

SECTION **AV**

AUDIO, VISUAL & NAVIGATION SYSTEM

CONTENTS

BASE AUDIO	WIRING DIAGRAM	23
BASIC INSPECTION	BASE AUDIO SYSTEM	23
DIAGNOSIS AND REPAIR WORKFLOW	Wiring Diagram	23
Work Flow	SYMPTOM DIAGNOSIS	31
SYSTEM DESCRIPTION	AUDIO SYSTEM	31
AUDIO SYSTEM	Symptom Table	31
System Diagram	NORMAL OPERATING CONDITION	32
System Description	Description	32
Component Parts Location	PRECAUTION	33
Component Description	PRECAUTIONS	33
DTC/CIRCUIT DIAGNOSIS	Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"	33
POWER SUPPLY AND GROUND CIRCUIT	Precaution for Work	33
AUDIO UNIT	PREPARATION	34
AUDIO UNIT : Diagnosis Procedure	PREPARATION	34
FRONT DOOR SPEAKER	Special Service Tools	34
Description	Commercial Service Tools	34
Diagnosis Procedure	REMOVAL AND INSTALLATION	35
FRONT TWEETER	AUDIO UNIT	35
Description	Removal and Installation	35
Diagnosis Procedure	FRONT TWEETER	36
REAR DOOR SPEAKER	Removal and Installation	36
Description	FRONT DOOR SPEAKER	37
Diagnosis Procedure	Removal and Installation	37
REAR DOOR TWEETER	REAR DOOR SPEAKER	38
Description	Removal and Installation	38
Diagnosis Procedure	AUDIO ANTENNA	39
ECU DIAGNOSIS INFORMATION	Location of Antenna	39
AUDIO UNIT		
Reference Value		

Removal and Installation	39	REAR DOOR TWEETER	68
MID AUDIO		Description	68
PRECAUTION	40	Diagnosis Procedure	68
PRECAUTIONS	40	SYMPTOM DIAGNOSIS	70
Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TEN- SIONER"	40	AUDIO SYSTEM	70
Precaution for Trouble Diagnosis	40	Symptom Table	70
Precaution for Work	40	NORMAL OPERATING CONDITION	72
PREPARATION	42	Description	72
PREPARATION	42	REMOVAL AND INSTALLATION	73
Special Service Tools	42	AUDIO UNIT	73
Commercial Service Tools	42	Removal and Installation	73
SYSTEM DESCRIPTION	43	FRONT TWEETER	74
COMPONENT PARTS	43	Removal and Installation	74
Component Parts Location	43	FRONT DOOR SPEAKER	75
Component Description	43	Removal and Installation	75
SYSTEM	45	REAR DOOR SPEAKER	76
System Diagram	45	Removal and Installation	76
System Description	45	AUDIO ANTENNA	77
DIAGNOSIS SYSTEM (AUDIO UNIT)	46	Location of Antenna	77
Diagnosis Description	46	Removal and Installation	77
On Board Diagnosis Function	46	DISPLAY AUDIO WITHOUT AMPLIFIER	
ECU DIAGNOSIS INFORMATION	49	PRECAUTION	78
AUDIO UNIT	49	PRECAUTIONS	78
Reference Value	49	Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TEN- SIONER"	78
WIRING DIAGRAM	51	Precaution for Trouble Diagnosis	78
MID AUDIO SYSTEM	51	Precaution for Harness Repair	78
Wiring Diagram	51	Precaution for Work	79
BASIC INSPECTION	59	PREPARATION	80
DIAGNOSIS AND REPAIR WORKFLOW	59	PREPARATION	80
Work Flow	59	Special Service Tools	80
DTC/CIRCUIT DIAGNOSIS	61	Commercial Service Tools	80
POWER SUPPLY AND GROUND CIRCUIT	61	SYSTEM DESCRIPTION	81
AUDIO UNIT	61	COMPONENT PARTS	81
AUDIO UNIT : Diagnosis Procedure	61	Component Parts Location	81
FRONT DOOR SPEAKER	62	Component Description	82
Diagnosis Procedure	62	SYSTEM	83
FRONT TWEETER	64	System Diagram	83
Diagnosis Procedure	64	System Description	83
REAR SPEAKER	66	DIAGNOSIS SYSTEM (AUDIO UNIT)	85
Description	66	Description	85
Diagnosis Procedure	66	On Board Diagnosis Function	85
		ECU DIAGNOSIS INFORMATION	91

AUDIO UNIT	91	SATELLITE RADIO ANTENNA	132	
Reference Value	91	Removal and Installation	132	A
WIRING DIAGRAM	94	FRONT TWEETER	133	
DISPLAY AUDIO WITHOUT AMPLIFIER	94	Removal and Installation	133	B
Wiring Diagram	94	FRONT DOOR SPEAKER	134	
BASIC INSPECTION	109	Removal and Installation	134	C
DIAGNOSIS AND REPAIR WORKFLOW	109	REAR DOOR SPEAKER	135	
Work Flow	109	Removal and Installation	135	D
DTC/CIRCUIT DIAGNOSIS	111	STEERING SWITCH	136	
POWER SUPPLY AND GROUND CIRCUIT ...	111	Removal and Installation	136	E
AUDIO UNIT	111	AUDIO ANTENNA	137	
AUDIO UNIT : Diagnosis Procedure	111	Location of Antenna	137	E
MICROPHONE	111	Removal and Installation	137	F
MICROPHONE : Diagnosis Procedure	111	AUXILIARY INPUT JACK	138	
FRONT DOOR SPEAKER	113	Removal and Installation	138	G
Diagnosis Procedure	113	USB CONNECTOR	139	
FRONT TWEETER	115	Removal and Installation	139	H
Diagnosis Procedure	115	MICROPHONE	140	
REAR DOOR SPEAKER	117	Removal and Installation	140	I
Description	117	REAR VIEW CAMERA	141	
Diagnosis Procedure	117	Removal and Installation	141	J
REAR DOOR TWEETER	119	DISPLAY AUDIO WITH AMPLIFIER		
Description	119	PRECAUTION	142	
Diagnosis Procedure	119	PRECAUTIONS	142	
REAR VIEW CAMERA IMAGE SIGNAL CIR-		Precaution for Supplemental Restraint System		
CUIT	121	(SRS) "AIR BAG" and "SEAT BELT PRE-TEN-		
Diagnosis Procedure	121	SIONER"	142	K
STEERING SWITCH	123	Precaution for Trouble Diagnosis	142	
Diagnosis Procedure	123	Precaution for Harness Repair	142	L
MICROPHONE SIGNAL CIRCUIT	125	Precaution for Work	143	
Description	125	PREPARATION	144	
Diagnosis Procedure	125	PREPARATION	144	M
USB CONNECTOR	127	Special Service Tools	144	
Diagnosis Procedure	127	Commercial Service Tools	144	AV
SYMPTOM DIAGNOSIS	128	SYSTEM DESCRIPTION	145	
AUDIO SYSTEM	128	COMPONENT PARTS	145	
Symptom Table	128	Component Parts Location	145	O
NORMAL OPERATING CONDITION	130	Component Description	146	
Description	130	SYSTEM	147	P
REMOVAL AND INSTALLATION	131	System Diagram	147	
AUDIO UNIT	131	System Description	147	
Removal and Installation	131	DIAGNOSIS SYSTEM (AUDIO UNIT)	149	
		Description	149	
		On Board Diagnosis Function	149	
		ECU DIAGNOSIS INFORMATION	155	

AUDIO UNIT	155	AUDIO SYSTEM	207
Reference Value	155	Symptom Table	207
AUDIO AMP	158	NORMAL OPERATING CONDITION	212
Reference Value	158	Description	212
WIRING DIAGRAM	161	REMOVAL AND INSTALLATION	213
DISPLAY AUDIO WITH AMPLIFIER	161	AUDIO UNIT	213
Wiring Diagram	161	Removal and Installation	213
BASIC INSPECTION	177	SATELLITE RADIO ANTENNA	214
DIAGNOSIS AND REPAIR WORKFLOW	177	Removal and Installation	214
Work Flow	177	FRONT TWEETER	215
DTC/CIRCUIT DIAGNOSIS	179	Removal and Installation	215
POWER SUPPLY AND GROUND CIRCUIT ..	179	CENTER SPEAKER	216
AUDIO UNIT	179	Removal and Installation	216
AUDIO UNIT : Diagnosis Procedure	179	FRONT DOOR SPEAKER	217
AUDIO AMP	179	Removal and Installation	217
AUDIO AMP : Diagnosis Procedure	180	REAR DOOR SPEAKER	218
FRONT DOOR SPEAKER	181	Removal and Installation	218
Diagnosis Procedure	181	SUBWOOFER	219
FRONT TWEETER	184	Removal and Installation	219
Diagnosis Procedure	184	STEERING SWITCH	220
CENTER SPEAKER	187	Removal and Installation	220
Diagnosis Procedure	187	AUDIO AMP	221
REAR DOOR SPEAKER	190	Removal and Installation	221
Diagnosis Procedure	190	AUDIO ANTENNA	222
REAR DOOR TWEETER	193	Location of Antenna	222
Diagnosis Procedure	193	Removal and Installation	222
SUBWOOFER	196	AUXILIARY INPUT JACK	223
Description	196	Removal and Installation	223
Diagnosis Procedure	196	USB CONNECTOR	224
AMP ON SIGNAL CIRCUIT	199	Removal and Installation	224
Diagnosis Procedure	199	MICROPHONE	225
REAR VIEW CAMERA IMAGE SIGNAL CIR- CUIT	200	Removal and Installation	225
Diagnosis Procedure	200	REAR VIEW CAMERA	226
MICROPHONE SIGNAL CIRCUIT	202	Removal and Installation	226
Diagnosis Procedure	202	NAVIGATION	
STEERING SWITCH	204	PRECAUTION	227
Diagnosis Procedure	204	PRECAUTIONS	227
USB CONNECTOR	206	Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TEN- SIONER"	227
Diagnosis Procedure	206	Precaution for Trouble Diagnosis	227
SYMPTOM DIAGNOSIS	207	Precaution for Harness Repair	227
		Precaution for Work	228
		PREPARATION	229

PREPARATION	229	U1010 CONTROL UNIT (CAN)	275	
Special Service Tools	229	DTC Logic	275	A
Commercial Service Tools	229	U1217 AV CONTROL UNIT	276	
SYSTEM DESCRIPTION	230	DTC Logic	276	B
COMPONENT PARTS	230	U1229 AV CONTROL UNIT	277	
Component Parts Location	230	DTC Logic	277	C
Component Description	231	U122F AV CONTROL UNIT	278	
SYSTEM	233	DTC Logic	278	
System Diagram	233	U1244 GPS ANTENNA	279	D
System Description	233	DTC Logic	279	
DIAGNOSIS SYSTEM (AV CONTROL UNIT)..	237	Diagnosis Procedure	279	
Description	237	U1258 SATELLITE RADIO ANTENNA	280	E
On Board Diagnosis Function	237	DTC Logic	280	
CONSULT Function	238	Diagnosis Procedure	280	F
ECU DIAGNOSIS INFORMATION	239	U1263 USB	281	
AV CONTROL UNIT	239	DTC Logic	281	G
Reference Value	239	Diagnosis Procedure	281	
DTC Index	242	U1265 AUDIO AMP.	282	H
AUDIO AMP	243	DTC Logic	282	
Reference Value	243	Diagnosis Procedure	282	
DVD PLAYER	246	U12AA CONFIGURATION ERROR	283	I
Reference Value	246	DTC Logic	283	
WIRING DIAGRAM	248	Diagnosis Procedure	283	
NAVIGATION SYSTEM	248	U12AB ANTENNA	284	J
Wiring Diagram	248	DTC Logic	284	
BASIC INSPECTION	269	Diagnosis Procedure	284	
DIAGNOSIS AND REPAIR WORKFLOW	269	U12AC AV CONTROL UNIT	285	K
Work Flow	269	DTC Logic	285	
INSPECTION AND ADJUSTMENT	271	U12AD AV CONTROL UNIT	286	L
ADDITIONAL SERVICE WHEN REPLACING AV		DTC Logic	286	
CONTROL UNIT	271	U12AE AV CONTROL UNIT	287	M
ADDITIONAL SERVICE WHEN REPLACING AV		DTC Logic	287	
CONTROL UNIT : Description	271	U12AF AV CONTROL UNIT	288	
ADDITIONAL SERVICE WHEN REPLACING AV		DTC Logic	288	
CONTROL UNIT : Work Procedure	271	U12B0 POWER SUPPLY VOLTAGE	289	AV
CONFIGURATION (AV CONTROL UNIT)	271	DTC Logic	289	
CONFIGURATION (AV CONTROL UNIT) : De-		Diagnosis Procedure	289	
scription	272	U12B1 POWER SUPPLY VOLTAGE	290	O
CONFIGURATION (AV CONTROL UNIT) : Work		DTC Logic	290	
Procedure	272	Diagnosis Procedure	290	P
CONFIGURATION (AV CONTROL UNIT) : Con-		U1310 AV CONTROL UNIT	291	
figuration List	273	DTC Logic	291	
DTC/CIRCUIT DIAGNOSIS	274	POWER SUPPLY AND GROUND CIRCUIT ..	292	
U1000 CAN COMM CIRCUIT	274	AV CONTROL UNIT	292	
DTC Logic	274	AV CONTROL UNIT : Diagnosis Procedure	292	
Diagnosis Procedure	274			

AUDIO AMP.	292	AV CONTROL UNIT	337
AUDIO AMP. : Diagnosis Procedure	292	Removal and Installation	337
DVD PLAYER	293	FRONT TWEETER	338
DVD PLAYER : Diagnosis Procedure	293	Removal and Installation	338
VIDEO MONITOR	294	CENTER SPEAKER	339
VIDEO MONITOR : Diagnosis Procedure	294	Removal and Installation	339
FRONT DOOR SPEAKER	296	FRONT DOOR SPEAKER	340
Diagnosis Procedure	296	Removal and Installation	340
FRONT TWEETER	299	REAR DOOR SPEAKER	341
Diagnosis Procedure	299	Removal and Installation	341
CENTER SPEAKER	302	SUBWOOFER	342
Diagnosis Procedure	302	Removal and Installation	342
REAR DOOR SPEAKER	305	STEERING SWITCH	343
Diagnosis Procedure	305	Removal and Installation	343
REAR DOOR TWEETER	308	AUDIO AMP.	344
Diagnosis Procedure	308	Removal and Installation	344
SUBWOOFER	311	AUDIO ANTENNA	345
Description	311	Location of Antenna	345
Diagnosis Procedure	311	Removal and Installation	345
AMP ON SIGNAL CIRCUIT	314	AUXILIARY INPUT JACK	346
Diagnosis Procedure	314	Removal and Installation	346
REAR VIEW CAMERA IMAGE SIGNAL CIR- CUIT	315	USB CONNECTOR	347
Diagnosis Procedure	315	Removal and Installation	347
MICROPHONE SIGNAL CIRCUIT	317	SATELLITE RADIO ANTENNA	348
Diagnosis Procedure	317	Removal and Installation	348
STEERING SWITCH	319	GPS ANTENNA	349
Diagnosis Procedure	319	Removal and Installation	349
USB CONNECTOR	321	MICROPHONE	350
Diagnosis Procedure	321	Removal and Installation	350
SYMPTOM DIAGNOSIS	322	REAR VIEW CAMERA	351
MULTI AV SYSTEM	322	Removal and Installation	351
Symptom Table	322	REAR CONTROL SWITCH	352
NORMAL OPERATING CONDITION	328	Removal and Installation	352
Description	328	DVD ENTERTAINMENT SYSTEM	353
REMOVAL AND INSTALLATION	337	Removal and Installation	353

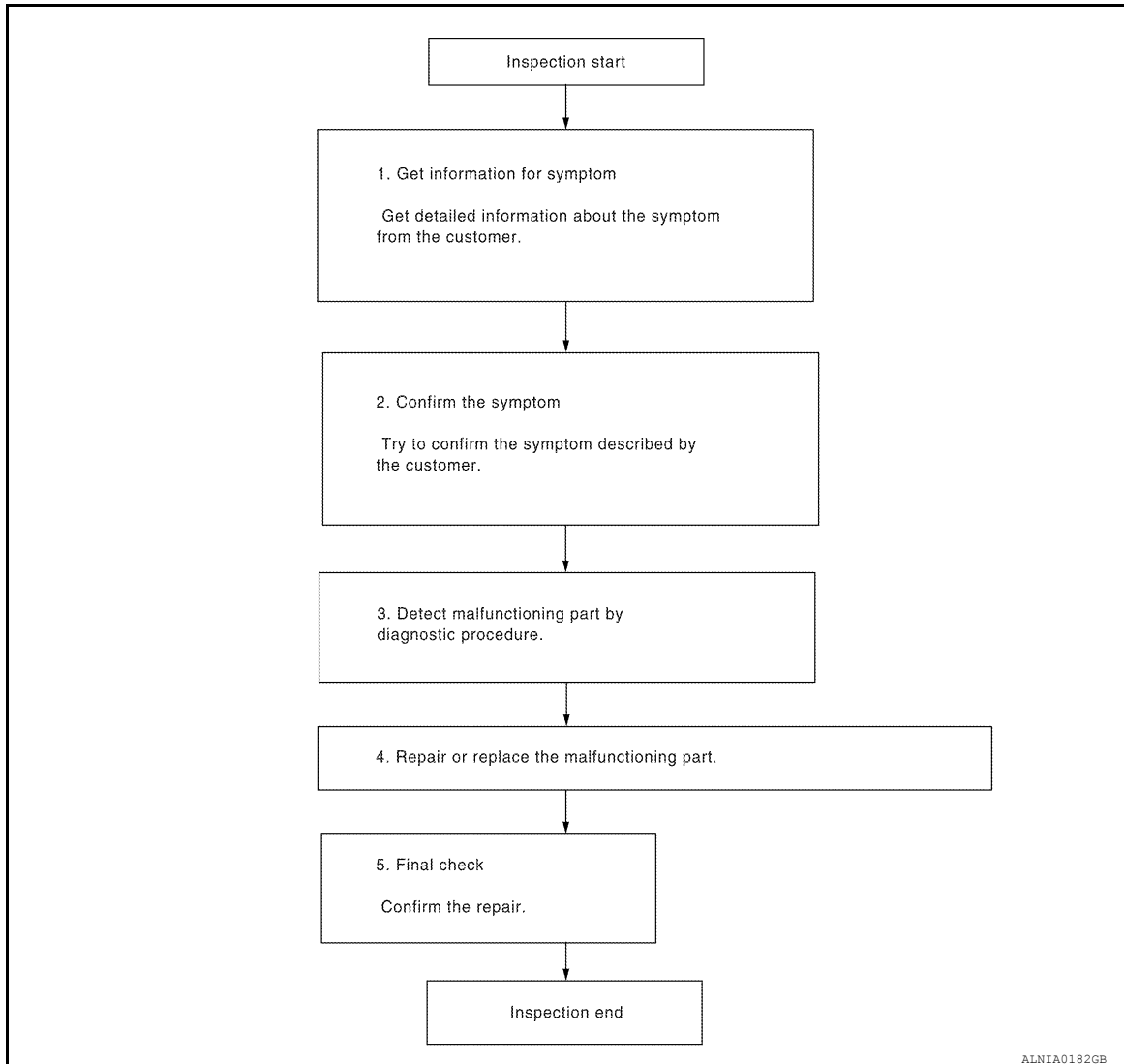
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000011559321

OVERALL SEQUENCE



DETAILED FLOW

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

2.CONFIRM THE SYMPTOM

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

>> GO TO 3.

3.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[BASE 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.

Has the symptom been repaired?

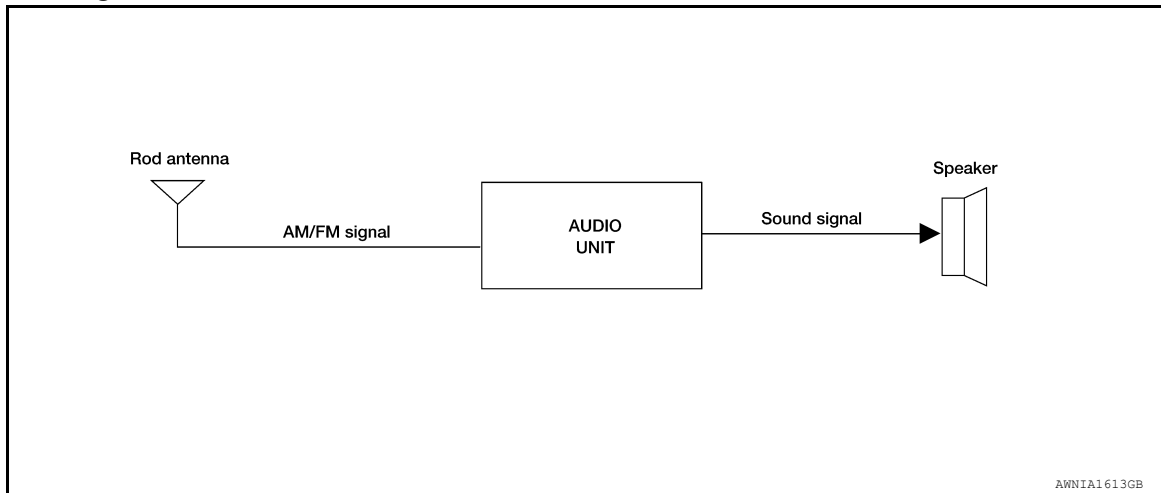
YES >> Inspection End.

NO >> GO TO 2.

SYSTEM DESCRIPTION

AUDIO SYSTEM

System Diagram



System Description

INFOID:0000000011559323

AUDIO SYSTEM

The audio systems consists of the following components:

- Audio unit
- Rod antenna
- Front door speakers
- Front tweeters
- Rear door speakers
- Rear door tweeters (crew cab)

When the audio system is on, radio signals are received by the rod antenna. The audio unit then sends audio signals to the front door speakers, front tweeters, rear door speakers and rear door tweeters (crew cab). Refer to Owner's Manual for audio system operating instructions.

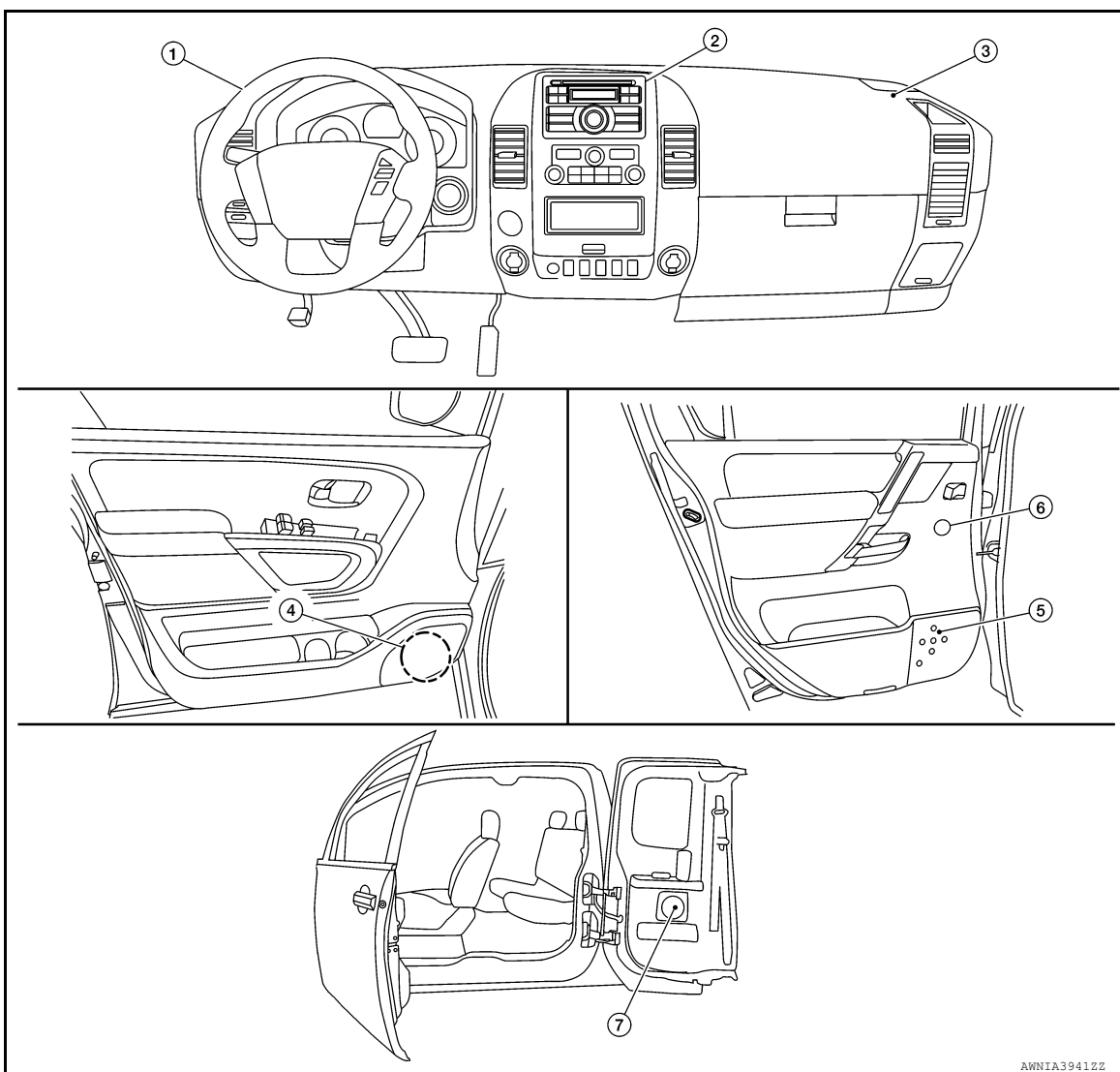
AUDIO SYSTEM

< SYSTEM DESCRIPTION >

[BASE AUDIO]

Component Parts Location

INFOID:0000000011559324



1. Front tweeter LH M109	2. Audio unit M168	3. Front tweeter RH M111
4. Front door speaker LH D12 RH D112	5. Rear door speaker (crew cab) LH D207 RH D307	6. Rear door tweeter (crew cab) LH D208 RH D308
7. Rear door speaker (king cab) LH B76 RH B159		

Component Description

INFOID:0000000011559325

Part name	Description
Audio unit	Controls audio system functions
Front door speakers	- Outputs audio signal from audio unit - Outputs high, mid and low range sounds
Front tweeters	- Outputs audio signal from audio unit - Outputs high range sounds

AUDIO SYSTEM

< SYSTEM DESCRIPTION >

[BASE AUDIO]

Part name	Description
Rear door speakers	• Outputs audio signal from audio unit • Outputs high, mid and low range sounds
Rear door tweeters (crew cab)	• Outputs audio signal from audio unit • Outputs high range sounds

A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

P

DTC/CIRCUIT DIAGNOSIS**POWER SUPPLY AND GROUND CIRCUIT
AUDIO UNIT****AUDIO UNIT : Diagnosis Procedure**

INFOID:0000000011559326

Regarding Wiring Diagram information, refer to [AV-23, "Wiring Diagram"](#).

1.CHECK FUSES

Check that the following fuses of the audio unit are not are not blown:

Unit	Terminals	Signal name	Fuse No.
Audio unit	19	Battery power	31
	7	Ignition switch ACC or ON	4

Are the fuses OK?

YES >> GO TO 2.

NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

2.POWER SUPPLY CIRCUIT CHECK

1. Disconnect audio unit connector M168.
2. Check voltage between the audio unit connector M168 ground.

(+) (Connector Terminal)		(-) (-)	OFF	ACC	ON
M168	7	Ground	0V	Battery voltage	Battery voltage
	19	Ground	Battery voltage	Battery voltage	Battery voltage

Are the voltage results as specified?

YES >> Inspection end.

NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

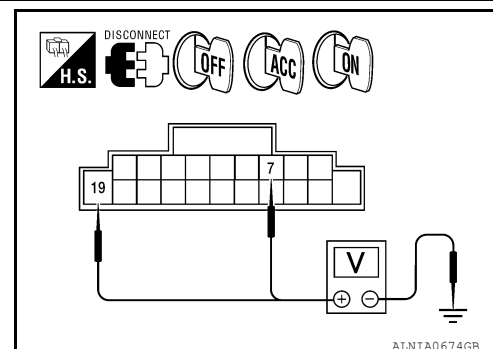
3.GROUND CIRCUIT CHECK

Inspect audio unit case ground.

Does case ground pass inspection?

YES >> Inspection end.

NO >> Repair audio unit case ground.



FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

FRONT DOOR SPEAKER

Description

INFOID:0000000011559327

The audio unit sends audio signals to the front door speakers using the front door speaker circuits.

Diagnosis Procedure

INFOID:0000000011559328

Regarding Wiring Diagram information, refer to [AV-23, "Wiring Diagram"](#).

1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminal and connector.

2.HARNESS CHECK

1. Disconnect audio unit connector M168 and suspect front door speaker connector.
2. Check continuity between audio unit harness connector M168 (A) terminal and suspect front door speaker harness connector (B) terminal.

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M168	2	D12	1	Yes
	3		2	
	11	D112	1	
	12		2	

3. Check continuity between audio unit harness connector M168 (A) terminal and ground.

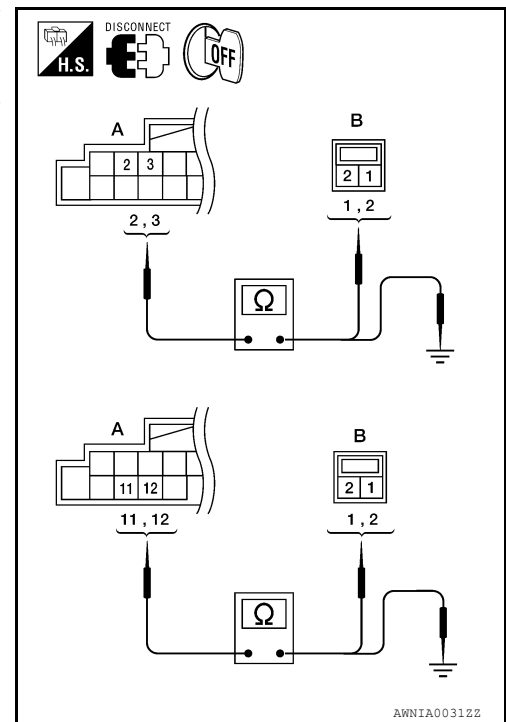
A		—	Continuity
Connector	Terminal		
M168	2	Ground	No
	3		
	11		
	12		

Are continuity results as specified?

YES >> GO TO 3.

NO >> Repair harness or connector.

3.FRONT SPEAKER SIGNAL CHECK

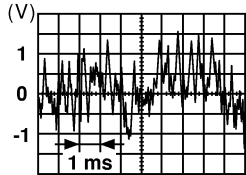


FRONT DOOR SPEAKER

[BASE AUDIO]

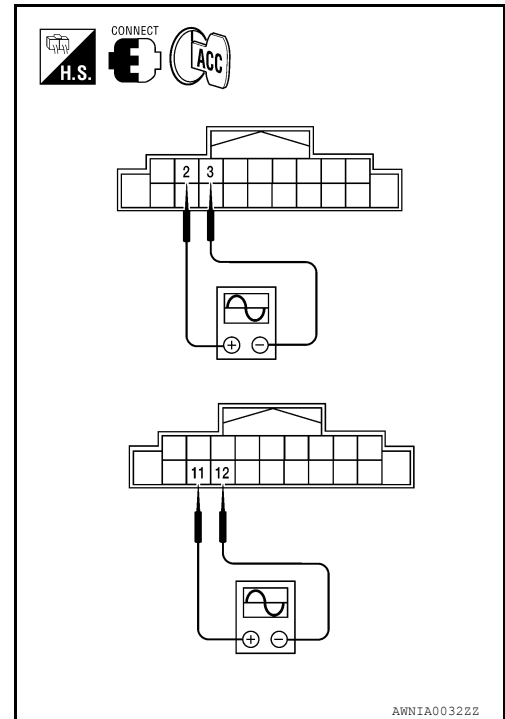
< DTC/CIRCUIT DIAGNOSIS >

1. Connect audio unit connector M168 and front door speaker connector.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio unit harness connector M168 terminals with CONSULT or oscilloscope.

(+)		(-)		Condition	Reference signal
Con- nector	Terminal	Terminal	Terminal		
M168	2	3		Receive audio signal	 SKIA0177E
	11	12			

Is the audio signal voltage as specified?

- YES >> Replace front door speaker. Refer to [AV-37, "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-35, "Removal and Installation"](#).



FRONT TWEETER

Description

INFOID:0000000011559329

The audio unit sends audio signals to the front tweeters using the front tweeter circuits.

Diagnosis Procedure

INFOID:0000000011559330

Regarding Wiring Diagram information, refer to [AV-23, "Wiring Diagram"](#).

1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminal and connector.

2.HARNESS CHECK

1. Disconnect audio unit connector M168 and suspect front tweeter connector.
2. Check continuity between audio unit harness connector M168 (A) and suspect front tweeter harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M168	2	M109	1	Yes
	3		2	
	11	M111	1	
	12		2	

3. Check continuity between audio unit harness connector M168 (A) and ground.

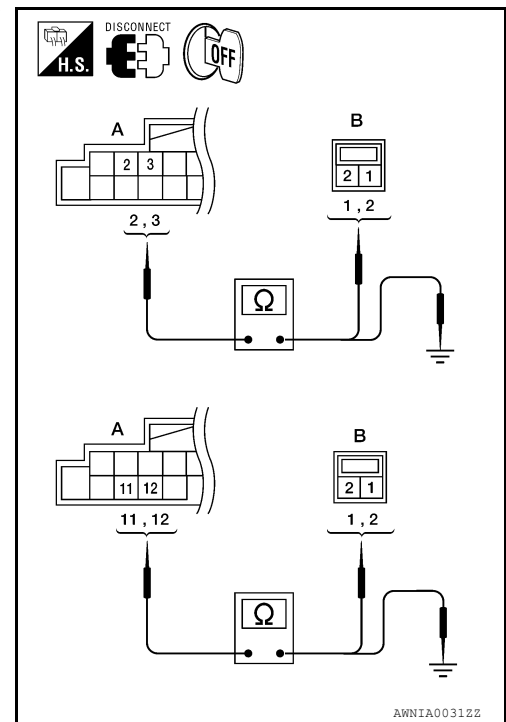
A		—	Continuity
Connector	Terminal		
M168	2	Ground	No
	3		
	11		
	12		

Are the continuity results as specified?

YES >> GO TO 3.

NO >> Repair harness or connector.

3.FRONT TWEETER SIGNAL CHECK



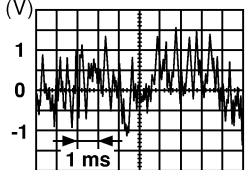
AWNIA00312Z

FRONT TWEETER

< DTC/CIRCUIT DIAGNOSIS >

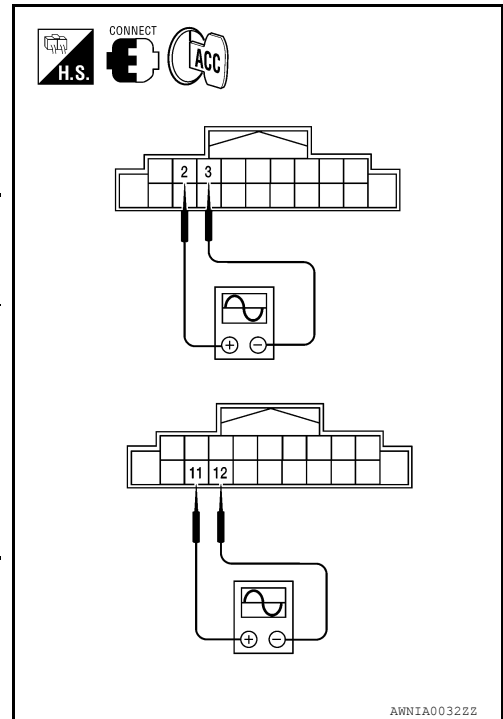
[BASE AUDIO]

1. Connect audio unit connector M168 and front tweeter connector.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio unit harness connector M168 terminals with CONSULT or oscilloscope.

Con- nector	(+)		Condition	Reference signal
	Terminal	Terminal		
M168	2	3	Receive audio signal	
	11	12		

Is the audio signal voltage as specified?

- YES >> Replace the suspect front tweeter. Refer to [AV-36, "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-35, "Removal and Installation"](#).



REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

REAR DOOR SPEAKER

Description

INFOID:0000000011559331

The audio unit sends audio signals to the rear door speakers using the rear door speaker circuits.

Diagnosis Procedure

INFOID:0000000011559332

Regarding Wiring Diagram information, refer to [AV-23, "Wiring Diagram"](#).

1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminal and connector.

2.HARNESS CHECK

1. Disconnect audio unit connector M168 and suspect rear door speaker connector.
2. Check continuity between audio unit harness connector M168 (A) and suspect rear door speaker harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M168	4	D207 (crew cab) B76 (king cab)	1	Yes
	5		2	
	13	D307 (crew cab) B159 (king cab)	1	
	14		2	

3. Check continuity between audio unit harness connector M168 (A) and ground.

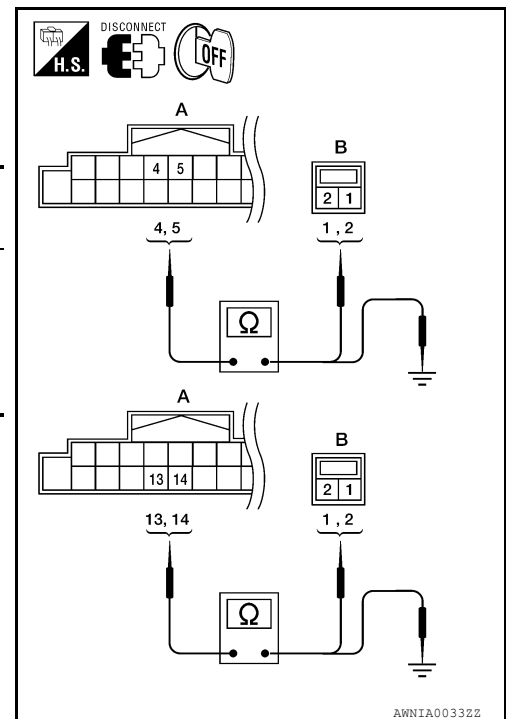
A		—	Continuity
Connector	Terminal		
M168	4	Ground	No
	5		
	13		
	14		

Are the continuity results as specified?

YES >> GO TO 3.

NO >> Repair harness or connector.

3.REAR DOOR SPEAKER SIGNAL CHECK

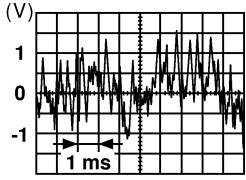


REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

1. Connect audio unit connector and rear door speaker connector.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio unit harness connector M168 terminals with CONSULT or oscilloscope.

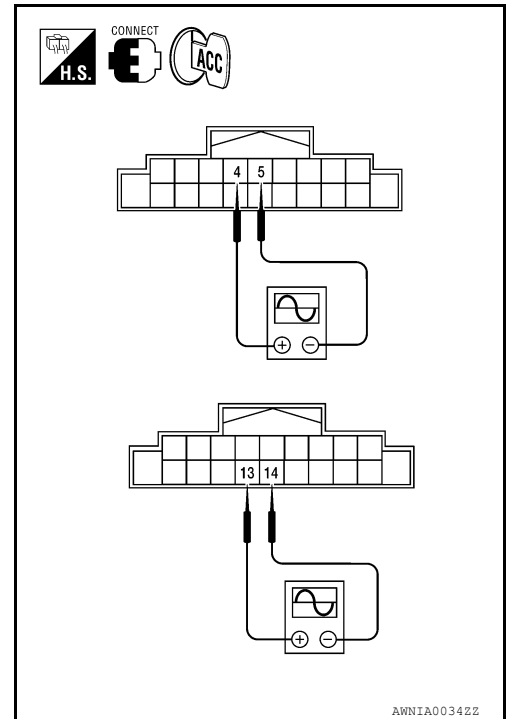
(+) Connector		(-) Terminal	Condition	Reference signal
M168	4	5	Receive audio signal	
	13	14		

SKIA0177E

Is the audio signal voltage as specified?

YES >> Replace the suspect rear door speaker. Refer to [AV-38. "Removal and Installation"](#).

NO >> Replace audio unit. Refer to [AV-35. "Removal and Installation"](#).



AWNIA00342Z

REAR DOOR TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[BASE AUDIO]

REAR DOOR TWEETER

Description

INFOID:0000000011559333

The audio unit sends audio signals to the rear door tweeters using the audio signal circuits.

Diagnosis Procedure

INFOID:0000000011559334

Regarding Wiring Diagram information, refer to [AV-23, "Wiring Diagram"](#).

1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminal and connector.

2.HARNESS CHECK

1. Disconnect audio unit connector M168 and suspect rear door tweeter connector.
2. Check continuity between audio unit harness connector M168 (A) and suspect rear door tweeter harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M168	4	D208	1	Yes
	5		2	
	13	D308	1	
	14		2	

3. Check continuity between audio unit harness connector M168 (A) and ground.

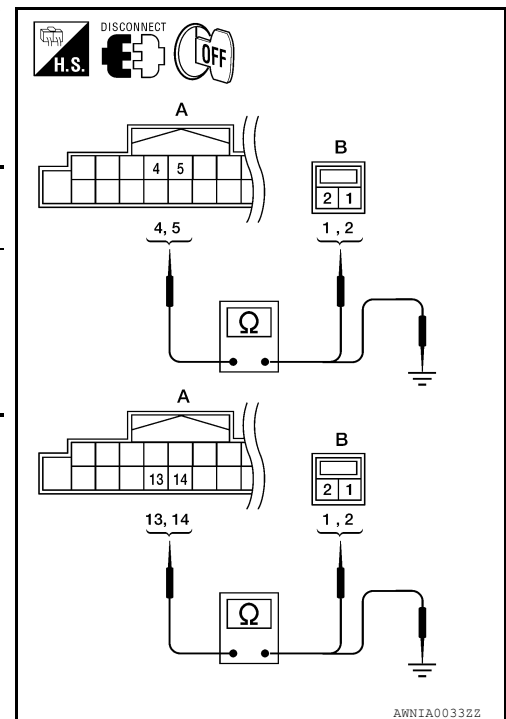
A		—	Continuity
Connector	Terminal		
M168	4	Ground	No
	5		
	13		
	14		

Are the continuity results as specified?

YES >> GO TO 3.

NO >> Repair harness or connector.

3.REAR DOOR TWEETER SIGNAL CHECK

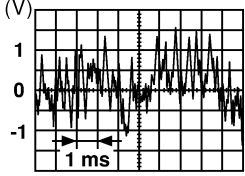


REAR DOOR TWEETER

[BASE AUDIO]

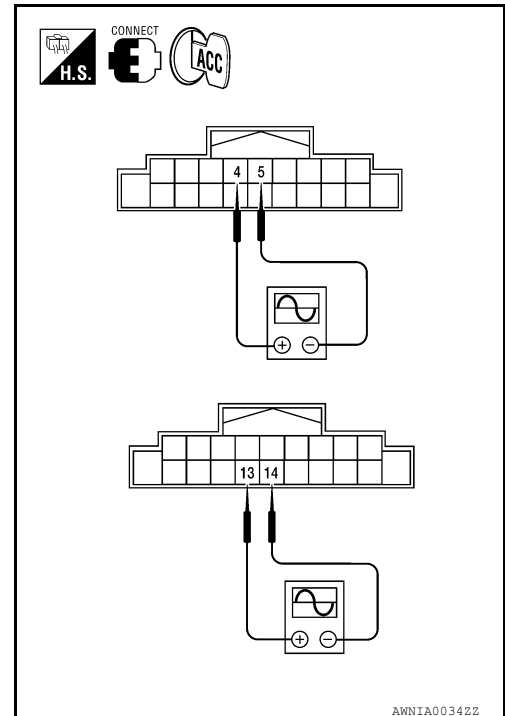
< DTC/CIRCUIT DIAGNOSIS >

1. Connect audio unit connector and rear door tweeter connector.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio unit harness connector M168 terminals with CONSULT or oscilloscope.

(+) Terminal		(-) Terminal	Condition	Reference signal
Connector	Terminal	Terminal		
M168	4	5	Receive audio signal	 SKIA0177E
	13	14		

Is the audio signal voltage as specified?

- YES >> Replace the suspect rear door tweeter. Refer to [AV-38, "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-35, "Removal and Installation"](#).



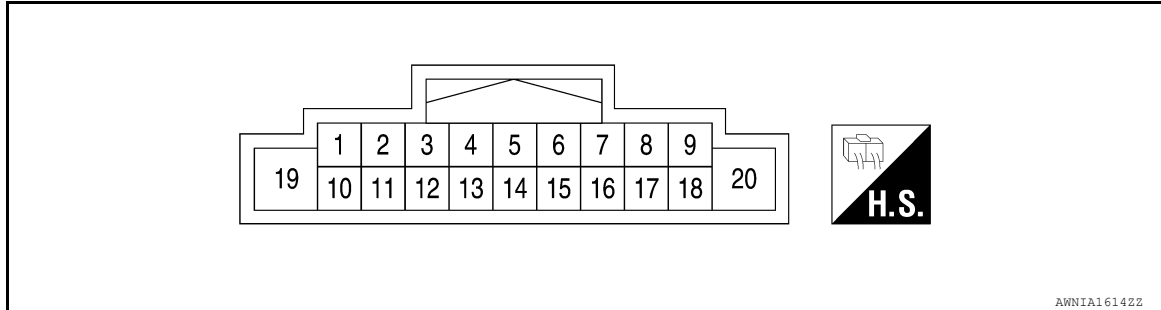
ECU DIAGNOSIS INFORMATION

AUDIO UNIT

Reference Value

INFOID:0000000011559335

TERMINAL LAYOUT



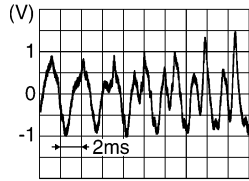
PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
2 (L/W)	3 (L/R)	Sound signal front door speaker and front tweeter LH (if equipped)	Output	Ignition switch ON	Audio output	 SKIB3609E
4 (SB)	5 (B/Y)	Sound signal rear door speaker and rear tweeter LH (if equipped)	Output	Ignition switch ON	Audio output	 SKIB3609E
7 (V)	Ground	ACC power supply	Input	Ignition switch ACC or ON	—	Battery voltage
9 (R/L)	8 (BR)	Illumination	Input	Ignition switch ACC or ON	Exterior lights ON	Battery voltage
11 (W/B)	12 (L/B)	Sound signal front door speaker and front tweeter RH (if equipped)	Output	Ignition switch ON	Voice output	 SKIB3609E

AUDIO UNIT

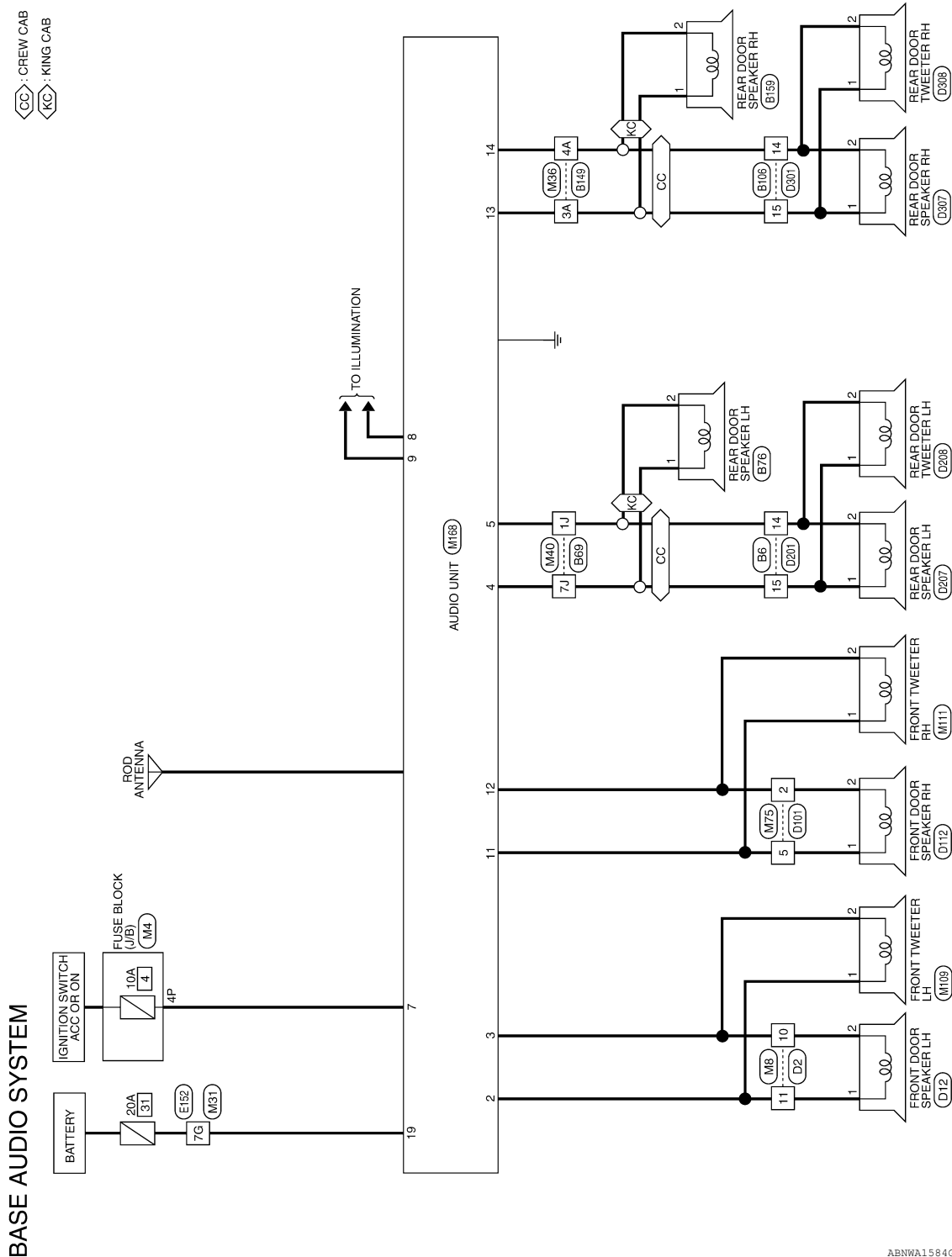
< ECU DIAGNOSIS INFORMATION >

[BASE AUDIO]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output			
13 (O/L)	14 (R/L)	Sound signal rear door speaker and rear tweeter RH (if equipped)	Output	Ignition switch ON	Voice output	 SKIB3609E
19 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage

Wiring Diagram

CC : CREW CAB
KC : KING CAB



ABNWA1584GB

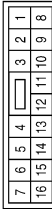
BASE AUDIO SYSTEM CONNECTORS

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



Terminal No.	4P
Color of Wire	V
Signal Name	-

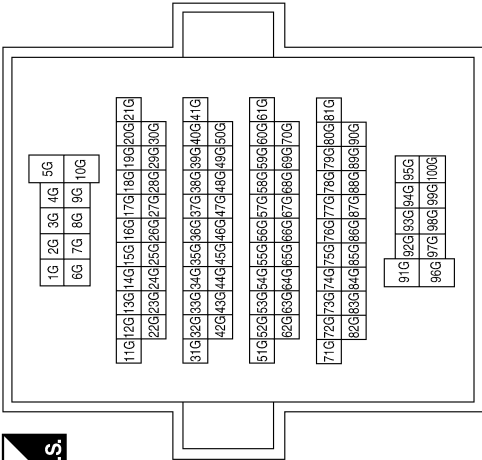
Connector No.	M8
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	10
Color of Wire	L/R
Signal Name	-

Terminal No.	11
Color of Wire	L/W
Signal Name	-

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



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

ABNIA3960GB

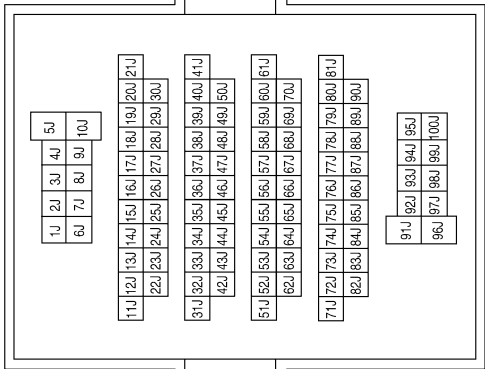
Connector No.	M75
Connector Name	WIRE TO WIRE
Connector Color	WHITE



4	3	2	1
10	9	8	7
6	5		

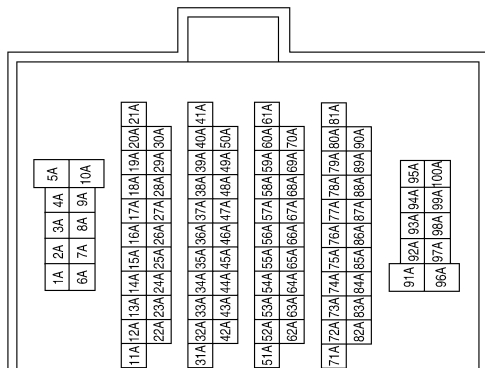
Terminal No.	Color of Wire	Signal Name
2	L/B	—
5	W/B	—

Connector No.	M40
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1J	B/Y	—
7J	SB	—

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



Terminal No.	Color of Wire	Signal Name
3A	O/L	—
4A	R/L	—

Connector No.	M111
Connector Name	FRONT TWEETER RH
Connector Color	BROWN



2	1

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

Connector No.	M109
Connector Name	FRONT TWEETER LH
Connector Color	BROWN



2	1

Terminal No.	Color of Wire	Signal Name
1	L/W	—
2	L/R	—

ABNIA3961GB

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

AV

BASE AUDIO SYSTEM

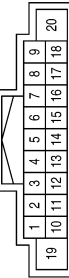
< WIRING DIAGRAM >

[BASE AUDIO]

Terminal No.	Color of Wire	Signal Name
16	—	—
17	—	—
18	—	—
19	Y	—
20	—	—

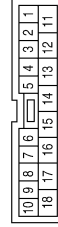
Terminal No.	Color of Wire	Signal Name
5	B/Y	—
6	—	—
7	V	—
8	BR	—
9	R/L	—
10	—	—
11	W/B	—
12	L/B	—
13	O/L	—
14	R/L	—
15	—	—

Connector No.	M168
Connector Name	AUDIO UNIT (WITH BASE AUDIO SYSTEM)
Connector Color	WHITE



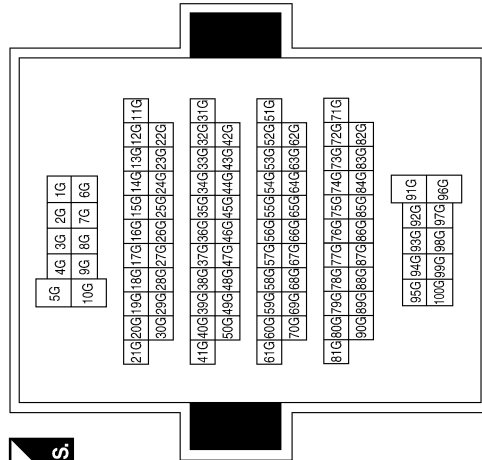
Terminal No.	Color of Wire	Signal Name
1	—	—
2	L/W	—
3	L/R	—
4	SB	—

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



Terminal No.	Color of Wire	Signal Name
7G	Y	—

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



ABNIA3962GB

BASE AUDIO SYSTEM

< WIRING DIAGRAM >

[BASE AUDIO]

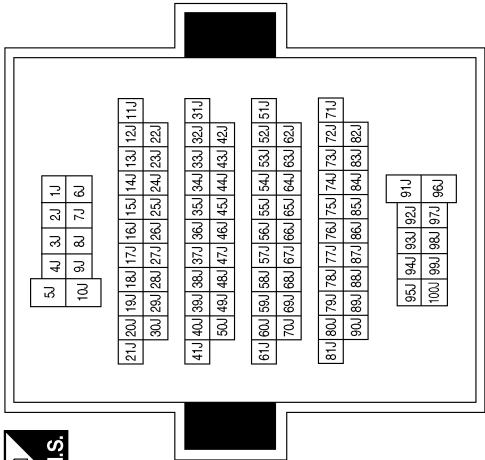
Connector No.	B76
Connector Name	REAR DOOR SPEAKER LH
Connector Color	WHITE



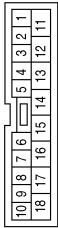
Terminal No.	Color of Wire	Signal Name
1	L	– (WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
2	Y	– (WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)

Terminal No.	Color of Wire	Signal Name
1J	Y	– (KING CAB WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
1J	B/Y	– (EXCEPT FOR KING CAB WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
7J	L	– (KING CAB WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
7J	SB	– (EXCEPT FOR KING CAB WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)

Connector No.	B69
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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



Terminal No.	Color of Wire	Signal Name
14	R/L	–
15	O/L	–

ABNIA6307GB

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

AV

BASE AUDIO SYSTEM

< WIRING DIAGRAM >

[BASE AUDIO]

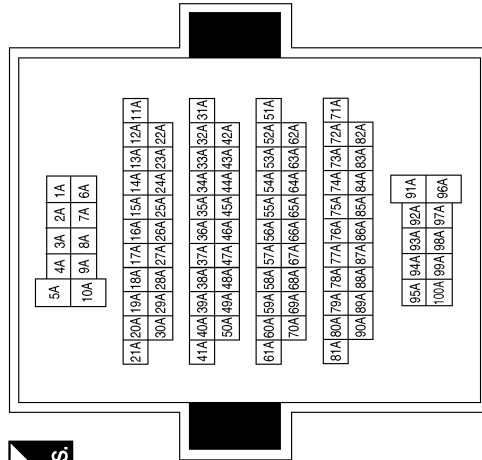
Connector No.	B159
Connector Name	REAR DOOR SPEAKER RH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	L	– (WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
2	R/L	–

Terminal No.	Color of Wire	Signal Name
3A	L	– (KING CAB WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
3A	O/L	– (EXCEPT FOR KING CAB WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
4A	R/L	–

Connector No.	B149
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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



Connector No.	D12
Connector Name	FRONT DOOR SPEAKER LH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
2	L/B	–
5	W/B	–

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



Terminal No.	Color of Wire	Signal Name
10	L/R	–
11	L/W	–

ABNIA6308GB

BASE AUDIO SYSTEM

< WIRING DIAGRAM >

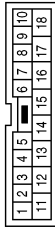
[BASE AUDIO]

Connector No.	D112
Connector Name	FRONT DOOR SPEAKER RH
Connector Color	WHITE



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

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



Terminal No.	Color of Wire	Signal Name
14	B/Y	– (WITHOUT MID AUDIO SYSTEM)
15	SB	– (WITHOUT MID AUDIO SYSTEM)

Connector No.	D207
Connector Name	REAR DOOR SPEAKER LH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	SB	– (WITHOUT MID AUDIO SYSTEM)
2	B/Y	– (WITHOUT MID AUDIO SYSTEM)

Connector No.	D208
Connector Name	REAR DOOR TWEETER LH
Connector Color	BROWN



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

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



Terminal No.	Color of Wire	Signal Name
14	R/L	–
15	O/L	– (WITHOUT MID AUDIO SYSTEM)

Connector No.	D307
Connector Name	REAR DOOR SPEAKER RH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	O/L	– (WITHOUT MID AUDIO SYSTEM)
2	R/L	–

AANIA3718GB

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

Connector No.	D308
Connector Name	REAR DOOR TWEETER RH
Connector Color	BROWN



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

ABNIA3966GB

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:0000000011559337

AUDIO SYSTEM

Symptom	Possible cause	Reference page
Inoperative	- Audio unit power and ground circuit - Audio unit	AV-12 AV-35
All speakers do not sound	- Speaker circuit shorted to ground - Audio unit power and ground circuit - Audio unit	AV-23 AV-12 AV-35
One or several speakers do not sound	- Front door speaker - Front tweeter - Rear door tweeter (crew cab) - Rear door speaker	AV-13 AV-15 AV-19 AV-17
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.

CD

Symptom	Possible cause	Reference page
CD cannot be inserted.	Audio unit	AV-35
CD cannot be ejected.		
The CD cannot be played.		
The sound skips, stops suddenly, or is distorted.		

NORMAL OPERATING CONDITION

Description

INFOID:0000000011559338

The majority of the audio concerns are the result of outside causes (bad CD, electromagnetic interference, etc.).

NOISE

The following noise results from variations in field strength, such as fading noise and multi-path noise, or external noise from trains and other sources. It is not a malfunction:

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

The vehicle itself can be a source of noise if noise prevention parts or electrical equipment is malfunctioning. Check if noise is caused and/or changed by engine speed, ignition switch turned to each position, and operation of each piece of electrical equipment, and determine the cause.

NOTE:

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

Type of Noise and Possible Cause

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

PRECAUTION

PRECAUTIONS

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

INFOID:0000000011559339

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the 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 Work

INFOID:0000000011559340

- 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 >

[BASE AUDIO]

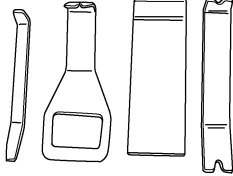
PREPARATION

PREPARATION

Special Service Tools

INFOID:0000000011559341

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

Tool number (TechMate No.) Tool name	Description
— (J-46534) Trim Tool Set  AWJIA04832Z	Removing trim components

Commercial Service Tools

INFOID:0000000011559342

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

REMOVAL AND INSTALLATION

AUDIO UNIT

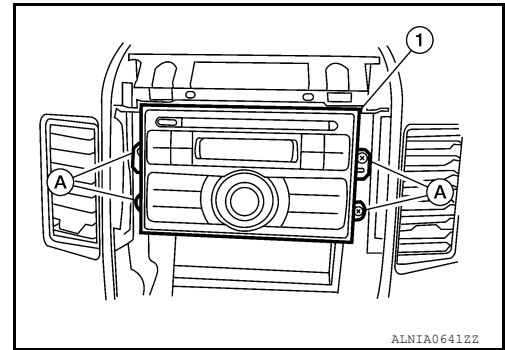
Removal and Installation

INFOID:0000000011559343

AUDIO UNIT

Removal

1. Remove the cluster lid D. Refer to [JP-16. "Removal and Installation"](#).
2. Remove the audio unit screws (A).
3. Pull out the audio unit (1) out of the instrument panel.
4. Disconnect the harness connectors from the audio unit 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

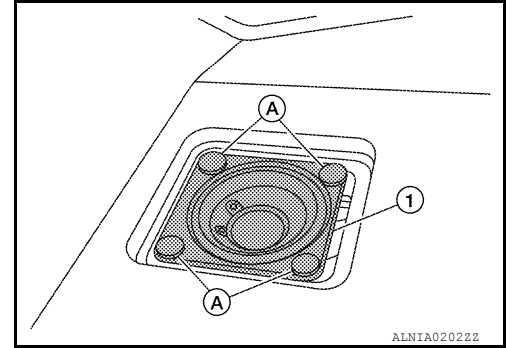
FRONT TWEETER

Removal and Installation

INFOID:000000011559344

REMOVAL

1. Remove front tweeter speaker grille using a suitable tool.
2. Remove the front tweeter clips (A).
3. Disconnect the harness connector from the front tweeter (1) and remove.



Installation

Installation is in the reverse order of removal.

FRONT DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[BASE AUDIO]

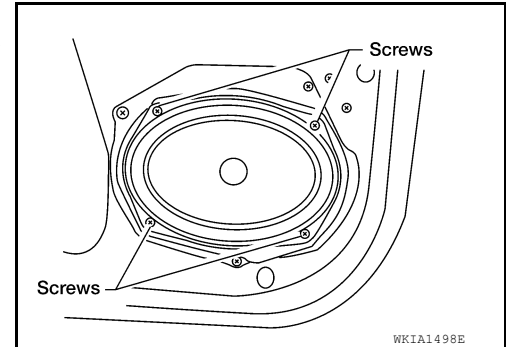
FRONT DOOR SPEAKER

Removal and Installation

INFOID:0000000011559345

REMOVAL

1. Remove the front door finisher. Refer to [INT-10. "Removal and Installation"](#).
2. Remove the front door speaker screws.
3. Disconnect the harness connector from the 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

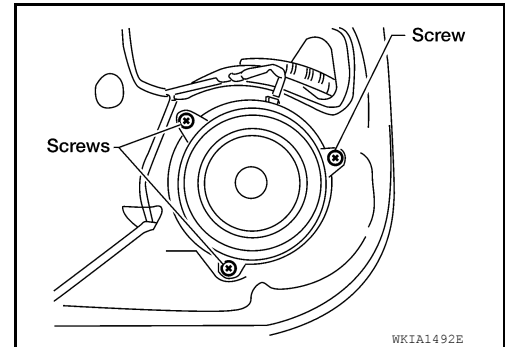
Removal and Installation

INFOID:000000011559346

REAR DOOR SPEAKER

Removal

1. Remove the rear door finisher. Refer to [INT-10. "Removal and Installation"](#) (Crew Cab) or [INT-10. "Removal and Installation"](#) (King Cab).
2. Remove the rear door speaker screws.
3. Disconnect the harness connector from the rear door speaker and remove.



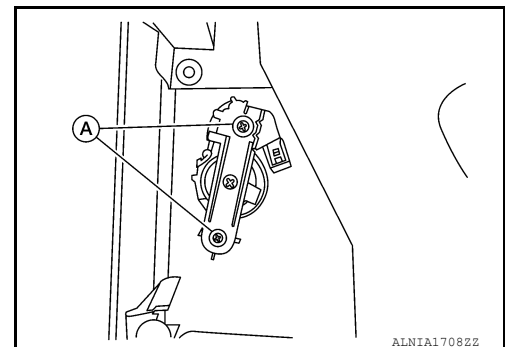
Installation

Installation is in the reverse order of removal.

REAR DOOR TWEETER

Removal

1. Remove the rear door finisher. Refer to [INT-10. "Removal and Installation"](#).
2. Remove the rear door tweeter screws (A).
3. Disconnect the harness connector from the rear door tweeter and remove.



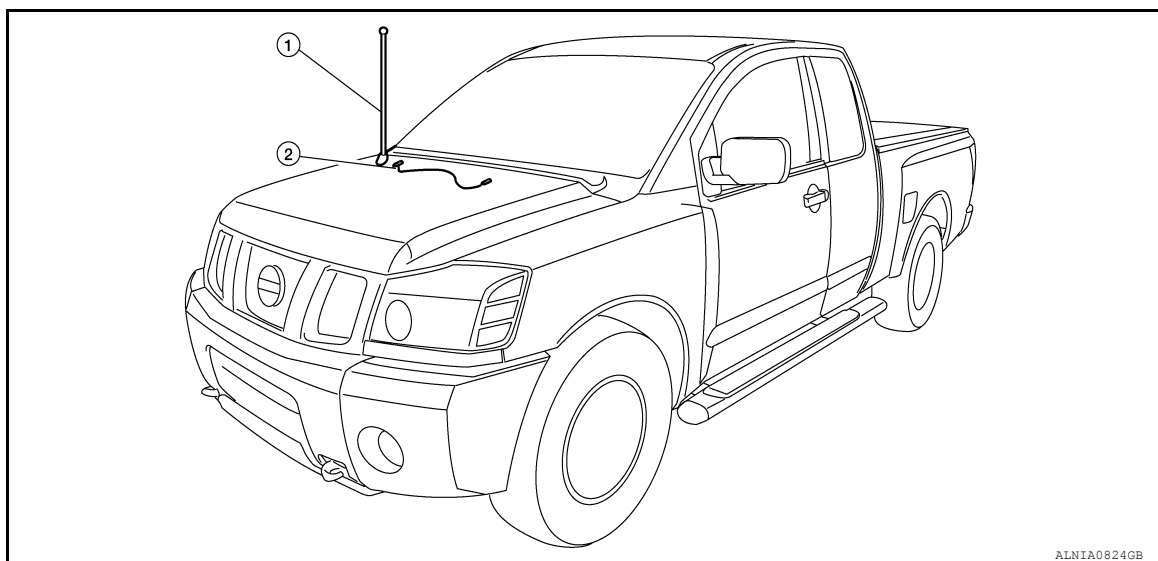
Installation

Installation is in the reverse order of removal.

AUDIO ANTENNA

Location of Antenna

INFOID:0000000011559347



1. Antenna
2. Main feeder cable

Removal and Installation

INFOID:0000000011559348

REMOVAL

1. Remove audio antenna rod.
2. Remove audio antenna rubber seal.
3. Remove fender protector (RH). Refer to [EXT-24, "Removal and Installation"](#).
4. Remove audio antenna assembly bolts.
5. Disconnect the audio antenna feeder from the audio antenna assembly.
6. Remove audio antenna assembly from the vehicle.

INSTALLATION

Installation is in the reverse order of removal.

- Tighten audio antenna rod to specification.

Audio antenna rod : 3.5 N·m (0.36 kg-m, 31 in-lb)

CAUTION:

Always properly tighten the audio antenna rod during installation or the audio antenna rod may bend or break during vehicle operation.

AV

PRECAUTION

PRECAUTIONS

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

INFOID:0000000011559349

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the 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 Trouble Diagnosis

INFOID:0000000011559350

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 Work

INFOID:0000000011559351

- 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.

PRECAUTIONS

< PRECAUTION >

[MID AUDIO]

- 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

AV

O

P

PREPARATION

< PREPARATION >

[MID AUDIO]

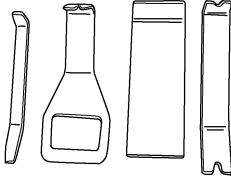
PREPARATION

PREPARATION

Special Service Tools

INFOID:0000000011559352

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

Tool number (TechMate No.) Tool name	Description
— (J-46534) Trim Tool Set  AWJIA04832Z	Removing trim components

Commercial Service Tools

INFOID:0000000011559353

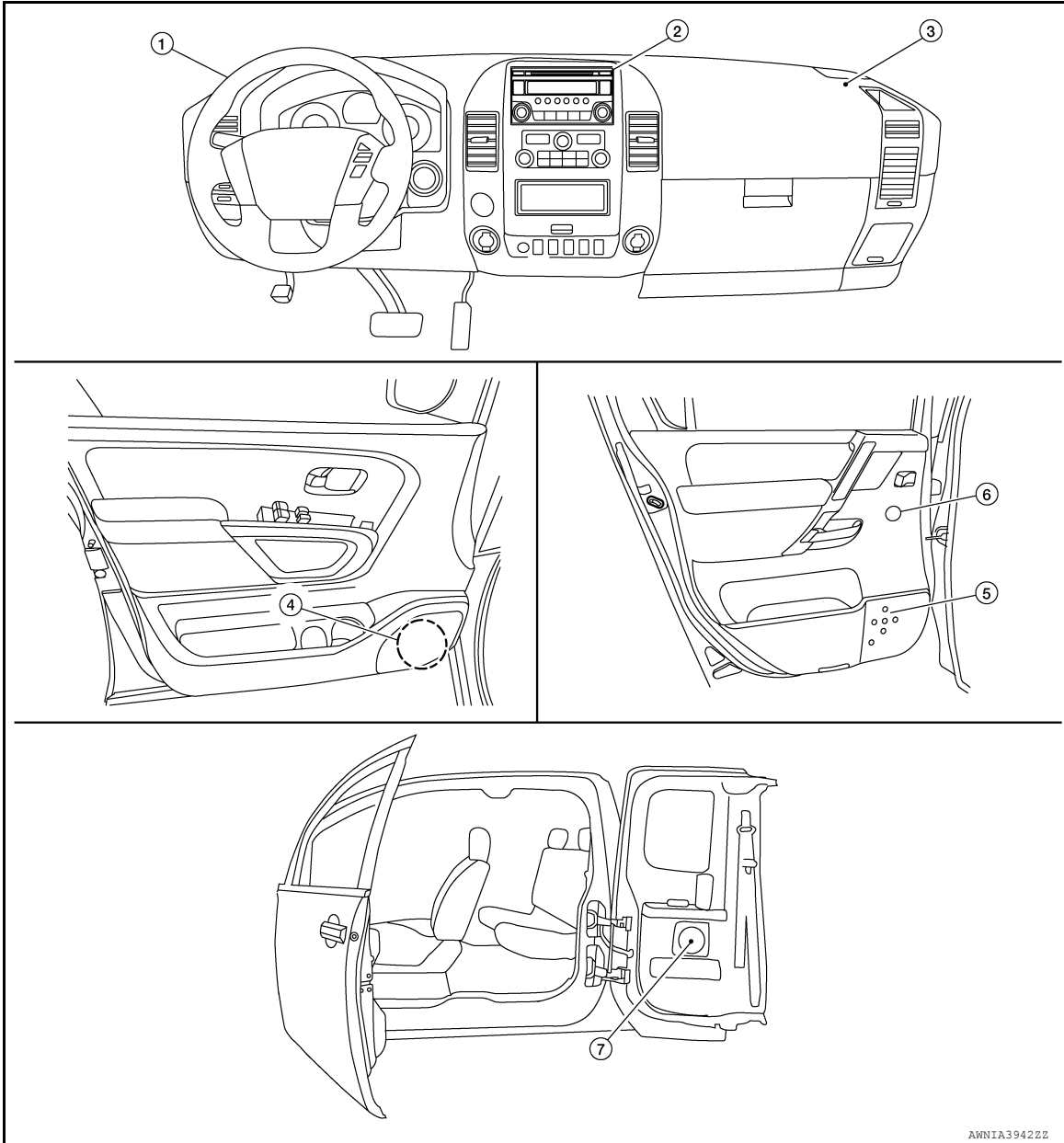
Tool name	Description
Power tool  PIIB1407E	Loosening nuts, screws and bolts

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000011559354



AMNIA39422Z

1. Front tweeter LH M109	2. Audio unit M163, M164	3. Front tweeter RH M111
4. Front door speaker LH D12 RH D112	5. Rear door speaker (crew cab) LH D207 RH D307	6. Rear door tweeter (crew cab) LH D208 RH D308
7. Rear door speaker (king cab) LH B76 RH B159		

Component Description

INFOID:0000000011559355

COMPONENT PARTS

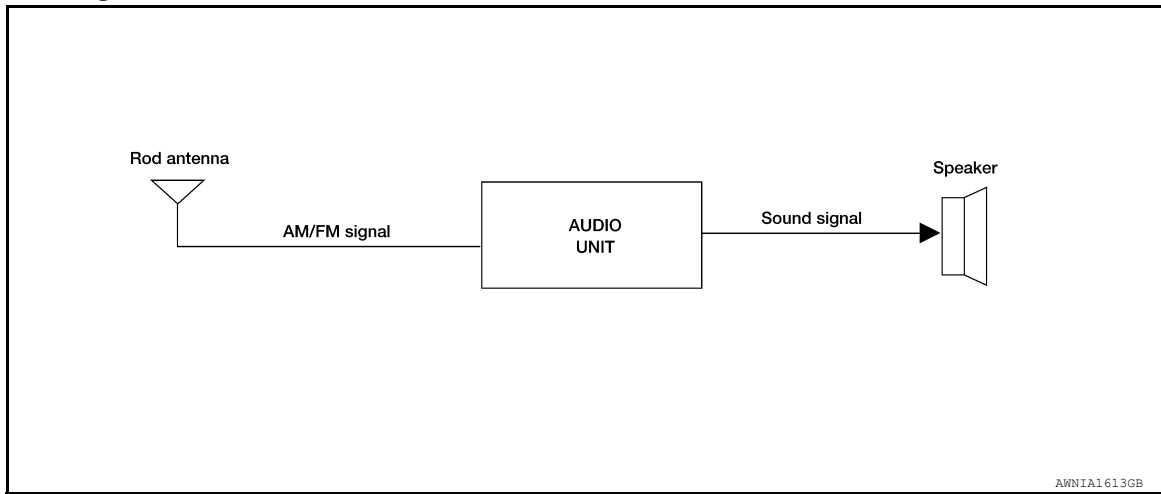
< SYSTEM DESCRIPTION >

[MID AUDIO]

Part name	Description
Audio unit	• Controls audio system functions.
Front door speakers	• Outputs audio signal from audio unit. • Outputs high, mid and low range sounds
Front tweeters	• Outputs audio signal from audio unit • Outputs high range sounds.
Rear door speakers	• Outputs audio signal from audio unit. • Outputs high, mid and low range sounds.
Rear door tweeters (crew cab)	• Outputs audio signal from audio unit. • Outputs high range sounds.
Rod antenna	AM/FM signal is received and transmitted to the audio unit.

SYSTEM

System Diagram



System Description

INFOID:0000000011559357

AUDIO SYSTEM

The audio system consists of the following components:

- Audio unit
- Front door speakers
- Front tweeters
- Rear speakers
- Rear tweeters (crew cab)
- Rod antenna

When the audio system is on, radio signals are received by the rod antenna. The audio unit then sends audio signals to the front door speakers, front tweeters, rear door speakers and rear tweeters (crew cab).

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

DIAGNOSIS SYSTEM (AUDIO UNIT)

< SYSTEM DESCRIPTION >

[MID AUDIO]

DIAGNOSIS SYSTEM (AUDIO UNIT)

Diagnosis Description

INFOID:000000011559358

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

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

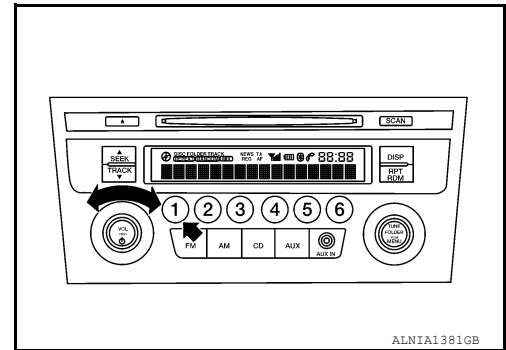
On Board Diagnosis Function

INFOID:000000011559359

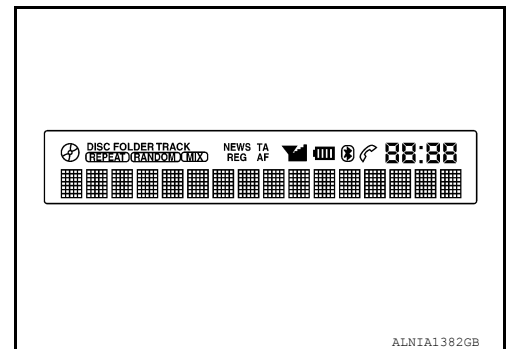
METHOD OF STARTING

Hardware/Software Versions and Speaker Channel Check

1. Turn the ignition ON.
2. Turn the audio system OFF.
3. While pressing the preset 1 button, turn the volume control dial clockwise or counterclockwise 30 clicks or more.



4. Initially, all display segments will be illuminated.



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

Communication Diagnosis

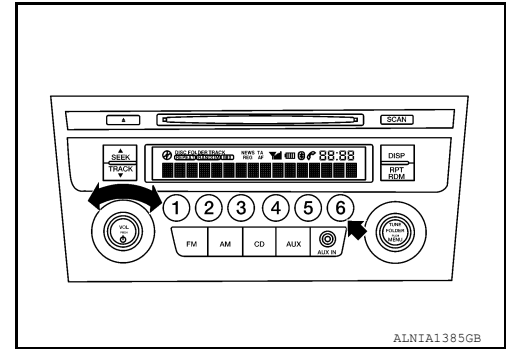
1. Turn the ignition ON.
2. Turn the audio system OFF.

DIAGNOSIS SYSTEM (AUDIO UNIT)

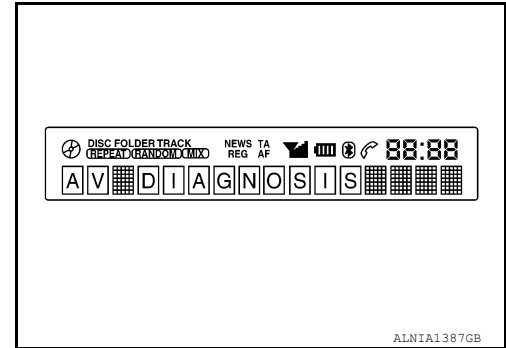
< SYSTEM DESCRIPTION >

[MID AUDIO]

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



- Initially, the communication diagnosis mode is displayed.

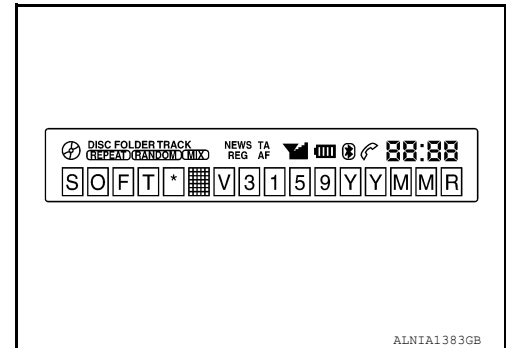


- To exit communication diagnosis, turn the ignition OFF.

SELF DIAGNOSIS MODE

Hardware/Software Versions

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



- With each additional press of the DISP button, the following information is available:

- HARD V##### (hardware version)
 - EEP V##### (EEPROM version)
 - MeterS V##### (combination meter software version)
 - MeterH V##### (combination meter hardware version)
 - @@@@ EQ1-4 # (EQ pin info)
- If an EQ error is present, INVALID EQ is displayed
- BTSOFT ##### (internal Bluetooth® module software version)
 - BTHARD ##### (internal Bluetooth® module hardware version)
 - BTCONF #####00 (internal Bluetooth® module configuration)

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

Speaker Channel Check

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

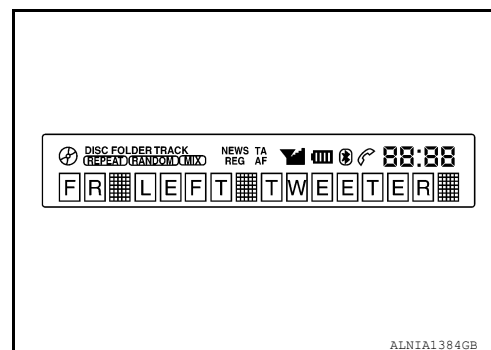
AV

DIAGNOSIS SYSTEM (AUDIO UNIT)

< SYSTEM DESCRIPTION >

[MID AUDIO]

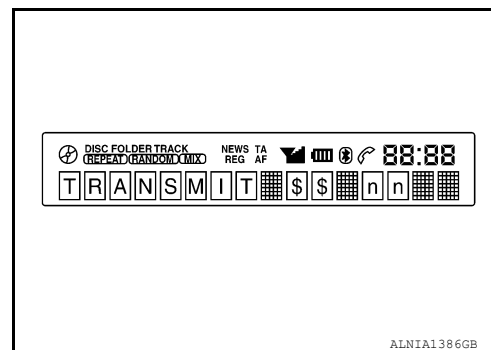
1. Press the RPT/DRM button to enter speaker channel check, and the front left tweeter (front speaker LH) is displayed.



2. With each additional press of the RPT/DRM button, the following information is available:
 - FR RIGHT TWEETER (front speaker RH)
 - FR RIGHT (front door speaker RH)
 - RR RIGHT (rear speaker RH)
 - RR LEFT (rear speaker LH)
 - FR LEFT (front door speaker LH)
3. Hold the RPT/DRM button down to return to all display segments screen.

Communication Diagnosis

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



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

AUDIO UNIT

< ECU DIAGNOSIS INFORMATION >

[MID AUDIO]

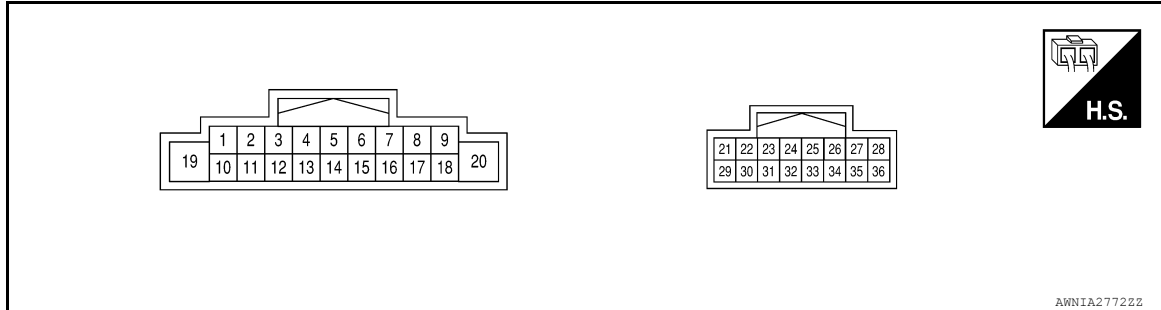
ECU DIAGNOSIS INFORMATION

AUDIO UNIT

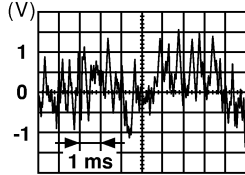
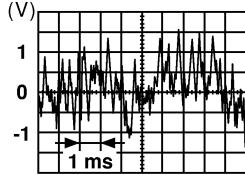
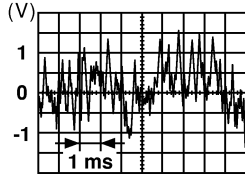
Reference Value

INFOID:0000000011559360

TERMINAL LAYOUT



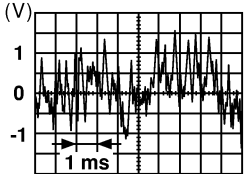
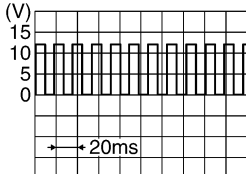
PHYSICAL VALUES

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value (Approx.)
+	-					
2 (L/W)	3 (L/R)	Audio sound signal front LH	Output	Ignition switch ON	Receive audio sig- nal	 SKIA0177E
4 (SB)	5 (B/Y)	Audio sound signal rear LH	Output	Ignition switch ON	Receive audio sig- nal	 SKIA0177E
7 (V)	Ground	ACC signal	Input	Ignition switch ON	-	Battery voltage
8 (BR)	Ground	Illumination control signal	Input	Ignition switch ON	Illumination control switch is operated by lighting switch in 1st position.	Changes between 0 and 12V
9 (R/L)	Ground	Illumination signal	Input	OFF	Lighting switch is in 1st position.	Battery voltage
					Lighting switch is OFF.	0V
11 (W/B)	12 (L/B)	Audio sound signal front RH	Output	Ignition switch ON	Receive audio sig- nal	 SKIA0177E

AUDIO UNIT

< ECU DIAGNOSIS INFORMATION >

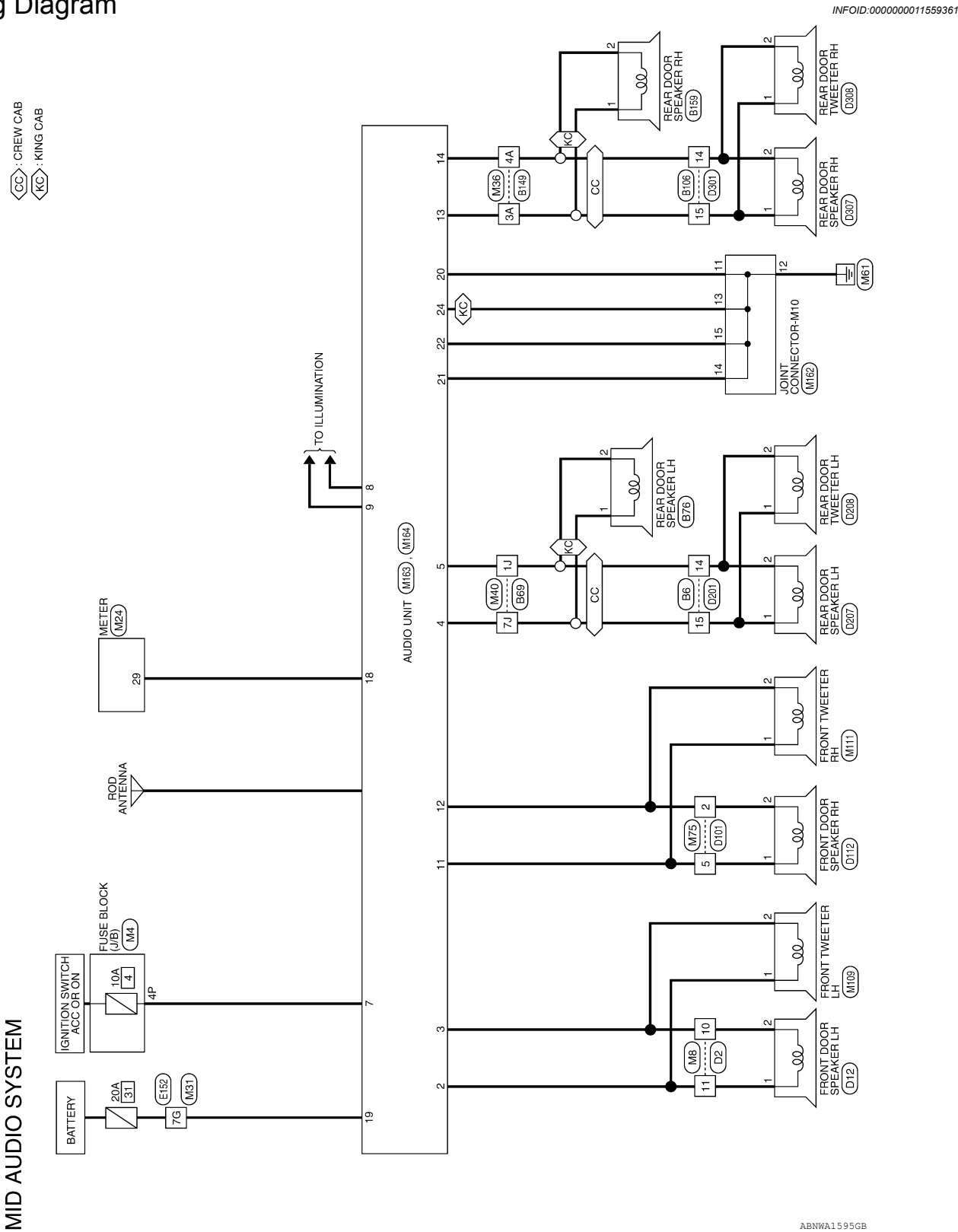
[MID AUDIO]

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value (Approx.)
+	-					
13 (O/L)	14 (R/L)	Audio sound signal rear RH	Output	Ignition switch ON	Receive audio sig- nal	 SKIA0177E
18 (W/R)	Ground	Vehicle speed sig- nal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 mph)	 PKIA1935E
19 (Y)	Ground	Battery power	Input	-	-	Battery voltage
20 (Y)	-	Ground	-	-	-	0V
21 (B)	Ground	Eq1 port1	-	Ignition switch ON	-	0V
22 (B)	Ground	Eq2 port2	-	Ignition switch ON	-	0V
24 (B)	Ground	Eq4 port4	-	Ignition switch ON	-	0V

WIRING DIAGRAM

MID AUDIO SYSTEM

Wiring Diagram



MID AUDIO SYSTEM CONNECTORS

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



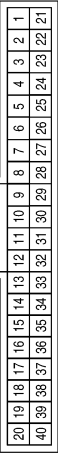
Terminal No.	4P	Color of Wire	V	Signal Name	—

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



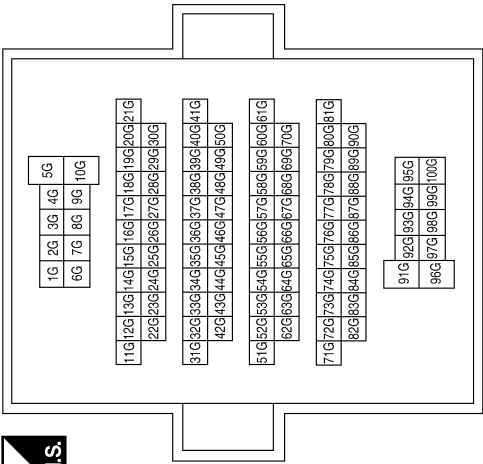
Terminal No.	10	Color of Wire	L/R	Signal Name	—
	11		L/W		—

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE



Terminal No.	29	Color of Wire	W/R	Signal Name	SPEED OUT

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



Terminal No.	7G	Color of Wire	Y	Signal Name	—

Connector No.	M75
Connector Name	WIRE TO WIRE
Connector Color	WHITE



4	3	2	1
10	9	8	7
6	5		

Terminal No.	Color of Wire	Signal Name
2	L/B	—
5	W/B	—

Connector No.	M40
Connector Name	WIRE TO WIRE
Connector Color	WHITE



1J	2J	3J	4J	5J
6J	7J	8J	9J	10J

11J	12J	13J	14J	15J	16J	17J	18J	19J	20J	21J
22J	23J	24J	25J	26J	27J	28J	29J	30J		
31J	32J	33J	34J	35J	36J	37J	38J	39J	40J	41J
42J	43J	44J	45J	46J	47J	48J	49J	50J		
51J	52J	53J	54J	55J	56J	57J	58J	59J	60J	61J
62J	63J	64J	65J	66J	67J	68J	69J	70J		
71J	72J	73J	74J	75J	76J	77J	78J	79J	80J	81J
82J	83J	84J	85J	86J	87J	88J	89J	90J		

91J	92J	93J	94J	95J
96J	97J	98J	99J	100J

Terminal No.	Color of Wire	Signal Name
1J	B/Y	—
7J	SB	—

Connector No.	M111
Connector Name	FRONT TWEETER RH
Connector Color	BROWN



2	1

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

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



1A	2A	3A	4A	5A
6A	7A	8A	9A	10A

11A	12A	13A	14A	15A	16A	17A	18A	19A	20A	21A
22A	23A	24A	25A	26A	27A	28A	29A	30A		
31A	32A	33A	34A	35A	36A	37A	38A	39A	40A	41A
42A	43A	44A	45A	46A	47A	48A	49A	50A		
51A	52A	53A	54A	55A	56A	57A	58A	59A	60A	61A
62A	63A	64A	65A	66A	67A	68A	69A	70A		
71A	72A	73A	74A	75A	76A	77A	78A	79A	80A	81A
82A	83A	84A	85A	86A	87A	88A	89A	90A		

91A	92A	93A	94A	95A
96A	97A	98A	99A	100A

Terminal No.	Color of Wire	Signal Name
3A	O/L	—
4A	R/L	—

Connector No.	M109
Connector Name	FRONT TWEETER LH
Connector Color	BROWN



2	1

Terminal No.	Color of Wire	Signal Name
1	L/W	—
2	L/R	—

ABNIA4014GB

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

AV

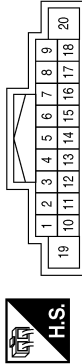
MID AUDIO SYSTEM

< WIRING DIAGRAM >

[MID AUDIO]

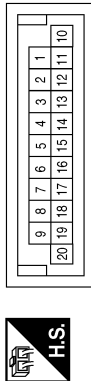
Terminal No.	Color of Wire	Signal Name
7	V	ACC
8	BR	ILL CONT
9	R/L	LIGHT SW
10	—	—
11	W/B	FR SP RH+
12	L/B	RR SP RH-
13	O/L	RR SP RH+
14	R/L	RR SP RH-
15	—	—
16	—	—
17	—	—
18	W/R	SPEED SIG SSV
19	Y	BACK UP
20	B	GND

Connector No.	M163
Connector Name	AUDIO UNIT (WITH MID AUDIO SYSTEM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	—	—
2	L/W	FR SP LH+
3	L/R	FR SP LH-
4	SB	FR SP LH+
5	B/Y	RR SP LH-
6	—	—

Connector No.	M162
Connector Name	JOINT CONNECTOR-M10
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
11	B	—
12	B	—
13	B	—
14	B	—
15	B	—

Terminal No.	Color of Wire	Signal Name
34	—	—
35	—	—
36	—	—

Terminal No.	Color of Wire	Signal Name
23	—	—
24	B	EQ4 PORT4
25	—	—
26	—	—
27	—	—
28	—	—
29	—	—
30	—	—
31	—	—
32	—	—
33	—	—

Connector No.	M164
Connector Name	AUDIO UNIT (WITH MID AUDIO SYSTEM)
Connector Color	WHITE



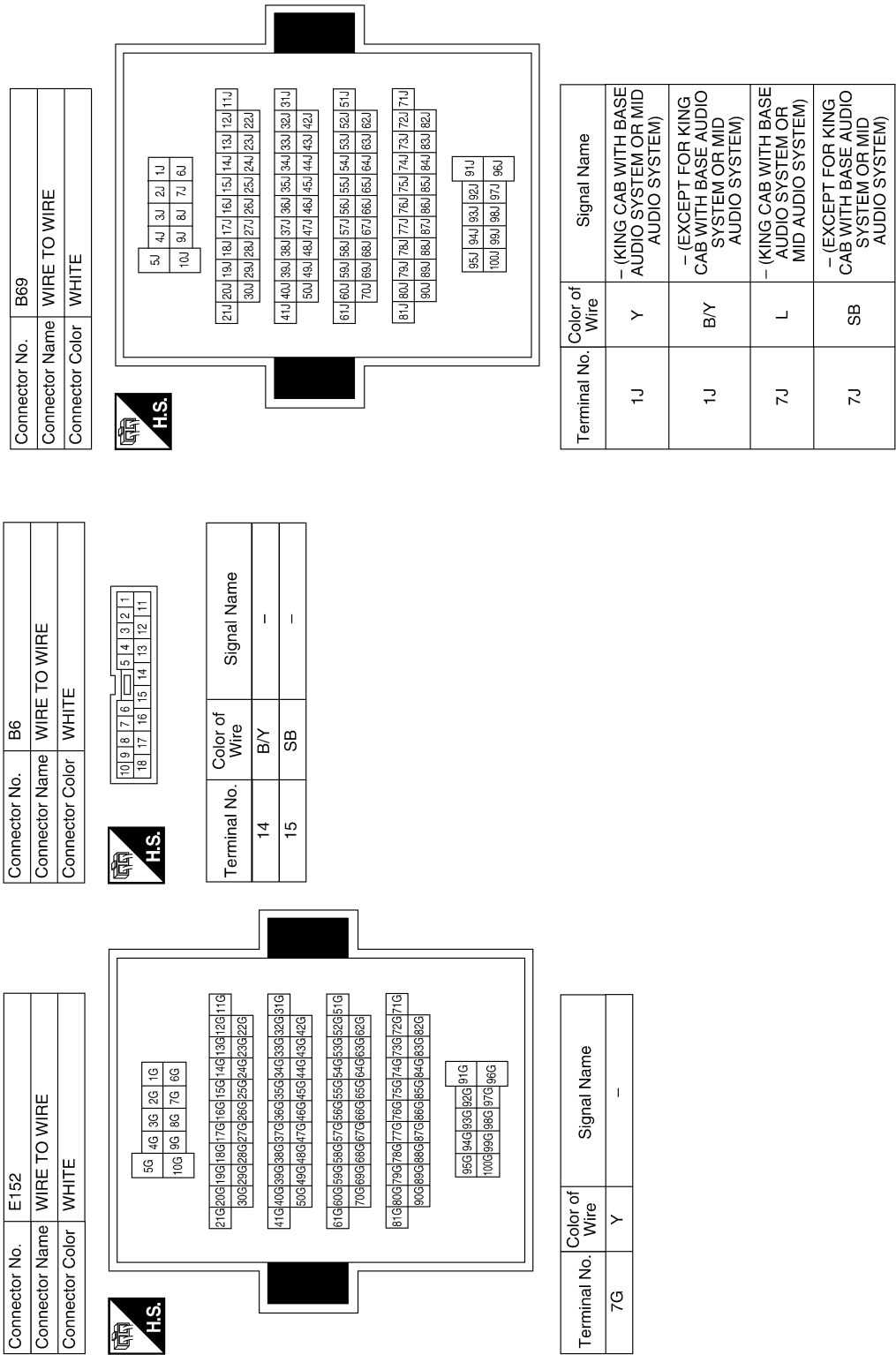
Terminal No.	Color of Wire	Signal Name
21	B	EQ1 PORT1
22	B	EQ2 PORT2

ABNIA6310GB

MID AUDIO SYSTEM

< WIRING DIAGRAM >

[MID AUDIO]



MID AUDIO SYSTEM

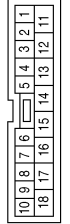
< WIRING DIAGRAM >

[MID AUDIO]

Connector No.	B76
Connector Name	REAR DOOR SPEAKER LH
Connector Color	WHITE



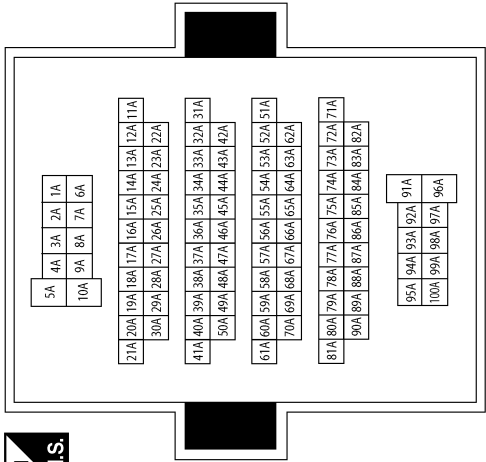
Connector No.	B106
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	L	– (WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
2	Y	– (WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)

Terminal No.	Color of Wire	Signal Name
14	R/L	–
15	O/L	–

Connector No.	B149
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Connector No.	B159
Connector Name	REAR DOOR SPEAKER RH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	L	– (WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
2	R/L	–

MID AUDIO SYSTEM

< WIRING DIAGRAM >

[MID AUDIO]

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



1	2	3	4
5	6	7	8
9	10		

Terminal No.	Color of Wire	Signal Name
2	L/B	—
5	W/B	—

Connector No.	D12
Connector Name	FRONT DOOR SPEAKER LH
Connector Color	WHITE



2	1

Terminal No.	Color of Wire	Signal Name
1	L/W	—
2	L/R	—

Connector No.	D2
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
10	L/R	—
11	L/W	—

Connector No.	D207
Connector Name	REAR DOOR SPEAKER LH
Connector Color	WHITE



2	1

Terminal No.	Color of Wire	Signal Name
1	L	— (WITH MID AUDIO SYSTEM)
2	Y	— (WITH MID AUDIO SYSTEM)

Connector No.	D201
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		

Terminal No.	Color of Wire	Signal Name
14	Y	— (WITH MID AUDIO SYSTEM)
15	L	— (WITH MID AUDIO SYSTEM)

Connector No.	D112
Connector Name	FRONT DOOR SPEAKER RH
Connector Color	WHITE



2	1

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

AANIA3707GB

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

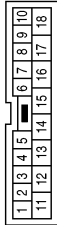
AV

Connector No.	D307
Connector Name	REAR DOOR SPEAKER RH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	L	-(WITH MID AUDIO SYSTEM)
2	R/L	-

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



Terminal No.	Color of Wire	Signal Name
14	R/L	-
15	L	-(WITH MID AUDIO SYSTEM)

Connector No.	D208
Connector Name	REAR DOOR TWEETER LH
Connector Color	BROWN



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

Connector No.	D308
Connector Name	REAR DOOR TWEETER RH
Connector Color	BROWN



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

AANIA3708GB

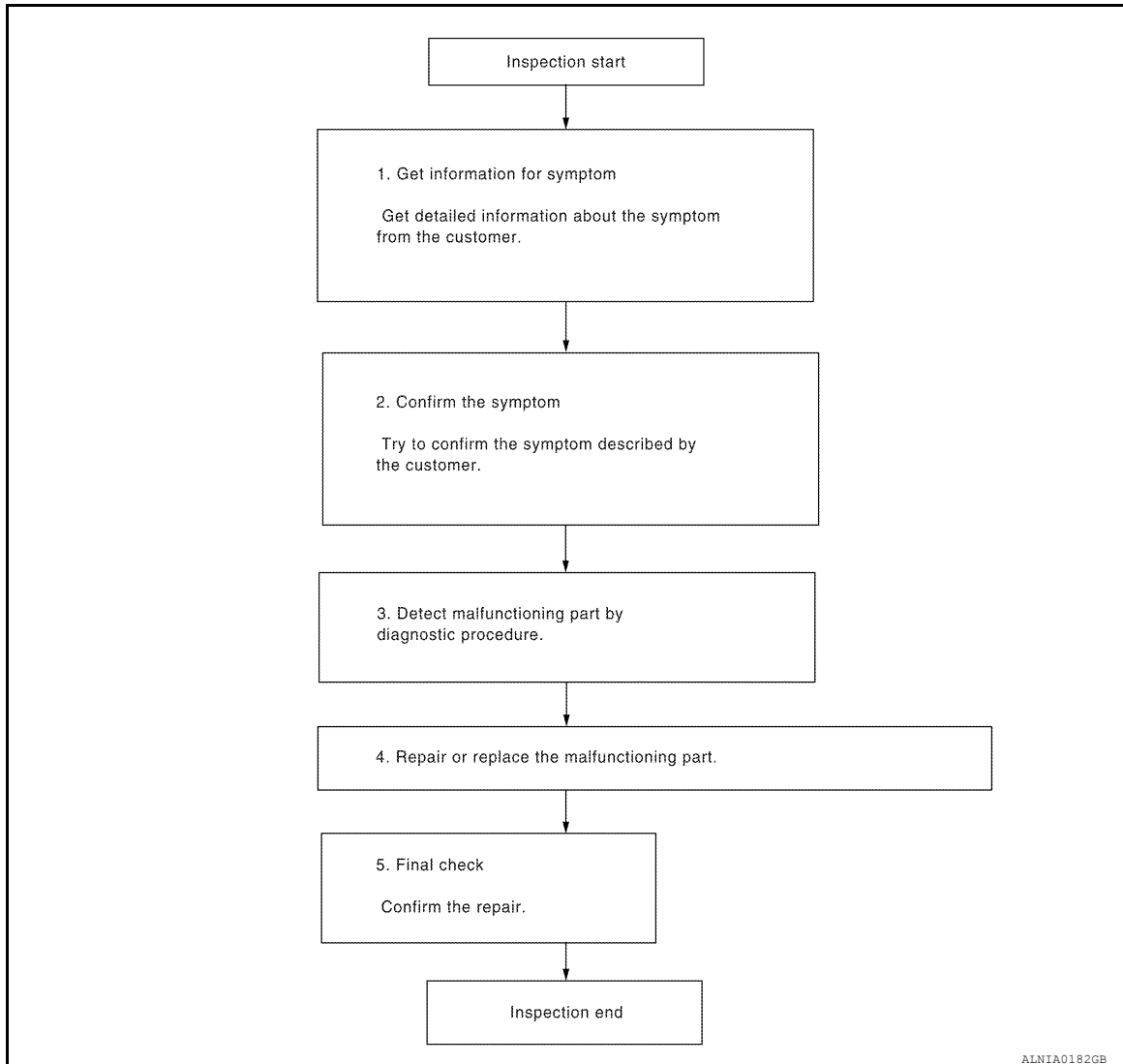
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000011559362

OVERALL SEQUENCE



DETAILED FLOW

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

2.CONFIRM THE SYMPTOM

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

>> GO TO 3.

3.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

DIAGNOSIS AND REPAIR WORKFLOW

[MID AUDIO]

< BASIC INSPECTION >

Is malfunctioning part detected?

YES >> GO TO 4.

NO >> GO TO 2.

4.REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 5.

5.FINAL CHECK

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

Has the symptom been repaired?

YES >> Inspection End.

NO >> GO TO 2.

DTC/CIRCUIT DIAGNOSIS**POWER SUPPLY AND GROUND CIRCUIT****AUDIO UNIT****AUDIO UNIT : Diagnosis Procedure**

INFOID:0000000011559363

Regarding Wiring Diagram information, refer to [AV-51, "Wiring Diagram"](#).

1.CHECK FUSE

Check that the following fuses are not blown:

Terminal No.	Signal name	Fuse No.
7	ACC power supply	4 (10A)
19	Battery power supply	31 (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 M164.
3. Check voltage between audio unit connector M164 and ground.

Audio unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M164	7	—	Ignition switch: ON	Battery voltage
	19		Ignition switch: OFF	

Is the inspection result normal?

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

FRONT DOOR SPEAKER

[MID AUDIO]

< DTC/CIRCUIT DIAGNOSIS >

FRONT DOOR SPEAKER

Diagnosis Procedure

INFOID:0000000011559364

Regarding Wiring Diagram information, refer to [AV-51. "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 M164 and suspect front door speaker connector.
2. Check continuity between audio unit connector M164 and suspect front door speaker connector.

Audio unit		Front door speaker		Continuity
Connector	Terminal	Connector	Terminal	
M164	2	D12 (LH)	1	Yes
	3		2	
	11	D112 (RH)	1	
	12		2	

3. Check continuity between audio unit connector M164 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M164	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

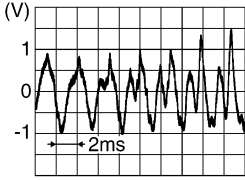
1. Connect audio unit connector M164 and suspect front door speaker connector.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between audio unit connector M164 and ground.

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

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[MID AUDIO]

2	3	Audio signal output	(V)  SKIB3609E
11	12		

Is the inspection result normal?

- YES >> Replace front door speaker. Refer to [AV-134. "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-131. "Removal and Installation"](#).

AV

FRONT TWEETER

Diagnosis Procedure

INFOID:0000000011559365

Regarding Wiring Diagram information, refer to [AV-51. "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 M164 and suspect front tweeter connector.
2. Check continuity between audio unit connector M164 and suspect front tweeter connector.

Audio unit		Front tweeter		Continuity
Connector	Terminal	Connector	Terminal	
M164	2	M109 (LH)	1	Yes
	3		2	
	11	M111 (RH)	1	
	12		2	

3. Check continuity between audio unit connector M164 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M164	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

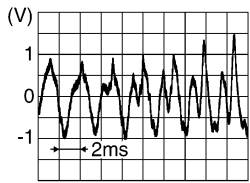
1. Connect audio unit connector M164 and suspect front tweeter connector.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between audio unit connector M164 and ground.

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

FRONT TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[MID AUDIO]

2	3	Audio signal output	
11	12		

Is the inspection result normal?

- YES >> Replace front tweeter. Refer to [AV-74. "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-73. "Removal and Installation"](#).

AV

REAR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[MID AUDIO]

REAR SPEAKER

Description

INFOID:0000000011559366

The audio unit sends audio signals to the rear door speakers using the audio signal circuits.

Diagnosis Procedure

INFOID:0000000011559367

Regarding Wiring Diagram information, refer to [AV-51, "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 terminal and connector.

2.HARNESS CHECK

1. Disconnect audio unit connector M164 and suspect speaker connector.
2. Check continuity between audio unit harness connectors M164 and suspect speaker harness connector.

Audio unit		Rear speakers		Continuity
Connector	Terminal	Connector	Terminal	
M164	4	D207 (crew cab) B76 (king cab)	1	Yes
	5		2	
	13	D307 (crew cab) B159 (king cab)	1	
	14		2	

3. Check continuity between audio unit harness connectors M164 and ground.

Connector	Terminal	-	Continuity
M164	4	Ground	No
	5		
	13		
	14		

Are the continuity test results as specified?

YES >> GO TO 3.

NO >> Repair harness or connector.

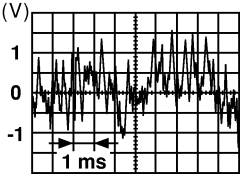
3.REAR DOOR SPEAKER SIGNAL CHECK

1. Connect audio unit connectors and suspect speaker connector.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio unit harness connectors M164 terminals with CONSULT or oscilloscope.

REAR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[MID AUDIO]

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M164	4	5	Receive audio sig- nal	
	13	14		

Are audio signal voltage readings as specified?

- YES >> Replace suspect speaker. Refer to [AV-76, "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-73, "Removal and Installation"](#).

AV

REAR DOOR TWEETER

Description

INFOID:0000000011559368

The audio unit sends audio signals to the rear door tweeters using the audio signal circuits.

Diagnosis Procedure

INFOID:0000000011559369

Regarding Wiring Diagram information, refer to [AV-51, "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 terminal and connector.

2.HARNES CHECK

1. Disconnect audio unit connector M164 and suspect rear door tweeter connector.
2. Check continuity between audio unit harness connectors M164 and suspect rear door tweeter harness connector.

Audio unit		Rear door tweeters		Continuity
Connector	Terminal	Connector	Terminal	
M164	4	D208	1	Yes
	5		2	
	13	D308	1	
	14		2	

3. Check continuity between audio unit harness connectors M164 and ground.

Connector	Terminal	-	Continuity
M164	4	Ground	No
	5		
	13		
	14		

Are the continuity test results as specified?

YES >> GO TO 3.

NO >> Repair harness or connector.

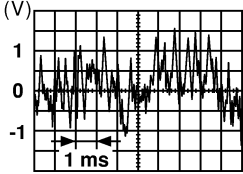
3.REAR DOOR TWEETER SIGNAL CHECK

1. Connect audio unit connectors and suspect rear door tweeter connector.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio unit harness connectors M164 terminals with CONSULT or oscilloscope.

REAR DOOR TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[MID AUDIO]

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M164	4	5	Receive audio signal	
	13	14		

Are audio signal voltage readings as specified?

- YES >> Replace suspect rear door tweeter. Refer to [AV-76. "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-73. "Removal and Installation"](#).

AV

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:0000000011559370

RELATED TO AUDIO

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	Audio unit.	Malfunction in audio unit. Refer to AV-46. "On Board Diagnosis Function" .
No sound comes out or the level of the sound is low.	No sound from all speakers.	- Speaker circuit shorted to ground. Refer to AV-51. "Wiring Diagram". - Audio unit power supply and ground circuits malfunction. Refer to AV-61. "AUDIO UNIT : Diagnosis Procedure".
	Only a certain speaker (front door speaker LH, front door speaker RH, front speaker LH, front speaker RH, rear speaker LH, rear speaker RH) does not output sound.	- Poor connector connection of speaker. - Sound signal circuit malfunction between audio unit and speaker. Refer to: AV-62. "Diagnosis Procedure" (front door speaker). AV-64. "Diagnosis Procedure" (front tweeter). AV-66. "Diagnosis Procedure" (rear speaker). AV-68. "Diagnosis Procedure" (rear door tweeter) - Malfunction in speaker. Refer to: AV-75. "Removal and Installation" (front door speaker). AV-74. "Removal and Installation" (front tweeter). AV-76. "Removal and Installation" (rear speaker). AV-76. "Removal and Installation" (rear door tweeter) - Malfunction in audio unit. Refer to AV-46. "On Board Diagnosis Function".

AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[MID 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-46, "On Board Diagnosis Function" .
	Noise comes out only from a certain speaker (front door speaker LH, front door speaker RH, front speaker LH, front speaker RH, rear speaker LH, rear speaker RH).	- Poor connector connection of speaker. - Sound signal circuit malfunction between audio unit and speaker. Refer to: AV-62, "Diagnosis Procedure" (front door speaker). AV-64, "Diagnosis Procedure" (front speaker). AV-64, "Diagnosis Procedure" (rear speaker). AV-68, "Diagnosis Procedure" (rear tweeter). - Malfunction in speaker. - Poor Installation of speaker (e.g. backlash and looseness). Refer to: AV-75, "Removal and Installation" (front door speaker). AV-74, "Removal and Installation" (front tweeter). AV-76, "Removal and Installation" (rear speaker). AV-76, "Removal and Installation" (rear tweeter). - Malfunction in audio unit. Refer to AV-46, "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.
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.

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

AV

O
P

NORMAL OPERATING CONDITION

Description

INFOID:000000011559371

RELATED TO NOISE

The majority of the audio concerns are the result of outside causes (bad CD, electromagnetic interference, etc.).

The following noise results from variations in field strength, such as fading noise and multi-path noise, or external noise from trains and other sources. It is not a malfunction:

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

The vehicle itself can be a source of noise if noise prevention parts or electrical equipment is malfunctioning. Check if noise is caused and/or changed by engine speed, ignition switch turned to each position, and operation of each piece of electrical equipment, and determine the cause.

NOTE:

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

Type of Noise and Possible Cause

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

REMOVAL AND INSTALLATION

AUDIO UNIT

Removal and Installation

INFOID:0000000011559372

AUDIO UNIT

Removal

1. Disconnect the battery negative terminal. Refer to [PG-85, "Removal and Installation"](#).
2. Remove the cluster lid D. Refer to [IP-16, "Removal and Installation"](#).
3. Remove the audio unit screws.
4. Pull out the audio unit out of the instrument panel.
5. Disconnect the harness connectors from the audio unit 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

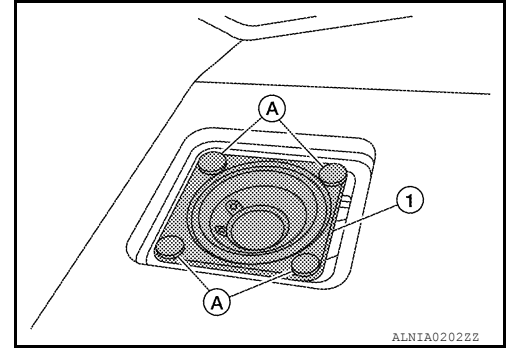
FRONT TWEETER

Removal and Installation

INFOID:000000011559373

REMOVAL

1. Remove front tweeter speaker grille using a suitable tool.
2. Remove the front tweeter clips (A).
3. Disconnect the harness connector from the front tweeter (1) and remove.



Installation

Installation is in the reverse order of removal.

FRONT DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[MID AUDIO]

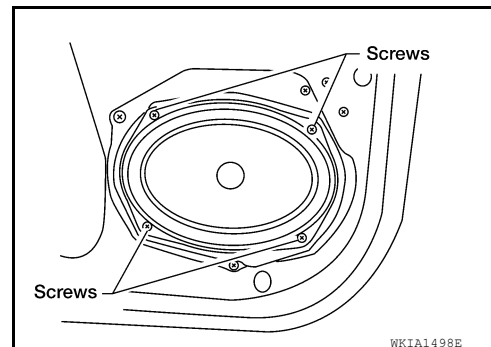
FRONT DOOR SPEAKER

Removal and Installation

INFOID:0000000011559374

REMOVAL

1. Remove the front door finisher. Refer to [INT-10. "Removal and Installation"](#).
2. Remove the front door speaker screws.
3. Disconnect the harness connector from the 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 >

[MID AUDIO]

REAR DOOR SPEAKER

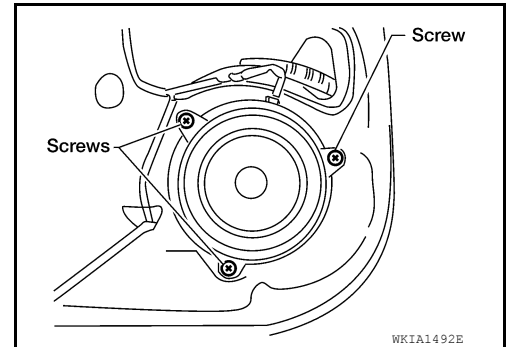
Removal and Installation

INFOID:000000011559375

REAR DOOR SPEAKER

Removal

1. Remove the rear door finisher. Refer to [INT-10. "Removal and Installation"](#) (Crew Cab) or [INT-10. "Removal and Installation"](#) (King Cab).
2. Remove the rear door speaker screws.
3. Disconnect the harness connector from the rear door speaker and remove.



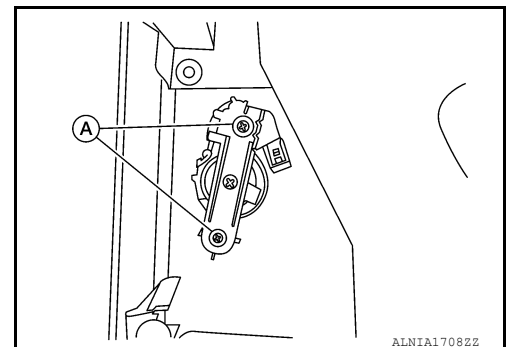
Installation

Installation is in the reverse order of removal.

REAR DOOR TWEETER

Removal

1. Remove the rear door finisher. Refer to [INT-10. "Removal and Installation"](#).
2. Remove the rear door tweeter screws (A).
3. Disconnect the harness connector from the rear door tweeter and remove.



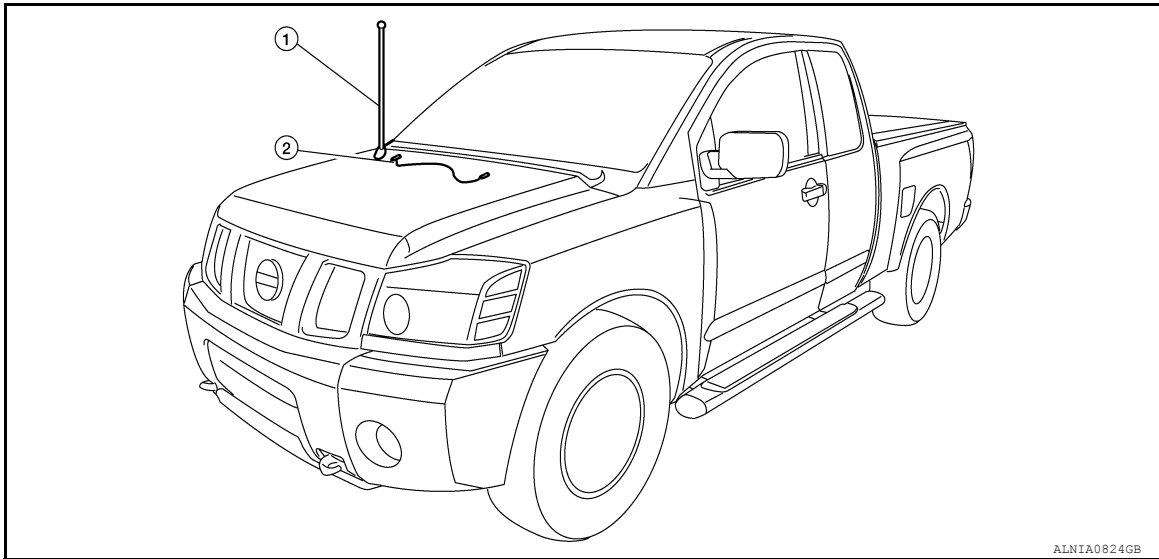
Installation

Installation is in the reverse order of removal.

AUDIO ANTENNA

Location of Antenna

INFOID:0000000011559376



1. Antenna
2. Main feeder cable

Removal and Installation

INFOID:0000000011559377

REMOVAL

1. Remove audio antenna rod.
2. Remove audio antenna rubber seal.
3. Remove fender protector (RH). Refer to [EXT-24, "Removal and Installation"](#).
4. Remove audio antenna assembly bolts.
5. Disconnect the audio antenna feeder from the audio antenna assembly.
6. Remove audio antenna assembly from the vehicle.

INSTALLATION

- Installation is in the reverse order of removal.
- Tighten audio antenna rod to specification.

Audio antenna rod : 3.5 N·m (0.36 kg-m, 31 in-lb)

CAUTION:

Always properly tighten the audio antenna rod during installation or the audio antenna rod may bend or break during vehicle operation.

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

AV

PRECAUTION

PRECAUTIONS

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

INFOID:0000000011559378

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the 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 Trouble Diagnosis

INFOID:0000000011559379

AV COMMUNICATION SYSTEM

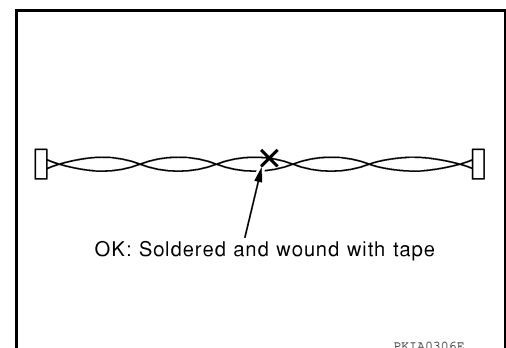
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

INFOID:0000000011559380

AV COMMUNICATION SYSTEM

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



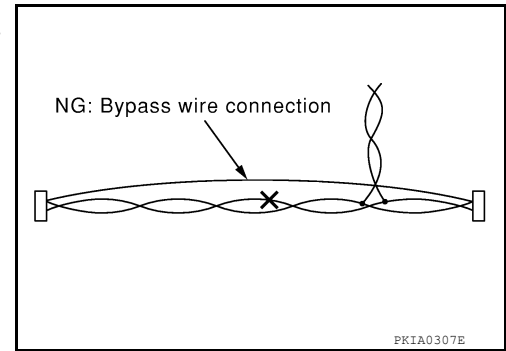
PKIA0306E

PRECAUTIONS

< PRECAUTION >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

- 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:0000000011559381

- 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 WITHOUT AMPLIFIER]

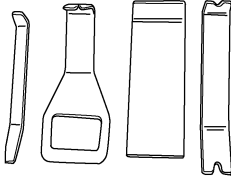
PREPARATION

PREPARATION

Special Service Tools

INFOID:0000000011559382

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

Tool number (TechMate No.) Tool name	Description
— (J-46534) Trim Tool Set  AWJIA04832Z	Removing trim components

Commercial Service Tools

INFOID:0000000011559383

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

COMPONENT PARTS

< SYSTEM DESCRIPTION >

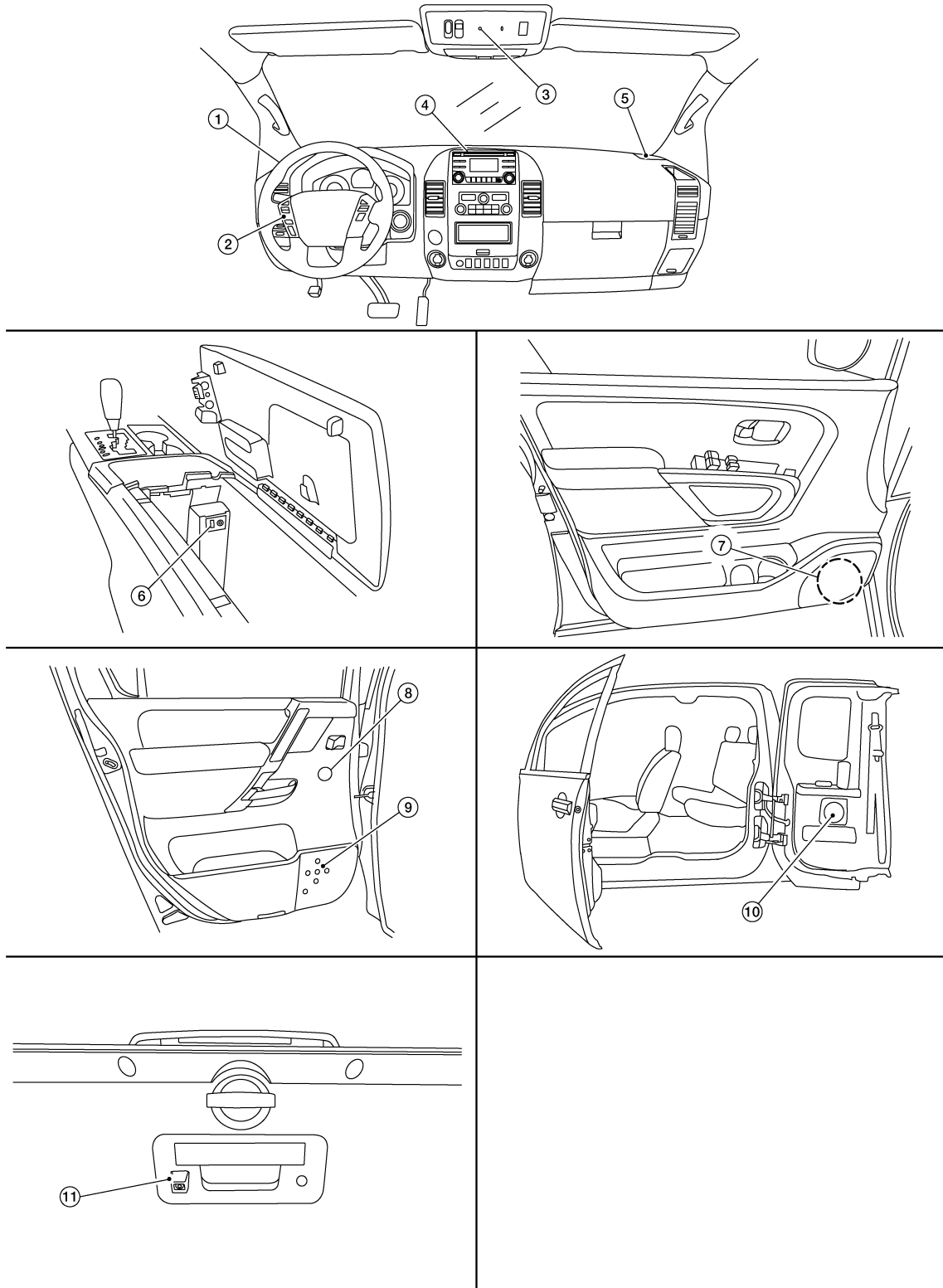
[DISPLAY AUDIO WITHOUT AMPLIFIER]

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000011559384



A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

P

AWNIA39332Z

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

1. Front tweeter LH M109	2. Steering wheel audio control switches	3. Microphone R109
4. Audio unit M165, M166, M167, M189	5. Front tweeter RH M111	6. USB Interface M214
7. Front door speaker LH D12 RH D112	8. Rear door tweeter (crew cab) LH D208 RH D308	9. Rear door speaker (crew cab) LH D207 RH D307
10. Rear door speaker (king cab) LH B76 RH B159	11. Rear view camera T2	

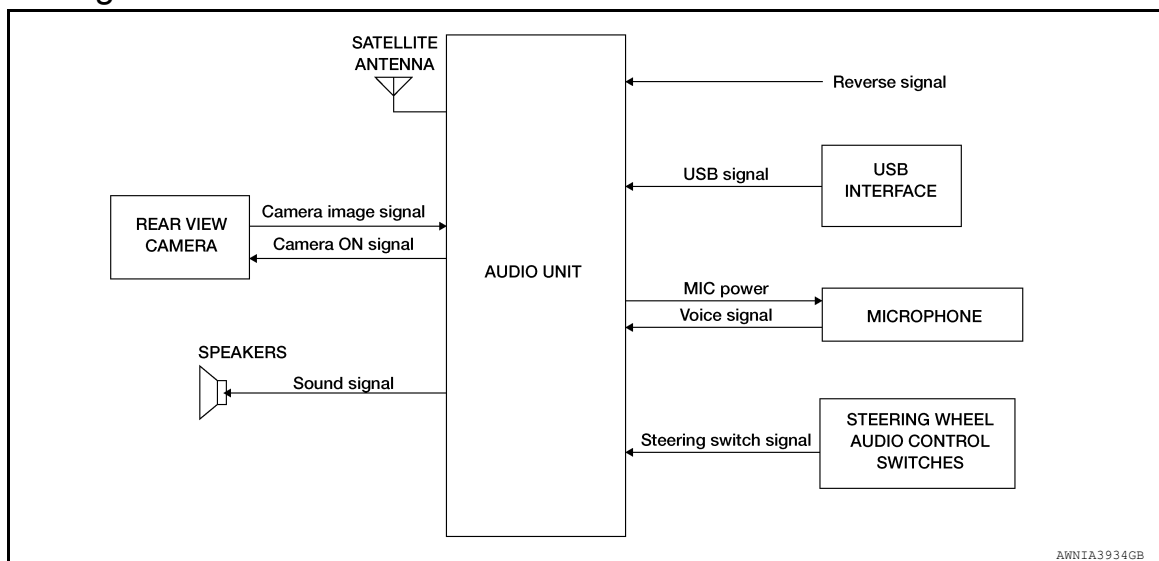
Component Description

INFOID:0000000011559385

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

SYSTEM

System Diagram



System Description

INFOID:0000000011559387

AUDIO SYSTEM

The audio system consists of the following components:

- Audio unit
- Front door speakers
- Front tweeters
- Rear speakers
- Rear tweeters
- Steering switches
- Microphone
- USB interface
- Rear view camera
- Rod antenna

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

Audio unit

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

Steering Switches

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

The following functions can be performed using the steering switches:

- Start a voice recognition session
- Answer and end telephone calls
- Adjust the volume of calls
- Record memos

Microphone

The microphone is located in the roof console assembly. The microphone sends a signal to the audio unit. Refer to Owner's Manual for audio system operating instructions.

REAR VIEW CAMERA SYSTEM

- The audio unit supplies power to the rear view camera when the reverse signal is received from the TCM.
- The rear view camera transmits rear view camera images to the audio unit when power is supplied from the audio unit.

SYSTEM

< SYSTEM DESCRIPTION >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

- The audio unit combines a warning message and fixed guide lines with an image received from the rear view camera to display a rear view camera image on the screen.

DIAGNOSIS SYSTEM (AUDIO UNIT)

< SYSTEM DESCRIPTION >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

DIAGNOSIS SYSTEM (AUDIO UNIT)

Description

INFOID:0000000011559388

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

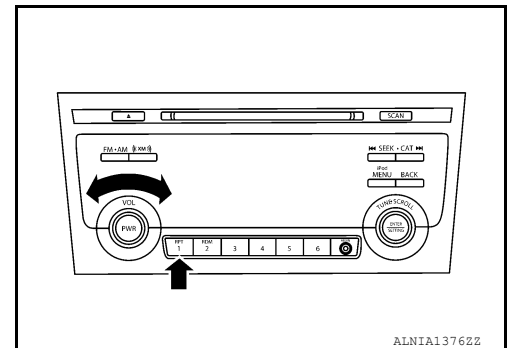
Mode		Description
Self Diagnosis		• Audio unit diagnosis. • Diagnoses the connections across system components.
Confirmation/ Adjustment	Display Diagnosis	The following check functions are available: color tone check by color bar display and white display, light and shade check by gray scale display.
	Vehicle Signals	Diagnosis of signals can be performed for vehicle speed, lights, reverse, EQ pin, destination and camera type.
	Speaker Test	The connection of a speaker can be confirmed by test tone.
	Error History	The system malfunction and the frequency when occurring in the past are displayed. When the malfunctioning item is selected, the time and place that the selected malfunction last occurred are displayed.
	Camera System	Guiding line position that overlaps rear view camera image can be adjusted.
	AV COMM Diagnosis	The communication condition of each unit of display audio system can be monitored.
	Delete Unit Connection Log	Erase the connection history of unit and error history.
	Initialize Setting	Initializes the audio unit memory.

On Board Diagnosis Function

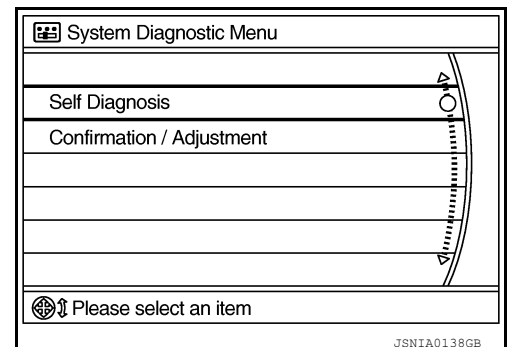
INFOID:0000000011559389

METHOD OF STARTING

1. Turn the ignition ON.
2. Turn the audio system OFF.
3. While pressing the preset 1 button, turn the volume control dial clockwise or counterclockwise for 40 clicks or more. When self-diagnosis mode begins, a short beep will be heard. Shifting from current screen to previous screen is performed by pressing BACK button.



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



SELF DIAGNOSIS MODE

Audio Unit Self Diagnosis

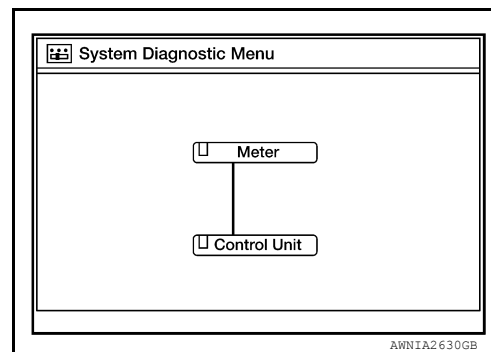
1. Select Self Diagnosis.

DIAGNOSIS SYSTEM (AUDIO UNIT)

[DISPLAY AUDIO WITHOUT AMPLIFIER]

< SYSTEM DESCRIPTION >

- 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.

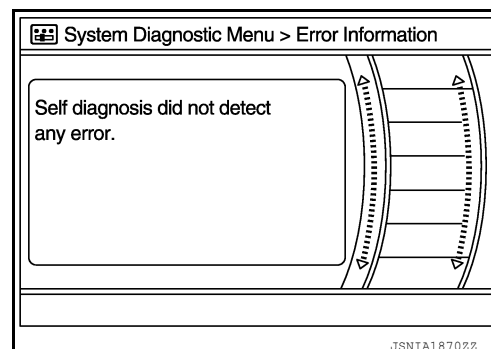


Diagnosis results	Unit	Connection line
Normal	Green	Green
Connection malfunction	Gray	Yellow
Unit malfunction ¹	Red	Green

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-131, "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.	- Audio unit power supply or ground circuits. Refer to AV-111, "AUDIO UNIT : Diagnosis Procedure". - If no malfunction is detected in audio unit power supply and ground circuits, replace audio unit. Refer AV-131, "Removal and Installation".

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

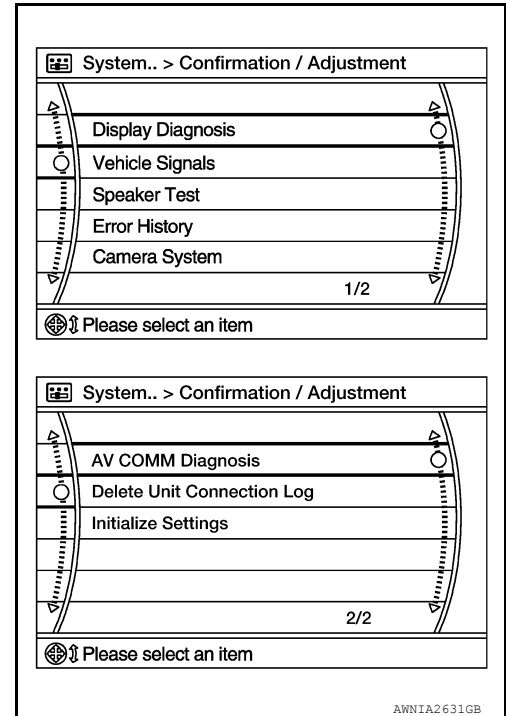
DIAGNOSIS SYSTEM (AUDIO UNIT)

[DISPLAY AUDIO WITHOUT AMPLIFIER]

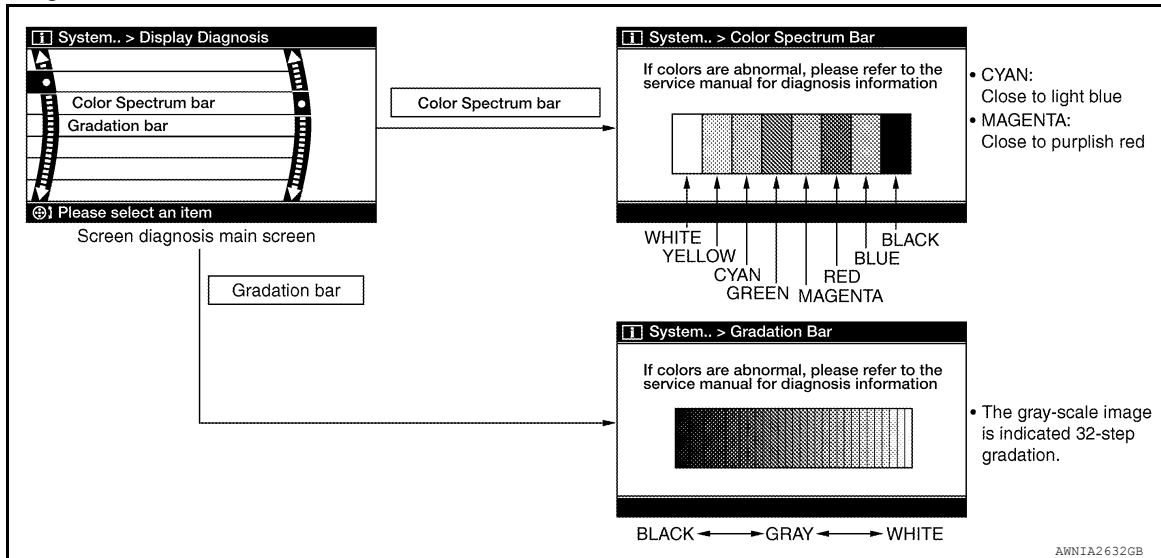
< SYSTEM DESCRIPTION >

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.

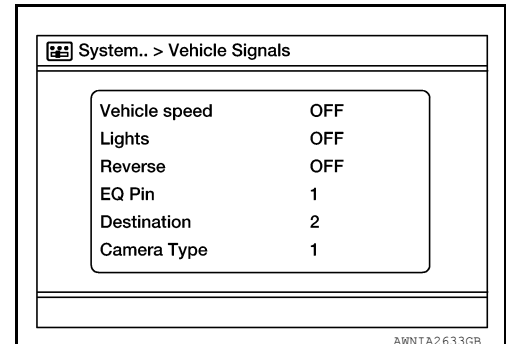


Display Diagnosis



Vehicle Signals

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



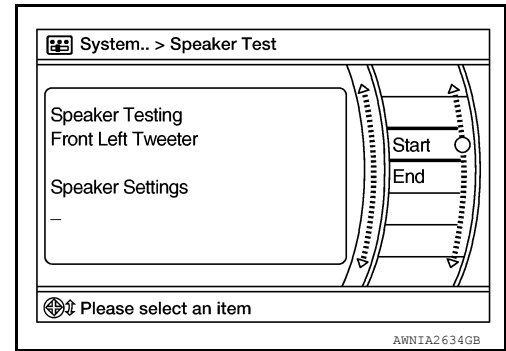
Speaker Test

DIAGNOSIS SYSTEM (AUDIO UNIT)

[DISPLAY AUDIO WITHOUT AMPLIFIER]

< SYSTEM DESCRIPTION >

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.

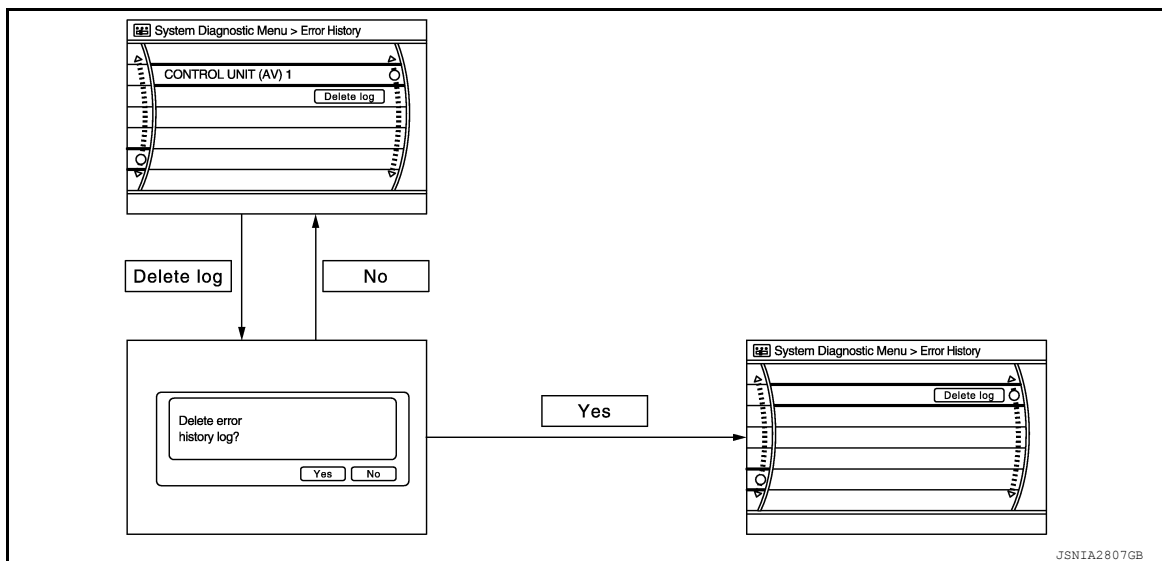
Count up method A

- 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

DIAGNOSIS SYSTEM (AUDIO UNIT)

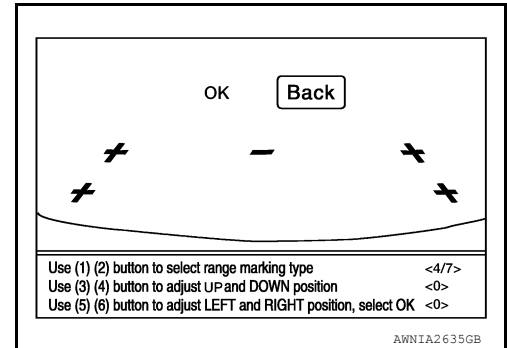
< SYSTEM DESCRIPTION >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

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-131, "Removal and Installation"
AV COMM CIRCUIT	When one of the following is detected: - malfunction is detected in combination meter power supply and ground circuits. - malfunction is detected in AV communication circuits between audio unit and combination meter.	- Combination meter power supply or ground circuits. - AV communication circuits between audio unit and combination meter.

Camera System

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



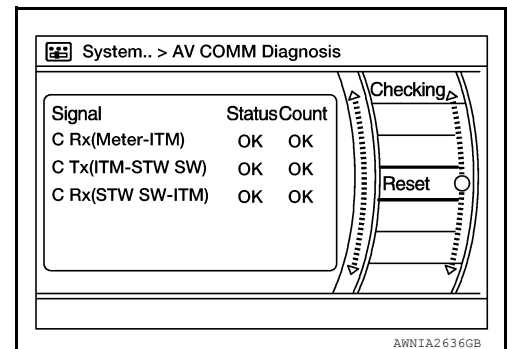
AV COMM Diagnosis

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

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

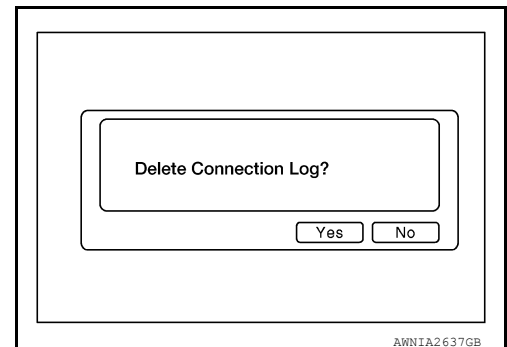
NOTE:

“???” indicates UNKWN.



Delete Unit Connection Log

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



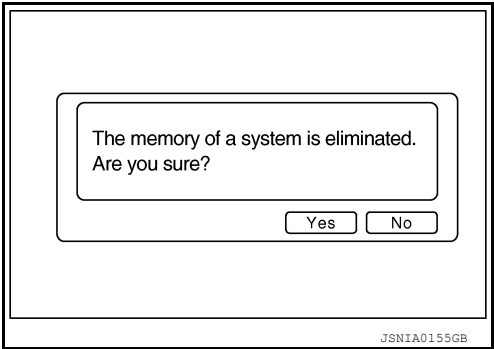
Initialize Settings

DIAGNOSIS SYSTEM (AUDIO UNIT)

< SYSTEM DESCRIPTION >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

Deletes data stored from the audio unit.



AUDIO UNIT

< ECU DIAGNOSIS INFORMATION >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

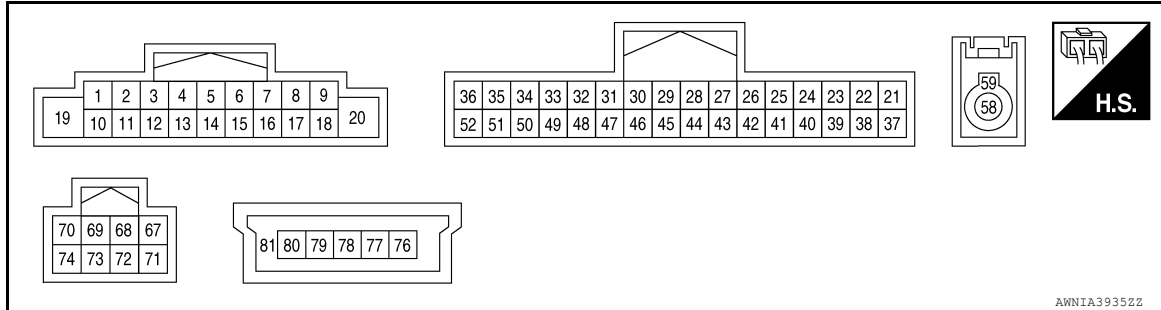
ECU DIAGNOSIS INFORMATION

AUDIO UNIT

Reference Value

INFOID:0000000011559390

TERMINAL LAYOUT



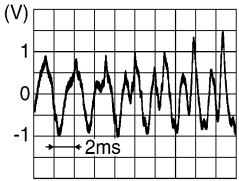
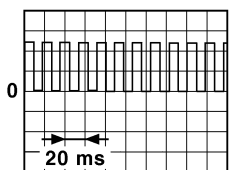
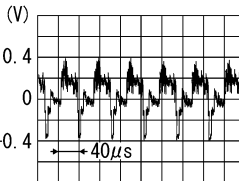
PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
2 (L/W)	3 (L/R)	Sound signal front speaker LH	Output	ON	Sound output	 SKIB3609E
4 (SB)	5 (B/Y)	Sound signal rear speaker LH	Output	ON	Sound output	 SKIB3609E
6 (R)	Ground	STRG SW A	Input	ON	Press SEEK DOWN switch.	0.7 V
					Press SEEK UP switch.	1.3 V
					Press switch.	2.0 V
					Except for above.	3.3 V
7 (V)	Ground	ACC power supply	Input	ACC	—	Battery voltage
8 (BR)	9 (R/L)	Illumination control signal	Input	ON	Headlamps ON	Battery voltage
11 (W/B)	12 (L/B)	Sound signal front speaker RH	Output	ON	Sound output	 SKIB3609E

AUDIO UNIT

< ECU DIAGNOSIS INFORMATION >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output	Ignition switch	Operation	
13 (O/L)	14 (R/L)	Sound signal rear speaker RH	Output	ON	Sound output	 SKIB3609E
15 (Y)	—	STRG SW ground	Output	—	—	—
16 (G)	Ground	STRG SW B	Input	ON	Press SOURCE switch.	0 V
					Press  switch.	0.7 V
					Press VOL UP switch.	1.3 V
					Press VOL DOWN switch	2.0 V
					Except for above.	3.3 V
18 (W/R)	Ground	Vehicle speed signal	Input	ON	When vehicle speed is approx. 40 km/h (25 MPH)	 JSNIA0012GB
19 (Y)	Ground	Battery power supply	Input	OFF	—	Battery voltage
23 (W)	Ground	Camera power supply	Output	ON	When camera image is displayed	6.0 V
					Except for above	0 V
33 (B)	Ground	RV_CAM_GND	—	—	—	—
34 (W)	Ground	RV_CAM_SIG	Output	Ignition switch ACC	Shift selector is in R position	6.0V
35 (R)	Ground	Rear view camera video in (+)	Input	Ignition switch ON	With rear view camera ON	 SKIB2251J
36 (Shield)	—	Shield	—	—	—	—
37 (Shield)	—	MIC ground	—	—	—	—
38 (B)	39 (R/W)	MIC signal	Input	ON	—	—
44 (G)	—	Camera DET	—	—	—	—
45 (B)	—	EQ 1 Port 1	—	—	—	—

AUDIO UNIT

< ECU DIAGNOSIS INFORMATION >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)	
+	—	Signal name	Input/ Output	Ignition switch	Operation		
46 (B)	—	EQ 2 Port 2	—	—	—	—	A
47 (B)	—	EQ 3 Port 3	—	—	—	—	B
48 (B)	—	EQ4 Port 4	—	—	—	—	C
50 (G/W)	Ground	Reverse signal	Input	Ignition switch ON	R position	Battery voltage	D
					Other than R position	0 V	
58 (B)	—	Satellite antenna signal	—	—	—	—	E
59 (B)	—	Shield	—	—	—	—	F
67 (Shield)	—	AUX in shield	Input	—	—	—	G
68 (R)	—	AUX in ground	—	—	—	—	H
69 (B)	—	Audio R	Input	—	—	—	I
70 (B)	—	Audio L	Input	—	—	—	J
76 (B)	—	USB ground	—	—	—	—	K
78 (G)	—	USB D+	—	—	—	—	L
79 (W)	—	USB D-	—	—	—	—	M
80 (R)	—	V BUS signal	—	—	—	—	
81 (Shield)	—	Shield	—	—	—	—	

AV

O

P

DISPLAY AUDIO WITHOUT AMPLIFIER

< WIRING DIAGRAM >

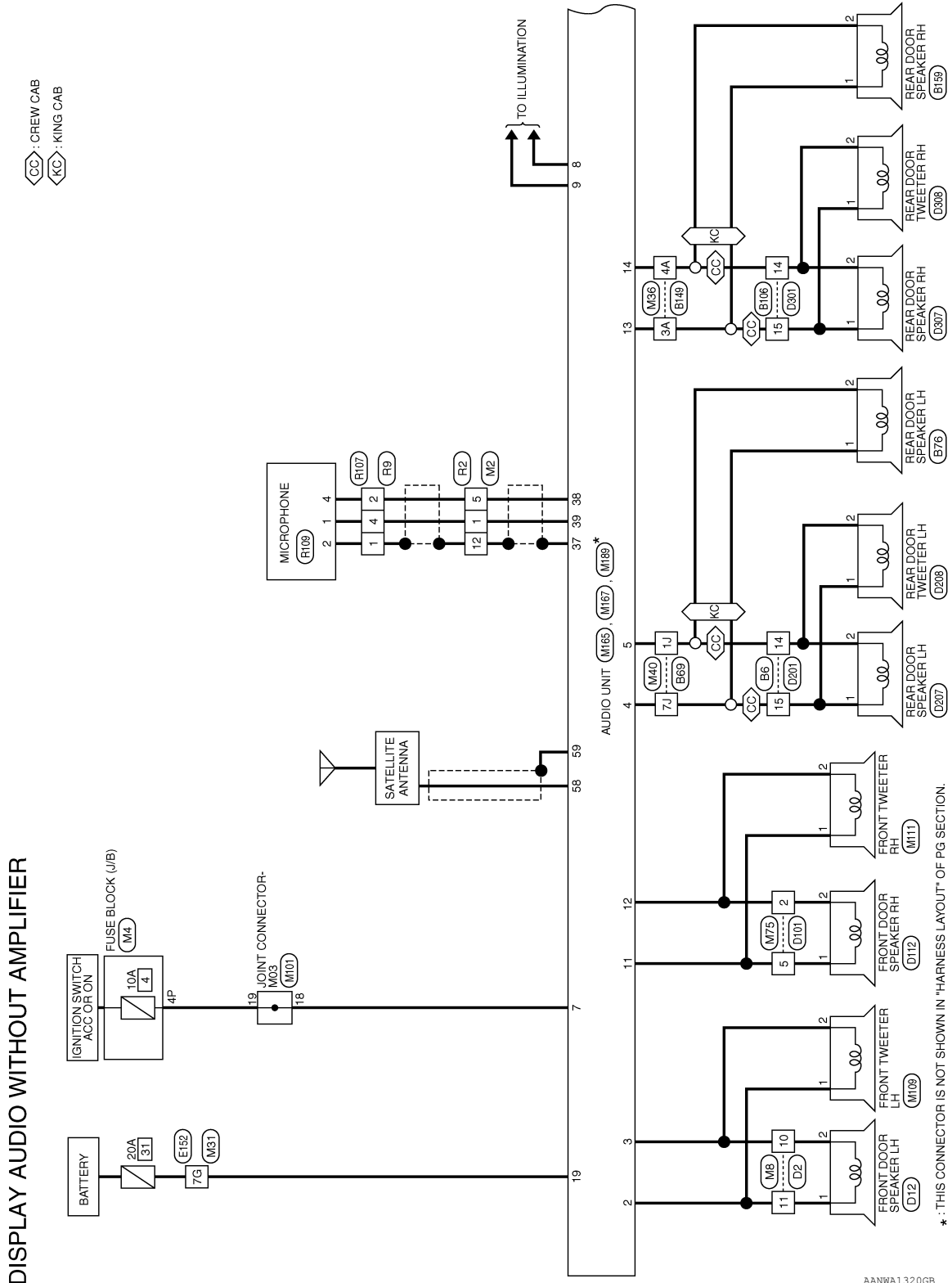
[DISPLAY AUDIO WITHOUT AMPLIFIER]

WIRING DIAGRAM

DISPLAY AUDIO WITHOUT AMPLIFIER

Wiring Diagram

INFOID:0000000011559392

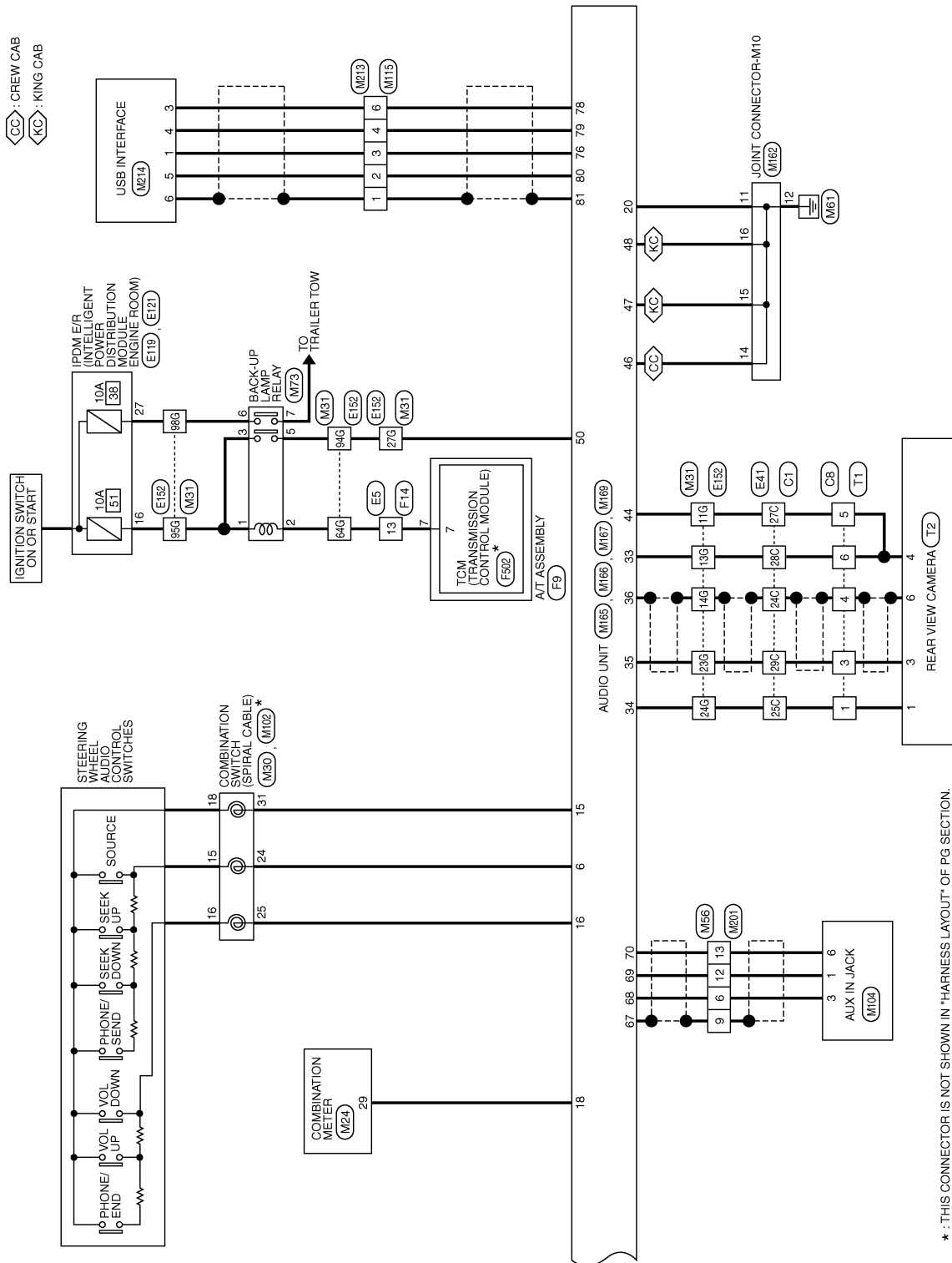


AANWA1320GB

DISPLAY AUDIO WITHOUT AMPLIFIER

< WIRING DIAGRAM >

[DISPLAY AUDIO WITHOUT AMPLIFIER]



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

AANWA1321GB

DISPLAY AUDIO WITHOUT AMPLIFIER

< WIRING DIAGRAM >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

DISPLAY AUDIO WITHOUT AMPLIFIER CONNECTORS

Connector No.	M2
Connector Name	WIRE TO WIRE
Connector Color	WHITE

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



Terminal No.	Color of Wire	Signal Name
1	R/W	— (WITHOUT NAVI)
5	B	— (WITHOUT NAVI)
12	SHIELD	—

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

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



Terminal No.	Color of Wire	Signal Name
4P	V	—

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

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



Terminal No.	Color of Wire	Signal Name
10	L/R	—
11	L/W	—

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE



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

Terminal No.	Color of Wire	Signal Name
29	W/R	SPEED OUT

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



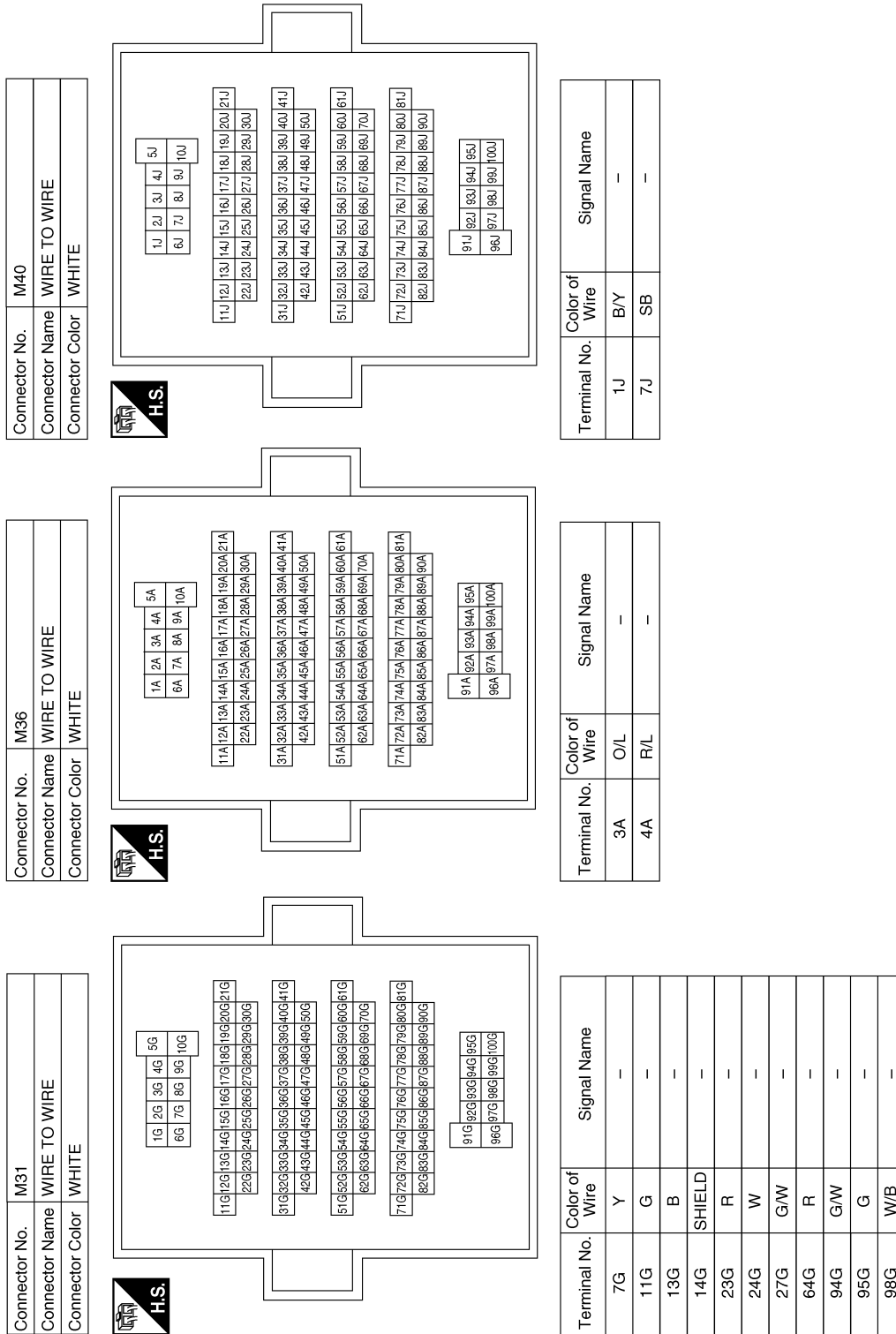
24	25	26	27
31	32	33	34

Terminal No.	Color of Wire	Signal Name
24	R	— (WITHOUT NAVI)
25	G	— (WITHOUT NAVI)
31	Y	— (WITHOUT NAVI)

DISPLAY AUDIO WITHOUT AMPLIFIER

< WIRING DIAGRAM >

[DISPLAY AUDIO WITHOUT AMPLIFIER]



AANIA3695GB

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

AV

DISPLAY AUDIO WITHOUT AMPLIFIER

< WIRING DIAGRAM >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

Connector No.	M75
Connector Name	WIRE TO WIRE
Connector Color	WHITE

4	3	2	1
10	9	8	7
6	5		



Terminal No.	Color of Wire	Signal Name
2	L/B	—
5	W/B	—

Connector No.	M73
Connector Name	BACK-UP LAMP RELAY
Connector Color	BROWN

2	1
7	5
6	3



Terminal No.	Color of Wire	Signal Name
1	G	—
2	R	—
3	G	—
5	G/W	—
6	W/B	—
7	Y/R	—

Connector No.	M56
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
6	R	—
9	SHIELD	—
12	B	—
13	W	—

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

1	2	3	4	5	6



Terminal No.	Color of Wire	Signal Name
1	B	—
3	R	—
6	W	—

Connector No.	M102
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY

14	15	16	17	18	19	20	21



Terminal No.	Color of Wire	Signal Name
15	B	—
16	R	—
18	BR	—

Connector No.	M101
Connector Name	JOINT CONNECTOR-M03
Connector Color	BLUE

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



Terminal No.	Color of Wire	Signal Name
18	V	—
19	V	—

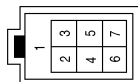
AANIA3696GB

DISPLAY AUDIO WITHOUT AMPLIFIER

< WIRING DIAGRAM >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

Connector No.	M115
Connector Name	WIRE TO WIRE
Connector Color	GRAY



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

Connector No.	M111
Connector Name	FRONT TWEETER RH
Connector Color	BROWN



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

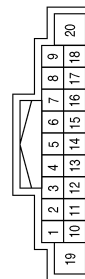
Connector No.	M109
Connector Name	FRONT TWEETER LH
Connector Color	BROWN



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

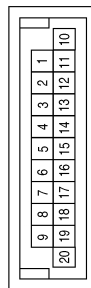
Terminal No.	Color of Wire	Signal Name
7	V	ACC
8	BR	ILL (-)
9	R/L	ILL (+), LIGHT SW
10	-	-
11	W/B	FR SP RH+
12	L/B	FR SP RH-
13	O/L	RR SP RH+
14	R/L	RR SP RH-
15	Y	STRG SW GND
16	G	STRG SW B
17	-	-
18	W/R	SPEED SIG SSV
19	Y	BAT
20	B	GND

Connector No.	M165
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO WITHOUT AMPLIFIER)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	-	-
2	L/W	FR SP LH+
3	L/R	FR SP LH-
4	SB	RR SP LH+
5	B/Y	RR SP LH-
6	R	STRG SW A

Connector No.	M162
Connector Name	JOINT CONNECTOR-M10
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
11	B	-
12	B	-
14	B	-
15	B	-
16	B	-

AANIA3697GB

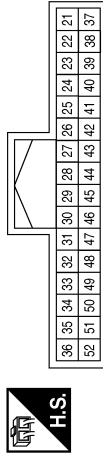
DISPLAY AUDIO WITHOUT AMPLIFIER

< WIRING DIAGRAM >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

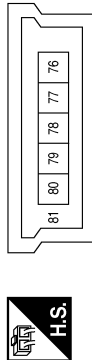
Terminal No.	Color of Wire	Signal Name
42	-	-
43	-	-
44	G	CAMERA DET
45	-	-
46	B	EQ2 PORT 2
47	B	EQ3 PORT 3
48	B	EQ4 PORT 4
49	-	-
50	G/W	REVERSE SGN
51	-	-
52	-	-

Connector No.	M167
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO WITHOUT AMPLIFIER)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
29	-	-
30	-	-
31	-	-
32	-	-
33	B	GND
34	W	CAMERA ON
35	R	COMP+
36	SHIELD	COMP-
37	-	-
38	-	-
39	-	-
40	-	-
41	-	-

Connector No.	M166
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
76	B	USB GND
77	-	-
78	G	USB D+
79	W	USB D-
80	R	V BUS
81	SHIELD	SHIELD

AANIA3698GB

DISPLAY AUDIO WITHOUT AMPLIFIER

< WIRING DIAGRAM >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

Connector No.	M201
Connector Name	WIRE TO WIRE
Connector Color	WHITE

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



Terminal No.	Color of Wire	Signal Name
6	R	—
9	SHIELD	—
12	B	—
13	W	—

Connector No.	M189
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO WITHOUT AMPLIFIER)
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
58	B	SAT ANT
59	B	SAT SHIELD

Connector No.	M169
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO)
Connector Color	WHITE

70	69	68	67
74	73	72	71



Terminal No.	Color of Wire	Signal Name
67	SHIELD	AUX IN SHIELD
68	R	AUX IN GND
69	B	AUX IN R
70	W	AUX IN L

Connector No.	E5
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



Terminal No.	Color of Wire	Signal Name
13	R	—

Connector No.	M214
Connector Name	USB INTERFACE
Connector Color	BLACK

6	5	4	3	2	1



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

Connector No.	M213
Connector Name	WIRE TO WIRE
Connector Color	GRAY

1	2	4	6
	3	5	7



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

AANIA3699GB

[DISPLAY AUDIO WITHOUT AMPLIFIER]

Revision: November 2014

AANIA3700GB

DISPLAY AUDIO WITHOUT AMPLIFIER

< WIRING DIAGRAM >

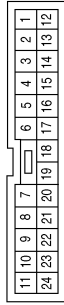
[DISPLAY AUDIO WITHOUT AMPLIFIER]

Connector No.	F502
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Color	GRAY



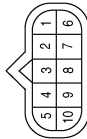
Terminal No.	Color of Wire	Signal Name
7	O	REV LAMP RLY

Connector No.	F14
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
13	R	-

Connector No.	F9
Connector Name	A/T ASSEMBLY (FLOOR SHIFT)
Connector Color	GREEN



Terminal No.	Color of Wire	Signal Name
7	R	-

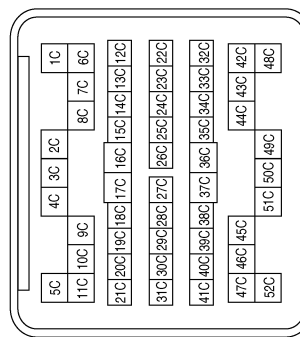
Connector No.	C8
Connector Name	WIRE TO WIRE
Connector Color	BLACK



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

Terminal No.	Color of Wire	Signal Name
24C	SHIELD	-
25C	W	-
27C	G	-
28C	B	-
29C	R	-

Connector No.	C1
Connector Name	WIRE TO WIRE
Connector Color	GRAY



AANIA3701GB

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

AV

[DISPLAY AUDIO WITHOUT AMPLIFIER]

Revision: November 2014

Terminal No.	Color of Wire	Signal Name
1	SB	-(EXCEPT BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
2	BY	-(EXCEPT BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)

DISPLAY AUDIO WITHOUT AMPLIFIER

< WIRING DIAGRAM >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

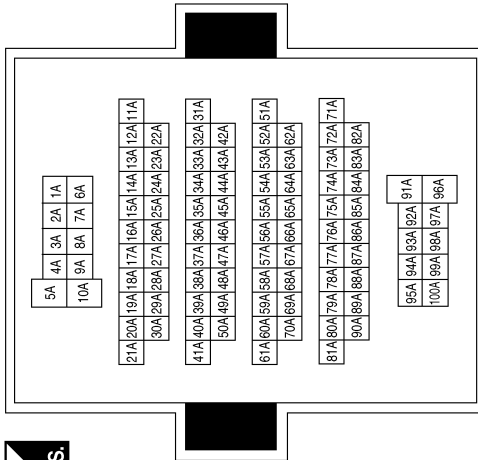
Connector No.	B159
Connector Name	REAR DOOR SPEAKER RH
Connector Color	WHITE



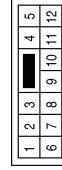
Terminal No.	Color of Wire	Signal Name
1	O/L	– (EXCEPT BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
2	R/L	–

Terminal No.	Color of Wire	Signal Name
3A	O/L	– (EXCEPT FOR KING CAB WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
4A	R/L	–

Connector No.	B149
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Connector No.	R2
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	R/W	– (WITHOUT NAVI)
5	B	– (WITHOUT NAVI)
12	SHIELD	– (WITHOUT NAVI)

Connector No.	T2
Connector Name	REAR VIEW CAMERA
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
1	W	–
3	R	–
4	B	–
6	SHIELD	–

Connector No.	T1
Connector Name	WIRE TO WIRE
Connector Color	BLACK



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

AANIA3703GB

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

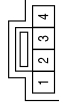
AV

DISPLAY AUDIO WITHOUT AMPLIFIER

< WIRING DIAGRAM >

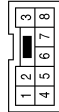
[DISPLAY AUDIO WITHOUT AMPLIFIER]

Connector No.	R109
Connector Name	MICROPHONE
Connector Color	WHITE



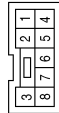
Terminal No.	Color of Wire	Signal Name
1	R/W	-
2	R/L	-
4	B	-

Connector No.	R107
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	R/L	-
2	B	-
4	R/W	-

Connector No.	R9
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	SHIELD	-(WITHOUT NAVI)
2	B	-
4	R/W	-

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



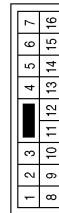
Terminal No.	Color of Wire	Signal Name
2	L/B	-
5	W/B	-

Connector No.	D12
Connector Name	FRONT DOOR SPEAKER LH
Connector Color	WHITE



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

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



Terminal No.	Color of Wire	Signal Name
10	L/R	-
11	L/W	-

AANIA3704GB

DISPLAY AUDIO WITHOUT AMPLIFIER

< WIRING DIAGRAM >

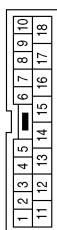
[DISPLAY AUDIO WITHOUT AMPLIFIER]

Connector No.	D207
Connector Name	REAR DOOR SPEAKER LH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	SB	– (WITHOUT MID AUDIO SYSTEM)
2	B/Y	– (WITHOUT MID AUDIO SYSTEM)

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



Terminal No.	Color of Wire	Signal Name
14	B/Y	– (WITHOUT MID AUDIO SYSTEM)
15	SB	– (WITHOUT MID AUDIO SYSTEM)

Connector No.	D112
Connector Name	FRONT DOOR SPEAKER RH
Connector Color	WHITE



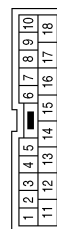
Terminal No.	Color of Wire	Signal Name
1	W/B	–
2	L/B	–

Connector No.	D307
Connector Name	REAR DOOR SPEAKER RH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	O/L	– (WITHOUT MID AUDIO SYSTEM)
2	R/L	–

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



Terminal No.	Color of Wire	Signal Name
14	R/L	–
15	O/L	– (WITHOUT MID AUDIO SYSTEM)

Connector No.	D208
Connector Name	REAR DOOR TWEETER LH
Connector Color	BROWN



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

AANIA3705GB

DISPLAY AUDIO WITHOUT AMPLIFIER

< WIRING DIAGRAM >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

Connector No.	D308
Connector Name	REAR DOOR TWEETER RH
Connector Color	BROWN



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

AANIA3706GB

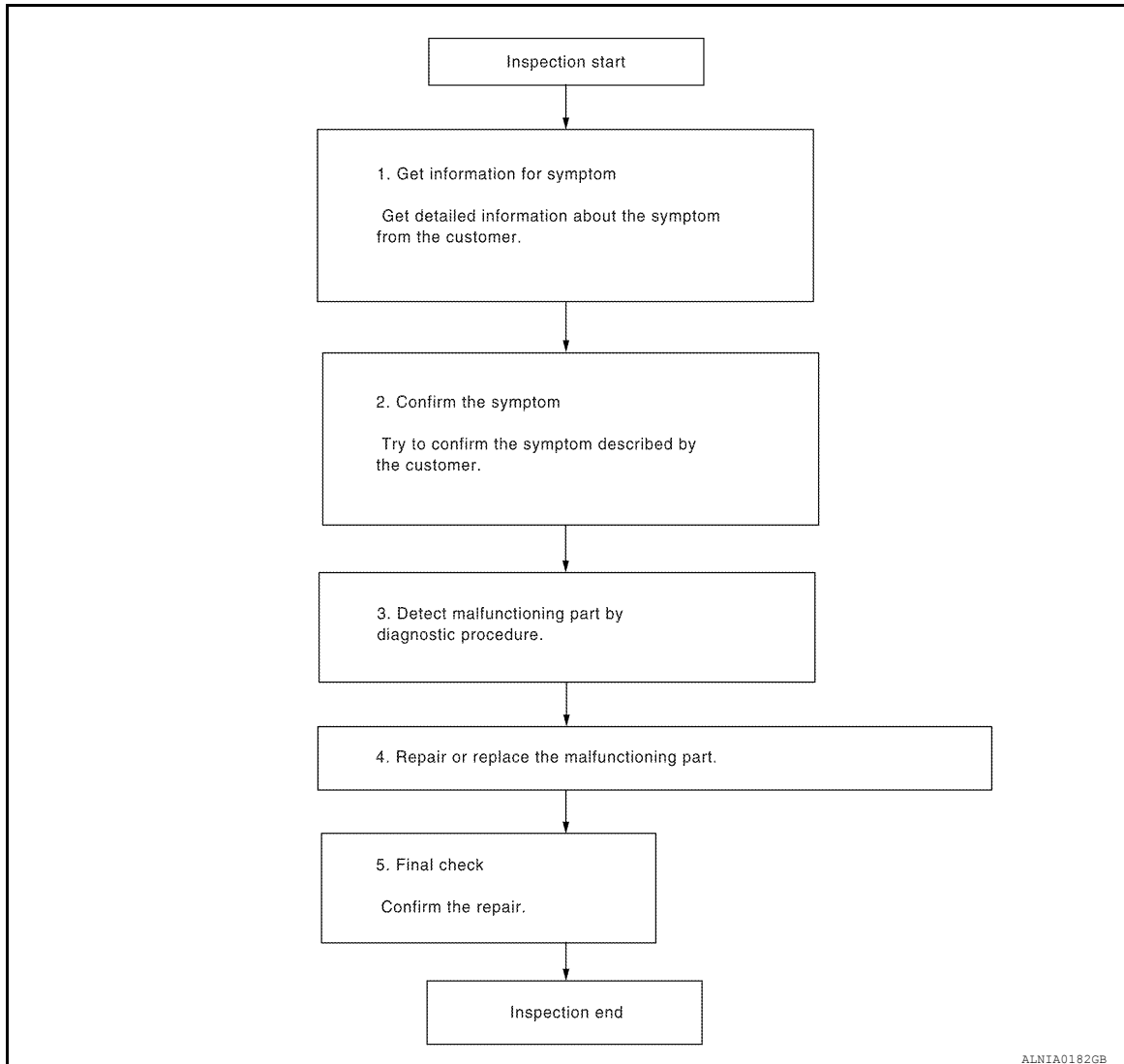
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000011559393

OVERALL SEQUENCE



DETAILED FLOW

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

2.CONFIRM THE SYMPTOM

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

>> GO TO 3.

3.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

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.

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID:0000000011559394

Regarding Wiring Diagram information, refer to [AV-94, "Wiring Diagram"](#).

1.CHECK FUSES

Check that the following fuses of the audio unit are not are not blown:

Unit	Terminals	Signal name	Fuse No.
Audio unit	7	Battery power	4 (10A)
	19	Ignition switch ACC or ON	31 (20A)

Is the fuse blown?

YES >> GO TO 2.

NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

2.POWER SUPPLY CIRCUIT CHECK

1. Disconnect audio unit connector M165.
2. Check voltage between the audio unit connector M165 and ground.

(+)		(-)	OFF	ACC	ON
Connector	Terminal				
M165	7	Ground	0V	Battery voltage	Battery voltage
	19	Ground	Battery voltage	Battery voltage	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.

NO >> • Check connector housing for disconnected or loose terminals.
• Repair harness or connector.

3.GROUND CIRCUIT CHECK

1. Turn ignition switch OFF..
2. Check continuity between the audio unit connector M165, M167 and ground.

Connector	Terminal	—	Continuity
M167	46 (Crew cab)	Ground	Yes
	47 (King cab)		
	48 (King cab)		
M165	20		

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair audio unit ground.

MICROPHONE

MICROPHONE : Diagnosis Procedure

INFOID:0000000011559396

Regarding Wiring Diagram information, refer to [AV-94, "Wiring Diagram"](#).

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

1. CHECK POWER SUPPLY CIRCUIT (MICROPHONE SIDE)

1. Turn ignition switch ON.
2. Check voltage between microphone harness connector R109 and ground.

(+)		(-)	Value (Approx.)
Connector	Terminal		
R109	4	Ground	5V

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT (CONTINUITY)

1. Turn ignition switch OFF.
2. Disconnect microphone and audio unit harness connectors.
3. Check continuity between microphone harness connector R109 and audio unit harness connector M167.

Microphone		Audio unit		Continuity
Connector	Terminal	Connector	Terminal	
R109	4	M167	38	Yes

4. Check continuity between microphone harness connector R109 terminal 4 and ground.

Microphone		—	Continuity
Connector	Terminal		
R109	4	Ground	No

Is the inspection result normal?

YES >> Replace the Audio unit. Refer to [AV-131, "Removal and Installation"](#).

NO >> Repair harness or connector.

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect microphone harness connector R109 and audio unit harness connector M167.
3. Check continuity between microphone harness connector R109 and audio unit harness connector M167.

Microphone		Audio unit		Continuity
Connector	Terminal	Connector	Terminal	
R109	2	M167	37	Yes

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair harness or connector.

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

FRONT DOOR SPEAKER

Diagnosis Procedure

INFOID:0000000011559397

Regarding Wiring Diagram information, refer to [AV-94. "Wiring Diagram"](#).

1.CONNECTOR CHECK

Check the audio unit and speaker connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminals or connectors.

2.CHECK FRONT DOOR SPEAKER SIGNAL CIRCUIT CONTINUITY

1. Disconnect audio unit connector M43 and suspect front door speaker connector.
2. Check continuity between audio unit connector M165 and suspect front door speaker connector.

Audio unit		Front door speaker		Continuity
Connector	Terminal	Connector	Terminal	
M165	2	D12 (LH)	1	Yes
	3		2	
	11	D112 (RH)	1	
	12		2	

3. Check continuity between audio unit connector M165 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M165	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

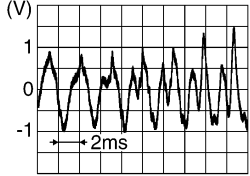
1. Connect audio unit connector M165 and suspect front door speaker connector.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between audio unit connector M165 and ground.

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

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

2	3	Audio signal output	
11	12		

Is the inspection result normal?

- YES >> Replace front door speaker. Refer to [AV-134. "Removal and Installation"](#).
 NO >> Replace audio unit. Refer to [AV-131. "Removal and Installation"](#).

FRONT TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

FRONT TWEETER

Diagnosis Procedure

INFOID:0000000011559398

Regarding Wiring Diagram information, refer to [AV-94. "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 M165 and suspect front tweeter connector.
2. Check continuity between audio unit connector M165 and suspect front tweeter connector.

Audio unit		Front tweeter		Continuity
Connector	Terminal	Connector	Terminal	
M165	2	M109 (LH)	1	Yes
	3		2	
	11	M111 (RH)	1	
	12		2	

3. Check continuity between audio unit connector M165 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M165	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

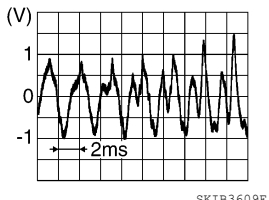
1. Connect audio unit connector M165 and suspect front tweeter connector.
2. Turn ignition switch to ACC.
3. Push audio unit POWER switch.
4. Check signal between audio unit connector M165 and ground.

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

FRONT TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

2	3	Audio signal output	
11	12		

Is the inspection result normal?

- YES
- >> Replace front tweeter. Refer to [AV-133. "Removal and Installation"](#).
- NO
- >> Replace audio unit. Refer to [AV-131. "Removal and Installation"](#).

REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

REAR DOOR SPEAKER

Description

INFOID:0000000011559399

The audio unit sends audio signals to the rear door speakers using the audio signal circuits.

Diagnosis Procedure

INFOID:0000000011559400

Regarding Wiring Diagram information, refer to [AV-94, "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 terminal and connector.

2.HARNESS CHECK

1. Disconnect audio unit connector M165 and suspect rear door speaker connector.
2. Check continuity between audio unit harness connectors M165 and suspect rear door speaker harness connector.

Audio unit		Rear speakers		Continuity
Connector	Terminal	Connector	Terminal	
M165	4	D207 (crew cab) B76 (king cab)	1	Yes
	5		2	
	13	D307 (crew cab) B159 (king cab)	1	
	14		2	

3. Check continuity between audio unit harness connectors M165 and ground.

Connector	Terminal	-	Continuity
M165	4	Ground	No
	5		
	13		
	14		

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

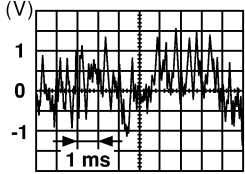
3.REAR DOOR SPEAKER SIGNAL CHECK

1. Connect audio unit connectors and suspect rear door speaker connector.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio unit harness connectors M166 terminals with CONSULT or oscilloscope.

REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M165	4	5	Receive audio signal	
	13	14		

SKIA0177E

Is the inspection result normal?

- YES >> Replace suspect rear door speaker. Refer to [AV-135, "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-131, "Removal and Installation"](#).

REAR DOOR TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

REAR DOOR TWEETER

Description

INFOID:0000000011559401

The audio unit sends audio signals to the rear door tweeters using the audio signal circuits.

Diagnosis Procedure

INFOID:0000000011559402

Regarding Wiring Diagram information, refer to [AV-94, "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 terminal and connector.

2.HARNESS CHECK

1. Disconnect audio unit connector M166 and suspect rear door tweeter connector.
2. Check continuity between audio unit harness connectors M165 and suspect rear door tweeter harness connector.

Audio unit		Rear tweeters		Continuity
Connector	Terminal	Connector	Terminal	
M165	4	D208	1	Yes
	5		2	
	13	D308	1	
	14		2	

3. Check continuity between audio unit harness connectors M165 and ground.

Connector	Terminal	-	Continuity
M166	4	Ground	No
	5		
	13		
	14		

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

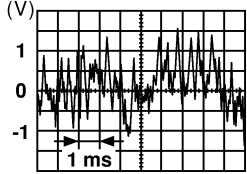
3.REAR DOOR TWEETER SIGNAL CHECK

1. Connect audio unit connectors and suspect rear door tweeter connector.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio unit harness connectors M165 terminals with CONSULT or oscilloscope.

REAR DOOR TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M166	4	5	Receive audio signal	
	13	14		

SKIA0177E

Is the inspection result normal?

- YES >> Replace suspect rear door tweeter. Refer to [AV-135. "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-131. "Removal and Installation"](#).

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000011559403

Regarding Wiring Diagram information, refer to [AV-94, "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 M167 and ground.

Audio unit		Ground	Condition	Voltage (Approx.)
(+)		(-)		
Connector	Terminal			
M167	50	—	Selector lever in R (reverse)	Battery Voltage

Is the 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 M167 and rear view camera connector.
3. Check continuity between audio unit connector M167 and rear view camera connector T2.

Audio unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M167	34	T2	1	Yes

4. Check continuity between audio unit connector M167 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M167	34		No

Is the 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 M167 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 M167 and ground.

Audio unit		Ground	Condition	Voltage (Approx.)
(+)		(-)		
Connector	Terminal			
M167	34	—	Selector lever is in “R”.	6.0 V

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace audio unit. Refer to [AV-131, "Removal and Installation"](#).

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

4.CHECK CAMERA IMAGE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M167 and rear view camera connector.
3. Check continuity between audio unit connector M167 and rear view camera connector T2.

Audio unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M167	35	T2	3	Yes

4. Check continuity between audio unit connector M167 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M167	35		No

Is the 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 M167 and rear view camera connector T2.

Audio unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M167	33	T2	4	Yes

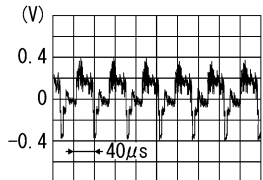
Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness or connectors.

6.CHECK CAMERA IMAGE SIGNAL

1. Connect audio unit connector M167 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 M167 and ground.

Audio unit		Ground	Condition	Reference value
(+) (V)		(-)		
Connector	Terminal			
M167	35	—	Camera image displayed.	 SKIB2251J

Is the inspection result normal?

YES >> Replace audio unit. Refer to [AV-131. "Removal and Installation"](#).

NO >> Replace rear view camera.

STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

STEERING SWITCH

Diagnosis Procedure

INFOID:0000000011559404

Regarding Wiring Diagram information, refer to [AV-161. "Wiring Diagram"](#).

1.CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

1. Disconnect combination switch connector M102.
2. Check resistance between combination switch connector terminals.

Terminal		Signal name	Condition	Resistance (Ω) (Approx.)
16	18	Volume (down)	Depress  switch.	1
		Volume (up)	Depress  switch.	121
		Phone end	Depress  switch.	321
15	18	Source	Depress SOURCE switch.	1
		Seek (up)	Depress  switch.	121
		Seek (down)	Depress  switch.	321
		Phone/Send	Depress  switch.	723

Do the steering wheel audio control switches check OK?

YES >> GO TO 2.

NO >> Replace steering wheel audio control switch. Refer to [AV-136. "Removal and Installation"](#).

2.CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M165 and combination switch connector M30.
3. Check continuity between audio unit harness connector M165 and combination switch harness connector M30.

Audio unit		Combination switch		Continuity
Connector	Terminal	Connector	Terminal	
M165	6	M30	24	Yes
	15		31	
	16		25	

4. Check continuity between audio unit connector M165 and ground.

Audio unit		—	Continuity
Connector	Terminal		
M165	6	Ground	No
	15		
	16		

Are the continuity results as specified?

YES >> GO TO 3.

NO >> Repair harness.

3.SPIRAL CABLE CHECK

STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

Check continuity between combination switch harness connectors M30 and M102.

Combination switch				Continuity
Connector	Terminal	Connector	Terminal	
M30	24	M102	15	Yes
	31		18	
	25		16	

Does the spiral cable check OK?

YES >> Inspection End.

NO >> Replace spiral cable. Refer to [SR-13, "Removal and Installation"](#).

MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

MICROPHONE SIGNAL CIRCUIT

Description

INFOID:0000000011559405

Voice signals are transmitted from the microphone to the audio unit using the microphone signal circuits.

Diagnosis Procedure

INFOID:0000000011559406

Regarding Wiring Diagram information, refer to [AV-94, "Wiring Diagram"](#).

1.CHECK HARNESS BETWEEN AUDIO UNIT AND MICROPHONE

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M167 and microphone connector R109.
3. Check continuity between audio unit harness connector M167 and microphone harness connector R109.

Audio unit		Microphone		Continuity
Connector	Terminal	Connector	Terminal	
M167	37	R109	2	Yes
	38		4	
	39		1	

4. Check continuity between audio unit harness connector M167 and ground.

Audio unit		—	Continuity
Connector	Terminal		
M167	37	Ground	No
	38		
	39		

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

2.CHECK MICROPHONE POWER SUPPLY

1. Connect audio unit connector M167 and microphone connector R109.
2. Turn ignition switch ON.
3. Check voltage between microphone harness connector R109 terminal 4 and ground.

(+) (V)		(-)	Value (Approx.)
Connector	Terminal		
R109	4	Ground	5V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace audio unit. Refer to [AV-131, "Removal and Installation"](#).

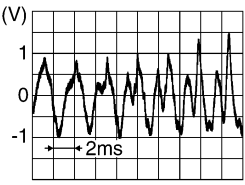
3.CHECK MICROPHONE SIGNAL

Check signal between audio unit harness connector M167 with CONSULT or and oscilloscope.

MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

Connector	(+)	(-)	Reference signal
	Terminal	Terminal	
M167	39	37	While speaking into MIC  SKIB3609E

Is the inspection result normal?

- YES >> Replace audio unit. Refer to [AV-131, "Removal and Installation"](#).
 NO >> Replace microphone. Refer to [AV-140, "Removal and Installation"](#).

USB CONNECTOR

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

USB CONNECTOR

Diagnosis Procedure

INFOID:0000000011559407

Regarding Wiring Diagram information, refer to [AV-94, "Wiring Diagram"](#).

1. CHECK USB INTERFACE HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M166 and USB interface connector M214.
3. Check continuity between audio unit connector M166 and USB interface connector M214.

Audio unit		USB interface		Continuity
Connector	Terminal	Connector	Terminal	
M166	76	M214	1	Yes
	78		3	
	79		4	
	80		5	
	81		6	

4. Check continuity between audio unit connector M166 and ground.

Audio unit		—	Continuity
Connector	Terminal		
M166	78	Ground	No
	80		

Is the inspection result normal?

- YES >> Replace the USB interface. Refer to [AV-139, "Removal and Installation"](#).
NO >> Repair or replace harness or connectors.

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:0000000011559408

RELATED TO AUDIO

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	Audio unit.	Malfunction in audio unit. Refer to AV-85, "On Board Diagnosis Function" .
No sound comes out or the level of the sound is low.	No sound from all speakers.	- Speaker circuit shorted to ground. Refer to AV-94, "Wiring Diagram". - Audio unit power supply and ground circuits malfunction. Refer to AV-111, "AUDIO UNIT : Diagnosis Procedure".
	Only a certain speaker (front door speaker LH, front door speaker RH, front speaker LH, front speaker RH, rear speaker LH, rear speaker RH) does not output sound.	- Poor connector connection of speaker. - Sound signal circuit malfunction between audio unit and speaker. Refer to: AV-113, "Diagnosis Procedure" (front door speaker). AV-115, "Diagnosis Procedure" (front tweeter). AV-117, "Diagnosis Procedure" (rear speaker). AV-119, "Diagnosis Procedure" (rear tweeter). - Malfunction in speaker. Refer to: AV-134, "Removal and Installation" (front door speaker). AV-133, "Removal and Installation" (front tweeter). AV-135, "Removal and Installation" (rear speaker). AV-135, "Removal and Installation" (rear tweeter). - Malfunction in audio unit. Refer to AV-85, "On Board Diagnosis Function".

AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

Symptoms	Check items	Probable malfunction location
Noise is mixed with audio.	Noise comes out from all speakers.	Malfunction in audio unit. Refer to AV-85, "On Board Diagnosis Function" .
	Noise comes out only from a certain speaker (front door speaker LH, front door speaker RH, front speaker LH, front speaker RH, rear speaker LH, rear speaker RH).	- Poor connector connection of speaker. - Sound signal circuit malfunction between audio unit and speaker. Refer to: AV-113, "Diagnosis Procedure" (front door speaker). AV-115, "Diagnosis Procedure" (front tweeter). AV-117, "Diagnosis Procedure" (rear speaker). AV-119, "Diagnosis Procedure" (rear tweeter). - Malfunction in speaker. - Poor Installation of speaker (e.g. backlash and looseness). Refer to: AV-134, "Removal and Installation" (front door speaker). AV-133, "Removal and Installation" (front tweeter). AV-135, "Removal and Installation" (rear speaker). AV-135, "Removal and Installation" (rear tweeter). - Malfunction in audio unit. Refer to AV-85, "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.
No radio reception or poor reception.	- Other audio sounds are normal. - Any radio station cannot be received or poor reception is caused even after moving to a service area with good reception (e.g. a place with clear view and no obstacles generating external noises).	Poor connector connection of antenna.
Buzz/rattle sound from speaker	The majority of buzz/rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the buzz/rattle.	Refer to "SQUEAK AND RATTLE TROUBLE DIAGNOSIS" in the appropriate interior trim section.

RELATED TO 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-121, "Diagnosis Procedure" .
	Camera image signal circuit malfunction.	Camera image signal circuit malfunction between rear view camera and audio unit. Refer to AV-121, "Diagnosis Procedure" .
	Rear view camera malfunction.	Replace rear view camera.

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

NORMAL OPERATING CONDITION

Description

INFOID:000000011559409

RELATED TO NOISE

The majority of the audio concerns are the result of outside causes (bad CD, electromagnetic interference, etc.).

The following noise results from variations in field strength, such as fading noise and multi-path noise, or external noise from trains and other sources. It is not a malfunction:

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

The vehicle itself can be a source of noise if noise prevention parts or electrical equipment is malfunctioning. Check if noise is caused and/or changed by engine speed, ignition switch turned to each position, and operation of each piece of electrical equipment, and determine the cause.

NOTE:

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

Type of Noise and Possible Cause

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

REMOVAL AND INSTALLATION

AUDIO UNIT

Removal and Installation

INFOID:0000000011559410

AUDIO UNIT

Removal

1. Disconnect the battery negative terminal. Refer to [PG-85, "Removal and Installation"](#).
2. Remove the cluster lid D. Refer to [IP-16, "Removal and Installation"](#).
3. Remove the audio unit screws.
4. Pull the audio unit out from the instrument panel.
5. Disconnect the harness connectors from the audio unit 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

SATELLITE RADIO ANTENNA

< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

SATELLITE RADIO ANTENNA

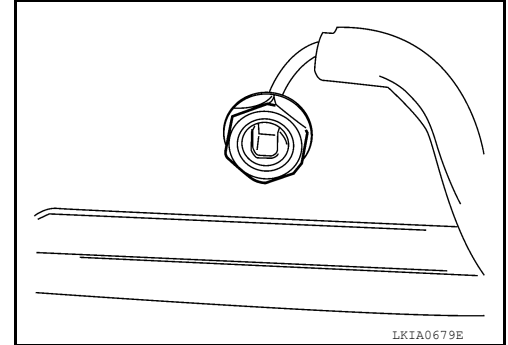
Removal and Installation

INFOID:0000000011559411

SATELLITE RADIO ANTENNA

Removal

1. Lower the headliner. Refer to [INT-22. "Removal and Installation"](#).
2. Disconnect the satellite radio antenna connector.
3. Remove the satellite radio antenna nut.
4. Remove the satellite radio antenna.



Installation

Installation is in the reverse order of removal.

FRONT TWEETER

< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

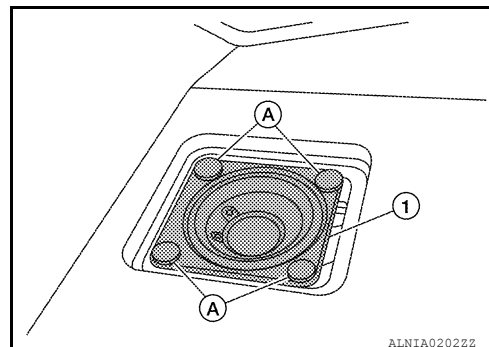
FRONT TWEETER

Removal and Installation

INFOID:0000000011559412

REMOVAL

1. Remove front tweeter speaker grille using a suitable tool.
2. Remove the front tweeter clips (A).
3. Disconnect the harness connector from the front tweeter (1) 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

FRONT DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

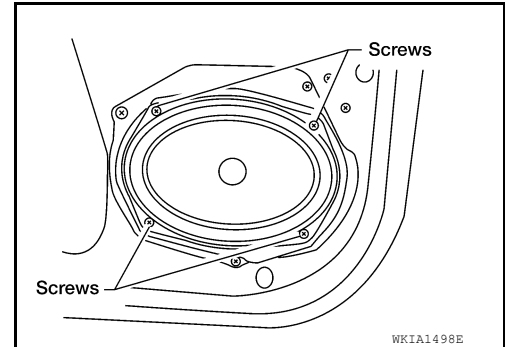
FRONT DOOR SPEAKER

Removal and Installation

INFOID:000000011559413

REMOVAL

1. Remove the front door finisher. Refer to [INT-10, "Removal and Installation"](#).
2. Remove the front door speaker screws.
3. Disconnect the harness connector from the front door speaker and remove.



INSTALLATION

Installation is in the reverse order of removal.

REAR DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

REAR DOOR SPEAKER

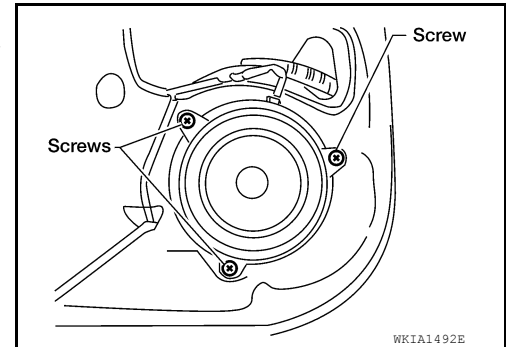
Removal and Installation

INFOID:0000000011559414

REAR DOOR SPEAKER

Removal

1. Remove the rear door finisher. Refer to [INT-10, "Removal and Installation"](#) (Crew Cab) or [INT-10, "Removal and Installation"](#) (King Cab).
2. Remove the rear door speaker screws.
3. Disconnect the harness connector from the rear door speaker and remove.



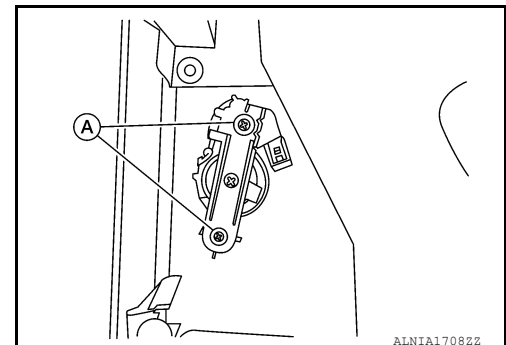
Installation

Installation is in the reverse order of removal.

REAR DOOR TWEETER

Removal

1. Remove the rear door finisher. Refer to [INT-10, "Removal and Installation"](#).
2. Remove the rear door tweeter screws (A).
3. Disconnect the harness connector from the rear door tweeter 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

STEERING SWITCH

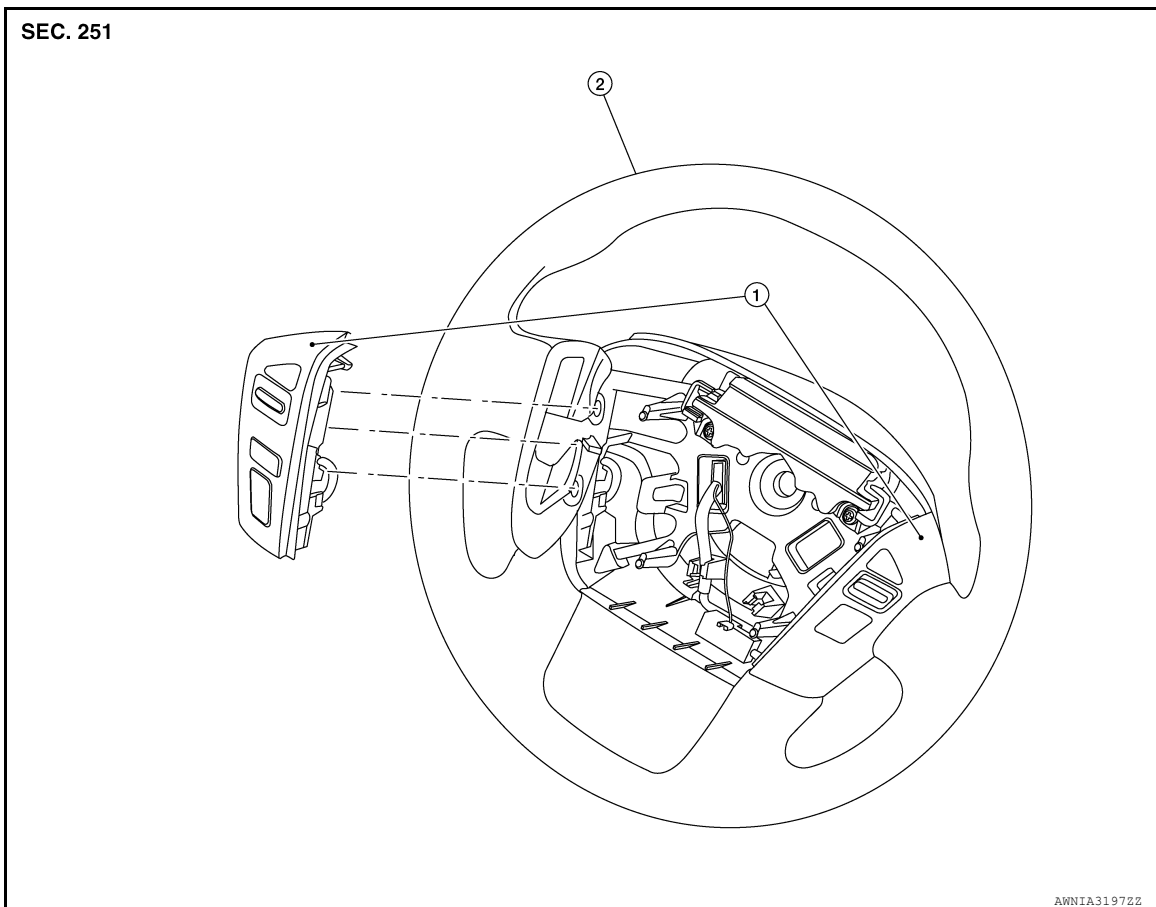
< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

STEERING SWITCH

Removal and Installation

INFOID:0000000011559415



1. Steering wheel audio control switches 2. Steering wheel

STEERING WHEEL AUDIO CONTROL SWITCHES

Removal

1. Remove the steering wheel. Refer to [ST-22. "Removal and Installation"](#).
2. Remove the steering wheel rear cover screws and the steering wheel rear cover.
3. Remove the steering wheel switch assembly screws and the steering wheel switches.

Installation

Installation is in the reverse order of removal.

AUDIO ANTENNA

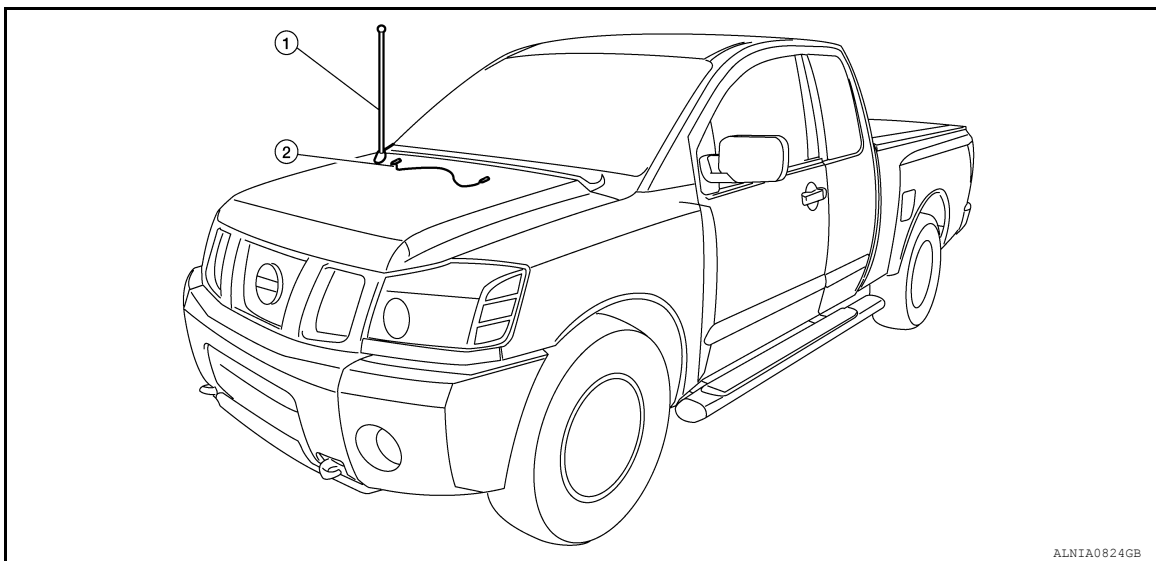
< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

AUDIO ANTENNA

Location of Antenna

INFOID:0000000011559416



1. Antenna

2. Main feeder cable

Removal and Installation

INFOID:0000000011559417

REMOVAL

1. Remove audio antenna rod.
2. Remove audio antenna rubber seal.
3. Remove fender protector (RH). Refer to [EXT-24, "Removal and Installation"](#).
4. Remove audio antenna assembly bolts.
5. Disconnect the audio antenna feeder from the audio antenna assembly.
6. Remove audio antenna assembly from the vehicle.

INSTALLATION

- Installation is in the reverse order of removal.
- Tighten audio antenna rod to specification.

Audio antenna rod : 3.5 N·m (0.36 kg-m, 31 in-lb)

CAUTION:

Always properly tighten the audio antenna rod during installation or the audio antenna rod may bend or break during vehicle operation.

AV

AUXILIARY INPUT JACK

< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

AUXILIARY INPUT JACK

Removal and Installation

INFOID:0000000011875296

REMOVAL

1. Remove the center console. Refer to [IP-21. "Removal and Installation"](#).
2. Remove the auxiliary input jack.

INSTALLATION

Installation is in the reverse order of removal.

USB CONNECTOR

Removal and Installation

INFOID:0000000011559418

REMOVAL

1. Remove the center console assembly. Refer to [IP-21. "Removal and Installation"](#).
2. Push the pawl from the back of the center console to remove the USB interface.

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

MICROPHONE

< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

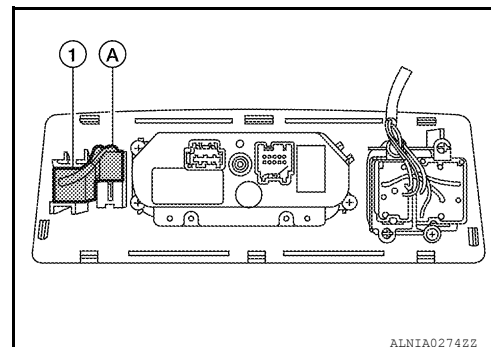
MICROPHONE

Removal and Installation

INFOID:0000000011559419

REMOVAL

1. Remove the front roof console finisher. Refer to [INT-22. "Removal and Installation"](#).
2. Disconnect the harness connector (A) from the microphone (1).
3. Detach the microphone (1) from the front roof console finisher.



INSTALLATION

Installation is in the reverse order of removal.

REAR VIEW CAMERA

< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITHOUT AMPLIFIER]

REAR VIEW CAMERA

Removal and Installation

INFOID:0000000011559422

REMOVAL

1. Remove the tail gate handle. Refer to [DLK-137, "Exploded View"](#).
2. Remove the rear view camera screws and the rear view camera from the tail gate handle.

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

PRECAUTION

PRECAUTIONS

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

INFOID:0000000011559423

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the 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 Trouble Diagnosis

INFOID:0000000011559424

AV COMMUNICATION SYSTEM

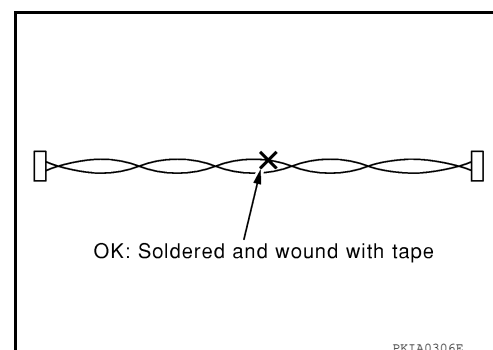
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

INFOID:0000000011559425

AV COMMUNICATION SYSTEM

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

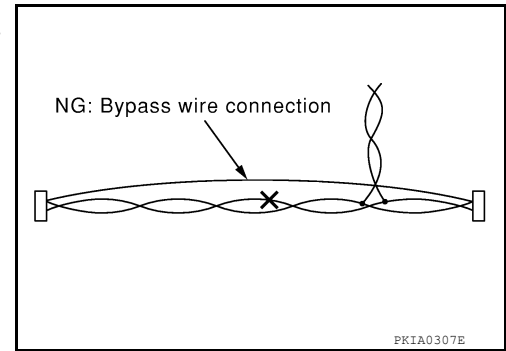


PRECAUTIONS

< PRECAUTION >

[DISPLAY AUDIO WITH AMPLIFIER]

- 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:0000000011559426

- 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 WITH AMPLIFIER]

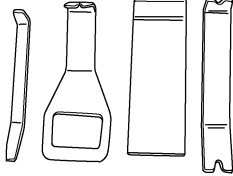
PREPARATION

PREPARATION

Special Service Tools

INFOID:0000000011559427

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

Tool number (TechMate No.) Tool name	Description
— (J-46534) Trim Tool Set  AWJIA04832Z	Removing trim components

Commercial Service Tools

INFOID:0000000011559428

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

COMPONENT PARTS

< SYSTEM DESCRIPTION >

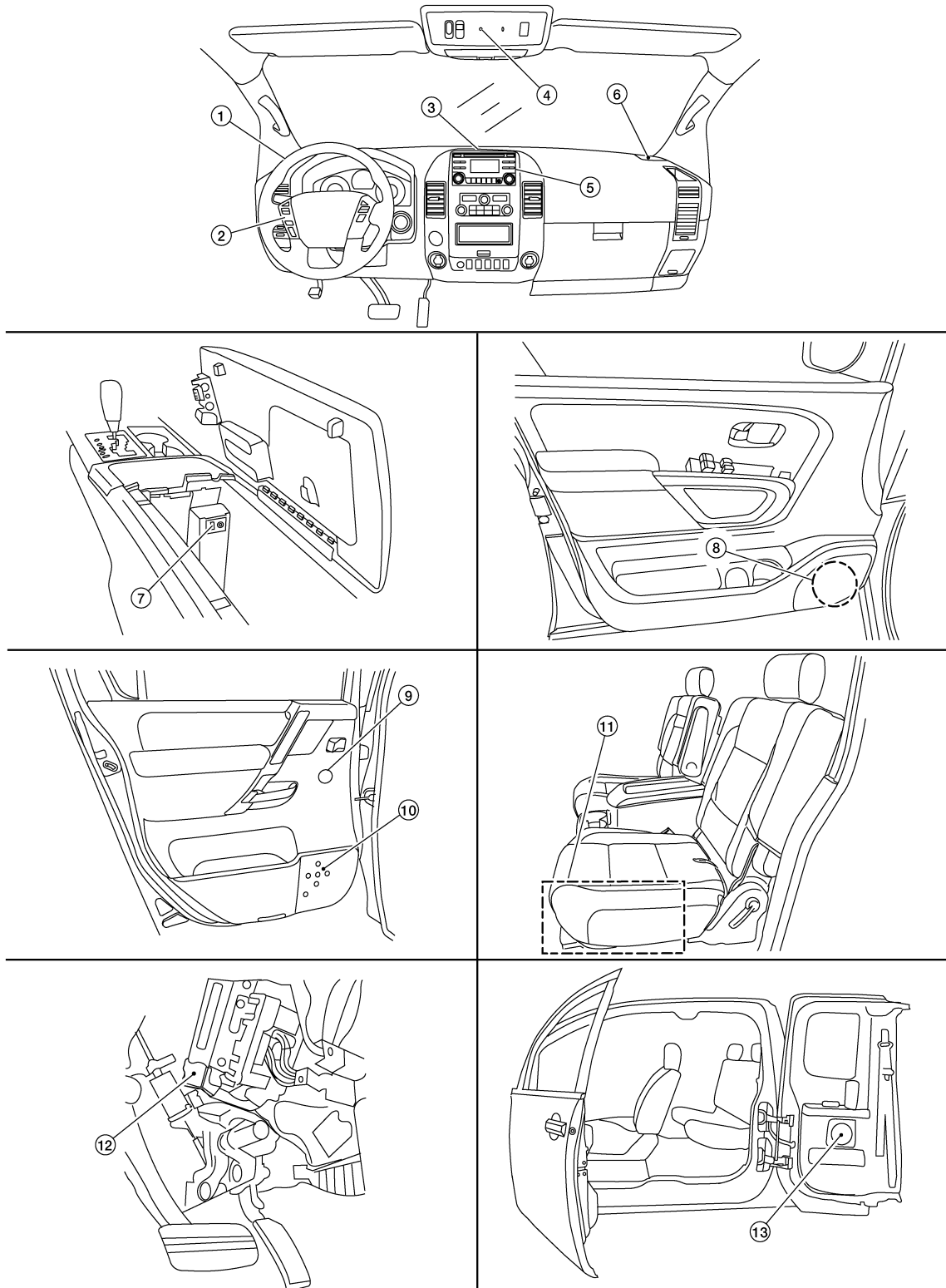
[DISPLAY AUDIO WITH AMPLIFIER]

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000011559429



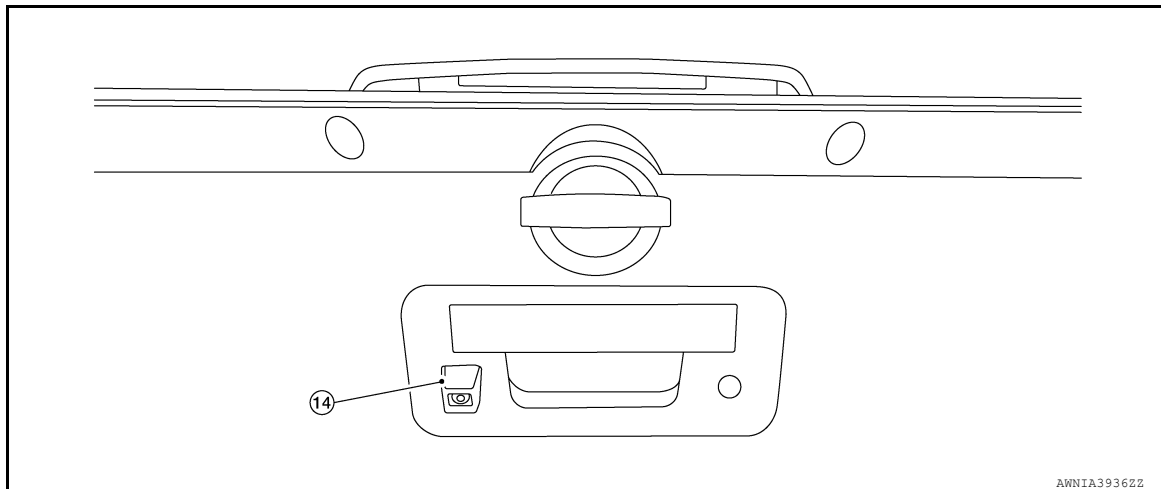
AWNIA39432Z

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

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[DISPLAY AUDIO WITH AMPLIFIER]



1. Front tweeter LH M109	2. Steering wheel audio control switches	3. Center speaker M110
4. Microphone R109	5. Audio unit M171, M172, M175, M188	6. Front tweeter RH M111
7. USB Interface M214	8. Front door speaker LH D12 RH D112	9. Rear door tweeter (crew cab) LH D208 RH D308
10. Rear door speaker (crew cab) LH D207 RH D307	11. Subwoofer B72	12. Audio amp. M112, M113
13. Rear door speaker (king cab) LH B76 RH B159	14. Rear view camera T2	

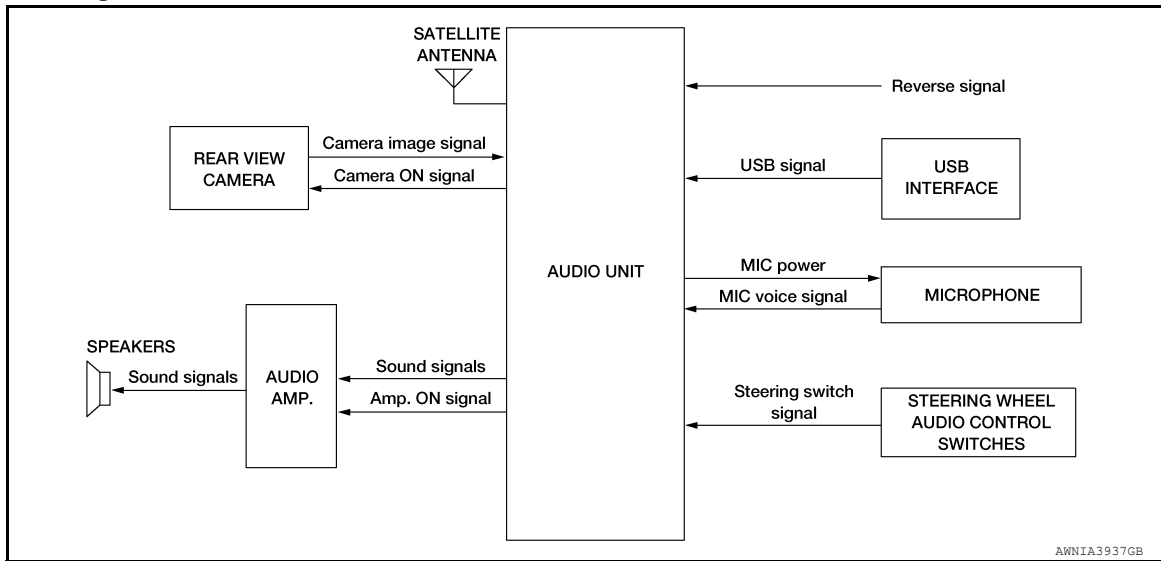
Component Description

INFOID:0000000011559430

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

SYSTEM

System Diagram



System Description

INFOID:0000000011559432

AUDIO SYSTEM

The audio system consists of the following components:

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

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

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

Audio unit

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

Steering Switches

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

The following functions can be performed using the steering switches:

- Start a voice recognition session
- Record memos
- Adjust the volume of the audio unit

Microphone

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

REAR VIEW CAMERA SYSTEM

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

DIAGNOSIS SYSTEM (AUDIO UNIT)

< SYSTEM DESCRIPTION >

[DISPLAY AUDIO WITH AMPLIFIER]

DIAGNOSIS SYSTEM (AUDIO UNIT)

Description

INFOID:0000000011559433

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

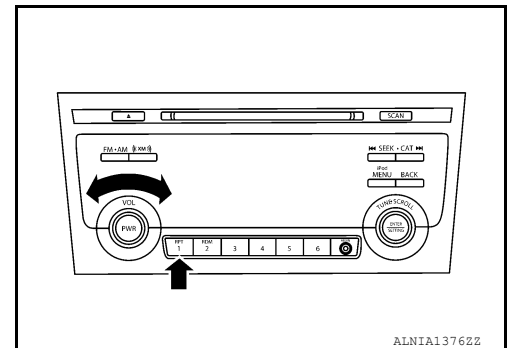
Mode		Description
Self Diagnosis		• Audio unit diagnosis. • Diagnoses the connections across system components.
Confirmation/ Adjustment	Display Diagnosis	The following check functions are available: color tone check by color bar display and white display, light and shade check by gray scale display.
	Vehicle Signals	Diagnosis of signals can be performed for vehicle speed, lights, reverse, EQ pin, destination and camera type.
	Speaker Test	The connection of a speaker can be confirmed by test tone.
	Error History	The system malfunction and the frequency when occurring in the past are displayed. When the malfunctioning item is selected, the time and place that the selected malfunction last occurred are displayed.
	Camera System	Guiding line position that overlaps rear view camera image can be adjusted.
	AV COMM Diagnosis	The communication condition of each unit of display audio system can be monitored.
	Delete Unit Connection Log	Erase the connection history of unit and error history.
	Initialize Setting	Initializes the audio unit memory.

On Board Diagnosis Function

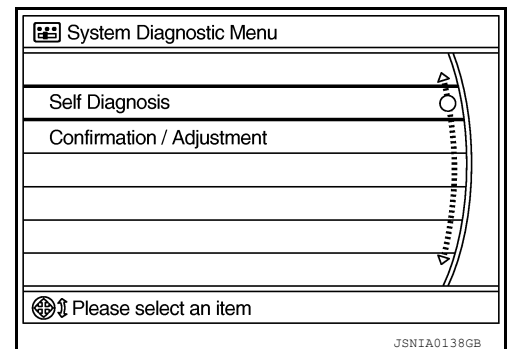
INFOID:0000000011559434

METHOD OF STARTING

1. Turn the ignition ON.
2. Turn the audio system OFF.
3. While pressing the preset 1 button, turn the volume control dial clockwise or counterclockwise for 40 clicks or more. When self-diagnosis mode begins, a short beep will be heard. Shifting from current screen to previous screen is performed by pressing BACK button.



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



SELF DIAGNOSIS MODE

Audio Unit Self Diagnosis

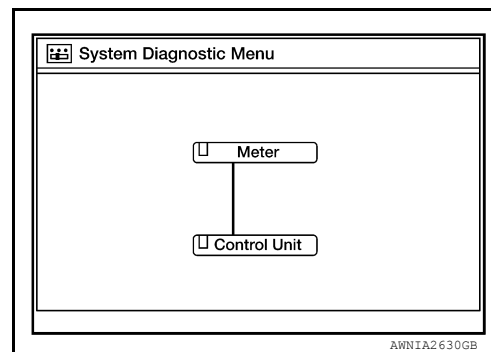
1. Select Self Diagnosis.

DIAGNOSIS SYSTEM (AUDIO UNIT)

< SYSTEM DESCRIPTION >

[DISPLAY AUDIO WITH AMPLIFIER]

- 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.

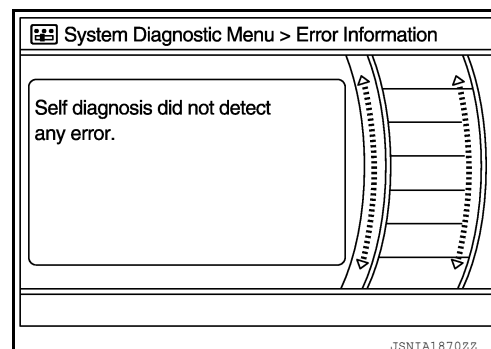


Diagnosis results	Unit	Connection line
Normal	Green	Green
Connection malfunction	Gray	Yellow
Unit malfunction ¹	Red	Green

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-213, "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.	- Audio unit power supply or ground circuits. Refer to AV-179, "AUDIO UNIT : Diagnosis Procedure". - If no malfunction is detected in audio unit power supply and ground circuits, replace audio unit. Refer to AV-213, "Removal and Installation".

A Connecting Cable Between Units Is Displayed In Yellow		
Area with yellow connection lines	Description	Possible cause
Control unit ↔ Meter	When one of the following is detected: - malfunction is detected in combination meter power supply and ground circuits. - malfunction is detected in AV communication circuits between audio unit and combination meter.	- Combination meter power supply or ground circuits. Refer to MWI-33, "COMBINATION METER : Diagnosis Procedure". - AV communication circuits between audio unit and combination meter.

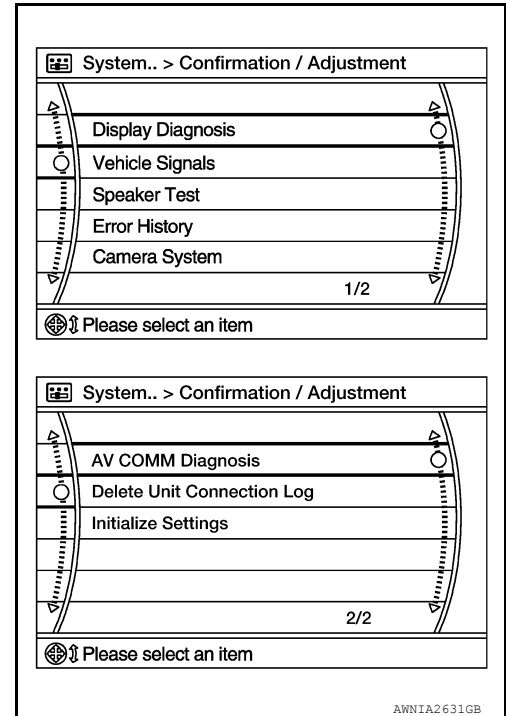
DIAGNOSIS SYSTEM (AUDIO UNIT)

< SYSTEM DESCRIPTION >

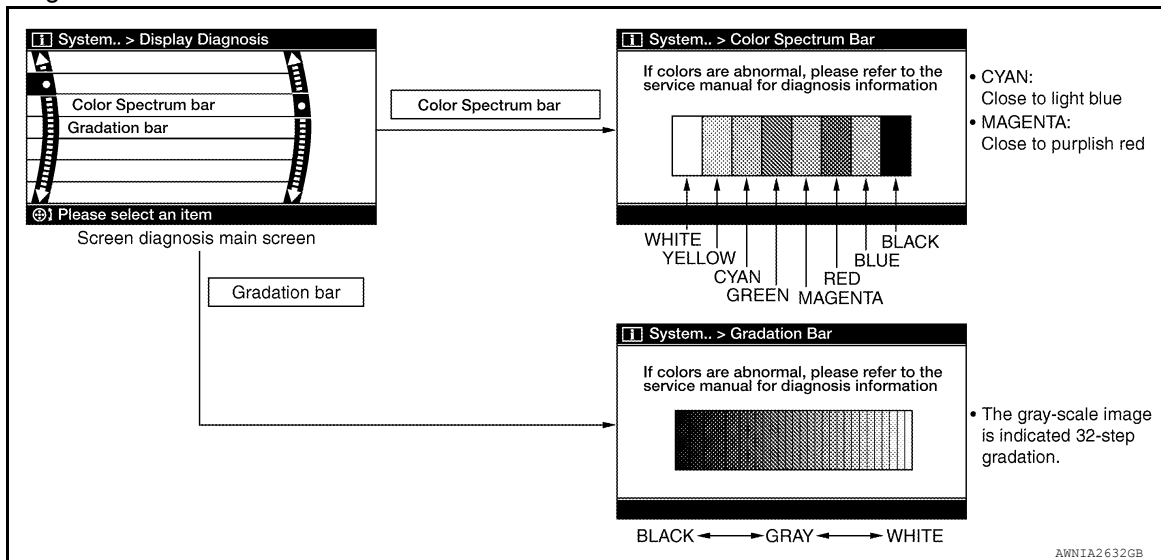
[DISPLAY AUDIO WITH AMPLIFIER]

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.

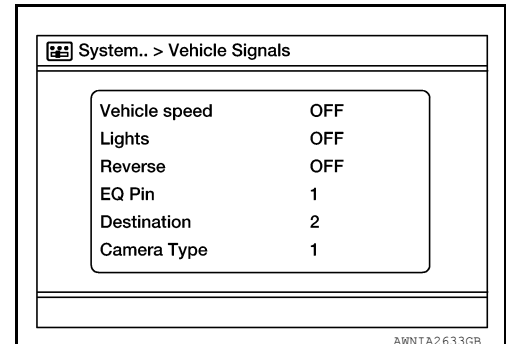


Display Diagnosis



Vehicle Signals

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



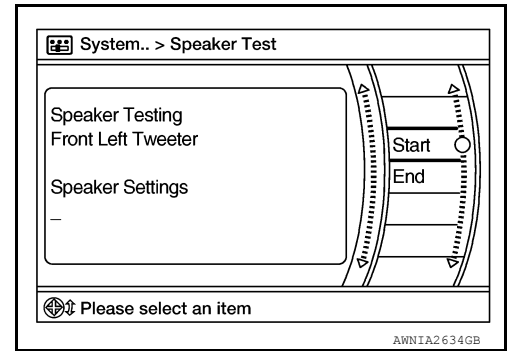
Speaker Test

DIAGNOSIS SYSTEM (AUDIO UNIT)

< SYSTEM DESCRIPTION >

[DISPLAY AUDIO WITH AMPLIFIER]

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.

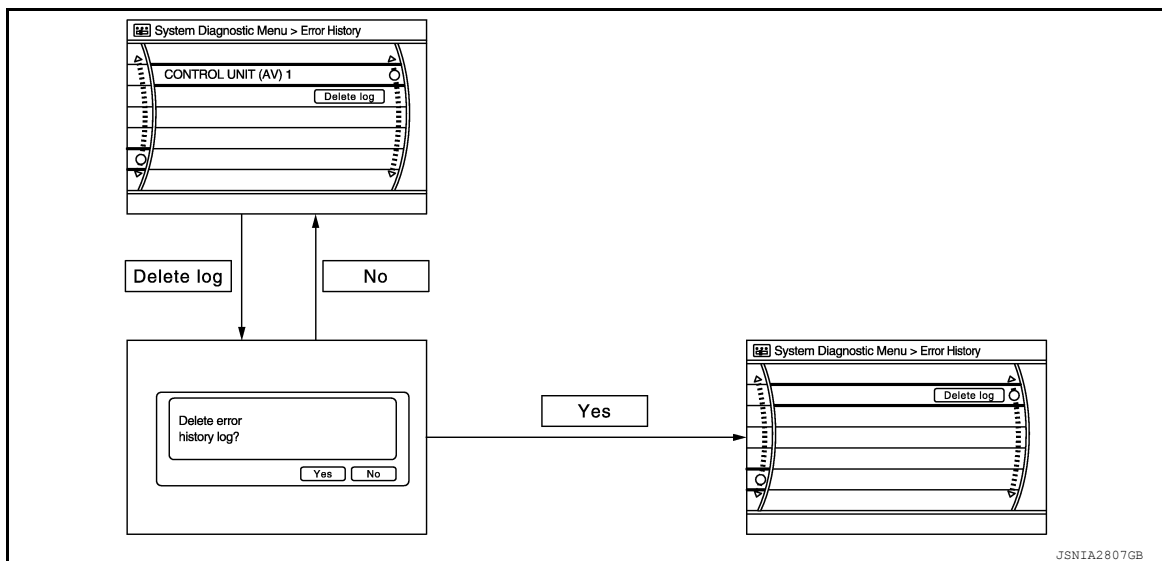
Count up method A

- 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

DIAGNOSIS SYSTEM (AUDIO UNIT)

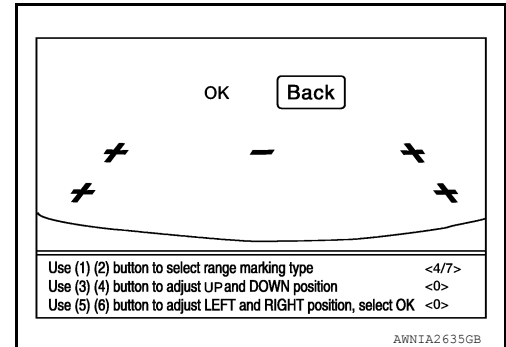
< SYSTEM DESCRIPTION >

[DISPLAY AUDIO WITH AMPLIFIER]

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-213, "Removal and Installation" .
AV COMM CIRCUIT	When one of the following is detected: - malfunction is detected in combination meter power supply and ground circuits. - malfunction is detected in AV communication circuits between audio unit and combination meter.	- Combination meter power supply or ground circuits. Refer to MWI-33, "COMBINATION METER : Diagnosis Procedure". - AV communication circuits between audio unit and combination meter.

Camera System

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



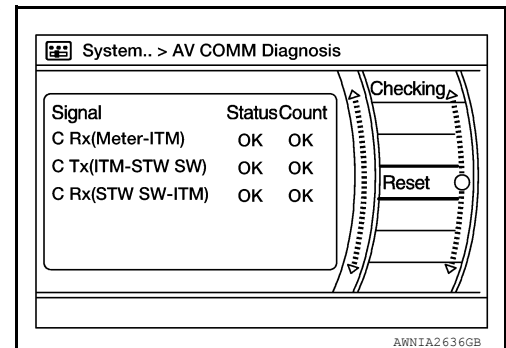
AV COMM Diagnosis

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

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

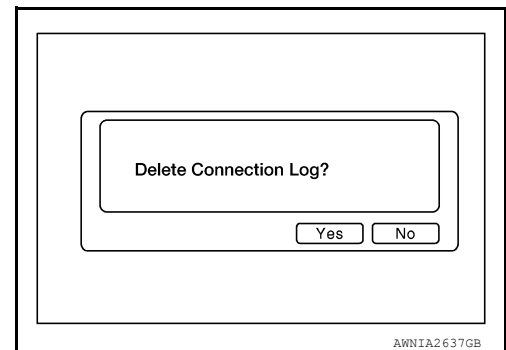
NOTE:

"???" indicates UNKWN.



Delete Unit Connection Log

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



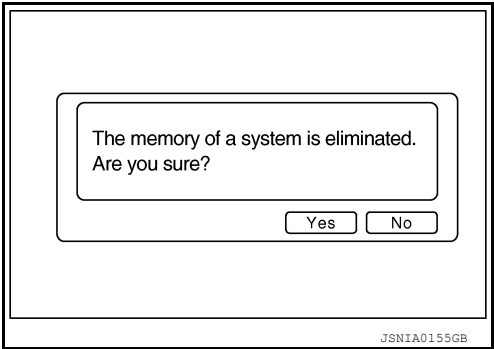
Initialize Settings

DIAGNOSIS SYSTEM (AUDIO UNIT)

< SYSTEM DESCRIPTION >

[DISPLAY AUDIO WITH AMPLIFIER]

Deletes data stored from the audio unit.



AUDIO UNIT

< ECU DIAGNOSIS INFORMATION >

[DISPLAY AUDIO WITH AMPLIFIER]

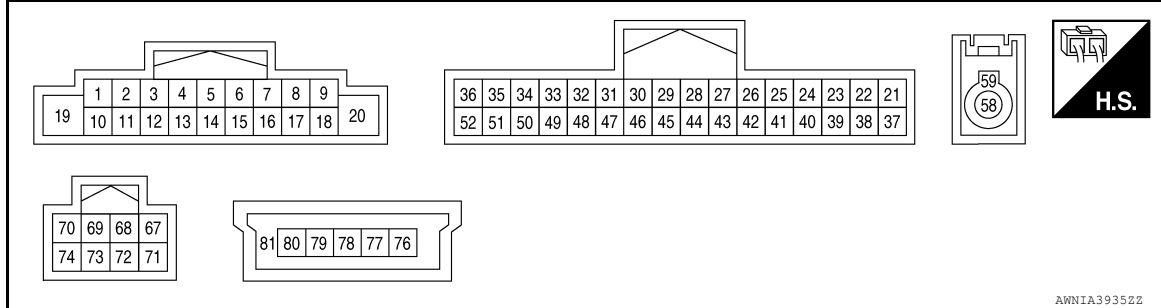
ECU DIAGNOSIS INFORMATION

AUDIO UNIT

Reference Value

INFOID:0000000011559435

TERMINAL LAYOUT



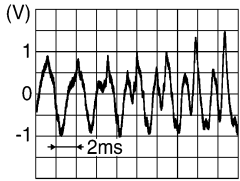
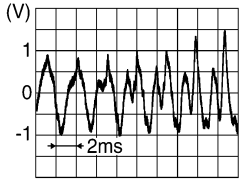
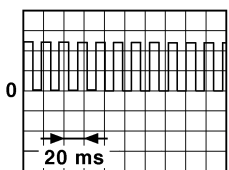
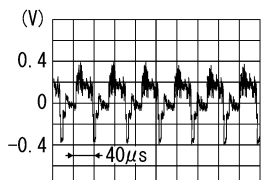
PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
1 (G/W)	Ground	Amp. ON signal	Output	ACC	—	Battery voltage
2 (Y)	3 (BR)	Sound signal front speaker LH	Output	ON	Sound output	 SKIB3609E
4 (BR)	5 (B/R)	Sound signal rear speaker LH	Output	ON	Sound output	 SKIB3609E
6 (R)	15 (Y)	Steering switch signal A	Input	Ignition switch ON	Keep pressing SOURCE switch.	0 V
					Keep pressing MENU UP switch.	1.0 V
					Keep pressing MENU DOWN switch.	2.0 V
					Keep pressing switch	3.0 V
					Keep pressing ENTER switch.	4.0 V
					Except for above.	5.0 V
7 (V)	Ground	ACC power supply	Input	ACC	—	Battery voltage
9 (R/L)	8 (BR)	Illumination control signal	Input	ON	Headlamps ON	Battery voltage

AUDIO UNIT

< ECU DIAGNOSIS INFORMATION >

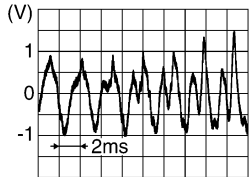
[DISPLAY AUDIO WITH AMPLIFIER]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
11 (W)	12 (B)	Sound signal front speaker RH	Output	ON	Sound output	 SKIB3609E
13 (L)	14 (B/W)	Sound signal rear speaker RH	Output	ON	Sound output	 SKIB3609E
16 (G)	15 (Y)	Steering switch signal B	Input	Ignition switch ON	Keep pressing VOL DOWN switch.	0 V
					Keep pressing VOL UP switch.	1.0 V
					Keep pressing  switch.	2.0 V
					Keep pressing  switch.	3.0 V
					Except for above.	5.0 V
18 (W/R)	Ground	Vehicle speed signal	Input	ON	When vehicle speed is approx. 40 km/h (25 MPH)	 JSNIA0012GB
19 (Y)	Ground	Battery power supply	Input	OFF	—	Battery voltage
20 (B)	Ground	Ground	—	ON	—	0 V
33 (B)	Ground	Ground	—	ON	—	0 V
34 (W)	—	Camera ON	Input/ Output	—	—	—
35 (R)	Ground	Rear view camera video in (+)	Input	Ignition switch ON	With rear view camera ON	 SKIB2251J
36 (Shield)	Shield	Comp –	Input/ Output	—	—	—

AUDIO UNIT

< ECU DIAGNOSIS INFORMATION >

[DISPLAY AUDIO WITH AMPLIFIER]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)	
+	—	Signal name	Input/ Output	Ignition switch	Operation		
37 (Shield)	—	MIC ground	—	—	—	0 V	A
38 (B)	39 (R/W)	MIC signal	Input	ON	—	 SKIB3609E	B
44 (G)	Ground	Camera det	—	ON	—	0 V	C
45 (B)	Ground	EQ2 port 2	—	ON	—	0 V	D
46 (B)	Ground	EQ2 port 2	—	ON	—	0 V	E
47 (B)	Ground	EQ3 port 3	—	ON	—	0 V	F
48 (B)	Ground	EQ4 port 4	—	ON	—	0 V	G
50 (G/W)	Ground	Reverse signal	Input	ON	Selector lever in R (re- verse)	Battery voltage	H
					Selector lever in any position other than R (reverse)	0 V	I
58 (B)	—	Satellite antenna signal	—	—	—	—	J
59 (B)	—	Shield	—	—	—	—	K
67 (Shield)	—	AUX in shield	Input	—	—	—	L
68 (R)	—	AUX in ground	—	—	—	—	M
69 (B)	—	Audio R	Input	—	—	—	
70 (B)	—	Audio L	Input	—	—	—	
76 (B)	—	USB ground	—	—	—	—	AV
78 (G)	—	USB D+	—	—	—	—	
79 (W)	—	USB D-	—	—	—	—	O
80 (R)	—	V BUS signal	—	—	—	—	P
81 (Shield)	—	Shield	—	—	—	—	

AUDIO AMP

< ECU DIAGNOSIS INFORMATION >

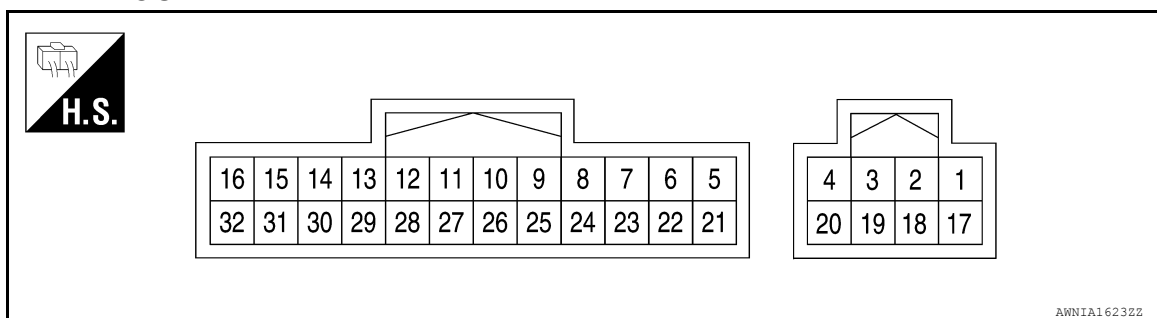
[DISPLAY AUDIO WITH AMPLIFIER]

AUDIO AMP

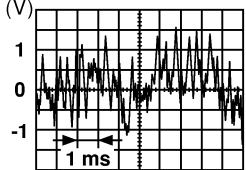
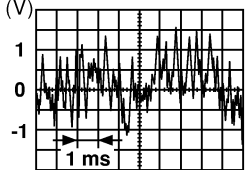
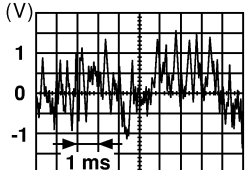
Reference Value

INFOID:0000000011559436

TERMINAL LAYOUT



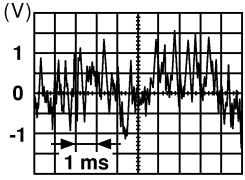
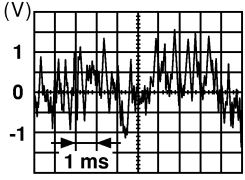
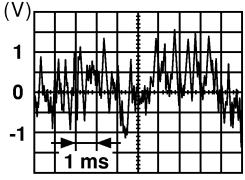
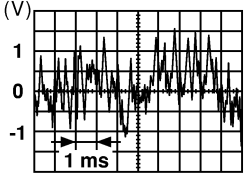
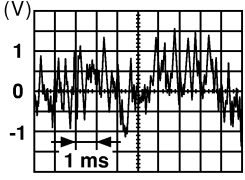
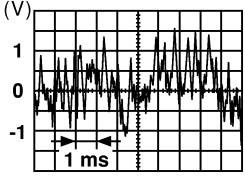
PHYSICAL VALUES

Terminal (wire color)		Item	Signal input/ output	Condition		Reference value (Approx.)
+	-					
1 (Y)	Ground	Battery	Input	-	-	Battery voltage
2 (W)	18 (B)	Subwoofer	Output	Ignition switch ON	Receive audio sig- nal	 SKIA0177E
3 (BR/W)	19 (BR)	Subwoofer	Output	Ignition switch ON	Receive audio sig- nal	 SKIA0177E
4 (B)	Ground	Ground	-	Ignition switch ON	-	-
9 (G/W)	Ground	Amp. ON signal	Input	Ignition switch ON	-	More than 6.5V
10 (L/W)	26 (L/B)	Center speaker	Output	Ignition switch ON	Receive audio sig- nal	 SKIA0177E

AUDIO AMP

< ECU DIAGNOSIS INFORMATION >

[DISPLAY AUDIO WITH AMPLIFIER]

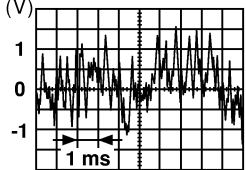
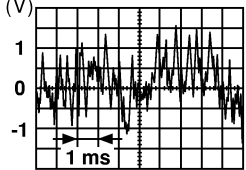
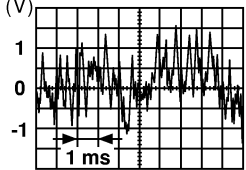
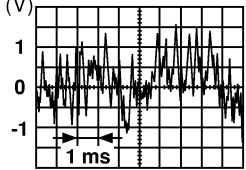
Terminal (wire color)		Item	Signal input/ output	Condition		Reference value (Approx.)
+	-					
11 (SB)	27 (B/Y)	Rear door speaker LH and rear door tweeter LH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
12 (O/L)	28 (R/L)	Rear door speaker RH and rear door tweeter RH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
13 (W/B)	29 (L/B)	Front door tweeter RH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
14 (L/W)	30 (L/R)	Front tweeter LH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
15 (L/W)	31 (L/R)	Front door speaker LH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
16 (W/B)	32 (L/B)	Front door speaker RH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
17 (Y/G)	Ground	Battery	Input	-	-	Battery voltage
20 (B)	Ground	Ground	-	Ignition switch ON	-	-

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

AUDIO AMP

< ECU DIAGNOSIS INFORMATION >

[DISPLAY AUDIO WITH AMPLIFIER]

Terminal (wire color)		Item	Signal input/ output	Condition		Reference value (Approx.)
+	-					
21 (W)	5 (B)	Audio sound sig- nal front RH	Input	Ignition switch ON	Receive audio sig- nal	 SKIA0177E
22 (Y)	6 (BR)	Audio sound sig- nal front LH	Input	Ignition switch ON	Receive audio sig- nal	 SKIA0177E
23 (L)	7 (B/W)	Audio sound sig- nal rear RH	Input	Ignition switch ON	Receive audio sig- nal	 SKIA0177E
24 (BR)	8 (B/R)	Audio sound sig- nal rear LH	Input	Ignition switch ON	Receive audio sig- nal	 SKIA0177E

DISPLAY AUDIO WITH AMPLIFIER

[DISPLAY AUDIO WITH AMPLIFIER]

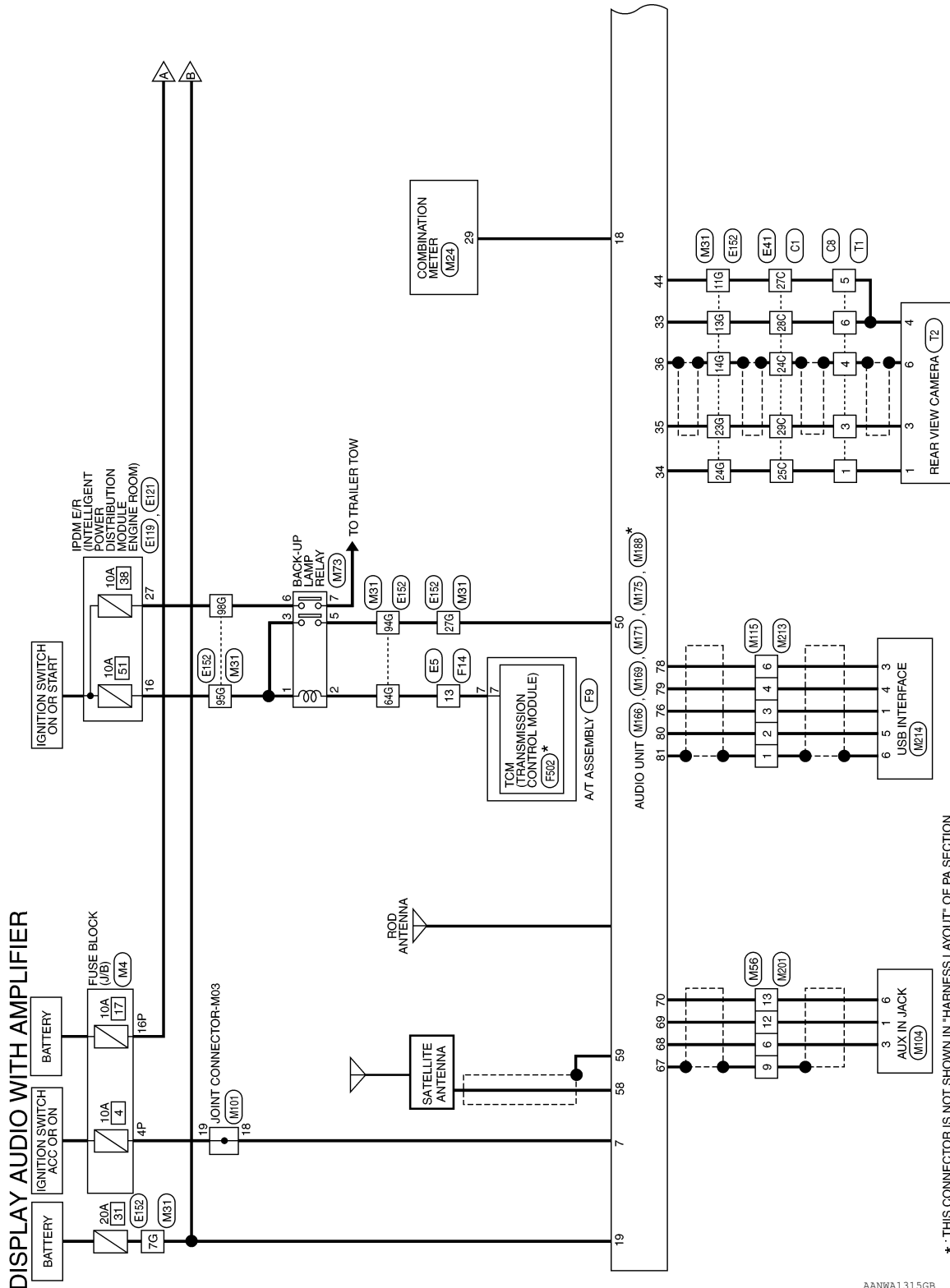
< WIRING DIAGRAM >

WIRING DIAGRAM

DISPLAY AUDIO WITH AMPLIFIER

Wiring Diagram

INFOID:0000000011559438



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

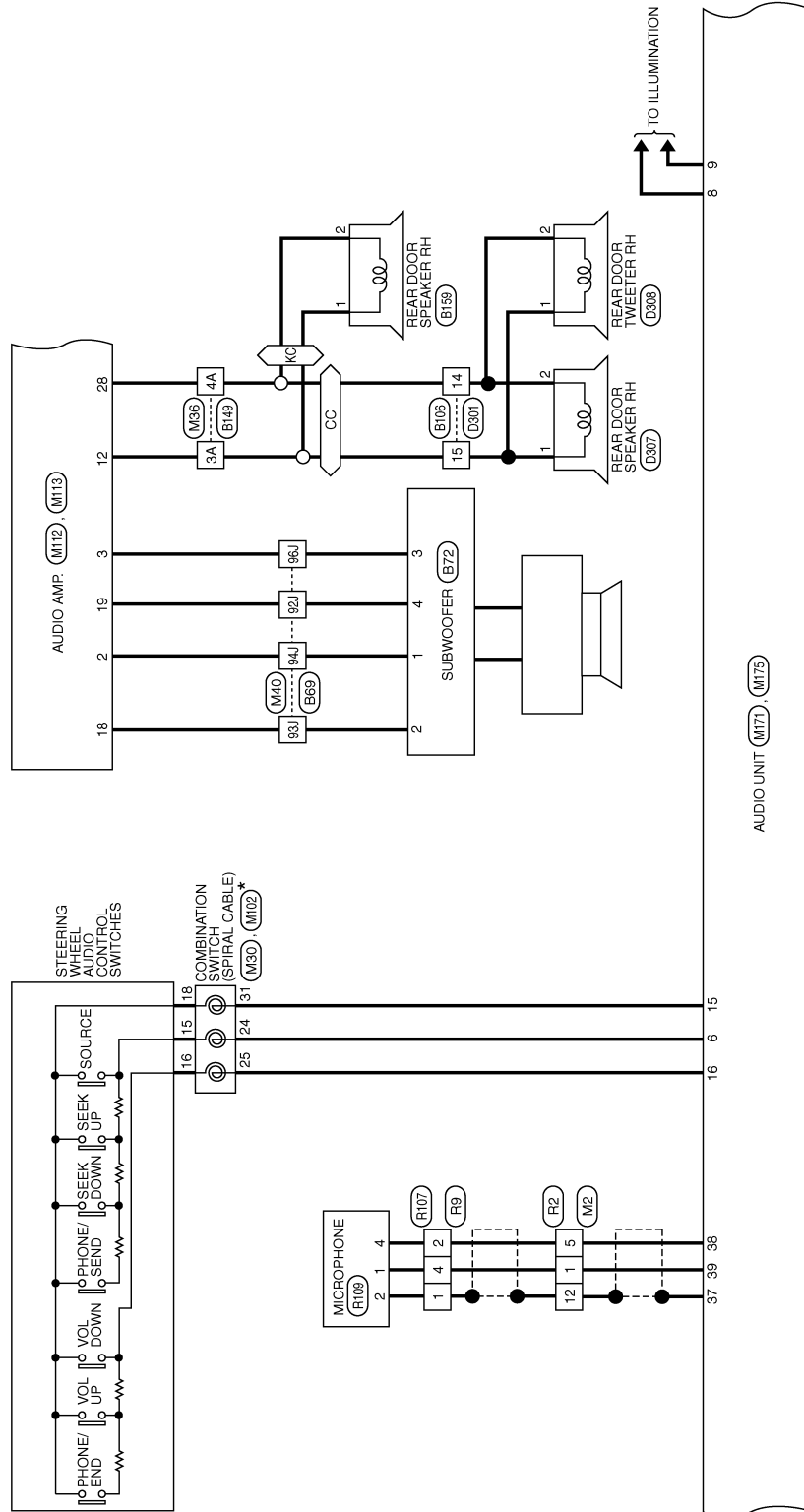
AANWA1 31 5GB

DISPLAY AUDIO WITH AMPLIFIER

< WIRING DIAGRAM >

[DISPLAY AUDIO WITH AMPLIFIER]

CC : CREW CAB
KC : KING CAB



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

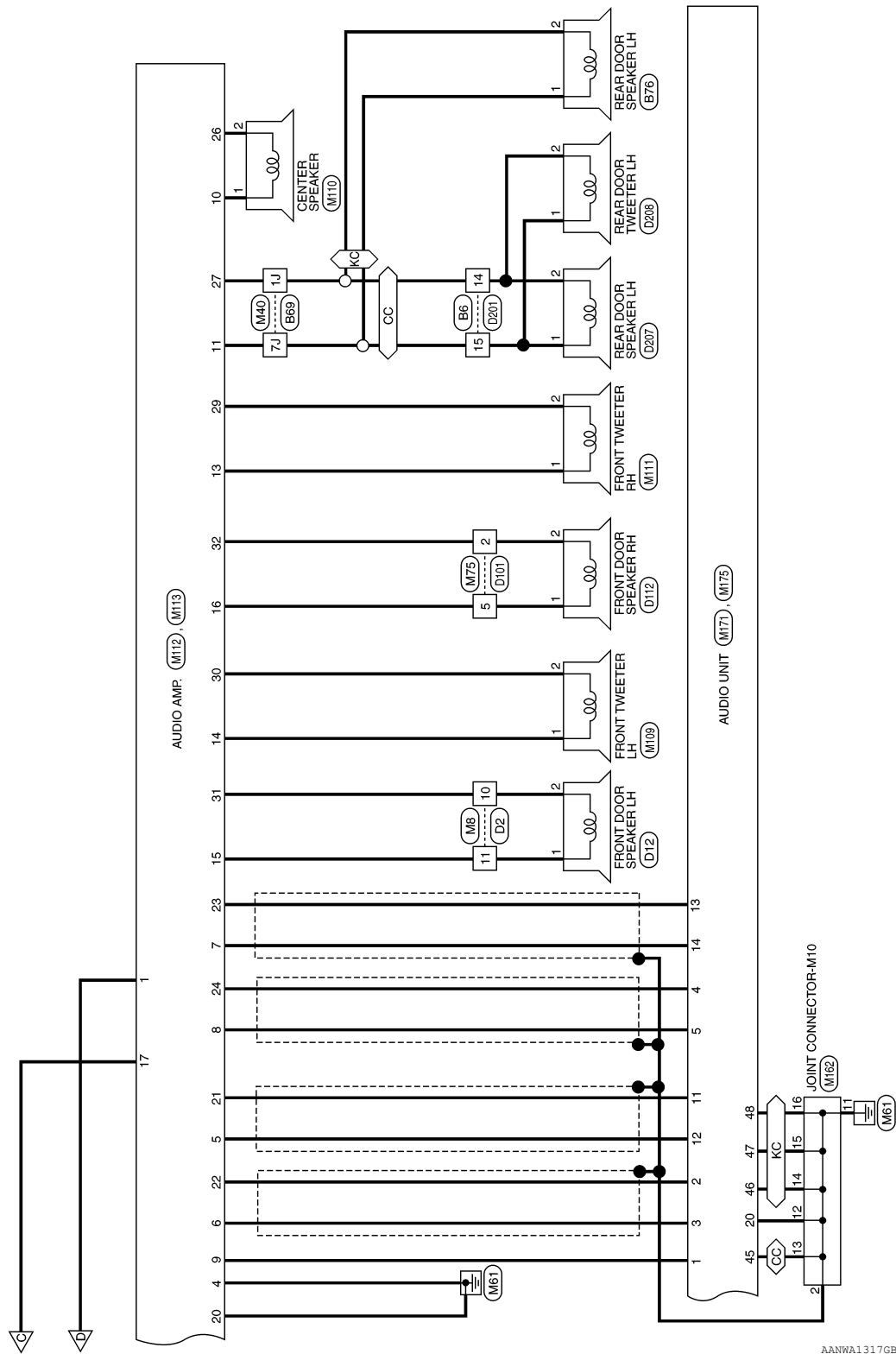
AANWA1316GB

DISPLAY AUDIO WITH AMPLIFIER

< WIRING DIAGRAM >

[DISPLAY AUDIO WITH AMPLIFIER]

CC : CREW CAB
KC : KING CAB



AANWA1317GB

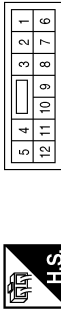
DISPLAY AUDIO WITH AMPLIFIER

< WIRING DIAGRAM >

[DISPLAY AUDIO WITH AMPLIFIER]

DISPLAY AUDIO WITH AMPLIFIER CONNECTORS

Connector No.	M2
Connector Name	WIRE TO WIRE
Connector Color	WHITE



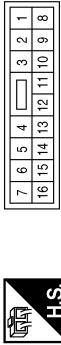
Terminal No.	Color of Wire	Signal Name
1	R/W	– (WITHOUT NAVI)
5	B	– (WITHOUT NAVI)
12	SHIELD	–

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



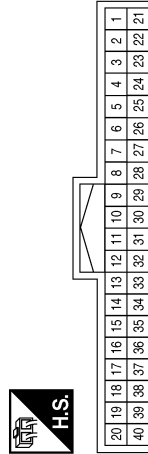
Terminal No.	Color of Wire	Signal Name
4P	V	–
16P	Y/G	–

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



Terminal No.	Color of Wire	Signal Name
10	L/R	–
11	L/W	–

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
29	W/R	SPEED OUT

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

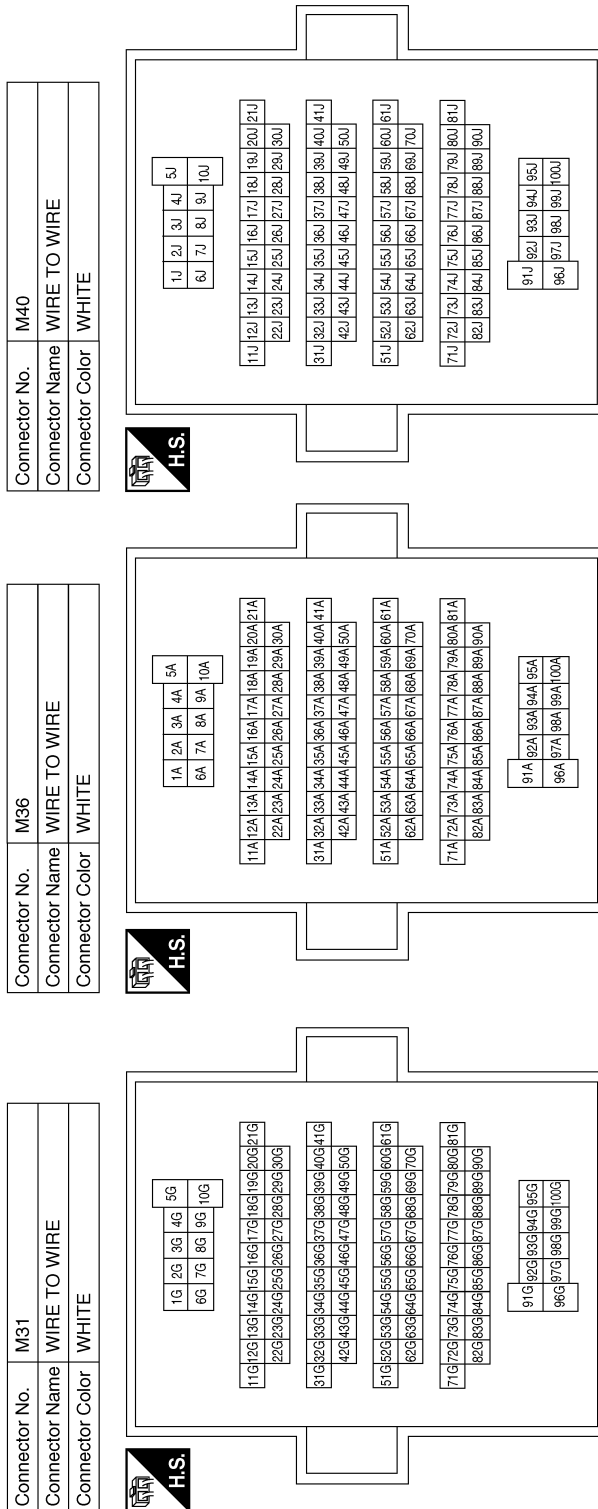


Terminal No.	Color of Wire	Signal Name
24	R/G	– (WITHOUT NAVI)
25	G/W	– (WITHOUT NAVI)
31	Y/R	– (WITHOUT NAVI)

DISPLAY AUDIO WITH AMPLIFIER

< WIRING DIAGRAM >

[DISPLAY AUDIO WITH AMPLIFIER]



Terminal No.	Color of Wire	Signal Name
1J	B/Y	-
7J	SB	-
92J	BR	-
93J	B	-
94J	W	-
96J	BR/W	-

Terminal No.	Color of Wire	Signal Name
3A	O/L	-
4A	R/L	-

Terminal No.	Color of Wire	Signal Name
7G	Y	-
11G	G	-
13G	B	-
14G	SHIELD	-
23G	R	-
24G	W	-
27G	G/W	-
64G	R	-
94G	G/W	-
95G	G	-
98G	W/B	-

AANIA3677GB

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

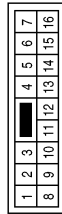
AV

DISPLAY AUDIO WITH AMPLIFIER

< WIRING DIAGRAM >

[DISPLAY AUDIO WITH AMPLIFIER]

Connector No.	M56
Connector Name	WIRE TO WIRE
Connector Color	WHITE



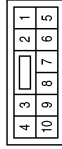
Terminal No.	Color of Wire	Signal Name
6	R	-
9	SHIELD	-
12	B	-
13	W	-

Connector No.	M73
Connector Name	BACK-UP LAMP RELAY
Connector Color	BROWN



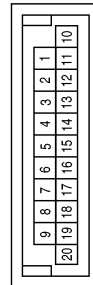
Terminal No.	Color of Wire	Signal Name
1	G	-
2	R	-
3	G	-
5	G/W	-
6	W/B	-
7	Y/R	-

Connector No.	M75
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
2	L/B	-
5	W/B	-

Connector No.	M101
Connector Name	JOINT CONNECTOR-M03
Connector Color	BLUE



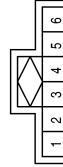
Terminal No.	Color of Wire	Signal Name
18	V	-
19	V	-

Connector No.	M102
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
15	B	-
16	R	-
18	BR	-

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



Terminal No.	Color of Wire	Signal Name
1	B	-
3	R	-
6	W	-

DISPLAY AUDIO WITH AMPLIFIER

< WIRING DIAGRAM >

[DISPLAY AUDIO WITH AMPLIFIER]

Connector No.	M111
Connector Name	FRONT TWEETER RH
Connector Color	BROWN



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

Connector No.	M110
Connector Name	CENTER SPEAKER
Connector Color	BROWN



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

Connector No.	M109
Connector Name	FRONT TWEETER LH
Connector Color	BROWN



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

Terminal No.	Color of Wire	Signal Name
13	W/B	FR RH TW+
14	L/W	FR LH TW+
15	L/W	FR LH OUT+
16	W/B	FR RH OUT+
21	W	FR RH IN+
22	Y	FR LH IN+
23	L	RR RH IN+
24	BR	RR LH IN+
25	-	-
26	L/B	CIR OUT-
27	B/Y	RR LH OUT
28	R/L	RR RH OUT-
29	L/B	FR RH TW-
30	L/R	FR LH TW-
31	L/R	FR LH OUT-
32	L/B	FR RH OUT-

Connector No.	M113
Connector Name	AUDIO AMP.
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
5	B	FR RH IN-
6	BR	FR LH IN-
7	B/W	RR RH IN-
8	B/R	RR LH IN-
9	G/W	AMP ON
10	L/W	CIR OUT+
11	SB	RR LH OUT+
12	O/L	RR RH OUT+

Connector No.	M112
Connector Name	AUDIO AMP.
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	Y	BAT
2	W	WOOFER 1+
3	BR/W	WOOFER 2+
4	B	GND
17	Y/G	BAT
18	B	WOOFER 1-
19	BR	WOOFER 2-
20	B	GND

AANIA3679GB

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

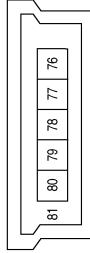
AV

DISPLAY AUDIO WITH AMPLIFIER

< WIRING DIAGRAM >

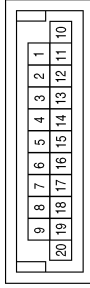
[DISPLAY AUDIO WITH AMPLIFIER]

Connector No.	M166
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO)
Connector Color	BLACK



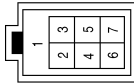
Terminal No.	Color of Wire	Signal Name
76	B	USB GND
77	-	-
78	G	USB D+
79	W	USB D-
80	R	V BUS
81	SHIELD	SHIELD

Connector No.	M162
Connector Name	JOINT CONNECTOR-M10
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
2	SHIELD	-
11	B	-
12	B	-
13	B	-
14	B	-
15	B	-
16	B	-

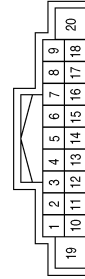
Connector No.	M115
Connector Name	WIRE TO WIRE
Connector Color	GRAY



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

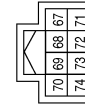
Terminal No.	Color of Wire	Signal Name
8	BR	ILL (-)
9	R/L	ILL (+), LIGHT SW
10	-	-
11	W	FR SP RH+
12	B	FR SP RH-
13	L	RR SP RH+
14	B/W	RR SP RH-
15	Y	STRG SW GND
16	G	STRG SW B
17	-	-
18	W/R	SPEED SIG SSV
19	Y	BAT
20	B	GND

Connector No.	M171
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO WITH AMPLIFIER)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	G/W	AMP ON
2	Y	FR SP LH+
3	BR	FR SP LH-
4	BR	RR SP LH+
5	B/R	RR SP LH-
6	R	STRG SW A
7	V	ACC

Connector No.	M169
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
67	SHIELD	AUX IN SHIELD
68	R	AUX IN GND
69	B	AUX IN R
70	W	AUX IN L

AANIA3680GB

DISPLAY AUDIO WITH AMPLIFIER

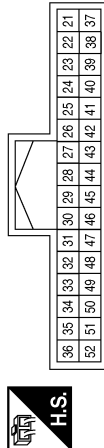
< WIRING DIAGRAM >

[DISPLAY AUDIO WITH AMPLIFIER]

Terminal No.	Color of Wire	Signal Name
45	B	EQ2 PORT 2
46	B	EQ2 PORT 2
47	B	EQ3 PORT 3
48	B	EQ4 PORT 4
49	—	—
50	G/W	REVERSE SGN
51	—	—
52	—	—

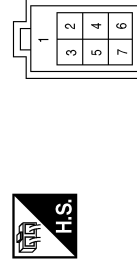
Terminal No.	Color of Wire	Signal Name
29	—	—
30	—	—
31	—	—
32	—	—
33	B	GND
34	W	CAMERA ON
35	R	COMP+
36	SHIELD	COMP-
37	SHIELD	MIC GND
38	B	MIC VCC
39	R/W	MIC SIGNAL
40	—	—
41	—	—
42	—	—
43	—	—
44	G	CAMERA DET

Connector No.	M175
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO WITH AMPLIFIER)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
21	—	—
22	—	—
23	—	—
24	—	—
25	—	—
26	—	—
27	—	—
28	—	—

Connector No.	M213
Connector Name	WIRE TO WIRE
Connector Color	GRAY



Connector No.	M201
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Connector No.	M188
Connector Name	AUDIO UNIT (WITH DISPLAY AUDIO WITH AMPLIFIER)
Connector Color	GRAY



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

Terminal No.	Color of Wire	Signal Name
6	R	—
9	SHIELD	—
12	B	—
13	W	—

Terminal No.	Color of Wire	Signal Name
58	B	SAT ANT
59	B	SAT SHIELD

AANIA3681GB

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

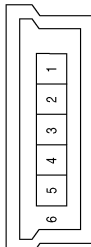
AV

DISPLAY AUDIO WITH AMPLIFIER

< WIRING DIAGRAM >

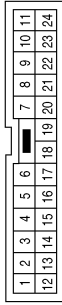
[DISPLAY AUDIO WITH AMPLIFIER]

Connector No.	M214
Connector Name	USB INTERFACE
Connector Color	BLACK



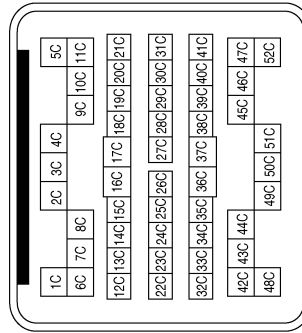
Terminal No.	Color of Wire	Signal Name
1	B	-
2	-	-
3	G	-
4	W	-
5	R	-
6	SHIELD	-

Connector No.	E5
Connector Name	WIRE TO WIRE
Connector Color	WHITE

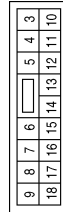


Terminal No.	Color of Wire	Signal Name
13	R	-

Connector No.	E41
Connector Name	WIRE TO WIRE
Connector Color	GRAY



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



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

Connector No.	E121
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
27	W/B	T TOW REV LAMP

Terminal No.	Color of Wire	Signal Name
24C	SHIELD	-
25C	W	-
27C	G	-
28C	B	-
29C	R	-

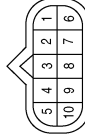
AANIA3682GB

DISPLAY AUDIO WITH AMPLIFIER

< WIRING DIAGRAM >

[DISPLAY AUDIO WITH AMPLIFIER]

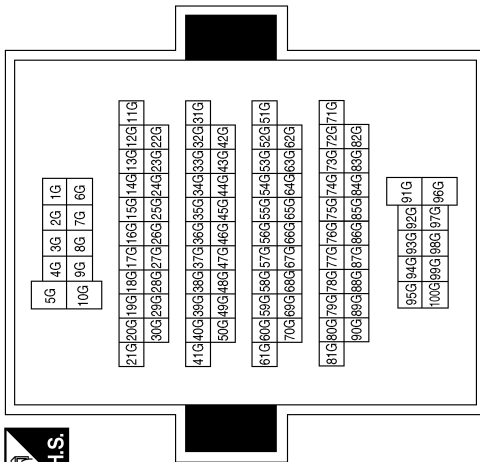
Connector No.	F9
Connector Name	AT ASSEMBLY (FLOOR SHIFT)
Connector Color	GREEN



Terminal No.	Color of Wire	Signal Name
7	R	-

Terminal No.	Color of Wire	Signal Name
7G	Y	-
11G	G	-
13G	B	-
14G	SHIELD	-
23G	R	-
24G	W	-
27G	G/W	-
64G	R	-
94G	G/W	-
95G	G	-
98G	W/B	-

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

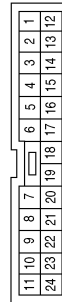


Connector No.	F502
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
7	O	REV LAMP RLY

Connector No.	F14
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
13	R	-

AANIA3683GB

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

AV

DISPLAY AUDIO WITH AMPLIFIER

< WIRING DIAGRAM >

[DISPLAY AUDIO WITH AMPLIFIER]

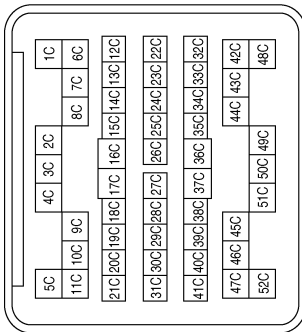
Connector No.	C8
Connector Name	WIRE TO WIRE
Connector Color	BLACK



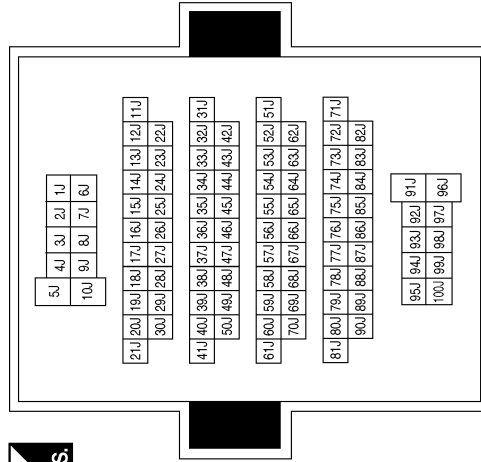
Terminal No.	Color of Wire	Signal Name
1	W	-
3	R	-
4	SHIELD	-
5	G	-
6	B	-

Terminal No.	Color of Wire	Signal Name
24C	SHIELD	-
25C	W	-
27C	G	-
28C	B	-
29C	R	-

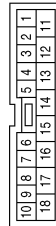
Connector No.	C1
Connector Name	WIRE TO WIRE
Connector Color	GRAY



Connector No.	B69
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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



Terminal No.	Color of Wire	Signal Name
14	B/Y	-
15	SB	-

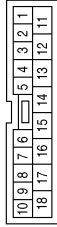
AANIA3719GB

DISPLAY AUDIO WITH AMPLIFIER

< WIRING DIAGRAM >

[DISPLAY AUDIO WITH AMPLIFIER]

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



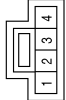
Terminal No.	Color of Wire	Signal Name
14	R/L	–
15	O/L	–

Connector No.	B76
Connector Name	REAR DOOR SPEAKER LH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	SB	– (EXCEPT BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
2	B/Y	– (EXCEPT BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)

Connector No.	B72
Connector Name	SUBWOOFER
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	W	–
2	B	–
3	BRW	–
4	BR	–

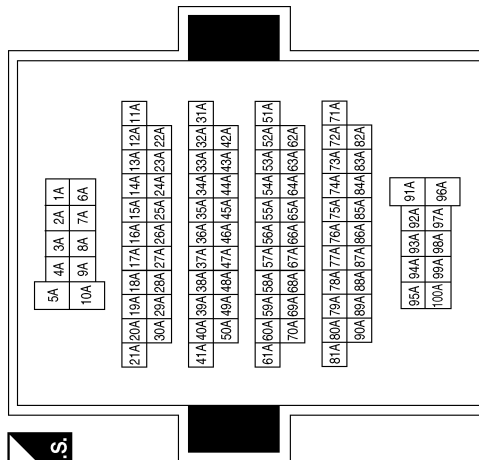
Connector No.	B159
Connector Name	REAR DOOR SPEAKER RH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	O/L	– (EXCEPT BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
2	R/L	–

Terminal No.	Color of Wire	Signal Name
3A	O/L	– (EXCEPT FOR KING CAB WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
4A	R/L	–

Connector No.	B149
Connector Name	WIRE TO WIRE
Connector Color	WHITE



AANIA3720GB

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

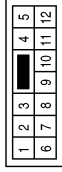
AV

DISPLAY AUDIO WITH AMPLIFIER

< WIRING DIAGRAM >

[DISPLAY AUDIO WITH AMPLIFIER]

Connector No.	R2
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	R/W	– (WITHOUT NAVI)
5	B	– (WITHOUT NAVI)
12	SHIELD	– (WITHOUT NAVI)

Connector No.	T2
Connector Name	REAR VIEW CAMERA
Connector Color	GRAY



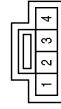
Terminal No.	Color of Wire	Signal Name
1	W	–
3	R	–
4	B	–
6	SHIELD	

Connector No.	T1
Connector Name	WIRE TO WIRE
Connector Color	BLACK



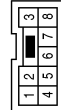
Terminal No.	Color of Wire	Signal Name
1	W	–
3	R	–
4	SHIELD	–
5	G	–
6	B	–

Connector No.	R109
Connector Name	MICROPHONE
Connector Color	WHITE



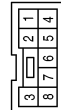
Terminal No.	Color of Wire	Signal Name
1	R/W	–
2	R/L	–
4	B	–

Connector No.	R107
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	R/L	–
2	B	–
4	R/W	–

Connector No.	R9
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	SHIELD	– (WITHOUT NAVI)
2	B	–
4	R/W	–

AANIA3684GB

DISPLAY AUDIO WITH AMPLIFIER

< WIRING DIAGRAM >

[DISPLAY AUDIO WITH AMPLIFIER]

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



1	2	3	4
5	6	7	8
9	10		

Terminal No.	Color of Wire	Signal Name
2	L/B	–
5	W/B	–

Connector No.	D12
Connector Name	FRONT DOOR SPEAKER LH
Connector Color	WHITE



2	1

Terminal No.	Color of Wire	Signal Name
1	L/W	–
2	L/R	–

Connector No.	D2
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
10	L/R	–
11	L/W	–

Connector No.	D207
Connector Name	REAR DOOR SPEAKER LH
Connector Color	WHITE



2	1

Terminal No.	Color of Wire	Signal Name
1	SB	– (WITHOUT MID AUDIO SYSTEM)
2	B/Y	– (WITHOUT MID AUDIO SYSTEM)

Connector No.	D201
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		

Terminal No.	Color of Wire	Signal Name
14	B/Y	– (WITHOUT MID AUDIO SYSTEM)
15	SB	– (WITHOUT MID AUDIO SYSTEM)

Connector No.	D112
Connector Name	FRONT DOOR SPEAKER RH
Connector Color	WHITE



2	1

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

AANIA3685GB

DISPLAY AUDIO WITH AMPLIFIER

< WIRING DIAGRAM >

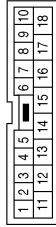
[DISPLAY AUDIO WITH AMPLIFIER]

Connector No.	D307
Connector Name	REAR DOOR SPEAKER RH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	O/L	– (WITHOUT MID AUDIO SYSTEM)
2	R/L	–

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



Terminal No.	Color of Wire	Signal Name
14	R/L	–
15	O/L	– (WITHOUT MID AUDIO SYSTEM)

Connector No.	D208
Connector Name	REAR DOOR TWEETER LH
Connector Color	BROWN



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

Connector No.	D308
Connector Name	REAR DOOR TWEETER RH
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	O/L	–
2	R/L	–

AANIA3686GB

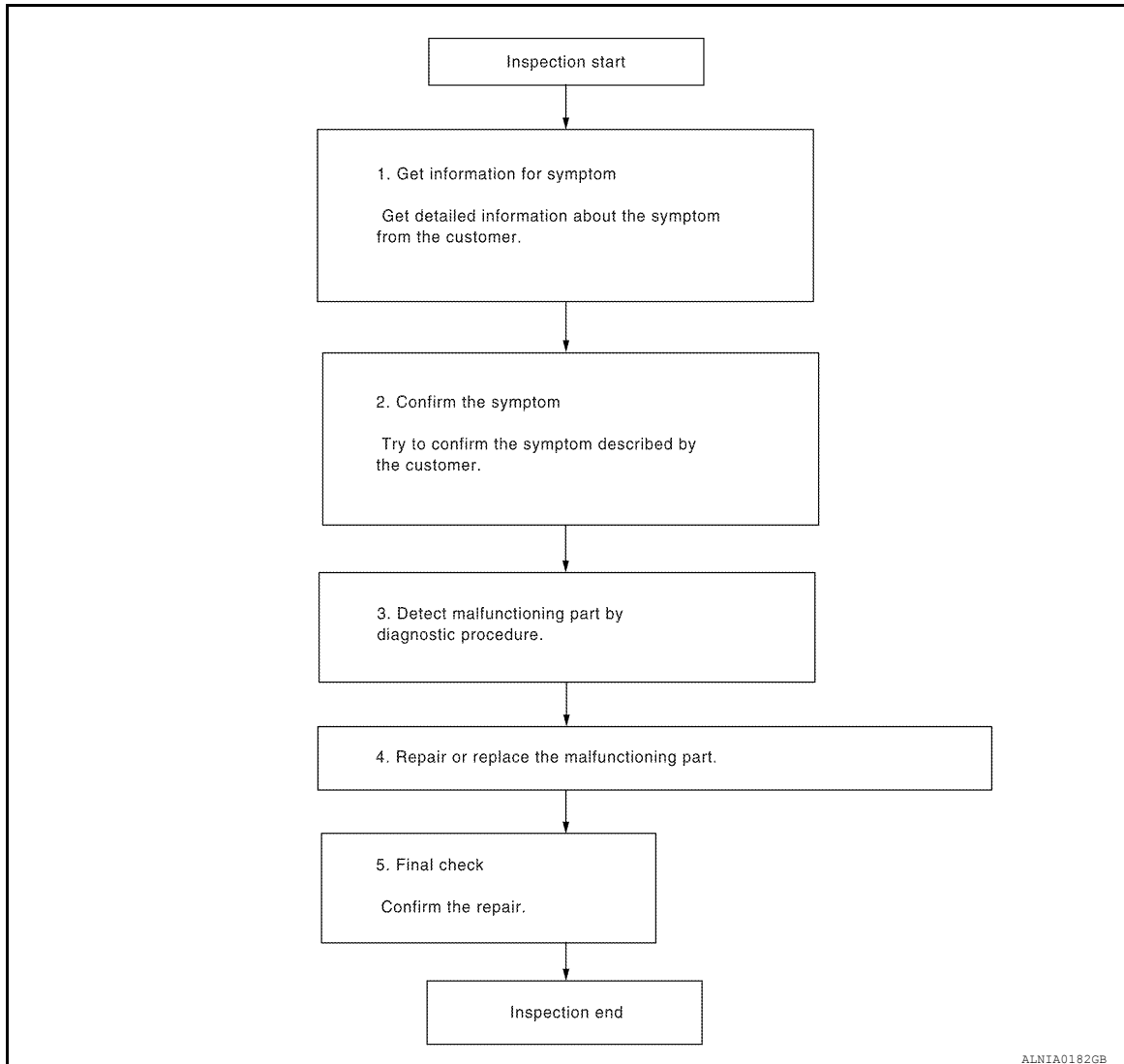
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000011559439

OVERALL SEQUENCE



DETAILED FLOW

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

2.CONFIRM THE SYMPTOM

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

>> GO TO 3.

3.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[DISPLAY AUDIO WITH AMPLIFIER]

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.

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH AMPLIFIER]

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID:0000000011559440

Regarding Wiring Diagram information, refer to [AV-161, "Wiring Diagram"](#).

1.CHECK FUSE

Check that the following fuses are not blown:

Terminal No.	Signal name	Fuse No.
7	ACC power supply	4 (10A)
19	Battery power supply	31 (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 M171.
3. Check voltage between audio unit connector M171 and ground.

Audio unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M171	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 connectors M171 and M175.
3. Check continuity between audio unit connectors and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M171	20	—	Yes
M175	45 (Crew cab)		
	46 (King cab)		
	47 (King cab)		
	48 (King cab)		

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

AUDIO AMP

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH AMPLIFIER]

AUDIO AMP : Diagnosis Procedure

INFOID:000000011559441

Regarding Wiring Diagram information, refer to [AV-161, "Wiring Diagram"](#).

1.CHECK FUSE

Check that the audio amp. fuses are not blown.

Unit	Terminal	Signal name	Fuse No.
Audio amp.	1	Battery power	31
	17		17

Are the fuses OK?

YES >> GO TO 2.

NO >> Be sure to eliminate cause of malfunction before installing new fuse.

2.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect audio amp. connector.
3. Check voltage between audio amp. harness connector M112 and ground.

(+)		(-)	Voltage (approx.)
Connector	Terminal		
M112	1	Ground	Battery voltage
	17		

Is battery voltage present?

YES >> GO TO 3.

NO >> Check harness between audio amp. and fuse.

3.CHECK GROUND CIRCUIT

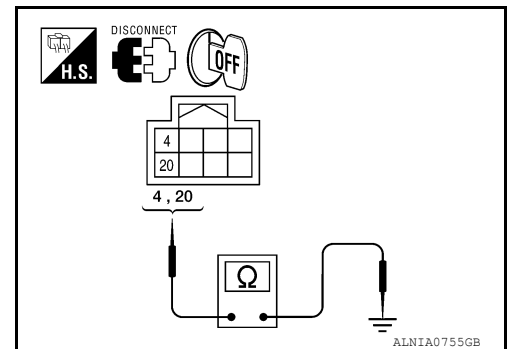
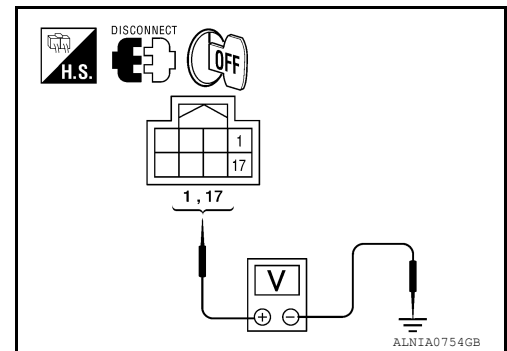
1. Turn ignition switch OFF.
2. Disconnect audio amp. connector.
3. Check continuity between audio amp. harness connector M112 and ground.

Connector	Terminal	—	Continuity
M112	4	Ground	Yes
	20		

Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.



FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH AMPLIFIER]

FRONT DOOR SPEAKER

Diagnosis Procedure

INFOID:0000000011559443

Regarding Wiring Diagram information, refer to [AV-161. "Wiring Diagram"](#).

1.CONNECTOR CHECK

Check the audio 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 terminal and connector.

2.SPEAKER HARNESS CHECK

1. Disconnect audio amp. connector M113 and suspect front door speaker connector.
2. Check continuity between audio amp. harness connector M113 (A) and suspect front door speaker harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M113	15	D12	1	Yes
	31		2	
	16	D112	1	
	32		2	

3. Check continuity between audio amp. harness connector M113 (A) and ground.

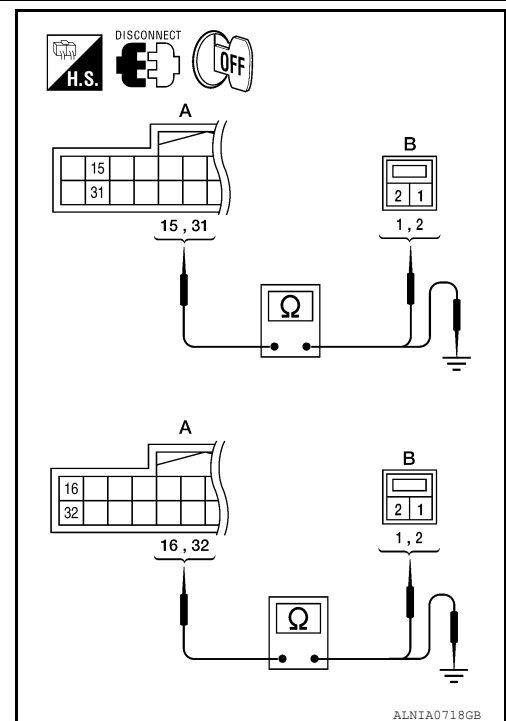
A		—	Continuity
Connector	Terminal		
M113	15	Ground	No
	31		
	16		
	32		

Are continuity test results as specified?

YES >> GO TO 3.

NO >> Repair harness or connector.

3.FRONT DOOR SPEAKER SIGNAL CHECK

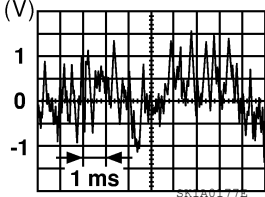


FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH AMPLIFIER]

1. Connect audio amp. connector M113 and suspect front door speaker connector.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio amp. harness connector M113 terminals with CONSULT or oscilloscope.

Connector	Terminal		Condition	Reference signal
	(+)	(-)		
M113	15	31	Receive audio signal	
	16	32		

Is audio signal voltage as specified?

YES >> Replace suspect front door speaker. Refer to [AV-217](#).
"Removal and Installation".

NO >> GO TO 4.

4. PRE-AMP HARNESS CHECK

1. Disconnect audio unit connector M171 and audio amp. connector M113.
2. Check continuity between audio unit harness connector M171 and audio amp. harness connector M113.

Connector	Terminal	Connector	Terminal	Continuity
M171	3	M113	6	Yes
	2		22	
	12		5	
	11		21	

3. Check continuity between audio unit harness connector M171 and ground.

Connector	Terminal	—	Continuity
M171	3	Ground	No
	2		
	12		
	11		

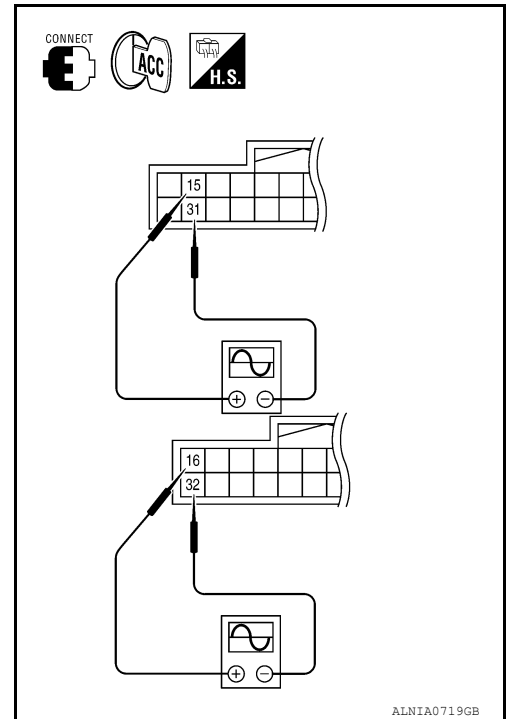
Are continuity test results as specified?

YES >> GO TO 5.

NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

5. PRE-AMP SIGNAL CHECK

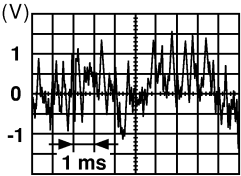
1. Connect audio unit connector and audio amp. connector.
2. Turn ignition switch ACC.
3. Push "POWER" switch.
4. Check the signal between audio unit harness connector M171 terminals with CONSULT or oscilloscope.



FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH AMPLIFIER]

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M171	2	3	Receive audio signal	
	11	12		

SKIA0177E

Are the audio signal voltage readings as specified?

- YES >> Replace audio amp. Refer to [AV-221, "Removal and Installation"](#).
 NO >> Replace audio unit. Refer to [AV-213, "Removal and Installation"](#).

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

AV

FRONT TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH AMPLIFIER]

FRONT TWEETER

Diagnosis Procedure

INFOID:000000011559444

Regarding Wiring Diagram information, refer to [AV-161, "Wiring Diagram"](#).

1.CONNECTOR CHECK

Check the audio 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 terminal and connector.

2.HARNESS CHECK

1. Disconnect audio amp. connector M113 and suspect front tweeter connector.
2. Check continuity between audio amp. harness connector M113 (A) and suspect front tweeter harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M113	14	M109	1	Yes
	30		2	
	13	M111	1	
	29		2	

3. Check continuity between audio amp. harness connector M113 (A) and ground.

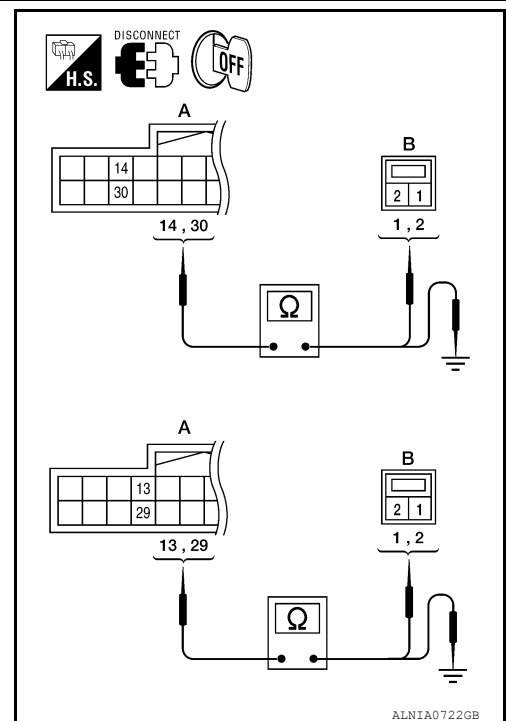
A		—	Continuity
Connector	Terminal		
M113	14	Ground	No
	30		
	13		
	29		

Are continuity test results as specified?

YES >> GO TO 3.

NO >> Repair harness or connector.

3.FRONT TWEETER SIGNAL CHECK



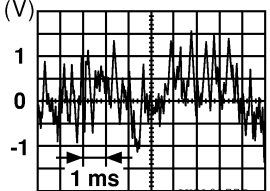
ALNIA0722GB

FRONT TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH AMPLIFIER]

1. Connect audio amp. connector M113 and suspect front tweeter connector.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio amp. harness connector M113 terminals with CONSULT or oscilloscope.

Connector	Terminal		Condition	Reference signal
	(+)	(-)		
M113	14	30	Receive audio signal	
	13	29		

Is audio signal voltage as specified?

YES >> Replace suspect front tweeter. Refer to [AV-215, "Removal and Installation"](#).

NO >> GO TO 4.

4. PRE-AMP HARNESS CHECK

1. Disconnect audio unit connector M171 and audio amp. connector M113.
2. Check continuity between audio unit harness connector M171 and audio amp. harness connector M113.

Connector	Terminal	Connector	Terminal	Continuity
M171	3	M113	6	Yes
	2		22	
	12		5	
	11		21	

3. Check continuity between audio unit harness connector M171 and ground.

Connector	Terminal	—	Continuity
M171	3	Ground	No
	2		
	12		
	11		

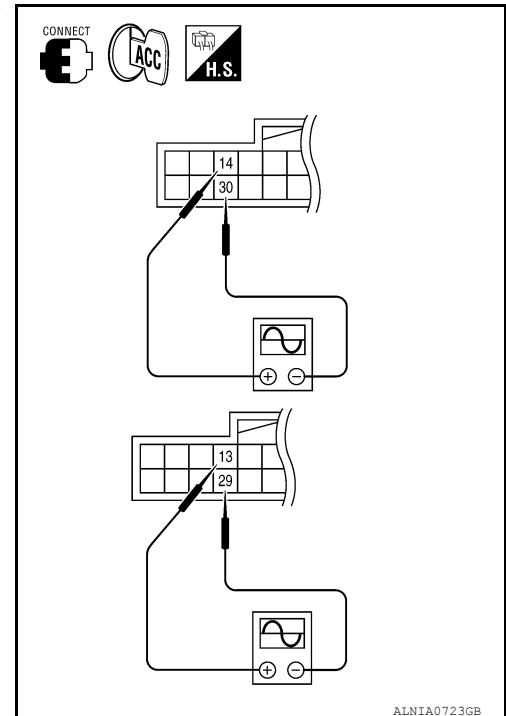
Are continuity test results as specified?

YES >> GO TO 5.

NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

5. PRE-AMP SIGNAL CHECK

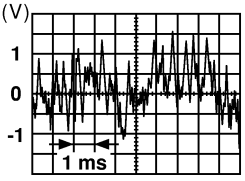
1. Connect audio unit connector and audio amp. connector.
2. Turn ignition switch ACC.
3. Push "POWER" switch.
4. Check the signal between audio unit harness connector M171 terminals with CONSULT or oscilloscope.



FRONT TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH AMPLIFIER]

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M171	2	3	Receive audio signal	
	11	12		

SKIA0177E

Are the audio signal voltage readings as specified?

- YES
- >> Replace audio amp. Refer to [AV-221. "Removal and Installation"](#).
- NO
- >> Replace audio unit. Refer to [AV-213. "Removal and Installation"](#).

CENTER SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH AMPLIFIER]

CENTER SPEAKER

Diagnosis Procedure

INFOID:0000000011559445

Regarding Wiring Diagram information, refer to [AV-161. "Wiring Diagram"](#).

1.CONNECTOR CHECK

Check the audio 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 terminal and connector.

2.CENTER SPEAKER HARNESS CHECK

1. Disconnect audio amp. connector M113 and center speaker connector M110.
2. Check continuity between audio amp. harness connector M113 (A) and center speaker harness connector M110 (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M113	10	M110	1	Yes
	26		2	

3. Check continuity between audio amp. harness connector M113 (A) and ground.

A		—	Continuity
Connector	Terminal		
M113	10	Ground	No
	26		

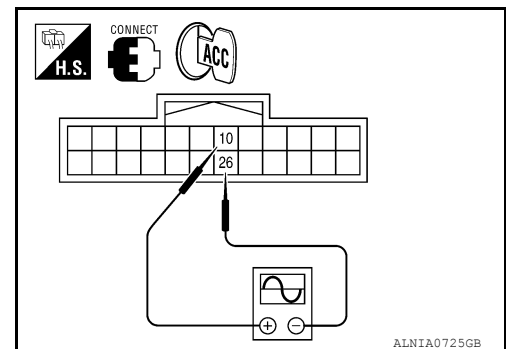
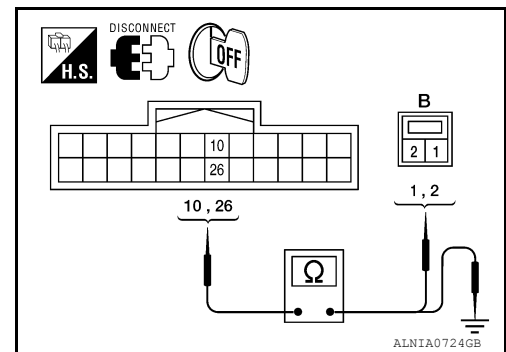
Are continuity test results as specified?

YES >> GO TO 3.

NO >> Repair harness or connector.

3.CENTER SPEAKER SIGNAL CHECK

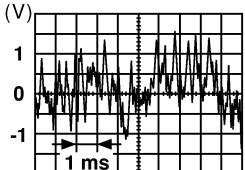
1. Connect audio amp. connector M113 and center speaker connector M110.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio amp. harness connector M113 terminals with CONSULT or oscilloscope.



CENTER SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH AMPLIFIER]

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M113	10	26	Receive audio signal	 SKIA0177E

Is the audio signal voltage reading as specified?

- YES >> Replace center speaker. Refer to [AV-216, "Removal and Installation"](#).
 NO >> GO TO 4.

4. PRE-AMP HARNESS CHECK

1. Disconnect audio unit connector M171 and audio amp. connector M113.
2. Check continuity between audio unit harness connector M171 and audio amp. harness connector M113.

Connector	Terminal	Connector	Terminal	Continuity
M171	3	M113	6	Yes
	2		22	
	12		5	
	11		21	

3. Check continuity between audio unit harness connector M171 and ground.

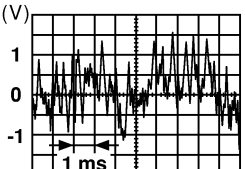
Connector	Terminal	—	Continuity
M171	3	Ground	No
	2		
	12		
	11		

Are continuity test results as specified?

- YES >> GO TO 5.
 NO >> • Check connector housings for disconnected or loose terminals.
 • Repair harness or connector.

5. PRE-AMP SIGNAL CHECK

1. Connect audio unit connector and audio amp. connector.
2. Turn ignition switch ACC.
3. Push "POWER" switch.
4. Check the signal between audio unit harness connector M171 terminals with CONSULT or oscilloscope.

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M171	2	3	Receive audio signal	 SKIA0177E
	11	12		

Are the audio signal voltage readings as specified?

CENTER SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH AMPLIFIER]

YES >> Replace audio amp. Refer to [AV-221, "Removal and Installation"](#).
NO >> Replace audio unit. Refer to [AV-213, "Removal and Installation"](#).

A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

P

REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH AMPLIFIER]

REAR DOOR SPEAKER

Diagnosis Procedure

INFOID:0000000011559446

Regarding Wiring Diagram information, refer to [AV-161, "Wiring Diagram"](#).

1.CONNECTOR CHECK

Check the audio 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 terminal and connector.

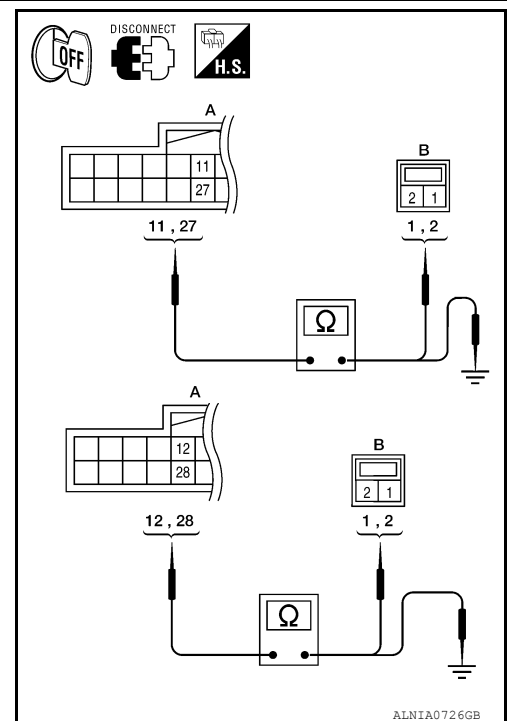
2.SPEAKER HARNESS CHECK

1. Disconnect audio amp. connectors M113 and suspect rear door speaker connector.
2. Check continuity between audio amp. harness connectors M113 (A) and suspect rear door speaker harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M113	11	D207 (crew cab) B76 (king cab)	1	Yes
	27		2	
	12	D307 (crew cab) B159 (king cab)	1	
	28		2	

3. Check continuity between audio amp. harness connectors M113 (A) and ground.

Connector	Terminal	-	Continuity
M113	11	Ground	No
	27		
	12		
	28		



Are the continuity test results as specified?

YES >> GO TO 3.

NO >> Repair harness or connector.

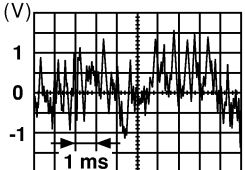
3.SPEAKER SIGNAL CHECK

REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH AMPLIFIER]

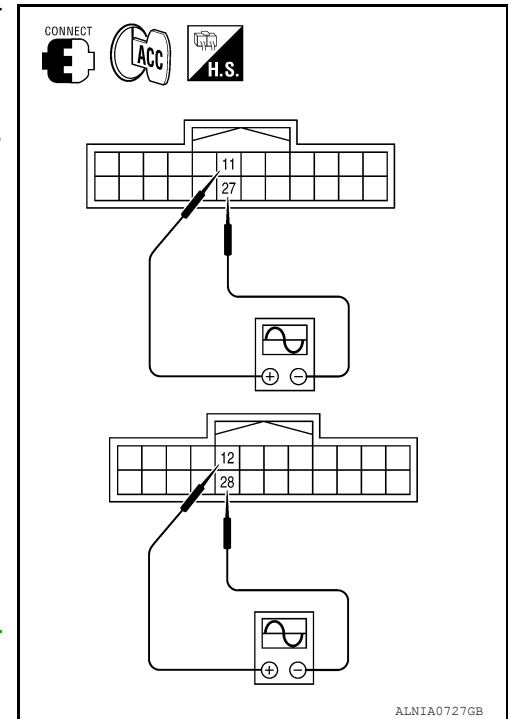
1. Connect audio amp. connectors and suspect rear door speaker connector.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio amp. harness connectors M113 terminals with CONSULT or oscilloscope.

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M113	11	27	Receive audio signal	 SKIA0177E
	12	28		

Are audio signal voltage readings as specified?

YES >> Replace suspect rear door speaker. Refer to [AV-218](#), "Removal and Installation".

NO >> GO TO 4.



4. PRE-AMP HARNESS CHECK

1. Disconnect audio unit connector M171 and audio amp. connector M113.
2. Check continuity between audio unit harness connector M171 and audio amp. harness connector M113.

Connector	Terminal	Connector	Terminal	Continuity
M171	5	M113	8	Yes
	4		24	
	14		7	
	13		23	

3. Check continuity between audio unit harness connector M171 and ground.

Connector	Terminal	—	Continuity
M171	5	Ground	No
	4		
	14		
	13		

Are the continuity test results as specified?

YES >> GO TO 5.

NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

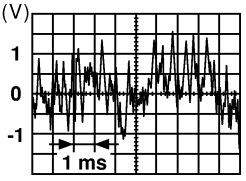
5. PRE-AMP SIGNAL CHECK

1. Connect audio unit connector M171 and audio amp. connector M113.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio unit harness connector M171 terminals with CONSULT or oscilloscope.

REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH AMPLIFIER]

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M171	4	5	Receive audio signal	 SKIA0177E
	13	14		

Is the audio signal voltage reading as specified?

- YES >> Replace audio amp. Refer to [AV-221. "Removal and Installation"](#).
 NO >> Replace audio unit. Refer to [AV-213. "Removal and Installation"](#).

REAR DOOR TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH AMPLIFIER]

REAR DOOR TWEETER

Diagnosis Procedure

INFOID:000000011559447

Regarding Wiring Diagram information, refer to [AV-161. "Wiring Diagram"](#).

1.CONNECTOR CHECK

Check the audio 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 terminal and connector.

2.TWEETER HARNESS CHECK

1. Disconnect audio amp. connectors M113 and suspect rear door tweeter connector.
2. Check continuity between audio amp. harness connectors M113 (A) and suspect rear door tweeter harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M113	11	D208	1	Yes
	27		2	
	12	D308	1	
	28		2	

3. Check continuity between audio amp. harness connectors M113 (A) and ground.

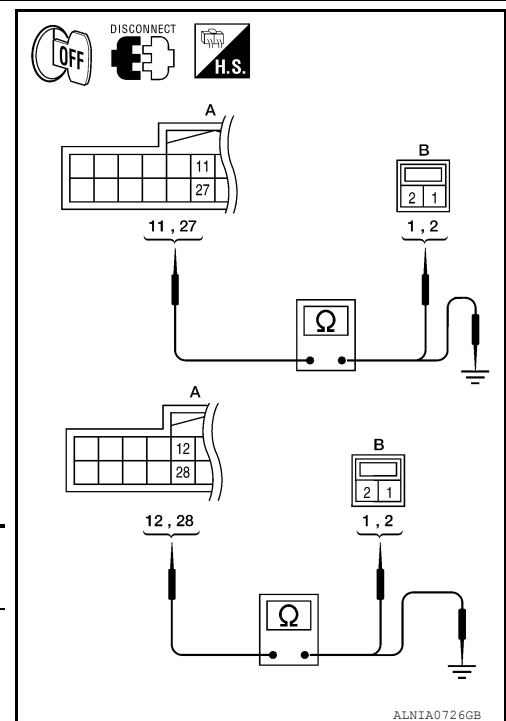
A		-	Continuity
Connector	Terminal		
M113	11	Ground	No
	27		
	12		
	28		

Are the continuity test results as specified?

YES >> GO TO 3.

NO >> Repair harness or connector.

3.TWEETER SIGNAL CHECK

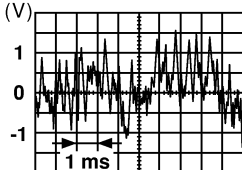


REAR DOOR TWEETER

< DTC/CIRCUIT DIAGNOSIS >

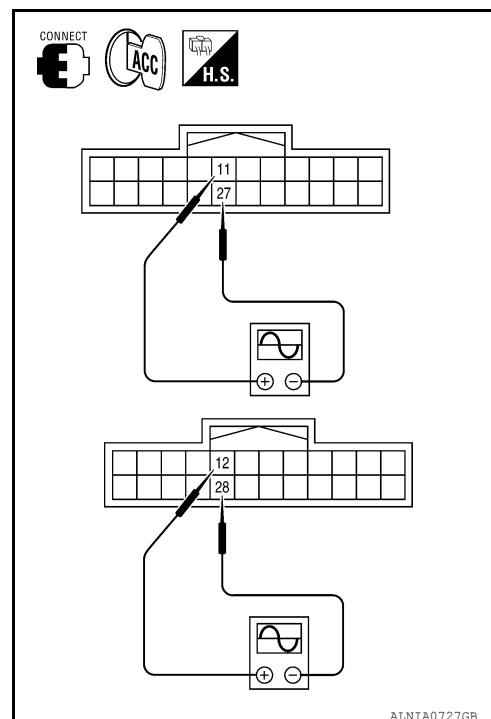
[DISPLAY AUDIO WITH AMPLIFIER]

1. Connect audio amp. connectors and suspect rear door tweeter connector.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio amp. harness connectors M113 terminals with CONSULT or oscilloscope.

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M113	11	27	Receive audio signal	 SKIA0177E
	12	28		

Are audio signal voltage readings as specified?

- YES >> Replace suspect rear door tweeter. Refer to [AV-218](#), "[Removal and Installation](#)".
- NO >> GO TO 4.



4. PRE-AMP HARNESS CHECK

1. Disconnect audio unit connector M171 and audio amp. connector M113.
2. Check continuity between audio unit harness connector M171 and audio amp. harness connector M113.

Connector	Terminal	Connector	Terminal	Continuity
M171	5	M113	8	Yes
	4		24	
	14		7	
	13		23	

3. Check continuity between audio unit harness connector M171 and ground.

Connector	Terminal	—	Continuity
M171	5	Ground	No
	4		
	14		
	13		

Are the continuity test results as specified?

- YES >> GO TO 5.
- NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

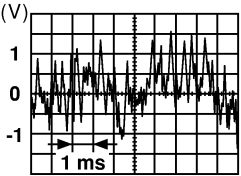
5. PRE-AMP SIGNAL CHECK

1. Connect audio unit connector M171 and audio amp. connector M113.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio unit harness connector M171 terminals with CONSULT or oscilloscope.

REAR DOOR TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH AMPLIFIER]

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M171	4	5	Receive audio signal	
	13	14		

Is the audio signal voltage reading as specified?

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

NO >> Replace audio unit. Refer to [AV-213, "Removal and Installation"](#).

A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

P

SUBWOOFER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH AMPLIFIER]

SUBWOOFER

Description

INFOID:000000011559448

The audio unit sends audio signals to the audio amp. The audio amp. amplifies the audio signals before sending them to the subwoofer using the audio signal circuits.

Diagnosis Procedure

INFOID:000000011559449

Regarding Wiring Diagram information, refer to [AV-161, "Wiring Diagram"](#).

1.CONNECTOR CHECK

Check the audio amp. and subwoofer connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

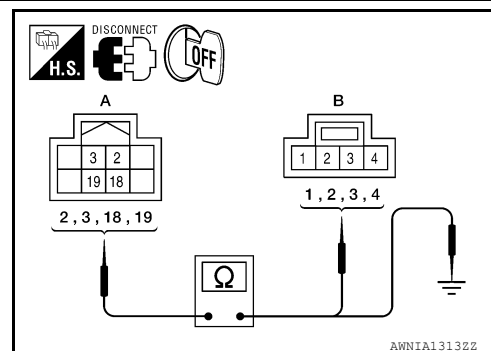
YES >> GO TO 2

NO >> Repair the terminal and connector.

2.SUBWOOFER HARNESS CHECK

1. Disconnect audio amp. connector M112 and subwoofer connector B72.
2. Check continuity between audio amp. harness connector M112 (A) and subwoofer harness connector B72 (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M112	2	B72	1	Yes
	3		3	
	18		2	
	19		4	



3. Check continuity between audio amp. harness connector M112 (A) and ground.

A		—	Continuity
Connector	Terminal		
M112	2	Ground	No
	3		
	18		
	19		

Are the continuity test results as specified?

YES >> GO TO 3.

NO >> Repair harness or connector.

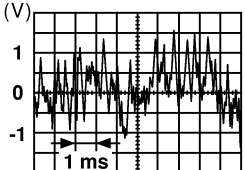
3.SUBWOOFER SIGNAL CHECK

SUBWOOFER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH AMPLIFIER]

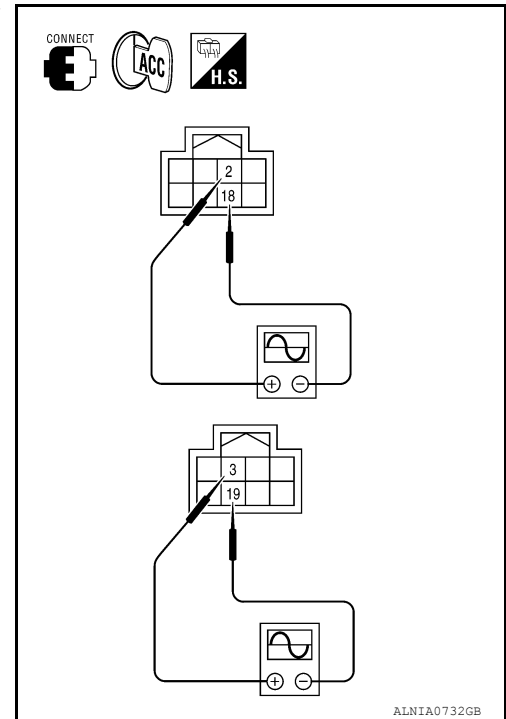
1. Connect audio amp. connector M112 and subwoofer connector B72.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio amp. harness connector M112 terminals with CONSULT or oscilloscope.

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M112	2	18	Receive audio signal	 SKIA0177E
	3	19		

Is the audio signal voltage as specified?

YES >> Replace subwoofer. Refer to [AV-219, "Removal and Installation"](#).

NO >> GO TO 4.



4. PRE-AMP HARNESS CHECK

1. Disconnect audio unit connector M171 and audio amp. connector M113.
2. Check continuity between audio unit harness connector M171 and audio amp. harness connector M113.

Connector	Terminal	Connector	Terminal	Continuity
M171	5	M113	8	Yes
	4		24	
	14		7	
	13		23	

3. Check continuity between audio unit harness connector M171 and ground.

Connector	Terminal	—	Continuity
M171	5	Ground	No
	4		
	14		
	13		

Are the continuity test results as specified?

YES >> GO TO 5.

NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

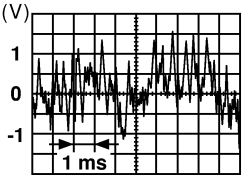
5. PRE-AMP SIGNAL CHECK

1. Connect audio unit connector M171 and audio amp. connector M113.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio unit harness connector M171 terminals with CONSULT or oscilloscope.

SUBWOOFER

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH AMPLIFIER]

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M171	4	5	Receive audio signal	 SKIA0177E
	13	14		

Is the audio signal voltage reading as specified?

- YES >> Replace audio amp. Refer to [AV-221. "Removal and Installation"](#).
 NO >> Replace audio unit. Refer to [AV-213. "Removal and Installation"](#).

AMP ON SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH AMPLIFIER]

AMP ON SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000011559450

Regarding Wiring Diagram information, refer to [AV-161. "Wiring Diagram"](#).

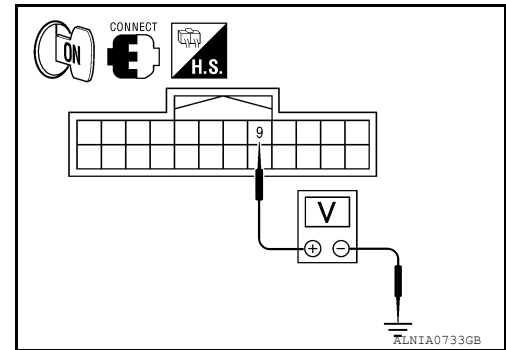
1.CHECK AMP ON SIGNAL

1. Turn audio system ON.
2. Check voltage between audio amp. harness connector M113 terminal 9 and ground.

(+)		(-)	Voltage (approx.)
Connector	Terminal		
M113	9	Ground	More than 6.5V

Is inspection result normal?

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



2.CHECK AMP ON SIGNAL (AUDIO UNIT)

Check voltage between audio unit harness connector M171 terminal 1 and ground.

(+)		(-)	Voltage (approx.)
Connector	Terminal		
M171	1	Ground	More than 6.5V

Is inspection result normal?

- YES >> Repair harness or connector.
NO >> Replace audio unit. Refer to [AV-213. "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 WITH AMPLIFIER]

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000011559451

Regarding Wiring Diagram information, refer to [AV-161, "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 M175 and ground.

Audio unit		Ground	Condition	Voltage (Approx.)
(+)		(-)		
Connector	Terminal			
M175	50	—	Selector lever in R (reverse)	Battery Voltage

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

2. CHECK CAMERA POWER SUPPLY CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M175 and rear view camera connector.
3. Check continuity between audio unit connector M175 and rear view camera connector T2.

Audio unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M175	34	T2	1	Yes

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

Audio unit		Ground	Continuity
Connector	Terminal		
M175	34		No

Is inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

3. CHECK CAMERA POWER SUPPLY VOLTAGE

1. Connect audio unit connector M175 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 M175 and ground.

Audio unit		Ground	Condition	Voltage (Approx.)
(+)		(-)		
Connector	Terminal			
M175	34	—	Selector lever is in "R".	6.0 V

Is inspection result normal?

YES >> GO TO 4.

NO >> Replace audio unit. Refer to [AV-213, "Removal and Installation"](#).

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH AMPLIFIER]

4.CHECK CAMERA IMAGE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M175 and rear view camera connector.
3. Check continuity between audio unit connector M175 and rear view camera connector T2.

Audio unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M175	35	T2	3	Yes

4. Check continuity between audio unit connector M175 terminal 35 and ground.

Audio unit		Ground	Continuity
Connector	Terminal		
M175	35		No

Is inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness or connectors.

5.CHECK CAMERA GROUND CIRCUIT CONTINUITY

Check continuity between audio unit connector M175 and rear view camera connector T2.

Audio unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M175	33	T2	4	Yes

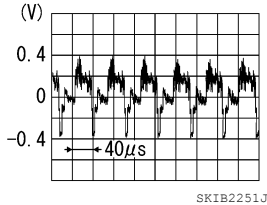
Is inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness or connectors.

6.CHECK CAMERA IMAGE SIGNAL

1. Connect audio unit connector M175 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 M175 and ground.

Audio unit		Ground	Condition	Reference value
(+) (V)		(-)		
Connector	Terminal			
M175	35	—	Camera image displayed.	

Is inspection result normal?

YES >> Replace audio unit. Refer to [AV-213, "Removal and Installation"](#).

NO >> Replace rear view camera. Refer to [AV-226, "Removal and Installation"](#).

MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH AMPLIFIER]

MICROPHONE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:000000011559452

Regarding Wiring Diagram information, refer to [AV-161, "Wiring Diagram"](#).

1.CHECK HARNESS BETWEEN AUDIO UNIT AND MICROPHONE

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M175 and microphone connector R109.
3. Check continuity between audio unit harness connector M175 and microphone harness connector R109.

Connector	Terminal	Connector	Terminal	Continuity
M175	37	R109	2	Yes
	38		4	
	39		1	

4. Check continuity between audio unit harness connector M175 and ground.

Connector	Terminal	—	Continuity
M175	37	Ground	No
	38		
	39		

Are the continuity test results as specified?

YES >> GO TO 2.

NO >> Repair harness or connector.

2.CHECK MICROPHONE POWER SUPPLY

1. Connect audio unit connector M175 and microphone connector R109.
2. Turn ignition switch ON.
3. Check voltage between microphone harness connector R109 terminal 4 and ground.

(+) (V)		(-)	Voltage (approx.)
Connector	Terminal		
R109	4	Ground	5V

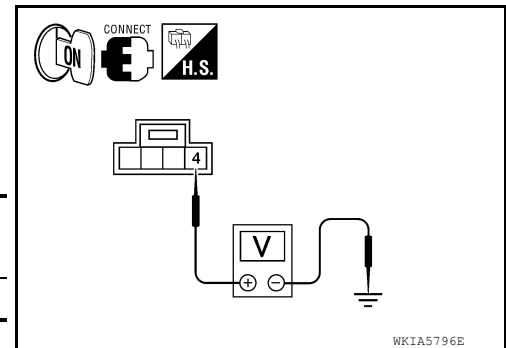
Is voltage reading approx. 5 volts?

YES >> GO TO 3.

NO >> Replace audio unit. Refer to [AV-213, "Removal and Installation"](#).

3.CHECK MICROPHONE SIGNAL

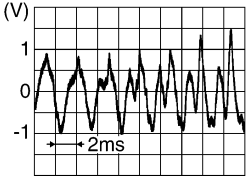
Check signal between audio unit harness connector M175 terminals 39 and 37 with CONSULT or and oscilloscope.



MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH AMPLIFIER]

Connector	(+)	(-)	Reference signal
	Terminal	Terminal	
M175	39	37	While speaking into MIC  SKIB3609E

Are voltage readings as specified?

- YES >> Replace audio unit. Refer to [AV-213, "Removal and Installation"](#).
- NO >> Replace microphone. Refer to [AV-225, "Removal and Installation"](#).

AV

P

STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH AMPLIFIER]

STEERING SWITCH

Diagnosis Procedure

INFOID:0000000011559453

Regarding Wiring Diagram information, refer to [AV-161. "Wiring Diagram"](#).

1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

1. Disconnect combination switch connector M102.
2. Check resistance between combination switch connector terminals.

Terminal	Signal name	Condition	Resistance (Ω) (Approx.)
16	18	Volume (down) Depress  switch.	1
		Volume (up) Depress  switch.	121
		Phone end Depress  switch.	321
15	18	Source Depress SOURCE switch.	1
		Seek (up) Depress  switch.	121
		Seek (down) Depress  switch.	321
		Phone/Send Depress  switch.	723

Do the steering wheel audio control switches check OK?

YES >> GO TO 2.

NO >> Replace steering wheel audio control switch. Refer to [AV-220. "Removal and Installation"](#).

2. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M175 and combination switch connector M30.
3. Check continuity between audio unit harness connector M175 and combination switch harness connector M30.

Audio unit		Combination switch		Continuity
Connector	Terminal	Connector	Terminal	
M175	6	M30	24	Yes
	15		31	
	16		25	

4. Check continuity between audio unit connector M175 and ground.

Audio unit		—	Continuity
Connector	Terminal		
M175	6	Ground	No
	15		
	16		

Are the continuity results as specified?

YES >> GO TO 3.

NO >> Repair harness.

3. SPIRAL CABLE CHECK

STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH AMPLIFIER]

Check continuity between combination switch harness connectors M30 and M102.

Combination switch				Continuity
Connector	Terminal	Connector	Terminal	
M30	24	M102	15	Yes
	31		18	
	25		16	

Does the spiral cable check OK?

YES >> Inspection End.

NO >> Replace spiral cable. Refer to [SR-13, "Removal and Installation"](#).

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

AV

USB CONNECTOR

< DTC/CIRCUIT DIAGNOSIS >

[DISPLAY AUDIO WITH AMPLIFIER]

USB CONNECTOR

Diagnosis Procedure

INFOID:0000000011559454

Regarding Wiring Diagram information, refer to [AV-161, "Wiring Diagram"](#).

1. CHECK USB INTERFACE HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect audio unit connector M166 and USB interface connector M214.
3. Check continuity between audio unit connector M166 and USB interface connector M214.

Audio unit		USB interface		Continuity
Connector	Terminal	Connector	Terminal	
M166	76	M214	1	Yes
	78		3	
	79		4	
	80		5	
	81		6	

4. Check continuity between audio unit connector M166 and ground.

Audio unit		—	Continuity
Connector	Terminal		
M166	78	Ground	No
	79		

Is the inspection result normal?

- YES >> Replace the USB interface. Refer to [AV-224, "Removal and Installation"](#).
NO >> Repair or replace harness or connectors.

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:0000000011559455

RELATED TO AUDIO

Symptoms	Check items	Probable malfunction location
The disk cannot be removed.	Audio unit.	Malfunction in audio unit. Refer to AV-149. "On Board Diagnosis Function" .

AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[DISPLAY AUDIO WITH AMPLIFIER]

Symptoms	Check items	Probable malfunction location
No sound comes out or the level of the sound is low.	No sound from all speakers.	• Speaker circuit shorted to ground. Refer to AV-161, "Wiring Diagram". • Audio amp. ON signal circuit malfunction. Refer to AV-199, "Diagnosis Procedure". • Audio amp. power supply and ground circuits malfunction. Refer to AV-180, "AUDIO AMP : Diagnosis Procedure".
	Only a certain speaker (front door speaker LH, front door speaker RH, front speaker LH, front speaker RH, center speaker, rear door speaker LH, rear door speaker RH, rear speaker LH, rear speaker RH) does not output sound.	• Poor connector connection of speaker. • Sound signal circuit malfunction between audio unit and audio amp. Refer to: - AV-181, "Diagnosis Procedure" (front door speaker). - AV-184, "Diagnosis Procedure" (front tweeter). - AV-187, "Diagnosis Procedure" (center speaker). - AV-190, "Diagnosis Procedure" (rear door speaker). - AV-193, "Diagnosis Procedure" (rear door tweeter). • Sound signal circuit malfunction between audio amp. and speaker. Refer to: - AV-181, "Diagnosis Procedure" (front door speaker). - AV-184, "Diagnosis Procedure" (front tweeter). - AV-187, "Diagnosis Procedure" (center speaker). - AV-190, "Diagnosis Procedure" (rear door speaker). - AV-193, "Diagnosis Procedure" (rear door tweeter). • Malfunction in speaker. Refer to: - AV-217, "Removal and Installation" (front door speaker). - AV-215, "Removal and Installation" (front tweeter). - AV-216, "Removal and Installation" (center speaker). - AV-218, "Removal and Installation" (rear door speaker). - AV-218, "Removal and Installation" (rear door tweeter). • Malfunction in audio unit. Refer to AV-149, "On Board Diagnosis Function". • Malfunction in audio amp. Replace audio amp. Refer to AV-221, "Removal and Installation".

AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[DISPLAY AUDIO WITH AMPLIFIER]

Symptoms	Check items	Probable malfunction location
Noise is mixed with audio.	Noise comes out from all speakers.	• Malfunction in audio unit. Refer to AV-149, "On Board Diagnosis Function". • Malfunction in audio amp. Replace audio amp. Refer to AV-221, "Removal and Installation".
	Noise comes out only from a certain speaker (front door speaker LH, front door speaker RH, front speaker LH, front speaker RH, center speaker, rear speaker door LH, rear door speaker RH, rear speaker LH, rear speaker RH).	• Poor connector connection of speaker. • Sound signal circuit malfunction between audio unit and audio amp. Refer to: - AV-181, "Diagnosis Procedure" (front door speaker). - AV-184, "Diagnosis Procedure" (front tweeter). - AV-187, "Diagnosis Procedure" (center speaker). - AV-190, "Diagnosis Procedure" (rear door speaker). - AV-193, "Diagnosis Procedure" (rear door tweeter). • Sound signal circuit malfunction between audio amp. and speaker. Refer to: - AV-181, "Diagnosis Procedure" (front door speaker). - AV-184, "Diagnosis Procedure" (front tweeter). - AV-187, "Diagnosis Procedure" (center speaker). - AV-190, "Diagnosis Procedure" (rear door speaker). - AV-193, "Diagnosis Procedure" (rear door tweeter). • Malfunction in speaker. • Poor Installation of speaker (e.g. backlash and looseness). Refer to: - AV-217, "Removal and Installation" (front door speaker). - AV-215, "Removal and Installation" (front tweeter). - AV-216, "Removal and Installation" (center speaker). - AV-218, "Removal and Installation" (rear door speaker). - AV-218, "Removal and Installation" (rear door tweeter). • Malfunction in audio unit. Refer to AV-149, "On Board Diagnosis Function". • Malfunction in audio amp. Replace audio amp. Refer to AV-221, "Removal and Installation".
	Noise is mixed with radio only (when the vehicle hits a bump or while driving over bad roads).	• Poor connector connection of antenna or antenna feeder. Refer to AV-222, "Location of Antenna".
No radio reception or poor reception.	• Other audio sounds are normal. • Any radio station cannot be received or poor reception is caused even after moving to a service area with good reception (e.g. a place with clear view and no obstacles generating external noises).	• Antenna amp. ON signal circuit malfunction. Refer to AV-155, "Reference Value". • Poor connector connection of antenna or antenna feeder. Refer to AV-222, "Location of Antenna".

A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

P

AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[DISPLAY AUDIO WITH AMPLIFIER]

Symptoms	Check items	Probable malfunction location
No satellite radio reception.	Satellite radio antenna malfunction.	- Poor continuity in antenna feeder. - Poor connector connection of antenna or antenna feeder. - Loose satellite radio antenna mounting nut. Refer to AV-222, "Location of Antenna" .
Buzz/rattle sound from speaker	The majority of buzz/rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the buzz/rattle.	Refer to "SQUEAK AND RATTLE TROUBLE DIAGNOSIS" in the appropriate interior trim section.

RELATED TO HANDS-FREE PHONE

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

Check Compatibility

- 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:

Symptoms	Check items	Probable malfunction location
Does not recognize cellular phone connection (no connection is displayed on the display at the guide).	Repeat the registration of cellular phone.	Malfunction in audio unit. Replace audio unit. Refer to AV-213, "Removal and Installation" .
Hands-free phone cannot be established.	- Hands-free phone operation can be made, but the communication cannot be established. - Hands-free phone operation can be performed, however, voice between each other cannot be heard during the conversation.	
The other party's voice cannot be heard by hands-free phone.	Check the "microphone speaker" in Inspection & Adjustment Mode if sound is heard.	
Originating sound is not heard by the other party with hands-free phone communication.	Sound operation function is normal.	Microphone signal circuit malfunction. Refer to AV-202, "Diagnosis Procedure" .
	Sound operation function does not work.	

AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[DISPLAY AUDIO WITH AMPLIFIER]

Symptoms	Check items	Probable malfunction location
The system cannot be operated.	- The voice recognition can be controlled. - Steering switch's , , , and  switch works, but  does not work.	Steering switch malfunction. Replace steering switch. Refer to AV-220, "Removal and Installation" .
	Steering switch's  ,  ,  , and  switches do not work.	Steering switch signal circuit malfunction. Refer to AV-204, "Diagnosis Procedure" .
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to AV-204, "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-200, "Diagnosis Procedure" .
	Camera image signal circuit malfunction.	Camera image signal circuit malfunction between rear view camera and audio unit. Refer to AV-200, "Diagnosis Procedure" .
	Rear view camera malfunction.	Replace rear view camera. Refer to AV-226, "Removal and Installation" .

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

AV

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[DISPLAY AUDIO WITH AMPLIFIER]

NORMAL OPERATING CONDITION

Description

INFOID:000000011559456

RELATED TO NOISE

The majority of the audio concerns are the result of outside causes (bad CD, electromagnetic interference, etc.).

The following noise results from variations in field strength, such as fading noise and multi-path noise, or external noise from trains and other sources. It is not a malfunction:

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

The vehicle itself can be a source of noise if noise prevention parts or electrical equipment is malfunctioning. Check if noise is caused and/or changed by engine speed, ignition switch turned to each position, and operation of each piece of electrical equipment, and determine the cause.

NOTE:

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

Type of Noise and Possible Cause

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

REMOVAL AND INSTALLATION

AUDIO UNIT

Removal and Installation

INFOID:0000000011559457

AUDIO UNIT

Removal

1. Disconnect the battery negative terminal. Refer to [PG-85, "Removal and Installation"](#).
2. Remove the cluster lid D. Refer to [IP-16, "Removal and Installation"](#).
3. Remove the audio unit screws.
4. Pull the audio unit out from the instrument panel.
5. Disconnect the harness connectors from the audio unit 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

SATELLITE RADIO ANTENNA

< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITH AMPLIFIER]

SATELLITE RADIO ANTENNA

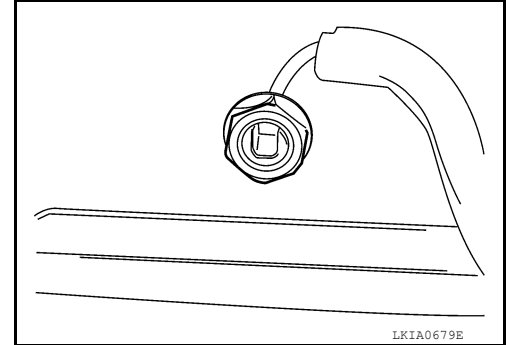
Removal and Installation

INFOID:0000000011559458

SATELLITE RADIO ANTENNA

Removal

1. Lower the headliner. Refer to [INT-22. "Removal and Installation"](#).
2. Disconnect the satellite radio antenna connector.
3. Remove the satellite radio antenna nut.
4. Remove the satellite radio antenna.



Installation

Installation is in the reverse order of removal.

FRONT TWEETER

< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITH AMPLIFIER]

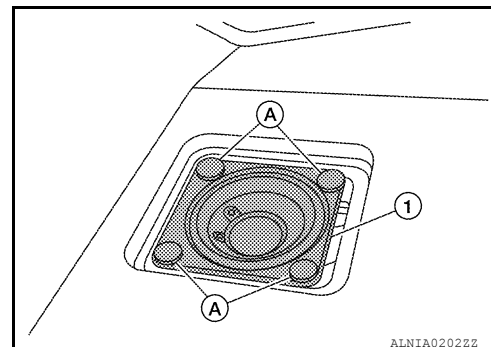
FRONT TWEETER

Removal and Installation

INFOID:0000000011559459

REMOVAL

1. Remove front tweeter speaker grille using a suitable tool.
2. Remove the front tweeter clips (A).
3. Disconnect the harness connector from the front tweeter (1) 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

CENTER SPEAKER

< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITH AMPLIFIER]

CENTER SPEAKER

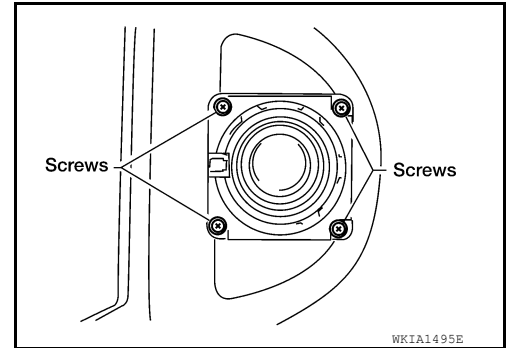
Removal and Installation

INFOID:000000011559460

CENTER SPEAKER

Removal

1. Remove the cluster lid C. Refer to [IP-15. "Removal and Installation"](#).
2. Remove the center speaker screws.
3. Disconnect the harness connector from the center speaker and remove.



Installation

Installation is in the reverse order of removal.

FRONT DOOR SPEAKER

< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITH AMPLIFIER]

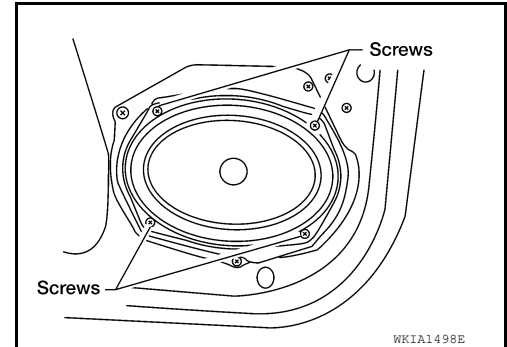
FRONT DOOR SPEAKER

Removal and Installation

INFOID:0000000011559461

REMOVAL

1. Remove the front door finisher. Refer to [INT-10. "Removal and Installation"](#).
2. Remove the front door speaker screws.
3. Disconnect the harness connector from the 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 WITH AMPLIFIER]

REAR DOOR SPEAKER

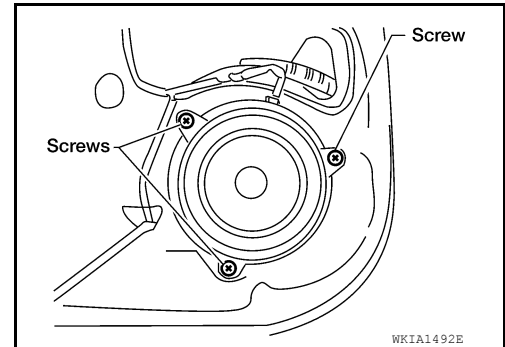
Removal and Installation

INFOID:0000000011559462

REAR DOOR SPEAKER

Removal

1. Remove the rear door finisher. Refer to [INT-10. "Removal and Installation"](#) (Crew Cab) or [INT-10. "Removal and Installation"](#) (King Cab).
2. Remove the rear door speaker screws.
3. Disconnect the harness connector from the rear door speaker and remove.



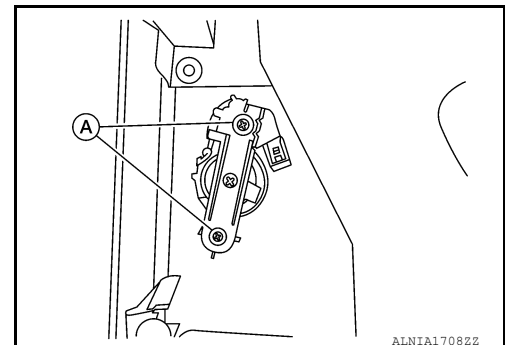
Installation

Installation is in the reverse order of removal.

REAR DOOR TWEETER

Removal

1. Remove the rear door finisher. Refer to [INT-10. "Removal and Installation"](#).
2. Remove the rear door tweeter screws (A).
3. Disconnect the harness connector from the rear door tweeter and remove.



Installation

Installation is in the reverse order of removal.

SUBWOOFER

< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITH AMPLIFIER]

SUBWOOFER

Removal and Installation

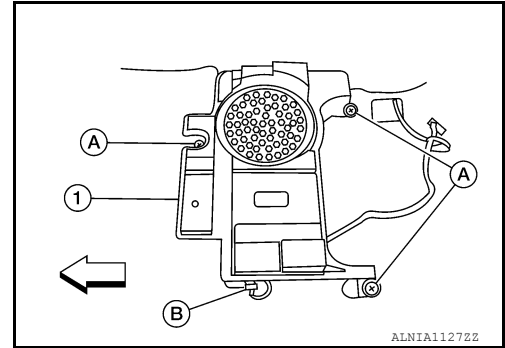
INFOID:0000000011559463

SUBWOOFER

Removal

1. Remove the (LH) front seat. Refer to [SE-34, "Removal and Installation - Front Seat Assembly"](#).
2. Remove the subwoofer bolts (A).
3. Disconnect the harness connector (B) from the subwoofer (1) and remove.

⇐: Front



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

STEERING SWITCH

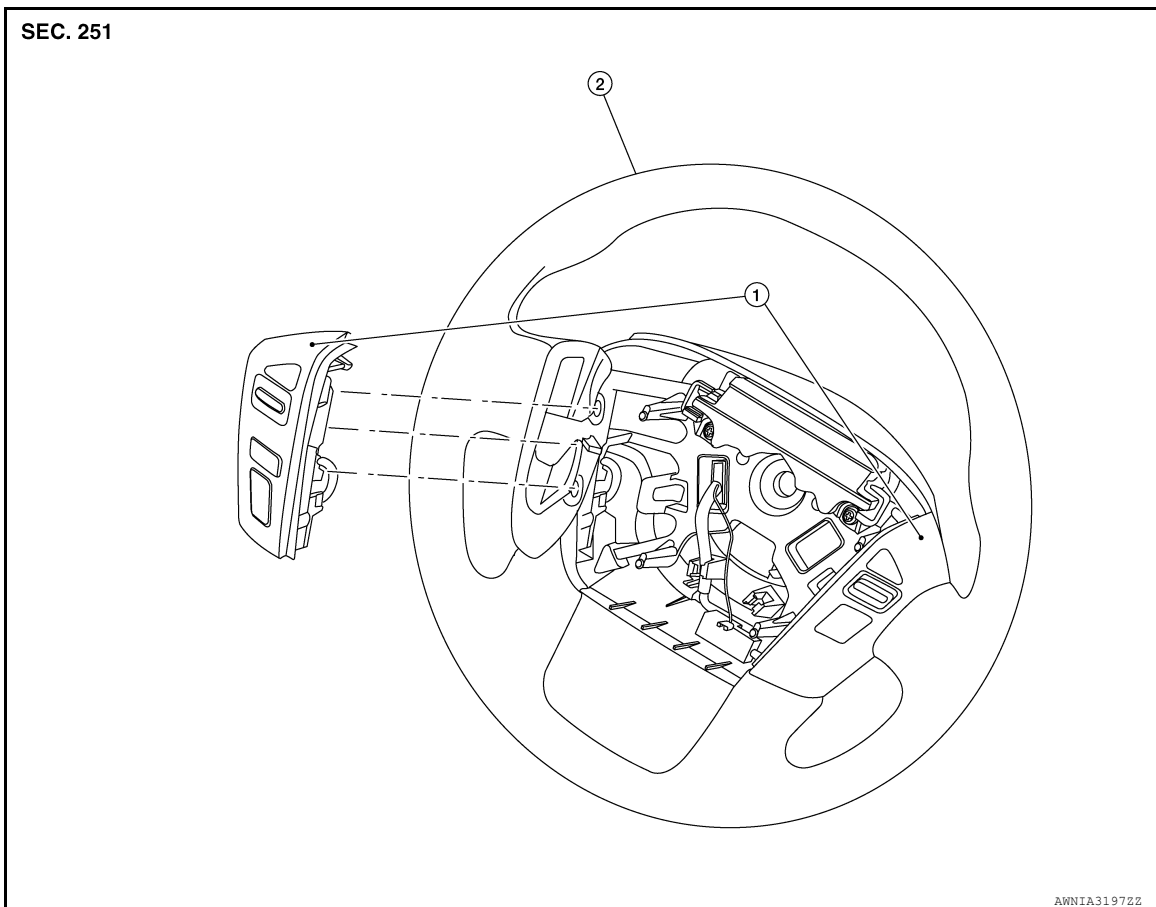
< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITH AMPLIFIER]

STEERING SWITCH

Removal and Installation

INFOID:0000000011559464



1. Steering wheel audio control switches 2. Steering wheel

STEERING WHEEL AUDIO CONTROL SWITCHES

Removal

1. Remove the steering wheel. Refer to [ST-22. "Removal and Installation"](#).
2. Remove the steering wheel rear cover screws and the steering wheel rear cover.
3. Remove the steering wheel switch assembly screws and the steering wheel switches.

Installation

Installation is in the reverse order of removal.

AUDIO AMP.

< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITH AMPLIFIER]

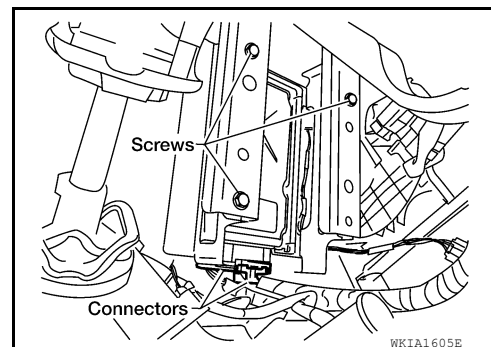
AUDIO AMP.

Removal and Installation

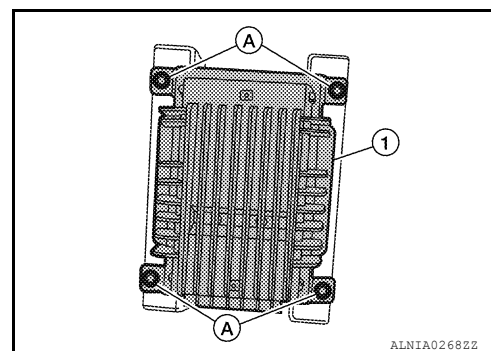
INFOID:000000011559465

REMOVAL

1. Remove the accelerator pedal. Refer to [ACC-3, "Removal and Installation"](#).
2. Remove the BCM. Refer to [BCS-56, "Removal and Installation"](#).
3. Remove the audio amp.
 - a. Disconnect the harness connector from the audio amp..
 - b. Remove the audio amp bracket screws and slide the audio amp and bracket assembly down.



4. Remove the audio amp. screws (A) and separate the audio amp. (1) from the bracket.



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

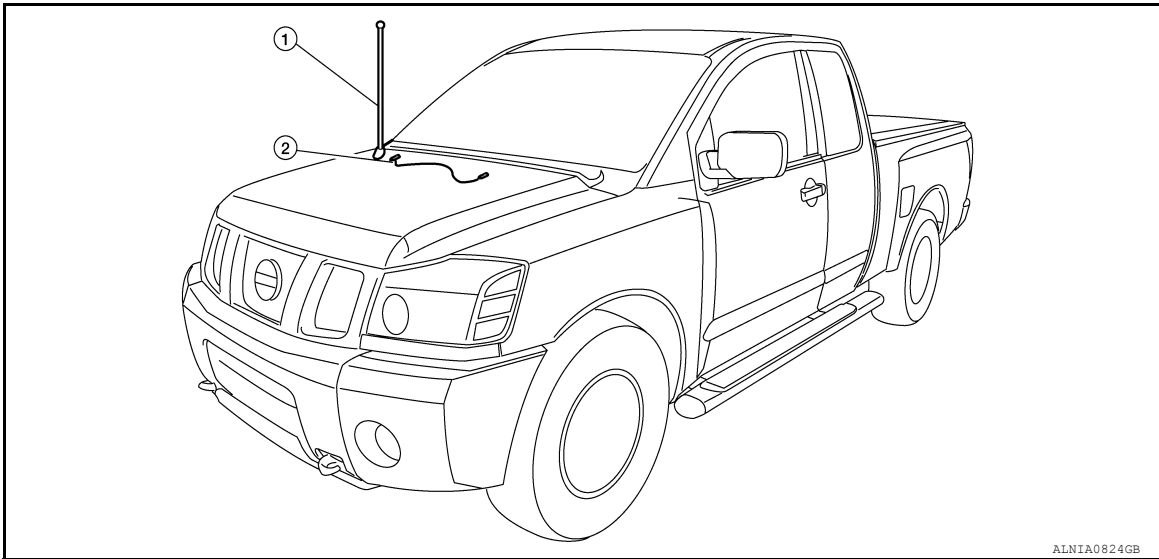
< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITH AMPLIFIER]

AUDIO ANTENNA

Location of Antenna

INFOID:000000011559466



1. Antenna

2. Main feeder cable

Removal and Installation

INFOID:000000011559467

REMOVAL

1. Remove audio antenna rod.
2. Remove audio antenna rubber seal.
3. Remove fender protector (RH). Refer to [EXT-24, "Removal and Installation"](#).
4. Remove audio antenna assembly bolts.
5. Disconnect the audio antenna feeder from the audio antenna assembly.
6. Remove audio antenna assembly from the vehicle.

INSTALLATION

Installation is in the reverse order of removal.

- Tighten audio antenna rod to specification.

Audio antenna rod : 3.5 N·m (0.36 kg-m, 31 in-lb)

CAUTION:

Always properly tighten the audio antenna rod during installation or the audio antenna rod may bend or break during vehicle operation.

AUXILIARY INPUT JACK

< REMOVAL AND INSTALLATION >

[DISPLAY AUDIO WITH AMPLIFIER]

AUXILIARY INPUT JACK

Removal and Installation

INFOID:0000000011875159

REMOVAL

1. Remove the center console. Refer to [IP-21, "Removal and Installation"](#).
2. Remove the auxiliary input jack.

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

USB CONNECTOR

Removal and Installation

INFOID:0000000011559468

REMOVAL

1. Remove the center console assembly. Refer to [IP-21. "Removal and Installation"](#).
2. Push the pawl from the back of the center console to remove the USB interface.

INSTALLATION

Installation is in the reverse order of removal.

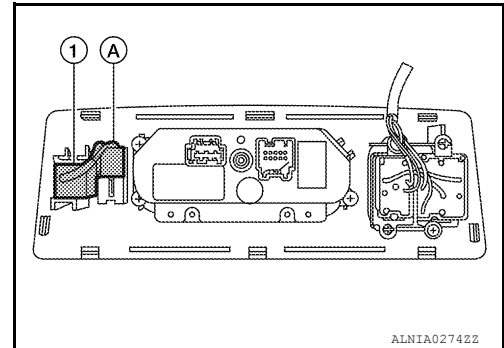
MICROPHONE

Removal and Installation

INFOID:0000000011559469

REMOVAL

1. Remove the front roof console finisher. Refer to [INT-22. "Removal and Installation"](#).
2. Disconnect the harness connector (A) from the microphone (1).
3. Detach the microphone (1) from the front roof console finisher.



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

REAR VIEW CAMERA

Removal and Installation

INFOID:0000000011559472

REMOVAL

1. Remove the tail gate handle. Refer to [DLK-137, "Exploded View"](#).
2. Remove the rear view camera screws and the rear view camera from the tail gate handle.

INSTALLATION

Installation is in the reverse order of removal.

PRECAUTION

PRECAUTIONS

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

INFOID:0000000011559473

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the 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 Trouble Diagnosis

INFOID:0000000011559474

AV COMMUNICATION SYSTEM

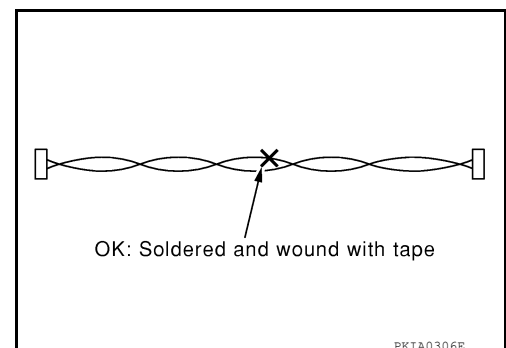
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

INFOID:0000000011559475

AV COMMUNICATION SYSTEM

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

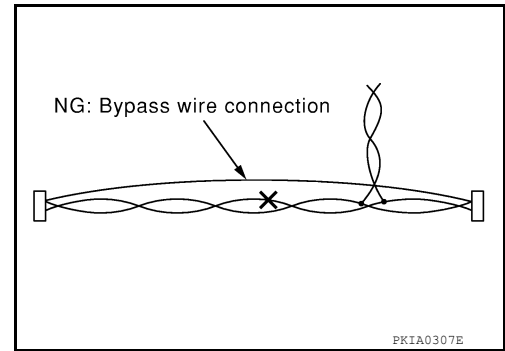


PRECAUTIONS

< PRECAUTION >

[NAVIGATION]

- 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:0000000011559476

- 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]

PREPARATION

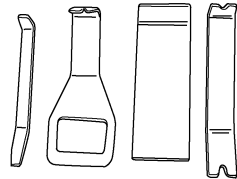
PREPARATION

Special Service Tools

INFOID:0000000011559477

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



AWJIA04832Z

Commercial Service Tools

INFOID:0000000011559478

Tool name	Description
Power tool	Loosening nuts, screws and bolts



PIIB1407E

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

AV

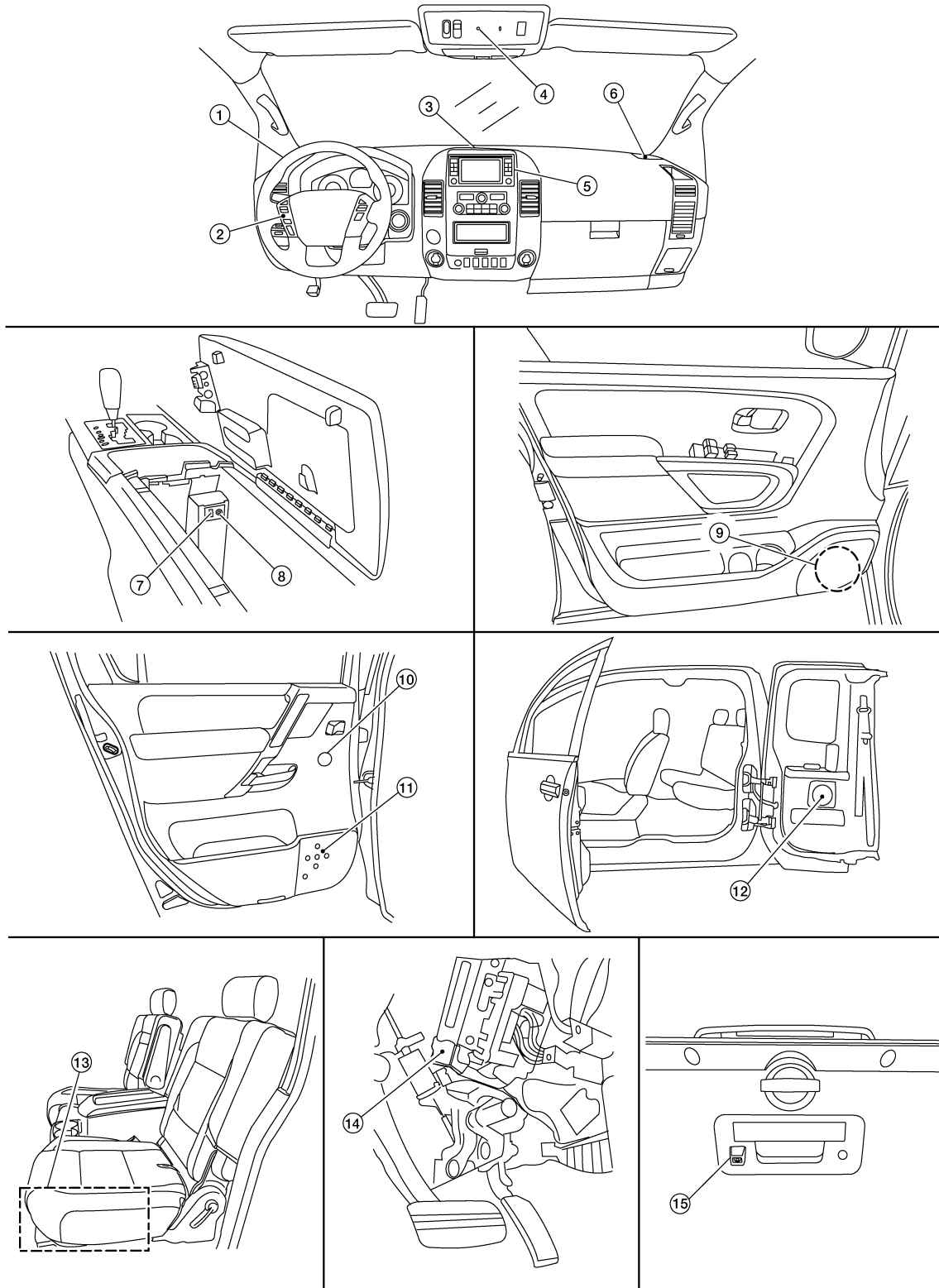
O
P

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000011559479

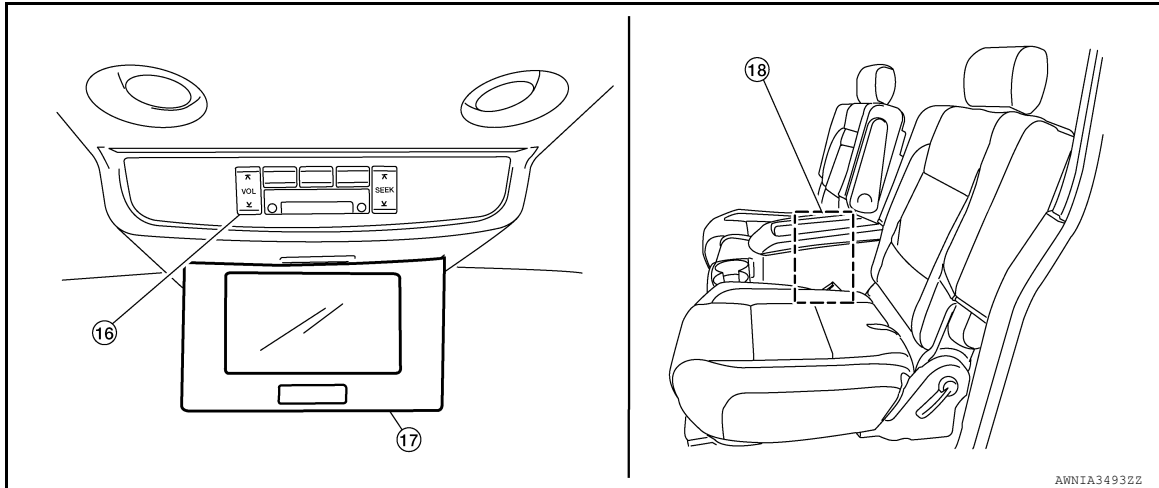


AWNIA39442Z

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[NAVIGATION]



1. Front tweeter LH M109	2. Steering wheel audio control switches	3. Center speaker M110
4. Microphone	5. AV control unit M42, M43, M45, M170, M184, M185	6. Front tweeter RH M111
7. USB interface M124	8. Auxiliary input jacks	9. Front door speaker LH D12 RH D112
10. Rear door tweeter (crew cab) LH D208 RH D308	11. Rear door speaker (crew cab) LH D207 RH D307	12. Rear door speaker (king cab) LH B76 RH B159
13. Subwoofer B72	14. Audio amp M112, M113	15. Rear view camera T2
16. Rear control assembly (if equipped) R204	17. Video monitor (if equipped) R202	18. DVD player (if equipped) M205, M206

Component Description

INFOID:0000000011559480

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

COMPONENT PARTS

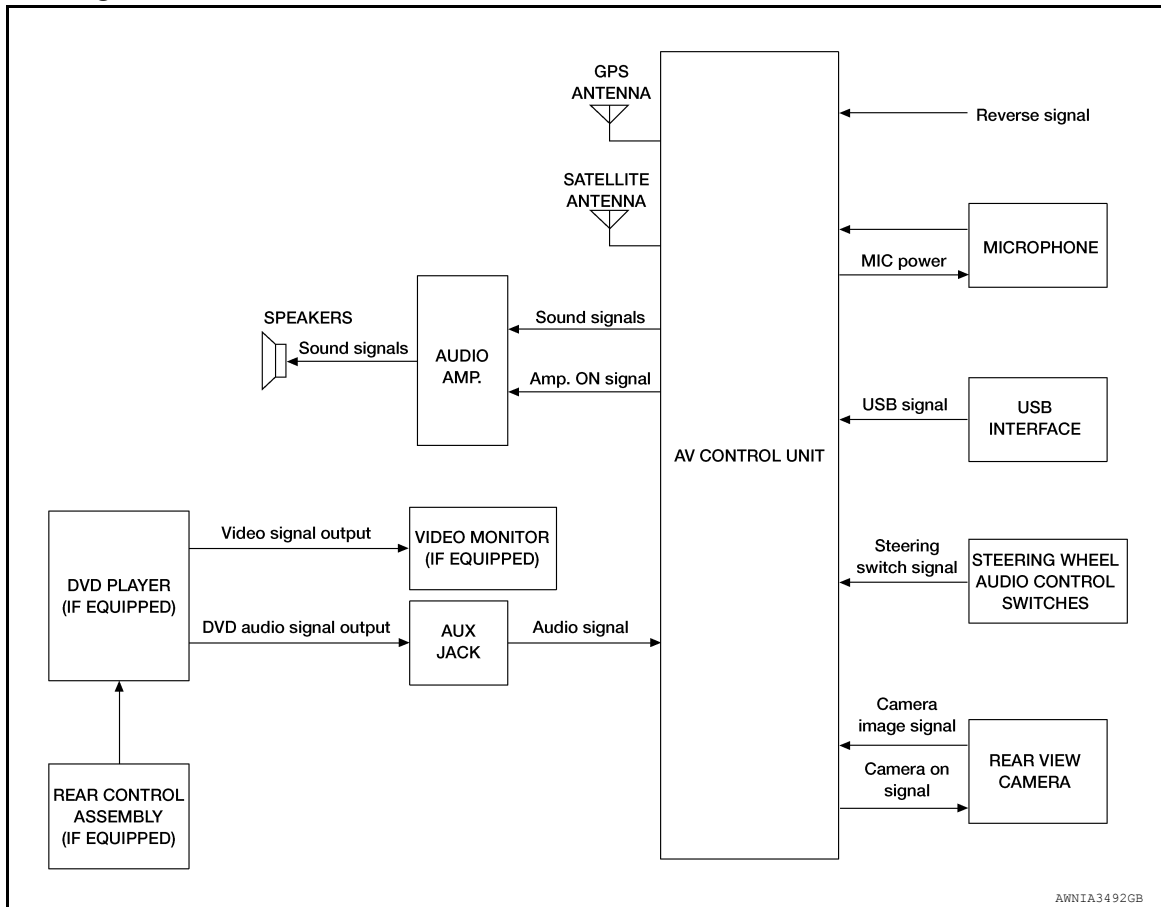
< SYSTEM DESCRIPTION >

[NAVIGATION]

Part name	Description
Rear view camera	• Outputs image of vehicle rear to AV control unit. • Power is supplied from AV control unit.
Satellite antenna	Satellite radio signal is received and transmitted to AV control unit.
GPS antenna	GPS signal is received and transmitted to AV control unit.
Antenna amp.	• AM/FM signal received by window antenna is amplified and transmitted to AV control unit. • Power is supplied from AV control unit.
Window antenna	AM/FM signal is received and transmitted to antenna amp.
DVD player	• Outputs DVD video to video monitor. • Outputs DVD audio to AV control unit via AUX JACK.
Video monitor	Receives and displays the DVD video signal.
Rear control assembly	• Audio and DVD functions can be operated. • Switch signal is output to the DVD player. • Receives audio signal from DVD player for headphones.

SYSTEM

System Diagram



System Description

INFOID:0000000011559482

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

This navigation has the following functions:

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

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

NAVIGATION SYSTEM FUNCTION

Description

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

POSITION DETECTION PRINCIPLE

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

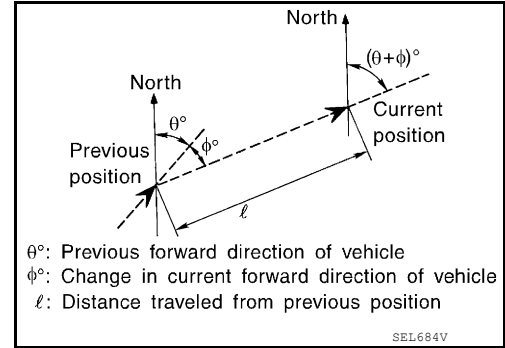
- Travel distance of the vehicle as determined by the vehicle speed sensor

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

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

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

- Travel distance
Travel distance calculations are based on the vehicle speed sensor input signal. Therefore, the calculation may become incorrect as the tires wear down. To prevent this, an automatic distance correction function has been adopted.
- Travel direction
Change in the travel direction of the vehicle is calculated by a gyroscope (angular velocity sensor) and a GPS antenna (GPS information). They have both advantages and disadvantages.



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

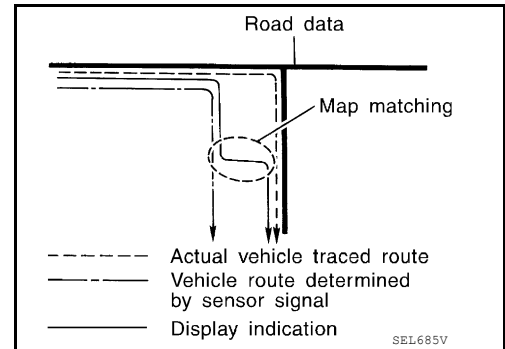
More accurate traveling direction is detected because priorities are set for the signals from these two devices according to the situation.

MAP-MATCHING

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

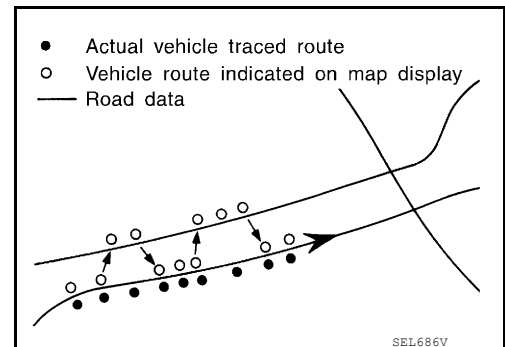
NOTE:

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

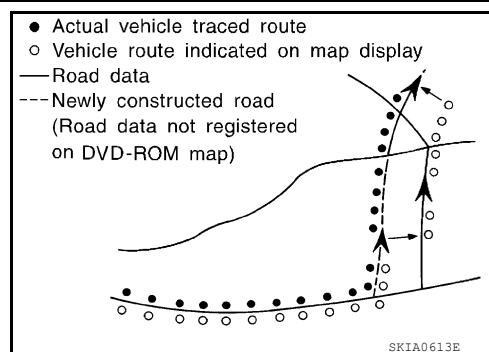


The vehicle position may not be corrected under the following circumstances and after driving for a certain time when GPS information is difficult to receive. In this case, the vehicle mark on the display must be corrected manually:

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



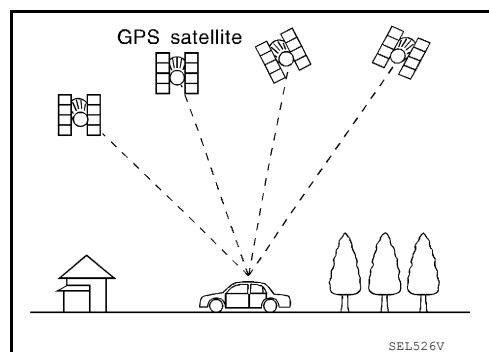
- Map-matching does not function correctly when a road on which the vehicle is driving is new and not recorded in the map SD-card, or when road pattern stored in the map data and the actual road pattern are different due to repair. The map-matching function may find another road and position the vehicle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



GPS (Global Positioning System)

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

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



Accuracy of the GPS will deteriorate under the following conditions:

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

NOTE:

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

SATELLITE RADIO FUNCTION

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

AUXILIARY INPUT FUNCTION

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

REAR VIEW MONITOR FUNCTION

Camera Image Operation Principle

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

USB CONNECTION FUNCTION

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

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

NOTE:

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

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

SPEED SENSITIVE VOLUME SYSTEM

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

HANDS-FREE PHONE SYSTEM

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

When A Call Is Originated

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

When Receiving A Call

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

DVD PLAYER SYSTEM

The DVD entertainment system consists of the following components:

- DVD player
- Video monitor
- Rear control assembly

When the DVD entertainment system is on, video signals are sent from the DVD player to the video monitor. Audio signals are sent to the AV control unit via AUX JACK. Audio signals can be directed through the wireless infrared headphones or through the audio amp. to the vehicle speakers. Refer to the Owner's Manual for complete DVD entertainment system operating instructions.

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

< SYSTEM DESCRIPTION >

[NAVIGATION]

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

Description

INFOID:0000000011559483

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

Mode		Item	Content
Version		—	Version data of the AV control unit is displayed.
User Configuration	Touch Display Calibration	—	Allows correction of the position detection accuracy of the touch panel.
Radio	FM monitor	—	Monitors the dynamic values of the current tuner
	AM monitor	—	
	XM monitor	—	Version data is displayed.
	XM functions	• Clear XM Chipset NVM • Reset All XM Settings • Clear IGS • XM CBM Debug Mode • External Diag Mode	Current status is displayed.
System State	Running System Status	• SD card slot Access • Power Supply • Speed Signal • Direction Signal • Illumination Signal • GPS Antenna • GPS Tracking • Satellites Visible • Satellites Tracked • BTHFU Status • Radio Antenna • USB Device • iPod® firmware version • Steering wheel key	The current system status is displayed.
	Speaker Test 4kHz	—	This activates a sequence of test tone outputs to the audio circuits one after the other for 1 second.
	Speaker Test 100Hz		
	Display-Test	—	This provides a test sequence where test displays (plain colored display: e.g. white, black, red, blue, green) are shown one after the other. The respective color is shown for an indicated period of time (parameter). After the display test, the design of the display previously available is stored. While the screen shows a plain colored display, a pixel malfunction may be detected.
Self Test		• SD Card Access • Radio Antenna • GPS Antenna • XM Antenna	A system self test is executed and the results are stored into the error memory.

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

On Board Diagnosis Function

INFOID:0000000011559484

METHOD OF STARTING

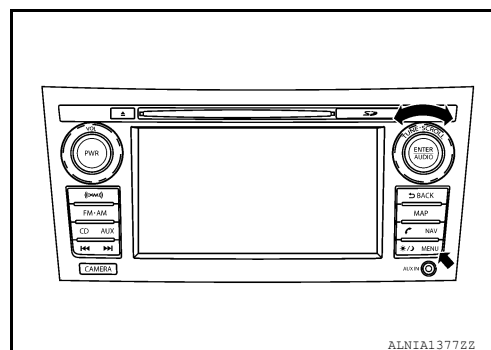
1. Turn the ignition ON.
2. Turn the audio system OFF.

DIAGNOSIS SYSTEM (AV CONTROL UNIT)

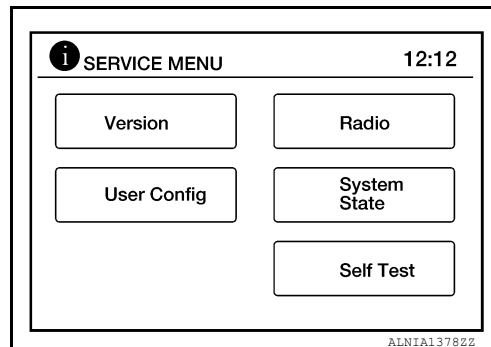
< SYSTEM DESCRIPTION >

[NAVIGATION]

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



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



CONSULT Function

INFOID:000000011559485

CONSULT FUNCTIONS

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

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

ECU IDENTIFICATION

The part number of AV control unit is displayed.

SELF DIAGNOSTIC RESULT

Refer to [AV-242, "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-272, "CONFIGURATION \(AV CONTROL UNIT\) : Description"](#).

CAN DIAG SUPPORT MNTR

Refer to [LAN-10, "CAN Diagnostic Support Monitor"](#).

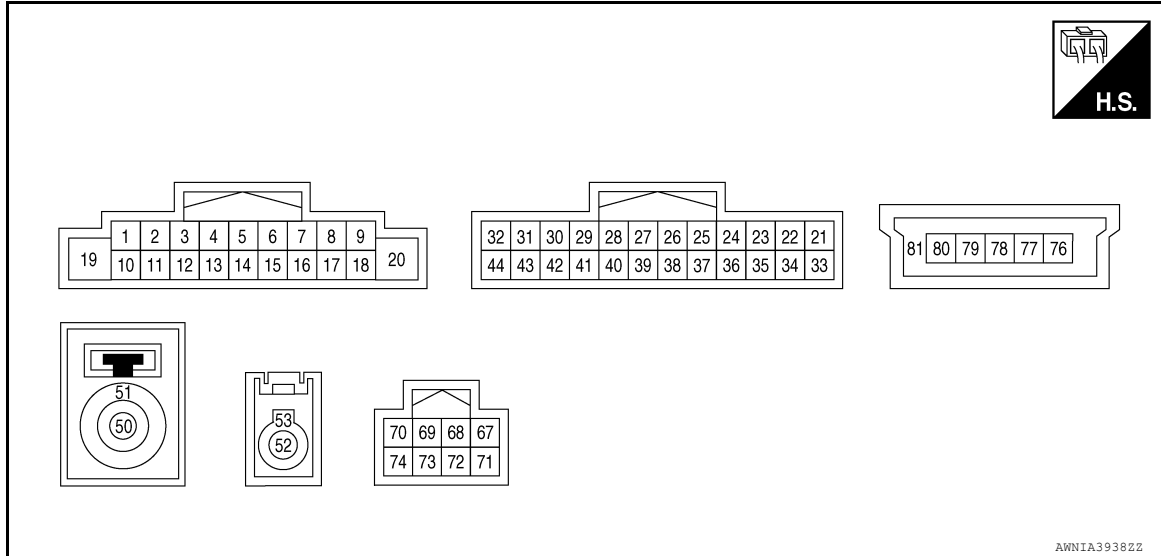
ECU DIAGNOSIS INFORMATION

AV CONTROL UNIT

Reference Value

INFOID:0000000011559486

TERMINAL LAYOUT



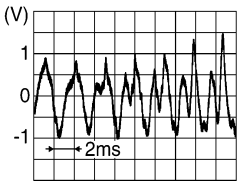
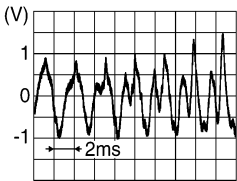
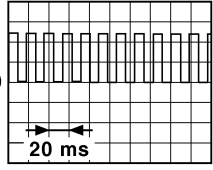
PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output	Ignition switch	Operation	
1 (G/W)	Ground	Amp. ON signal	Output	ACC	—	Battery voltage
2 (Y)	3 (BR)	Sound signal front speaker LH	Output	ON	Sound output	 SKIB3609E
4 (BR)	5 (B/R)	Sound signal rear speak- er LH	Output	ON	Sound output	 SKIB3609E
6 (R)	15 (L)	Steering switch signal A	Input	Ignition switch ON	Press and hold SOURCE switch.	0V
					Press and hold Δ switch.	1.0V
					Press and hold ∇ switch.	2.0V
					Press and hold $\swarrow$ switch.	3.0V
					Except for above.	5.0V

AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

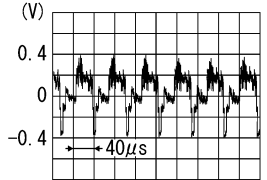
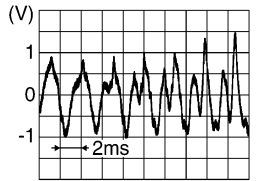
[NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output	Ignition switch	Operation	
7 (V)	Ground	ACC power supply	Input	ACC	—	Battery voltage
8 (L)	—	CAN (H)	Input/ Output	—	—	—
9 (R/L)	44 (BR)	Illumination control signal	Input	ON	Headlamps ON	Battery voltage
10 (Shield)	—	Shield	—	—	—	—
11 (W)	12 (B)	Sound signal front speaker RH	Output	ON	Sound output	 SKIB3609E
13 (L)	14 (B/W)	Sound signal rear speak- er RH	Output	ON	Sound output	 SKIB3609E
16 (G)	15 (L)	Steering switch signal B	Input	Ignition switch ON	Press and hold  switch	0V
					Press and hold  switch	1.0V
					Press and hold  switch	2.0V
					Except for above	5.0V
17 (P)	—	CAN (L)	Input/ Output	—	—	—
18 (W/R)	Ground	Vehicle speed signal	Input	ON	When vehicle speed is ap- prox. 40 km/h (25 MPH)	 JSNIA0012GB
19 (Y)	Ground	Battery power supply	Input	OFF	—	Battery voltage
20 (B)	Ground	Ground	—	ON	—	0 V
23 ¹ (SB)	—	MR output	—	—	—	—
23 ² (R/L)	—	MR output	—	—	—	—

AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output	Ignition switch	Operation	
28 (G/W)	Ground	Reverse signal	Input	ON	Selector lever in R (reverse)	Battery voltage
					Selector lever in any position other than R (reverse)	0 V
30 ² (W)	—	Audio L	Input	—	—	—
31 ² (R)	—	Audio ground	—	—	—	—
32 ² (B)	—	Audio R	Input	—	—	—
33 (B)	Ground	Rear view camera video signal ground	—	ON	—	0 V
34 (W)	—	Rear view camera ON	—	—	—	—
36 (R)	35 (Shield)	Camera image signal	Input	ON	When camera image is displayed	 SKIB2251J
37 (G/R)	Ground	Ignition power supply	Input	ON or START	—	Battery voltage
42 (W)	Ground	Microphone power supply	Output	ON	—	5.0 V
43 (B)	41 (Shield)	Microphone signal	Input	ON	While speaking into microphone.	 SKIB3609B
50 (B)	—	GPS antenna signal	—	—	—	—
51 (B)	—	Shield	—	—	—	—
52 (B)	—	Satellite antenna signal	—	—	—	—
53 (B)	—	Shield	—	—	—	—
68 ¹ (R)	—	AUX in ground	—	—	—	—
69 ¹ (B)	—	AUX in R	Input	—	—	—
70 ¹ (W)	—	AUX in L	Input	—	—	—
76 (B)	—	USB ground	—	—	—	—

A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

P

AV CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output	Ignition switch	Operation	
78 (G)	—	USB D+	—	—	—	—
79 (W)	—	USB D-	—	—	—	—
80 (R)	—	V BUS signal	—	—	—	—
81 (Shield)	—	Shield	—	—	—	—

¹: without rear entertainment system

²: with rear entertainment system

DTC Index

INFOID:0000000011559487

CONSULT Display	Reference Page
U1000: CAN COMM CIRCUIT	AV-274, "DTC Logic"
U1010: CONTROL UNIT (CAN)	AV-275, "DTC Logic"
U1217: BLUETOOTH MODULE	AV-276, "DTC Logic"
U1229: iPod CERTIFICATION	AV-277, "DTC Logic"
U122F: Digital broadcasting connection error	AV-278, "DTC Logic"
U1244: GPS ANTENNA CONN	AV-279, "DTC Logic"
U1258: XM ANTENNA CONN	AV-280, "DTC Logic"
U1263: USB OVERCURRENT	AV-281, "DTC Logic"
U1265: AMP ON TERMINAL	AV-282, "DTC Logic"
U12AA: Configuration Error	AV-283, "DTC Logic"
U12AB: FM Antenna error	AV-284, "DTC Logic"
U12AC: Display Temperature too High	AV-285, "DTC Logic"
U12AD: ECU Temperature too High	AV-286, "DTC Logic"
U12AE: Internal Amplifier temperature Warning	AV-287, "DTC Logic"
U12AF: CD Mechanism Temperature Warning	AV-288, "DTC Logic"
U12B0: Supply Voltage Goes below 9V > 20s	AV-289, "DTC Logic"
U12B1: Supply Voltage Goes High > 16V for 20s	AV-290, "DTC Logic"
U1310: CONTROL UNIT (AV)	AV-291, "DTC Logic"

AUDIO AMP

< ECU DIAGNOSIS INFORMATION >

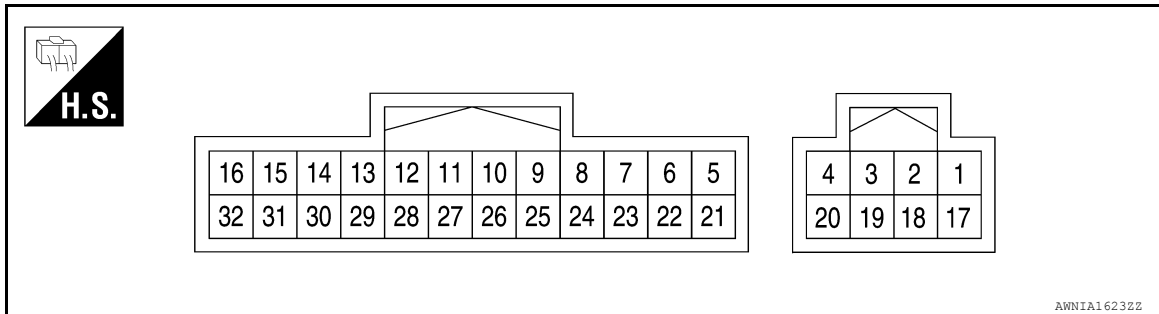
[NAVIGATION]

AUDIO AMP

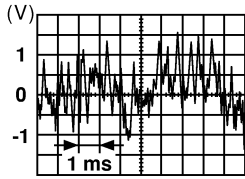
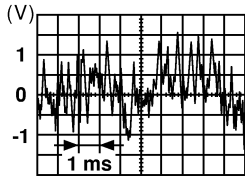
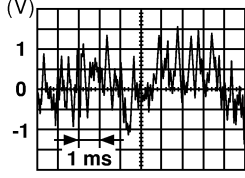
Reference Value

INFOID:0000000011559488

TERMINAL LAYOUT



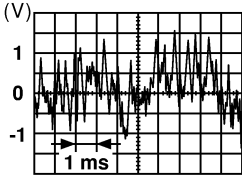
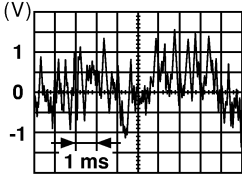
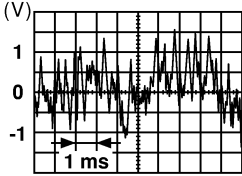
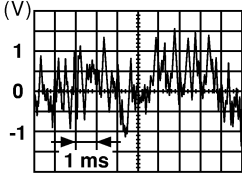
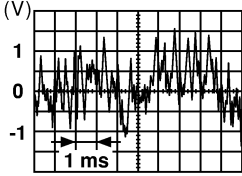
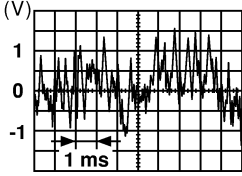
PHYSICAL VALUES

Terminal (wire color)		Item	Signal input/ output	Condition		Reference value (Approx.)
+	-					
1 (Y)	Ground	Battery	Input	-	-	Battery voltage
2 (W)	18 (B)	Subwoofer	Output	Ignition switch ON	Receive audio sig- nal	 SKIA0177E
3 (BR/W)	19 (BR)	Subwoofer	Output	Ignition switch ON	Receive audio sig- nal	 SKIA0177E
4 (B)	Ground	Ground	-	Ignition switch ON	-	-
9 (G/W)	Ground	Amp. ON signal	Input	Ignition switch ON	-	More than 6.5V
10 (L/W)	26 (L/B)	Center speaker	Output	Ignition switch ON	Receive audio sig- nal	 SKIA0177E

AUDIO AMP

< ECU DIAGNOSIS INFORMATION >

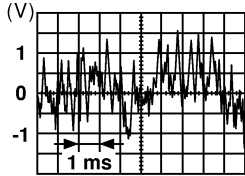
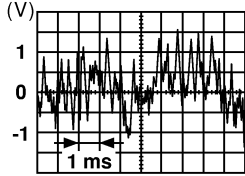
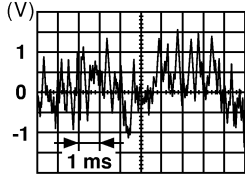
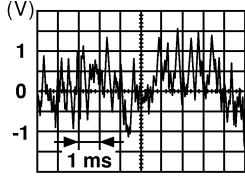
[NAVIGATION]

Terminal (wire color)		Item	Signal input/ output	Condition		Reference value (Approx.)
+	-					
11 (SB)	27 (B/Y)	Rear door speaker LH and rear door tweeter LH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
12 (O/L)	28 (R/L)	Rear door speaker RH and rear door tweeter RH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
13 (W/B)	29 (L/B)	Front door tweeter RH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
14 (L/W)	30 (L/R)	Front tweeter LH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
15 (L/W)	31 (L/R)	Front door speaker LH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
16 (W/B)	32 (L/B)	Front door speaker RH	Output	Ignition switch ON	Receive audio signal	 SKIA0177E
17 (Y/G)	Ground	Battery	Input	-	-	Battery voltage
20 (B)	Ground	Ground	-	Ignition switch ON	-	-

AUDIO AMP

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION]

Terminal (wire color)		Item	Signal input/ output	Condition		Reference value (Approx.)
+	-					
21 (W)	5 (B)	Audio sound sig- nal front RH	Input	Ignition switch ON	Receive audio sig- nal	 SKIA0177E
22 (Y)	6 (BR)	Audio sound sig- nal front LH	Input	Ignition switch ON	Receive audio sig- nal	 SKIA0177E
23 (L)	7 (B/W)	Audio sound sig- nal rear RH	Input	Ignition switch ON	Receive audio sig- nal	 SKIA0177E
24 (BR)	8 (B/R)	Audio sound sig- nal rear LH	Input	Ignition switch ON	Receive audio sig- nal	 SKIA0177E

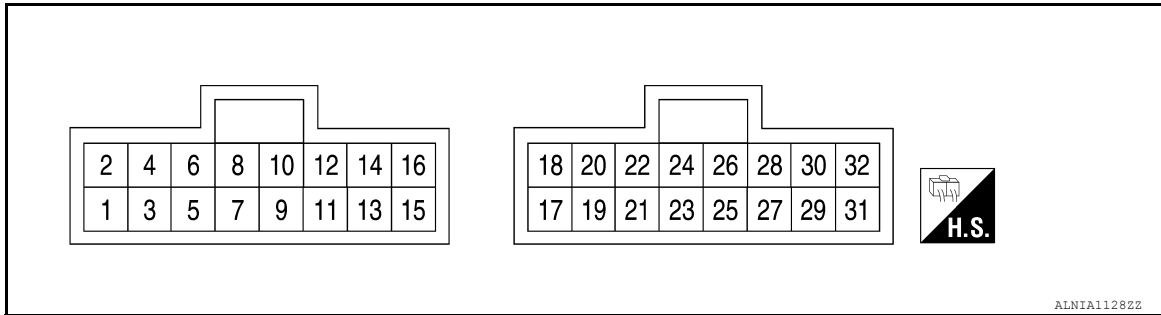
A
B
C
D
E
F
G
H
I
J
K
L
M
O
P

AV

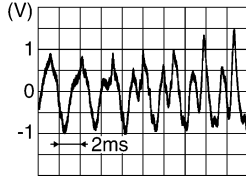
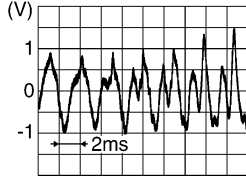
DVD PLAYER

Reference Value

INFOID:000000011559489



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output			
1 (B)	2 (W)	DVD audio signal LH	Output	Ignition switch ON	With operation of the DVD player	 SKIB3609E
3 (R)	4 (G)	DVD audio signal RH	Output	Ignition switch ON	With DVD player operation	 SKIB3609E
9 (S/B)	Ground	Audio ON	Output	Ignition switch ON	With DVD player operation	Battery voltage
10 (BR)	Ground	Illumination control	Input	Ignition switch ON	With lighting switch in 1st or 2nd position	Varies between 0 and Battery voltage
11 (S/B)	Ground	Family entertainment sys- tem enable	Input	Ignition switch ON	With DVD player operation	Battery voltage
12 (R/L)	Ground	Illumination power	Input	Ignition switch ON	With lighting switch in 1st or 2nd position	Battery voltage
15 (V)	Ground	ACC power	Input	Ignition switch ACC or ON	—	Battery voltage
16 (Y)	Ground	Battery power	Input	—	—	Battery voltage

DVD PLAYER

< ECU DIAGNOSIS INFORMATION >

[NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	—	Signal name	Input/ Output			
17 (R)	Ground	Common	—	Ignition switch ON	—	0V
18 (B)	Ground	DVD audio signal L	Output	—	—	—
19 (B/W)	Ground	Ground	—	Ignition switch ON	—	0V
20 (W)	Ground	DVD audio signal R	Output	—	—	—
21 (G/Y)	Ground	Switch power	Output	Ignition switch ON	With DVD player operation	5V
22 (B)	Ground	Ground	—	Ignition switch ON	—	0V
23 (B/W)	Ground	VTR (+)	Output	Ignition switch ON	With DVD player operation	—
24 (L)	Ground	VTR (-)	Output	Ignition switch ON	With DVD player operation	—
26 (Shield)	—	Shield	—	—	—	—
27 (B/Y)	Ground	Ground	—	Ignition switch ON	—	0V
28 (Y)	—	Data receive	Input	—	—	—
29 (BR)	—	Data transmit	Output	—	—	—
31 (SB)	Ground	Battery power	Output	—	—	Battery voltage
32 (BR)	Ground	Battery power	Output	—	—	Battery voltage

A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

P

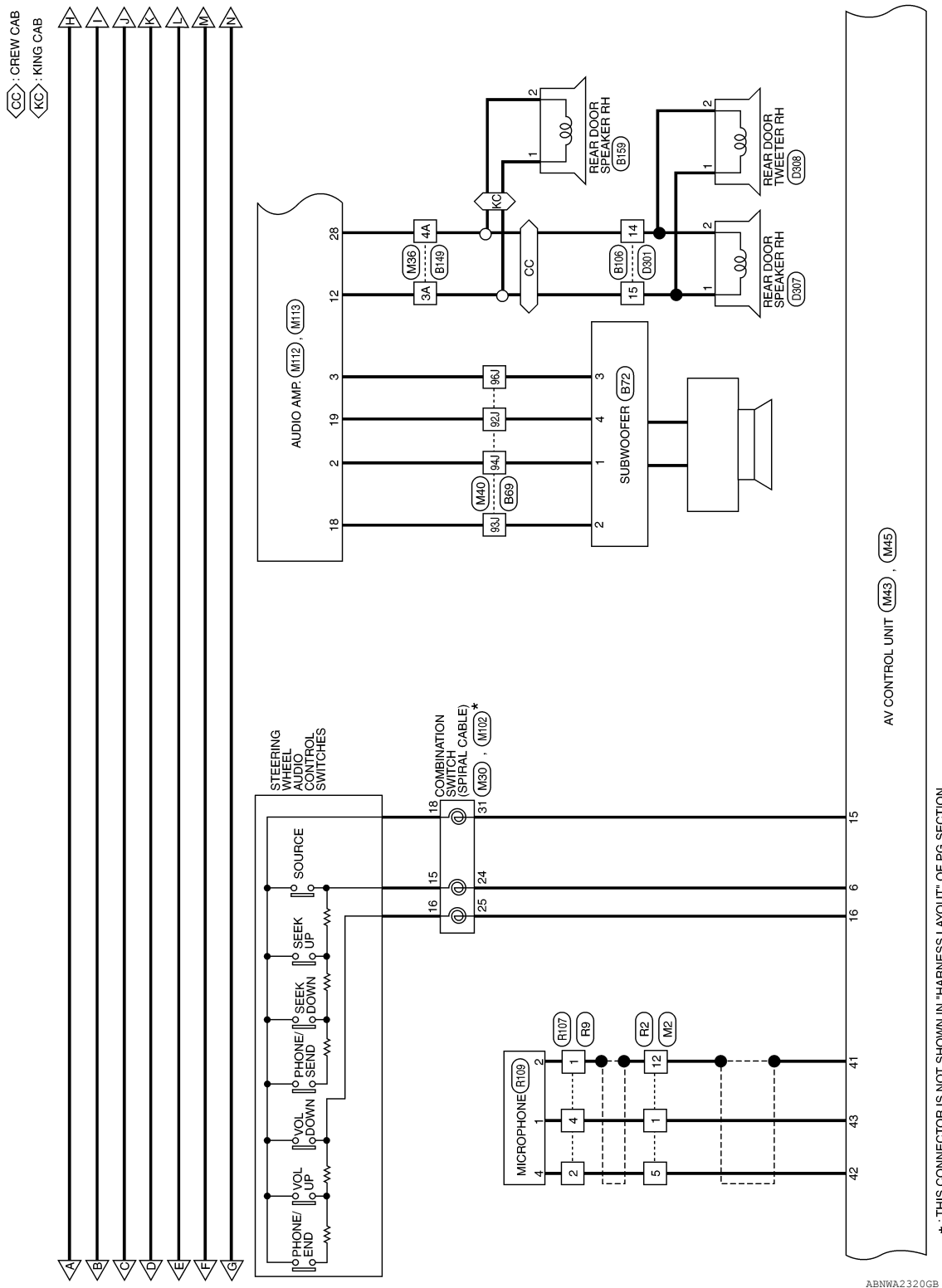
[illegible]

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

NAVIGATION SYSTEM

< WIRING DIAGRAM >

[NAVIGATION]



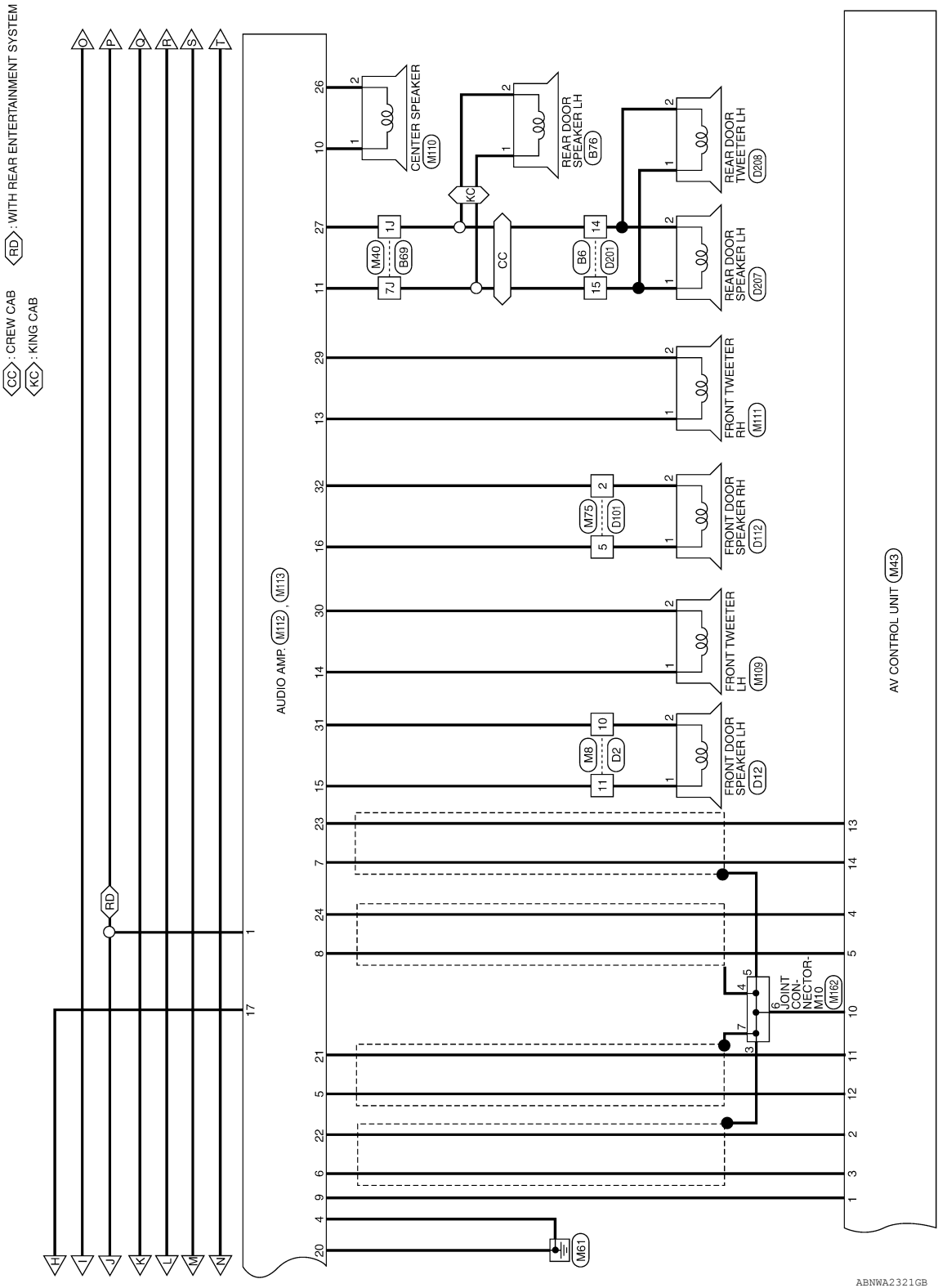
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P

AV

NAVIGATION SYSTEM

< WIRING DIAGRAM >

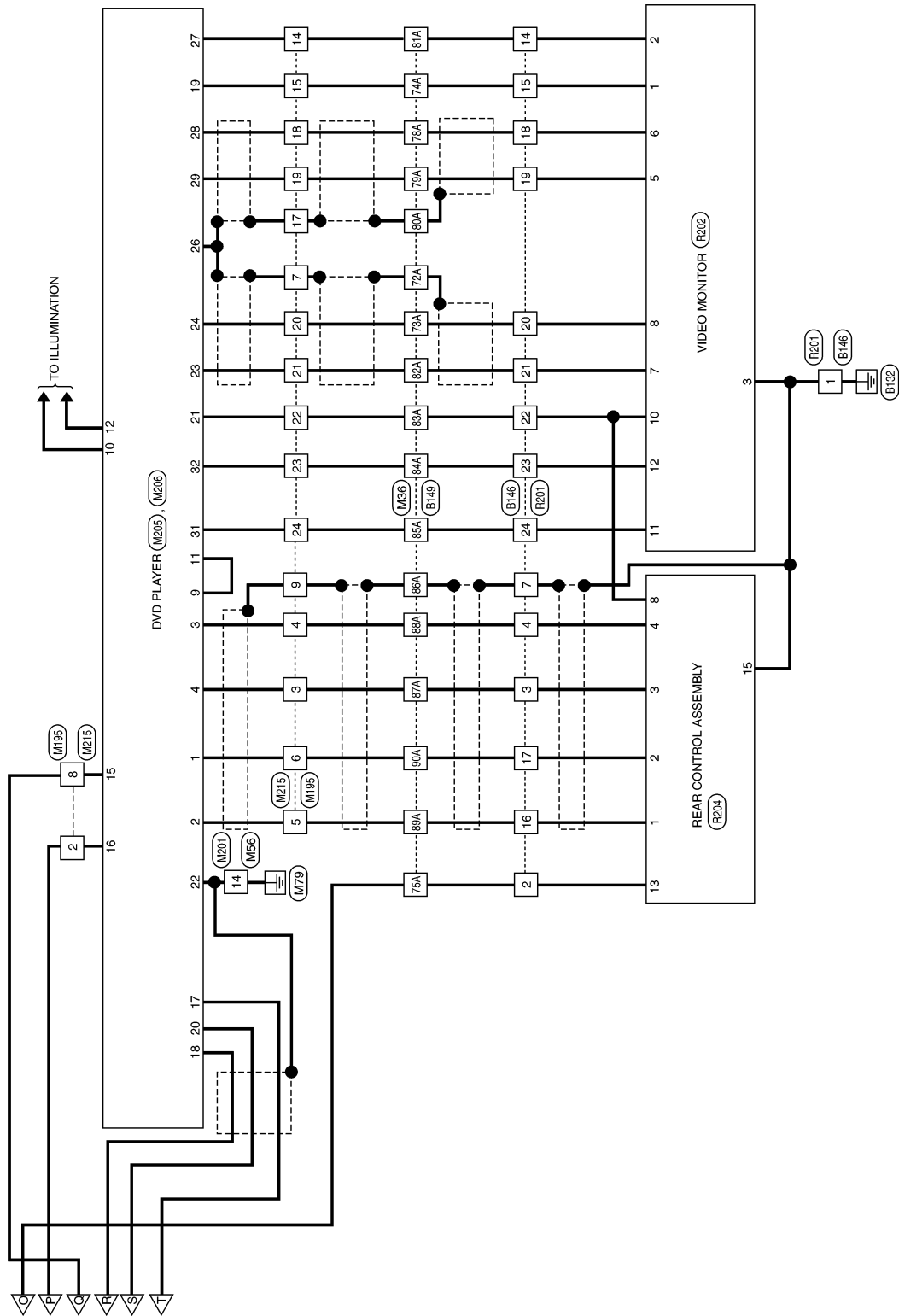
[NAVIGATION]



NAVIGATION SYSTEM

< WIRING DIAGRAM >

[NAVIGATION]



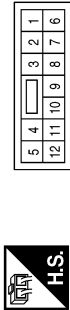
ABNWA2322GB

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

AV

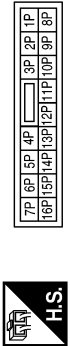
NAVIGATION SYSTEM CONNECTORS

Connector No.	M2
Connector Name	WIRE TO WIRE
Connector Color	WHITE



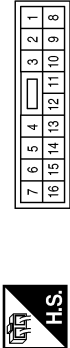
Terminal No.	Color of Wire	Signal Name
1	B	– (WITH NAVI)
5	W	– (WITH NAVI)
12	SHIELD	–

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



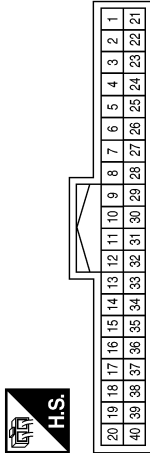
Terminal No.	Color of Wire	Signal Name
4P	V	–
16P	Y/G	–

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



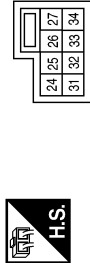
Terminal No.	Color of Wire	Signal Name
10	L/R	–
11	LW	–

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
29	W/R	SPEED OUT

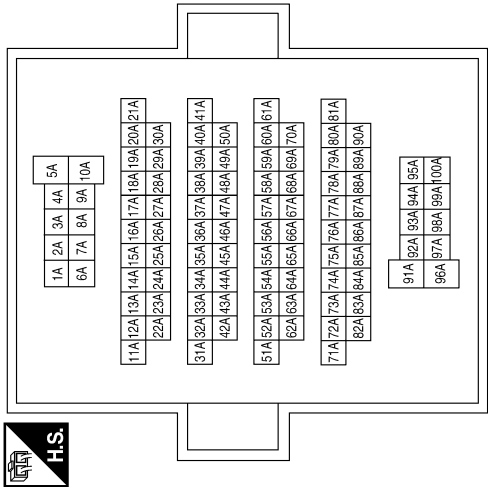
Connector No.	M30
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
24	R	–
25	G	–
31	L	– (WITH NAVI)

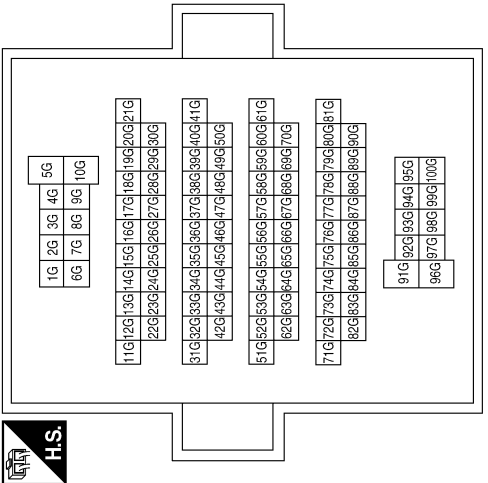
Terminal No.	Color of Wire	Signal Name
86A	SHIELD	-
87A	G	-
88A	R	-
89A	W	-
90A	B	-

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



Terminal No.	Color of Wire	Signal Name
3A	O/L	-
4A	R/L	-
72A	SHIELD	-
73A	L	-
74A	B/W	-
75A	R	-
78A	Y	-
79A	BR	-
80A	SHIELD	-
81A	B/Y	-
82A	B/W	-
83A	G/Y	-
84A	BR	-
85A	SB	-

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



Terminal No.	Color of Wire	Signal Name
7G	Y	-
13G	B	-
14G	SHIELD	-
23G	R	-
24G	W	-
27G	G/W	-
64G	R	-
94G	G/W	-
95G	G	-
98G	W/B	-

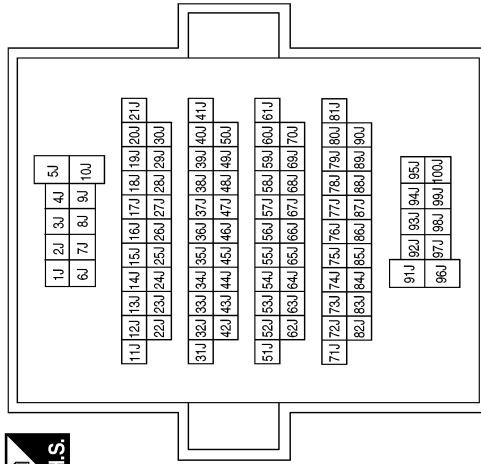
ABNIA6315GB

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

AV

Terminal No.	Color of Wire	Signal Name
1J	B/Y	-
7J	SB	-
92J	BR	-
93J	B	-
94J	W	-
96J	BR/W	-

Connector No.	M40
Connector Name	WIRE TO WIRE
Connector Color	WHITE

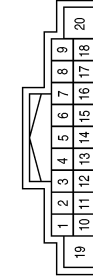


Connector No.	M39
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

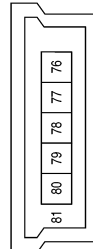


Terminal No.	Color of Wire	Signal Name
1Q	G/R	-

Connector No.	M43
Connector Name	AV CONTROL UNIT (WITH NAVIGATION SYSTEM)
Connector Color	WHITE



Connector No.	M42
Connector Name	AV CONTROL UNIT (WITH NAVIGATION SYSTEM)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
1	G/W	AMP ON
2	Y	FR SP LH+
3	BR	FR SP LH-
4	BR	RR SP LH+
5	B/R	RR SP LH-

Terminal No.	Color of Wire	Signal Name
76	B	USB GND
77	-	-
78	G	USB D+
79	W	USB D-
80	R	V BUS
81	SHIELD	SHIELD

Terminal No.	Color of Wire	Signal Name
6	R	STRG SW A
7	V	ACC
8	L	CAN-H
9	R/L	ILL (+), LIGHT SW
10	SHIELD	PRE AMP SHIELD
11	W	FR SP RH+
12	B	FR SP RH-
13	L	RR SP RH+
14	B/W	RR SP RH-
15	L	STRG SW GND
16	G	STRG SW B
17	P	CAN-L
18	W/R	SPEED SIG
19	Y	BAT
20	B	GND

AANIA3710GB

Connector No.	M56
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
9	SHIELD	-
12	B	-
13	W	-
14	R	-

Terminal No.	Color of Wire	Signal Name
29	-	-
30	W	AUDIO L
31	R	AUDIO GND
32	B	AUDIO R
33	B	GND
34	W	CAMERA ON
35	SHIELD	COMP-
36	R	COMP+
37	G/R	IGN
38	-	-
39	-	-
40	-	-
41	SHIELD	MIC GND
42	W	MIC VCC
43	B	MIC SIGNAL
44	BR	ILL (-)

Connector No.	M45
Connector Name	AV CONTROL UNIT (WITH NAVIGATION SYSTEM)
Connector Color	WHITE



32	31	30	29	28	27	26	25	24	23	22	21
44	43	42	41	40	39	38	37	36	35	34	33

Terminal No.	Color of Wire	Signal Name
21	-	-
22	-	-
23	SB	MR OUTPUT (WITHOUT REAR ENTERTAINMENT SYSTEM)
23	R/L	MR OUTPUT (WITH REAR ENTERTAINMENT SYSTEM)
24	-	-
25	-	-
26	-	-
27	-	-
28	G/W	REVERSE SIGNAL

Connector No.	M101
Connector Name	JOINT CONNECTOR-M03
Connector Color	BLUE



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

Terminal No.	Color of Wire	Signal Name
1	G/R	-
8	G/R	-
18	V	-
19	V	-
20	V	-

Connector No.	M75
Connector Name	WIRE TO WIRE
Connector Color	WHITE



4	3	2	1
10	9	8	7
6	5		

Terminal No.	Color of Wire	Signal Name
2	L/B	-
5	W/B	-

Connector No.	M73
Connector Name	BACK-UP LAMP RELAY
Connector Color	BROWN



2	1
7	5
6	3

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

AANIA3711GB

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

AV

NAVIGATION SYSTEM

< WIRING DIAGRAM >

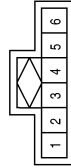
[NAVIGATION]

Connector No.	M109
Connector Name	FRONT TWEETER LH
Connector Color	BROWN



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

Connector No.	M104
Connector Name	AUX JACK (WITHOUT REAR ENTERTAINMENT SYSTEM)
Connector Color	WHITE



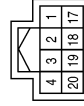
Terminal No.	Color of Wire	Signal Name
1	B	-
3	R	-
6	W	-

Connector No.	M102
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
15	B	-
16	R	-
18	BR	-

Connector No.	M112
Connector Name	AUDIO AMP.
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	Y	BAT
2	W	WOOFER 1+
3	BR/W	WOOFER 2+
4	B	GND
17	Y/G	BAT
18	B	WOOFER 1-
19	BR	WOOFER 2-
20	B	GND

Connector No.	M111
Connector Name	FRONT TWEETER RH
Connector Color	BROWN



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

Connector No.	M110
Connector Name	CENTER SPEAKER
Connector Color	BROWN



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

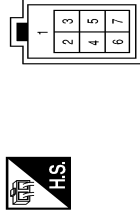
AANIA3712GB

NAVIGATION SYSTEM

< WIRING DIAGRAM >

[NAVIGATION]

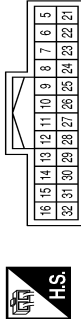
Connector No.	M115
Connector Name	WIRE TO WIRE
Connector Color	GRAY



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

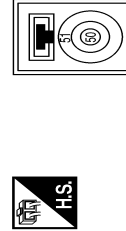
Terminal No.	Color of Wire	Signal Name
13	WB	FR RH TW+
14	LW	FR LH TW+
15	LW	FR LH OUT+
16	WB	FR RH OUT+
21	W	FR RH IN+
22	Y	FR LH IN+
23	L	RR RH IN+
24	BR	RR LH IN+
25	-	-
26	L/B	CIR OUT-
27	B/Y	RR LH OUT-
28	R/L	RR RH OUT-
29	L/B	FR RH TW-
30	L/R	FR LH TW-
31	L/R	FR LH OUT-
32	L/B	FR RH OUT-

Connector No.	M113
Connector Name	AUDIO AMP.
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
5	B	FR RH IN-
6	BR	FR LH IN-
7	B/W	RR RH IN-
8	B/R	RR LH IN-
9	GW	AMP ON
10	LW	CIR OUT+
11	SB	RR LH OUT+
12	O/L	RR RH OUT+

Connector No.	M184
Connector Name	AV CONTROL UNIT (WITH NAVIGATION SYSTEM)
Connector Color	-



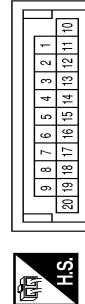
Terminal No.	Color of Wire	Signal Name
50	B	GPS ANT
51	B	GPS SHIELD

Connector No.	M170
Connector Name	AV CONTROL UNIT
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
67	SHIELD	AUXIN SHIELD
68	R	AUXIN GND
69	B	AUXIN R
70	W	AUXIN L
71	-	-
72	-	-
73	-	-
74	-	-

Connector No.	M162
Connector Name	JOINT CONNECTOR-M10
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
3	SHIELD	-
4	SHIELD	-
5	SHIELD	-
6	SHIELD	-
7	SHIELD	-
11	B	-
12	B	-
17	SHIELD	-

AANIA3713GB

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

AV

Terminal No.	Color of Wire	Signal Name
17	SHIELD	-
18	Y	-
19	BR	-
20	L	-
21	B/W	-
22	G/Y	-
23	BR	-
24	SB	-

Connector No.	M195
Connector Name	WIRE TO WIRE
Connector Color	BROWN

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



Terminal No.	Color of Wire	Signal Name
2	Y	-
3	G	-
4	R	-
5	W	-
6	B	-
7	SHIELD	-
8	V	-
9	SHIELD	-
14	B/Y	-
15	B/W	-

Connector No.	M185
Connector Name	AV CONTROL UNIT (WITH NAVIGATION SYSTEM)
Connector Color	-



Terminal No.	Color of Wire	Signal Name
52	B	SAT ANT
53	B	SAT SHIELD

Terminal No.	Color of Wire	Signal Name
6	-	-
7	-	-
8	-	-
9	S/B	AUDIO ON
10	BR	ILL-
11	S/B	FES ENABLE
12	R/L	LIGHTING SW
13	-	-
14	-	-
15	V	ACC
16	Y	B+

Connector No.	M205
Connector Name	DVD PLAYER
Connector Color	GRAY

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



Terminal No.	Color of Wire	Signal Name
1	B	FES L+ OUTPUT
2	W	FES L- OUTPUT
3	R	FES R+ OUTPUT
4	G	FES R- OUTPUT
5	-	-

Connector No.	M201
Connector Name	WIRE TO WIRE
Connector Color	WHITE

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



Terminal No.	Color of Wire	Signal Name
9	SHIELD	-
12	B	-
13	W	-
14	R	-

AANIA3714GB

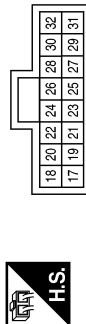
Connector No.	M211
Connector Name	AUX JACK (WITH REAR ENTERTAINMENT SYSTEM)
Connector Color	WHITE



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

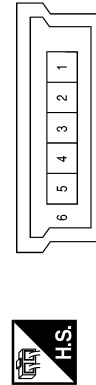
Terminal No.	Color of Wire	Signal Name
27	B/Y	GND
28	Y	DATA RX
29	BR	DATA TX
30	-	-
31	SB	+B
32	BR	+B

Connector No.	M206
Connector Name	DVD PLAYER
Connector Color	BLUE



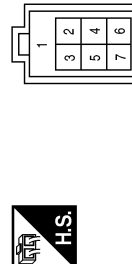
Terminal No.	Color of Wire	Signal Name
17	R	FES OUTPUT COMMON
18	B	FES L+ OUTPUT
19	B/W	GND
20	W	FES R+ OUTPUT
21	G/Y	SW POWER +5V
22	B	GND
23	B/W	VTR+
24	L	VTR-
25	-	-
26	SHIELD	VTR SHIELD

Connector No.	M214
Connector Name	USB INTERFACE
Connector Color	BLACK



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

Connector No.	M213
Connector Name	WIRE TO WIRE
Connector Color	GRAY



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

AANIA3715GB

Connector No.	E5
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



Terminal No.	Color of Wire	Signal Name
13	R	—

Terminal No.	Color of Wire	Signal Name
17	SHIELD	—
18	Y	—
19	BR	—
20	L	—
21	B/W	—
22	G/Y	—
23	BR	—
24	SB	—

Connector No.	M215
Connector Name	WIRE TO WIRE
Connector Color	BROWN

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



Terminal No.	Color of Wire	Signal Name
2	Y	—
3	G	—
4	R	—
5	W	—
6	B	—
7	SHIELD	—
8	V	—
9	SHIELD	—
14	B/Y	—
15	B/W	—

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

9	8	7	6	5		4	3	
18	17	16	15	14	13	12	11	10



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

Terminal No.	Color of Wire	Signal Name
24C	SHIELD	—
25C	W	—
28C	B	—
29C	R	—

Connector No.	E41
Connector Name	WIRE TO WIRE
Connector Color	GRAY

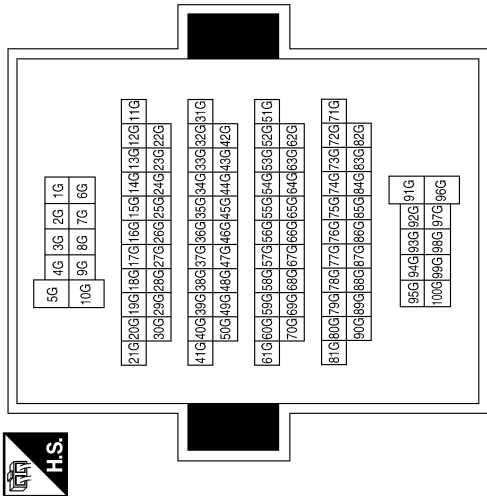


1C	2C	3C	4C	5C	6C	7C	8C	9C	10C	11C										
12C	13C	14C	15C	16C	17C	18C	19C	20C	21C	22C	23C	24C	25C	26C	27C	28C	29C	30C	31C	
32C	33C	34C	35C	36C	37C	38C	39C	40C	41C	42C	43C	44C	45C	46C	47C	48C	49C	50C	51C	52C

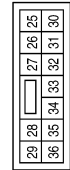
ABNIA6322GB

Terminal No.	Color of Wire	Signal Name
7G	Y	-
13G	B	-
14G	SHIELD	-
23G	R	-
24G	W	-
27G	G/W	-
64G	R	-
94G	G/W	-
95G	G	-
98G	W/B	-

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

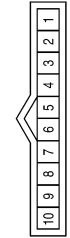


Connector No.	E121
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN

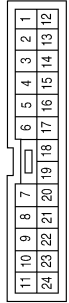


Terminal No.	Color of Wire	Signal Name
27	W/B	T TOW REV LAMP

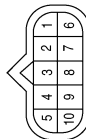
Connector No.	F502
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Color	GRAY



Connector No.	F14
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Connector No.	F9
Connector Name	A/T ASSEMBLY (FLOOR SHIFT)
Connector Color	GREEN



Terminal No.	Color of Wire	Signal Name
7	O	REV LAMP RLY

Terminal No.	Color of Wire	Signal Name
13	R	-

Terminal No.	Color of Wire	Signal Name
7	R	-

ABNIA6323GB

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

AV

Connector No.	C8
Connector Name	WIRE TO WIRE
Connector Color	BLACK

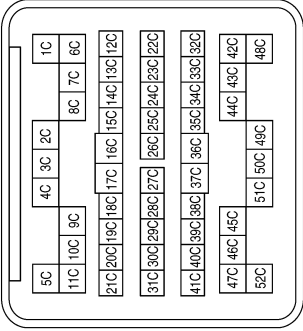


Terminal No.	Color of Wire	Signal Name
1	W	-
3	R	-
4	SHIELD	-
6	B	-

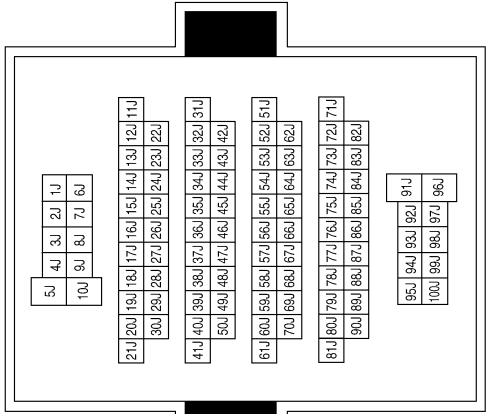
Terminal No.	Color of Wire	Signal Name
24C	SHIELD	-
25C	W	-
28C	B	-
29C	R	-



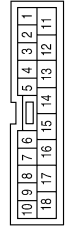
Connector No.	C1
Connector Name	WIRE TO WIRE
Connector Color	GRAY



Connector No.	B69
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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



Terminal No.	Color of Wire	Signal Name
14	B/Y	-
15	SB	-

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



10	9	8	7	6	5	4	3	2	1
18	17	16	15	14	13	12	11		

Terminal No.	Color of Wire	Signal Name
14	R/L	—
15	O/L	—

Connector No.	B76
Connector Name	REAR DOOR SPEAKER LH
Connector Color	WHITE



2	1

Terminal No.	Color of Wire	Signal Name
1	SB	— (EXCEPT BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
2	B/Y	— (EXCEPT BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)

Connector No.	B72
Connector Name	SUBWOOFER
Connector Color	WHITE



1	2	3	4

Terminal No.	Color of Wire	Signal Name
1	W	—
2	B	—
3	BR/W	—
4	BR	—

Connector No.	B146
Connector Name	WIRE TO WIRE
Connector Color	BROWN



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

Terminal No.	Color of Wire	Signal Name
1	B	—
2	R	—
3	G	—
4	R	—
7	SHIELD	—
14	B/Y	—
15	B/W	—
16	W	—

Terminal No.	Color of Wire	Signal Name
17	B	—
18	L	—
19	G	—
20	L	—
21	W	—
22	G/Y	—
23	BR	—
24	SB	—

ABNIA6325GB

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

AV

NAVIGATION SYSTEM

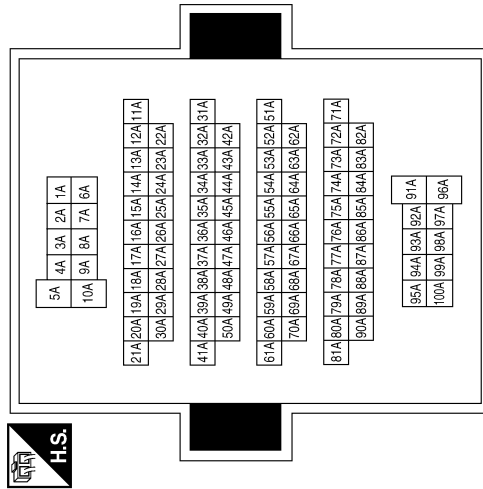
< WIRING DIAGRAM >

[NAVIGATION]

Terminal No.	Color of Wire	Signal Name
87A	G	—
88A	R	—
89A	W	—
90A	B	—

Terminal No.	Color of Wire	Signal Name
3A	O/L	— (EXCEPT FOR KING CAB WITH BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
4A	R/L	—
72A	SHIELD	—
73A	L	—
74A	B/W	—
75A	R	—
78A	L	—
79A	G	—
80A	SHIELD	—
81A	B/Y	—
82A	W	—
83A	G/Y	—
84A	BR	—
85A	SB	—
86A	SHIELD	—

Connector No.	B149
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Connector No.	T2
Connector Name	REAR VIEW CAMERA
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
1	W	—
3	R	—
4	B	—
6	SHIELD	—

Connector No.	T1
Connector Name	WIRE TO WIRE
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
1	W	—
3	R	—
4	SHIELD	—
6	B	—

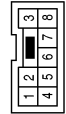
Connector No.	B159
Connector Name	REAR DOOR SPEAKER RH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	O/L	— (EXCEPT BASE AUDIO SYSTEM OR MID AUDIO SYSTEM)
2	R/L	—

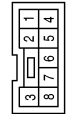
ABNIA6326GB

Connector No.	R107
Connector Name	WIRE TO WIRE
Connector Color	WHITE



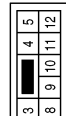
Terminal No.	Color of Wire	Signal Name
1	R/L	-
2	B	-
4	R/W	-

Connector No.	R9
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

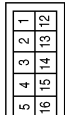
Connector No.	R2
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	B	-(WITH NAVI)
5	R/W	-(WITH NAVI)
12	SHIELD	-

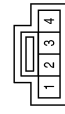
Terminal No.	Color of Wire	Signal Name
19	G	-
20	L	-
21	W	-
22	G/Y	-
23	BR	-
24	SB	-

Connector No.	R201
Connector Name	WIRE TO WIRE
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	B	-
2	R	-
3	G	-
4	R	-
7	SHIELD	-
14	B/Y	-
15	B/W	-
16	W	-
17	B	-
18	L	-

Connector No.	R109
Connector Name	MICROPHONE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	R/W	-
2	R/L	-
4	B	-

AANIA371 6GB

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

AV

NAVIGATION SYSTEM

< WIRING DIAGRAM >

[NAVIGATION]

Connector No.	R204
Connector Name	REAR CONTROL ASSEMBLY
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
11	SB	FILTERED BATT
12	BR	FILTERED BATT

Connector No.	R202
Connector Name	VIDEO MONITOR
Connector Color	WHITE



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

Terminal No.	Color of Wire	Signal Name
1	W	—
2	B	—
3	G	—
4	R	—
8	G/Y	—
13	R	—
15	B	—

Terminal No.	Color of Wire	Signal Name
1	B/W	GND
2	B/Y	GND
3	B	ID
4	—	—
5	G	DATA RX
6	L	DATA TX
7	W	VIDEO IN+
8	L	VIDEO IN-
9	—	—
10	G/Y	SW POWER +5V

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



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

Connector No.	D12
Connector Name	FRONT DOOR SPEAKER LH
Connector Color	WHITE



1	2

Terminal No.	Color of Wire	Signal Name
2	L/B	—
5	W/B	—

Connector No.	D2
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

Terminal No.	Color of Wire	Signal Name
10	L/R	—
11	L/W	—

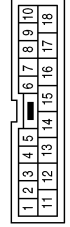
ABNIA6328GB

Connector No.	D207
Connector Name	REAR DOOR SPEAKER LH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	SB	– (WITHOUT MID AUDIO SYSTEM)
2	B/Y	– (WITHOUT MID AUDIO SYSTEM)

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



Terminal No.	Color of Wire	Signal Name
14	B/Y	– (WITHOUT MID AUDIO SYSTEM)
15	SB	– (WITHOUT MID AUDIO SYSTEM)

Connector No.	D112
Connector Name	FRONT DOOR SPEAKER RH
Connector Color	WHITE



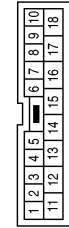
Terminal No.	Color of Wire	Signal Name
1	W/B	–
2	L/B	–

Connector No.	D307
Connector Name	REAR DOOR SPEAKER RH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	O/L	– (WITHOUT MID AUDIO SYSTEM)
2	R/L	–

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



Terminal No.	Color of Wire	Signal Name
14	R/L	–
15	O/L	– (WITHOUT MID AUDIO SYSTEM)

Connector No.	D208
Connector Name	REAR DOOR TWEETER LH
Connector Color	BROWN



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

AANIA3717GB

Connector No.	D308
Connector Name	REAR DOOR TWEETER RH
Connector Color	BROWN



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

ABNIA6330GB

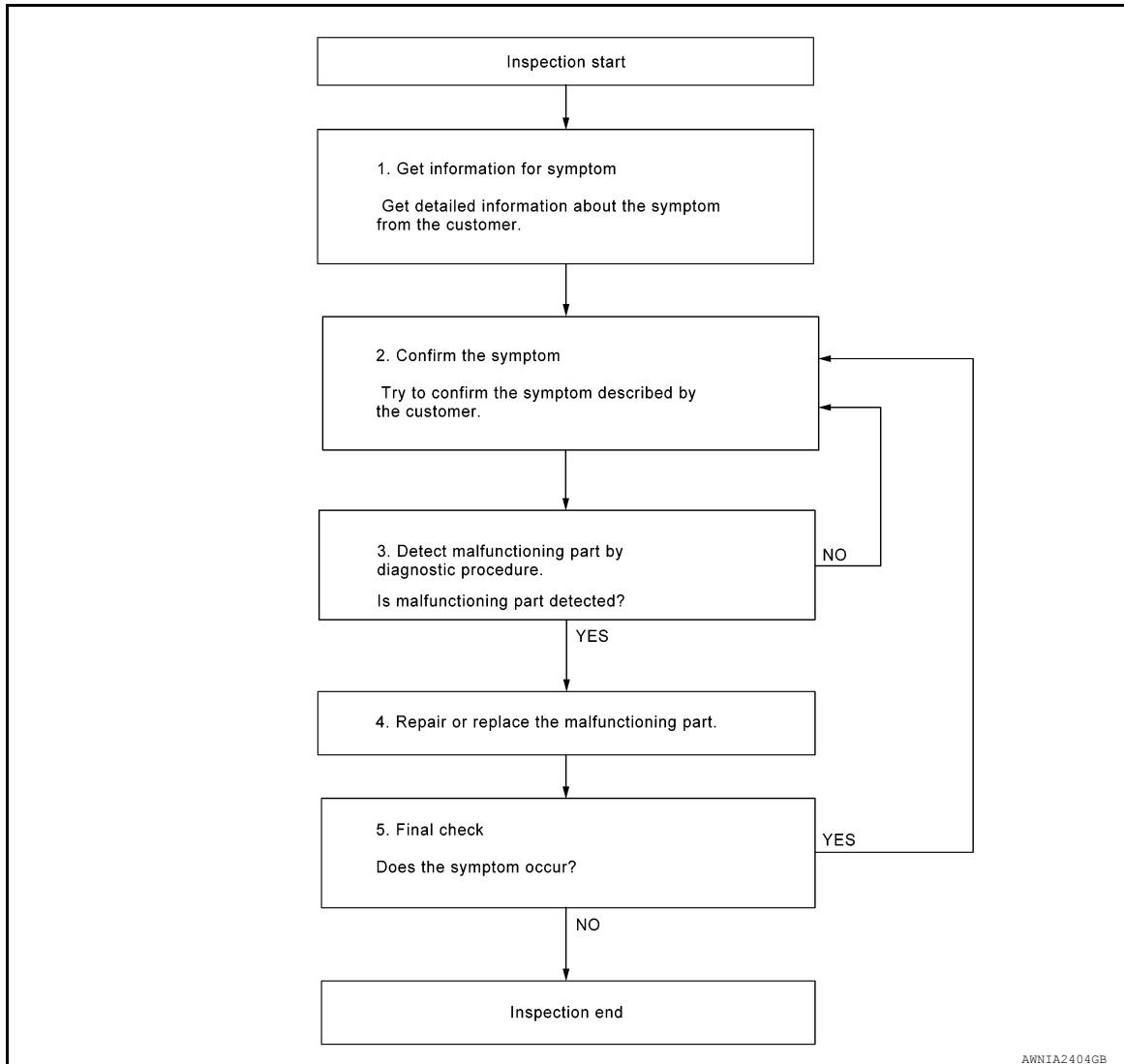
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000011559491

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-322, "Symptom Table"](#).

>> GO TO 3.

3.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

DIAGNOSIS AND REPAIR WORKFLOW

[NAVIGATION]

< BASIC INSPECTION >

Is malfunctioning part detected?

YES >> GO TO 4.

NO >> GO TO 2.

4.REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 5.

5.FINAL CHECK

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

Was the repair confirmed?

YES >> Inspection End.

NO >> GO TO 2.

INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING AV CONTROL UNIT : Description

INFOID:0000000011559492

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:0000000011559493

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-337, "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-272, "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-272, "CONFIGURATION \(AV CONTROL UNIT\) : Work Procedure"](#).

>> GO TO 4.

4. OPERATION CHECK

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

>> Work End.

CONFIGURATION (AV CONTROL UNIT)

CONFIGURATION (AV CONTROL UNIT) : Description

INFOID:000000011559494

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

Configuration has three functions as follows:

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

CAUTION:

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

CONFIGURATION (AV CONTROL UNIT) : Work Procedure

INFOID:000000011559495

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-273. "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]

>> Work End.

CONFIGURATION (AV CONTROL UNIT) : Configuration List

INFOID:0000000011559496

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

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

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

DTC Logic

INFOID:0000000011559497

DTC DETECTION LOGIC

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

Diagnosis Procedure

INFOID:0000000011559498

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-14, "Trouble Diagnosis Flow Chart"](#).
NO >> Refer to [GI-44, "Intermittent Incident"](#).

U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

U1010 CONTROL UNIT (CAN)

DTC Logic

INFOID:0000000011559499

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-337, "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]

U1217 AV CONTROL UNIT

DTC Logic

INFOID:0000000011559500

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-337, "Removal and Installation" .

U1229 AV CONTROL UNIT

DTC Logic

INFOID:0000000011559501

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-337, "Removal and Installation" .

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

U122F AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

U122F AV CONTROL UNIT

DTC Logic

INFOID:0000000011559502

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-337, "Removal and Installation" .

U1244 GPS ANTENNA

DTC Logic

INFOID:0000000011559503

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
GPS ANTENNA CONN [U1244]	Open or short to ground is detected in GPS antenna connection.	- GPS antenna disconnection. - Open or short to ground in GPS antenna signal circuit.

Diagnosis Procedure

INFOID:0000000011559504

Regarding Wiring Diagram information, refer to [AV-248, "Wiring Diagram"](#).

1. GPS ANTENNA INSPECTION

Visually inspect the GPS antenna and antenna feeder. Refer to [AV-348, "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 M184.
2. Turn ignition switch ON.
3. Check voltage between AV control unit terminal 50 and ground.

AV control unit terminal	Ground	Voltage
(+)	(-)	
50	—	5.0 V

Is inspection result normal?

YES >> Replace GPS antenna. Refer to [AV-348, "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-337, "Removal and Installation"](#).

U1258 SATELLITE RADIO ANTENNA

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

U1258 SATELLITE RADIO ANTENNA

DTC Logic

INFOID:0000000011559505

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
XM ANTENNA CONN [U1258]	Open or short to ground is detected in satellite antenna connection.	- Satellite antenna disconnection. - Open or short to ground in satellite antenna signal circuit.

Diagnosis Procedure

INFOID:0000000011559506

Regarding Wiring Diagram information, refer to [AV-248, "Wiring Diagram"](#).

1. SATELLITE ANTENNA INSPECTION

Visually inspect the satellite antenna and antenna feeder. Refer to [AV-348, "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 M185.
2. Turn ignition switch ON.
3. Check voltage between AV control unit terminal 52 and ground.

AV control unit terminal	Ground	Voltage
(+)	(-)	
52	—	5.0 V

Is inspection result normal?

YES >> Replace satellite radio antenna. Refer to [AV-348, "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-337, "Removal and Installation"](#).

U1263 USB

DTC Logic

INFOID:0000000011559507

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
USB OVERCURRENT [U1263]	Overcurrent in USB harness is detected.	- Device connected to USB interface. - Harness between the AV control unit and USB interface.

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

1. If there is a device connected to the USB interface, disconnect it.
2. Turn ignition switch ON and wait for 2 seconds or more.
3. Perform Self Diagnostic Result for MULTI AV.

Is DTC U1263 displayed?

- YES >> Refer to [AV-281, "Diagnosis Procedure"](#).
 NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000011559508

1.CHECK USB INTERFACE HARNESS

Visually inspect USB interface harness. Refer to [AV-347, "Removal and Installation"](#).

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Replace USB interface harness. Refer to [AV-347, "Removal and Installation"](#).

2.CHECK USB INTERFACE HARNESS

Check USB interface harness. Refer to [AV-321, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES >> Replace AV control unit. Refer to [AV-337, "Removal and Installation"](#).
 NO >> Replace USB interface harness. Refer to [AV-347, "Removal and Installation"](#).

U1265 AUDIO AMP.

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

U1265 AUDIO AMP.

DTC Logic

INFOID:0000000011559509

CONSULT Display	DTC Detection Condition	Possible Cause
AMP ON TERMINAL [U1265]	Open or short to ground is detected in audio amp. ON signal circuit.	Open or short to ground in audio amp. ON signal circuit.

Diagnosis Procedure

INFOID:0000000011559510

Regarding Wiring Diagram information, refer to [AV-248. "Wiring Diagram"](#).

1.CHECK CONTINUITY BETWEEN AV CONTROL UNIT AND AUDIO AMP.

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M43 and audio amp. connector M113.
3. Check continuity between AV control unit connector M43 and audio amp. connector M113.

AV control unit		Audio amp.		Continuity
Connector	Terminal	Connector	Terminal	
M43	1	M113	9	Yes

4. Check continuity between AV control unit connector M43 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M43	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 M43.
2. Turn ignition switch ON.
3. Check voltage between AV control unit connector M43 and ground.

AV control unit		Ground	Voltage (Approx.)
(+)		(–)	
Connector	Terminal		
M43	1	—	Battery voltage

Is the inspection result normal?

YES >> Replace audio amp. Refer to [AV-344. "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-337. "Removal and Installation"](#).

U12AA CONFIGURATION ERROR

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

U12AA CONFIGURATION ERROR

DTC Logic

INFOID:0000000011559511

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-272, "CONFIGURATION (AV CONTROL UNIT) : Work Procedure" .

Diagnosis Procedure

INFOID:0000000011559512

1.PERFORM CONFIGURATION

When U12AA is detected, configuration data must be written.

>> Write configuration data with CONSULT. Refer to [AV-272, "CONFIGURATION \(AV CONTROL UNIT\) : Work Procedure"](#).

AV

O

P

U12AB ANTENNA

DTC Logic

INFOID:0000000011559513

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
FM Antenna error [U12AB]	Open or short to ground is detected in rod antenna connection.	• Rod antenna disconnection. • Open or short to ground in antenna feeder.

Diagnosis Procedure

INFOID:0000000011559514

Regarding Wiring Diagram information, refer to [AV-248, "Wiring Diagram"](#).

1. ROD ANTENNA INSPECTION

Visually inspect the rod antenna and antenna feeder. Refer to [AV-345, "Location of Antenna"](#).

Is inspection result normal?

- YES >> Replace AV control unit. Refer to [AV-337, "Removal and Installation"](#).
NO >> Repair or replace malfunctioning components.

U12AC AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

U12AC AV CONTROL UNIT

DTC Logic

INFOID:0000000011559515

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-337, "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]

U12AD AV CONTROL UNIT

DTC Logic

INFOID:0000000011559516

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-337, "Removal and Installation" .

U12AE AV CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

U12AE AV CONTROL UNIT

DTC Logic

INFOID:0000000011559517

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-337, "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]

U12AF AV CONTROL UNIT

DTC Logic

INFOID:0000000011559518

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-337, "Removal and Installation" .

U12B0 POWER SUPPLY VOLTAGE

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

U12B0 POWER SUPPLY VOLTAGE

DTC Logic

INFOID:0000000011559519

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Supply Voltage Goes below 9V > 20s [U12B0]	AV control unit supply voltage exceeds lower limits.	- Charging system malfunction. - AV control unit power supply or ground circuits.

Diagnosis Procedure

INFOID:0000000011559520

1.CHECK CHARGING SYSTEM

Check the vehicle charging system. Refer to [CHG-4, "Work Flow \(With EXP-800 NI or GR8-1200 NI\)"](#) or [CHG-7, "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-292, "AV CONTROL UNIT : Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> Replace the AV control unit. Refer to [AV-337, "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]

U12B1 POWER SUPPLY VOLTAGE

DTC Logic

INFOID:0000000011559521

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:0000000011559522

1.CHECK CHARGING SYSTEM

Check the vehicle charging system. Refer to [CHG-4, "Work Flow \(With EXP-800 NI or GR8-1200 NI\)"](#) or [CHG-7, "Work Flow \(Without EXP-800 NI or GR8-1200 NI\)"](#).

Is the inspection result normal?

- YES >> Replace the AV control unit. Refer to [AV-337, "Removal and Installation"](#).
NO >> Repair or replace the malfunctioning components.

U1310 AV CONTROL UNIT

DTC Logic

INFOID:0000000011559523

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-337, "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]

POWER SUPPLY AND GROUND CIRCUIT

AV CONTROL UNIT

AV CONTROL UNIT : Diagnosis Procedure

INFOID:0000000011559524

Regarding Wiring Diagram information, refer to [AV-248. "Wiring Diagram"](#).

1.CHECK FUSE

Check that the following fuses are not blown:

Terminal No.	Signal name	Fuse No.
7	ACC power supply	4 (10A)
19	Battery power supply	31 (20A)
37	Ignition power supply	12 (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 M43 and M45.
3. Check voltage between AV control unit connector M43, M45 and ground.

AV control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M43	19	—	Ignition switch: OFF	Battery voltage
	7		Ignition switch: ON	
M45	37			

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 M43 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M43	20	—	Yes

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

AUDIO AMP.

AUDIO AMP. : Diagnosis Procedure

INFOID:0000000011559525

Regarding Wiring Diagram information, refer to [AV-248. "Wiring Diagram"](#).

1.CHECK FUSE

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

Check that the audio amp. fuses are not blown.

Unit	Terminal	Signal name	Fuse No.
Audio amp.	1	Battery power	31
	17		17

Are the fuses OK?

YES >> GO TO 2.

NO >> Be sure to eliminate cause of malfunction before installing new fuse.

2.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect audio amp. connector.
3. Check voltage between audio amp. harness connector M112 and ground.

(+)		(-)	Voltage (approx.)
Connector	Terminal		
M112	1	Ground	Battery voltage
	17		

Is battery voltage present?

YES >> GO TO 3.

NO >> Check harness between audio amp. and fuse.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect audio amp. connector.
3. Check continuity between audio amp. harness connector M112 and ground.

Connector	Terminal	—	Continuity
M112	4	Ground	Yes
	20		

Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.

DVD PLAYER

DVD PLAYER : Diagnosis Procedure

INFOID:0000000011559526

Regarding Wiring Diagram information, refer to [AV-248, "Wiring Diagram"](#).

1.CHECK FUSE

Check that the following fuses for the DVD player are not blown:

Unit	Terminal	Signal name	Fuse No.
DVD player	16	Battery power	31
	15	Ignition switch ACC or ON	4

Is the fuse OK?

YES >> GO TO 2.

NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

POWER SUPPLY AND GROUND CIRCUIT

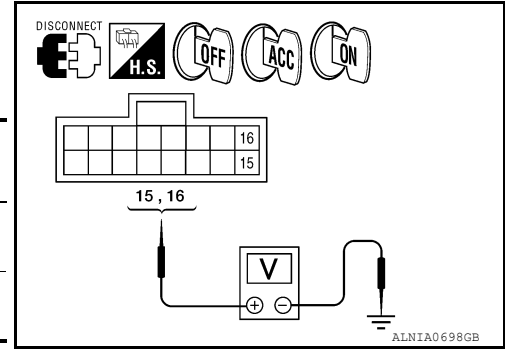
< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

2. POWER SUPPLY CIRCUIT CHECK

1. Disconnect DVD player connector M205.
2. Check voltage between the DVD player connector M205 and ground.

(+)		(-)	OFF	ACC	ON
Connector	Terminal				
M205	16	Ground	Battery voltage	Battery voltage	Battery voltage
	15		0V	Battery voltage	Battery voltage



Are the voltage results as specified?

YES >> GO TO 3.

NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

3. GROUND CIRCUIT CHECK

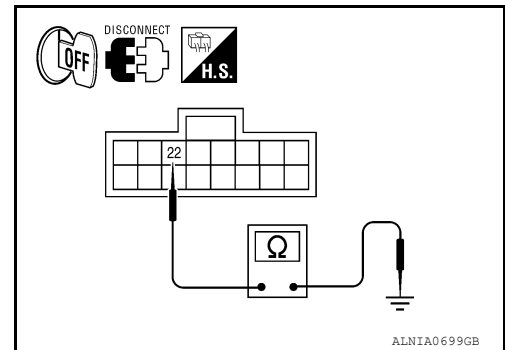
1. Turn ignition switch OFF.
2. Disconnect DVD player connector M206.
3. Check continuity between DVD player harness connector M206 terminal 22 and ground.

Connector	Terminal	—	Continuity
M206	22	Ground	Yes

Are the continuity results as specified?

YES >> Inspection End.

NO >> Repair harness or connector.



VIDEO MONITOR

VIDEO MONITOR : Diagnosis Procedure

INFOID:0000000011559527

Regarding Wiring Diagram information, refer to [AV-248, "Wiring Diagram"](#).

1. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch to ACC.
2. Check voltage between video monitor harness connector R202 and ground.

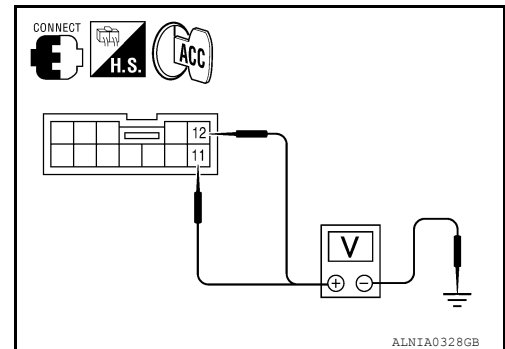
(+)		(-)	Value (Approx.)
Connector	Terminal		
R202	11	Ground	12V
	12		

Does specified voltage exist?

YES >> GO TO 3.

NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT



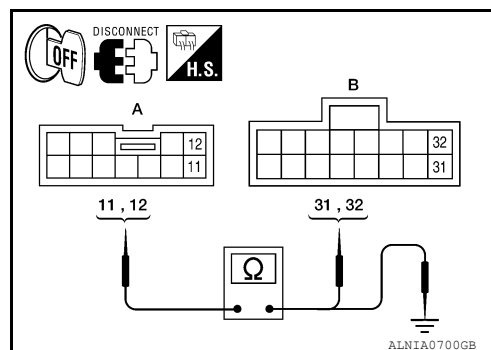
POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

1. Turn ignition switch OFF.
2. Disconnect the video monitor connector R202 and the DVD player connector M206.
3. Check continuity between the video monitor harness connector R202 (A) and the DVD player connector M206 (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
R202	11	M206	31	Yes
	12		32	



4. Check continuity between video monitor harness connector R202 (A) and ground.

A		—	Continuity
Connector	Terminal		
R202	11	Ground	No
	12		

Are continuity test results as specified?

- YES >> Refer to [AV-293. "DVD PLAYER : Diagnosis Procedure"](#).
 NO >> Repair harness or connector.

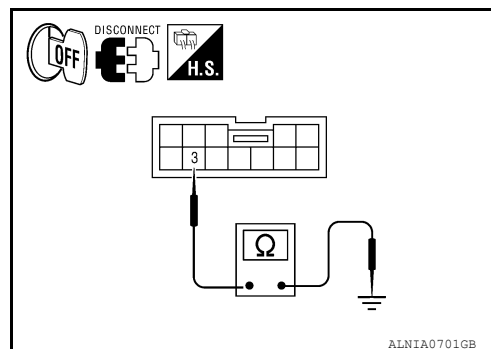
3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect video monitor connector.
3. Check continuity between video monitor harness connector R202 and ground.

Connector	Terminal	—	Continuity
R202	3	Ground	Yes

Does continuity exist?

- YES >> Inspection End.
 NO >> Repair harness or connector.



FRONT DOOR SPEAKER

Diagnosis Procedure

INFOID:0000000011559528

Regarding Wiring Diagram information, refer to [AV-248. "Wiring Diagram"](#).

1.CONNECTOR CHECK

Check the audio 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 terminal and connector.

2.SPEAKER HARNESS CHECK

1. Disconnect audio amp. connector M113 and suspect front door speaker connector.
2. Check continuity between audio amp. harness connector M113 and suspect front door speaker harness connector.

Connector	Terminal	Connector	Terminal	Continuity
M113	15	D12	1	Yes
	31		2	
	16	D112	1	
	32		2	

3. Check continuity between audio amp. harness connector M113 and ground.

Connector	Terminal	—	Continuity
M113	15	Ground	No
	31		
	16		
	32		

Are continuity test results as specified?

YES >> GO TO 3.

NO >> Repair harness or connector.

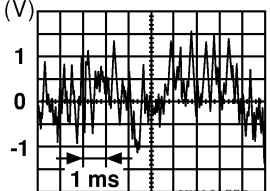
3.FRONT DOOR SPEAKER SIGNAL CHECK

1. Connect audio amp. connector M113 and suspect front door speaker connector.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio amp. harness connector M113 terminals with CONSULT or oscilloscope.

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

Connector	Terminal		Condition	Reference signal
	(+)	(-)		
M113	15	31	Receive audio signal	
	16	32		

Is audio signal voltage as specified?

YES >> Replace suspect front door speaker. Refer to [AV-340, "Removal and Installation"](#).

NO >> GO TO 4.

4. PRE-AMP HARNESS CHECK

1. Disconnect AV control unit connector M43 and audio amp. connector M113.
2. Check continuity between AV control unit harness connector M43 and audio amp. harness connector M113.

Connector	Terminal	Connector	Terminal	Continuity
M43	3	M113	6	Yes
	2		22	
	12		5	
	11		21	

3. Check continuity between AV control unit harness connector M43 and ground.

Connector	Terminal	—	Continuity
M43	3	Ground	No
	2		
	12		
	11		

Are continuity test results as specified?

YES >> GO TO 5.

NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

5. PRE-AMP SIGNAL CHECK

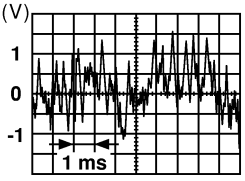
1. Connect AV control unit connector and audio amp. connector.
2. Turn ignition switch ACC.
3. Push "POWER" switch.
4. Check the signal between AV control unit harness connector M43 terminals with CONSULT or oscilloscope.

AV

FRONT DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M43	2	3	Receive audio signal	
	11	12		

SKIA0177E

Are the audio signal voltage readings as specified?

- YES >> Replace audio amp. Refer to [AV-344, "Removal and Installation"](#).
 NO >> Replace AV control unit. Refer to [AV-337, "Removal and Installation"](#).

FRONT TWEETER

Diagnosis Procedure

INFOID:0000000011559529

Regarding Wiring Diagram information, refer to [AV-248. "Wiring Diagram"](#).

1.CONNECTOR CHECK

Check the audio 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 terminal and connector.

2.HARNESS CHECK

1. Disconnect audio amp. connector M113 and suspect front tweeter connector.
2. Check continuity between audio amp. harness connector M113 and suspect front tweeter harness connector.

Connector	Terminal	Connector	Terminal	Continuity
M113	14	M109	1	Yes
	30		2	
	13	M111	1	
	29		2	

3. Check continuity between audio amp. harness connector M113 and ground.

Connector	Terminal	—	Continuity
M113	14	Ground	No
	30		
	13		
	29		

Are continuity test results as specified?

YES >> GO TO 3.

NO >> Repair harness or connector.

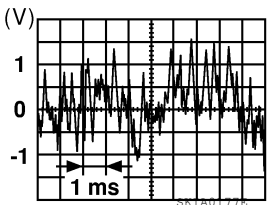
3.FRONT TWEETER SIGNAL CHECK

1. Connect audio amp. connector M113 and suspect front tweeter connector.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio amp. harness connector M113 terminals with CONSULT or oscilloscope.

FRONT TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

Connector	Terminal		Condition	Reference signal
	(+)	(-)		
M113	14	30	Receive audio signal	
	13	29		

Is audio signal voltage as specified?

YES >> Replace suspect front tweeter. Refer to [AV-338, "Removal and Installation"](#).

NO >> GO TO 4.

4. PRE-AMP HARNESS CHECK

1. Disconnect AV control unit connector M43 and audio amp. connector M113.
2. Check continuity between AV control unit harness connector M43 and audio amp. harness connector M113.

Connector	Terminal	Connector	Terminal	Continuity
M43	3	M113	6	Yes
	2		22	
	12		5	
	11		21	

3. Check continuity between AV control unit harness connector M43 and ground.

Connector	Terminal	—	Continuity
M43	3	Ground	No
	2		
	12		
	11		

Are continuity test results as specified?

YES >> GO TO 5.

NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

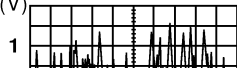
5. PRE-AMP SIGNAL CHECK

1. Connect AV control unit connector and audio amp. connector.
2. Turn ignition switch ACC.
3. Push "POWER" switch.
4. Check the signal between AV control unit harness connector M43 terminals with CONSULT or oscilloscope.

FRONT TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M43	2	3	Receive audio signal	
	11	12		

SKIA0177E

Are the audio signal voltage readings as specified?

YES >> Replace audio amp. Refer to [AV-344, "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-337, "Removal and Installation"](#).

A

B

C

D

E

F

G

H

1

J

K

L

M

AV

O

P

CENTER SPEAKER

Diagnosis Procedure

INFOID:000000011559530

Regarding Wiring Diagram information, refer to [AV-248. "Wiring Diagram"](#).

1.CONNECTOR CHECK

Check the audio 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 terminal and connector.

2.CENTER SPEAKER HARNESS CHECK

1. Disconnect audio amp. connector M113 and center speaker connector M110.
2. Check continuity between audio amp. harness connector M113 (A) and center speaker harness connector M110 (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M113	10	M110	1	Yes
	26		2	

3. Check continuity between audio amp. harness connector M113 (A) and ground.

A		—	Continuity
Connector	Terminal		
M113	10	Ground	No
	26		

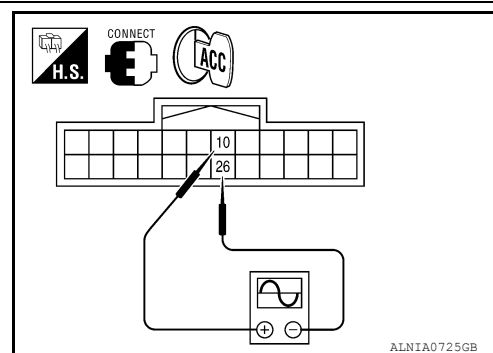
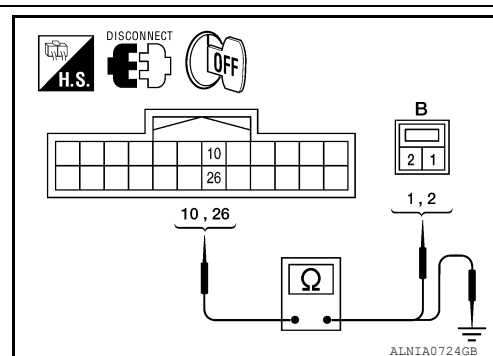
Are continuity test results as specified?

YES >> GO TO 3.

NO >> Repair harness or connector.

3.CENTER SPEAKER SIGNAL CHECK

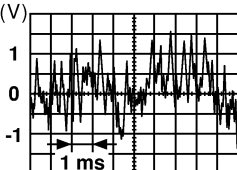
1. Connect audio amp. connector M113 and center speaker connector M110.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio amp. harness connector M113 terminals with CONSULT or oscilloscope.



CENTER SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M113	10	26	Receive audio signal	 SKIA0177E

Is the audio signal voltage reading as specified?

- YES >> Replace center speaker. Refer to [AV-339. "Removal and Installation"](#) .
 NO >> GO TO 4.

4.PRE-AMP HARNESS CHECK

1. Disconnect AV control unit connector M43 and audio amp. connector M113.
2. Check continuity between AV control unit harness connector M43 and audio amp. harness connector M113.

Connector	Terminal	Connector	Terminal	Continuity
M43	3	M113	6	Yes
	2		22	
	12		5	
	11		21	

3. Check continuity between AV control unit harness connector M43 and ground.

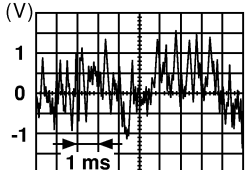
Connector	Terminal	—	Continuity
M43	3	Ground	No
	2		
	12		
	11		

Are continuity test results as specified?

- YES >> GO TO 5.
 NO >> • Check connector housings for disconnected or loose terminals.
 • Repair harness or connector.

5.PRE-AMP SIGNAL CHECK

1. Connect AV control unit connector and audio amp. connector.
2. Turn ignition switch ACC.
3. Push "POWER" switch.
4. Check the signal between AV control unit harness connector M43 terminals with CONSULT or oscilloscope.

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M43	2	3	Receive audio signal	 SKIA0177E
	11	12		

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

AV

CENTER SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

Are the audio signal voltage readings as specified?

YES >> Replace audio amp. Refer to [AV-344, "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-337, "Removal and Installation"](#).

REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

REAR DOOR SPEAKER

Diagnosis Procedure

INFOID:0000000011559531

Regarding Wiring Diagram information, refer to [AV-161, "Wiring Diagram"](#).

1.CONNECTOR CHECK

Check the audio 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 terminal and connector.

2.SPEAKER HARNESS CHECK

1. Disconnect audio amp. connectors M113 and suspect rear door speaker connector.
2. Check continuity between audio amp. harness connectors M113 (A) and suspect rear door speaker harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M113	11	D207 (crew cab) B76 (king cab)	1	Yes
	27		2	
	12	D307 (crew cab) B159 (king cab)	1	
	28		2	

3. Check continuity between audio amp. harness connectors M113 (A) and ground.

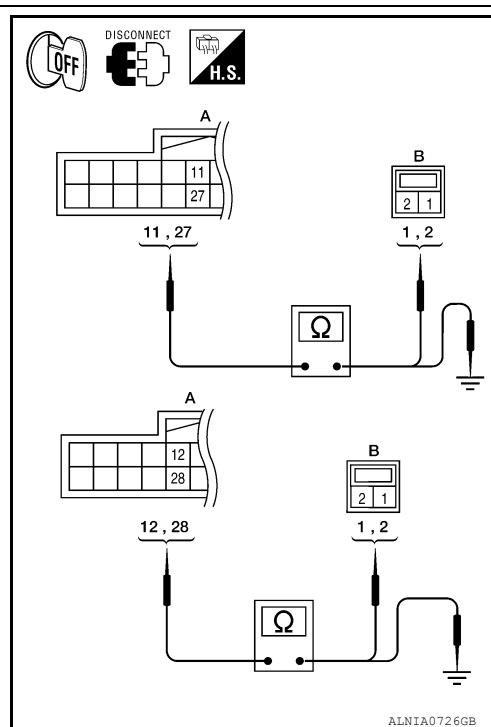
Connector	Terminal	-	Continuity
M113	11	Ground	No
	27		
	12		
	28		

Are the continuity test results as specified?

YES >> GO TO 3.

NO >> Repair harness or connector.

3.SPEAKER SIGNAL CHECK



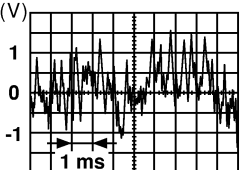
ALNIA0726GB

REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

1. Connect audio amp. connectors and suspect rear door speaker connector.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio amp. harness connectors M113 terminals with CONSULT or oscilloscope.

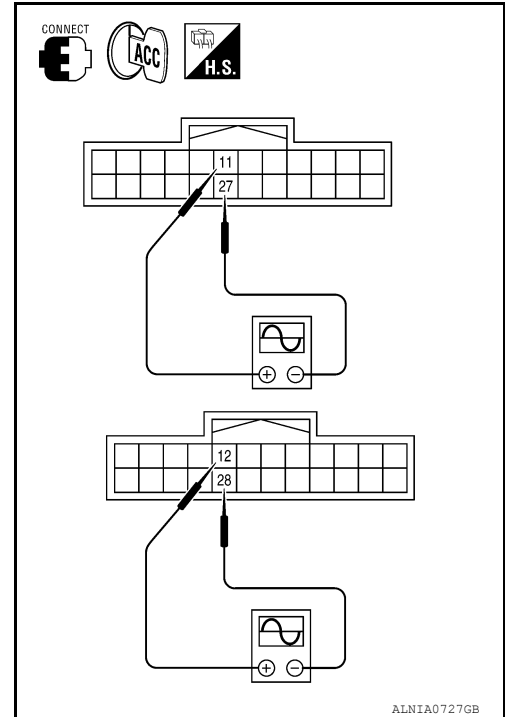
Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M113	11	27	Receive audio signal	
	12	28		

SKIA0177E

Are audio signal voltage readings as specified?

YES >> Replace suspect rear door speaker. Refer to [AV-218](#).
"Removal and Installation".

NO >> GO TO 4.



ALNIA0727GB

4. PRE-AMP HARNESS CHECK

1. Disconnect AV control unit connector M43 and audio amp. connector M113.
2. Check continuity between AV control unit harness connector M43 and audio amp. harness connector M113.

Connector	Terminal	Connector	Terminal	Continuity
M43	5	M113	8	Yes
	4		24	
	14		7	
	13		23	

3. Check continuity between AV control unit harness connector M43 and ground.

Connector	Terminal	—	Continuity
M43	5	Ground	No
	4		
	14		
	13		

Are the continuity test results as specified?

YES >> GO TO 5.

NO >> • Check connector housings for disconnected or loose terminals.
• Repair harness or connector.

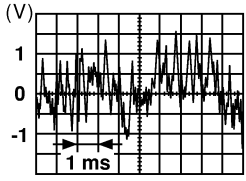
5. PRE-AMP SIGNAL CHECK

1. Connect AV control unit connector M43 and audio amp. connector M113.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between AV control unit harness connector M43 terminals with CONSULT or oscilloscope.

REAR DOOR SPEAKER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M43	4	5	Receive audio signal	
	13	14		

Is the audio signal voltage reading as specified?

- YES >> Replace audio amp. Refer to [AV-344, "Removal and Installation"](#).
 NO >> Replace AV control unit. Refer to [AV-337, "Removal and Installation"](#).

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

AV

REAR DOOR TWEETER

Diagnosis Procedure

INFOID:0000000011559532

Regarding Wiring Diagram information, refer to [AV-161, "Wiring Diagram"](#).

1.CONNECTOR CHECK

Check the audio 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 terminal and connector.

2.TWEETER HARNESS CHECK

1. Disconnect audio amp. connectors M113 and suspect rear door tweeter connector.
2. Check continuity between audio amp. harness connectors M113 and suspect rear door tweeter harness connector.

Connector	Terminal	Connector	Terminal	Continuity
M113	11	D208	1	Yes
	27		2	
	12	D308	1	
	28		2	

3. Check continuity between audio amp. harness connectors M113 and ground.

Connector	Terminal	-	Continuity
M113	11	Ground	No
	27		
	12		
	28		

Are the continuity test results as specified?

YES >> GO TO 3.

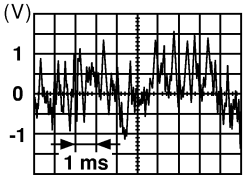
NO >> Repair harness or connector.

3.TWEETER SIGNAL CHECK

1. Connect audio amp. connectors and suspect rear door tweeter connector.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio amp. harness connectors M113 terminals with CONSULT or oscilloscope.

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M113	11	27	Receive audio signal	 SKIA0177E
	12	28		

Are audio signal voltage readings as specified?

- YES >> Replace suspect rear door tweeter. Refer to [AV-341, "Removal and Installation"](#).
 NO >> GO TO 4.

4. PRE-AMP HARNESS CHECK

1. Disconnect AV control unit connector M43 and audio amp. connector M113.
2. Check continuity between AV control unit harness connector M43 and audio amp. harness connector M113.

Connector	Terminal	Connector	Terminal	Continuity
M43	5	M113	8	Yes
	4		24	
	14		7	
	13		23	

3. Check continuity between AV control unit harness connector M43 and ground.

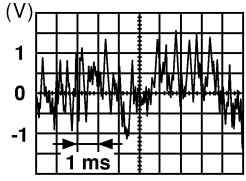
Connector	Terminal	—	Continuity
M43	5	Ground	No
	4		
	14		
	13		

Are the continuity test results as specified?

- YES >> GO TO 5.
 NO >> • Check connector housings for disconnected or loose terminals.
 • Repair harness or connector.

5. PRE-AMP SIGNAL CHECK

1. Connect AV control unit connector M43 and audio amp. connector M113.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between AV control unit harness connector M43 terminals with CONSULT or oscilloscope.

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M43	4	5	Receive audio signal	 SKIA0177E
	13	14		

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

AV

REAR DOOR TWEETER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

Is the audio signal voltage reading as specified?

YES >> Replace audio amp. Refer to [AV-344, "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-337, "Removal and Installation"](#).

SUBWOOFER

Description

INFOID:0000000011559533

The AV control unit sends audio signals to the audio amp. The audio amp. amplifies the audio signals before sending them to the subwoofer using the audio signal circuits.

Diagnosis Procedure

INFOID:0000000011559534

Regarding Wiring Diagram information, refer to [AV-248, "Wiring Diagram"](#).

1.CONNECTOR CHECK

Check the audio amp. and subwoofer connectors for the following:

- Proper connection
- Damage
- Disconnected or loose terminals

Is the inspection result normal?

YES >> GO TO 2

NO >> Repair the terminal and connector.

2.SUBWOOFER HARNESS CHECK

1. Disconnect audio amp. connector M112 and subwoofer connector B72.
2. Check continuity between audio amp. harness connector M112 and subwoofer harness connector B72.

Connector	Terminal	Connector	Terminal	Continuity
M112	2	B72	1	Yes
	3		3	
	18		2	
	19		4	

3. Check continuity between audio amp. harness connector M112 and ground.

A		—	Continuity
Connector	Terminal		
M112	2	Ground	No
	3		
	18		
	19		

Are the continuity test results as specified?

YES >> GO TO 3.

NO >> Repair harness or connector.

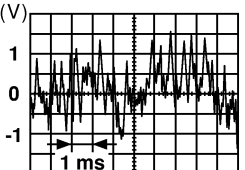
3.SUBWOOFER SIGNAL CHECK

1. Connect audio amp. connector M112 and subwoofer connector B72.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio amp. harness connector M112 terminals with CONSULT or oscilloscope.

SUBWOOFER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M112	2	18	Receive audio signal	
	3	19		

SKIA0177E

Is the audio signal voltage as specified?

- YES >> Replace subwoofer. Refer to [AV-342. "Removal and Installation"](#).
 NO >> GO TO 4.

4. PRE-AMP HARNESS CHECK

1. Disconnect AV control unit connector M43 and audio amp. connector M113.
2. Check continuity between AV control unit harness connector M43 and audio amp. harness connector M113.

Connector	Terminal	Connector	Terminal	Continuity
M43	5	M113	8	Yes
	4		24	
	14		7	
	13		23	

3. Check continuity between AV control unit harness connector M43 and ground.

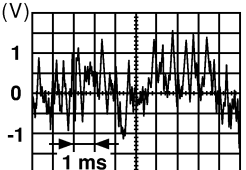
Connector	Terminal	—	Continuity
M43	5	Ground	No
	4		
	14		
	13		

Are the continuity test results as specified?

- YES >> GO TO 5.
 NO >> • Check connector housings for disconnected or loose terminals.
 • Repair harness or connector.

5. PRE-AMP SIGNAL CHECK

1. Connect AV control unit connector M43 and audio amp. connector M113.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between AV control unit harness connector M43 terminals with CONSULT or oscilloscope.

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M43	4	5	Receive audio signal	
	13	14		

SKIA0177E

SUBWOOFER

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

Is the audio signal voltage reading as specified?

YES >> Replace audio amp. Refer to [AV-344, "Removal and Installation"](#).

NO >> Replace AV control unit. Refer to [AV-337, "Removal and Installation"](#).

A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

P

AMP ON SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000011559535

Regarding Wiring Diagram information, refer to [AV-248, "Wiring Diagram"](#).

1.CHECK AMP ON SIGNAL

1. Turn audio system ON.
2. Check voltage between audio amp. harness connector M113 terminal 9 and ground.

(+)		(-)	Voltage (approx.)
Connector	Terminal		
M113	9	Ground	More than 6.5V

Is inspection result normal?

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

2.CHECK AMP ON SIGNAL (AV CONTROL UNIT)

Check voltage between AV control unit harness connector M43 terminal 1 and ground.

(+)		(-)	Voltage (approx.)
Connector	Terminal		
M43	1	Ground	More than 6.5V

Is inspection result normal?

- YES >> Repair harness or connector.
NO >> Replace AV control unit. Refer to [AV-337, "Removal and Installation"](#).

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000011559536

Regarding Wiring Diagram information, refer to [AV-161, "Wiring Diagram"](#).

1.CHECK REVERSE INPUT SIGNAL

1. Turn ignition switch ON.
2. Shift the selector lever to R (reverse).
3. Check voltage between AV control unit connector M45 and ground.

AV control unit		Ground	Condition	Voltage (Approx.)
(+) (+)		(-)		
Connector	Terminal			
M45	28	—	Selector lever in R (reverse)	Battery Voltage

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

2.CHECK CAMERA POWER SUPPLY CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M45 and rear view camera connector T2.
3. Check continuity between AV control unit connector M45 and rear view camera connector T2.

AV control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M45	34	T2	1	Yes

4. Check continuity between AV control unit connector M45 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M45	34		No

Is inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

3.CHECK CAMERA POWER SUPPLY VOLTAGE

1. Connect AV control unit connector M45 and rear view camera connector T2.
2. Turn ignition switch ON.
3. Shift the selector lever to R (reverse).
4. Check voltage between AV control unit connector M45 and ground.

AV control unit		Ground	Condition	Voltage (Approx.)
(+) (+)		(-)		
Connector	Terminal			
M45	34	—	Selector lever is in "R".	6.0 V

Is inspection result normal?

YES >> GO TO 4.

NO >> Replace AV control unit. Refer to [AV-337, "Removal and Installation"](#).

REAR VIEW CAMERA IMAGE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

4. CHECK CAMERA IMAGE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M45 and rear view camera connector.
3. Check continuity between AV control unit connector M45 and rear view camera connector T2.

AV control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M45	36	T2	3	Yes

4. Check continuity between AV control unit connector M45 terminal 36 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M45	36		No

Is inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness or connectors.

5. CHECK CAMERA GROUND CIRCUIT CONTINUITY

Check continuity between AV control unit connector M45 and rear view camera connector T2.

AV control unit		Rear view camera		Continuity
Connector	Terminal	Connector	Terminal	
M45	33	T2	4	Yes

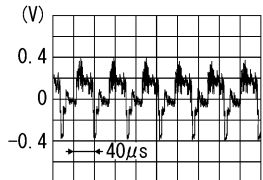
Is inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness or connectors.

6. CHECK CAMERA IMAGE SIGNAL

1. Connect AV control unit connector M45 and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever to R (reverse).
4. Check signal between AV control unit connector M45 and ground.

AV control unit		Ground	Condition	Reference value
(+) (V)		(-)		
Connector	Terminal			
M45	36	—	Camera image displayed.	 SKIB2251J

Is inspection result normal?

YES >> Replace AV control unit. Refer to [AV-337, "Removal and Installation"](#).

NO >> Replace rear view camera. Refer to [AV-351, "Removal and Installation"](#).

MICROPHONE SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000011559537

Regarding Wiring Diagram information, refer to [AV-248, "Wiring Diagram"](#).

1.CHECK MICROPHONE SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M45 and microphone connector R109.
3. Check continuity between AV control unit connector M45 and microphone connector R109.

AV control unit		Microphone		Continuity
Connector	Terminal	Connector	Terminal	
M45	41	R109	2	Yes
	42		4	
	43		1	

4. Check continuity between AV control unit connector M45 and ground.

AV control unit		Ground	Continuity
Connector	Terminal		
M45	41	—	No
	42		
	43		

Is inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness or connectors.

2.CHECK MICROPHONE VCC VOLTAGE

1. Connect AV control unit connector M45.
2. Turn ignition switch ON.
3. Check voltage between terminals of AV control unit connector M45.

AV control unit connector		Voltage (Approx.)
(+)	(-)	
Terminal	Terminal	
42	41	5.0 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace AV control unit. Refer to [AV-337, "Removal and Installation"](#).

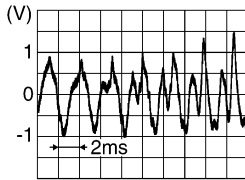
3.CHECK MICROPHONE SIGNAL

1. Connect microphone connector.
2. Check signal between terminals of AV control unit connector M45.

MICROPHONE SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

AV control unit connector		Condition	Reference value
(+)	(-)		
Terminal	Terminal		
42	43	Speak into microphone.	 SKIB3609E

Is the inspection result normal?

- YES >> Replace AV control unit. Refer to [AV-337. "Removal and Installation"](#).
 NO >> Replace microphone. Refer to [AV-350. "Removal and Installation"](#).

STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

STEERING SWITCH

Diagnosis Procedure

INFOID:0000000011559538

Regarding Wiring Diagram information, refer to [AV-248. "Wiring Diagram"](#).

1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

1. Disconnect combination switch connector M102.
2. Check resistance between combination switch connector terminals.

Terminal		Signal name	Condition	Resistance (Ω) (Approx.)
16	18	Volume (down)	Depress  switch.	1
		Volume (up)	Depress  switch.	121
		Phone end	Depress  switch.	321
15	18	Source	Depress SOURCE switch.	1
		Seek (up)	Depress  switch.	121
		Seek (down)	Depress  switch.	321
		Phone/Send	Depress  switch.	723

Do the steering wheel audio control switches check OK?

YES >> GO TO 2.

NO >> Replace steering wheel audio control switch. Refer to [AV-343. "Removal and Installation"](#).

2. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M43 and combination switch connector M30.
3. Check continuity between AV control unit harness connector M43 and combination switch harness connector M30.

AV control unit		Combination switch		Continuity
Connector	Terminal	Connector	Terminal	
M43	6	M30	24	Yes
	15		31	
	16		25	

4. Check continuity between AV control unit connector M43 and ground.

AV control unit		—	Continuity
Connector	Terminal		
M43	6	Ground	No
	15		
	16		

Are the continuity results as specified?

YES >> GO TO 3.

NO >> Repair harness.

3. SPIRAL CABLE CHECK

STEERING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[NAVIGATION]

Check continuity between combination switch harness connectors M30 and M102.

Combination switch				Continuity
Connector	Terminal	Connector	Terminal	
M30	24	M102	15	Yes
	31		18	
	25		16	

Does the spiral cable check OK?

YES >> Inspection End.

NO >> Replace spiral cable. Refer to [SR-13, "Removal and Installation"](#).

USB CONNECTOR

Diagnosis Procedure

INFOID:0000000011559539

Regarding Wiring Diagram information, refer to [AV-161, "Wiring Diagram"](#).

1.CHECK USB INTERFACE HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect AV control unit connector M42 and USB interface connector M124.
3. Check continuity between AV control unit connector M42 and USB interface connector M124.

AV control unit		USB interface		Continuity
Connector	Terminal	Connector	Terminal	
M42	76	M124	1	Yes
	78		3	
	79		4	
	80		5	
	81		6	

4. Check continuity between AV control unit connector M42 and ground.

AV control unit		—	Continuity
Connector	Terminal		
M42	78	Ground	No
	79		

Is the inspection result normal?

- YES >> Replace the USB interface. Refer to [AV-347, "Removal and Installation"](#).
 NO >> Repair or replace harness or connectors.

SYMPTOM DIAGNOSIS

MULTI AV SYSTEM

Symptom Table

INFOID:0000000011559540

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-237. "On Board Diagnosis Function" .

MULTI AV SYSTEM

< SYMPTOM DIAGNOSIS >

[NAVIGATION]

Symptoms	Check items	Probable malfunction location	
No sound comes out or the level of the sound is low.	No sound from all speakers.	• Speaker circuit shorted to ground. Refer to AV-248. "Wiring Diagram". • Amp ON signal circuit malfunction. Refer to AV-314. "Diagnosis Procedure". • Audio amp. power supply and ground circuits malfunction. Refer to AV-292. "AUDIO AMP. : Diagnosis Procedure".	A B C
	Only a certain speaker (front door speaker LH, front door speaker RH, front speaker LH, front speaker RH, center speaker, rear door speaker LH, rear door speaker RH, rear speaker LH, rear speaker RH) does not output sound.	• Poor connector connection of speaker. • Sound signal circuit malfunction between AV control unit and audio amp. Refer to: - AV-296. "Diagnosis Procedure" (front door speaker). - AV-299. "Diagnosis Procedure" (front tweeter). - AV-302. "Diagnosis Procedure" (center speaker). - AV-305. "Diagnosis Procedure" (rear door speaker). - AV-308. "Diagnosis Procedure" (rear door tweeter). - AV-311. "Diagnosis Procedure" (sub-woofer). • Sound signal circuit malfunction between audio amp. and speaker. Refer to: - AV-296. "Diagnosis Procedure" (front door speaker). - AV-299. "Diagnosis Procedure" (front tweeter). - AV-302. "Diagnosis Procedure" (center speaker). - AV-305. "Diagnosis Procedure" (rear door speaker). - AV-308. "Diagnosis Procedure" (rear door tweeter). - AV-311. "Diagnosis Procedure" (sub-woofer). • Malfunction in speaker. Refer to: - AV-340. "Removal and Installation" (front door speaker). - AV-338. "Removal and Installation" (front tweeter). - AV-339. "Removal and Installation" (center speaker). - AV-341. "Removal and Installation" (rear door speaker). - AV-341. "Removal and Installation" (rear door tweeter). - AV-342. "Removal and Installation" (sub-woofer). • Malfunction in AV control unit. Refer to AV-237. "On Board Diagnosis Function". • Malfunction in audio amp. Replace Audio amp. Refer to AV-344. "Removal and Installation".	D E F G H I J K L M AV O P

MULTI AV SYSTEM

< SYMPTOM DIAGNOSIS >

[NAVIGATION]

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-237, "On Board Diagnosis Function". • Malfunction in audio amp. Replace audio amp. Refer to AV-344, "Removal and Installation".
	Noise comes out only from a certain speaker (front door speaker LH, front door speaker RH, front speaker LH, front speaker RH, center speaker, rear door speaker LH, rear door speaker RH, rear speaker LH, rear speaker RH).	• Poor connector connection of speaker. • Sound signal circuit malfunction between AV control unit and audio amp. Refer to: - AV-296, "Diagnosis Procedure" (front door speaker). - AV-299, "Diagnosis Procedure" (front tweeter). - AV-302, "Diagnosis Procedure" (center speaker). - AV-305, "Diagnosis Procedure" (rear door speaker). - AV-308, "Diagnosis Procedure" (rear door tweeter). - AV-311, "Diagnosis Procedure" (sub-woofer). • Sound signal circuit malfunction between audio amp. and speaker. Refer to: - AV-296, "Diagnosis Procedure" (front door speaker). - AV-299, "Diagnosis Procedure" (front tweeter). - AV-302, "Diagnosis Procedure" (center speaker). - AV-305, "Diagnosis Procedure" (rear door speaker). - AV-308, "Diagnosis Procedure" (rear door tweeter). - AV-311, "Diagnosis Procedure" (sub-woofer). • Malfunction in speaker. • Poor Installation of speaker (e.g. backlash and looseness). Refer to: - AV-340, "Removal and Installation" (front door speaker). - AV-338, "Removal and Installation" (front tweeter). - AV-339, "Removal and Installation" (center speaker). - AV-341, "Removal and Installation" (rear door speaker). - AV-341, "Removal and Installation" (rear door tweeter). - AV-342, "Removal and Installation" (sub-woofer). • Malfunction in AV control unit. Refer to AV-237, "On Board Diagnosis Function". • Malfunction in audio amp. Replace audio amp. Refer to AV-344, "Removal and Installation".
	Noise is mixed with radio only (when the vehicle hits a bump or while driving over bad roads).	• Poor connector connection of antenna or antenna feeder. Refer to AV-345, "Location of Antenna".

MULTI AV SYSTEM

< SYMPTOM DIAGNOSIS >

[NAVIGATION]

Symptoms	Check items	Probable malfunction location
No radio reception or poor reception.	- Other audio sounds are normal. - Any radio station cannot be received or poor reception is caused even after moving to a service area with good reception (e.g. a place with clear view and no obstacles generating external noises).	- Antenna amp. ON signal circuit malfunction. Refer to AV-239, "Reference Value". - Poor connector connection of antenna or antenna feeder. Refer to AV-345, "Location of Antenna".
No satellite radio reception.	There is malfunction in the CONSULT self diagnosis result. Refer to AV-238, "CONSULT Function" .	- Malfunction in antenna, antenna feeder or AV control unit. Perform DTC diagnosis. Refer to AV-280, "Diagnosis Procedure". - Poor continuity in antenna feeder. - Poor connector connection of antenna or antenna feeder. Refer to AV-280, "Diagnosis Procedure".
	There is no malfunction in the CONSULT self diagnosis result. Refer to AV-238, "CONSULT Function" .	- Poor continuity in antenna feeder. - Poor connector connection of antenna or antenna feeder. - Loose satellite radio antenna mounting nut. Refer to AV-345, "Location of Antenna".
Buzz/rattle sound from speaker	The majority of buzz/rattle sounds are not indicative of an issue with the speaker, usually something nearby the speaker is causing the buzz/rattle.	Refer to "SQUEAK AND RATTLE TROUBLE DIAGNOSIS" in the appropriate interior trim section.

RELATED TO HANDS-FREE PHONE

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

Check Compatibility

- 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]

Symptoms	Check items	Probable malfunction location
Does not recognize cellular phone connection (no connection is displayed on the display at the guide).	Repeat the registration of cellular phone.	Malfunction in AV control unit. Replace AV control unit. Refer to AV-337, "Removal and Installation" .
Hands-free phone cannot be established.	- Hands-free phone operation can be made, but the communication cannot be established. - Hands-free phone operation can be performed, however, voice between each other cannot be heard during the conversation.	
The other party's voice cannot be heard by hands-free phone.	Check the "microphone speaker" in Inspection & Adjustment Mode if sound is heard.	
Originating sound is not heard by the other party with hands-free phone communication.	Sound operation function is normal.	Microphone signal circuit malfunction. Refer to AV-317, "Diagnosis Procedure" .
	Sound operation function does not work.	
The system cannot be operated.	- The voice recognition can be controlled. - Steering switch's , , , and  switch works, but  does not work.	Steering switch malfunction. Replace steering switch. Refer to AV-343, "Removal and Installation" .
	Steering switch's  ,  ,  , and  switches do not work.	Steering switch signal circuit malfunction. Refer to AV-319, "Diagnosis Procedure" .
	All steering switches do not work.	Steering switch ground circuit malfunction. Refer to AV-319, "Diagnosis Procedure" .

RELATED TO NAVIGATION

Symptoms	Check items	Probable malfunction location
Navigation system is inoperative.	Navigation malfunction.	- Malfunction in SD card. - Malfunction in AV control unit. Refer to AV-237, "On Board Diagnosis Function".
	Steering switches malfunction.	Steering switch signal circuit malfunction. Refer to AV-319, "Diagnosis Procedure" .
	Voice activated control malfunction.	Microphone signal circuit malfunction. Refer to AV-317, "Diagnosis Procedure" . Steering switch signal circuit malfunction. Refer to AV-319, "Diagnosis Procedure" .

RELATED TO REAR VIEW CAMERA

Symptoms	Check items	Probable malfunction location
Rear view camera is inoperative.	Reverse signal circuit malfunction.	Reverse signal circuit malfunction between BCM and AV control unit. Refer to AV-315, "Diagnosis Procedure" .
	Camera image signal circuit malfunction.	Camera image signal circuit malfunction between rear view camera and AV control unit. Refer to AV-315, "Diagnosis Procedure" .
	Rear view camera malfunction.	Replace rear view camera. Refer to AV-351, "Removal and Installation" .

DVD PLAYER

MULTI AV SYSTEM

< SYMPTOM DIAGNOSIS >

[NAVIGATION]

Symptom	Possible cause	Reference page
DVD player inoperative	- DVD player power and ground circuit - DVD player	AV-293 AV-353
No sound when playing a DVD	- Audio signal circuits - AV control unit - DVD player	AV-239 AV-239 AV-353
Video monitor is inoperative/does not display properly	- Power supply and ground circuits - Video out circuit - DVD player - Video monitor	AV-294 AV-246 AV-353 AV-353
Rear control assembly is inoperative/does not operate properly	- DVD player - Rear control assembly	AV-353 AV-352
Headphones inoperative	- Headphone batteries - Headphone audio signal circuits from AV control unit - AV control unit - Rear control assembly	AV-239 AV-337 AV-352

A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

P

NORMAL OPERATING CONDITION

Description

INFOID:0000000011559541

RELATED TO NOISE

The majority of the audio concerns are the result of outside causes (bad CD, electromagnetic interference, etc.).

The following noise results from variations in field strength, such as fading noise and multi-path noise, or external noise from trains and other sources. It is not a malfunction:

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

The vehicle itself can be a source of noise if noise prevention parts or electrical equipment is malfunctioning. Check if noise is caused and/or changed by engine speed, ignition switch turned to each position, and operation of each piece of electrical equipment, and determine the cause.

NOTE:

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

Type of Noise and Possible Cause

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

RELATED TO HANDS-FREE PHONE

Symptom	Cause and Counter measure
Does not recognize cellular phone connection (No connection is displayed on the display at the guide).	Some Bluetooth® enabled cellular phones may not be recognized by the in-vehicle phone module. Refer to "RELATED TO HANDS-FREE PHONE (Check Compatibility)" in AV-322, "Symptom Table".
Cannot use hands-free phone.	Customer will not be able to use a hands-free phone under the following conditions: • The vehicle is outside of the telephone service area. • The vehicle is in an area where it is difficult to receive radio waves; such as in a tunnel, in an underground parking garage, near a tall building or in a mountainous area. • The cellular phone is locked to prevent it from being dialed. NOTE: While a cellular phone is connected through the Bluetooth® wireless connection, the battery power of the cellular phone may discharge quicker than usual. The Bluetooth® Hands-Free Phone System cannot charge cellular phones.

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION]

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. Audio guidance is not available while the vehicle is driving on a dark pink route.	Adjust the audio guide volume. 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]

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]

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.)

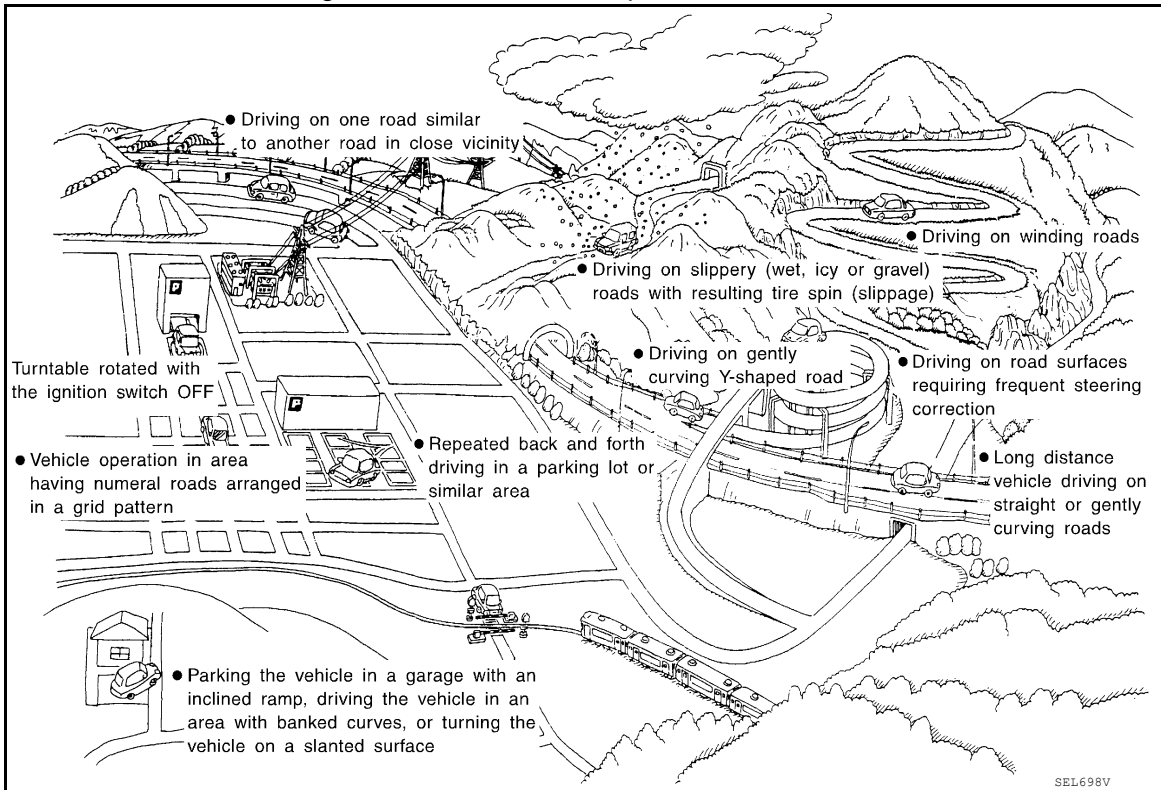
Examples of Current-Location Mark Displacement

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION]

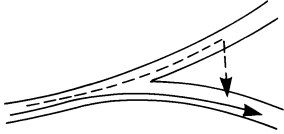
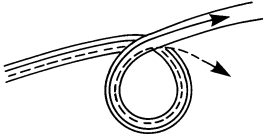
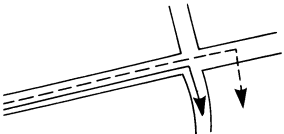
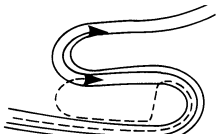
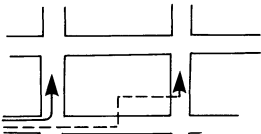
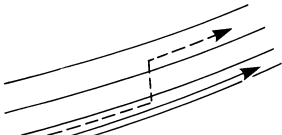
Vehicle's travel amount is calculated by reading its travel distance and turning angle. Therefore, if the vehicle is driven in the following manner, an error will occur in the vehicle's current location display. If correct location has not been restored after driving the vehicle for a while, perform location correction:



NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[NAVIGATION]

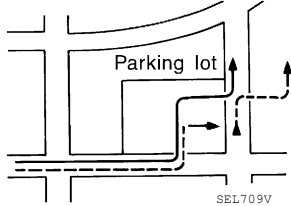
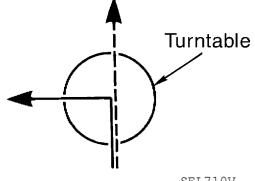
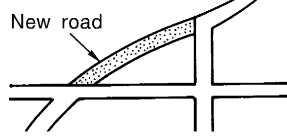
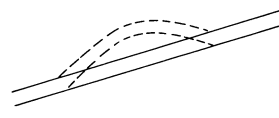
Cause (condition) -: While driving ooo: Display		Driving condition	Remarks (correction, etc.)
Road configuration	Y-intersections  ELK0192D	At a Y intersection or similar gradual division of roads, an error in the direction of travel deduced by the sensor may result in the current-location mark appearing on the wrong road.	
	Spiral roads  ELK0193D	When driving on a large, continuous spiral road (such as loop bridge), turning angle error is accumulated and the vehicle mark may deviate from the correct location.	
	Straight roads  ELK0194D	When driving on a long, straight road and slow curve without stopping, map-matching does not work effectively enough and distance errors may accumulate. As a result, the vehicle mark may deviate from the correct location when the vehicle is turned at a corner.	If after travelling about 10 km (6 miles) the correct location has not been restored, perform location correction and, if necessary, direction correction.
	Zigzag roads  ELK0195D	When driving on a zigzag road, the map may be matched to other roads in the similar direction nearby at every turn, and the vehicle mark may deviate from the correct location.	
	Roads laid out in a grid pattern  ELK0196D	When driving where roads are laid out in a grid pattern, or where many roads are running in the similar direction nearby, the map may be matched to them by mistake and the vehicle mark may deviate from the correct location.	
	Parallel roads  ELK0197D	When two roads are running in parallel (such as highway and sideways), 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 >

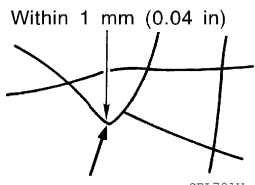
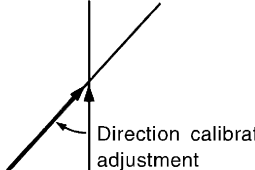
[NAVIGATION]

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.	
	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]

Cause (condition) -: While driving ooo: Display		Driving condition	Remarks (correction, etc.)
Precautions for driving	Just after the engine is started	If the vehicle is driven just after the engine is started when the gyroscope (angular speed sensor) correction is not completed, the vehicle can lose its direction and may have deviated from the correct location.	Wait for a short while before driving after starting the engine.
	Continuous driving without stopping	When driving long distances without stopping, direction errors may accumulate, and the current-location mark may deviate from the correct road.	Stop and adjust the orientation.
	Abusive driving	Spinning the wheels or engaging in other kinds of abusive driving may result in the system being unable perform correct detection, and may cause the vehicle mark to deviate from the correct road.	If after travelling about 10 km (6 miles) the correct location has not been restored, perform location correction and, if necessary, direction correction.
How to correct location	Position correction accuracy  SEL701V	If the accuracy of location settings is poor, accuracy may be reduced when the correct road cannot be found, particularly in places where there are many roads.	Enter in the road displayed on the screen with an accuracy of approx. 1mm. Caution: Whenever possible, use detailed map for the correction.
	Direction when location is corrected  SEL702V	If the accuracy of location settings during correction is poor, accuracy may be reduced afterwards.	Perform direction correction.

Location Correction by Map-Matching is Slow

- The map-matching function needs to refer to the data of the surrounding area. It is necessary to drive some distance for the function to work.
- Because map-matching operates on this principle, when there are many roads running in similar directions in the surrounding area, no matching determination may be made. The location may not be corrected until some special feature is found.

Name of Road is Not Displayed

The current road name may not be displayed if there are no road names displayed on the map screen.

Contents of Display Differ for Birdview™ and the (Flat) Map Screen

Difference of the BIRDVIEW™ screen from the flat map screen are as follows.

- The current place name displays names which are primarily in the direction of vehicle travel.
- The amount of time before the vehicle travel or turn angle is updated on the screen is longer than for the (flat) map display.
- The conditions for display of place names, roads, and other data are different for nearby areas and for more distant areas.
- Some thinning of the character data is done to prevent the display becoming too complex. In some cases and in some locations, the display contents may differ.
- The same place name, street name, etc. may be displayed multiple times.

Vehicle Mark Shows a Position Which is Completely Wrong

In the following cases, the vehicle mark may appear on completely different position in the map depending on the GPS satellite signal receiving conditions. In this case, perform location correction and direction correction:

- When location correction has not been done
- If the receiving conditions of the GPS satellite signal is poor, if the vehicle mark becomes out of place, it may move to a completely different location and not come back if location correction is not done. The position will be corrected if the GPS signal can be received.
- When the vehicle has traveled by ferry, or when the vehicle has been being towed

- Because calculation of the current location cannot be done when traveling with the ignition off, for example when traveling by ferry or when being towed, the location before travel is displayed. If the precise location can be detected with GPS, the location will be corrected.

Vehicle Mark Jumps

In the following cases, the vehicle mark may appear to jump as a result of automatic correction of the current location:

- When map matching has been done
- If the current location and the vehicle mark are different when map matching is done, the vehicle mark may seem to jump. At this time, the location may be “corrected” to the wrong road or to a location which is not on a road.
- When GPS location correction has been done
- If the current location and the vehicle mark are different when the location is corrected using GPS measurements, the vehicle mark may seem to jump. At this time, the location may be “corrected” to a location which is not on a road.

Vehicle Mark is in a River or Sea

The navigation system moves the vehicle mark with no distinction between land and rivers or sea. If the vehicle mark is somehow out of place, it may appear that the vehicle is driving in a river or the sea.

Vehicle Mark Automatically Rotates

The system wrongly memorizes the rotating status as stopping when the ignition switch is turned ON with the turntable rotating. That causes the vehicle mark to rotate when the vehicle is stopped.

When Driving on Same Road, Sometimes Vehicle Mark is in Right Place and Sometimes it is in Wrong Place

The conditions of the GPS antenna (GPS data) and gyroscope (angular speed sensor) change gradually. Depending on the road traveled and the operation of the steering wheel, the location detection results will be different. Therefore, even on a road on which the location has never been wrong, conditions may cause the vehicle mark to deviate.

REMOVAL AND INSTALLATION

AV CONTROL UNIT

Removal and Installation

INFOID:0000000011559542

REMOVAL

CAUTION:

- Remove battery terminal and AV control unit after a lapse of 30 seconds or more after turning the ignition switch OFF.
- Before replacing AV control unit, perform "READ CONFIGURATION" to save current vehicle specification. Refer to [AV-272, "CONFIGURATION \(AV CONTROL UNIT\) : Description"](#).

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 battery negative terminal. Refer to [PG-85, "Removal and Installation"](#).
2. Remove the cluster lid D. Refer to [IP-15, "Removal and Installation"](#).
3. Remove the AV control unit screws.
4. Pull the AV control unit out from the instrument panel.
5. Disconnect the harness connectors from the AV control unit and remove.

INSTALLATION

CAUTION:

- When replacing AV control unit, perform "WRITE CONFIGURATION". Refer to [AV-272, "CONFIGURATION \(AV CONTROL UNIT\) : Description"](#).

Installation is in the reverse order of removal.

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

AV

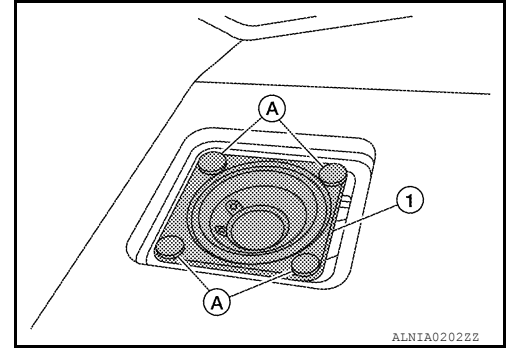
FRONT TWEETER

Removal and Installation

INFOID:0000000011875161

REMOVAL

1. Remove front tweeter speaker grille using a suitable tool.
2. Remove the front tweeter clips (A).
3. Disconnect the harness connector from the front tweeter (1) and remove.



Installation

Installation is in the reverse order of removal.

CENTER SPEAKER

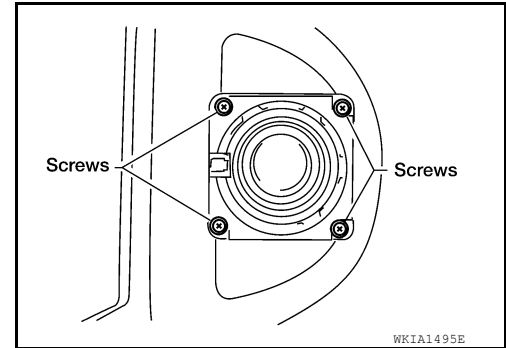
Removal and Installation

INFOID:0000000011875162

CENTER SPEAKER

Removal

1. Remove the cluster lid C. Refer to [IP-15. "Removal and Installation"](#).
2. Remove the center speaker screws.
3. Disconnect the harness connector from the center 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

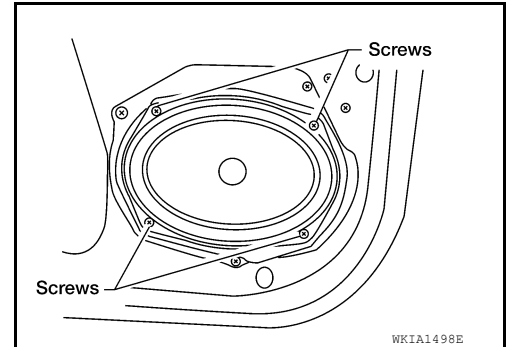
FRONT DOOR SPEAKER

Removal and Installation

INFOID:0000000011875163

REMOVAL

1. Remove the front door finisher. Refer to [INT-10, "Removal and Installation"](#).
2. Remove the front door speaker screws.
3. Disconnect the harness connector from the front door speaker and remove.



INSTALLATION

Installation is in the reverse order of removal.

REAR DOOR SPEAKER

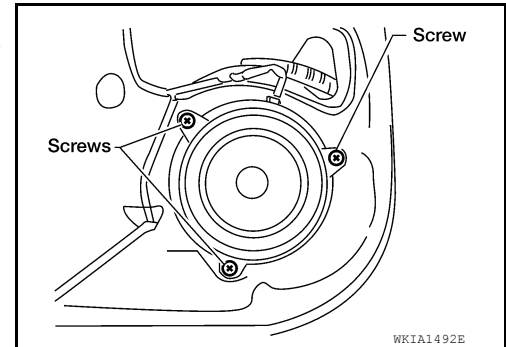
Removal and Installation

INFOID:0000000011875164

REAR DOOR SPEAKER

Removal

1. Remove the rear door finisher. Refer to [INT-10, "Removal and Installation"](#) (Crew Cab) or [INT-10, "Removal and Installation"](#) (King Cab).
2. Remove the rear door speaker screws.
3. Disconnect the harness connector from the rear door speaker and remove.



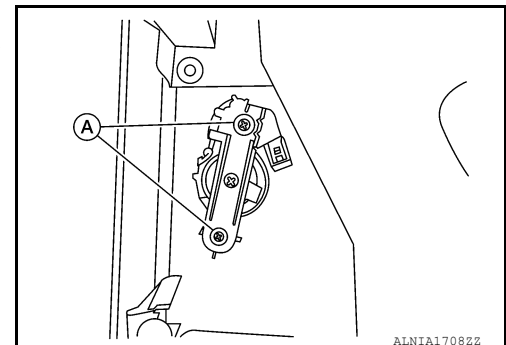
Installation

Installation is in the reverse order of removal.

REAR DOOR TWEETER

Removal

1. Remove the rear door finisher. Refer to [INT-10, "Removal and Installation"](#).
2. Remove the rear door tweeter screws (A).
3. Disconnect the harness connector from the rear door tweeter 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

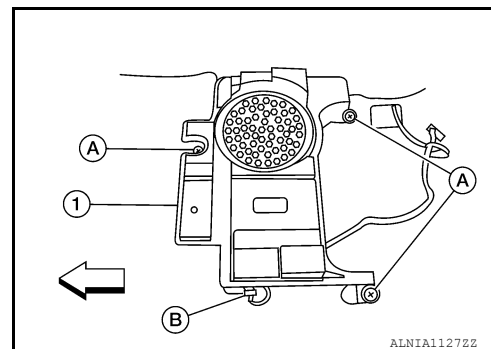
INFOID:0000000011875165

SUBWOOFER

Removal

1. Remove the (LH) front seat. Refer to [SE-34. "Removal and Installation - Front Seat Assembly"](#).
2. Remove the subwoofer bolts (A).
3. Disconnect the harness connector (B) from the subwoofer (1) and remove.

⇐: Front



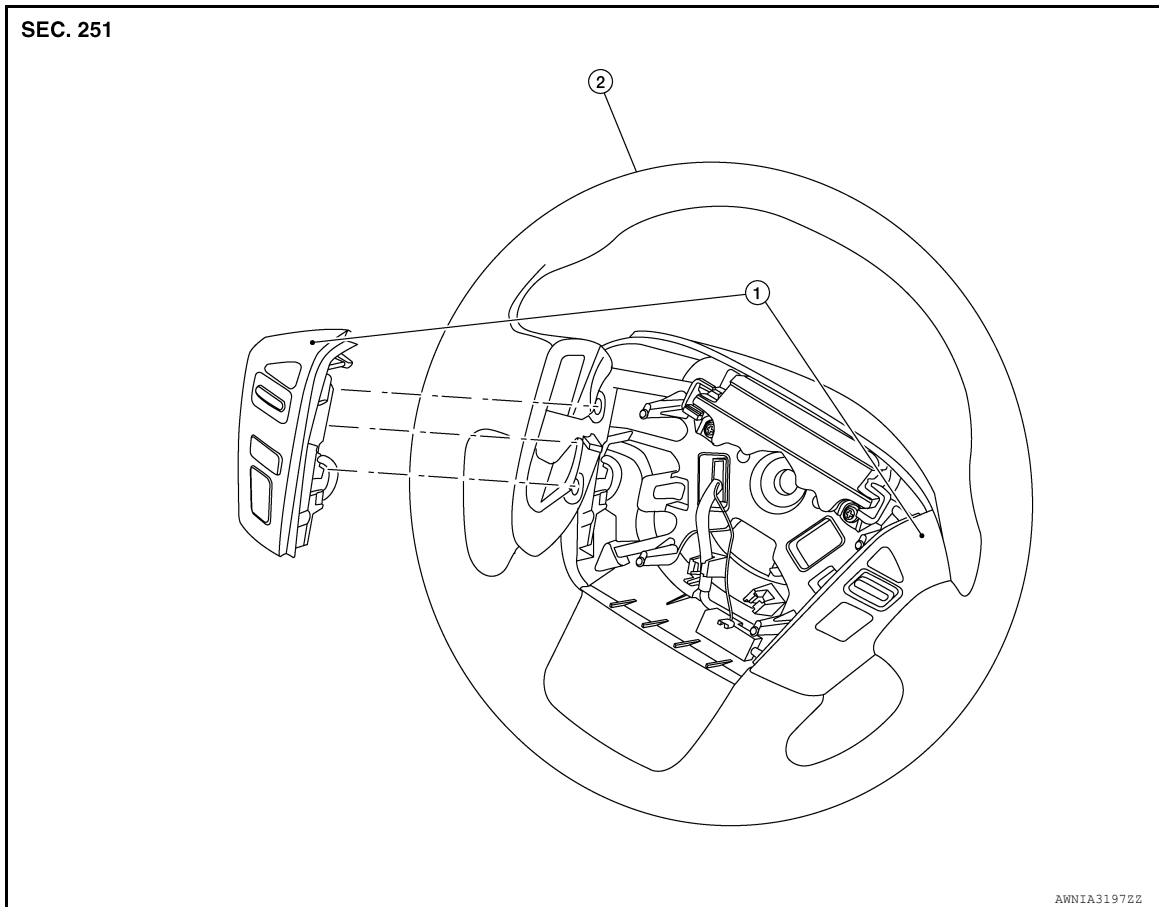
Installation

Installation is in the reverse order of removal.

STEERING SWITCH

Removal and Installation

INFOID:0000000011559548



1. Steering wheel audio control switches 2. Steering wheel

STEERING WHEEL AUDIO CONTROL SWITCHES

Removal

1. Remove the steering wheel. Refer to [ST-22. "Removal and Installation"](#).
2. Remove the steering wheel rear cover screws and the steering wheel rear cover.
3. Remove the steering wheel switch assembly screws and the steering wheel switches.

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

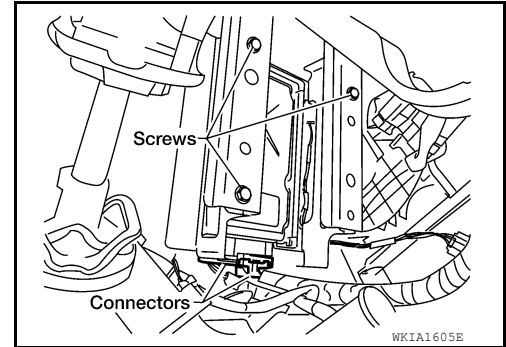
AUDIO AMP.

Removal and Installation

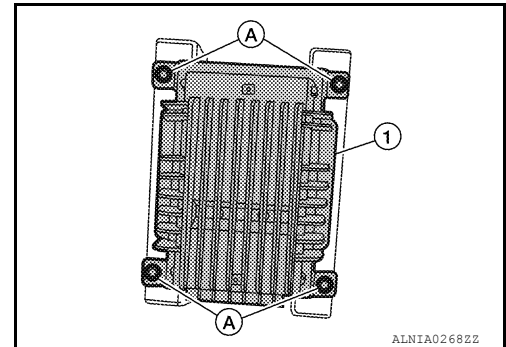
INFOID:000000011875166

REMOVAL

1. Remove the accelerator pedal. Refer to [ACC-3, "Removal and Installation"](#).
2. Remove the BCM. Refer to [BCS-56, "Removal and Installation"](#).
3. Remove the audio amp.
 - a. Disconnect the harness connector from the audio amp..
 - b. Remove the audio amp bracket screws and slide the audio amp and bracket assembly down.



4. Remove the audio amp. screws (A) and separate the audio amp. (1) from the bracket.



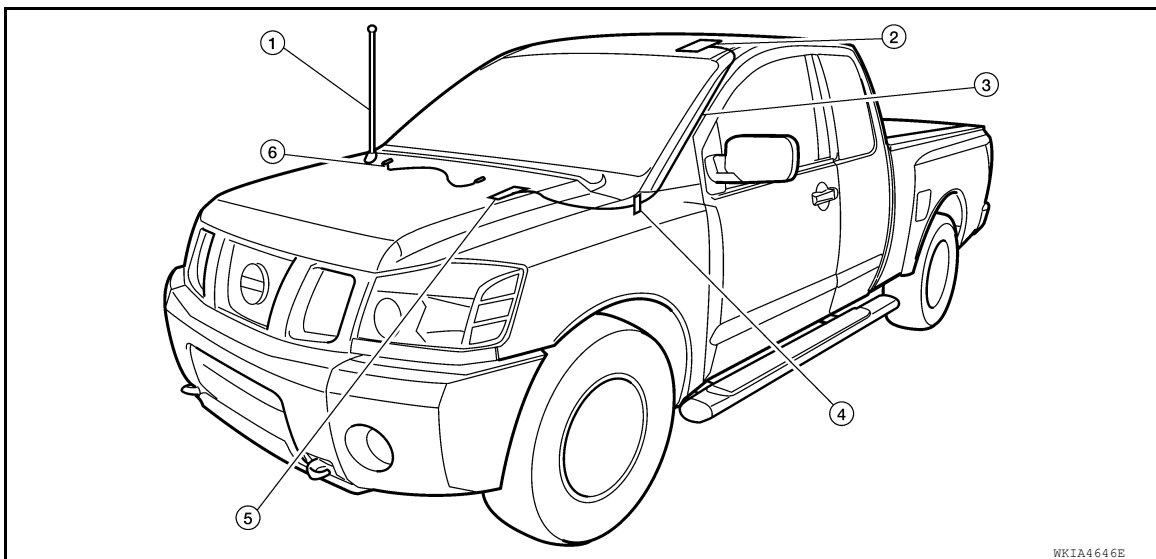
INSTALLATION

Installation is in the reverse order of removal.

AUDIO ANTENNA

Location of Antenna

INFOID:0000000011559550



1. Antenna	2. Satellite antenna (if equipped, factory installed)	3. Satellite antenna feeder
4. Connectors	5. Satellite radio tuner	6. Main feeder cable

Removal and Installation

INFOID:0000000011559551

REMOVAL

1. Remove audio antenna rod.
2. Remove audio antenna rubber seal.
3. Remove fender protector RH. Refer to [EXT-24, "Removal and Installation"](#).
4. Remove audio antenna assembly bolts.
5. Disconnect the audio antenna feeder from the audio antenna assembly.
6. Remove audio antenna assembly from the vehicle.

INSTALLATION

- Installation is in the reverse order of removal.
- Tighten audio antenna rod to specification.

Audio antenna rod : 3.5 N·m (0.36 kg-m, 31 in-lb)

CAUTION:

Always properly tighten the audio antenna rod during installation or the audio antenna rod may bend or break during vehicle operation.

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

AV

AUXILIARY INPUT JACK

Removal and Installation

INFOID:0000000011559552

REMOVAL

1. Remove the center console. Refer to [IP-21. "Removal and Installation"](#).
2. Remove the auxiliary input jack.

INSTALLATION

Installation is in the reverse order of removal.

USB CONNECTOR

Removal and Installation

INFOID:0000000011559553

REMOVAL

1. Remove the center console assembly. Refer to [IP-21. "Removal and Installation"](#).
2. Push the pawl from the back of the center console to remove the USB interface.

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

SATELLITE RADIO ANTENNA

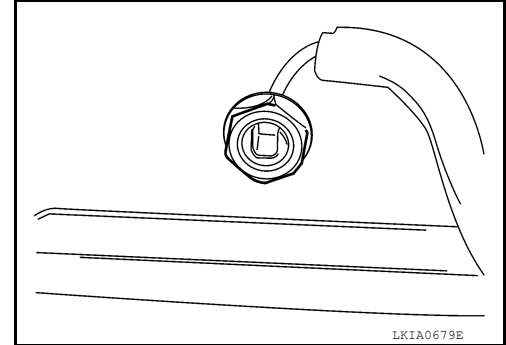
Removal and Installation

INFOID:0000000011559554

SATELLITE RADIO ANTENNA

Removal

1. Lower the headliner. Refer to [INT-22. "Removal and Installation"](#).
2. Disconnect the satellite radio antenna connector.
3. Remove the satellite radio antenna nut.
4. Remove the satellite radio antenna.



Installation

Installation is in the reverse order of removal.

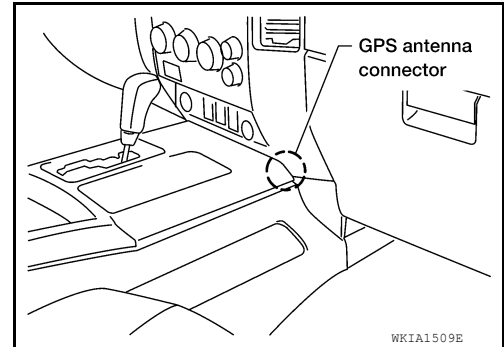
GPS ANTENNA

Removal and Installation

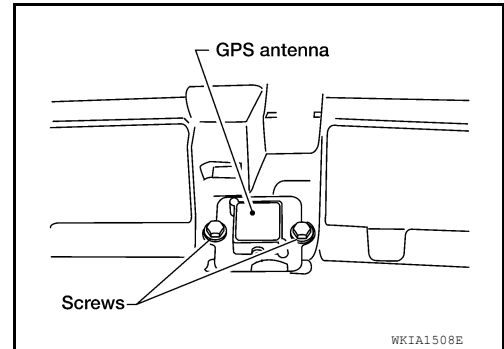
INFOID:0000000011559555

REMOVAL

1. Remove cluster lid C. Refer to [IP-15. "Removal and Installation"](#).
2. Disconnect center speaker.
3. Remove defroster grille. Refer to [VTL-25. "Removal and Installation"](#).
4. Disconnect the harness connector from the GPS antenna.



5. Remove 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
AV
O
P

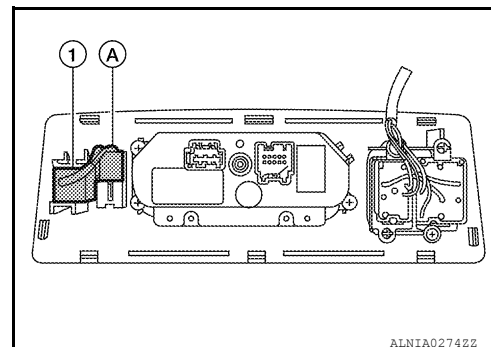
MICROPHONE

Removal and Installation

INFOID:0000000011875168

REMOVAL

1. Remove the front roof console finisher. Refer to [INT-22, "Removal and Installation"](#).
2. Disconnect the harness connector (A) from the microphone (1).
3. Detach the microphone (1) from the front roof console finisher.



ALNIA02742Z

INSTALLATION

Installation is in the reverse order of removal.

REAR VIEW CAMERA

Removal and Installation

INFOID:0000000011559557

REMOVAL

1. Remove the tail gate handle. Refer to [DLK-137, "Exploded View"](#).
2. Remove the rear view camera screws and the rear view camera from the tail gate handle.

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 CONTROL SWITCH

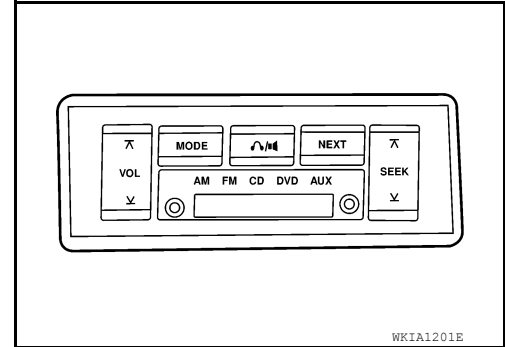
Removal and Installation

INFOID:0000000011559558

REAR AUDIO REMOTE CONTROL UNIT

Removal

1. Carefully remove the rear control switch from the rear roof console assembly using a suitable tool.
2. Disconnect the harness connector from rear control switch and remove.



Installation

Installation is in the reverse order of removal.

DVD ENTERTAINMENT SYSTEM

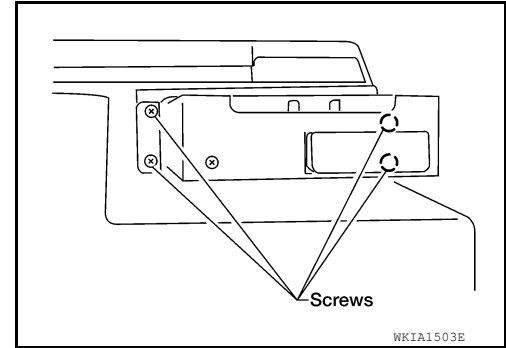
Removal and Installation

INFOID:0000000011559559

DVD PLAYER

Removal

1. Disconnect the battery negative terminal. Refer to [PG-85, "Removal and Installation"](#).
2. Remove the center console bin. Refer to [IP-20, "Exploded View"](#).
3. Remove the DVD player screws.



4. Disconnect the harness connectors from the DVD player and remove.

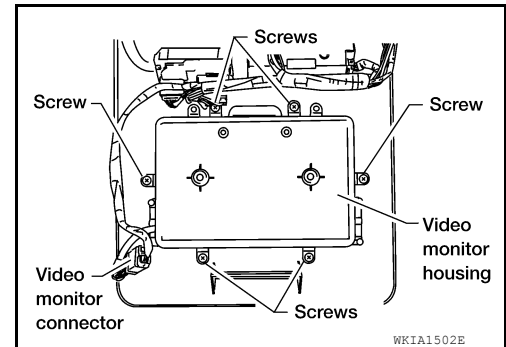
Installation

Installation is in reverse order of removal.

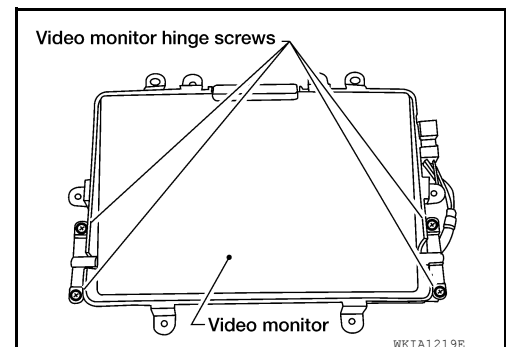
VIDEO MONITOR

Removal

1. Remove the rear roof console assembly. Refer to [INT-22, "Removal and Installation"](#).
2. Disconnect the harness connector from video monitor.
3. Remove the video housing screws.



4. Remove the video monitor and housing.
5. Remove the video monitor hinge screws and remove the video monitor.



Installation

Installation is in the reverse order of removal.