turned OFF.	Turn route guide ON.	E
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.	F

Route Search

Symptom	Cause	Remedy	G
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.	H
	Starting point and the destination are too close.	Set the destination at more distant point.	I
	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.	J
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.	K
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.	L
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).	M
	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.	N
	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.	O
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.	P
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.	Q

NOTE:

Except for the ordinance-designated cities. (Malfunctioning areas may be changed in the updated map disc.)

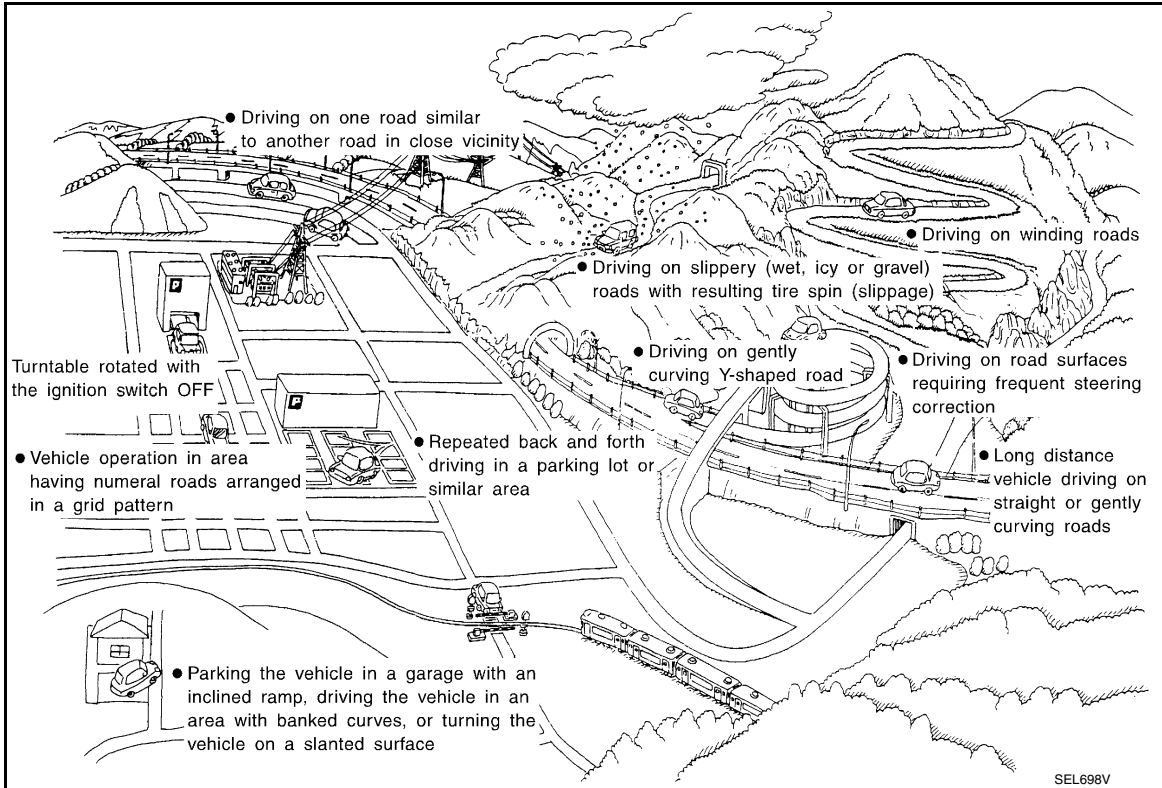
Examples of Current-Location Mark Displacement

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

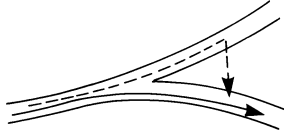
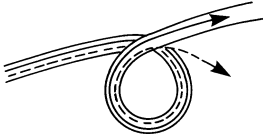
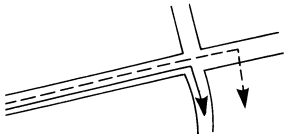
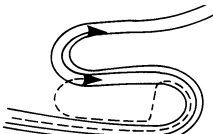
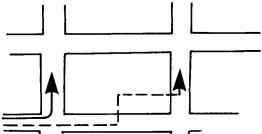
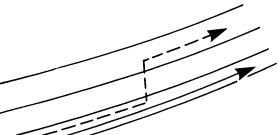
Vehicle's travel amount is calculated by reading its travel distance and turning angle. Therefore, if the vehicle is driven in the following manner, an error will occur in the vehicle's current location display. If correct location has not been restored after driving the vehicle for a while, perform location correction.



NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

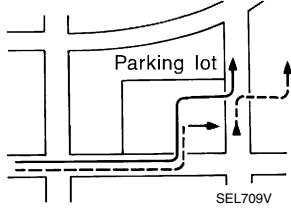
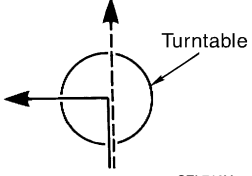
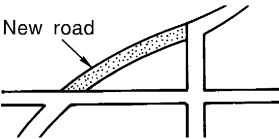
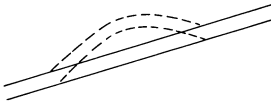
Cause (condition) –: While driving ooo: Display	Driving condition	Remarks (correction, etc.)
Y-intersections  <small>ELK0192D</small>	At a Y intersection or similar gradual division of roads, an error in the direction of travel deduced by the sensor may result in the current-location mark appearing on 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  <small>ELK0193D</small>	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  <small>ELK0194D</small>	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  <small>ELK0195D</small>	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  <small>ELK0196D</small>	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  <small>ELK0197D</small>	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.	

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

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

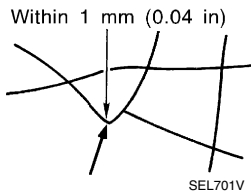
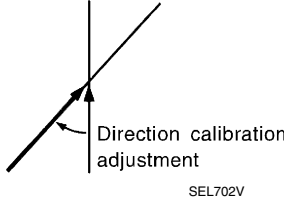
[NAVIGATION WITHOUT BOSE]

	Cause (condition) -: While driving ooo: Display	Driving condition	Remarks (correction, etc.)
Place	In a parking lot  SEL709V	When driving in a parking lot, or other location where there are no roads on the map, matching may place the vehicle mark on a nearby road. When the vehicle returns to the road, the vehicle mark may have deviated from the correct location. When driving in circle or turning the steering wheel repeatedly, direction errors accumulate, and the vehicle mark may deviate from the correct location.	If after travelling about 10 km (6 miles) the correct location has not been restored, perform location correction and, if necessary, direction correction.
	Turntable  SEL710V	When the ignition switch is OFF, the navigation system cannot get the signal from the gyroscope (angular speed sensor). Therefore, the displayed direction may be wrong and the correct road may not be easily returned to after rotating the vehicle on a turntable with the ignition OFF.	
	Slippery roads	On snow, wet roads, gravel, or other roads where tires may slip easily, accumulated mileage errors may cause the vehicle mark to deviate from the correct road.	
	Slopes	When parking in sloped garages, when travelling on banked roads, or in other cases where the vehicle turns when tilted, an error in the turning angle will occur, and the vehicle mark may deviate from the road.	
Map data	Road not displayed on the map screen  SEL699V	When driving on new roads or other roads not displayed on the map screen, map matching does not function correctly and matches the location to a nearby road. When the vehicle returns to a road which is on the map, the vehicle mark may deviate from the correct road.	
	Different road pattern (Changed due to repair)  ELK0201D	If the road pattern stored in the map data and the actual road pattern are different, map matching does not function correctly and matches the location to a nearby road. The vehicle mark may deviate from the correct road.	
Vehicle	Use of tire chains	When tire chains are used, the mileage is not correctly detected, and the vehicle mark may deviate from the correct road.	Drive the vehicle for a while. If the distance still deviates, adjust it by using the distance adjustment function. (If the tire chain is removed, recover the original value.)

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

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 	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 	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

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITHOUT BOSE]

- 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.

AV CONTROL UNIT

< REMOVAL AND INSTALLATION >

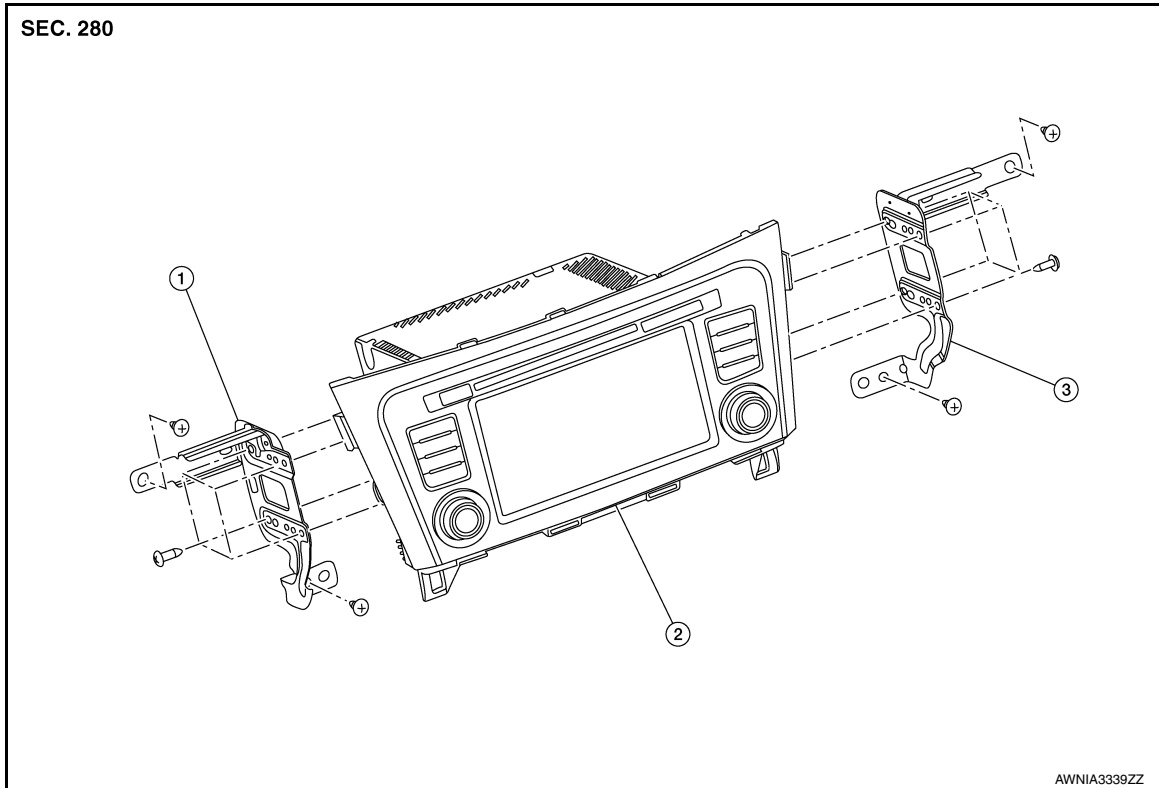
[NAVIGATION WITHOUT BOSE]

REMOVAL AND INSTALLATION

AV CONTROL UNIT

Exploded View

INFOID:000000010197494



1. AV control unit bracket (LH) 2. AV control unit 3. AV control unit bracket (RH)

Removal and Installation

INFOID:000000010197495

REMOVAL

CAUTION:

- Before disconnecting the AV control unit and battery terminals, turn the ignition switch OFF and wait at least 30 seconds.
- Before replacing AV control unit, perform "READ CONFIGURATION" to save current vehicle specification. Refer to [AV-134, "CONFIGURATION \(AV CONTROL UNIT\) : Configuration List"](#).

NOTE:

After the ignition switch is turned OFF, the AV control unit continues operating for approximately 30 seconds. Therefore, data corruption may occur if battery voltage is cut off within 30 seconds.

1. Disconnect the negative battery terminal. Refer to [PG-75, "Removal and Installation \(Battery\)"](#).
2. Remove A/C switch (AUTOMATIC AIR CONDITIONING) or front air control (MANUAL AIR CONDITIONING). Refer to [HAC-102, "Removal and Installation"](#) (AUTOMATIC AIR CONDITIONING) or [HAC-181, "Removal and Installation"](#) (MANUAL AIR CONDITIONING).
3. Remove instrument finisher B. Refer to [IP-16, "INSTRUMENT FINISHER B : Removal and Installation"](#).
4. Remove instrument finisher E. Refer to [IP-16, "INSTRUMENT FINISHER E : Removal and Installation"](#).
5. Remove the AV control unit screws, then pull out the AV control unit.
6. Disconnect the harness connectors from the AV control unit and remove.
7. Remove the AV control unit bracket (LH/RH) screws and the AV control unit brackets (LH/RH) (if necessary).

INSTALLATION

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

AV

AV CONTROL UNIT

< REMOVAL AND INSTALLATION >

[NAVIGATION WITHOUT BOSE]

Installation is in the reverse order of removal.

CAUTION:

When replacing AV control unit, perform "WRITE CONFIGURATION". Refer to [AV-134, "CONFIGURATION \(AV CONTROL UNIT\) : Configuration List"](#).

STEERING SWITCH

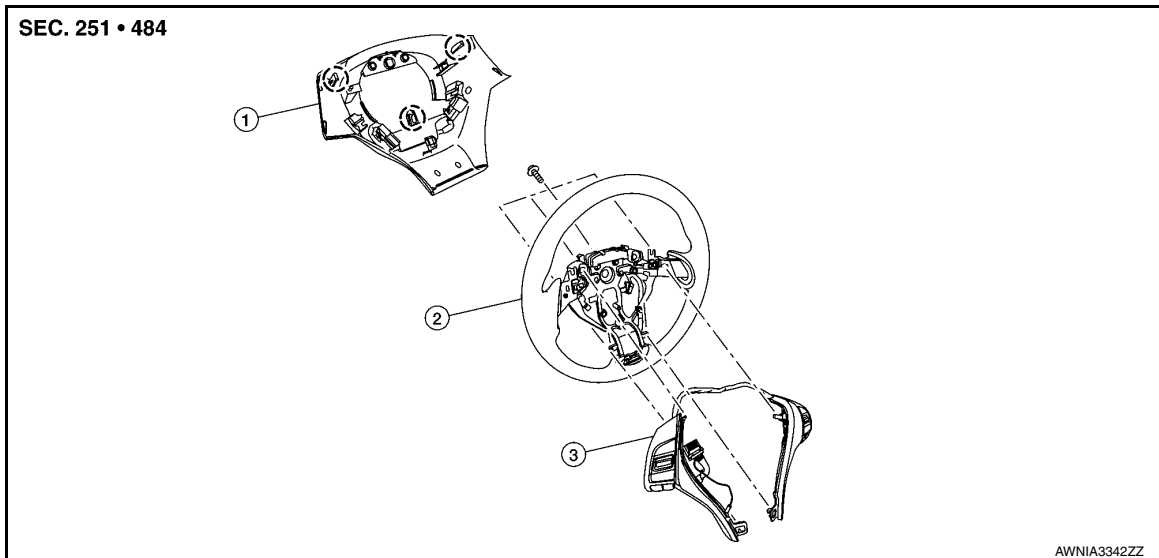
< REMOVAL AND INSTALLATION >

[NAVIGATION WITHOUT BOSE]

STEERING SWITCH

Exploded View

INFOID:000000010197497



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

Removal and Installation

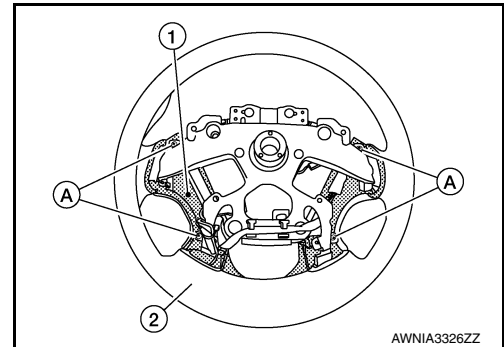
INFOID:000000010197498

REMOVAL

NOTE:

The steering switches are serviced as an assembly.

1. Remove steering wheel. Refer to [ST-11, "Removal and Installation"](#).
2. Release pawls on the steering wheel rear finisher and remove.
3. Remove screws (A) and steering switches (1) from steering wheel (2).



INSTALLATION

Installation is in the reverse order of removal.

FRONT TWEETER

Removal and Installation

INFOID:000000010258510

REMOVAL

1. Remove defroster grille. Refer to [VTL-12. "DEFROSTER GRILLE : Removal and Installation"](#).
2. Remove bolts and pull out the front tweeter.
3. Disconnect the harness connector from the front tweeter and remove.

INSTALLATION

Installation is in the reverse order of removal.

FRONT DOOR SPEAKER

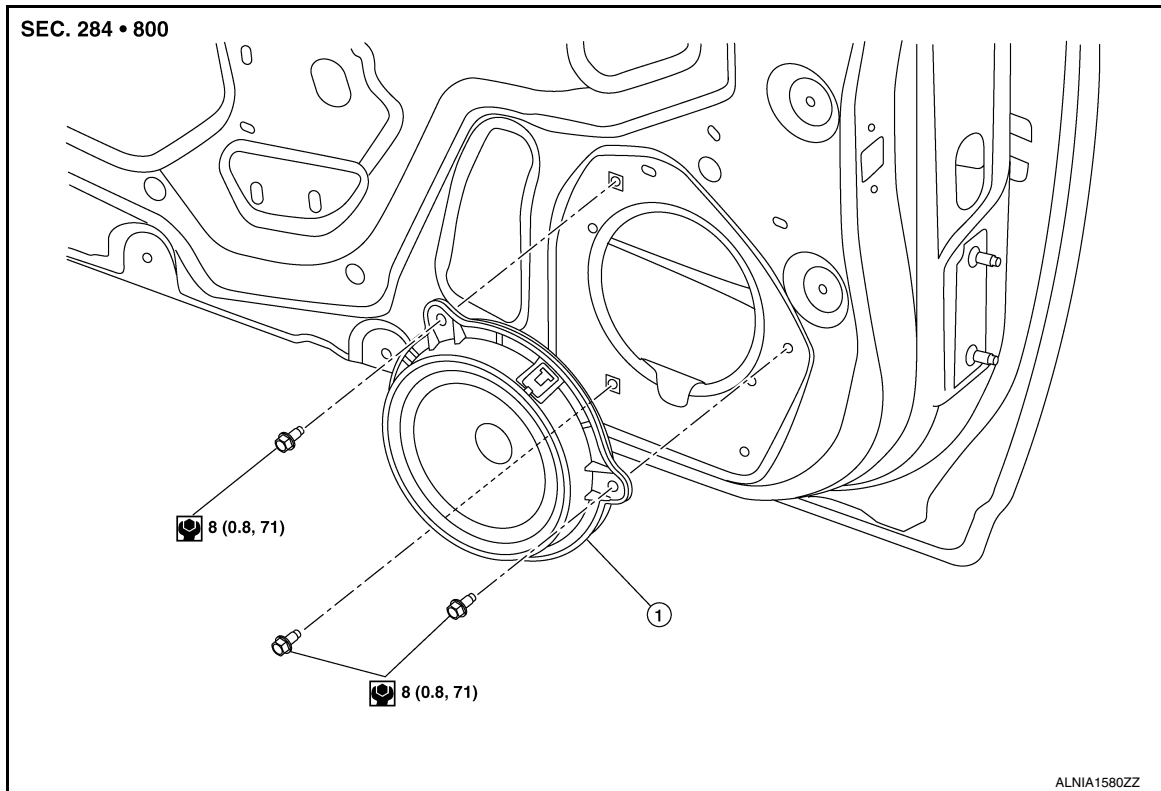
< REMOVAL AND INSTALLATION >

[NAVIGATION WITHOUT BOSE]

FRONT DOOR SPEAKER

Exploded View

INFOID:000000010197503



1. Front door speaker

Removal and Installation

INFOID:000000010197504

REMOVAL

1. Remove front door finisher. Refer to [INT-15. "Removal and Installation"](#).
2. Remove front door speaker bolts, then pull out front door speaker.
3. Disconnect the harness connector from front door speaker and remove.

INSTALLATION

Installation is in the reverse order of removal.

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

AV

REAR DOOR SPEAKER

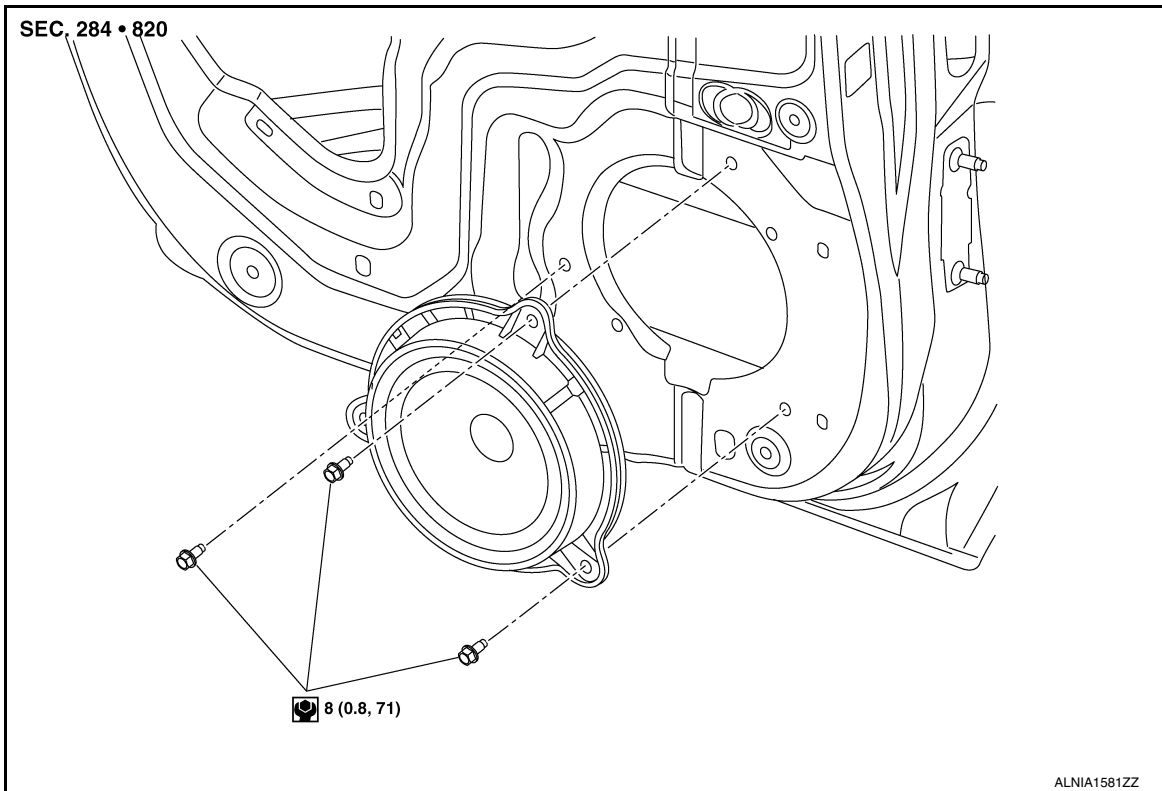
< REMOVAL AND INSTALLATION >

[NAVIGATION WITHOUT BOSE]

REAR DOOR SPEAKER

Exploded View

INFOID:000000010197506



1. Rear door speaker

Removal and Installation

INFOID:000000010197507

REMOVAL

1. Remove rear door finisher. Refer to [INT-18. "Removal and Installation"](#).
2. Remove rear door speaker bolts, then pull out rear door speaker.
3. Disconnect the harness connector from the rear door speaker and remove.

INSTALLATION

Installation is in the reverse order of removal.

USB INTERFACE AND AUX IN JACK

< REMOVAL AND INSTALLATION >

[NAVIGATION WITHOUT BOSE]

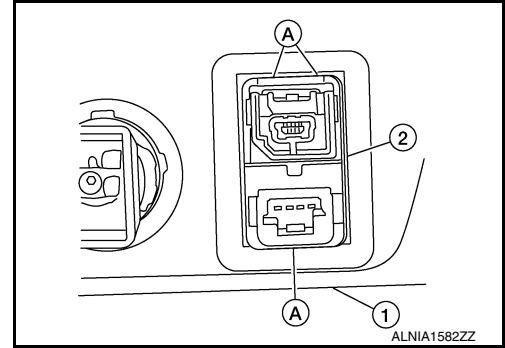
USB INTERFACE AND AUX IN JACK

Removal and Installation

INFOID:000000010199269

REMOVAL

1. Remove cluster lid C. Refer to [IP-21. "Removal and Installation"](#).
2. Release the pawls (A) on the back of USB interface and AUX in jack (2), then remove from the front of cluster lid C (1).



INSTALLATION

Installation is in the reverse order of removal.

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

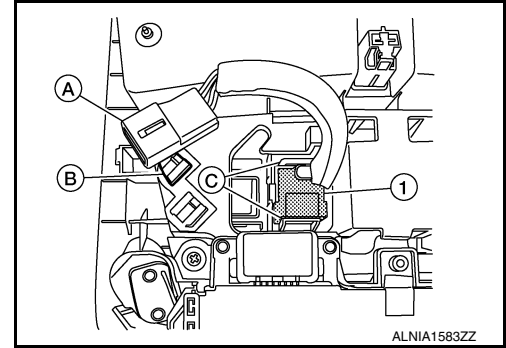
MICROPHONE

Removal and Installation

INFOID:000000010197511

REMOVAL

1. Remove the map lamp assembly. Refer to [INL-55. "Removal and Installation"](#).
2. Release harness connector (A) by sliding rearward to remove from the pawl (B).
3. Release pawls (C) and remove the microphone (1) from the front room/map lamp assembly.



INSTALLATION

Installation is in the reverse order of removal.

AROUND VIEW MONITOR CONTROL UNIT

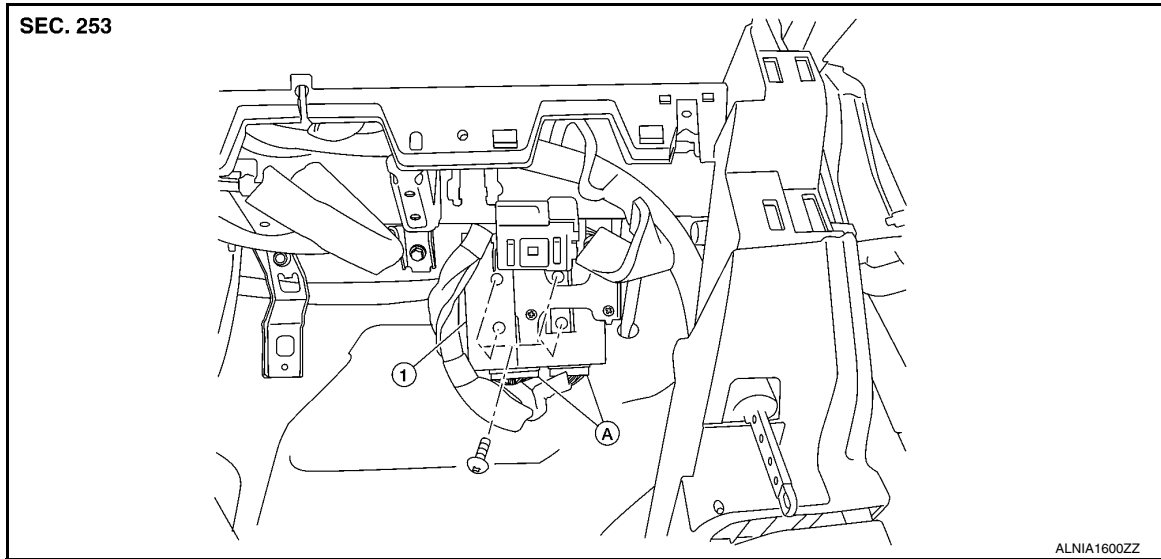
< REMOVAL AND INSTALLATION >

[NAVIGATION WITHOUT BOSE]

AROUND VIEW MONITOR CONTROL UNIT

Exploded View

INFOID:000000010198116



1. Around view monitor control unit A. Harness connector

Removal and Installation

INFOID:000000010198117

REMOVAL

CAUTION:

Before replacing around view monitor control unit, save or print current vehicle specification with CONSULT configuration before replacement. Refer to [AV-132, "ADDITIONAL SERVICE WHEN REPLACING AROUND VIEW MONITOR CONTROL UNIT : Work Procedure"](#).

1. Remove glove box assembly. Refer to [IP-23, "Removal and Installation"](#).
2. Remove around view monitor control unit screws.
3. Disconnect the harness connector from the around view monitor control unit and remove.

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

- Replace the around view monitor control unit if it has been dropped or sustained an impact.
- When replacing around view monitor control unit, you must perform "After Replace ECU" with CONSULT. Refer to [AV-132, "ADDITIONAL SERVICE WHEN REPLACING AROUND VIEW MONITOR CONTROL UNIT : Work Procedure"](#).

NOTE:

Perform camera image calibration. Refer to [AV-136, "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Work Procedure"](#).

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

FRONT CAMERA

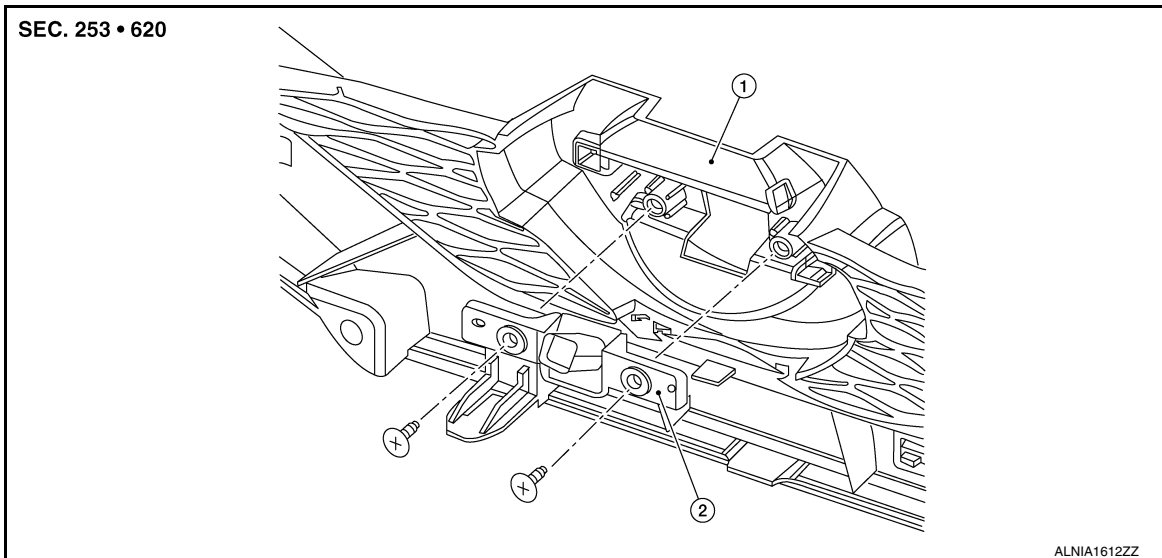
< REMOVAL AND INSTALLATION >

[NAVIGATION WITHOUT BOSE]

FRONT CAMERA

Exploded View

INFOID:000000010250299



1. Front grille

2. Front camera

Removal and Installation

INFOID:000000010198118

REMOVAL

1. Remove the front grille. Refer to [EXT-23, "Removal and Installation"](#).
2. Remove screws and front camera.

INSTALLATION

Installation is in the reverse order of removal.

NOTE:

Perform camera image calibration. Refer to [AV-136, "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Work Procedure"](#).

SIDE CAMERA

< REMOVAL AND INSTALLATION >

[NAVIGATION WITHOUT BOSE]

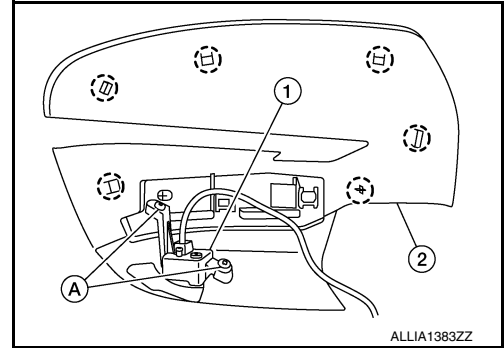
SIDE CAMERA

Removal and Installation

INFOID:0000000010198119

REMOVAL

1. Remove door mirror rear finisher (2). Refer to [MIR-25. "Removal and Installation"](#).
2. Remove screws (A) and side camera (1).
○: Pawl



INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

Perform camera image calibration (if equipped with around view camera). Refer to [AV-135. "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Description"](#).

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

AV

REAR VIEW CAMERA

< REMOVAL AND INSTALLATION >

[NAVIGATION WITHOUT BOSE]

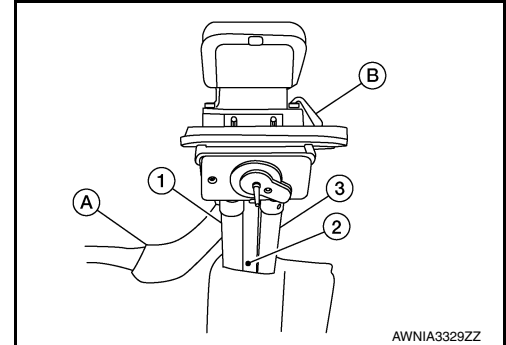
REAR VIEW CAMERA

Removal and Installation

INFOID:000000010199271

REMOVAL

1. Remove the back door outer finisher. Refer to [EXT-50. "Removal and Installation"](#).
2. Disconnect washer tubes (1,3) and air tube (2) (if equipped).
3. Release pawl (B), disconnect harness connector (A) from rear view camera and remove.



INSTALLATION

Installation is in the reverse order of removal.

GPS ANTENNA

Removal and Installation

INFOID:000000010272097

REMOVAL

1. Remove instrument panel. Refer to [IP-14, "INSTRUMENT PANEL ASSEMBLY : Removal and Installation"](#).
2. Remove screw and the GPS antenna.

INSTALLATION

Installation is in the reverse order of removal.

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

AV

AUDIO ANTENNA

Removal and Installation

INFOID:000000010199279

REMOVAL

1. Remove the luggage side upper finisher (RH). Refer to [INT-36. "LUGGAGE SIDE UPPER FINISHER : Removal and Installation"](#).
2. Partially lower headlining (rear). Refer to [INT-30. "Removal and Installation"](#).
3. Disconnect harness connectors from antenna feeder.
4. Remove nut from audio antenna and remove.

INSTALLATION

Installation is in the reverse order of removal.

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

CAUTION:

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

ANTENNA FEEDER

< REMOVAL AND INSTALLATION >

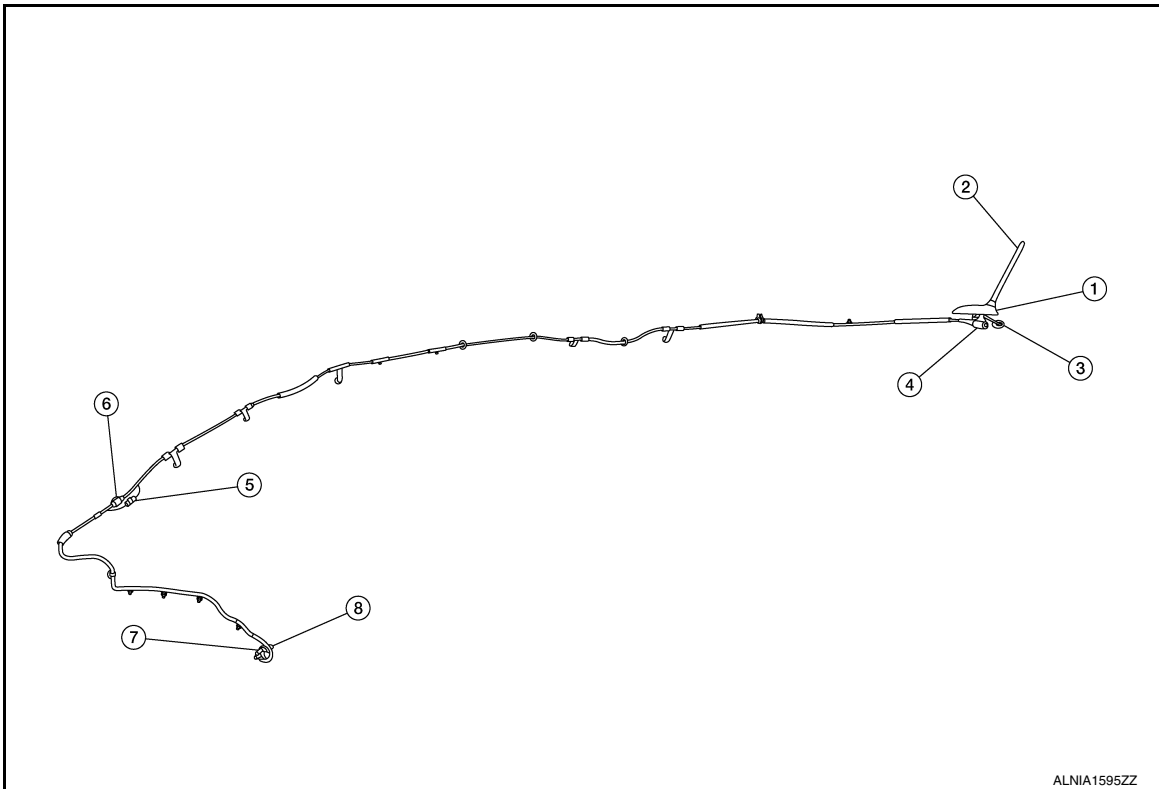
[NAVIGATION WITHOUT BOSE]

ANTENNA FEEDER

Feeder Layout

INFOID:000000010270717

ANTENNA FEEDER LAYOUT



- | | | |
|--|----------------|---------------|
| 1. Antenna base (antenna amp. and satellite antenna) | 2. Rod Antenna | 3. M503 |
| 4. M502 | 5. M130, M501 | 6. M129, M500 |
| 7. M142 | 8. M139 | |

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

PRECAUTION

PRECAUTIONS

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

INFOID:000000010197342

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 three minutes before performing any service.

Cautions in Removing Battery Terminal and AV Control Unit (Models with AV Control Unit)

INFOID:000000010275689

CAUTION:

Remove battery terminal and AV control unit 30 seconds or more after turning the ignition switch OFF.

NOTE:

After the ignition switch is turned OFF, the AV control unit continues operating for approximately 30 seconds. Therefore, data corruption may occur if battery voltage is cut off within 30 seconds.

Precaution for Trouble Diagnosis

INFOID:000000010275690

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:000000010197355

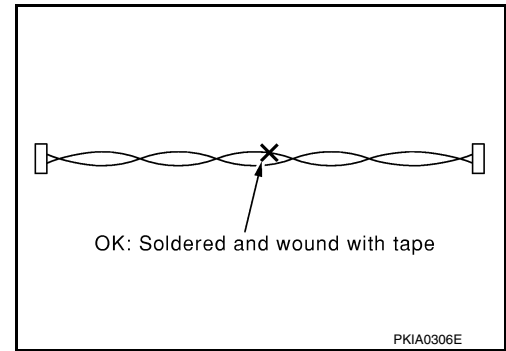
AV COMMUNICATION SYSTEM

PRECAUTIONS

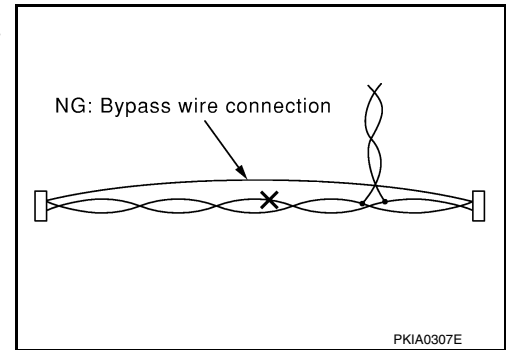
[NAVIGATION WITH BOSE]

< PRECAUTION >

- 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:000000010197356

- 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 >

[NAVIGATION WITH BOSE]

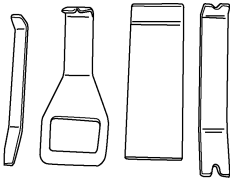
PREPARATION

PREPARATION

Special Service Tool

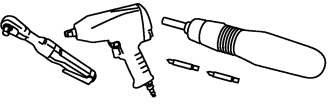
INFOID:000000010197483

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

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

Commercial Service Tools

INFOID:000000010197482

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

COMPONENT PARTS

< SYSTEM DESCRIPTION >

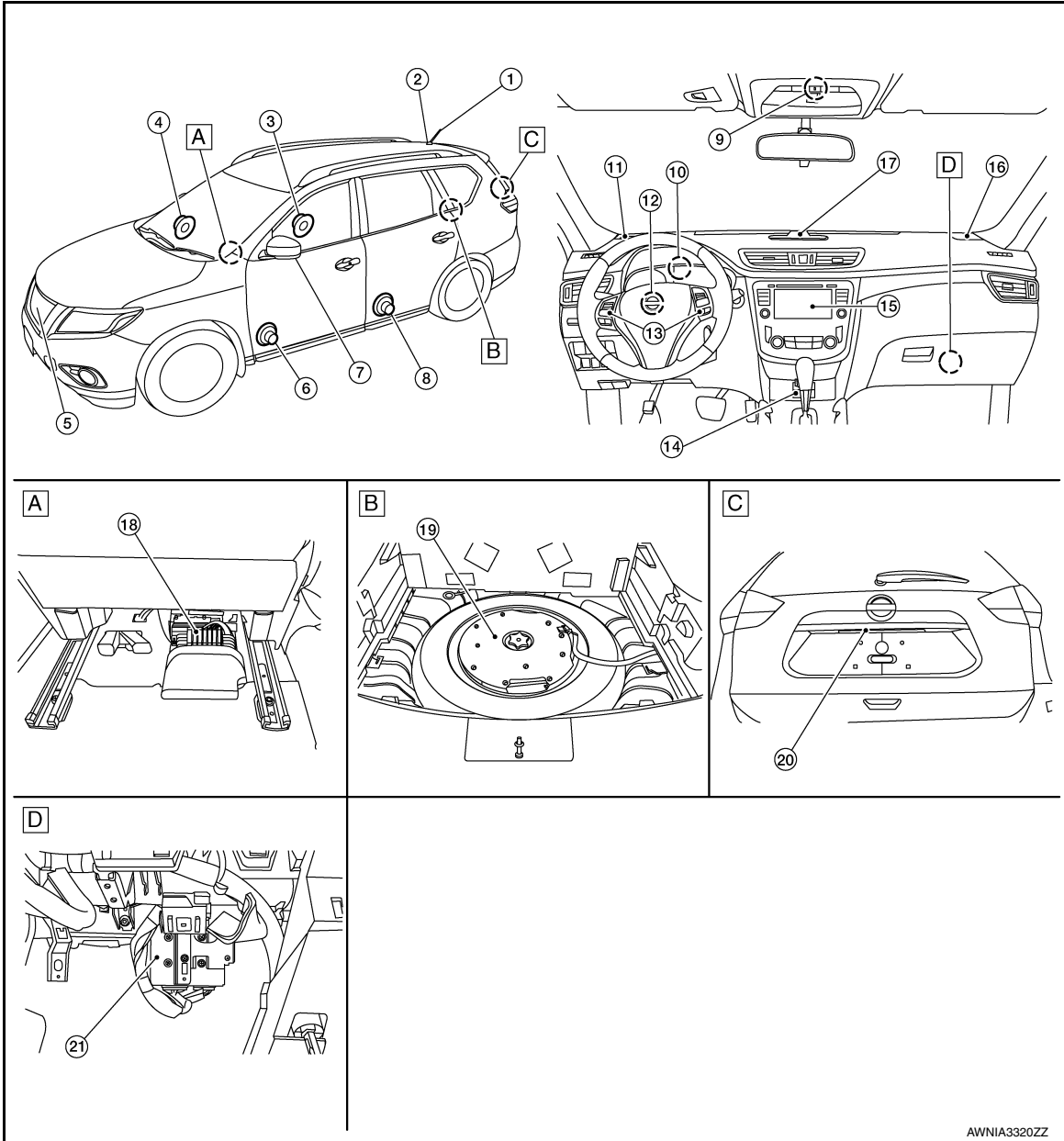
[NAVIGATION WITH BOSE]

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:000000010244390



- A. View under rear of front passenger seat B. View with spare tire cover removed C. Center of back door
 D. View with glove box removed

No.	Component	Function
1.	Rod antenna	Refer to AV-232, "Rod Antenna, Antenna Amp., Satellite Antenna and Antenna Feeder" .
2.	Antenna base (antenna amp. and satellite antenna)	
3.	Rear door speaker RH	Refer to AV-229, "Speakers" .
4.	Front door speaker RH	

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

AV

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[NAVIGATION WITH BOSE]

No.	Component	Function
5.	Front camera	Refer to AV-231, "Front Camera" .
6.	Front door speaker LH	Refer to AV-229, "Speakers" .
7.	Side camera	Refer to AV-231, "Side Cameras" .
8.	Rear door speaker LH	Refer to AV-229, "Speakers" .
9.	Microphone	Refer to AV-230, "Microphone" .
10.	GPS antenna	Refer to AV-233, "GPS Antenna" .
11.	Front tweeter LH	Refer to AV-229, "Speakers" .
12.	Steering angle sensor	Refer to AV-232, "Steering Angle Sensor" .
13.	Steering switches	Refer to AV-230, "Steering Switches" .
14.	USB interface and AUX in jack	Refer to AV-230, "USB Interface and AUX In Jack" .
15.	AV control unit	Refer to AV-228, "AV Control Unit" .
16.	Front tweeter RH	Refer to AV-229, "Speakers" .
17.	Center speaker	Refer to AV-229, "Speakers" .
18.	BOSE speaker amp.	Refer to AV-228, "BOSE Speaker Amp." .
19.	Subwoofer	Refer to AV-229, "Speakers" .
20.	Rear view camera	Refer to AV-231, "Rear View Camera" .
21.	Around View ^{®*} Monitor control unit	Refer to AV-231, "Around View Monitor Control Unit" .

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

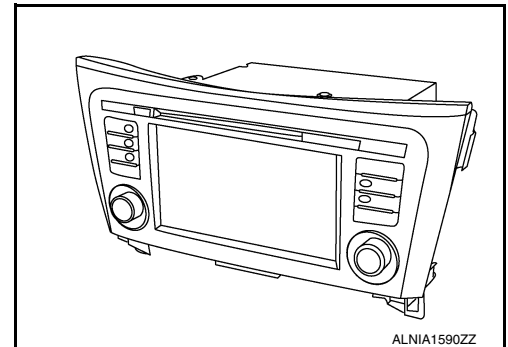
AV Control Unit

INFOID:0000000010244391

Description

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

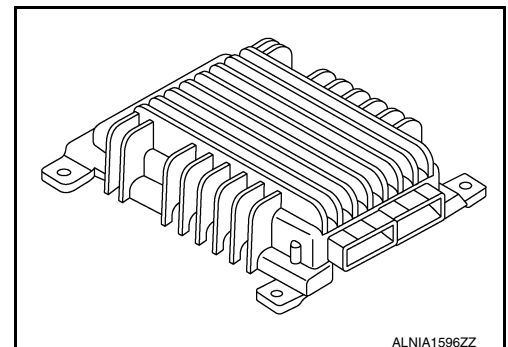
*: iPod[®] is a registered trademark of Apple, Inc. All rights reserved.



BOSE Speaker Amp.

INFOID:0000000010249285

- Installed under the rear of the front passenger seat.
- Receives sound signal from AV control unit, and outputs sound signal to each tweeter, speaker and the subwoofer.



COMPONENT PARTS

< SYSTEM DESCRIPTION >

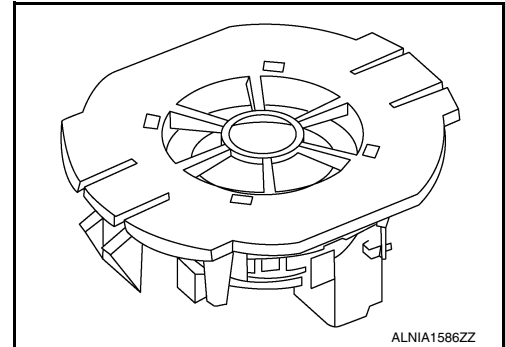
[NAVIGATION WITH BOSE]

Speakers

INFOID:000000010244392

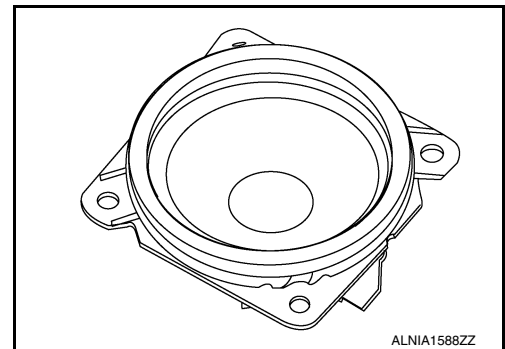
FRONT TWEETER

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



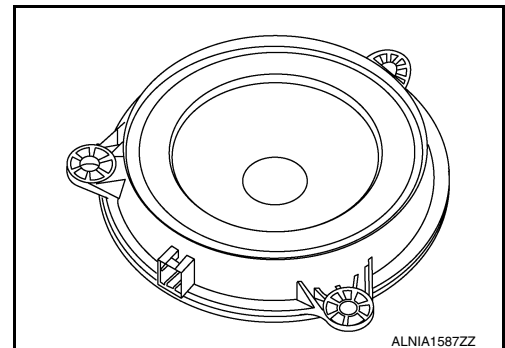
CENTER SPEAKER

- 7.6 cm (3 in) speaker is installed in the top center of the instrument panel.
- Sound signals are input from the Bose speaker amp. to output mid range sounds.



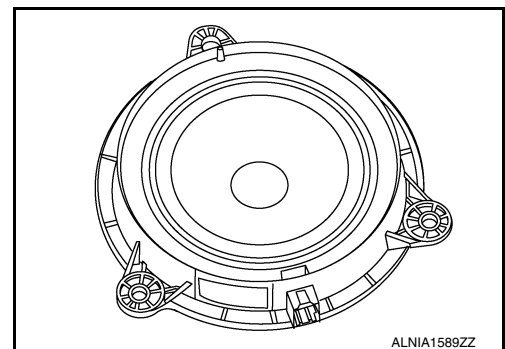
FRONT DOOR SPEAKER

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



REAR DOOR SPEAKER

- 12.7 cm (5 in) speakers are installed in the bottom of the rear doors.
- Sound signals are input from the Bose speaker amp. to output high, mid and low range sounds.



SUBWOOFER

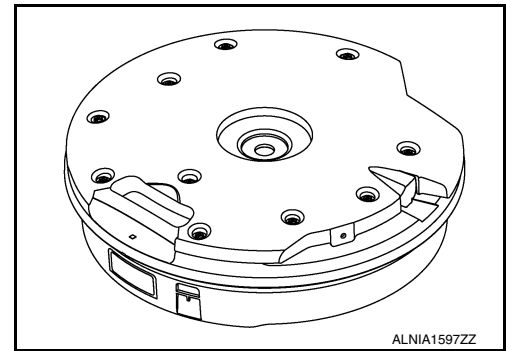
A
B
C
D
E
F
G
H
I
J
K
L
M
AV
O
P

COMPONENT PARTS

< SYSTEM DESCRIPTION >

- Installed on top of the spare tire underneath the spare tire cover.
- Sound signals are input from the Bose speaker amp. to output low range sounds.

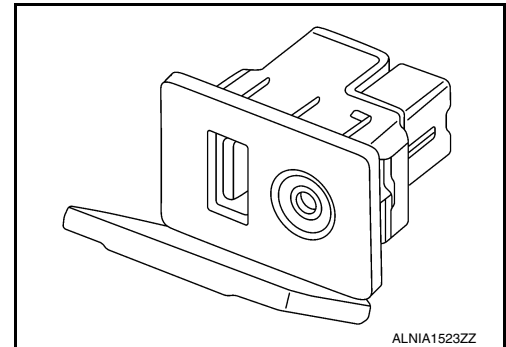
[NAVIGATION WITH BOSE]



INFOID:000000010244393

USB Interface and AUX In Jack

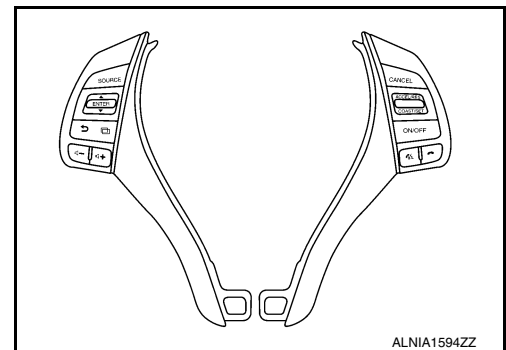
- USB Interface and AUX in jack is installed in the console.
- iPod® and USB memory can be connected to the AV control unit through the USB interface.
- An external audio device can be connected to the AV control unit through the AUX in jack.



INFOID:000000010244394

Steering Switches

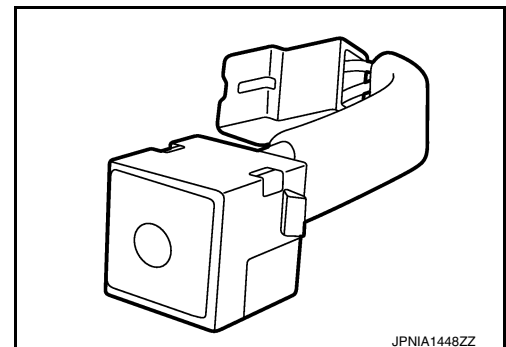
- Steering switches are installed in the steering wheel.
- Operations for audio and hands-free phone are possible.
- Switches are connected to the combination meter.
- Combination meter is connected to the AV control unit via AV communication.



INFOID:000000010244395

Microphone

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



COMPONENT PARTS

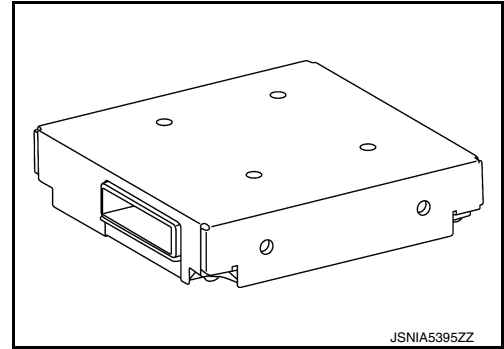
< SYSTEM DESCRIPTION >

[NAVIGATION WITH BOSE]

Around View Monitor Control Unit

INFOID:000000010244396

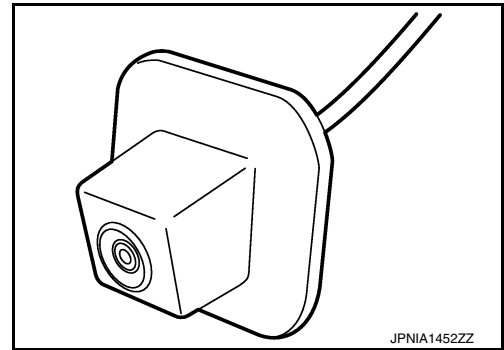
- The around view monitor control unit is installed behind the glove box.
- Vehicle width guide lines, predicted course line, vehicle front guiding line and vehicle side line, and vehicle icon are displayed and combined with camera images.



Rear View Camera

INFOID:000000010244397

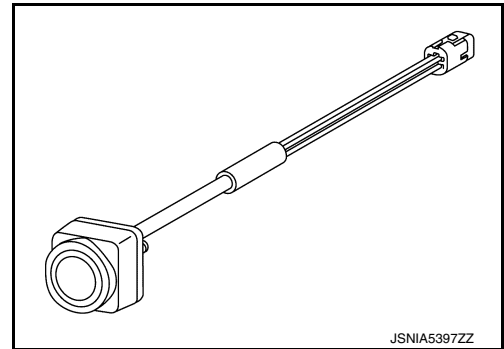
- The rear view camera is installed in the back door finisher.
- Power is supplied from the around view monitor control unit.



Side Cameras

INFOID:000000010244398

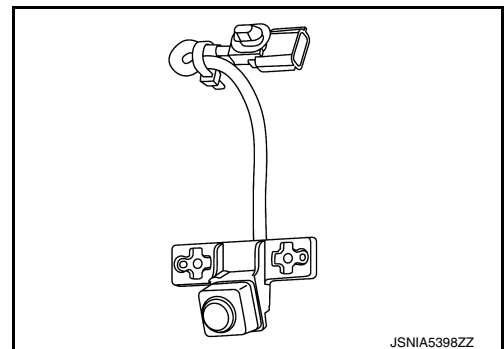
- The side cameras are installed in the door mirrors.
- Power is supplied from the around view monitor control unit.



Front Camera

INFOID:000000010244399

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



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

AV

O
P

COMPONENT PARTS

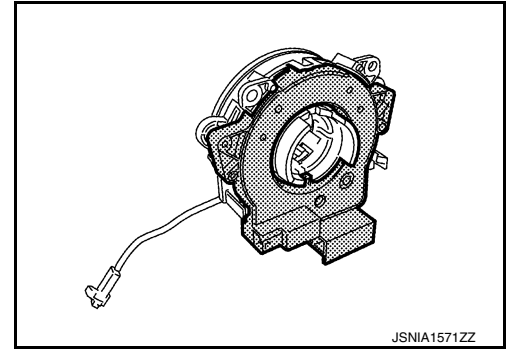
< SYSTEM DESCRIPTION >

[NAVIGATION WITH BOSE]

Steering Angle Sensor

INFOID:000000010244400

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

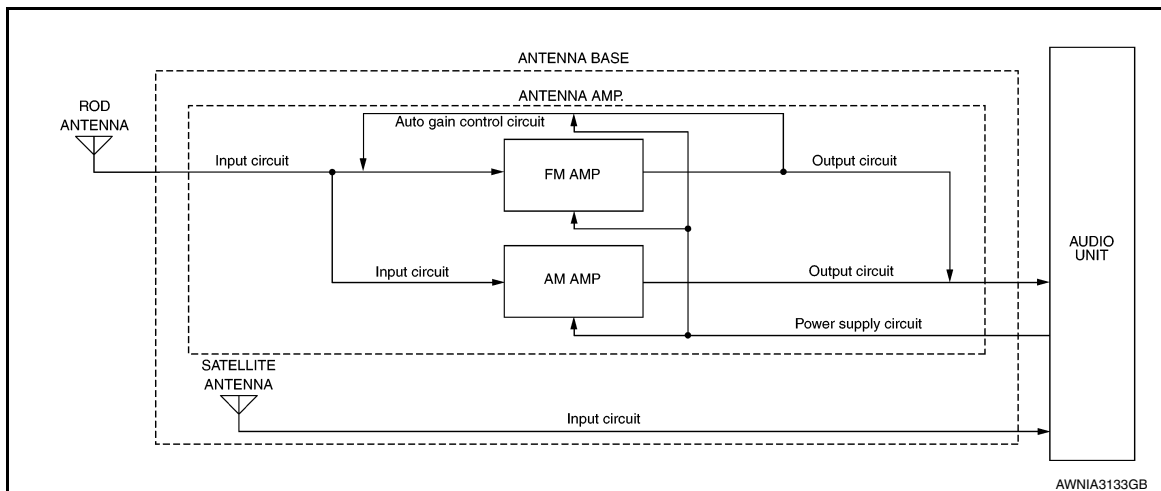


Rod Antenna, Antenna Amp., Satellite Antenna and Antenna Feeder

INFOID:000000010244401

RADIO ANTENNA AND SATELLITE ANTENNA

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

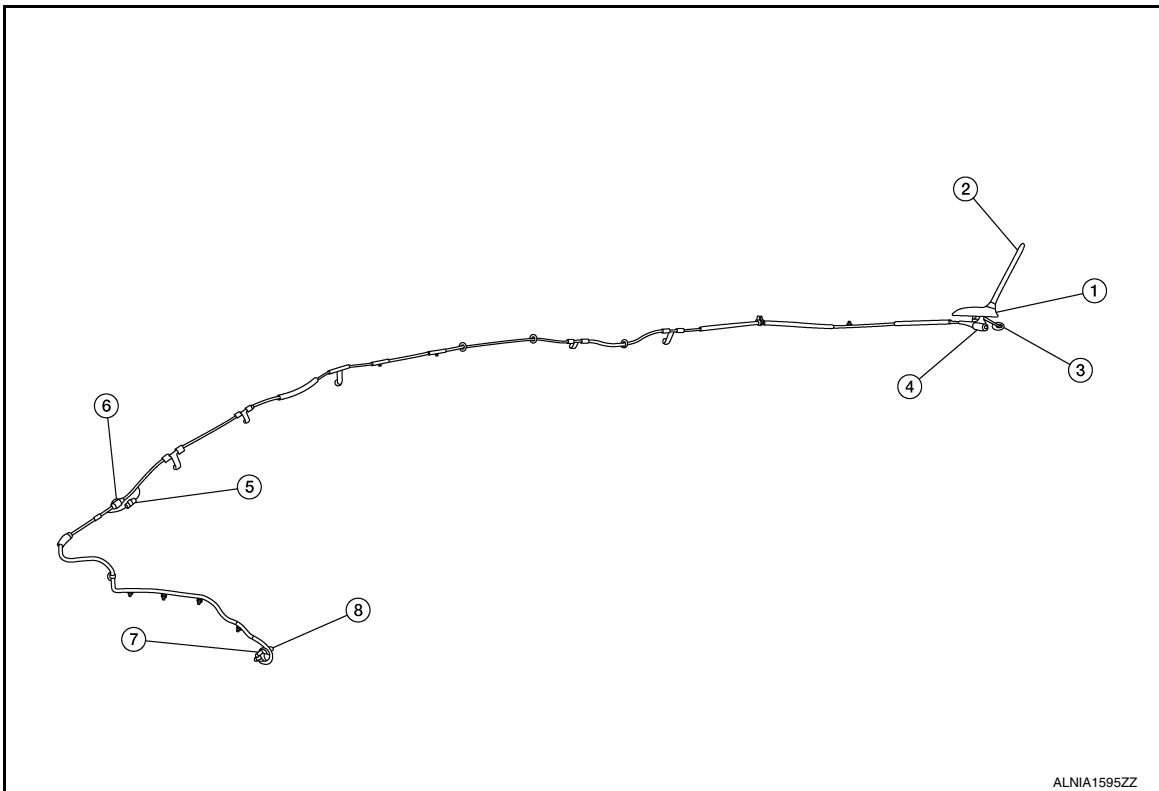


ANTENNA FEEDER LAYOUT

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[NAVIGATION WITH BOSE]

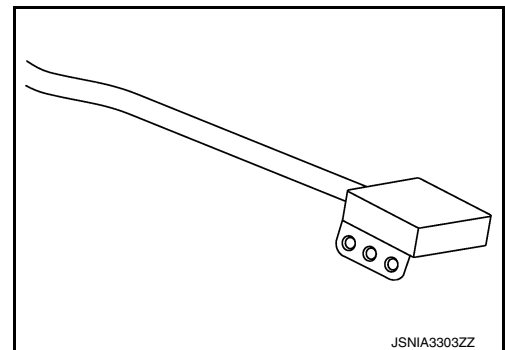


- | | | |
|--|----------------|---------------|
| 1. Antenna base (antenna amp. and satellite antenna) | 2. Rod Antenna | 3. M503 |
| 4. M502 | 5. M130, M501 | 6. M129, M500 |
| 7. M142 | 8. M139 | |

GPS Antenna

INFOID:0000000010244402

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



INFOID:0000000010244403

SD Card

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

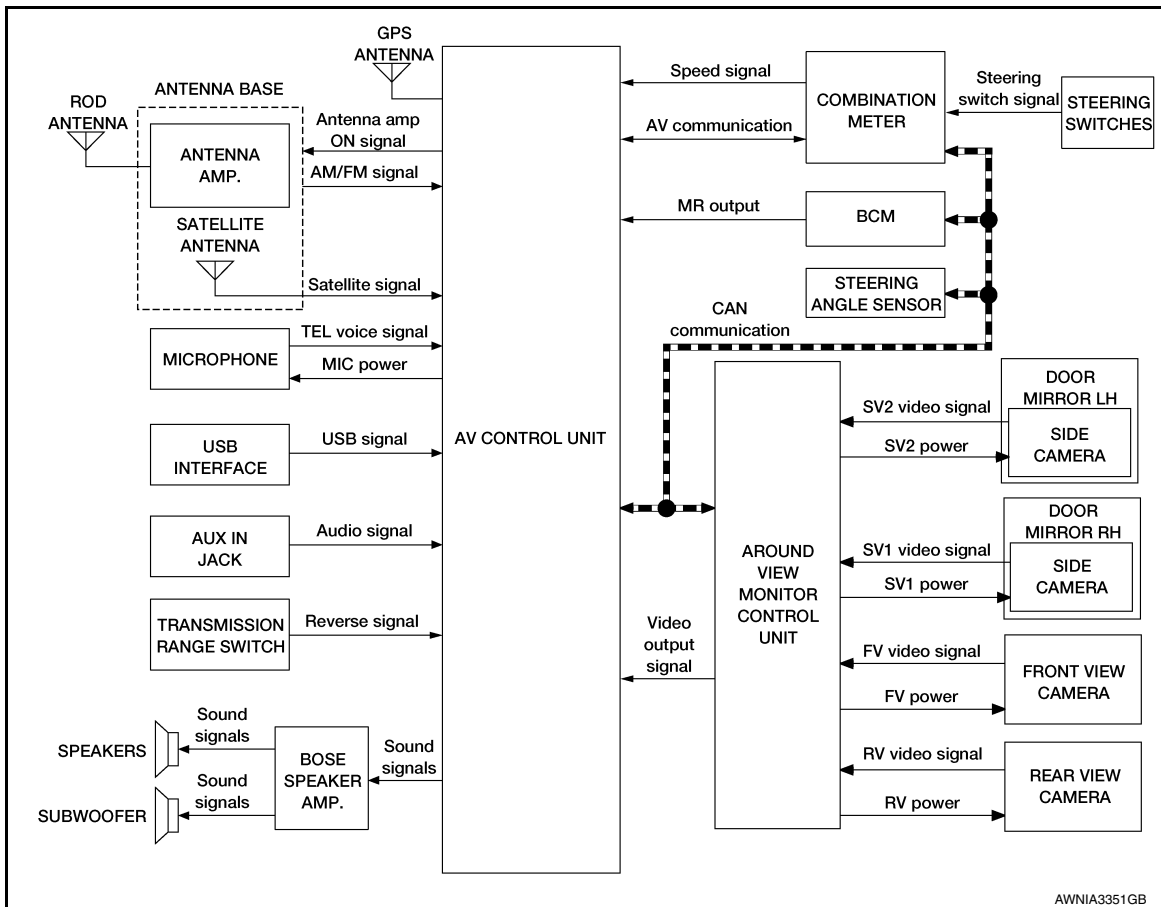
A
B
C
D
E
F
G
H
I
J
K
L
M
AV
O
P

SYSTEM

System Description

INFOID:000000010244404

SYSTEM DIAGRAM



AUDIO SYSTEM

The audio system consists of the following component:

- AV control unit
- Bose speaker amp.
- Front tweeters
- Center speaker
- Front door speakers
- Rear door speakers
- Subwoofer
- USB interface
- AUX in jack
- Antenna base (rod antenna, antenna amp. and satellite antenna)

When the audio system is on, AM/FM signals received by the rod antenna are amplified by the antenna amp. and sent to the AV control unit. The AV control unit sends the audio signals to the Bose speaker amp. The Bose speaker amp. then sends the audio signals to the tweeters, speakers and subwoofer.

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

NAVIGATION SYSTEM

Description

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

< SYSTEM DESCRIPTION >

POSITION DETECTION PRINCIPLE

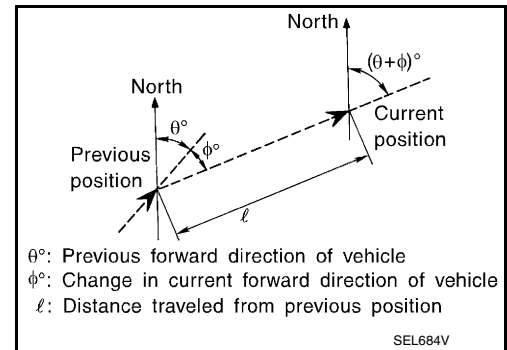
The navigation system periodically calculates the vehicle's current position according to the following three signals:

- 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.

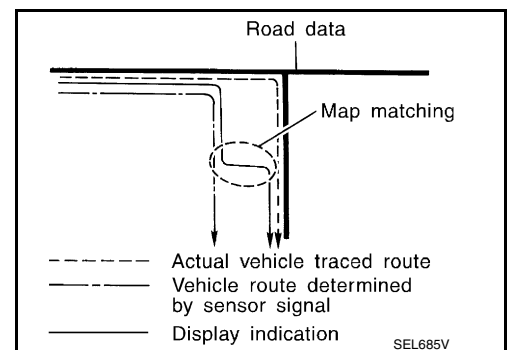
More accurate traveling direction is detected because priorities are set for the signals from these two devices according to the situation.

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.

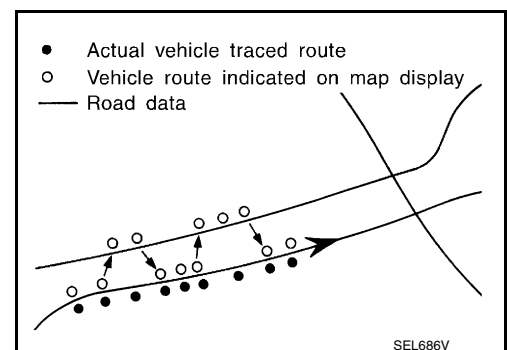


The vehicle position may not be corrected under the following circumstances and after driving for a certain time when GPS information is difficult to receive. In this case, the vehicle mark on the display must be corrected manually.

- 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.



SYSTEM

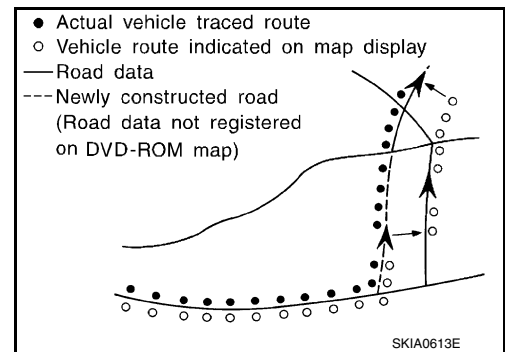
< SYSTEM DESCRIPTION >

[NAVIGATION WITH BOSE]

- 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.

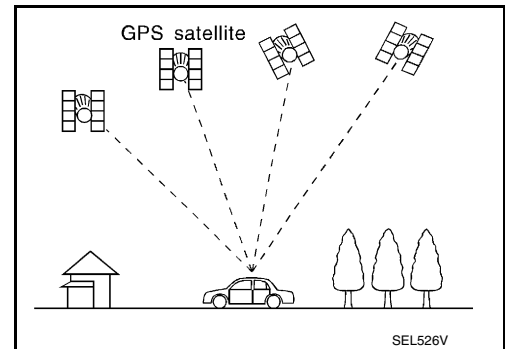
- Effective range for comparing the vehicle position and travel direction calculated by the distance and direction with the road data read from the map SD-card is limited. Therefore, correction by map-matching is not possible when there is an excessive gap between current vehicle position and the position 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.

USB INTERFACE

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

AUX IN JACK

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

SPEED SENSITIVE VOLUME SYSTEM

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

HANDS-FREE PHONE SYSTEM

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

< SYSTEM DESCRIPTION >

When A Call Is Originated

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

When Receiving A Call

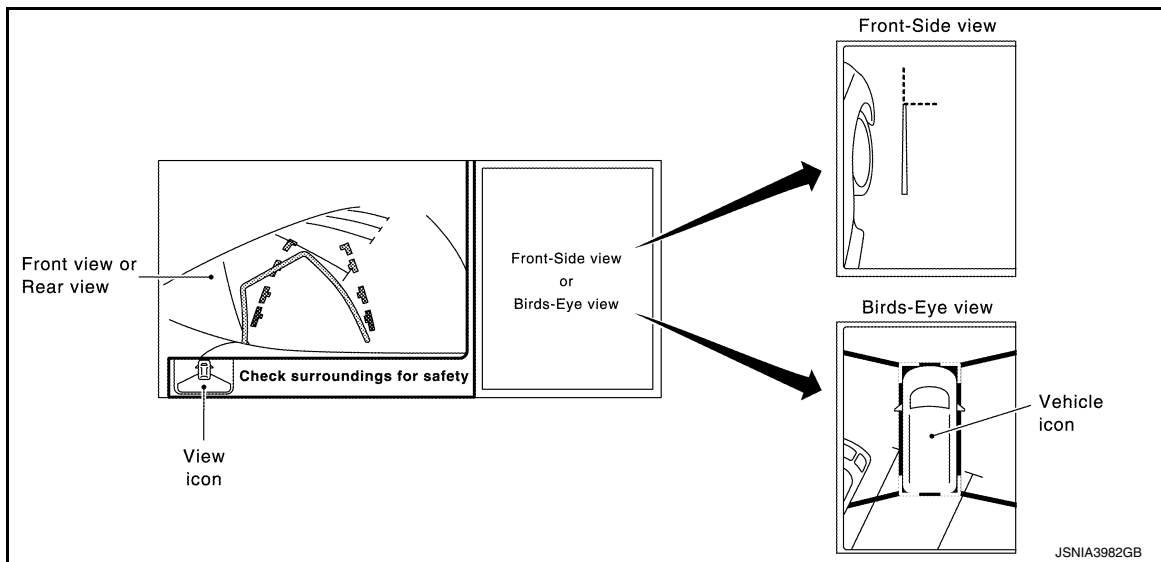
- Voice sound is input to own cellular phone from the other party.
- TEL voice signal is input to AV control unit by establishing Bluetooth® communication from cellular phone, and the signal is output to front speakers.

AROUND VIEW MONITOR FUNCTION

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

Display

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



Operation

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

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

AV

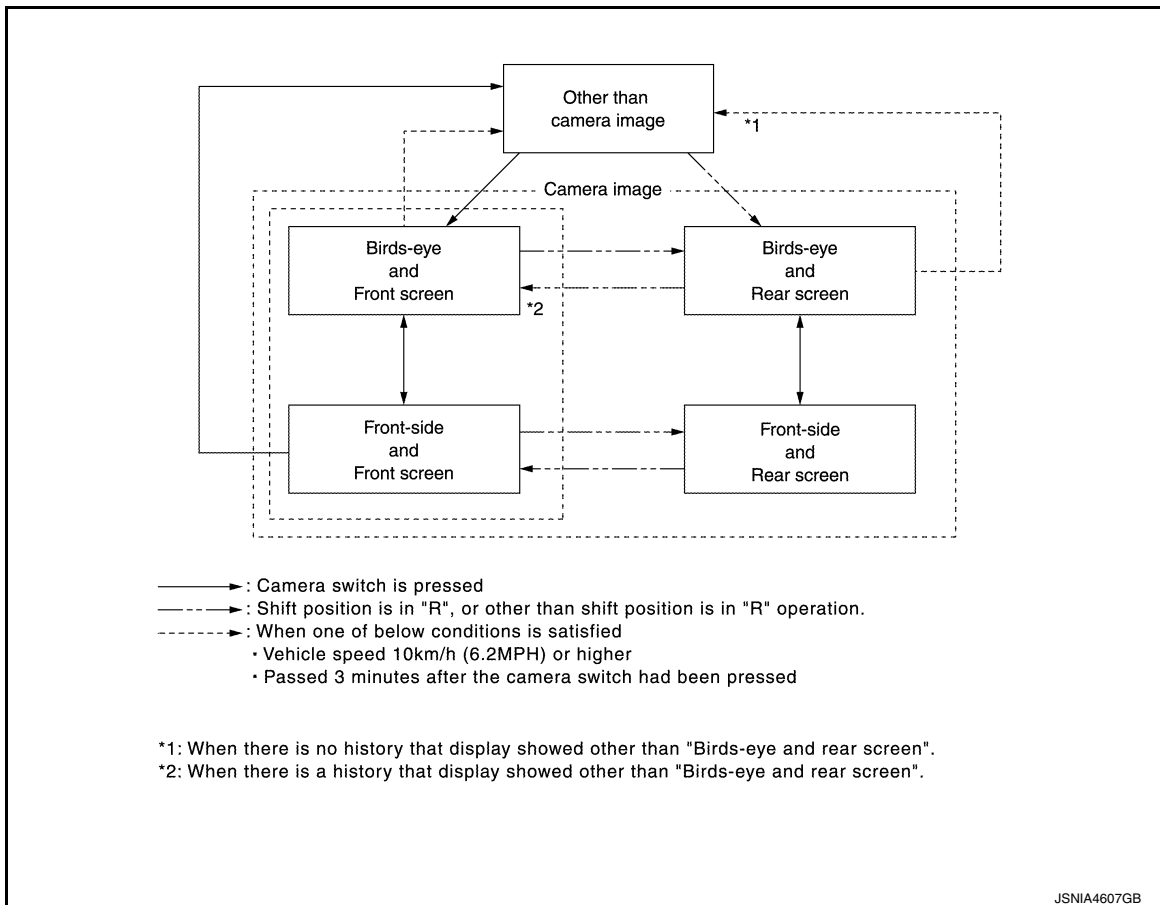
O
P

- If camera image calibration is incomplete, the applicable camera position is indicated as an error on the birds-eye view display.

NOTE:

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

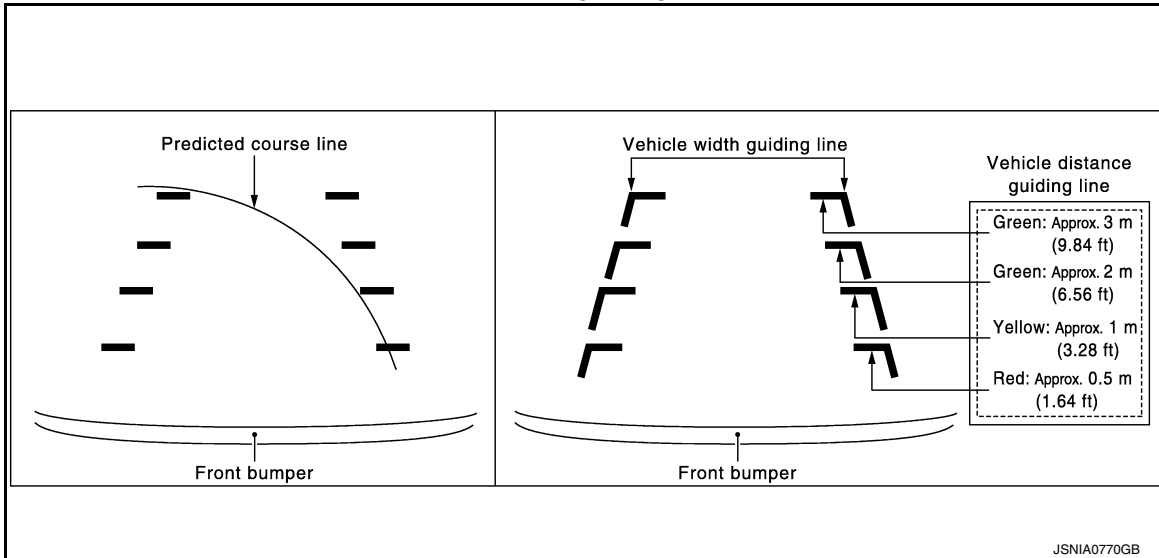
Around view monitor screen transition



Front View

- The front view image improves the visibility of obstacles in front of the vehicle and assists driving by displaying images from birds-eye view and front-side view.
- The front view image displays the vehicle width guiding line and vehicle distance guiding line, in addition to the predictive course line according to the steering angle.
- If the steering angle is within approximately 90 degrees, the predictive course lines on the left/right side are displayed. If the steering angle exceeds approximately 90 degrees, only the predictive course line on the outside is displayed (opposite side of steering direction).
- The around view monitor control unit receives the steering angle signal from steering angle sensor via CAN communication, and controls the direction and distance of the predictive course line.
- ON/OFF setting of predictive course line can be performed using CONSULT.

Front view guiding lines



Rear View

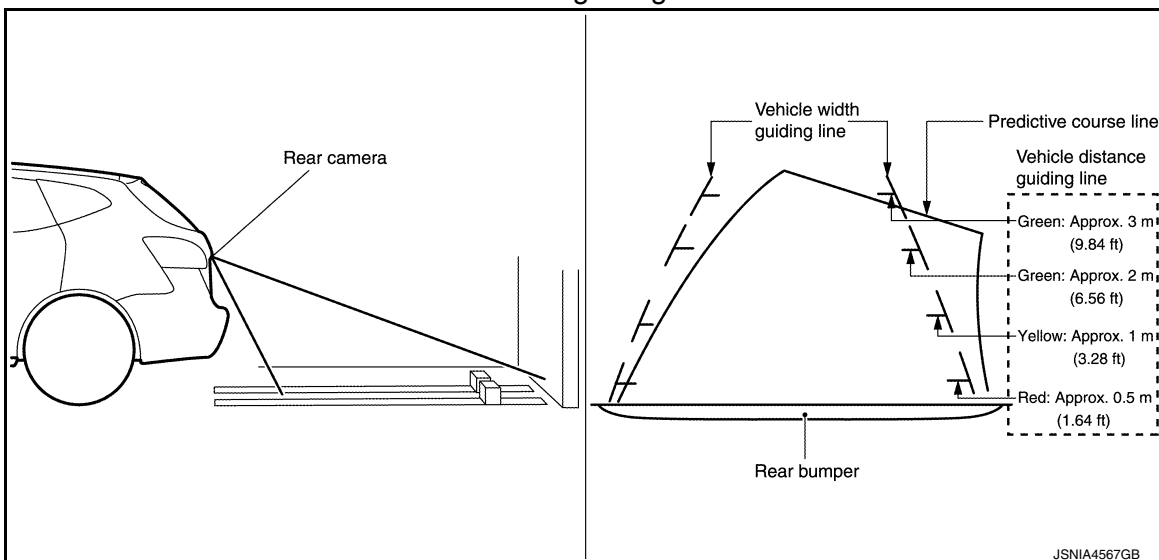
- The rear view image improves the visibility of obstacles in the rear of the vehicle and assists backing and parking by displaying images from birds-eye view and front side view.
- The rear view image displays the vehicle width guiding line and vehicle distance guiding line, in addition to the predictive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

NOTE:

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

- The around view monitor control unit receives the steering angle signal from steering angle sensor via CAN communication, and controls the direction and distance of the predictive course line.
- ON/OFF setting of predictive course line can be performed using CONSULT.

Rear view guiding lines



Front-Side View

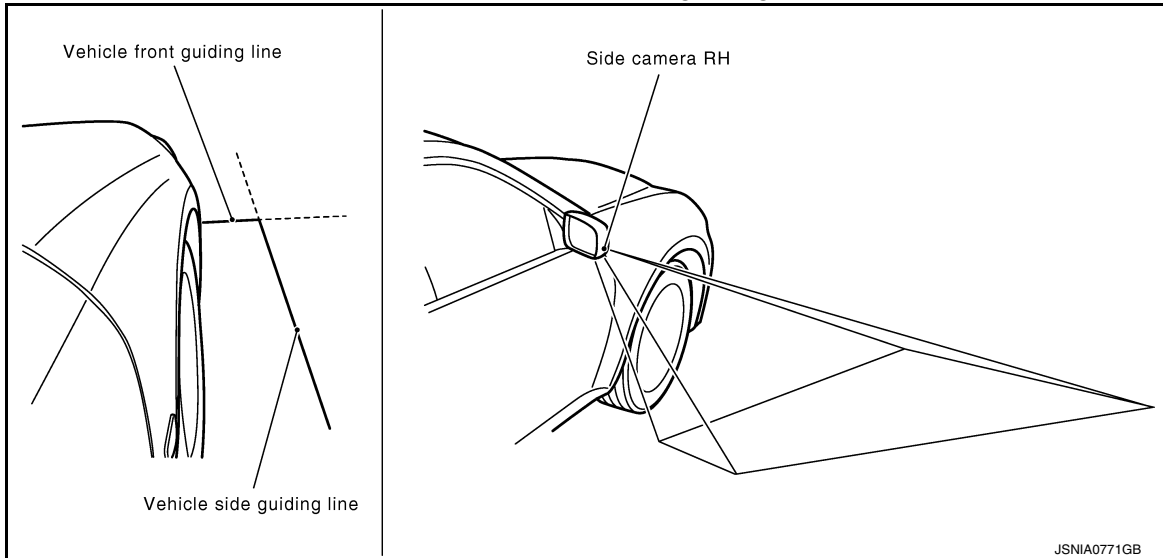
- The front-side view image improves the visibility of obstacles in the front RH side of the vehicle and assists backing and parking.
- The front-side view image displays the vehicle distance guiding line and vehicle width guiding line.

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

AV

SYSTEM

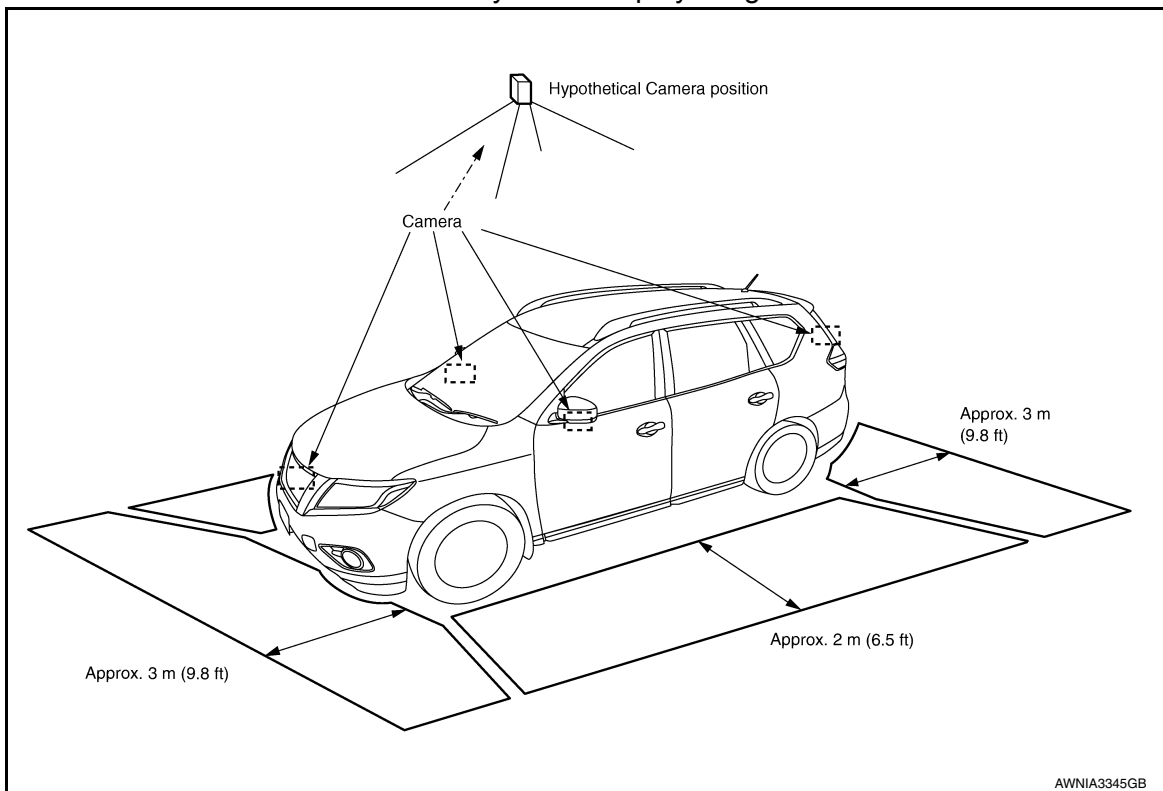
Front-side view area and guiding line



Birds-Eye View

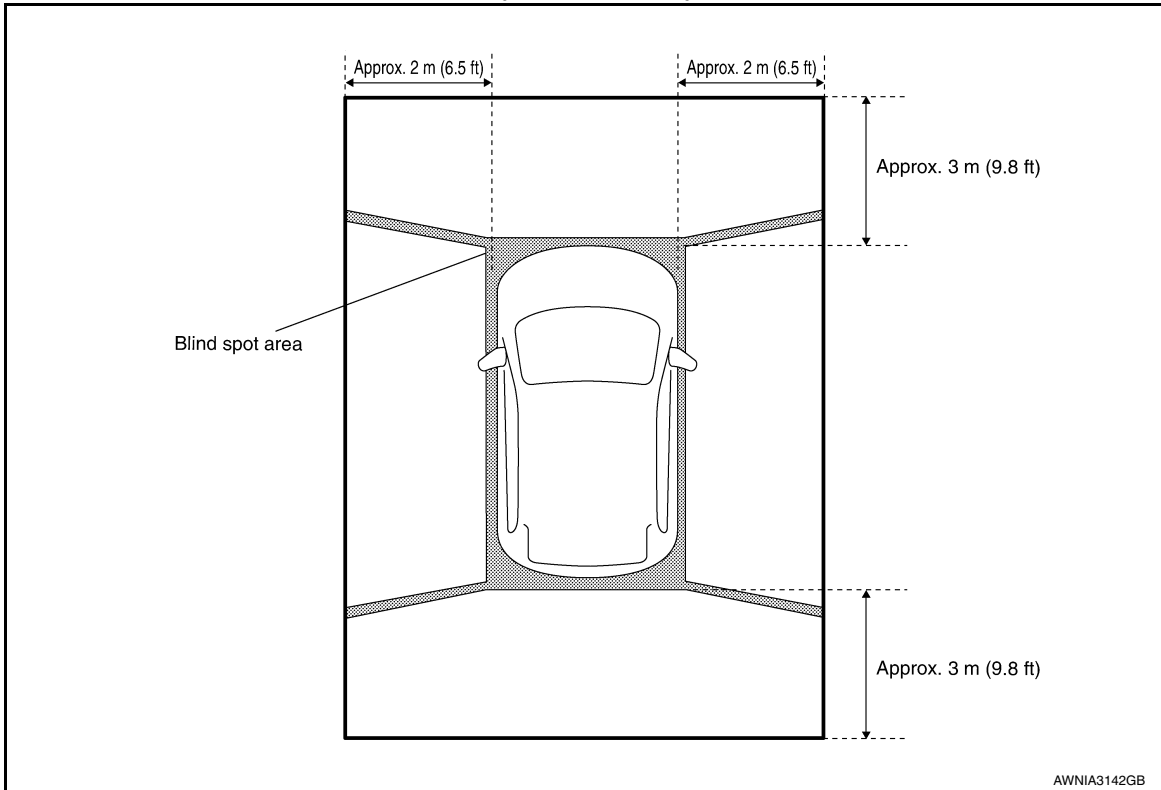
- The birds-eye view image improves the visibility of obstacles all around the vehicle and assists backing and parking.
- The images from the four cameras are converted into an overhead view, and the surroundings of the vehicle are displayed.
- The blind spot area is displayed on the image to specify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

Birds-Eye view display image



SYSTEM

Birds-Eye view display area



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

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION WITH BOSE]

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

Description

INFOID:000000010244405

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

Mode	Item	Content	
Version	—	Version data of the AV control unit is displayed.	
User Configuration	Touch Display Calibration	Allows correction of the position detection accuracy of the touch panel.	
Radio	FM monitor	Monitors the dynamic values of the current tuner	
	AM monitor		
	SXM monitor	Version data is displayed.	
System State	Running System Status	<ul style="list-style-type: none"> • SD card slot Access • Power Supply • Speed Signal • Direction Signal • Illumination Signal • GPS Antenna • GPS Tracking • Satellites Visible • Satellites Tracked • Microphone Current • Steering wheel key • Radio Antenna • SXM Antenna • USB Device • iPod® firmware version • BT Status 	The current system status is displayed.
	Speaker Test 4kHz	—	This activates a sequence of test tone outputs to the audio circuits one after the other for 1 second.
	Speaker Test 100Hz		
	Display-Test	—	This provides a test sequence where test displays (plain colored display: e.g. white, black, red, blue, green) are shown one after the other. The respective color is shown for an indicated period of time (parameter). After the display test, the design of the display previously available is stored. While the screen shows a plain colored display, a pixel malfunction may be detected.
Self Test	<ul style="list-style-type: none"> • SD Card Access • BT Module Access • Radio Antenna • GPS Antenna • SXM Antenna 	A system self test is executed and the results are stored into the error memory.	

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

On Board Diagnosis Function

INFOID:000000010244406

METHOD OF STARTING

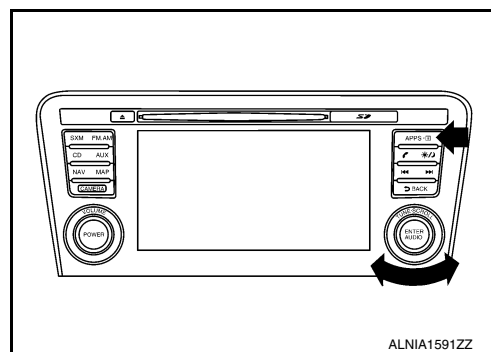
1. Turn the ignition ON.

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

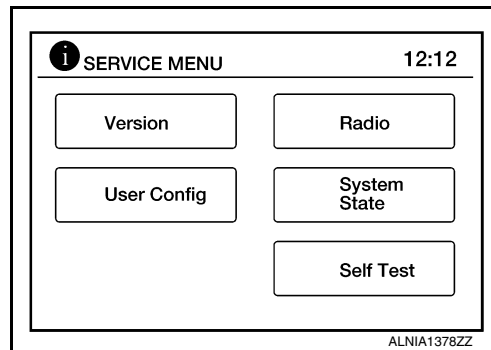
[NAVIGATION WITH BOSE]

< SYSTEM DESCRIPTION >

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



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



CONSULT Function

INFOID:000000010244407

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	<ul style="list-style-type: none"> The vehicle specification can be read and saved. The vehicle specification can be written when replacing AV control unit.
CAN Diag Support Mntr	<ul style="list-style-type: none"> 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-251, "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-289, "CONFIGURATION \(AV CONTROL UNIT\) : Description"](#).

CAN DIAG SUPPORT MNTR

Refer to [LAN-14, "CAN Diagnostic Support Monitor"](#).

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

DIAGNOSIS SYSTEM (AROUND VIEW MONITOR CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION WITH BOSE]

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

WITHOUT DRIVER ASSISTANCE SYSTEM : CONSULT Function

INFOID:000000010244408

CONSULT FUNCTIONS

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

Direct Diagnostic Mode	Description
Ecu Identification	The around view monitor control unit part number is displayed.
Self Diagnostic Result	The around view monitor control unit self diagnostic results are displayed.
Data Monitor	The around view monitor control unit input/output data is displayed in real time.
Work support	The settings for around view monitor control unit functions can be changed.
Configuration	<ul style="list-style-type: none">The vehicle specification can be read and saved.The vehicle specification can be written when replacing around view monitor control unit.
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.

ECU IDENTIFICATION

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

SELF DIAGNOSTIC RESULT

Refer to [AV-257, "WITHOUT DRIVER ASSISTANCE SYSTEM : DTC Index"](#).

DATA MONITOR

Monitor Item	Description
ST ANGLE SENSOR SIGNAL [On/Off]	Indicates condition of steering angle sensor signal.
REVERSE SIGNAL [On/Off]	Indicates selector lever position.
VEHICLE SPEED SIGNAL [mph/km/h]	Indicates condition of vehicle speed signal.
CAMERA SWITCH SIGNAL [On/Off]	Indicates condition of camera switch signal.
CAMERA OFF SIGNAL [On/Off]	Indicates condition of camera OFF signal.
ST ANGLE SENSOR TYPE [Absolute]	Indicates steering angle sensor type.
ST GEAR RATIO TYPE [Type O]	Indicates steering gear ratio type.
STEERING POSITION [LHD/RHD]	Indicates LH or RH drive type.
REAR CAMERA IMAGE SIGNAL [OK/NG]	Indicates condition of camera image signal.
F-CAMERA IMAGE SIGNAL [OK/NG]	Indicates condition of camera image signal.
DR-SIDE CAMERA IMAGE SIG [OK/NG]	Indicates condition of camera image signal.
PA-SIDE CAMERA IMAGE SIG [OK/NG]	Indicates condition of camera image signal.

WORK SUPPORT

Support Item	Setting	Description
NON-VIEWABLE AREA REMINDER	ON	ON/OFF setting of non-viewable area can be performed.
	OFF	
PREDICTIVE COURSE LINE DISPLAY	ON	ON/OFF setting of predictive course line display can be performed.
	OFF	
INITIALIZE CAMERA IMAGE CALIBRATION	—	Factory image calibration restoration can be performed.
STEERING ANGLE SENSOR ADJUSTMENT	—	Steering angle sensor neutral position adjustment can be performed.

DIAGNOSIS SYSTEM (AROUND VIEW MONITOR CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION WITH BOSE]

Support Item	Setting	Description
CALIBRATING CAMERA IMAGE (FRONT CAMERA)	STATUS	Performs calibration of front camera.
	AXIS X	
	AXIS Y	
	ROTATE	
CALIBRATING CAMERA IMAGE (PASS-SIDE CAMERA)	STATUS	Performs calibration of passenger side camera.
	AXIS X	
	AXIS Y	
	ROTATE	
CALIBRATING CAMERA IMAGE (DR-SIDE CAMERA)	STATUS	Performs calibration of driver side camera.
	AXIS X	
	AXIS Y	
	ROTATE	
CALIBRATING CAMERA IMAGE (REAR CAMERA)	STATUS	Performs calibration of rear camera.
	AXIS X	
	AXIS Y	
	ROTATE	
FINE TUNING OF BIRDS-EYE VIEW	STATUS	Confirmation and adjustment of difference between each camera can be performed.
	SELECT	
	AXIS X	
	AXIS Y	
	ROTATE	

CONFIGURATION

Refer to [AV-290, "CONFIGURATION \(AROUND VIEW MONITOR CONTROL UNIT\) : Description"](#).

CAN DIAG SUPPORT MNTR

Refer to [LAN-14, "CAN Diagnostic Support Monitor"](#).

WITH DRIVER ASSISTANCE SYSTEM

WITH DRIVER ASSISTANCE SYSTEM : CONSULT Function

INFOID:000000010271550

CONSULT FUNCTIONS

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

Direct Diagnostic Mode	Description
Ecu Identification	The around view monitor control unit part number is displayed.
Self Diagnostic Result	The around view monitor control unit self diagnostic results are displayed.
Data Monitor	The around view monitor control unit input/output data is displayed in real time.
Work support	The settings for around view monitor control unit functions can be changed.
Configuration	<ul style="list-style-type: none"> The vehicle specification can be read and saved. The vehicle specification can be written when replacing around view monitor control unit.
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.

ECU IDENTIFICATION

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

SELF DIAGNOSTIC RESULT

Refer to [AV-261, "WITH DRIVER ASSISTANCE SYSTEM : DTC Index"](#).

DATA MONITOR

DIAGNOSIS SYSTEM (AROUND VIEW MONITOR CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION WITH BOSE]

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

ACTIVE TEST

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

WORK SUPPORT

Support Item	Setting	Description
REAR CAMERA ITS	—	Displays and sets camera image calibration values.
CAUSE OF LDW CANCEL	—	Displays the information about reason of LDW cancellation.
CAUSE OF BSW CANCEL	—	Displays the information about reason of BSW cancellation.
CALIBRATING CAMERA IMAGE (FRONT CAMERA)	STATUS	Performs calibration of front camera.
	AXIS X	
	AXIS Y	
	ROTATE	

DIAGNOSIS SYSTEM (AROUND VIEW MONITOR CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION WITH BOSE]

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

CONFIGURATION

Refer to [AV-289, "CONFIGURATION \(AV CONTROL UNIT\) : Description"](#).

CAN DIAG SUPPORT MNTR

Refer to [LAN-14, "CAN Diagnostic Support Monitor"](#).

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

AV

AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITH BOSE]

ECU DIAGNOSIS INFORMATION

AV CONTROL UNIT

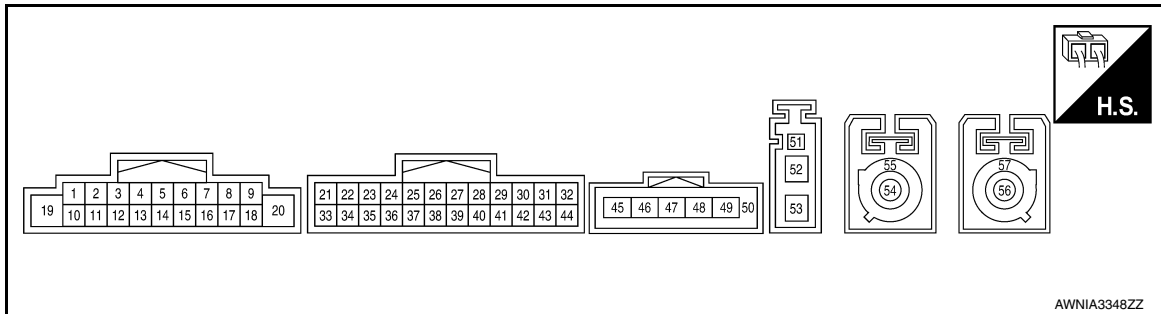
Reference Value

INFOID:000000010244410

VALUES ON THE DIAGNOSIS TOOL

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

TERMINAL LAYOUT



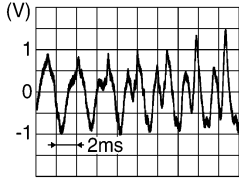
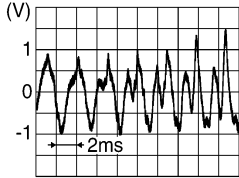
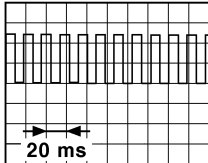
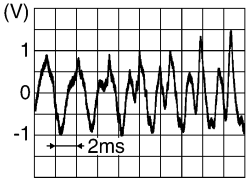
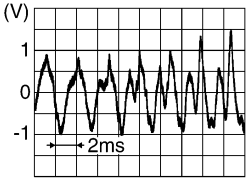
PHYSICAL VALUES

Terminal (Wire color)		Description	Condition			Reference value (Approx.)
+	-	Signal name	Input/Output	Ignition switch	Operation	
1 (BR)	Ground	BOSE amp. ON signal	Output	ON	—	Battery voltage
2 (R)	3 (G)	Pre-amp sound signal front LH	Output	ON	Sound output	<p>SKIB3609E</p>
4 (V)	5 (LG)	Pre-amp sound signal rear LH	Output	ON	Sound output	<p>SKIB3609E</p>
7 (W)	Ground	ACC power supply	Input	ON	—	Battery voltage

AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITH BOSE]

Terminal (Wire color)		Description	Condition			Reference value (Approx.)
+	-		Signal name	Input/ Output	Ignition switch	
8 (L)	—	CAN (H)	Input/ Output	—	—	—
9 (V)	Ground	Illumination control signal	Input	ON	Headlamps ON	Battery voltage
10 (B)	—	Pre-amp sound signal shield	—	—	—	—
11 (R)	12 (W)	Pre-amp sound signal front RH	Output	ON	Sound output	 SKIB3609E
13 (L)	14 (Y)	Pre-amp sound signal rear RH	Output	ON	Sound output	 SKIB3609E
17 (R)	—	CAN (L)	Input/ Output	—	—	—
18 (G)	Ground	Vehicle speed signal	Input	ON	When vehicle speed is approx. 40 km/h (25 MPH)	 JSNIA0012GB
19 (L)	Ground	Battery power supply	Input	OFF	—	Battery voltage
20 (B)	Ground	Ground	—	ON	—	0 V
21 (G)	Ground	AUX jack audio signal RH	Input	ON	Received audio signal (AUX input)	 SKIB3609E
22 (Y)	Ground	AUX ground	—	ON	—	0V
23 (L)	Ground	AUX jack audio signal LH	Input	ON	Received audio signal (AUX input)	 SKIB3609E

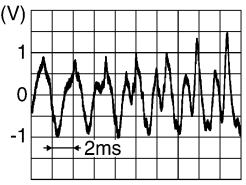
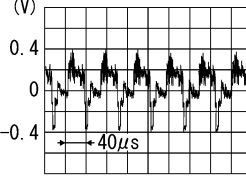
A
B
C
D
E
F
G
H
I
J
K
L
M
P

AV

AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITH BOSE]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output	Ignition switch	Operation	
25 (BR)	Ground	Reverse signal	Input	ON	Selector lever in R (reverse)	Battery voltage
					Selector lever in any position other than R (reverse)	0 V
30 (BG)	—	MR output	Output	—	—	—
31 (SB)	—	AV communication (H)	Input/ Output	—	—	—
32 (LG)	—	AV communication (L)	Input/ Output	—	—	—
34 (W)	36 (Shield)	Microphone signal	Input	ON	While speaking into microphone.	 <small>SKIB3609E</small>
35 (B)	—	MIC VCC	Input	ON	—	—
37 (Shield)	—	AUX signal shield	—	—	—	—
38 (SB)	—	AV communication (H)	Input/ Output	—	—	—
39 (LG)	—	AV communication (L)	Input/ Output	—	—	—
40 (LG)	Ground	Ignition power supply	Input	ON	—	Battery voltage
41 (W)	Ground	Camera image signal	Input	ON	When camera image is displayed	 <small>SKIB2251J</small>
42 (Shield)	—	Camera image signal shield	—	—	—	—
45 (R)	—	V BUS signal	—	—	—	—
46 (W)	—	USB D- signal	—	—	—	—
47 (G)	—	USB + signal	—	—	—	—
49 (B)	—	USB ground	—	—	—	—
50 (Shield)	—	USB shield	—	—	—	—
51 (B)	Ground	Antenna amp. ON signal	Output	ON	AV control unit ON, FM-AM selected.	Battery voltage

AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITH BOSE]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output	Ignition switch	Operation	
52 (B)	Ground	AM-FM main antenna	Input	ON	AV control unit ON, FM-AM selected.	5.0 V
54 (B)	Ground	GPS antenna signal	Input	ON	AV control unit ON, NAV selected.	5.0 V
55 (Shield)	—	GPS antenna shield	—	—	—	—
56 (B)	Ground	Satellite antenna signal	Input	ON	AV control unit ON, SXM selected.	5.0 V
57 (Shield)	—	Satellite antenna shield	—	—	—	—

DTC Index

INFOID:0000000010244411

CONSULT Display	Reference Page
U1000: CAN COMM CIRCUIT	AV-298, "AV CONTROL UNIT : DTC Logic"
U1010: CONTROL UNIT (CAN)	AV-299, "AV CONTROL UNIT : DTC Logic"
U1217: BLUETOOTH MODULE	AV-316, "DTC Logic"
U1229: iPod CERTIFICATION	AV-317, "DTC Logic"
U122F: Digital broadcasting connection error	AV-318, "DTC Logic"
U1244: GPS ANTENNA CONN	AV-320, "DTC Logic"
U1258: SXM ANTENNA CONN	AV-321, "DTC Logic"
U1263: USB OVERCURRENT	AV-322, "DTC Logic"
U12AA: Configuration Error	AV-324, "DTC Logic"
U12AB: FM Antenna error	AV-325, "DTC Logic"
U12AC: Display Temperature too High	AV-326, "DTC Logic"
U12AD: ECU Temperature too High	AV-327, "DTC Logic"
U12AE: Internal Amplifier temperature Warning	AV-328, "DTC Logic"
U12AF: CD Mechanism Temperature Warning	AV-329, "DTC Logic"
U12B0: Supply Voltage Goes below 9V > 20s	AV-330, "DTC Logic"
U12B1: Supply Voltage Goes High > 16V for 20s	AV-331, "DTC Logic"
U1300: AV COMM CIRCUIT	AV-332, "DTC Logic"
U1310: CONTROL UNIT(AV)	AV-336, "DTC Logic"

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

AV

BOSE SPEAKER AMP

< ECU DIAGNOSIS INFORMATION >

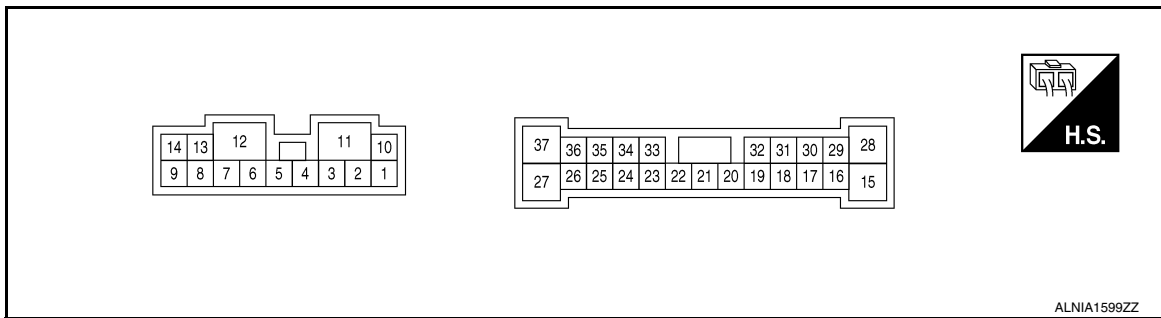
[NAVIGATION WITH BOSE]

BOSE SPEAKER AMP

Reference Value

INFOID:000000010244484

TERMINAL LAYOUT



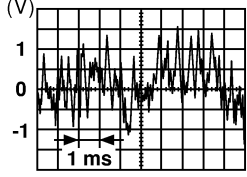
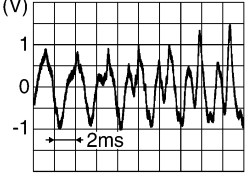
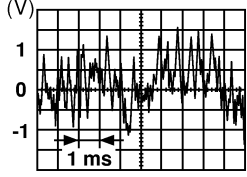
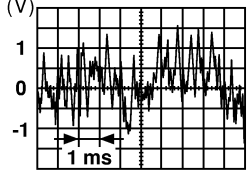
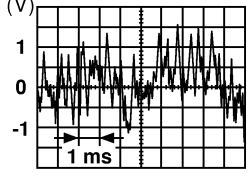
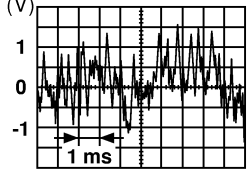
PHYSICAL VALUES

Terminal (wire color)		Description	Input/Output	Condition		Reference value (Approx.)
+	-			Ignition switch	Operation	
1 (L)	10 (R)	Rear door speaker signal LH	Output	ON	Sound output	<p>SKIA0177E</p>
2 (LG)	3 (V)	Rear door speaker signal RH	Output	ON	Sound output	<p>SKIA0177E</p>
4 (BR)	5 (P)	Front door speaker signal LH	Output	ON	Sound output	<p>SKIA0177E</p>
6 (W)	7 (GR)	Front tweeter signal LH	Output	ON	Sound output	<p>SKIA0177E</p>

BOSE SPEAKER AMP

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITH BOSE]

Terminal (wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/Output	Ignition switch	Operation	
8 (G)	13 (R)	Front door speaker signal RH	Output	ON	Sound output	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
9 (Y)	14 (BR)	Sound signal subwoofer	Output	ON	Sound output	 <p style="text-align: right; font-size: small;">SKIB3609E</p>
11 (W)	Ground	Battery power supply	Input	-	-	Battery voltage
12 (B)	Ground	Ground	-	ON	-	0V
15 (V)	28 (BG)	Center speaker signal	Output	ON	Sound output	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
18 (R)	32 (G)	Sound signal front LH	Input	ON	Sound output	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
19 (Y)	20 (L)	Sound signal front RH	Input	ON	Sound output	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
21 (V)	22 (LG)	Sound signal rear LH	Input	ON	Sound output	 <p style="text-align: right; font-size: small;">SKIA0177E</p>

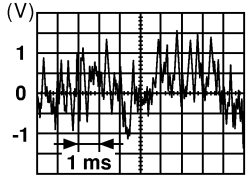
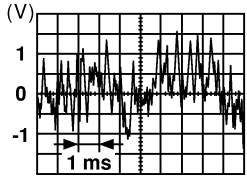
A
B
C
D
E
F
G
H
I
J
K
L
M
O
P

AV

BOSE SPEAKER AMP

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITH BOSE]

Terminal (wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output	Ignition switch	Operation	
23 (W)	33 (R)	Sound signal rear RH	Input	ON	Sound output	
25 (G)	Ground	Subwoofer ON signal	Output	ON	-	Greater than 6.5V
31 (BR)	Ground	Amp. ON signal	Input	ON	-	Greater than 6.5V
37 (G)	27 (R)	Front tweeter signal RH	Output	ON	Sound output	

AROUND VIEW MONITOR CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITH BOSE]

AROUND VIEW MONITOR CONTROL UNIT WITHOUT DRIVER ASSISTANCE SYSTEM

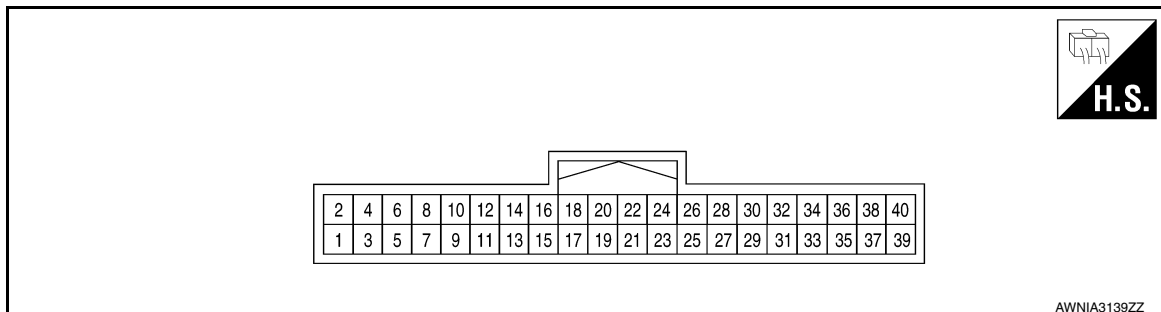
WITHOUT DRIVER ASSISTANCE SYSTEM : Reference Value

INFOID:000000010244412

VALUES ON THE DIAGNOSIS TOOL

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

TERMINAL LAYOUT

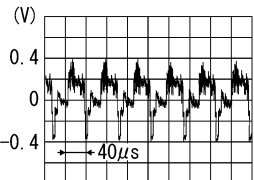
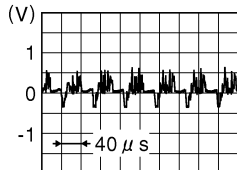
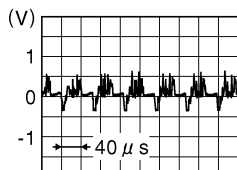


PHYSICAL VALUES

AROUND VIEW MONITOR CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

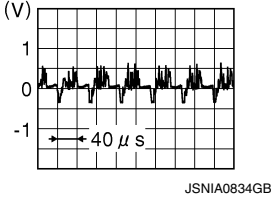
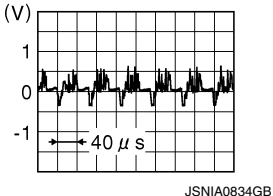
[NAVIGATION WITH BOSE]

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

AROUND VIEW MONITOR CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITH BOSE]

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

WITHOUT DRIVER ASSISTANCE SYSTEM : DTC Index

INFOID:000000010244413

CONSULT Display	Reference Page
U0428: ST ANG SEN CALIB	AV-297, "DTC Logic"
U1000: CAN COMM CIRCUIT	AV-298, "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"
U1010: CONTROL UNIT (CAN)	AV-299, "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"
U111A: Rear display output signal diagnosis (Harness disconnection)	AV-300, "DTC Logic"
U111B: Right side display output signal diagnosis (Harness disconnection)	AV-304, "DTC Logic"
U111C: Front display output signal diagnosis (Harness disconnection)	AV-308, "DTC Logic"
U111D: Left side display output signal diagnosis (Harness disconnection)	AV-312, "DTC Logic"
U1232: ST ANG SEN CALIB	AV-319, "DTC Logic"
U1304: Non-completion of the calibration	AV-334, "DTC Logic"
U1305: Non-completion of the configuration	AV-335, "DTC Logic"

WITH DRIVER ASSISTANCE SYSTEM

WITH DRIVER ASSISTANCE SYSTEM : Reference Value

INFOID:000000010269695

VALUES ON THE DIAGNOSIS TOOL

AROUND VIEW MONITOR CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITH BOSE]

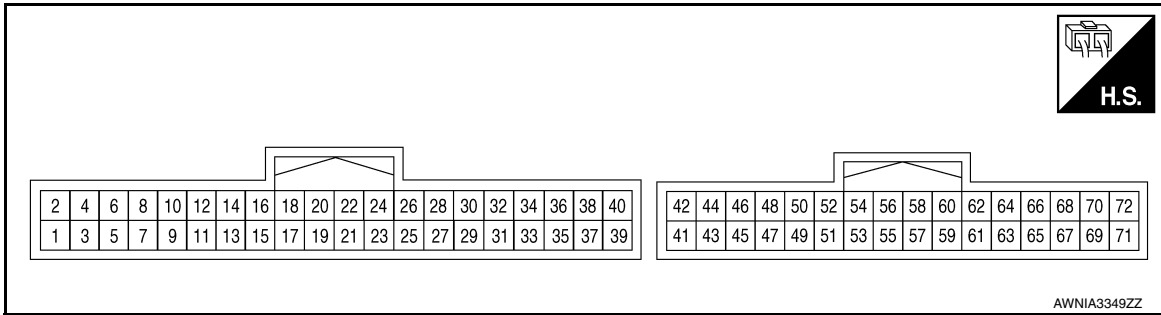
Monitor Item	Condition	Value/Status
CAMERA OFF SIGNAL	CAMERA switch ON.	Off
	CAMERA switch OFF.	On
CAMERA SWITCH SIGNAL	CAMERA switch OFF.	Off
	CAMERA switch ON.	On
DR-SIDE CAMERA IMAGE SIG	Side camera LH inoperative.	NG
	Side camera LH operative.	OK
ILL	Illumination is ON	On
	Illumination is OFF	Off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

AROUND VIEW MONITOR CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITH BOSE]

TERMINAL LAYOUT



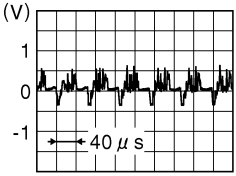
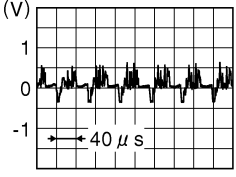
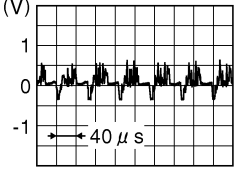
PHYSICAL VALUES

Terminal (Wire color)		Description	Condition		Reference value (Approx.)	
+	-	Signal name	Input/ Output	Ignition switch		Operation
1 (B)	Ground	Ground	—	ON	—	0 V
2 (Y)	Ground	Battery power supply	Input	OFF	—	Battery voltage
3 (SB)	Ground	Ignition signal	Input	ON	—	Battery voltage
7 (R)	Ground	SOW LED signal L	Output	—	LDW/BSW detected (while driving)	12 V
					LDW/BSW is not detected (while driving)	0 V
8 (G)	Ground	SOW LED signal R	Output	—	LDW/BSW detected (while driving)	12 V
					LDW/BSW is not detected (while driving)	0 V
15 (BR)	Ground	ITS sw indicator	Output	ON	Warning system is ON	12 V
					Warning system is OFF	0 V
16 (Y)	Ground	Warning buzzer control	Output	—	—	—
17 (W)	Ground	ITS OFF sw	Input	ON	Cancel switch pressed	0 V
					Cancel switch released	12 V
27 (L)	—	CAN (H)	Input/ Output	—	—	—
28 (R)	—	CAN (L)	Input/ Output	—	—	—
36 (Y)	Ground	Washer signal AVM to pump	Output	ON	Rear view camera washer motor operated	5 V
37 (V)	Ground	Pump signal ground	Input	ON	—	0 V
38 (SB)	Ground	Washer signal pump to AVM	Input	ON	Rear view camera washer motor operated	5 V
47 (G)	Ground	Camera image signal	Output	ON	When camera image display	

AROUND VIEW MONITOR CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

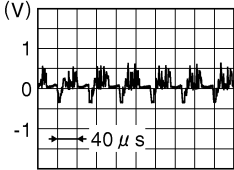
[NAVIGATION WITH BOSE]

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

AROUND VIEW MONITOR CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION WITH BOSE]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output	Ignition switch	Operation	
70 (V)	Ground	Front camera ground	—	ON	—	0 V
71 (LG)	72 (Shield)	Front camera image signal	Input	ON	CAMERA selected or Shift selector in R (reverse) position.	 <p style="text-align: right; font-size: small;">JSNIA0834GB</p>

WITH DRIVER ASSISTANCE SYSTEM : DTC Index

INFOID:000000010269696

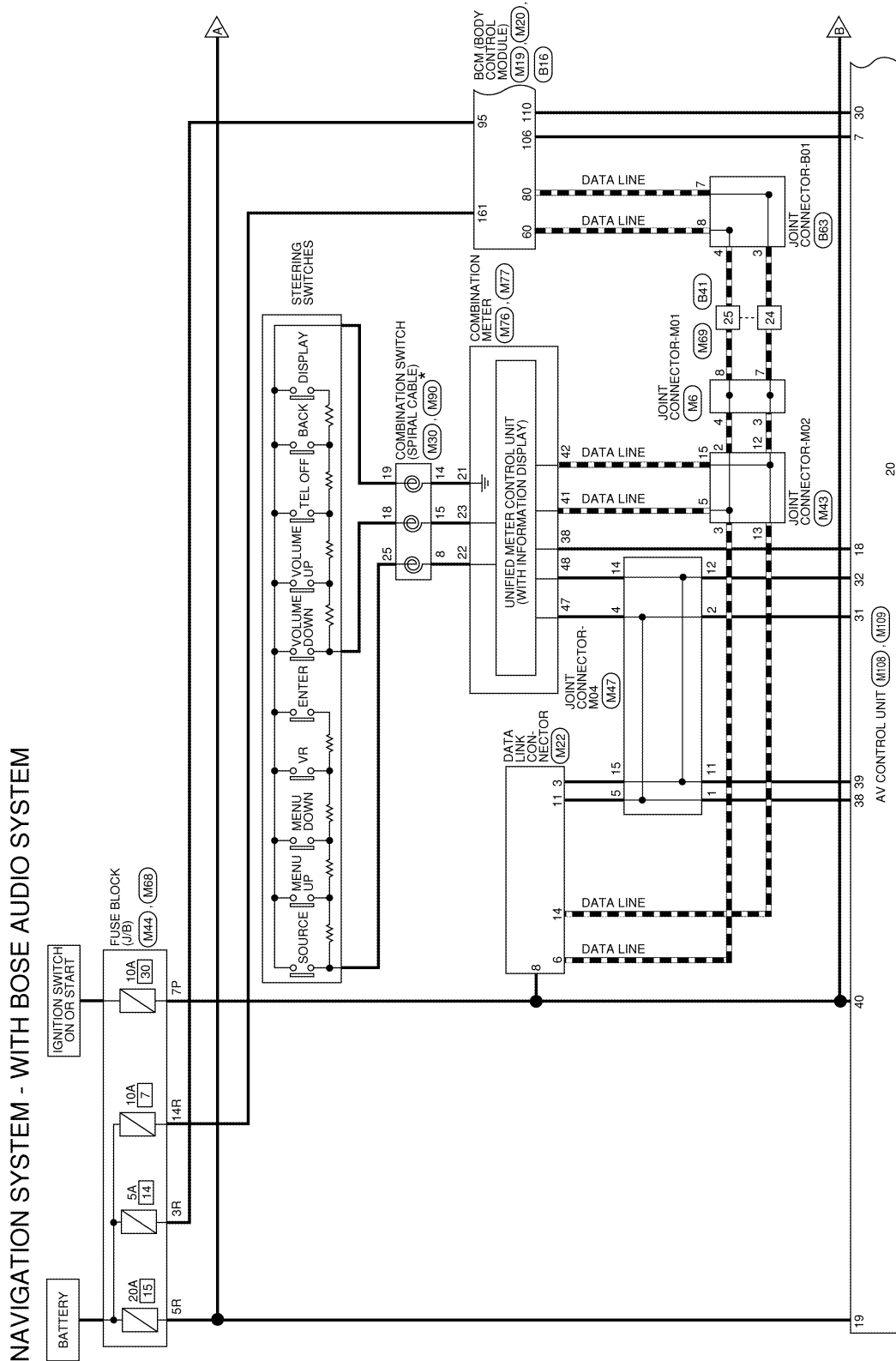
CONSULT Display	Reference Page
U0428: ST ANG SEN CALIB	AV-141, "DTC Logic"
U1000: CAN COMM CIRCUIT	AV-142, "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"
U1010: CONTROL UNIT (CAN)	AV-143, "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"
U111A: Rear display output signal diagnosis (Harness disconnection)	AV-144, "DTC Logic"
U111B: Right side display output signal diagnosis (Harness disconnection)	AV-148, "DTC Logic"
U111C: Front display output signal diagnosis (Harness disconnection)	AV-152, "DTC Logic"
U111D: Left side display output signal diagnosis (Harness disconnection)	AV-156, "DTC Logic"
U1232: ST ANG SEN CALIB	AV-163, "DTC Logic"
U1302: Camera supply power supply voltage abnormality	DAS-117, "DTC Logic"
U1303: LED supply power supply voltage abnormality	DAS-121, "DTC Logic"
U1304: Non-completion of the calibration	AV-177, "DTC Logic"
U1305: Non-completion of the configuration	AV-178, "DTC Logic"
U1308: Rear camera judgment	DAS-124, "DTC Logic"
U1309 PUMP UNIT CURRENT	DAS-125, "DTC Logic"
U130A: PUMP ECU JUDGE	DAS-127, "DTC Logic"
U0122: VDC CAN CIR1 (LDP)	DAS-100, "DTC Logic"
U0416: VDC CAN CIR2 (LDP)	DAS-104, "DTC Logic"
U1232: ST ANG SEN CALIB	DAS-116, "DTC Logic"
C1A03: VHCL SPEED SE CIRC	DAS-131, "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"
C1A39: STRG SEN CIR	DAS-142, "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"
C1A04: ABS/TCS/VDC CIRC	DAS-132, "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"
U130B: Rear camera serial communication err	DAS-128, "DTC Logic"

WIRING DIAGRAM

NAVIGATION WITH BOSE

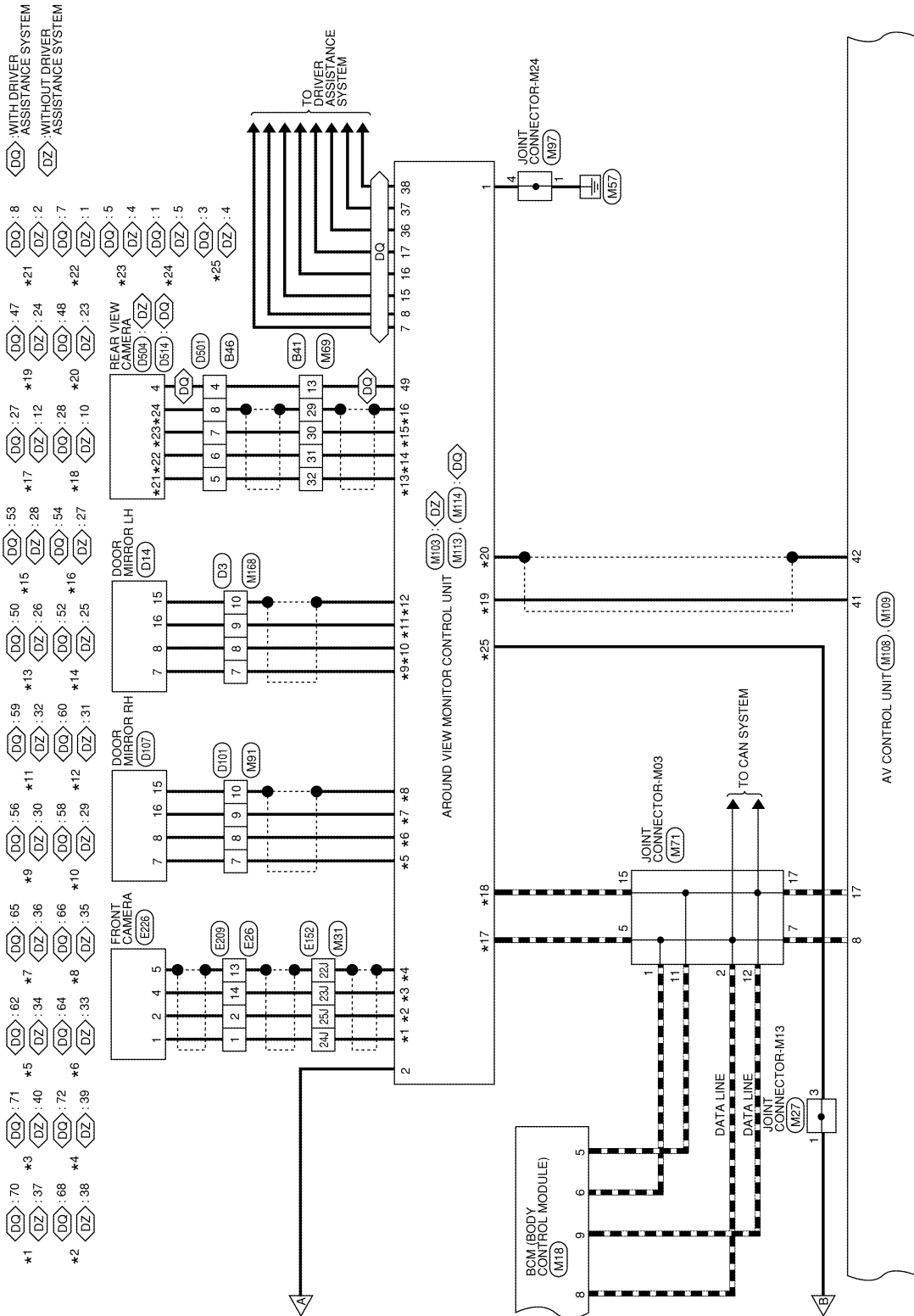
Wiring Diagram

INFOID:000000009795559



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

AANWA1006GB



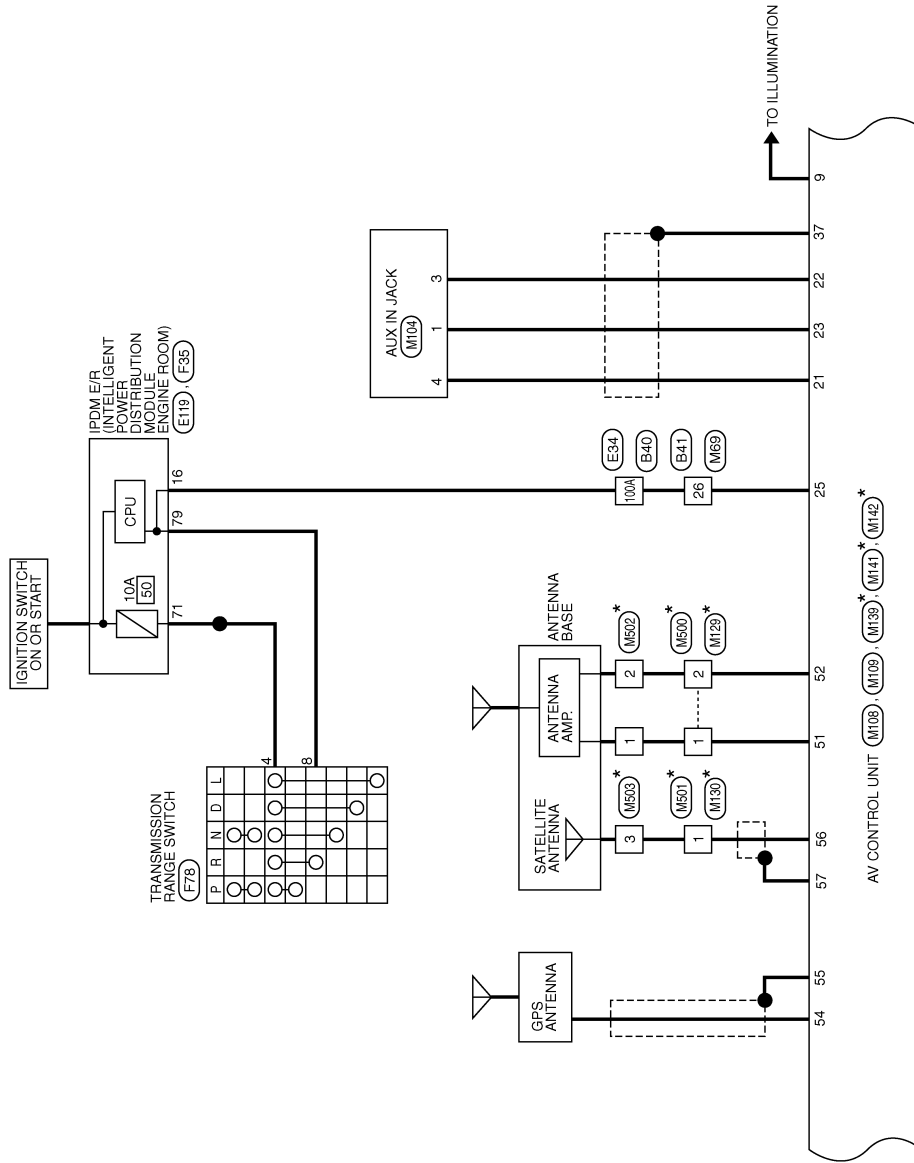
AANWA1007GB

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

NAVIGATION WITH BOSE

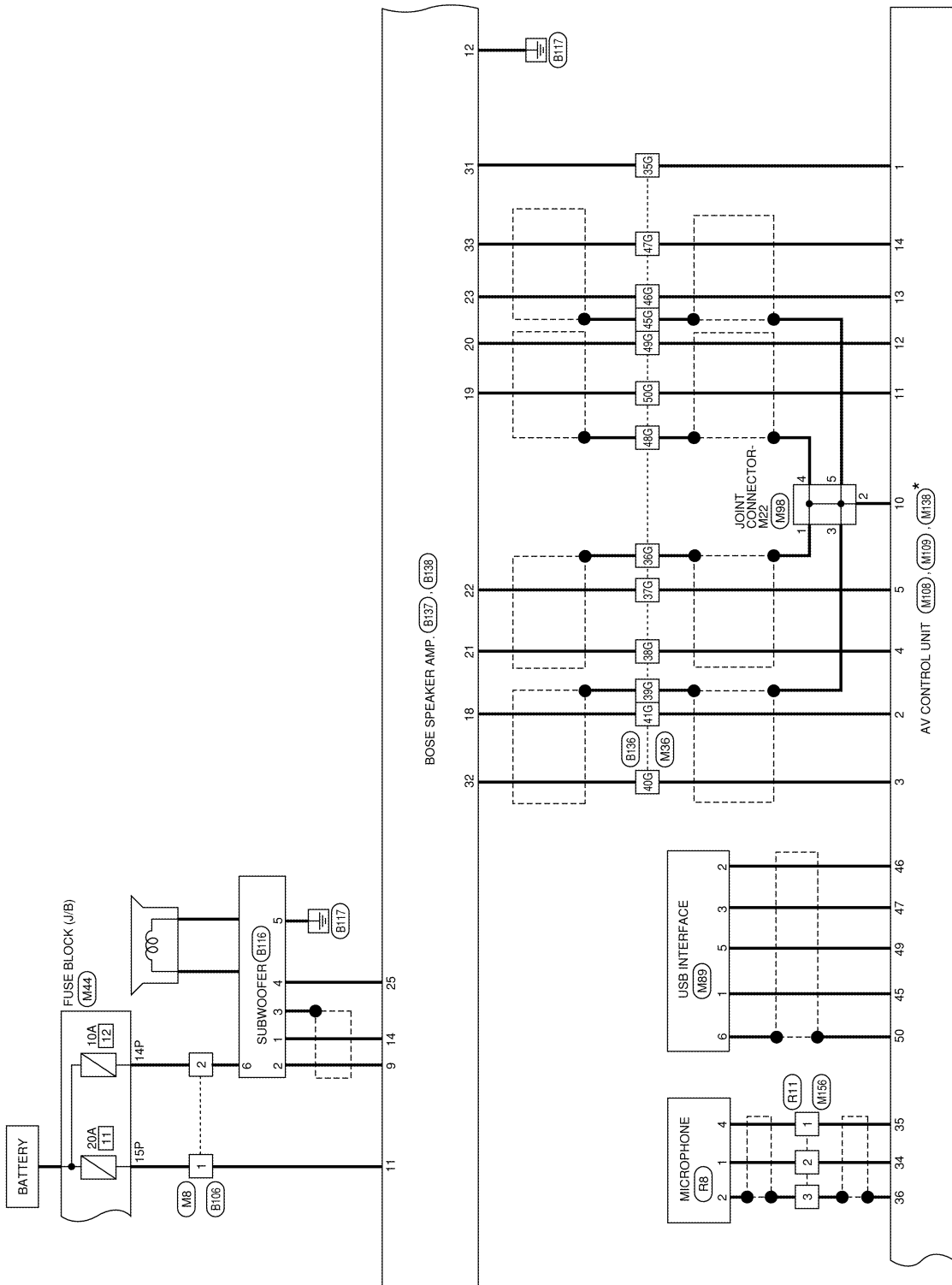
< WIRING DIAGRAM >

[NAVIGATION WITH BOSE]



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

AANWA1008GB



* : THIS CONNECTOR IS NOT SHOWN IN "HARNES LAYOUT" OF FG SECTION.

AANWA1009GB

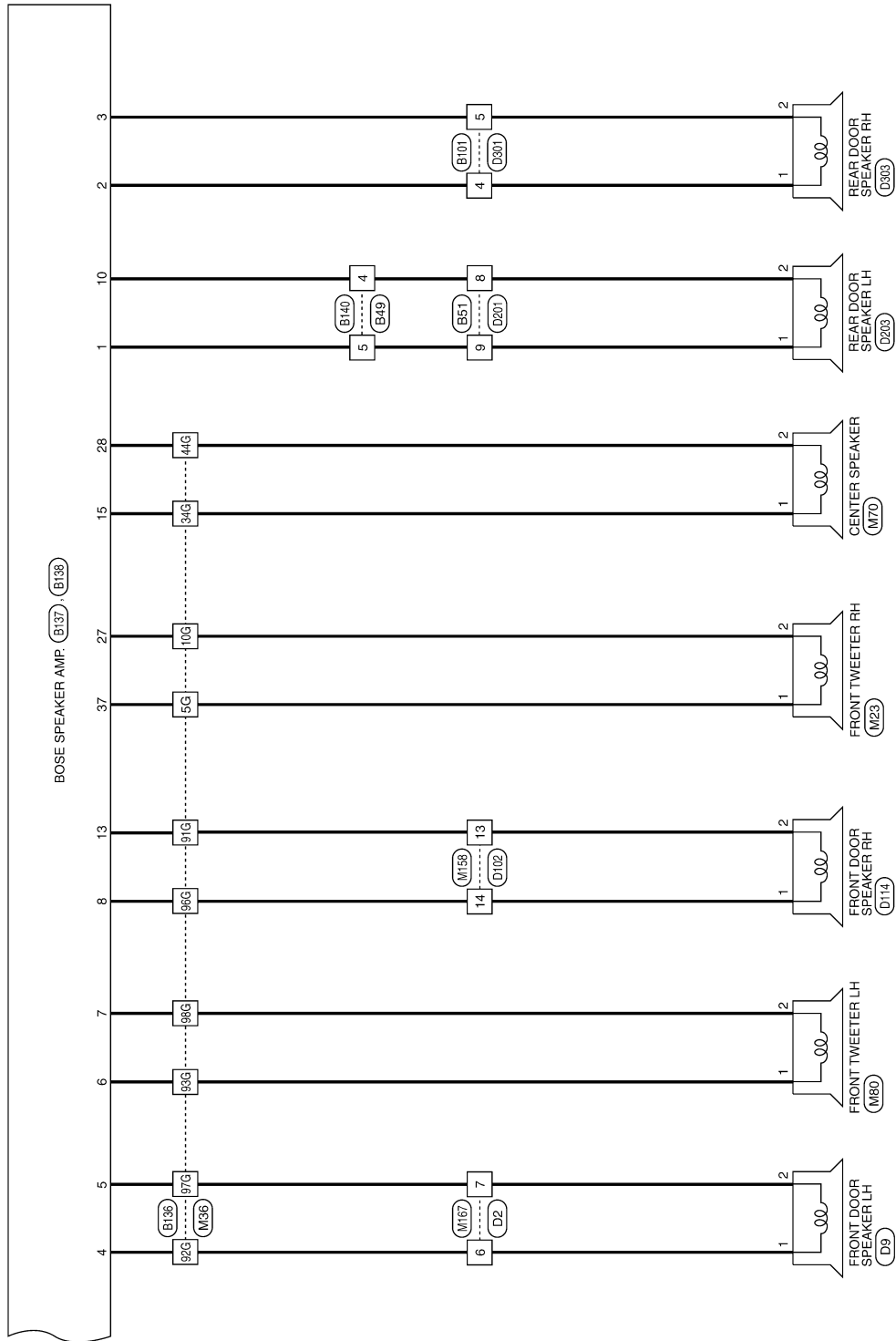
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P

AV

NAVIGATION WITH BOSE

< WIRING DIAGRAM >

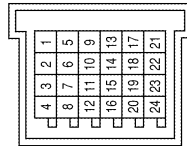
[NAVIGATION WITH BOSE]



AANWA1010GB

NAVIGATION SYSTEM CONNECTORS - WITH BOSE AUDIO SYSTEM

Connector No.	M6
Connector Name	JOINT CONNECTOR-M01
Connector Color	GRAY



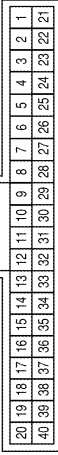
Terminal No.	Color of Wire	Signal Name
3	P	-
4	L	-
7	P	-
8	L	-

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



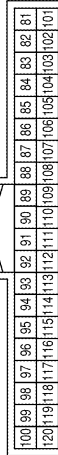
Terminal No.	Color of Wire	Signal Name
1	L	-
2	SB	-

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



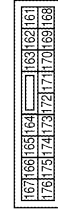
Terminal No.	Color of Wire	Signal Name
5	R	CAN-L
6	L	CAN-H
8	L	CAN-H
9	R	CAN-L

Connector No.	M19
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK



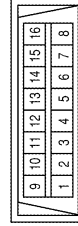
Terminal No.	Color of Wire	Signal Name
95	V	I SHORTING PIN
106	W	O AUTO ACC2
110	BG	O GND AUTOLIGHT SENSOR

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



Terminal No.	Color of Wire	Signal Name
161	W	I PWR ECU

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



Terminal No.	Color of Wire	Signal Name
3	LG	-
6	L	-
8	Y	-
11	SB	-
14	P	-

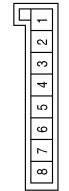
AANIA2439GB

Connector No.	M23
Connector Name	FRONT TWEETER RH
Connector Color	WHITE



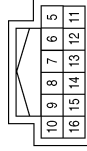
Terminal No.	Color of Wire	Signal Name
1	G	-
2	R	-

Connector No.	M27
Connector Name	JOINT CONNECTOR-M13
Connector Color	WHITE



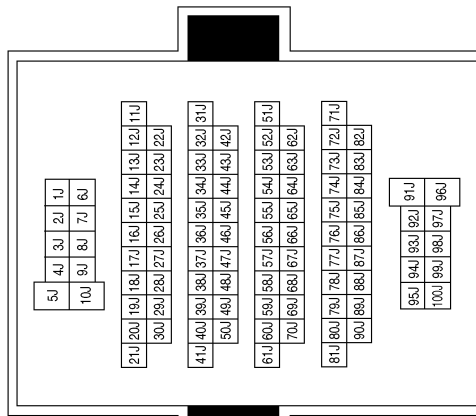
Terminal No.	Color of Wire	Signal Name
1	SB	-
3	SB	-

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



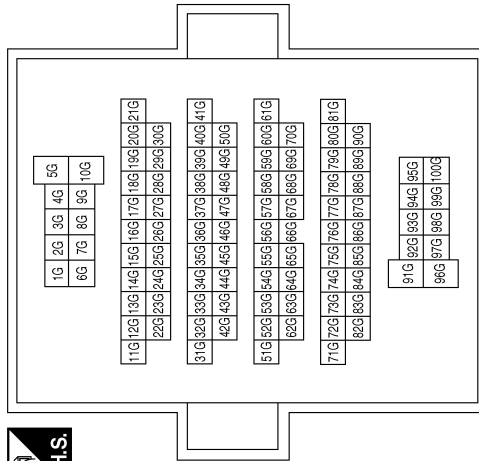
Terminal No.	Color of Wire	Signal Name
8	Y	-
14	L	-
15	GR	-

Connector No.	M31
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
22J	SHIELD	-
23J	LG	-
24J	V	-
25J	L	-

Connector No.	M36
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
5G	G	-
10G	R	-

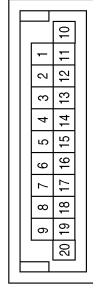
Connector No.	M44
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
7P	Y	-
14P	SB	-
15P	L	-

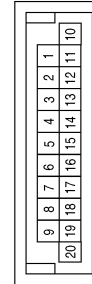
Terminal No.	Color of Wire	Signal Name
34G	V	-
35G	BR	-
36G	SHIELD	-
37G	LG	-
38G	V	-
39G	SHIELD	-
40G	G	-
41G	R	-
44G	BG	-
45G	SHIELD	-
46G	L	-
47G	Y	-
48G	SHIELD	-
49G	W	-
50G	R	-
91G	R	-
92G	LA/L	-
93G	W	-
96G	SB	-
97G	LA/BR	-
98G	GR	-

Connector No.	M43
Connector Name	JOINT CONNECTOR-M02
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
2	L	-
3	L	-
5	L	-
12	P	-
13	P	-
15	P	-

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



Terminal No.	Color of Wire	Signal Name
1	SB	-
2	SB	-
4	SB	-

Terminal No.	Color of Wire	Signal Name
5	SB	-
11	LG	-
12	LG	-
14	LG	-
15	LG	-

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

AV

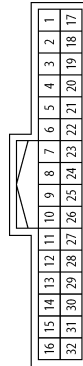
AANIA2441GB

Connector No.	M68
Connector Name	FUSE BLOCK (J/B)
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
3R	V	-
5R	L	-
14R	W	-

Connector No.	M69
Connector Name	WIRE TO WIRE
Connector Color	WHITE



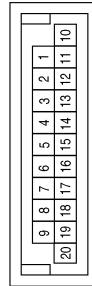
Terminal No.	Color of Wire	Signal Name
13	LG	-
24	P	-
25	L	-
26	BR	-
29	SHIELD	-
30	W	-
31	B	-
32	R	-

Connector No.	M70
Connector Name	CENTER SPEAKER
Connector Color	BROWN



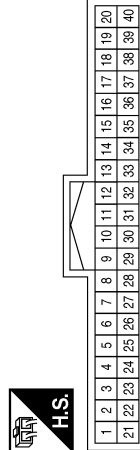
Terminal No.	Color of Wire	Signal Name
1	V	-
2	BG	-

Connector No.	M71
Connector Name	JOINT CONNECTOR-M03
Connector Color	BLUE



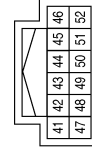
Terminal No.	Color of Wire	Signal Name
1	L	-
2	L	-
5	L	-
7	L	-
11	R	-
12	R	-
15	R	-
17	R	-

Connector No.	M76
Connector Name	COMBINATION METER
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
21	L	STRG SW GND
22	Y	STRG SW INPUT1
23	GR	STRG SW INPUT2
38	G	8P/R OUT

Connector No.	M77
Connector Name	COMBINATION METER
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
41	L	CAN-H
42	P	CAN-L
47	SB	M-CAN H
48	LG	M-CAN L

AANIA2442GB

NAVIGATION WITH BOSE

< WIRING DIAGRAM >

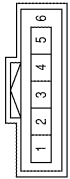
[NAVIGATION WITH BOSE]

Connector No.	M80
Connector Name	FRONT TWEETER LH
Connector Color	WHITE



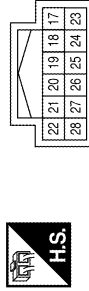
Terminal No.	Color of Wire	Signal Name
1	W	-
2	GR	-

Connector No.	M89
Connector Name	USB INTERFACE
Connector Color	BLACK



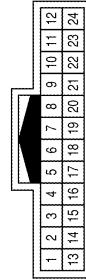
Terminal No.	Color of Wire	Signal Name
1	R	-
2	W	-
3	G	-
5	B	-
6	SHIELD	-

Connector No.	M90
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	WHITE



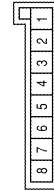
Terminal No.	Color of Wire	Signal Name
18	L	-
19	G	-
25	P	-

Connector No.	M91
Connector Name	WIRE TO WIRE
Connector Color	WHITE



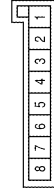
Terminal No.	Color of Wire	Signal Name
7	B	-
8	L	-
9	Y	-
10	SHIELD	-

Connector No.	M97
Connector Name	JOINT CONNECTOR-M24
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	B	-
4	B	-

Connector No.	M98
Connector Name	JOINT CONNECTOR-M22
Connector Color	WHITE



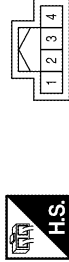
Terminal No.	Color of Wire	Signal Name
1	SHIELD	-
2	B	-
3	SHIELD	-
4	SHIELD	-
5	SHIELD	-

AANIA2443GB

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

AV

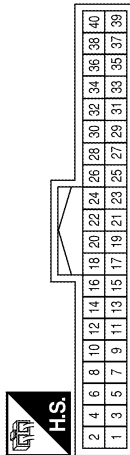
Connector No.	M104
Connector Name	AUX IN JACK
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	L	-
3	Y	-
4	G	-

Terminal No.	Color of Wire	Signal Name
24	G	VIDEO OUTPUT SIGNAL
25	B	RV POWER GND
26	R	RV POWER 6.2V
27	SHIELD	RV VIDEO GND
28	W	RV VIDEO SIGNAL
29	Y	SV2 POWER GND
30	L	SV2 POWER 6.2V
31	SHIELD	SV2 VIDEO GND
32	G	SV2 VIDEO SIGNAL
33	L	SV1 POWER GND
34	B	SV1 POWER 6.2V
35	SHIELD	SV1 VIDEO GND
36	Y	SV1 VIDEO SIGNAL
37	V	FV POWER GND
38	L	FV POWER 6.2V
39	SHIELD	FV VIDEO GND
40	LG	FV VIDEO SIGNAL

Connector No.	M103
Connector Name	AROUND VIEW MONITOR CONTROL UNIT (WITHOUT DRIVER ASSISTANCE SYSTEM)
Connector Color	WHITE

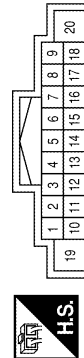


Terminal No.	Color of Wire	Signal Name
1	B	GND
2	Y	+B
4	SB	IGN
10	R	CAN-L
12	L	CAN-H
23	SHIELD	VIDEO OUTPUT GND

Terminal No.	Color of Wire	Signal Name
17	R	CAN-L
18	G	SPEED SIGNAL
19	L	BAT
20	B	GND

Terminal No.	Color of Wire	Signal Name
5	LG	RR SP LH (-)
6	-	-
7	W	ACC
8	L	CAN-H
9	V	ILL (+), LIGHT SW
10	B	PRE AMP SHIELD
11	R	FR SP RH (+)
12	W	FR SP RH (-)
13	L	RR SP RH (+)
14	Y	RR SP RH (-)
15	-	-
16	-	-

Connector No.	M108
Connector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM)
Connector Color	WHITE



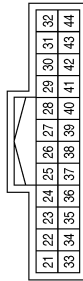
Terminal No.	Color of Wire	Signal Name
1	BR	AMP ON
2	R	FR SPLH (+)
3	G	FR SPLH (-)
4	V	RR SPLH (+)

AANIA2444GB

Terminal No.	Color of Wire	Signal Name
37	SHIELD	SUB OUT/AUX SHIELD
38	SB	MCAN +
39	LG	MCAN -
40	LG	IGNITION
41	W	CAMERA+
42	SHIELD	CAMERA- (SHIELD)
43	-	-
44	-	-

Terminal No.	Color of Wire	Signal Name
25	BR	REVERSE
26	-	-
27	-	-
28	-	-
29	-	-
30	BG	MR OUTPUT
31	SB	M-CAN TERMINATION
32	LG	M-CAN TERMINATION
33	-	-
34	W	MIC SIGNAL
35	B	MIC VCC
36	SHIELD	MIC GND

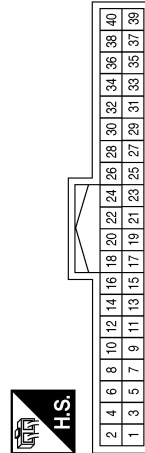
Connector No.	M109
Connector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
21	G	AUX R
22	Y	AUX GND
23	L	AUX L
24	-	-

Terminal No.	Color of Wire	Signal Name
16	Y	BUZZER CONT
17	W	ITS SW
27	L	CAN-H
28	R	CAN-L
36	Y	FROM C/U TO PUMP
37	V	SIGNAL GND
38	SB	FROM PUMP TO C/U

Connector No.	M113
Connector Name	AROUND VIEW MONITOR CONTROL UNIT (WITH DRIVER ASSISTANCE SYSTEM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	B	GND
2	Y	+B
3	SB	IGN
7	R	INDICATOR L
8	G	INDICATOR R
15	BR	ITS SW INDICATOR

AANIA2445GB

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

AV

NAVIGATION WITH BOSE

< WIRING DIAGRAM >

[NAVIGATION WITH BOSE]

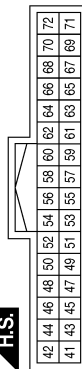
Connector No.	M129
Connector Name	WIRE TO WIRE
Connector Color	GRAY



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

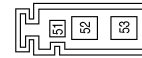
Terminal No.	Color of Wire	Signal Name
52	B	RV POWER GND
53	W	RV POWER SIGNAL
54	SHIELD	RV VIDEO GND
56	L	SV2 POWER 6.2V
58	Y	SV2 POWER GND
59	G	SV2 VIDEO SIGNAL
60	SHIELD	SV2 VIDEO GND
62	B	SV1 POWER 6.2V
64	L	SV1 POWER GND
65	Y	SV1 VIDEO SIGNAL
66	SHIELD	SV1 VIDEO GND
68	L	FV POWER GND
70	V	FV POWER GND
71	LG	FV VIDEO SIGNAL
72	SHIELD	FV VIDEO GND

Connector No.	M114
Connector Name	AROUND VIEW MONITOR CONTROL UNIT (WITH DRIVER ASSISTANCE SYSTEM)
Connector Color	WHITE



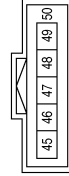
Terminal No.	Color of Wire	Signal Name
47	G	VIDEO OUTPUT SIGNAL
48	SHIELD	VIDEO OUTPUT GND
49	LG	RV SERIAL SIGNAL
50	R	RV POWER 6.2V

Connector No.	M139
Connector Name	AV CONTROL UNIT
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
51	B	ANT +B
52	B	ANT MAIN
53	-	-

Connector No.	M138
Connector Name	AV CONTROL UNIT
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
45	R	V BUS
46	W	USB D -
47	G	USB +
48	-	-
49	B	USB GND
50	SHIELD	USB SHIELD

Connector No.	M130
Connector Name	WIRE TO WIRE
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	B	-

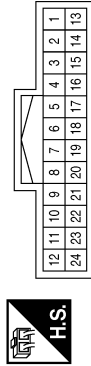
AANIA2446GB

NAVIGATION WITH BOSE

< WIRING DIAGRAM >

[NAVIGATION WITH BOSE]

Connector No.	M156
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

Connector No.	M142
Connector Name	AV CONTROL UNIT
Connector Color	PINK



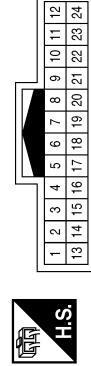
Terminal No.	Color of Wire	Signal Name
56	B	SAT ANT
57	SHIELD	SAT SHIELD

Connector No.	M141
Connector Name	AV CONTROL UNIT
Connector Color	BLUE



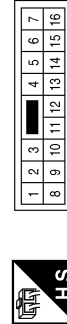
Terminal No.	Color of Wire	Signal Name
54	B	GPS ANT
55	SHIELD	GPS SHIELD

Connector No.	M168
Connector Name	WIRE TO WIRE
Connector Color	WHITE



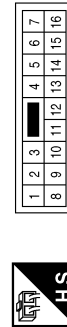
Terminal No.	Color of Wire	Signal Name
7	L	-
8	Y	-
9	G	-
10	SHIELD	-

Connector No.	M167
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
6	LA/L	- (WITH BOSE AUDIO SYSTEM)
7	LA/BR	- (WITH BOSE AUDIO SYSTEM)

Connector No.	M158
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
13	R	- (WITH BOSE AUDIO SYSTEM)
14	SB	- (WITH BOSE AUDIO SYSTEM)

AANIA2447GB

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

AV

NAVIGATION WITH BOSE

< WIRING DIAGRAM >

[NAVIGATION WITH BOSE]

Connector No.	M502
Connector Name	ANTENNA BASE (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	BROWN



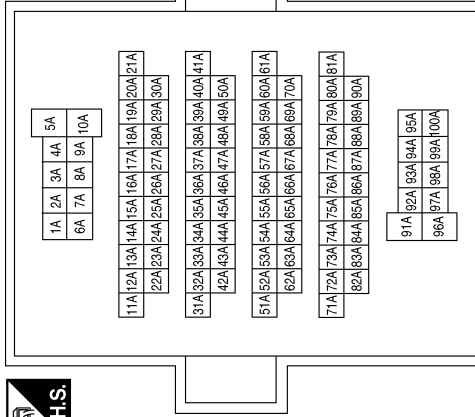
Terminal No.	Color of Wire	Signal Name
1	B	-

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

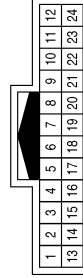


Terminal No.	Color of Wire	Signal Name
1	B	-
2	B	-

Connector No.	E34
Connector Name	WIRE TO WIRE
Connector Color	GRAY



Connector No.	E26
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	V	-
2	L	-
13	SHIELD	-
14	LG	-

Connector No.	M503
Connector Name	ANTENNA BASE (SATELLITE RADIO ANTENNA)
Connector Color	GREEN



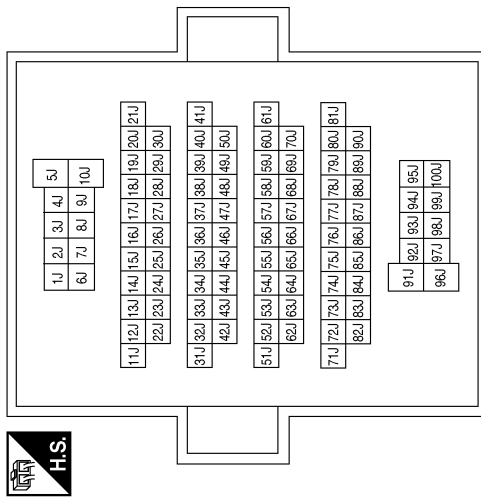
Terminal No.	Color of Wire	Signal Name
3	B	-

Terminal No.	100A	Color of Wire	G	Signal Name	-
--------------	------	---------------	---	-------------	---

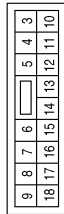
AANIA2448GB

Terminal No.	Color of Wire	Signal Name
22J	SHIELD	-
23J	LG	-
24J	V	-
25J	L	-

Connector No.	E152
Connector Name	WIRE TO WIRE
Connector Color	WHITE

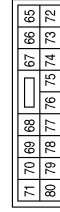


Connector No.	E119
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
16	G	O LIGHT REVERSE LAMP

Connector No.	F35
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE



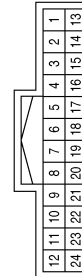
Terminal No.	Color of Wire	Signal Name
71	SB	O IGN AT LPG
79	G	LI LIGHT REVERSE SW

Connector No.	E226
Connector Name	FRONT CAMERA
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
1	V	-
2	L	-
4	LG	-
5	SHIELD	-

Connector No.	E209
Connector Name	WIRE TO WIRE
Connector Color	WHITE



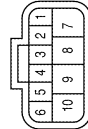
Terminal No.	Color of Wire	Signal Name
1	V	-
2	L	-
13	SHIELD	-
14	LG	-

AANIA2449GB

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

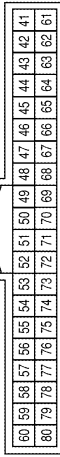
AV

Connector No.	F78
Connector Name	TRANSMISSION RANGE SWITCH
Connector Color	BLACK



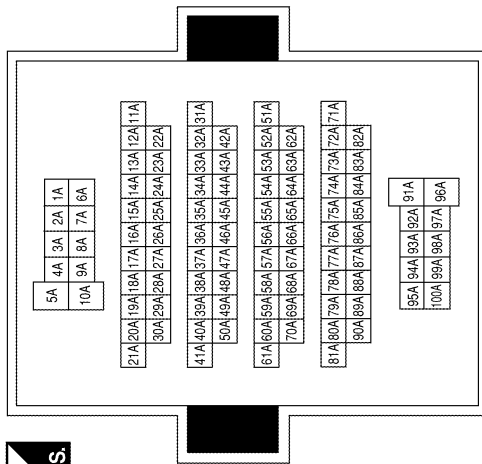
Terminal No.	Color of Wire	Signal Name
4	W	-
8	G	-

Connector No.	B16
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	GREEN



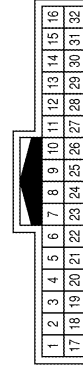
Terminal No.	Color of Wire	Signal Name
60	L	CAN-H
80	P	CAN-L

Connector No.	B40
Connector Name	WIRE TO WIRE
Connector Color	GRAY



Terminal No.	100A	Color of Wire	G	Signal Name	-
--------------	------	---------------	---	-------------	---

Connector No.	B41
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
13	W	-
24	P	-
25	L	-
26	G	-
29	SHIELD	-
30	W	-
31	B	-
32	R	-

AANIA2450GB

NAVIGATION WITH BOSE

< WIRING DIAGRAM >

[NAVIGATION WITH BOSE]

Connector No.	B51
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

Terminal No.	Color of Wire	Signal Name
8	LA/G	-(WITH BOSE AUDIO SYSTEM)
9	LA/P	-(WITH BOSE AUDIO SYSTEM)

Connector No.	B49
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

Terminal No.	Color of Wire	Signal Name
4	LA/G	-
5	LA/P	-

Connector No.	B46
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

Terminal No.	Color of Wire	Signal Name
4	W	-
5	R	-
6	B	-
7	W	-
8	SHIELD	-

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



1	2	3
4	5	6

Terminal No.	Color of Wire	Signal Name
1	W	-
2	SB	-

Connector No.	B101
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

Terminal No.	Color of Wire	Signal Name
4	LG	-(WITH BOSE AUDIO SYSTEM)
5	V	-(WITH BOSE AUDIO SYSTEM)

Connector No.	B63
Connector Name	JOINT CONNECTOR-B01
Connector Color	GRAY



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

Terminal No.	Color of Wire	Signal Name
3	P	-
4	L	-
7	P	-
8	L	-

AANIA2451GB

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

AV

NAVIGATION WITH BOSE

< WIRING DIAGRAM >

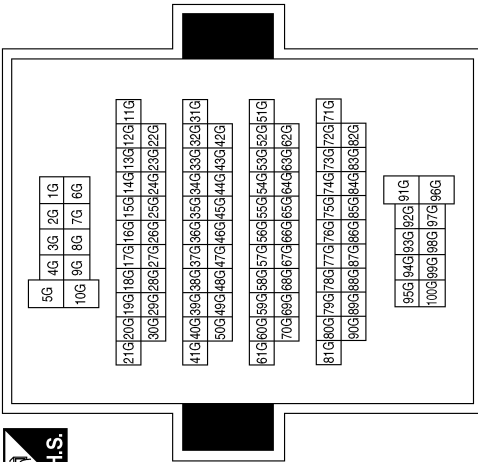
[NAVIGATION WITH BOSE]

Connector No.	B116
Connector Name	SUBWOOFER
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
1	BR	-
2	Y	-
3	SHIELD	-
4	G	-
5	B	-
6	SB	-

Connector No.	B136
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
5G	G	-

Terminal No.	Color of Wire	Signal Name
10G	R	-
34G	V	-
35G	BR	-
36G	SHIELD	-
37G	LG	-
38G	V	-
39G	SHIELD	-
40G	G	-
41G	R	-
44G	BG	-
45G	SHIELD	-
46G	W	-
47G	R	-
48G	SHIELD	-
49G	L	-
50G	Y	-
91G	R	-
92G	BR	-
93G	W	-
96G	G	-
97G	P	-
98G	GR	-

Connector No.	B137
Connector Name	BOSE SPEAKER AMP.
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	L	OUTPUT 7+ (REAR LEFT DOOR SP+)
2	LG	OUTPUT 8+ (REAR RIGHT DOOR SP+)

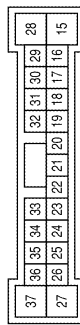
Terminal No.	Color of Wire	Signal Name
3	V	OUTPUT 8- (REAR RIGHT DOOR SP-)
4	BR	OUTPUT 5+ (FRONT LEFT DOOR SP+)
5	P	OUTPUT 5- (FRONT LEFT DOOR SP-)
6	W	OUTPUT 1+ (IP LEFT, 1" TWEETER+)
7	GR	OUTPUT 1- (IP LEFT, 1" TWEETER-)
8	G	OUTPUT 6+ (FRONT RIGHT DOOR SP+)

Terminal No.	Color of Wire	Signal Name
9	Y	OUTPUT 4+ (STBB SIGNAL+)
10	R	OUTPUT 7- (REAR LEFT DOOR SP-)
11	W	B+
12	B	GND
13	R	OUTPUT 6- (FRONT RIGHT DOOR SP-)
14	BR	OUTPUT 4- (STBB SIGNAL-)

Terminal No.	Color of Wire	Signal Name
32	G	INPUT 1- (FRONT LEFT IN-)
33	R	INPUT 4- (REAR RIGHT IN-)
34	-	-
35	-	-
36	-	-
37	G	OUTPUT 2+ (IP RIGHT, 1" TWEETER+)

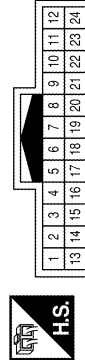
Terminal No.	Color of Wire	Signal Name
21	V	INPUT 3+ (REAR LEFT IN+)
22	LG	INPUT 3- (REAR LEFT IN-)
23	W	INPUT 4+ (REAR RIGHT IN +)
24	-	-
25	G	GPIO D (EXTERNAL AMP ENABLE)
26	-	-
27	R	OUTPUT 2- (IP RIGHT, 1" TWEETER-)
28	BG	OUTPUT 3- (IP CENT, 80MM TWD-)
29	-	-
30	-	-
31	BR	SWB+

Connector No.	B138
Connector Name	BOSE SPEAKER AMP.
Connector Color	BROWN

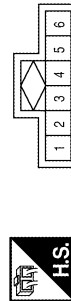


Terminal No.	Color of Wire	Signal Name
15	V	OUTPUT 3+ (IP CENT, 80MM TWD+)
16	-	-
17	-	-
18	R	INPUT 1+ (FRONT LEFT IN+)
19	Y	INPUT 2+ (FRONT RIGHT IN+)
20	L	INPUT 2- (FRONT RIGHT IN-)

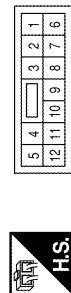
Connector No.	R11
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Connector No.	R8
Connector Name	MICROPHONE
Connector Color	WHITE



Connector No.	B140
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

Terminal No.	Color of Wire	Signal Name
1	W	-
2	SHIELD	-
4	B	-

Terminal No.	Color of Wire	Signal Name
4	R	-
5	L	-

AANIA2453GB

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

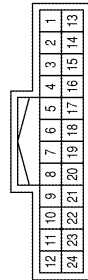
AV

Connector No.	D9
Connector Name	FRONT DOOR SPEAKER LH (WITH BOSE AUDIO SYSTEM)
Connector Color	BROWN



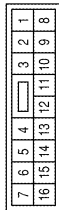
Terminal No.	Color of Wire	Signal Name
1	LA/L	--
2	LA/BR	--

Connector No.	D3
Connector Name	WIRE TO WIRE
Connector Color	WHITE



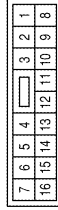
Terminal No.	Color of Wire	Signal Name
7	GR	--
8	G	--
9	Y	--
10	B	--

Connector No.	D2
Connector Name	WIRE TO WIRE
Connector Color	WHITE



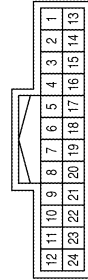
Terminal No.	Color of Wire	Signal Name
6	LA/L	--
7	LA/BR	--

Connector No.	D102
Connector Name	WIRE TO WIRE
Connector Color	WHITE



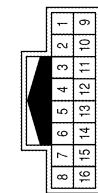
Terminal No.	Color of Wire	Signal Name
13	LA/R	--
14	LA/G	--

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



Terminal No.	Color of Wire	Signal Name
7	L	--
8	V	--
9	Y	--
10	B	--

Connector No.	D14
Connector Name	DOOR MIRROR LH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
7	GR	--
8	G	--
15	B	--
16	Y	--

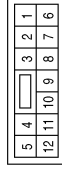
AANIA2467GB

NAVIGATION WITH BOSE

< WIRING DIAGRAM >

[NAVIGATION WITH BOSE]

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



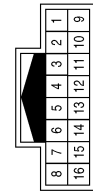
Terminal No.	Color of Wire	Signal Name
8	LA/R	-
9	LA/L	-

Connector No.	D114
Connector Name	FRONT DOOR SPEAKER RH (WITH BOSE AUDIO SYSTEM)
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	LA/G	-
2	LA/R	-

Connector No.	D107
Connector Name	DOOR MIRROR RH
Connector Color	WHITE



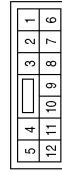
Terminal No.	Color of Wire	Signal Name
7	L	-
8	V	-
15	B	-
16	Y	-

Connector No.	D303
Connector Name	REAR DOOR SPEAKER RH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	LA/V	-
2	LA/Y	-

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



Terminal No.	Color of Wire	Signal Name
4	LA/V	-
5	LA/Y	-

Connector No.	D203
Connector Name	REAR DOOR SPEAKER LH
Connector Color	WHITE



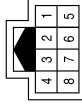
Terminal No.	Color of Wire	Signal Name
1	LA/L	-
2	LA/R	-

AANIA2468GB

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

AV

Connector No.	D514
Connector Name	REAR VIEW CAMERA (WITH DRIVER ASSISTANCE SYSTEM)
Connector Color	WHITE



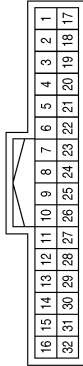
Terminal No.	Color of Wire	Signal Name
1	V	-
4	L	-
5	W	-
7	B	-
8	R	-

Connector No.	D504
Connector Name	REAR VIEW CAMERA (WITHOUT DRIVER ASSISTANCE SYSTEM)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
1	B	-
2	R	-
4	W	-
5	V	-

Connector No.	D501
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
4	L	-
5	R	-
6	B	-
7	W	-
8	V	-

AANIA2469GB

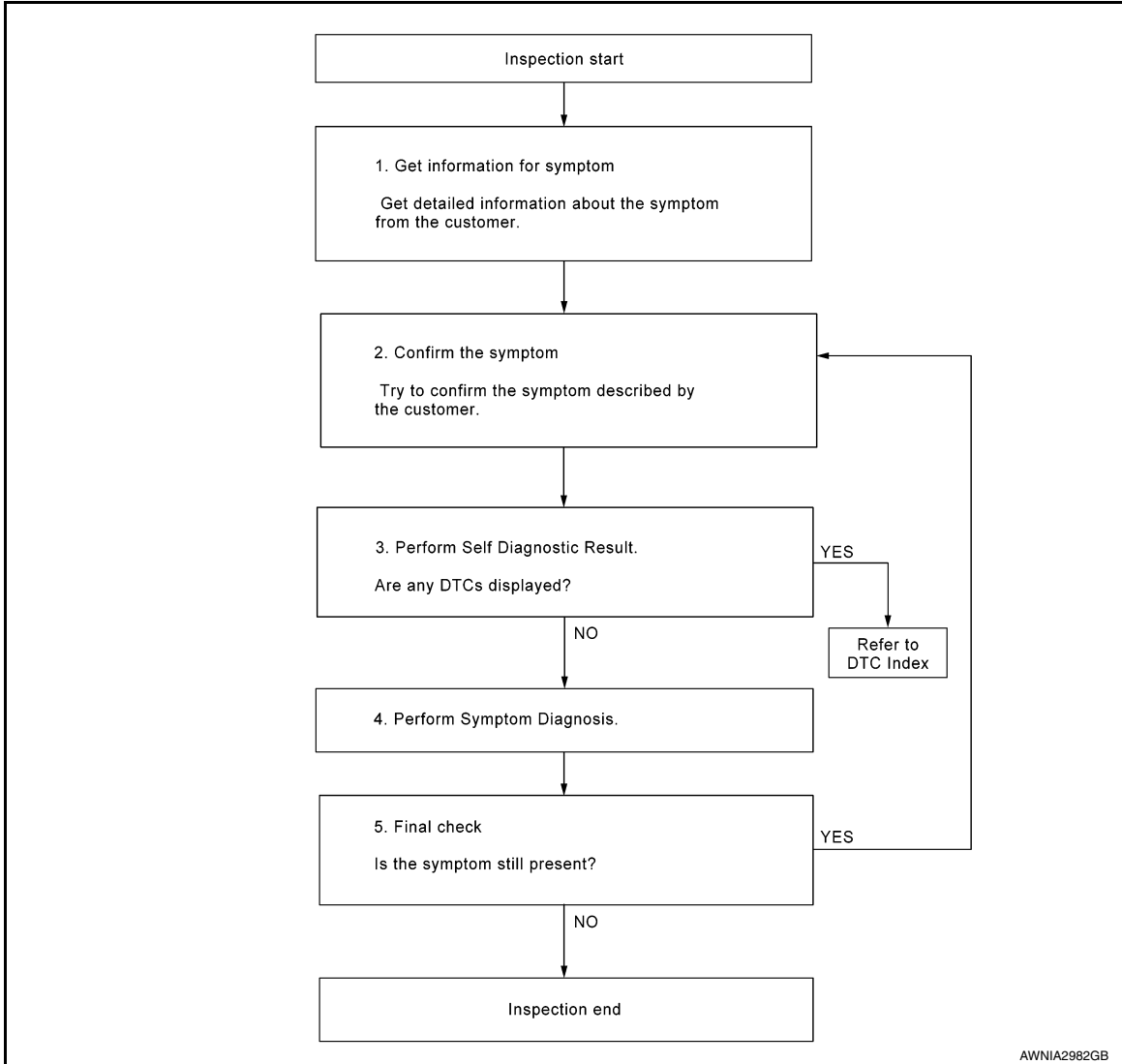
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000010244414

OVERALL SEQUENCE



DETAILED FLOW

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

2.CONFIRM THE SYMPTOM

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

>> GO TO 3.

3.PERFORM SELF DIAGNOSTIC RESULT

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

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

AV

O

P

DIAGNOSIS AND REPAIR WORKFLOW

[NAVIGATION WITH BOSE]

< BASIC INSPECTION >

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

Are any DTCs displayed?

YES >> Refer to [AV-251, "DTC Index"](#) (MULTI AV) or [AV-257, "WITHOUT DRIVER ASSISTANCE SYSTEM : DTC Index"](#) (AVM).

NO >> GO TO 4.

4. PERFORM SYMPTOM DIAGNOSIS

Refer to [AV-361, "Symptom Table"](#).

>> GO TO 5.

5. FINAL CHECK

Refer to symptom described by the customer in step 1.

Is the symptom still present?

YES >> GO TO 2.

NO >> Inspection End.

INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Description

INFOID:000000010244415

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:000000010244416

1. SAVING VEHICLE SPECIFICATION

④-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-376, "Removal and Installation"](#).

>> GO TO 3.

3. WRITING VEHICLE SPECIFICATION

④CONSULT

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-289, "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-289, "CONFIGURATION \(AV CONTROL UNIT\) : Work Procedure"](#).

>> GO TO 4.

4. OPERATION CHECK

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

>> Work End.

ADDITIONAL SERVICE WHEN REPLACING AROUND VIEW MONITOR CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING AROUND VIEW MONITOR CONTROL

UNIT : Description

INFOID:000000010244417

BEFORE REPLACEMENT

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

NOTE:

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

AFTER REPLACEMENT

CAUTION:

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

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

ADDITIONAL SERVICE WHEN REPLACING AROUND VIEW MONITOR CONTROL

UNIT : Work Procedure

INFOID:000000010244418

1. SAVING VEHICLE SPECIFICATION

Ⓟ-CONSULT

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

NOTE:

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

>> GO TO 2.

2. REPLACE AROUND VIEW MONITOR CONTROL UNIT

Replace around view monitor control unit. Refer to [AV-387, "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-290, "CONFIGURATION \(AROUND VIEW MONITOR CONTROL UNIT\) : Work Procedure"](#).
3. If "Before Replace ECU" operation was not performed, select "After Replace ECU" or "Manual Configuration" to write vehicle specification. Refer to [AV-290, "CONFIGURATION \(AROUND VIEW MONITOR CONTROL UNIT\) : Work Procedure"](#).

>> GO TO 4.

4. OPERATION CHECK

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

>> Work End.

CONFIGURATION (AV CONTROL UNIT)

CONFIGURATION (AV CONTROL UNIT) : Description

INFOID:000000010244419

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"	<ul style="list-style-type: none"> • 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:000000010244420

1. WRITING MODE SELECTION

④CONSULT

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"

④CONSULT

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"

④CONSULT

1. Select "After Replace ECU" or "Manual Configuration".
2. Identify the correct model and configuration list. Refer to [AV-290, "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.

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[NAVIGATION WITH BOSE]

>> Work End.

CONFIGURATION (AV CONTROL UNIT) : Configuration List

INFOID:000000010244421

CAUTION:

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

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

↔: Items which confirm vehicle specifications

CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT)

CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT) : Description

INFOID:000000010244422

Vehicle specification needs to be written with CONSULT because it is not written after replacing around view monitor control unit.

Configuration has three functions as follows:

Function	Description
"Before Replace ECU"	<ul style="list-style-type: none">• Reads the vehicle configuration of current around view monitor control unit.• Saves the read vehicle configuration.
"After Replace ECU"	Writes the vehicle configuration with manual selection.
"Select Saved Data List"	Writes the vehicle configuration with saved data.

CAUTION:

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

CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT) : Work Procedure

INFOID:000000010244423

1. WRITING MODE SELECTION

CONSULT

Select "Reprogramming, Configuration" of around view monitor control unit.

When writing saved data>>GO TO 2.

When writing manually>>GO TO 3.

2. PERFORM "SAVED DATA LIST"

CONSULT

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

>> Work End.

3. PERFORM "AFTER REPLACE ECU" OR "MANUAL CONFIGURATION"

CONSULT

1. Select "After Replace ECU" or "Manual Configuration".

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[NAVIGATION WITH BOSE]

- Identify the correct model and configuration list. Refer to [AV-291. "CONFIGURATION \(AROUND VIEW MONITOR CONTROL UNIT\) : Configuration List"](#).
- 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.
- Select "Next".
CAUTION:
Make sure to select "Next", confirm each setting value and press "OK" even if the indicated configuration of brand new around view monitor control unit is same as the desirable configuration. If not, configuration which is set automatically by selecting vehicle model can not be memorized.
- When "Completed", select "End".

>> GO TO 4.

4. OPERATION CHECK

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

>> Work End.

CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT) : Configuration List

INFOID:000000010244424

CAUTION:

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

MANUAL SETTING ITEM	
Items	Setting value
BCI FUNCTION	WITH ↔ WITHOUT

↔: Items which confirm vehicle specifications

PREDICTED COURSE LINE CENTER POSITION ADJUSTMENT

PREDICTED COURSE LINE CENTER POSITION ADJUSTMENT : Description

INFOID:000000010244425

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

PREDICTED COURSE LINE CENTER POSITION ADJUSTMENT : Work Procedure

INFOID:000000010244426

1. DRIVING

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

>> End.

CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR)

CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Description

INFOID:000000010244427

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

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

AV

O
P

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

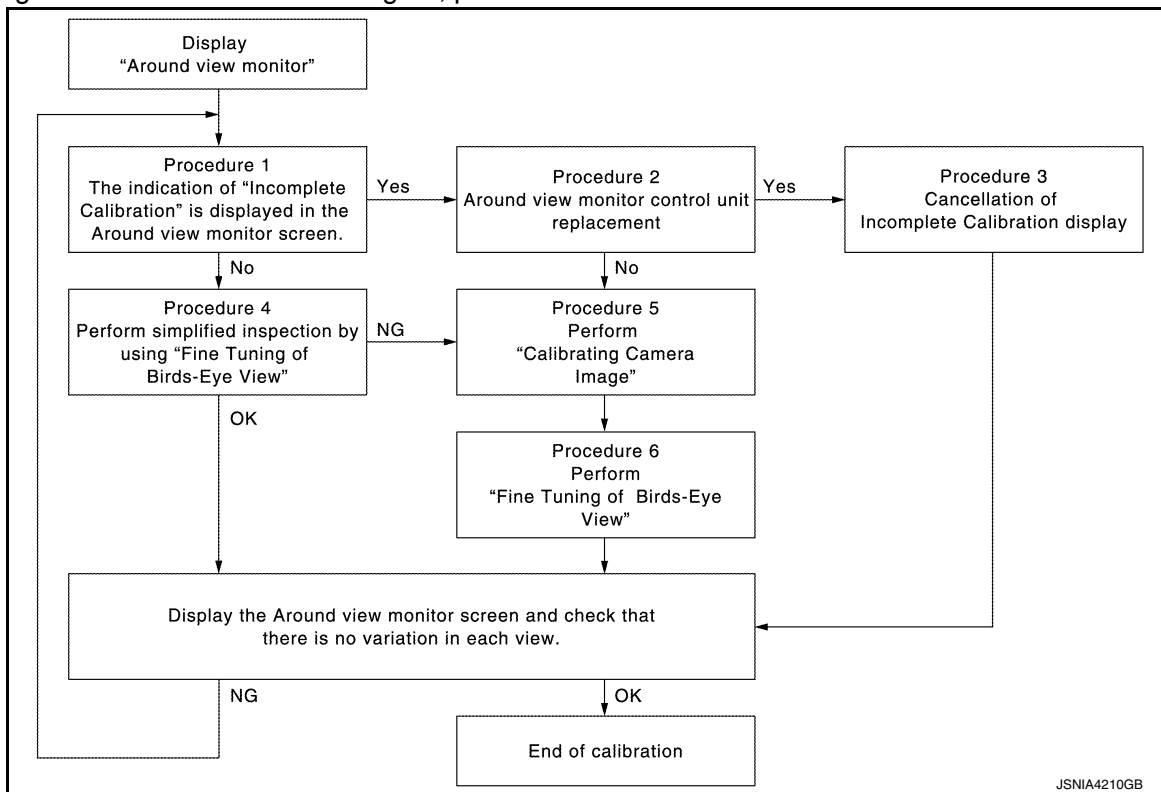
[NAVIGATION WITH BOSE]

CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Work Procedure

INFOID:000000010244428

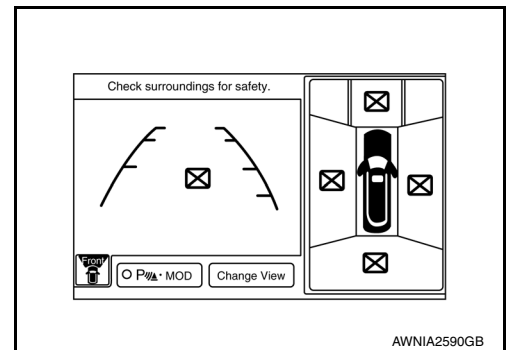
CALIBRATION FLOWCHART

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



NOTE:

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



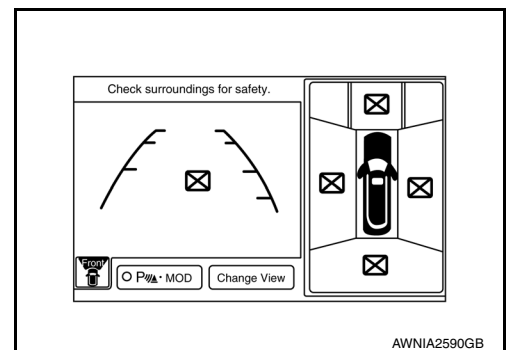
CALIBRATION PROCEDURE

1. AROUND VIEW MONITOR SCREEN CONFIRMATION

Check that there is no indication of "Incomplete calibration".

Is the "Incomplete calibration" display visible?

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



2. CHECK THAT AROUND VIEW MONITOR CONTROL UNIT IS REPLACED

Check that the around view monitor control unit is replaced.

Is the around view monitor control unit replaced?

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

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

CONSULT work support

- On the CONSULT screen, touch “CALIBRATING CAMERA IMAGE (FRONT CAMERA)”, “CALIBRATING CAMERA IMAGE (PASS-SIDE CAMERA)”, “CALIBRATING CAMERA IMAGE (DR-SIDE CAMERA)”, or “CALIBRATING CAMERA IMAGE (REAR CAMERA)” to accept the selection.

NOTE:

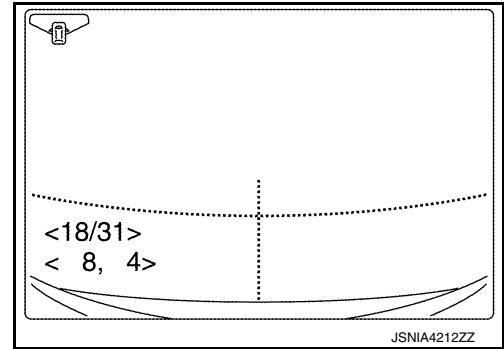
To cancel the indication of Incomplete calibration, select items based on the target camera.

- On the adjustment screen of each camera, touch “APPLY” button. After this, touch “OK” button.

CAUTION:

- Never perform operations other than those mentioned above.
- Never perform “Initialize Camera Image Calibration”.

- Display the around view monitor screen to check that there is no errors, such as deviations among the camera images.



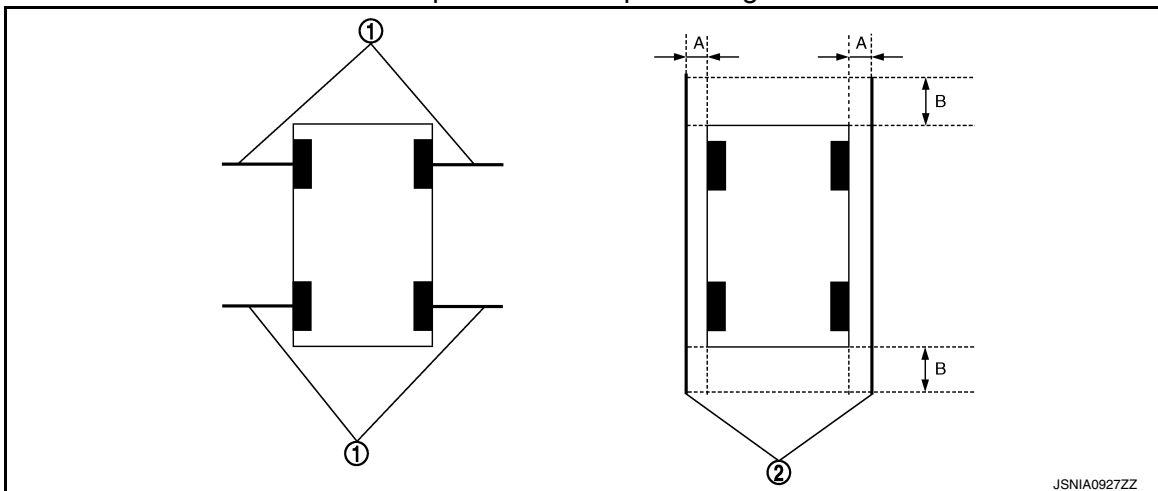
Is there a malfunction?

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

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

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

Preparation of simplified target line



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

3. CONSULT work support

Touch “FINE TUNING OF BIRDS-EYE VIEW” on the CONSULT screen.

- On the CONSULT screen, touch “SELECT” button to select right or left camera and perform camera calibration as instructed below:
 - If the marker on the screen deviates from Target line 1, touch “AXIS X” button and “AXIS Y” button to adjust so that the marker is placed on the Target line 1.
 - If Target line 2 is misaligned among the cameras, adjust each camera image to bring Target line 2 into a straight line.

CAUTION:

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

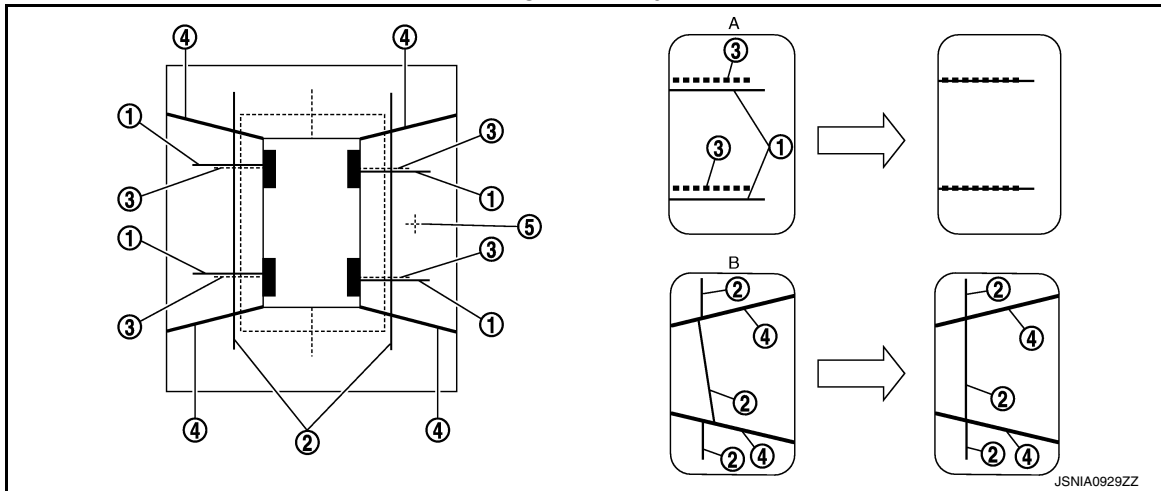
INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[NAVIGATION WITH BOSE]

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

Simplified target line adjustment method



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

- Adjust right and left cameras. Touch "APPLY" on the CONSULT screen to display adjustment results.
- After adjusting right and left cameras, check that the marker is properly placed on the screen and there is no deviation in Target line 1.

NOTE:

- It can be initialized to the NISSAN factory default condition with "Initialize Camera Image Calibration".
- The adjustment value is cancelled on this mode by performing "Initialize Camera Image Calibration".

Is the difference corrected?

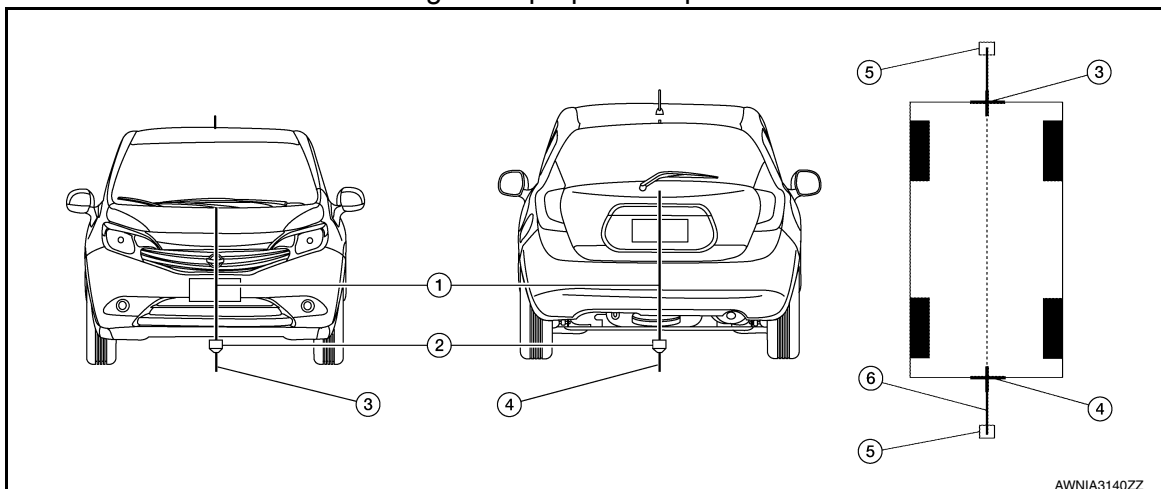
- YES >> On the CONSULT screen, touch "OK" button to complete writing to the around view monitor control unit.
- NO >> GO TO 5.

5.PERFORM "CALIBRATING CAMERA IMAGE"

Preparation of target line

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

Target line preparation procedure 1



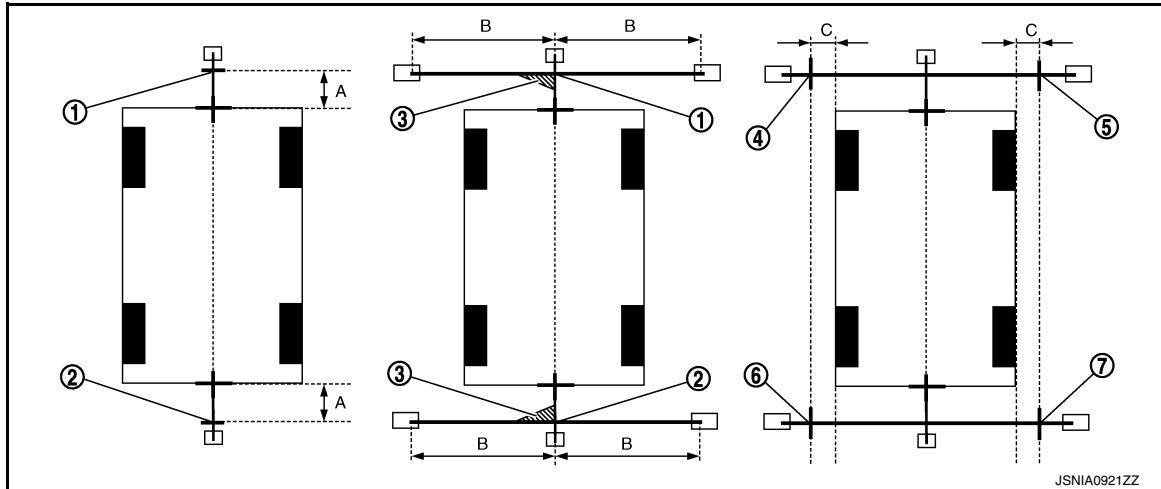
INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[NAVIGATION WITH BOSE]

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

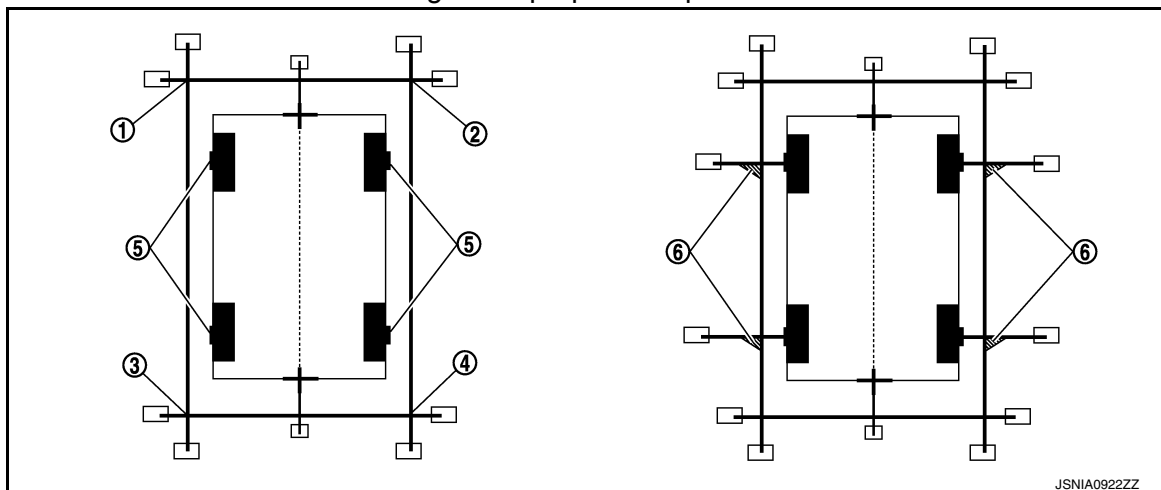
Target line preparation procedure 2



1. Point FM
 2. Point RM
 3. Triangle scale
 4. Point FL (mark)
 5. Point FR (mark)
 6. Point RL (mark)
 7. Point RR (mark)
- A. 75 cm (29.5 in) B. Approx. 1.5 m (59 in) C. [Vehicle width / 2 + 30 cm (11.8 in) from the points FM and RM]

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

Target line preparation procedure 3



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

Perform “Calibrating Camera Image”

CONSULT work support

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

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[NAVIGATION WITH BOSE]

1. On the CONSULT screen, touch “CALIBRATING CAMERA IMAGE (FRONT CAMERA)”, “CALIBRATING CAMERA IMAGE (PASS-SIDE CAMERA)”, “CALIBRATING CAMERA IMAGE (DR-SIDE CAMERA)”, or “CALIBRATING CAMERA IMAGE (REAR CAMERA)” to accept the selection.

NOTE:

To cancel the indication of Incomplete calibration, select items based on the target camera.

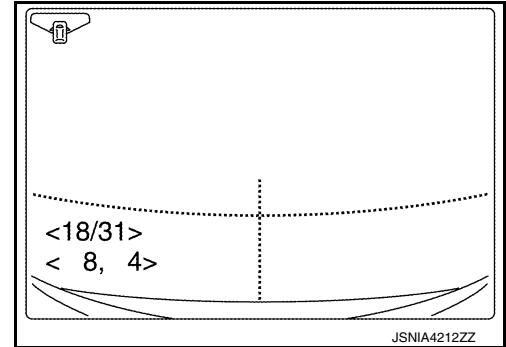
2. On the adjustment screen of each camera, adjust the parameter by touching the “AXIS X” button, “AXIS Y” button, and “ROTATE” button to place the calibration marker shown on the camera screen on the target line drawn on the ground.

Adjustment range

Rotation direction (Center dial) : 31 patterns (16 on the center)

Upper/lower direction (upper/lower switch) : -22 – 22

Left/right direction (left/right switch) : -22 – 22



3. Touch “APPLY” button on the CONSULT screen. “PRCSNG” is displayed and adjustment results are shown on the camera screen.

CAUTION:

Check that “PRCSNG” is displayed. Never perform other operations while “PRCSNG” is displayed.

4. Touch “OK” button on the CONSULT screen. “PRCSNG” is displayed and adjustment results are written to the around view monitor control unit.

CAUTION:

Check that “PRCSNG” is displayed. Never perform other operations while “PRCSNG” is displayed.

>> GO TO 6.

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

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

CONSULT work support

1. Select “FINE TUNING OF BIRDS-EYE VIEW” by touching CONSULT screen.

2. On the adjustment screen of each camera, adjust the parameter by touching the “AXIS X” button, “AXIS Y” button”, and “ROTATE” button to place the calibration marker shown on the camera screen on the target line drawn on the ground.

NOTE:

Touch “SELECT” button on the CONSULT screen to select the target camera.

3. Touch “APPLY” button on the CONSULT screen. “PRCSNG” is displayed and adjustment results are shown on the camera screen.

CAUTION:

Check that “PRCSNG” is displayed. Never perform other operations while “PRCSNG” is displayed.

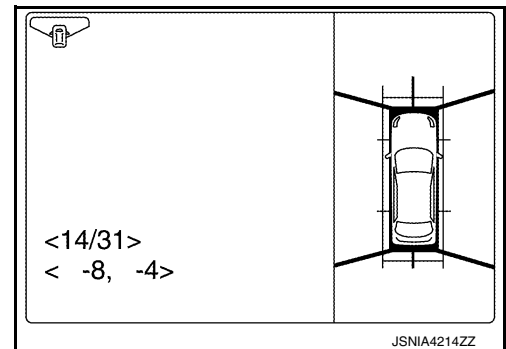
4. Touch “OK” button on the CONSULT screen. “PRCSNG” is displayed and adjustment results are written to the around view monitor control unit.

CAUTION:

- Check that “PRCSNG” is displayed. Never perform other operations while “PRCSNG” is displayed.
- After pressing the “OK” button, never press buttons other than the “BACK” button.

NOTE:

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



>> Calibration End.

U0428 STEERING ANGLE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

DTC/CIRCUIT DIAGNOSIS

U0428 STEERING ANGLE SENSOR

DTC Logic

INFOID:0000000010244429

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
ST ANG SEN CALIB [U0428]	Predictive course line center position adjustment of steering angle sensor is incomplete.	Adjust predictive course line center position adjustment of steering angle sensor.

Diagnosis Procedure

INFOID:0000000010244430

1. ADJUST PREDICTIVE COURSE LINE CENTER POSITION ADJUSTMENT OF STEERING ANGLE SENSOR

When U0428 is detected, the predictive course line center position of steering angle sensor needs to be adjusted.

>> Adjust the predictive course line center position of steering angle sensor. Refer to [AV-291, "PREDICTED COURSE LINE CENTER POSITION ADJUSTMENT : Work Procedure"](#).

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

AV

U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U1000 CAN COMM CIRCUIT

AV CONTROL UNIT

AV CONTROL UNIT : DTC Logic

INFOID:000000010244431

DTC DETECTION LOGIC

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

AV CONTROL UNIT : Diagnosis Procedure

INFOID:000000010244432

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-17, "Trouble Diagnosis Flow Chart"](#).

NO >> Refer to [GI-41, "Intermittent Incident"](#).

AROUND VIEW MONITOR CONTROL UNIT

AROUND VIEW MONITOR CONTROL UNIT : DTC Logic

INFOID:000000010244433

DTC DETECTION LOGIC

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

AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure

INFOID:000000010244434

1.PERFORM SELF DIAGNOSTIC RESULT

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

Is CAN COMM CIRCUIT displayed?

YES >> Refer to [LAN-17, "Trouble Diagnosis Flow Chart"](#).

NO >> Refer to [GI-41, "Intermittent Incident"](#).

U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U1010 CONTROL UNIT (CAN)

AV CONTROL UNIT

AV CONTROL UNIT : DTC Logic

INFOID:0000000010244435

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-376 . "Removal and Installation".

AROUND VIEW MONITOR CONTROL UNIT

AROUND VIEW MONITOR CONTROL UNIT : DTC Logic

INFOID:0000000010244436

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
CONTROL UNIT (CAN) [U1010]	Error during CAN controller hardware initialization (VCAN).	Replace the Around view monitor control unit if the malfunction occurs constantly. Refer to AV-387 . "Removal and Installation".

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

AV

O
P

U111A REAR CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U111A REAR CAMERA IMAGE SIGNAL CIRCUIT

DTC Logic

INFOID:000000010244437

DTC DETECTION LOGIC

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

Diagnosis Procedure

INFOID:000000010244438

Regarding Wiring Diagram information, refer to [AV-262, "Wiring Diagram"](#).

WITHOUT DRIVER ASSISTANCE SYSTEM

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

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and rear view camera connectors.
3. Check continuity between around view monitor control unit connector M103 and rear view camera connector D504.

Around view monitor control unit		Rear view camera		Continuity
Connector	Terminals	Connector	Terminals	
M103	26	D504	2	Yes
	25		1	

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

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M103	26		No

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

2. CHECK REAR VIEW CAMERA POWER SUPPLY VOLTAGE

1. Connect around view monitor control unit and rear view camera connectors.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit connector M103 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M103	26	—	CAMERA switch is ON or selector lever in R (reverse).	6.0 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace around view monitor control unit. Refer to [AV-387, "Removal and Installation"](#).

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

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

U111A REAR CAMERA IMAGE SIGNAL CIRCUIT

[NAVIGATION WITH BOSE]

< DTC/CIRCUIT DIAGNOSIS >

3. Check continuity between around view monitor control unit connector M103 and rear view camera connector D504.

Around view monitor control unit		Rear view camera		Continuity
Connector	Terminals	Connector	Terminals	
M103	28	D504	4	Yes
	27		5	

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

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M103	28		No

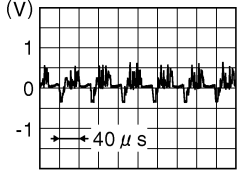
Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness or connectors.

4.CHECK REAR VIEW CAMERA IMAGE SIGNAL

1. Connect around view monitor control unit and rear view camera connectors.
2. Turn ignition switch ON.
3. Check signal between the terminals of around view monitor control unit connector M103.

Around view monitor control unit connector M103		Condition	Reference value
(+) Terminal	(-) Terminal		
28	27	CAMERA switch is ON or selector lever in R (reverse).	

Is the inspection result normal?

YES >> Replace around view monitor control unit. Refer to [AV-387, "Removal and Installation"](#).

NO >> Replace rear view camera. Refer to [AV-390, "Removal and Installation"](#).

WITH DRIVER ASSISTANCE SYSTEM

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

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and rear view camera connectors.
3. Check continuity between around view monitor control unit connector M114 and rear view camera connector D514.

Around view monitor control unit		Rear view camera		Continuity
Connector	Terminals	Connector	Terminals	
M114	50	D514	8	Yes
	52		7	

4. Check continuity between around view monitor control unit connector M114 and ground.

U111A REAR CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M114	50		No

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

2. CHECK REAR VIEW CAMERA POWER SUPPLY VOLTAGE

1. Connect around view monitor control unit and rear view camera connectors.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit connector M114 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M114	50	—	CAMERA switch is ON or selector lever in R (reverse).	6.0 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace around view monitor control unit. Refer to [AV-387, "Removal and Installation"](#).

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

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and rear view camera connectors.
3. Check continuity between around view monitor control unit connector M114 and rear view camera connector D514.

Around view monitor control unit		Rear view camera		Continuity
Connector	Terminals	Connector	Terminals	
M114	53	D514	5	Yes
	54		1	

4. Check continuity between around view monitor control unit connector M114 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M114	53		No

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness or connectors.

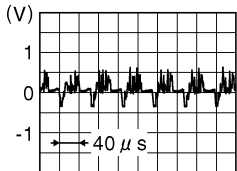
4. CHECK REAR VIEW CAMERA IMAGE SIGNAL

1. Connect around view monitor control unit and rear view camera connectors.
2. Turn ignition switch ON.
3. Check signal between the terminals of around view monitor control unit connector M114.

U111A REAR CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

Around view monitor control unit connector M114		Condition	Reference value
(+)	(-)		
Terminal	Terminal		
53	54	CAMERA switch is ON or selector lever in R (reverse).	 <p style="text-align: right; font-size: small;">JSNIA0834GB</p>

Is the inspection result normal?

- YES >> Replace around view monitor control unit. Refer to [AV-387, "Removal and Installation"](#).
- NO >> Replace rear view camera. Refer to [AV-390, "Removal and Installation"](#).

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

AV

O
P

U111B SIDE CAMERA RH IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U111B SIDE CAMERA RH IMAGE SIGNAL CIRCUIT

DTC Logic

INFOID:000000010244439

DTC DETECTION LOGIC

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

Diagnosis Procedure

INFOID:000000010244440

Regarding Wiring Diagram information, refer to [AV-262, "Wiring Diagram"](#).

WITHOUT DRIVER ASSISTANCE SYSTEM

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

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

Around view monitor control unit		RH side camera		Continuity
Connector	Terminals	Connector	Terminals	
M103	34	D107	7	Yes
	33		8	

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

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M103	34		No

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

2. CHECK RH SIDE CAMERA POWER SUPPLY VOLTAGE

- Connect around view monitor control unit and RH side camera connectors.
- Turn ignition switch ON.
- Check voltage between around view monitor control unit connector M103 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M103	34	—	CAMERA switch is ON or selector lever in R (reverse).	6.0 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace around view monitor control unit. Refer to [AV-387, "Removal and Installation"](#).

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

- Turn ignition switch OFF.

U111B SIDE CAMERA RH IMAGE SIGNAL CIRCUIT

[NAVIGATION WITH BOSE]

< DTC/CIRCUIT DIAGNOSIS >

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

Around view monitor control unit		RH side camera		Continuity
Connector	Terminals	Connector	Terminals	
M103	36	D107	16	Yes
	35		15	

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

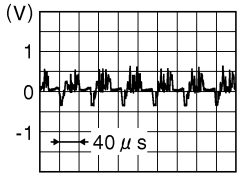
Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M103	36		No

Is the inspection result normal?

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

4.CHECK RH SIDE CAMERA IMAGE SIGNAL

1. Connect around view monitor control unit and RH side camera connectors.
2. Turn ignition switch ON.
3. Check signal between the terminals of around view monitor control unit connector M103.

Around view monitor control unit connector M103		Condition	Reference value
(+) Terminal	(-) Terminal		
36	35	CAMERA switch is ON or selector lever in R (reverse).	

Is the inspection result normal?

- YES >> Replace around view monitor control unit. Refer to [AV-387, "Removal and Installation"](#).
 NO >> Replace RH side camera. Refer to [AV-389, "Removal and Installation"](#).

WITH DRIVER ASSISTANCE SYSTEM

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

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and RH side camera connectors.
3. Check continuity between around view monitor control unit connector M114 and RH side camera connector D107.

Around view monitor control unit		RH side camera		Continuity
Connector	Terminals	Connector	Terminals	
M114	62	D107	7	Yes
	64		8	

4. Check continuity between around view monitor control unit connector M114 and ground.

U111B SIDE CAMERA RH IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M114	62		No

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

2. CHECK RH SIDE CAMERA POWER SUPPLY VOLTAGE

1. Connect around view monitor control unit and RH side camera connectors.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit connector M114 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M114	62	—	CAMERA switch is ON or selector lever in R (reverse).	6.0 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace around view monitor control unit. Refer to [AV-387, "Removal and Installation"](#).

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

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and RH side camera connectors.
3. Check continuity between around view monitor control unit connector M114 and RH side camera connector D107.

Around view monitor control unit		RH side camera		Continuity
Connector	Terminals	Connector	Terminals	
M114	65	D107	16	Yes
	66		15	

4. Check continuity between around view monitor control unit connector M114 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M114	65		No

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness or connectors.

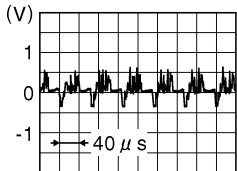
4. CHECK RH SIDE CAMERA IMAGE SIGNAL

1. Connect around view monitor control unit and RH side camera connectors.
2. Turn ignition switch ON.
3. Check signal between the terminals of around view monitor control unit connector M114.

U111B SIDE CAMERA RH IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

Around view monitor control unit connector M114		Condition	Reference value
(+)	(-)		
Terminal	Terminal		
65	66	CAMERA switch is ON or selector lever in R (reverse).	 <p style="text-align: right; font-size: small;">JSNIA0834GB</p>

Is the inspection result normal?

- YES >> Replace around view monitor control unit. Refer to [AV-387, "Removal and Installation"](#).
- NO >> Replace RH side camera. Refer to [AV-389, "Removal and Installation"](#).

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

AV

O
P

U111C FRONT CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U111C FRONT CAMERA IMAGE SIGNAL CIRCUIT

DTC Logic

INFOID:000000010244441

DTC DETECTION LOGIC

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

Diagnosis Procedure

INFOID:000000010244442

Regarding Wiring Diagram information, refer to [AV-262, "Wiring Diagram"](#).

WITHOUT DRIVER ASSISTANCE SYSTEM

1. CHECK FRONT CAMERA POWER SUPPLY AND GROUND CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and front camera connectors.
3. Check continuity between around view monitor control unit connector M103 and front camera connector E226.

Around view monitor control unit		Front camera		Continuity
Connector	Terminals	Connector	Terminals	
M103	38	E226	2	Yes
	37		1	

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

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M103	38		No

Is the inspection result normal?

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

2. CHECK FRONT CAMERA POWER SUPPLY VOLTAGE

1. Connect around view monitor control unit and front camera connectors.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit connector M103 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M103	38	—	CAMERA switch is ON or selector lever in R (reverse).	6.0 V

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Replace around view monitor control unit. Refer to [AV-387, "Removal and Installation"](#).

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

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

U111C FRONT CAMERA IMAGE SIGNAL CIRCUIT

[NAVIGATION WITH BOSE]

< DTC/CIRCUIT DIAGNOSIS >

3. Check continuity between around view monitor control unit connector M103 and front camera connector E226.

Around view monitor control unit		Front camera		Continuity
Connector	Terminals	Connector	Terminals	
M103	40	E226	4	Yes
	39		5	

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

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M103	40		No

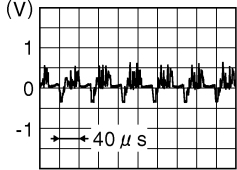
Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness or connectors.

4.CHECK FRONT CAMERA IMAGE SIGNAL

1. Connect around view monitor control unit and front camera connectors.
2. Turn ignition switch ON.
3. Check signal between the terminals of around view monitor control unit connector M103.

Around view monitor control unit connector M103		Condition	Reference value
(+) Terminal	(-) Terminal		
40	39	CAMERA switch is ON or selector lever in R (reverse).	 <p style="text-align: right; font-size: small;">JSNIA0834GB</p>

Is the inspection result normal?

YES >> Replace around view monitor control unit. Refer to [AV-387, "Removal and Installation"](#).

NO >> Replace front camera. Refer to [AV-388, "Removal and Installation"](#).

WITH DRIVER ASSISTANCE SYSTEM

1.CHECK FRONT CAMERA POWER SUPPLY AND GROUND CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and front camera connectors.
3. Check continuity between around view monitor control unit connector M114 and front camera connector E226.

Around view monitor control unit		Front camera		Continuity
Connector	Terminals	Connector	Terminals	
M114	68	E226	2	Yes
	70		1	

4. Check continuity between around view monitor control unit connector M114 and ground.

U111C FRONT CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M114	68		No

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

2. CHECK FRONT CAMERA POWER SUPPLY VOLTAGE

1. Connect around view monitor control unit and front camera connectors.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit connector M114 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M114	68	—	CAMERA switch is ON or selector lever in R (reverse).	6.0 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace around view monitor control unit. Refer to [AV-387, "Removal and Installation"](#).

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

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and front camera connectors.
3. Check continuity between around view monitor control unit connector M114 and front camera connector E226.

Around view monitor control unit		Front camera		Continuity
Connector	Terminals	Connector	Terminals	
M114	71	E226	4	Yes
	72		5	

4. Check continuity between around view monitor control unit connector M114 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M114	71		No

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness or connectors.

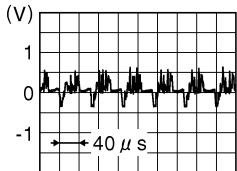
4. CHECK FRONT CAMERA IMAGE SIGNAL

1. Connect around view monitor control unit and front camera connectors.
2. Turn ignition switch ON.
3. Check signal between the terminals of around view monitor control unit connector M114.

U111C FRONT CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

Around view monitor control unit connector M114		Condition	Reference value
(+)	(-)		
Terminal	Terminal		
71	72	CAMERA switch is ON or selector lever in R (reverse).	 <p style="text-align: right; font-size: small;">JSNIA0834GB</p>

Is the inspection result normal?

- YES >> Replace around view monitor control unit. Refer to [AV-387, "Removal and Installation"](#).
- NO >> Replace front camera. Refer to [AV-388, "Removal and Installation"](#).

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

AV

O
P

U111D SIDE CAMERA LH IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U111D SIDE CAMERA LH IMAGE SIGNAL CIRCUIT

DTC Logic

INFOID:000000010244443

DTC DETECTION LOGIC

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

Diagnosis Procedure

INFOID:000000010244444

Regarding Wiring Diagram information, refer to [AV-262, "Wiring Diagram"](#).

WITHOUT DRIVER ASSISTANCE SYSTEM

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

- Turn ignition switch OFF.
- Disconnect around view monitor control unit and LH side camera connectors.
- Check continuity between around view monitor control unit connector M103 and LH side camera connector D14.

Around view monitor control unit		LH side camera		Continuity
Connector	Terminals	Connector	Terminals	
M103	30	D14	7	Yes
	29		8	

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

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M103	30		No

Is the inspection result normal?

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

2. CHECK LH SIDE CAMERA POWER SUPPLY VOLTAGE

- Connect around view monitor control unit and LH side camera connectors.
- Turn ignition switch ON.
- Check voltage between around view monitor control unit connector M103 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M103	30	—	CAMERA switch is ON or selector lever in R (reverse).	6.0 V

Is the inspection result normal?

- YES >> GO TO 3.
 NO >> Replace around view monitor control unit. Refer to [AV-387, "Removal and Installation"](#).

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

- Turn ignition switch OFF.

U111D SIDE CAMERA LH IMAGE SIGNAL CIRCUIT

[NAVIGATION WITH BOSE]

< DTC/CIRCUIT DIAGNOSIS >

2. Disconnect around view monitor control unit and LH side camera connectors.
3. Check continuity between around view monitor control unit connector M103 and LH side camera connector D14.

Around view monitor control unit		LH side camera		Continuity
Connector	Terminals	Connector	Terminals	
M103	32	D14	16	Yes
	31		15	

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

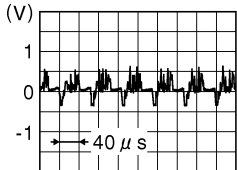
Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M103	32		No

Is the inspection result normal?

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

4.CHECK LH SIDE CAMERA IMAGE SIGNAL

1. Connect around view monitor control unit and LH side camera connectors.
2. Turn ignition switch ON.
3. Check signal between the terminals of around view monitor control unit connector M103.

Around view monitor control unit connector M103		Condition	Reference value
(+) Terminal	(-) Terminal		
32	31	CAMERA switch is ON or selector lever in R (reverse).	 <p style="text-align: right; font-size: small;">JSNIA0834GB</p>

Is the inspection result normal?

- YES >> Replace around view monitor control unit. Refer to [AV-387, "Removal and Installation"](#).
 NO >> Replace LH side camera. Refer to [AV-389, "Removal and Installation"](#).

WITH DRIVER ASSISTANCE SYSTEM

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

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and LH side camera connectors.
3. Check continuity between around view monitor control unit connector M114 and LH side camera connector D14.

Around view monitor control unit		LH side camera		Continuity
Connector	Terminals	Connector	Terminals	
M114	56	D14	7	Yes
	58		8	

4. Check continuity between around view monitor control unit connector M114 and ground.

U111D SIDE CAMERA LH IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M114	56		No

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

2. CHECK LH SIDE CAMERA POWER SUPPLY VOLTAGE

1. Connect around view monitor control unit and LH side camera connectors.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit connector M114 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M114	56	—	CAMERA switch is ON or selector lever in R (reverse).	6.0 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace around view monitor control unit. Refer to [AV-387, "Removal and Installation"](#).

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

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and LH side camera connectors.
3. Check continuity between around view monitor control unit connector M114 and LH side camera connector D14.

Around view monitor control unit		LH side camera		Continuity
Connector	Terminals	Connector	Terminals	
M114	59	D14	16	Yes
	60		15	

4. Check continuity between around view monitor control unit connector M114 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M114	59		No

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness or connectors.

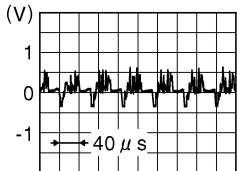
4. CHECK LH SIDE CAMERA IMAGE SIGNAL

1. Connect around view monitor control unit and LH side camera connectors.
2. Turn ignition switch ON.
3. Check signal between the terminals of around view monitor control unit connector M114.

U111D SIDE CAMERA LH IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

Around view monitor control unit connector M114		Condition	Reference value
(+)	(-)		
Terminal	Terminal		
59	60	CAMERA switch is ON or selector lever in R (reverse).	 <p style="text-align: right; font-size: small;">JSNIA0834GB</p>

Is the inspection result normal?

- YES >> Replace around view monitor control unit. Refer to [AV-387. "Removal and Installation"](#).
- NO >> Replace LH side camera. Refer to [AV-389. "Removal and Installation"](#).

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

AV

O
P

U1217 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U1217 AV CONTROL UNIT

DTC Logic

INFOID:000000010244446

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
BLUETOOTH MODULE [U1217]	Connection failure to the internal Bluetooth [®] sub unit is detected.	Replace AV control unit if malfunction occurs constantly. Refer to AV-376, "Removal and Installation" .

U1229 AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U1229 AV CONTROL UNIT

DTC Logic

INFOID:000000010244447

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-376, "Removal and Installation" .

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

AV

U122F AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U122F AV CONTROL UNIT

DTC Logic

INFOID:000000010244448

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-376, "Removal and Installation" .

U1232 STEERING ANGLE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U1232 STEERING ANGLE SENSOR

DTC Logic

INFOID:000000010244449

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
ST ANG SEN CALIB [U1232]	Predictive course line center position adjustment of steering angle sensor is incomplete.	Adjust predictive course line center position adjustment of steering angle sensor.

Diagnosis Procedure

INFOID:000000010244450

1. ADJUST PREDICTIVE COURSE LINE CENTER POSITION ADJUSTMENT OF STEERING ANGLE SENSOR

When U1232 is detected, the predictive course line center position of steering angle sensor needs to be adjusted.

>> Adjust the predictive course line center position of steering angle sensor. Refer to [AV-291, "PREDICTED COURSE LINE CENTER POSITION ADJUSTMENT : Work Procedure"](#).

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

AV

U1244 GPS ANTENNA

[NAVIGATION WITH BOSE]

< DTC/CIRCUIT DIAGNOSIS >

U1244 GPS ANTENNA

DTC Logic

INFOID:000000010244451

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.	<ul style="list-style-type: none">GPS antenna disconnection.Open or short to ground in GPS antenna signal circuit.

Diagnosis Procedure

INFOID:000000010244452

Regarding Wiring Diagram information, refer to [AV-262, "Wiring Diagram"](#).

1. GPS ANTENNA INSPECTION

Visually inspect the GPS antenna and antenna feeder. Refer to [AV-391, "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 M141.
2. Turn ignition switch ON.
3. Check voltage between AV control unit connector M141 and ground.

AV control unit		Ground	Voltage
Connector	Terminal		
M141	54	—	5.0 V

Is inspection result normal?

YES >> Replace GPS antenna. Refer to [AV-391, "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-376, "Removal and Installation"](#).

U1258 SATELLITE RADIO ANTENNA

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U1258 SATELLITE RADIO ANTENNA

DTC Logic

INFOID:000000010244453

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
SXM ANTENNA CONN [U1258]	Open or short to ground is detected in satellite antenna connection.	<ul style="list-style-type: none">Satellite antenna disconnection.Open or short to ground in satellite antenna signal circuit.

Diagnosis Procedure

INFOID:000000010244454

Regarding Wiring Diagram information, refer to [AV-262, "Wiring Diagram"](#).

1. SATELLITE ANTENNA INSPECTION

Visually inspect the satellite antenna and antenna feeder. Refer to [AV-393, "Feeder Layout"](#).

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace malfunctioning components.

2. CHECK AV CONTROL UNIT VOLTAGE

- Turn ignition switch ON.
- Check voltage between AV control unit connector M142 and ground.

AV control unit		Ground	Voltage
Connector	Terminal		
M142	56	—	5.0 V

Is inspection result normal?

YES >> Replace satellite radio antenna [AV-392, "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-376, "Removal and Installation"](#).

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

AV

U1263 USB

DTC Logic

INFOID:000000010244455

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
USB OVERCURRENT [U1263]	Overcurrent in USB harness is detected.	<ul style="list-style-type: none"> • 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-322, "Diagnosis Procedure"](#).
 NO >> Inspection End.

Diagnosis Procedure

INFOID:000000010244456

1. CHECK USB INTERFACE HARNESS

Visually inspect USB interface harness. Refer to [AV-385, "Removal and Installation"](#).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Replace USB interface harness. Refer to [AV-385, "Removal and Installation"](#).

2. CHECK USB INTERFACE HARNESS

Check USB interface harness. Refer to [AV-359, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES >> Replace AV control unit. Refer to [AV-376, "Removal and Installation"](#).
 NO >> Replace USB interface harness. Refer to [AV-385, "Removal and Installation"](#).

U1265 BOSE AMP.

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U1265 BOSE AMP.

DTC Logic

INFOID:000000010244485

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:000000010244486

Regarding Wiring Diagram information, refer to [AV-262, "Wiring Diagram"](#).

1. CHECK CONTINUITY BETWEEN AV CONTROL UNIT AND BOSE SPEAKER AMP.

- Turn ignition switch OFF.
- Disconnect AV control unit connector M108 and Bose speaker amp. connector B138.
- Check continuity between AV control unit connector M108 and Bose speaker amp. connector B138.

AV control unit		Bose speaker amp.		Continuity
Connector	Terminal	Connector	Terminal	
M108	1	B138	31	Yes

- Check continuity between AV control unit connector M108 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M108	1	—	No

Is the inspection result normal?

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

2. CHECK AV CONTROL UNIT VOLTAGE

- Connect AV control unit connector M108.
- Turn ignition switch ON.
- Check voltage between AV control unit connector M108 and ground.

AV control unit		Ground	Voltage (Approx.)
(+)			
Connector	Terminal	(-)	
M108	1	—	Battery voltage

Is the inspection result normal?

- YES >> Replace Bose speaker amp. Refer to [AV-379, "Removal and Installation"](#).
NO >> Replace AV control unit. Refer to [AV-376, "Removal and Installation"](#).

U12AA CONFIGURATION ERROR

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U12AA CONFIGURATION ERROR

DTC Logic

INFOID:000000010244459

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-289, "CONFIGURATION (AV CONTROL UNIT) : Work Procedure" .

Diagnosis Procedure

INFOID:000000010244460

1.PERFORM CONFIGURATION

When U12AA is detected, configuration data must be written.

>> Write configuration data with CONSULT. Refer to [AV-289, "CONFIGURATION \(AV CONTROL UNIT\) : Work Procedure"](#).

U12AB ANTENNA

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U12AB ANTENNA

DTC Logic

INFOID:000000010244457

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
FM Antenna error [U12AB]	Open or short to ground is detected in AM-FM antenna connection.	<ul style="list-style-type: none"> AM-FM antenna disconnection. Open or short to ground in AM-FM antenna signal circuit.

Diagnosis Procedure

INFOID:000000010244458

Regarding Wiring Diagram information, refer to [AV-262, "Wiring Diagram"](#).

1. AM-FM ANTENNA INSPECTION

Visually inspect the antenna base (AM-FM antenna) and antenna feeder. Refer to [AV-393, "Feeder Layout"](#).

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace malfunctioning components.

2. CHECK CONTINUITY BETWEEN AV CONTROL UNIT AND ANTENNA BASE

- Turn ignition switch OFF.
- Disconnect AV control unit connector M139 and antenna base connector M502.
- Check continuity between AV control unit connector M139 and antenna base connector M502.

AV control unit		Antenna base		Continuity
Connector	Terminal	Connector	Terminal	
M139	52	M502	2	Yes

- Check continuity between AV control unit connector M139 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M139	52	—	No

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

3. CHECK AV CONTROL UNIT VOLTAGE

- Connect AV control unit connector M139.
- Turn ignition switch ON.
- Check voltage between AV control unit connector M139 and ground.

AV control unit		Ground	Voltage (Approx.)
Connector	Terminal		
M139	52	—	Battery voltage

Is the inspection result normal?

YES >> Replace antenna base. Refer to [AV-392, "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-376, "Removal and Installation"](#).

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

AV

U12AC AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U12AC AV CONTROL UNIT

DTC Logic

INFOID:000000010244461

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-376, "Removal and Installation" .

U12AD AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U12AD AV CONTROL UNIT

DTC Logic

INFOID:000000010244462

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-376, "Removal and Installation" .

A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

P

U12AE AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U12AE AV CONTROL UNIT

DTC Logic

INFOID:000000010244463

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-376, "Removal and Installation" .

U12AF AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U12AF AV CONTROL UNIT

DTC Logic

INFOID:000000010244464

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-376, "Removal and Installation" .

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

AV

U12B0 POWER SUPPLY VOLTAGE

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U12B0 POWER SUPPLY VOLTAGE

DTC Logic

INFOID:000000010244465

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.	<ul style="list-style-type: none">• Charging system malfunction.• AV control unit power supply or ground circuits.

Diagnosis Procedure

INFOID:000000010244466

1. CHECK CHARGING SYSTEM

Check the vehicle charging system. Refer to [CHG-11, "Work Flow \(With EXP-800 NI or GR8-1200 NI\)"](#) or [CHG-14, "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-337, "AV CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> Replace the AV control unit. Refer to [AV-376, "Removal and Installation"](#).

NO >> Repair or replace harness or connectors.

U12B1 POWER SUPPLY VOLTAGE

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U12B1 POWER SUPPLY VOLTAGE

DTC Logic

INFOID:000000010244467

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:000000010244468

1. CHECK CHARGING SYSTEM

Check the vehicle charging system. Refer to [CHG-11, "Work Flow \(With EXP-800 NI or GR8-1200 NI\)"](#) or [CHG-14, "Work Flow \(Without EXP-800 NI or GR8-1200 NI\)"](#).

Is the inspection result normal?

- YES >> Replace the AV control unit. Refer to [AV-376, "Removal and Installation"](#).
- NO >> Repair or replace the malfunctioning components.

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

AV

U1300 AV COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U1300 AV COMM CIRCUIT

DTC Logic

INFOID:000000010365336

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:000000010365337

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-30, "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 M109 and combination meter connector M77.
3. Check continuity between AV control unit connector M109 and combination meter connector M77.

AV control unit		Combination meter		Continuity
Connector	Terminal	Connector	Terminal	
M109	32	M77	48	Yes
	39			

4. Check continuity between AV control unit connector M109 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M109	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 M109 and combination meter connector M77.

AV control unit		Combination meter		Continuity
Connector	Terminal	Connector	Terminal	
M109	31	M77	47	Yes
	38			

2. Check continuity between AV control unit connector M109 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M109	31	—	No
	38		

U1300 AV COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

Is the inspection result normal?

YES >> Replace the AV control unit. Refer to [AV-376, "Removal and Installation"](#).

NO >> Repair or replace harness or connectors.

A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

P

U1304 CAMERA IMAGE CALIBRATION

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U1304 CAMERA IMAGE CALIBRATION

DTC Logic

INFOID:000000010244469

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Non-completion of the calibration [U1304]	Camera image calibration is incomplete.	Perform calibration of camera image.

Diagnosis Procedure

INFOID:000000010244470

1.PERFORM CALIBRATION

When U1304 is detected, perform calibration of camera image.

>> Refer to [AV-292, "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Work Procedure"](#).

U1305 CONFIG UNFINISH

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

U1305 CONFIG UNFINISH

DTC Logic

INFOID:000000010244471

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Non-completion of the configuration [U1305]	Configuration of around view monitor control unit is incomplete.	Perform configuration of around view monitor control unit.

Diagnosis Procedure

INFOID:000000010244472

1.PERFORM CONFIGURATION

When U1305 is detected, perform configuration of around view monitor control unit.

>> Refer to [AV-290, "CONFIGURATION \(AROUND VIEW MONITOR CONTROL UNIT\) : Work Procedure"](#).

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

AV

U1310 CONTROL UNIT (AV)

[NAVIGATION WITH BOSE]

< DTC/CIRCUIT DIAGNOSIS >

U1310 CONTROL UNIT (AV)

DTC Logic

INFOID:000000010244488

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-376, "Removal and Installation" .

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

POWER SUPPLY AND GROUND CIRCUIT

AV CONTROL UNIT

AV CONTROL UNIT : Diagnosis Procedure

INFOID:000000010244473

Regarding Wiring Diagram information, refer to [AV-262. "Wiring Diagram"](#).

1. CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
19	Battery power supply	15 (20A)
40	Ignition power supply	30 (10A)

Are the fuses blown?

YES >> Replace the blown fuse after repairing the affected circuit.

NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect AV control unit connectors M108 and M109.
3. Check voltage between AV control unit connectors M108 and M109 and ground.

AV control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M108	19	—	Ignition switch: OFF	Battery voltage
M109	40		Ignition switch: ON	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between AV control unit connector M108 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M108	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:000000010271304

Regarding Wiring Diagram information, refer to [AV-262. "Wiring Diagram"](#).

1. CHECK FUSE

Check that the following fuses are not blown.

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

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

Terminal No.	Signal name	Fuse No.
11	Battery power supply	11 (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 Bose speaker amp. connector B137.
3. Check voltage between Bose speaker amp. connector B137 and ground.

Bose speaker amp.		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
B137	11	—	Ignition switch: OFF	Battery voltage

Is the inspection result normal?

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

3.CHECK GROUND CIRCUIT

Check continuity between Bose speaker amp. connector B137 and ground.

Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B137	12	—	Yes

Is the inspection result normal?

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

AROUND VIEW MONITOR CONTROL UNIT

AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure

INFOID:000000010244474

Regarding Wiring Diagram information, refer to [AV-262, "Wiring Diagram"](#).

WITHOUT DRIVER ASSISTANCE SYSTEM

1.CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
2	Battery power supply	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 around view monitor control unit connector M103.
3. Check voltage between around view monitor control unit connector M103 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M103	2	—	Ignition switch: OFF	Battery voltage

POWER SUPPLY AND GROUND CIRCUIT

[NAVIGATION WITH BOSE]

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

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

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between around view monitor control unit connector M103 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M103	1	—	Yes

Is the inspection result normal?

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

WITH DRIVER ASSISTANCE SYSTEM

1.CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
2	Battery power supply	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 around view monitor control unit connector M113.
3. Check voltage between around view monitor control unit connector M113 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M113	2	—	Ignition switch: OFF	Battery voltage

Is the inspection result normal?

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

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between around view monitor control unit connector M113 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M113	1	—	Yes

Is the inspection result normal?

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

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

AV

FRONT TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

FRONT TWEETER

Diagnosis Procedure

INFOID:000000010244489

Regarding Wiring Diagram information, refer to [AV-262. "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 TWEETER SIGNAL CIRCUIT CONTINUITY (BOSE SPEAKER AMP.)

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

Bose speaker amp.		Front tweeter		Continuity
Connector	Terminal	Connector	Terminal	
B137	6	M80 (LH)	1	Yes
	7		2	
B138	37	M23 (RH)	1	
	27		2	

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

Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B137	6	—	No
	7		
B138	37		
	27		

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

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

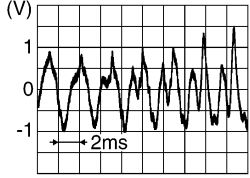
1. Connect Bose speaker amp. connectors and suspect front tweeter connector.
2. Turn ignition switch to ON.
3. Push AV control unit POWER switch.
4. Check signal between the terminals of Bose speaker amp. connectors.

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

FRONT TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

B137	6	7	Audio signal output	
B138	37	27		

Is the inspection result normal?

- YES >> Replace front tweeter. Refer to [AV-380. "Removal and Installation"](#).
- NO >> GO TO 4.

4. CHECK FRONT TWEETER SIGNAL CIRCUIT CONTINUITY (AV CONTROL UNIT)

1. Turn ignition switch to OFF.
2. Disconnect Bose speaker amp. connector B138 and AV control unit connector M108.
3. Check continuity between Bose speaker amp. connector B138 and AV control unit connector M108.

Bose speaker amp.		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
B138	18	M108	2	Yes
	32		3	
	19		11	
	20		12	

4. Check continuity between Bose speaker amp. connector B138 and ground.

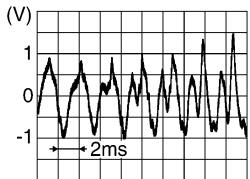
Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B138	18	—	No
	32		
	19		
	20		

Is the inspection result normal?

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

5. CHECK FRONT TWEETER SIGNAL (AV CONTROL UNIT)

1. Connect Bose speaker amp. connector B138 and AV control unit connector M108.
2. Turn ignition switch to ON.
3. Push AV control unit POWER switch.
4. Check signal between AV control unit connector M108 and ground.

AV control unit connector M108		Condition	Reference value
(+)	(-)		
Terminal	Terminal		
2	3	Audio signal output	
11	12		

Is the inspection result normal?

FRONT TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

- YES >> Replace Bose speaker amp. Refer to [AV-379, "Removal and Installation"](#).
- NO >> Replace AV control unit. Refer to [AV-376, "Removal and Installation"](#).

CENTER SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

CENTER SPEAKER

Diagnosis Procedure

INFOID:000000010244495

Regarding Wiring Diagram information, refer to [AV-262. "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 B138 and center speaker connector M70.
2. Check continuity between Bose speaker amp. connector B138 and center speaker connector M70.

Bose speaker amp.		Center speaker		Continuity
Connector	Terminal	Connector	Terminal	
B138	15	M70	1	Yes
	28		2	

3. Check continuity between Bose speaker amp. connector B138 and ground.

Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B138	15	—	No
	28		

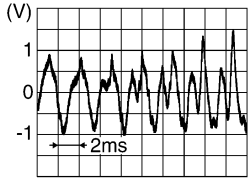
Is the inspection result normal?

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 B138 and center speaker connector M70.
2. Turn ignition switch to ON.
3. Push AV control unit POWER switch.
4. Check signal between Bose speaker amp. connector B138 and ground.

Bose speaker amp. connector B138		Condition	Reference value
(+) Terminal	(-) Terminal		
15	28	Audio signal output	 <p style="text-align: right; font-size: small;">SKIB3609E</p>

Is the inspection result normal?

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

CENTER SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

- YES >> Replace center speaker. Refer to [AV-382, "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 B138 and AV control unit connector M108.
3. Check continuity between Bose speaker amp. connector B138 and AV control unit connector M108.

Bose speaker amp.		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
B138	18	M108	2	Yes
	32		3	
	19		11	
	20		12	

4. Check continuity between Bose speaker amp. connector B138 and ground.

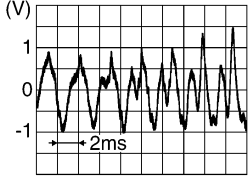
Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B138	18	—	No
	32		
	19		
	20		

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 B138 and AV control unit connector M108.
2. Turn ignition switch to ON.
3. Push AV control unit POWER switch.
4. Check signal between AV control unit connector M108 and ground.

AV control unit connector M108		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-379, "Removal and Installation"](#).
 NO >> Replace AV control unit. Refer to [AV-376, "Removal and Installation"](#).

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

FRONT DOOR SPEAKER

Diagnosis Procedure

INFOID:000000010244475

Regarding Wiring Diagram information, refer to [AV-262. "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. connectors and suspect front door speaker connector.
2. Check continuity between Bose speaker amp. connectors and suspect front door speaker connector.

Bose speaker amp.		Front door speaker		Continuity
Connector	Terminal	Connector	Terminal	
B137	4	D9 (LH)	1	Yes
	5		2	
	8	D114 (RH)	1	
	13		2	

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

Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B137	4	—	No
	5		
	8		
	13		

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.)

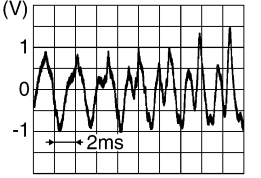
1. Connect Bose speaker amp. connectors and suspect front door speaker connector.
2. Turn ignition switch to ON.
3. Push AV control unit POWER switch.
4. Check signal between the terminals of Bose speaker amp. connectors.

Bose speaker amp. connector B137		Condition	Reference value
(+)	(-)		
Terminal	Terminal		

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

4	5	Audio signal output	
8	13		

Is the inspection result normal?

YES >> Replace front door speaker. Refer to [AV-381, "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 B138 and AV control unit connector M108.
3. Check continuity between Bose speaker amp. connector B138 and AV control unit connector M108.

Bose speaker amp.		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
B138	18	M108	2	Yes
	32		3	
	19		11	
	20		12	

4. Check continuity between Bose speaker amp. connector B138 and ground.

Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B138	18	—	No
	32		
	19		
	20		

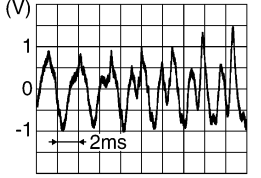
Is the inspection result normal?

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 B138 and AV control unit connector M108.
2. Turn ignition switch to ON.
3. Push AV control unit POWER switch.
4. Check signal between AV control unit connector M108 and ground.

AV control unit connector M108		Condition	Reference value
(+)	(-)		
Terminal	Terminal	Audio signal output	
2	3		
11	12		

Is the inspection result normal?

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

- YES >> Replace Bose speaker amp. Refer to [AV-379, "Removal and Installation"](#).
- NO >> Replace AV control unit. Refer to [AV-376, "Removal and Installation"](#).

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

AV

REAR DOOR SPEAKER

Diagnosis Procedure

INFOID:000000010244476

Regarding Wiring Diagram information, refer to [AV-262. "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	
B137	1	D203 (LH)	1	Yes
	10		2	
	2	D303 (RH)	1	
	3		2	

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

Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B137	1	—	No
	10		
	2		
	3		

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.)

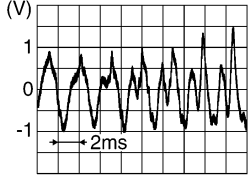
1. Connect Bose speaker amp. connectors and suspect rear door speaker connector.
2. Turn ignition switch to ON.
3. Push AV control unit POWER switch.
4. Check signal between the terminals of Bose speaker amp. connectors.

Bose speaker amp. connector B137		Condition	Reference value
(+)	(-)		
Terminal	Terminal		

REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

1	10	Audio signal output	
2	3		

Is the inspection result normal?

- YES >> Replace rear door speaker. Refer to [AV-383. "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 B138 and AV control unit connector M108.
3. Check continuity between Bose speaker amp. connector B138 and AV control unit connector M108.

Bose speaker amp.		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
B138	21	M108	4	Yes
	22		5	
	23		13	
	33		14	

4. Check continuity between Bose speaker amp. connector B138 and ground.

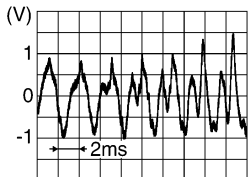
Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B138	21	—	No
	22		
	23		
	33		

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 B138 and AV control unit connector M108.
2. Turn ignition switch to ON.
3. Push AV control unit POWER switch.
4. Check signal between AV control unit connector M108 and ground.

AV control unit connector M108		Condition	Reference value
(+)	(-)		
Terminal	Terminal	Audio signal output	
4	5		
13	14		

Is the inspection result normal?

REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

- YES >> Replace Bose speaker amp. Refer to [AV-379, "Removal and Installation"](#).
- NO >> Replace AV control unit. Refer to [AV-376, "Removal and Installation"](#).

SUBWOOFER

Diagnosis Procedure

INFOID:000000010244490

Regarding Wiring Diagram information, refer to [AV-262. "Wiring Diagram"](#).

1. CONNECTOR CHECK

Check the AV control unit, BOSE speaker amp. and subwoofer connectors for the following:

- Proper connection
- Damage
- Disconnected or looses terminals

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal and connector.

2. CHECK SUBWOOFER AMP ON CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect Bose speaker amp. connector B138 and subwoofer connector.
3. Check continuity between Bose speaker amp. connector B138 and subwoofer connector B116.

Bose speaker amp.		Subwoofer		Continuity
Connector	Terminal	Connector	Terminal	
B138	25	B116	4	Yes

4. Check continuity between Bose speaker amp. connector B138 and ground.

Bose speaker amp.		Ground	Continuity
Connector	Terminal		
B138	25	—	No

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

3. CHECK SUBWOOFER AMP ON CIRCUIT VOLTAGE

1. Connect Bose speaker amp. connector B138.
2. Turn ignition switch ON.
3. Check voltage between Bose speaker amp. connector B138 and ground.

Bose speaker amp. (+)		Ground (-)	Voltage (Approx.)
Connector	Terminal		
B138	25	—	Battery voltage

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace Bose speaker amp. Refer to [AV-379. "Removal and Installation"](#).

4. CHECK SUBWOOFER SIGNAL CIRCUIT CONTINUITY

1. Disconnect BOSE speaker amp. connector B137 and subwoofer connector.
2. Check continuity between BOSE speaker amp. connector B137 and subwoofer connector.

SUBWOOFER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

BOSE speaker amp.		Subwoofer		Continuity
Connector	Terminal	Connector	Terminal	
B137	9	B116	2	Yes
	14		1	

3. Check continuity between BOSE speaker amp. connector B137 and ground.

BOSE speaker amp.		Ground	Continuity
Connector	Terminal		
B137	9	—	No
	14		

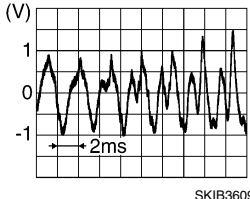
Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness or connectors.

5. CHECK SUBWOOFER SIGNAL

1. Connect BOSE speaker amp. connector B137 and subwoofer connector.
2. Turn ignition switch to ON.
3. Push AV control unit POWER switch.
4. Check the signal between the terminals of BOSE speaker amp. connector B137.

BOSE speaker amp. connector B137		Condition	Reference value
(+) Terminal	(-) Terminal		
9	14	Audio signal output	

Is the inspection result normal?

YES >> Replace subwoofer. Refer to [AV-384, "Removal and Installation"](#).

NO >> GO TO 6.

6. CHECK PRE-AMP SIGNAL CIRCUIT CONTINUITY

1. Disconnect AV control unit connector M108 and BOSE speaker amp. connector B138.
2. Check continuity between AV control unit connector M108 and BOSE speaker amp. connector B138.

AV control unit		BOSE speaker amp.		Continuity
Connector	Terminal	Connector	Terminal	
M108	4	B138	21	Yes
	5		22	
	13		23	
	14		33	

3. Check continuity between AV control unit connector M108 and ground.

SUBWOOFER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

AV control unit		Ground	Continuity
Connector	Terminal		
M108	4	—	No
	5		
	13		
	14		

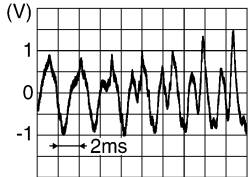
Is the inspection result normal?

YES >> GO TO 7.

NO >> Repair or replace harness or connectors.

7. CHECK PRE-AMP SIGNAL

1. Connect AV control unit connector M108 and BOSE speaker amp. connector B138.
2. Turn ignition switch to ON.
3. Push AV control unit POWER switch.
4. Check signal between the terminals of AV control unit connector M108.

AV control unit connector M108		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-379, "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-376, "Removal and Installation"](#).

AV

AMP ON SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

AMP ON SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:000000010244491

Regarding Wiring Diagram information, refer to [AV-262. "Wiring Diagram"](#).

1. CHECK CONTINUITY BETWEEN AV CONTROL UNIT AND BOSE SPEAKER AMP.

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M108 and Bose speaker amp. connector B138.
3. Check continuity between audio unit connector M108 and Bose speaker amp. connector B138

AV control unit		Bose speaker amp.		Continuity
Connector	Terminal	Connector	Terminal	
M108	1	B138	31	Yes

4. Check continuity between AV control unit connector M108 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M108	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 M108.
2. Turn ignition switch ON.
3. Check voltage between AV control unit connector M108 and ground.

AV control unit (+)		Ground (-)	Voltage (Approx.)
Connector	Terminal		
M108	1	—	Battery voltage

Is the inspection result normal?

YES >> Replace Bose speaker amp. Refer to [AV-379. "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-376. "Removal and Installation"](#).

MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

MICROPHONE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:000000010244477

Regarding Wiring Diagram information, refer to [AV-262. "Wiring Diagram"](#).

1. CHECK HARNESS BETWEEN AV CONTROL UNIT AND MICROPHONE

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M109 and microphone connector R8.
3. Check continuity between AV control unit connector M109 and microphone connector R8.

AV control unit		Microphone		Continuity
Connector	Terminal	Connector	Terminal	
M109	34	R8	1	Yes
	35		4	
	36		2	

4. Check continuity between AV control unit connector M109 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M109	34	—	No
	35		

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connectors.

2. CHECK MICROPHONE POWER SUPPLY

1. Connect AV control unit connector M109 and microphone connector R8.
2. Turn ignition switch ON.
3. Check voltage between microphone connector R8 and ground.

Microphone (+)		Ground (-)	Voltage (Approx.)
Connector	Terminal		
R8	4	—	5V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace AV control unit. Refer to [AV-376. "Removal and Installation"](#).

3. CHECK MICROPHONE SIGNAL

Check signal between terminals of AV control unit connector M109.

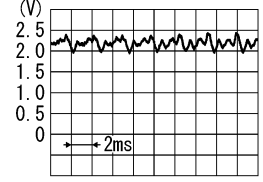
A
B
C
D
E
F
G
H
I
J
K
L
M
O
P

AV

MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

AV control unit connector M109		Condition	Reference value
(+)	(-)		
Terminal	Terminal		
34	36	Speak into microphone.	 <p style="text-align: right;">PKIB5037J</p>

Is the inspection result normal?

- YES >> Replace AV control unit. Refer to [AV-376. "Removal and Installation"](#).
- NO >> Replace microphone. Refer to [AV-386. "Removal and Installation"](#).

STEERING SWITCH

[NAVIGATION WITH BOSE]

< DTC/CIRCUIT DIAGNOSIS >

STEERING SWITCH






Diagnosis Procedure

INFOID:000000010244478

Regarding Wiring Diagram information, refer to [AV-262. "Wiring Diagram"](#).

1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

1. Turn ignition switch OFF.
2. Disconnect combination switch connector M90.
3. Check resistance between the terminals of combination switch connector M90.

Combination switch connector M90		Condition	Resistance Ω (Approx.)
Terminal	Terminal		
25	19	Depress SOURCE switch.	1
		Depress Δ switch.	121
		Depress ∇ switch.	321
		Depress  switch.	723
		Depress ENTER switch.	2023
18		Depress -  switch.	1
		Depress  + switch.	121
		Depress  switch.	321
		Depress  switch.	723
		Depress DISPLAY switch.	2023

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace steering switches. Refer to [AV-378. "Removal and Installation"](#).

2. CHECK HARNESS BETWEEN COMBINATION METER AND COMBINATION SWITCH

1. Disconnect combination meter connector M76 and combination switch connector M30.
2. Check continuity between combination meter connector M76 and combination switch connector M30.

Combination meter		Combination switch		Continuity
Connector	Terminal	Connector	Terminal	
M76	22	M30	8	Yes
	23		15	
	21		14	

3. Check continuity between combination meter connector M76 and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M76	22	—	No
	23		
	21		

Is the inspection result normal?

STEERING SWITCH

[NAVIGATION WITH BOSE]

< DTC/CIRCUIT DIAGNOSIS >

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

3. CHECK COMBINATION SWITCH

Check continuity between combination switch connectors M90 and M30.

Combination switch				Continuity
Connector	Terminal	Connector	Terminal	
M90	25	M30	8	Yes
	18		15	
	19		14	

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 combination meter connector M77 and AV control unit connector M109.
2. Check continuity between combination meter connector M77 and AV control unit connector M109.

Combination meter		AV control unit		Continuity
Connector	Terminal	Connector	Terminal	
M77	47	M109	31	Yes
	48		32	

3. Check continuity between combination meter connector M77 and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M77	47	—	No
	48		

Is the inspection result normal?

- YES >> Replace AV control unit. Refer to [AV-376. "Removal and Installation"](#).
NO >> Repair or replace harness or connectors.

USB CONNECTOR

Diagnosis Procedure

INFOID:000000010244479

Regarding Wiring Diagram information, refer to [AV-262. "Wiring Diagram"](#).

1. CHECK USB INTERFACE HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M138 and USB interface connector M89.
3. Check continuity between AV control unit connector M138 and USB interface connector M89.

AV control unit		USB interface		Continuity
Connector	Terminal	Connector	Terminal	
M138	45	M89	1	Yes
	46		2	
	47		3	
	49		5	
	50		6	

4. Check continuity between AV control unit connector M138 and ground.

AV control unit		—	Continuity
Connector	Terminal		
M138	45	Ground	No
	47		

Is the inspection result normal?

- YES >> Replace the USB interface. Refer to [AV-385. "Removal and Installation"](#).
 NO >> Repair or replace harness or connectors.

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

AV

AUXILIARY INPUT JACK

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION WITH BOSE]

AUXILIARY INPUT JACK

Diagnosis Procedure

INFOID:000000010244480

Regarding Wiring Diagram information, refer to [AV-262. "Wiring Diagram"](#).

1. CHECK AUX IN JACK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M109 and AUX in jack connector M104.
3. Check continuity between AV control unit connector M109 and AUX in jack connector M104.

AV control unit		AUX in jack		Continuity
Connector	Terminal	Connector	Terminal	
M109	21	M104	4	Yes
	22		3	
	23		1	

4. Check continuity between AV control unit connector M109 and ground.

AV control unit		—	Continuity
Connector	Terminal		
M109	21	Ground	No
	23		

Is the inspection result normal?

- YES >> Replace the AUX in jack. Refer to [AV-385. "Removal and Installation"](#).
NO >> Repair or replace harness or connectors.

SYMPTOM DIAGNOSIS

MULTI AV SYSTEM

Symptom Table

INFOID:0000000010244481

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-242. "On Board Diagnosis Function" .

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

AV

MULTI AV SYSTEM

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITH BOSE]

Symptoms	Check items	Probable malfunction location
	No sound from all speakers.	<ul style="list-style-type: none"> • Speaker circuit shorted to ground. Refer to AV-262. "Wiring Diagram". • Bose amp. ON signal circuit malfunction. Refer to AV-323. "Diagnosis Procedure". • Bose speaker amp. power supply and ground circuits malfunction. Refer to AV-337. "BOSE SPEAKER AMP : Diagnosis Procedure".
No sound comes out or the level of the sound is low.	Only a certain speaker (front tweeter LH, front tweeter RH, center speaker, front door speaker LH, front door speaker RH, rear door speaker LH, rear door speaker RH, subwoofer) does not output sound.	<ul style="list-style-type: none"> • Poor connector connection of speaker. • Sound signal circuit malfunction between AV control unit and Bose speaker amp. Refer to: <ul style="list-style-type: none"> - AV-340. "Diagnosis Procedure" (front tweeter). - AV-343. "Diagnosis Procedure" (center speaker). - AV-345. "Diagnosis Procedure" (front door speaker). - AV-348. "Diagnosis Procedure" (rear door speaker). - AV-351. "Diagnosis Procedure" (sub-woofer). • Sound signal circuit malfunction between Bose speaker amp. and speaker. Refer to: <ul style="list-style-type: none"> - AV-340. "Diagnosis Procedure" (front tweeter). - AV-343. "Diagnosis Procedure" (center speaker). - AV-345. "Diagnosis Procedure" (front door speaker). - AV-348. "Diagnosis Procedure" (rear door speaker). - AV-351. "Diagnosis Procedure" (sub-woofer). • Malfunction in speaker. Refer to: <ul style="list-style-type: none"> - AV-380. "Removal and Installation" (front tweeter). - AV-382. "Removal and Installation" (center speaker). - AV-381. "Removal and Installation" (front door speaker). - AV-383. "Removal and Installation" (rear door speaker). - AV-384. "Removal and Installation" (sub-woofer). • Malfunction in AV control unit. Refer to AV-242. "On Board Diagnosis Function". • Malfunction in Bose speaker amp. Replace Bose speaker amp. Refer to AV-379. "Removal and Installation".

MULTI AV SYSTEM

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITH BOSE]

Symptoms	Check items	Probable malfunction location
<p>Noise is mixed with audio.</p>	<p>Noise comes out from all speakers.</p>	<ul style="list-style-type: none"> • Malfunction in AV control unit. Refer to AV-242. "On Board Diagnosis Function". • Malfunction in Bose speaker amp. Replace Bose speaker amp. Refer to AV-379. "Removal and Installation".
	<p>Noise comes out only from a certain speaker (front tweeter LH, front tweeter RH, center speaker, front door speaker LH, front door speaker RH, rear door speaker LH, rear door speaker RH, subwoofer).</p>	<ul style="list-style-type: none"> • Poor connector connection of speaker. • Sound signal circuit malfunction between AV control unit and Bose speaker amp. Refer to: <ul style="list-style-type: none"> - AV-340. "Diagnosis Procedure" (front tweeter). - AV-343. "Diagnosis Procedure" (center speaker). - AV-345. "Diagnosis Procedure" (front door speaker). - AV-348. "Diagnosis Procedure" (rear door speaker). - AV-351. "Diagnosis Procedure" (subwoofer). • Sound signal circuit malfunction between Bose speaker amp. and speaker. Refer to: <ul style="list-style-type: none"> - AV-340. "Diagnosis Procedure" (front tweeter). - AV-343. "Diagnosis Procedure" (center speaker). - AV-345. "Diagnosis Procedure" (front door speaker). - AV-348. "Diagnosis Procedure" (rear door speaker). - AV-351. "Diagnosis Procedure" (subwoofer). • Malfunction in speaker. Refer to: <ul style="list-style-type: none"> - AV-380. "Removal and Installation" (front tweeter). - AV-382. "Removal and Installation" (center speaker). - AV-381. "Removal and Installation" (front door speaker). - AV-383. "Removal and Installation" (rear door speaker). - AV-384. "Removal and Installation" (subwoofer). • Malfunction in AV control unit. Refer to AV-242. "On Board Diagnosis Function". • Malfunction in Bose speaker amp. Replace Bose speaker amp. Refer to AV-379. "Removal and Installation".
	<p>Noise is mixed with radio only (when the vehicle hits a bump or while driving over bad roads)</p>	<p>Poor connector connection of antenna or antenna feeder. Refer to AV-393. "Feeder Layout".</p>
<p>No radio reception or poor reception.</p>	<ul style="list-style-type: none"> • 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). 	<ul style="list-style-type: none"> • Antenna amp. ON signal circuit malfunction. Refer to AV-325. "Diagnosis Procedure". • Poor connector connection of antenna or antenna feeder. Refer to AV-393. "Feeder Layout".

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

MULTI AV SYSTEM

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITH BOSE]

Symptoms	Check items	Probable malfunction location
No satellite radio reception.	There is malfunction in the CONSULT self diagnosis result. Refer to AV-243. "CONSULT Function" .	<ul style="list-style-type: none"> Malfunction in antenna, antenna feeder or AV control unit. Perform DTC diagnosis. Refer to AV-321. "Diagnosis Procedure". Poor continuity in antenna feeder. Poor connector connection of antenna or antenna feeder. Refer to AV-393. "Feeder Layout".
	There is no malfunction in the CONSULT self diagnosis result. Refer to AV-243. "CONSULT Function" .	<ul style="list-style-type: none"> Poor continuity in antenna feeder. Poor connector connection of antenna or antenna feeder. Loose satellite radio antenna mounting nut. Refer to AV-393. "Feeder Layout".
Buzz/rattle sound from speaker	The majority of buzz/rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the buzz/rattle.	Refer to "SQUEAK AND RATTLE TROUBLE DIAGNOSIS" in the appropriate interior trim section.

RELATED TO HANDS-FREE PHONE

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

Check Compatibility

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

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

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

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









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

Perform diagnosis as per the following table.

MULTI AV SYSTEM

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITH BOSE]

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.		A
Hands-free phone cannot be established.	<ul style="list-style-type: none"> 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. 	Malfunction in AV control unit. Replace AV control unit. Refer to AV-376, "Removal and Installation" .	B C
The other party's voice cannot be heard by hands-free phone.	Check the "microphone speaker" in Inspection & Adjustment Mode if sound is heard.		D
Originating sound is not heard by the other party with hands-free phone communication.	Sound operation function is normal.		E
	Sound operation function does not work.	Microphone signal circuit malfunction. Refer to AV-355, "Diagnosis Procedure" .	
The system cannot be operated.	<ul style="list-style-type: none"> 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-378, "Removal and Installation" .	F
	Steering switch's  ,  ,  , and  switches do not work.	Steering switch signal circuit malfunction. Refer to AV-357, "Diagnosis Procedure" .	G
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to AV-357, "Diagnosis Procedure" .	H

RELATED TO NAVIGATION

Symptoms	Check items	Probable malfunction location	
Navigation system is inoperative.	Navigation malfunction.	<ul style="list-style-type: none"> Malfunction in SD card. Malfunction in AV control unit. Refer to AV-242, "On Board Diagnosis Function". 	I J
	Steering switches malfunction.	Steering switch signal circuit malfunction. Refer to AV-357, "Diagnosis Procedure" .	K
	Voice activated control malfunction.	Microphone signal circuit malfunction. Refer to AV-355, "Diagnosis Procedure" . Steering switch signal circuit malfunction. Refer to AV-357, "Diagnosis Procedure" .	L

RELATED TO AROUND VIEW MONITOR

Symptoms	Check items	Probable malfunction location	
Display does not switch to camera image when CAMERA switch is pressed or selector lever is in R (reverse).	Around view monitor control unit malfunction.	Around view monitor control unit power supply and ground circuits malfunction. Refer to AV-338, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure" .	AV
	Camera image signal circuit (output) malfunction.	Camera image signal circuit (output) malfunction between around view monitor control unit and display unit. Refer to AV-255, "WITHOUT DRIVER ASSISTANCE SYSTEM : Reference Value" .	O P
Display switches to camera image when CAMERA switch is pressed or selector lever is in R (reverse), but all views are not displayed.	Camera image signal circuit (input) malfunction.	Camera image signal circuit (input) malfunction between camera and around view monitor control unit. Refer to: <ul style="list-style-type: none"> AV-308, "Diagnosis Procedure" (front camera). AV-300, "Diagnosis Procedure" (rear camera). AV-312, "Diagnosis Procedure" (side camera LH). AV-304, "Diagnosis Procedure" (side camera RH). 	

MULTI AV SYSTEM

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITH BOSE]

Symptoms	Check items	Probable malfunction location
Camera image is rolling.	Camera image signal circuit (output) malfunction.	Camera image signal circuit (output) malfunction between around view monitor control unit and display unit. Refer to AV-255, "WITHOUT DRIVER ASSISTANCE SYSTEM : Reference Value" .
Display does not switch to rear view monitor even when selector lever is in R (reverse).	Reverse signal circuit malfunction.	Reverse signal circuit between BCM and around view monitor control unit. Refer to AV-255, "WITHOUT DRIVER ASSISTANCE SYSTEM : Reference Value" .
Predicted course line display in front view and rear view is malfunctioning.	Steering angle sensor malfunction.	Predicted course line center position is malfunctioning. Refer to AV-291, "PREDICTED COURSE LINE CENTER POSITION ADJUSTMENT : Work Procedure" .
Front view and front of birds-eye view is not displayed.	<ul style="list-style-type: none"> • Front camera malfunction. • Front camera image signal circuit malfunction. 	<ul style="list-style-type: none"> • Front camera power supply and ground circuits malfunction. • Front camera image signal circuit malfunction between front camera and around view monitor control unit. Refer to AV-308, "Diagnosis Procedure" .
Rear view and rear of birds-eye view is not displayed.	<ul style="list-style-type: none"> • Rear view camera malfunction. • Rear view camera image signal circuit malfunction. 	<ul style="list-style-type: none"> • Rear view camera power supply and ground circuits malfunction. • Rear view camera image signal circuit malfunction between rear view camera and around view monitor control unit. Refer to AV-300, "Diagnosis Procedure" .
Driver side of birds-eye view is not displayed.	<ul style="list-style-type: none"> • Side camera LH malfunction. • Side camera LH image signal circuit malfunction. 	<ul style="list-style-type: none"> • Side camera LH power supply and ground circuits malfunction. • Side camera LH image signal circuit malfunction between side camera LH and around view monitor control unit. Refer to AV-312, "Diagnosis Procedure" .
Front-side and passenger side of birds-eye view is not displayed.	<ul style="list-style-type: none"> • Side camera RH malfunction. • Side camera RH image signal circuit malfunction. 	<ul style="list-style-type: none"> • Side camera RH power supply and ground circuits malfunction. • Side camera RH image signal circuit malfunction between side camera RH and around view monitor control unit. Refer to AV-304, "Diagnosis Procedure" .
Selector lever is in a position other than R (reverse) and front, rear, front-side and Birds-Eye views are displayed even as vehicle speed increases.	Vehicle speed signal malfunction.	Vehicle speed signal malfunction between ABS actuator and electric unit (control unit) and around view monitor control unit. Refer to AV-255, "WITHOUT DRIVER ASSISTANCE SYSTEM : Reference Value" .

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITH BOSE]

NORMAL OPERATING CONDITION

Description

INFOID:000000010244482

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.	<ul style="list-style-type: none"> • Ignition components
The occurrence of the noise is linked with the operation of the fuel pump.		<ul style="list-style-type: none"> • Fuel pump condenser
Noise only occurs when various electrical components are operating.	A cracking or snapping sound occurs with the operation of various switches.	<ul style="list-style-type: none"> • Relay malfunction, AV control unit malfunction
	The noise occurs when various motors are operating.	<ul style="list-style-type: none"> • Motor case ground • Motor
The noise occurs constantly, not just under certain conditions.		<ul style="list-style-type: none"> • 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.		<ul style="list-style-type: none"> • 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).	<p>Some Bluetooth[®] enabled cellular phones may not be recognized by the in-vehicle phone module.</p> <p>Refer to "RELATED TO HANDS-FREE PHONE (Check Compatibility)" in AV-361, "Symptom Table".</p>
Cannot use hands-free phone.	<p>Customer will not be able to use a hands-free phone under the following conditions:</p> <ul style="list-style-type: none"> • 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. <p>NOTE:</p> <p>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.</p>

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITH BOSE]

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.

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITH BOSE]

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

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITH BOSE]

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.)

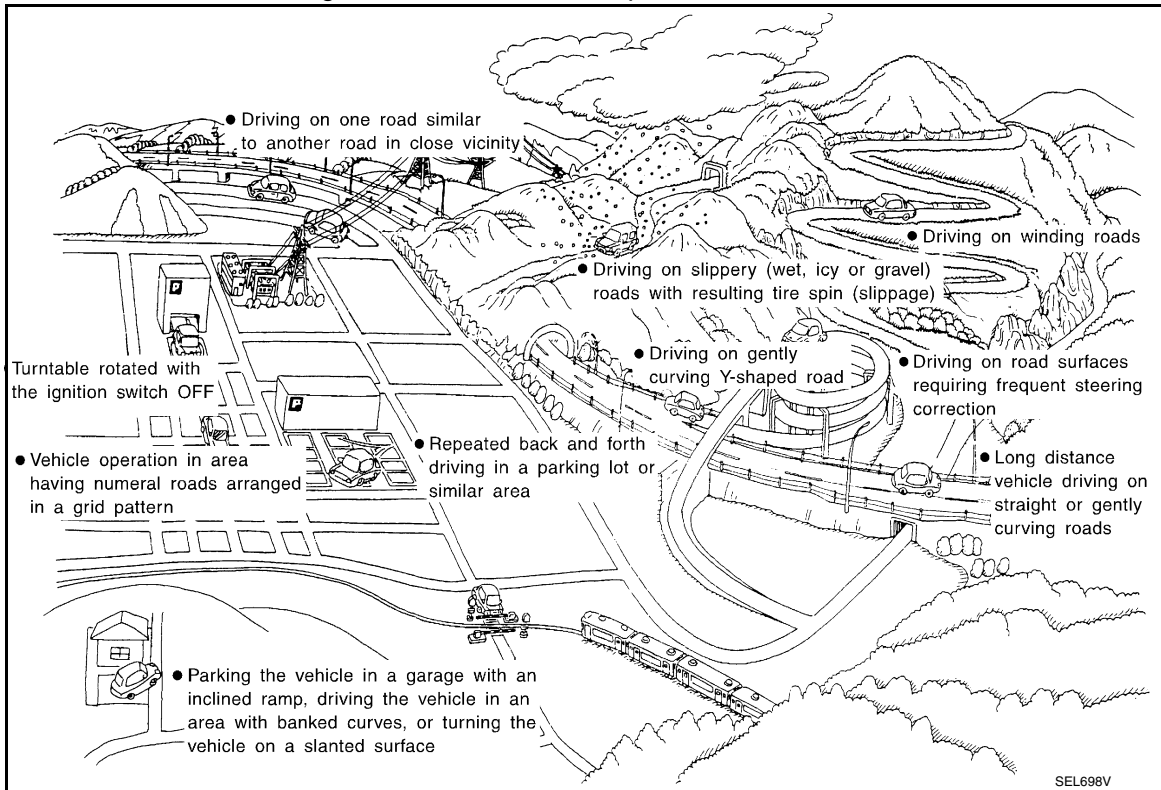
Examples of Current-Location Mark Displacement

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITH BOSE]

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.

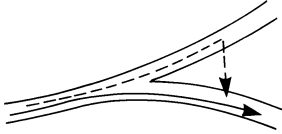
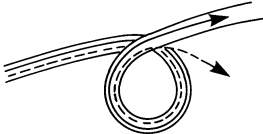
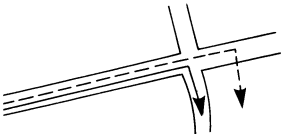
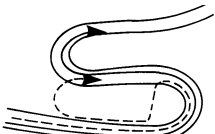
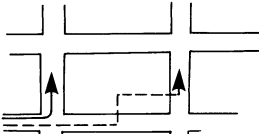
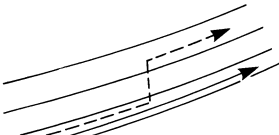


A
B
C
D
E
F
G
H
I
J
K
L
M
AV
O
P

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

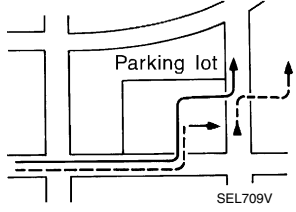
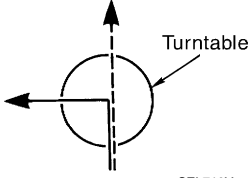
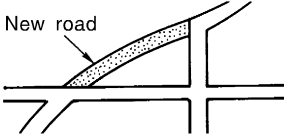
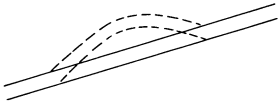
[NAVIGATION WITH BOSE]

	Cause (condition) -: While driving ooo: Display	Driving condition	Remarks (correction, etc.)
Road config- uration	Y-intersections  <small>ELK0192D</small>	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  <small>ELK0193D</small>	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  <small>ELK0194D</small>	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  <small>ELK0195D</small>	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  <small>ELK0196D</small>	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  <small>ELK0197D</small>	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.	

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITH BOSE]

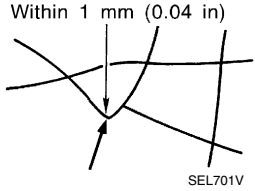
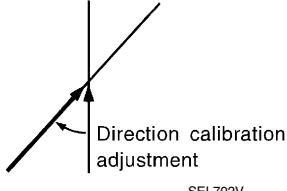
	Cause (condition) -: While driving ooo: Display	Driving condition	Remarks (correction, etc.)
Place	In a parking lot  SEL709V	When driving in a parking lot, or other location where there are no roads on the map, matching may place the vehicle mark on a nearby road. When the vehicle returns to the road, the vehicle mark may have deviated from the correct location. When driving in circle or turning the steering wheel repeatedly, direction errors accumulate, and the vehicle mark may deviate from the correct location.	If after travelling about 10 km (6 miles) the correct location has not been restored, perform location correction and, if necessary, direction correction.
	Turntable  SEL710V	When the ignition switch is OFF, the navigation system cannot get the signal from the gyroscope (angular speed sensor). Therefore, the displayed direction may be wrong and the correct road may not be easily returned to after rotating the vehicle on a turntable with the ignition OFF.	
	Slippery roads	On snow, wet roads, gravel, or other roads where tires may slip easily, accumulated mileage errors may cause the vehicle mark to deviate from the correct road.	
	Slopes	When parking in sloped garages, when travelling on banked roads, or in other cases where the vehicle turns when tilted, an error in the turning angle will occur, and the vehicle mark may deviate from the road.	
Map data	Road not displayed on the map screen  SEL699V	When driving on new roads or other roads not displayed on the map screen, map matching does not function correctly and matches the location to a nearby road. When the vehicle returns to a road which is on the map, the vehicle mark may deviate from the correct road.	
	Different road pattern (Changed due to repair)  ELK0201D	If the road pattern stored in the map data and the actual road pattern are different, map matching does not function correctly and matches the location to a nearby road. The vehicle mark may deviate from the correct road.	
Vehicle	Use of tire chains	When tire chains are used, the mileage is not correctly detected, and the vehicle mark may deviate from the correct road.	Drive the vehicle for a while. If the distance still deviates, adjust it by using the distance adjustment function. (If the tire chain is removed, recover the original value.)

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

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITH BOSE]

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 to 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 	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 	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 BIRDVUE™ 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

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION WITH BOSE]

- 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.

A

Vehicle Mark Jumps

In the following cases, the vehicle mark may appear to jump as a result of automatic correction of the current location.

B

- 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.

C

D

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.

E

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.

F

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.

G

H

I

J

K

L

M

AV

O

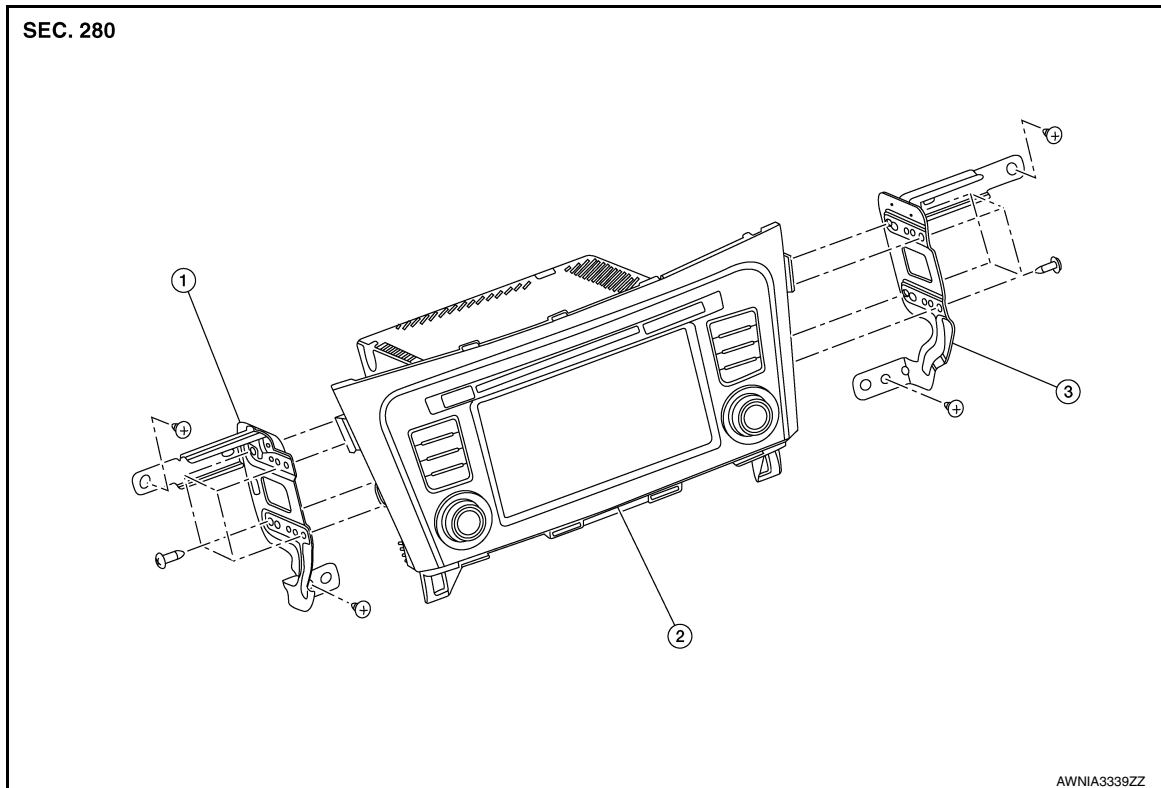
P

REMOVAL AND INSTALLATION

AV CONTROL UNIT

Exploded View

INFOID:000000010199205



1. AV control unit bracket (LH) 2. AV control unit 3. AV control unit bracket (RH)

Removal and Installation

INFOID:000000010199206

REMOVAL

CAUTION:

- Before disconnecting the AV control unit and battery terminals, turn the ignition switch OFF and wait at least 30 seconds.
- Before replacing AV control unit, perform "READ CONFIGURATION" to save current vehicle specification. Refer to [AV-134. "CONFIGURATION \(AV CONTROL UNIT\) : Configuration List"](#).

NOTE:

After the ignition switch is turned OFF, the AV control unit continues operating for approximately 30 seconds. Therefore, data corruption may occur if battery voltage is cut off within 30 seconds.

1. Disconnect the negative battery terminal. Refer to [PG-75. "Removal and Installation \(Battery\)"](#).
2. Remove A/C switch. Refer to [HAC-102. "Removal and Installation"](#).
3. Remove instrument finisher B. Refer to [IP-16. "INSTRUMENT FINISHER B : Removal and Installation"](#).
4. Remove instrument finisher E. Refer to [IP-16. "INSTRUMENT FINISHER E : Removal and Installation"](#).
5. Remove the AV control unit screws, then pull out the AV control unit.
6. Disconnect the harness connectors from the AV control unit and remove.
7. Remove the AV control unit bracket (LH/RH) screws and the AV control unit brackets (LH/RH) (if necessary).

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

AV CONTROL UNIT

< REMOVAL AND INSTALLATION >

[NAVIGATION WITH BOSE]

When replacing AV control unit, perform "WRITE CONFIGURATION". Refer to [AV-134. "CONFIGURATION \(AV CONTROL UNIT\) : Configuration List"](#).

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

STEERING SWITCH

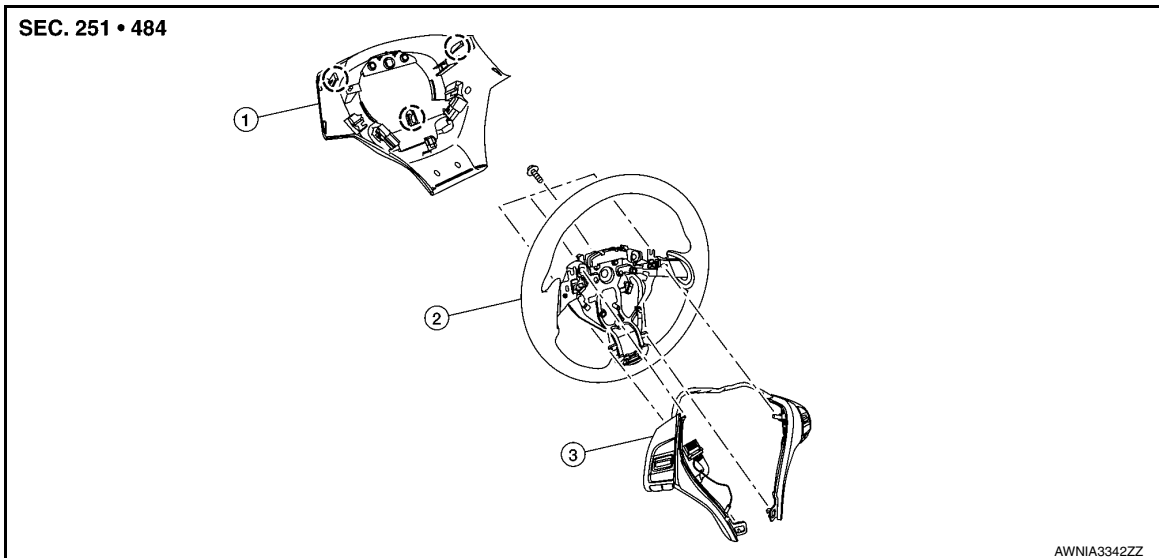
< REMOVAL AND INSTALLATION >

[NAVIGATION WITH BOSE]

STEERING SWITCH

Exploded View

INFOID:000000010199209



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

○ Pawl

Removal and Installation

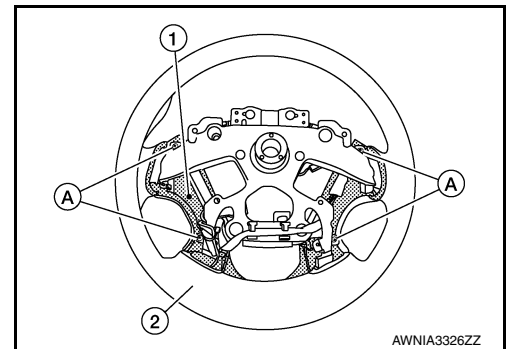
INFOID:000000010199210

REMOVAL

NOTE:

The steering switches are serviced as an assembly.

1. Remove steering wheel. Refer to [ST-11, "Removal and Installation"](#).
2. Release pawls on the steering wheel rear finisher and remove.
3. Remove screws (A) and steering switches (1) from steering wheel (2).



INSTALLATION

Installation is in the reverse order of removal.

BOSE SPEAKER AMP

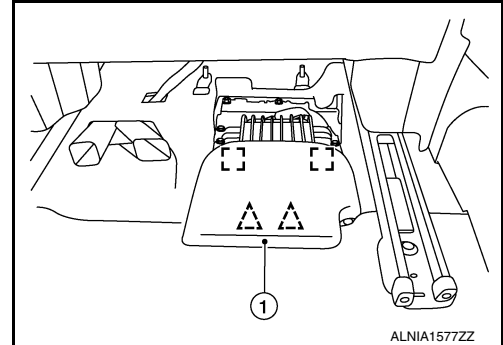
Removal and Installation

INFOID:000000010199218

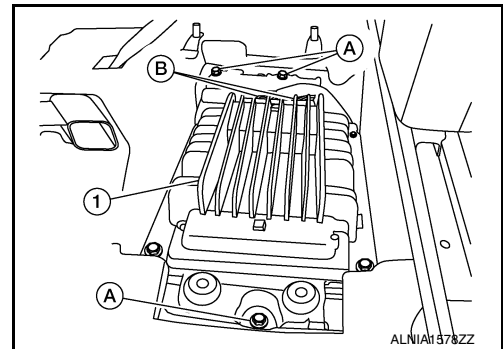
REMOVAL

1. Slide the passenger seat to the full forward position.
2. Release the clips using a suitable tool and remove Bose speaker amp cover (1).

- : Metal clip
- △: Clip



3. Remove Bose speaker amp bolts (A).
4. Disconnect the harness connectors (B) from the Bose speaker amp (1).



5. Remove the Bose speaker amp. and bracket as an assembly.
6. Remove the bolts and the Bose speaker amp. from the Bose speaker amp. bracket (if necessary).

INSTALLATION

Installation is in the reverse order of removal.

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

AV

FRONT TWEETER

Removal and Installation

INFOID:000000010258512

REMOVAL

1. Remove defroster grille. Refer to [VTL-12. "DEFROSTER GRILLE : Removal and Installation"](#).
2. Remove bolts and pull out the front tweeter.
3. Disconnect the harness connector from the front tweeter and remove.

INSTALLATION

Installation is in the reverse order of removal.

FRONT DOOR SPEAKER

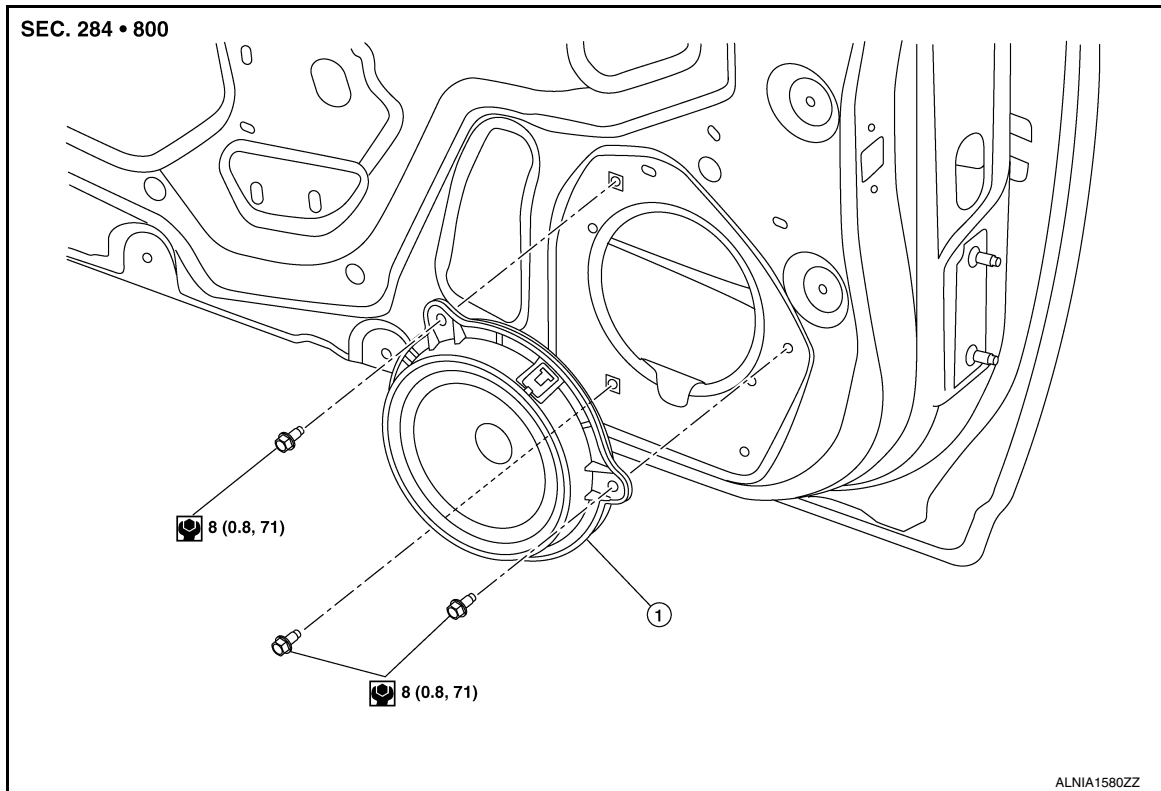
< REMOVAL AND INSTALLATION >

[NAVIGATION WITH BOSE]

FRONT DOOR SPEAKER

Exploded View

INFOID:000000010199220



1. Front door speaker

Removal and Installation

INFOID:000000010199221

REMOVAL

1. Remove front door finisher. Refer to [INT-15. "Removal and Installation"](#).
2. Remove front door speaker bolts, then pull out front door speaker.
3. Disconnect the harness connector from front door speaker and remove.

INSTALLATION

Installation is in the reverse order of removal.

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

AV

CENTER SPEAKER

< REMOVAL AND INSTALLATION >

[NAVIGATION WITH BOSE]

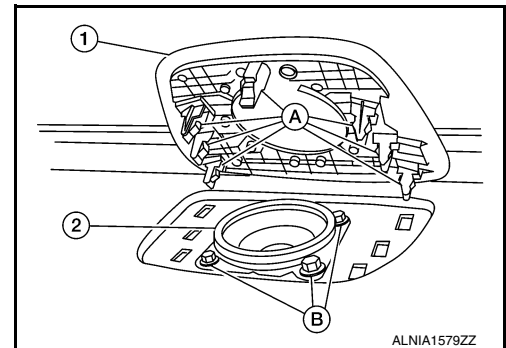
CENTER SPEAKER

Removal and Installation

INFOID:000000010199224

REMOVAL

1. Release the metal clips (A) using a suitable tool and remove center speaker grille (1).
2. Remove the center speaker bolts (B).
3. Pull out the center speaker (2).



4. Disconnect the harness connector from the center speaker and remove.

INSTALLATION

Installation is in the reverse order of removal.

REAR DOOR SPEAKER

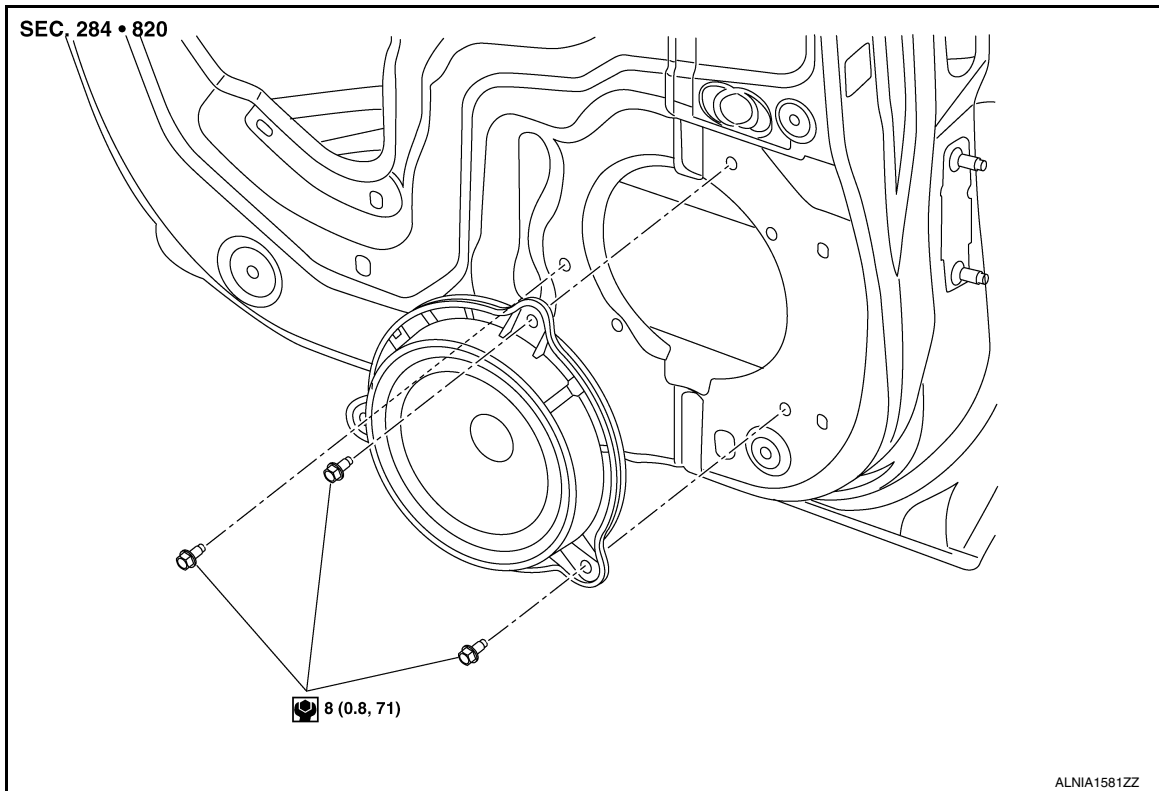
< REMOVAL AND INSTALLATION >

[NAVIGATION WITH BOSE]

REAR DOOR SPEAKER

Exploded View

INFOID:000000010199225



1. Rear door speaker

Removal and Installation

INFOID:000000010199226

REMOVAL

1. Remove rear door finisher. Refer to [INT-18, "Removal and Installation"](#).
2. Remove rear door speaker bolts, then pull out rear door speaker.
3. Disconnect the harness connector from the rear door speaker and remove.

INSTALLATION

Installation is in the reverse order of removal.

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

AV

SUBWOOFER

< REMOVAL AND INSTALLATION >

[NAVIGATION WITH BOSE]

SUBWOOFER

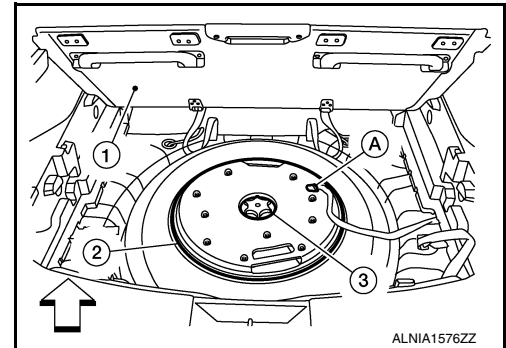
Removal and Installation

INFOID:000000010199260

REMOVAL

1. Open the rear luggage floor finisher (1).
2. Remove the spare tire clamp (3) by rotating counterclockwise.
3. Disconnect the harness connector (A) from the subwoofer (2) and remove.

↶: Front



INSTALLATION

Installation is in the reverse order of removal.

USB INTERFACE AND AUX IN JACK

< REMOVAL AND INSTALLATION >

[NAVIGATION WITH BOSE]

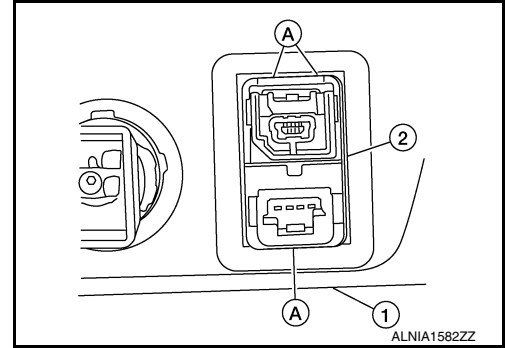
USB INTERFACE AND AUX IN JACK

Removal and Installation

INFOID:000000010199270

REMOVAL

1. Remove cluster lid C. Refer to [IP-21. "Removal and Installation"](#).
2. Release the pawls (A) on the back of USB interface and AUX in jack (2), then remove from the front of cluster lid C (1).



INSTALLATION

Installation is in the reverse order of removal.

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

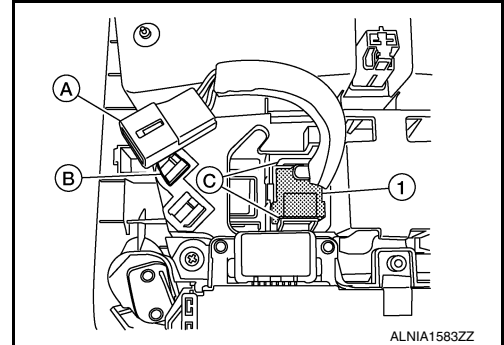
MICROPHONE

Removal and Installation

INFOID:000000010199231

REMOVAL

1. Remove the map lamp assembly. Refer to [INL-55. "Removal and Installation"](#).
2. Release harness connector (A) by sliding rearward to remove from the pawl (B).
3. Release pawls (C) and remove the microphone (1) from the front room/map lamp assembly.



INSTALLATION

Installation is in the reverse order of removal.

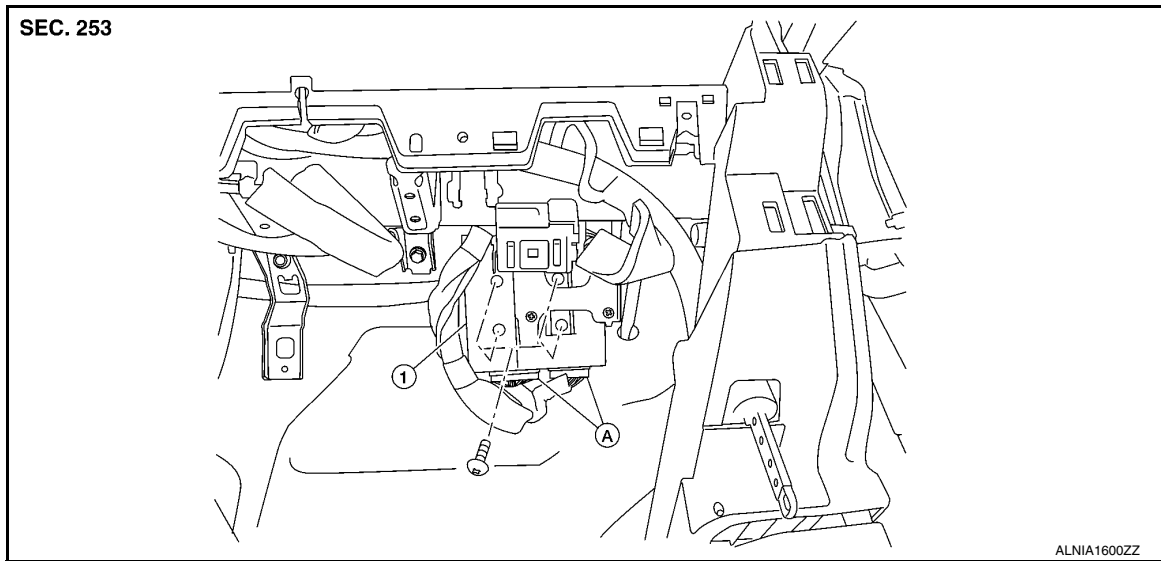
AROUND VIEW MONITOR CONTROL UNIT

< REMOVAL AND INSTALLATION >

[NAVIGATION WITH BOSE]

AROUND VIEW MONITOR CONTROL UNIT

Exploded View



1. Around view monitor control unit A. Harness connector

Removal and Installation

INFOID:000000010199261

REMOVAL

CAUTION:

Before replacing around view monitor control unit, save or print current vehicle specification with CONSULT configuration before replacement. Refer to [AV-288, "ADDITIONAL SERVICE WHEN REPLACING AROUND VIEW MONITOR CONTROL UNIT : Work Procedure"](#).

1. Remove glove box assembly. Refer to [IP-23, "Removal and Installation"](#).
2. Remove around view monitor control unit screws.
3. Disconnect the harness connector from the around view monitor control unit and remove.

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

- Replace the around view monitor control unit if it has been dropped or sustained an impact.
- When replacing around view monitor control unit, you must perform "After Replace ECU" with CONSULT. Refer to [AV-288, "ADDITIONAL SERVICE WHEN REPLACING AROUND VIEW MONITOR CONTROL UNIT : Work Procedure"](#).

NOTE:

Perform camera image calibration. Refer to [AV-292, "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Work Procedure"](#).

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

FRONT CAMERA

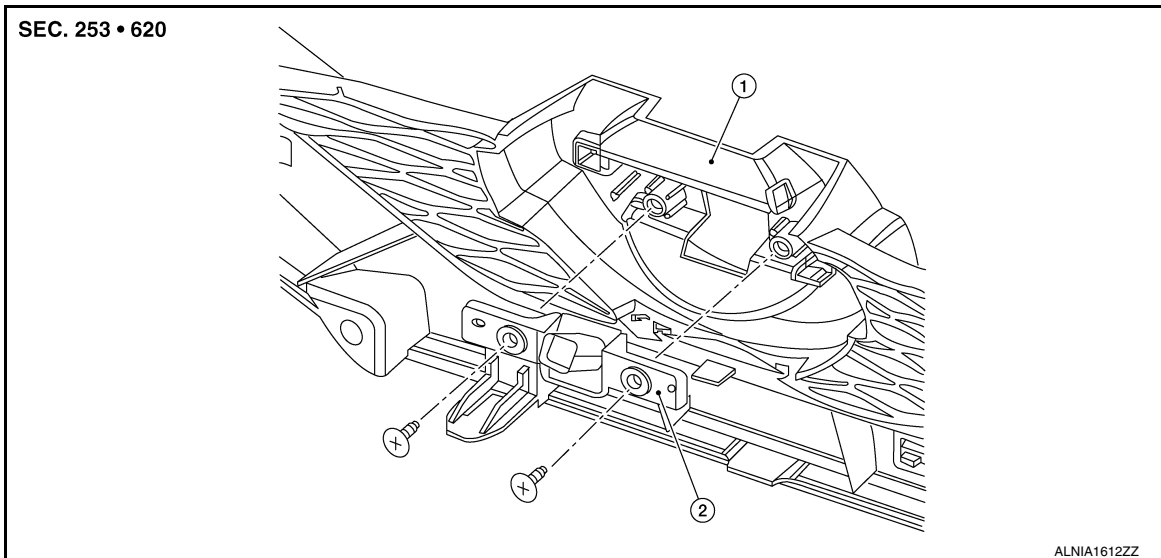
< REMOVAL AND INSTALLATION >

[NAVIGATION WITH BOSE]

FRONT CAMERA

Exploded View

INFOID:000000010259085



1. Front grille

2. Front camera

Removal and Installation

INFOID:000000010199235

REMOVAL

1. Remove the front grille. Refer to [EXT-23, "Removal and Installation"](#).
2. Remove screws and front camera.

INSTALLATION

Installation is in the reverse order of removal.

NOTE:

Perform camera image calibration. Refer to [AV-292, "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Work Procedure"](#).

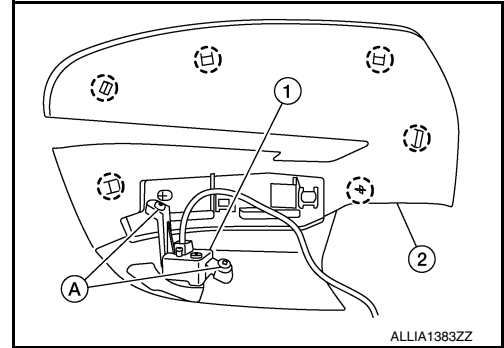
SIDE CAMERA

Removal and Installation

INFOID:000000010199238

REMOVAL

1. Remove door mirror rear finisher (2). Refer to [MIR-25. "Removal and Installation"](#).
2. Remove screws (A) and side camera (1).
○: Pawl



INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

Perform camera image calibration (if equipped with around view camera). Refer to [AV-135. "CALIBRATING CAMERA IMAGE \(AROUND VIEW MONITOR\) : Description"](#).

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

AV

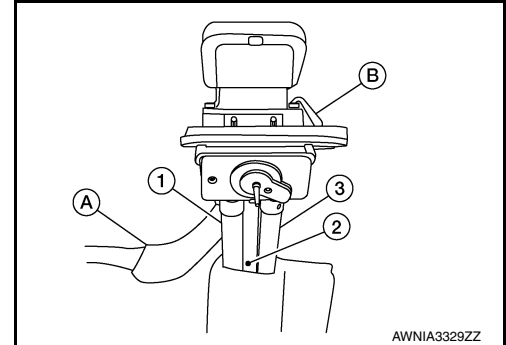
REAR VIEW CAMERA

Removal and Installation

INFOID:000000010199272

REMOVAL

1. Remove the back door outer finisher. Refer to [EXT-50. "Removal and Installation"](#).
2. Disconnect washer tubes (1,3) and air tube (2) (if equipped).
3. Release pawl (B), disconnect harness connector (A) from rear view camera and remove.



INSTALLATION

Installation is in the reverse order of removal.

GPS ANTENNA

Removal and Installation

INFOID:000000010272255

REMOVAL

1. Remove instrument panel. Refer to [IP-14, "INSTRUMENT PANEL ASSEMBLY : Removal and Installation"](#).
2. Remove screw and the GPS antenna.

INSTALLATION

Installation is in the reverse order of removal.

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

AV

AUDIO ANTENNA

Removal and Installation

INFOID:000000010199280

REMOVAL

1. Remove the luggage side upper finisher (RH). Refer to [INT-36. "LUGGAGE SIDE UPPER FINISHER : Removal and Installation"](#).
2. Partially lower headlining (rear). Refer to [INT-30. "Removal and Installation"](#).
3. Disconnect harness connectors from antenna feeder.
4. Remove nut from audio antenna and remove.

INSTALLATION

Installation is in the reverse order of removal.

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

CAUTION:

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

ANTENNA FEEDER

< REMOVAL AND INSTALLATION >

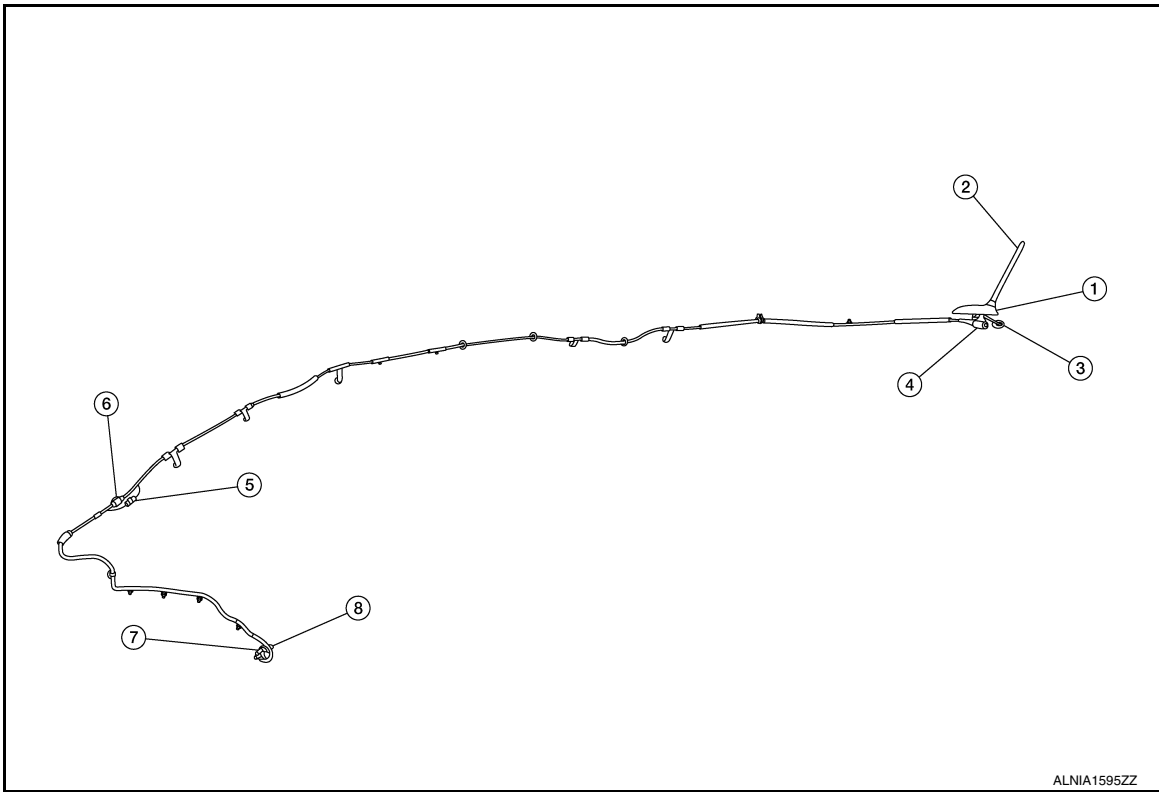
[NAVIGATION WITH BOSE]

ANTENNA FEEDER

Feeder Layout

INFOID:000000010270718

ANTENNA FEEDER LAYOUT



- | | | |
|--|----------------|---------------|
| 1. Antenna base (antenna amp. and satellite antenna) | 2. Rod Antenna | 3. M503 |
| 4. M502 | 5. M130, M501 | 6. M129, M500 |
| 7. M142 | 8. M139 | |

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