

SECTION **AV**

AUDIO, VISUAL & NAVIGATION SYSTEM

CONTENTS

BASE AUDIO	SYMPTOM DIAGNOSIS	29	A
BASIC INSPECTION	AUDIO SYSTEM	29	B
DIAGNOSIS AND REPAIR WORKFLOW	Symptom Table	29	C
Work Flow	NORMAL OPERATING CONDITION	30	D
FUNCTION DIAGNOSIS	Description	30	E
AUDIO SYSTEM	PRECAUTION	31	F
System Diagram	PRECAUTIONS	31	G
System Description	Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"	31	H
Component Parts Location	PREPARATION	32	I
Component Description	PREPARATION	32	J
COMPONENT DIAGNOSIS	Commercial Service Tools	32	K
POWER SUPPLY AND GROUND CIRCUIT	ON-VEHICLE REPAIR	33	L
AUDIO UNIT	AUDIO UNIT	33	M
AUDIO UNIT : Diagnosis Procedure	Removal and Installation	33	AV
FRONT DOOR SPEAKER	FRONT TWEETER	34	O
Description	Removal and Installation	34	P
Diagnosis Procedure	FRONT DOOR SPEAKER	35	
FRONT TWEETER	Removal and Installation	35	
Description	REAR DOOR SPEAKER	36	
Diagnosis Procedure	Removal and Installation	36	
REAR DOOR SPEAKER	AUDIO ANTENNA	37	
Description	Location of Antenna	37	
Diagnosis Procedure	MID AUDIO		
REAR DOOR TWEETER	BASIC INSPECTION	38	
Description	DIAGNOSIS AND REPAIR WORKFLOW	38	
Diagnosis Procedure	Work Flow	38	
ECU DIAGNOSIS	FUNCTION DIAGNOSIS	40	
AUDIO UNIT			
Reference Value			
Wiring Diagram			

AUDIO SYSTEM	40	SOUND SIGNAL CIRCUIT	63
System Diagram	40	SATELLITE RADIO TUNER	63
System Description	40	SATELLITE RADIO TUNER : Description	63
Component Parts Location	41	SATELLITE RADIO TUNER : Diagnosis Procedure	63
Component Description	42	ECU DIAGNOSIS	65
DVD PLAYER	43	AUDIO UNIT	65
System Diagram	43	Reference Value	65
System Description	43	Wiring Diagram	69
Component Parts Location	44	SATELLITE RADIO TUNER	84
Component Description	44	Reference Value	84
DIAGNOSIS SYSTEM (AUDIO UNIT)	45	DVD PLAYER	86
AV SWITCH	45	Reference Value	86
AV SWITCH : Component Function Check	45	SYMPTOM DIAGNOSIS	88
COMPONENT DIAGNOSIS	46	AUDIO SYSTEM	88
POWER SUPPLY AND GROUND CIRCUIT	46	Symptom Table	88
AUDIO UNIT	46	NORMAL OPERATING CONDITION	89
AUDIO UNIT : Diagnosis Procedure	46	Description	89
AV SWITCH	46	PRECAUTION	90
AV SWITCH : Diagnosis Procedure	46	PRECAUTIONS	90
SATELLITE RADIO TUNER	47	Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"	90
SATELLITE RADIO TUNER : Diagnosis Procedure	47	PREPARATION	91
DVD PLAYER	48	PREPARATION	91
DVD PLAYER : Diagnosis Procedure	48	Commercial Service Tools	91
VIDEO MONITOR	48	ON-VEHICLE REPAIR	92
VIDEO MONITOR : Diagnosis Procedure	48	AUDIO UNIT	92
FRONT DOOR SPEAKER	50	Removal and Installation	92
Description	50	FRONT TWEETER	93
Diagnosis Procedure	50	Removal and Installation	93
FRONT TWEETER	52	CENTER SPEAKER	94
Description	52	Removal and Installation	94
Diagnosis Procedure	52	FRONT DOOR SPEAKER	95
REAR DOOR SPEAKER	54	Removal and Installation	95
Description	54	REAR DOOR SPEAKER	96
Diagnosis Procedure	54	Removal and Installation	96
REAR DOOR TWEETER	56	WOOFER	97
Description	56	Removal and Installation	97
Diagnosis Procedure	56	STEERING SWITCH	98
STEERING SWITCH	58	Removal and Installation	98
Description	58	REAR AUDIO REMOTE CONTROL UNIT	99
Diagnosis Procedure	58	Removal and Installation	99
COMMUNICATION SIGNAL CIRCUIT	60		
SATELLITE RADIO TUNER	60		
SATELLITE RADIO TUNER : Description	60		
SATELLITE RADIO TUNER : Diagnosis Procedure	60		

BOSE AMP	100	DVD PLAYER : Diagnosis Procedure	119	A
Removal and Installation	100	VIDEO MONITOR	119	B
AUDIO ANTENNA	101	VIDEO MONITOR : Diagnosis Procedure	119	C
Location of Antenna	101	AUDIO AMP	120	D
SATELLITE RADIO ANTENNA	102	AUDIO AMP : Diagnosis Procedure	120	E
Removal and Installation	102	BLUETOOTH CONTROL UNIT	121	F
SATELLITE RADIO TUNER	103	BLUETOOTH CONTROL UNIT : Diagnosis Pro- cedure	121	G
Removal and Installation	103	MICROPHONE	122	H
PREMIUM WITHOUT NAVIGATION		MICROPHONE : Diagnosis Procedure	122	I
BASIC INSPECTION	104	FRONT DOOR SPEAKER	124	J
DIAGNOSIS AND REPAIR WORKFLOW	104	Description	124	K
Work Flow	104	Diagnosis Procedure	124	L
FUNCTION DIAGNOSIS	106	FRONT TWEETER	127	M
AUDIO SYSTEM	106	Description	127	
System Diagram	106	Diagnosis Procedure	127	
System Description	106	CENTER SPEAKER	130	
Component Parts Location	108	Description	130	
Component Description	109	Diagnosis Procedure	130	
DVD PLAYER	110	REAR DOOR SPEAKER	132	
System Diagram	110	Description	132	
System Description	110	Diagnosis Procedure	132	
Component Parts Location	111	REAR DOOR TWEETER	135	
Component Description	111	Description	135	
HANDS-FREE PHONE SYSTEM	113	Diagnosis Procedure	135	
System Diagram	113	SUBWOOFER	138	
System Description	113	Description	138	
Component Parts Location	113	Diagnosis Procedure	138	
Component Description	114	AMP ON SIGNAL CIRCUIT	141	
DIAGNOSIS SYSTEM (AUDIO UNIT)	115	Description	141	
AV SWITCH	115	Diagnosis Procedure	141	
AV SWITCH : Component Function Check	115	STEERING SWITCH	142	
DIAGNOSIS SYSTEM (BLUETOOTH CON- CONTROL UNIT)	116	Description	142	
Diagnosis Description	116	Diagnosis Procedure	142	
Work Flow	116	COMMUNICATION SIGNAL CIRCUIT	144	
COMPONENT DIAGNOSIS	117	SATELLITE RADIO TUNER	144	
POWER SUPPLY AND GROUND CIRCUIT ...	117	SATELLITE RADIO TUNER : Description	144	
AUDIO UNIT	117	SATELLITE RADIO TUNER : Diagnosis Proce- dure	144	
AUDIO UNIT : Diagnosis Procedure	117	SOUND SIGNAL CIRCUIT	147	
AV SWITCH	117	SATELLITE RADIO TUNER	147	
AV SWITCH : Diagnosis Procedure	117	SATELLITE RADIO TUNER : Description	147	
SATELLITE RADIO TUNER	118	SATELLITE RADIO TUNER : Diagnosis Proce- dure	147	
SATELLITE RADIO TUNER : Diagnosis Proce- dure	118	MICROPHONE SIGNAL CIRCUIT	149	
DVD PLAYER	119	Description	149	

Diagnosis Procedure	149	STEERING SWITCH	197
ECU DIAGNOSIS	151	Removal and Installation	197
AUDIO UNIT	151	REAR AUDIO REMOTE CONTROL UNIT	198
Reference Value	151	Removal and Installation	198
Wiring Diagram	155	DVD PLAYER	199
SATELLITE RADIO TUNER	175	Removal and Installation	199
Reference Value	175	DVD ENTERTAINMENT SYSTEM	200
DVD PLAYER	177	Removal and Installation	200
Reference Value	177	BOSE AMP.	201
AUDIO AMP	179	Removal and Installation	201
Reference Value	179	AUDIO ANTENNA	202
BLUETOOTH CONTROL UNIT	182	Location of Antenna	202
Reference Value	182	SATELLITE RADIO ANTENNA	203
SYMPTOM DIAGNOSIS	184	Removal and Installation	203
AUDIO SYSTEM	184	SATELLITE RADIO TUNER	204
Symptom Table	184	Removal and Installation	204
NORMAL OPERATING CONDITION	186	MICROPHONE	205
Description	186	Removal and Installation	205
PRECAUTION	187	TEL ANTENNA	206
PRECAUTIONS	187	Removal and Installation	206
Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"	187	BLUETOOTH CONTROL UNIT	207
PREPARATION	188	Removal and Installation	207
PREPARATION	188	PREMIUM WITH NAVIGATION	
Commercial Service Tools	188	BASIC INSPECTION	208
ON-VEHICLE REPAIR	189	DIAGNOSIS AND REPAIR WORKFLOW	208
AUDIO UNIT	189	Work Flow	208
Removal and Installation	189	FUNCTION DIAGNOSIS	210
DISPLAY UNIT	190	AUDIO SYSTEM	210
Removal and Installation	190	System Diagram	210
FRONT TWEETER	191	System Description	210
Removal and Installation	191	Component Parts Location	212
CENTER SPEAKER	192	Component Description	213
Removal and Installation	192	NAVIGATION SYSTEM	214
FRONT DOOR SPEAKER	193	System Diagram	214
Removal and Installation	193	System Description	214
REAR DOOR SPEAKER	194	Component Parts Location	216
Removal and Installation	194	Component Description	216
BACK DOOR SPEAKER	195	DVD PLAYER	217
Removal and Installation	195	System Diagram	217
WOOFER	196	System Description	217
Removal and Installation	196	Component Parts Location	218
		Component Description	218
		HANDS-FREE PHONE SYSTEM	220
		System Diagram	220
		System Description	220
		Component Parts Location	220

Component Description	221	RGB (G: GREEN) SIGNAL CIRCUIT	247	
DIAGNOSIS SYSTEM (AUDIO UNIT)	222	Description	247	A
AUDIO UNIT	222	Diagnosis Procedure	247	
AUDIO UNIT : Diagnosis Description	222	RGB (B: BLUE) SIGNAL CIRCUIT	248	B
AV SWITCH	222	Description	248	
AV SWITCH : Component Function Check	222	Diagnosis Procedure	248	
DIAGNOSIS SYSTEM (NAVI CONTROL UNIT)	223	RGB SYNCHRONIZING SIGNAL CIRCUIT ...	249	C
Diagnosis Description	223	Description	249	
Work Flow	223	Diagnosis Procedure	249	
DIAGNOSIS SYSTEM (BLUETOOTH CONTROL UNIT)	235	RGB AREA (YS) SIGNAL CIRCUIT	250	D
Diagnosis Description	235	Description	250	
Work Flow	235	Diagnosis Procedure	250	
COMPONENT DIAGNOSIS	236	HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT	251	E
POWER SUPPLY AND GROUND CIRCUIT ...	236	Description	251	
AUDIO UNIT	236	Diagnosis Procedure	251	F
AUDIO UNIT : Diagnosis Procedure	236	VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT	252	G
NAVI CONTROL UNIT	236	Description	252	
NAVI CONTROL UNIT : Diagnosis Procedure ...	236	Diagnosis Procedure	252	
DISPLAY UNIT	237	FRONT DOOR SPEAKER	253	H
DISPLAY UNIT : Diagnosis Procedure	237	Description	253	
DISPLAY CONTROL UNIT	238	Diagnosis Procedure	253	I
DISPLAY CONTROL UNIT : Diagnosis Procedure ..	238	FRONT TWEETER	256	
AV SWITCH	239	Description	256	J
AV SWITCH : Diagnosis Procedure	239	Diagnosis Procedure	256	
SATELLITE RADIO TUNER	240	CENTER SPEAKER	259	K
SATELLITE RADIO TUNER : Diagnosis Procedure ..	240	Description	259	
DVD PLAYER	241	Diagnosis Procedure	259	
DVD PLAYER : Diagnosis Procedure	241	REAR DOOR SPEAKER	261	L
VIDEO MONITOR	241	Description	261	
VIDEO MONITOR : Diagnosis Procedure	241	Diagnosis Procedure	261	
AUDIO AMP	242	REAR DOOR TWEETER	264	M
AUDIO AMP : Diagnosis Procedure	242	Description	264	
BLUETOOTH CONTROL UNIT	243	Diagnosis Procedure	264	
BLUETOOTH CONTROL UNIT : Diagnosis Procedure ..	243	SUBWOOFER	267	AV
MICROPHONE	244	Description	267	
MICROPHONE : Diagnosis Procedure	244	Diagnosis Procedure	267	
RGB (R: RED) SIGNAL CIRCUIT	246	AMP ON SIGNAL CIRCUIT	270	O
Description	246	Description	270	
Diagnosis Procedure	246	Diagnosis Procedure	270	
RGB (G: GREEN) SIGNAL CIRCUIT	247	STEERING SWITCH	271	P
Description	247	Description	271	
Diagnosis Procedure	247	Diagnosis Procedure	271	
RGB (B: BLUE) SIGNAL CIRCUIT	248	COMMUNICATION SIGNAL CIRCUIT	273	
Description	248	SATELLITE RADIO TUNER	273	
Diagnosis Procedure	248	SATELLITE RADIO TUNER : Description	273	
RGB SYNCHRONIZING SIGNAL CIRCUIT ...	249			
Description	249			
Diagnosis Procedure	249			
RGB AREA (YS) SIGNAL CIRCUIT	250			
Description	250			
Diagnosis Procedure	250			
HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT	251			
Description	251			
Diagnosis Procedure	251			
VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT	252			
Description	252			
Diagnosis Procedure	252			
FRONT DOOR SPEAKER	253			
Description	253			
Diagnosis Procedure	253			
FRONT TWEETER	256			
Description	256			
Diagnosis Procedure	256			
CENTER SPEAKER	259			
Description	259			
Diagnosis Procedure	259			
REAR DOOR SPEAKER	261			
Description	261			
Diagnosis Procedure	261			
REAR DOOR TWEETER	264			
Description	264			
Diagnosis Procedure	264			
SUBWOOFER	267			
Description	267			
Diagnosis Procedure	267			
AMP ON SIGNAL CIRCUIT	270			
Description	270			
Diagnosis Procedure	270			
STEERING SWITCH	271			
Description	271			
Diagnosis Procedure	271			
COMMUNICATION SIGNAL CIRCUIT	273			
SATELLITE RADIO TUNER	273			
SATELLITE RADIO TUNER : Description	273			

SATELLITE RADIO TUNER : Diagnosis Procedure	273	PREPARATION	333
SOUND SIGNAL CIRCUIT	276	Commercial Service Tools	333
SATELLITE RADIO TUNER	276	ON-VEHICLE REPAIR	334
SATELLITE RADIO TUNER : Description	276	AUDIO UNIT	334
SATELLITE RADIO TUNER : Diagnosis Procedure	276	Removal and Installation	334
MICROPHONE SIGNAL CIRCUIT	278	DISPLAY UNIT	335
Description	278	Removal and Installation	335
Diagnosis Procedure	278	FRONT TWEETER	336
ECU DIAGNOSIS	280	Removal and Installation	336
AUDIO UNIT	280	CENTER SPEAKER	337
Reference Value	280	Removal and Installation	337
Wiring Diagram	284	FRONT DOOR SPEAKER	338
NAVI CONTROL UNIT	309	Removal and Installation	338
Reference Value	309	REAR DOOR SPEAKER	339
DISPLAY UNIT	311	Removal and Installation	339
Reference Value	311	WOOFER	340
SATELLITE RADIO TUNER	313	Removal and Installation	340
Reference Value	313	STEERING SWITCH	341
DVD PLAYER	315	Removal and Installation	341
Reference Value	315	REAR AUDIO REMOTE CONTROL UNIT	342
AUDIO AMP	317	Removal and Installation	342
Reference Value	317	BOSE AMP.	343
BLUETOOTH CONTROL UNIT	320	Removal and Installation	343
Reference Value	320	AUDIO ANTENNA	344
SYMPTOM DIAGNOSIS	322	Location of Antenna	344
AUDIO SYSTEM	322	SATELLITE RADIO ANTENNA	345
Symptom Table	322	Removal and Installation	345
NORMAL OPERATING CONDITION	324	SATELLITE RADIO TUNER	346
Description	324	Removal and Installation	346
PRECAUTION	332	DVD ENTERTAINMENT SYSTEM	347
PRECAUTIONS	332	Removal and Installation	347
Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"	332	MICROPHONE	348
Precaution for Trouble Diagnosis	332	Removal and Installation	348
Precaution for Harness Repair	332	GPS ANTENNA	349
PREPARATION	333	Removal and Installation	349
		NAVI CONTROL UNIT	350
		Removal and Installation	350

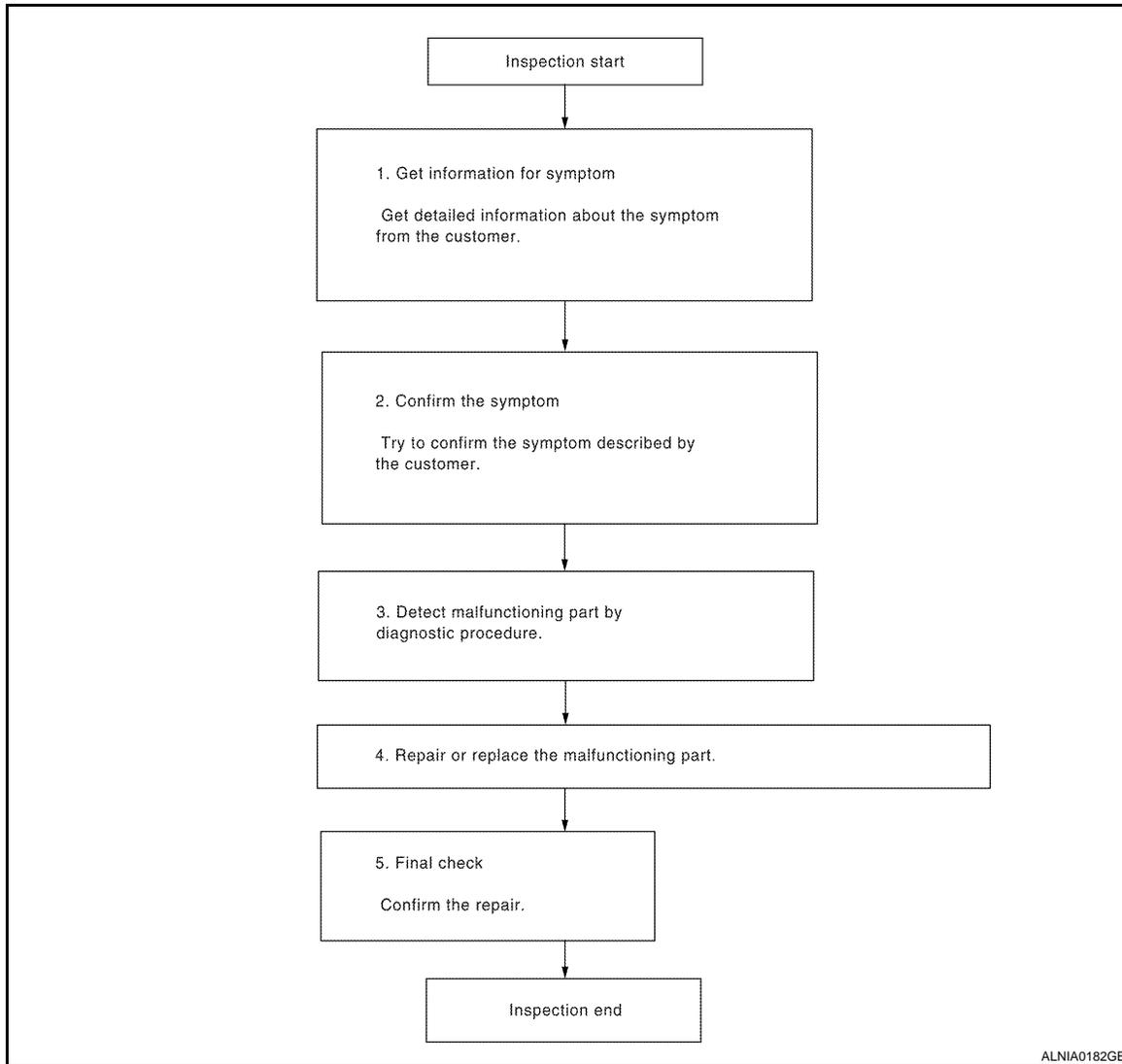
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000001572435

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.

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

AV

O
P

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?

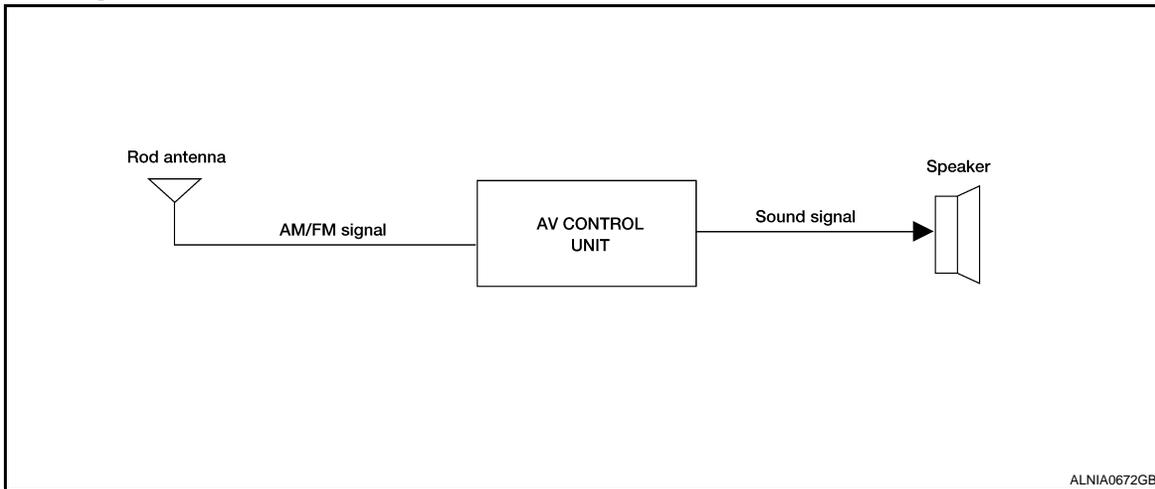
YES >> Inspection End.

NO >> GO TO 2

FUNCTION DIAGNOSIS

AUDIO SYSTEM

System Diagram



System Description

INFOID:000000001572437

AUDIO SYSTEM

The audio system 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.

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

AV

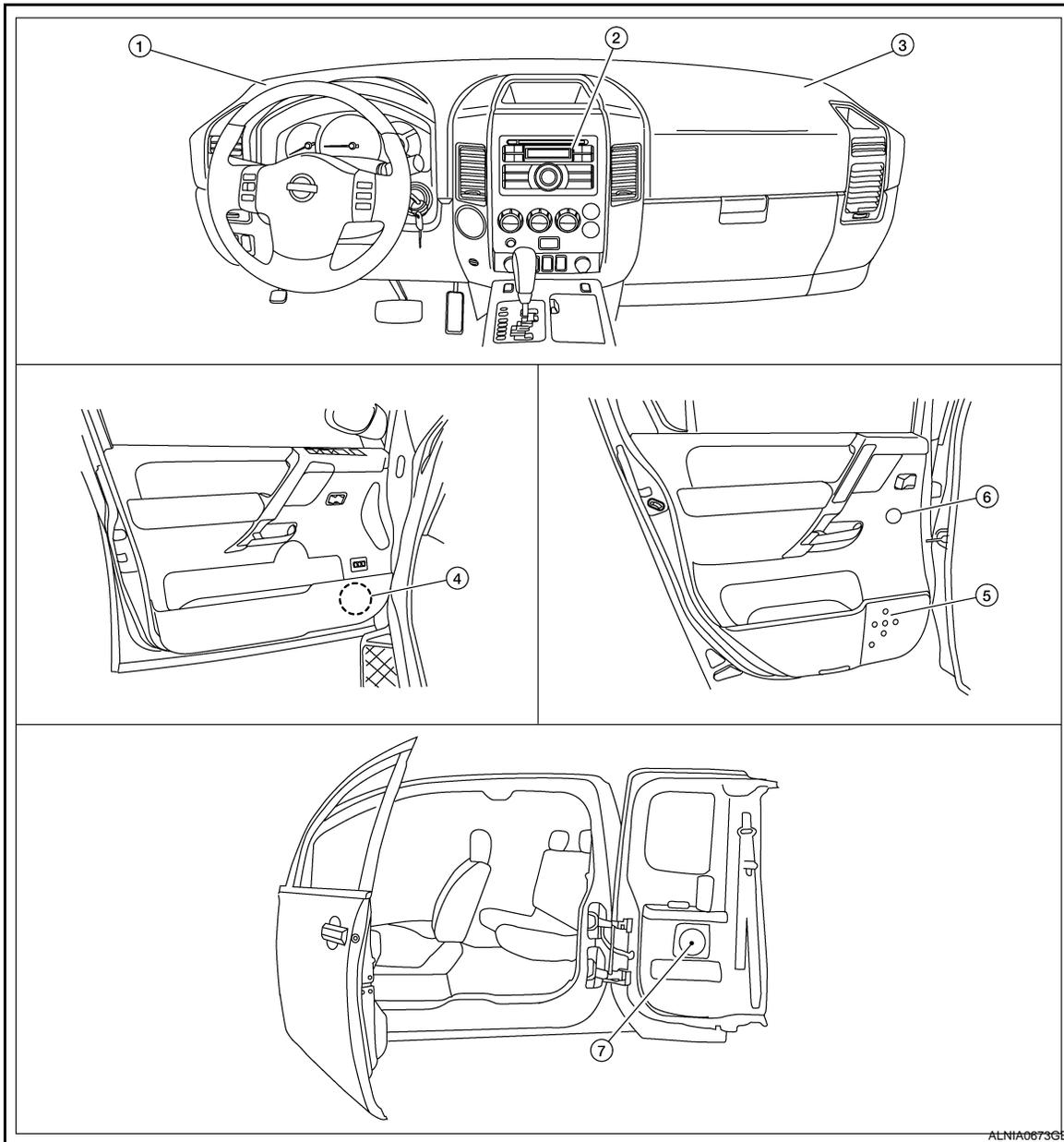
AUDIO SYSTEM

< FUNCTION DIAGNOSIS >

[BASE AUDIO]

Component Parts Location

INFOID:000000001572438



- | | | |
|--|---|---|
| 1. Front tweeter LH M109 | 2. Audio unit M43 | 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:000000001572439

Part name	Description
Audio unit	Controls audio system functions
Front door speakers	<ul style="list-style-type: none"> Outputs audio signal from audio unit Outputs high, mid and low range sounds

AUDIO SYSTEM

< FUNCTION DIAGNOSIS >

[BASE AUDIO]

Part name	Description	
Front tweeters	<ul style="list-style-type: none">• Outputs audio signal from audio unit• Outputs high range sounds	A
Rear door speakers	<ul style="list-style-type: none">• Outputs audio signal from audio unit• Outputs high, mid and low range sounds	B
Rear door tweeters (crew cab)	<ul style="list-style-type: none">• Outputs audio signal from audio unit• Outputs high range sounds	C

A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

P

COMPONENT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID:000000001572466

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?

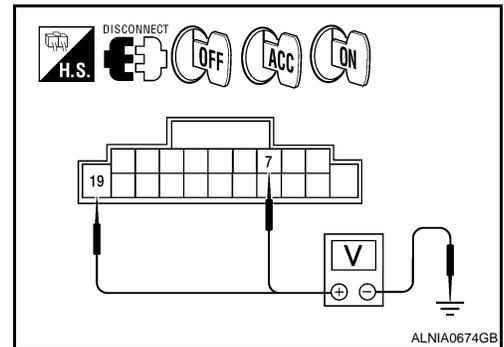
YES >> GO TO 2

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 M43.
2. Check voltage between the audio unit connector M43 ground.

(+)		(-)	OFF	ACC	ON
Connector	Terminal				
M43	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

< COMPONENT DIAGNOSIS >

[BASE AUDIO]

FRONT DOOR SPEAKER

Description

INFOID:000000001572486

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

Diagnosis Procedure

INFOID:000000001572487

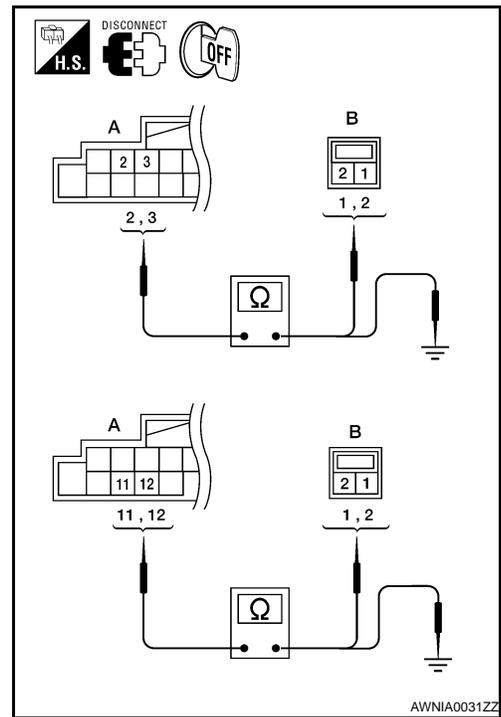
1. HARNESS CHECK

1. Disconnect audio unit connector M43 and suspect speaker connector.
2. Check continuity between audio unit harness connector M43 (A) terminal and suspect speaker harness connector (B) terminal.

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M43	2	D12	1	Yes
	3		2	
	11	D112	1	
	12		2	

3. Check continuity between audio unit harness connector M43 (A) terminal and ground.

A		—	Continuity
Connector	Terminal		
M43	2	Ground	No
	3		
	11		
	12		



Are continuity results as specified?

YES >> GO TO 2

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

2. FRONT SPEAKER SIGNAL CHECK

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

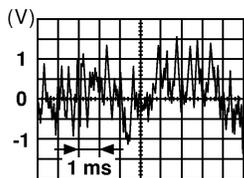
AV

FRONT DOOR SPEAKER

[BASE AUDIO]

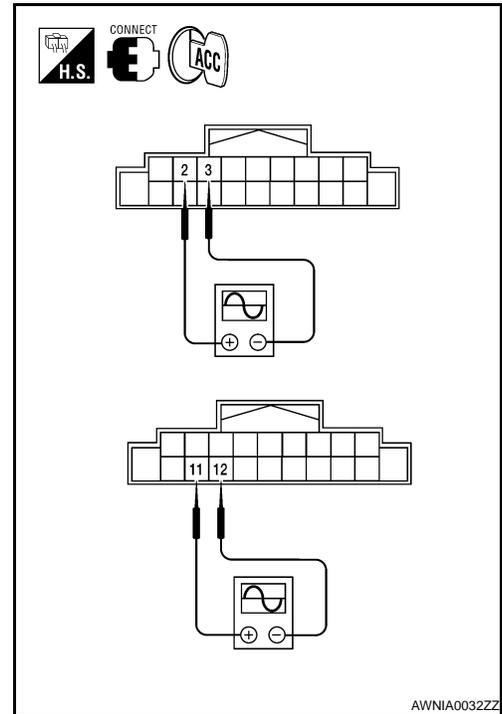
< COMPONENT DIAGNOSIS >

1. Connect audio unit connector M43 and front speaker connector.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio unit harness connector M43 terminals with CONSULT-III or oscilloscope.

Con- nector	(+) Terminal		(-) Terminal	Condition	Reference signal
	2	3	3		
M43	2	3		Receive audio signal	
	11	12			

Is the audio signal voltage as specified?

- YES >> Replace speaker. Refer to [AV-35, "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-33, "Removal and Installation"](#).



AWNIA0032ZZ

FRONT TWEETER

< COMPONENT DIAGNOSIS >

[BASE AUDIO]

FRONT TWEETER

Description

INFOID:000000001572488

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

Diagnosis Procedure

INFOID:000000001572489

1. HARNESS CHECK

1. Disconnect audio unit connector M43 and suspect front tweeter connector.
2. Check continuity between audio unit harness connector M43 (A) and suspect front tweeter harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M43	2	M109	1	Yes
	3		2	
	11	M111	1	
	12		2	

3. Check continuity between audio unit harness connector M43 (A) and ground.

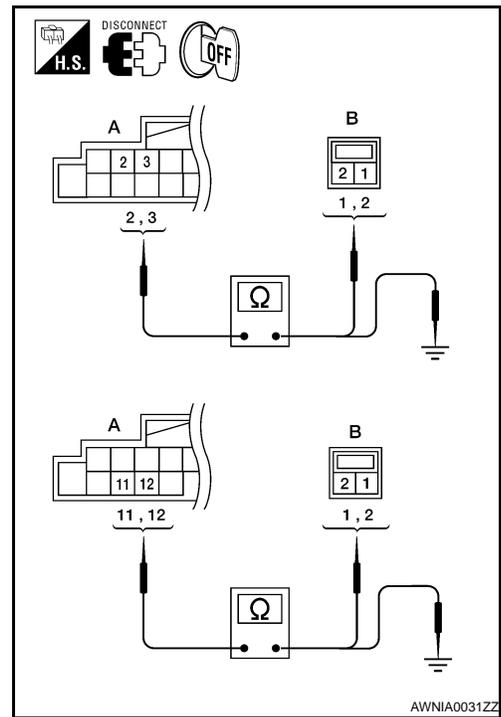
A		—	Continuity
Connector	Terminal		
M43	2	Ground	No
	3		
	11		
	12		

Are the continuity results as specified?

YES >> GO TO 2

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

2. FRONT TWEETER SIGNAL CHECK



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

AV

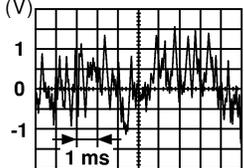
O
P

FRONT TWEETER

[BASE AUDIO]

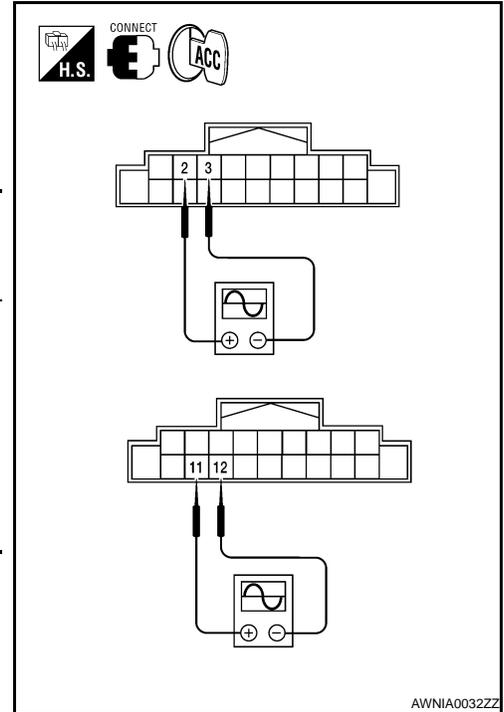
< COMPONENT DIAGNOSIS >

1. Connect audio unit connector M43 and front tweeter connector.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio unit harness connector M43 terminals with CONSULT-III or oscilloscope.

Con- nector	(+)		(-)		Condition	Reference signal
	Terminal	Terminal	Terminal	Terminal		
M43	2	3	11	12	Receive audio signal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
	11	12				

Is the audio signal voltage as specified?

- YES >> Replace the suspect front tweeter. Refer to [AV-34, "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-33, "Removal and Installation"](#).



REAR DOOR SPEAKER

< COMPONENT DIAGNOSIS >

[BASE AUDIO]

REAR DOOR SPEAKER

Description

INFOID:000000001572490

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

Diagnosis Procedure

INFOID:000000001572491

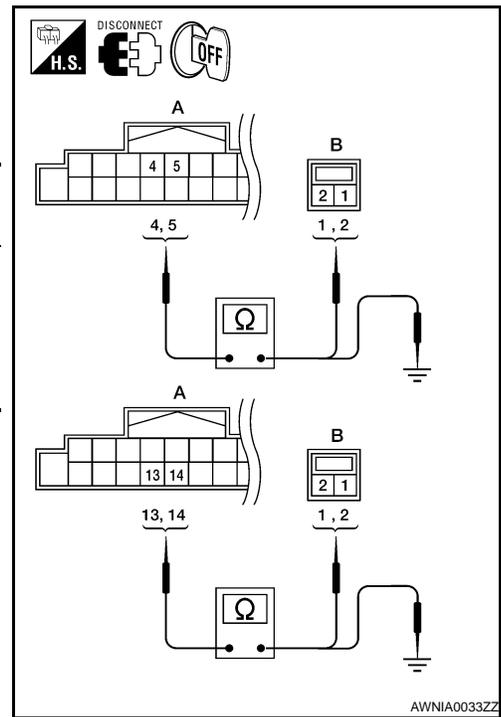
1. HARNESS CHECK

1. Disconnect audio unit connector M43 and suspect rear door speaker connector.
2. Check continuity between audio unit harness connector M43 (A) and suspect rear door speaker harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M43	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 M43 (A) and ground.

A		—	Continuity
Connector	Terminal		
M43	4	Ground	No
	5		
	13		
	14		



Are the continuity results as specified?

YES >> GO TO 2

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

2. REAR DOOR SPEAKER SIGNAL CHECK

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

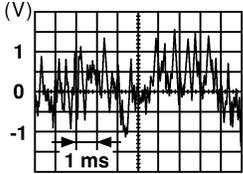
AV

REAR DOOR SPEAKER

[BASE AUDIO]

< COMPONENT DIAGNOSIS >

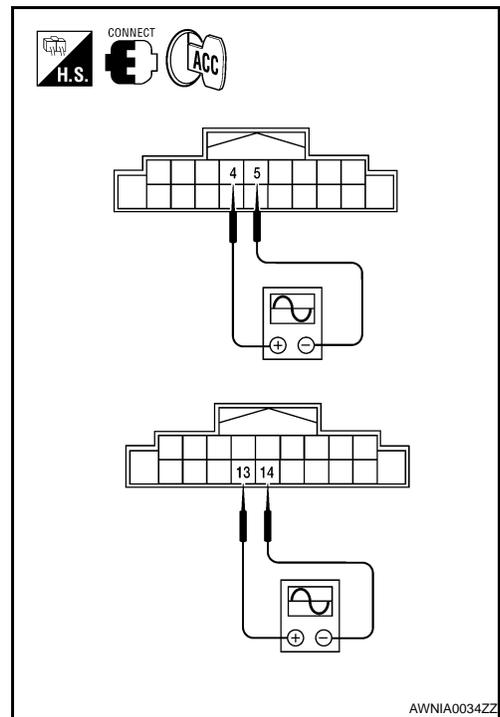
1. Connect audio unit connector and rear door speaker connector.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio unit harness connector M43 terminals with CONSULT-III or oscilloscope.

Terminals			Condition	Reference signal
(+)		(-)		
Connector	Terminal	Terminal		
M43	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-35. "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-33. "Removal and Installation"](#).



REAR DOOR TWEETER

< COMPONENT DIAGNOSIS >

[BASE AUDIO]

REAR DOOR TWEETER

Description

INFOID:000000001683812

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

Diagnosis Procedure

INFOID:000000001683813

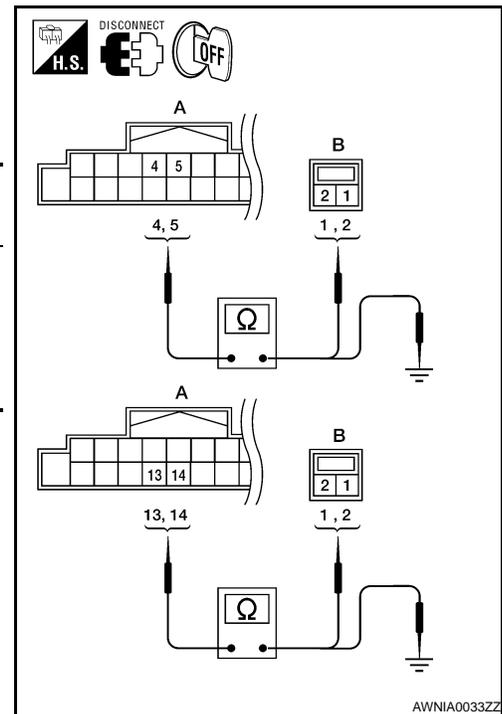
1. HARNESS CHECK

1. Disconnect audio unit connector M43 and suspect rear door tweeter connector.
2. Check continuity between audio unit harness connector M43 (A) and suspect rear door tweeter harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M43	4	D208	1	Yes
	5		2	
	13	D308	1	
	14		2	

3. Check continuity between audio unit harness connector M43 (A) and ground.

A		—	Continuity
Connector	Terminal		
M43	4	Ground	No
	5		
	13		
	14		



Are the continuity results as specified?

YES >> GO TO 2

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

2. REAR DOOR TWEETER SIGNAL CHECK

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

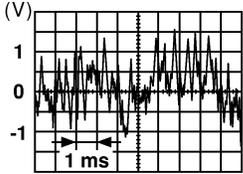
AV

REAR DOOR TWEETER

[BASE AUDIO]

< COMPONENT DIAGNOSIS >

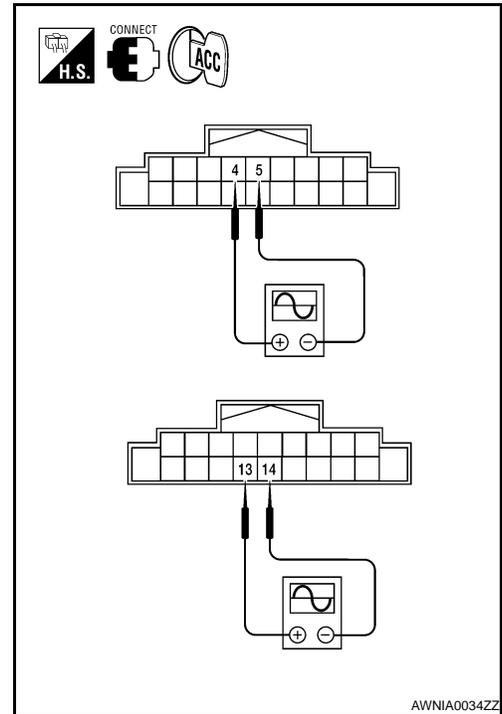
1. Connect audio unit connector and rear door tweeter connector.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio unit harness connector M43 terminals with CONSULT-III or oscilloscope.

Terminals			Condition	Reference signal
(+)		(-)		
Connector	Terminal	Terminal		
M43	4	5	Receive audio signal	
	13	14		

SKIA0177E

Is the audio signal voltage as specified?

- YES >> Replace the suspect rear door tweeter. Refer to [AV-36, "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-33, "Removal and Installation"](#).



AUDIO UNIT

< ECU DIAGNOSIS >

[BASE AUDIO]

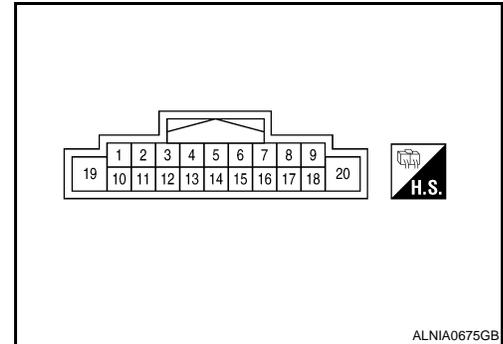
ECU DIAGNOSIS

AUDIO UNIT

Reference Value

INFOID:000000001572500

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	Output	Ignition switch ON	Audio output	<p>SKIB3609E</p>
4 (SB)	5 (B/Y)	Sound signal rear door speaker and rear tweeter LH	Output	Ignition switch ON	Audio output	<p>SKIB3609E</p>
7 (V)	Ground	ACC power supply	Input	Ignition switch ACC or ON	—	Battery voltage
11 (W/B)	12 (L/B)	Sound signal front door speaker and front tweeter RH	Output	Ignition switch ON	Voice output	<p>SKIB3609E</p>

AUDIO UNIT

< ECU DIAGNOSIS >

[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	Output	Ignition switch ON	Voice output	
19 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage

AUDIO UNIT

< ECU DIAGNOSIS >

[BASE AUDIO]

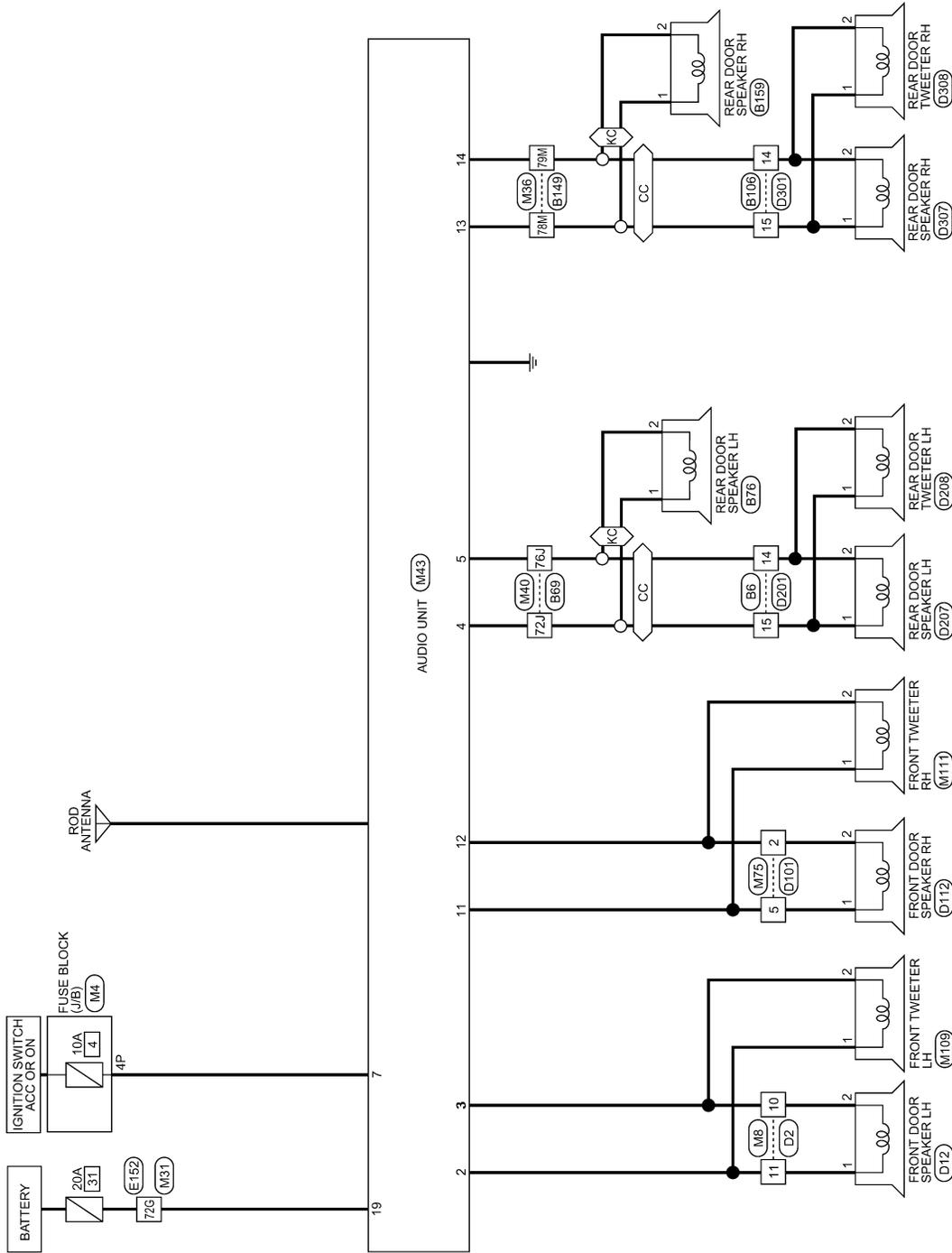
INFOID:000000001572501

Wiring Diagram

CC : CREW CAB

 KC : KING CAB

BASE AUDIO SYSTEM



ALNWA0114GE

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

AV

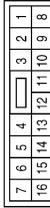
BASE AUDIO SYSTEM CONNECTORS

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



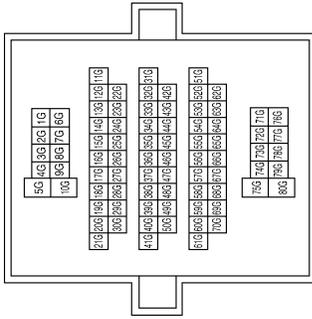
Terminal No.	Color of Wire	Signal Name
4P	V	-

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



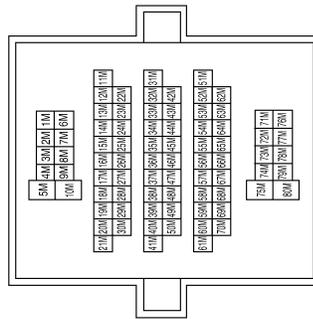
Terminal No.	Color of Wire	Signal Name
10	L/R	-
11	L/W	-

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



Terminal No.	Color of Wire	Signal Name
72G	Y	-

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



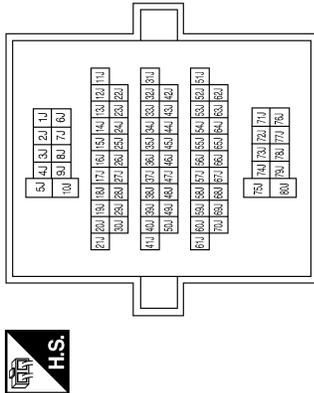
Terminal No.	Color of Wire	Signal Name
78M	O/L	-
79M	R/L	-

AUDIO UNIT

< ECU DIAGNOSIS >

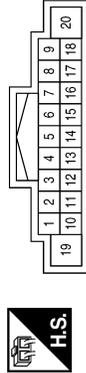
[BASE AUDIO]

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



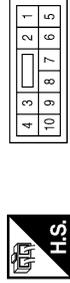
Terminal No.	Color of Wire	Signal Name
72J	SB	-
76J	B/Y	-

Connector No.	M43
Connector Name	AUDIO UNIT
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
2	L/W	-
3	L/R	-
4	SB	-
5	B/Y	-
7	V	-
11	W/B	-
12	L/B	-
13	O/L	-
14	R/L	-
19	Y	-

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.	M109
Connector Name	FRONT TWEETER LH
Connector Color	BROWN



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

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



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

ALNIA0761GB

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

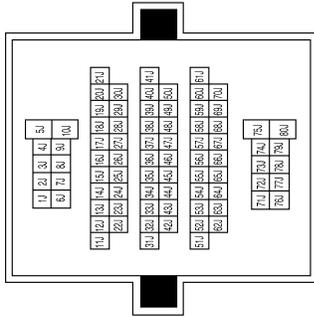
AV

AUDIO UNIT

< ECU DIAGNOSIS >

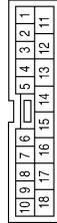
[BASE AUDIO]

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



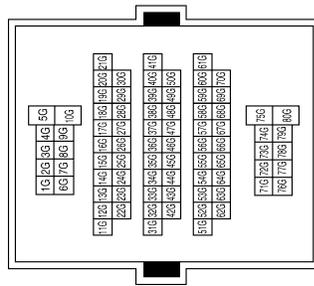
Terminal No.	Color of Wire	Signal Name
72J	SB	-
76J	BY	-

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



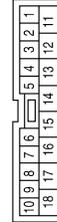
Terminal No.	Color of Wire	Signal Name
14	BY	-
15	SB	-

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



Terminal No.	Color of Wire	Signal Name
72G	Y	-

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	-
2	BY	-

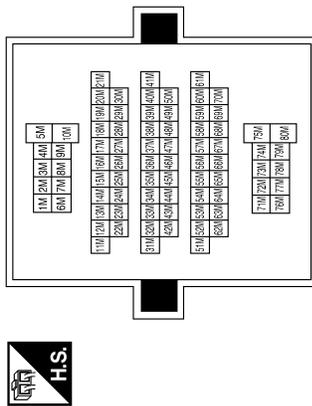
ALNIA0762GB

AUDIO UNIT

< ECU DIAGNOSIS >

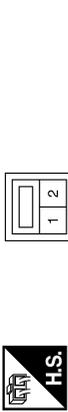
[BASE AUDIO]

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



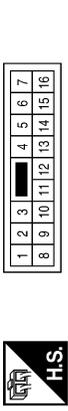
Terminal No.	Color of Wire	Signal Name
78M	SB	-
79M	BR	-

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



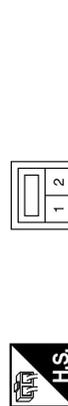
Terminal No.	Color of Wire	Signal Name
1	O/L	-
2	R/L	-

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



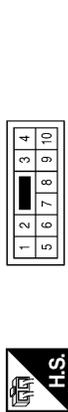
Terminal No.	Color of Wire	Signal Name
10	L/R	-
11	L/W	-

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.	D101
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

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	-

ALNIA0763GB

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

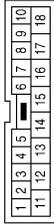
AV

AUDIO UNIT

< ECU DIAGNOSIS >

[BASE AUDIO]

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



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

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



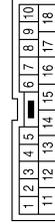
Terminal No.	Color of Wire	Signal Name
1	SB	-
2	B/Y	-

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	-

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



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

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	-

ALNIA0764GB

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:000000001572505

AUDIO SYSTEM

Symptom	Possible cause	Reference page
Inoperative	<ul style="list-style-type: none"> • Audio unit power circuit • Audio unit 	<ul style="list-style-type: none"> • AV-12
All speakers do not sound	<ul style="list-style-type: none"> • Audio unit • Audio unit power circuit 	<ul style="list-style-type: none"> • AV-12
One or several speakers do not sound	<ul style="list-style-type: none"> • Front door speaker • Front tweeter • Rear door tweeter (crew cab) • Rear door speaker 	<ul style="list-style-type: none"> • AV-13 • AV-15 • AV-17 • AV-19

CD

Symptom	Possible cause	Reference page
CD cannot be inserted.	Audio unit	AV-12
CD cannot be ejected.		
The CD cannot be played.		
The sound skips, stops suddenly, or is distorted.		

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

AV

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[BASE AUDIO]

NORMAL OPERATING CONDITION

Description

INFOID:000000001572506

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.	<ul style="list-style-type: none">• Ignition components
The occurrence of the noise is linked with the operation of the fuel pump.		<ul style="list-style-type: none">• Fuel pump condenser
Noise only occurs when various electrical components are operating.	A cracking or snapping sound occurs with the operation of various switches.	<ul style="list-style-type: none">• Relay malfunction, audio unit malfunction
	The noise occurs when various motors are operating.	<ul style="list-style-type: none">• Motor case ground• Motor
The noise occurs constantly, not just under certain conditions.		<ul style="list-style-type: none">• Rear defogger coil malfunction• Open circuit in printed heater• Poor ground of antenna feeder line
A cracking or snapping sound occurs while the vehicle is being driven, especially when it is vibrating excessively.		<ul style="list-style-type: none">• Ground wire of body parts• Ground due to improper part installation• Wiring connections or a short circuit

PRECAUTION

PRECAUTIONS

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

INFOID:000000001572507

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.

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

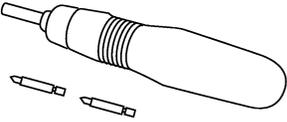
AV

PREPARATION

PREPARATION

Commercial Service Tools

INFOID:000000001572508

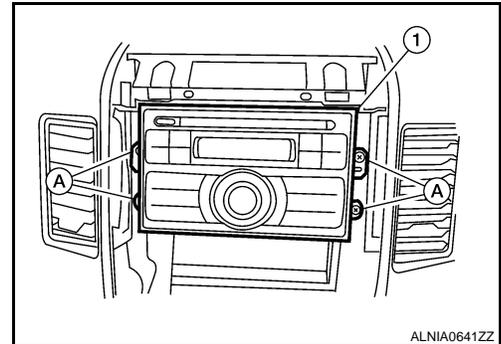
Tool name	Description
<p>Power tool</p>  <p>PBIC0191E</p>	<p>Loosening bolts and nuts</p>

ON-VEHICLE REPAIR**AUDIO UNIT****Removal and Installation**

INFOID:000000001586944

AUDIO UNIT**Removal**

1. Disconnect the battery negative terminal.
2. Remove the cluster lid C. Refer to [JP-13. "Removal and Installation"](#).
3. Remove the audio unit screws (A), using power tool.
4. Pull out the audio unit (1) and disconnect the audio unit connectors.

**Installation**

Installation is in the reverse order of removal.

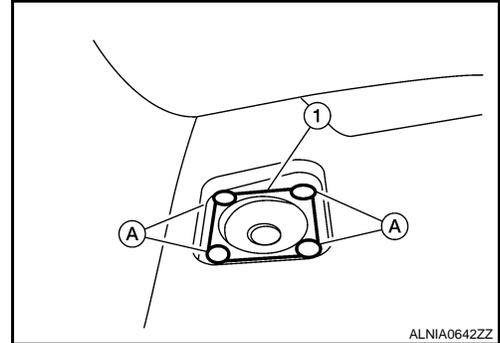
A
B
C
D
E
F
G
H
I
J
K
L
M
AV
O
P

FRONT TWEETER**Removal and Installation**

INFOID:000000001586946

FRONT TWEETER**Removal**

1. Remove the front tweeter grille. Refer to [IP-11. "Removal and Installation"](#).
2. Remove the front tweeter clips (C103) (A).
3. Disconnect the front tweeter connector and remove the front tweeter (1).

**Installation**

Installation is in the reverse order of removal.

FRONT DOOR SPEAKER

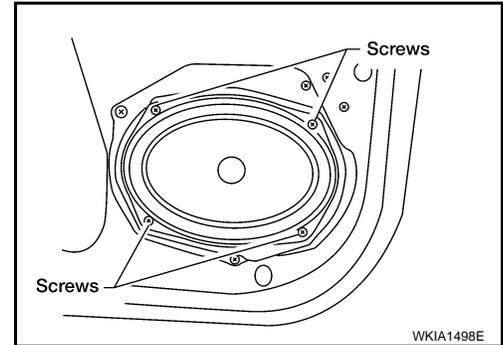
Removal and Installation

INFOID:000000001586947

FRONT DOOR SPEAKER

Removal

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



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

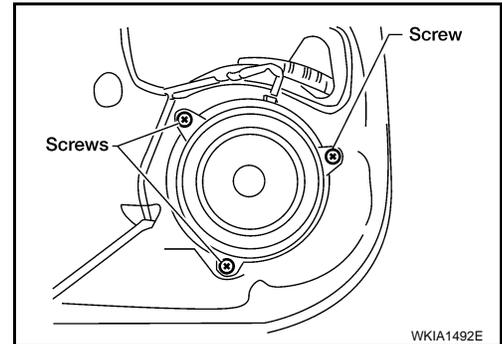
Removal and Installation

INFOID:000000001586948

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 three rear door speaker screws and remove the rear door speaker.



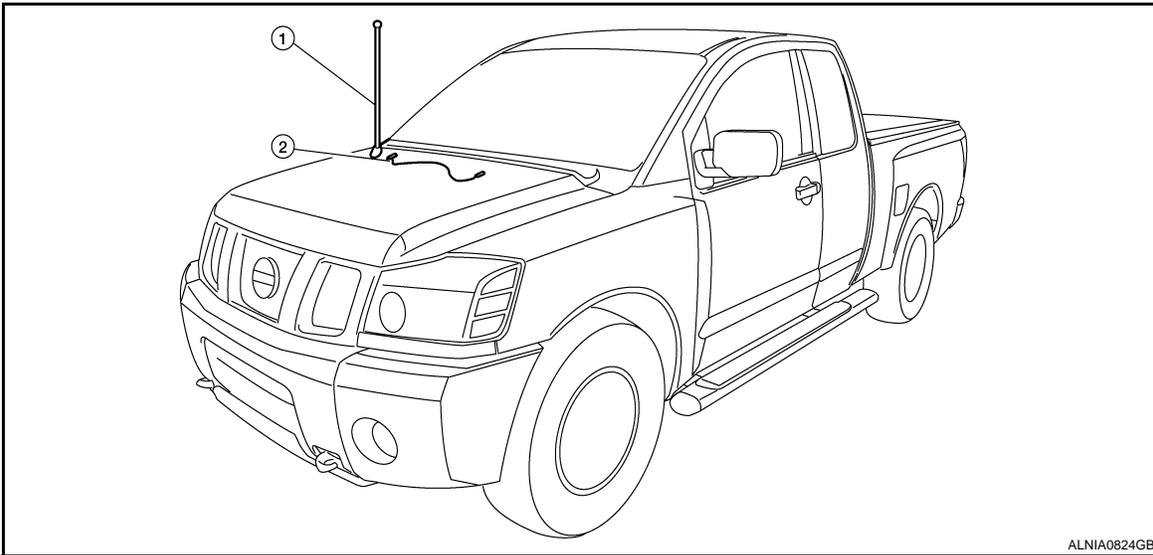
Installation

Installation is in the reverse order of removal.

AUDIO ANTENNA

Location of Antenna

INFOID:000000001586953



1. Antenna

2. Main feeder cable

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

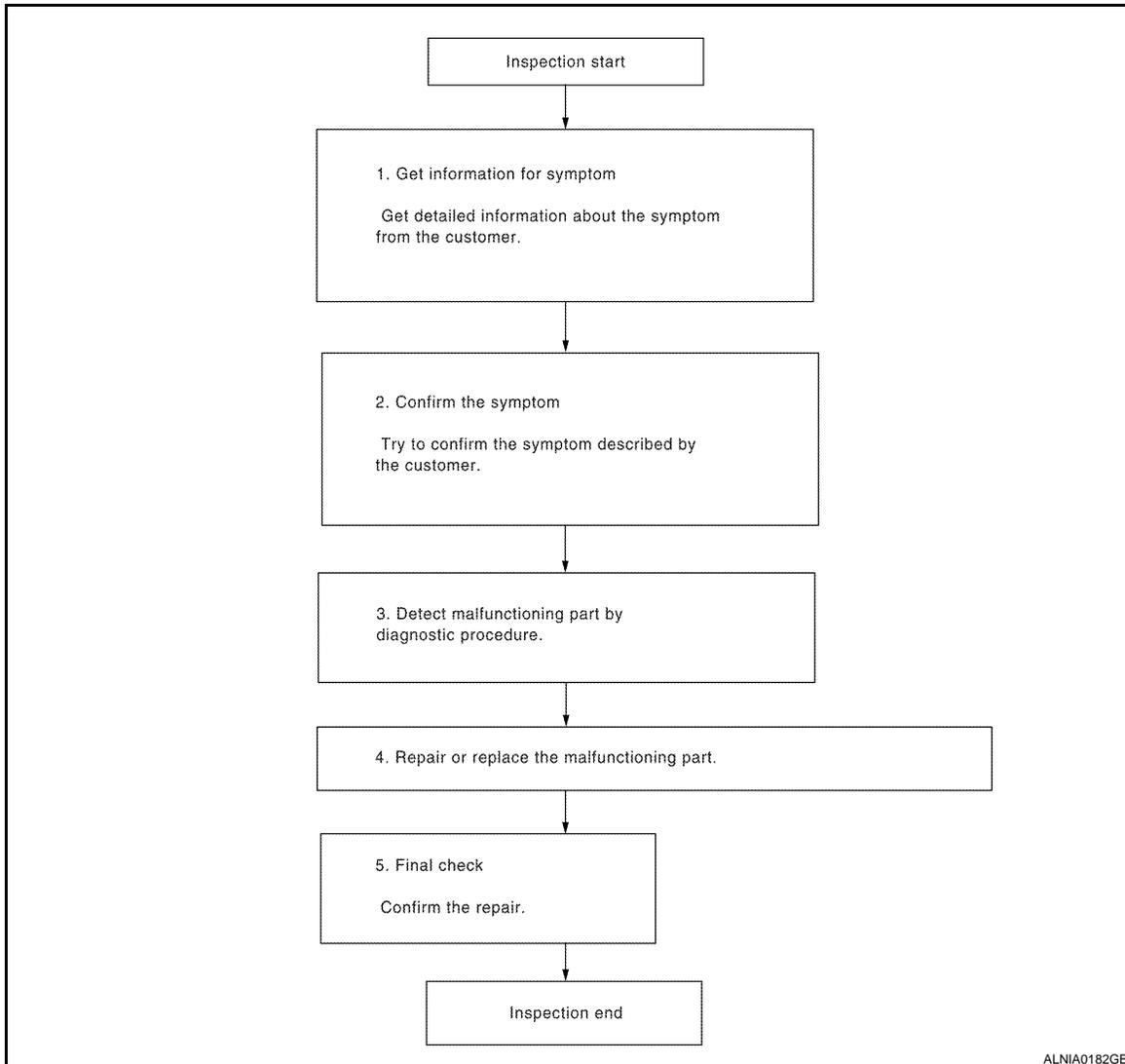
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000001572522

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.

Was the repair confirmed?

YES >> Inspection End.

NO >> GO TO 2

A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

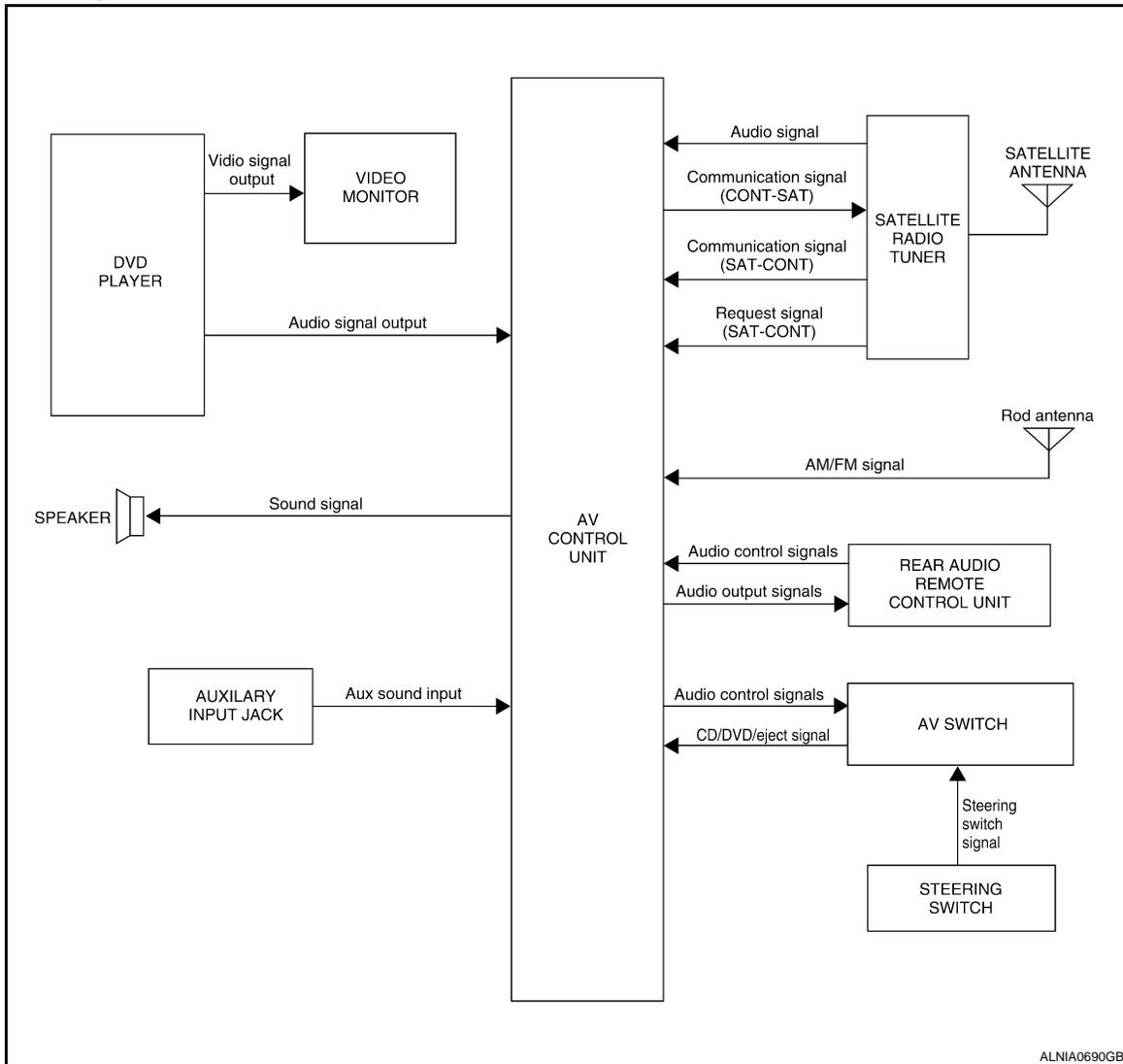
P

FUNCTION DIAGNOSIS

AUDIO SYSTEM

System Diagram

INFOID:000000001572523



System Description

INFOID:000000001572524

AUDIO SYSTEM

The audio system consists of the following components

- Audio unit
- Rod antenna
- Steering wheel audio control switches
- AV switch
- Rear audio remote control unit
- 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.

SATELLITE RADIO SYSTEM

AUDIO SYSTEM

[MID AUDIO]

< FUNCTION DIAGNOSIS >

The satellite radio system consists of the following components

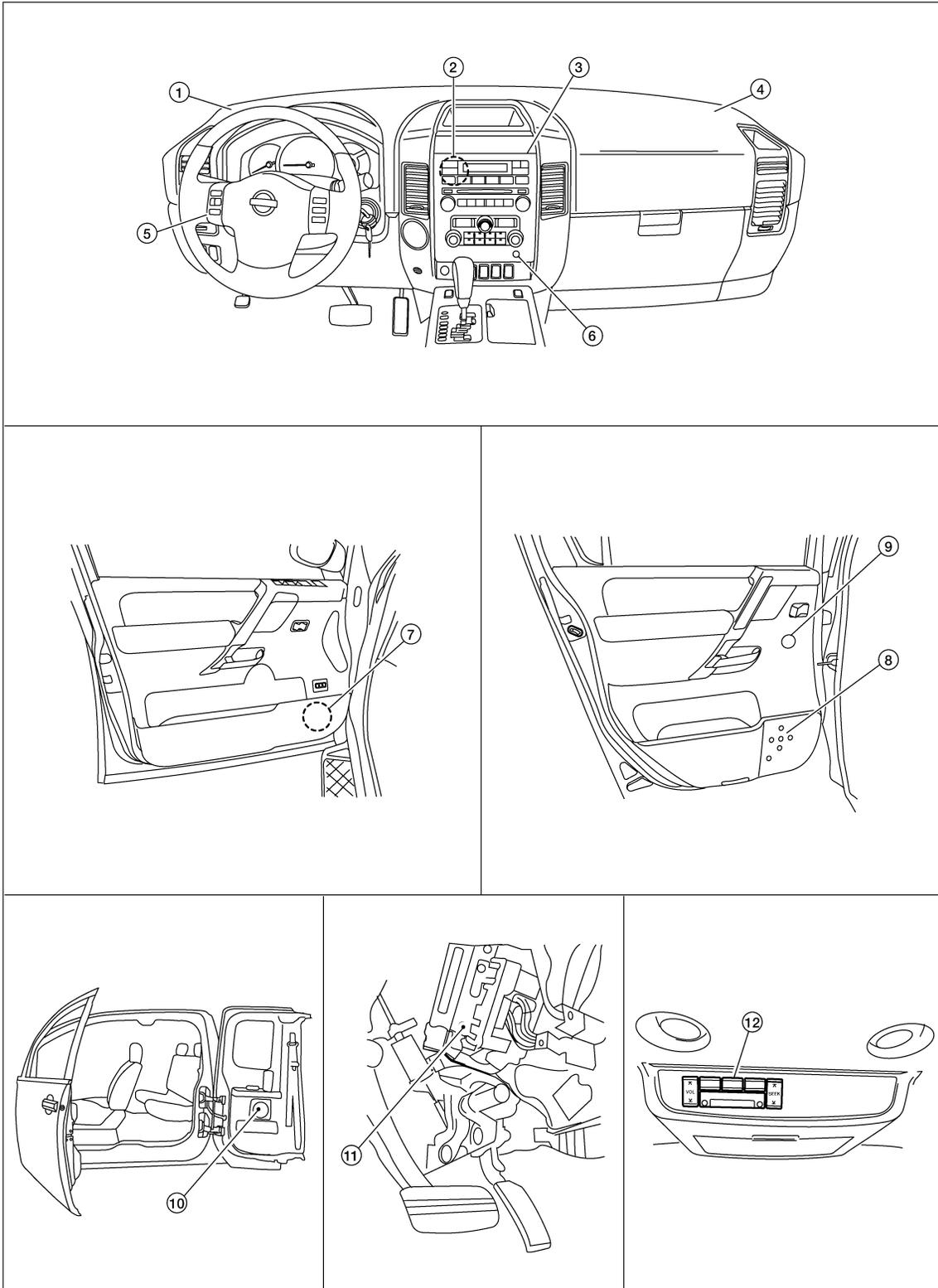
- Satellite antenna
- Satellite radio tuner

When the satellite radio system is on, radio signals are supplied to the satellite radio tuner from the satellite antenna. The satellite radio tuner then sends audio signals to the audio unit.

Refer to Owner's Manual for satellite radio system operating instructions.

Component Parts Location

INFOID:000000001572525



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

AV

ALNIA0691GB

AUDIO SYSTEM

< FUNCTION DIAGNOSIS >

[MID AUDIO]

- | | | |
|---|---|---|
| 1. Front tweeter LH M109 | 2. Audio unit M42, M43, M44, M45, M46 | 3. AV switch M98 |
| 4. Front tweeter RH M111 | 5. Steering wheel audio control switches | 6. Aux jack M104 |
| 7. Front door speaker
LH D12
RH D112 | 8. Rear door speaker (crew cab)
LH D207
RH D307 | 9. Rear door tweeter (crew cab)
LH D208
RH D308 |
| 10. Rear door speaker (king cab)
LH B76
RH B159 | 11. Satellite radio tuner M41, M129 | 12. Rear audio remote control unit R204 |

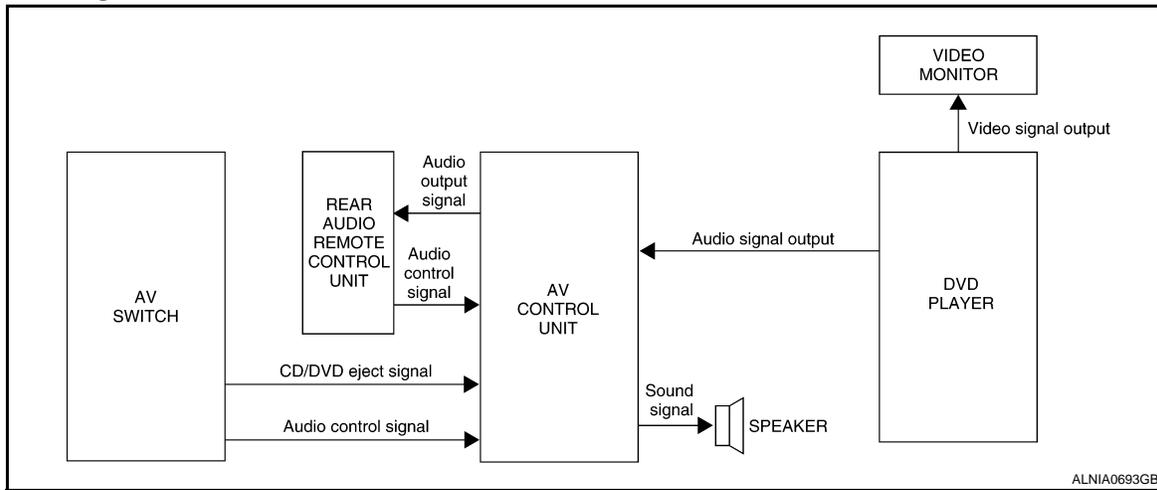
Component Description

INFOID:000000001572526

Part name	Description
Audio unit	Controls audio system and satellite radio system functions
Steering wheel audio control switches	<ul style="list-style-type: none">• Audio operation can be operated• Steering switch signal is output to the AV switch
Rear audio remote control unit	<ul style="list-style-type: none">• Audio and DVD operation can be operated• Audio unit outputs audio signals to rear audio remote control unit for headphone operation
AV switch	<ul style="list-style-type: none">• Audio and DVD operation can be operated• Steering switch inputs are output to the audio unit
Front door speakers	<ul style="list-style-type: none">• Outputs audio signal from audio unit• Outputs high, mid and low range sounds
Front tweeters	<ul style="list-style-type: none">• Outputs audio signal from audio unit• Outputs high range sounds
Rear door speakers	<ul style="list-style-type: none">• Outputs audio signal from audio unit• Outputs high, mid and low range sounds
Rear door tweeters (crew cab)	<ul style="list-style-type: none">• Outputs audio signal from audio unit• Outputs high range sounds
Satellite radio tuner	<ul style="list-style-type: none">• Receives radio signals from satellite antenna• Sends audio signals to audio unit
Satellite antenna	Audio signal (satellite radio) is received and output to audio unit.

DVD PLAYER

System Diagram



System Description

INFOID:000000001683820

The DVD entertainment system consists of the following components

- Audio unit
- DVD player
- Video monitor
- AV switch
- Steering wheel audio control switches
- Rear audio remote control unit
- Front tweeters
- Front door speakers
- Rear door speakers
- Rear door tweeters (crew cab)

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 audio unit. Audio signals can be directed through the vehicle speakers or through wireless infrared headphones. Refer to the Owner's Manual for complete DVD entertainment system operating instructions.

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

AV

O
P

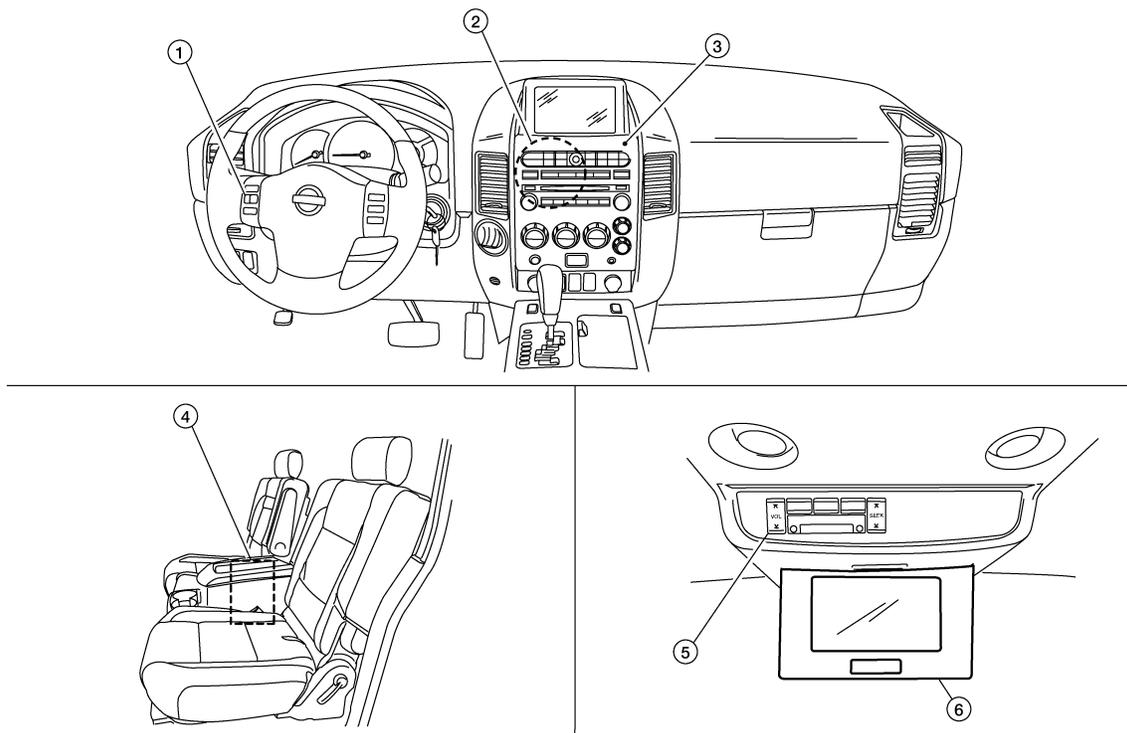
DVD PLAYER

< FUNCTION DIAGNOSIS >

[MID AUDIO]

Component Parts Location

INFOID:000000001683821



ALNIA0694GB

1. Steering wheel audio control switches 2. Audio unit M42, M43, M44, M45, M46 3. AV switch M98
 4. DVD player M205, M206 (located in center console) 5. Rear audio remote control unit R204 6. Video monitor R202

Component Description

INFOID:000000001683822

Part name	Description
DVD player	<ul style="list-style-type: none"> Outputs DVD video to video monitor Outputs DVD audio to the audio unit
Video monitor	<ul style="list-style-type: none"> Receives and displays the DVD video signal
Audio unit	<ul style="list-style-type: none"> Controls audio system and DVD entertainment system functions
AV switch	<ul style="list-style-type: none"> All audio and A/C operations can be operated Switch signal is output to the audio unit
Rear audio remote control unit	<ul style="list-style-type: none"> Audio and DVD functions can be operated Switch signal is output to the audio unit Receives audio signal from audio unit for headphones
Steering wheel audio control switches	<ul style="list-style-type: none"> Audio operation can be operated Steering switch signal (operation signal) is output to audio unit
Front door speakers	<ul style="list-style-type: none"> Outputs audio signal from audio unit Outputs high, mid and low range sounds
Front tweeters	<ul style="list-style-type: none"> Outputs audio signal from audio unit Outputs high range sounds
Rear door speakers	<ul style="list-style-type: none"> Outputs audio signal from audio unit Outputs high, mid and low range sounds
Rear door tweeters (crew cab)	<ul style="list-style-type: none"> Outputs audio signal from audio unit Outputs high range sounds

DIAGNOSIS SYSTEM (AUDIO UNIT)

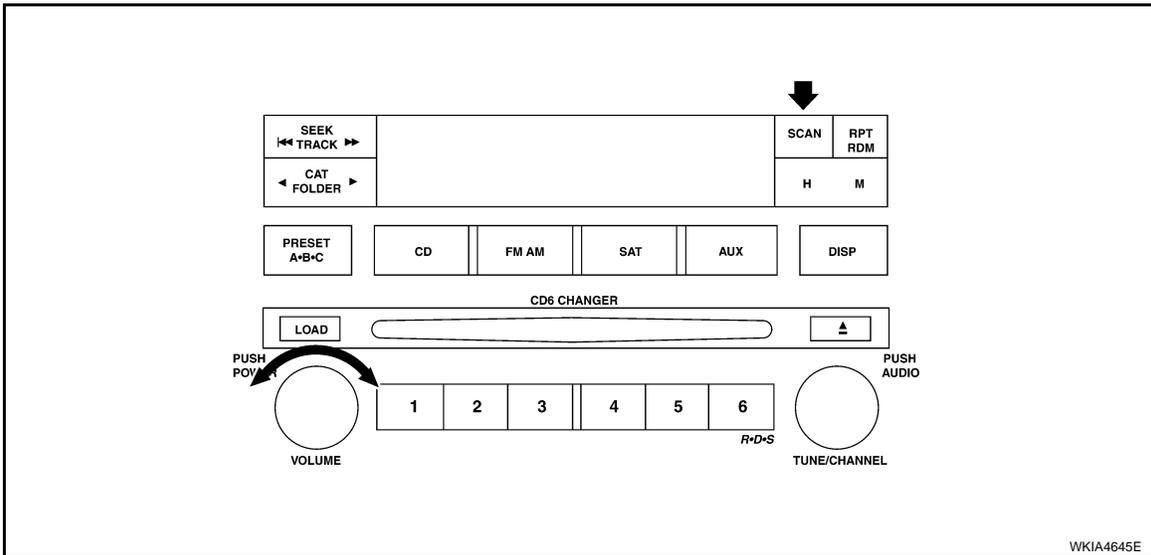
AV SWITCH

AV SWITCH : Component Function Check

INFOID:000000001572541

STARTING THE SELF-DIAGNOSIS MODE

1. Turn ignition switch from OFF to ACC.
2. Press and hold the "SCAN" switch and turn the volume control dial clockwise or counterclockwise for 30 clicks or more.



Then the self-diagnosis operates. A single beep indicates self-diagnosis mode is active.

3. Initially, all display segments will be illuminated.
4. Press each switch. When each switch is pressed, its name and communication code will be displayed

NOTE:

CD player LOAD and EJECT buttons are not included in this test and will not change the display when pressed.

DIAGNOSIS FUNCTION

- It can check for continuity of the switches by sounding the beep when each AV switch and steering switch is pressed.
- It can check for continuity of harness between AV switch and steering switch.

EXITING THE SELF-DIAGNOSIS MODE

Turn ignition switch OFF. Then the self-diagnosis ends.

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

AV

O
P

POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

[MID AUDIO]

COMPONENT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID:000000001572563

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	6	Battery power	31
	10	Ignition switch ACC or ON	4

Are the fuses OK?

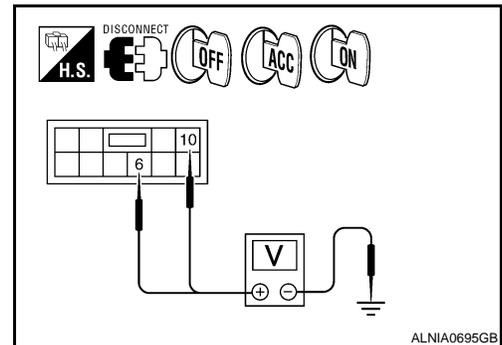
YES >> GO TO 2

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 M43.
2. Check voltage between the audio unit connector M43 and ground.

(+) Connector		(-) Terminal	OFF	ACC	ON
M43	6	Ground	0V	Battery voltage	Battery voltage
	10	Ground	Battery voltage	Battery voltage	Battery voltage



Are the voltage results as specified?

YES >> GO TO 3

NO >> • Check connector housing 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.

AV SWITCH

AV SWITCH : Diagnosis Procedure

INFOID:000000001683823

1.CHECK FUSE

Check that the fuses for the AV switch are not blown.

Unit	Terminal	Signal name	Fuse No.
AV switch	1	Battery	31
	2	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

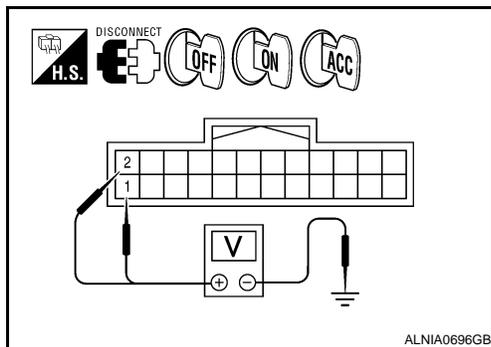
POWER SUPPLY AND GROUND CIRCUIT

[MID AUDIO]

< COMPONENT DIAGNOSIS >

1. Disconnect AV switch connector M98.
2. Check voltage between the AV switch connector M98 and ground.

(+)		(-)	OFF	ACC	ON
Connector	Terminal				
M98	1	Ground	Battery voltage	Battery voltage	Battery voltage
	2	Ground	0V	Battery voltage	Battery voltage



Are the voltage results as specified?

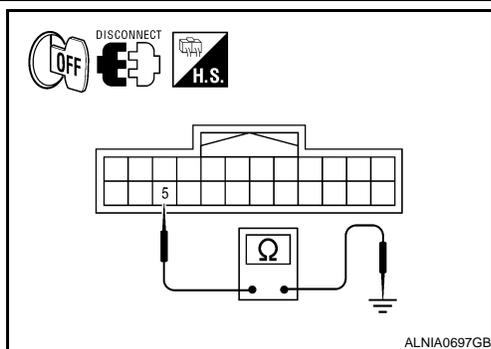
YES >> GO TO 3

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

3. GROUND CIRCUIT CHECK

1. Turn ignition switch OFF.
2. Check continuity between AV switch harness connector M98 and ground.

Connector	Terminal	—	Continuity
M98	5	Ground	Yes



Are the continuity results as specified?

YES >> Inspection End.

NO >> Repair harness or ground.

SATELLITE RADIO TUNER

SATELLITE RADIO TUNER : Diagnosis Procedure

INFOID:000000001683818

1. CHECK FUSES

Check that the following fuses of the satellite radio tuner (factory installed) are not blown.

Unit	Terminals	Signal name	Fuse No.
Satellite radio tuner (factory installed)	32	Battery power	31
	36	Ignition switch ACC or ON	4

Are the fuses OK?

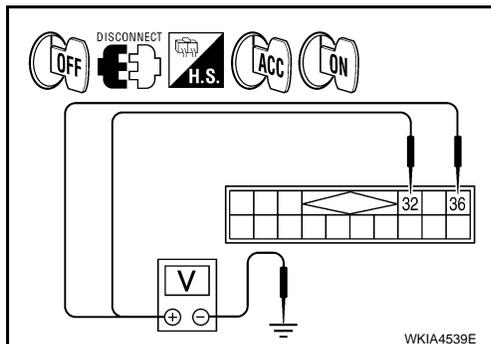
YES >> GO TO 2

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

2. POWER SUPPLY CIRCUIT CHECK

1. Turn ignition switch OFF.
2. Disconnect satellite radio tuner (factory installed) connector M41.
3. Check voltage between the satellite radio tuner (factory installed) and ground.

(+)		(-)	OFF	ACC	ON
Connector	Terminal				
M41	32	Ground	Battery voltage	Battery voltage	Battery voltage
	36		0V	Battery voltage	Battery voltage



Are the voltage readings as specified?

YES >> GO TO 3

POWER SUPPLY AND GROUND CIRCUIT

[MID AUDIO]

< COMPONENT DIAGNOSIS >

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

3. GROUND CIRCUIT CHECK

Inspect satellite radio tuner (factory installed) case ground.

Does case ground pass inspection?

- YES >> Inspection End.
NO >> Repair satellite radio tuner (factory installed) case ground.

DVD PLAYER

DVD PLAYER : Diagnosis Procedure

INFOID:000000001683824

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

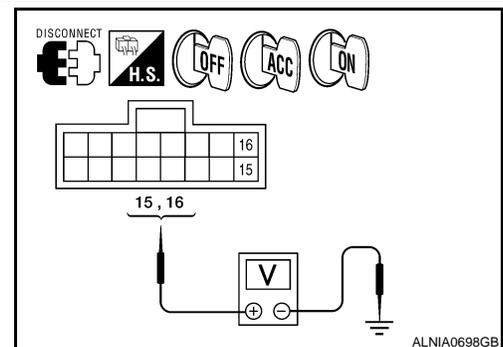
Is the fuse OK?

- YES >> GO TO 2
NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

2. POWER SUPPLY CIRCUIT CHECK

- Disconnect DVD player connector M205.
- 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.

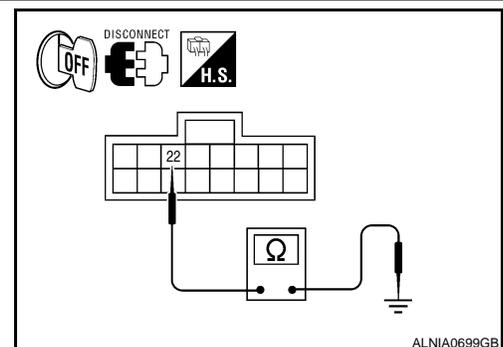
3. GROUND CIRCUIT CHECK

- Turn ignition switch OFF.
- 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 DVD player ground.



VIDEO MONITOR

VIDEO MONITOR : Diagnosis Procedure

INFOID:000000001683825

1. CHECK POWER SUPPLY CIRCUIT

POWER SUPPLY AND GROUND CIRCUIT

[MID AUDIO]

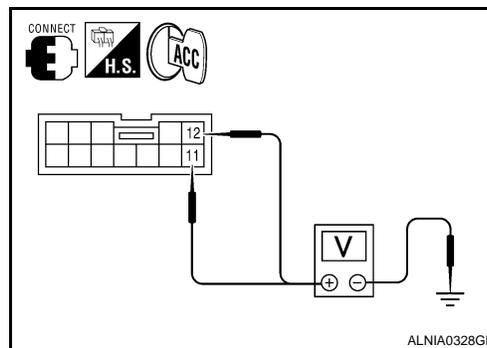
< COMPONENT DIAGNOSIS >

1. Turn ignition switch to ACC.
2. Check voltage between video monitor harness connector R202 and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Display B+	R202	11	ACC	12V
		12		

Does specified voltage exist?

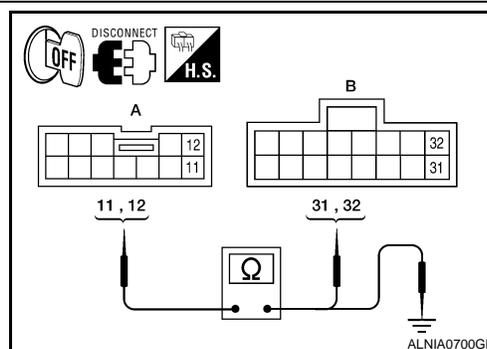
- YES >> GO TO 3.
NO >> GO TO 2.



2.CHECK POWER SUPPLY CIRCUIT

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 >> Check DVD player power and ground supply. Refer to [AV-48. "DVD PLAYER : Diagnosis Procedure"](#).
NO >> Repair harness or connector.

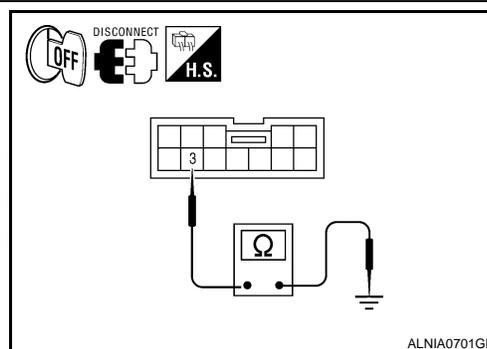
3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect video monitor connector.
3. Check continuity between video monitor harness connector R202 and ground.

Connector No.	Terminal No.	—	Continuity
R202	3	Ground	Yes

Does continuity exist?

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



FRONT DOOR SPEAKER

< COMPONENT DIAGNOSIS >

[MID AUDIO]

FRONT DOOR SPEAKER

Description

INFOID:000000001572589

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

Diagnosis Procedure

INFOID:000000001572590

1. HARNESS CHECK

1. Disconnect audio unit connector M43 and suspect speaker connector.
2. Check continuity between audio unit harness connector M43 (A) and suspect speaker harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M43	1	D12	2	Yes
	2		1	
	3	D112	2	
	4		1	

3. Check continuity between audio unit harness connector M43 (A) and ground.

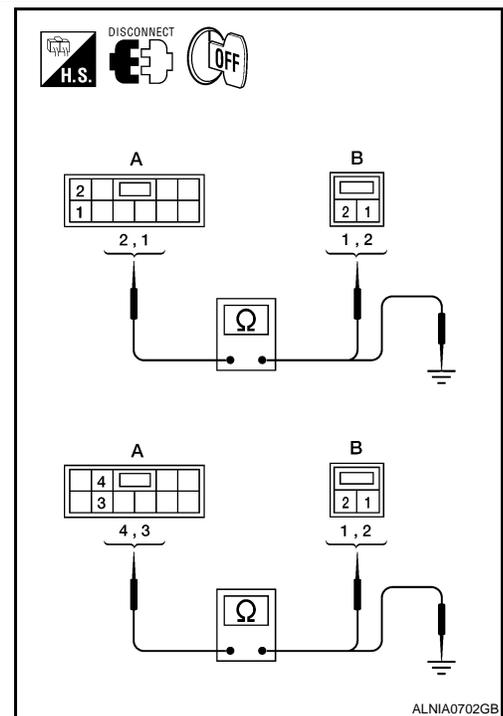
A		—	Continuity
Connector	Terminal		
M43	1	Ground	No
	2		
	3		
	4		

Are continuity test results as specified?

YES >> GO TO 2

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

2. FRONT SPEAKER SIGNAL CHECK



ALNIA0702GB

FRONT DOOR SPEAKER

[MID AUDIO]

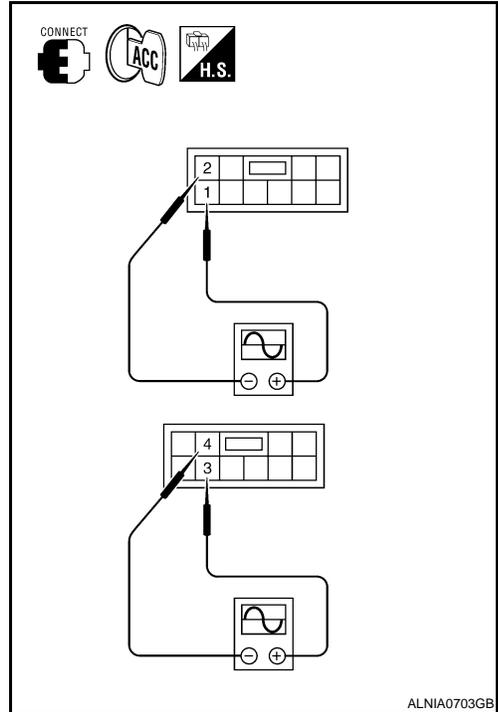
< COMPONENT DIAGNOSIS >

1. Connect audio unit connector M43 and suspect speaker connector.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio unit harness connector M43 terminals with CONSULT-III or oscilloscope.

Connector	Terminal		Condition	Reference signal
	(+)	(-)		
M43	1	2	Receive audio signal	
	3	4		

Is audio signal voltage as specified?

- YES >> Replace suspect speaker. Refer to [AV-95. "Removal and Installation"](#).
- NO >> Replace the audio unit. Refer to [AV-92. "Removal and Installation"](#).



ALNIA0703GB

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

AV

FRONT TWEETER

< COMPONENT DIAGNOSIS >

[MID AUDIO]

FRONT TWEETER

Description

INFOID:000000001572591

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

Diagnosis Procedure

INFOID:000000001572592

1. HARNESS CHECK

1. Disconnect audio unit connector M43 and suspect speaker connector.
2. Check continuity between audio unit harness connector M43 (A) and suspect speaker harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M43	1	M109	2	Yes
	2		1	
	3	M111	2	
	4		1	

3. Check continuity between audio unit harness connector M43 (A) and ground.

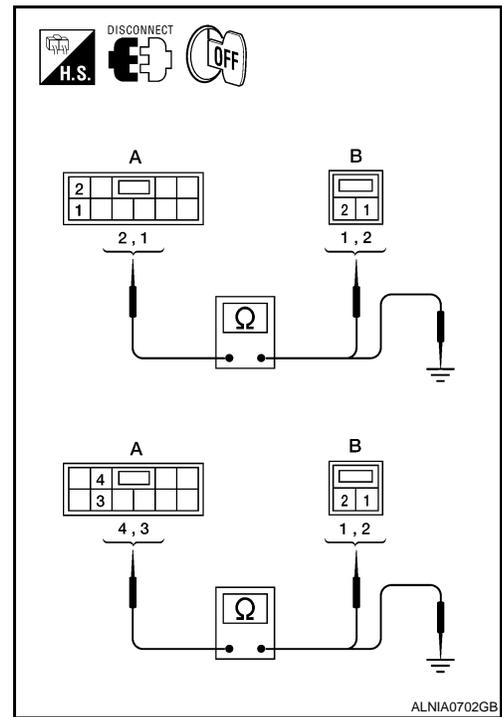
A		—	Continuity
Connector	Terminal		
M43	1	Ground	No
	2		
	3		
	4		

Are continuity test results as specified?

YES >> GO TO 2

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

2. FRONT SPEAKER SIGNAL CHECK



FRONT TWEETER

[MID AUDIO]

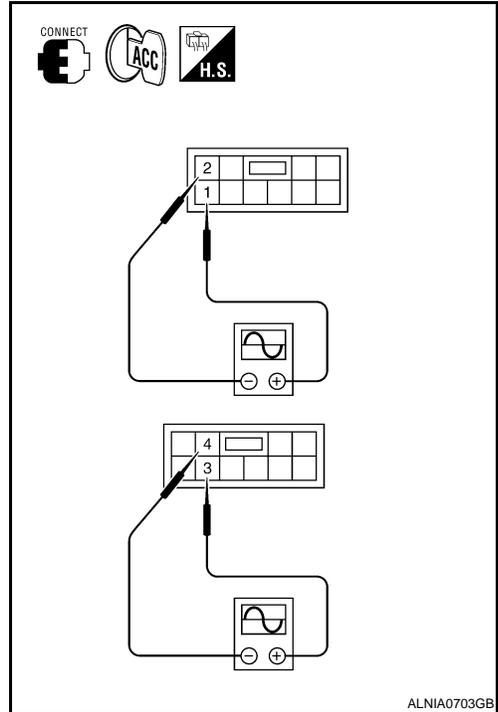
< COMPONENT DIAGNOSIS >

1. Connect audio unit connector M43 and suspect speaker connector.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio unit harness connector M43 terminals with CONSULT-III or oscilloscope.

Connector	Terminal		Condition	Reference signal
	(+)	(-)		
M43	1	2	Receive audio signal	
	3	4		

Is audio signal voltage as specified?

- YES >> Replace suspect speaker. Refer to [AV-93. "Removal and Installation"](#).
- NO >> Replace the audio unit. Refer to [AV-92. "Removal and Installation"](#).



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

AV

REAR DOOR SPEAKER

< COMPONENT DIAGNOSIS >

[MID AUDIO]

REAR DOOR SPEAKER

Description

INFOID:000000001572595

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

Diagnosis Procedure

INFOID:000000001572596

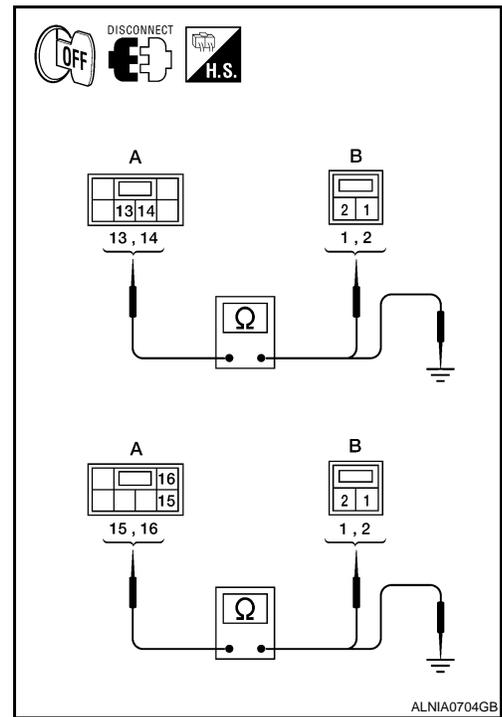
1. HARNESS CHECK

1. Disconnect audio unit connector M44 and suspect speaker connector.
2. Check continuity between audio unit harness connectors M44 (A) and suspect speaker harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M44	13	D207 (crew cab) B76 (king cab)	2	Yes
	14		1	
	15	D307 (crew cab) B159 (king cab)	2	
	16		1	

3. Check continuity between audio unit harness connectors M44 (A) and ground.

Connector	Terminal	-	Continuity
M44	13	Ground	No
	14		
	15		
	16		



ALNIA0704GB

Are the continuity test results as specified?

YES >> GO TO 2

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

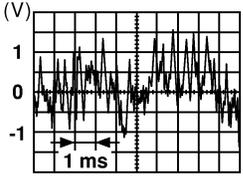
2. REAR DOOR SPEAKER SIGNAL CHECK

REAR DOOR SPEAKER

[MID AUDIO]

< COMPONENT DIAGNOSIS >

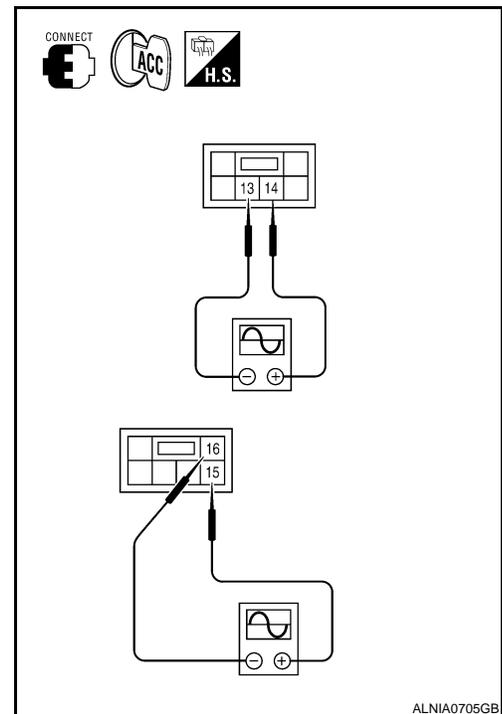
1. Connect audio unit connectors and suspect speaker connector.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio unit harness connectors M44 terminals with CONSULT-III or oscilloscope.

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M44	13	14	Receive audio signal	
	15	16		

SKIA0177E

Are audio signal voltage readings as specified?

- YES >> Replace suspect speaker. Refer to [AV-96, "Removal and Installation"](#).
- NO >> GO TO 3



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

AV

O
P

REAR DOOR TWEETER

< COMPONENT DIAGNOSIS >

[MID AUDIO]

REAR DOOR TWEETER

Description

INFOID:000000001572597

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

Diagnosis Procedure

INFOID:000000001572598

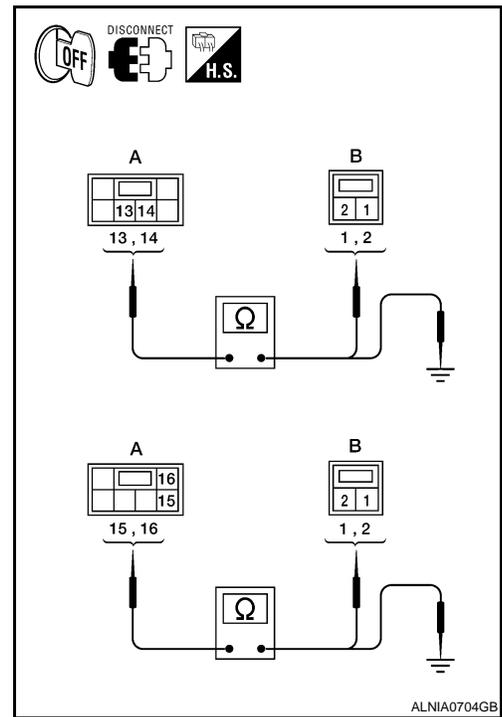
1. HARNESS CHECK

1. Disconnect audio unit connector M44 and suspect speaker connector.
2. Check continuity between audio unit harness connectors M44 (A) and suspect speaker harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M44	13	D208	2	Yes
	14		1	
	15	D308	2	
	16		1	

3. Check continuity between audio unit harness connectors M44 (A) and ground.

Connector	Terminal	-	Continuity
M44	13	Ground	No
	14		
	15		
	16		



Are the continuity test results as specified?

YES >> GO TO 2

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

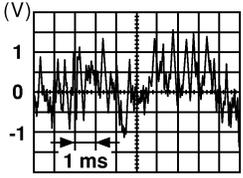
2. REAR DOOR SPEAKER SIGNAL CHECK

REAR DOOR TWEETER

[MID AUDIO]

< COMPONENT DIAGNOSIS >

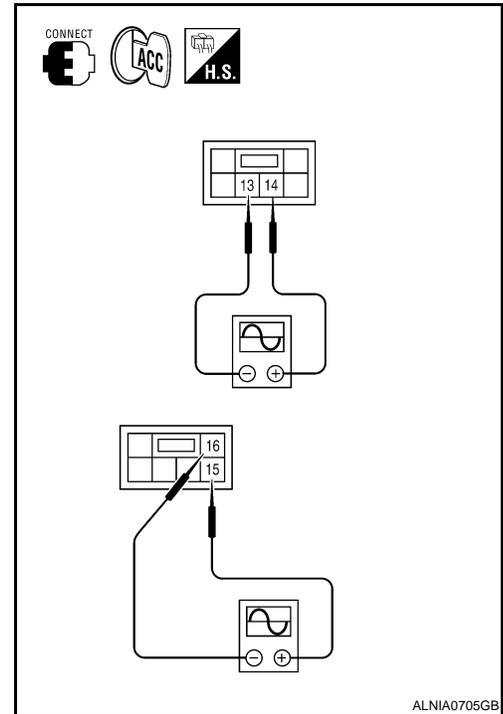
1. Connect audio unit connectors and suspect speaker connector.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio unit harness connectors M44 terminals with CONSULT-III or oscilloscope.

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M44	13	14	Receive audio signal	
	15	16		

SKIA0177E

Are audio signal voltage readings as specified?

- YES >> Replace suspect speaker. Refer to [AV-96, "Removal and Installation"](#).
- NO >> GO TO 3



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

AV

O
P

STEERING SWITCH

< COMPONENT DIAGNOSIS >

[MID AUDIO]

STEERING SWITCH

Description

INFOID:000000001572605

When one of the steering wheel audio control switches is pushed, the resistance in the steering wheel audio control switch circuit changes depending on which button is pushed.

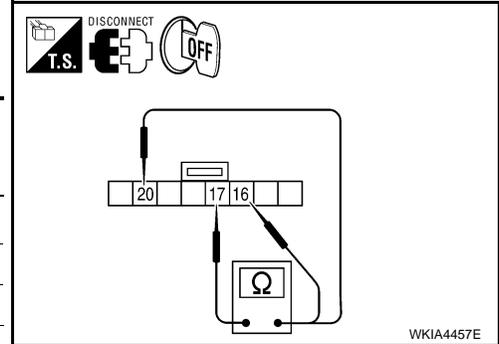
Diagnosis Procedure

INFOID:000000001572606

1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

1. Turn ignition switch OFF.
2. Disconnect steering wheel audio control switch connector M102.
3. Check resistance between steering switch connector terminals.

Terminal	Signal name	Condition	Resistance (Ω) (Approx.)
16	17	Seek (down)	Depress ▽ switch. 165
		Volume (down)	Depress VOL down switch. 487
		Mode	Depress MODE switch. 0
20	17	Seek (up)	Depress △ switch. 165
		Volume (up)	Depress VOL up switch. 487
		Power	Depress PWR switch. 0



Do the steering wheel audio control switches check OK?

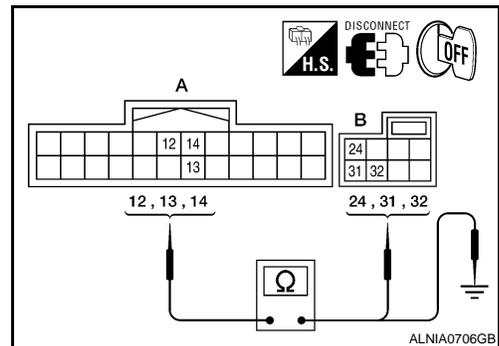
YES >> GO TO 2

NO >> Replace steering wheel audio control switch. Refer to [AV-98. "Removal and Installation"](#).

2. CHECK HARNESS

1. Disconnect AV switch connector M98 and spiral cable connector M30.
2. Check continuity between AV switch harness connector M98 (A) and spiral cable harness connector M30 (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M98	12	M30	24	Yes
	13		32	
	14		31	



3. Check continuity between AV switch connector M98 (A) and ground.

A		—	Continuity
Connector	Terminal		
M98	12	Ground	No
	13		
	14		

Are the continuity results as specified?

YES >> GO TO 3

NO >> Repair harness.

3. SPIRAL CABLE CHECK

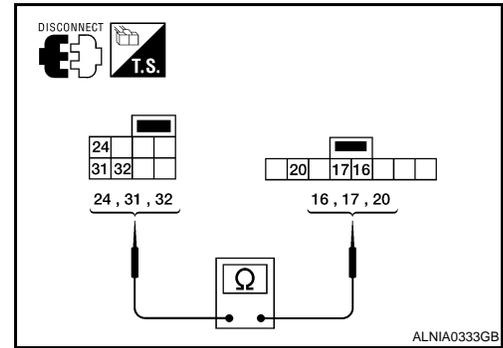
STEERING SWITCH

[MID AUDIO]

< COMPONENT DIAGNOSIS >

1. Disconnect spiral cable connector M102.
2. Check continuity between spiral cable harness connector M30 (A) and M102 (B).

Spiral cable				Continuity
Connector	Terminal	Connector	Terminal	
M30	24	M102	20	Yes
	31		17	
	32		16	



Does the spiral cable check OK?

- YES >> Inspection End.
 NO >> Replace spiral cable. Refer to [SR-6. "Removal and Installation"](#).

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

AV

COMMUNICATION SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

[MID AUDIO]

COMMUNICATION SIGNAL CIRCUIT SATELLITE RADIO TUNER

SATELLITE RADIO TUNER : Description

INFOID:000000001683814

Communication signals are exchanged between the audio unit and satellite radio tuner using the communication circuits.

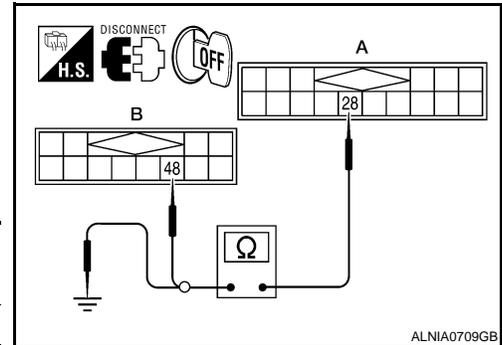
SATELLITE RADIO TUNER : Diagnosis Procedure

INFOID:000000001683815

1. CHECK HARNESS - REQ1

1. Turn ignition switch OFF.
2. Disconnect satellite radio tuner (factory installed) connector M41 and audio unit connector M42.
3. Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 28 and audio unit harness connector M42 (B) terminal 48.

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M41	28	M42	48	Yes



4. Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 28 and ground.

A		—	Continuity
Connector	Terminal		
M41	28	Ground	No

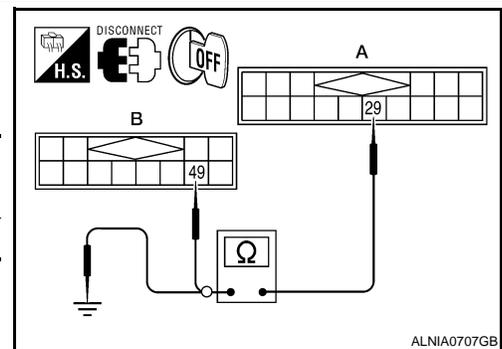
Are continuity results as specified?

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

2. CHECK HARNESS - TXD

1. Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 29 and audio unit harness connector M42 (B) terminal 49.

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M41	29	M42	49	Yes



2. Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 29 and ground.

A		—	Continuity
Connector	Terminal		
M41	29	Ground	No

Are continuity results as specified?

- YES >> GO TO 3
NO >> Repair harness or connector.

3. CHECK HARNESS - RXD

COMMUNICATION SIGNAL CIRCUIT

[MID AUDIO]

< COMPONENT DIAGNOSIS >

1. Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 30 and audio unit harness connector M42 (B) terminal 50.

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M41	30	M42	50	Yes

2. Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 30 and ground.

A		—	Continuity
Connector	Terminal		
M41	30	Ground	No

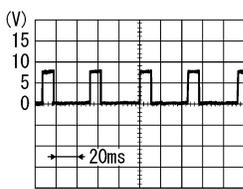
Are continuity results as specified?

YES >> GO TO 4

NO >> Repair harness or connector.

4. CHECK REQ1 SIGNAL

1. Connect satellite radio tuner (factory installed) connector and audio unit connector.
2. Turn ignition switch to ACC
3. Check signal between satellite radio tuner (factory installed) harness connector M41 terminal 28 and ground with CONSULT-III or oscilloscope.

(+)		(-)	Reference signal
Connector	Terminal		
M41	28	Ground	 <p style="text-align: right; font-size: small;">SKIB3825E</p>

Are voltage readings as specified?

YES >> GO TO 5

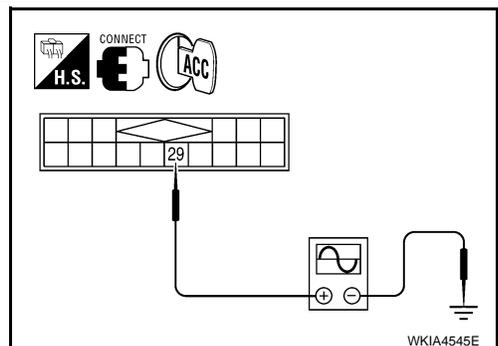
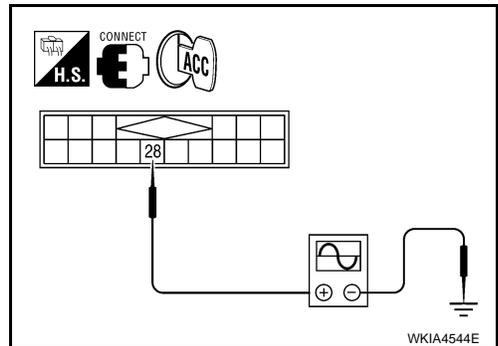
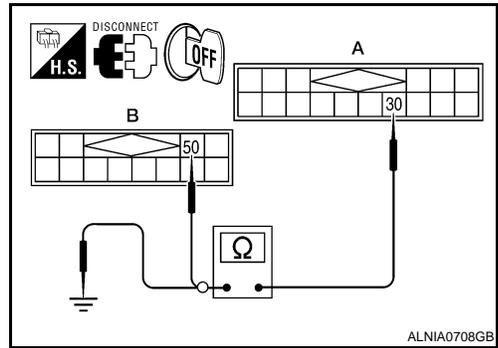
NO >> Replace audio unit. Refer to [AV-92. "Removal and Installation"](#).

5. CHECK TXD SIGNAL

Check signal between satellite radio tuner (factory installed) harness connector M41 terminal 29 and ground with CONSULT-III or oscilloscope.

(+)		(-)	Reference signal
Connector	Terminal		
M41	29	Ground	 <p style="text-align: right; font-size: small;">SKIB3824E</p>

Are the voltage readings as specified?



COMMUNICATION SIGNAL CIRCUIT

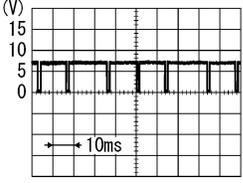
[MID AUDIO]

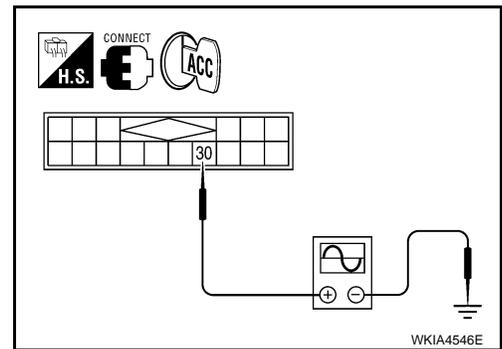
< COMPONENT DIAGNOSIS >

- YES >> GO TO 6
- NO >> Replace satellite radio tuner.

6. CHECK RXD SIGNAL

Check signal between satellite radio tuner (factory installed) harness connector M41 terminal 30 and ground with CONSULT-III or oscilloscope.

(+)		(-)	Reference signal
Connector	Terminal		
M41	30	Ground	 <p style="text-align: right; font-size: small;">SKIB3826E</p>



Are the voltage readings as specified?

- YES >> Replace satellite radio tuner.
- NO >> Replace audio unit. Refer to [AV-92. "Removal and Installation"](#).

SOUND SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

[MID AUDIO]

SOUND SIGNAL CIRCUIT SATELLITE RADIO TUNER

SATELLITE RADIO TUNER : Description

INFOID:000000001683816

Left and right channel audio signals are supplied from the satellite radio tuner to the audio unit through the sound signal circuits.

SATELLITE RADIO TUNER : Diagnosis Procedure

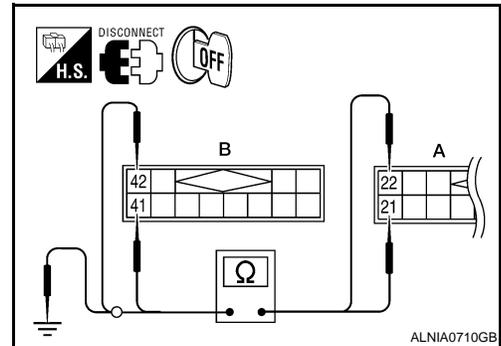
INFOID:000000001683817

LEFT CHANNEL

1.CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect satellite radio tuner (factory installed) connector M41 and audio unit connector M42.
3. Check continuity between satellite radio tuner (factory installed) connector M41 (A) and audio unit connector M42 (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M41	21	M42	41	Yes
	22		42	



4. Check continuity between satellite radio tuner (factory installed) connector M41 (A) and ground.

A		—	Continuity
Connector	Terminal		
M41	21	Ground	No
	22		

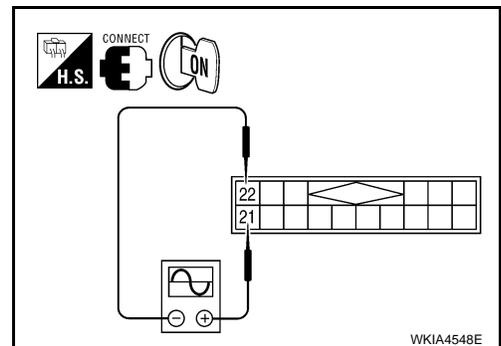
Are continuity results as specified?

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

2.CHECK LEFT CHANNEL AUDIO SIGNAL

1. Connect satellite radio tuner (factory installed) and audio unit.
2. Turn ignition switch ON.
3. Check signal between satellite radio tuner (factory installed) connector M41 terminals 21 and 22 with CONSULT-III or oscilloscope.

(+) Terminal		(-)	Reference signal
Connector	Terminal		
M41	21	Ground	
	22		



Are voltage readings as specified?

- YES >> Replace audio unit. Refer to [AV-92, "Removal and Installation"](#).
NO >> Replace satellite radio tuner. Refer to [AV-102, "Removal and Installation"](#).

RIGHT CHANNEL

SOUND SIGNAL CIRCUIT

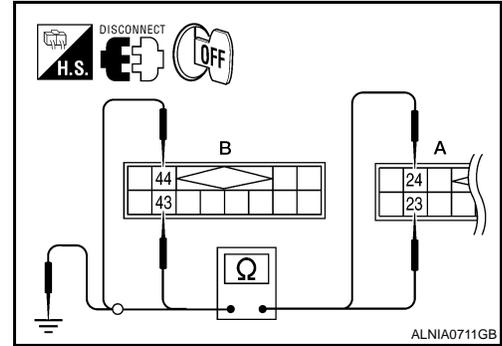
< COMPONENT DIAGNOSIS >

[MID AUDIO]

1. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect satellite radio tuner (factory installed) connector M41 and audio unit connector M42.
3. Check continuity between satellite radio tuner (factory installed) M41 (A) and audio unit M42 (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M41	23	M42	43	Yes
	24		44	



4. Check continuity between satellite radio tuner (factory installed) connector M41 (A) and ground.

A		—	Continuity
Connector	Terminal		
M41	23	Ground	No
	24		

Are continuity results as specified?

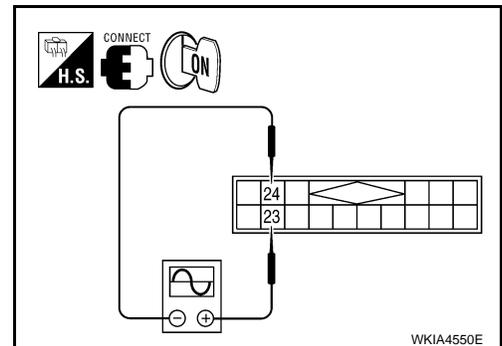
YES >> GO TO 2

NO >> Repair harness or connector.

2. CHECK RIGHT CHANNEL AUDIO SIGNAL

1. Connect satellite radio tuner (factory installed) and audio unit.
2. Turn ignition switch ON.
3. Check signal between satellite radio tuner (factory installed) connector M41 terminals 23 and 24 with CONSULT-III or oscilloscope.

(+)		(-)	Reference signal
Connector	Terminal		
M41	23	Ground	
	24		



Are voltage readings as specified?

YES >> Replace audio unit. Refer to [AV-92. "Removal and Installation"](#).

NO >> Replace satellite radio tuner. Refer to [AV-102. "Removal and Installation"](#).

AUDIO UNIT

< ECU DIAGNOSIS >

[MID AUDIO]

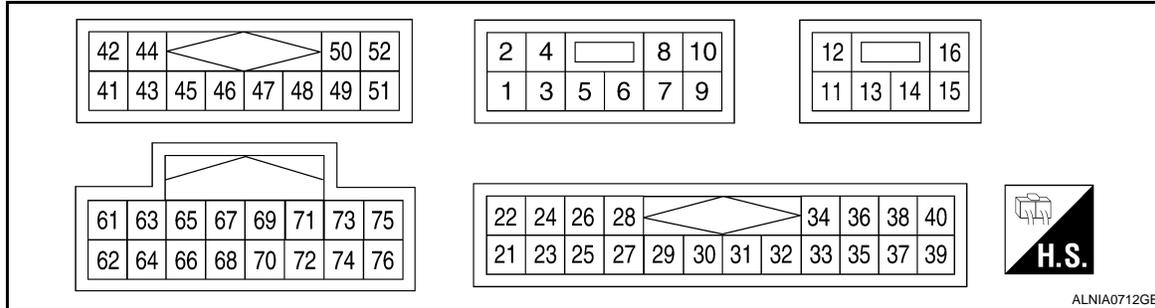
ECU DIAGNOSIS

AUDIO UNIT

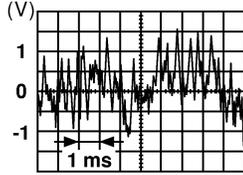
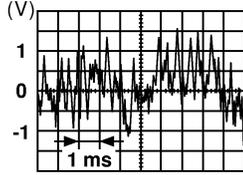
Reference Value

INFOID:000000001689304

TERMINAL LAYOUT



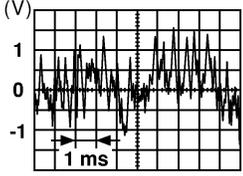
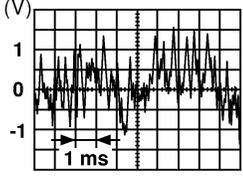
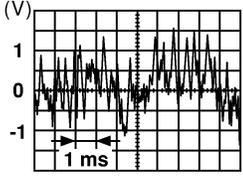
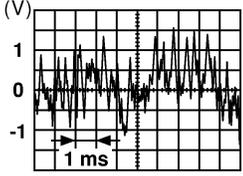
PHYSICAL VALUES

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value (Approx.)
+	-					
2 (L/W)	1 (L/R)	Audio sound signal front LH	Output	Ignition switch ON	Receive audio sig- nal	 SKIA0177E
4 (W/B)	3 (L/B)	Audio sound signal front RH	Output	Ignition switch ON	Receive audio sig- nal	 SKIA0177E
6 (Y)	Ground	Battery power	Input	-	-	Battery voltage
7 (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
8 (R/L)	Ground	Illumination signal	Input	OFF	Lighting switch is in 1st position.	Battery voltage
					Lighting switch is OFF.	0V
10 (V)	Ground	ACC signal	Input	Ignition switch ON	-	Battery voltage

AUDIO UNIT

< ECU DIAGNOSIS >

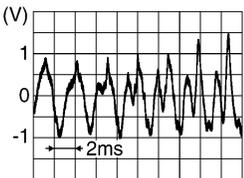
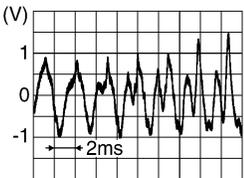
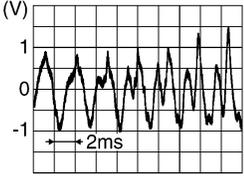
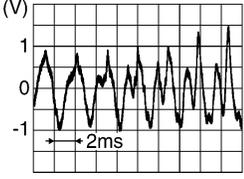
[MID AUDIO]

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value (Approx.)
+	-					
14 (SB)	13 (B/Y)	Audio sound signal rear LH	Output	Ignition switch ON	Receive audio sig- nal	 <small style="float: right;">SKIA0177E</small>
16 (O/L)	15 (R/L)	Audio sound signal rear RH	Output	Ignition switch ON	Receive audio sig- nal	 <small style="float: right;">SKIA0177E</small>
21 (V)	Ground	Remote control A	Output	Ignition switch ON	Audio unit ON	5V
22 (P)	Ground	Remote control B	Output	Ignition switch ON	Audio unit ON	5V
23 (BR/Y)	Ground	Remote control C	Output	Ignition switch ON	Audio unit ON	5V
24 (L)	Ground	Remote control D	Output	Ignition switch ON	Audio unit ON	5V
25 (LG)	Ground	Remote control ground	-	-	-	0V
27 (O/L)	26 (O)	Audio sound signal LH	Output	Ignition switch ON	Receive audio sig- nal	 <small style="float: right;">SKIA0177E</small>
29 (W)	28 (W/L)	Audio sound signal RH	Output	Ignition switch ON	Receive audio sig- nal	 <small style="float: right;">SKIA0177E</small>
30	-	Shield	-	-	-	0V
31 (O)	Ground	Remote control en- able signal	Output	Ignition switch ON	Audio unit ON	5V
32 (V)	Ground	Remote control switch power sup- ply	Output	Ignition switch ON	Audio unit ON	12V

AUDIO UNIT

< ECU DIAGNOSIS >

[MID AUDIO]

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value (Approx.)
+	-					
35 (B)	34 (W)	Family entertain- ment system left channel audio input	Input	Ignition switch ON	DVD operating	 <small>SKIB3609E</small>
37 (R)	36 (G)	Family entertain- ment system right channel audio input	Input	Ignition switch ON	DVD operating	 <small>SKIB3609E</small>
39 (Y/L)	Ground	Family entertain- ment system en- able	Output	Ignition switch ON	DVD operating	12V
40 (L/W)	Ground	Audio ON	Input	Ignition switch ON	DVD operating	12V
42 (R)	41 (G)	Satellite radio au- dio signal LH	Input	Ignition switch ON	Satellite radio tuner operating	 <small>SKIB3609E</small>
44 (W)	43 (B)	Satellite radio au- dio signal RH	Input	Ignition switch ON	Satellite radio tuner operating	 <small>SKIB3609E</small>
45	-	Ground	-	-	-	0V
46	-	Data ground	-	-	-	0V
48 (L)	-	REQ (SAT→AV control unit)	Input	Ignition switch ON	-	—
49 (O/L)	-	RX (SAT→AV con- trol unit)	Input	Ignition switch ON	-	—
50 (W/L)	-	TX (AV control unit→SAT)	Input	Ignition switch ON	-	—

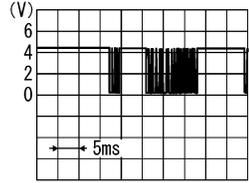
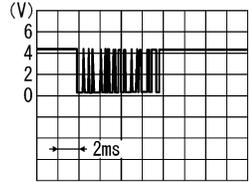
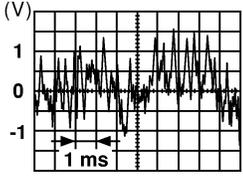
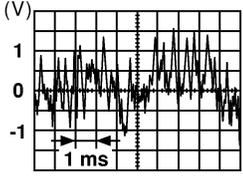
A
B
C
D
E
F
G
H
I
J
K
L
M
O
P

AV

AUDIO UNIT

< ECU DIAGNOSIS >

[MID AUDIO]

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value (Approx.)
+	-					
65 (O/L)	Ground	Audio RX	Input	Ignition switch ON	Operate audio vol- ume	 <p style="text-align: right; font-size: small;">SKIA4403E</p>
66 (W/L)	Ground	Audio TX	Output	Ignition switch ON	Operate audio vol- ume	 <p style="text-align: right; font-size: small;">SKIA4402E</p>
67	-	Shield	-	Ignition switch ON	-	0V
72 (W/B)	Ground	CD eject signal	Input	Ignition switch ON	Operate EJECT but- ton	0V → 5V
73 (Y/B)	Ground	CD load signal	Input	Ignition switch ON	Operate LOAD but- ton	0V → 5V
74 (W)	Ground	Auxiliary audio in- put RH (+)	Input	Ignition switch ON	Receive audio sig- nal (AUX input)	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
75 (R)	Ground	Auxiliary audio in- put LH (+)	Input	Ignition switch ON	Receive audio sig- nal (AUX input)	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
76 (B)	-	Shield	-	-	-	0V

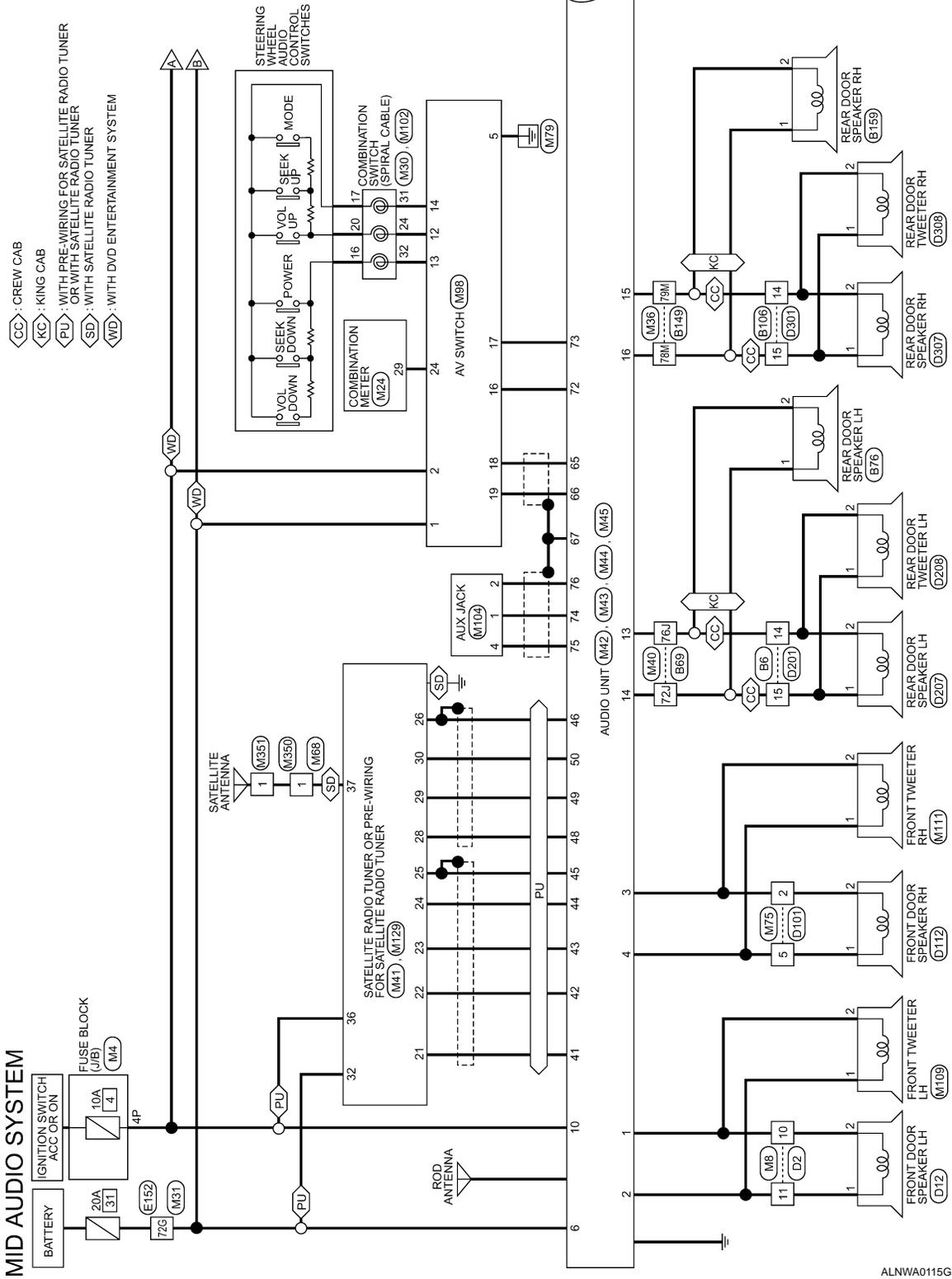
AUDIO UNIT

< ECU DIAGNOSIS >

[MID AUDIO]

Wiring Diagram

INFOID:000000001572614



ALNWA0115GE

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

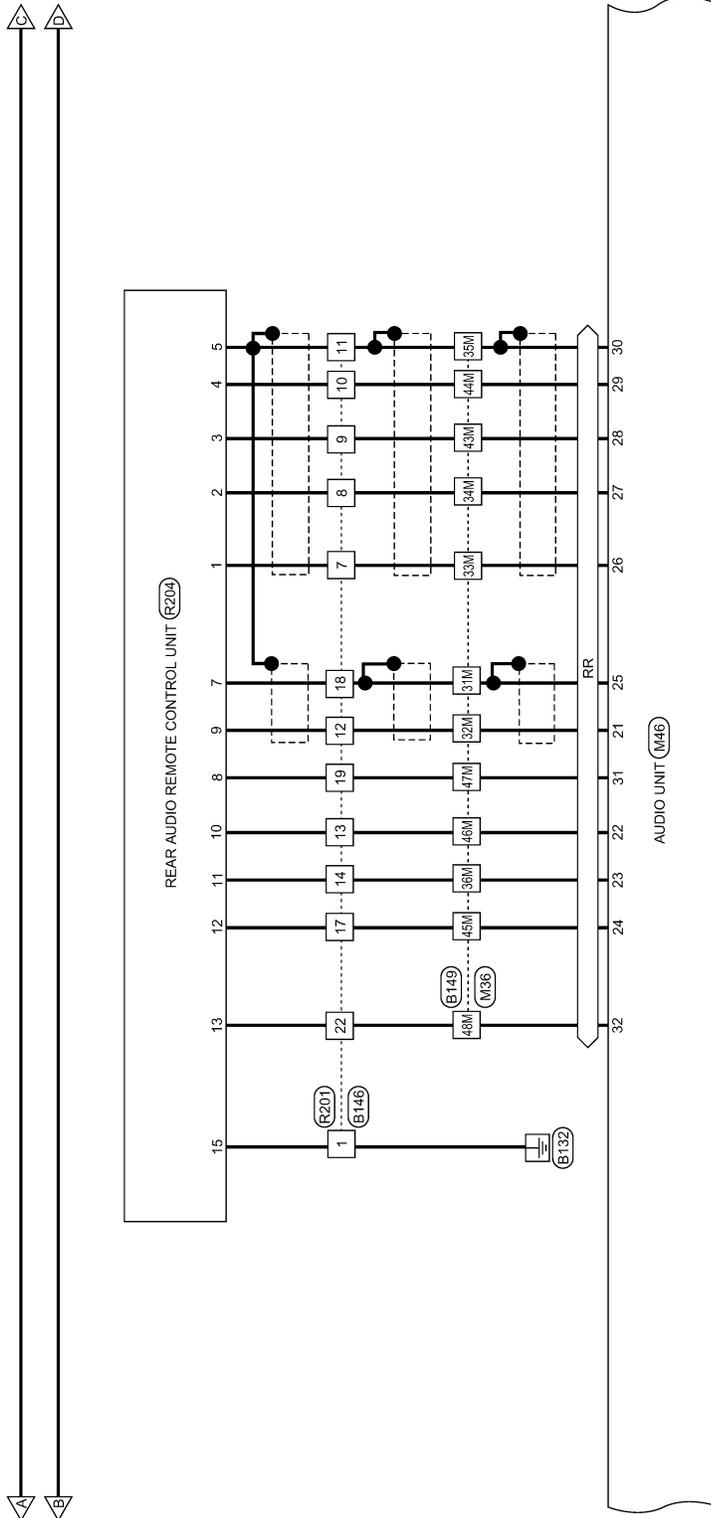
AV

AUDIO UNIT

< ECU DIAGNOSIS >

[MID AUDIO]

⬅️: WITH REAR AUDIO REMOTE CONTROL UNIT



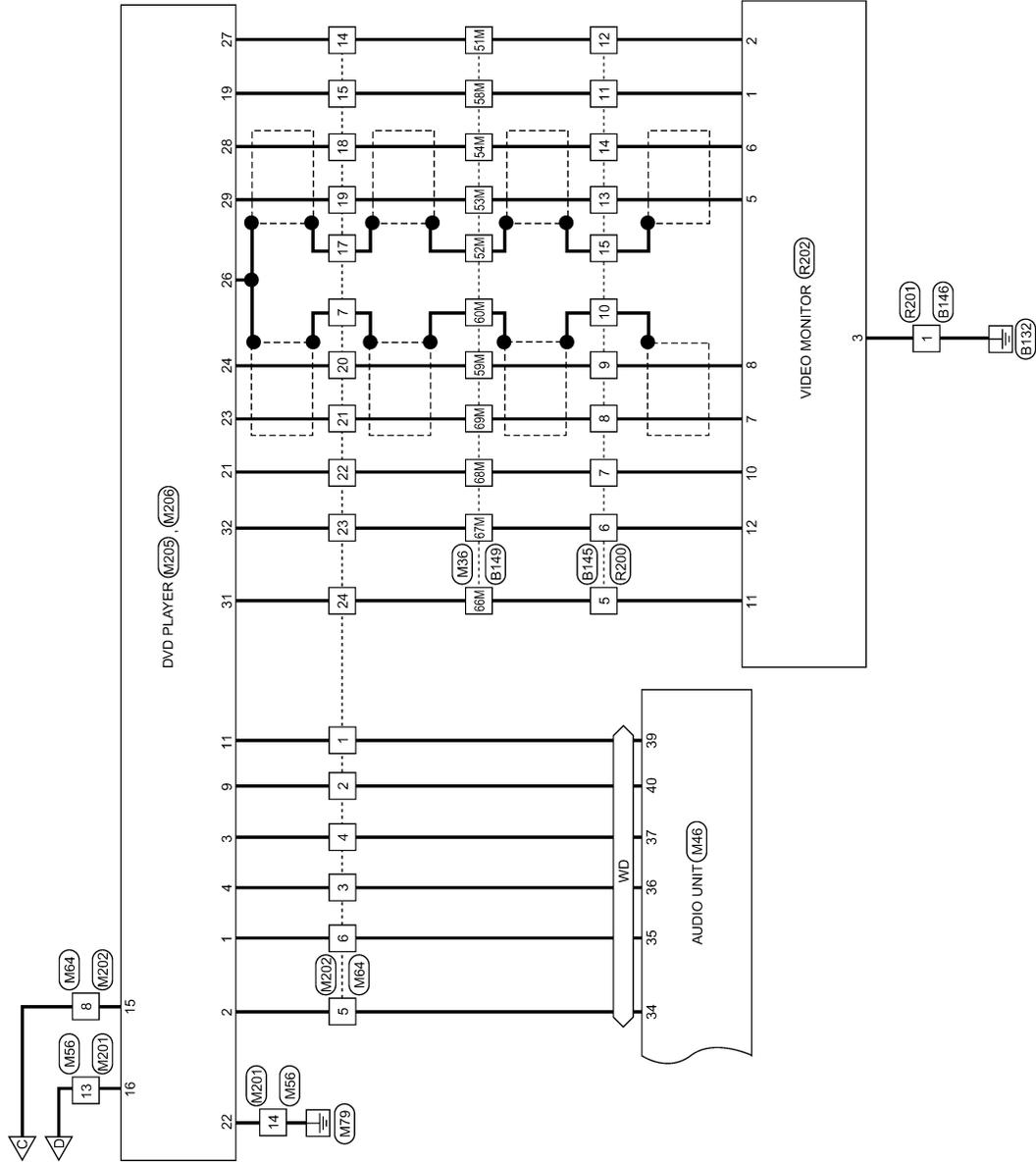
ALNWA0116GE

AUDIO UNIT

< ECU DIAGNOSIS >

[MID AUDIO]

WD : WITH DVD ENTERTAINMENT SYSTEM



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

AV

ALNWA0117GB

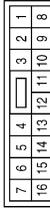
MID AUDIO SYSTEM CONNECTORS

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



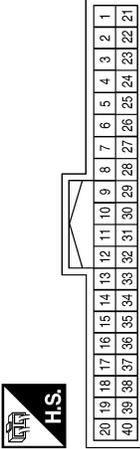
Terminal No.	Color of Wire	Signal Name
4P	V	-

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



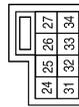
Terminal No.	Color of Wire	Signal Name
10	L/R	-
11	L/W	-

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE



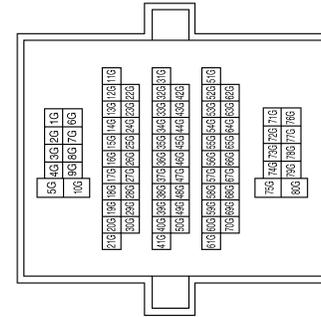
Terminal No.	Color of Wire	Signal Name
29	W/R	SPEED_8P

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

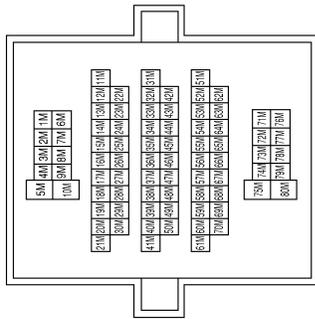


Terminal No.	Color of Wire	Signal Name
24	R	STRG_SW A (UP)
31	L	STRG_SW C (GND)
32	G	STRG_SW B (DOWN)

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



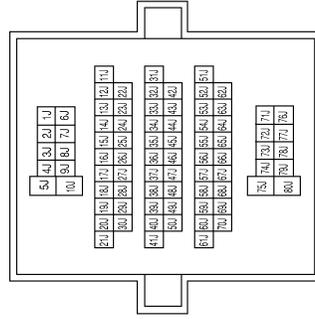
Connector No.	M36
Connector Name	WIRE TO WIRE
Connector Color	WHITE



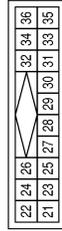
Terminal No.	Color of Wire	Signal Name
31M	LG	-
32M	V	-
33M	O	-
34M	O/L	-
35M	SHIELD	-
36M	B/Y	-
43M	W/L	-
44M	W	-
45M	L	-
46M	P	-
47M	O	-
48M	V	-
51M	B/Y	-
52M	SHIELD	-

Terminal No.	Color of Wire	Signal Name
53M	BR	-
54M	Y	-
58M	B/W	-
59M	L	-
60M	SHIELD	-
66M	O/L	-
67M	SB	-
68M	BR	-
69M	G/Y	-
78M	O/L	-
79M	R/L	-

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



Connector No.	M41
Connector Name	SATELLITE RADIO TUNER
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
28	L	REQ1_(SAT_HU)
29	O/L	TXD_(SAT_HU)
30	W/L	RXD_(H-SAT)
32	Y	BATT
36	V	ACC

Terminal No.	Color of Wire	Signal Name
21	G	SAT_LH+_OUT
22	R	SAT_LH+_OUT
23	B	SAT_RH+_OUT
24	W	SAT_RH+_OUT
25	SHIELD	SIG_SHIELD
26	SHIELD	DATA_GND

Terminal No.	Color of Wire	Signal Name
72J	SB	-
76J	B/Y	-

ALNIA0766GB

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

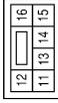
AV

AUDIO UNIT

< ECU DIAGNOSIS >

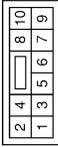
[MID AUDIO]

Connector No.	M44
Connector Name	AUDIO UNIT
Connector Color	WHITE



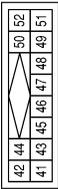
Terminal No.	Color of Wire	Signal Name
13	B/Y	RR_SP_LH-
14	SB	RR_SP_LH+
15	R/L	RR_SP_RH-
16	O/L	RR_SP_RH+

Connector No.	M43
Connector Name	AUDIO UNIT
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	L/R	FR_SP_LH-
2	L/W	FR_SP_LH+
3	L/B	FR_SP_RH-
4	W/B	FR_SP_RH+
6	Y	BACK_UP
10	V	ACC

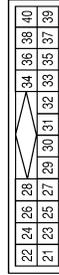
Connector No.	M42
Connector Name	AUDIO UNIT
Connector Color	WHITE



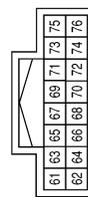
Terminal No.	Color of Wire	Signal Name
41	G	L (-)
42	R	L (+)
43	B	R (-)
44	W	R (+)
45	SHIELD	EARTH
46	SHIELD	DATA_EARTH
48	L	REQ1_(SAT-_HU)
49	O/L	TXD_(SAT-_HU)
50	W/L	RXD_(H-SAT)

Terminal No.	Color of Wire	Signal Name
21	V	REMOTE_A
22	P	REMOTE_B
23	B/Y	REMOTE_C
24	L	REMOTE_D
25	LG	REMOTE_GND
26	O	L_CH_OUTPUT-
27	O/L	L_CH_OUTPUT+
28	W/L	R_CH_OUTPUT-
29	W	R_CH_OUTPUT+
30	SHIELD	SHIELD
31	O	ENABLE
32	V	SWITCH_+B

Connector No.	M46
Connector Name	AUDIO UNIT
Connector Color	WHITE



Connector No.	M45
Connector Name	AUDIO UNIT
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
72	W/B	EJECT
73	Y/B	LOAD
74	W	AUX_R+
75	R	AUX_L+
76	B	AUX_EARTH

ALNIA0767GB

AUDIO UNIT

< ECU DIAGNOSIS >

[MID AUDIO]

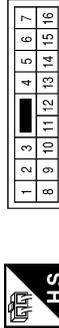
Terminal No.	Color of Wire	Signal Name
14	B/Y	-
15	B/W	-
17	SHIELD	-
18	Y	-
19	BR	-
20	L	-
21	B/W	-
22	G/Y	-
23	BR	-
24	SB	-

Connector No.	M64
Connector Name	WIRE TO WIRE
Connector Color	BROWN



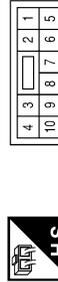
Terminal No.	Color of Wire	Signal Name
1	Y/L	-
2	L/W	-
3	G	-
4	R	-
5	W	-
6	B	-
7	SHIELD	-

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



Terminal No.	Color of Wire	Signal Name
13	Y	-
14	B	-

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.	M69
Connector Name	WIRE TO WIRE
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	B	-

ALNIA0768GB

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

AV

AUDIO UNIT

< ECU DIAGNOSIS >

[MID AUDIO]

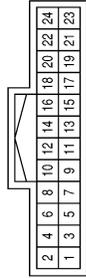
Connector No.	M102
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
16	R	-
17	BR	-
20	W	-

Terminal No.	Color of Wire	Signal Name
12	R	REMOTE A
13	G	REMOTE B
14	L	REMOTE C
16	W/B	REMOTE D
17	Y/B	ENABLE
24	W/R	REMOTE GND

Connector No.	M98
Connector Name	AV SWITCH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	Y	+B
2	V	ACC
3	R/L	ILL
4	BR	ILL CONT GND
5	B	GND

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



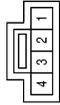
Terminal No.	Color of Wire	Signal Name
1	W/B	-
2	L/B	-

Connector No.	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
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	W	AUX_AUDIO_RH +
2	B	AUX_GND
4	R	AUX_AUDIO_LH +

ALNIA0769GB

AUDIO UNIT

< ECU DIAGNOSIS >

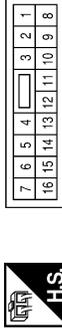
[MID AUDIO]

Connector No.	M129
Connector Name	SATELLITE RADIO TUNER
Connector Color	VIOLET



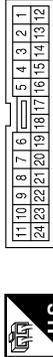
Terminal No.	Color of Wire	Signal Name
37	B	-

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



Terminal No.	Color of Wire	Signal Name
13	Y	-
14	B	-

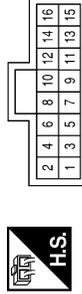
Connector No.	M202
Connector Name	WIRE TO WIRE
Connector Color	BROWN



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

Terminal No.	Color of Wire	Signal Name
10	W/L	-
14	B/Y	-
15	B/W	-
17	SHIELD	-
18	Y	-
19	BR	-
20	L	-
21	B/W	-
22	G/Y	-
23	BR	-
24	SB	-

Connector No.	M205
Connector Name	DVD PLAYER
Connector Color	GRAY



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
9	L/W	AUDIO_ON
10	BR	ILL-
11	Y/L	FES_ENABLE
12	R/L	LIGHTING_SW
15	V	ACC
16	Y	B+

ALNIA0770GB

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

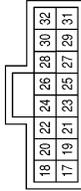
AV

AUDIO UNIT

< ECU DIAGNOSIS >

[MID AUDIO]

Connector No.	M206
Connector Name	DVD PLAYER
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
19	B/W	GND
21	G/Y	SW_POWER+5V
22	B	GND
23	B/W	VTR+
24	L	VTR-
26	SHIELD	SHIELD
27	B/Y	GND
28	Y	DATA_RX
29	BR	DATA_TX
31	SB	+B
32	BR	+B

Connector No.	M350
Connector Name	WIRE TO WIRE
Connector Color	BROWN



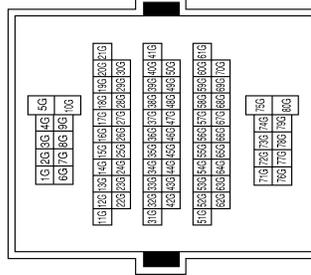
Terminal No.	Color of Wire	Signal Name
1	B	-

Connector No.	M351
Connector Name	SATELLITE RADIO ANTENNA
Connector Color	BROWN

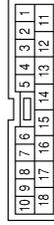


Terminal No.	Color of Wire	Signal Name
1	B	-

Connector No.	E152
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	-

Terminal No.	Color of Wire	Signal Name
72G	Y	-

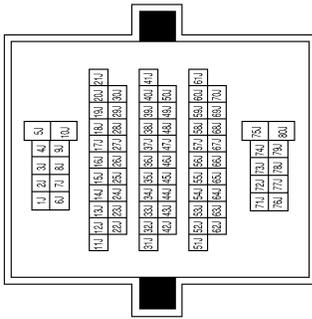
ALNIA0771GB

AUDIO UNIT

< ECU DIAGNOSIS >

[MID AUDIO]

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



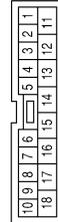
Terminal No.	Color of Wire	Signal Name
72J	SB	-
76J	B/Y	-

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



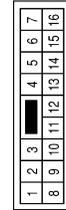
Terminal No.	Color of Wire	Signal Name
1	SB	-
2	B/Y	-

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.	B145
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
5	SB	-
6	BR	-
7	G/Y	-
8	W	-
9	L	-
10	SHIELD	-
11	B/W	-
12	B/Y	-
13	G	-
14	L	-
15	SHIELD	-

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

AV

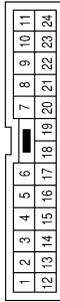
ALNIA0772GB

AUDIO UNIT

< ECU DIAGNOSIS >

[MID AUDIO]

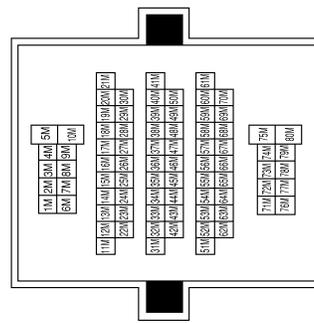
Connector No.	B146
Connector Name	WIRE TO WIRE
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	B	-
7	B	-
8	G	-
9	R	-

Terminal No.	Color of Wire	Signal Name
10	W	-
11	SHIELD	-
12	V	-
13	P	-
14	BR/Y	-
17	L	-
18	LG	-
19	O	-
20	V	-

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



Terminal No.	Color of Wire	Signal Name
31M	LG	-
32M	V	-
33M	B	-
34M	G	-
35M	SHIELD	-
36M	BR/Y	-
43M	R	-
44M	W	-
45M	L	-
46M	P	-
47M	O	-
48M	V	-
51M	B/Y	-
52M	SHIELD	-

Terminal No.	Color of Wire	Signal Name
53M	G	-
54M	L	-
58M	B/W	-
59M	L	-
60M	SHIELD	-
66M	OL	-
67M	SB	-
68M	BR	-
69M	G/Y	-
78M	O/L	-
79M	R/L	-

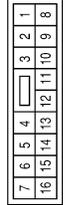
ALNIA0773GB

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



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

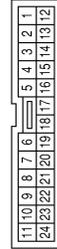
Connector No.	R200
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
5	SB	-
6	BR	-

Terminal No.	Color of Wire	Signal Name
7	G/Y	-
8	W	-
9	L	-
10	SHIELD	-
11	B/W	-
12	B/Y	-
13	G	-
14	L	-
15	SHIELD	-

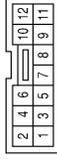
Connector No.	R201
Connector Name	WIRE TO WIRE
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	B	-
7	B	-
8	G	-
9	R	-
10	W	-
11	SHIELD	-

Terminal No.	Color of Wire	Signal Name
12	V	-
13	P	-
14	BR/Y	-
17	L	-
18	LG	-
19	O	-
22	V	-

Connector No.	R202
Connector Name	VIDEO MONITOR
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	B/W	GND
2	B/Y	GND
3	B	ID
4	SHIELD	O/A_SHIELD
5	G	DATA_RX
6	L	DATA_TX
7	W	VIDEO_IN+
8	L	VIDEO_IN-
10	G/Y	SW_POWER_+5V
11	SB	FILTERED_BATT
12	BR	FILTERED_BATT

ALNIA0774GB

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

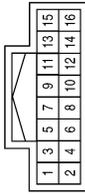


AUDIO UNIT

< ECU DIAGNOSIS >

[MID AUDIO]

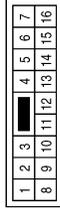
Connector No.	R204
Connector Name	REAR AUDIO REMOTE CONTROL UNIT
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	B	L_CH_INPUT -
2	G	L_CH_INPUT +
3	R	R_CH_INPUT -
4	W	R_CH_INPUT +
5	SHIELD	SHIELD
6	R/L	ILL+
7	LG	REMOTE GND

Terminal No.	Color of Wire	Signal Name
8	O	ENABLE
9	V	REMOTE_A
10	P	REMOTE_B
11	BR/Y	REMOTE_C
12	L	REMOTE_D
15	B	GND

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



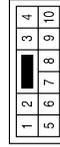
Terminal No.	Color of Wire	Signal Name
10	L/R	-
11	L/W	-

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.	D101
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

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	-

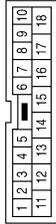
ALNIA0775GB

AUDIO UNIT

< ECU DIAGNOSIS >

[MID AUDIO]

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



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

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



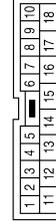
Terminal No.	Color of Wire	Signal Name
1	SB	-
2	B/Y	-

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	-

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



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

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	-

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

AV

ALNIA0776GB

SATELLITE RADIO TUNER

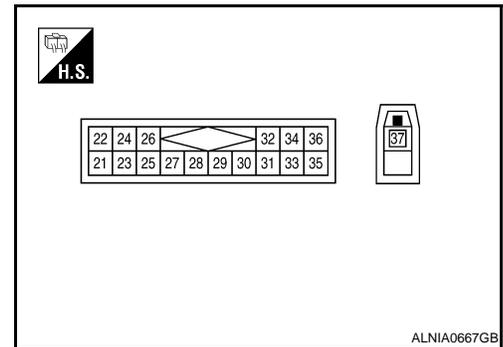
< ECU DIAGNOSIS >

[MID AUDIO]

SATELLITE RADIO TUNER

Reference Value

INFOID:000000001689301



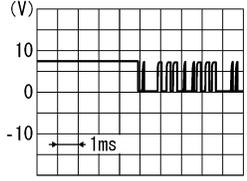
PHYSICAL VALUES

Terminal		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/Output			
22 (R)	21 (G)	Satellite radio sound signal LH	Output	Ignition switch ON	When satellite radio mode is selected	
24 (W)	23 (B)	Satellite radio sound signal RH	Output	Ignition switch ON	When satellite radio mode is selected	
25	—	Shield	—	—	—	—
26	—	Shield	—	—	—	—
28 (L)	Ground	Request signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected	
29 (O/L)	Ground	Communication signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected	

SATELLITE RADIO TUNER

< ECU DIAGNOSIS >

[MID AUDIO]

Terminal		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/Output			
30 (W/L)	Ground	Communication signal (CONT→SAT)	Input	Ignition switch ON	When satellite radio mode is selected	
32 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
36 (V)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
37 (B)	—	Satellite antenna	Input	—	—	—

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

AV

O
P

DVD PLAYER

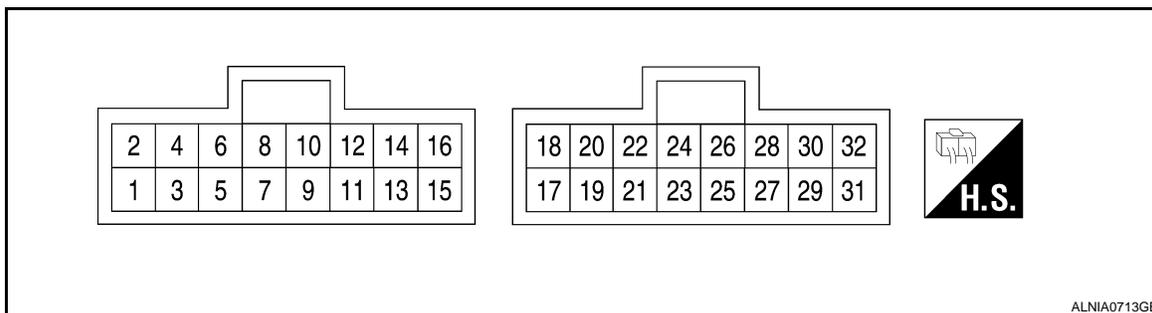
< ECU DIAGNOSIS >

[MID AUDIO]

DVD PLAYER

Reference Value

INFOID:000000001689303



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 (L/W)	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 (Y/L)	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 >

[MID AUDIO]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
19 (B/W)	Ground	Ground	—	Ignition switch ON	—	0V
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	—	—	—	—
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

AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[MID AUDIO]

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:000000001572622

AUDIO SYSTEM

Symptom	Possible cause	Reference page
Inoperative	<ul style="list-style-type: none">AV control unit power circuitAV control unit	<ul style="list-style-type: none">AV-46AV-45
Steering switch does not operate	<ul style="list-style-type: none">Steering switchAV control unit	<ul style="list-style-type: none">AV-58AV-45
All speakers do not sound	<ul style="list-style-type: none">AV control unitAV control unit power circuit	<ul style="list-style-type: none">AV-45AV-46
One or several speakers do not sound	<ul style="list-style-type: none">Front door speakerFront tweeterRear door speakerRear door tweeter (crew cab)	<ul style="list-style-type: none">AV-50AV-52AV-54AV-56

CD

Symptom	Possible cause	Reference page
CD cannot be inserted.	AV control unit	AV-45
CD cannot be ejected.		
The CD cannot be played.		
The sound skips, stops suddenly, or is distorted.		

SATELLITE RADIO

Symptom	Possible cause	Reference page
Inoperative	<ul style="list-style-type: none">Satellite radio tuner power or ground circuitSatellite radio tuner communication circuitSatellite radio tuner	<ul style="list-style-type: none">AV-47AV-60AV-47
Right or left channel does not sound	<ul style="list-style-type: none">Satellite radio tuner right channel audio signal circuitSatellite radio tuner left channel audio signal circuitSatellite radio tuner	<ul style="list-style-type: none">AV-63AV-63AV-47

DVD PLAYER

Symptom	Possible cause	Reference page
DVD player inoperative	<ul style="list-style-type: none">Power supply and ground circuitsDVD player	<ul style="list-style-type: none">AV-48AV-48
No sound when playing a DVD	<ul style="list-style-type: none">Audio signal circuitsAV control unitDVD player	<ul style="list-style-type: none">AV-86AV-46AV-48
Video monitor is inoperative/does not display properly	<ul style="list-style-type: none">Power supply and ground circuitsVideo out circuitDVD playerVideo monitor	<ul style="list-style-type: none">AV-48AV-86AV-48AV-48
DVD remote control is inoperative/does not operate properly	<ul style="list-style-type: none">DVD playerRear audio and remote control unit	<ul style="list-style-type: none">AV-48AV-86
Headphones inoperative	<ul style="list-style-type: none">Headphone batteriesHeadphone audio signal circuits from AV control unitAV control unitRear audio remote control unit	<ul style="list-style-type: none">AV-86AV-46AV-86

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[MID AUDIO]

NORMAL OPERATING CONDITION

Description

INFOID:000000001572623

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, 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 (crew cab) • 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

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

AV

PRECAUTION

PRECAUTIONS

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

INFOID:000000001572624

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 SRS and SB section of this Service Manual.

WARNING:

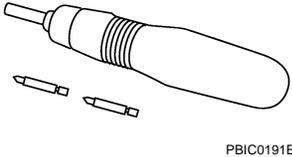
- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation 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 SRS 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.

PREPARATION

PREPARATION

Commercial Service Tools

INFOID:000000001572625

Tool name	Description
<p>Power tool</p>  <p>PBIC0191E</p>	<p>Loosening bolts and nuts</p>

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

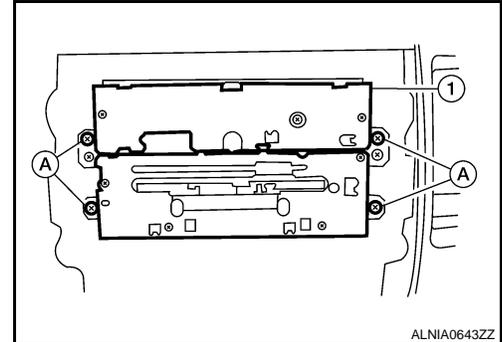
AV

ON-VEHICLE REPAIR**AUDIO UNIT****Removal and Installation**

INFOID:000000001586956

AV SWITCH**Removal**

1. Disconnect the battery negative terminal.
2. Remove the cluster lid C. Refer to [IP-13. "Removal and Installation"](#).
3. Remove the audio unit screws (A), using power tool.
4. Pull out the audio unit (1) and disconnect the audio unit connectors.

**Installation**

Installation is in the reverse order of removal.

FRONT TWEETER

Removal and Installation

INFOID:000000001586958

For removal and installation, refer to [AV-34. "Removal and Installation"](#).

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

CENTER SPEAKER

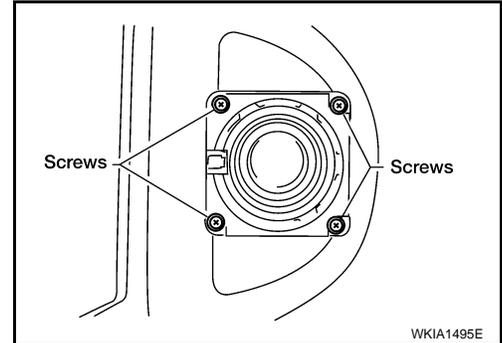
Removal and Installation

INFOID:000000001586959

CENTER SPEAKER

Removal

1. Remove the center console. Refer to [IP-18, "Removal and Installation"](#).
2. Remove the cluster lid D. Refer to [IP-14, "Removal and Installation"](#).
3. Remove the center speaker screws and remove the center speaker.



Installation

Installation is in the reverse order of removal.

FRONT DOOR SPEAKER

< ON-VEHICLE REPAIR >

[MID AUDIO]

FRONT DOOR SPEAKER

Removal and Installation

INFOID:000000001586960

For removal and installation, refer to [AV-35. "Removal and Installation"](#).

A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

P

REAR DOOR SPEAKER

< ON-VEHICLE REPAIR >

[MID AUDIO]

REAR DOOR SPEAKER

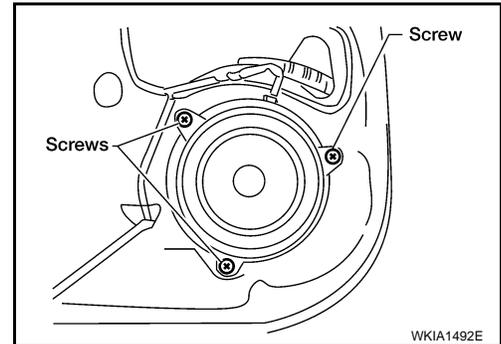
Removal and Installation

INFOID:000000001586961

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 three rear door speaker screws and remove the rear door speaker.



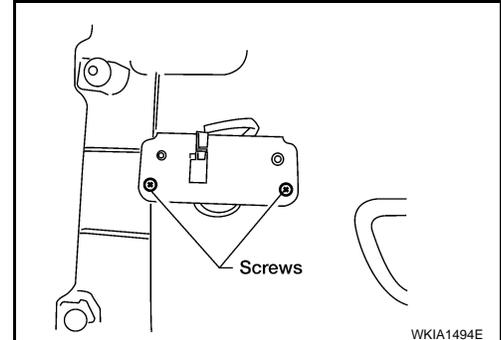
Installation

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"](#) - Crew Cab or [INT-10. "Removal and Installation"](#) - King Cab.
2. Remove the rear door tweeter screws and remove the rear door tweeter.
3. Disconnect the rear door tweeter connector.



Installation

Installation is in the reverse order of removal.

WOOFER

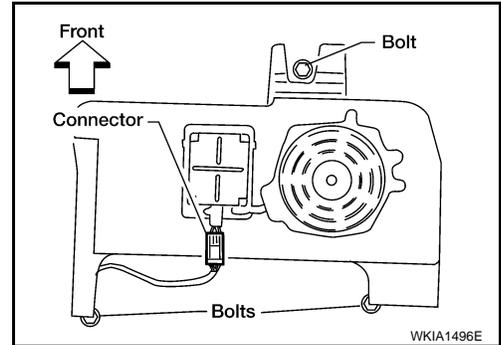
Removal and Installation

INFOID:000000001586962

SUBWOOFER (PREMIUM SYSTEM)

Removal

1. Remove the front driver seat. Refer to [SE-28. "Removal and Installation"](#).
2. Remove the subwoofer bolts.
3. Disconnect the subwoofer connector and remove the subwoofer.



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

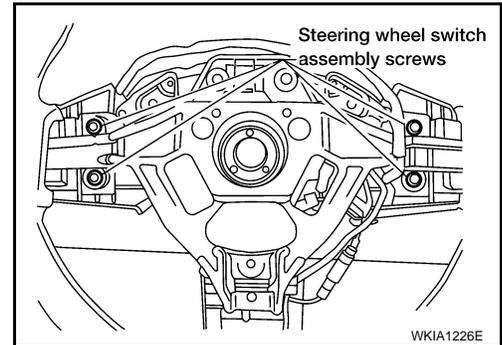
Removal and Installation

INFOID:000000001586963

STEERING WHEEL AUDIO CONTROL SWITCHES

Removal

1. Remove the steering wheel. Refer to [ST-12. "Removal and Installation"](#).
2. Remove the steering wheel rear cover screws and remove the steering wheel rear cover.
3. Remove the steering wheel switch assembly screws and remove the steering wheel switches.



Installation

Installation is in the reverse order of removal.

REAR AUDIO REMOTE CONTROL UNIT

< ON-VEHICLE REPAIR >

[MID AUDIO]

REAR AUDIO REMOTE CONTROL UNIT

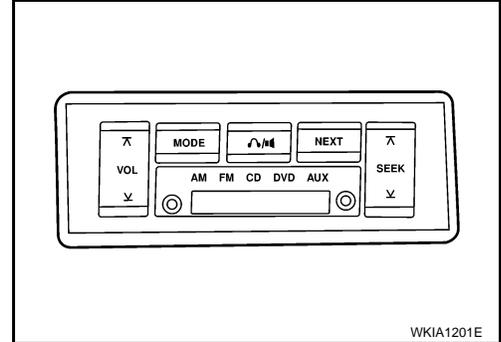
Removal and Installation

INFOID:000000001586964

REAR AUDIO REMOTE CONTROL UNIT

Removal

1. Carefully remove the rear audio remote control unit from the rear roof console assembly.
CAUTION:
Wrap removal tool with clean shop cloth to prevent damage to the headliner.
2. Disconnect the connector and remove the rear audio remote control unit.



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

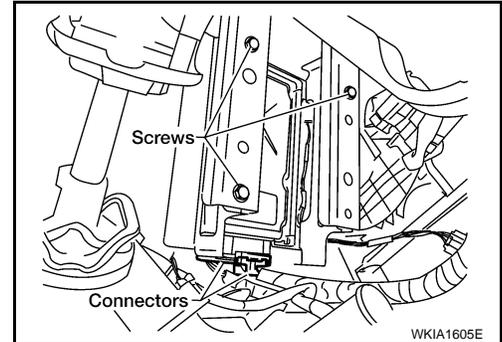
BOSE AMP.

Removal and Installation

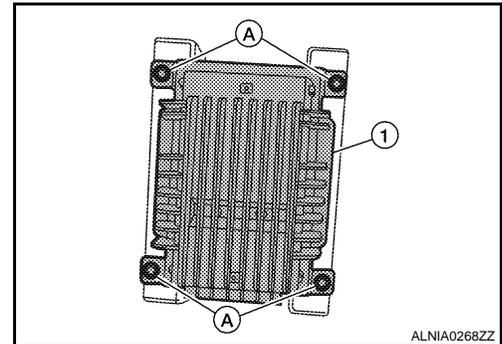
INFOID:000000001572638

REMOVAL

1. Remove the BCM. Refer to [BCS-50, "Removal and Installation"](#).
2. Remove the accelerator pedal. Refer to [ACC-3, "Removal and Installation"](#).
3. Disconnect the Bose speaker amp. connectors.
4. Remove the Bose speaker amp. and bracket assembly screws and slide the Bose speaker amp. bracket assembly down.



5. Remove the Bose speaker amp.screws (A). then remove the Bose speaker amp. (1).



INSTALLATION

Installation is in the reverse order of removal.

AUDIO ANTENNA

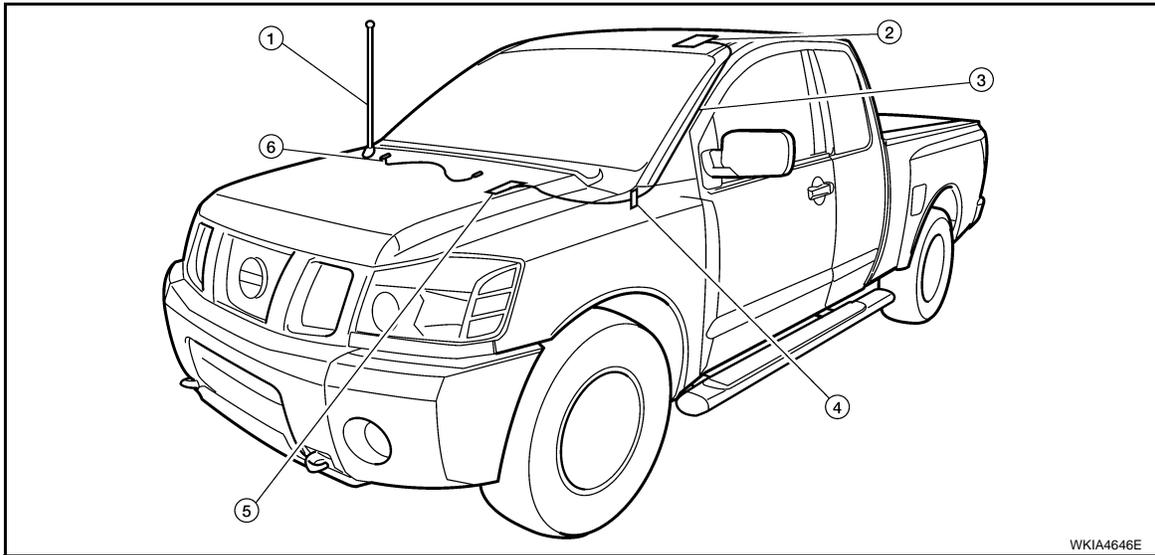
< ON-VEHICLE REPAIR >

[MID AUDIO]

AUDIO ANTENNA

Location of Antenna

INFOID:000000001572639



WKIA4646E

- | | | |
|--------------|--|-----------------------------|
| 1. Antenna | 2. Satellite antenna (if equipped, factory installed) M351 | 3. Satellite antenna feeder |
| 4. M69, M350 | 5. Satellite radio tuner M129 | 6. Main feeder cable |

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

SATELLITE RADIO ANTENNA

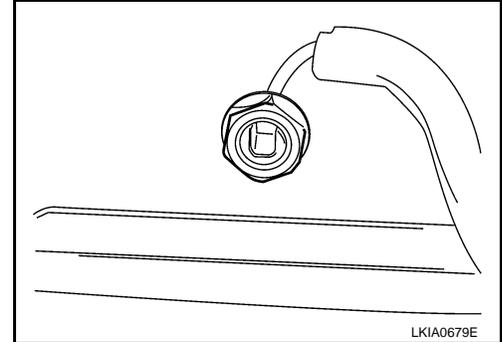
Removal and Installation

INFOID:000000001601301

SATELLITE RADIO ANTENNA

Removal

1. Lower the headliner. Refer to [INT-21. "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.

SATELLITE RADIO TUNER

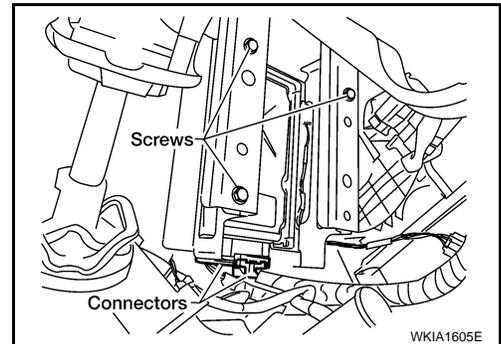
Removal and Installation

INFOID:000000001601302

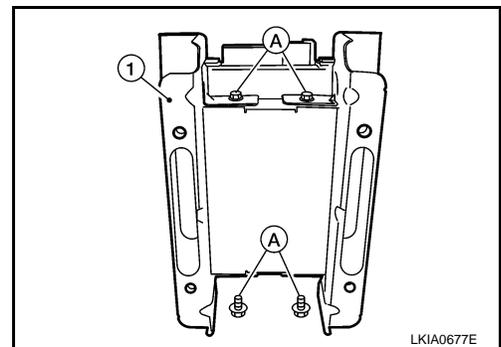
SATELLITE RADIO TUNER

Removal

1. Remove the accelerator pedal assembly. Refer to [ACC-3, "Removal and Installation"](#).
2. Remove the BCM. Refer to [BCS-50, "Removal and Installation"](#).
3. Disconnect the audio amp. and the satellite radio tuner connectors.
4. Remove the audio amp./satellite radio tuner bracket screws and slide the audio amp./satellite radio tuner bracket down.



5. Remove the satellite radio tuner screws (A) and remove the satellite radio tuner from the audio amp./satellite radio tuner bracket (1).



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

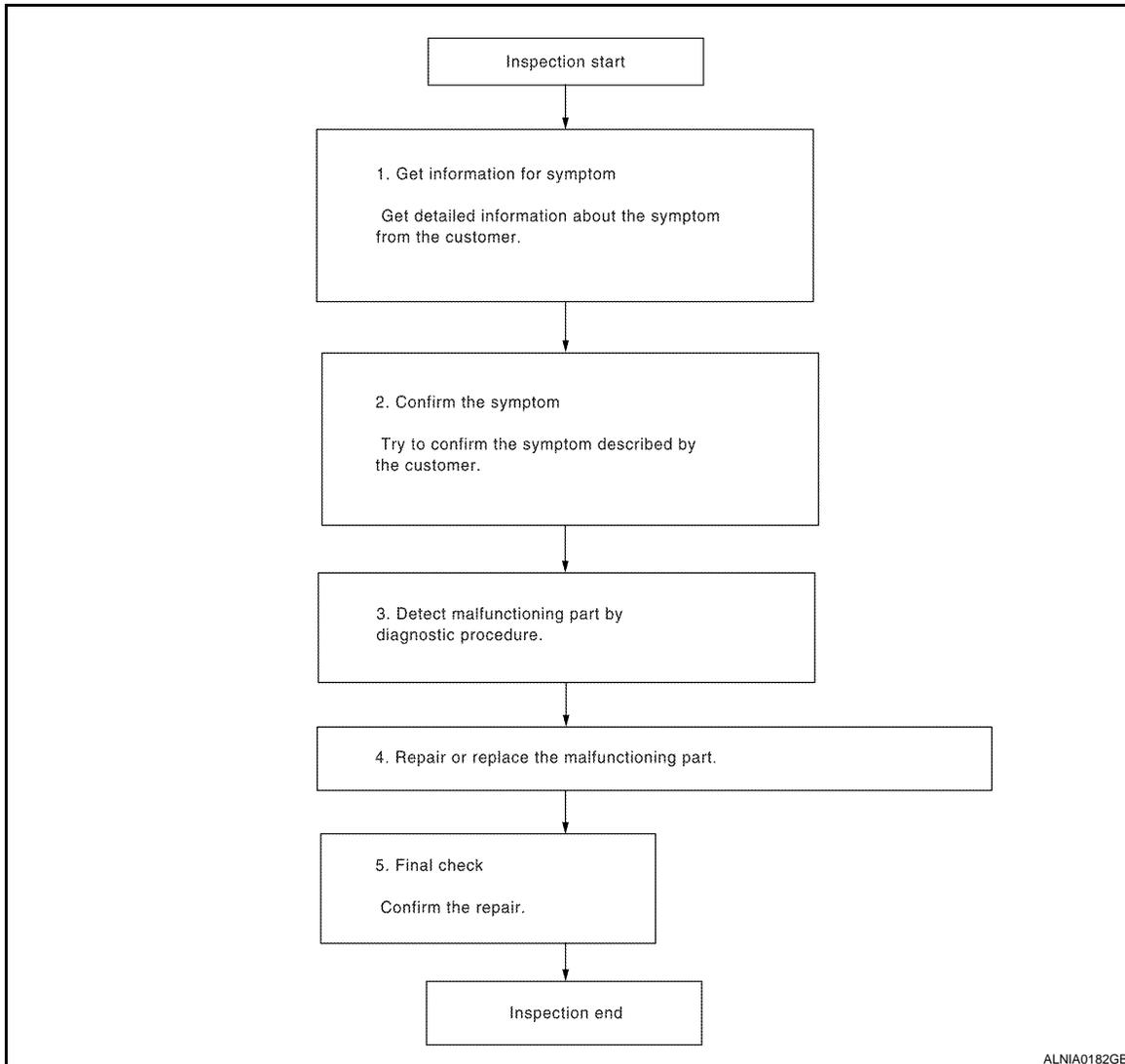
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000001663476

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 >

[PREMIUM WITHOUT NAVIGATION]

Is malfunctioning part detected?

YES >> GO TO 4

NO >> GO TO 2

4.REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 5

5.FINAL CHECK

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

Was the repair confirmed?

YES >> Inspection End.

NO >> GO TO 2

A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

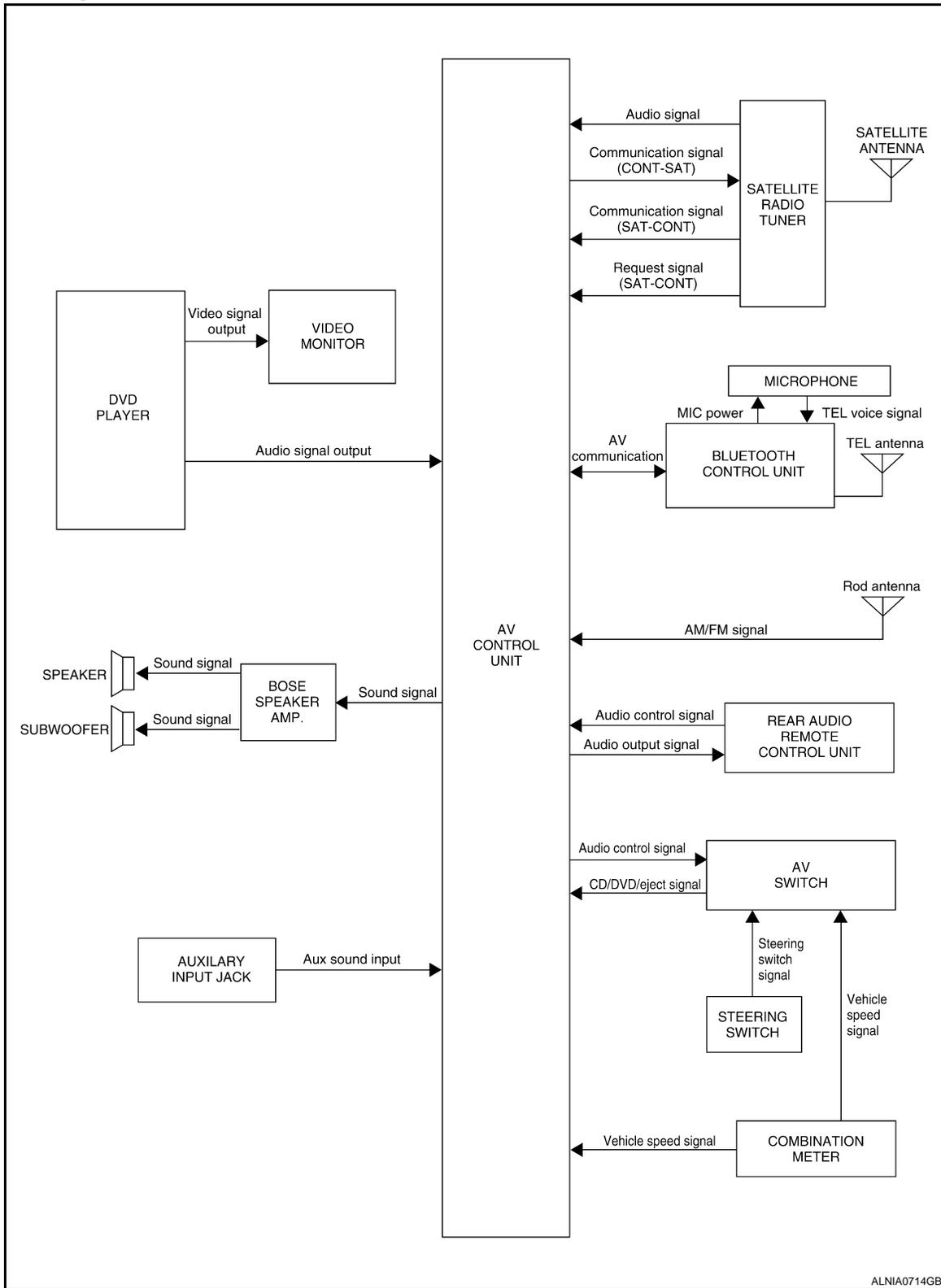
P

FUNCTION DIAGNOSIS

AUDIO SYSTEM

System Diagram

INFOID:000000001663477



ALNIA0714GB

System Description

INFOID:000000001663478

AUDIO SYSTEM

AUDIO SYSTEM

< FUNCTION DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

The audio system consists of the following components

- Audio unit
- Audio amp.
- Rod antenna
- Steering wheel audio control switches
- AV switch
- Rear audio remote control unit
- Front door speakers
- Front tweeters
- Center speaker
- Rear door speakers
- Rear door tweeters (crew cab)
- Subwoofer

When the audio system is on, radio signals are received by the rod antenna. The audio unit then sends audio signals to the audio amp. The audio amp. amplifies the audio signals before sending them to the front door speakers, front tweeters, center speaker, rear door speakers, rear door tweeters (crew cab) and the subwoofer.

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

SATELLITE RADIO SYSTEM

The satellite radio system consists of the following components

- Satellite antenna
- Satellite radio tuner

When the satellite radio system is on, radio signals are supplied to the satellite radio tuner from the satellite antenna. The satellite radio tuner then sends audio signals to the audio unit.

Refer to Owner's Manual for satellite radio system operating instructions.

SPEED SENSITIVE VOLUME SYSTEM

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

A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

P

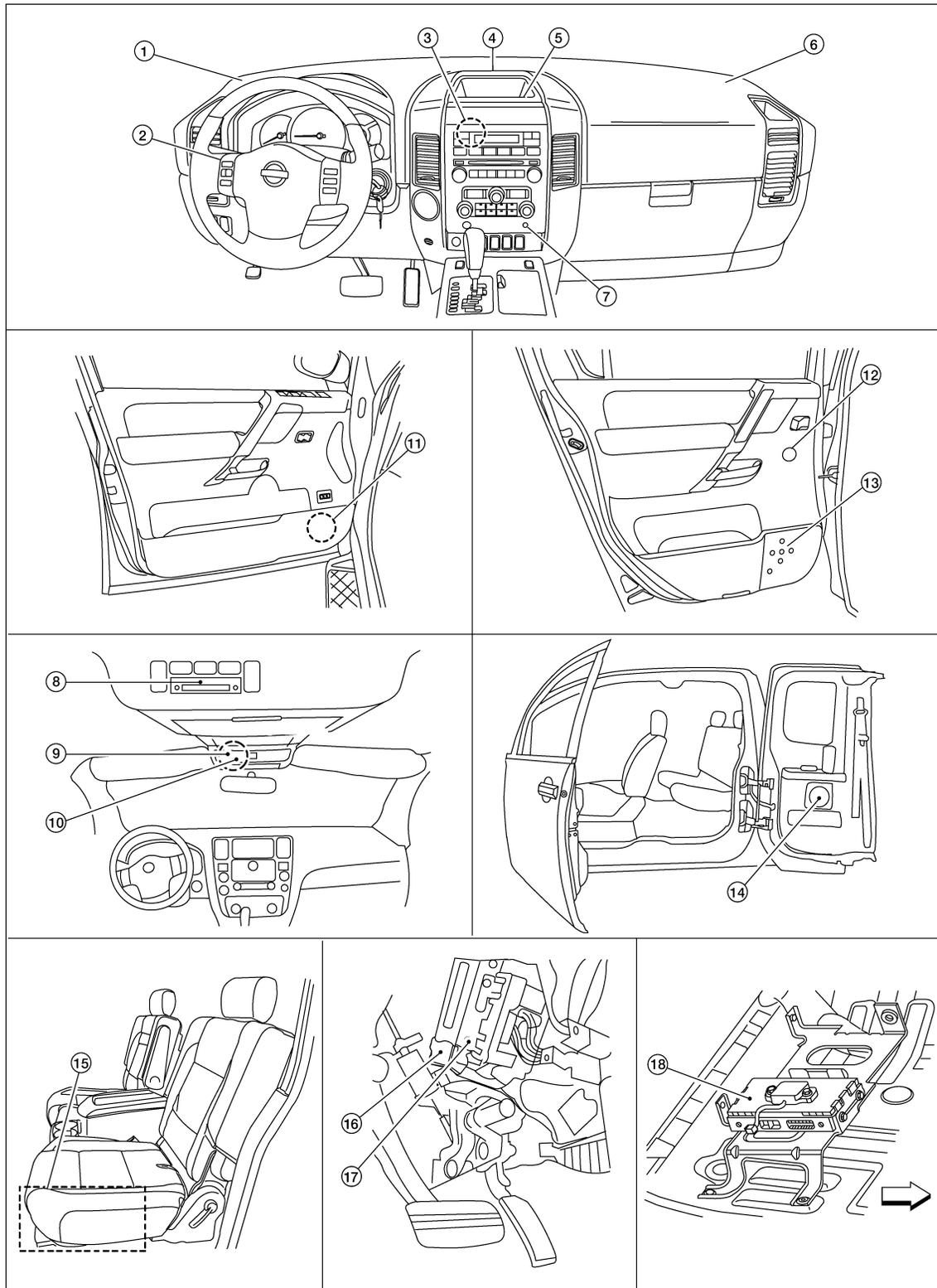
AUDIO SYSTEM

< FUNCTION DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

Component Parts Location

INFOID:000000001663479



ALNIA0715GB

←:FRONT

- | | | |
|--------------------------|--|---------------------------------------|
| 1. Front tweeter LH M109 | 2. Steering wheel audio control switches | 3. Audio unit M42, M43, M44, M45, M46 |
| 4. Center speaker M110 | 5. AV switch M98 | 6. Front tweeter RH M111 |
| 7. Aux jack M104 | 8. Rear audio remote control unit R204 | 9. Microphone R109 |

AUDIO SYSTEM

< FUNCTION DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

- | | | |
|---|---|---|
| 10. Bluetooth ON indicator R105 | 11. Front door speaker
LH D12
RH D112 | 12. Rear door tweeter (crew cab)
LH D208
RH D308 |
| 13. Rear door speaker (crew cab)
LH D207
RH D307 | 14. Rear door speaker (king cab)
LH B76
RH B159 | 15. Subwoofer B72 (under driver's seat) |
| 16. Audio amp M112, M113 (view behind instrument panel above accelerator pedal) | 17. Satellite radio tuner M41, M129 | 18. Bluetooth control unit B141, B142 (with Bluetooth) (view with passenger front seat removed) |

A
B
C

Component Description

INFOID:000000001663480

Part name	Description
Audio unit	Controls audio system and satellite radio system functions
Audio amp.	Receives power (amp ON) and audio signals from Audio unit and outputs audio signals to each speaker.
Steering wheel audio control switches	<ul style="list-style-type: none"> • Audio operation can be operated • Steering switch signal is output to audio unit
Front door speakers	<ul style="list-style-type: none"> • Outputs audio signal from audio amp. • Outputs high, mid and low range sounds
Front tweeters	<ul style="list-style-type: none"> • Outputs audio signal from audio amp. • Outputs high range sounds
Center speaker	<ul style="list-style-type: none"> • Outputs audio signal from audio amp. • Outputs high range sounds
Rear door speakers	<ul style="list-style-type: none"> • Outputs audio signal from audio amp. • Outputs high, mid and low range sounds
Rear door tweeters (crew cab)	<ul style="list-style-type: none"> • Outputs audio signal from audio amp. • Outputs high range sounds
Subwoofer	<ul style="list-style-type: none"> • Outputs audio signal from audio amp. • Outputs low range sounds
Satellite radio tuner	<ul style="list-style-type: none"> • Receives radio signals from satellite antenna • Sends audio signals to Audio unit
Satellite antenna	Audio signal (satellite radio) is received and output to Audio unit.

D
E
F
G
H
I
J
K

L
M

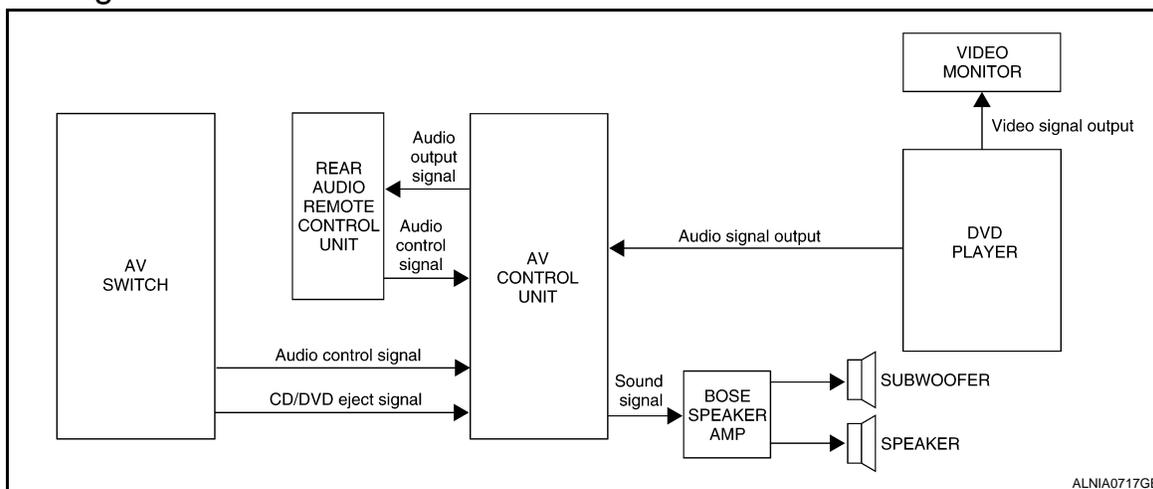
AV

O
P

DVD PLAYER

System Diagram

INFOID:000000001663485



System Description

INFOID:000000001663486

The DVD entertainment system consists of the following components

- Audio unit
- DVD player
- Video monitor
- AV switch
- Steering wheel audio control switches
- Rear audio remote control unit
- Audio amp.
- Front tweeters
- Front door speakers
- Center speaker
- Rear door tweeters (crew cab)
- Rear door speakers
- Subwoofer

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 Audio unit. 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.

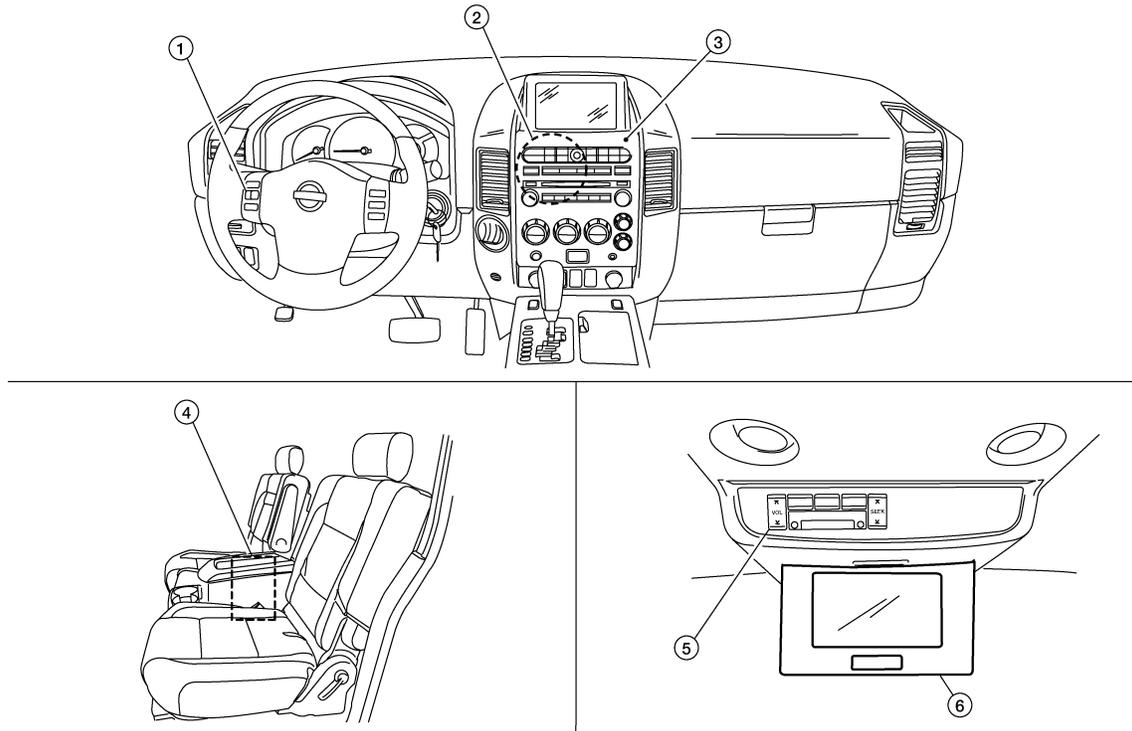
DVD PLAYER

< FUNCTION DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

Component Parts Location

INFOID:000000001663487



1. Steering wheel audio control switches 2. Audio unit M42, M43, M44, M45, M46 3. AV switch M98
 4. DVD player M205 (located in center console) 5. Rear audio remote control unit R204 6. Video monitor R202

ALNIA0694GB

Component Description

INFOID:000000001663488

Part name	Description
DVD player	<ul style="list-style-type: none"> Outputs DVD video to video monitor Outputs DVD audio to the audio unit
Video monitor	<ul style="list-style-type: none"> Receives and displays the DVD video signal
Audio unit	<ul style="list-style-type: none"> Controls audio system and DVD entertainment system functions
Audio amp.	<ul style="list-style-type: none"> Receives audio signals from the audio unit Outputs amplified audio signals to the speakers
AV switch	<ul style="list-style-type: none"> All audio operations can be operated Switch signal is output to the audio unit
Rear audio remote control unit	<ul style="list-style-type: none"> Audio and DVD functions can be operated Switch signal is output to the audio unit Receives audio signal from audio unit for headphones
Steering wheel audio control switches	<ul style="list-style-type: none"> Audio operation can be operated Steering switch signal (operation signal) is output to audio unit
Front door speakers	<ul style="list-style-type: none"> Outputs audio signal from audio amp. Outputs high, mid and low range sounds
Front tweeters	<ul style="list-style-type: none"> Outputs audio signal from audio amp. Outputs high range sounds
Center speaker	<ul style="list-style-type: none"> Outputs audio signal from audio amp. Outputs high, mid and low range sounds

DVD PLAYER

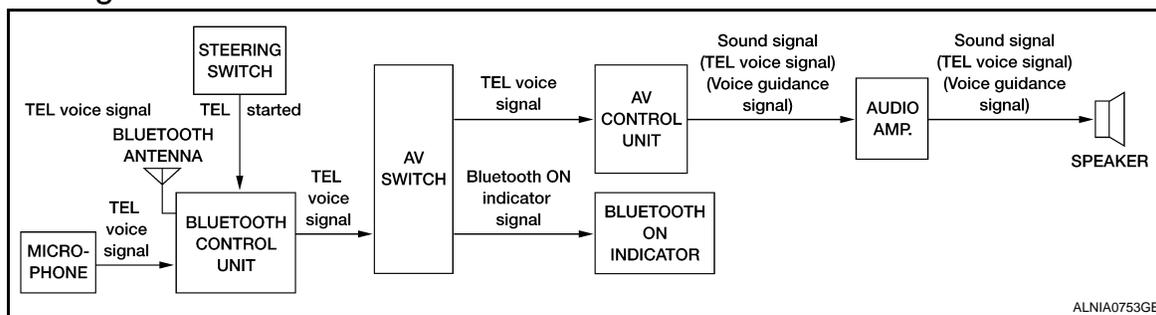
< FUNCTION DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

Part name	Description
Rear door tweeters (crew cab)	<ul style="list-style-type: none">• Outputs audio signal from audio amp.• Outputs high range sounds
Rear door speakers	<ul style="list-style-type: none">• Outputs audio signal from audio amp.• Outputs high, mid and low range sounds
Subwoofer	<ul style="list-style-type: none">• Outputs audio signal from audio amp.• Outputs low range sounds

HANDS-FREE PHONE SYSTEM

System Diagram



System Description

INFOID:000000001663490

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

NOTE:

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

Bluetooth telephone system allows users who have a Bluetooth equipped cellular telephone to make a wireless connection between their cellular telephone and the Bluetooth control unit. Hands-free cellular telephone calls can be sent and received. Personal memos can be created using the Nissan Voice Recognition system. Some Bluetooth cellular telephones may not be recognized by the Bluetooth control unit. When a cellular telephone or the Bluetooth control unit is replaced, the telephone must be paired with the Bluetooth control unit. Different cellular telephones may have different pairing procedures. Refer to the cellular telephone operating manual.

BLUETOOTH CONTROL UNIT

When the ignition switch is turned to ACC or ON, the Bluetooth control unit will power up. During power up, the Bluetooth control unit is initialized and performs various self checks. Initialization may take up to 10 seconds. If a phone is present in the vehicle and paired with the Bluetooth control unit, Nissan Voice Recognition will then become active. Bluetooth telephone functions can be turned off using the Nissan Voice Recognition system.

STEERING WHEEL AUDIO CONTROL SWITCHES

When buttons on the steering wheel audio control switch are pushed, the resistance in steering wheel audio control switch circuit changes depending on which button is pushed. The Bluetooth control unit uses this signal to perform various functions while navigating through the voice recognition system.

The following functions can be performed using the steering wheel audio control switch:

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

MICROPHONE

The microphone is located in the roof console assembly. The microphone sends a signal to the Bluetooth control unit. The microphone can be actively tested during self-diagnosis.

AV CONTROL UNIT

The AV control unit receives signals from the Bluetooth control unit and sends audio signals to the audio amp, then on to the speakers.

Component Parts Location

INFOID:000000001663491

Refer to [AV-108, "Component Parts Location"](#).

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

AV

HANDS-FREE PHONE SYSTEM

< FUNCTION DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

Component Description

INFOID:000000001663492

Part name	Description
Audio unit	<ul style="list-style-type: none">• Receives telephone voice signal from Bluetooth control unit• Sends telephone voice and voice guidance signals to the speakers
Audio amp.	<ul style="list-style-type: none">• Receives audio signals from the audio unit• Outputs amplified audio signals to the speakers.
Front door speaker	Receives telephone voice and voice guidance signals from the audio amp.
Front tweeter	
Center speaker	
Steering wheel audio control switches	<ul style="list-style-type: none">• Start a voice recognition session• Answer and end telephone calls• Adjust the volume level
Microphone	Sends voice signals to Bluetooth control unit
Bluetooth control unit	Controls hands-free phone functions
Bluetooth antenna	Sends telephone voice signal to Bluetooth control unit
Bluetooth ON indicator	Controlled by the Bluetooth control unit

DIAGNOSIS SYSTEM (AUDIO UNIT)

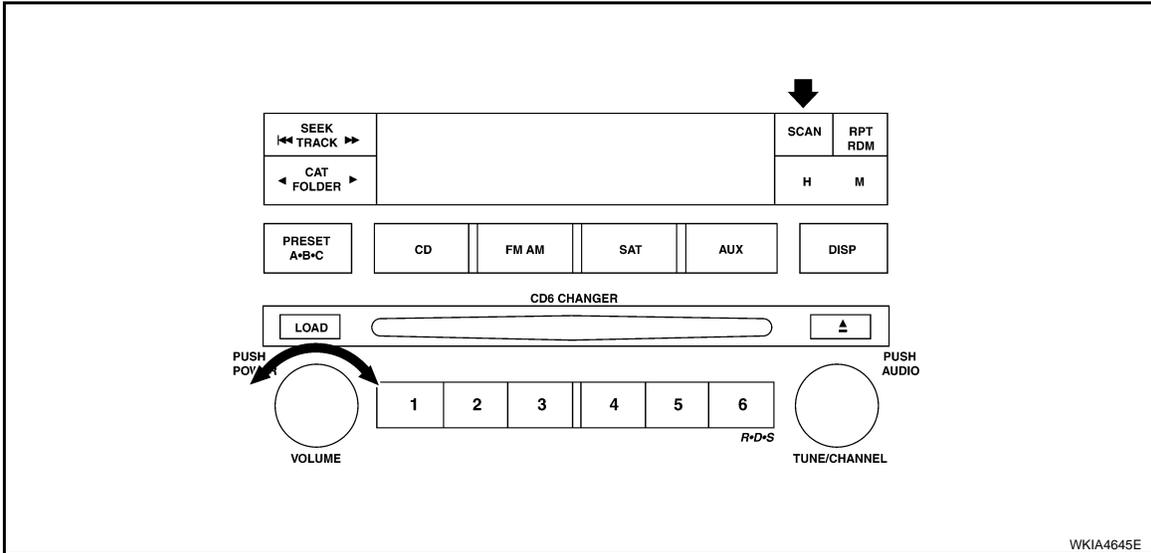
AV SWITCH

AV SWITCH : Component Function Check

INFOID:000000001663495

STARTING THE SELF-DIAGNOSIS MODE

1. Turn ignition switch from OFF to ACC.
2. Press and hold the "SCAN" switch and turn the volume control dial clockwise or counterclockwise for 30 clicks or more.



Then the self-diagnosis operates. A single beep indicates self-diagnosis mode is active.

3. Initially, all display segments will be illuminated.
4. Press each switch. When each switch is pressed, its name and communication code will be displayed

NOTE:

CD player LOAD and EJECT buttons are not included in this test and will not change the display when pressed.

DIAGNOSIS FUNCTION

- It can check for continuity of the switches by sounding the beep when each AV switch and steering switch is pressed.
- It can check for continuity of harness between AV switch and steering switch.

EXITING THE SELF-DIAGNOSIS MODE

Turn ignition switch OFF. Then the self-diagnosis ends.

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

AV

O
P

DIAGNOSIS SYSTEM (BLUETOOTH CONTROL UNIT)

< FUNCTION DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

DIAGNOSIS SYSTEM (BLUETOOTH CONTROL UNIT)

Diagnosis Description

INFOID:000000001663496

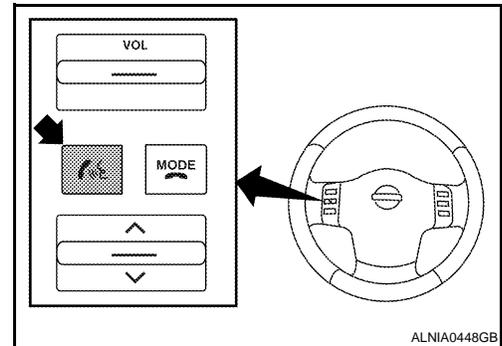
The Bluetooth control unit has two diagnostic checks. The first diagnostic check is performed automatically every ignition cycle during control unit initialization. The second diagnostic check is performed by the technician using the steering wheel audio control switches prior to trouble diagnosis.

BLUETOOTH CONTROL UNIT INITIALIZATION CHECKS

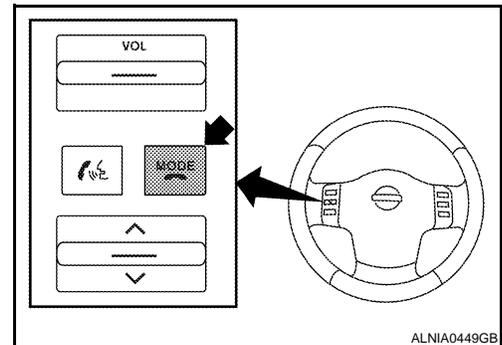
- Internal control unit failure
- Bluetooth antenna connection open or shorted
- Steering wheel audio control switches [SEND(📞)/END(MODE)] stuck closed
- Vehicle speed pulse count
- Microphone connection test (with playback to operator)
- Bluetooth inquiry check

OPERATION PROCEDURE

1. Turn ignition switch to ACC or ON.
2. Wait for the Bluetooth system to complete initialization. This may take up to 10 seconds.
3. Press and hold the steering wheel audio control switch  button for at least 5 seconds. The Bluetooth system will begin to play a verbal prompt.



4. While the prompt is playing, press and hold the steering wheel audio control switch  button until you hear the “Diagnostics mode” prompt. The Bluetooth system will sound a 5 second beep.
5. While the beep is sounding, press and hold the steering wheel audio control switch  button again until you hear prompts.
6. The Bluetooth system has now entered into the diagnostic mode. Results of the diagnostic checks will be verbalized to the technician. Refer to [AV-116. "Work Flow"](#).
7. After the failure records are reported, an interactive microphone test will be performed. Follow the voice prompt. If the microphone test fails refer to [AV-116. "Work Flow"](#).
8. Self-diagnosis mode is complete when the voice prompt says “All diagnostic functions completed”.



Work Flow

INFOID:000000001663497

Failure Message	Action
“Internal failure”	Replace Bluetooth control unit. Refer to AV-207. "Removal and Installation" .
“Bluetooth antenna open”	1. Inspect harness connection.
“Bluetooth antenna shorted”	2. Replace Bluetooth antenna. Refer to AV-206. "Removal and Installation" .
“Phone/Send for Hands Free System is stuck”	Check steering wheel audio control switches. Refer to AV-142. "Description" .
“Phone/End for the Hands Free System is stuck”	
“Microphone test” (failed interactive test)	1. Inspect harness between Bluetooth control unit and microphone. 2. Replace microphone. Refer to AV-205. "Removal and Installation" .

POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

COMPONENT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID:000000001689414

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	6	Battery power	31
	10	Ignition switch ACC or ON	4

Are the fuses OK?

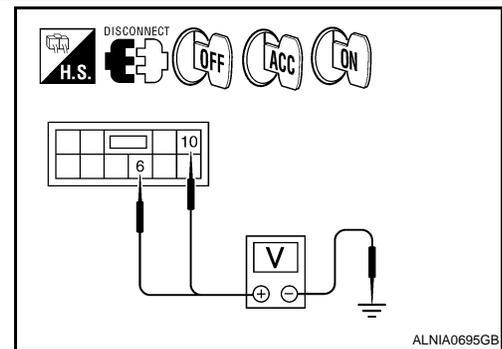
YES >> GO TO 2

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 M43.
2. Check voltage between the audio unit connector M43 and ground.

(+)		(-)	OFF	ACC	ON
Connector	Terminal				
M43	6	Ground	0V	Battery voltage	Battery voltage
	10	Ground	Battery voltage	Battery voltage	Battery voltage



Are the voltage results as specified?

YES >> GO TO 3

NO >> • Check connector housing 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.

AV SWITCH

AV SWITCH : Diagnosis Procedure

INFOID:000000001689415

1.CHECK FUSE

Check that the fuses for the AV switch are not blown.

Unit	Terminal	Signal name	Fuse No.
AV switch	1	Battery	31
	2	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

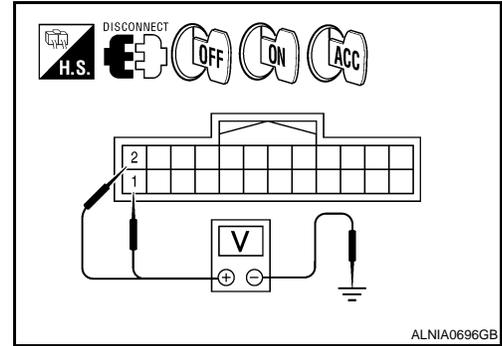
POWER SUPPLY AND GROUND CIRCUIT

[PREMIUM WITHOUT NAVIGATION]

< COMPONENT DIAGNOSIS >

1. Disconnect AV switch connector M98.
2. Check voltage between the AV switch connector M98 and ground.

(+)		(-)	OFF	ACC	ON
Connector	Terminal				
M98	1	Ground	Battery voltage	Battery voltage	Battery voltage
	2	Ground	0V	Battery voltage	Battery voltage



Are the voltage results as specified?

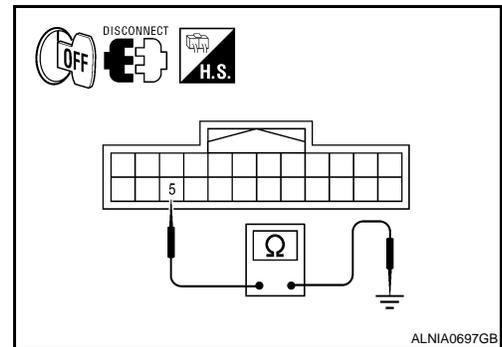
YES >> GO TO 3

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

3. GROUND CIRCUIT CHECK

1. Turn ignition switch OFF.
2. Check continuity between AV switch harness connector M98 and ground.

Connector	Terminal	—	Continuity
M98	5	Ground	Yes



Are the continuity results as specified?

YES >> Inspection End.

NO >> Repair harness or ground.

SATELLITE RADIO TUNER

SATELLITE RADIO TUNER : Diagnosis Procedure

INFOID:000000001689418

1. CHECK FUSES

Check that the following fuses of the satellite radio tuner (factory installed) are not blown.

Unit	Terminals	Signal name	Fuse No.
Satellite radio tuner (factory installed)	32	Battery power	31
	36	Ignition switch ACC or ON	4

Are the fuses OK?

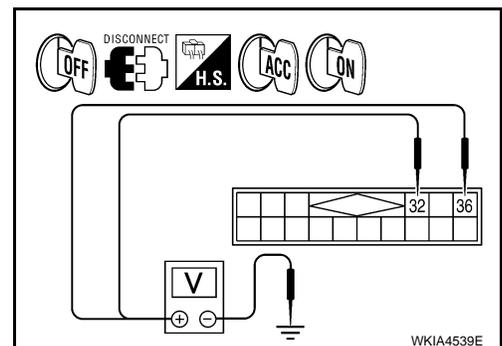
YES >> GO TO 2

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

2. POWER SUPPLY CIRCUIT CHECK

1. Turn ignition switch OFF.
2. Disconnect satellite radio tuner (factory installed) connector M41.
3. Check voltage between the satellite radio tuner (factory installed) and ground.

(+)		(-)	OFF	ACC	ON
Connector	Terminal				
M41	32	Ground	Battery voltage	Battery voltage	Battery voltage
	36		0V	Battery voltage	Battery voltage



Are the voltage readings as specified?

YES >> GO TO 3

POWER SUPPLY AND GROUND CIRCUIT

[PREMIUM WITHOUT NAVIGATION]

< COMPONENT DIAGNOSIS >

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

3. GROUND CIRCUIT CHECK

Inspect satellite radio tuner (factory installed) case ground.

Does case ground pass inspection?

- YES >> Inspection End.
NO >> Repair satellite radio tuner (factory installed) case ground.

DVD PLAYER

DVD PLAYER : Diagnosis Procedure

INFOID:000000001689419

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

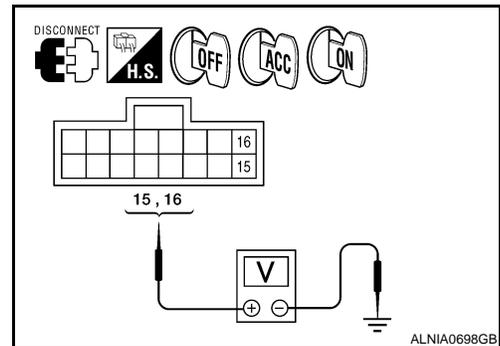
Is the fuse OK?

- YES >> GO TO 2
NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

2. POWER SUPPLY CIRCUIT CHECK

- Disconnect DVD player connector M205.
- 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.

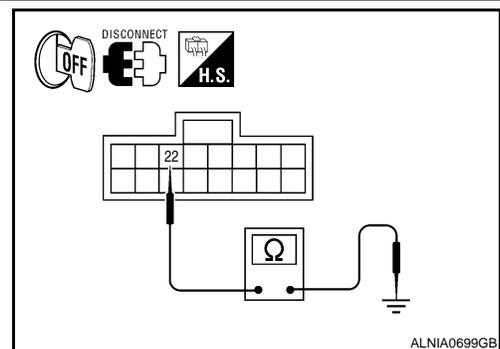
3. GROUND CIRCUIT CHECK

- Turn ignition switch OFF.
- 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 DVD player ground.



VIDEO MONITOR

VIDEO MONITOR : Diagnosis Procedure

INFOID:000000001689420

1. CHECK POWER SUPPLY CIRCUIT

POWER SUPPLY AND GROUND CIRCUIT

[PREMIUM WITHOUT NAVIGATION]

< COMPONENT DIAGNOSIS >

1. Turn ignition switch to ACC.
2. Check voltage between video monitor harness connector R202 and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Display B+	R202	11	ACC	12V
		12		

Does specified voltage exist?

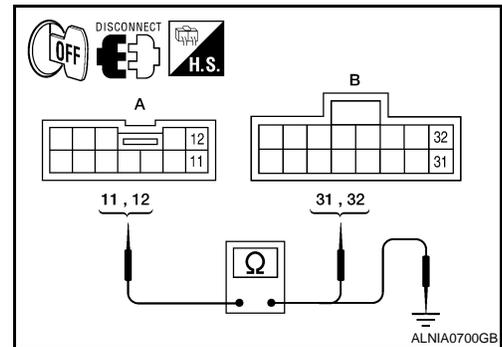
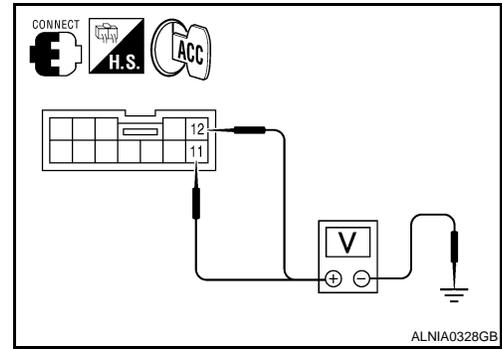
YES >> GO TO 3.

NO >> GO TO 2.

2.CHECK POWER SUPPLY CIRCUIT

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 >> Check DVD player power and ground supply. Refer to [AV-48, "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 No.	Terminal No.	—	Continuity
R202	3	Ground	Yes

Does continuity exist?

YES >> INSPECTION END

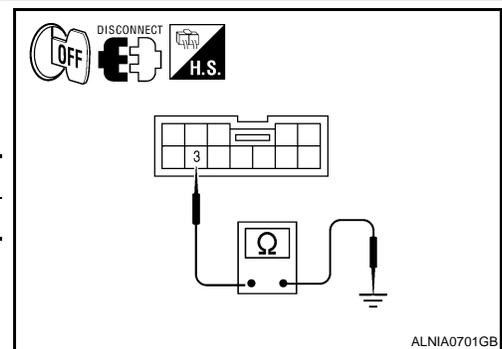
NO >> Repair harness or connector.

AUDIO AMP

AUDIO AMP : Diagnosis Procedure

1.CHECK FUSE

Check that the audio amp. fuses are not blown.



INFOID:000000001663525

POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

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

Are the fuses OK?

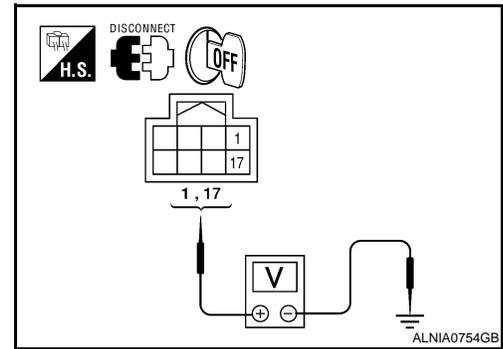
YES >> GO TO 2

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?

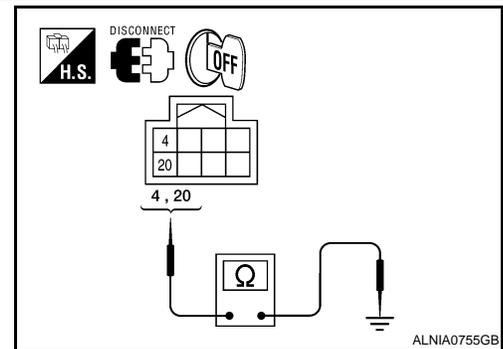
YES >> GO TO 3

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.

(+)		(-)	Continuity
Connector	Terminal		
M112	4	Ground	Yes
	20		



Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.

BLUETOOTH CONTROL UNIT

BLUETOOTH CONTROL UNIT : Diagnosis Procedure

INFOID:000000001663532

1.CHECK FUSE

Check that the following fuses for the Bluetooth control unit are not blown.

Unit	Terminal	Signal name	Fuse No.
Bluetooth control unit	1	Battery power	31
	2	Ignition switch ACC or ON	4
	3	Ignition switch ON or START	12

Is inspection result OK?

YES >> GO TO 2.

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

2.CHECK POWER SUPPLY CIRCUIT

POWER SUPPLY AND GROUND CIRCUIT

[PREMIUM WITHOUT NAVIGATION]

< COMPONENT DIAGNOSIS >

Check voltage between Bluetooth control unit harness connector B142 and ground.

Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
B142	1	OFF	Battery voltage
	2	ACC	
	3	ON	

Is battery voltage present as specified?

YES >> GO TO 3.

NO >> Check harness between Bluetooth control unit and fuse.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect Bluetooth control unit connector.
3. Check continuity between Bluetooth control unit harness connector B142 and ground.

Connector No.	Terminal No.	Ignition switch position	Continuity
B142	4, 20, 23	OFF	Yes

Are continuity results as specified?

YES >> INSPECTION END

NO >> Repair harness or connector.

MICROPHONE

MICROPHONE : Diagnosis Procedure

INFOID:000000001663533

1.CHECK POWER SUPPLY CIRCUIT (MICROPHONE SIDE)

1. Turn ignition switch ON.
2. Check voltage between microphone harness connector R109 terminal 4 and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
MIC power	R109	4	ON	5V

Is approximately 5V present?

YES >> GO TO 3.

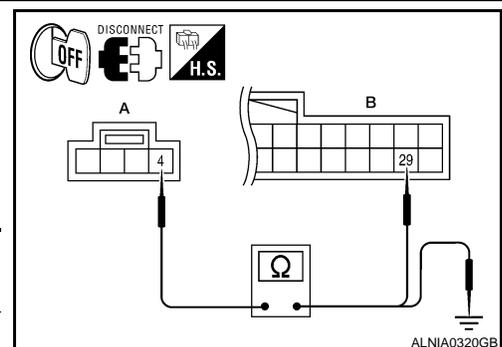
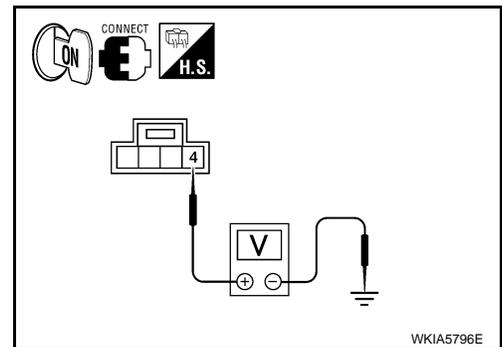
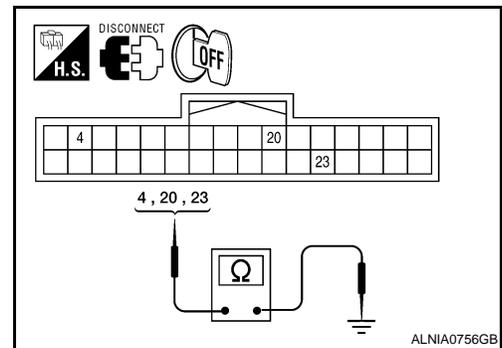
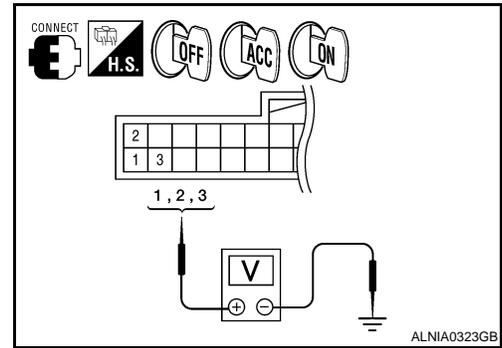
NO >> GO TO 2.

2.CHECK POWER SUPPLY CIRCUIT (CONTINUITY)

1. Turn ignition switch OFF.
2. Disconnect microphone and Bluetooth control unit harness connectors.
3. Check continuity between microphone harness connector R109 (A) terminal 4 and Bluetooth control unit harness connector B142 (B) terminal 29.

A		B		Continuity
Connector	Terminal	Connector	Terminal	
R109	4	B142	29	Yes

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



POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

A		—	Continuity
Connector	Terminal		
R109	4	Ground	No

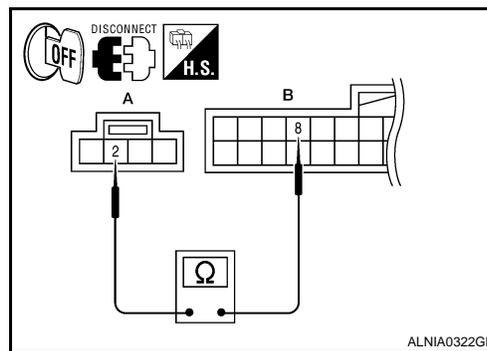
Are the continuity test results as specified?

YES >> Replace the Bluetooth control unit. Refer to [AV-207. "Removal and Installation"](#).

NO >> Repair harness or connector.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect microphone harness connector R109 and Bluetooth control unit harness connector B142.
3. Check continuity between microphone harness connector R109 (A) terminal 2 and Bluetooth control unit harness connector B142 (B) terminal 8.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
R109	2	B142	8	Yes

Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.

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

AV

FRONT DOOR SPEAKER

< COMPONENT DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

FRONT DOOR SPEAKER

Description

INFOID:000000001663548

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

Diagnosis Procedure

INFOID:000000001663549

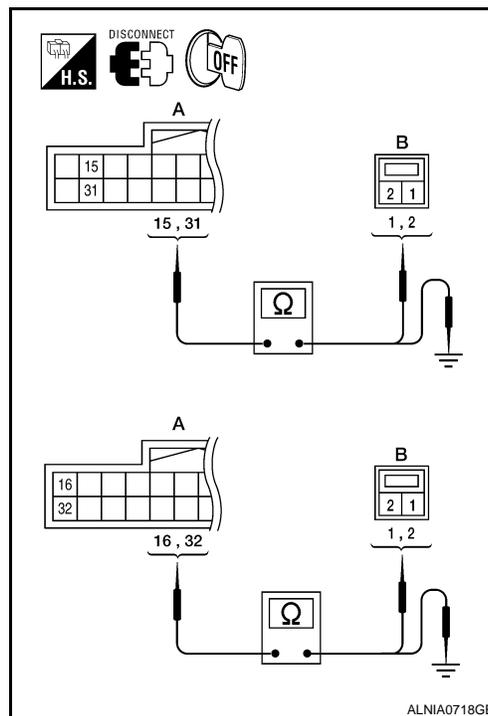
1. SPEAKER HARNESS CHECK

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



ALNIA0718GB

Are continuity test results as specified?

YES >> GO TO 2

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

2. FRONT DOOR SPEAKER SIGNAL CHECK

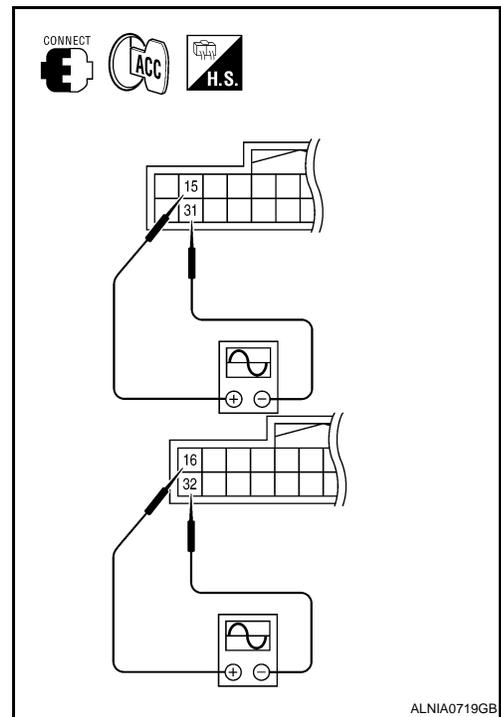
FRONT DOOR SPEAKER

[PREMIUM WITHOUT NAVIGATION]

< COMPONENT DIAGNOSIS >

1. Connect audio amp. connector M113 and suspect 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-III or oscilloscope.

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



Is audio signal voltage as specified?

YES >> Replace suspect speaker. Refer to [AV-95. "Removal and Installation"](#).

NO >> GO TO 3

3. PRE-AMP HARNESS CHECK

1. Disconnect audio unit connector M43 and audio amp. connector M113.
2. Check continuity between audio unit harness connector M43 (A) and audio amp. harness connector M113 (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M43	1	M113	6	Yes
	2		22	
	3		5	
	4		21	

3. Check continuity between audio unit harness connector M43 (A) and ground.

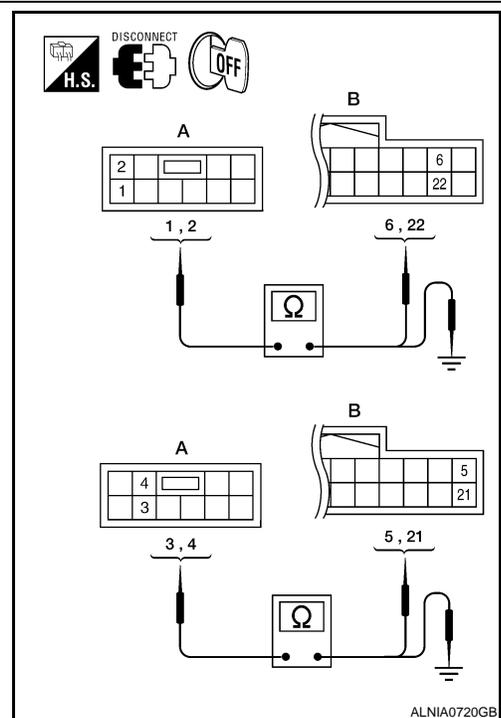
A		—	Continuity
Connector	Terminal		
M43	1	Ground	No
	2		
	3		
	4		

Are continuity test results as specified?

YES >> GO TO 4

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

4. PRE-AMP SIGNAL CHECK



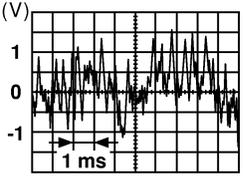
A
B
C
D
E
F
G
H
I
J
K
L
M
O
P

FRONT DOOR SPEAKER

[PREMIUM WITHOUT NAVIGATION]

< COMPONENT DIAGNOSIS >

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 M43 terminals with CONSULT-III or oscilloscope.

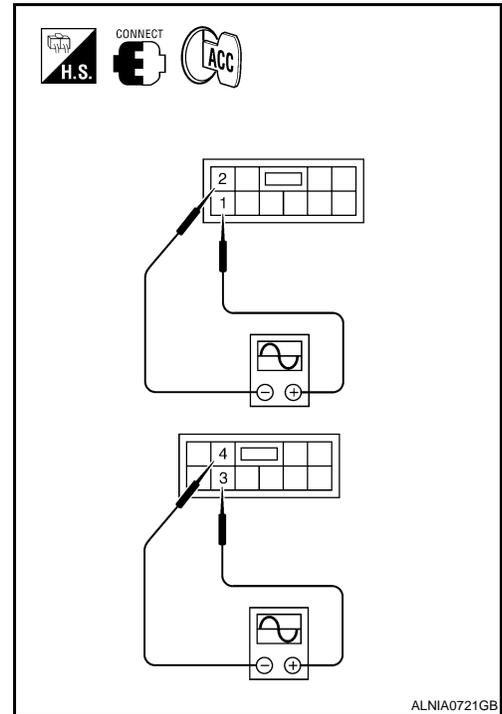
Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M43	1	2	Receive audio signal	
	3	4		

SKIA0177E

Are the audio signal voltage readings as specified?

YES >> Replace audio amp. Refer to [AV-100, "Removal and Installation"](#).

NO >> Replace audio unit. Refer to [AV-92, "Removal and Installation"](#).



ALNIA0721GB

FRONT TWEETER

Description

INFOID:000000001663550

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

Diagnosis Procedure

INFOID:000000001663551

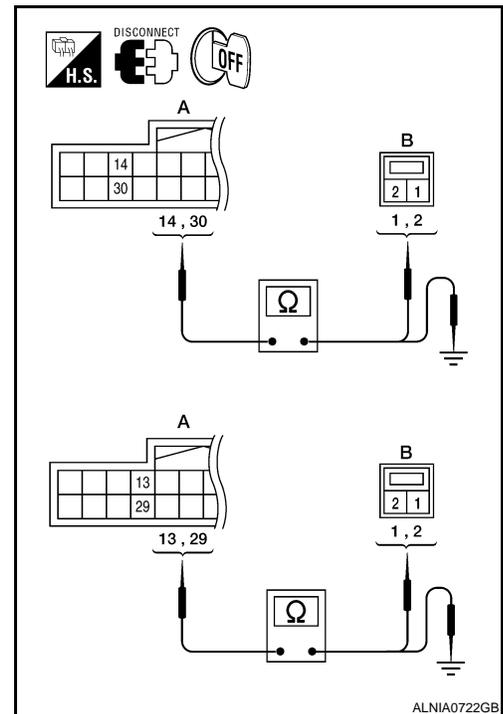
1. HARNESS CHECK

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

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

2. FRONT TWEETER SIGNAL CHECK

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

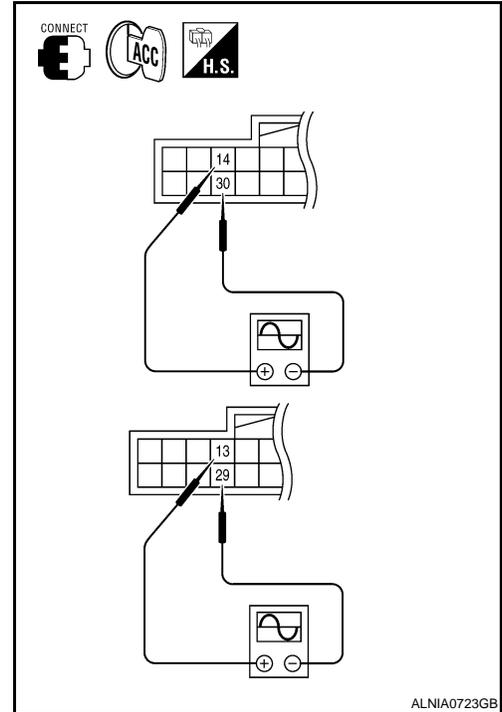
FRONT TWEETER

[PREMIUM WITHOUT NAVIGATION]

< COMPONENT DIAGNOSIS >

1. Connect audio amp. connector M113 and suspect 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-III or oscilloscope.

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



Is audio signal voltage as specified?

YES >> Replace suspect tweeter. Refer to [AV-191. "Removal and Installation"](#).

NO >> GO TO 3

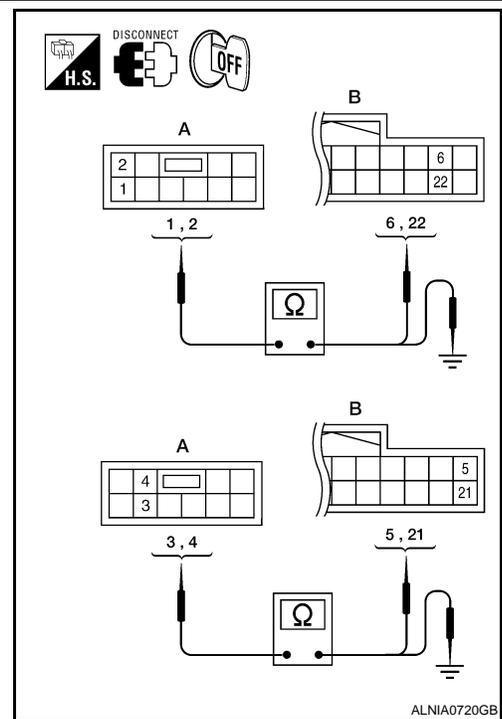
3. PRE-AMP HARNESS CHECK

1. Disconnect audio unit connector M43 and audio amp. connector M113.
2. Check continuity between audio unit harness connector M43 (A) and audio amp. harness connector M113 (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M43	1	M113	6	Yes
	2		22	
	3		5	
	4		21	

3. Check continuity between audio unit harness connector M43 (A) and ground.

A		—	Continuity
Connector	Terminal		
M43	1	Ground	No
	2		
	3		
	4		



Are continuity test results as specified?

YES >> GO TO 4

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

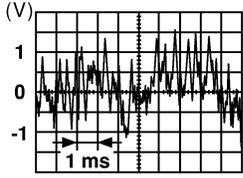
4. PRE-AMP SIGNAL CHECK

FRONT TWEETER

< COMPONENT DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

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 M43 terminals with CONSULT-III or oscilloscope.

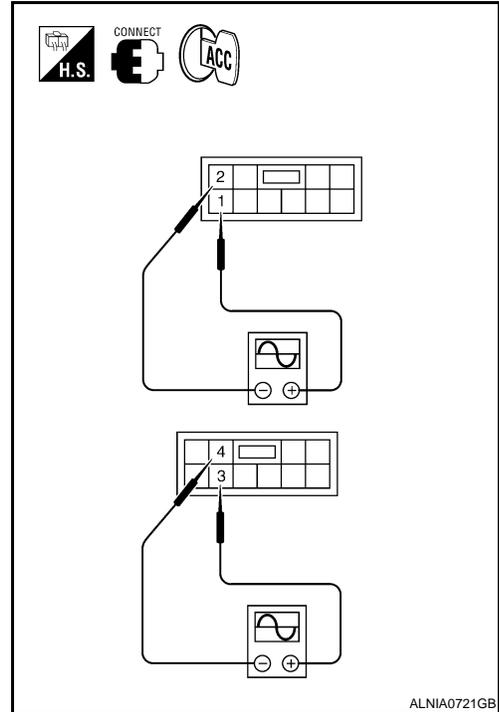
Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M43	1	2	Receive audio signal	
	3	4		

SKIA0177E

Are the audio signal voltage readings as specified?

YES >> Replace audio amp. Refer to [AV-201, "Removal and Installation"](#).

NO >> Replace audio unit. Refer to [AV-189, "Removal and Installation"](#).



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

AV

CENTER SPEAKER

< COMPONENT DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

CENTER SPEAKER

Description

INFOID:000000001663552

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

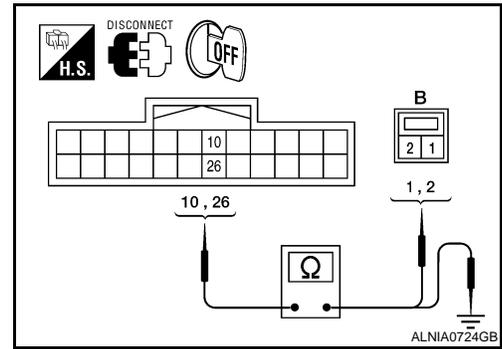
Diagnosis Procedure

INFOID:000000001663553

1. 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?

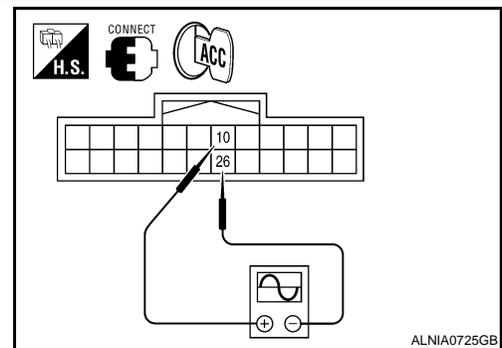
YES >> GO TO 2

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

2. 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-III or oscilloscope.

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



Is the audio signal voltage reading as specified?

YES >> Replace center speaker. Refer to [AV-192. "Removal and Installation"](#).

NO >> GO TO 3

3. PRE-AMP HARNESS CHECK

CENTER SPEAKER

< COMPONENT DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

1. Disconnect audio unit connector M43 and audio amp. connector M113.
2. Check continuity between audio unit harness connector M43 (A) and audio amp. harness connector M113 (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M43	1	M113	6	Yes
	2		22	
	3		5	
	4		21	

3. Check continuity between audio unit harness connector M43 (A) and ground.

A		—	Continuity
Connector	Terminal		
M43	1	Ground	No
	2		
	3		
	4		

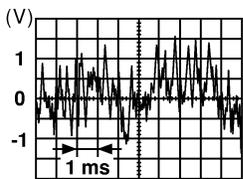
Are continuity test results as specified?

YES >> GO TO 4

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

4. PRE-AMP SIGNAL CHECK

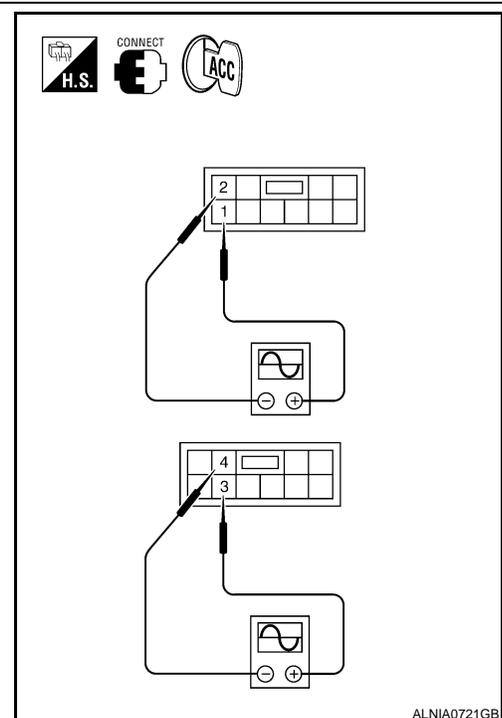
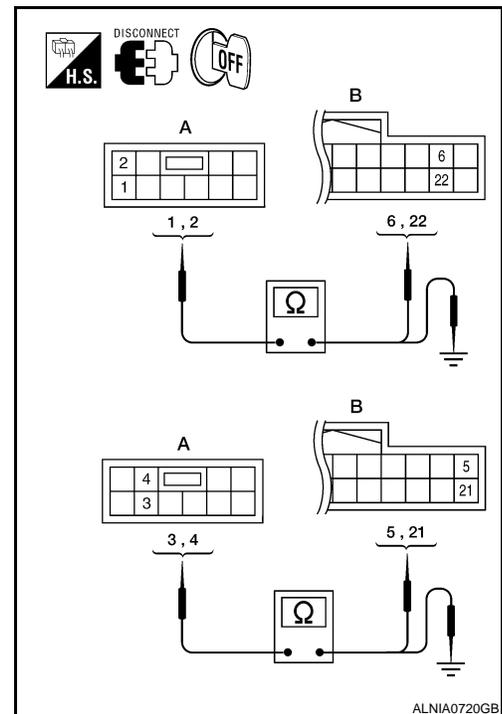
1. Connect audio unit connector and audio amp. connector.
2. Turn ignition switch ACC.
3. Push "POWER" switch.
4. Check the signal between audio unit harness connector M43 terminals with CONSULT-III or oscilloscope.

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M43	1	2	Receive audio signal	
	3	4		

Are the audio signal voltage readings as specified?

YES >> Replace audio amp. Refer to [AV-201, "Removal and Installation"](#).

NO >> Replace audio unit. Refer to [AV-189, "Removal and Installation"](#).



REAR DOOR SPEAKER

< COMPONENT DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

REAR DOOR SPEAKER

Description

INFOID:000000001663554

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

Diagnosis Procedure

INFOID:000000001663555

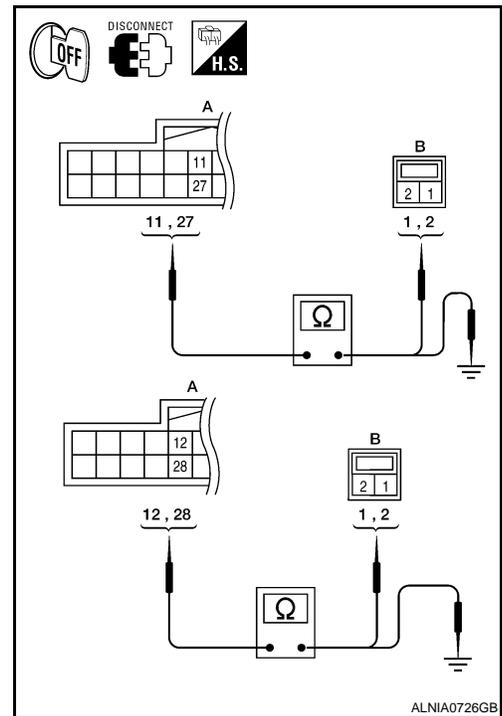
1. SPEAKER HARNESS CHECK

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



ALNIA0726GB

Are the continuity test results as specified?

YES >> GO TO 2

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

2. SPEAKER SIGNAL CHECK

REAR DOOR SPEAKER

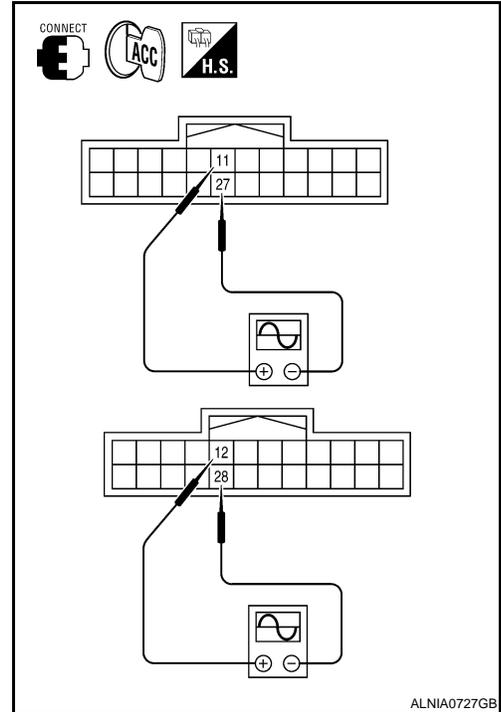
[PREMIUM WITHOUT NAVIGATION]

< COMPONENT DIAGNOSIS >

1. Connect audio amp. connectors and suspect 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-III 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 speaker. Refer to [AV-194, "Removal and Installation"](#).

NO >> GO TO 3

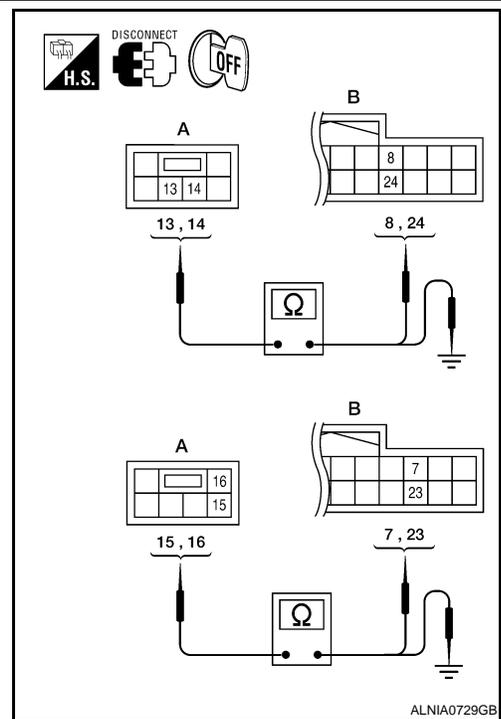
3. PRE-AMP HARNESS CHECK

1. Disconnect audio unit connector M44 and audio amp. connector M113.
2. Check continuity between audio unit harness connector M44 (A) and audio amp. harness connector M113 (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M44	13	M113	8	Yes
	14		24	
	15		7	
	16		23	

3. Check continuity between audio unit harness connector M44 (A) and ground.

A		—	Continuity
Connector	Terminal		
M44	13	Ground	No
	14		
	15		
	16		



Are the continuity test results as specified?

YES >> GO TO 4

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

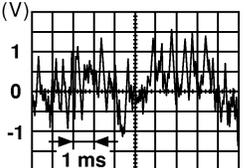
4. PRE-AMP SIGNAL CHECK

REAR DOOR SPEAKER

< COMPONENT DIAGNOSIS >

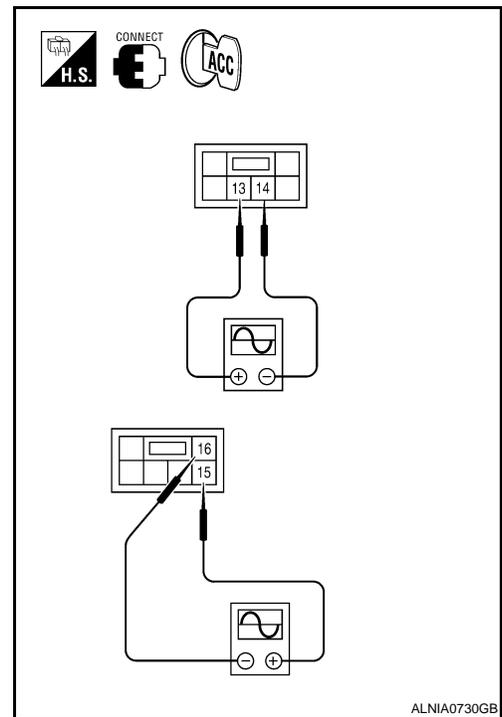
[PREMIUM WITHOUT NAVIGATION]

1. Connect audio unit connector M44 and audio amp. connector M113.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio unit harness connector M44 terminals with CONSULT-III or oscilloscope.

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M44	13	14	Receive audio signal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
	15	16		

Is the audio signal voltage reading as specified?

- YES >> Replace audio amp. Refer to [AV-201, "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-189, "Removal and Installation"](#).



REAR DOOR TWEETER

< COMPONENT DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

REAR DOOR TWEETER

Description

INFOID:000000001663556

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

Diagnosis Procedure

INFOID:000000001663557

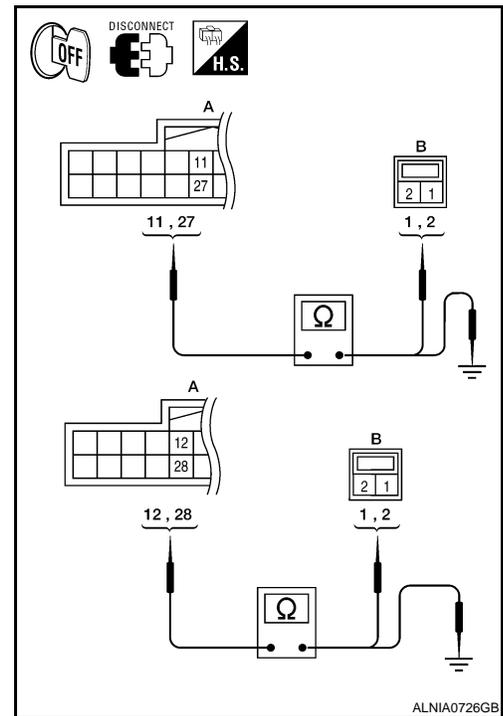
1. SPEAKER HARNESS CHECK

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

Connector	Terminal	-	Continuity
M113	11	Ground	No
	27		
	12		
	28		



ALNIA0726GB

Are the continuity test results as specified?

YES >> GO TO 2

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

2. SPEAKER SIGNAL CHECK

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

AV

REAR DOOR TWEETER

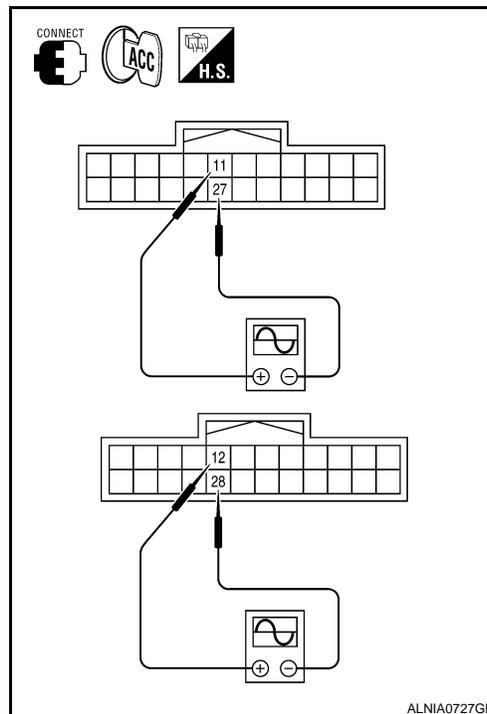
[PREMIUM WITHOUT NAVIGATION]

< COMPONENT DIAGNOSIS >

1. Connect audio amp. connectors and suspect 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-III 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 speaker. Refer to [AV-194, "Removal and Installation"](#).

NO >> GO TO 3

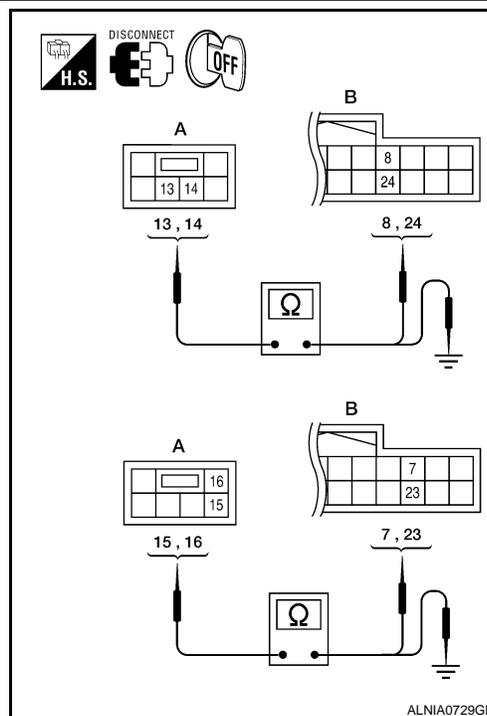
3. PRE-AMP HARNESS CHECK

1. Disconnect audio unit connector M44 and audio amp. connector M113.
2. Check continuity between audio unit harness connector M44 (A) and audio amp. harness connector M113 (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M44	13	M113	8	Yes
	14		24	
	15		7	
	16		23	

3. Check continuity between audio unit harness connector M44 (A) and ground.

A		—	Continuity
Connector	Terminal		
M44	13	Ground	No
	14		
	15		
	16		



Are the continuity test results as specified?

YES >> GO TO 4

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

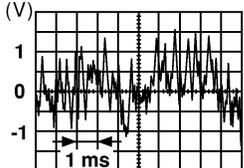
4. PRE-AMP SIGNAL CHECK

REAR DOOR TWEETER

[PREMIUM WITHOUT NAVIGATION]

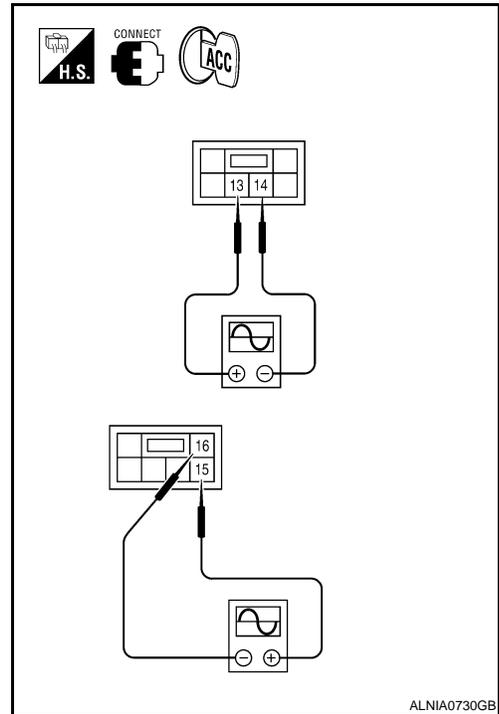
< COMPONENT DIAGNOSIS >

1. Connect audio unit connector M44 and audio amp. connector M113.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio unit harness connector M44 terminals with CONSULT-III or oscilloscope.

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M44	13	14	Receive audio signal	 <p>SKIA0177E</p>
	15	16		

Is the audio signal voltage reading as specified?

- YES >> Replace audio amp. Refer to [AV-201, "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-189, "Removal and Installation"](#).



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

AV

SUBWOOFER

< COMPONENT DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

SUBWOOFER

Description

INFOID:000000001663560

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.

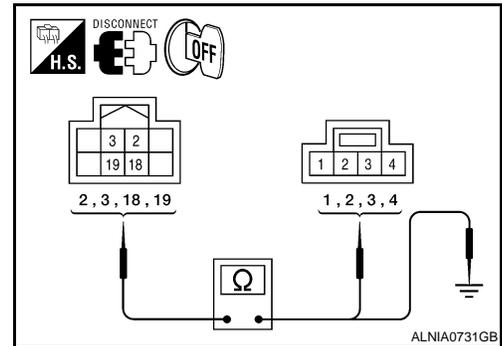
Diagnosis Procedure

INFOID:000000001663561

1. SPEAKER 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 2

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

2. SPEAKER SIGNAL CHECK

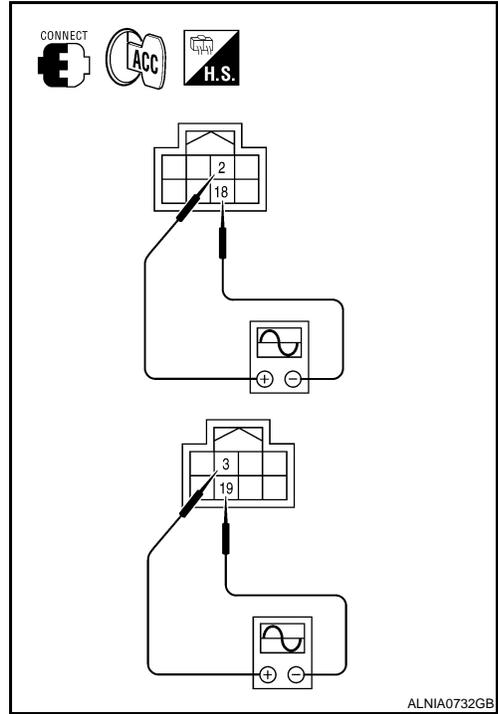
SUBWOOFER

< COMPONENT DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

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-III or oscilloscope.

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



Is the audio signal voltage as specified?

YES >> Replace subwoofer. Refer to [AV-196, "Removal and Installation"](#).

NO >> GO TO 3

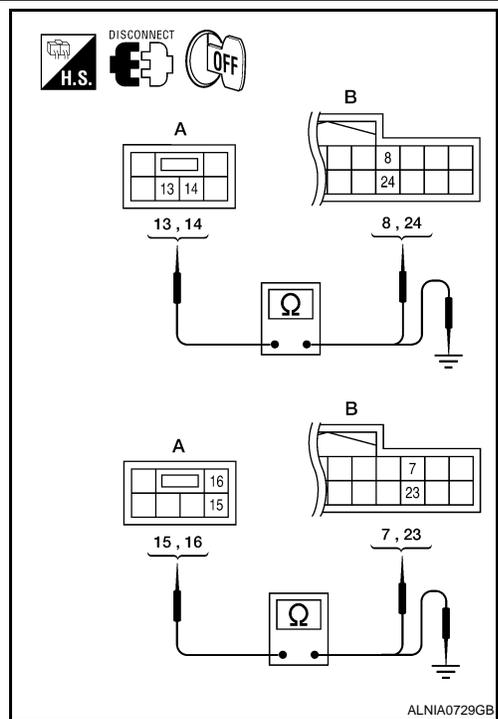
3. PRE-AMP HARNESS CHECK

1. Disconnect audio unit connector M44 and audio amp. connector M113.
2. Check continuity between audio unit harness connector M44 (A) and audio amp. harness connector M113 (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M44	13	M113	8	Yes
	14		24	
	15		7	
	16		23	

3. Check continuity between audio unit harness connector M44 (A) and ground.

A		—	Continuity
Connector	Terminal		
M44	13	Ground	No
	14		
	15		
	16		



Are the continuity test results as specified?

YES >> GO TO 4

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

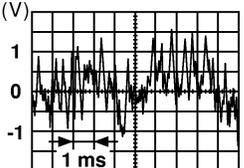
4. PRE-AMP SIGNAL CHECK

SUBWOOFER

[PREMIUM WITHOUT NAVIGATION]

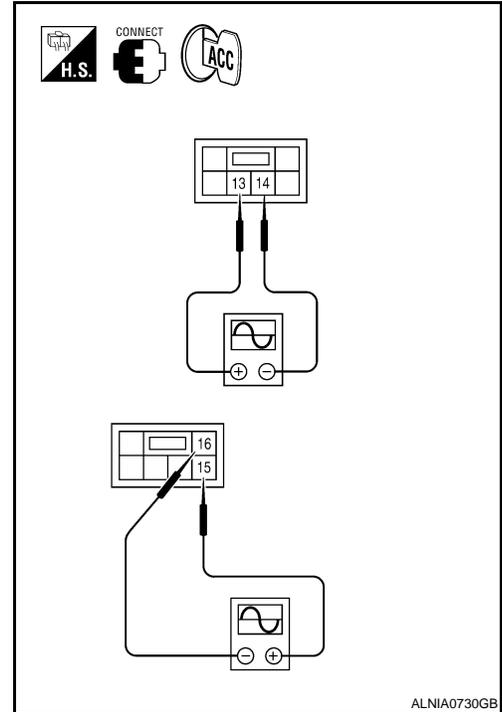
< COMPONENT DIAGNOSIS >

1. Connect audio unit connector M44 and audio amp. connector M113.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio unit harness connector M44 terminals with CONSULT-III or oscilloscope.

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M44	13	14	Receive audio signal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
	15	16		

Is the audio signal voltage reading as specified?

- YES >> Replace audio amp. Refer to [AV-201, "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-189, "Removal and Installation"](#).



AMP ON SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

AMP ON SIGNAL CIRCUIT

Description

INFOID:000000001663562

When the audio system is turned on, a voltage signal is supplied from the audio unit to the audio amp. When this signal is received, the audio amp. will turn on.

Diagnosis Procedure

INFOID:000000001663563

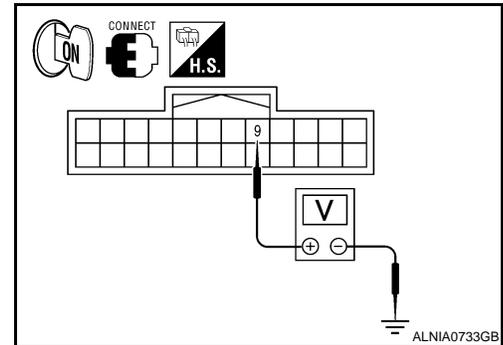
1.CHECK AMP ON SIGNAL

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

9 - Ground : More than 6.5V

Is battery voltage present?

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



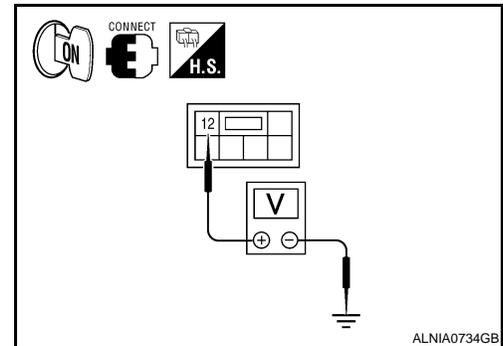
2.CHECK AMP ON SIGNAL (AUDIO UNIT)

Check voltage between audio unit harness connector M44 terminal 12 and ground.

12 - Ground : More than 6.5V

Is battery voltage present?

- YES >> Repair harness or connector.
NO >> Replace audio unit. Refer to [AV-189. "Removal and Installation"](#).



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

AV

STEERING SWITCH

< COMPONENT DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

STEERING SWITCH

Description

INFOID:000000001663564

When one of the steering wheel audio control switches is pushed, the resistance in the steering wheel audio control switch circuit changes depending on which button is pushed.

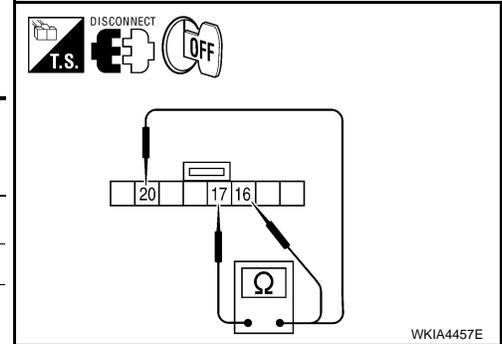
Diagnosis Procedure

INFOID:000000001663565

1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

1. Turn ignition switch OFF.
2. Disconnect steering wheel audio control switch connector M102.
3. Check resistance between steering switch connector terminals.

Terminal	Signal name	Condition	Resistance (Ω) (Approx.)	
16	17	Seek (down)	Depress ▽ switch.	165
		Volume (down)	Depress VOL down switch.	487
		Mode (without Bluetooth)	Depress MODE switch.	0
		Phone/Send (with Bluetooth)	Depress MODE switch.	
20	17	Seek (up)	Depress △ switch.	165
		Volume (up)	Depress VOL up switch.	487
		Power (without Bluetooth)	Depress PWR switch.	0
		Mode/End (with Bluetooth)	Depress MODE switch.	



Do the steering wheel audio control switches check OK?

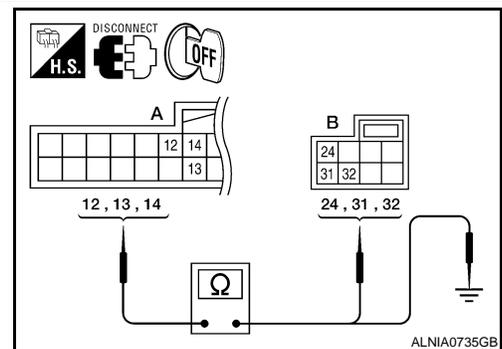
YES >> GO TO 2

NO >> Replace steering wheel audio control switch. Refer to [AV-197, "Removal and Installation"](#).

2. CHECK HARNESS

1. Disconnect Bluetooth control unit connector B142 and spiral cable connector M30.
2. Check continuity between Bluetooth control unit harness connector B142 (A) and spiral cable harness connector M30 (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
B142	12	M30	24	Yes
	13		32	
	14		31	



3. Check continuity between Bluetooth control unit connector B142 (A) and ground.

A		—	Continuity
Connector	Terminal		
B142	12	Ground	No
	13		
	14		

Are the continuity results as specified?

YES >> GO TO 3

STEERING SWITCH

[PREMIUM WITHOUT NAVIGATION]

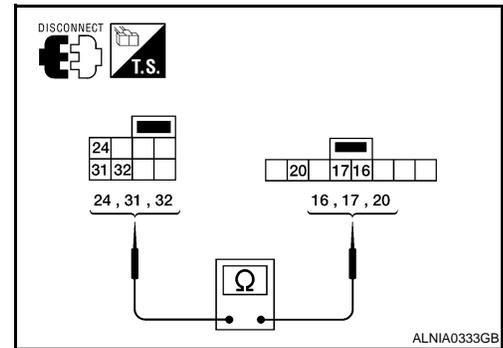
< COMPONENT DIAGNOSIS >

NO >> Repair harness.

3. SPIRAL CABLE CHECK

1. Disconnect spiral cable connector M102.
2. Check continuity between spiral cable harness connector M30 (A) and M102 (B).

Spiral cable				Continuity
Connector	Terminal	Connector	Terminal	
M30	24	M102	20	Yes
	31		17	
	32		16	



Does the spiral cable check OK?

YES >> Inspection End.

NO >> Replace spiral cable. Refer to [SR-6, "Removal and Installation"](#).

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

AV

O
P

COMMUNICATION SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

COMMUNICATION SIGNAL CIRCUIT SATELLITE RADIO TUNER

SATELLITE RADIO TUNER : Description

INFOID:000000001689443

Communication signals are exchanged between the audio unit and satellite radio tuner using the communication circuits.

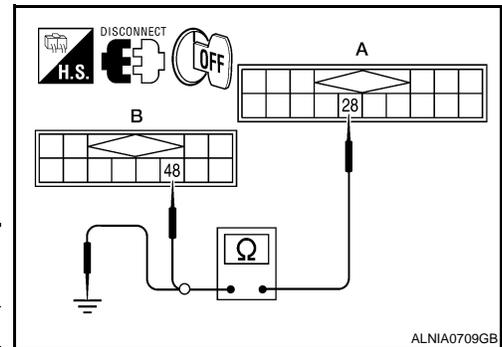
SATELLITE RADIO TUNER : Diagnosis Procedure

INFOID:000000001689444

1. CHECK HARNESS - REQ1

1. Turn ignition switch OFF.
2. Disconnect satellite radio tuner (factory installed) connector M41 and audio unit connector M42.
3. Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 28 and audio unit harness connector M42 (B) terminal 48.

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M41	28	M42	48	Yes



4. Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 28 and ground.

A		—	Continuity
Connector	Terminal		
M41	28	Ground	No

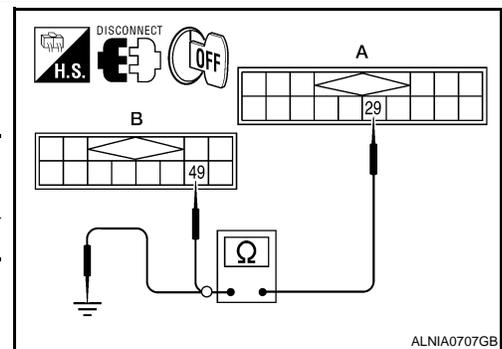
Are continuity results as specified?

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

2. CHECK HARNESS - TXD

1. Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 29 and audio unit harness connector M42 (B) terminal 49.

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M41	29	M42	49	Yes



2. Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 29 and ground.

A		—	Continuity
Connector	Terminal		
M41	29	Ground	No

Are continuity results as specified?

- YES >> GO TO 3
NO >> Repair harness or connector.

3. CHECK HARNESS - RXD

COMMUNICATION SIGNAL CIRCUIT

[PREMIUM WITHOUT NAVIGATION]

< COMPONENT DIAGNOSIS >

1. Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 30 and audio unit harness connector M42 (B) terminal 50.

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M41	30	M42	50	Yes

2. Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 30 and ground.

A		—	Continuity
Connector	Terminal		
M41	30	Ground	No

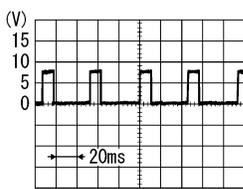
Are continuity results as specified?

YES >> GO TO 4

NO >> Repair harness or connector.

4. CHECK REQ1 SIGNAL

1. Connect satellite radio tuner (factory installed) connector and audio unit connector.
2. Turn ignition switch to ACC
3. Check signal between satellite radio tuner (factory installed) harness connector M41 terminal 28 and ground with CONSULT-III or oscilloscope.

(+)		(-)	Reference signal
Connector	Terminal		
M41	28	Ground	 <p style="text-align: right; font-size: small;">SKIB3825E</p>

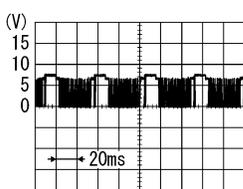
Are voltage readings as specified?

YES >> GO TO 5

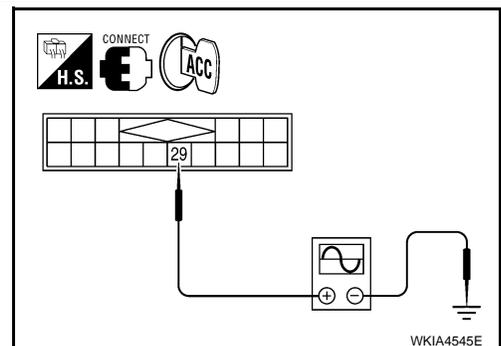
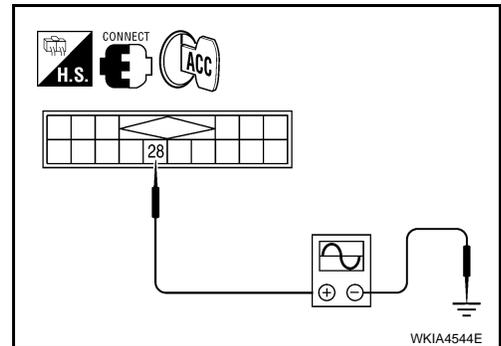
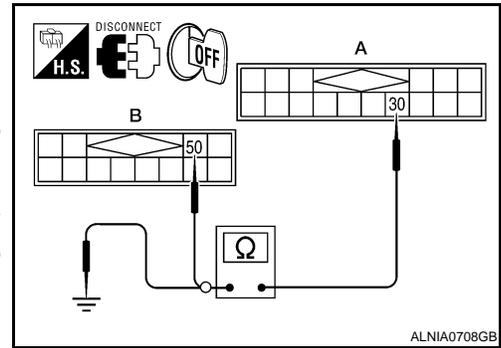
NO >> Replace audio unit. Refer to [AV-92. "Removal and Installation"](#).

5. CHECK TXD SIGNAL

Check signal between satellite radio tuner (factory installed) harness connector M41 terminal 29 and ground with CONSULT-III or oscilloscope.

(+)		(-)	Reference signal
Connector	Terminal		
M41	29	Ground	 <p style="text-align: right; font-size: small;">SKIB3824E</p>

Are the voltage readings as specified?



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

AV

COMMUNICATION SIGNAL CIRCUIT

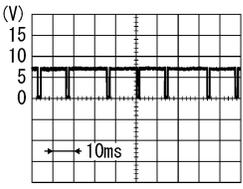
[PREMIUM WITHOUT NAVIGATION]

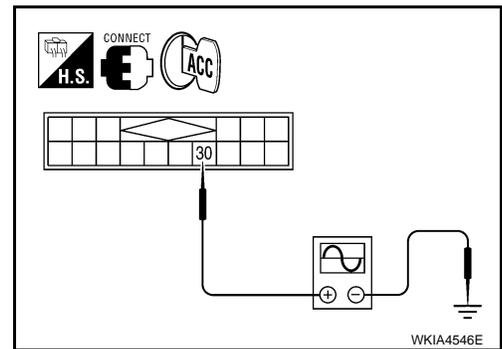
< COMPONENT DIAGNOSIS >

- YES >> GO TO 6
- NO >> Replace satellite radio tuner.

6. CHECK RXD SIGNAL

Check signal between satellite radio tuner (factory installed) harness connector M41 terminal 30 and ground with CONSULT-III or oscilloscope.

(+)		(-)	Reference signal
Connector	Terminal		
M41	30	Ground	 SKIB3826E



Are the voltage readings as specified?

- YES >> Replace satellite radio tuner.
- NO >> Replace audio unit. Refer to [AV-92. "Removal and Installation"](#).

SOUND SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

SOUND SIGNAL CIRCUIT SATELLITE RADIO TUNER

SATELLITE RADIO TUNER : Description

INFOID:000000001689445

Left and right channel audio signals are supplied from the satellite radio tuner to the audio unit through the sound signal circuits.

SATELLITE RADIO TUNER : Diagnosis Procedure

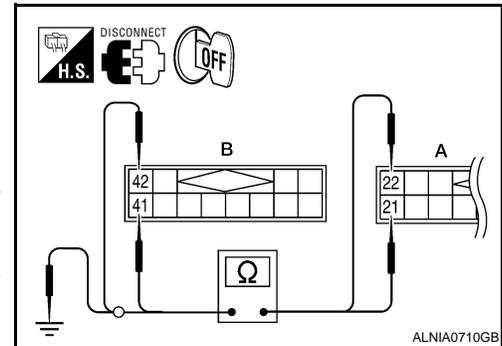
INFOID:000000001689446

LEFT CHANNEL

1.CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect satellite radio tuner (factory installed) connector M41 and audio unit connector M42.
3. Check continuity between satellite radio tuner (factory installed) connector M41 (A) and audio unit connector M42 (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M41	21	M42	41	Yes
	22		42	



4. Check continuity between satellite radio tuner (factory installed) connector M41 (A) and ground.

A		—	Continuity
Connector	Terminal		
M41	21	Ground	No
	22		

Are continuity results as specified?

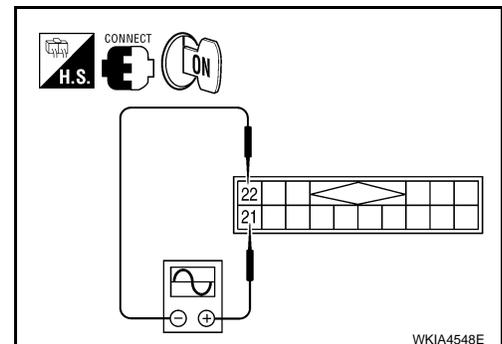
YES >> GO TO 2

NO >> Repair harness or connector.

2.CHECK LEFT CHANNEL AUDIO SIGNAL

1. Connect satellite radio tuner (factory installed) and audio unit.
2. Turn ignition switch ON.
3. Check signal between satellite radio tuner (factory installed) connector M41 terminals 21 and 22 with CONSULT-III or oscilloscope.

(+) Terminal		(-)	Reference signal
Connector	Terminal		
M41	21	Ground	
	22		



Are voltage readings as specified?

YES >> Replace audio unit. Refer to [AV-92, "Removal and Installation"](#).

NO >> Replace satellite radio tuner. Refer to [AV-102, "Removal and Installation"](#).

RIGHT CHANNEL

SOUND SIGNAL CIRCUIT

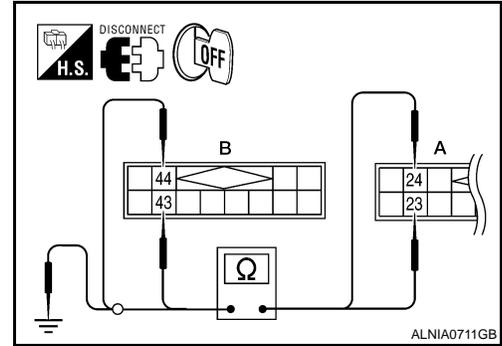
< COMPONENT DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

1. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect satellite radio tuner (factory installed) connector M41 and audio unit connector M42.
3. Check continuity between satellite radio tuner (factory installed) M41 (A) and audio unit M42 (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M41	23	M42	43	Yes
	24		44	



4. Check continuity between satellite radio tuner (factory installed) connector M41 (A) and ground.

A		—	Continuity
Connector	Terminal		
M41	23	Ground	No
	24		

Are continuity results as specified?

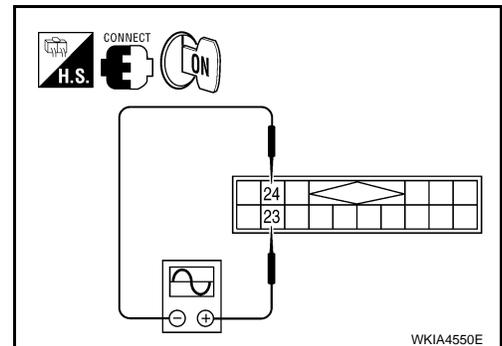
YES >> GO TO 2

NO >> Repair harness or connector.

2. CHECK RIGHT CHANNEL AUDIO SIGNAL

1. Connect satellite radio tuner (factory installed) and audio unit.
2. Turn ignition switch ON.
3. Check signal between satellite radio tuner (factory installed) connector M41 terminals 23 and 24 with CONSULT-III or oscilloscope.

(+)		(-)	Reference signal
Connector	Terminal		
M41	23	Ground	
	24		



Are voltage readings as specified?

YES >> Replace audio unit. Refer to [AV-92. "Removal and Installation"](#).

NO >> Replace satellite radio tuner. Refer to [AV-102. "Removal and Installation"](#).

MICROPHONE SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

MICROPHONE SIGNAL CIRCUIT

Description

INFOID:000000001663570

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

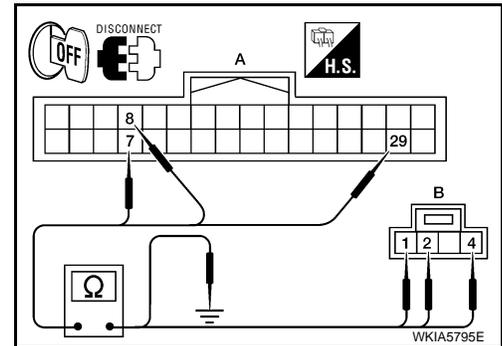
Diagnosis Procedure

INFOID:000000001663571

1. CHECK HARNESS BETWEEN BLUETOOTH CONTROL UNIT AND MICROPHONE

1. Turn ignition switch OFF.
2. Disconnect Bluetooth control unit connector and microphone connector.
3. Check continuity between Bluetooth control unit harness connector B142 (A) and microphone harness connector R109 (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
B142	7	R109	1	Yes
	8		2	
	29		4	



4. Check continuity between Bluetooth control unit harness connector B142 (A) and ground.

A		—	Continuity
Connector	Terminal		
B142	7	Ground	No
	8		
	29		

Are the continuity test results as specified?

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

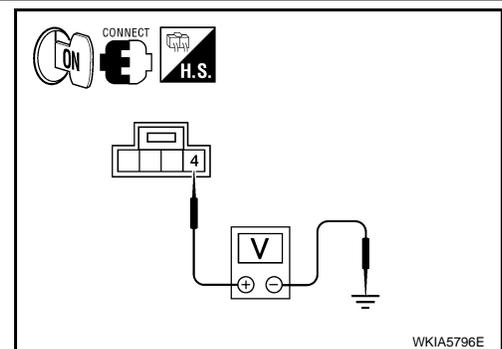
2. CHECK MICROPHONE POWER SUPPLY

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

4 - Ground : Approx. 5V

Is voltage reading approx. 5 volts?

- YES >> GO TO 3
 NO >> Replace Bluetooth control unit. Refer to [AV-207](#), "[Removal and Installation](#)".



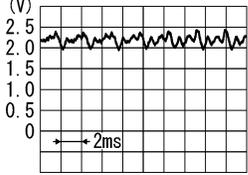
3. CHECK MICROPHONE SIGNAL

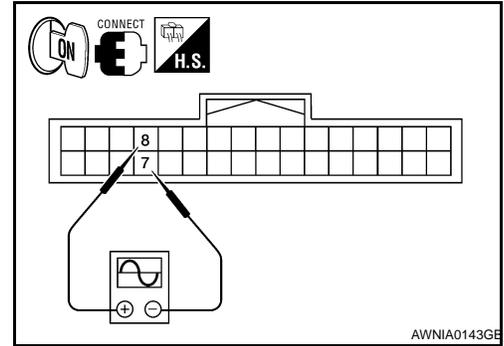
MICROPHONE SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

Check signal between Bluetooth control unit harness connector B142 terminals 7 and 8 with CONSULT-III or and oscilloscope.

Connector	(+)	(-)	Reference signal
	Terminal	Terminal	
B142	7	8	<p>While speaking into MIC</p>  <p style="text-align: right;">PKIB5037J</p>



Are voltage readings as specified?

- YES >> Replace Bluetooth control unit. Refer to [AV-207, "Removal and Installation"](#).
- NO >> Replace microphone. Refer to [AV-205, "Removal and Installation"](#).

AUDIO UNIT

< ECU DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

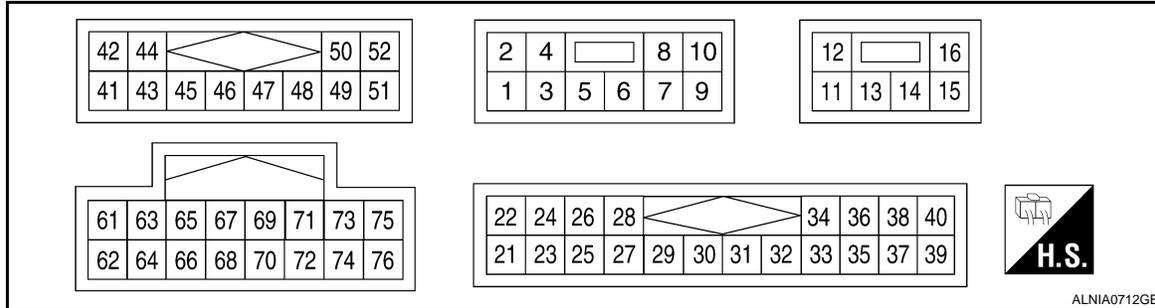
ECU DIAGNOSIS

AUDIO UNIT

Reference Value

INFOID:000000001689447

TERMINAL LAYOUT



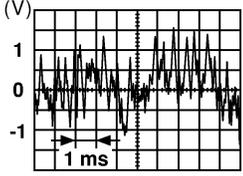
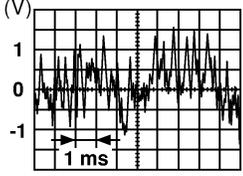
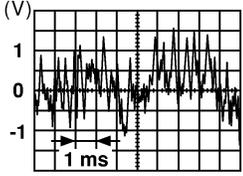
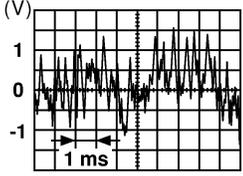
PHYSICAL VALUES

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value (Approx.)
+	-					
2 (W)	1 (B)	Audio sound signal front LH	Output	Ignition switch ON	Receive audio sig- nal	 SKIA0177E
4 (Y)	3 (BR)	Audio sound signal front RH	Output	Ignition switch ON	Receive audio sig- nal	 SKIA0177E
6 (Y)	Ground	Battery power	Input	-	-	Battery voltage
7 (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
8 (R/L)	Ground	Illumination signal	Input	OFF	Lighting switch is in 1st position.	Battery voltage
					Lighting switch is OFF.	0V
9	-	Shield	-	-	-	0V
10 (V)	Ground	ACC signal	Input	Ignition switch ON	-	Battery voltage
12 (G/W)	Ground	Amp ON signal	Output	Ignition switch ON	-	Battery voltage

AUDIO UNIT

< ECU DIAGNOSIS >

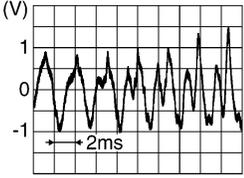
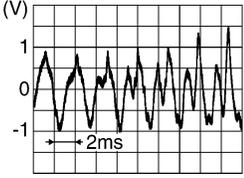
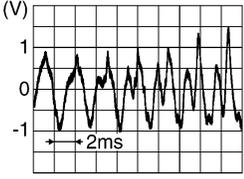
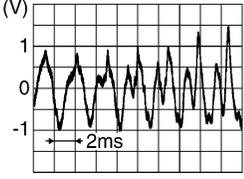
[PREMIUM WITHOUT NAVIGATION]

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value (Approx.)
+	-					
14 (BR)	13 (B/R)	Audio sound signal rear LH	Output	Ignition switch ON	Receive audio sig- nal	 <small style="float: right;">SKIA0177E</small>
16 (L)	15 (B/W)	Audio sound signal rear RH	Output	Ignition switch ON	Receive audio sig- nal	 <small style="float: right;">SKIA0177E</small>
21 (V)	Ground	Remote control A	Output	Ignition switch ON	Audio unit ON	5V
22 (P)	Ground	Remote control B	Output	Ignition switch ON	Audio unit ON	5V
23 (BR/Y)	Ground	Remote control C	Output	Ignition switch ON	Audio unit ON	5V
24 (L)	Ground	Remote control D	Output	Ignition switch ON	Audio unit ON	5V
25 (LG)	Ground	Remote control ground	-	-	-	0V
27 (O/L)	26 (O)	Audio sound signal LH	Output	Ignition switch ON	Receive audio sig- nal	 <small style="float: right;">SKIA0177E</small>
29 (W)	28 (W/L)	Audio sound signal RH	Output	Ignition switch ON	Receive audio sig- nal	 <small style="float: right;">SKIA0177E</small>
30	-	Shield	-	-	-	0V
31 (O)	Ground	Remote control en- able signal	Output	Ignition switch ON	Audio unit ON	5V
32 (V)	Ground	Remote control switch power sup- ply	Output	Ignition switch ON	Audio unit ON	12V

AUDIO UNIT

< ECU DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value (Approx.)
+	-					
35 (B)	34 (W)	Family entertain- ment system left channel audio input	Input	Ignition switch ON	DVD operating	 <p style="text-align: right; font-size: small;">SKIB3609E</p>
37 (R)	36 (G)	Family entertain- ment system right channel audio input	Input	Ignition switch ON	DVD operating	 <p style="text-align: right; font-size: small;">SKIB3609E</p>
39 (Y/L)	Ground	Family entertain- ment system en- able	Output	Ignition switch ON	DVD operating	12V
40 (L/W)	Ground	Audio ON	Input	Ignition switch ON	DVD operating	12V
42 (R)	41 (G)	Satellite radio au- dio signal LH	Input	Ignition switch ON	Satellite radio tuner operating	 <p style="text-align: right; font-size: small;">SKIB3609E</p>
44 (W)	43 (B)	Satellite radio au- dio signal RH	Input	Ignition switch ON	Satellite radio tuner operating	 <p style="text-align: right; font-size: small;">SKIB3609E</p>
45	-	Ground	-	-	-	0V
46	-	Data ground	-	-	-	0V
48 (L)	-	REQ (SAT→AV control unit)	Input	Ignition switch ON	-	—
49 (O/L)	-	RX (SAT→AV con- trol unit)	Input	Ignition switch ON	-	—
50 (W/L)	-	TX (AV control unit→SAT)	Input	Ignition switch ON	-	—

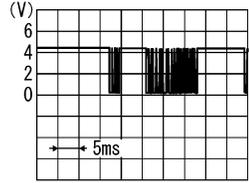
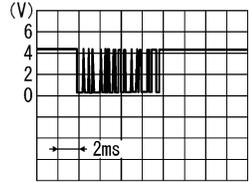
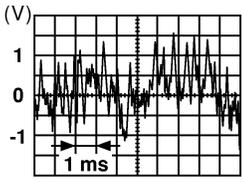
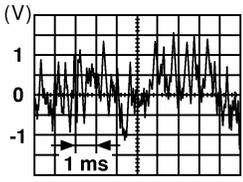
A
B
C
D
E
F
G
H
I
J
K
L
M
O
P

AV

AUDIO UNIT

< ECU DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value (Approx.)
+	-					
65 (O/L)	Ground	Audio RX	Input	Ignition switch ON	Operate audio vol- ume	 <small>SKIA4403E</small>
66 (W/L)	Ground	Audio TX	Output	Ignition switch ON	Operate audio vol- ume	 <small>SKIA4402E</small>
67	-	Shield	-	Ignition switch ON	-	0V
70	-	Shield	-	Ignition switch ON	-	0V
71 (B)	69 (W)	NAVI voice	Input	Ignition switch ON	-	—
72 (W/B)	Ground	CD eject signal	Input	Ignition switch ON	Operate EJECT but- ton	0V → 5V
73 (Y/B)	Ground	CD load signal	Input	Ignition switch ON	Operate LOAD but- ton	0V → 5V
74 (W)	Ground	Auxiliary audio in- put RH (+)	Input	Ignition switch ON	Receive audio sig- nal (AUX input)	 <small>SKIA0177E</small>
75 (R)	Ground	Auxiliary audio in- put LH (+)	Input	Ignition switch ON	Receive audio sig- nal (AUX input)	 <small>SKIA0177E</small>
76 (B)	-	Shield	-	-	-	0V

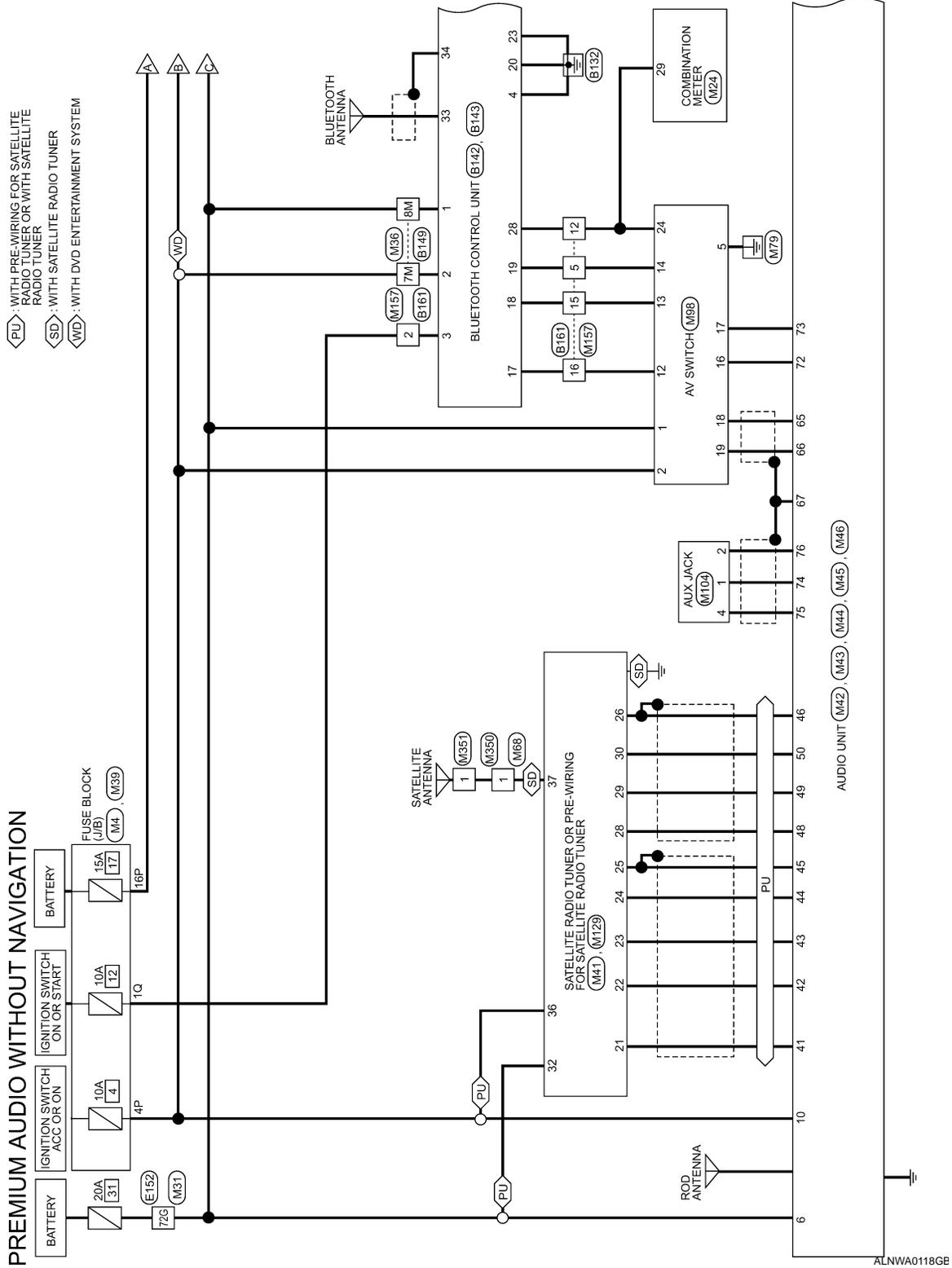
AUDIO UNIT

< ECU DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

INFOID:000000001689448

Wiring Diagram



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

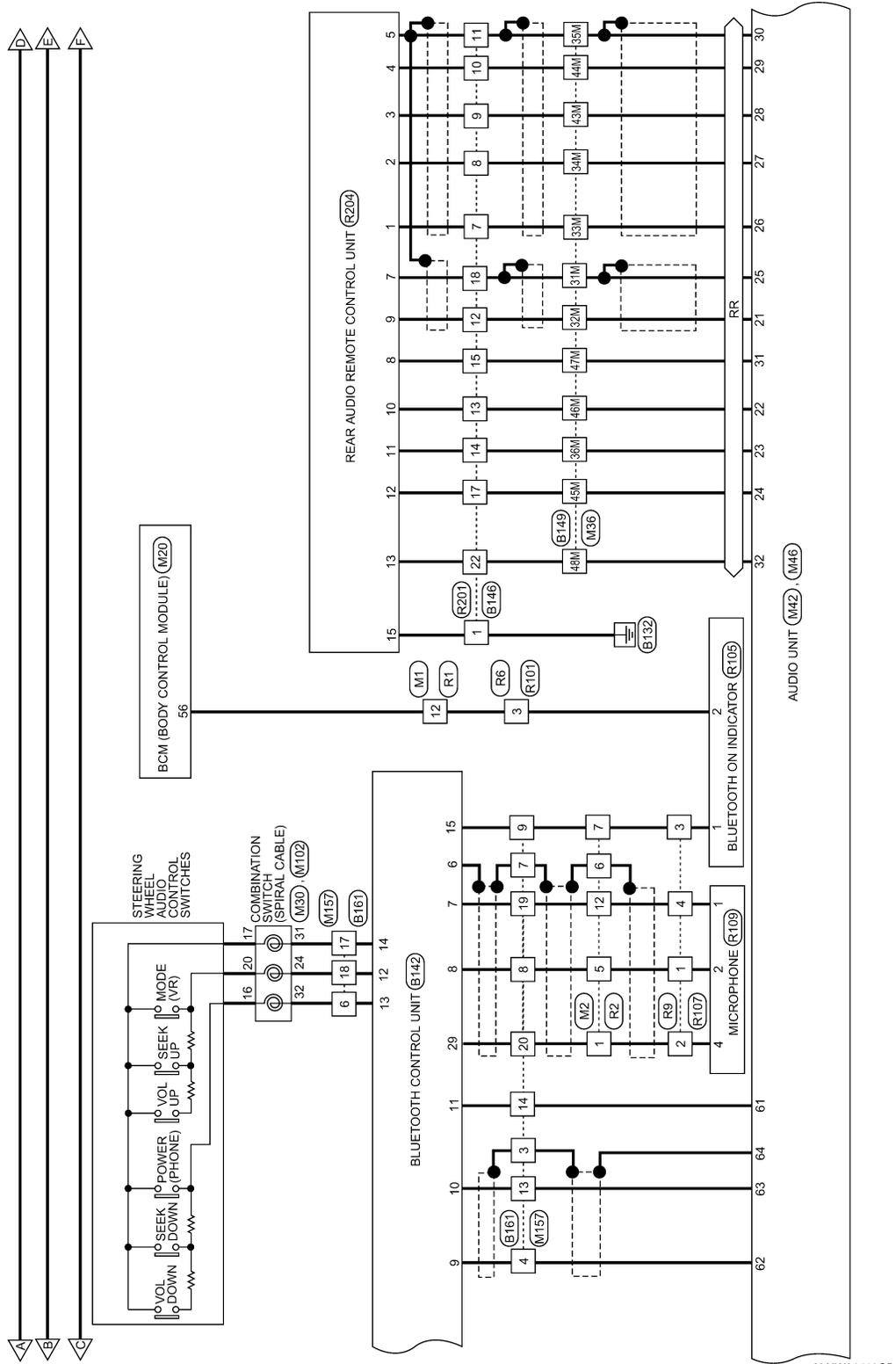
AV

AUDIO UNIT

< ECU DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

◀ RR ▶ WITH REAR AUDIO REMOTE CONTROL UNIT



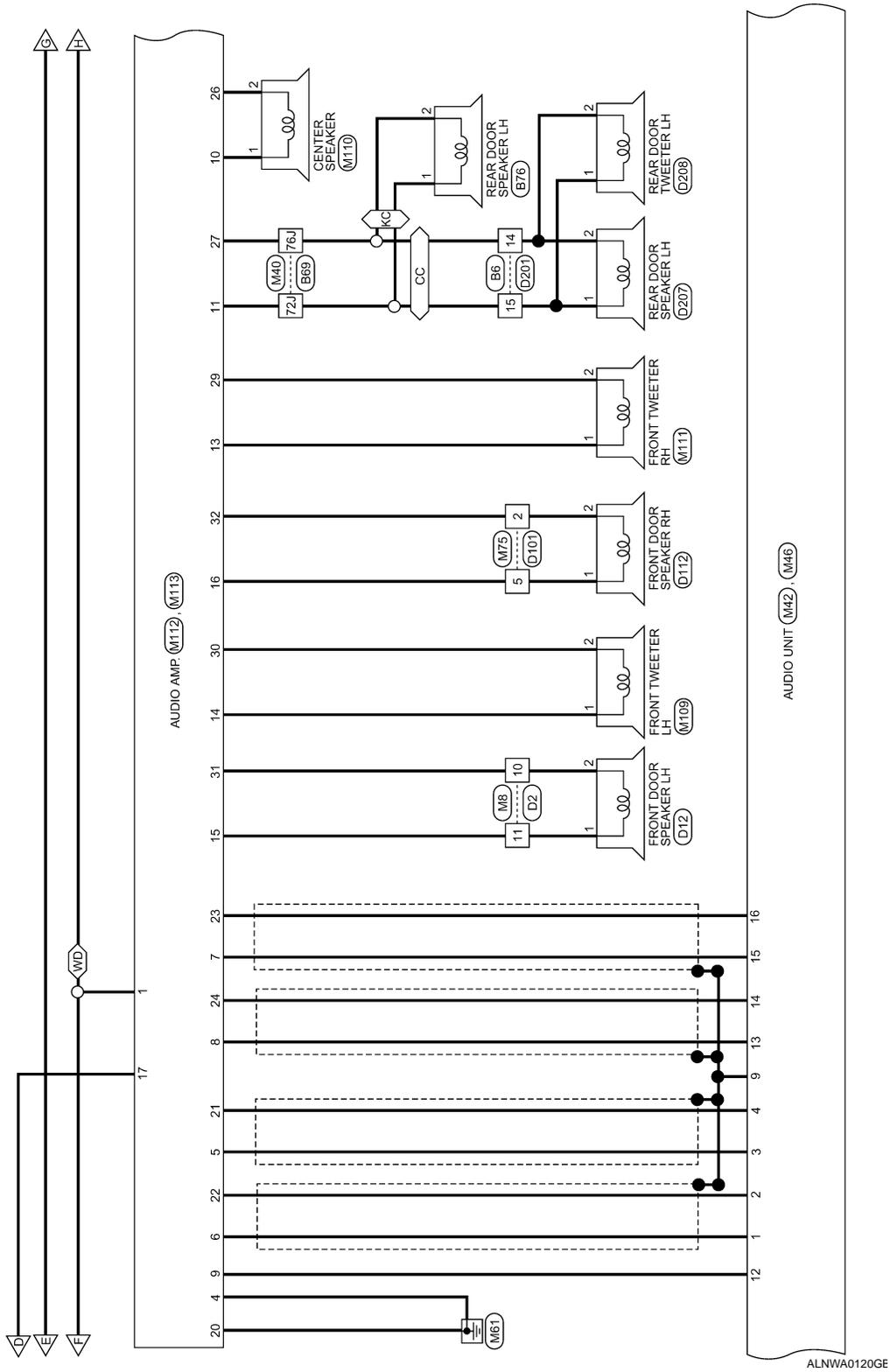
ALNWA0119GE

AUDIO UNIT

< ECU DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

- ◁ CC ▷ : CREW CAB
- ◁ KC ▷ : KING CAB
- ◁ WD ▷ : WITH DVD ENTERTAINMENT SYSTEM



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

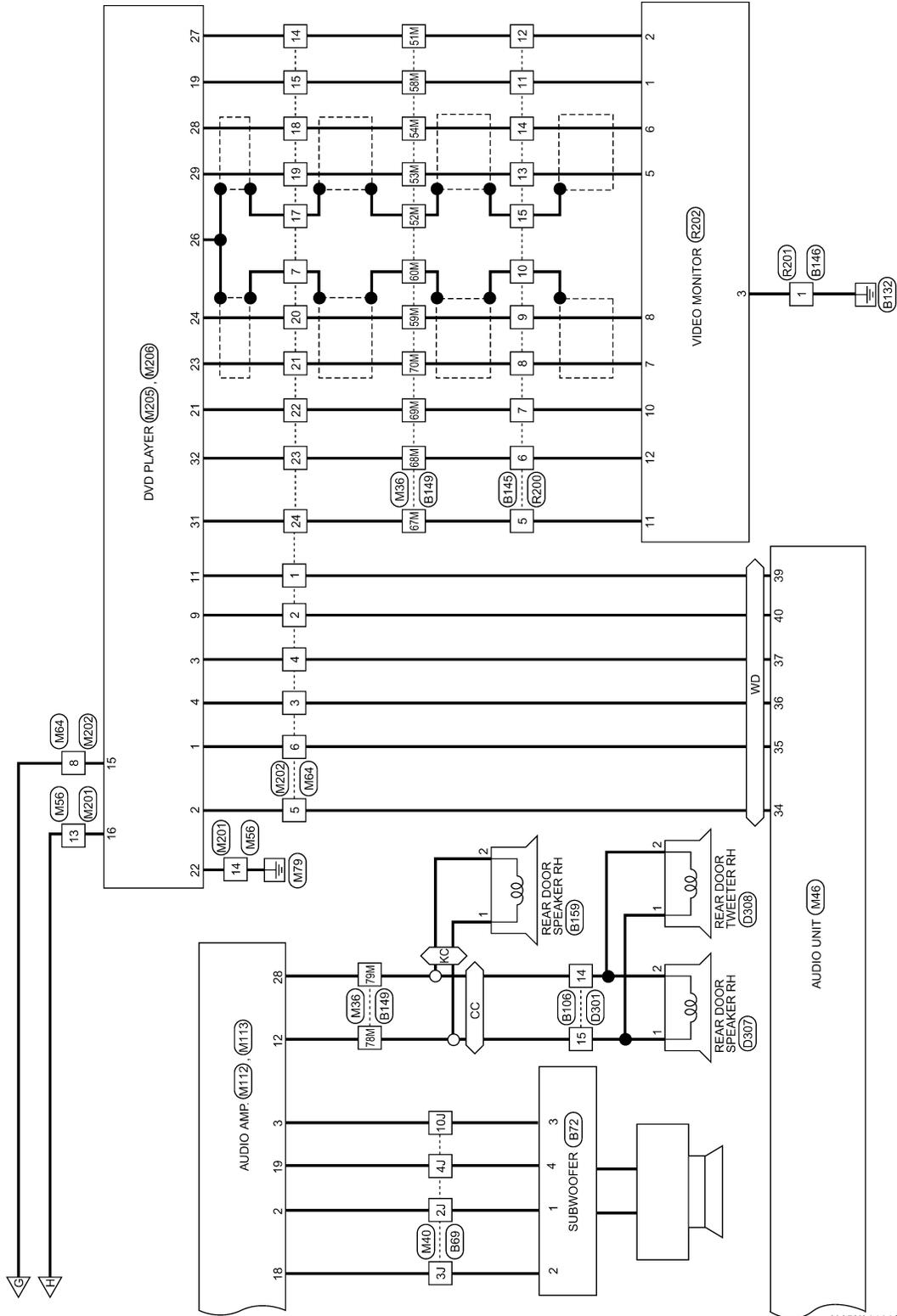
AV

AUDIO UNIT

< ECU DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

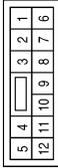
- ◁ CC ▷ : CREW CAB
- ◁ KC ▷ : KING CAB
- ◁ WD ▷ : WITH DVD ENTERTAINMENT SYSTEM



ALNWA0121GE

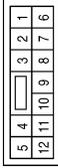
PREMIUM AUDIO WITHOUT NAVI CONNECTORS

Connector No.	M1
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
12	R/G	-

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



Terminal No.	Color of Wire	Signal Name
1	R/W	-
5	R/L	-
6	SHIELD	-
7	GR	-
12	B	-

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



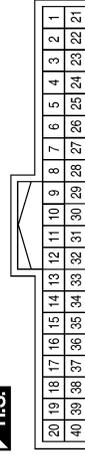
Terminal No.	Color of Wire	Signal Name
4P	V	-
16P	Y/G	-

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



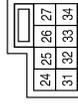
Terminal No.	Color of Wire	Signal Name
10	L/R	-
11	L/W	-

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
29	W/R	SPEED_8P

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



Terminal No.	Color of Wire	Signal Name
24	R	STRG_SW_A (UP)
31	L	STRG_SW_C (GND)
32	G	STRG_SW_B (DOWN)

ALNIA0785GB

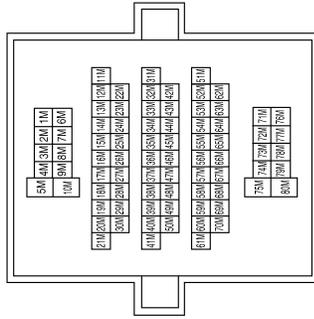
AUDIO UNIT

< ECU DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

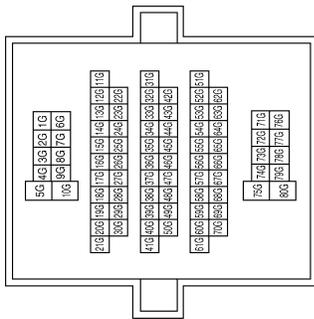
Terminal No.	Color of Wire	Signal Name
35M	SHIELD	-
36M	BR/Y	-
43M	R	-
44M	W	-
45M	LG	-
46M	P	-
47M	O	-
48M	V	-
51M	B/Y	-
52M	SHIELD	-
53M	BR	-
54M	Y	-
58M	B/W	-
59M	L	-
60M	SHIELD	-
67M	SB	-
68M	BR	-
69M	G/Y	-
70M	B/W	-
78M	O/L	-
79M	R/L	-

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



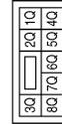
Terminal No.	Color of Wire	Signal Name
7M	V	-
8M	Y	-
31M	LG	-
32M	V	-
33M	B	-
34M	G	-

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



Terminal No.	Color of Wire	Signal Name
72G	Y	-

Connector No.	M39
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



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

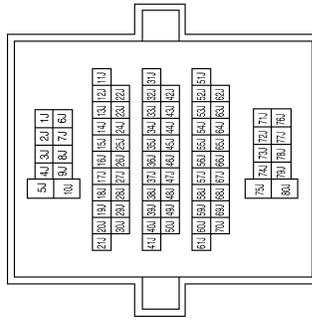
ALNIA0786GB

AUDIO UNIT

< ECU DIAGNOSIS >

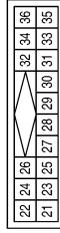
[PREMIUM WITHOUT NAVIGATION]

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



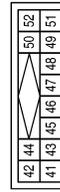
Terminal No.	Color of Wire	Signal Name
2J	Y	
3J	B	
4J	BR	
10J	BR/W	
72J	SB	
76J	B/Y	

Connector No.	M41
Connector Name	SATELLITE RADIO TUNER
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
21	G	SAT_LCH(-)
22	R	SAT_LCH(+)
23	B	SAT_RCH(-)
24	W	SAT_RCH(+)
25	SHIELD	EARTH SIG
26	SHIELD	DATA_GND
28	L	REQ1 (SAT-COMBI)
29	O/L	TXD (SAT-COMBI)
30	W/L	RXD (COMBI-SAT)
32	Y	BACKUP
36	V	ACC

Connector No.	M42
Connector Name	AUDIO UNIT
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
41	G	L(-)
42	R	L(+)
43	B	R(-)
44	W	R(+)
45	SHIELD	EARTH
46	SHIELD	DATA EARTH

Terminal No.	Color of Wire	Signal Name
48	L	REQ (CD-COMBI)
49	O/L	RX (CD-COMBI)
50	W/L	TX (COMBI-CD)

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

AV

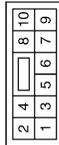
ALNIA0787GB

AUDIO UNIT

< ECU DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

Connector No.	M43
Connector Name	AUDIO UNIT
Connector Color	WHITE



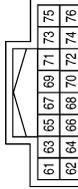
Terminal No.	Color of Wire	Signal Name
1	B	FR_SP_LH-
2	W	FR_SP_LH+
3	BR	FR_SP_RH-
4	Y	FR_SP_RH+
6	Y	BACK_UP
9	SHIELD	CASE_GND
10	V	ACC

Connector No.	M44
Connector Name	AUDIO UNIT (BOSE)
Connector Color	WHITE



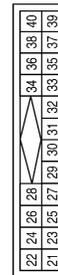
Terminal No.	Color of Wire	Signal Name
12	GW	AMP_ON
13	B/R	RR_SP_LH-
14	BR	RR_SP_LH+
15	BW	RR_SP_RH-
16	L	RR_SP_RH+

Connector No.	M45
Connector Name	AUDIO UNIT
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
61	R	TEL_SIG_INPUT (-)
62	G	TEL_SIG_INPUT (+)
63	Y	TEL_SIG_ON_TRIG
64	SHIELD	TEL_SIG_GND
65	O/L	RX (DCU-H/U)
66	W/L	TX (H/U-DCU)
67	SHIELD	SHIELD
72	W/B	EJECT
73	Y/B	LOAD
74	W	AUX_R+
75	R	AUX_L+
76	B	AUX_EARTH

Connector No.	M46
Connector Name	AUDIO UNIT
Connector Color	WHITE



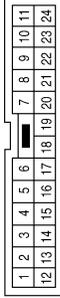
Terminal No.	Color of Wire	Signal Name
21	V	REMOTE_A
22	P	REMOTE_B
23	BR/Y	REMOTE_C
24	L	REMOTE_D
25	LG	REMOTE_GND
26	O	L_CH_OUTPUT (-)
27	O/L	L_CH_OUTPUT (+)
28	W/L	R_CH_OUTPUT (-)
29	W	R_CH_OUTPUT (+)

Terminal No.	Color of Wire	Signal Name
29	W	R_CH_OUTPUT (+)
30	SHIELD	SHIELD
31	O	ENABLE
32	V	SWITCH_B(+)
34	W	FES_L_CHI/P (-)
35	B	FES_L_CHI/P (+)
36	G	FES_R_CHI/P (-)
37	R	FES_R_CHI/P (+)
39	Y/L	FES_ENABLE
40	L/W	AUDIO_ON

ALNIA0788GB

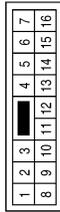
Terminal No.	Color of Wire	Signal Name
7	SHIELD	-
8	V	-
14	B/Y	-
15	B/W	-
17	SHIELD	-
18	Y	-
19	BR	-
20	L	-
21	B/W	-
22	G/Y	-
23	BR	-
24	SB	-

Connector No.	M64
Connector Name	WIRE TO WIRE
Connector Color	BROWN



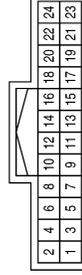
Terminal No.	Color of Wire	Signal Name
1	Y/L	-
2	L/W	-
3	G	-
4	R	-
5	W	-
6	B	-

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



Terminal No.	Color of Wire	Signal Name
13	Y	-
14	B	-

Connector No.	M98
Connector Name	A/C AND AV SWITCH ASSEMBLY
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	Y	+B
2	V	ACC
5	B	GND
6	V	M-CAN1_L BUS (+)
7	SHIELD	SHIELD-1
8	LG	BUS (-)
12	V	REMOTE_A CONT_A
13	G/O	REMOTE_B CONT_B
14	R/B	REMOTE_CONT_C
16	W/R	B_PULSE

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.	M68
Connector Name	WIRE TO WIRE
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	V	-

ALNIA0789GB

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

AV

AUDIO UNIT

< ECU DIAGNOSIS >

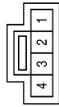
[PREMIUM WITHOUT NAVIGATION]

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



Terminal No.	Color of Wire	Signal Name
16	R	-
17	BR	-
20	W	-

Connector No.	M104
Connector Name	AUX JACK
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	W	AUX_AUDIO_RH +
2	B	AUX_GND
4	R	AUX_AUDIO_LH +

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.	M110
Connector Name	CENTER SPEAKER
Connector Color	BROWN



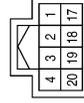
Terminal No.	Color of Wire	Signal Name
1	L/W	-
2	L/B	-

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.	M112
Connector Name	AUDIO AMPLIFIER
Connector Color	BROWN



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

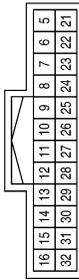
ALNIA0790GB

AUDIO UNIT

< ECU DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

Connector No.	M113
Connector Name	AUDIO AMPLIFIER
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
5	BR	CENTER+
6	B	RH_IN-
7	BW	LH_IN-
8	B/R	RR_LH_IN-

Connector No.	M129
Connector Name	SATELLITE RADIO TUNER
Connector Color	VIOLET

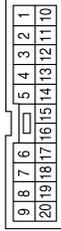


Terminal No.	Color of Wire	Signal Name
37	B	-

Terminal No.	Color of Wire	Signal Name
9	G/W	AMP_ON
10	L/W	CTR_OUT+
11	SB	RR_LH_OUT+
12	O/L	RR_RH_OUT+
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	Y	FR_RH_IN+
22	W	FR_LH_IN+

Terminal No.	Color of Wire	Signal Name
23	L	RR_RH_IN+
24	BR	RR_LH_IN+
26	L/B	CTR_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.	M157
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
2	G/R	-
3	SHIELD	-
4	G	-
5	R/B	-
6	G/W	-
7	SHIELD	-
8	R/L	-
9	GR	-
12	W/R	-

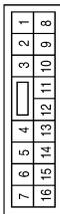
Terminal No.	Color of Wire	Signal Name
13	R	-
14	Y	-
15	G/O	-
16	V	-
17	Y/R	-
19	B	-
20	R/W	-

ALNIA0791GB

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

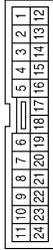
AV

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



Terminal No.	Color of Wire	Signal Name
13	Y	-
14	B	-

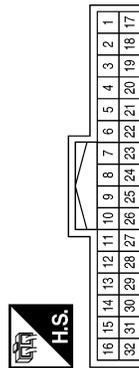
Connector No.	M202
Connector Name	WIRE TO WIRE
Connector Color	BROWN



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

Terminal No.	Color of Wire	Signal Name
8	V	-
14	B/Y	-
15	B/W	-
17	SHIELD	-
18	Y	-
19	BR	-
20	L	-
21	B/W	-
22	G/Y	-
23	BR	-
24	SB	-

Connector No.	M205
Connector Name	DVD PLAYER
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
19	B/W	GND
21	G/Y	SW_POWER +5V
22	B	GND
23	B/W	VTR+
24	L	VTR-
26	SHIELD	SHIELD
27	B/Y	GND
28	Y	DATA_RX
29	BR	DATA_TX
31	SB	+B
32	BR	+B

Connector No.	M206
Connector Name	DVD PLAYER
Connector Color	WHITE



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
9	L/W	AUDIO_ON
10	BR	ILL-
11	Y/L	FES_ENABLE
12	R/L	LIGHTING_SW
15	V	ACC
16	Y	B+

AUDIO UNIT

< ECU DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

Connector No.	M350
Connector Name	WIRE TO WIRE
Connector Color	BROWN



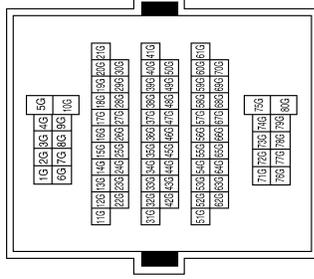
Terminal No.	Color of Wire	Signal Name
1	B	-

Connector No.	M351
Connector Name	SATELLITE ANTENNA
Connector Color	BROWN



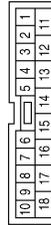
Terminal No.	Color of Wire	Signal Name
1	B	-

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



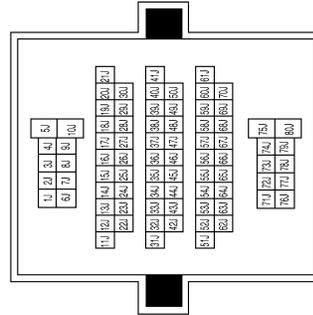
Terminal No.	Color of Wire	Signal Name
72G	Y	-

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.	B69
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
2J	V	-
3J	B	-
4J	BR	-
10J	BR/W	-
72J	SB	-
76J	B/Y	-

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

AV

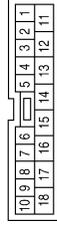
ALNIA0793GB

AUDIO UNIT

< ECU DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

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



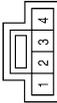
Terminal No.	Color of Wire	Signal Name
14	R/L	-
15	O/L	-

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



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

Connector No.	B72
Connector Name	SUBWOOFER
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	W	WOOFER+1
2	B	WOOFER-1
3	BR/W	WOOFER+2
4	BR	WOOFER-2

Connector No.	B143
Connector Name	BLUETOOTH ANTENNA
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
33	B	-
34	B	-

Terminal No.	Color of Wire	Signal Name
8	R/L	MIC_IN-
9	G	AUDIO_OUT+
10	R	AUDIO_OUT-
11	Y	MUTE_CONTROL
12	R/G	LADDER_IN_1
13	G/W	LADDER_IN_2
14	Y/R	LADDER_IN_GND
15	GR	LED_IND_1
17	V	LADDER_OUT_1
18	G/O	LADDER_OUT_2
19	R/B	LADDER_OUT_GND
20	B	CONT1
23	B	CONT4
28	W/R	SPEED_SIGNAL
29	R/W	MIC_POWER

Connector No.	B142
Connector Name	BLUETOOTH CONTROL UNIT
Connector Color	WHITE

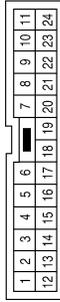


Terminal No.	Color of Wire	Signal Name
1	Y	BATT
2	V	ACC
3	G/R	IGN
4	B/W	GND
6	SHIELD	MIC_SHIELD
7	B	MIC_IN+

ALNIA0794GB

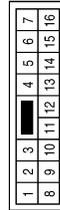
Terminal No.	Color of Wire	Signal Name
10	W	-
11	SHIELD	-
12	V	-
13	P	-
14	BR/Y	-
15	O	-
17	L	-
18	LG	-
22	V	-

Connector No.	B146
Connector Name	WIRE TO WIRE
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	B	-
7	B	-
8	G	-
9	R	-

Connector No.	B145
Connector Name	WIRE TO WIRE
Connector Color	WHITE

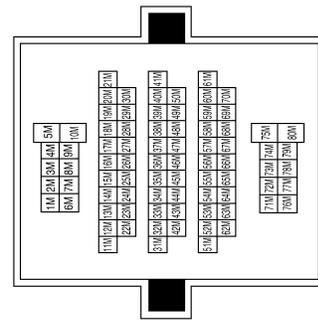


Terminal No.	Color of Wire	Signal Name
5	SB	-
6	BR	-
7	G/Y	-
8	W	-
9	L	-
10	SHIELD	-
11	B/W	-
12	B/Y	-
13	G	-
14	L	-
15	SHIELD	-

Terminal No.	Color of Wire	Signal Name
51M	B/Y	-
52M	SHIELD	-
53M	BR	-
54M	Y	-
58M	B/W	-
59M	L	-
60M	SHIELD	-
67M	SB	-
68M	BR	-
69M	G/Y	-
70M	B/W	-
78M	O/L	-
79M	R/L	-

Terminal No.	Color of Wire	Signal Name
31M	LG	-
32M	V	-
33M	B	-
34M	G	-
35M	SHIELD	-
36M	BR/Y	-
43M	R	-
44M	W	-
45M	LG	-
46M	P	-
47M	O	-
48M	V	-

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



ALNIA0795GB

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

AV

AUDIO UNIT

< ECU DIAGNOSIS >

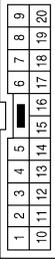
[PREMIUM WITHOUT NAVIGATION]

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



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

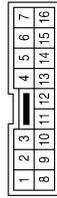
Connector No.	B161
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

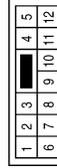
Terminal No.	Color of Wire	Signal Name
6	GW	-
7	SHIELD	-
8	R/L	-
9	GR	-
12	W/R	-
13	R	-
14	Y	-
15	G/O	-
16	V	-
17	Y/R	-
19	B	-
20	RW	-

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



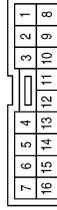
Terminal No.	Color of Wire	Signal Name
12	R/G	-

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



Terminal No.	Color of Wire	Signal Name
1	R/W	-
5	R/L	-
6	SHIELD	-
7	GR	-
12	B	-

Connector No.	R6
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
3	R/G	-

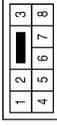
ALNIA0796GB

AUDIO UNIT

< ECU DIAGNOSIS >

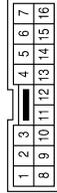
[PREMIUM WITHOUT NAVIGATION]

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



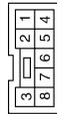
Terminal No.	Color of Wire	Signal Name
1	R/L	-
2	R/W	-
3	GR	-
4	B	-

Connector No.	R101
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
3	R/G	-

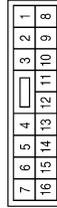
Connector No.	R9
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

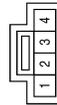
Terminal No.	Color of Wire	Signal Name
10	SHIELD	-
11	B/W	-
12	B/Y	-
13	G	-
14	L	-
15	SHIELD	-

Connector No.	R200
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
5	SB	-
6	BR	-
7	G/Y	-
8	W	-
9	L	-

Connector No.	R109
Connector Name	MICROPHONE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	B	MIC_OUT_(+)
2	R/L	MIC_OUT_(-)
4	R/W	MIC_POWER

ALNIA0797GB

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

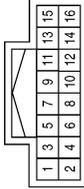
AV

AUDIO UNIT

< ECU DIAGNOSIS >

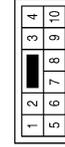
[PREMIUM WITHOUT NAVIGATION]

Connector No.	R204
Connector Name	REAR AUDIO REMOTE CONTROL UNIT
Connector Color	WHITE



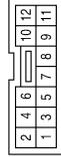
Terminal No.	Color of Wire	Signal Name
1	B	L_CH_INPUT-
2	G	L_CH_INPUT+
3	R	R_CH_INPUT-
4	W	R_CH_INPUT+
5	SHIELD	SHIELD
7	LG	REMOTE_GND
8	O	ENABLE
9	V	REMOTE_A
10	P	REMOTE_B
11	BR/Y	REMOTE_C
12	G	REMOTE_D
13	V	SWITCH_+B
15	B	GND

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.	R202
Connector Name	VIDEO MONITOR
Connector Color	WHITE



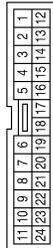
Terminal No.	Color of Wire	Signal Name
1	B/W	GND
2	B/Y	GND
3	B	ID
5	G	DATA_RX
6	L	DATA_TX
7	W	VIDEO IN+
8	L	VIDEO IN-
10	G/Y	SW POWER_+5V
11	SB	FILTERED_BAT
12	BR	FILTERED_BAT

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.	R201
Connector Name	WIRE TO WIRE
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	B	-
7	B	-
8	G	-
9	R	-
10	W	-
11	SHIELD	-
12	V	-
13	P	-
14	BR/Y	-
15	O	-
17	B	-
18	GR	-
22	V	-

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



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

ALNIA0798GB

AUDIO UNIT

< ECU DIAGNOSIS >

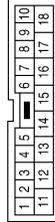
[PREMIUM WITHOUT NAVIGATION]

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



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

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



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

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



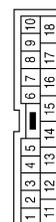
Terminal No.	Color of Wire	Signal Name
1	W/B	-
2	L/B	-

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



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

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



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

ALNIA0799GB

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

AUDIO UNIT

< ECU DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

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	-

ALNIA0800GB

SATELLITE RADIO TUNER

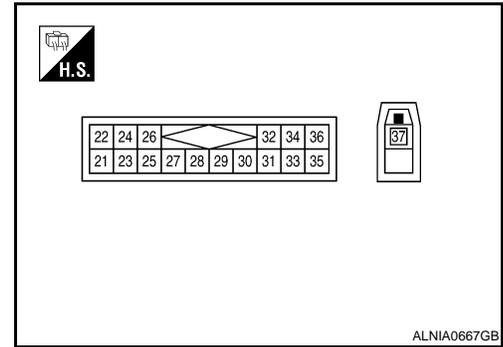
[PREMIUM WITHOUT NAVIGATION]

< ECU DIAGNOSIS >

SATELLITE RADIO TUNER

Reference Value

INFOID:000000001689449



PHYSICAL VALUES

Terminal		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/Output			
22 (R)	21 (G)	Satellite radio sound signal LH	Output	Ignition switch ON	When satellite radio mode is selected	
24 (W)	23 (B)	Satellite radio sound signal RH	Output	Ignition switch ON	When satellite radio mode is selected	
25	—	Shield	—	—	—	—
26	—	Shield	—	—	—	—
28 (L)	Ground	Request signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected	
29 (O/L)	Ground	Communication signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected	

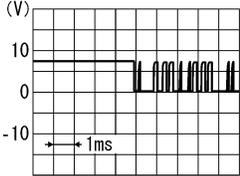
A
B
C
D
E
F
G
H
I
J
K
L
M
O
P

AV

SATELLITE RADIO TUNER

< ECU DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

Terminal		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
30 (W/L)	Ground	Communication signal (CONT→SAT)	Input	Ignition switch ON	When satellite radio mode is selected	 <p>Reference value (Approx.)</p>
32 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
36 (V)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
37 (B)	—	Satellite antenna	Input	—	—	—

DVD PLAYER

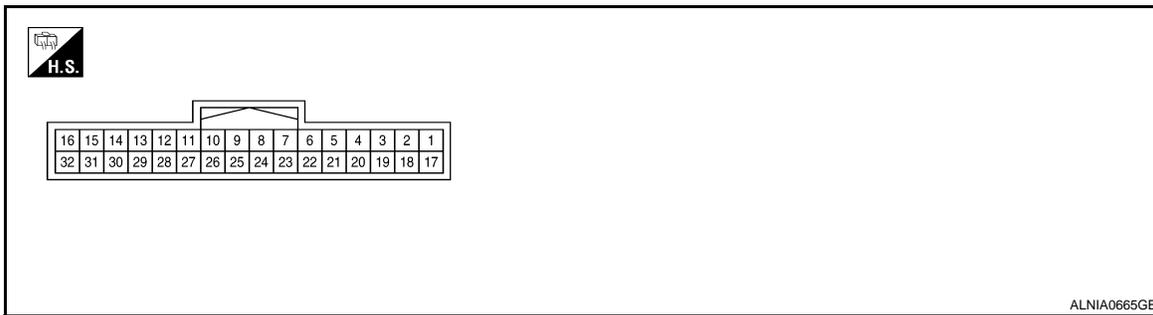
< ECU DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

DVD PLAYER

Reference Value

INFOID:000000001689450



ALNIA0665GB

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	<p>SKIB3609E</p>
3 (R)	4 (G)	DVD audio signal RH	Output	Ignition switch ON	With DVD player operation	<p>SKIB3609E</p>
9 (L/W)	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 (Y/L)	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

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

AV

O
P

DVD PLAYER

< ECU DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
19 (B/W)	Ground	Ground	—	Ignition switch ON	—	0V
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	—	—	—	—
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

AUDIO AMP

< ECU DIAGNOSIS >

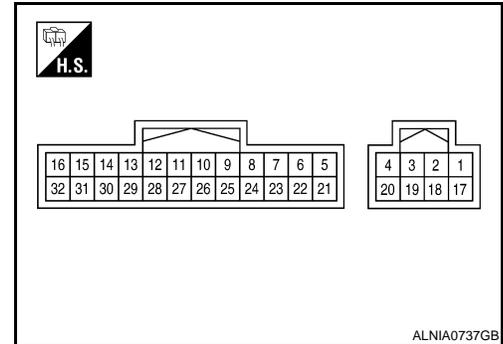
[PREMIUM WITHOUT NAVIGATION]

AUDIO AMP

Reference Value

INFOID:000000001663576

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

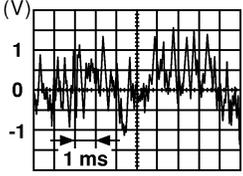
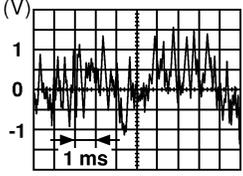
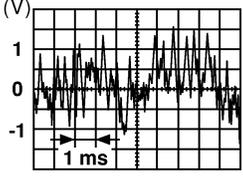
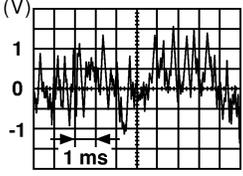
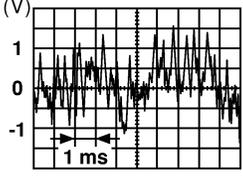
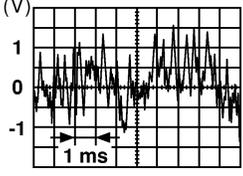
A
B
C
D
E
F
G
H
I
J
K
L
M
O
P

AV

AUDIO AMP

< ECU DIAGNOSIS >

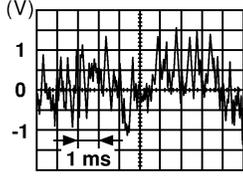
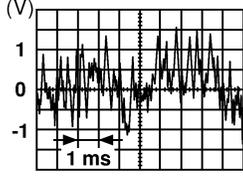
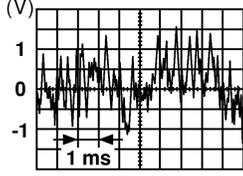
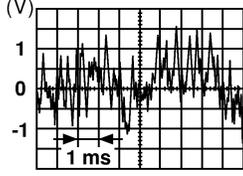
[PREMIUM WITHOUT NAVIGATION]

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	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
12 (O/L)	28 (R/L)	Rear door speaker RH and rear door tweeter RH	Output	Ignition switch ON	Receive audio signal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
13 (W/B)	29 (L/B)	Front door tweeter RH	Output	Ignition switch ON	Receive audio signal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
14 (L/W)	30 (L/R)	Front tweeter LH	Output	Ignition switch ON	Receive audio signal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
15 (L/W)	31 (L/R)	Front door speaker LH	Output	Ignition switch ON	Receive audio signal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
16 (W/B)	32 (L/B)	Front door speaker RH	Output	Ignition switch ON	Receive audio signal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
17 (Y/G)	Ground	Battery	Input	-	-	Battery voltage
20 (B)	Ground	Ground	-	Ignition switch ON	-	-

AUDIO AMP

< ECU DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

Terminal (wire color)		Item	Signal input/ output	Condition		Reference value (Approx.)
+	-					
21 (Y)	5 (BR)	Audio sound sig- nal front RH	Input	Ignition switch ON	Receive audio sig- nal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
22 (W)	6 (B)	Audio sound sig- nal front LH	Input	Ignition switch ON	Receive audio sig- nal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
23 (L)	7 (B/W)	Audio sound sig- nal rear RH	Input	Ignition switch ON	Receive audio sig- nal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
24 (BR)	8 (B/R)	Audio sound sig- nal rear LH	Input	Ignition switch ON	Receive audio sig- nal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>

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

AV

BLUETOOTH CONTROL UNIT

[PREMIUM WITHOUT NAVIGATION]

< ECU DIAGNOSIS >

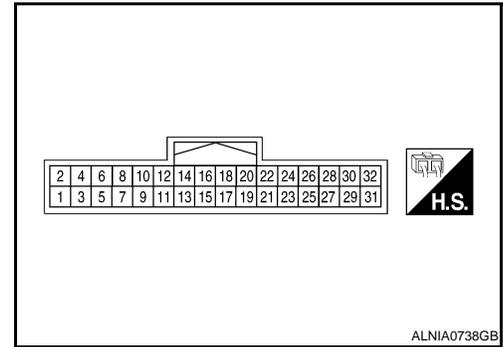
BLUETOOTH CONTROL UNIT

Reference Value

INFOID:000000001663578

TERMINAL LAYOUT

PHYSICAL VALUES

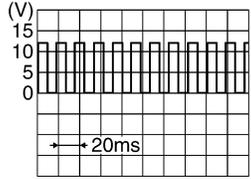


Terminal (wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ output			
1 (Y)	Ground	Battery power	Input	-	-	Battery voltage
2 (V)	Ground	ACC power	Input	Ignition switch ACC/ON	-	Battery voltage
3 (G/R)	Ground	IGN power	Input	Ignition switch ON/ START	-	Battery voltage
4 (B/W)	Ground	Ground	-	Ignition switch ON	-	0V
6	-	Shield	-	-	-	-
7 (B)	8 (R/L)	MIC in signal	Input	-	-	-
9 (G)	10 (R)	Audio out	Output	Ignition switch ACC/ON	Bluetooth control unit sends audio signal	
11 (Y)	-	Mute control	-	-	-	-
12 (R/G)	14 (Y/R)	Steering switch signal A	Input	Ignition switch ON	Pressing switch	0V
					Pressing switch	0.75
					Pressing VOL up switch	2V
					Except for above	5V

BLUETOOTH CONTROL UNIT

[PREMIUM WITHOUT NAVIGATION]

< ECU DIAGNOSIS >

Terminal (wire color)		Description		Condition	Reference value (Approx.)	
+	-	Signal name	Input/ output			
13 (G/W)	14 (Y/R)	Steering switch signal B	Input	Ignition switch ON	Pressing  switch	0V
					Pressing  switch	0.75V
					Pressing VOL down switch	2V
					Except for above	5 V
15 (G/R)	Ground	LED power	Output	Ignition switch ON	-	Battery voltage
17 (V)	19 (R/B)	Steering switch signal A	Output	Ignition switch ON	Pressing  switch	0V
					Pressing  switch	0.75
					Pressing VOL up switch	2V
					Except for above	5V
18 (G/O)	19 (R/B)	Steering switch signal B	Output	Ignition switch ON	Pressing  switch	0V
					Pressing  switch	0.75V
					Pressing VOL down switch	2V
					Except for above	5V
20 (B)	Ground	Ground	-	-	-	0V
23 (B)	Ground	Ground	-	-	-	0V
28 (W/R)	Ground	Vehicle speed sig- nal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	 <p style="text-align: right; font-size: small;">PKIA1935E</p>
29 (R/W)	Ground	Microphone power	Output	Ignition switch ON	-	5V

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

AV

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:000000001663581

AUDIO SYSTEM

Symptom	Possible cause	Reference page
Inoperative	<ul style="list-style-type: none"> • AV control unit power circuit • AV control unit 	<ul style="list-style-type: none"> • AV-117 • AV-189
Steering switch does not operate	<ul style="list-style-type: none"> • Steering switch • AV control unit 	<ul style="list-style-type: none"> • AV-142 • AV-117
All speakers do not sound	<ul style="list-style-type: none"> • AV control unit • AV control unit power circuit • Audio amp. ON signal • Audio amp. power/ground circuit • Audio amp. 	<ul style="list-style-type: none"> • AV-117 • AV-117 • AV-141 • AV-120 • AV-201
One or several speakers do not sound	<ul style="list-style-type: none"> • Front door speaker • Front tweeter • Center speaker • Rear door speaker • Rear door tweeter (crew cab) • Subwoofer 	<ul style="list-style-type: none"> • AV-124 • AV-127 • AV-130 • AV-132 • AV-135 • AV-138

CD

Symptom	Possible cause	Reference page
CD cannot be inserted.	AV control unit	AV-117
CD cannot be ejected.		
The CD cannot be played.		
The sound skips, stops suddenly, or is distorted.		

SATELLITE RADIO

Symptom	Possible cause	Reference page
Inoperative	<ul style="list-style-type: none"> • Satellite radio tuner power or ground circuit • Satellite radio tuner communication circuit • Satellite radio tuner 	<ul style="list-style-type: none"> • AV-118 • AV-144 • AV-204
Right or left channel does not sound	<ul style="list-style-type: none"> • Satellite radio tuner right channel audio signal circuit • Satellite radio tuner left channel audio signal circuit • Satellite radio tuner 	<ul style="list-style-type: none"> • AV-147

HANDS-FREE PHONE

Symptom	Possible cause	Reference page
Inoperative	<ul style="list-style-type: none"> • Bluetooth control unit power and ground circuit • Bluetooth control unit 	<ul style="list-style-type: none"> • AV-121 • AV-116
Steering switch does not operate	<ul style="list-style-type: none"> • Steering switch • Bluetooth control unit 	<ul style="list-style-type: none"> • AV-142 • AV-116
Voice activated control does not operate	<ul style="list-style-type: none"> • Microphone • Steering switch • Bluetooth control unit 	<ul style="list-style-type: none"> • AV-149 • AV-142 • AV-116

DVD PLAYER

AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

Symptom	Possible cause	Reference page
DVD player inoperative	<ul style="list-style-type: none"> Power supply and ground circuits DVD player 	<ul style="list-style-type: none"> AV-119
No sound when playing a DVD	<ul style="list-style-type: none"> Audio signal circuits AV control unit DVD player 	<ul style="list-style-type: none"> AV-177 AV-117 AV-119
Video monitor is inoperative/does not display properly	<ul style="list-style-type: none"> Power supply and ground circuits Video out circuit DVD player Video monitor 	<ul style="list-style-type: none"> AV-119 AV-177 AV-119 AV-119
DVD remote control is inoperative/does not operate properly	<ul style="list-style-type: none"> DVD player Rear audio remote control unit 	<ul style="list-style-type: none"> AV-119 AV-198
Headphones inoperative	<ul style="list-style-type: none"> Headphone batteries Headphone audio signal circuits from AV control unit AV control unit Rear audio remote control unit 	<ul style="list-style-type: none"> AV-151 AV-151 AV-151

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

AV

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[PREMIUM WITHOUT NAVIGATION]

NORMAL OPERATING CONDITION

Description

INFOID:000000001663582

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.	<ul style="list-style-type: none">• Ignition components
The occurrence of the noise is linked with the operation of the fuel pump.		<ul style="list-style-type: none">• Fuel pump condenser
Noise only occurs when various electrical components are operating.	A cracking or snapping sound occurs with the operation of various switches.	<ul style="list-style-type: none">• Relay malfunction, AV control unit malfunction
	The noise occurs when various motors are operating.	<ul style="list-style-type: none">• Motor case ground• Motor
The noise occurs constantly, not just under certain conditions.		<ul style="list-style-type: none">• Rear defogger coil malfunction (crew cab)• Open circuit in printed heater• Poor ground of antenna feeder line
A cracking or snapping sound occurs while the vehicle is being driven, especially when it is vibrating excessively.		<ul style="list-style-type: none">• Ground wire of body parts• Ground due to improper part installation• Wiring connections or a short circuit

PRECAUTION

PRECAUTIONS

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

INFOID:000000001663583

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 SRS 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 SRS 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.

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

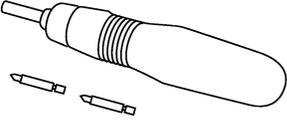
AV

PREPARATION

PREPARATION

Commercial Service Tools

INFOID:000000001663584

Tool name	Description
<p>Power tool</p>  <p>PBIC0191E</p>	<p>Loosening bolts and nuts</p>

ON-VEHICLE REPAIR

AUDIO UNIT

Removal and Installation

INFOID:000000001663585

For removal and installation, refer to [AV-92, "Removal and Installation"](#).

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

DISPLAY UNIT

Removal and Installation

INFOID:000000001663586

For removal and installation, refer to [AV-190. "Removal and Installation"](#).

FRONT TWEETER

< ON-VEHICLE REPAIR >

[PREMIUM WITHOUT NAVIGATION]

FRONT TWEETER

Removal and Installation

INFOID:000000001663587

For removal and installation, refer to [AV-34. "Removal and Installation"](#).

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

AV

CENTER SPEAKER

< ON-VEHICLE REPAIR >

[PREMIUM WITHOUT NAVIGATION]

CENTER SPEAKER

Removal and Installation

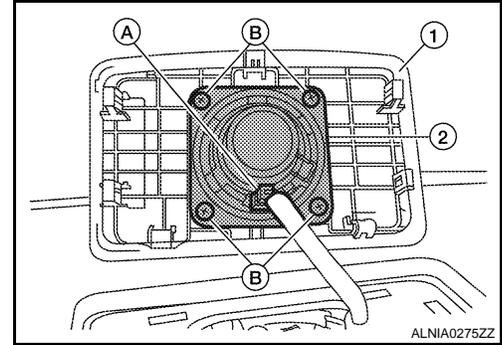
INFOID:000000001663588

REMOVAL

CAUTION:

Use a suitable tool to prevent damage to the center speaker grille and the instrument panel.

1. Using a suitable tool, remove the center speaker grille finisher (1).
2. Disconnect the center speaker connector (A).
3. Remove the center speaker screws (B).
4. Remove the center speaker (2).



INSTALLATION

Installation is in the reverse order of removal.

FRONT DOOR SPEAKER

< ON-VEHICLE REPAIR >

[PREMIUM WITHOUT NAVIGATION]

FRONT DOOR SPEAKER

Removal and Installation

INFOID:000000001663589

For removal and installation, refer to [AV-35. "Removal and Installation"](#).

A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

P

REAR DOOR SPEAKER

Removal and Installation

INFOID:000000001663590

REAR DOOR SPEAKER

For removal and installation, refer to [AV-36, "Removal and Installation"](#).

REAR DOOR TWEETER

For removal and installation, refer to [AV-36, "Removal and Installation"](#).

BACK DOOR SPEAKER

< ON-VEHICLE REPAIR >

[PREMIUM WITHOUT NAVIGATION]

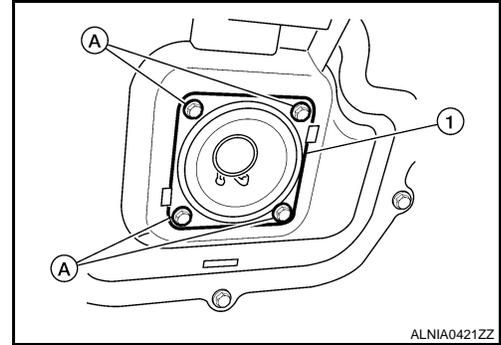
BACK DOOR SPEAKER

Removal and Installation

INFOID:000000001663591

REMOVAL

1. Remove the back door lower finisher. Refer to XXX.
2. Remove the back door speaker screws (A).
3. Pull out the back door speaker (1), disconnect the back door speaker connector and remove the back door speaker (1).



INSTALLATION

Installation is in the reverse order of removal.

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

WOOFER

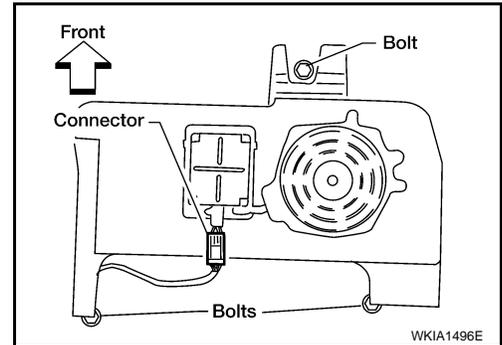
Removal and Installation

INFOID:000000001663592

SUBWOOFER (BOSE SYSTEM)

Removal

1. Remove front seat LH. Refer to [SE-28, "Removal and Installation"](#).
2. Disconnect the subwoofer connector.
3. Remove the subwoofer bolts.
4. Remove the subwoofer.



Installation

Installation is in the reverse order of removal.

STEERING SWITCH

< ON-VEHICLE REPAIR >

[PREMIUM WITHOUT NAVIGATION]

STEERING SWITCH

Removal and Installation

INFOID:000000001663593

For removal and installation of the steering wheel audio control switch, refer to [AV-98, "Removal and Installation"](#).

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

AV

REAR AUDIO REMOTE CONTROL UNIT

< ON-VEHICLE REPAIR >

[PREMIUM WITHOUT NAVIGATION]

REAR AUDIO REMOTE CONTROL UNIT

Removal and Installation

INFOID:000000001663594

For removal and installation, refer to [AV-99, "Removal and Installation"](#)

DVD PLAYER

Removal and Installation

INFOID:000000001663595

For removal and installation, refer to [AV-200. "Removal and Installation"](#).

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

DVD ENTERTAINMENT SYSTEM

< ON-VEHICLE REPAIR >

[PREMIUM WITHOUT NAVIGATION]

DVD ENTERTAINMENT SYSTEM

Removal and Installation

INFOID:000000001663596

For removal and installation, refer to [AV-200. "Removal and Installation"](#).

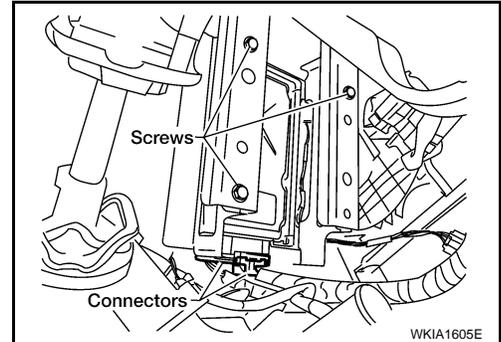
BOSE AMP.

Removal and Installation

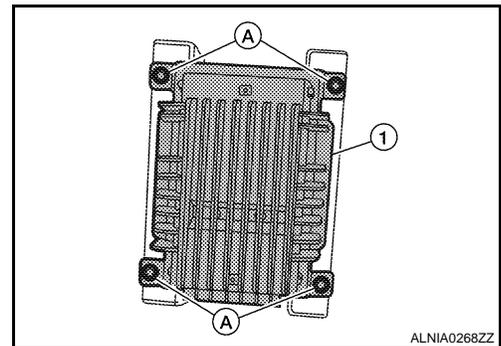
INFOID:000000001663597

REMOVAL

1. Remove the BCM. Refer to [BCS-50. "Removal and Installation"](#).
2. Remove the accelerator pedal. Refer to [ACC-3. "Removal and Installation"](#).
3. Disconnect the BOSE speaker amp. connectors.
4. Remove the BOSE speaker amp. and bracket assembly screws and slide the BOSE speaker amp. bracket assembly down.



5. Remove the BOSE speaker amp.screws (A). then remove the BOSE speaker amp. (1).



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

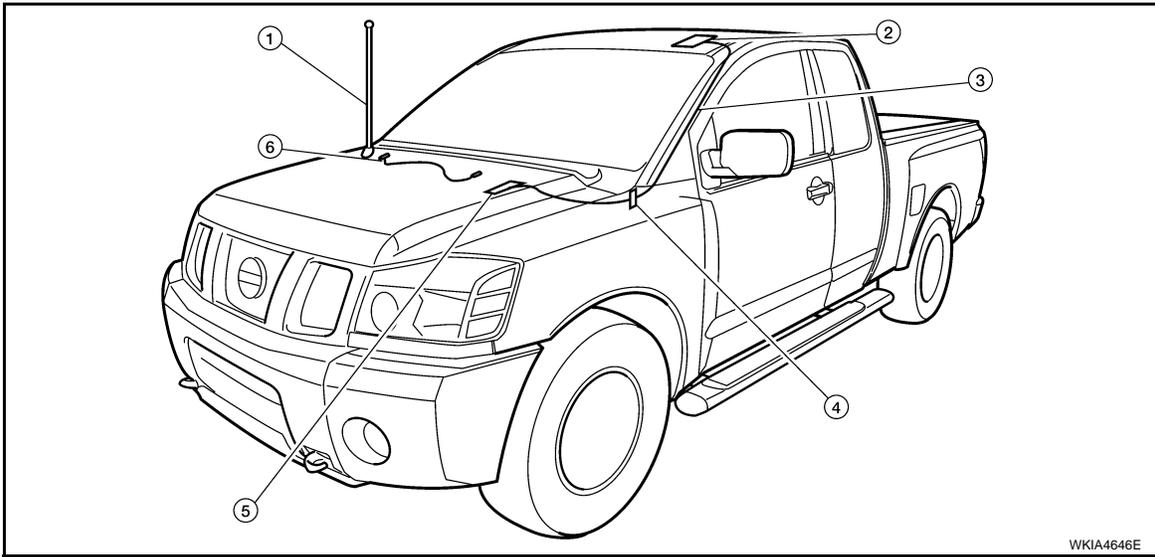
< ON-VEHICLE REPAIR >

[PREMIUM WITHOUT NAVIGATION]

AUDIO ANTENNA

Location of Antenna

INFOID:000000001693599



WKIA4646E

- | | | |
|--------------|--|-----------------------------|
| 1. Antenna | 2. Satellite antenna (if equipped, factory installed) M351 | 3. Satellite antenna feeder |
| 4. M69, M350 | 5. Satellite radio tuner M129 | 6. Main feeder cable |

SATELLITE RADIO ANTENNA

< ON-VEHICLE REPAIR >

[PREMIUM WITHOUT NAVIGATION]

SATELLITE RADIO ANTENNA

Removal and Installation

INFOID:000000001663600

For removal and installation, refer to [AV-102. "Removal and Installation"](#).

A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

P

SATELLITE RADIO TUNER

< ON-VEHICLE REPAIR >

[PREMIUM WITHOUT NAVIGATION]

SATELLITE RADIO TUNER

Removal and Installation

INFOID:000000001663601

For removal and installation, refer to [AV-103, "Removal and Installation"](#).

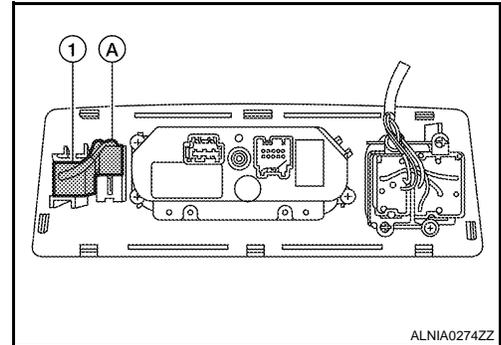
MICROPHONE

Removal and Installation

INFOID:000000001663602

REMOVAL

1. Remove the front roof console finisher. Refer to XXXX.
2. Disconnect the Bluetooth microphone connector (A).
3. Detach the Bluetooth microphone (1) from the front roof console finisher and remove the Bluetooth microphone (1).



INSTALLATION

Installation is in the reverse order of removal.

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

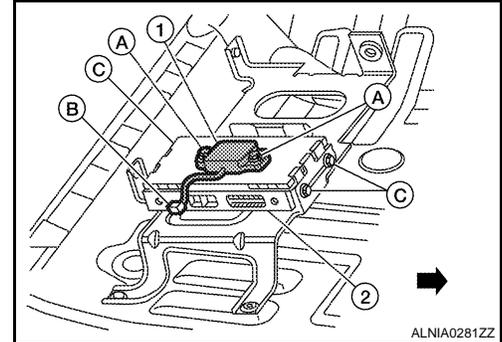
TEL ANTENNA

Removal and Installation

INFOID:000000001663603

REMOVAL

1. Disconnect the battery negative terminal.
2. Slide the front passenger seat fully forward.
3. Remove the Bluetooth control unit kick shield screws and remove the Bluetooth control unit kick shield.
4. Remove the Bluetooth antenna screws (A), disconnect the Bluetooth antenna connector (B) and remove the Bluetooth antenna (1).
 - Bluetooth control unit screws (C)
 - Bluetooth control unit (2)
 - ←:Front of vehicle



INSTALLATION

Installation is in the reverse order of removal.

BLUETOOTH CONTROL UNIT

< ON-VEHICLE REPAIR >

[PREMIUM WITHOUT NAVIGATION]

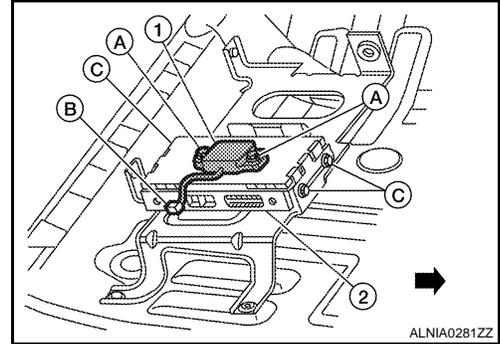
BLUETOOTH CONTROL UNIT

Removal and Installation

INFOID:000000001663604

REMOVAL

1. Disconnect the negative battery terminal.
2. Slide the front passenger seat fully forward.
3. Remove the Bluetooth control unit kick shield screws and remove the Bluetooth control unit kick shield.
4. Remove the Bluetooth control unit screws (C), disconnect the Bluetooth control unit connectors and remove the Bluetooth control unit (2).
 - Bluetooth antenna (1)
 - Bluetooth antenna screws (A)
 - Bluetooth antenna connector (B)
 - ⇐:Front of vehicle



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

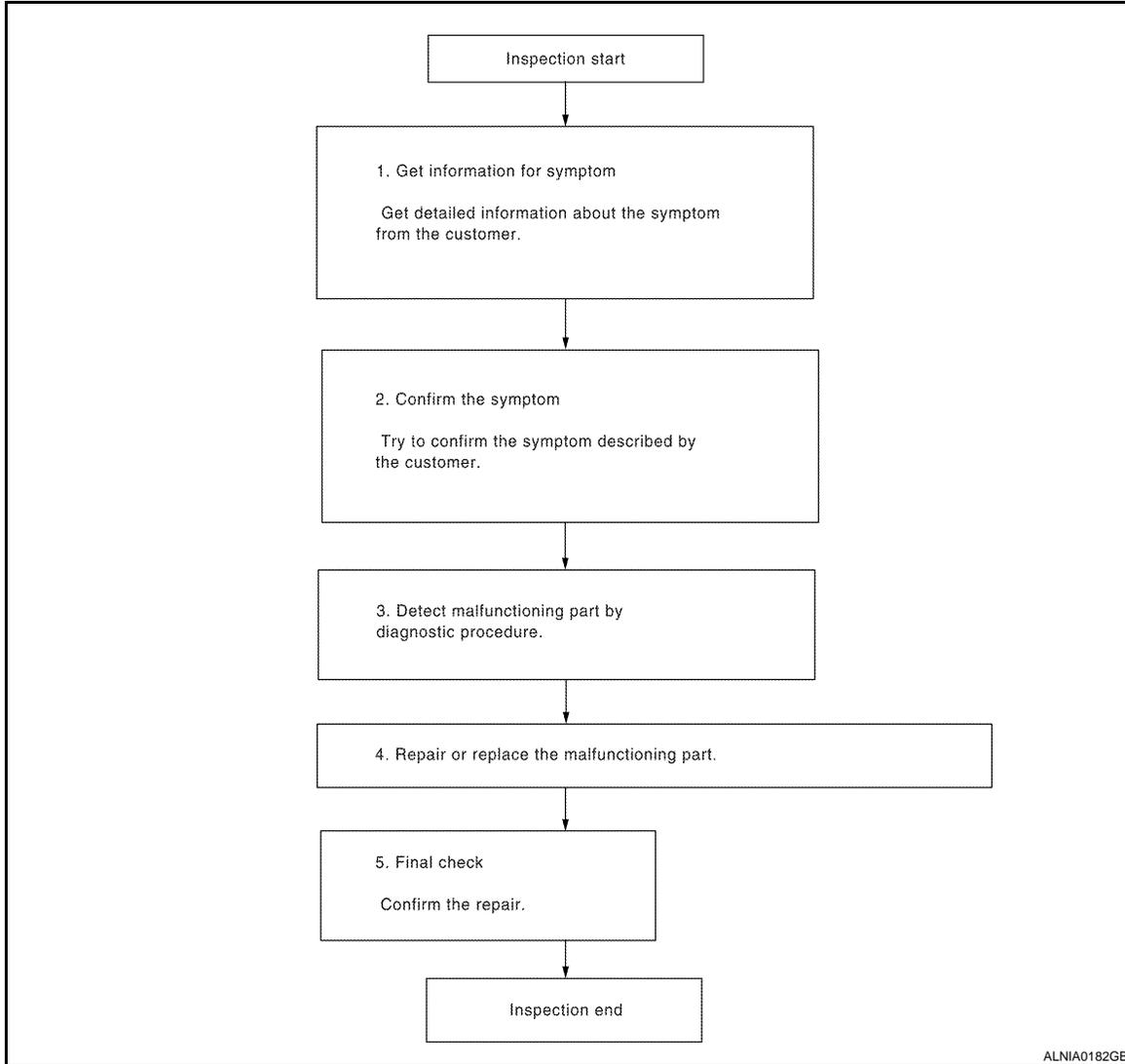
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000001693603

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 >

[PREMIUM WITH NAVIGATION]

Is malfunctioning part detected?

YES >> GO TO 4

NO >> GO TO 2

4. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 5

5. FINAL CHECK

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

Was the repair confirmed?

YES >> Inspection End.

NO >> GO TO 2

A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

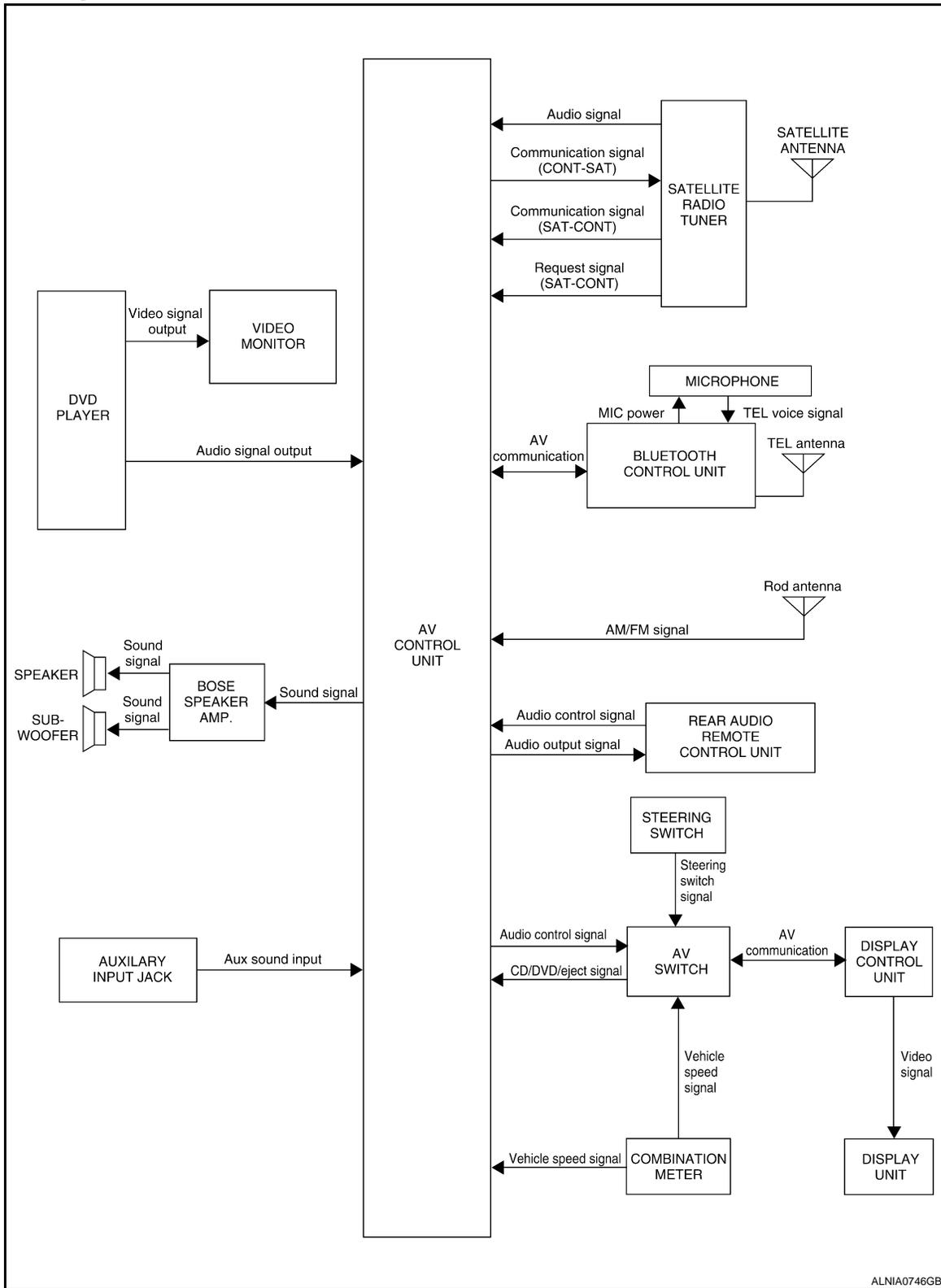
P

FUNCTION DIAGNOSIS

AUDIO SYSTEM

System Diagram

INFOID:000000001691171



ALNIA0746GB

System Description

INFOID:000000001691172

AUDIO SYSTEM

AUDIO SYSTEM

[PREMIUM WITH NAVIGATION]

< FUNCTION DIAGNOSIS >

The audio system consists of the following components

- Audio unit
- Display unit
- Display control unit
- Audio amp.
- Rod antenna
- Steering wheel audio control switches
- AV switch
- Rear audio remote control unit
- Front door speakers
- Front tweeters
- Center speaker
- Rear door speakers
- Rear door tweeters (crew cab)
- Subwoofer

When the audio system is on, radio signals are received by the rod antenna. The audio unit then sends audio signals to the audio amp. The audio amp. amplifies the audio signals before sending them to the front door speakers, front tweeters, center speaker, rear door speakers, rear door tweeters (crew cab) and the subwoofer.

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

SATELLITE RADIO SYSTEM

The satellite radio system consists of the following components

- Satellite antenna
- Satellite radio tuner

When the satellite radio system is on, radio signals are supplied to the satellite radio tuner from the satellite antenna. The satellite radio tuner then sends audio signals to the audio unit.

Refer to Owner's Manual for satellite radio system operating instructions.

SPEED SENSITIVE VOLUME SYSTEM

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

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

AV

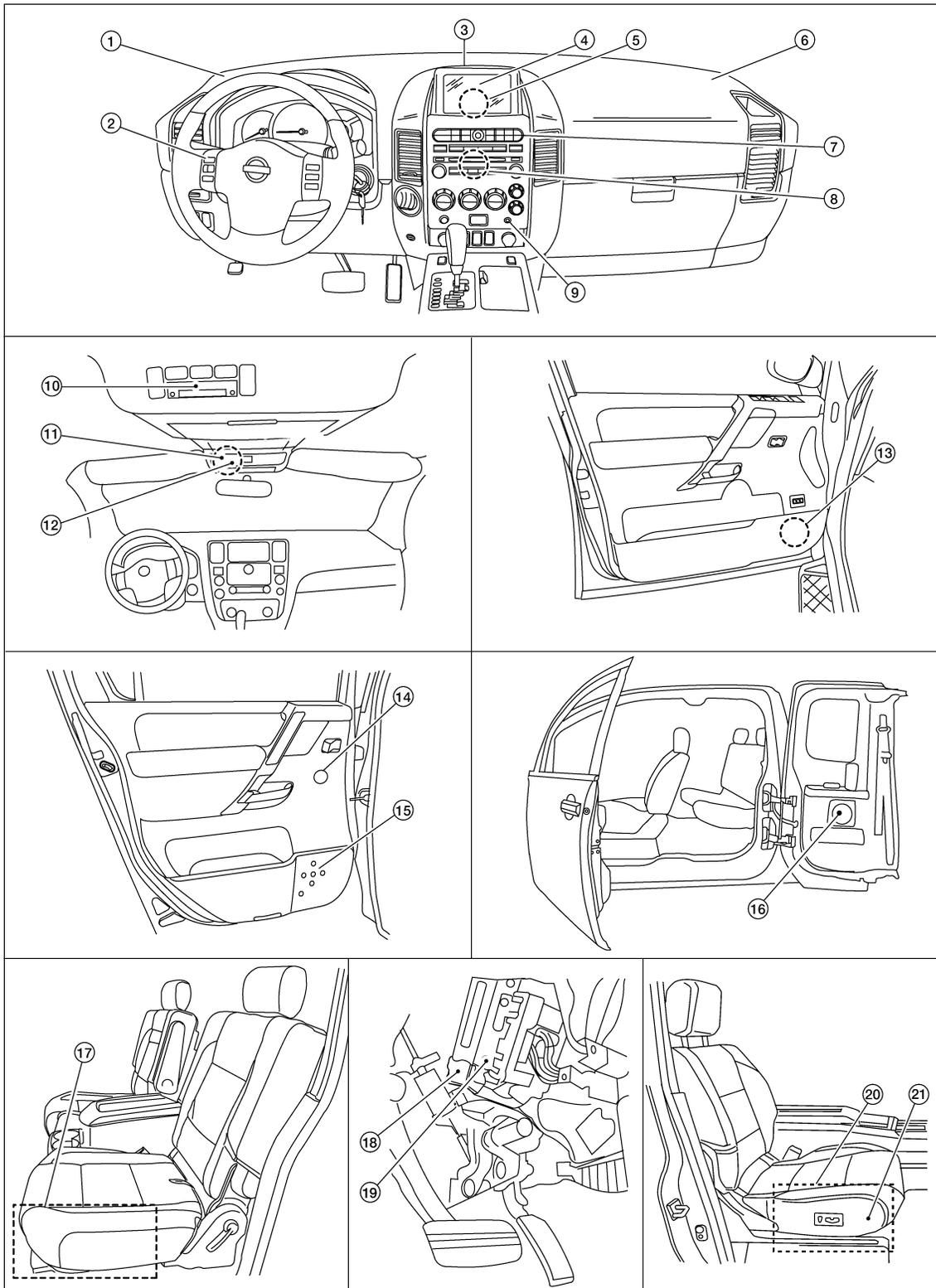
AUDIO SYSTEM

< FUNCTION DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

Component Parts Location

INFOID:000000001691173



ALNIA0823GB

←:FRONT

- | | | |
|--------------------------|--|--------------------------|
| 1. Front tweeter LH M109 | 2. Steering wheel audio control switches | 3. Center speaker M110 |
| 4. Display unit M93 | 5. Display control unit M95 | 6. Front tweeter RH M111 |
| 7. AV switch M98 | 8. Audio unit M42, M43, M44, M45, M46 | 9. Aux jack M104 |

AUDIO SYSTEM

< FUNCTION DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

- | | | |
|--|---|---|
| 10. Rear audio remote control unit R204
13. Front door speaker
LH D12
RH D112
16. Rear door speaker (king cab)
LH B76
RH B159
19. Satellite radio tuner M41, M129 | 11. Bluetooth ON indicator R105
14. Rear door tweeter (crew cab)
LH D208
RH D308
17. Subwoofer B72 (under driver's seat)
20. NAVI control unit B151, B152 (located under passenger front seat) | 12. Microphone R109
15. Rear door speaker (crew cab)
LH D207
RH D307
18. Audio amp. M112, M113 (view behind instrument panel above accelerator pedal)
21. Bluetooth control unit B141, B142 (with Bluetooth) |
|--|---|---|

Component Description

INFOID:000000001691174

Part name	Description
Audio unit	Controls audio system and satellite radio system functions
Display unit	Displays all audio and navigation related information received from the display control unit
Display control unit	Receives audio and navigation related information and outputs that information to the display unit
Audio amp.	Receives power (amp ON) and audio signals from audio unit and outputs audio signals to each speaker.
Steering switches	<ul style="list-style-type: none"> • Audio operation can be operated • Steering switch signal is output to audio unit
Front door speakers	<ul style="list-style-type: none"> • Outputs audio signal from audio amp. • Outputs high, mid and low range sounds
Front tweeters	<ul style="list-style-type: none"> • Outputs audio signal from audio amp. • Outputs high range sounds
Center speaker	<ul style="list-style-type: none"> • Outputs audio signal from audio amp. • Outputs high range sounds
Rear door speakers	<ul style="list-style-type: none"> • Outputs audio signal from audio amp. • Outputs high, mid and low range sounds
Rear door tweeters (crew cab)	<ul style="list-style-type: none"> • Outputs audio signal from audio amp. • Outputs high range sounds
Subwoofer	<ul style="list-style-type: none"> • Outputs audio signal from audio amp. • Outputs low range sounds
Satellite radio tuner	<ul style="list-style-type: none"> • Receives radio signals from satellite antenna • Sends audio signals to audio unit
Satellite antenna	Audio signal (satellite radio) is received and output to audio unit.

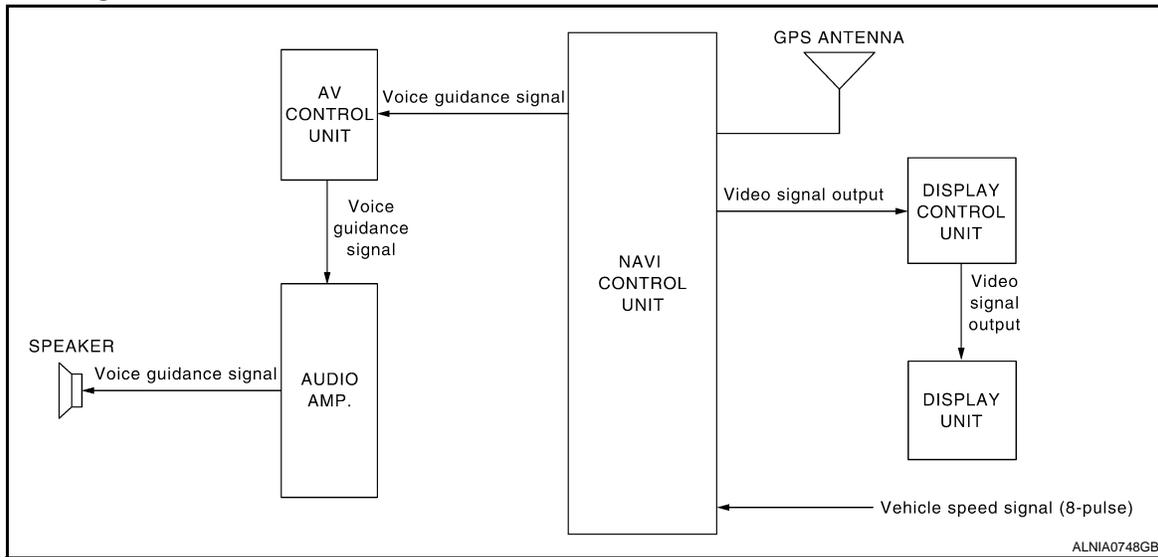
A
B
C
D
E
F
G
H
I
J
K
L
M

AV

O
P

NAVIGATION SYSTEM

System Diagram



INFOID:000000001663614

System Description

INFOID:000000001663615

NOTE:

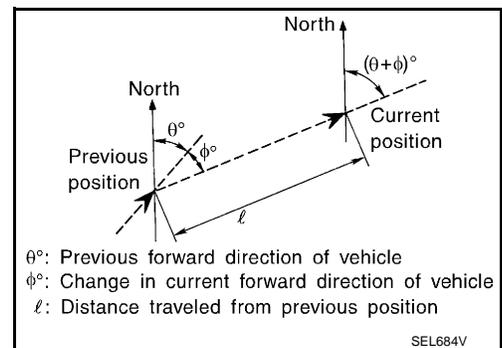
Refer to NAVI System Owner's Manual for system operation.

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), and the 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 DVD-ROM, which is stored in the DVD-ROM drive (map-matching), and indicated on the screen with a current-location mark.

By comparing the vehicle position detection results found by the GPS and by map-matching, more accurate vehicle position data can be used.

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 input signal. Therefore, the calculation may become incorrect as the tires wear down. To prevent this, an automatic distance fine adjustment 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). As the gyroscope and GPS antenna have both merit and demerit, input signals from them are prioritized in each situation. However, this order of priority may change in accordance with more detailed travel conditions so that the travel direction is detected more accurately.

NAVIGATION SYSTEM

< FUNCTION DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

Type	Advantage	Disadvantage
Gyroscope (angular velocity sensor)	<ul style="list-style-type: none"> Can detect the vehicle's turning angle quite accurately. 	<ul style="list-style-type: none"> Direction errors may accumulate when the vehicle is driven for long distances without stopping.
GPS antenna (GPS information)	<ul style="list-style-type: none"> Can detect the vehicle's travel direction (North/South/East/West). 	<ul style="list-style-type: none"> Correct direction cannot be detected when the vehicle speed is low.

MAP-MATCHING

Map-matching is a function that repositions the vehicle on the road map when a new location is judged to be the most accurate. This is done by comparing the current vehicle position, calculated by the method described in the position detection principle, with the road map data around the vehicle, read from the map DVD-ROM stored on the DVD-ROM drive.

Therefore, the vehicle position may not be corrected after the vehicle is driven over a certain distance or time in which GPS information is hard to receive. In this case, the current-location mark on the display must be corrected manually.

CAUTION:

The road map data is based on data stored on the HDD.

- 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 current-location mark has been repositioned.

If there is an error in distance and/or direction, the alternative routes will be shown in different order of priority, and the wrong road can be avoided.

If two roads are running in parallel, they are of the same priority. Therefore, the current-location mark may appear on either of them alternately, depending on maneuvering of the steering wheel and configuration of the road.

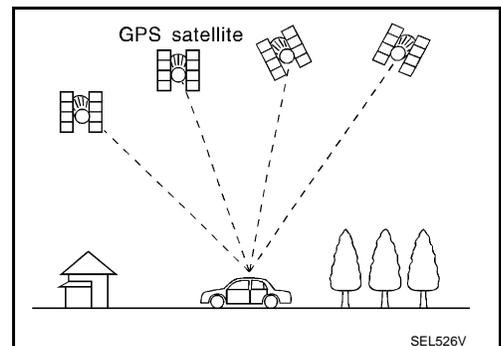
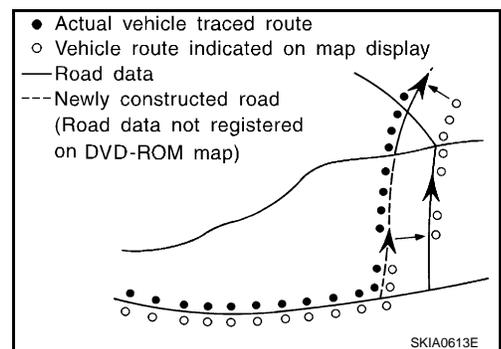
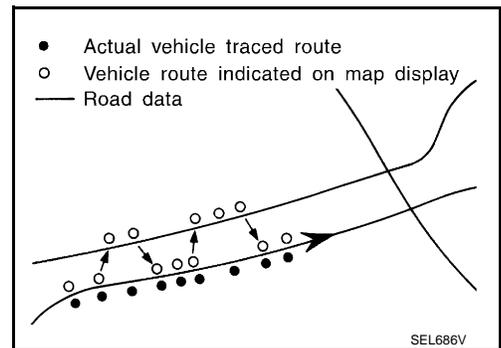
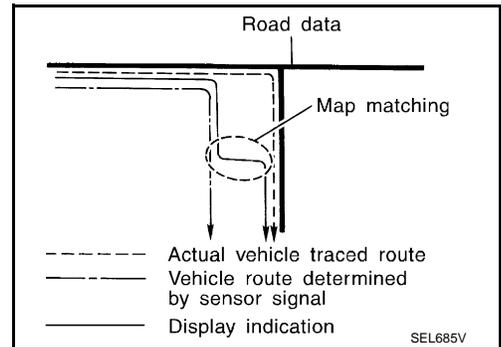
- Map-matching does not function correctly when the road on which the vehicle is driving is new and not recorded in the DVD-ROM, or when the road pattern stored in the map data and the actual road pattern are different due to repair.

When driving on a road not present in the map, the map-matching function may find another road and position the current-location mark on it. Then, when the correct road is detected, the current-location mark may leap to it.

- Effective range for comparing the vehicle position and travel direction calculated by the distance and direction with the road data read from the DVD-ROM is limited. Therefore, when there is an excessive gap between the current vehicle position and the position on the map, correction by map-matching is not possible.

GPS (GLOBAL POSITIONING SYSTEM)

GPS (Global Positioning System) has been developed and controlled by the US Department of Defense. The system utilizes GPS satellite (NAVSTAR), sending out radio waves while flying on an orbit around the earth at the height of approx. 21,000 km (13,000 miles). The GPS receiver calculates the vehicle's position in three dimensions (latitude/longitude/altitude) according to the time lag of the radio waves received from four or more GPS satellites (three-dimensional positioning). If radio waves were received only from three GPS satellites, the GPS receiver calculates the vehicle's position in two dimensions (latitude/longitude), utilizing the altitude data calculated previously by using radio waves from four or more GPS satellites (two-dimensional positioning).



NAVIGATION SYSTEM

< FUNCTION DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

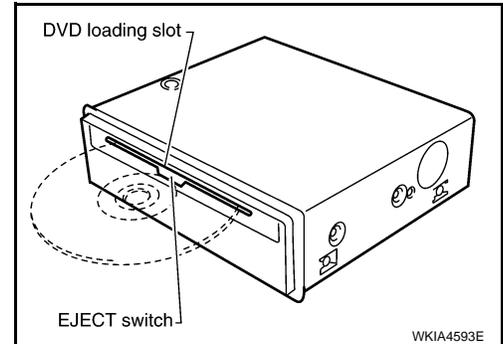
Accuracy of the GPS will deteriorate under the following conditions.

- In two-dimensional positioning, the GPS accuracy will deteriorate when the altitude of the vehicle position changes.
- There may be an error of approximately 10 m (30 ft.) in position detected by three-dimensional positioning, which is more accurate than two-dimensional positioning. The accuracy can be even lower depending on the arrangement of the GPS satellites utilized for the positioning.
- Position detection is not possible when the vehicle is in an area where radio waves from the GPS satellite do not reach, such as in a tunnel, parking lot in a building, and under an elevated highway. Radio waves from the GPS satellites may not be received when some object is located over the GPS antenna.
- Position correction by GPS is not available while the vehicle is stopped.

COMPONENT DESCRIPTION

NAVI Control Unit

- The gyro (angular speed sensor) and the DVD-ROM drive are built-in units that control the navigation functions.
- Signals are received from the gyro, the vehicle speed sensor, and the GPS antenna. Vehicle location is determined by combining this data with the data contained in the DVD-ROM map. Location information is shown on liquid crystal display (display unit).
- Maps, traffic control regulations, and other pertinent information can be easily read from the DVD-ROM disc.
- The oscillator gyro sensor is used to detect changes in vehicle steering angle.



Map DVD-ROM

- The map DVD-ROM has maps, traffic control regulations, and other pertinent information.
- To improve DVD-ROM map matching and route determination functions, the DVD-ROM uses an exclusive Nissan format. Therefore, the use of a DVD-ROM provided by other manufacturers cannot be used.

Display Control Unit

The display control unit coordinates audio and video signals between the NAVI control unit and the display unit.

Display Unit

Displays NAVI system information.

AV Switch

AV switch allows user to input NAVI display settings. Self diagnostics are initiated using AV switch.

GPS Antenna

GPS antenna sends signals to NAVI control unit.

Component Parts Location

INFOID:000000001663616

Refer to [AV-212, "Component Parts Location"](#).

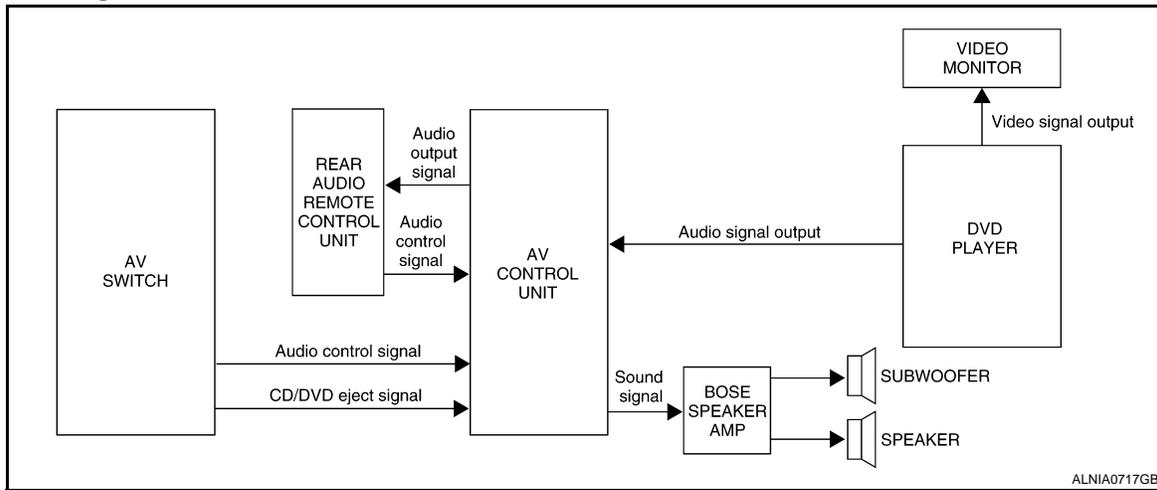
Component Description

INFOID:000000001663617

Part name	Description
Audio unit	<ul style="list-style-type: none"> • Controls each operation of the navigation system • Voice guidance signal is output to audio amp.
BOSE speaker amp.	Voice guidance signal is input from audio unit, and it is output to speakers.
Tweeter	Voice guidance signal from audio amp. is output.
Steering switches	<ul style="list-style-type: none"> • Each operation of navigation system can be performed • Switch operating signal is output to audio unit
Microphone	Sends voice signals to audio unit
GPS antenna	GPS signal is received and is output to audio unit.

DVD PLAYER

System Diagram



System Description

INFOID:000000001691180

The DVD entertainment system consists of the following components

- Audio unit
- DVD player
- Video monitor
- AV switch
- Steering wheel audio control switches
- Rear audio remote control unit
- Audio amp.
- Front tweeters
- Front door speakers
- Center speaker
- Rear door tweeters (crew cab)
- Rear door speakers
- Subwoofer

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 Audio unit. 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.

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

AV

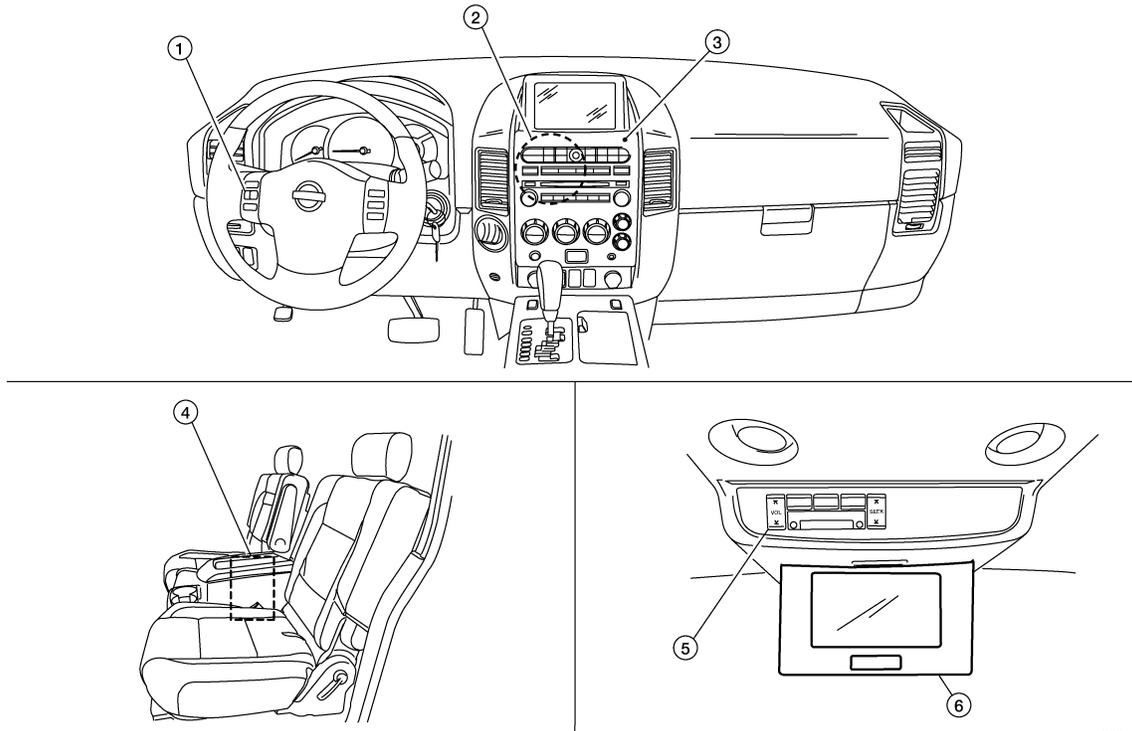
DVD PLAYER

< FUNCTION DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

Component Parts Location

INFOID:000000001691181



ALNIA0694GB

1. Steering wheel audio control switches 2. Audio unit M42, M43, M44, M45, M46 3. AV switch M98
 4. DVD player M205 (located in center console) 5. Rear audio remote control unit R204 6. Video monitor R202

Component Description

INFOID:000000001691182

Part name	Description
DVD player	<ul style="list-style-type: none"> Outputs DVD video to video monitor Outputs DVD audio to the audio unit
Video monitor	<ul style="list-style-type: none"> Receives and displays the DVD video signal
Audio unit	<ul style="list-style-type: none"> Controls audio system and DVD entertainment system functions
Audio amp.	<ul style="list-style-type: none"> Receives audio signals from the audio unit Outputs amplified audio signals to the speakers
AV switch	<ul style="list-style-type: none"> All audio operations can be operated Switch signal is output to the audio unit
Rear audio remote control unit	<ul style="list-style-type: none"> Audio and DVD functions can be operated Switch signal is output to the audio unit Receives audio signal from audio unit for headphones
Steering wheel audio control switches	<ul style="list-style-type: none"> Audio operation can be operated Steering switch signal (operation signal) is output to audio unit
Front door speakers	<ul style="list-style-type: none"> Outputs audio signal from audio amp. Outputs high, mid and low range sounds
Front tweeters	<ul style="list-style-type: none"> Outputs audio signal from audio amp. Outputs high range sounds
Center speaker	<ul style="list-style-type: none"> Outputs audio signal from audio amp. Outputs high, mid and low range sounds

DVD PLAYER

< FUNCTION DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

Part name	Description
Rear door tweeters (crew cab)	<ul style="list-style-type: none">• Outputs audio signal from audio amp.• Outputs high range sounds
Rear door speakers	<ul style="list-style-type: none">• Outputs audio signal from audio amp.• Outputs high, mid and low range sounds
Subwoofer	<ul style="list-style-type: none">• Outputs audio signal from audio amp.• Outputs low range sounds

A

B

C

D

E

F

G

H

I

J

K

L

M

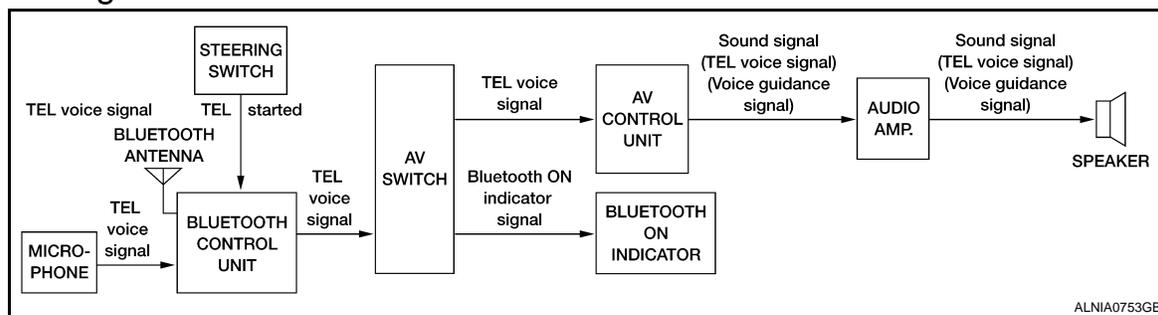
AV

O

P

HANDS-FREE PHONE SYSTEM

System Diagram



System Description

INFOID:000000001691184

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

NOTE:

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

Bluetooth telephone system allows users who have a Bluetooth equipped cellular telephone to make a wireless connection between their cellular telephone and the Bluetooth control unit. Hands-free cellular telephone calls can be sent and received. Personal memos can be created using the Nissan Voice Recognition system. Some Bluetooth cellular telephones may not be recognized by the Bluetooth control unit. When a cellular telephone or the Bluetooth control unit is replaced, the telephone must be paired with the Bluetooth control unit. Different cellular telephones may have different pairing procedures. Refer to the cellular telephone operating manual.

BLUETOOTH CONTROL UNIT

When the ignition switch is turned to ACC or ON, the Bluetooth control unit will power up. During power up, the Bluetooth control unit is initialized and performs various self checks. Initialization may take up to 10 seconds. If a phone is present in the vehicle and paired with the Bluetooth control unit, Nissan Voice Recognition will then become active. Bluetooth telephone functions can be turned off using the Nissan Voice Recognition system.

STEERING WHEEL AUDIO CONTROL SWITCHES

When buttons on the steering wheel audio control switch are pushed, the resistance in steering wheel audio control switch circuit changes depending on which button is pushed. The Bluetooth control unit uses this signal to perform various functions while navigating through the voice recognition system.

The following functions can be performed using the steering wheel audio control switch:

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

MICROPHONE

The microphone is located in the roof console assembly. The microphone sends a signal to the Bluetooth control unit. The microphone can be actively tested during self-diagnosis.

AV CONTROL UNIT

The AV control unit receives signals from the Bluetooth control unit and sends audio signals to the audio amp, then on to the speakers.

Component Parts Location

INFOID:000000001691185

Refer to [AV-212. "Component Parts Location"](#).

HANDS-FREE PHONE SYSTEM

< FUNCTION DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

Component Description

INFOID:000000001691186

Part name	Description
Audio unit	<ul style="list-style-type: none">• Receives telephone voice signal from Bluetooth control unit• Sends telephone voice and voice guidance signals to the speakers
Audio amp.	<ul style="list-style-type: none">• Receives audio signals from the audio unit• Outputs amplified audio signals to the speakers.
Front door speaker	Receives telephone voice and voice guidance signals from the audio amp.
Front tweeter	
Center speaker	
Steering wheel audio control switches	<ul style="list-style-type: none">• Start a voice recognition session• Answer and end telephone calls• Adjust the volume level
Microphone	Sends voice signals to Bluetooth control unit
Bluetooth control unit	Controls hands-free phone functions
Bluetooth antenna	Sends telephone voice signal to Bluetooth control unit
Bluetooth ON indicator	Controlled by the Bluetooth control unit

A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

P

DIAGNOSIS SYSTEM (AUDIO UNIT)

AUDIO UNIT

AUDIO UNIT : Diagnosis Description

INFOID:000000001691187

For self-diagnosis function information, refer to [AV-223, "Diagnosis Description"](#).

AV SWITCH

AV SWITCH : Component Function Check

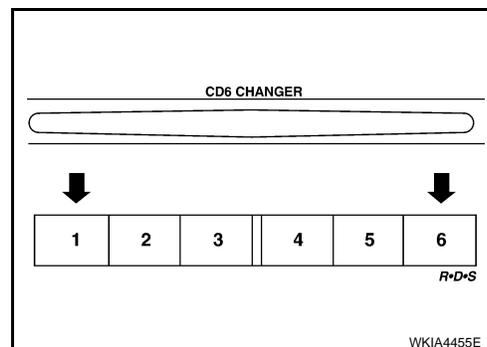
INFOID:000000001691189

STARTING THE SELF-DIAGNOSIS MODE

1. Turn ignition switch from OFF to ACC.
2. Within 10 seconds press and hold the switches "MEMORY 1" and "MEMORY 6" simultaneously for 3 seconds.
Then the self-diagnosis operates. A single beep indicates self-diagnosis mode is active.
3. Press each switch and listen for beep.

NOTE:

CD player LOAD and EJECT buttons are not included in this test and will not beep when pressed.



DIAGNOSIS FUNCTION

- It can check for continuity of the switches by sounding the beep when each AV switch and steering switch is pressed.
- It can check for continuity of harness between AV switch and steering switch.

EXITING THE SELF-DIAGNOSIS MODE

Turn ignition switch OFF. Then the self-diagnosis ends.

DIAGNOSIS SYSTEM (NAVI CONTROL UNIT)

< FUNCTION DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

DIAGNOSIS SYSTEM (NAVI CONTROL UNIT)

Diagnosis Description

INFOID:000000001691192

DESCRIPTION

- Diagnosis function consists of the self-diagnosis mode performed automatically and the CONFIRMATION/ADJUSTMENT mode operated manually.
- Self-diagnosis mode checks for connections between the units constituting this system, analyzes each individual unit at the same time, and displays the results on the LCD screen.
- CONFIRMATION/ADJUSTMENT mode is used to perform trouble diagnosis that require operation and judgment by an operator (trouble that cannot be automatically judged by the system), to check/change the set value, and to display the Error History of the navigation system.

Work Flow

INFOID:000000001691193

ON BOARD SELF-DIAGNOSIS FUNCTION

Diagnosis Item

Mode		Description	
Self-diagnosis (DCU)		Display control unit diagnosis.	
Self-diagnosis (NAVI)		<ul style="list-style-type: none"> • NAVI Control unit diagnosis (DVD-ROM drive) will not be diagnosed when no map DVD-ROM is in it. • Analyzes connection between the NAVI control unit and the GPS antenna and operation of each unit. 	
CONFIRMATION/ ADJUSTMENT	Display diagnosis	On display control unit mode, color tone and shading of the screen can be checked by the display of a color bar and a gray scale.	
	Vehicle signals	On display control unit mode, analyzes the following vehicle signals: Vehicle speed signal, light signal ^{NOTE} , ignition switch signal, and reverse signal.	
	Auto Climate Control (if equipped)	A/C self-diagnosis of A/C system.	
	Navigation	Display diagnosis	On NAVI C/U mode, color tone and shading of the screen can be checked by the display of a color bar and a gray scale.
		Vehicle signals	On NAVI C/U mode, analyzes the following vehicle signals: Vehicle speed signal, light signal, ignition switch signal, and reverse signal.
		Error History	Diagnosis results previously stored in the memory (before turning ignition switch ON) are displayed in this mode. Time and location when/where the errors occurred are also displayed.
	Navigation	Speed Calibration	Under ordinary conditions, the navigation system distance measuring function will automatically compensate for minute decreases in wheel and tire diameter caused by tire wear or low-pressure. Speed calibration immediately restores system accuracy in cases such as when distance calibration is needed because of the use of tire chains in inclement weather.
Steering Angle Adjustment		Corrects difference between actual turning angle of a vehicle and turning angle of the car mark on the display.	
CAN DIAG SUPPORT MONITOR		Display status of CAN communication.	

NOTE:

Make the status that is set by D/N function be shown.

SELF-DIAGNOSIS MODE (DCU)

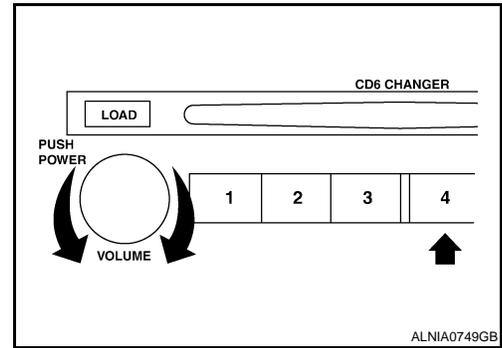
1. Start the engine.
2. Turn the audio system off.

DIAGNOSIS SYSTEM (NAVI CONTROL UNIT)

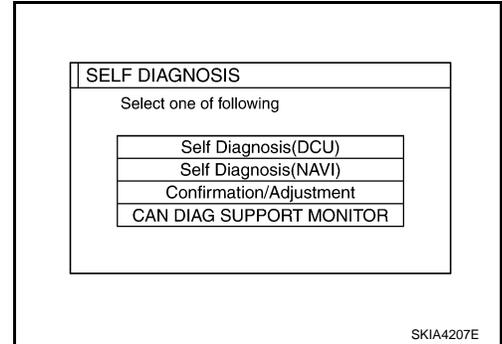
[PREMIUM WITH NAVIGATION]

< FUNCTION DIAGNOSIS >

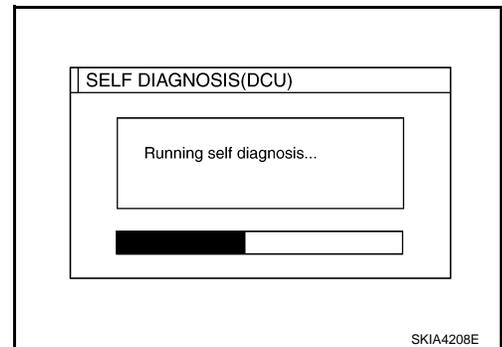
- While pressing the “MEMORY 4” button, turn the volume control dial clockwise or counterclockwise for 30 clicks or more. (When the self-diagnosis mode is started, a short beep will be heard.)
 - Shifting from current screen to previous screen is performed by pressing “BACK” button.



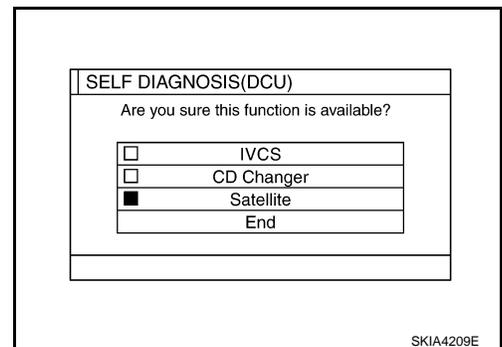
- The initial self-diagnosis screen will be shown, and items “Self-Diagnosis (DCU)”, “Self-Diagnosis (NAVI)”, “Confirmation/Adjustment” and “CAN DIAG SUPPORT MONITOR” will become selective.



- Perform self-diagnosis by selecting the “Self-Diagnosis”.
 - Self-diagnosis subdivision screen will be shown and the operation enters the self-diagnosis mode.
 - A bar graph shown below the self-diagnosis subdivision screen indicates progress of the diagnosis.



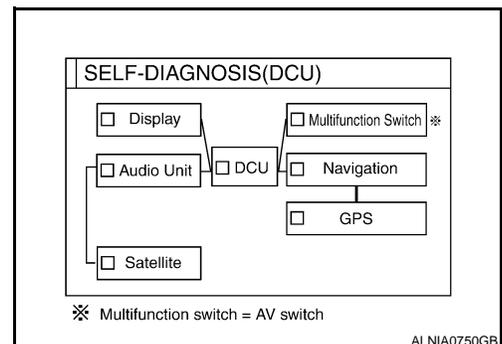
- When the self-diagnosis completes, optional part confirmation screen will be shown.
 - When connection of an optional part is judged error, a screen to check if the optional part is actually fitted on the vehicle or not will be shown. When fitted, select the switch of the part on the screen and press “End”. Then the “SELF DIAGNOSIS” screen will be shown.
 - When the optional part is connected normally, the switch for the part will not appear on the screen.



- On the “SELF DIAGNOSIS” screen, each unit name will be colored according to the diagnosis result, as follows.

- Green** : Not malfunctioning.
- Yellow** : Cannot be judged by self-diagnosis results.
- Red** : Unit is malfunctioning.
- Gray** : Diagnosis has not been done.

- If several malfunctions are present in a unit, color of its switch on the screen will be either red, yellow, or gray, determined by the malfunction of the highest priority.

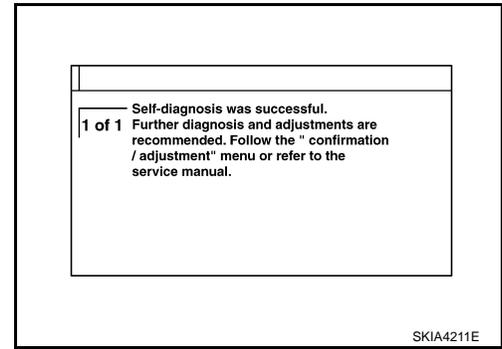


DIAGNOSIS SYSTEM (NAVI CONTROL UNIT)

[PREMIUM WITH NAVIGATION]

< FUNCTION DIAGNOSIS >

8. Select a switch on the “SELF DIAGNOSIS” screen and comments for the diagnosis results will be shown.
 - When the switch is green, the following comment will be shown. “Self-diagnosis was successful. Further diagnosis and adjustments are recommended. Follow the “confirmation/adjustment” menu or refer to the service manual.”
 - When the switch is yellow, the following comment will be shown. “Connection to the following unit is abnormal. See the service manual for further details”.
 - When the switch is red, the following comment will be shown. “DCU is abnormal”.



SELF-DIAGNOSIS RESULT

Quick reference table

1. Select a malfunctioning diagnosis No. in the diagnosis result quick reference table.
2. Find estimated malfunctioning system in the diagnosis No. table and perform check.
3. Turn the ignition switch OFF and perform self-diagnosis again.

Screen switch						Diagnosis No.
Switch color	DCU*	DISPLAY	Audio unit	Navigation	GPS antenna	
Red	×					1
Gray	×	x				2
	x		x			3
	×			x	x	4

*: DCU = Display control unit

CAUTION:

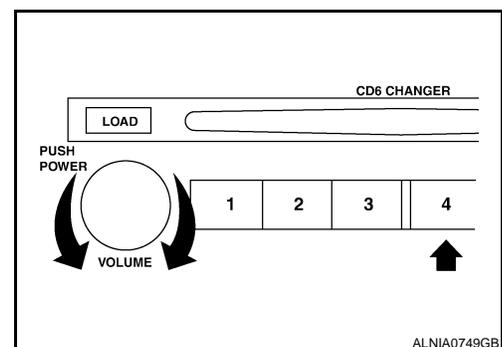
- When AV switch has a malfunction, you cannot start. Refer to [AV-222. "AV SWITCH : Component Function Check"](#) .
- When display unit has a malfunction, you cannot start. Refer to [AV-238. "DISPLAY CONTROL UNIT : Diagnosis Procedure"](#) .

Self-Diagnosis Codes

Diagnosis No.	Possible cause	Reference page
1	Display control unit malfunction	Refer to AV-238 .
2	Display communication line between display control unit and display unit	Refer to AV-311 .
3	Audio unit power supply and ground circuit Audio communication line between display control unit and audio unit	Refer to AV-236 .
4	NAVI control unit power supply and ground circuit AV communication line between display control unit and NAVI control unit	Refer to AV-236 .

SELF-DIAGNOSIS MODE (NAVI)

1. Start the engine.
2. Turn the audio system off.
3. While pressing the “MEMORY 4” button, turn the volume control dial clockwise or counterclockwise for 30 clicks or more. (When the self-diagnosis mode is started, a short beep will be heard.)
 - Shifting from current screen to previous screen is performed by pressing “BACK” button.

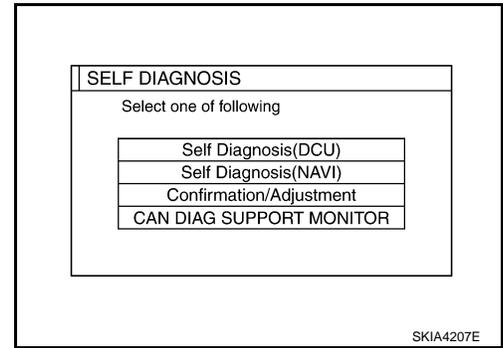


DIAGNOSIS SYSTEM (NAVI CONTROL UNIT)

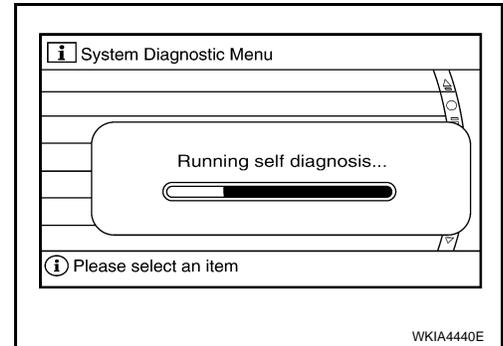
[PREMIUM WITH NAVIGATION]

< FUNCTION DIAGNOSIS >

4. The initial self-diagnosis screen will be shown, and items “Self-Diagnosis (DCU)”, “Self-Diagnosis (NAVI)”, “Confirmation/Adjustment” and “CAN DIAG SUPPORT MONITOR” will become selective.



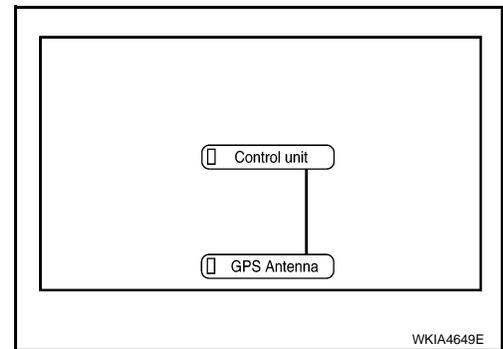
5. Perform self-diagnosis by selecting the “Self-diagnosis (NAVI)”.
 • Self-diagnosis subdivision screen will be shown and the operation enters the self-diagnosis mode.
 • A bar graph will be shown on the screen to indicate progress of the diagnosis.



6. On the “SELF DIAGNOSIS” screen, each unit name will be colored according to the diagnosis result, as follows.

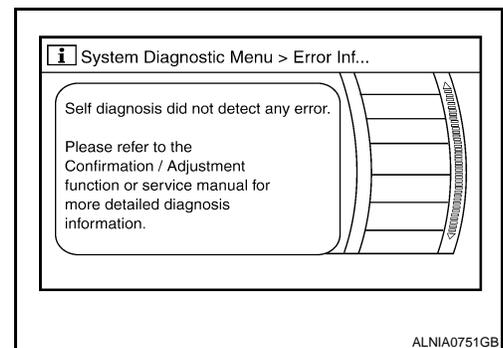
- Green** : Not malfunctioning.
- Yellow** : Cannot be judged by self-diagnosis results.
- Red** : Unit is malfunctioning.
- Gray** : Diagnosis has not been done.

- If several malfunctions are present in a unit, color of its switch on the screen will be either red, yellow, or gray, determined by the malfunction of the highest priority.



7. Select a switch on the “SELF DIAGNOSIS” screen and comments for the diagnosis results will be shown.

- When the switch is green, the following comment will be shown. “Self diagnosis did not detect any error. Please refer to the Confirmation / Adjustment function or service manual for more detailed diagnosis information.”
- When the switch is yellow, the following comment will be shown. “Connection to the following unit is abnormal. See the service manual for further details”.
- When the switch is red, the following comment will be shown. “Center Control Unit is abnormal”.
- When the switch is gray, the following comment will be shown. “Detected connection error(s) are the following. Please refer to the confirmation/adjustment function or service manual for more detailed diagnosis information.”



SELF-DIAGNOSIS RESULT

Quick reference table

1. Select an malfunctioning diagnosis No. in the diagnosis result quick reference table.
2. Find estimated malfunctioning system in the diagnosis No. table and perform check.
3. Turn the ignition switch OFF and perform self-diagnosis again.

DIAGNOSIS SYSTEM (NAVI CONTROL UNIT)

< FUNCTION DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

Screen switch			Diagnosis No.
Switch color	Control unit*	GPS antenna	
Red	×		1
Gray	×		2
Yellow	×		3
	×		4
	×	×	5

*: Control unit = NAVI control unit

CAUTION:

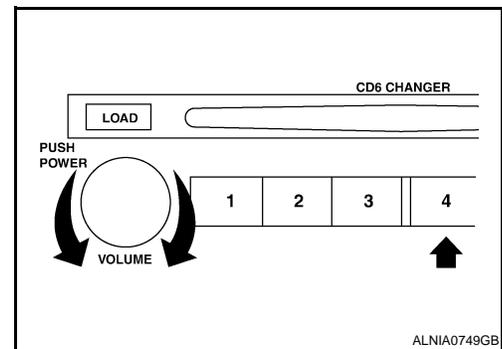
- When AV switch has a malfunction, you cannot start. Refer to [AV-222, "AV SWITCH : Component Function Check"](#) .
- When display unit has a malfunction, you cannot start. Refer to [AV-237, "DISPLAY UNIT : Diagnosis Procedure"](#) .

Self-diagnosis codes

Diagnosis No.	Possible cause	Reference page
1	NAVI control unit malfunction.	Refer to AV-236
2	No map DVD-ROM is inserted in the NAVI control unit.	Refer to AV-214
3	When "DVD-ROM error. Please check disc." is shown. 1. Eject map DVD-ROM and check if it is compatible with the system. 2. Check ejected DVD-ROM for dirt, damage, and warpage. 3. If no error is found, insert a known good map DVD-ROM of the same type and perform self-diagnosis again. If same result is shown, the NAVI control unit is malfunctioning. If result is normal, the map DVD-ROM is malfunctioning.	Refer to AV-214
4	If "Error found in DVD-ROM or DVD-ROM driver in control unit. Please perform diagnosis in accordance with service manual" is shown, carry out same inspection as diagnosis No. 3.	Refer to AV-214
5	GPS antenna system. 1. Visually check for a broken wire in the GPS antenna coaxial cable. 2. Disconnect GPS antenna connector, and make sure approximately 5V is supplied from the NAVI control unit. If not, the NAVI control unit is malfunctioning. If 5V is supplied, replace the GPS antenna. If the connection is still malfunction after the replacement of the GPS antenna, the NAVI control unit is malfunctioning.	Refer to AV-350

CONFIRMATION/ADJUSTMENT MODE

1. Start the engine.
2. Turn the audio system off.
3. While pressing the "MEMORY 4" button, turn the volume control dial clockwise or counterclockwise for 30 clicks or more. (When the self-diagnosis mode is started, a short beep will be heard.)
 - Shifting from current screen to previous screen is performed by pressing "BACK" button.

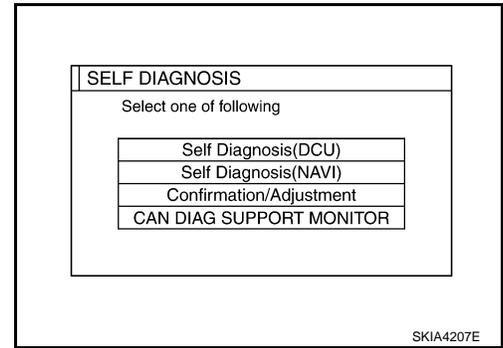


DIAGNOSIS SYSTEM (NAVI CONTROL UNIT)

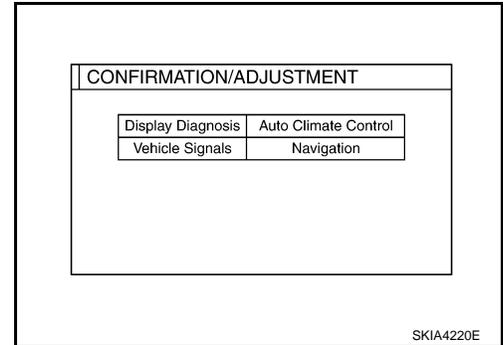
[PREMIUM WITH NAVIGATION]

< FUNCTION DIAGNOSIS >

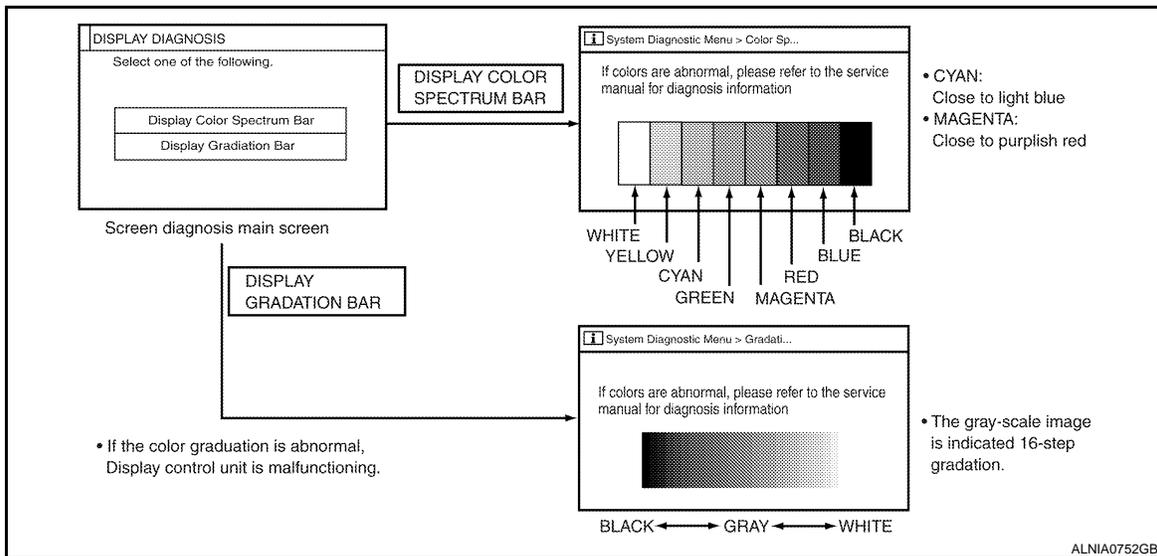
- The initial self-diagnosis screen will be shown, and items "Self-Diagnosis (DCU)", "Self-Diagnosis (NAVI)", "Confirmation/Adjustment" and "CAN DIAG SUPPORT MONITOR" will become selective.



- When "Confirmation/Adjustment" is selected on the initial self-diagnosis screen, the operation will enter the CONFIRMATION/ADJUSTMENT mode. In this mode, check and adjustment of each item will become possible.
- The initial trouble diagnosis screen will be shown, and items "Display Diagnosis", "Vehicle Signals", "Auto Climate Control" and "Navigation" will become selective.
- Select each switch on "CONFIRMATION/ADJUSTMENT" screen to display the relevant diagnosis screen.



DISPLAY DIAGNOSIS



- When RGB signal error occurred in the RGB system, tone of the color bar will change as follows.

- R (red) signal error** : Screen looks bluish
- G (green) signal error** : Screen looks reddish
- B (blue) signal error** : Screen looks yellowish

- When the color of the screen looks unusual, refer to [AV-246. "Description"](#) , [AV-247. "Description"](#) and [AV-248. "Description"](#) .

VEHICLE SIGNALS

DIAGNOSIS SYSTEM (NAVI CONTROL UNIT)

[PREMIUM WITH NAVIGATION]

< FUNCTION DIAGNOSIS >

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

CAUTION:

In case of confirming light signal, set D/N mode to ON/OFF of lighting switch (normal setting).

- OFF: D (Day mode)
- ON: N (Night mode)

Unless above setting, light signal (ON/OFF) may not be accurately displayed.

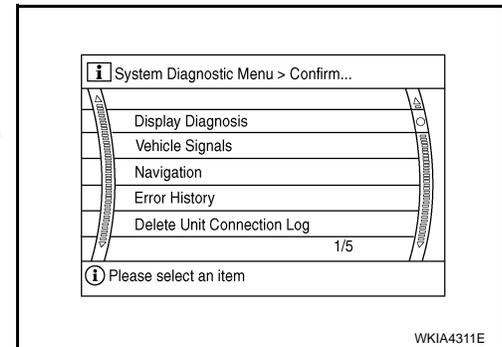
VEHICLE SIGNALS	
Vehicle Speed	OFF
IGN	ON
Reverse	OFF
IVCS	OFF
Light	OFF

WKIA4306E

Diagnosis item	Display	Condition	Remarks
Vehicle speed	ON	Vehicle speed > 0 km/h (0 MPH)	Changes in indication may be delayed by approx. 1.5 seconds. This is normal.
	OFF	Vehicle speed = 0 km/h (0 MPH)	
	-	Ignition switch in ACC position	
Light	ON	Lighting switch ON	-
	OFF	Lighting switch OFF	
IGN	ON	Ignition switch ON	-
	OFF	Ignition switch ACC	
Reverse	ON	Selector lever in R position	Changes in indication may be delayed by approx. 1.5 seconds. This is normal.
	OFF	Selector lever in other than R position	
	-	Ignition switch in ACC position	

NAVIGATION

- The initial confirmation/adjustment screen will be shown, and items "Display Diagnosis", "Vehicle Signals", "Navigation", "Error History" and "Delete Unit Connection Log" will become selective.
- Select each switch on "CONFIRMATION/ADJUSTMENT" screen to display the relevant diagnosis screen.



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

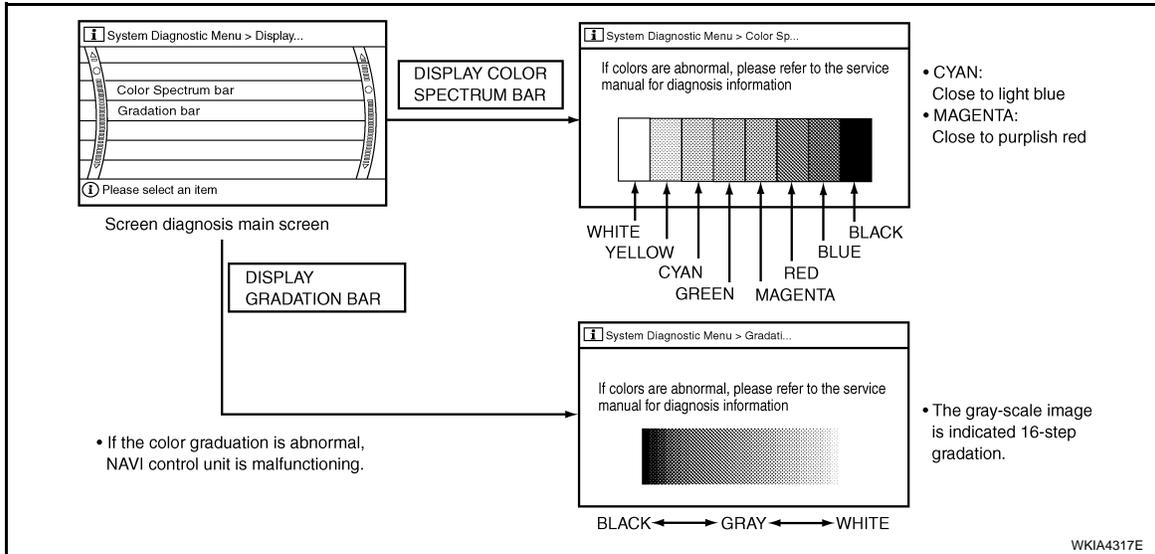
AV

DIAGNOSIS SYSTEM (NAVI CONTROL UNIT)

< FUNCTION DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

DISPLAY DIAGNOSIS



- When RGB signal error occurred in the RGB system, tone of the color bar will change as follows.

R (red) signal error : Screen looks bluish
G (green) signal error : Screen looks reddish
B (blue) signal error : Screen looks yellowish

- When the color of the screen looks unusual, refer to [AV-246, "Description"](#) , [AV-247, "Description"](#) and [AV-248, "Description"](#) .

VEHICLE SIGNALS

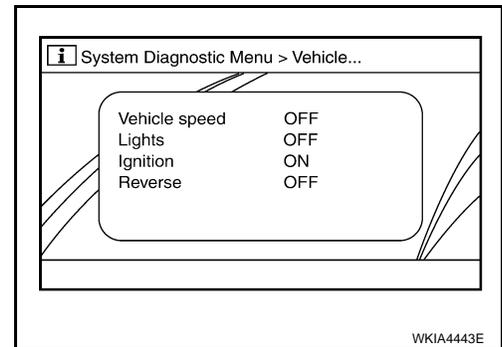
- A comparison check can be made of each actual vehicle signal and the signals recognized by the system.

CAUTION:

In case of confirming light signal, set D/N mode to ON/OFF of light switch (normal setting).

- OFF: D (Day mode)
- ON: N (Night mode)

Unless mode is in above setting, light signal (ON/OFF) may not be accurately displayed.



Diagnosis item	Display	Condition	Remarks
Vehicle speed	ON	Vehicle speed > 0 km/h (0 MPH)	Changes in indication may be delayed by approx. 1.5 seconds. This is normal.
	OFF	Vehicle speed = 0 km/h (0 MPH)	
	–	Ignition switch in ACC position	
Lights	ON	Lighting switch ON	–
	OFF	Lighting switch OFF	
Ignition	ON	Ignition switch ON	–
	OFF	Ignition switch ACC	
Reverse	ON	Selector lever in R position	Changes in indication may be delayed by approx. 1.5 seconds. This is normal.
	OFF	Selector lever in other than R position	
	–	Ignition switch in ACC position	

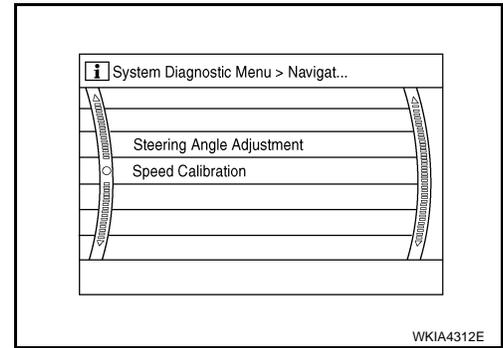
NAVIGATION

DIAGNOSIS SYSTEM (NAVI CONTROL UNIT)

[PREMIUM WITH NAVIGATION]

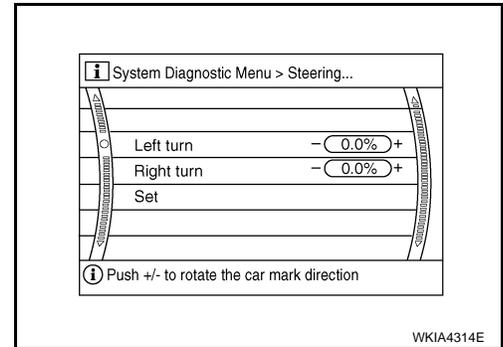
< FUNCTION DIAGNOSIS >

1. The navigation screen will be shown, and items “Speed Calibration” and “Steering Angle Adjustment” will become selective.
2. Select each switch on “NAVIGATION” screen to display the relevant diagnosis screen.



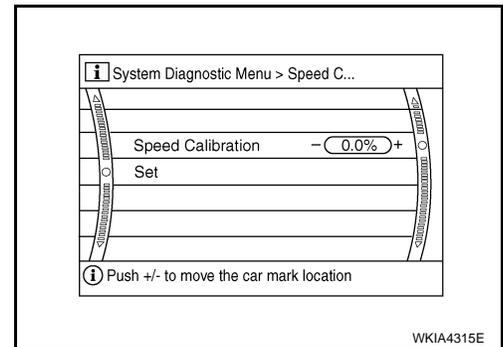
Steering Angle Adjustment

- Adjusts turning angle output detected by the gyroscope.

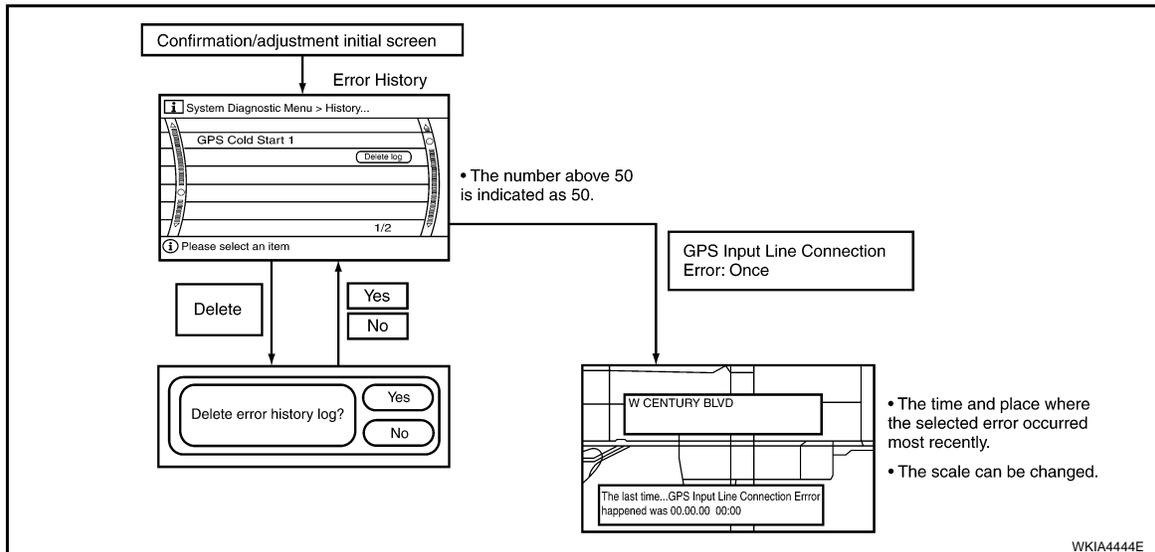


Speed Calibration

- During normal driving, distance error caused by tire wear and tire pressure change is automatically adjusted for by the automatic distance correction function. This function, on the other hand, is for immediate adjustment, in cases such as driving with tire chain fitted on tires.



ERROR HISTORY



DIAGNOSIS BY ERROR HISTORY

The “Self-diagnosis” results indicate whether an error occurred during the period from when the ignition switch is turned to ON until “Self-diagnosis” is completed.

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

AV

DIAGNOSIS SYSTEM (NAVI CONTROL UNIT)

[PREMIUM WITH NAVIGATION]

< FUNCTION DIAGNOSIS >

If an error occurred before the ignition switch was turned to ON and does not occur again until the “Self-diagnosis” is completed, the diagnosis result will be judged normal. Therefore, those errors in the past which cannot be found by the “Self-diagnosis” must be found by diagnosing the “Error History”.

The Error History displays the time and place of the most recent occurrence of that error. However, take note of the following points.

- Correct time of the error occurrence may not be displayed when the GPS antenna substrate within the NAVI control unit has malfunctioned.
- Place of the error occurrence is represented by the position of the current-location mark at the time when the error occurred. If the current-location mark has deviated from the correct position, then the place of the error occurrence may be located correctly.
- The maximum number of occurrences which can be stored is 50. For the 51st and later occurrences, the displayed number remains 50.

When a reproducible malfunction occurred but its cause cannot be identified because several errors are present, record the item, number and place (longitude/latitude) of error occurrence (or delete the Error History), then turn the ignition switch from OFF to ON to reproduce the malfunction. Check the Error History to find the items which show an increased number of occurrences, and diagnose the item.

Error item	Possible causes	Example of symptom
	Action/symptom	
Gyro sensor disconnected	Communications malfunction between NAVI control unit and internal gyro.	<ul style="list-style-type: none"> • Navigation location detection performance has deteriorated. (Angular velocity cannot be detected.)
	<ul style="list-style-type: none"> • Perform self-diagnosis. • When the NAVI control unit is judged normal by self-diagnosis, the symptom may be intermittent, caused by strong radio interference. 	
GPS disconnected	Communication error between NAVI control unit and internal GPS substrate.	<ul style="list-style-type: none"> • Navigation location detection performance has deteriorated. (Location correction using GPS is not performed.) • GPS receiving status remains gray.
	<ul style="list-style-type: none"> • Perform self-diagnosis. • When the NAVI control unit is judged normal by self-diagnosis, the symptom may be intermittent, caused by strong radio interference. 	
GPS transmission cable malfunction	Malfunctioning transmission wires to NAVI control unit and internal GPS substrate.	<ul style="list-style-type: none"> • During self-diagnosis, GPS diagnosis is not performed.
	<ul style="list-style-type: none"> • Perform self-diagnosis. • When the NAVI control unit is judged normal by self-diagnosis, the symptom may be intermittent, caused by strong radio interference. 	
GPS input line connection error	Malfunctioning receiving wires to NAVI control unit and internal GPS substrate.	<ul style="list-style-type: none"> • Navigation location detection performance has deteriorated. (Location correction using GPS is not performed.) • GPS receiving status remains gray.
	<ul style="list-style-type: none"> • Perform self-diagnosis. • When the NAVI control unit is judged normal by self-diagnosis, the symptom may be intermittent, caused by strong radio interference. 	
GPS TCX0 over GPS TCX0 under	Oscillating frequency of the GPS substrate frequency synchronizing oscillation circuit exceeded (or below) the specification	<ul style="list-style-type: none"> • Navigation location detection performance has deteriorated. (Location correction using GPS is not performed.) • GPS receiving status remains gray.
	<ul style="list-style-type: none"> • Perform self-diagnosis. • When the NAVI control unit is judged normal by self-diagnosis, the symptom may be intermittent, caused by strong radio interference, or the control unit may have been subjected to excessively high or low temperatures. 	
GPS ROM malfunction GPS RAM malfunction	Contents of ROM (or RAM) in GPS substrate are malfunctioning.	<ul style="list-style-type: none"> • Location detection accuracy of the navigation system will deteriorate, depending on the error area in the memory, because GPS cannot make correct positioning. (Location correction using GPS is not performed.)
	<ul style="list-style-type: none"> • Perform self-diagnosis. • When the NAVI control unit is judged normal by self-diagnosis, the symptom may be intermittent, caused by strong radio interference. 	

DIAGNOSIS SYSTEM (NAVI CONTROL UNIT)

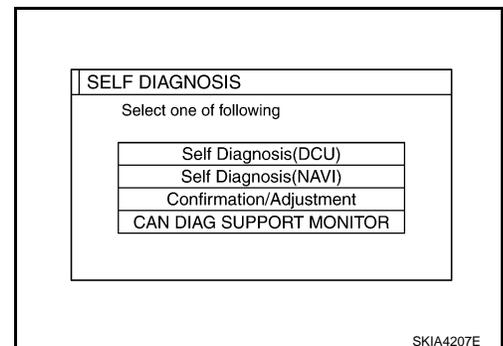
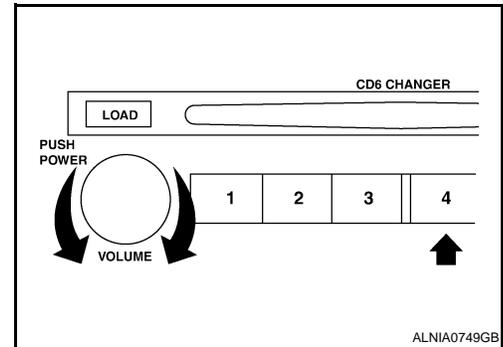
[PREMIUM WITH NAVIGATION]

< FUNCTION DIAGNOSIS >

Error item	Possible causes	Example of symptom
	Action/symptom	
GPS RTC malfunction	Clock IC in GPS substrate is malfunctioning.	<ul style="list-style-type: none"> • Correct time may not be displayed. • After the power is turned on, the system always takes some time until GPS positioning becomes possible. (The GPS receiver starts positioning without re-collecting the whole satellite information when it judged the data stored in the receiver is correct.) • Correct time of error occurrence may not be stored in the "Error History".
	<ul style="list-style-type: none"> • Perform self-diagnosis. • When the NAVI control unit is judged normal by self-diagnosis, the symptom may be intermittent, caused by strong radio interference. 	
GPS antenna disconnected	Malfunctioning connection between GPS substrate in NAVI control unit and GPS antenna.	<ul style="list-style-type: none"> • Navigation location detection performance has deteriorated. (Location correction using GPS is not performed.) • GPS receiving status remains gray.
	<ul style="list-style-type: none"> • Perform self-diagnosis. • When connection between NAVI control unit and GPS antenna is judged normal by self-diagnosis, the symptom may be intermittent, caused by impact or vibration. 	
Low voltage of GPS	The power voltage supplied to the GPS circuit board has decreased.	<ul style="list-style-type: none"> • Navigation location detection performance has deteriorated. (Location correction using GPS is not performed.) • GPS receiving status remains gray.
	<ul style="list-style-type: none"> • Perform self-diagnosis. • When connection between NAVI control unit and GPS antenna is judged normal by self-diagnosis, the symptom may be intermittent, caused by impact or vibration. 	
DVD-ROM Malfunction DVD-ROM Read error DVD-ROM Response Error	Malfunctioning NAVI control unit.	-
	Dedicated map DVD-ROM is in the system, but the data cannot be read.	<ul style="list-style-type: none"> • The map of a particular location cannot be displayed. • Specific guidance information cannot be displayed. • Map display is slow. • Guidance information display is slow. • System has been affected by vibration.
	<ul style="list-style-type: none"> • Is map DVD-ROM damaged, warped, or dirty? - If damaged or warped, the map DVD-ROM is malfunctioning. - If dirty, wipe the DVD-ROM clean with a soft cloth. • Perform self-diagnosis. • When NAVI control unit is judged normal by self-diagnosis, the symptom is judged intermittent, caused by vibration. 	

CAN DIAG SUPPORT MONITOR

1. Start the engine.
2. Turn the audio system off.
3. While pressing the "MEMORY 4" button, turn the volume control dial clockwise or counterclockwise for 30 clicks or more. (When the self-diagnosis mode is started, a short beep will be heard.)
 - Shifting from current screen to previous screen is performed by pressing "BACK" button.
4. The initial self-diagnosis screen will be shown, and items "Self-Diagnosis (DCU)", "Self-Diagnosis (NAVI)", "Confirmation/Adjustment" and "CAN DIAG SUPPORT MONITOR" will become selective.
5. Select "CAN DIAG SUPPORT MONITOR".



DIAGNOSIS SYSTEM (NAVI CONTROL UNIT)

< FUNCTION DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

6. Display status of CAN communication.

Item	Content	Error counter
CAN_COMM	OK/NG	0-50
CAN_CIRC_1	OK/UNKWN	0-50
CAN_CIRC_2	OK/UNKWN	0-50
CAN_CIRC_3	OK/UNKWN	0-50
CAN_CIRC_4	OK/UNKWN	0-50
CAN_CIRC_5	OK/UNKWN	0-50
CAN_CIRC_6	OK/UNKWN	0-50
CAN_CIRC_7	OK/UNKWN	0-50
CAN_CIRC_8	OK/UNKWN	0-50
CAN_CIRC_9	OK/UNKWN	0-50

CAN DIAG SUPPORT MONITOR			Delete
CAN_COMM	OK	0	
CAN_CIRC_1	OK	0	
CAN_CIRC_2	OK	0	
CAN_CIRC_3	OK	0	
CAN_CIRC_4	UNKWN	1	
CAN_CIRC_5	UNKWN	1	
CAN_CIRC_6	UNKWN	1	
CAN_CIRC_7	OK	0	
CAN_CIRC_8	OK	0	
CAN_CIRC_9	OK	0	

SKIA4288E

- If the ignition is turned on and UNKWN is shown on the screen, the value of the counter will be up. (MAX50)
- The value of the counter does not change if the ignition changes to OFF. (MAX50)
- If the counter shows the value of 50 and UNKWN is shown, the value of 50 will not be changed.

DIAGNOSIS SYSTEM (BLUETOOTH CONTROL UNIT)

< FUNCTION DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

DIAGNOSIS SYSTEM (BLUETOOTH CONTROL UNIT)

Diagnosis Description

INFOID:000000001691190

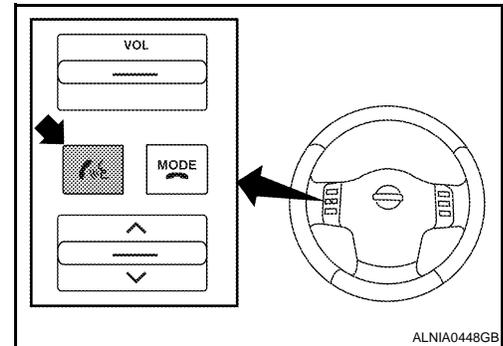
The Bluetooth control unit has two diagnostic checks. The first diagnostic check is performed automatically every ignition cycle during control unit initialization. The second diagnostic check is performed by the technician using the steering wheel audio control switches prior to trouble diagnosis.

BLUETOOTH CONTROL UNIT INITIALIZATION CHECKS

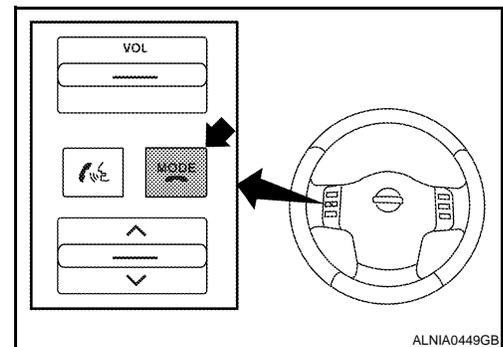
- Internal control unit failure
- Bluetooth antenna connection open or shorted
- Steering wheel audio control switches [SEND(👉📶)/END(MODE)] stuck closed
- Vehicle speed pulse count
- Microphone connection test (with playback to operator)
- Bluetooth inquiry check

OPERATION PROCEDURE

1. Turn ignition switch to ACC or ON.
2. Wait for the Bluetooth system to complete initialization. This may take up to 10 seconds.
3. Press and hold the steering wheel audio control switch  button for at least 5 seconds. The Bluetooth system will begin to play a verbal prompt.



4. While the prompt is playing, press and hold the steering wheel audio control switch  button until you hear the “Diagnostics mode” prompt. The Bluetooth system will sound a 5 second beep.
5. While the beep is sounding, press and hold the steering wheel audio control switch  button again until you hear prompts.
6. The Bluetooth system has now entered into the diagnostic mode. Results of the diagnostic checks will be verbalized to the technician. Refer to [AV-223, "Work Flow"](#).
7. After the failure records are reported, an interactive microphone test will be performed. Follow the voice prompt. If the microphone test fails refer to [AV-223, "Work Flow"](#).
8. Self-diagnosis mode is complete when the voice prompt says “All diagnostic functions completed”.



Work Flow

INFOID:000000001691191

Failure Message	Action
“Internal failure”	Replace Bluetooth control unit. Refer to AV-207, "Removal and Installation" .
“Bluetooth antenna open”	<ol style="list-style-type: none"> 1. Inspect harness connection. 2. Replace Bluetooth antenna. Refer to AV-206, "Removal and Installation".
“Bluetooth antenna shorted”	
“Phone/Send for Hands Free System is stuck”	Check steering wheel audio control switches. Refer to AV-142, "Description" .
“Phone/End for the Hands Free System is stuck”	
“Microphone test” (failed interactive test)	<ol style="list-style-type: none"> 1. Inspect harness between Bluetooth control unit and microphone. 2. Replace microphone. Refer to AV-205, "Removal and Installation".

COMPONENT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

AUDIO UNIT

AUDIO UNIT : Diagnosis Procedure

INFOID:000000001691194

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	6	Battery power	31
	10	Ignition switch ACC or ON	4

Are the fuses OK?

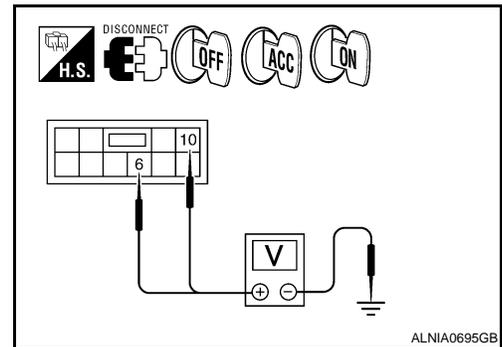
YES >> GO TO 2

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 M43.
2. Check voltage between the audio unit connector M43 and ground.

(+)		(-)	OFF	ACC	ON
Connector	Terminal				
M43	6	Ground	0V	Battery voltage	Battery voltage
	10	Ground	Battery voltage	Battery voltage	Battery voltage



Are the voltage results as specified?

YES >> GO TO 3

NO >> • Check connector housing 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.

NAVI CONTROL UNIT

NAVI CONTROL UNIT : Diagnosis Procedure

INFOID:000000001691480

1.CHECK FUSE

Make sure the following fuses of the NAVI control unit are not blown.

Connector	Terminal	Signal name	Fuse No.
B151	2	Battery	31
	5	ACC/ON	4
B152	63	ON/START	12

Are the fuses OK?

YES >> GO TO 2.

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

POWER SUPPLY AND GROUND CIRCUIT

[PREMIUM WITH NAVIGATION]

< COMPONENT DIAGNOSIS >

2. CHECK POWER SUPPLY CIRCUIT

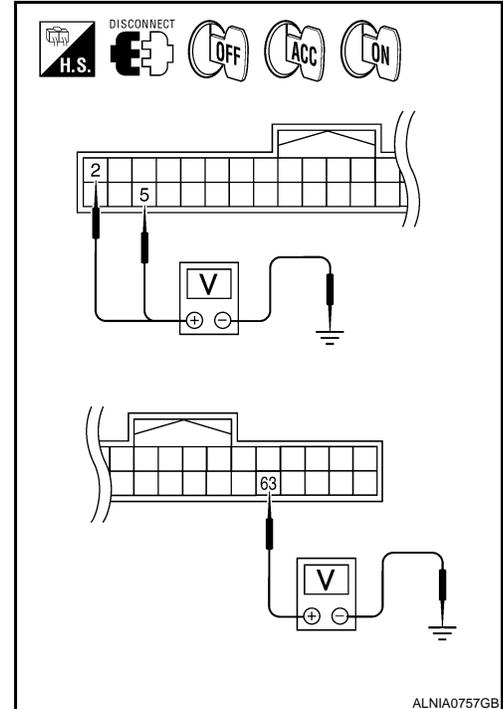
1. Disconnect NAVI control unit connectors B151 and B152.
2. Check voltage between connectors and ground.

Terminals		(-)	Ignition switch position		
(+)			OFF	ACC	ON
Connector	Terminal				
B151	2	Ground	Battery voltage	Battery voltage	Battery voltage
	5		0V	Battery voltage	Battery voltage
B152	63		0V	0V	Battery voltage

Are the voltage readings as specified?

YES >> GO TO 3.

NO >> Check harness for open between NAVI control unit and fuse.



ALNIA0757GB

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between the following NAVI control unit connector B151 and ground.

Terminals			Ignition switch	Continuity
Connector	Terminal	—		
B151	1	Ground	OFF	Yes

Is continuity present?

YES >> Inspection End.

NO >> Repair or replace harness.

DISPLAY UNIT

DISPLAY UNIT : Diagnosis Procedure

INFOID:000000001691482

1. CHECK POWER SUPPLY AND GROUND CIRCUIT FOR DISPLAY CONTROL UNIT

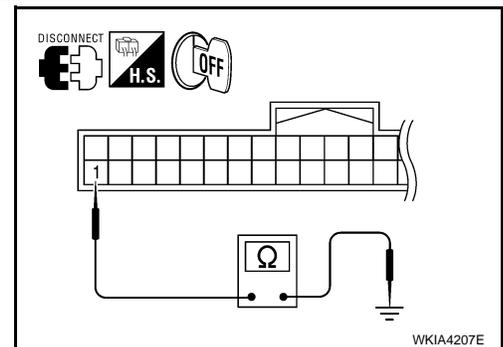
1. Check power supply and ground circuit for display control unit. Refer to [AV-238, "DISPLAY CONTROL UNIT : Diagnosis Procedure"](#).

Did the power/ground supply check good?

YES >> GO TO 2.

NO >> Repair malfunctioning part.

2. CHECK POWER SUPPLY CIRCUIT FOR DISPLAY UNIT



WKIA4207E

POWER SUPPLY AND GROUND CIRCUIT

[PREMIUM WITH NAVIGATION]

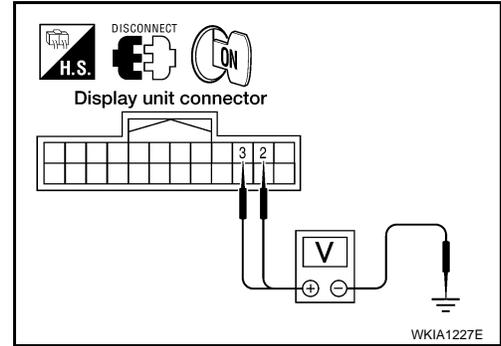
< COMPONENT DIAGNOSIS >

1. Disconnect display unit connector M93.
2. Turn ignition switch ON.
3. Check voltage between display unit harness connector M93 terminals 2, 3 and ground.

Approx. 9V

Are voltage readings as specified?

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



3.CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect display control unit connector M94.
3. Check continuity between display control unit harness connector M94 terminals 2, 4 and display unit harness connector M93 terminals 2, 3.

Terminals				Continuity
Display control unit		Display unit		
Connector	Terminal	Connector	Terminal	
M94	2	M93	2	Yes
	4		3	

4. Check continuity between display unit connector M93 and ground.

Terminals				Continuity
Display unit		—		
Connector	Terminal			
M93	2	Ground		No
	3			

Are continuity test results as specified?

- YES >> Replace display control unit. Refer to [AV-335, "Removal and Installation"](#) .
NO >> Repair harness.

4.CHECK GROUND CIRCUIT

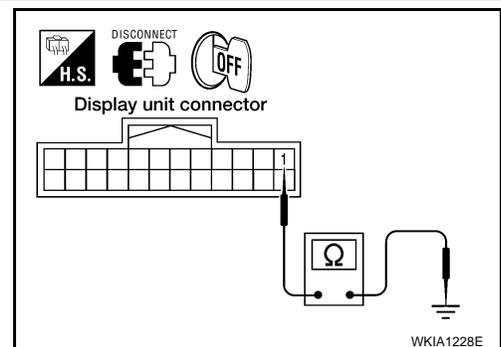
Check continuity between display unit and ground as follows.

1.

Terminals			Ignition switch	Continuity
Connector	Terminal	—		
M93	1	Ground	OFF	Yes

Is continuity present?

- YES >> Inspection End.
NO >> Repair harness.



DISPLAY CONTROL UNIT

DISPLAY CONTROL UNIT : Diagnosis Procedure

1.CHECK FUSE

Make sure the following fuses of the display control unit are not blown.

INFOID:000000001691481

POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

Connector	Terminal	Signal name	Fuse No.
M94	1	Battery	31
	10	ACC/ON	4
	12	ON/START	4

Are fuses OK?

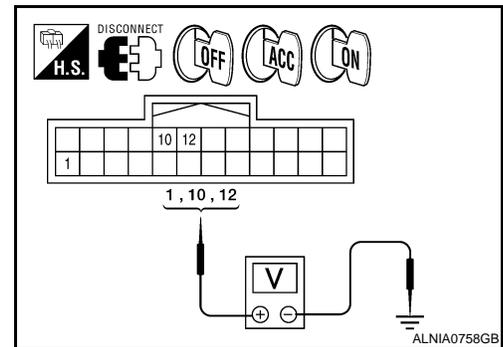
YES >> GO TO 2.

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

2.CHECK POWER SUPPLY CIRCUIT

1. Disconnect display control unit connector M94.
2. Check voltage between connector terminals and ground as follows.

Terminals		(-)	Ignition switch position		
(+)	Connector		Terminal	OFF	ACC
M94	1	Ground	Battery voltage	Battery voltage	Battery voltage
	10		0V	Battery voltage	Battery voltage
	12		0V	0V	Battery voltage



Are voltage readings as specified?

YES >> GO TO 3.

NO >> Check harness for open between display control unit and fuse.

3.CHECK GROUND CIRCUIT

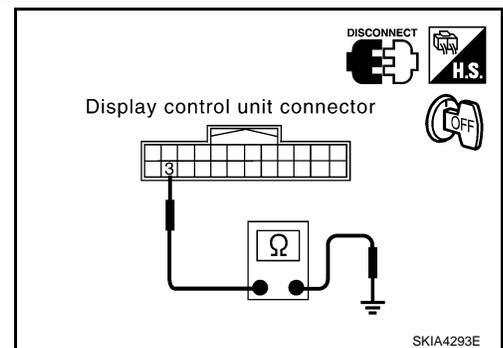
Check continuity between the following display control unit connector terminals and ground.

Terminals			Ignition switch	Continuity
Connector	Terminal	—		
M94	3	Ground	OFF	Yes

Is continuity present?

YES >> Inspection End.

NO >> Repair or replace harness.



AV SWITCH

AV SWITCH : Diagnosis Procedure

INFOID:000000001691195

1.CHECK FUSE

Check that the fuses for the AV switch are not blown.

Unit	Terminal	Signal name	Fuse No.
AV switch	1	Battery	31
	2	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

POWER SUPPLY AND GROUND CIRCUIT

[PREMIUM WITH NAVIGATION]

< COMPONENT DIAGNOSIS >

1. Disconnect AV switch connector M98.
2. Check voltage between the AV switch connector M98 and ground.

(+)		(-)	OFF	ACC	ON
Connector	Terminal				
M98	1	Ground	Battery voltage	Battery voltage	Battery voltage
	2	Ground	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. Check continuity between AV switch harness connector M98 and ground.

Connector	Terminal	—	Continuity
M98	5	Ground	Yes

Are the continuity results as specified?

- YES >> Inspection End.
 NO >> Repair harness or ground.

SATELLITE RADIO TUNER

SATELLITE RADIO TUNER : Diagnosis Procedure

INFOID:000000001691196

1. CHECK FUSES

Check that the following fuses of the satellite radio tuner (factory installed) are not blown.

Unit	Terminals	Signal name	Fuse No.
Satellite radio tuner (factory installed)	32	Battery power	31
	36	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.

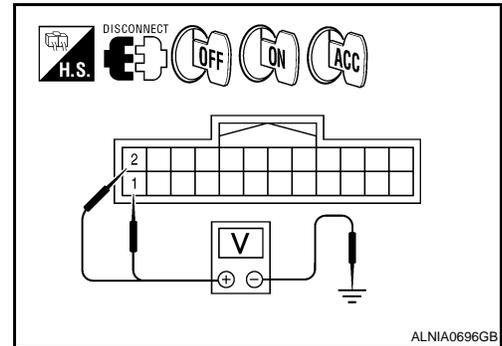
2. POWER SUPPLY CIRCUIT CHECK

1. Turn ignition switch OFF.
2. Disconnect satellite radio tuner (factory installed) connector M41.
3. Check voltage between the satellite radio tuner (factory installed) and ground.

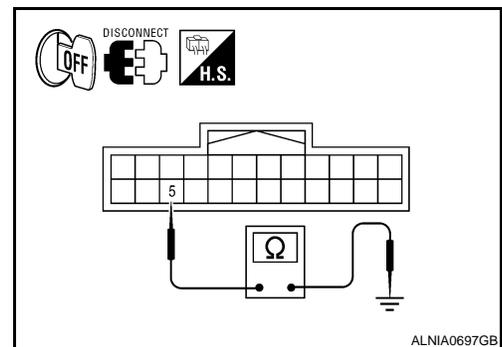
(+)		(-)	OFF	ACC	ON
Connector	Terminal				
M41	32	Ground	Battery voltage	Battery voltage	Battery voltage
	36		0V	Battery voltage	Battery voltage

Are the voltage readings as specified?

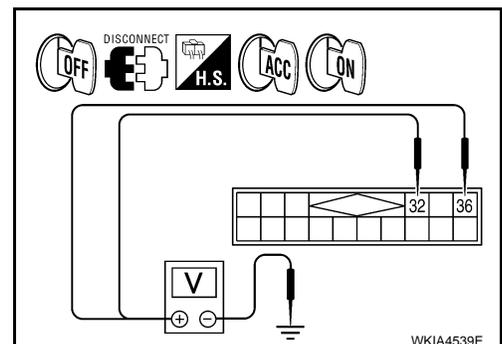
- YES >> GO TO 3



ALNIA0696GB



ALNIA0697GB



WKIA4539E

POWER SUPPLY AND GROUND CIRCUIT

[PREMIUM WITH NAVIGATION]

< COMPONENT DIAGNOSIS >

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

3. GROUND CIRCUIT CHECK

Inspect satellite radio tuner (factory installed) case ground.

Does case ground pass inspection?

- YES >> Inspection End.
NO >> Repair satellite radio tuner (factory installed) case ground.

DVD PLAYER

DVD PLAYER : Diagnosis Procedure

INFOID:000000001691197

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

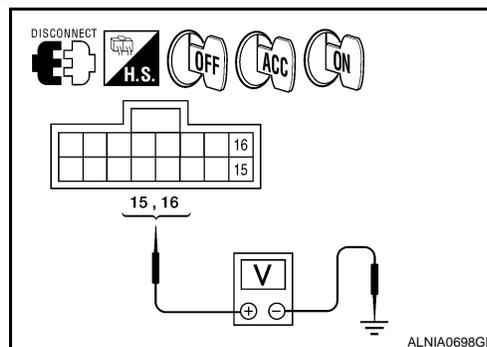
Is the fuse OK?

- YES >> GO TO 2
NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

2. POWER SUPPLY CIRCUIT CHECK

- Disconnect DVD player connector M205.
- 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.

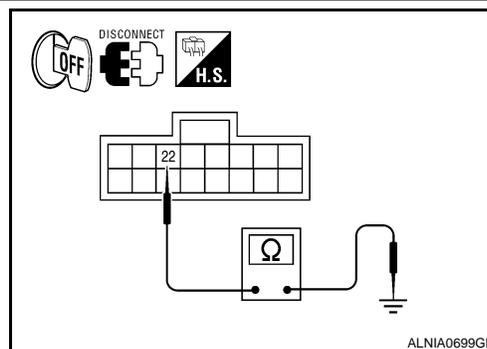
3. GROUND CIRCUIT CHECK

- Turn ignition switch OFF.
- 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 DVD player ground.



VIDEO MONITOR

VIDEO MONITOR : Diagnosis Procedure

INFOID:000000001691198

1. CHECK POWER SUPPLY CIRCUIT

POWER SUPPLY AND GROUND CIRCUIT

[PREMIUM WITH NAVIGATION]

< COMPONENT DIAGNOSIS >

1. Turn ignition switch to ACC.
2. Check voltage between video monitor harness connector R202 and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Display B+	R202	11	ACC	12V
		12		

Does specified voltage exist?

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

2.CHECK POWER SUPPLY CIRCUIT

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 >> Check DVD player power and ground supply. Refer to [AV-48, "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 No.	Terminal No.	—	Continuity
R202	3	Ground	Yes

Does continuity exist?

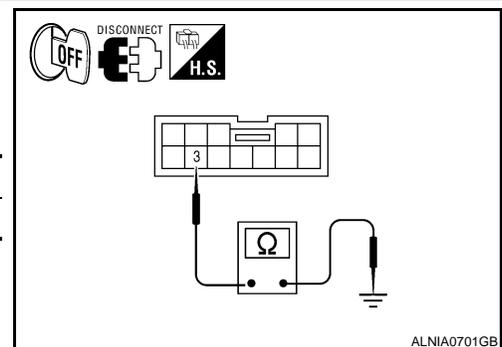
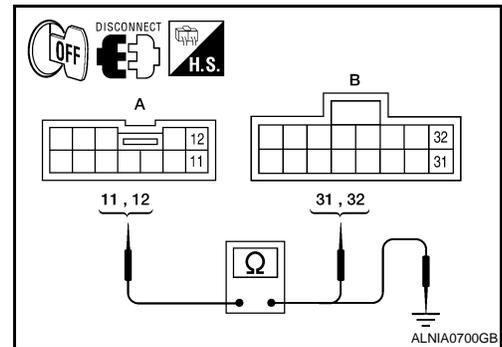
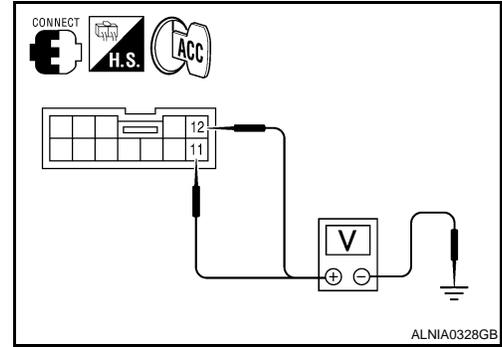
- YES >> INSPECTION END
NO >> Repair harness or connector.

AUDIO AMP

AUDIO AMP : Diagnosis Procedure

1.CHECK FUSE

Check that the audio amp. fuses are not blown.



INFOID:000000001691199

POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

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

Are the fuses OK?

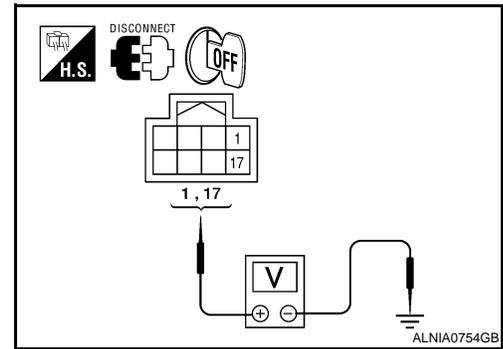
YES >> GO TO 2

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?

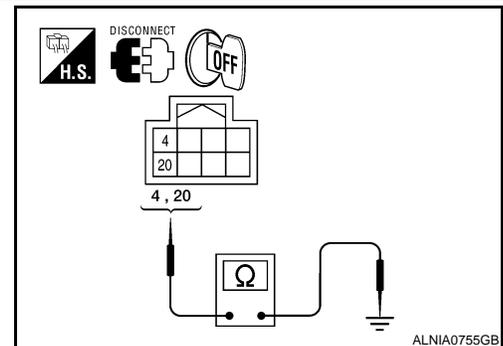
YES >> GO TO 3

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.

(+)		(-)	Continuity
Connector	Terminal		
M112	4	Ground	Yes
	20		



Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.

BLUETOOTH CONTROL UNIT

BLUETOOTH CONTROL UNIT : Diagnosis Procedure

INFOID:000000001691200

1.CHECK FUSE

Check that the following fuses for the Bluetooth control unit are not blown.

Unit	Terminal	Signal name	Fuse No.
Bluetooth control unit	1	Battery power	31
	2	Ignition switch ACC or ON	4
	3	Ignition switch ON or START	12

Is inspection result OK?

YES >> GO TO 2.

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

2.CHECK POWER SUPPLY CIRCUIT

POWER SUPPLY AND GROUND CIRCUIT

[PREMIUM WITH NAVIGATION]

< COMPONENT DIAGNOSIS >

Check voltage between Bluetooth control unit harness connector B142 and ground.

Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
B142	1	OFF	Battery voltage
	2	ACC	
	3	ON	

Is battery voltage present as specified?

YES >> GO TO 3.

NO >> Check harness between Bluetooth control unit and fuse.

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect Bluetooth control unit connector.
3. Check continuity between Bluetooth control unit harness connector B142 and ground.

Connector No.	Terminal No.	Ignition switch position	Continuity
B142	4, 20, 23	OFF	Yes

Are continuity results as specified?

YES >> INSPECTION END

NO >> Repair harness or connector.

MICROPHONE

MICROPHONE : Diagnosis Procedure

INFOID:000000001691201

1. CHECK POWER SUPPLY CIRCUIT (MICROPHONE SIDE)

1. Turn ignition switch ON.
2. Check voltage between microphone harness connector R109 terminal 4 and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
MIC power	R109	4	ON	5V

Is approximately 5V present?

YES >> GO TO 3.

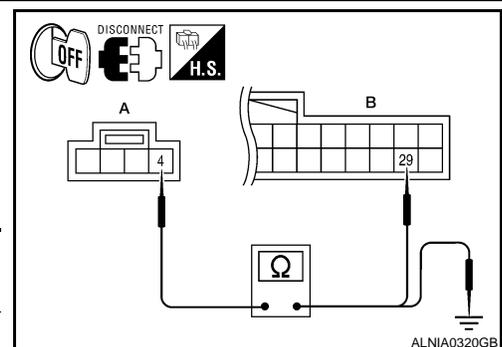
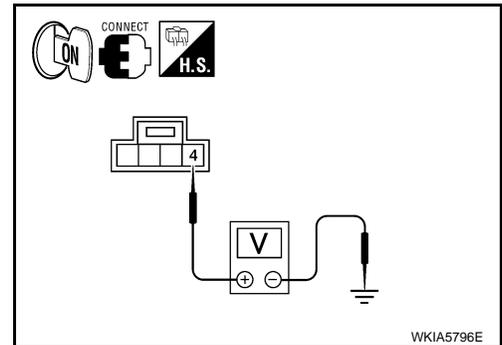
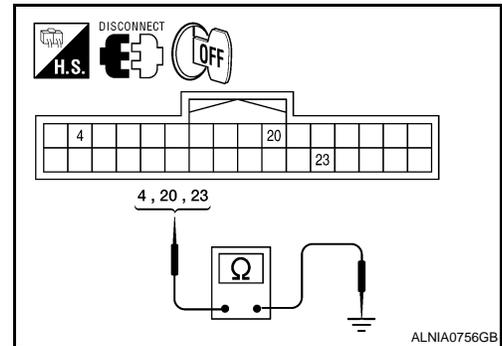
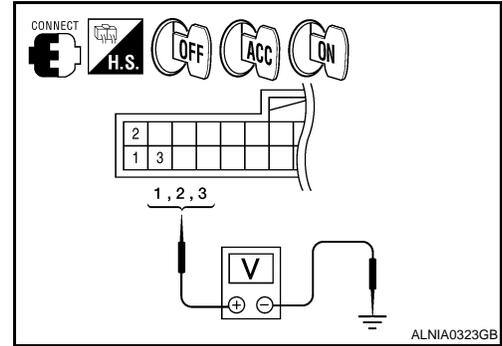
NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT (CONTINUITY)

1. Turn ignition switch OFF.
2. Disconnect microphone and Bluetooth control unit harness connectors.
3. Check continuity between microphone harness connector R109 (A) terminal 4 and Bluetooth control unit harness connector B142 (B) terminal 29.

A		B		Continuity
Connector	Terminal	Connector	Terminal	
R109	4	B142	29	Yes

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



POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

A		—	Continuity
Connector	Terminal		
R109	4	Ground	No

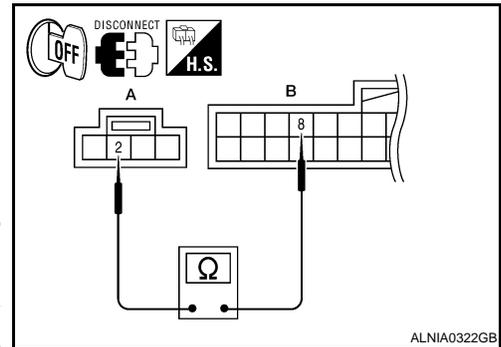
Are the continuity test results as specified?

YES >> Replace the Bluetooth control unit. Refer to [AV-207. "Removal and Installation"](#).

NO >> Repair harness or connector.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect microphone harness connector R109 and Bluetooth control unit harness connector B142.
3. Check continuity between microphone harness connector R109 (A) terminal 2 and Bluetooth control unit harness connector B142 (B) terminal 8.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
R109	2	B142	8	Yes

Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.

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

AV

RGB (R: RED) SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

RGB (R: RED) SIGNAL CIRCUIT

Description

INFOID:000000001663699

Transmit the image displayed with display control unit with RGB signal to the display unit.

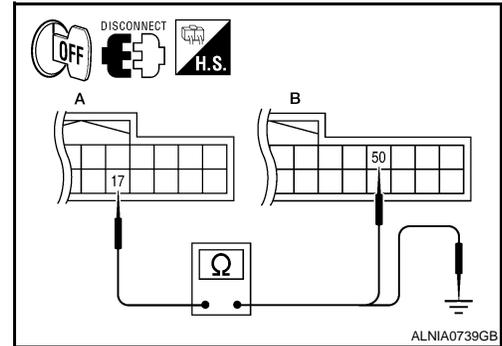
Diagnosis Procedure

INFOID:000000001663700

1. CHECK CONTINUITY RGB (R: RED) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M93 and display control unit connector M95.
3. Check continuity between display unit harness connector M93 (A) terminal 17 and display control unit harness connector M95 (B) terminal 50.

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M93	17	M95	50	Yes



4. Check continuity between display unit harness connector M93 (A) terminal 17 and ground.

A		—	Continuity
Connector	Terminal		
M93	17	Ground	No

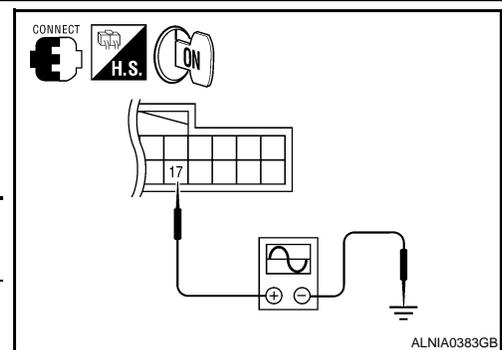
Are the continuity results as specified?

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

2. CHECK RGB (R: RED) SIGNAL

1. Connect display unit connector M93 and display control unit connector M95.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M93 terminal 17 and ground.

(+) Connector		(-)	Condition	Reference signal
Connector	Terminal			
M93	17	Ground	Receive audio signal	<p>SKIB2238J</p>



Are the voltage readings as specified?

- YES >> Replace display unit. Refer to [AV-335, "Removal and Installation"](#)
 NO >> Replace display control unit. Refer to [AV-335, "Removal and Installation"](#)

RGB (G: GREEN) SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

RGB (G: GREEN) SIGNAL CIRCUIT

Description

INFOID:000000001663701

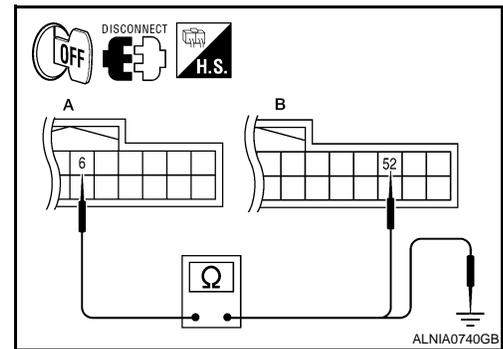
Transmit the image displayed with display control unit with RGB signal to the display unit.

Diagnosis Procedure

INFOID:000000001663702

1. CHECK CONTINUITY RGB (G: GREEN) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M93 and display control unit connector M95.
3. Check continuity between display unit harness connector M93 (A) terminal 6 and display control unit harness connector M95 (B) terminal 52.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M93	6	M95	52	Yes

4. Check continuity between display unit harness connector M93 (A) terminal 6 and ground.

A		—	Continuity
Connector	Terminal		
M93	6	Ground	No

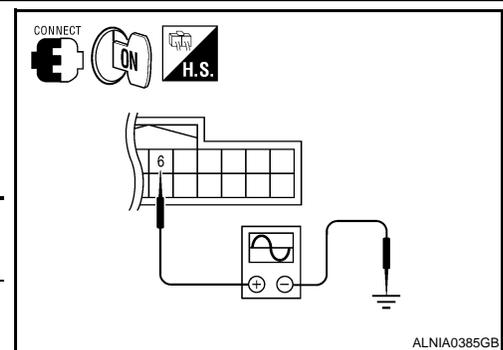
Are the continuity results as specified?

YES >> GO TO 2.

NO >> Repair harness or connector.

2. CHECK RGB (G: GREEN) SIGNAL

1. Connect display unit connector M93 and display control unit connector M95.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M93 terminal 6 and ground.



(+) Connector		(-)	Condition	Reference signal
Connector	Terminal			
M93	6	Ground	Receive audio signal	<p>SKIB2236J</p>

Are voltage readings as specified?

YES >> Replace display unit. Refer to [AV-335, "Removal and Installation"](#)

NO >> Replace display control unit. Refer to [AV-335, "Removal and Installation"](#)

RGB (B: BLUE) SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

RGB (B: BLUE) SIGNAL CIRCUIT

Description

INFOID:000000001663703

Transmit the image displayed with display control unit with RGB signal to the display unit.

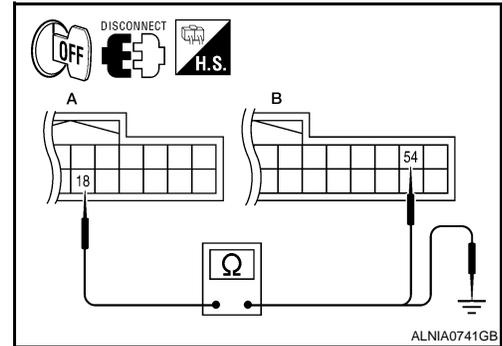
Diagnosis Procedure

INFOID:000000001663704

1. CHECK CONTINUITY RGB (B: BLUE) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M93 and display control unit connector M95.
3. Check continuity between display unit harness connector M93 (A) terminal 18 and display control unit harness connector M95 (B) terminal 54.

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M93	18	M95	54	Yes



4. Check continuity between display unit harness connector M93 (A) terminal 18 and ground.

A		—	Continuity
Connector	Terminal		
M93	18	Ground	No

Are continuity results as specified?

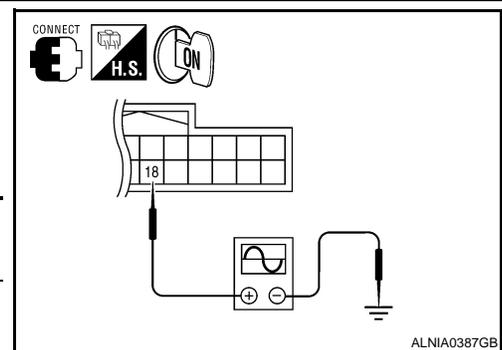
YES >> GO TO 2.

NO >> Repair harness or connector.

2. CHECK RGB (B: BLUE) SIGNAL

1. Connect display unit connector M93 and display control unit connector M95.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M93 terminal 18 and ground.

(+) Connector		(-)	Condition	Reference signal
Connector	Terminal			
M93	18	Ground	Receive audio signal	



Are voltage readings as specified?

YES >> Replace display unit. Refer to [AV-335, "Removal and Installation"](#)

NO >> Replace display control unit. Refer to [AV-335, "Removal and Installation"](#)

RGB SYNCHRONIZING SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

RGB SYNCHRONIZING SIGNAL CIRCUIT

Description

INFOID:000000001663705

Transmit the RGB synchronizing signal to the display unit so as to synchronize the RGB image displayed with display control unit.

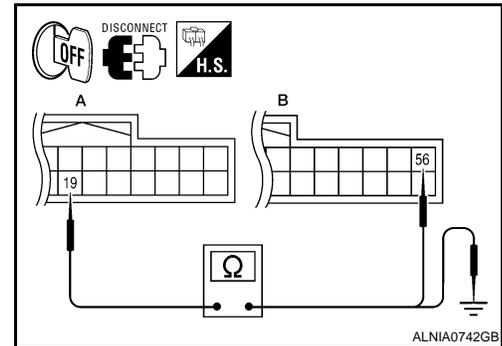
Diagnosis Procedure

INFOID:000000001663706

1. CHECK CONTINUITY RGB SYNCHRONIZING SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M93 and display control unit connector M95.
3. Check continuity between display unit harness connector M93 (A) terminal 19 and display control unit harness connector M95 (B) terminal 56.

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M93	19	M95	56	Yes



4. Check continuity between display unit harness connector M93 (A) terminal 19 and ground.

A		—	Continuity
Connector	Terminal		
M93	19	Ground	No

Are continuity results as specified?

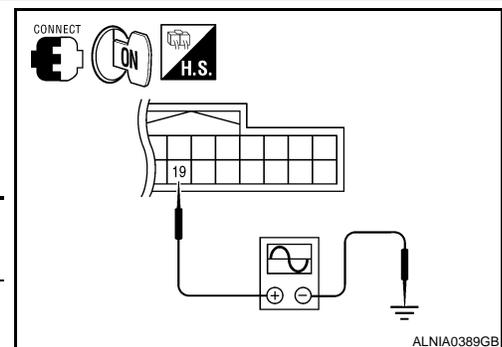
YES >> GO TO 2.

NO >> Repair harness or connector.

2. CHECK RGB SYNCHRONIZING SIGNAL

1. Connect display unit connector M93 and display control unit connector M95.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M93 terminal 19 and ground.

(+) Connector		(-)	Condition	Reference signal
Connector	Terminal			
M93	19	Ground	Receive audio signal	<p>SKIB3603E</p>



Are voltage readings as specified?

YES >> Replace display unit. Refer to [AV-335, "Removal and Installation"](#)

NO >> Replace display control unit. Refer to [AV-335, "Removal and Installation"](#)

RGB AREA (YS) SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

RGB AREA (YS) SIGNAL CIRCUIT

Description

INFOID:000000001663707

Transmits the display area of RGB image displayed by display control unit with RGB area (YS) signal to display unit.

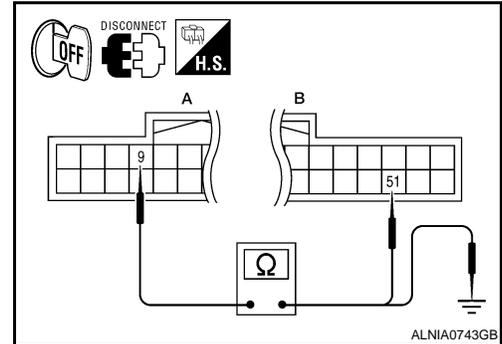
Diagnosis Procedure

INFOID:000000001663708

1. CHECK CONTINUITY RGB AREA (YS) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M93 and display control unit connector M95.
3. Check continuity between display unit harness connector M93 (A) terminal 9 and display control unit harness connector M95 (B) terminal 51.

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M93	9	M95	51	Yes



4. Check continuity between display unit harness connector M93 (A) terminal 9 and ground.

A		—	Continuity
Connector	Terminal		
M93	9	Ground	No

Are continuity results as specified?

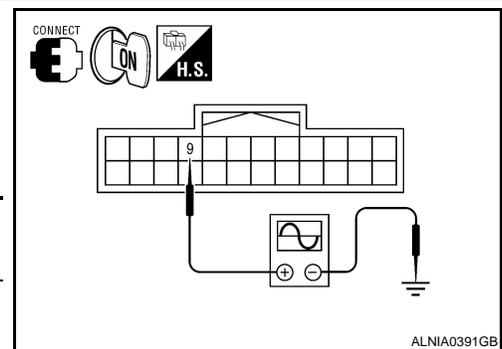
YES >> GO TO 2.

NO >> Repair harness or connector.

2. CHECK RGB SYNCHRONIZING SIGNAL

1. Connect display unit connector M93 and display control unit connector M95.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M93 terminal 9 and ground.

(+) Connector		Terminal	(-)	Condition	Reference signal
Connector	Terminal				
M93	9	Ground	Receive audio signal		



Are voltage readings as specified?

YES >> Replace display unit. Refer to [AV-335, "Removal and Installation"](#)

NO >> Replace display control unit. Refer to [AV-335, "Removal and Installation"](#)

HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

Description

INFOID:000000001663709

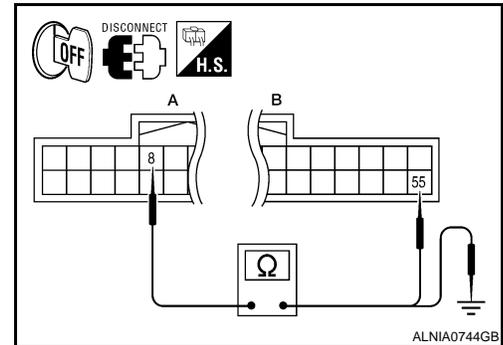
In composite image (AUX image, camera image), transmit the vertical synchronizing (VP) signal and horizontal synchronizing (HP) signal from display unit to display control unit so as to synchronize the RGB images displayed with display control unit such as the image quality adjusting menu, etc.

Diagnosis Procedure

INFOID:000000001663710

1. CHECK CONTINUITY HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M93 and display control unit connector M95.
3. Check continuity between display unit harness connector M93 (A) terminal 8 and display control unit harness connector M95 (B) terminal 55.



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M93	8	M95	55	Yes

4. Check continuity between display unit harness connector M93 (A) terminal 8 and ground.

A		—	Continuity
Connector	Terminal		
M93	8	Ground	No

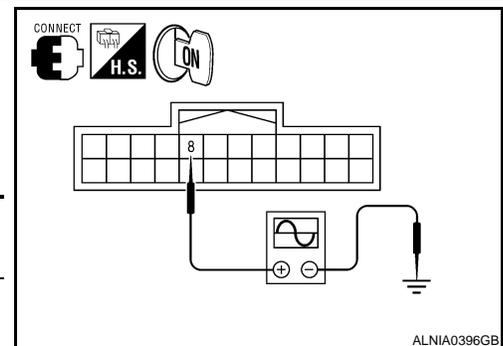
Are continuity results as specified?

YES >> GO TO 2.

NO >> Repair harness or connector.

2. CHECK HORIZONTAL SYNCHRONIZING (HP) SIGNAL

1. Connect display unit connector M93 and display control unit connector M95.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M93 terminal 8 and ground.



(+) Connector		(-)	Condition	Reference signal
Connector	Terminal			
M93	8	Ground	Receive audio signal	<p>SKIB3601E</p>

Are voltage readings as specified?

YES >> Replace display control unit. Refer to [AV-335. "Removal and Installation"](#)

NO >> Replace display unit. Refer to [AV-335. "Removal and Installation"](#)

VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

Description

INFOID:000000001663711

In composite image (AUX image, camera image), transmit the vertical synchronizing (VP) signal and horizontal synchronizing (HP) signal from display unit to display control unit so as to synchronize the RGB images displayed with display control unit such as the image quality adjusting menu, etc.

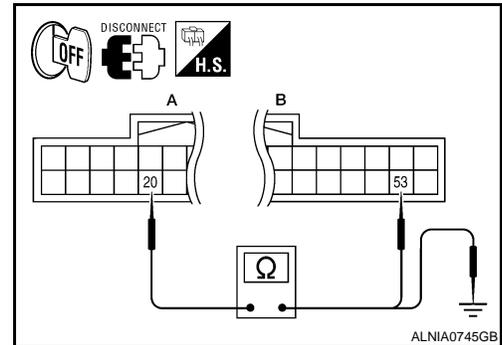
Diagnosis Procedure

INFOID:000000001663712

1. CHECK CONTINUITY VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector M93 and display control unit connector M95.
3. Check continuity between display unit harness connector M93 (A) terminal 20 and display control unit harness connector M95 (B) terminal 53.

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M93	20	M95	53	Yes



4. Check continuity between display unit harness connector M93 (A) terminal 20 and ground.

A		—	Continuity
Connector	Terminal		
M93	20	Ground	No

Are continuity results as specified?

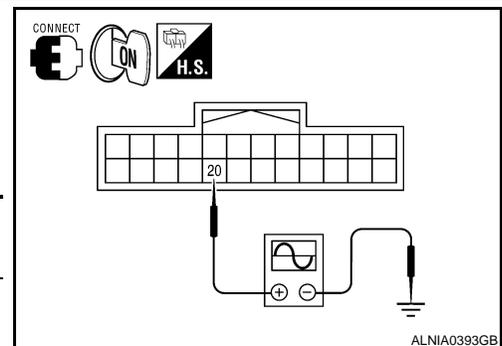
YES >> GO TO 2.

NO >> Repair harness or connector.

2. CHECK VERTICAL SYNCHRONIZING (VP) SIGNAL

1. Connect display unit connector M93 and display control unit connector M95.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector M93 terminal 20 and ground.

(+) Connector		(-)	Condition	Reference signal
Connector	Terminal			
M93	20	Ground	Receive audio signal	<p>SKIB3598E</p>



Are voltage readings as specified?

YES >> Replace display control unit. Refer to [AV-335. "Removal and Installation"](#)

NO >> Replace display unit. Refer to [AV-335. "Removal and Installation"](#)

FRONT DOOR SPEAKER

< COMPONENT DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

FRONT DOOR SPEAKER

Description

INFOID:000000001691202

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

Diagnosis Procedure

INFOID:000000001691203

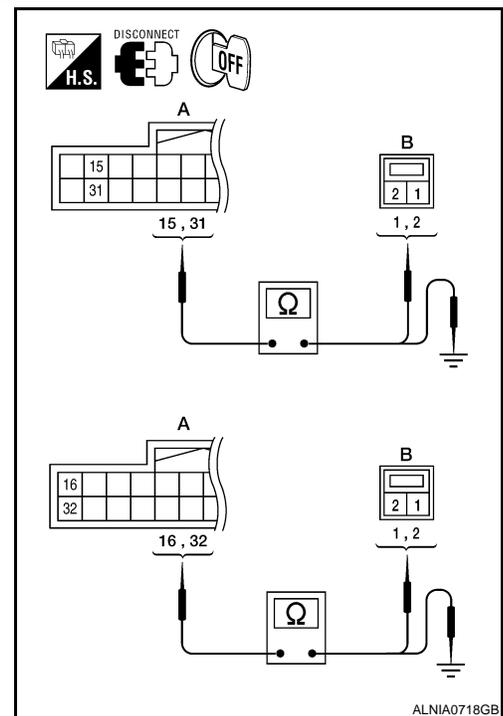
1. SPEAKER HARNESS CHECK

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



ALNIA0718GB

Are continuity test results as specified?

YES >> GO TO 2

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

2. FRONT DOOR SPEAKER SIGNAL CHECK

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

FRONT DOOR SPEAKER

[PREMIUM WITH NAVIGATION]

< COMPONENT DIAGNOSIS >

1. Connect audio amp. connector M113 and suspect 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-III or oscilloscope.

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

Is audio signal voltage as specified?

YES >> Replace suspect speaker. Refer to [AV-95. "Removal and Installation"](#).

NO >> GO TO 3

3. PRE-AMP HARNESS CHECK

1. Disconnect audio unit connector M43 and audio amp. connector M113.
2. Check continuity between audio unit harness connector M43 (A) and audio amp. harness connector M113 (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M43	1	M113	6	Yes
	2		22	
	3		5	
	4		21	

3. Check continuity between audio unit harness connector M43 (A) and ground.

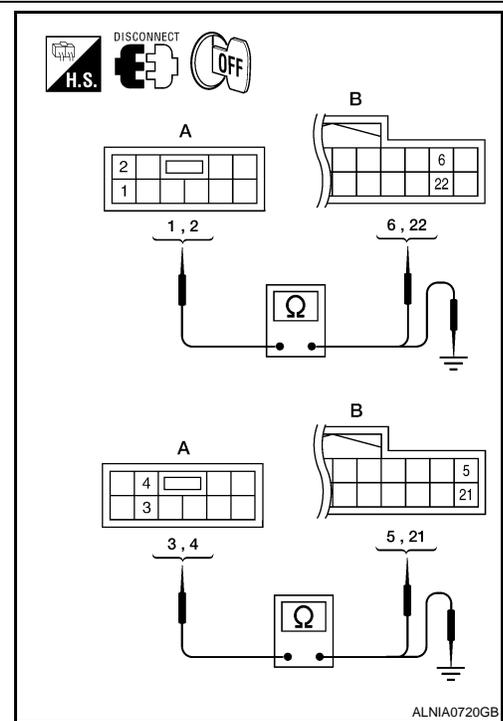
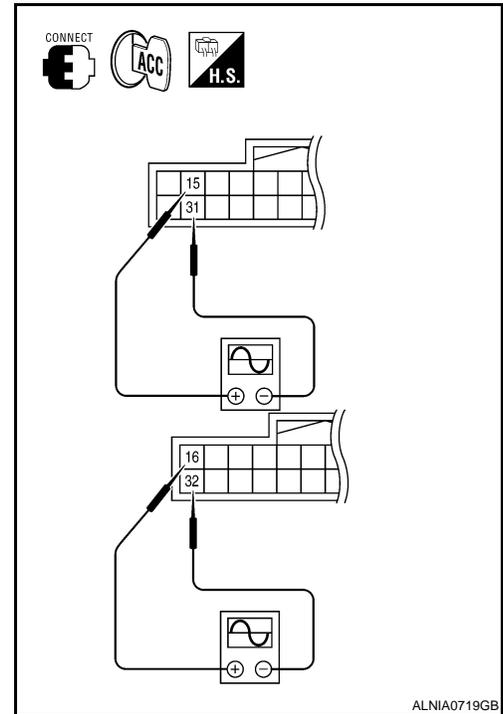
A		—	Continuity
Connector	Terminal		
M43	1	Ground	No
	2		
	3		
	4		

Are continuity test results as specified?

YES >> GO TO 4

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

4. PRE-AMP SIGNAL CHECK

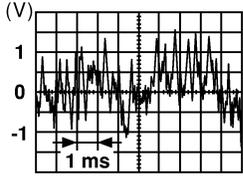


FRONT DOOR SPEAKER

[PREMIUM WITH NAVIGATION]

< COMPONENT DIAGNOSIS >

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 M43 terminals with CONSULT-III or oscilloscope.

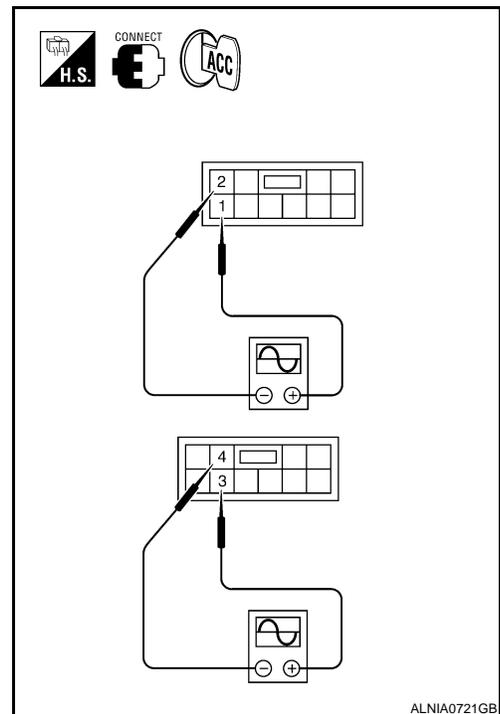
Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M43	1	2	Receive audio signal	
	3	4		

SKIA0177E

Are the audio signal voltage readings as specified?

YES >> Replace audio amp. Refer to [AV-100, "Removal and Installation"](#).

NO >> Replace audio unit. Refer to [AV-92, "Removal and Installation"](#).



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

AV

FRONT TWEETER

< COMPONENT DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

FRONT TWEETER

Description

INFOID:000000001691204

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

Diagnosis Procedure

INFOID:000000001691205

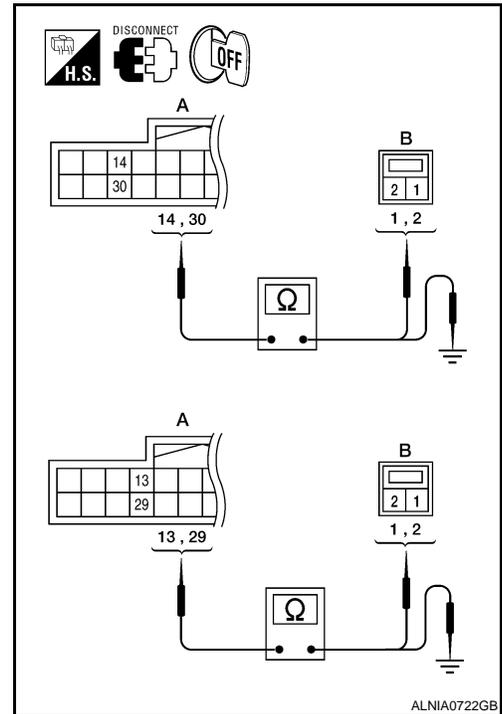
1. HARNESS CHECK

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

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

2. FRONT TWEETER SIGNAL CHECK

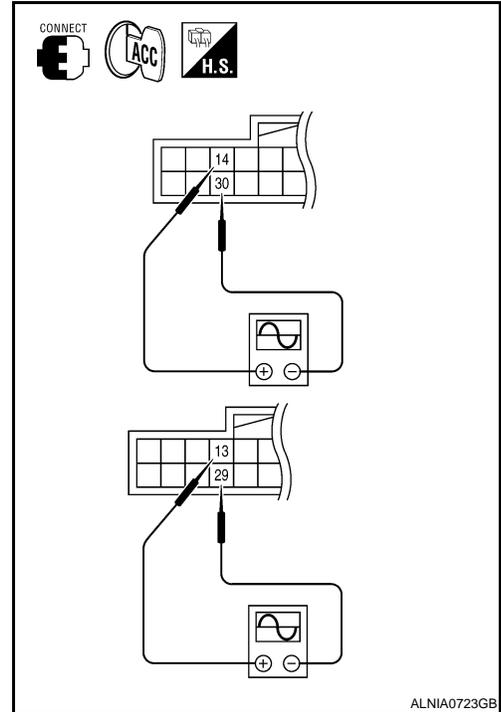
FRONT TWEETER

< COMPONENT DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

1. Connect audio amp. connector M113 and suspect 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-III or oscilloscope.

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



Is audio signal voltage as specified?

YES >> Replace suspect tweeter. Refer to [AV-191. "Removal and Installation"](#).

NO >> GO TO 3

3. PRE-AMP HARNESS CHECK

1. Disconnect audio unit connector M43 and audio amp. connector M113.
2. Check continuity between audio unit harness connector M43 (A) and audio amp. harness connector M113 (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M43	1	M113	6	Yes
	2		22	
	3		5	
	4		21	

3. Check continuity between audio unit harness connector M43 (A) and ground.

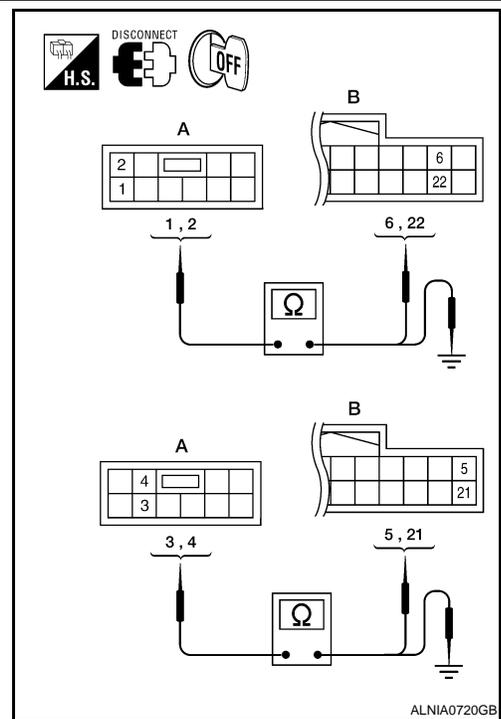
A		—	Continuity
Connector	Terminal		
M43	1	Ground	No
	2		
	3		
	4		

Are continuity test results as specified?

YES >> GO TO 4

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

4. PRE-AMP SIGNAL CHECK



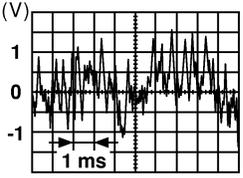
A
B
C
D
E
F
G
H
I
J
K
L
M
AV
O
P

FRONT TWEETER

< COMPONENT DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

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 M43 terminals with CONSULT-III or oscilloscope.

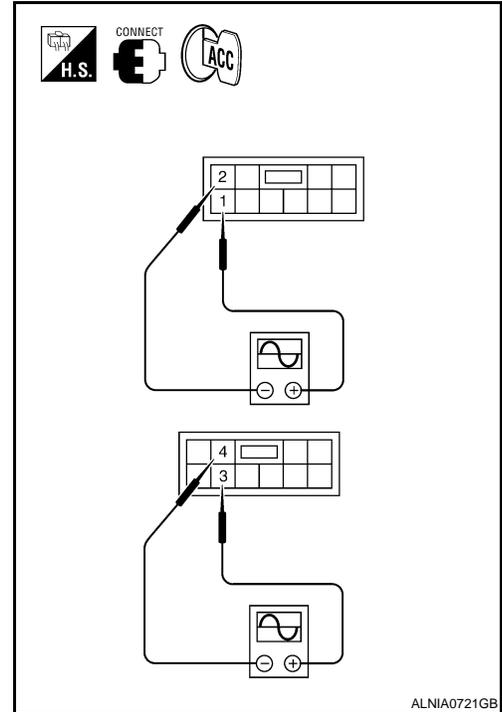
Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M43	1	2	Receive audio signal	
	3	4		

SKIA0177E

Are the audio signal voltage readings as specified?

YES >> Replace audio amp. Refer to [AV-201, "Removal and Installation"](#).

NO >> Replace audio unit. Refer to [AV-189, "Removal and Installation"](#).



CENTER SPEAKER

< COMPONENT DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

CENTER SPEAKER

Description

INFOID:000000001691206

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

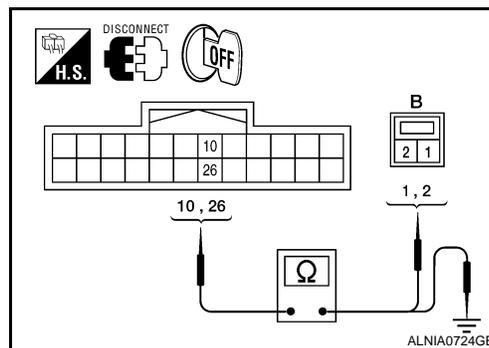
Diagnosis Procedure

INFOID:000000001691207

1. 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?

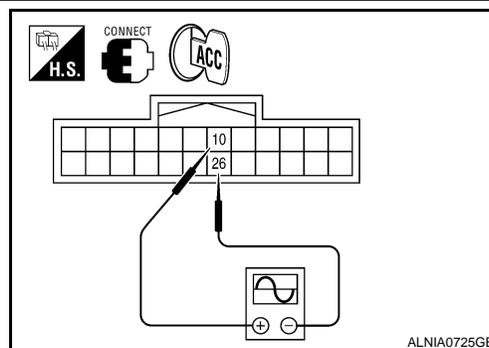
YES >> GO TO 2

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

2. 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-III or oscilloscope.

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



Is the audio signal voltage reading as specified?

YES >> Replace center speaker. Refer to [AV-192. "Removal and Installation"](#).

NO >> GO TO 3

3. PRE-AMP HARNESS CHECK

CENTER SPEAKER

< COMPONENT DIAGNOSIS >

1. Disconnect audio unit connector M43 and audio amp. connector M113.
2. Check continuity between audio unit harness connector M43 (A) and audio amp. harness connector M113 (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M43	1	M113	6	Yes
	2		22	
	3		5	
	4		21	

3. Check continuity between audio unit harness connector M43 (A) and ground.

A		—	Continuity
Connector	Terminal		
M43	1	Ground	No
	2		
	3		
	4		

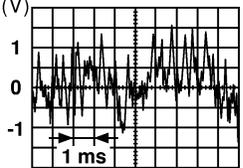
Are continuity test results as specified?

YES >> GO TO 4

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

4. 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 M43 terminals with CONSULT-III or oscilloscope.

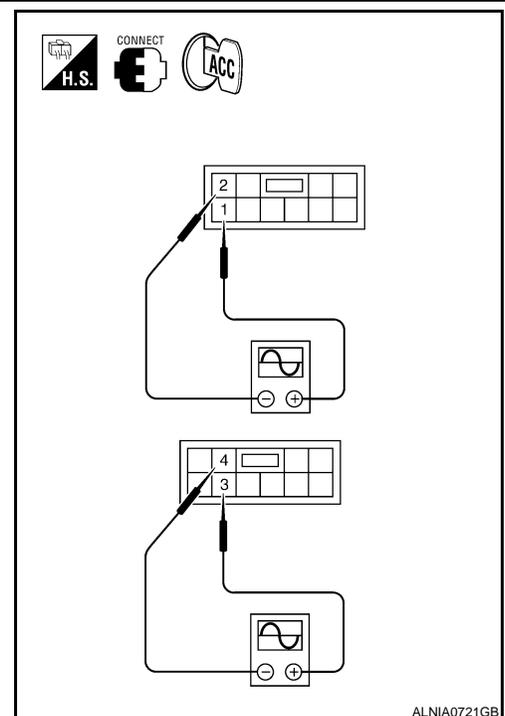
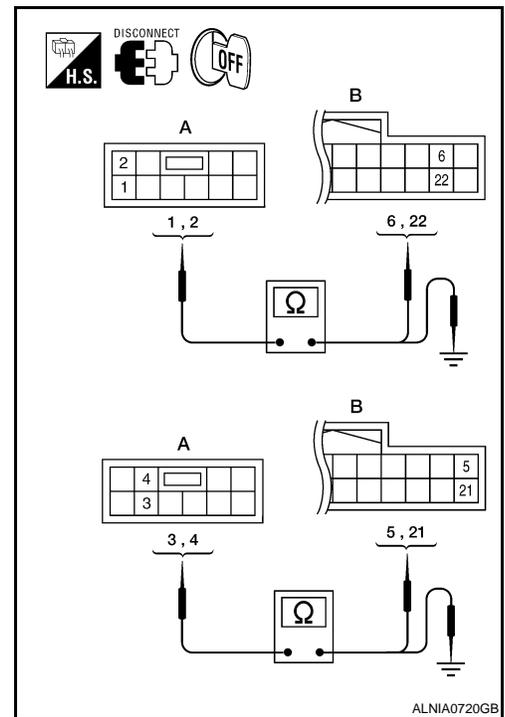
Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M43	1	2	Receive audio signal	
	3	4		

Are the audio signal voltage readings as specified?

YES >> Replace audio amp. Refer to [AV-201, "Removal and Installation"](#).

NO >> Replace audio unit. Refer to [AV-189, "Removal and Installation"](#).

[PREMIUM WITH NAVIGATION]



REAR DOOR SPEAKER

< COMPONENT DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

REAR DOOR SPEAKER

Description

INFOID:000000001691208

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

Diagnosis Procedure

INFOID:000000001691209

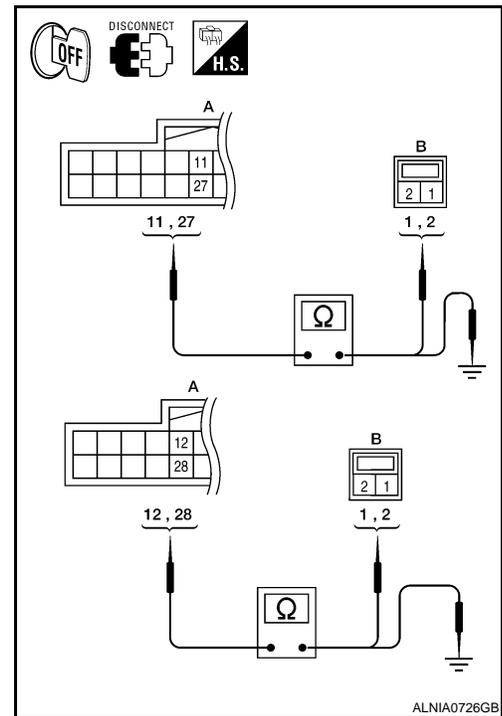
1. SPEAKER HARNESS CHECK

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



ALNIA0726GB

Are the continuity test results as specified?

YES >> GO TO 2

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

2. SPEAKER SIGNAL CHECK

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

REAR DOOR SPEAKER

[PREMIUM WITH NAVIGATION]

< COMPONENT DIAGNOSIS >

1. Connect audio amp. connectors and suspect 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-III 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 speaker. Refer to [AV-194, "Removal and Installation"](#).

NO >> GO TO 3

3. PRE-AMP HARNESS CHECK

1. Disconnect audio unit connector M44 and audio amp. connector M113.
2. Check continuity between audio unit harness connector M44 (A) and audio amp. harness connector M113 (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M44	13	M113	8	Yes
	14		24	
	15		7	
	16		23	

3. Check continuity between audio unit harness connector M44 (A) and ground.

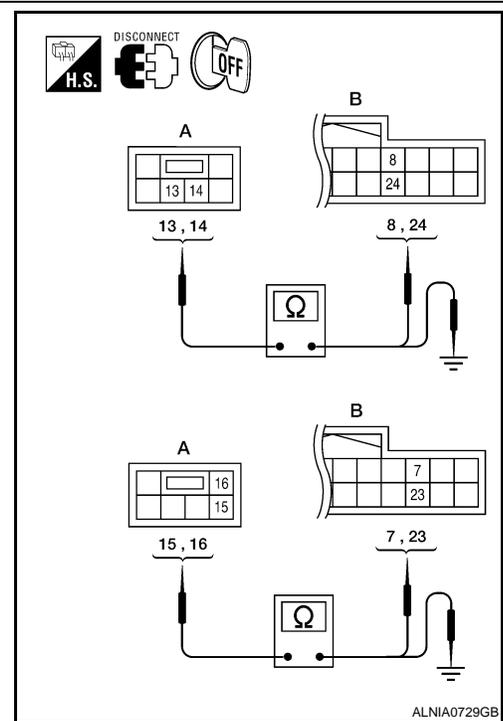
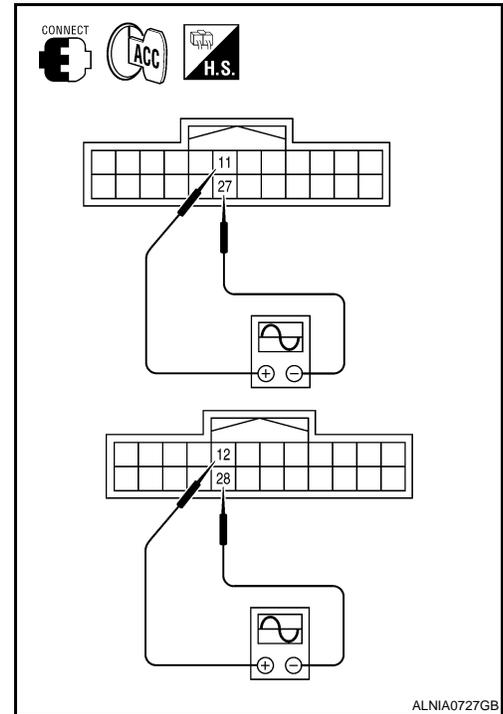
A		—	Continuity
Connector	Terminal		
M44	13	Ground	No
	14		
	15		
	16		

Are the continuity test results as specified?

YES >> GO TO 4

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

4. PRE-AMP SIGNAL CHECK

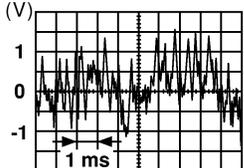


REAR DOOR SPEAKER

[PREMIUM WITH NAVIGATION]

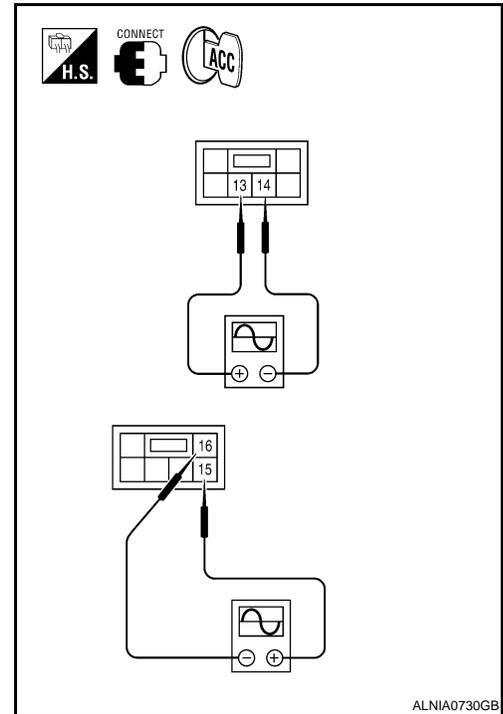
< COMPONENT DIAGNOSIS >

1. Connect audio unit connector M44 and audio amp. connector M113.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio unit harness connector M44 terminals with CONSULT-III or oscilloscope.

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M44	13	14	Receive audio signal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
	15	16		

Is the audio signal voltage reading as specified?

- YES >> Replace audio amp. Refer to [AV-201, "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-189, "Removal and Installation"](#).



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

AV

REAR DOOR TWEETER

< COMPONENT DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

REAR DOOR TWEETER

Description

INFOID:000000001691210

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

Diagnosis Procedure

INFOID:000000001691211

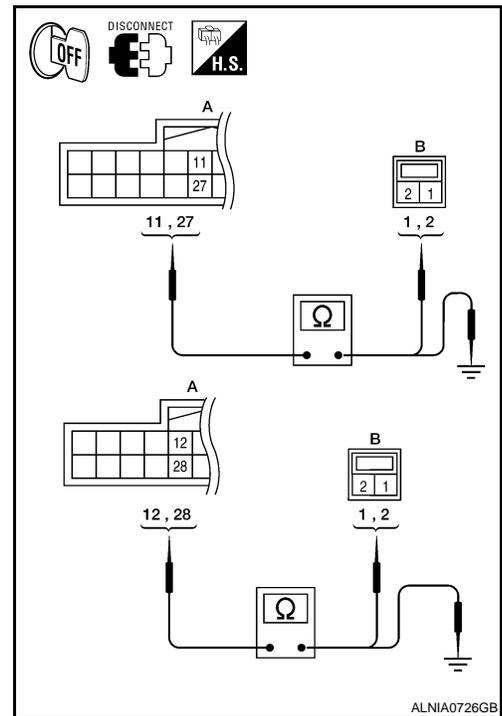
1. SPEAKER HARNESS CHECK

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

Connector	Terminal	-	Continuity
M113	11	Ground	No
	27		
	12		
	28		



ALNIA0726GB

Are the continuity test results as specified?

YES >> GO TO 2

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

2. SPEAKER SIGNAL CHECK

REAR DOOR TWEETER

[PREMIUM WITH NAVIGATION]

< COMPONENT DIAGNOSIS >

1. Connect audio amp. connectors and suspect 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-III or oscilloscope.

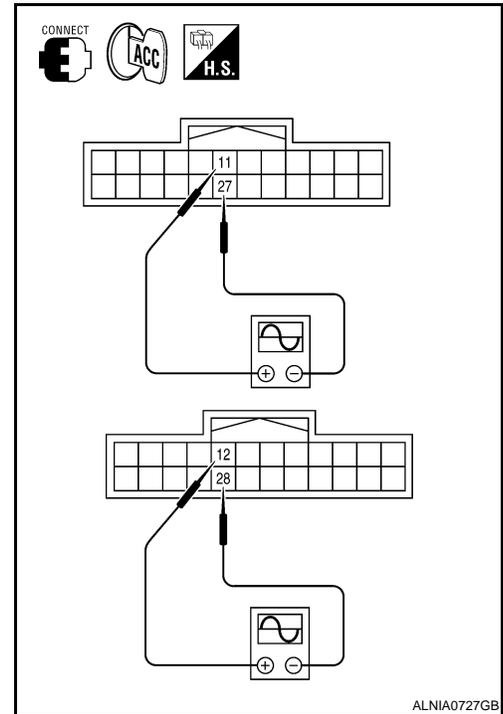
Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M113	11	27	Receive audio signal	
	12	28		

SKIA0177E

Are audio signal voltage readings as specified?

YES >> Replace suspect speaker. Refer to [AV-194, "Removal and Installation"](#).

NO >> GO TO 3



3. PRE-AMP HARNESS CHECK

1. Disconnect audio unit connector M44 and audio amp. connector M113.
2. Check continuity between audio unit harness connector M44 (A) and audio amp. harness connector M113 (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M44	13	M113	8	Yes
	14		24	
	15		7	
	16		23	

3. Check continuity between audio unit harness connector M44 (A) and ground.

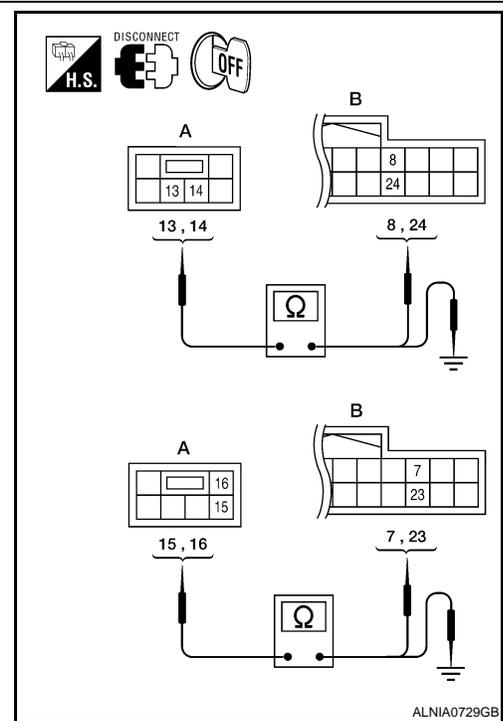
A		—	Continuity
Connector	Terminal		
M44	13	Ground	No
	14		
	15		
	16		

Are the continuity test results as specified?

YES >> GO TO 4

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

4. PRE-AMP SIGNAL CHECK



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

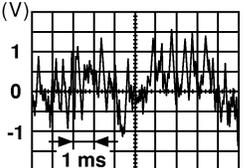
AV

REAR DOOR TWEETER

[PREMIUM WITH NAVIGATION]

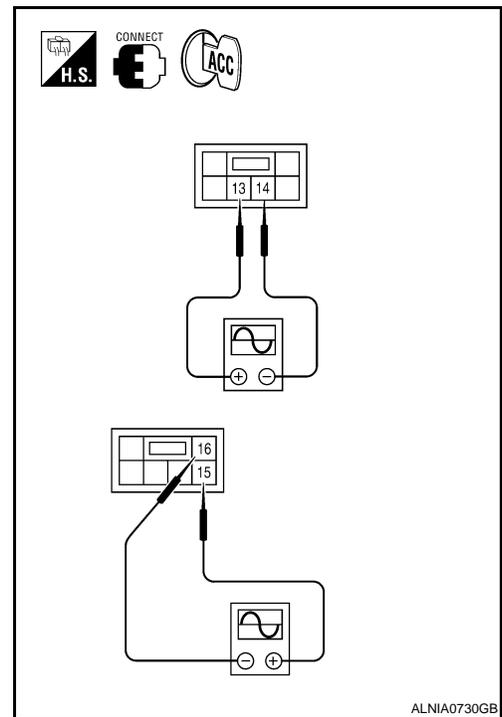
< COMPONENT DIAGNOSIS >

1. Connect audio unit connector M44 and audio amp. connector M113.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio unit harness connector M44 terminals with CONSULT-III or oscilloscope.

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M44	13	14	Receive audio signal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
	15	16		

Is the audio signal voltage reading as specified?

- YES >> Replace audio amp. Refer to [AV-201, "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-189, "Removal and Installation"](#).



SUBWOOFER

< COMPONENT DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

SUBWOOFER

Description

INFOID:000000001691212

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.

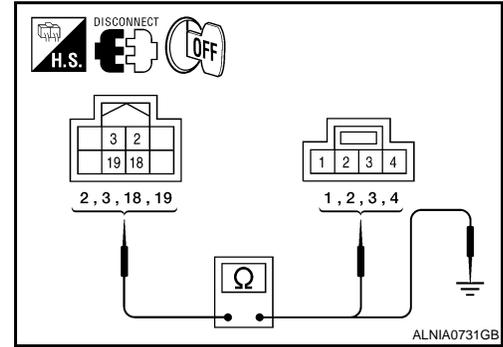
Diagnosis Procedure

INFOID:000000001691213

1. SPEAKER 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 2

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

2. SPEAKER SIGNAL CHECK

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

SUBWOOFER

[PREMIUM WITH NAVIGATION]

< COMPONENT DIAGNOSIS >

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-III or oscilloscope.

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-196. "Removal and Installation"](#).

NO >> GO TO 3

3. PRE-AMP HARNESS CHECK

1. Disconnect audio unit connector M44 and audio amp. connector M113.
2. Check continuity between audio unit harness connector M44 (A) and audio amp. harness connector M113 (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M44	13	M113	8	Yes
	14		24	
	15		7	
	16		23	

3. Check continuity between audio unit harness connector M44 (A) and ground.

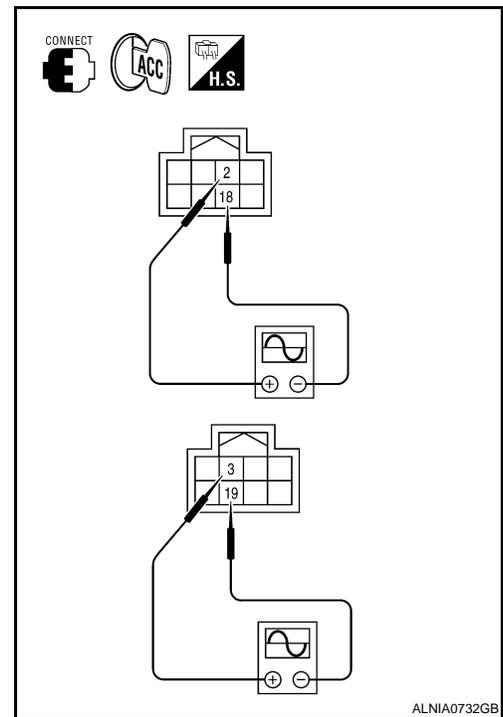
A		—	Continuity
Connector	Terminal		
M44	13	Ground	No
	14		
	15		
	16		

Are the continuity test results as specified?

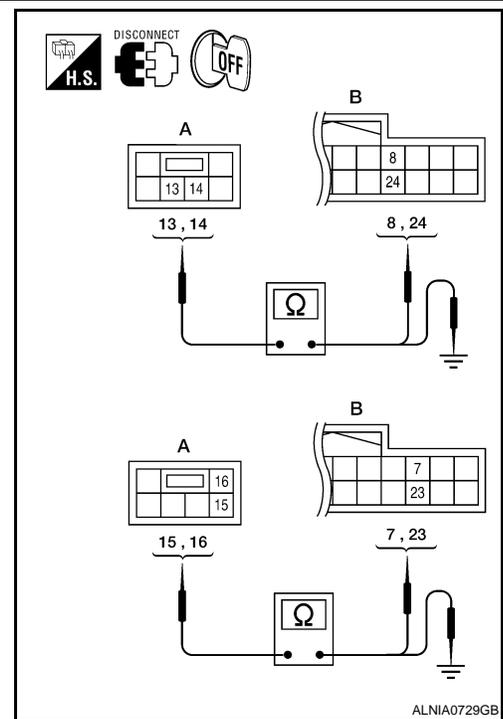
YES >> GO TO 4

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

4. PRE-AMP SIGNAL CHECK



ALNIA0732GB



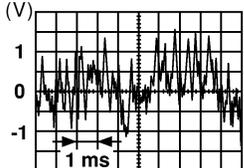
ALNIA0729GB

SUBWOOFER

< COMPONENT DIAGNOSIS >

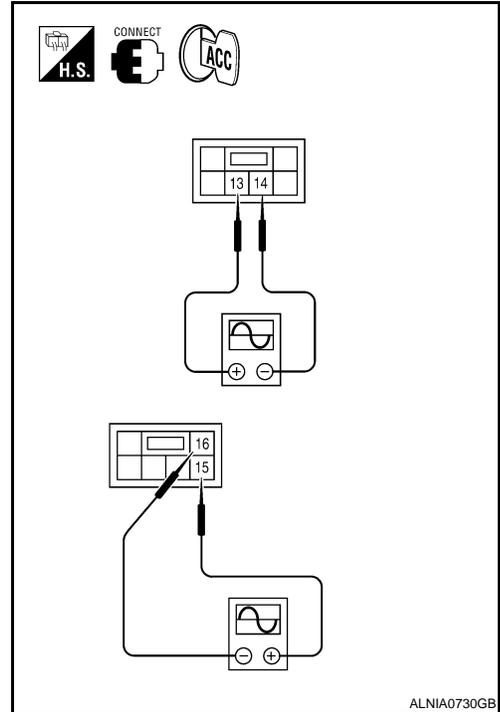
1. Connect audio unit connector M44 and audio amp. connector M113.
2. Turn ignition switch to ACC.
3. Push "POWER" switch.
4. Check the signal between audio unit harness connector M44 terminals with CONSULT-III or oscilloscope.

[PREMIUM WITH NAVIGATION]

Connector	Terminals		Condition	Reference signal
	(+)	(-)		
M44	13	14	Receive audio signal	 <p>SKIA0177E</p>
	15	16		

Is the audio signal voltage reading as specified?

- YES >> Replace audio amp. Refer to [AV-201, "Removal and Installation"](#).
- NO >> Replace audio unit. Refer to [AV-189, "Removal and Installation"](#).



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

AV

AMP ON SIGNAL CIRCUIT

Description

INFOID:000000001691214

When the audio system is turned on, a voltage signal is supplied from the audio unit to the audio amp. When this signal is received, the audio amp. will turn on.

Diagnosis Procedure

INFOID:000000001691215

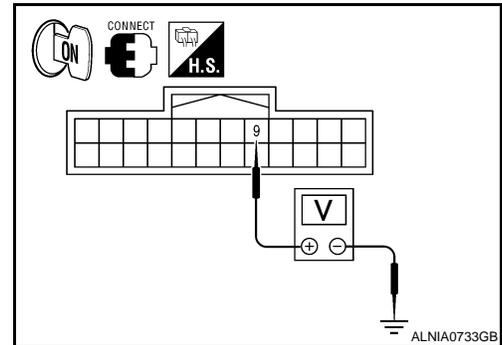
1. CHECK AMP ON SIGNAL

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

9 - Ground : More than 6.5V

Is battery voltage present?

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



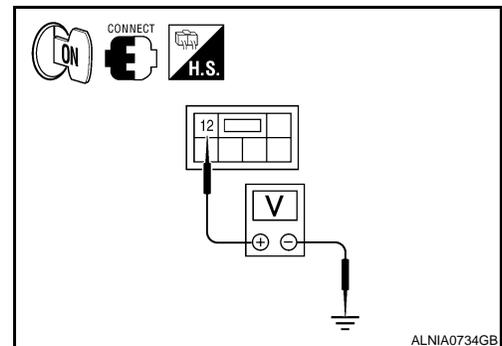
2. CHECK AMP ON SIGNAL (AUDIO UNIT)

Check voltage between audio unit harness connector M44 terminal 12 and ground.

12 - Ground : More than 6.5V

Is battery voltage present?

- YES >> Repair harness or connector.
NO >> Replace audio unit. Refer to [AV-189. "Removal and Installation"](#).



STEERING SWITCH

< COMPONENT DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

STEERING SWITCH

Description

INFOID:000000001691216

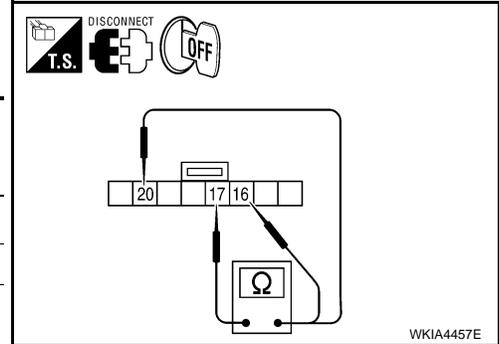
When one of the steering wheel audio control switches is pushed, the resistance in the steering wheel audio control switch circuit changes depending on which button is pushed.

Diagnosis Procedure

INFOID:000000001691217

1. CHECK STEERING WHEEL AUDIO CONTROL SWITCH RESISTANCE

1. Turn ignition switch OFF.
2. Disconnect steering wheel audio control switch connector M102.
3. Check resistance between steering switch connector terminals.



Terminal	Signal name	Condition	Resistance (Ω) (Approx.)	
16	17	Seek (down)	Depress ▽ switch.	165
		Volume (down)	Depress VOL down switch.	487
		Mode (without Bluetooth)	Depress MODE switch.	0
		Phone/Send (with Bluetooth)	Depress MODE switch.	
20	17	Seek (up)	Depress △ switch.	165
		Volume (up)	Depress VOL up switch.	487
		Power (without Bluetooth)	Depress PWR switch.	0
		Mode/End (with Bluetooth)	Depress switch.	

Do the steering wheel audio control switches check OK?

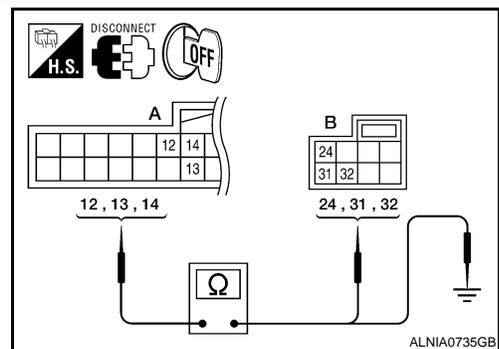
YES >> GO TO 2

NO >> Replace steering wheel audio control switch. Refer to [AV-197. "Removal and Installation"](#).

2. CHECK HARNESS

1. Disconnect Bluetooth control unit connector B142 and spiral cable connector M30.
2. Check continuity between Bluetooth control unit harness connector B142 (A) and spiral cable harness connector M30 (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
B142	12	M30	24	Yes
	13		32	
	14		31	



3. Check continuity between Bluetooth control unit connector B142 (A) and ground.

A		—	Continuity
Connector	Terminal		
B142	12	Ground	No
	13		
	14		

Are the continuity results as specified?

YES >> GO TO 3

STEERING SWITCH

[PREMIUM WITH NAVIGATION]

< COMPONENT DIAGNOSIS >

NO >> Repair harness.

3. SPIRAL CABLE CHECK

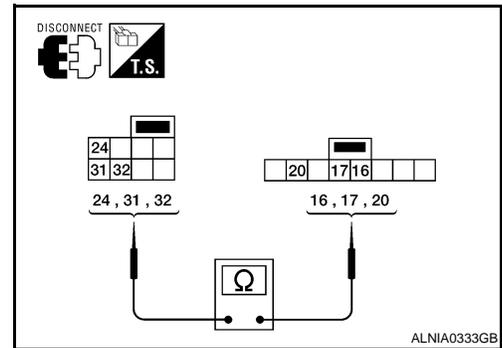
1. Disconnect spiral cable connector M102.
2. Check continuity between spiral cable harness connector M30 (A) and M102 (B).

Spiral cable				Continuity
Connector	Terminal	Connector	Terminal	
M30	24	M102	20	Yes
	31		17	
	32		16	

Does the spiral cable check OK?

YES >> Inspection End.

NO >> Replace spiral cable. Refer to [SR-6, "Removal and Installation"](#).



COMMUNICATION SIGNAL CIRCUIT

[PREMIUM WITH NAVIGATION]

< COMPONENT DIAGNOSIS >

COMMUNICATION SIGNAL CIRCUIT SATELLITE RADIO TUNER

SATELLITE RADIO TUNER : Description

INFOID:000000001691218

Communication signals are exchanged between the audio unit and satellite radio tuner using the communication circuits.

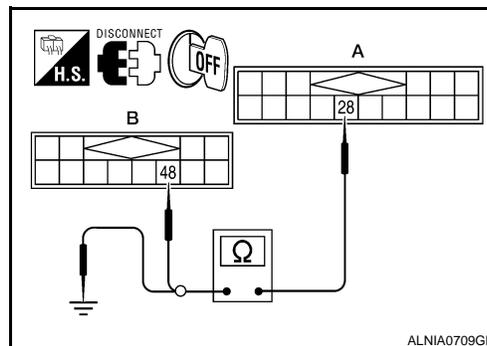
SATELLITE RADIO TUNER : Diagnosis Procedure

INFOID:000000001691219

1. CHECK HARNESS - REQ1

1. Turn ignition switch OFF.
2. Disconnect satellite radio tuner (factory installed) connector M41 and audio unit connector M42.
3. Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 28 and audio unit harness connector M42 (B) terminal 48.

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M41	28	M42	48	Yes



4. Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 28 and ground.

A		—	Continuity
Connector	Terminal		
M41	28	Ground	No

Are continuity results as specified?

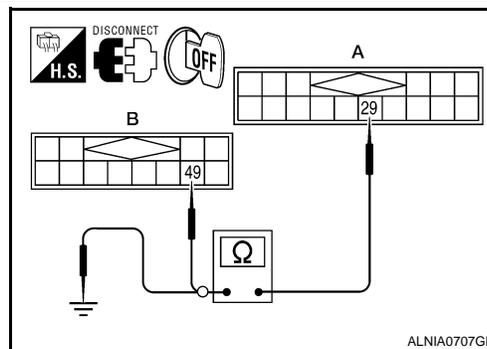
YES >> GO TO 2

NO >> Repair harness or connector.

2. CHECK HARNESS - TXD

1. Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 29 and audio unit harness connector M42 (B) terminal 49.

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M41	29	M42	49	Yes



2. Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 29 and ground.

A		—	Continuity
Connector	Terminal		
M41	29	Ground	No

Are continuity results as specified?

YES >> GO TO 3

NO >> Repair harness or connector.

3. CHECK HARNESS - RXD

COMMUNICATION SIGNAL CIRCUIT

[PREMIUM WITH NAVIGATION]

< COMPONENT DIAGNOSIS >

1. Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 30 and audio unit harness connector M42 (B) terminal 50.

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M41	30	M42	50	Yes

2. Check continuity between satellite radio tuner (factory installed) harness connector M41 (A) terminal 30 and ground.

A		—	Continuity
Connector	Terminal		
M41	30	Ground	No

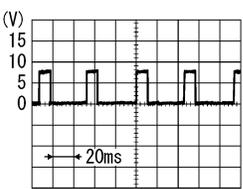
Are continuity results as specified?

YES >> GO TO 4

NO >> Repair harness or connector.

4. CHECK REQ1 SIGNAL

1. Connect satellite radio tuner (factory installed) connector and audio unit connector.
2. Turn ignition switch to ACC
3. Check signal between satellite radio tuner (factory installed) harness connector M41 terminal 28 and ground with CONSULT-III or oscilloscope.

(+)		(-)	Reference signal
Connector	Terminal		
M41	28	Ground	 <p>SKIB3825E</p>

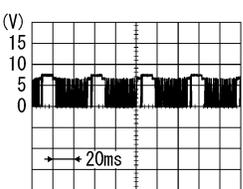
Are voltage readings as specified?

YES >> GO TO 5

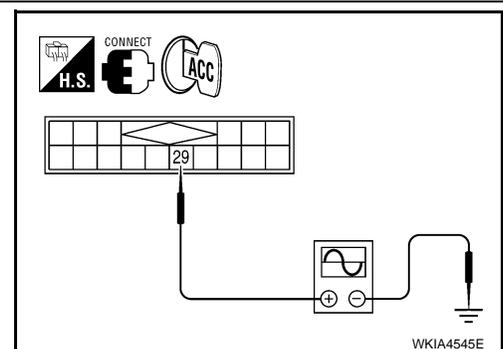
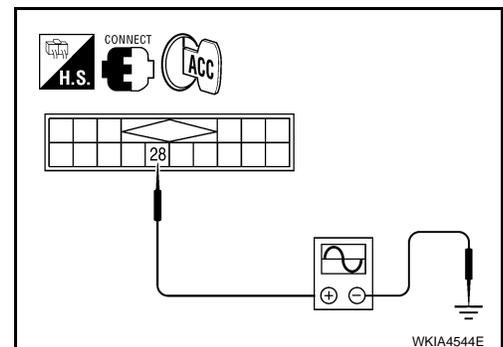
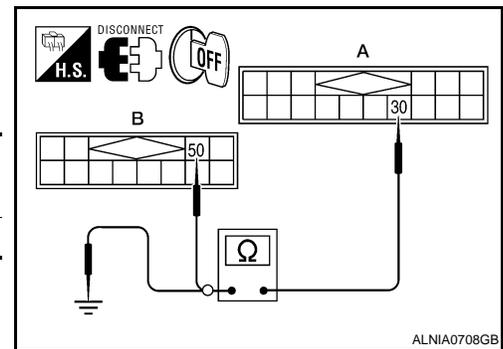
NO >> Replace audio unit. Refer to [AV-92. "Removal and Installation"](#).

5. CHECK TXD SIGNAL

Check signal between satellite radio tuner (factory installed) harness connector M41 terminal 29 and ground with CONSULT-III or oscilloscope.

(+)		(-)	Reference signal
Connector	Terminal		
M41	29	Ground	 <p>SKIB3824E</p>

Are the voltage readings as specified?



COMMUNICATION SIGNAL CIRCUIT

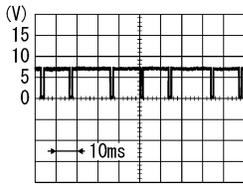
[PREMIUM WITH NAVIGATION]

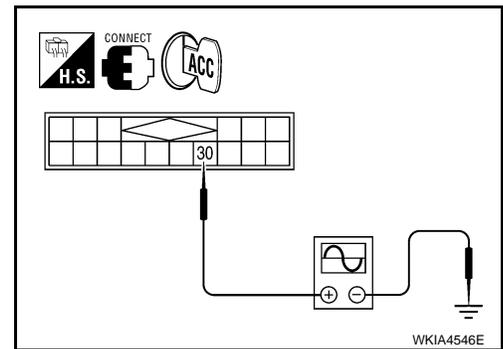
< COMPONENT DIAGNOSIS >

- YES >> GO TO 6
- NO >> Replace satellite radio tuner.

6. CHECK RXD SIGNAL

Check signal between satellite radio tuner (factory installed) harness connector M41 terminal 30 and ground with CONSULT-III or oscilloscope.

(+)		(-)	Reference signal
Connector	Terminal		
M41	30	Ground	 <p style="text-align: right; font-size: small;">SKIB3826E</p>



Are the voltage readings as specified?

- YES >> Replace satellite radio tuner.
- NO >> Replace audio unit. Refer to [AV-92. "Removal and Installation"](#).

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

AV

SOUND SIGNAL CIRCUIT SATELLITE RADIO TUNER

SATELLITE RADIO TUNER : Description

INFOID:000000001691220

Left and right channel audio signals are supplied from the satellite radio tuner to the audio unit through the sound signal circuits.

SATELLITE RADIO TUNER : Diagnosis Procedure

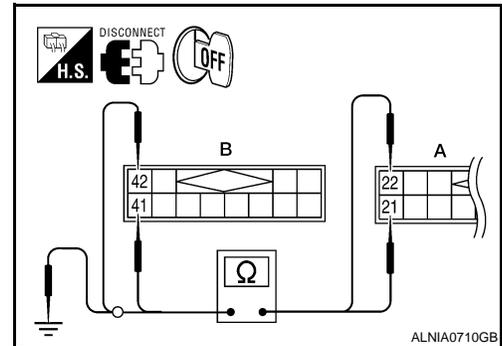
INFOID:000000001691221

LEFT CHANNEL

1. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect satellite radio tuner (factory installed) connector M41 and audio unit connector M42.
3. Check continuity between satellite radio tuner (factory installed) connector M41 (A) and audio unit connector M42 (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M41	21	M42	41	Yes
	22		42	



4. Check continuity between satellite radio tuner (factory installed) connector M41 (A) and ground.

A		—	Continuity
Connector	Terminal		
M41	21	Ground	No
	22		

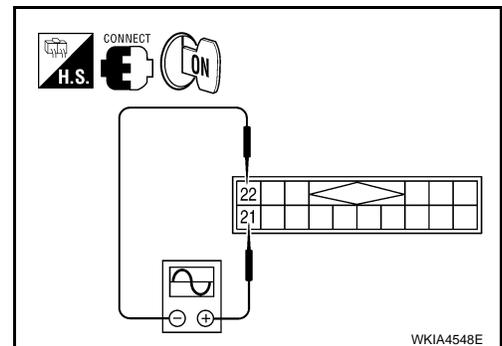
Are continuity results as specified?

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

2. CHECK LEFT CHANNEL AUDIO SIGNAL

1. Connect satellite radio tuner (factory installed) and audio unit.
2. Turn ignition switch ON.
3. Check signal between satellite radio tuner (factory installed) connector M41 terminals 21 and 22 with CONSULT-III or oscilloscope.

(+) Terminal		(-)	Reference signal
Connector	Terminal		
M41	21	Ground	<p>The oscilloscope shows a complex waveform between terminals 21 and 22 of connector M41. The vertical axis is labeled (V) and ranges from -1 to 1. The horizontal axis is labeled with a 2ms scale bar. The waveform oscillates between approximately 0.5V and -0.5V.</p>
	22		



Are voltage readings as specified?

- YES >> Replace audio unit. Refer to [AV-92, "Removal and Installation"](#).
 NO >> Replace satellite radio tuner. Refer to [AV-102, "Removal and Installation"](#).

RIGHT CHANNEL

SOUND SIGNAL CIRCUIT

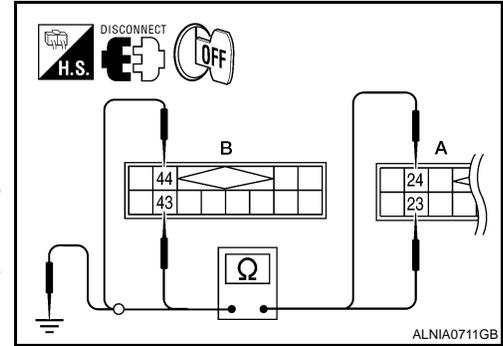
< COMPONENT DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

1. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect satellite radio tuner (factory installed) connector M41 and audio unit connector M42.
3. Check continuity between satellite radio tuner (factory installed) M41 (A) and audio unit M42 (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M41	23	M42	43	Yes
	24		44	



4. Check continuity between satellite radio tuner (factory installed) connector M41 (A) and ground.

A		—	Continuity
Connector	Terminal		
M41	23	Ground	No
	24		

Are continuity results as specified?

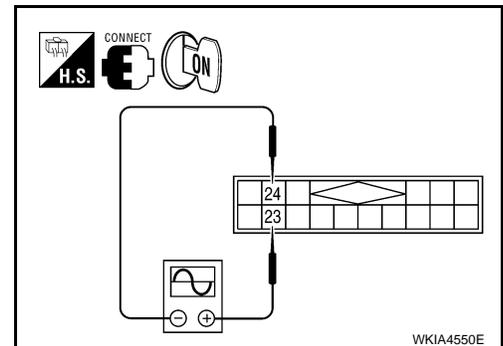
YES >> GO TO 2

NO >> Repair harness or connector.

2. CHECK RIGHT CHANNEL AUDIO SIGNAL

1. Connect satellite radio tuner (factory installed) and audio unit.
2. Turn ignition switch ON.
3. Check signal between satellite radio tuner (factory installed) connector M41 terminals 23 and 24 with CONSULT-III or oscilloscope.

(+) A		(-) B	Reference signal
Connector	Terminal		
M41	23	Ground	
	24		



Are voltage readings as specified?

YES >> Replace audio unit. Refer to [AV-92. "Removal and Installation"](#).

NO >> Replace satellite radio tuner. Refer to [AV-102. "Removal and Installation"](#).

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

AV

MICROPHONE SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

MICROPHONE SIGNAL CIRCUIT

Description

INFOID:000000001691222

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

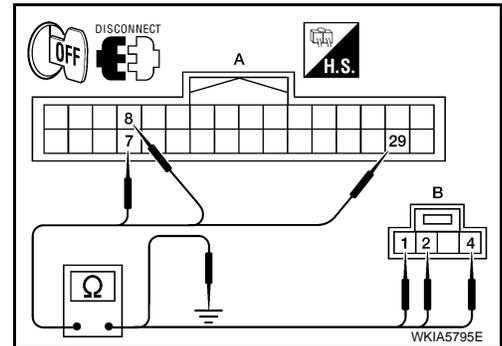
Diagnosis Procedure

INFOID:000000001691223

1. CHECK HARNESS BETWEEN BLUETOOTH CONTROL UNIT AND MICROPHONE

1. Turn ignition switch OFF.
2. Disconnect Bluetooth control unit connector and microphone connector.
3. Check continuity between Bluetooth control unit harness connector B142 (A) and microphone harness connector R109 (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
B142	7	R109	1	Yes
	8		2	
	29		4	



4. Check continuity between Bluetooth control unit harness connector B142 (A) and ground.

A		—	Continuity
Connector	Terminal		
B142	7	Ground	No
	8		
	29		

Are the continuity test results as specified?

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

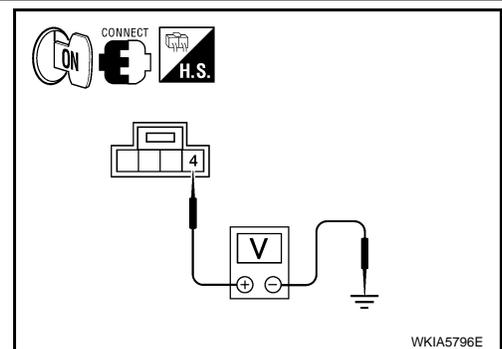
2. CHECK MICROPHONE POWER SUPPLY

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

4 - Ground : Approx. 5V

Is voltage reading approx. 5 volts?

- YES >> GO TO 3
 NO >> Replace Bluetooth control unit. Refer to [AV-207](#), "Removal and Installation".



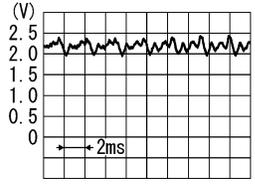
3. CHECK MICROPHONE SIGNAL

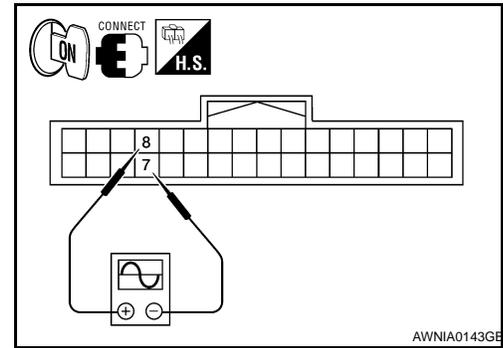
MICROPHONE SIGNAL CIRCUIT

[PREMIUM WITH NAVIGATION]

< COMPONENT DIAGNOSIS >

Check signal between Bluetooth control unit harness connector B142 terminals 7 and 8 with CONSULT-III or and oscilloscope.

Connector	(+)	(-)	Reference signal
	Terminal	Terminal	
B142	7	8	<p>While speaking into MIC</p>  <p>PKIB5037J</p>



Are voltage readings as specified?

- YES >> Replace Bluetooth control unit. Refer to [AV-207, "Removal and Installation"](#).
- NO >> Replace microphone. Refer to [AV-205, "Removal and Installation"](#).

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

AUDIO UNIT

< ECU DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

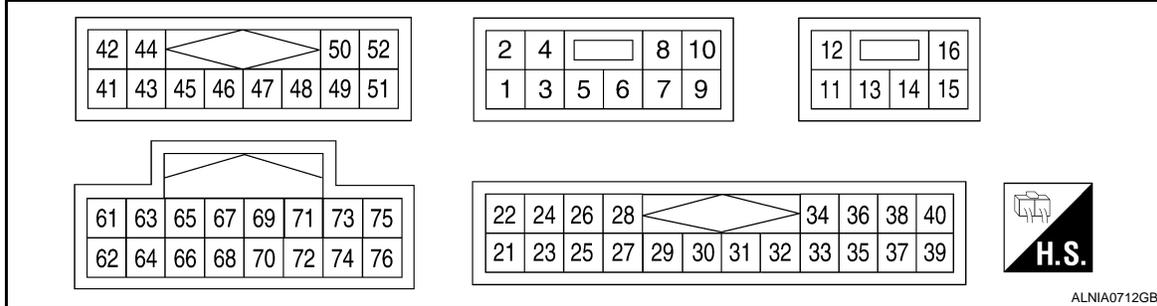
ECU DIAGNOSIS

AUDIO UNIT

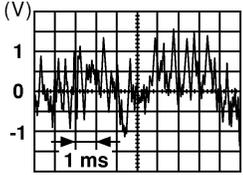
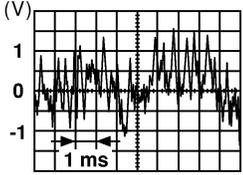
Reference Value

INFOID:000000001691224

TERMINAL LAYOUT



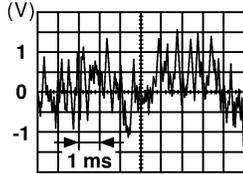
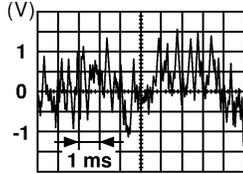
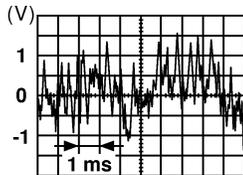
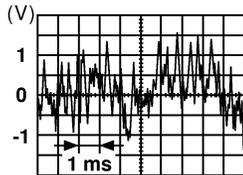
PHYSICAL VALUES

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value (Approx.)
+	-					
2 (L/W)	1 (L/R)	Audio sound signal front LH	Output	Ignition switch ON	Receive audio sig- nal	 SKIA0177E
4 (W/B)	3 (L/B)	Audio sound signal front RH	Output	Ignition switch ON	Receive audio sig- nal	 SKIA0177E
6 (Y)	Ground	Battery power	Input	-	-	Battery voltage
7 (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
8 (R/L)	Ground	Illumination signal	Input	OFF	Lighting switch is in 1st position.	Battery voltage
				OFF.	Lighting switch is OFF.	0V
10 (V)	Ground	ACC signal	Input	Ignition switch ON	-	Battery voltage

AUDIO UNIT

< ECU DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value (Approx.)
+	-					
14 (SB)	13 (B/Y)	Audio sound signal rear LH	Output	Ignition switch ON	Receive audio sig- nal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
16 (O/L)	15 (R/L)	Audio sound signal rear RH	Output	Ignition switch ON	Receive audio sig- nal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
21 (V)	Ground	Remote control A	Output	Ignition switch ON	Audio unit ON	5V
22 (P)	Ground	Remote control B	Output	Ignition switch ON	Audio unit ON	5V
23 (BR/Y)	Ground	Remote control C	Output	Ignition switch ON	Audio unit ON	5V
24 (L)	Ground	Remote control D	Output	Ignition switch ON	Audio unit ON	5V
25 (LG)	Ground	Remote control ground	-	-	-	0V
27 (O/L)	26 (O)	Audio sound signal LH	Output	Ignition switch ON	Receive audio sig- nal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
29 (W)	28 (W/L)	Audio sound signal RH	Output	Ignition switch ON	Receive audio sig- nal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
30	-	Shield	-	-	-	0V
31 (O)	Ground	Remote control en- able signal	Output	Ignition switch ON	Audio unit ON	5V
32 (V)	Ground	Remote control switch power sup- ply	Output	Ignition switch ON	Audio unit ON	12V

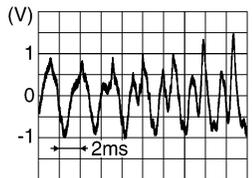
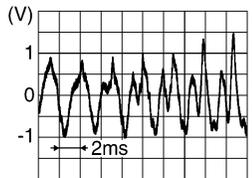
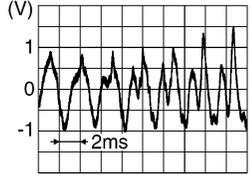
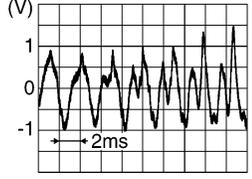
A
B
C
D
E
F
G
H
I
J
K
L
M
P

AV

AUDIO UNIT

< ECU DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value (Approx.)
+	-					
35 (B)	34 (W)	Family entertain- ment system left channel audio input	Input	Ignition switch ON	DVD operating	 <small>SKIB3609E</small>
37 (R)	36 (G)	Family entertain- ment system right channel audio input	Input	Ignition switch ON	DVD operating	 <small>SKIB3609E</small>
39 (Y/L)	Ground	Family entertain- ment system en- able	Output	Ignition switch ON	DVD operating	12V
40 (L/W)	Ground	Audio ON	Input	Ignition switch ON	DVD operating	12V
42 (R)	41 (G)	Satellite radio au- dio signal LH	Input	Ignition switch ON	Satellite radio tuner operating	 <small>SKIB3609E</small>
44 (W)	43 (B)	Satellite radio au- dio signal RH	Input	Ignition switch ON	Satellite radio tuner operating	 <small>SKIB3609E</small>
45	-	Ground	-	-	-	0V
46	-	Data ground	-	-	-	0V
48 (L)	-	REQ (SAT→Audio unit)	Input	Ignition switch ON	-	—
49 (O/L)	-	RX (SAT→Audio unit)	Input	Ignition switch ON	-	—
50 (W/L)	-	TX (Audio unit→ SAT)	Input	Ignition switch ON	-	—

AUDIO UNIT

< ECU DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value (Approx.)
+	-					
65 (O/L)	Ground	Audio RX	Input	Ignition switch ON	Operate audio vol- ume	<p style="text-align: right; font-size: small;">SKIA4403E</p>
66 (W/L)	Ground	Audio TX	Output	Ignition switch ON	Operate audio vol- ume	<p style="text-align: right; font-size: small;">SKIA4402E</p>
67	-	Shield	-	Ignition switch ON	-	0V
70	-	Shield	-	Ignition switch ON	-	0V
71 (B)	69 (W)	NAVI voice	Input	Ignition switch ON	NAVI system oper- ating	<p style="text-align: right; font-size: small;">SKIA0171J</p>
72 (W/B)	Ground	CD eject signal	Input	Ignition switch ON	Operate EJECT but- ton	0V → 5V
73 (Y/B)	Ground	CD load signal	Input	Ignition switch ON	Operate LOAD but- ton	0V → 5V
74 (W)	Ground	Auxiliary audio in- put RH (+)	Input	Ignition switch ON	Receive audio sig- nal (AUX input)	<p style="text-align: right; font-size: small;">SKIA0177E</p>
75 (R)	Ground	Auxiliary audio in- put LH (+)	Input	Ignition switch ON	Receive audio sig- nal (AUX input)	<p style="text-align: right; font-size: small;">SKIA0177E</p>
76 (B)	-	Shield	-	-	-	0V

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

AV

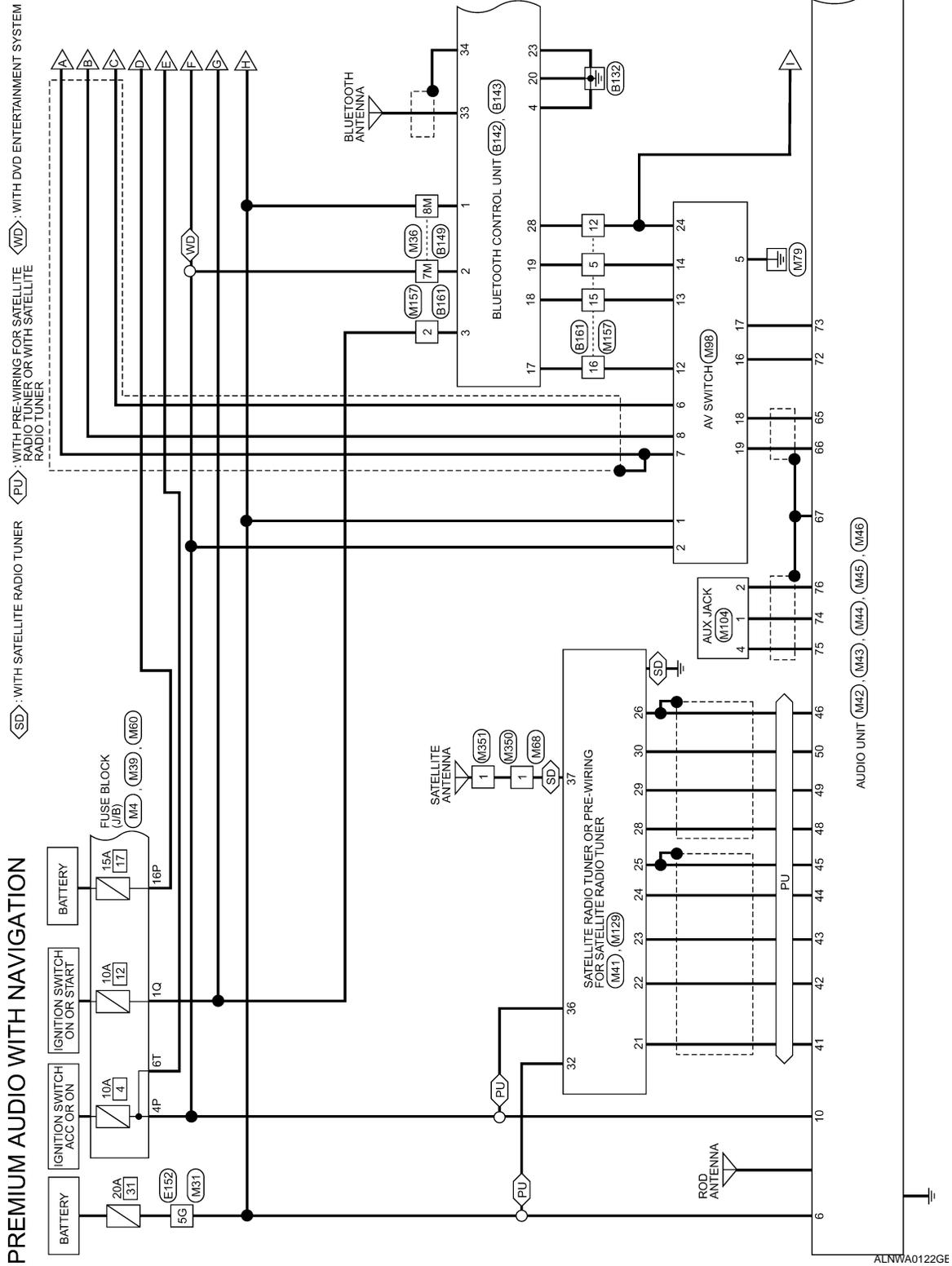
AUDIO UNIT

< ECU DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

INFOID:000000001691496

Wiring Diagram



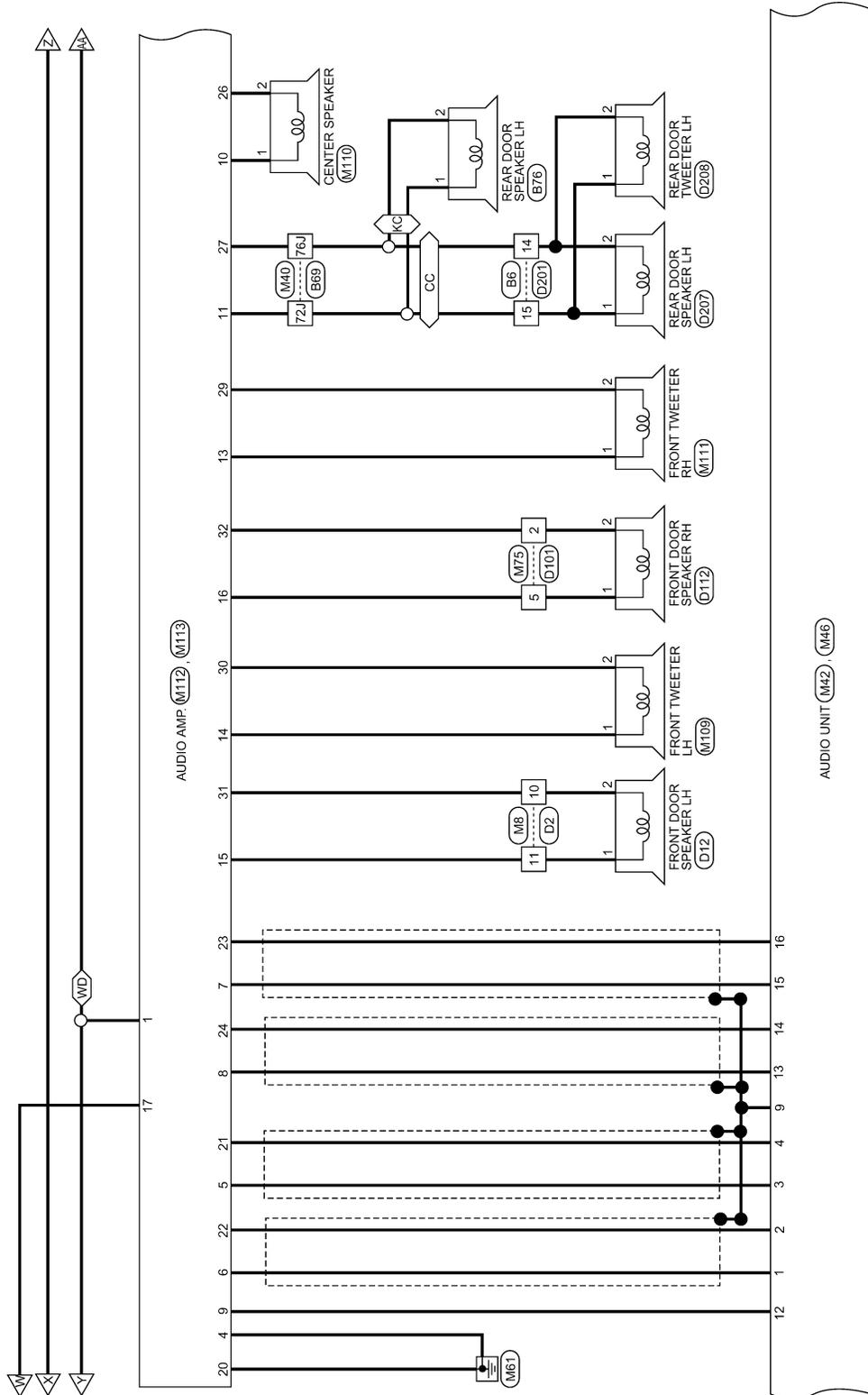
ALNWA0122GE

AUDIO UNIT

< ECU DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

- ◊ CC ◊ : CREW CAB
- ◊ KC ◊ : KING CAB
- ◊ WD ◊ : WITH DVD ENTERTAINMENT SYSTEM

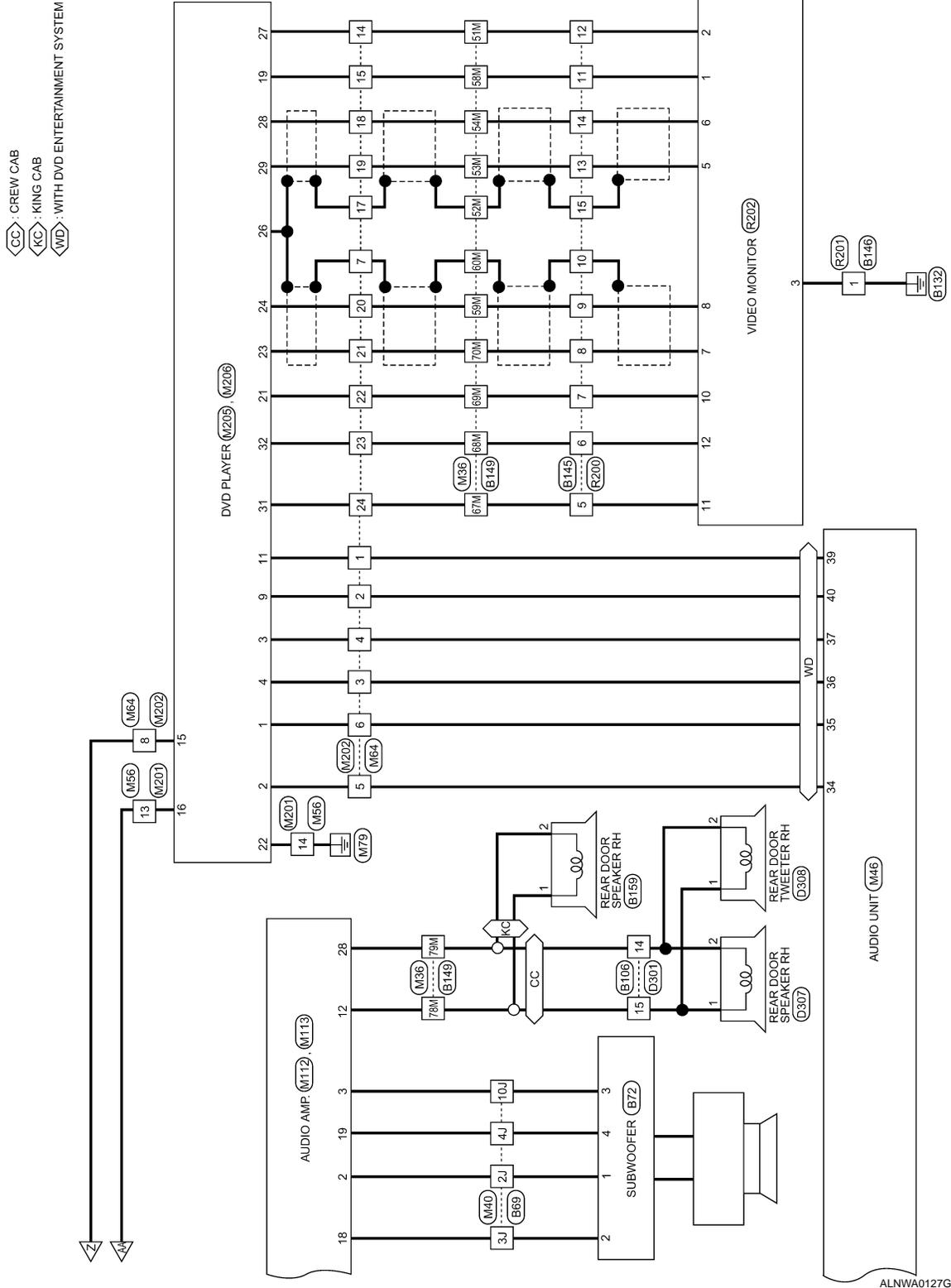


ALNWA0126GE

AUDIO UNIT

< ECU DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

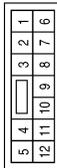


A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P

AV

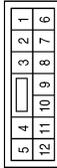
PREMIUM AUDIO WITH NAVI CONNECTORS

Connector No.	M1
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
12	R/G	-

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



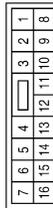
Terminal No.	Color of Wire	Signal Name
1	R/W	-
5	R/L	-
6	SHIELD	-
7	GR	-
12	B	-

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



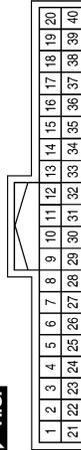
Terminal No.	Color of Wire	Signal Name
4P	V	-
5P	O/L	-
16P	Y/G	-

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.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE

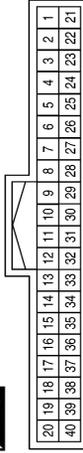


Terminal No.	Color of Wire	Signal Name
2	SB	INPUT-5
3	G/Y	INPUT-4
4	Y	INPUT-3
5	G/B	INPUT-2
6	V	INPUT-1

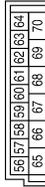
Terminal No.	Color of Wire	Signal Name
11	O	ACC SW
32	R/G	OUTPUT-5
33	R/Y	OUTPUT-4
34	L	OUTPUT-3
35	O/B	OUTPUT-2
36	R/W	OUTPUT-1
38	W/L	IGN SW
39	L	CAN-H
40	P	CAN-L

Terminal No.	Color of Wire	Signal Name
8	Y/R	-
9	B	-
11	L	CAN-H
12	P	CAN-L
24	O/L	-
29	W/R	SPEED_8P

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

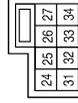


Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK

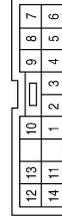


Terminal No.	Color of Wire	Signal Name
56	R/G	BATTERY SAVER OUTPUT
67	B	GND
70	W/B	BATT (FL)

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



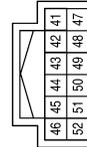
Connector No.	M28
Connector Name	COMBINATION SWITCH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	R/W	-
2	O/B	-
3	L	-
4	R/Y	-
5	R/G	-
6	V	-
8	SB	-
9	G/Y	-
10	Y	-

Terminal No.	Color of Wire	Signal Name
24	R	STRG_SW_A (UP)
31	L	STRG_SW_C (GND)
32	G	STRG_SW_B (DOWN)

Connector No.	M25
Connector Name	COMBINATION METER
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
52	B	-

ALNIA0805GB

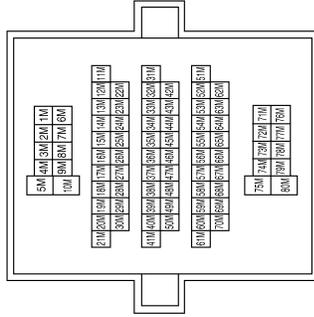
AUDIO UNIT

< ECU DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

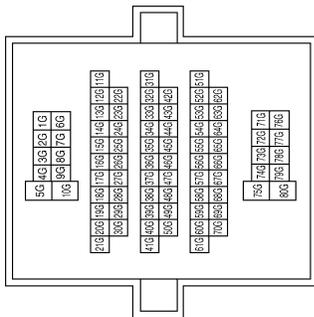
Terminal No.	Color of Wire	Signal Name
35M	SHIELD	-
36M	BR/Y	-
43M	R	-
44M	W	-
45M	LG	-
46M	P	-
47M	O	-
48M	V	-
51M	B/Y	-
52M	SHIELD	-
53M	BR	-
54M	Y	-
58M	B/W	-
59M	L	-
60M	SHIELD	-
67M	SB	-
68M	BR	-
69M	G/Y	-
70M	B/W	-
78M	O/L	-
79M	R/L	-

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



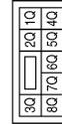
Terminal No.	Color of Wire	Signal Name
7M	V	-
8M	Y	-
31M	LG	-
32M	V	-
33M	B	-
34M	G	-

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



Terminal No.	Color of Wire	Signal Name
7G	W/L	-
10G	W/B	-
26G	GR	-
31G	L	-
42G	P	-
72G	Y	-

Connector No.	M39
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1Q	G/R	-
4Q	Y/R	-

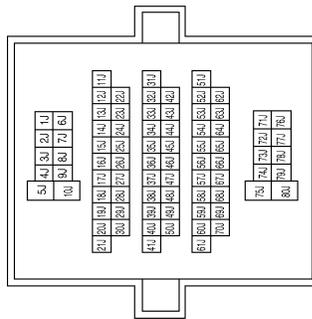
ALNIA0806GB

AUDIO UNIT

< ECU DIAGNOSIS >

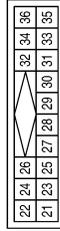
[PREMIUM WITH NAVIGATION]

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



Terminal No.	Color of Wire	Signal Name
2J	Y	
3J	B	
4J	BR	
10J	BR/W	
72J	SB	
76J	B/Y	

Connector No.	M41
Connector Name	SATELLITE RADIO TUNER
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
21	G	SAT_LCH(-)
22	R	SAT_LCH(+)
23	B	SAT_RCH(-)
24	W	SAT_RCH(+)
25	SHIELD	EARTH SIG
26	SHIELD	DATA_GND
28	L	REQ1 (SAT-COMBI)
29	O/L	TXD (SAT-COMBI)
30	W/L	RXD (COMBI-SAT)
32	Y	BACKUP
36	V	ACC

Connector No.	M42
Connector Name	AUDIO UNIT
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
41	G	L(-)
42	R	L(+)
43	B	R(-)
44	W	R(+)
45	SHIELD	EARTH
46	SHIELD	DATA EARTH

Terminal No.	Color of Wire	Signal Name
48	L	REQ (CD-COMBI)
49	O/L	RX (CD-COMBI)
50	W/L	TX (COMBI-CD)

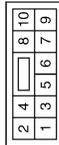
A
B
C
D
E
F
G
H
I
J
K
L
M
AV
O
P

AUDIO UNIT

< ECU DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

Connector No.	M43
Connector Name	AUDIO UNIT
Connector Color	WHITE



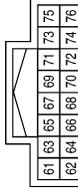
Terminal No.	Color of Wire	Signal Name
1	B	FR_SP_LH-
2	W	FR_SP_LH+
3	BR	FR_SP_RH-
4	Y	FR_SP_RH+
6	Y	BACK_UP
9	SHIELD	CASE_GND
10	V	ACC

Connector No.	M44
Connector Name	AUDIO UNIT (BOSE)
Connector Color	WHITE



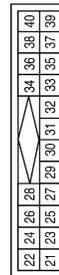
Terminal No.	Color of Wire	Signal Name
12	GW	AMP_ON
13	B/R	RR_SP_LH-
14	BR	RR_SP_LH+
15	BW	RR_SP_RH-
16	L	RR_SP_RH+

Connector No.	M45
Connector Name	AUDIO UNIT
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
61	R	TEL_SIG_INPUT (-)
62	G	TEL_SIG_INPUT (+)
63	Y	TEL_SIG_ON_TRIG
64	SHIELD	TEL_SIG_GND
65	O/L	RX (DCU-H/U)
66	W/L	TX (H/U-DCU)
67	SHIELD	SHIELD
71	B	NAVI_VOICE+
72	W/B	EJECT
73	Y/B	LOAD
74	W	AUX_R+
75	R	AUX_L+
76	B	AUX_EARTH

Connector No.	M46
Connector Name	AUDIO UNIT
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
21	V	REMOTE_A
22	P	REMOTE_B
23	BR/Y	REMOTE_C
24	L	REMOTE_D
25	LG	REMOTE_GND
26	O	L_CH_OUTPUT (-)
27	O/L	L_CH_OUTPUT (+)
28	W/L	R_CH_OUTPUT (-)
29	W	R_CH_OUTPUT (+)

Terminal No.	Color of Wire	Signal Name
29	W	R_CH_OUTPUT (+)
30	SHIELD	SHIELD
31	O	ENABLE
32	V	SWITCH_B(+)
34	W	FES_L_CHI/P (-)
35	B	FES_L_CHI/P (+)
36	G	FES_R_CHI/P (-)
37	R	FES_R_CHI/P (+)
39	Y/L	FES_ENABLE
40	L/W	AUDIO_ON

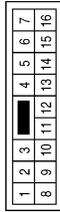
ALNIA0808GB

AUDIO UNIT

< ECU DIAGNOSIS >

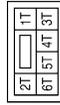
[PREMIUM WITH NAVIGATION]

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



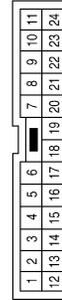
Terminal No.	Color of Wire	Signal Name
13	Y	-
14	B	-

Connector No.	M60
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
6T	O	-

Connector No.	M64
Connector Name	WIRE TO WIRE
Connector Color	BROWN



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

Terminal No.	Color of Wire	Signal Name
7	SHIELD	-
8	V	-
14	B/Y	-
15	B/W	-
17	SHIELD	-
18	Y	-
19	BR	-
20	L	-
21	B/W	-
22	G/Y	-
23	BR	-
24	SB	-

Connector No.	M68
Connector Name	WIRE TO WIRE
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	V	-

ALNIA0809GB

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

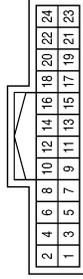
AV

AUDIO UNIT

< ECU DIAGNOSIS >

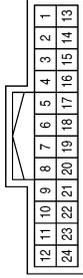
[PREMIUM WITH NAVIGATION]

Connector No.	M94
Connector Name	DISPLAY CONTROL UNIT
Connector Color	WHITE



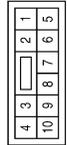
Terminal No.	Color of Wire	Signal Name
1	Y	B
2	L/W	INV_VCC
3	B	GND
4	L/R	SIGN_VCC
5	P	INV_GND
6	GR	RV
7	P/L	SIGN_GND
10	O	ACC
12	G/R	IGN
16	W/R	SPEED-8P

Connector No.	M93
Connector Name	DISPLAY UNIT
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	B	GND
2	L/W	INV_VCC
3	L/R	SIGN_VCC
6	R/W	G
7	SHIELD	RGBGND
9	B	YS
11	B/W	DCU-DSP
13	P	INV_GND
14	P/L	SIGN_GND
17	R/L	R
18	B	B
19	G	RGB_SYNC
20	W	VP
21	SHIELD	SYNC_GND
22	L	DSP-DCU
23	SHIELD	BUS_GND

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



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

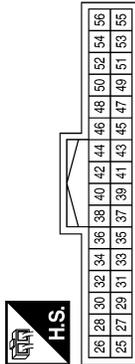
ALNIA0810GB

AUDIO UNIT

< ECU DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

Connector No.	M95
Connector Name	DISPLAY CONTROL UNIT
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
28	V	BUS+
29	SHIELD	SHIELD
30	LG	BUS-
32	L	BUS+
33	SHIELD	SHIELD
34	P	P
36	B/W	B/W
37	SHIELD	SHIELD
38	L	DSP-DCU

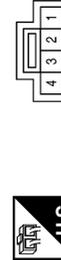
Connector No.	M102
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
16	R	-
17	BR	-
20	W	-

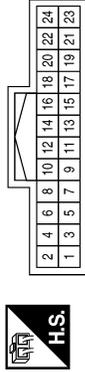
Terminal No.	Color of Wire	Signal Name
39	SHIELD	SHIELD
40	O/L	DCU-AUDIO
41	SHIELD	SHIELD
42	W/L	AUDIO-DCU
43	W	RGB_SYNC
44	R/L	R
45	SHIELD	SHIELD
46	R/W	G
47	SHIELD	SHIELD
48	B	B
49	SHIELD	SHIELD
50	R/L	R
51	B	YS
52	R/W	G
53	W	VP
54	B	B
55	R	HP
56	G	RGB_SYNC

Connector No.	M104
Connector Name	AUX JACK
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	W	AUX_AUDIO_RH +
2	B	AUX_GND
4	R	AUX_AUDIO_LH +

Connector No.	M98
Connector Name	A/C AND AV SWITCH ASSEMBLY
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	Y	+B
2	V	ACC
5	B	GND
6	V	M-CAN1_L BUS (+)
7	SHIELD	SHIELD-1
8	LG	BUS (-)
12	V	REMOTE_A CONT_A
13	G/O	REMOTE_B CONT_B
14	R/B	REMOTE_CONT_C
16	W/R	B_PULSE

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



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

ALNIA0811GB

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

AV

AUDIO UNIT

< ECU DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

Connector No.	M110
Connector Name	CENTER SPEAKER
Connector Color	BROWN



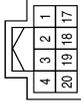
Terminal No.	Color of Wire	Signal Name
1	L/W	-
2	L/B	-

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



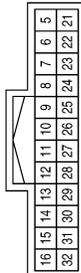
Terminal No.	Color of Wire	Signal Name
1	W/B	-
2	L/B	-

Connector No.	M112
Connector Name	AUDIO AMPLIFIER
Connector Color	BROWN



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

Connector No.	M113
Connector Name	AUDIO AMPLIFIER
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
5	BR	CENTER+
6	B	RH_IN-
7	BW	LH_IN-
8	B/R	RR_LH_IN-

Terminal No.	Color of Wire	Signal Name
9	G/W	AMP_ON
10	L/W	CTR_OUT+
11	SB	RR_LH_OUT+
12	O/L	RR_RH_OUT+
13	W/B	FR_RH_TW+
14	L/W	FR_LH_TW+
15	L/W	FR_LH_OUT+
16	W/B	FR_RH_OUT+
20	B	GND
21	Y	FR_RH_IN+
22	W	FR_LH_IN+

Terminal No.	Color of Wire	Signal Name
23	L	RR_RH_IN+
24	BR	RR_LH_IN+
26	L/B	CTR_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-

ALNIA0812GB

AUDIO UNIT

< ECU DIAGNOSIS >

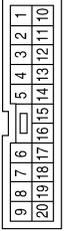
[PREMIUM WITH NAVIGATION]

Connector No.	M129
Connector Name	SATELLITE RADIO TUNER
Connector Color	VIOLET



Terminal No.	Color of Wire	Signal Name
37	B	-

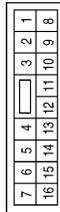
Connector No.	M157
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	B	-
2	G/R	-
3	SHIELD	-
4	G	-
5	R/B	-
6	G/W	-
7	SHIELD	-
8	R/L	-
9	GR	-
12	W/R	-

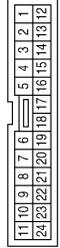
Terminal No.	Color of Wire	Signal Name
13	R	-
14	Y	-
15	G/O	-
16	V	-
17	Y/R	-
19	B	-
20	R/W	-

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



Terminal No.	Color of Wire	Signal Name
13	Y	-
14	B	-

Connector No.	M202
Connector Name	WIRE TO WIRE
Connector Color	BROWN



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

Terminal No.	Color of Wire	Signal Name
8	V	-
14	B/Y	-
15	B/W	-
17	SHIELD	-
18	Y	-
19	BR	-
20	L	-
21	B/W	-
22	G/Y	-
23	BR	-
24	SB	-

ALNIA0813GB

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

AUDIO UNIT

< ECU DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

Connector No.	M205
Connector Name	DVD PLAYER
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
19	B/W	GND
21	G/Y	SW_POWER +5V
22	B	GND
23	B/W	VTR+
24	L	VTR-
26	SHIELD	SHIELD
27	B/Y	GND
28	Y	DATA_RX
29	BR	DATA_TX
31	SB	+B
32	BR	+B

Connector No.	M206
Connector Name	DVD PLAYER
Connector Color	WHITE



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
9	LW	AUDIO_ON
11	Y/L	FES_ENABLE
15	V	ACC
16	Y	B+

Connector No.	M350
Connector Name	WIRE TO WIRE
Connector Color	BROWN



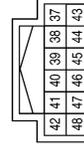
Terminal No.	Color of Wire	Signal Name
1	B	-

Connector No.	M351
Connector Name	SATELLITE ANTENNA
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	B	-

Connector No.	E122
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
38	B	GND (SIG)
39	L	CAN-H
40	P	CAN-L

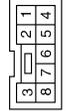
ALNIA0814GB

Connector No.	E124
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK



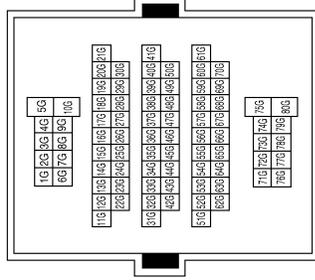
Terminal No.	Color of Wire	Signal Name
59	B	GND (PWR)

Connector No.	E139
Connector Name	WIRE TO WIRE
Connector Color	WHITE



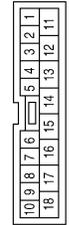
Terminal No.	Color of Wire	Signal Name
1	G/W	-

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



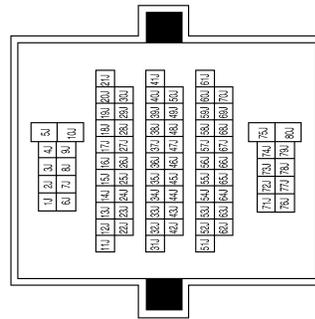
Terminal No.	Color of Wire	Signal Name
72G	Y	-

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.	B69
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
2J	V	-
3J	B	-
4J	BR	-
10J	BR/W	-
72J	SB	-
76J	B/Y	-

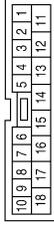
ALNIA0815GB

AUDIO UNIT

< ECU DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

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



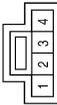
Terminal No.	Color of Wire	Signal Name
14	R/L	-
15	O/L	-

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



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

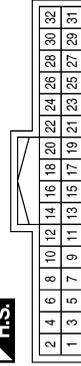
Connector No.	B72
Connector Name	SUBWOOFER
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	W	WOOFER+1
2	B	WOOFER-1
3	BR/W	WOOFER+2
4	BR	WOOFER-2

Terminal No.	Color of Wire	Signal Name
8	R/L	MIC_IN-
9	G	AUDIO_OUT+
10	R	AUDIO_OUT-
11	Y	MUTE_CONTROL
12	R/G	LADDER_IN_1
13	GW	LADDER_IN_2
14	Y/R	LADDER_IN_GND
15	GR	LED_IND_1
17	V	LADDER_OUT_1
18	G/O	LADDER_OUT_2
19	R/B	LADDER_OUT_GND
20	B	CONT1
23	B	CONT4
28	W/R	SPEED_SIGNAL
29	R/W	MIC_POWER

Connector No.	B142
Connector Name	BLUETOOTH CONTROL UNIT
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	Y	BATT
2	V	ACC
3	G/R	IGN
4	B/W	GND
6	SHIELD	MIC_SHIELD
7	B	MIC_IN+

Connector No.	B107
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	GW	-

ALNIA0816GB

AUDIO UNIT

< ECU DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

Terminal No.	Color of Wire	Signal Name
5	SB	
6	BR	-
7	G/Y	-
8	W	-
9	L	-
10	SHIELD	-
11	B/W	-
12	B/Y	-
13	G	-
14	L	-
15	SHIELD	-

Connector No.	B145
Connector Name	WIRE TO WIRE
Connector Color	WHITE

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



Connector No.	B143
Connector Name	BLUETOOTH ANTENNA
Connector Color	BLACK

33	34
----	----



Terminal No.	Color of Wire	Signal Name
33	B	-
34	B	-

Terminal No.	Color of Wire	Signal Name
10	W	-
11	SHIELD	-
12	V	-
13	P	-
14	BR/Y	-
15	O	-
17	L	-
18	LG	-
22	V	-

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	-
7	B	-
8	G	-
9	R	-

ALNIA0817GB

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

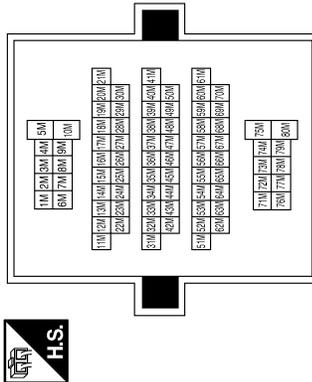
AV

AUDIO UNIT

< ECU DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

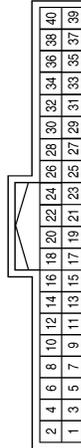
Connector No.	B149
Connector Name	WIRE TO WIRE
Connector Color	WHITE



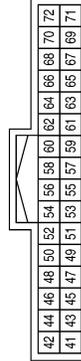
Terminal No.	Color of Wire	Signal Name
11M	L	-
12M	P	-
13M	R/L	-
14M	SHIELD	-
15M	SHIELD	-
16M	O	-
17M	W/R	-
20M	B	-
21M	W	-
22M	SHIELD	-
23M	B	-
24M	R/W	-
25M	W	-
27M	G/R	-
30M	SHIELD	-

Terminal No.	Color of Wire	Signal Name
51M	B/Y	-
52M	SHIELD	-
53M	W/L	-
54M	P/B	-
58M	P/B	-
59M	L	-
60M	W/R	-
67M	SB	-
68M	W/L	-
69M	G/W	-
70M	GR/R	-
71M	Y	-
78M	O/L	-
79M	R/L	-

Connector No.	B151
Connector Name	NAVI CONTROL UNIT
Connector Color	WHITE



Connector No.	B152
Connector Name	NAVI CONTROL UNIT
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
44	R/L	R
45	R/W	G
46	B	B
47	SHIELD	RGB_GND
48	BR	RGB_SYNC
49	SHIELD	SYNC_GND
63	G/R	IGN
65	G/W	RV
66	W/R	SPEED_8P
68	SHIELD	SHIELD
69	L	BUS+
70	P	BUS-

Terminal No.	Color of Wire	Signal Name
1	B	GND
2	Y	BATT
5	O	ACC
12	B	GUIDE_VOICE+
13	SHIELD	SHIELD
14	W	GUIDE_VOICE-

ALNIA0818GB

AUDIO UNIT

< ECU DIAGNOSIS >

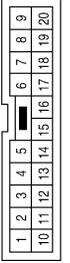
[PREMIUM WITH NAVIGATION]

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



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

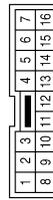
Connector No.	B161
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

Terminal No.	Color of Wire	Signal Name
6	GW	-
7	SHIELD	-
8	R/L	-
9	GR	-
12	W/R	-
13	R	-
14	Y	-
15	G/O	-
16	V	-
17	Y/R	-
19	B	-
20	R/W	-

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



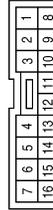
Terminal No.	Color of Wire	Signal Name
12	R/G	-

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



Terminal No.	Color of Wire	Signal Name
1	R/W	-
5	R/L	-
6	SHIELD	-
7	GR	-
12	B	-

Connector No.	R6
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
3	R/G	-

ALNIA0819GB

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

AV

AUDIO UNIT

< ECU DIAGNOSIS >

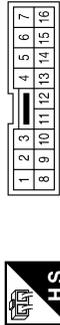
[PREMIUM WITH NAVIGATION]

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



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

Connector No.	R101
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
3	R/G	-

Connector No.	R105
Connector Name	BLUETOOTH ON INDICATOR
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	GR	LED_1 (AMBER)
2	R/G	LED_POWER
3	R/L	DAY/NIGHT_ILL_SIG

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



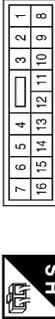
Terminal No.	Color of Wire	Signal Name
1	R/L	-
2	R/W	-
3	GR	-
4	B	-

Connector No.	R109
Connector Name	MICROPHONE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	B	MIC_OUT_(+)
2	R/L	MIC_OUT_(-)
4	R/W	MIC_POWER

Connector No.	R200
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
5	SB	-
6	BR	-
7	G/Y	-
8	W	-
9	L	-
10	SHIELD	-
11	B/W	-
12	B/Y	-
13	G	-
14	L	-
15	SHIELD	-

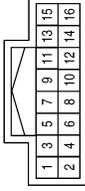
ALNIA0820GB

AUDIO UNIT

< ECU DIAGNOSIS >

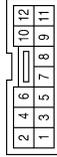
[PREMIUM WITH NAVIGATION]

Connector No.	R204
Connector Name	REAR AUDIO REMOTE CONTROL UNIT
Connector Color	WHITE



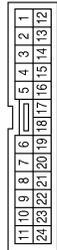
Terminal No.	Color of Wire	Signal Name
1	B	L_CH_INPUT-
2	G	L_CH_INPUT+
3	R	R_CH_INPUT-
4	W	R_CH_INPUT+
5	SHIELD	SHIELD
7	LG	REMOTE_GND
8	O	ENABLE
9	V	REMOTE_A
10	P	REMOTE_B
11	BR/Y	REMOTE_C
12	G	REMOTE_D
13	V	SWITCH_+B
15	B	GND

Connector No.	R202
Connector Name	VIDEO MONITOR
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	B/W	GND
2	B/Y	GND
3	B	ID
5	G	DATA_RX
6	L	DATA_TX
7	W	VIDEO IN+
8	L	VIDEO IN-
10	G/Y	SW POWER_+5V
11	SB	FILTERED_BAT
12	BR	FILTERED_BAT

Connector No.	R201
Connector Name	WIRE TO WIRE
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	B	-
7	B	-
8	G	-
9	R	-
10	W	-
11	SHIELD	-
12	V	-
13	P	-
14	BR/Y	-
15	O	-
17	B	-
18	GR	-
22	V	-

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

AV

ALNIA0821GB

AUDIO UNIT

< ECU DIAGNOSIS >

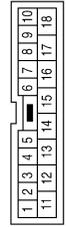
[PREMIUM WITH NAVIGATION]

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



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

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	-

ALNIA0846GB

NAVI CONTROL UNIT

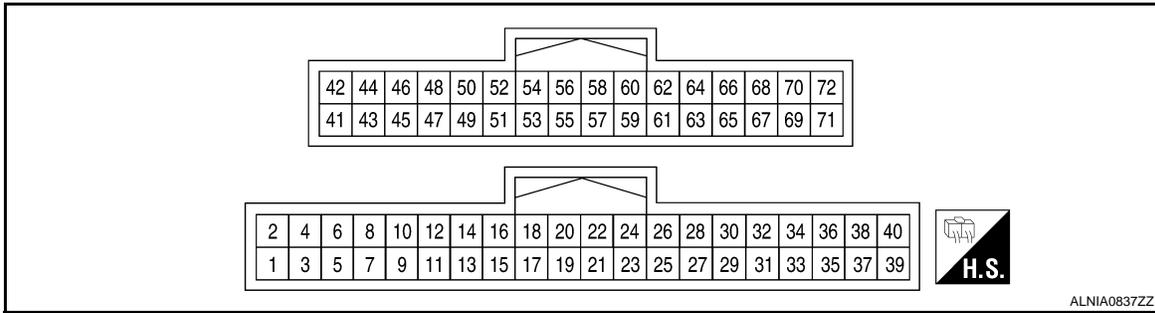
< ECU DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

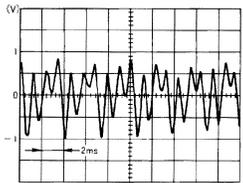
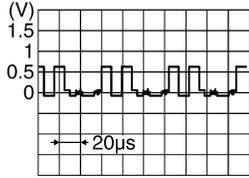
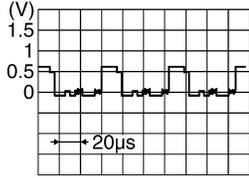
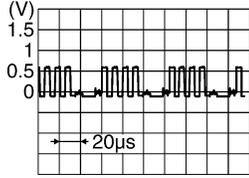
NAVI CONTROL UNIT

Reference Value

INFOID:000000001693604



ALNIA0837ZZ

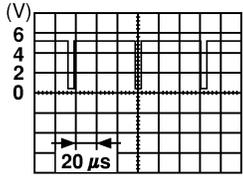
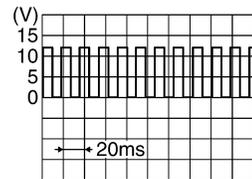
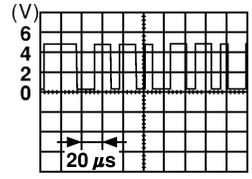
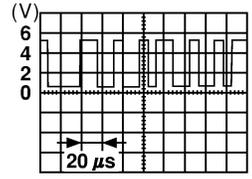
Terminal No. (Wire color)		Item	Signal input/ output	Condition		Voltage (Approx.)
+	-			Ignition switch	Operation	
1 (B)	Ground	Ground	-	ON	-	0V
2 (Y)	Ground	Battery power	Input	OFF	-	Battery voltage
5 (O)	Ground	ACC signal	Input	ACC	-	Battery voltage
12 (B)	14 (W)	Voice guide signal	Output	ON	Press the "GUIDE/ VOICE" button.	 <p>SKIA0171J</p>
13	-	Shield ground	-	-	-	-
44 (R/L)	47	RGB signal (R: red)	Output	ON	Select "Display Diagnosis (NAVI)" of CONFIRMATION/ADJUSTMENT function.	 <p>SKIA4977E</p>
45 (R/W)	47	RGB signal (G: green)	Output	ON	Select "Display Diagnosis (NAVI)" of CONFIRMATION/ADJUSTMENT function.	 <p>SKIA4978E</p>
46 (B)	47	RGB signal (B: blue)	Output	ON	Select "Display Diagnosis (NAVI)" of CONFIRMATION/ADJUSTMENT function.	 <p>SKIA4979E</p>
47	-	Shield ground	-	-	-	-

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

NAVI CONTROL UNIT

< ECU DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

Terminal No. (Wire color)		Item	Signal input/ output	Condition		Voltage (Approx.)
+	-			Ignition switch	Operation	
48 (BR)	49	RGB synchro- nizing signal	Output	ON	Press the "MAP" but- ton.	 <p style="text-align: right; font-size: small;">SKIA0164E</p>
49	-	Shield ground	-	-	-	-
61 (R/L)	Ground	Illumination sig- nal	Input	ON	Lighting switch in 1st position	Battery voltage
					Lighting switch is OFF	3V or less
63 (G/R)	Ground	Ignition signal	Input	ON	-	Battery voltage
65 (G/W)	Ground	Reverse signal	Input	ON	A/T selector lever in R position	Battery voltage
					A/T selector lever not in R position	0V
66 (W/R)	Ground	Vehicle speed signal (8-pulse)	Input	ON	When vehicle speed is approx. 40 km/h (25 MPH)	 <p style="text-align: right; font-size: small;">PKIA1935E</p>
68	-	Shield ground	-	-	-	-
69 (L)	Ground	Communica- tion signal (+)	Input/ output	ON	-	 <p style="text-align: right; font-size: small;">SKIA0175E</p>
70 (P)	Ground	Communica- tion signal (-)	Input/ output	ON	-	 <p style="text-align: right; font-size: small;">SKIA0176E</p>
73	74	GPS signal	Input	ON	Connector is not con- nected.	5V

DISPLAY UNIT

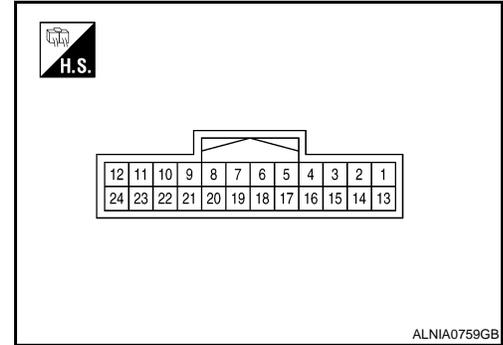
< ECU DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

DISPLAY UNIT

Reference Value

INFOID:000000001691698



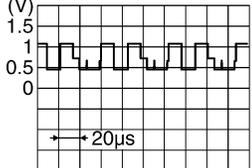
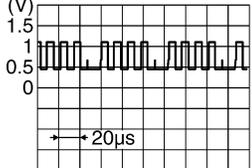
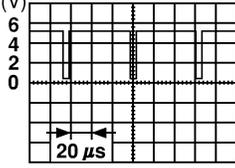
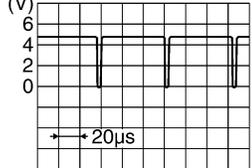
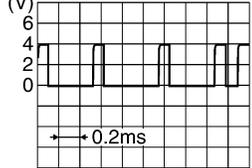
Terminal No. (Wire color)		Item	Signal input/output	Condition		Voltage (Approx.)
+	-			Ignition switch	Operation	
1 (B)	Ground	Ground	-	ON	-	0V
2 (L/W)	Ground	Power supply (Inverter)	Input	ON	-	9V
3 (L/R)	Ground	Power supply (Signal)	Input	ON	-	9V
6 (R/W)	7	RGB signal (G: green)	Input	ON	Select "Display Diagnosis (DCU)" of CONFIRMATION/ADJUSTMENT function.	 SKIA4981E
7	-	Shield ground	-	-	-	-
8 (R)	21	Horizontal synchronizing (HP) signal	Output	ON	-	 SKIA4983E
9 (B)	21	RGB area (YS) signal	Input	ON	Press the "TRIP" button.	 SKIA0162E
11 (B/W)	23	Display communication signal (DCU-DSP)	Input	ON	-	 SKIA4364E

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

DISPLAY UNIT

< ECU DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

Terminal No. (Wire color)		Item	Signal input/output	Condition		Voltage (Approx.)
+	-			Ignition switch	Operation	
13 (P)	Ground	(Inverter) Ground	-	ON	-	0V
14 (P/L)	Ground	(Signal) Ground	-	ON	-	0V
17 (R/L)	7	RGB signal (R: red)	Input	ON	Select "Display Diagnosis (DCU)" of CONFIRMATION/ADJUSTMENT function.	 <small>SKIA4980E</small>
18 (B)	7	RGB signal (B: blue)	Input	ON	Select "Display Diagnosis (DCU)" of CONFIRMATION/ADJUSTMENT function.	 <small>SKIA4982E</small>
19 (G)	21	RGB synchronizing signal	Input	ON	Press the "TRIP" button.	 <small>SKIA0164E</small>
20 (W)	21	Vertical synchronizing (VP) signal	Output	ON	-	 <small>SKIA4983E</small>
21	-	Shield ground	-	-	-	-
22 (L)	23	Display communication signal (DSP-DCU)	Output	ON	-	 <small>SKIA4363E</small>
23	-	Shield ground	-	-	-	-

SATELLITE RADIO TUNER

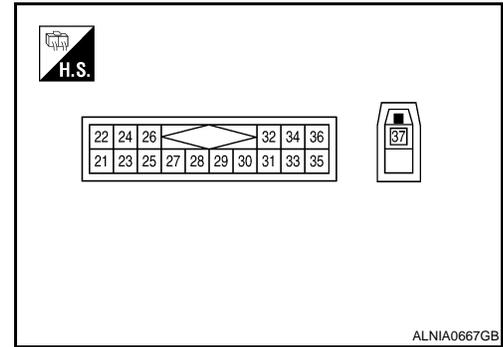
< ECU DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

SATELLITE RADIO TUNER

Reference Value

INFOID:000000001691226



PHYSICAL VALUES

Terminal		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/Output			
22 (R)	21 (G)	Satellite radio sound signal LH	Output	Ignition switch ON	When satellite radio mode is selected	
24 (W)	23 (B)	Satellite radio sound signal RH	Output	Ignition switch ON	When satellite radio mode is selected	
25	—	Shield	—	—	—	—
26	—	Shield	—	—	—	—
28 (L)	Ground	Request signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected	
29 (O/L)	Ground	Communication signal (SAT→CONT)	Output	Ignition switch ON	When satellite radio mode is selected	

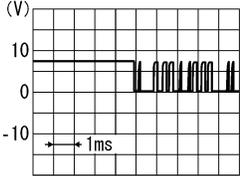
A
B
C
D
E
F
G
H
I
J
K
L
M
O
P

AV

SATELLITE RADIO TUNER

< ECU DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

Terminal		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
30 (W/L)	Ground	Communication signal (CONT→SAT)	Input	Ignition switch ON	When satellite radio mode is selected	 <p style="text-align: right; font-size: small;">SKIA9301J</p>
32 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
36 (V)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
37 (B)	—	Satellite antenna	Input	—	—	—

DVD PLAYER

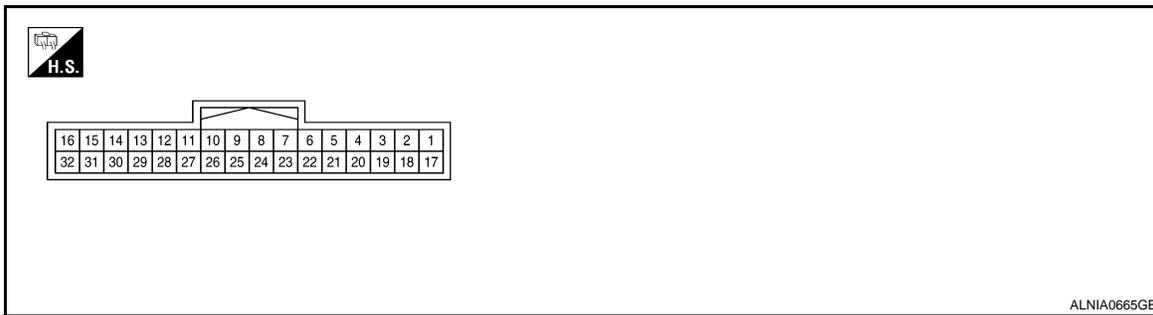
< ECU DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

DVD PLAYER

Reference Value

INFOID:000000001691227



ALNIA0665GB

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	<p>SKIB3609E</p>
3 (R)	4 (G)	DVD audio signal RH	Output	Ignition switch ON	With DVD player operation	<p>SKIB3609E</p>
9 (L/W)	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 (Y/L)	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

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

AV

O
P

DVD PLAYER

< ECU DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
19 (B/W)	Ground	Ground	—	Ignition switch ON	—	0V
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	—	—	—	—
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

AUDIO AMP

< ECU DIAGNOSIS >

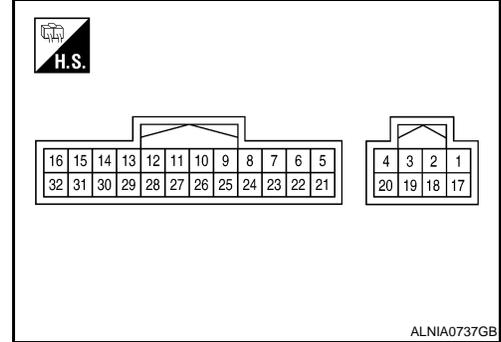
[PREMIUM WITH NAVIGATION]

AUDIO AMP

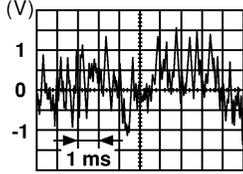
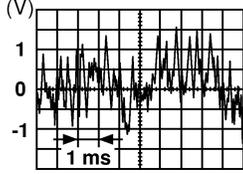
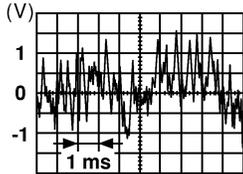
Reference Value

INFOID:000000001691229

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	
3 (BR/W)	19 (BR)	Subwoofer	Output	Ignition switch ON	Receive audio sig- nal	
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	

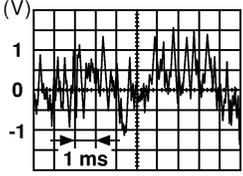
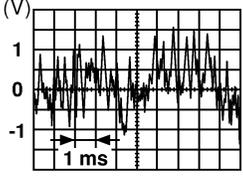
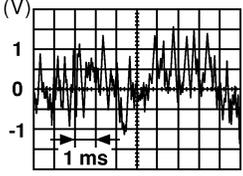
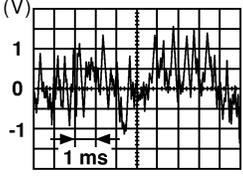
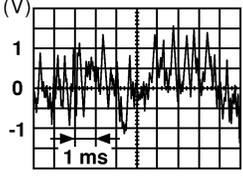
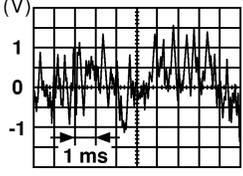
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P

AV

AUDIO AMP

< ECU DIAGNOSIS >

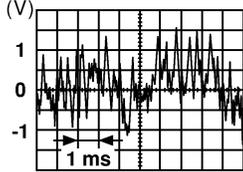
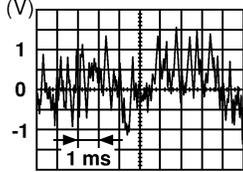
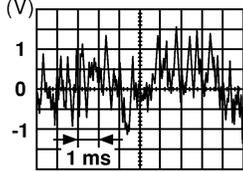
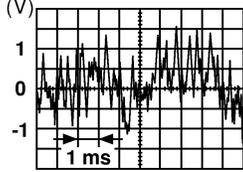
[PREMIUM WITH NAVIGATION]

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	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
12 (O/L)	28 (R/L)	Rear door speaker RH and rear door tweeter RH	Output	Ignition switch ON	Receive audio signal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
13 (W/B)	29 (L/B)	Front door tweeter RH	Output	Ignition switch ON	Receive audio signal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
14 (L/W)	30 (L/R)	Front tweeter LH	Output	Ignition switch ON	Receive audio signal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
15 (L/W)	31 (L/R)	Front door speaker LH	Output	Ignition switch ON	Receive audio signal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
16 (W/B)	32 (L/B)	Front door speaker RH	Output	Ignition switch ON	Receive audio signal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
17 (Y/G)	Ground	Battery	Input	-	-	Battery voltage
20 (B)	Ground	Ground	-	Ignition switch ON	-	-

AUDIO AMP

< ECU DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

Terminal (wire color)		Item	Signal input/ output	Condition		Reference value (Approx.)
+	-					
21 (Y)	5 (BR)	Audio sound sig- nal front RH	Input	Ignition switch ON	Receive audio sig- nal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
22 (W)	6 (B)	Audio sound sig- nal front LH	Input	Ignition switch ON	Receive audio sig- nal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
23 (L)	7 (B/W)	Audio sound sig- nal rear RH	Input	Ignition switch ON	Receive audio sig- nal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>
24 (BR)	8 (B/R)	Audio sound sig- nal rear LH	Input	Ignition switch ON	Receive audio sig- nal	 <p style="text-align: right; font-size: small;">SKIA0177E</p>

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

AV

BLUETOOTH CONTROL UNIT

< ECU DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

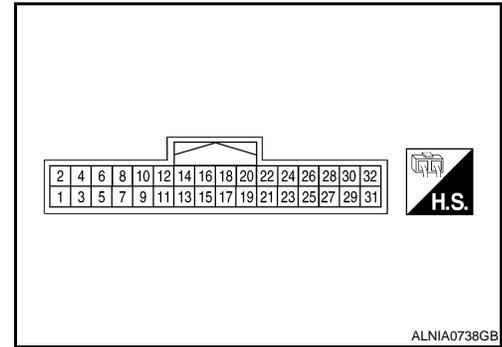
BLUETOOTH CONTROL UNIT

Reference Value

INFOID:000000001691230

TERMINAL LAYOUT

PHYSICAL VALUES

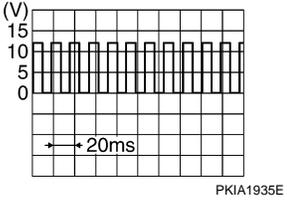


Terminal (wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ output			
1 (Y)	Ground	Battery power	Input	-	-	Battery voltage
2 (V)	Ground	ACC power	Input	Ignition switch ACC/ON	-	Battery voltage
3 (G/R)	Ground	IGN power	Input	Ignition switch ON/ START	-	Battery voltage
4 (B/W)	Ground	Ground	-	Ignition switch ON	-	0V
6	-	Shield	-	-	-	-
7 (B)	8 (R/L)	MIC in signal	Input	-	-	-
9 (G)	10 (R)	Audio out	Output	Ignition switch ACC/ON	Bluetooth control unit sends audio signal	
11 (Y)	-	Mute control	-	-	-	-
12 (R/G)	14 (Y/R)	Steering switch signal A	Input	Ignition switch ON	Pressing switch	0V
					Pressing switch	0.75
					Pressing VOL up switch	2V
					Except for above	5V

BLUETOOTH CONTROL UNIT

< ECU DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

Terminal (wire color)		Description		Condition	Reference value (Approx.)	
+	-	Signal name	Input/ output			
13 (G/W)	14 (Y/R)	Steering switch signal B	Input	Ignition switch ON	Pressing switch	0V
					Pressing switch	0.75V
					Pressing VOL down switch	2V
					Except for above	5 V
15 (G/R)	Ground	LED power	Output	Ignition switch ON	-	Battery voltage
17 (V)	19 (R/B)	Steering switch signal A	Output	Ignition switch ON	Pressing switch	0V
					Pressing switch	0.75
					Pressing VOL up switch	2V
					Except for above	5V
18 (G/O)	19 (R/B)	Steering switch signal B	Output	Ignition switch ON	Pressing switch	0V
					Pressing switch	0.75V
					Pressing VOL down switch	2V
					Except for above	5V
20 (B)	Ground	Ground	-	-	-	0V
23 (B)	Ground	Ground	-	-	-	0V
28 (W/R)	Ground	Vehicle speed sig- nal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25 MPH)	
29 (R/W)	Ground	Microphone power	Output	Ignition switch ON	-	5V

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

AV

SYMPTOM DIAGNOSIS

AUDIO SYSTEM

Symptom Table

INFOID:000000001663740

AUDIO SYSTEM

Symptom	Possible cause	Reference page
Inoperative	<ul style="list-style-type: none"> • Audio unit power and ground circuit • Audio unit 	<ul style="list-style-type: none"> • AV-236
Steering switch does not operate	<ul style="list-style-type: none"> • Steering switch • Audio unit 	<ul style="list-style-type: none"> • AV-271 • AV-236
All speakers do not sound	<ul style="list-style-type: none"> • Audio unit power and ground circuit • Audio amp. ON signal • Audio amp. power and ground circuit 	<ul style="list-style-type: none"> • AV-236 • AV-270 • AV-242
One or several speakers do not sound	<ul style="list-style-type: none"> • Front door speaker • Front tweeter • Center speaker • Rear door tweeter (crew cab) • Rear door speaker • Subwoofer 	<ul style="list-style-type: none"> • AV-253 • AV-256 • AV-259 • AV-264 • AV-261 • AV-267

NAVIGATION SYSTEM

Symptom	Possible cause	Reference page
Inoperative	<ul style="list-style-type: none"> • Audio unit power and ground circuit • Audio unit 	<ul style="list-style-type: none"> • AV-236 • AV-236
Steering switch does not operate	<ul style="list-style-type: none"> • Steering switch • Audio unit 	<ul style="list-style-type: none"> • AV-271 • AV-280
Voice activated control does not operate	<ul style="list-style-type: none"> • Microphone • Steering switch • Audio unit 	<ul style="list-style-type: none"> • AV-244 • AV-271 • AV-236

HANDS-FREE PHONE SYSTEM

Symptom	Possible cause	Reference page
Inoperative	<ul style="list-style-type: none"> • Audio unit power and ground circuit • Audio unit 	<ul style="list-style-type: none"> • AV-236 • AV-280
Steering switch does not operate	<ul style="list-style-type: none"> • Steering switch • Audio unit 	<ul style="list-style-type: none"> • AV-271 • AV-280
Voice activated control does not operate	<ul style="list-style-type: none"> • Microphone • Steering switch • Audio unit 	<ul style="list-style-type: none"> • AV-278 • AV-271 • AV-280

DVD PLAYER

Symptom	Possible cause	Reference page
DVD player inoperative	<ul style="list-style-type: none"> • Power supply and ground circuits • DVD player 	<ul style="list-style-type: none"> • AV-241 • AV-315
No sound when playing a DVD	<ul style="list-style-type: none"> • Audio signal circuits • Audio unit • DVD player 	<ul style="list-style-type: none"> • AV-280 • AV-280 • AV-315
Video monitor is inoperative/does not display properly	<ul style="list-style-type: none"> • Power supply and ground circuits • Video out circuit • DVD player • Display monitor 	<ul style="list-style-type: none"> • AV-241 • AV-315 • AV-315 • AV-315

AUDIO SYSTEM

< SYMPTOM DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

Symptom	Possible cause	Reference page
DVD remote control is inoperative/does not operate properly	<ul style="list-style-type: none">DVD playerRear audio remote control unit	<ul style="list-style-type: none">AV-315AV-315
Headphones inoperative	<ul style="list-style-type: none">Headphone batteriesHeadphone audio signal circuits from Audio unitAudio unitRear audio remote control unit	<ul style="list-style-type: none">AV-315AV-280AV-315

A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

P

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

NORMAL OPERATING CONDITION

Description

INFOID:000000001663741

AUDIO SYSTEM

The majority of the audio troubles 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.	<ul style="list-style-type: none"> • Ignition components
The occurrence of the noise is linked with the operation of the fuel pump.		<ul style="list-style-type: none"> • Fuel pump condenser
Noise only occurs when various electrical components are operating.	A cracking or snapping sound occurs with the operation of various switches.	<ul style="list-style-type: none"> • Relay malfunction, audio unit malfunction
	The noise occurs when various motors are operating.	<ul style="list-style-type: none"> • Motor case ground • Motor
The noise occurs constantly, not just under certain conditions.		<ul style="list-style-type: none"> • Rear defogger coil malfunction (if equipped) • Open circuit in printed heater • Poor ground of antenna feeder line
A cracking or snapping sound occurs while the vehicle is being driven, especially when it is vibrating excessively.		<ul style="list-style-type: none"> • Ground wire of body parts • Ground due to improper part installation • Wiring connections or a short circuit

NAVIGATION SYSTEM

Basic Operation

Symptom	Cause	Remedy
No image is shown.	Display brightness adjustment is set fully to DARK side.	Adjust the display brightness.
No guide sound is heard. Audio guide volume is too low or too high.	Volume control is set to OFF, MIN or MAX.	Adjust the audio guide volume.
	Audio guidance is not available while the vehicle is driving on a dark pink route.	System is not malfunctioning.
Screen is too dark. Motion of the image is too slow.	Temperature inside the vehicle is low.	Wait until the temperature inside the vehicle reaches the proper temperature.
Small black or bright spots appear on the screen.	Symptom peculiar to a liquid crystal display (display unit).	System is not malfunctioning.

Vehicle Mark

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

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.	System is not malfunctioning.	A
	The same place name, street name, etc. may not be displayed every time on account of the data processing.		B
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.	C
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".	D
Map screen will not scroll in accordance with the vehicle travel.	Current location is not displayed.	Press "MAP" button to display the current location.	E
Vehicle mark will not be shown.	Current location is not displayed.	Press "MAP" button to display the current location.	F
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.	G
	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).	H
	GPS satellites are not visible from current location.	Wait until GPS satellites are visible by moving the vehicle.	I
Vehicle location accuracy is low.	Accuracy indicator (GPS satellite mark) on the map screen stays gray.	Current location is not determined.	J
	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.	K
	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.	L

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.	M
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.	AV
Route information will not be displayed.	Route searching has not been done.	Set the destination and perform route searching.	O
	Vehicle mark is not on the recommended route.	Drive on the recommended route.	P
	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.	

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

Symptom	Cause	Remedy
Automatic route searching is not possible.	Vehicle is driving on a highway (gray route), or no recommended route is available.	Drive on a road to be searched. Or re-search the route manually. In this case, however, the whole route will be searched.
Performed automatic detour search (or detour search). However, the result is the same as that of the previous search.	Performed search with every conditions considered. However, the result is the same as that of the previous search.	System is not malfunctioning.
Passing points cannot be set.	More than five passing points were set.	Passing points can be set up to five. To stop at more than five points, perform sharing in several steps.
When setting the route, the starting point cannot be selected.	The current vehicle location is always set as the starting point of a route.	System is not malfunctioning.
Some menu items cannot be selected.	The vehicle is being driven.	Stop the vehicle at a safe place and then operate the system.

Voice Guide

Symptom	Cause	Remedy
Voice guide will not operate.	Note: Voice guide is only available at intersections that satisfy certain conditions (indicated by ● on the map). Therefore, guidance may not be given even when the route on the map changes direction.	System is not malfunctioning.
	The vehicle is not on the recommended route.	Return to the recommended route or re-search the route.
	Voice guide is turned OFF.	Turn voice guide ON.
	Route guide is turned OFF.	Turn route guide ON.
Voice guide does not match the actual road pattern.	Voice guide may vary with the direction to which the vehicle is turn and the connection of the road to other roads.	Drive in conformity to the actual traffic rules.

Route Search

Symptom	Cause	Remedy
No route is shown.	No road to be searched is found around the destination.	Find wider road (orange road or wider) nearby and reset the destination and passing points onto it. Take care of the traveling direction when there are separate up and down roads.
	Starting point and the destination are too close.	Set the destination at more distant point.
	Conditional traffic regulation (day of the week/ time of the day) is set at the area around the current location or the destination.	Turn the time-regulating search conditions OFF. Turn "Avoid regulation time" in the search conditions OFF.
Indicated route is intermittent.	In some areas, highways (gray routes) are not used for the search ^(Note) Therefore, the route to the current location or the passing points may be intermittent.	System is not malfunctioning.
When the vehicle has passed the recommended route, it is deleted from the screen.	A recommended route is controlled by each section. When the vehicle has passed the passing point 1, then the map data from the starting point up to the passing point 1 will be deleted. (The data may remain undeleted in some area.)	System is not malfunctioning.

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

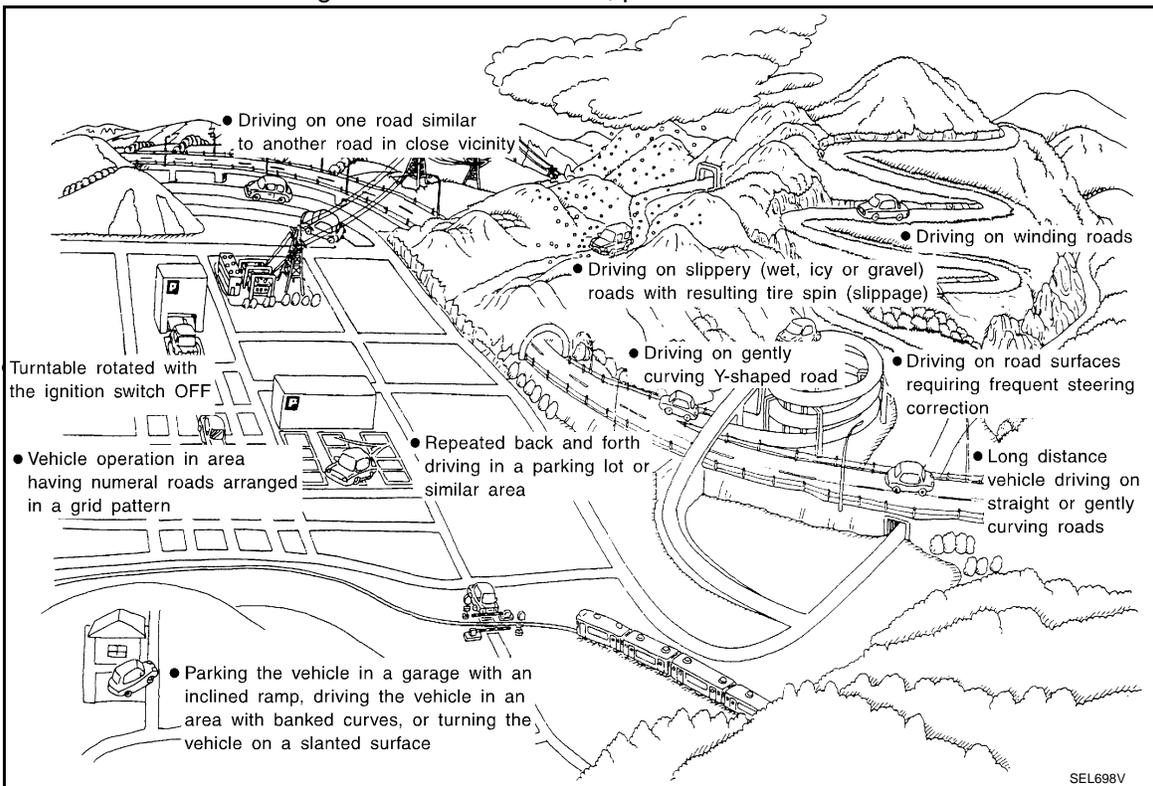
Symptom	Cause	Remedy
Detouring route is recommended.	In some areas, highways (gray routes) are not used for the search. (Note). Therefore, detour route may be recommended.	Set the route closer to the basic route (gray route).
	A detour route may be shown when some traffic regulation (one-way traffic, etc.) is set at the area around the starting point or the destination.	Slightly move the starting point or the destination, or set the passing point on the route of your choice.
	In the area where highways (gray routes) are used for the search, left turn has priority around the current location and the destination (passing points). For this reason, the recommended route may be detouring.	System is not malfunctioning.
Landmarks on the map do not match the actual ones.	This can be happen due to omission or error in the map data.	As a rule, an updated map DVD-ROM will be released once a year. Wait until the latest map has become available.
Recommended route is far from the starting point, passing points, and destination.	Starting point, passing points, and destination of the route guide were set far from the desired points because route searching data around these area were not stored.	Reset the destination onto the road nearby. If this road is one of the highways (gray routes), an ordinary road nearby may be displayed as the recommended route.

NOTE:

Except for the ordinance-designated cities. (Malfunctioning areas may be changed in the updated map disc.)

Examples of Current-Location Mark Displacement

Vehicle's travel amount is calculated by reading its travel distance and turning angle. Therefore, if the vehicle is driven in the following manner, an error will occur in the vehicle's current location display. If correct location has not been restored after driving the vehicle for a while, perform location correction.

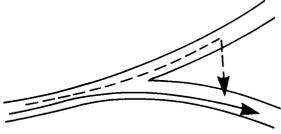
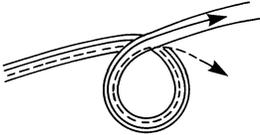
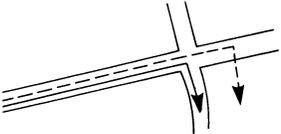
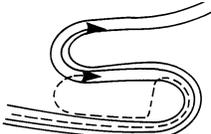
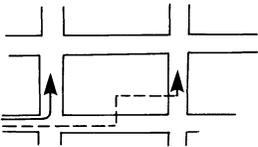
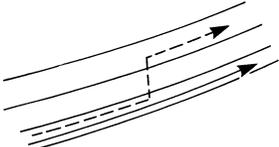


A
B
C
D
E
F
G
H
I
J
K
L
M
AV
O
P

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

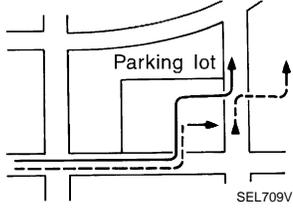
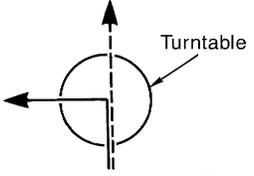
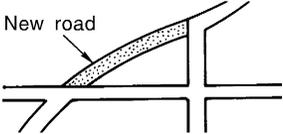
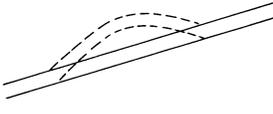
[PREMIUM WITH NAVIGATION]

Cause (condition)	-: While driving ooo: Display	Driving condition	Remarks (correction, etc.)
Road configuration	<p>Y-intersections</p>  <p style="text-align: center; font-size: small;">ELK0192D</p>	<p>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.</p>	<p>If after travelling about 10 km (6 miles) the correct location has not been restored, perform location correction and, if necessary, direction correction.</p>
	<p>Spiral roads</p>  <p style="text-align: center; font-size: small;">ELK0193D</p>	<p>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.</p>	
	<p>Straight roads</p>  <p style="text-align: center; font-size: small;">ELK0194D</p>	<p>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.</p>	
	<p>Zigzag roads</p>  <p style="text-align: center; font-size: small;">ELK0195D</p>	<p>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.</p>	
	<p>Roads laid out in a grid pattern</p>  <p style="text-align: center; font-size: small;">ELK0196D</p>	<p>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.</p>	
	<p>Parallel roads</p>  <p style="text-align: center; font-size: small;">ELK0197D</p>	<p>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.</p>	

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

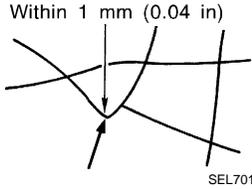
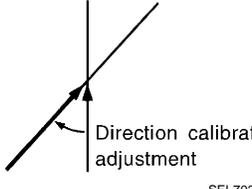
	Cause (condition) -: While driving ooo: Display	Driving condition	Remarks (correction, etc.)
Place	In a parking lot  SEL709V	When driving in a parking lot, or other location where there are no roads on the map, matching may place the vehicle mark on a nearby road. When the vehicle returns to the road, 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.	If after travelling about 10 km (6 miles) the correct location has not been restored, perform location correction and, if necessary, direction correction.
	Turntable  SEL710V	When the ignition switch is OFF, the navigation system cannot get the signal from the gyroscope (angular speed sensor). Therefore, the displayed direction may be wrong and the correct road may not be easily returned to after rotating the vehicle on a turntable with the ignition OFF.	
	Slippery roads	On snow, wet roads, gravel, or other roads where tires may slip easily, accumulated mileage errors may cause the vehicle mark to deviate from the correct road.	
	Slopes	When parking in sloped garages, when travelling on banked roads, or in other cases where the vehicle turns when tilted, an error in the turning angle will occur, and the vehicle mark may deviate from the road.	
Map data	Road not displayed on the map screen  SEL699V	When driving on new roads or other roads not displayed on the map screen, map matching does not function correctly and matches the location to a nearby road. When the vehicle returns to a road which is on the map, the vehicle mark may deviate from the correct road.	
	Different road pattern (Changed due to repair)  ELK0201D	If the road pattern stored in the map data and the actual road pattern are different, map matching does not function correctly and matches the location to a nearby road. The vehicle mark may deviate from the correct road.	
Vehicle	Use of tire chains	When tire chains are used, the mileage is not correctly detected, and the vehicle mark may deviate from the correct road.	Drive the vehicle for a while. If the distance still deviates, adjust it by using the distance adjustment function. (If the tire chain is removed, recover the original value.)

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

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[PREMIUM WITH 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 to perform correct detection, and may cause the vehicle mark to deviate from the correct road.	If after travelling about 10 km (6 miles) the correct location has not been restored, perform location correction and, if necessary, direction correction.
How to correct location	Position correction accuracy 	If the accuracy of location settings is poor, accuracy may be reduced when the correct road cannot be found, particularly in places where there are many roads.	Enter in the road displayed on the screen with an accuracy of approx. 1mm. Caution: Whenever possible, use detailed map for the correction.
	Direction when location is corrected 	If the accuracy of location settings during correction is poor, accuracy may be reduced afterwards.	Perform direction correction.

Location Correction by Map-Matching is Slow

- The map-matching function needs to refer to the data of the surrounding area. It is necessary to drive some distance for the function to work.
- Because map-matching operates on this principle, when there are many roads running in similar directions in the surrounding area, no matching determination may be made. The location may not be corrected until some special feature is found.

Name of Road is Not Displayed

The current road name may not be displayed if there are no road names displayed on the map screen.

Contents of Display Differ for Birdview™ and the (Flat) Map Screen

Difference of the BIRDVIEW™ screen from the flat map screen are as follows.

- The current place name displays names which are primarily in the direction of vehicle travel.
- The amount of time before the vehicle travel or turn angle is updated on the screen is longer than for the (flat) map display.
- The conditions for display of place names, roads, and other data are different for nearby areas and for more distant areas.
- Some thinning of the character data is done to prevent the display becoming too complex. In some cases and in some locations, the display contents may differ.
- The same place name, street name, etc. may be displayed multiple times.

Vehicle Mark Shows a Position Which is Completely Wrong

In the following cases, the vehicle mark may appear on completely different position in the map depending on the GPS satellite signal receiving conditions. In this case, perform location correction and direction correction.

- When location correction has not been done
- If the receiving conditions of the GPS satellite signal is poor, if the vehicle mark becomes out of place, it may move to a completely different location and not come back if location correction is not done. The position will be corrected if the GPS signal can be received.
- When the vehicle has traveled by ferry, or when the vehicle has been being towed

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[PREMIUM WITH NAVIGATION]

- Because calculation of the current location cannot be done when traveling with the ignition off, for example when traveling by ferry or when being towed, the location before travel is displayed. If the precise location can be detected with GPS, the location will be corrected.

A

Vehicle Mark Jumps

In the following cases, the vehicle mark may appear to jump as a result of automatic correction of the current location.

B

- When map matching has been done
 - If the current location and the vehicle mark are different when map matching is done, the vehicle mark may seem to jump. At this time, the location may be “corrected” to the wrong road or to a location which is not on a road.
- When GPS location correction has been done
 - If the current location and the vehicle mark are different when the location is corrected using GPS measurements, the vehicle mark may seem to jump. At this time, the location may be “corrected” to a location which is not on a road.

C

D

Vehicle Mark is in a River or Sea

The navigation system moves the vehicle mark with no distinction between land and rivers or sea. If the vehicle mark is somehow out of place, it may appear that the vehicle is driving in a river or the sea.

E

Vehicle Mark Automatically Rotates

The system wrongly memorizes the rotating status as stopping when the ignition switch is turned ON with the turntable rotating. That causes the vehicle mark to rotate when the vehicle is stopped.

F

When Driving on Same Road, Sometimes Vehicle Mark is in Right Place and Sometimes it is in Wrong Place

The conditions of the GPS antenna (GPS data) and gyroscope (angular speed sensor) change gradually. Depending on the road traveled and the operation of the steering wheel, the location detection results will be different. Therefore, even on a road on which the location has never been wrong, conditions may cause the vehicle mark to deviate.

G

H

I

J

K

L

M

AV

O

P

PRECAUTION

PRECAUTIONS

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

INFOID:000000001572782

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 SRS 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 SRS 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.

Precaution for Trouble Diagnosis

INFOID:000000001572783

AV COMMUNICATION SYSTEM

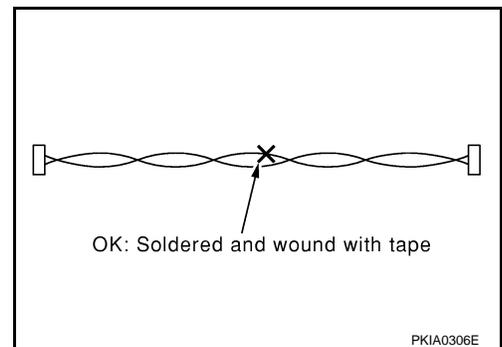
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

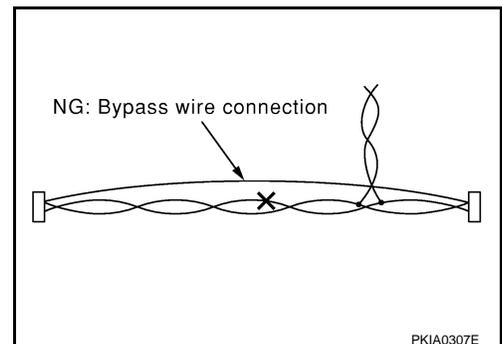
INFOID:000000001572784

AV COMMUNICATION SYSTEM

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



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

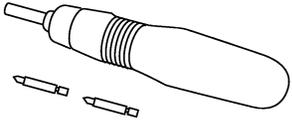


PREPARATION

PREPARATION

Commercial Service Tools

INFOID:000000001572785

Tool name	Description
<p>Power tool</p>  <p>PBIC0191E</p>	<p>Loosening bolts and nuts</p>

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

AV

ON-VEHICLE REPAIR

AUDIO UNIT

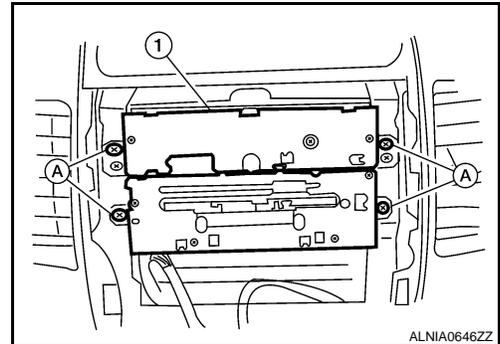
Removal and Installation

INFOID:000000001601789

AUDIO UNIT

Removal

1. Disconnect the battery negative terminal.
2. Remove the cluster lid C. Refer to [IP-13. "Removal and Installation"](#).
3. Remove the audio unit screws (A), using power tool.
4. Pull out the audio unit (1) and disconnect the audio unit connectors.



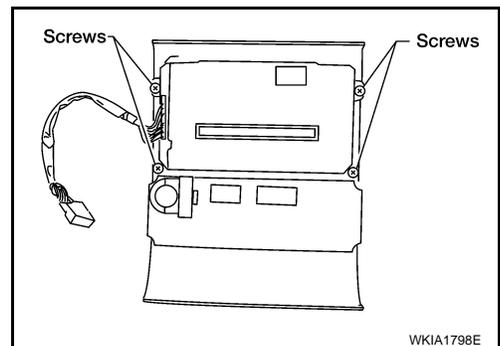
Installation

Installation is in the reverse order of removal.

AV SWITCH

Removal

1. Disconnect battery negative terminal.
2. Remove the cluster lid C. Refer to [IP-13. "Removal and Installation"](#).
3. Remove the AV switch screws.
4. Carefully remove the AV switch.



Installation

Installation is in the reverse order of removal.

DISPLAY UNIT

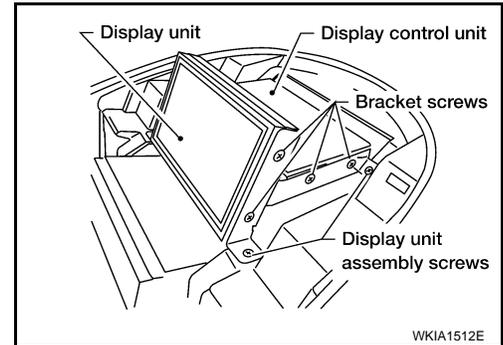
Removal and Installation

INFOID:000000001602184

DISPLAY UNIT

Removal

1. Remove the center console. Refer to [IP-18, "Removal and Installation"](#).
2. Remove the cluster lid D. Refer to [IP-14, "Removal and Installation"](#).
3. Remove the display control unit.
4. Disconnect the display unit connectors.



5. Remove the display unit.
6. Remove the display unit brackets.

Installation

Installation is in 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:000000001572788

For removal and installation, refer to [AV-34, "Removal and Installation"](#).

CENTER SPEAKER

< ON-VEHICLE REPAIR >

[PREMIUM WITH NAVIGATION]

CENTER SPEAKER

Removal and Installation

INFOID:000000001572789

For removal and installation, refer to [AV-94. "Removal and Installation"](#).

A

B

C

D

E

F

G

H

I

J

K

L

M

AV

O

P

FRONT DOOR SPEAKER

< ON-VEHICLE REPAIR >

[PREMIUM WITH NAVIGATION]

FRONT DOOR SPEAKER

Removal and Installation

INFOID:000000001572790

For removal and installation, refer to [AV-35, "Removal and Installation"](#).

REAR DOOR SPEAKER

Removal and Installation

INFOID:000000001572791

REAR DOOR SPEAKER

For removal and installation, refer to [AV-36. "Removal and Installation"](#).

REAR DOOR TWEETER

For removal and installation, refer to [AV-36. "Removal and Installation"](#).

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

AV

WOOFER

Removal and Installation

INFOID:000000001572793

SUBWOOFER (BOSE SYSTEM)

For removal and installation. Refer to [AV-97. "Removal and Installation"](#).

STEERING SWITCH

< ON-VEHICLE REPAIR >

[PREMIUM WITH NAVIGATION]

STEERING SWITCH

Removal and Installation

INFOID:000000001572795

For removal and installation of the steering wheel audio control switch, refer to [AV-98, "Removal and Installation"](#).

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

AV

REAR AUDIO REMOTE CONTROL UNIT

< ON-VEHICLE REPAIR >

[PREMIUM WITH NAVIGATION]

REAR AUDIO REMOTE CONTROL UNIT

Removal and Installation

INFOID:000000001572796

For removal and installation, refer to [AV-99. "Removal and Installation"](#)

< ON-VEHICLE REPAIR >

BOSE AMP.

Removal and Installation

INFOID:000000001572798

For removal and installation, refer to [AV-100. "Removal and Installation"](#).

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

AUDIO ANTENNA

Location of Antenna

INFOID:000000001572799

For location of antenna, refer to [AV-37. "Location of Antenna"](#).

SATELLITE RADIO ANTENNA

< ON-VEHICLE REPAIR >

[PREMIUM WITH NAVIGATION]

SATELLITE RADIO ANTENNA

Removal and Installation

INFOID:000000001572801

For removal and installation, refer to [AV-102. "Removal and Installation"](#).

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

SATELLITE RADIO TUNER

< ON-VEHICLE REPAIR >

[PREMIUM WITH NAVIGATION]

SATELLITE RADIO TUNER

Removal and Installation

INFOID:000000001601792

For removal and installation, refer to [AV-103, "Removal and Installation"](#).

DVD ENTERTAINMENT SYSTEM

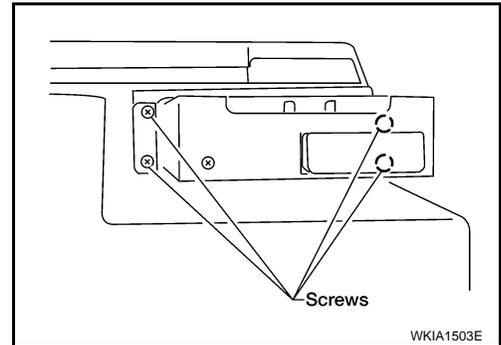
Removal and Installation

INFOID:000000001601152

DVD PLAYER

Removal

1. Disconnect the battery negative terminal.
2. Remove the center console bin. Refer to [IP-18, "Removal and Installation"](#).
3. Remove the DVD player screws.



4. Remove the DVD player.

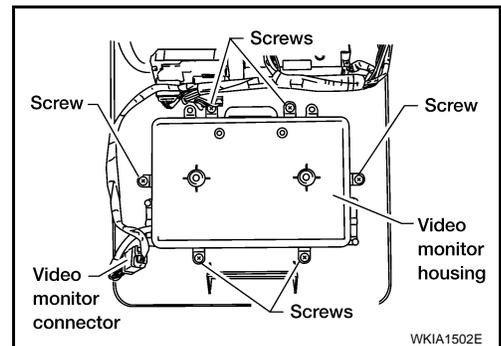
Installation

Installation is in reverse order of removal.

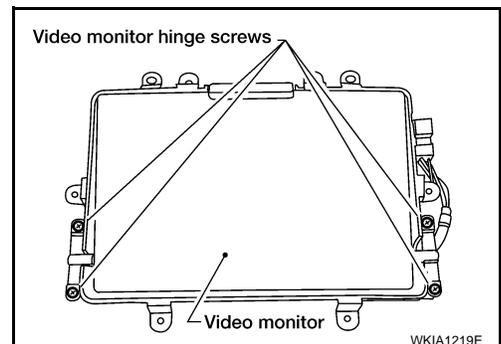
VIDEO MONITOR

Removal

1. Remove the rear roof console assembly. Refer to [INT-21, "Removal and Installation"](#).
2. Disconnect the video monitor connector.
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.

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

AV

O
P

MICROPHONE

Removal and Installation

INFOID:000000001572803

For removal and installation, refer to [AV-205. "Removal and Installation"](#).

GPS ANTENNA

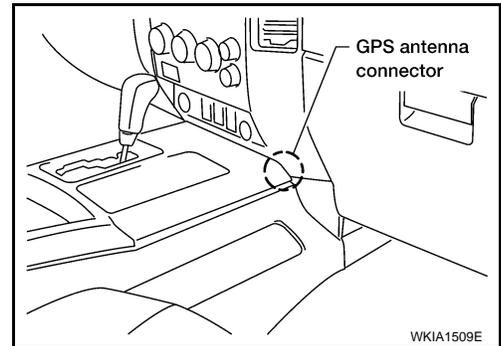
Removal and Installation

INFOID:000000001601791

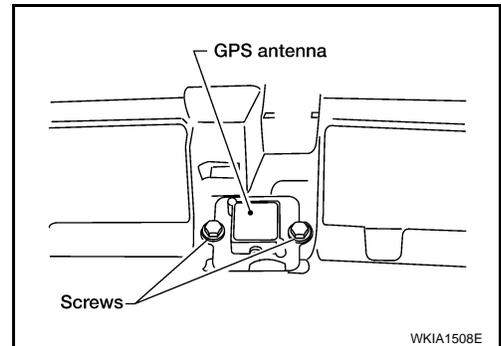
GPS ANTENNA

Removal

1. Remove the center console. Refer to [IP-18, "Removal and Installation"](#).
2. Remove the cluster lid D. Refer to [IP-14, "Removal and Installation"](#).
3. Remove the defroster grille. Refer to [IP-11, "Removal and Installation"](#).
4. Disconnect the GPS antenna connector.



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

NAVI CONTROL UNIT

Removal and Installation

INFOID:000000001601953

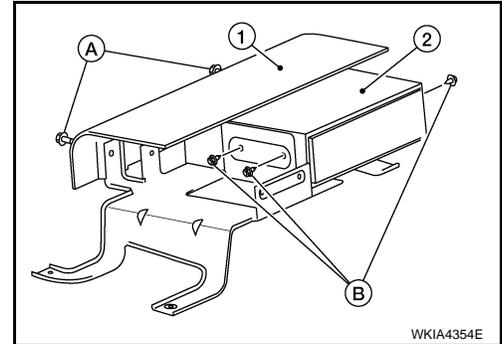
NAVI CONTROL UNIT

Removal

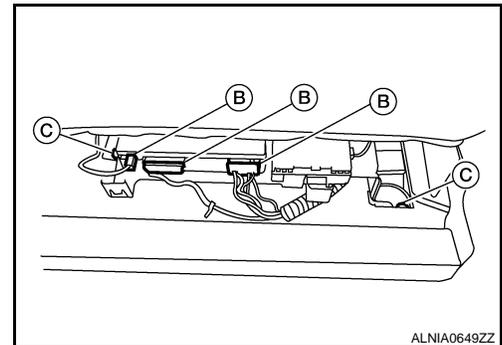
CAUTION:

To avoid damage, eject map DVD-ROM before removing the NAVI control unit.

1. Disconnect the negative battery terminal.
2. Remove the Bluetooth control unit. Refer to [AV-207. "Removal and Installation"](#).
3. Remove the front passenger seat. Refer to [SE-28. "Removal and Installation"](#).
4. Remove the NAVI control unit kick shield screws (A).
 - NAVI control unit (2)
 - NAVI control unit screws (B)
5. Remove the NAVI control unit kick shield (1).



6. Disconnect the NAVI control unit connectors (B).
 - Bluetooth bracket rear bolts (C)
7. Remove the NAVI control unit screws.



8. Remove the NAVI control unit.

Installation

Installation is in the reverse order of removal.