

**SECTION AV**

**AUDIO, VISUAL & NAVIGATION SYSTEM**

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## BASIC INSPECTION

### DIAGNOSIS AND REPAIR WORKFLOW

#### Work Flow

INFOID:000000001193883

#### DETAILED FLOW

#### 1.CHECK SYMPTOM

Check the malfunction symptoms by performing the following items.

- Interview the customer to obtain the malfunction information (conditions and environment when the malfunction occurred).
- Check the symptom.

>> GO TO 2.

#### 2.PERFORM DIAGNOSIS BY SYMPTOM

Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to [AV-31. "Symptom Table"](#).

>> GO TO 3.

#### 3.REPAIR OR REPLACE MALFUNCTIONING PARTS

Repair or replace the malfunctioning parts.

>> GO TO 4.

#### 4.FINAL CHECK

Perform the operation to check that the malfunction symptom is solved or any other symptoms are present.

Is there any symptom?

- YES >> GO TO 2.  
NO >> INSPECTION END

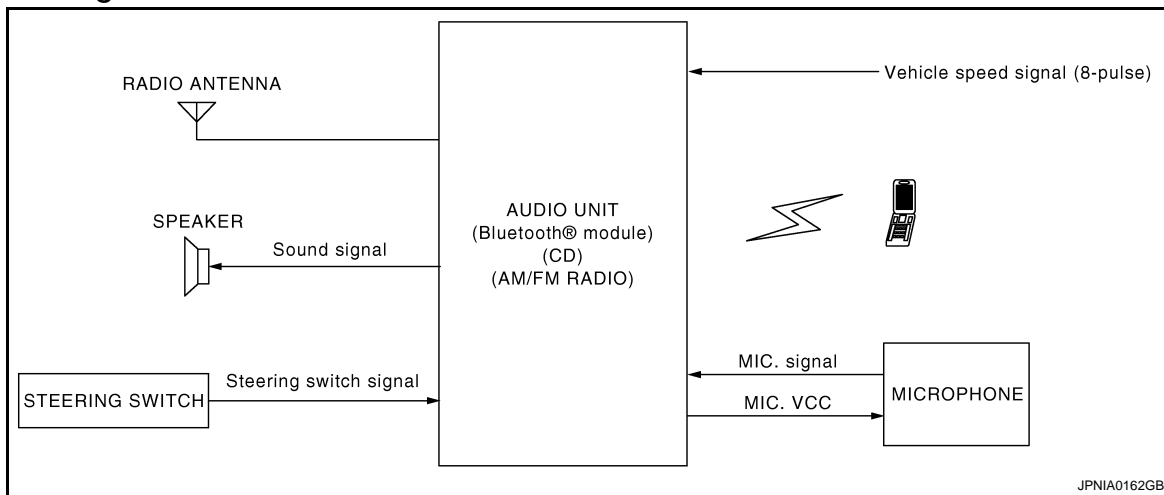
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AV

## FUNCTION DIAGNOSIS

### AUDIO SYSTEM

#### System Diagram



#### System Description

INFOID:000000001193885

The audio system is equipped with following function. Each function is operated with audio switch or steering switch.

Function
AM/FM radio
CD
HANDS-FREE PHONE

#### FUNCTION DESCRIPTION

##### Operating signal

Audio system operation can be performed with audio switch or steering switch.

##### AM/FM Radio Mode

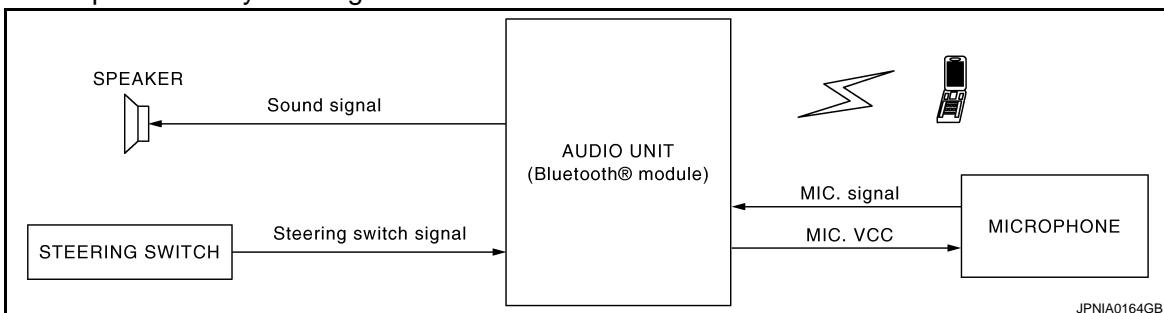
- AM/FM radio tuner is built into audio unit.
- Audio signal is received by antenna, next it is input to audio unit. Audio unit outputs the audio signal to each speaker.

##### CD Mode

- CD function is built into audio unit.
- Audio unit outputs audio signal to each speaker when CD is inserted to audio unit.

##### Hands-free phone system

- Hands-free communication can be operated by connecting using Bluetooth® with cellular phone.
- Operation is performed by steering switch.



When a call is originated

# AUDIO SYSTEM

## < FUNCTION DIAGNOSIS >

## [AUDIO WITHOUT NAVIGATION]

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

When receiving a call

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

### SPEED SENSITIVE VOLUME

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

### NATS AUDIO LINK

#### Description

The link with the NATS IMMU implies that the audio unit can basically only be operated if connected to the matching NATS IMMU to which the audio unit was initially fitted on the production line.

Since radio operation is impossible after the link with the NATS is disrupted, theft of the audio unit is basically useless since special equipment is required to reset the audio unit.

#### Initialization Process for Audio Units That Are Linked to the NATS IMMU

New audio units will be delivered to the factories in the “NEW” state, i.e. ready to be linked with the vehicle's NATS. When the audio unit in “NEW” state is first switched on at the factory, it will start up communication with the vehicle's immobilizer control unit (IMMU) and send a code (the “Audio Unit Code”) to the IMMU. The IMMU will then store this code, which is unique to each audio unit, in its (permanent) memory.

Upon receipt of the code by the IMMU, the NATS will confirm correct receipt of the audio unit code to the audio unit. Hereafter, the audio unit will operate as normal.

During the initialization process, “NEW” is displayed on the audio unit display. Normally though, communication between audio unit and IMMU takes such a short time (300 ms) that the audio unit seems to switch on directly without showing “NEW” on its display.

#### Normal Operation

Each time the audio unit is switched on afterwards, the audio unit code will be verified between the audio unit and the NATS before the audio unit becomes operational. During the code verification process, “WAIT” is shown on the audio unit display. Again, the communication takes such a short time (300 ms) that the audio unit seems to switch on directly without showing “WAIT” on its display.

#### When The Radio Is Locked

In case of the audio unit being linked with the vehicle's NATS (immobilizer system), disconnection of the link between the audio unit and the IMMU will cause the audio unit to switch into the lock (“SECURE”) mode in which the audio unit is fully inoperative. Hence, repair of the audio unit is basically impossible, unless the audio unit is reset to the “NEW” state for which special decoding equipment is required.

Clarion has provided their authorized service representatives with so called “decoder boxes” which can bring the audio unit back to the “NEW” state, enabling the audio unit to be switched on after which repair can be performed. Subsequently, when the repaired audio unit is delivered to the final user again, it will be in the “NEW” state to enable re-linking the audio unit to the vehicle's immobilizer system. As a result of the above, repair of the audio unit can only be done by an authorized Clarion representative (when the owner of the vehicle requests repair and can show personal identification).

#### Service Procedure

Item	Service procedure	Description
Battery disconnection	No additional action required.	—
Radio needs repair	Repair needs to be done by authorized representative of radio manufacturer since radio cannot be operated unless it is reset to NEW state, using special decoding equipment.	—
Replacement of radio by new part	No additional action required.	Radio is delivered in “NEW” state.
Transferring radio to another vehicle/replacement of radio by an old part	Radio needs to be reset to NEW state by authorized representative of radio manufacturer.	—

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# AUDIO SYSTEM

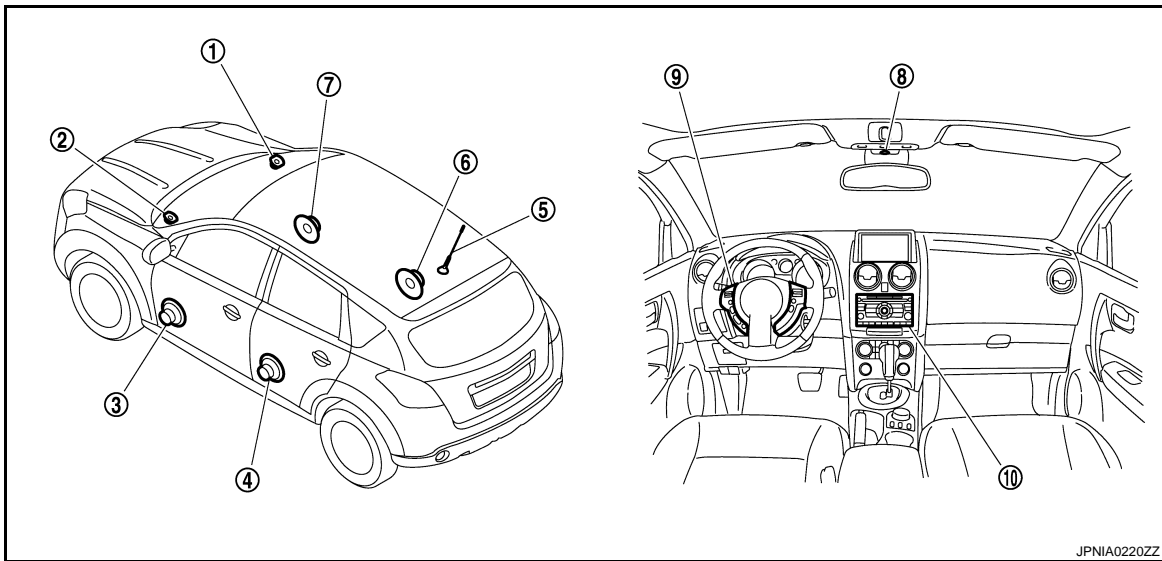
< FUNCTION DIAGNOSIS >

[AUDIO WITHOUT NAVIGATION]

Item	Service procedure	Description
Replacement of IMMU	Radio needs to be reset to NEW state by authorized representative of Clarion.	After switching on the radio, it will display "SECURE" after 1 minute.
No communication from IMMU to radio	<ol style="list-style-type: none"> <li>1. Check NATS system if NATS is malfunctioning.</li> <li>2. Reset radio to "NEW" state by authorized representative of Clarion after NATS is repaired.</li> </ol>	The radio will display "SECURE" after 1 minute after switching on the radio. Further use of radio is impossible until communication is established again, or after radio is reset by authorized representative of Clarion.
When initialized between ECM and IMMU.	Radio needs to be reset to "NEW" status by authorized representative of Clarion.	It will display "SECURE" after 1 minute after switching on the radio.

## Component Parts Location

INFOID:000000001193886



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- |                          |                  |                          |
|--------------------------|------------------|--------------------------|
| 1. Tweeter RH            | 2. Tweeter LH    | 3. Front door speaker LH |
| 4. Rear door speaker LH  | 5. Radio antenna | 6. Rear door speaker RH  |
| 7. Front door speaker RH | 8. Microphone    | 9. Steering switch       |
| 10. Audio unit           |                  |                          |

## Component Description

INFOID:000000001193887

Part name	Description
AUDIO UNIT	<ul style="list-style-type: none"> <li>• Operational switch of audio system is integrated.</li> <li>• Receiving function of AM/FM radio, replaying function of CD and hands-free phone function are integrated.</li> <li>• Audio signals are output to each speaker.</li> </ul>
FRONT DOOR SPEAKER	<ul style="list-style-type: none"> <li>• Outputs sound signal from audio unit.</li> <li>• Outputs high, mid and low range sounds.</li> </ul>
REAR DOOR SPEAKER	<ul style="list-style-type: none"> <li>• Outputs sound signal from audio unit.</li> <li>• Outputs high, mid and low range sounds.</li> </ul>
TWEETER	<ul style="list-style-type: none"> <li>• Outputs sound signal from audio unit.</li> <li>• Outputs high range sound.</li> </ul>
STEERING SWITCH	<ul style="list-style-type: none"> <li>• Operations for audio and hands-free phone are possible.</li> <li>• Steering switch signal (operation signal) is output to audio unit.</li> </ul>
MICROPHONE	<ul style="list-style-type: none"> <li>• Used for hands-free phone operation.</li> <li>• Mic. signal is sent to audio unit.</li> <li>• Power (Mic. VCC) is supplied from audio unit.</li> </ul>
RADIO ANTENNA	Radio signal received by antenna is sent to audio unit.



## DIAGNOSIS SYSTEM (AUDIO UNIT)

### Diagnosis Description

INFOID:000000001283156

#### AUDIO UNIT ON BOARD DIAGNOSIS FUNCTION

Audio unit can perform a test for the microphone used for the Hands-free Phone System.

#### ON BOARD DIAGNOSIS

##### Description

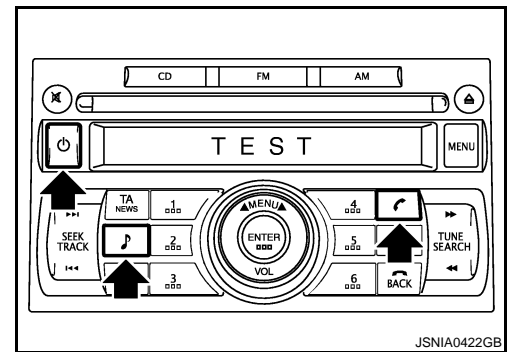
- Speaker's voice is output from the speaker by speaking into the microphone in the microphone test mode. This allows function validation of the microphone.
- If no voice can be output from the speaker for a microphone test even when audio functions other than Hands-free Phone System are normal, check the microphone.

#### STARTING PROCEDURE

1. Start the engine.
2. Turn the audio system OFF.
3. With both “🎵” button and “📞” button pressed, turn ON the audio system.
4. Audio unit display shows “TEST”, and microphone test mode starts.
5. Speak into the microphone to check functions of microphone.
6. Microphone test mode exits when the audio system is turned OFF.

#### NOTE:

Volume can be adjusted during microphone tests.



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# POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

[AUDIO WITHOUT NAVIGATION]

## COMPONENT DIAGNOSIS

### POWER SUPPLY AND GROUND CIRCUIT

#### AUDIO UNIT

#### AUDIO UNIT : Diagnosis Procedure

INFOID:000000001193888

#### 1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	38
Ignition switch ACC or ON	5

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

Check voltage between audio unit harness connector and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Battery power supply	M46	19	OFF	12 V
ACC power supply	M46	7	ACC	12 V

Is inspection result OK?

YES >> GO TO 3.

NO >> Check harness between audio unit and fuse.

#### 3.CHECK GROUND CIRCUIT

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

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	M48	31	OFF	Continuity should exist.

Is inspection result OK?

YES >> INSPECTION END

NO >> Repair harness or connector.

# MICROPHONE SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

[AUDIO WITHOUT NAVIGATION]

## MICROPHONE SIGNAL CIRCUIT

### Description

INFOID:000000001193889

Supply power from audio unit to microphone. The microphone transmits the sound voice to the audio unit.

### Diagnosis Procedure

INFOID:000000001193890

#### 1. CHECK CONTINUITY BETWEEN AUDIO UNIT AND MICROPHONE CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect audio unit connector and microphone connector.
3. Check continuity between audio unit harness connector terminals 35, 36, 37 and microphone harness connector terminals 1, 2, 4.

**35 - 1 : Continuity should exist.**

**36 - 2 : Continuity should exist.**

**37 - 4 : Continuity should exist.**

4. Check continuity between audio unit harness connector terminals 35, 37 and ground.

**35, 37 - Ground : Continuity should not exist.**

Is inspection result OK?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2. CHECK VOLTAGE MICROPHONE VCC

1. Connect audio unit connector.
2. Turn ignition switch ON.
3. Check voltage between audio unit harness connector terminal 37 and ground.

**37 - ground : Approx. 5 V**

Is inspection result OK?

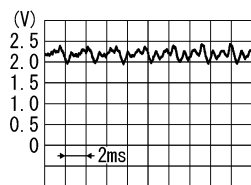
YES >> GO TO 3.

NO >> Replace audio unit.

#### 3. CHECK MICROPHONE SIGNAL

1. Connect microphone connector.
2. Check signal between audio unit harness connector terminals 35 and 36.

35 - 36



Is inspection result OK?

YES >> Replace audio unit.

NO >> Replace microphone.

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AV

# STEERING SWITCH SIGNAL A CIRCUIT

< COMPONENT DIAGNOSIS >

[AUDIO WITHOUT NAVIGATION]

## STEERING SWITCH SIGNAL A CIRCUIT

### Description

INFOID:000000001193891

Transmits the steering switch signal to audio unit.

### Diagnosis Procedure

INFOID:000000001193892

#### 1. CHECK STEERING SWITCH SIGNAL A CIRCUIT

1. Disconnect audio unit connector and spiral cable connector.
2. Check continuity between audio unit harness connector terminal 6 and spiral cable harness connector terminal 24.

**6 - 24 : Continuity should exist.**

3. Check continuity between audio unit harness connector terminal 6 and ground.

**6 - Ground : Continuity should not exist.**

#### Is inspection result OK?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2. CHECK SPIRAL CABLE

Check spiral cable.

#### Is inspection result OK?

YES >> GO TO 3.

NO >> Replace spiral cable.

#### 3. CHECK AUDIO UNIT VOLTAGE

1. Connect audio unit connector and spiral cable connector.
2. Turn ignition switch ON.
3. Check voltage between audio unit harness connector terminals 6 and 15.

**6 - 15 : Approx. 5 V**

#### Is inspection result OK?

YES >> GO TO 4.

NO >> Replace audio unit.

#### 4. CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to [AV-12, "Component Inspection"](#).

#### Is inspection result OK?

YES >> INSPECTION END

NO >> Replace steering switch.

### Component Inspection

INFOID:000000001193893

Measure the resistance between the steering switch connector terminals 20 to 17 and 16 to 17.

# STEERING SWITCH SIGNAL A CIRCUIT

[AUDIO WITHOUT NAVIGATION]

< COMPONENT DIAGNOSIS >

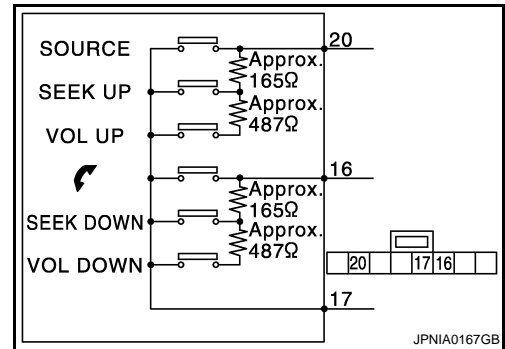
Standard

**Between terminals 20 and 17**

- VOL UP switch ON : 634 – 665 Ω**
- SEEK UP switch ON : 162 – 168 Ω**
- SOURCE switch ON : 0 Ω**

**Between terminals 16 and 17**

- VOL DOWN switch ON : 634 – 665 Ω**
- SEEK DOWN switch ON : 162 – 168 Ω**
- ☞ switch ON : 0 Ω**



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# STEERING SWITCH SIGNAL B CIRCUIT

< COMPONENT DIAGNOSIS >

[AUDIO WITHOUT NAVIGATION]

## STEERING SWITCH SIGNAL B CIRCUIT

### Description

INFOID:000000001193894

Transmits the steering switch signal to audio unit.

### Diagnosis Procedure

INFOID:000000001193895

#### 1.CHECK STEERING SWITCH SIGNAL B CIRCUIT

1. Disconnect audio unit connector and spiral cable connector.
2. Check continuity between audio unit harness connector terminal 16 and spiral cable harness connector terminals 32.

**16 - 32 : Continuity should exist.**

3. Check continuity between audio unit harness connector terminal 16 and ground.

**16 - Ground : Continuity should not exist.**

#### Is inspection result OK?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK SPIRAL CABLE

Check spiral cable.

#### Is inspection result OK?

YES >> GO TO 3.

NO >> Replace spiral cable.

#### 3.CHECK AUDIO UNIT VOLTAGE

1. Connect audio unit connector and spiral cable connector.
2. Turn ignition switch ON.
3. Check voltage between audio unit harness connector terminals 16 and 15.

**16 - 15 : Approx. 5 V**

#### Is inspection result OK?

YES >> GO TO 4.

NO >> Replace audio unit.

#### 4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to [AV-14, "Component Inspection"](#).

#### Is inspection result OK?

YES >> INSPECTION END

NO >> Replace steering switch.

### Component Inspection

INFOID:000000001193896

Measure the resistance between the steering switch connector terminals 20 to 17 and 16 to 17.

# STEERING SWITCH SIGNAL B CIRCUIT

[AUDIO WITHOUT NAVIGATION]

< COMPONENT DIAGNOSIS >

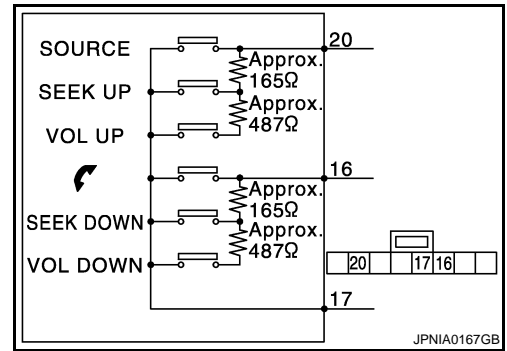
Standard

**Between terminals 20 and 17**

- VOL UP switch ON : 634 – 665 Ω**
- SEEK UP switch ON : 162 – 168 Ω**
- SOURCE switch ON : 0 Ω**

**Between terminals 16 and 17**

- VOL DOWN switch ON : 634 – 665 Ω**
- SEEK DOWN switch ON : 162 – 168 Ω**
- ☞ switch ON : 0 Ω**



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# STEERING SWITCH SIGNAL GND CIRCUIT

< COMPONENT DIAGNOSIS >

[AUDIO WITHOUT NAVIGATION]

## STEERING SWITCH SIGNAL GND CIRCUIT

### Description

INFOID:000000001193897

Transmits the steering switch signal to audio unit.

### Diagnosis Procedure

INFOID:000000001193898

#### 1. CHECK STEERING SWITCH SIGNAL GND CIRCUIT

1. Disconnect audio unit connector and spiral cable connector.
2. Check continuity between audio unit harness connector terminal 15 and spiral cable harness connector terminal 31.

**15 - 31 : Continuity should exist.**

3. Connect audio unit connector.

Is inspection result OK?

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

#### 2. CHECK SPIRAL CABLE

Check spiral cable.

Is inspection result OK?

- YES >> GO TO 3.  
NO >> Replace spiral cable.

#### 3. CHECK GROUND CIRCUIT

1. Connect audio unit connector.
2. Check continuity between audio unit harness connector terminal 15 and ground.

**15 - Ground : Continuity should exist.**

Is inspection result OK?

- YES >> GO TO 4.  
NO >> Replace audio unit.

#### 4. CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to [AV-16. "Component Inspection"](#).

Is inspection result OK?

- YES >> INSPECTION END  
NO >> Replace steering switch.

### Component Inspection

INFOID:000000001193899

Measure the resistance between the steering switch connector terminals 20 to 17 and 16 to 17.

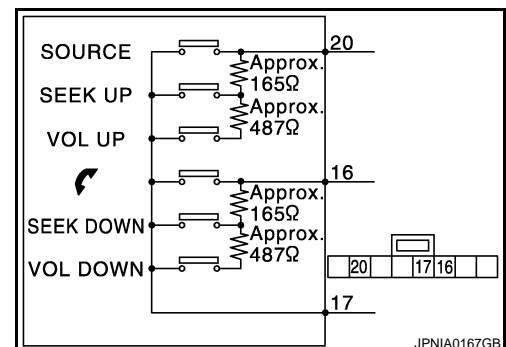
Standard

**Between terminals 20 and 17**

- VOL UP switch ON : 634 – 665 Ω**  
**SEEK UP switch ON : 162 – 168 Ω**  
**SOURCE switch ON : 0 Ω**

**Between terminals 16 and 17**

- VOL DOWN switch ON : 634 – 665 Ω**  
**SEEK DOWN switch ON : 162 – 168 Ω**  
**switch ON : 0 Ω**



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# AUDIO UNIT

< ECU DIAGNOSIS >

[AUDIO WITHOUT NAVIGATION]

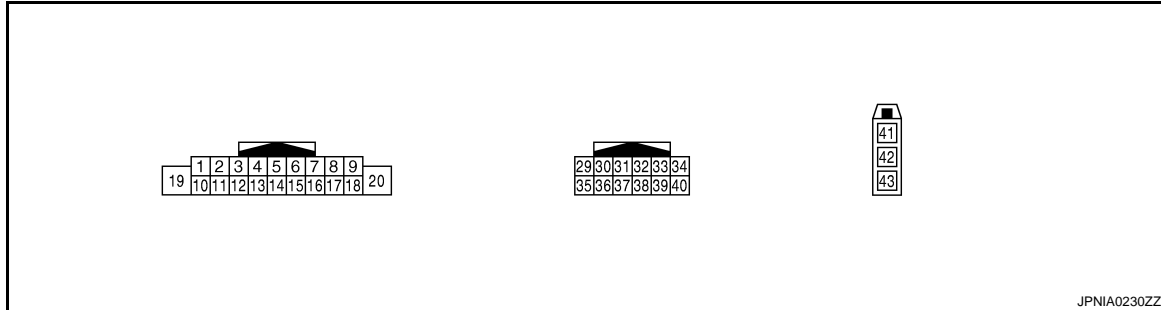
## ECU DIAGNOSIS

### AUDIO UNIT

Reference Value

INFOID:000000001193900

### TERMINAL LAYOUT



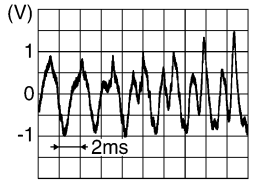

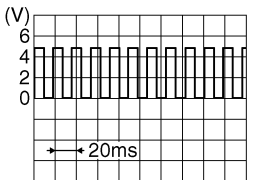
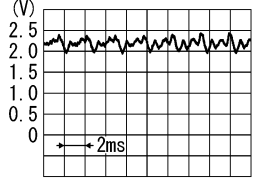
### PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/Output			
2 (L)	3 (G)	Sound signal front LH	Output	Ignition switch ON	Voice output	 SKIB3609E
4 (LG)	5 (Y)	Sound signal rear LH	Output	Ignition switch ON	Voice output	 SKIB3609E
6 (R)	15 (B)	Steering switch signal A	Input	Ignition switch ON	Keep pressing SOURCE switch.	0 V
					Keep pressing SEEK UP switch.	1.7 V
					Keep pressing VOL UP switch.	3.3 V
					Except for above.	5 V
7 (R)	Ground	ACC power supply	Input	Ignition switch ACC	-	Battery voltage
11 (BR)	12 (P)	Sound signal front RH	Output	Ignition switch ON	Voice output	 SKIB3609E

# AUDIO UNIT

< ECU DIAGNOSIS >

[AUDIO WITHOUT NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
13 (O)	14 (V)	Sound signal rear RH	Output	Ignition switch ON	Voice output	 SKIB3609E
15 (B)	Ground	Steering switch signal GND	—	Ignition switch ON	—	0 V
16 (Y)	15 (B)	Steering switch signal B	Input	Ignition switch ON	Keep pressing  switch.	0 V
					Keep pressing SEEK DOWN switch.	1.7 V
					Keep pressing VOL DOWN switch.	3.3 V
					Except for above.	5 V
17 (SB)	—	Immobilizer	—	—	—	—
18 (Y)	Ground	Vehicle speed signal (8- pulse)	Input	Ignition switch ON	When vehicle speed is ap- prox. 40 km/h (25MPH)	 SKIA6649J
19 (LG)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
31 (B)	Ground	GND	—	Ignition switch ON	—	0 V
35 (B/W)	36	Microphone signal	Input	Ignition switch ON	Sounds	 PKIB5037J
36	Ground	Microphone GND	—	Ignition switch ON	—	0 V
37 (L)	36	Microphone VCC	Output	Ignition switch ON	—	5 V
42	—	Antenna signal	Input	—	—	—

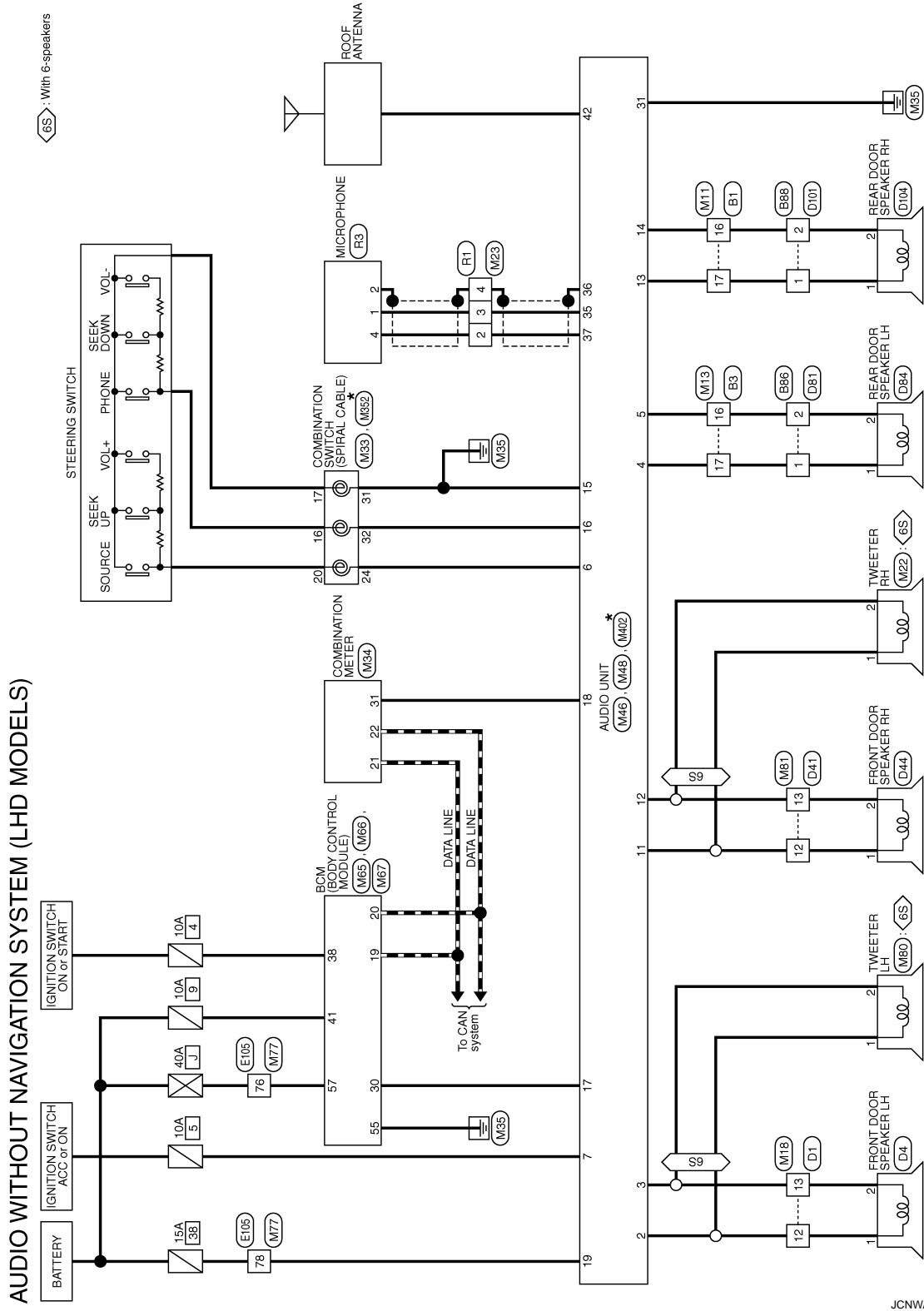
# AUDIO UNIT

< ECU DIAGNOSIS >

[AUDIO WITHOUT NAVIGATION]

## Wiring Diagram - AUDIO WITHOUT NAVIGATION SYSTEM (LHD MODELS) -

INFOID:000000001193901



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

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# AUDIO UNIT

< ECU DIAGNOSIS >

[AUDIO WITHOUT NAVIGATION]

## AUDIO WITHOUT NAVIGATION SYSTEM (LHD MODELS)

Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Type	TH24MW

Terminal No.	16	17			
Color of Wire	V	O			
Signal Name [Specification]					

Connector No.	B3
Connector Name	WIRE TO WIRE
Connector Type	TH24MW

Terminal No.	16	17			
Color of Wire	Y	LG			
Signal Name [Specification]					

Connector No.	B86
Connector Name	WIRE TO WIRE
Connector Type	NS02MW-CS

Terminal No.	1	2			
Color of Wire	LG	Y			
Signal Name [Specification]					

Connector No.	B88
Connector Name	WIRE TO WIRE
Connector Type	NS02MW-CS

Terminal No.	1	2			
Color of Wire	O	V			
Signal Name [Specification]					

Connector No.	D1
Connector Name	WIRE TO WIRE
Connector Type	TK 8FW

Terminal No.	13	12			
Color of Wire	G	L			
Signal Name [Specification]					

Connector No.	D4
Connector Name	FRONT DOOR SPEAKER LH
Connector Type	NS02FW-CS

Terminal No.	1	2			
Color of Wire	L	G			
Signal Name [Specification]					

Connector No.	D41
Connector Name	WIRE TO WIRE
Connector Type	TK 8FW

Terminal No.	12	13			
Color of Wire	BR	P			
Signal Name [Specification]					

Connector No.	D44
Connector Name	FRONT DOOR SPEAKER RH
Connector Type	NS02FW-CS

Terminal No.	1	2			
Color of Wire	BR	P			
Signal Name [Specification]					

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# AUDIO UNIT

< ECU DIAGNOSIS >

[AUDIO WITHOUT NAVIGATION]

## AUDIO WITHOUT NAVIGATION SYSTEM (LHD MODELS)

Connector No.	D81
Connector Name	WIRE TO WIRE
Connector Type	NS08FW-GS



Terminal No.	Color of Wire	Signal Name [Specification]
1	LG	-
2	Y	-

Connector No.	D84
Connector Name	REAR DOOR SPEAKER LH
Connector Type	NS02FW-GS



Terminal No.	Color of Wire	Signal Name [Specification]
1	LG	-
2	Y	-

Connector No.	D101
Connector Name	WIRE TO WIRE
Connector Type	NS08FW-GS



Terminal No.	Color of Wire	Signal Name [Specification]
1	O	-
2	V	-

Connector No.	D104
Connector Name	REAR DOOR SPEAKER RH
Connector Type	NS02FW-GS



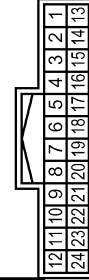
Terminal No.	Color of Wire	Signal Name [Specification]
1	O	-
2	V	-

Connector No.	E105
Connector Name	WIRE TO WIRE
Connector Type	TH030MW-NS16-TM4



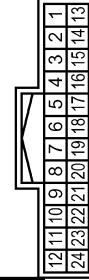
Terminal No.	Color of Wire	Signal Name [Specification]
76	Y	-
78	LG	-

Connector No.	M11
Connector Name	WIRE TO WIRE
Connector Type	TH24FW



Terminal No.	Color of Wire	Signal Name [Specification]
16	V	-
17	O	-

Connector No.	M13
Connector Name	WIRE TO WIRE
Connector Type	TH24FW



Terminal No.	Color of Wire	Signal Name [Specification]
16	Y	-
17	LG	-

Connector No.	M18
Connector Name	WIRE TO WIRE
Connector Type	TK16MW



Terminal No.	Color of Wire	Signal Name [Specification]
12	L	-
13	G	-

# AUDIO UNIT

< ECU DIAGNOSIS >

[AUDIO WITHOUT NAVIGATION]

## AUDIO WITHOUT NAVIGATION SYSTEM (LHD MODELS)

Connector No.	M22
Connector Name	TWEETER RH
Connector Type	FCI 21P(0202)S3017



Terminal No.	Color of Wire	Signal Name [Specification]
1	BR	-
2	P	-

Connector No.	M23
Connector Name	WIRE TO WIRE
Connector Type	TKDFW-MS3



Terminal No.	Color of Wire	Signal Name [Specification]
2	W	-
3	B	-
4	SHIELD	-

Connector No.	M33
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TK08FGV-1V



Terminal No.	Color of Wire	Signal Name [Specification]
24	R	-
31	B	-
32	Y	-

Connector No.	M34
Connector Name	COMBINATION METER
Connector Type	SAB40FW



Terminal No.	Color of Wire	Signal Name [Specification]
21	L	CAN-H
22	P	CAN-L
31	Y	VEHICLE SPEED (6-PULSE)

Connector No.	M46
Connector Name	AUDIO UNIT
Connector Type	TH18FW-GS2



Terminal No.	Color of Wire	Signal Name [Specification]
2	L	SOUND SIGNAL FRONT LH (+)
3	G	SOUND SIGNAL FRONT LH (-)
4	LG	SOUND SIGNAL REAR LH (+)
5	Y	SOUND SIGNAL REAR RH (-)
6	R	STRG SW A
7	R	ACC
11	BR	SOUND SIGNAL FRONT RH (+)
12	P	SOUND SIGNAL FRONT RH (-)
13	O	SOUND SIGNAL REAR RH (+)
14	V	SOUND SIGNAL REAR RH (-)
15	B	STRG SW GRD

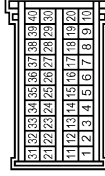
16	Y	STRG SW B
17	SB	IMMOBILIZER
18	Y	VEHICLE SPEED (6-PULSE)
19	LG	BATTERY

Connector No.	M48
Connector Name	AUDIO UNIT
Connector Type	TH12FW



Terminal No.	Color of Wire	Signal Name [Specification]
31	B	CONTROL SIGNAL (Without navigation system)
35	B/W	MICROPHONE SIGNAL
36	SHIELD	MICROPHONE GRD
37	L	MICROPHONE VCC(Without navigation system)

Connector No.	M65
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	AAB40FW



Terminal No.	Color of Wire	Signal Name [Specification]
19	L	CAN-H
20	P	CAN-L
30	SB	AUDIO LINK
38	W	IGN SW

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# AUDIO UNIT

< ECU DIAGNOSIS >

[AUDIO WITHOUT NAVIGATION]

## AUDIO WITHOUT NAVIGATION SYSTEM (LHD MODELS)

<table border="1"> <tr><td>Connector No.</td><td>M66</td></tr> <tr><td>Connector Name</td><td>SCM (BODY CONTROL MODULE)</td></tr> <tr><td>Connector Type</td><td>FCI 21IPG122S1017</td></tr> </table> <table border="1"> <tr><td>Terminal No.</td><td>Color of Wire</td><td>Signal Name [Specification]</td></tr> <tr><td>41</td><td>V</td><td>BAT(FUSE)</td></tr> </table>	Connector No.	M66	Connector Name	SCM (BODY CONTROL MODULE)	Connector Type	FCI 21IPG122S1017	Terminal No.	Color of Wire	Signal Name [Specification]	41	V	BAT(FUSE)	<table border="1"> <tr><td>Connector No.</td><td>M67</td></tr> <tr><td>Connector Name</td><td>WIRE TO WIRE</td></tr> <tr><td>Connector Type</td><td>TH6DFW-NS16-TM4</td></tr> </table> <table border="1"> <tr><td>Terminal No.</td><td>Color of Wire</td><td>Signal Name [Specification]</td></tr> <tr><td>76</td><td>Y</td><td>-</td></tr> <tr><td>78</td><td>LG</td><td>-</td></tr> </table>	Connector No.	M67	Connector Name	WIRE TO WIRE	Connector Type	TH6DFW-NS16-TM4	Terminal No.	Color of Wire	Signal Name [Specification]	76	Y	-	78	LG	-	<table border="1"> <tr><td>Connector No.</td><td>M68</td></tr> <tr><td>Connector Name</td><td>TWEETER LH</td></tr> <tr><td>Connector Type</td><td>FCI 21IPG023S9017</td></tr> </table> <table border="1"> <tr><td>Terminal No.</td><td>Color of Wire</td><td>Signal Name [Specification]</td></tr> <tr><td>1</td><td>L</td><td>-</td></tr> <tr><td>2</td><td>G</td><td>-</td></tr> </table>	Connector No.	M68	Connector Name	TWEETER LH	Connector Type	FCI 21IPG023S9017	Terminal No.	Color of Wire	Signal Name [Specification]	1	L	-	2	G	-			
Connector No.	M66																																														
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<table border="1"> <tr><td>Connector No.</td><td>M67</td></tr> <tr><td>Connector Name</td><td>SCM (BODY CONTROL MODULE)</td></tr> <tr><td>Connector Type</td><td>FCI 21IPG068S0017</td></tr> </table> <table border="1"> <tr><td>Terminal No.</td><td>Color of Wire</td><td>Signal Name [Specification]</td></tr> <tr><td>55</td><td>B</td><td>GND(POWER)</td></tr> <tr><td>57</td><td>Y</td><td>BAT(F/L)</td></tr> </table>	Connector No.	M67	Connector Name	SCM (BODY CONTROL MODULE)	Connector Type	FCI 21IPG068S0017	Terminal No.	Color of Wire	Signal Name [Specification]	55	B	GND(POWER)	57	Y	BAT(F/L)	<table border="1"> <tr><td>Connector No.</td><td>M402</td></tr> <tr><td>Connector Name</td><td>AUDIO UNIT</td></tr> <tr><td>Connector Type</td><td>GT13 SH-2 SIS-HU</td></tr> </table> <table border="1"> <tr><td>Terminal No.</td><td>Color of Wire</td><td>Signal Name [Specification]</td></tr> <tr><td>42</td><td>-</td><td>ANTENNA</td></tr> </table>	Connector No.	M402	Connector Name	AUDIO UNIT	Connector Type	GT13 SH-2 SIS-HU	Terminal No.	Color of Wire	Signal Name [Specification]	42	-	ANTENNA	<table border="1"> <tr><td>Connector No.</td><td>M352</td></tr> <tr><td>Connector Name</td><td>COMBINATION SWITCH (SPIRAL CABLE)</td></tr> <tr><td>Connector Type</td><td>TK68MGY-X</td></tr> </table> <table border="1"> <tr><td>Terminal No.</td><td>Color of Wire</td><td>Signal Name [Specification]</td></tr> <tr><td>16</td><td>-</td><td>-</td></tr> <tr><td>17</td><td>-</td><td>-</td></tr> <tr><td>20</td><td>-</td><td>-</td></tr> </table>	Connector No.	M352	Connector Name	COMBINATION SWITCH (SPIRAL CABLE)	Connector Type	TK68MGY-X	Terminal No.	Color of Wire	Signal Name [Specification]	16	-	-	17	-	-	20	-	-
Connector No.	M67																																														
Connector Name	SCM (BODY CONTROL MODULE)																																														
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Terminal No.	Color of Wire	Signal Name [Specification]																																													
42	-	ANTENNA																																													
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Connector Type	TK68MGY-X																																														
Terminal No.	Color of Wire	Signal Name [Specification]																																													
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AUDIO WITHOUT NAVIGATION SYSTEM (LHD MODELS)

Connector No.	R3
Connector Name	MICROPHONE
Connector Type	TKCMFW



Terminal No.	Color of Wire	Signal Name (Specification)
1	W	MICROPHONE SIGNAL
2	SHIELD	MICROPHONE GND
4	B	MICROPHONE VCC

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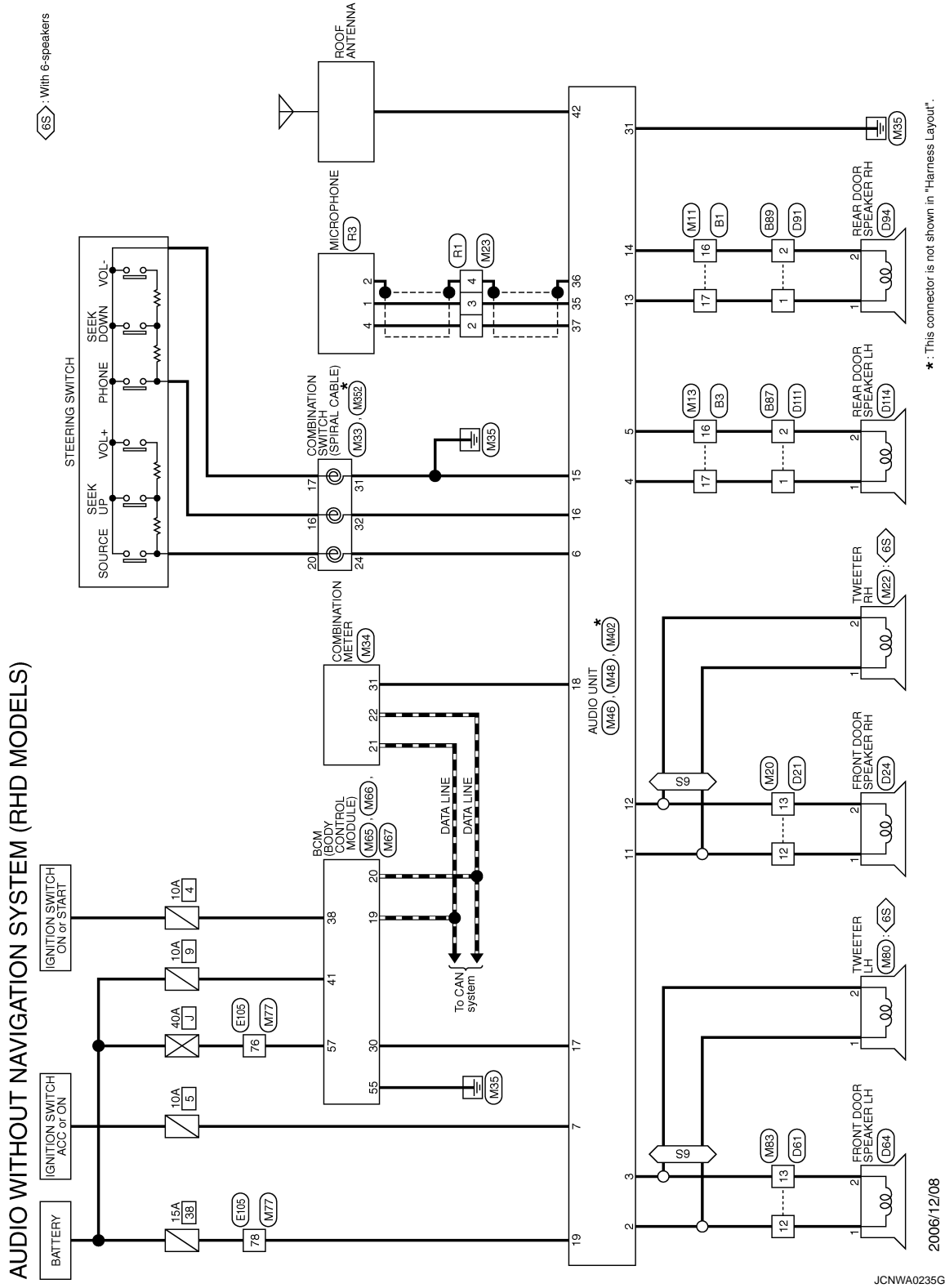
# AUDIO UNIT

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[AUDIO WITHOUT NAVIGATION]

## Wiring Diagram - AUDIO WITHOUT NAVIGATION SYSTEM (RHD MODELS) -

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[AUDIO WITHOUT NAVIGATION]

## AUDIO WITHOUT NAVIGATION SYSTEM (RHD MODELS)

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# AUDIO UNIT

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[AUDIO WITHOUT NAVIGATION]

## AUDIO WITHOUT NAVIGATION SYSTEM (RHD MODELS)

Connector No.	D91
Connector Name	WIRE TO WIRE
Connector Type	NS08FW-GS



Terminal No.	Color of Wire	Signal Name [Specification]
1	O	-
2	V	-

Connector No.	D94
Connector Name	REAR DOOR SPEAKER RH
Connector Type	NS02FW-GS



Terminal No.	Color of Wire	Signal Name [Specification]
1	O	-
2	V	-

Connector No.	D111
Connector Name	WIRE TO WIRE
Connector Type	NS08FW-GS



Terminal No.	Color of Wire	Signal Name [Specification]
1	LG	-
2	Y	-

Connector No.	D114
Connector Name	REAR DOOR SPEAKER LH
Connector Type	NS02FW-GS



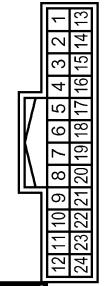
Terminal No.	Color of Wire	Signal Name [Specification]
1	LG	-
2	Y	-

Connector No.	E105
Connector Name	WIRE TO WIRE
Connector Type	TH03MW-NS16-TM4



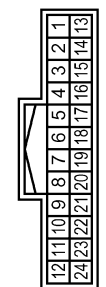
Terminal No.	Color of Wire	Signal Name [Specification]
76	Y	-
78	LG	-

Connector No.	M11
Connector Name	WIRE TO WIRE
Connector Type	TH24FW



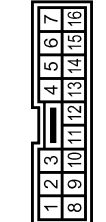
Terminal No.	Color of Wire	Signal Name [Specification]
16	V	-
17	O	-

Connector No.	M13
Connector Name	WIRE TO WIRE
Connector Type	TH24FW



Terminal No.	Color of Wire	Signal Name [Specification]
16	Y	-
17	LG	-

Connector No.	M20
Connector Name	WIRE TO WIRE
Connector Type	TK16MW



Terminal No.	Color of Wire	Signal Name [Specification]
12	BR	-
13	P	-

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# AUDIO UNIT

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[AUDIO WITHOUT NAVIGATION]

## AUDIO WITHOUT NAVIGATION SYSTEM (RHD MODELS)

Connector No.	M22
Connector Name	TWEETER RH
Connector Type	FCI 21P0202S3017



Terminal No.	Color of Wire	Signal Name [Specification]
1	BR	-
2	P	-

Connector No.	M23
Connector Name	WIRE TO WIRE
Connector Type	TK1DFW-MS3



Terminal No.	Color of Wire	Signal Name [Specification]
2	W	-
3	B	-
4	SHIELD	-

Connector No.	M33
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TK08FGV-1V



Terminal No.	Color of Wire	Signal Name [Specification]
24	R	-
31	B	-
32	Y	-

Connector No.	M34
Connector Name	COMBINATION METER
Connector Type	SAB40FW



Terminal No.	Color of Wire	Signal Name [Specification]
21	L	CAN-H
22	P	CAN-L
31	Y	VEHICLE SPEED (6-PULSE)

Connector No.	M46
Connector Name	AUDIO UNIT
Connector Type	TH18FW-GS2



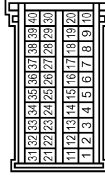
Terminal No.	Color of Wire	Signal Name [Specification]
2	L	SOUND SIGNAL FRONT LH (+)
3	G	SOUND SIGNAL FRONT LH (-)
4	LG	SOUND SIGNAL REAR LH (+)
5	Y	SOUND SIGNAL REAR RH (-)
6	R	STRG SW A
7	R	ACC
11	BR	SOUND SIGNAL FRONT RH (+)
12	P	SOUND SIGNAL FRONT RH (-)
13	O	SOUND SIGNAL REAR RH (+)
14	V	SOUND SIGNAL REAR RH (-)
15	B	STRG SW GRD

Connector No.	M48
Connector Name	AUDIO UNIT
Connector Type	TH12FW



Terminal No.	Color of Wire	Signal Name [Specification]
31	B	CONTROL SIGNAL (Without navigation system)
35	B/W	MICROPHONE SIGNAL
36	SHIELD	MICROPHONE GRD
37	L	MICROPHONE VCC (Without navigation system)








Connector No.	M65
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	AAB40FW



Terminal No.	Color of Wire	Signal Name [Specification]
19	L	CAN-H
20	P	CAN-L
30	SB	AUDIO LINK
38	W	IGN SW

JCNWA0393GE

### AUDIO WITHOUT NAVIGATION SYSTEM (RHD MODELS)

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Connector No.</td><td>M66</td></tr> <tr><td>Connector Name</td><td>SCM (BODY CONTROL MODULE)</td></tr> <tr><td>Connector Type</td><td>FCI 21IP0122S1017</td></tr> </table>	Connector No.	M66	Connector Name	SCM (BODY CONTROL MODULE)	Connector Type	FCI 21IP0122S1017		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Terminal No.</td><td>Color of Wire</td><td>Signal Name [Specification]</td></tr> <tr><td>41</td><td>V</td><td>BAT(FUSE)</td></tr> </table>	Terminal No.	Color of Wire	Signal Name [Specification]	41	V	BAT(FUSE)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Connector No.</td><td>M67</td></tr> <tr><td>Connector Name</td><td>WIRE TO WIRE</td></tr> <tr><td>Connector Type</td><td>TH6DFW-NS16-TM4</td></tr> </table>	Connector No.	M67	Connector Name	WIRE TO WIRE	Connector Type	TH6DFW-NS16-TM4		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Terminal No.</td><td>Color of Wire</td><td>Signal Name [Specification]</td></tr> <tr><td>76</td><td>Y</td><td>—</td></tr> <tr><td>78</td><td>LG</td><td>—</td></tr> </table>	Terminal No.	Color of Wire	Signal Name [Specification]	76	Y	—	78	LG	—	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Connector No.</td><td>M68</td></tr> <tr><td>Connector Name</td><td>WIRE TO WIRE</td></tr> <tr><td>Connector Type</td><td>TK (BMW)</td></tr> </table>	Connector No.	M68	Connector Name	WIRE TO WIRE	Connector Type	TK (BMW)		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Terminal No.</td><td>Color of Wire</td><td>Signal Name [Specification]</td></tr> <tr><td>12</td><td>L</td><td>—</td></tr> <tr><td>13</td><td>G</td><td>—</td></tr> </table>	Terminal No.	Color of Wire	Signal Name [Specification]	12	L	—	13	G	—	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Connector No.</td><td>M69</td></tr> <tr><td>Connector Name</td><td>TWEETER LH</td></tr> <tr><td>Connector Type</td><td>FCI 21IP0202S3017</td></tr> </table>	Connector No.	M69	Connector Name	TWEETER LH	Connector Type	FCI 21IP0202S3017		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Terminal No.</td><td>Color of Wire</td><td>Signal Name [Specification]</td></tr> <tr><td>1</td><td>L</td><td>—</td></tr> <tr><td>2</td><td>G</td><td>—</td></tr> </table>	Terminal No.	Color of Wire	Signal Name [Specification]	1	L	—	2	G	—	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Connector No.</td><td>M70</td></tr> <tr><td>Connector Name</td><td>WIRE TO WIRE</td></tr> <tr><td>Connector Type</td><td>TK (DMW-NS8)</td></tr> </table>	Connector No.	M70	Connector Name	WIRE TO WIRE	Connector Type	TK (DMW-NS8)		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Terminal No.</td><td>Color of Wire</td><td>Signal Name [Specification]</td></tr> <tr><td>2</td><td>B</td><td>—</td></tr> <tr><td>3</td><td>W</td><td>—</td></tr> <tr><td>4</td><td>SHIELD</td><td>—</td></tr> </table>	Terminal No.	Color of Wire	Signal Name [Specification]	2	B	—	3	W	—	4	SHIELD	—	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Connector No.</td><td>M71</td></tr> <tr><td>Connector Name</td><td>AUDIO UNIT</td></tr> <tr><td>Connector Type</td><td>GT13 SH-2 SIS-HU</td></tr> </table>	Connector No.	M71	Connector Name	AUDIO UNIT	Connector Type	GT13 SH-2 SIS-HU		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Terminal No.</td><td>Color of Wire</td><td>Signal Name [Specification]</td></tr> <tr><td>42</td><td>—</td><td>ANTENNA</td></tr> </table>	Terminal No.	Color of Wire	Signal Name [Specification]	42	—	ANTENNA	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Connector No.</td><td>M72</td></tr> <tr><td>Connector Name</td><td>COMBINATION SWITCH (SPIRAL CABLE)</td></tr> <tr><td>Connector Type</td><td>TK (BMW)-X</td></tr> </table>	Connector No.	M72	Connector Name	COMBINATION SWITCH (SPIRAL CABLE)	Connector Type	TK (BMW)-X		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Terminal No.</td><td>Color of Wire</td><td>Signal Name [Specification]</td></tr> <tr><td>16</td><td>—</td><td>—</td></tr> <tr><td>17</td><td>—</td><td>—</td></tr> <tr><td>20</td><td>—</td><td>—</td></tr> </table>	Terminal No.	Color of Wire	Signal Name [Specification]	16	—	—	17	—	—	20	—	—
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AUDIO WITHOUT NAVIGATION SYSTEM (RHD MODELS)

Connector No.	R3
Connector Name	MICROPHONE
Connector Type	TKCMFW



Terminal No.	Color of Wire	Signal Name (Specification)
1	W	MICROPHONE SIGNAL
2	SHIELD	MICROPHONE GND
4	B	MICROPHONE VCC

JCNWA0395GE

SYMPTOM DIAGNOSIS

MULTI AV SYSTEM SYMPTOMS

Symptom Table

INFOID:000000001193903

RELATED TO AUDIO

Symptom	Check items	Possible malfunction location / Action to take
Audio sound is not heard.	No sound from all speakers	Audio unit ( <a href="#">AV-35, "Exploded View"</a> )
	Sound is not heard only from the specific places (Front RH, rear RH, front LH and rear LH).	Sound signal circuit of suspect system

RELATED TO HANDS FREE PHONE

- Check that the cellular phone is corresponding type (Bluetooth® enabled) when the hands free related malfunction vehicle is in service before performing a diagnosis.
- There is a case that malfunction occurs due to the version change of the phone type, etc. even though it is a corresponding type. Therefore, confirm it by changing the cellular phone to another corresponding type phone, and check that it operates normally. It is necessary to distinguish whether the cause is the vehicle or cellular phone. Check to ensure the customer's phone is supported by checking the phone compatibility for the hands free system.

Simple check for Bluetooth® communication

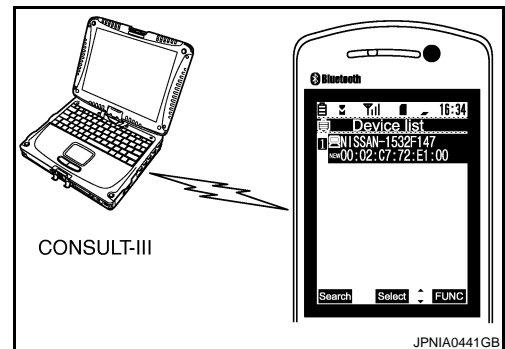
If cellular phone and audio unit cannot be connected with Bluetooth® communication, following procedure allows the technician to judge which device has malfunction.

1. Turn on a cellular phone, not connecting Bluetooth® communication.
2. Start CONSULT-III, then start Windows®.
3. Set CONSULT-III near a cellular phone.
4. When operated Bluetooth® registration by cellular phone, check if CONSULT-III\* would be displayed on the device name. (If other Bluetooth® device is located near cellular phone, a name of the device would be displayed also.)

**NOTE:**

\*:Displayed device name is "NISSAN-\*\*\*\*\*".

- If no device name is displayed, cellular phone is malfunction. Repair the cellular phone first, then perform diagnosis.
- If CONSULT-III is displayed on device name, cellular phone is normal. Perform diagnosis as per the following table.



Trouble diagnosis chart by symptom

Symptoms	Check items	Possible malfunction location / Action to take
Does not recognize cellular phone connection.	Repeat the registration of cellular phone.	Audio unit ( <a href="#">AV-35, "Exploded View"</a> )
Hands free phone cannot be established.	<ul style="list-style-type: none"> <li>• Hands free phone operation can be made, but the communication cannot be established.</li> <li>• Hands free phone operation can be performed, however, voice between each other cannot be heard during the conversation.</li> </ul>	Audio unit ( <a href="#">AV-35, "Exploded View"</a> )
The other party's voice cannot be heard by hands free phone.	No sound from all speakers	Audio unit ( <a href="#">AV-35, "Exploded View"</a> )
	Sound is not heard only from the specific places (Front RH or front LH).	Sound signal circuit (TEL voice)

## MULTI AV SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >


[AUDIO WITHOUT NAVIGATION]

Symptoms	Check items	Possible malfunction location / Action to take
Originating sound is not heard by the other party with hands free phone communication.	Microphone test is normal.	Audio unit ( <a href="#">AV-35, "Exploded View"</a> )
	A microphone is not usable on a microphone test.	Microphone signal circuit ( <a href="#">AV-11, "Diagnosis Procedure"</a> )

**NOTE:**

Regarding microphone test, refer to [AV-9, "Diagnosis Description"](#).

### RELATED TO STEERING SWITCH

Symptoms	Possible malfunction location / Action to take
All steering switches are not operated.	Steering switch signal ground circuit ( <a href="#">AV-16, "Diagnosis Procedure"</a> )
Only specified switch cannot be operated.	Steering switch ( <a href="#">AV-39, "Exploded View"</a> )
"MENU UP", "VOL UP" and "SOURCE" switches are not operated.	Steering switch signal A circuit ( <a href="#">AV-12, "Diagnosis Procedure"</a> )
"  ", "MENU DOWN" and "VOL DOWN" switches are not operated.	Steering switch signal B circuit ( <a href="#">AV-14, "Diagnosis Procedure"</a> )



# NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[AUDIO WITHOUT NAVIGATION]

## NORMAL OPERATING CONDITION

### Description

INFOID:000000001193904

#### RELATED TO AUDIO

- The majority of the audio malfunctions are the result of outside causes (bad CD, electromagnetic interference, etc.). Check the symptoms below to diagnose the malfunction.
- The vehicle itself can be a source of noise if noise prevention parts or electrical equipment is malfunctioning. Check that noise is caused and/or changed by engine speed, ignition switch turned to each position, and operation of each piece of electrical equipment. Then determine the cause.

**NOTE:**

- CD-R is not guaranteed to play because they can contain compressed audio (MP3, WMA) or could be incorrectly mastered by the customer on a computer.
- Check that the CDs carry the Compact Disc Logo. If not, the disc is not mastered to the red book Compact Disc Standard and may not play.

Symptoms	Cause and Counter measure
Cannot play	Check that the CD was inserted correctly.
	Check that the CD is scratched or dirty.
	Check that there is condensation inside the player, and if there is, wait until the condensation is gone (about 1 hour) before using the player.
	The player will play correctly after it returns to the normal temperature if there is a temperature increase error.
	Only the music CD files (CD-DA data) will be played if there is a mixture of music CD files (CD-DA data) and MP3/WMA files on a CD.
	Files with extensions other than “.MP3”, “.WMA”, “.mp3”, or “.wma” cannot be played.
	Check that the finalization process, such as session close and disc close, is done for the disc.
Poor sound quality	Check that the CD is scratched or dirty.
	Check that the CD is protected by copyright.
It takes a relatively long time before the music starts playing.	If there are many folder or file levels on the MP3/WMA CD, or if it is a multisession disc, some time may be required before the music starts playing.
The songs do not play back in the desired order.	The playback order is the order in which the files were written by the software, so the files might not play in the desired order.

Noise resulting from variations in field strength, such as fading noise and multi-path noise, or external noise from trains and other sources, is not a malfunction.

**NOTE:**

- 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 a time difference between the broadcast waves directly from the station arriving at the antenna and the waves reflected by mountains or buildings.

#### RELATED TO TELEPHONE

Symptom	Possible cause	Possible solution
The voice on the other side is difficult to be heard. The voice is difficult to reach the other side of the connection.	The interior of the vehicle is too noisy.	Close the windows or have other occupants be quiet.
	The volume of the voice is too low.	Speak louder.
	Pronunciation is unclear.	Speak clearly.

## PRECAUTION

### PRECAUTIONS

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

INFOID:000000001583039

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 AIRBAG" and "SEAT BELT" of this Service Manual.

**WARNING:**

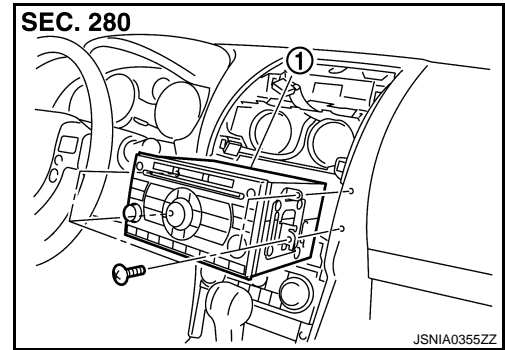
- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation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

ON-VEHICLE REPAIR

AUDIO UNIT

Exploded View

INFOID:000000001193906



- 1. Audio unit

Removal and Installation

INFOID:000000001193907

REMOVAL

- 1. Remove cluster lid C. Refer to [IP-11, "Exploded View"](#).
- 2. Remove audio unit with bracket.

INSTALLATION

Install in the reverse order of removal.

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AV

# FRONT DOOR SPEAKER

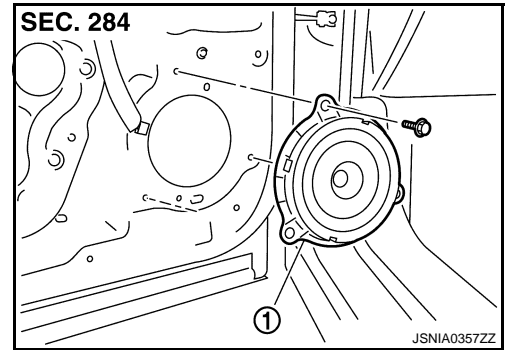
< ON-VEHICLE REPAIR >

[AUDIO WITHOUT NAVIGATION]

## FRONT DOOR SPEAKER

Exploded View

INFOID:000000001193908



1. Front door speaker

### Removal and Installation

INFOID:000000001193909

#### REMOVAL

1. Remove front door finisher. Refer to [INT-10. "FRONT DOOR FINISHER : Exploded View"](#).
2. Remove front door speaker.

#### INSTALLATION

Install in the reverse order of removal.

# REAR DOOR SPEAKER

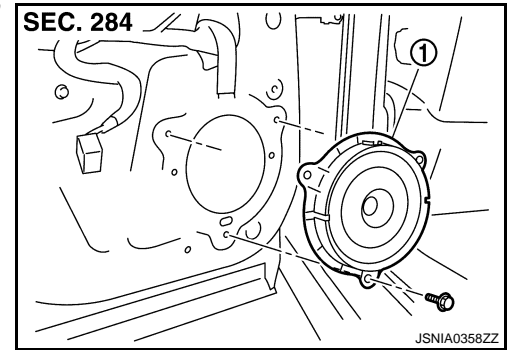
< ON-VEHICLE REPAIR >

[AUDIO WITHOUT NAVIGATION]

## REAR DOOR SPEAKER

### Exploded View

INFOID:000000001193910



1. Rear door speaker

### Removal and Installation

INFOID:000000001193911

#### REMOVAL

1. Remove rear door finisher. Refer to [INT-12. "REAR DOOR FINISHER : Exploded View"](#).
2. Remove rear door speaker.

#### INSTALLATION

Install in the reverse order of removal.

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AV

# TWEETER

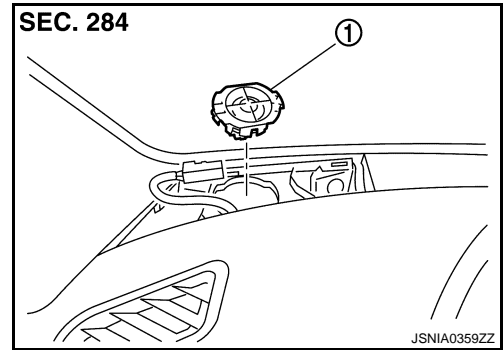
< ON-VEHICLE REPAIR >

[AUDIO WITHOUT NAVIGATION]

## TWEETER

Exploded View

INFOID:000000001193912



1. Tweeter

## Removal and Installation

INFOID:000000001193913

### REMOVAL

1. Remove tweeter grill. Refer to [IP-11, "Exploded View"](#).
2. Remove tweeter.

### INSTALLATION

Install in the reverse order of removal.

## STEERING SWITCH

### Exploded View

INFOID:000000001193914

Refer to [SR-4, "Exploded View"](#).

### Removal and Installation

INFOID:000000001193915

#### REMOVAL

Refer to [SR-4, "Removal and Installation"](#).

#### INSTALLATION

Install in the reverse order of removal.

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# MICROPHONE

< ON-VEHICLE REPAIR >

[AUDIO WITHOUT NAVIGATION]

## MICROPHONE

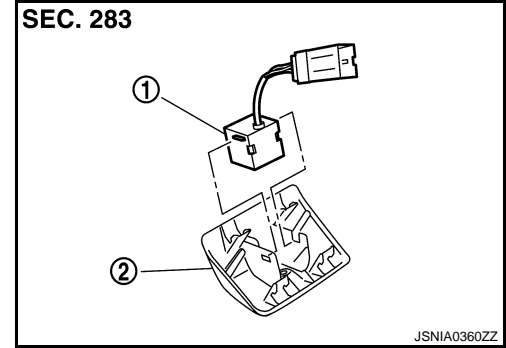
### Exploded View

INFOID:000000001193916

### REMOVAL

Refer to [INT-20, "Exploded View"](#).

### DISASSEMBLY



1. Microphone
2. Microphone cover

### Removal and Installation

INFOID:000000001193917

### REMOVAL

1. Remove microphone cover. Refer to [INT-20, "Exploded View"](#).
2. Remove microphone.

### INSTALLATION

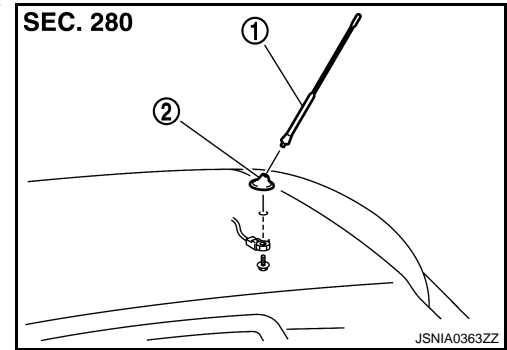
Install in the reverse order of removal.



## RADIO ANTENNA

### Exploded View

INFOID:000000001193918



1. Antenna rod
2. Antenna base

### Removal and Installation

INFOID:000000001193919

#### REMOVAL

1. Remove headlining. Refer to [INT-20, "Exploded View"](#).
2. Remove antenna base and antenna rod.

#### INSTALLATION

Install in the reverse order of removal.

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AV

# ANTENNA FEEDER (RADIO)

< ON-VEHICLE REPAIR >

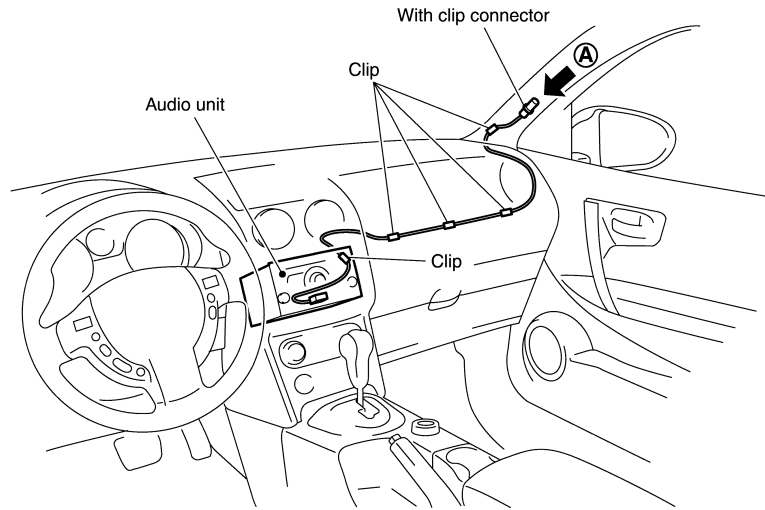
[AUDIO WITHOUT NAVIGATION]

## ANTENNA FEEDER (RADIO)

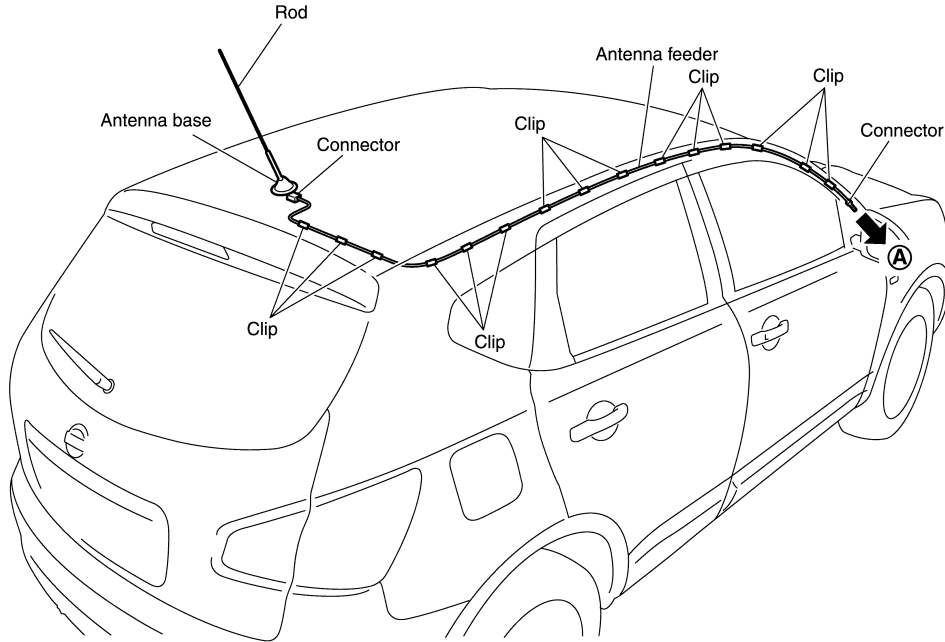
### Harness Layout

INFOID:000000001193920

SEC. 280



Instrument panel driver side



Rear view of vehicle

JPNIA0225GB

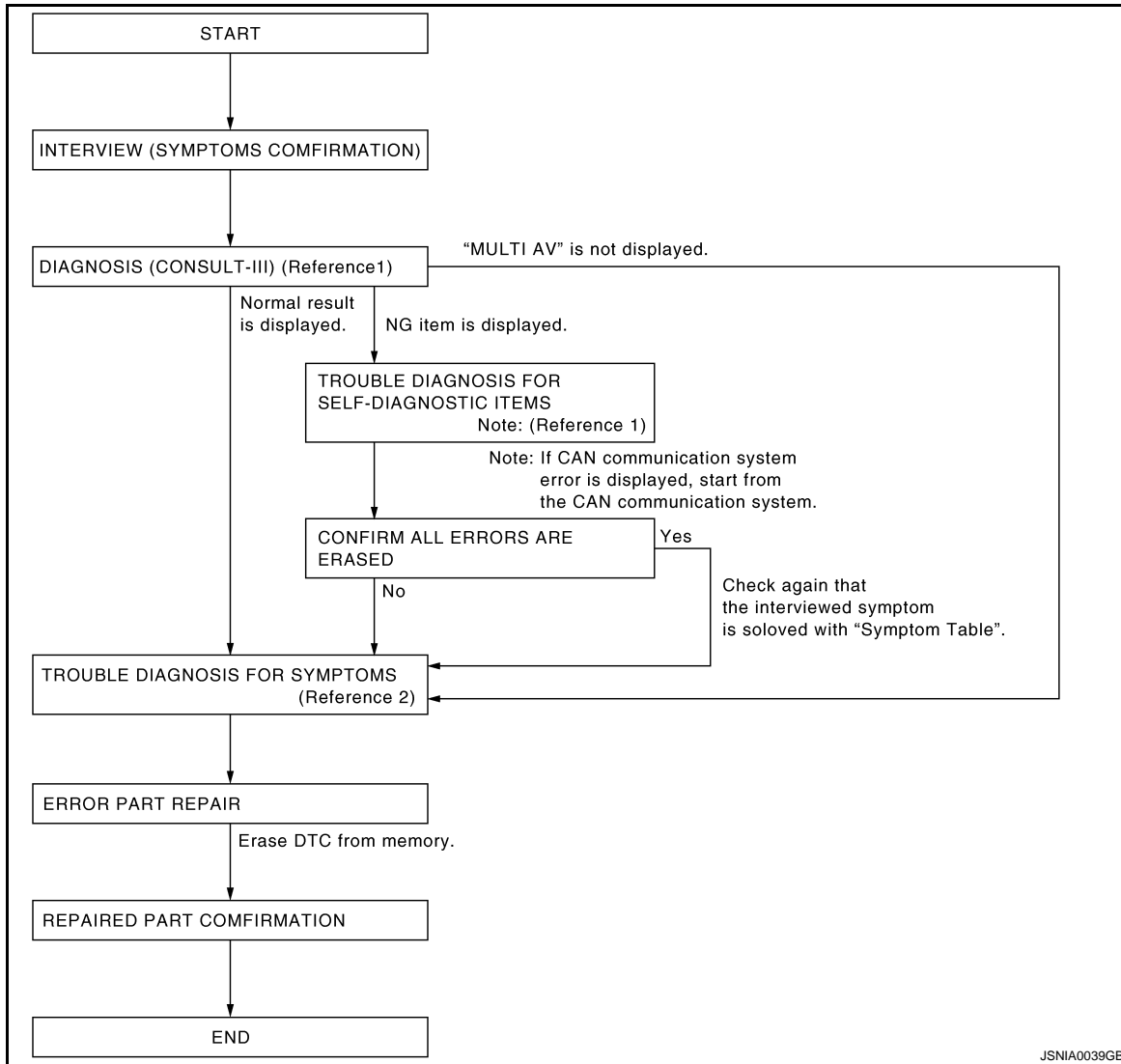
## BASIC INSPECTION

### DIAGNOSIS AND REPAIR WORKFLOW

#### Work Flow

INFOID:000000001193921

#### OVERALL SEQUENCE



- Reference 1... Refer to [AV-69, "CONSULT - III Function \(MULTI AV\)"](#).
- Reference 2... Refer to [AV-192, "Symptom Table"](#).

#### DETAILED FLOW

##### 1. CHECK SYMPTOM

Check the malfunction symptoms by performing the following items.

- Interview the customer to obtain the malfunction information (conditions and environment when the malfunction occurred).
- Check the symptom.

>> GO TO 2.

##### 2. SELF-DIAGNOSIS (CONSULT-III)

1. Connect CONSULT-III and perform a self-diagnosis for "MULTI AV".

**NOTE:**

Skip to step 4 of the diagnosis procedure if "MULTI AV" is not displayed.

2. Check that any DTC No. is displayed in the self-diagnosis results.

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AV

# DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[AUDIO WITH NAVIGATION]

---

Is any DTC No. displayed?

- YES >> GO TO 3.
- NO >> GO TO 4.

## 3.CHECK SELF-DIAGNOSIS RESULTS (CONSULT-III)

---

1. Check the DTC No. indicated in the self-diagnosis results.
2. Perform the relevant diagnosis referring to the DTC Index. Refer to [AV-140, "DTC Index"](#).

**NOTE:**

Start with the diagnosis for the CAN communication system if "CAN COMM CIRCUIT [U1000] and CONTROL UNIT CAN [U1010]" is displayed.

>> GO TO 5.

## 4.PERFORM DIAGNOSIS BY SYMPTOM

---

Perform the relevant diagnosis referring to the diagnosis chart by symptom. Refer to [AV-192, "Symptom Table"](#).

>> GO TO 5.

## 5.REPAIR OR REPLACE MALFUNCTIONING PARTS

---

Repair or replace the identified malfunctioning parts.

**NOTE:**

Erase the stored self-diagnosis results after repairing or replacing the relevant components if any DTC No. has been indicated in the self-diagnosis results.

>> GO TO 6.

## 6.CHECK AFTER REPAIR

---

1. Perform a self-diagnosis for "MULTI AV" with CONSULT-III after repairing or replacing the malfunctioning parts.
2. Check that any DTC No. is displayed in the self-diagnosis results.

Is any DTC No. displayed?

- YES >> GO TO 3.
- NO >> GO TO 7.

## 7.FINAL CHECK

---

Perform the operation to check that the malfunction symptom is solved or any other symptoms are present.

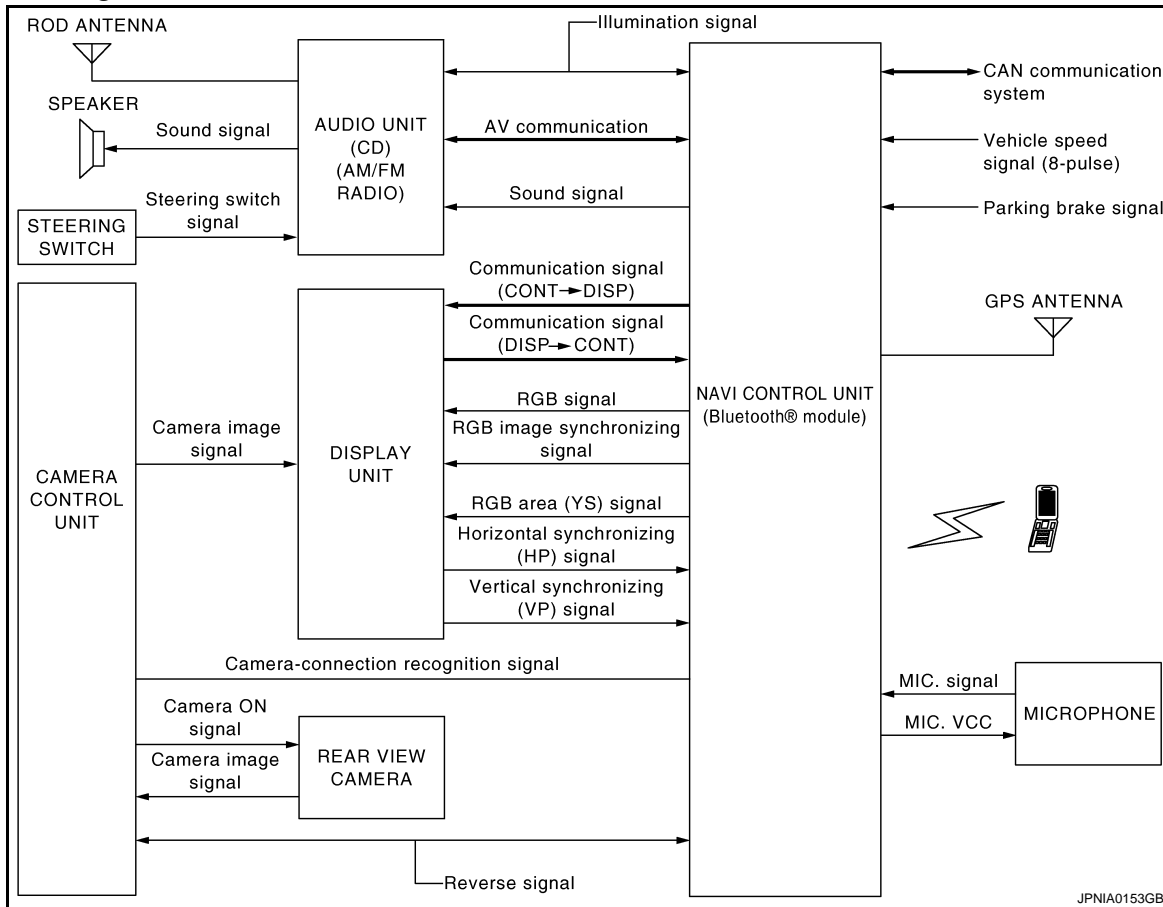
Is there any symptom?

- YES >> GO TO 4.
- NO >> INSPECTION END

# FUNCTION DIAGNOSIS

## MULTI AV SYSTEM

### System Diagram



### System Description

INFOID:000000001193923

Multi AV system means that the following systems are integrated.

System name	System explanation
NAVIGATION SYSTEM	<a href="#">AV-49. "System Description"</a>
AUDIO SYSTEM	<a href="#">AV-56. "System Description"</a>
REAR VIEW MONITOR SYSTEM	<a href="#">AV-54. "System Description"</a>
VEHICLE INFORMATION SYSTEM	<ul style="list-style-type: none"> <li>Status of audio, fuel economy, maintenance and navigation is displayed.</li> <li>NAVI control unit displays the fuel consumption status and trip computer status while receiving data signal through CAN communication from ECM, combination meter and BCM.</li> </ul>
HANDS-FREE PHONE SYSTEM	Refer to the following "HANDS-FREE PHONE SYSTEM".
ANTI-THEFT SYSTEM	This system verifies the immobilizer ID by CAN communication between NAVI control unit and BCM every time the ignition switch is turned to "ACC" position. Multi AV system can be permitted to operate only when the verification has successfully processed.

- Two AV communication lines (H, L) connect between units that configure MULTI AV system. NAVI control unit controls by sending/receiving data one by one with each unit (slave unit) that configures them completely as a master unit.
- Two AV communication lines (H, L) adopt a twisted pair line that is resistant to noise.

# MULTI AV SYSTEM

[AUDIO WITH NAVIGATION]

## < FUNCTION DIAGNOSIS >

- NAVI control unit is connected by CAN communication, and it receives data signal from ECM, combination meter. It computes and displays fuel economy information value with the obtained information. Sending/receiving of data signal is performed by BCM. Also, it sends the required signal of vehicle setting and receives the response signal.
- NAVI control unit is connected with display and serial communication, and it sends the required signal of display and display control and receives the response signal from front display.

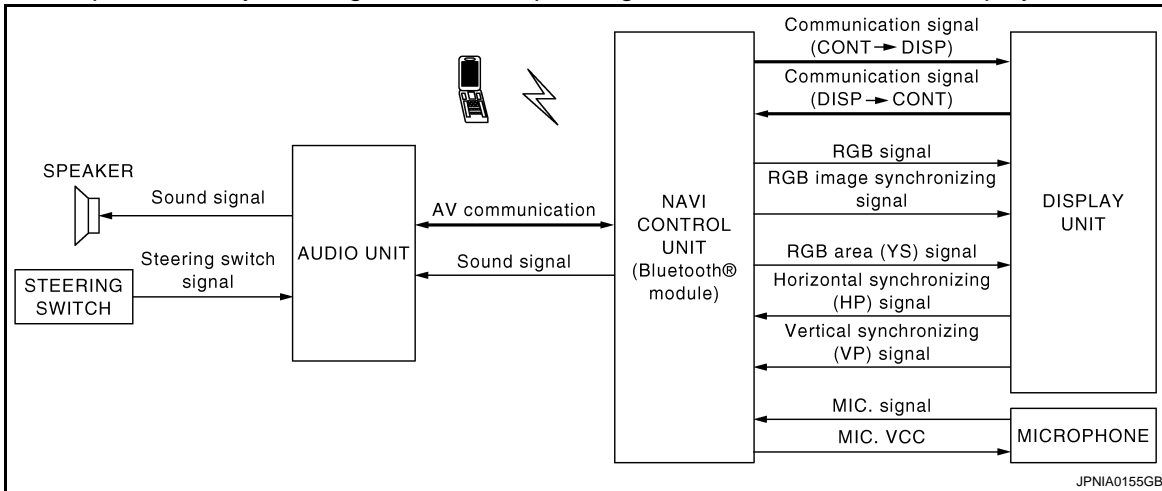
### NOTE:

NAVI control unit can perform CONSULT-III self-operating function and on board self-diagnosis.

- CONSULT-III self diagnosis: Refer to [AV-69. "CONSULT - III Function \(MULTI AV\)"](#).
- On board self diagnosis: Refer to [AV-59. "Diagnosis Description"](#).

## HANDS-FREE PHONE SYSTEM

- Hands-free communication can be operated by connecting using Bluetooth® with cellular phone.
- Operation is performed by steering switch, and operating condition is indicated on display.



When a call is originated

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

When receiving a call

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

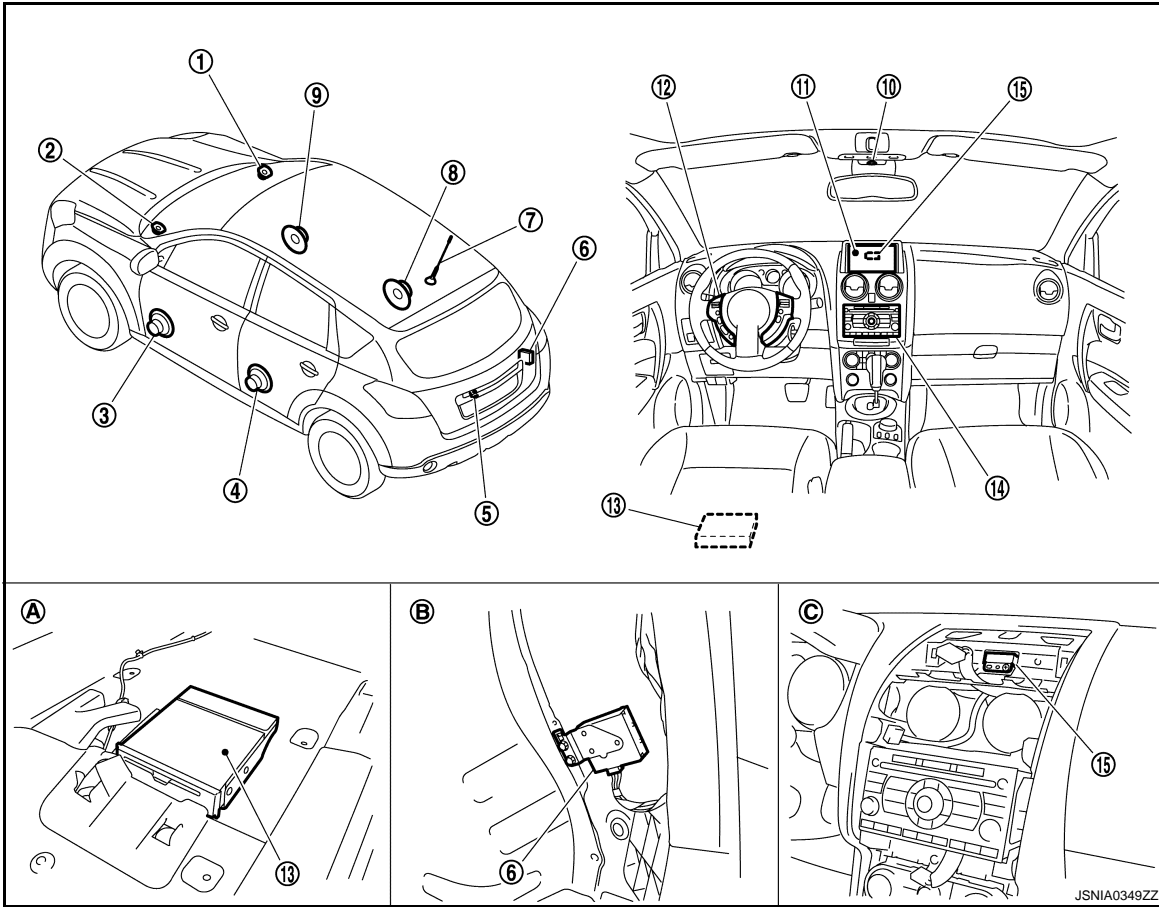
# MULTI AV SYSTEM

< FUNCTION DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## Component Parts Location

INFOID:000000001193924



- |                                |                         |                           |
|--------------------------------|-------------------------|---------------------------|
| 1. Tweeter RH                  | 2. Tweeter LH           | 3. Front door speaker LH  |
| 4. Rear door speaker LH        | 5. Rear view camera     | 6. Camera control unit    |
| 7. Radio antenna               | 8. Rear door speaker RH | 9. Front door speaker RH  |
| 10. Microphone                 | 11. Display unit        | 12. Steering switch       |
| 13. NAVI control unit          | 14. Audio unit          | 15. GPS antenna           |
| A. A bottom of a front seat LH | B. Luggage side RH      | C. Back of a display unit |

## Component Description

INFOID:000000001193925

Part name	Description
NAVI CONTROL UNIT	<ul style="list-style-type: none"> <li>Map data can be read from the Map DVD-ROM by installing Map DVD-ROM.</li> <li>It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the NAVI control unit.</li> <li>The NAVI control unit includes the audio, hands-free phone, navigation, and vehicle information functions.</li> <li>It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function.</li> <li>It inputs the illumination signals that are required for the display dimming control.</li> <li>It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).</li> </ul>
MAP DVD-ROM	A collection of Map data.

# MULTI AV SYSTEM

< FUNCTION DIAGNOSIS >

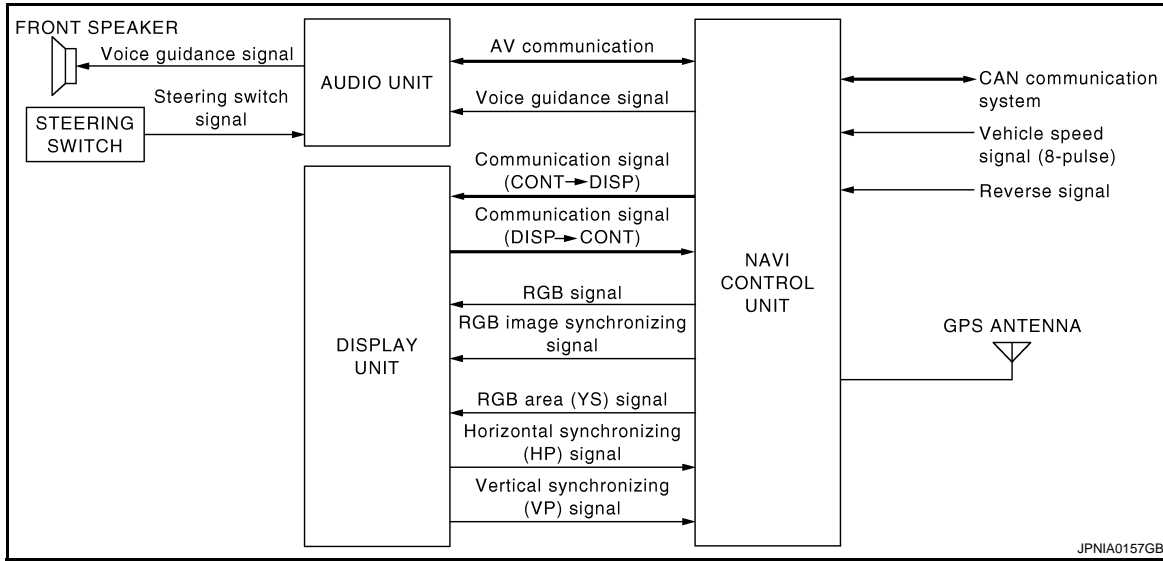
[AUDIO WITH NAVIGATION]

Part name	Description
DISPLAY UNIT	<ul style="list-style-type: none"><li>• Display image is controlled by the serial communication from NAVI control unit.</li><li>• RGB image signal is input from NAVI control unit (RGB, RGB area and RGB synchronizing). Camera image signal is input from camera control unit.</li><li>• Synchronize signal (HP, VP) is output to NAVI control unit.</li></ul>
AUDIO UNIT	<ul style="list-style-type: none"><li>• Operational switch of MULTI AV system is integrated.</li><li>• NAVI control unit and AV communication are connected with Audio unit. Operating signals of the switch are sent to the NAVI control unit.</li></ul>
FRONT DOOR SPEAKER	<ul style="list-style-type: none"><li>• Outputs sound signal from audio unit.</li><li>• Outputs high, mid and low range sounds.</li></ul>
REAR DOOR SPEAKER	<ul style="list-style-type: none"><li>• Outputs sound signal from audio unit.</li><li>• Outputs high, mid and low range sounds.</li></ul>
TWEETER	<ul style="list-style-type: none"><li>• Outputs sound signal from audio unit.</li><li>• Outputs high range sound.</li></ul>
CAMERA CONTROL UNIT	<ul style="list-style-type: none"><li>• Camera image signal is input from rear view camera, and camera image is indicated on the display.</li><li>• Power (camera ON signal) is sent to rear view camera.</li><li>• Controlled by AV communication sent from NAVI control unit.</li><li>• NAVI control unit recognizes the presence of camera system with camera connection recognition signal.</li></ul>
REAR VIEW CAMERA	The image of vehicle rear view is sent to camera control unit.
STEERING SWITCH	<ul style="list-style-type: none"><li>• Operations for audio, hands-free phone, voice recognition and navigation, etc. are possible.</li><li>• Steering switch signal (operation signal) is output to audio unit.</li></ul>
MICROPHONE	<ul style="list-style-type: none"><li>• Used for hands-free phone operation and voice recognition.</li><li>• Mic. signal is sent to NAVI control unit.</li><li>• Power (Mic. VCC) is supplied from NAVI control unit.</li></ul>
GPS ANTENNA	GPS signal is received and sent to NAVI control unit.
RADIO ANTENNA	Radio signal received by antenna is sent to audio unit.



## NAVIGATION SYSTEM

### System Diagram



### System Description

INFOID:000000001193927

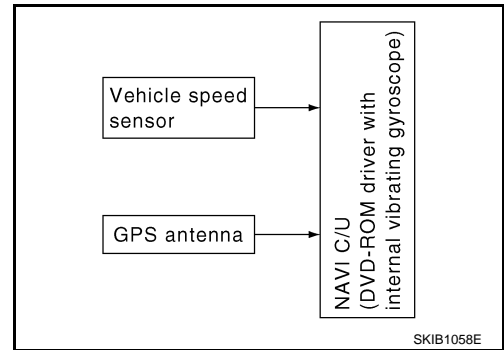
## NAVIGATION SYSTEM

### Location Detection Principle

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

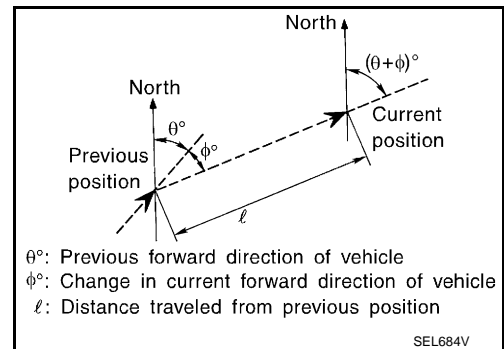
- Travel distance of the vehicle as determined by the vehicle speed sensor
- Turning angle of the vehicle as determined by the gyroscope (angular velocity sensor)
- Direction of vehicle travel as determined by the GPS antenna (GPS information)

The current position of the vehicle is then identified by comparing the calculated vehicle position with map data read from the map DVD-ROM, which is stored in the DVD-ROM drive (map-matching), and indicated on the screen as a vehicle mark. More accurate data is judged and used by comparing vehicle position detection results found by the GPS with the result by map-matching.



The current vehicle position will be calculated by detecting the distance the vehicle moved from the previous calculation point and its direction.

- Travel distance  
Travel distance calculations are based on the vehicle speed sensor input signal. Therefore, the calculation may become incorrect as the tires wear down. To prevent this, an automatic distance correction function has been adopted.
- Travel direction  
Change in the travel direction of the vehicle is calculated by a gyroscope (angular velocity sensor) and a GPS antenna (GPS information). They have both advantages and disadvantages.



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# NAVIGATION SYSTEM

< FUNCTION DIAGNOSIS >

[AUDIO WITH NAVIGATION]

Type	Advantage	Disadvantage
Gyroscope (angular velocity sensor)	Can detect the vehicle's turning angle quite accurately.	Direction errors may accumulate when vehicle is driven for long distances without stopping.
GPS antenna (GPS information)	Can detect the vehicle's travel direction (North/South/East/West).	Correct direction cannot be detected when vehicle speed is low.

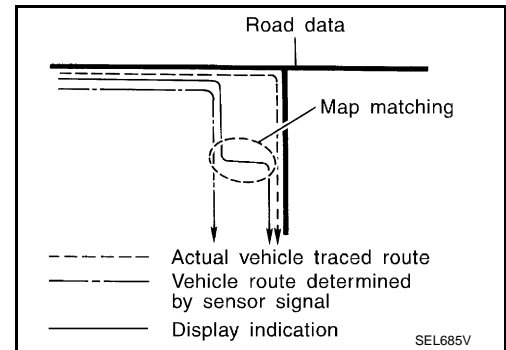
More accurate traveling direction is detected because priorities are set for the signals from these two devices according to the situation.

## Map-Matching

Map-matching compares a current location detected by the method in the "Location Detection Principle" with a road map data from Map DVD-ROM stored in DVD-ROM drive.

### NOTE:

The road map data is based on data stored in the map DVD-ROM.

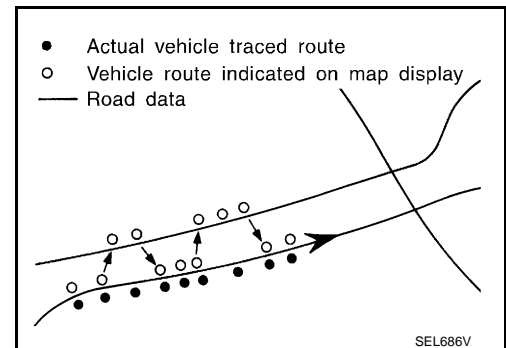


The vehicle position may not be corrected under the following circumstances and after driving for a certain time when GPS information is difficult to receive. In this case, the vehicle mark on the display must be corrected manually.

- In map-matching, alternative routes to reach the destination will be shown and prioritized, after the road on which the vehicle is currently driven has been judged and the vehicle mark has been repositioned.

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

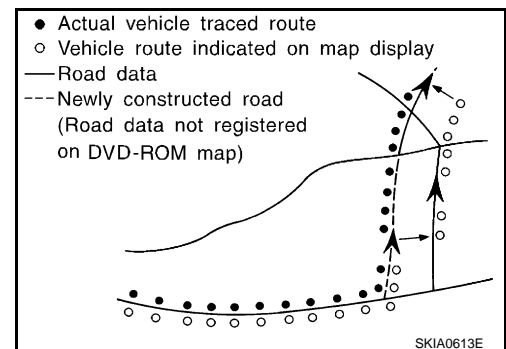
They are of the same priority if two roads are running in parallel. Therefore, the vehicle mark may appear on either of them alternately, depending on maneuvering of the steering wheel and configuration of the road.



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

The map-matching function may find another road and position the vehicle mark on it when driving on a road not present in the map. Then, the vehicle mark may change to it when the correct road is detected.

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



GPS (Global Positioning System)

# NAVIGATION SYSTEM

## < FUNCTION DIAGNOSIS >

[AUDIO WITH NAVIGATION]

GPS (Global Positioning System) was developed for and is controlled by the US Department of Defense. The system utilizes GPS satellites (NAVSTAR), sending out radio waves while flying on an orbit around the earth at an altitude of approximately 21,000 km (13,100miles).

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). The GPS receiver calculates the vehicle's position in two dimensions (latitude/longitude), utilizing the altitude data calculated previously with radio waves from four or more GPS satellites (two-dimensional positioning) if radio waves were received only from three GPS satellites.

Position correction by GPS is not available while the vehicle is stopped.

Accuracy of GPS will deteriorate under the following conditions:

- In two-dimensional positioning, GPS accuracy will deteriorate when altitude of the vehicle position changes.
- The accuracy can be even lower depending on the arrangement of the GPS satellites utilized for the positioning.
- Position detection is not possible when 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.

### NOTE:

- Even a high-precision three dimensional positioning, the detection result has an error about 10 m (30ft).
- Because the signals of GPS satellite is controlled by the Tracking and Control Center in the United States, the accuracy may be degraded lower intentionally or the radio waves may stop.

Traffic Information (RDS-TMC)

**NOTE:**This system is built-in NAVI control unit.

The traffic information broadcast allows to you to avoid delays due to traffic incidents.

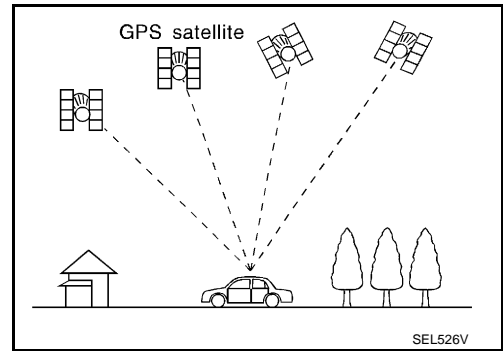
Traffic jams, roadwork, closed roads around your current location, etc. are represented graphically on the map by icons depicting the nature of the event.

Incidents on the route are automatically brought to your attention when they are approached.

The Traffic Information feature gives you the opportunity to forecast traffic incidents, determine how serious they are, via the guidance mode, and allows you to detour around traffic incidents.

The navigation system receives traffic information from best available sources and enables the RDS-TMC (Radio Data System-Traffic Information Channel) to inform and guide you.

The RDS-TMC broadcast is fed by a dedicated FM tuner so that you can still tune your radio station while Traffic Information is being broadcasted.



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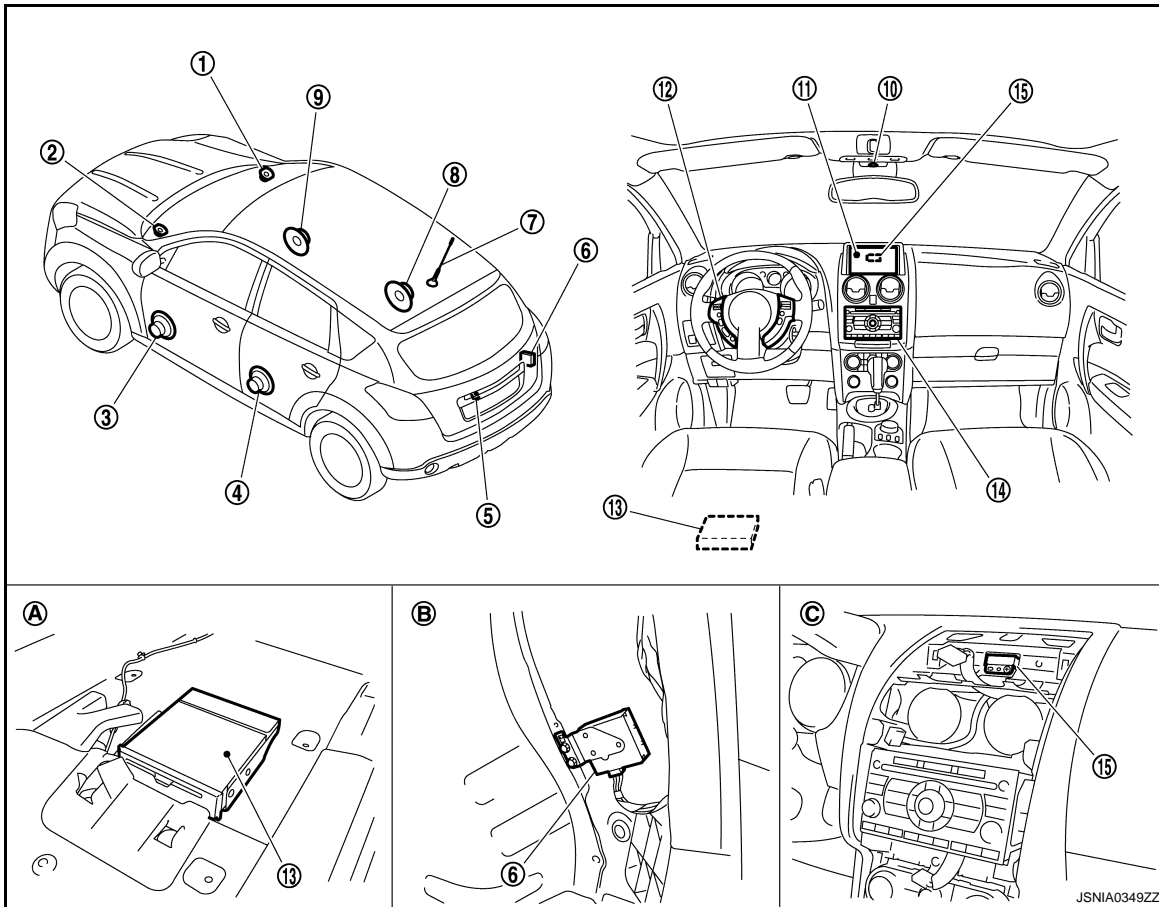
# NAVIGATION SYSTEM

< FUNCTION DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## Component Parts Location

INFOID:000000001529828



- |                                |                         |                           |
|--------------------------------|-------------------------|---------------------------|
| 1. Tweeter RH                  | 2. Tweeter LH           | 3. Front door speaker LH  |
| 4. Rear door speaker LH        | 5. Rear view camera     | 6. Camera control unit    |
| 7. Radio antenna               | 8. Rear door speaker RH | 9. Front door speaker RH  |
| 10. Microphone                 | 11. Display unit        | 12. Steering switch       |
| 13. NAVI control unit          | 14. Audio unit          | 15. GPS antenna           |
| A. A bottom of a front seat LH | B. Luggage side RH      | C. Back of a display unit |

## Component Description

INFOID:0000000001193929

Part name	Description
NAVI CONTROL UNIT	<ul style="list-style-type: none"> <li>The master unit controls each operation of the Navigation system.</li> <li>Map data can be read from the Map DVD-ROM by installing Map DVD-ROM.</li> <li>The RGB signal (map information) is output to the display.</li> <li>The voice guidance signal is output to the audio unit.</li> </ul>
MAP DVD-ROM	A collection of Map data
DISPLAY UNIT	Map image signal is input from NAVI control unit, and it map image indicated on the display.
AUDIO UNIT	<ul style="list-style-type: none"> <li>Voice guidance signal is input from NAVI control unit, and it is output to front LH/RH speakers.</li> <li>Each operation of navigation can be performed.</li> </ul>
FRONT DOOR SPEAKER	Voice guidance signal from audio unit is output.
TWEETER	

# NAVIGATION SYSTEM

< FUNCTION DIAGNOSIS >

[AUDIO WITH NAVIGATION]

Part name	Description
STEERING SWITCH	<ul style="list-style-type: none"><li>• Each operation of navigation, etc. can be performed.</li><li>• Switch operating signal is output to NAVI control unit via audio unit with AV communication.</li></ul>
GPS ANTENNA	GPS signal is received and is output to NAVI control unit.

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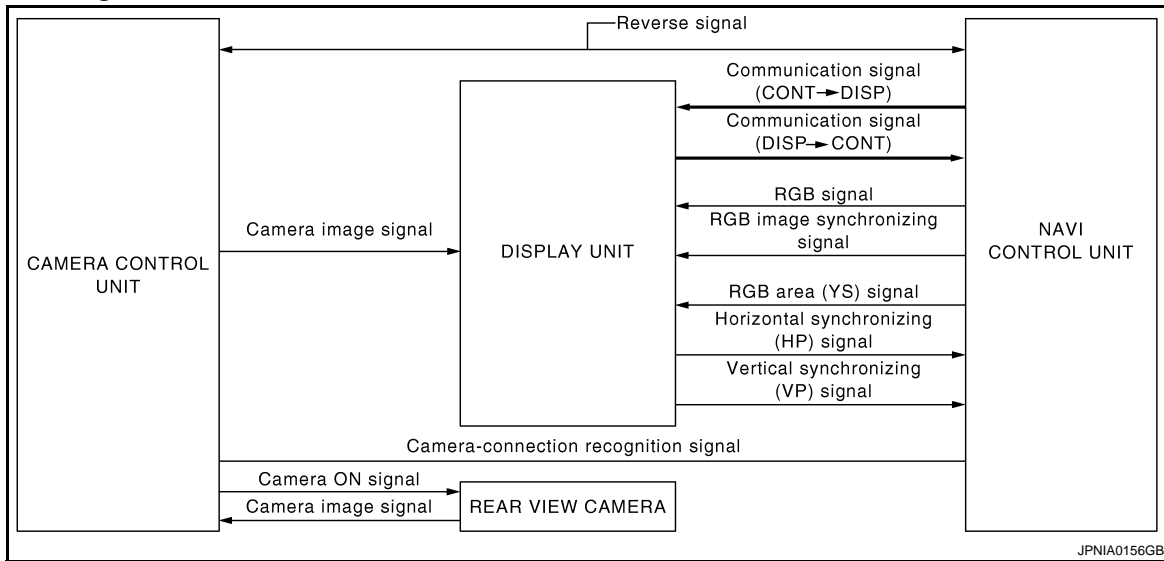
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## REAR VIEW MONITOR SYSTEM

### System Diagram



### System Description

INFOID:000000001193931

#### Camera image operation principle

- Power is supplied to rear view camera from camera control unit and outputs camera image signal to camera control unit when selector lever is set to R position and the reverse signal on camera control unit is input.
- Camera control unit synthesizes guide lines with camera image signal from rear view camera, and transmits camera image signal to the display. In this case, since the reverse signal is also input to NAVI control unit, the NAVI control unit recognizes the selector lever as in R position, and it switches communication signal between NAVI control unit and display unit, and image that is displayed on the display unit by RGB signal with rear view monitor image.
- The NAVI control unit determines whether rear view camera is equipped or not, based on the presence of camera connection recognition signal. It switches to rear view monitor image at the time of reverse signal input when it is not equipped.
- Warning message under the rear view monitor display is described by NAVI control unit.
- NAVI control unit is connected in communication with display unit, and it controls operation of rear view monitor system.

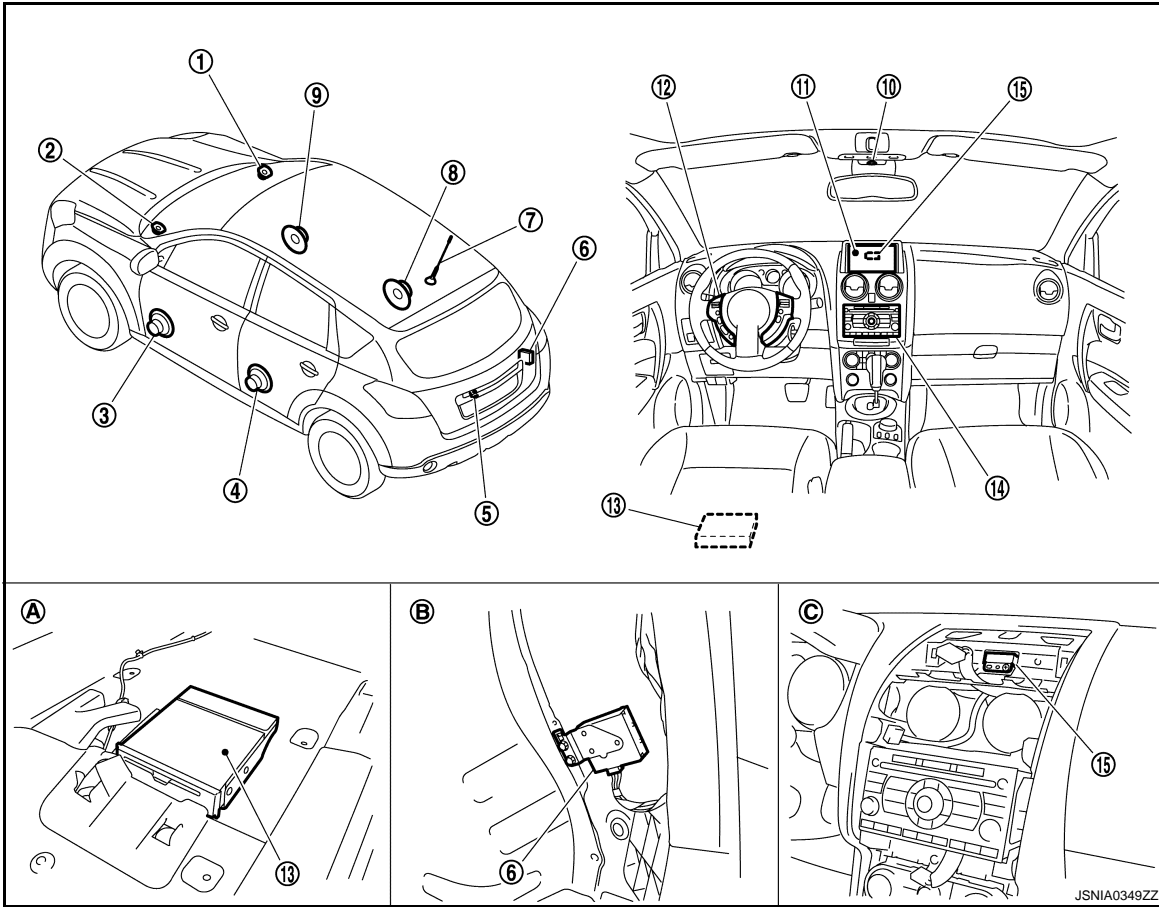
# REAR VIEW MONITOR SYSTEM

< FUNCTION DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## Component Parts Location

INFOID:000000001529887



- |                                |                         |                           |
|--------------------------------|-------------------------|---------------------------|
| 1. Tweeter RH                  | 2. Tweeter LH           | 3. Front door speaker LH  |
| 4. Rear door speaker LH        | 5. Rear view camera     | 6. Camera control unit    |
| 7. Radio antenna               | 8. Rear door speaker RH | 9. Front door speaker RH  |
| 10. Microphone                 | 11. Display unit        | 12. Steering switch       |
| 13. NAVI control unit          | 14. Audio unit          | 15. GPS antenna           |
| A. A bottom of a front seat LH | B. Luggage side RH      | C. Back of a display unit |

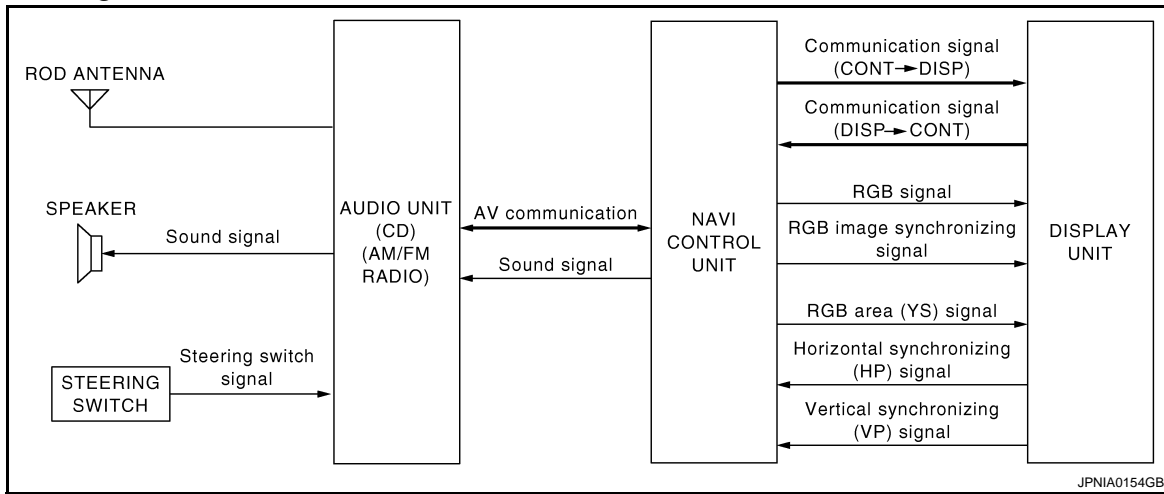
## Component Description

INFOID:000000001193933

Part name	Description
NAVI CONTROL UNIT	<ul style="list-style-type: none"> <li>Image on display is changed to rear view monitor with the communication for display unit.</li> <li>Warning displayed in rear view monitor image is illustrated.</li> </ul>
DISPLAY UNIT	<ul style="list-style-type: none"> <li>Camera image signal is sent from camera control unit, and RGB signal for warning display is sent from NAVI control unit.</li> <li>Rear view monitor image is changed with the communication for NAVI control unit.</li> </ul>
CAMERA CONTROL UNIT	<ul style="list-style-type: none"> <li>Camera image signal is input from rear view camera, and camera image is indicated on the display.</li> <li>Power (camera ON signal) is sent to rear view camera.</li> <li>NAVI control unit recognizes the presence of camera system with camera connection recognition signal.</li> </ul>
REAR VIEW CAMERA	The image of vehicle rear view is sent to camera control unit.

## AUDIO SYSTEM

### System Diagram



### System Description

INFOID:000000001193935

The audio system is equipped with following function. Each function is operated with audio switch or steering switch. Operation status of AUDIO is indicated at display.

Function
AM/FM radio
CD

### FUNCTION DESCRIPTION

#### Operating signal

Audio system operation can be performed with audio switch or steering switch.

#### Screen display

- Switching of display is performed with serial communication between display unit and NAVI control unit.
- The image signal to display operating condition is performed with RGB signal, RGB area signal and RGB image synchronizing signal.

#### AM/FM Radio Mode

- AM/FM radio tuner is built into audio unit.
- Audio signal is received by antenna, next it is amplified by antenna amp., and finally it is input to audio unit. Audio unit outputs the audio signal to each speaker.

#### CD Mode

- CD function is built into audio unit.
- Audio unit outputs audio signal to each speaker when CD is inserted to audio unit.

#### SPEED SENSITIVE VOLUME

- Volume level of this system gone up and down automatically in proportion to the vehicle speed. And the control level can be selected by the customer.
- The audio unit inputs the vehicle signal that is sent from combination meter via CAN communication through NAVI control unit.



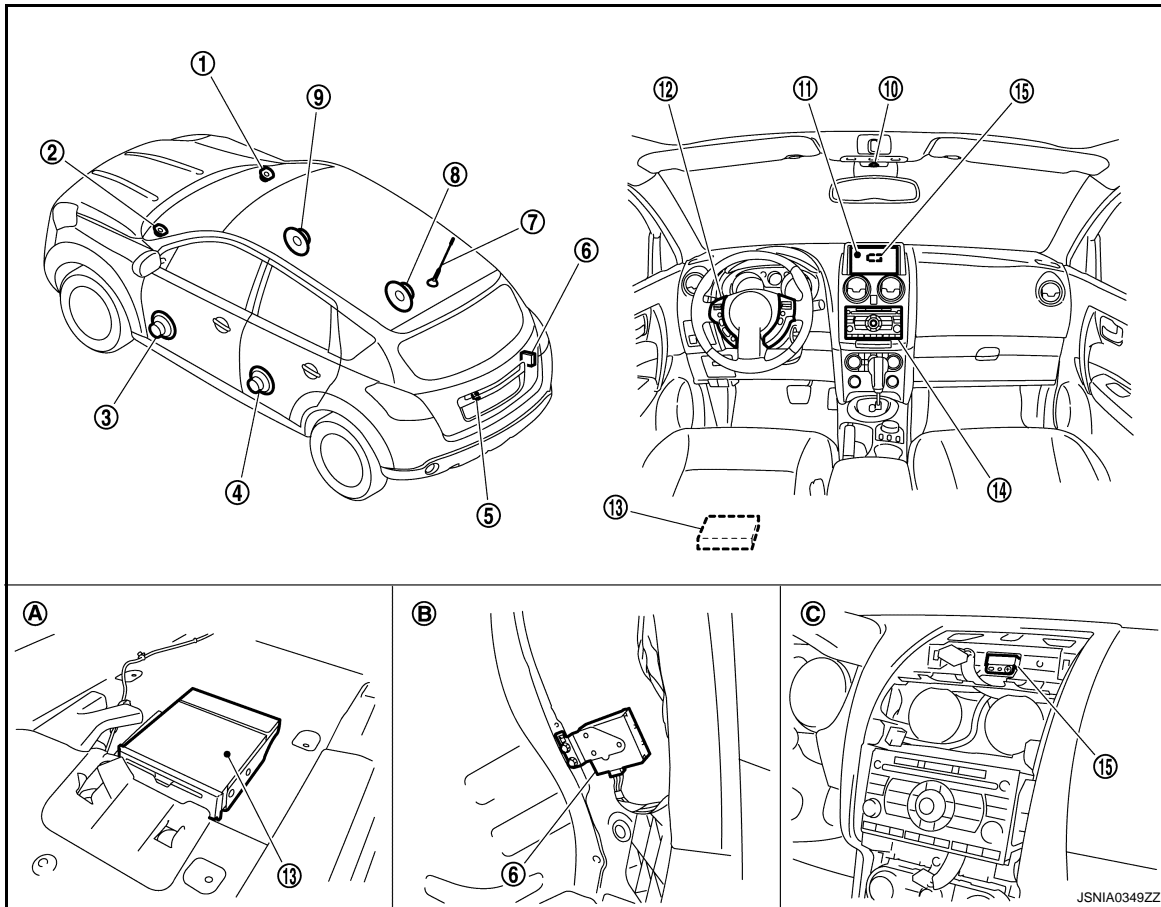
# AUDIO SYSTEM

< FUNCTION DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## Component Parts Location

INFOID:000000001529889



- |                                |                         |                           |
|--------------------------------|-------------------------|---------------------------|
| 1. Tweeter RH                  | 2. Tweeter LH           | 3. Front door speaker LH  |
| 4. Rear door speaker LH        | 5. Rear view camera     | 6. Camera control unit    |
| 7. Radio antenna               | 8. Rear door speaker RH | 9. Front door speaker RH  |
| 10. Microphone                 | 11. Display unit        | 12. Steering switch       |
| 13. NAVI control unit          | 14. Audio unit          | 15. GPS antenna           |
| A. A bottom of a front seat LH | B. Luggage side RH      | C. Back of a display unit |

## Component Description

INFOID:000000001193937

Part name	Description
AUDIO UNIT	<ul style="list-style-type: none"> <li>Operational switch of audio system is integrated.</li> <li>Receiving function of AM/FM radio, replaying function of CD are integrated.</li> <li>Audio signals are output to each speaker.</li> </ul>
DISPLAY UNIT	<ul style="list-style-type: none"> <li>Display image is controlled by the serial communication from NAVI control unit.</li> <li>RGB image signal (audio operation condition) is input from NAVI control unit.</li> </ul>
FRONT DOOR SPEAKER	<ul style="list-style-type: none"> <li>Outputs sound signal from audio unit.</li> <li>Outputs high, mid and low range sounds.</li> </ul>
REAR DOOR SPEAKER	<ul style="list-style-type: none"> <li>Outputs sound signal from audio unit.</li> <li>Outputs high, mid and low range sounds.</li> </ul>
TWEETER	<ul style="list-style-type: none"> <li>Outputs sound signal from audio unit.</li> <li>Outputs high range sound.</li> </ul>

## AUDIO SYSTEM

< FUNCTION DIAGNOSIS >

[AUDIO WITH NAVIGATION]

Part name	Description
STEERING SWITCH	<ul style="list-style-type: none"><li>• Each audio operation can be operated.</li><li>• Steering switch signal (operation signal) is output to audio unit.</li></ul>
RADIO ANTENNA	Radio signal received by antenna is sent to audio unit.

# DIAGNOSIS SYSTEM (NAVI CONTROL UNIT)

< FUNCTION DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## DIAGNOSIS SYSTEM (NAVI CONTROL UNIT)

### Diagnosis Description

INFOID:000000001193938

#### MULTI AV SYSTEM on board diagnosis function

- The NAVI control unit diagnosis function starts up with audio switch operation and the NAVI control unit performs a diagnosis for each unit in the system during the on board diagnosis.
- Perform a CONSULT-III diagnosis if the on board diagnosis does not start, e.g., the screen does not display anything, the multifunction switch does not function. etc.

#### On board diagnosis

##### Description

- The trouble diagnosis function has a self-diagnosis mode for conducting trouble diagnosis automatically and a confirmation/adjustment mode for operating manually.
- The self-diagnosis mode performs diagnoses on the NAVI control unit, connections between system components as well as connections between NAVI control unit and GPS antenna. Then it displays the diagnosis results on the display.
- The confirmation/adjustment mode allows the technician to check, modify or adjust the vehicle signals and set values, as well as to monitor the system error records and system communication status. The check, modify or adjust actions generally require human intervention and judgment (the system cannot make judgment automatically).

#### On board diagnosis item

Mode		Description	
Self Diagnosis		<ul style="list-style-type: none"> <li>• NAVI control unit diagnosis</li> <li>• Diagnoses the connections across system components, between NAVI control unit and GPS antenna.</li> </ul>	
Confirmation/ Adjustment	Display Diagnosis	The following check functions are available: color tone check by color bar display, light and shade check by gray scale display.	
	Vehicle Signals	Diagnosis of signals can be performed for vehicle speed, parking brake, lights, ignition switch, and reverse.	
	Speaker Test	The connection of a speaker can be confirmed by test tone.	
	Navigation	Steering Angle Adjustment	A difference can be adjusted between the actual turning angle and the vehicle mark turning angle.
		Speed Calibration	A difference can be adjusted between the current location mark and the actual location.
	Error History	The system malfunction and the frequency when occurred in the past are displayed. The time and place that the selected malfunction last occurred are displayed when the malfunctioning item is selected.	
	Vehicle CAN Diagnosis	The transmitting/receiving of CAN communication can be monitored.	
	AV COMM Diagnosis	The communication condition of each unit of Multi AV system can be monitored.	
	Handsfree Phone	The received volume adjustment of hands-free phone, microphone speaker check, and erase memory can be performed.	
	Bluetooth	The passkey and the device name can be checked and changed.	
Delete Unit Connection Log	Erase the connection history of unit and error history.		
Feature Restriction Setting	Operations of navigation system while driving can be restricted by using this function.		

#### STARTING PROCEDURE

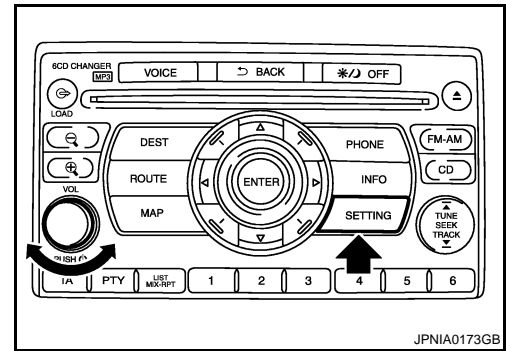
1. Start the engine.
2. Turn the audio system OFF.

# DIAGNOSIS SYSTEM (NAVI CONTROL UNIT)

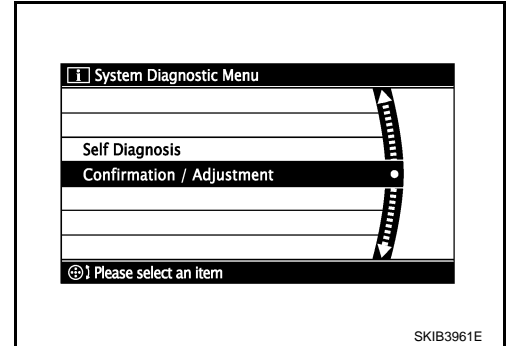
[AUDIO WITH NAVIGATION]

## < FUNCTION DIAGNOSIS >

- Turn the volume control dial clockwise or counterclockwise for 40 clicks or more while pushing the “SETTING” button. (A short beep will be heard when the self-diagnosis mode is started.)
  - Shifting from current screen to previous screen is performed by pushing “BACK” button.

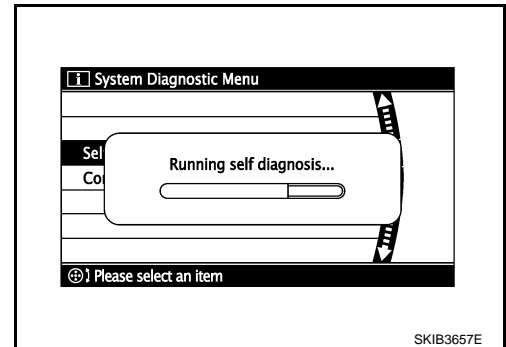


- The trouble diagnosis initial screen is displayed, and then the items of “Self Diagnosis” and “Confirmation / Adjustment” can be selected.



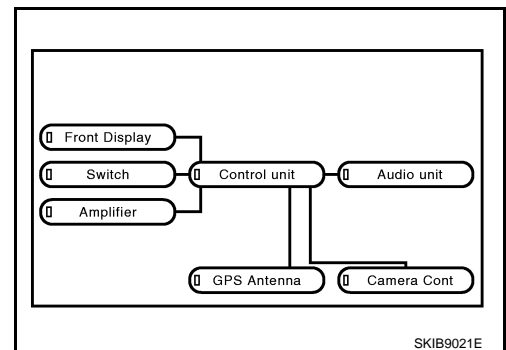
### Self-diagnosis mode

- Start the self-diagnosis function. Then select “Self Diagnosis”.
  - Self-diagnosis subdivision screen is displayed, and the self-diagnosis mode starts.
  - The bar graph visible on the center of the self-diagnosis subdivision screen indicates progress of the trouble diagnosis.



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

Diagnosis results	Unit	Connection line
Normal	Green	Green
Connection malfunction	Gray	Yellow
DVD drive undiagnosed	Gray	Green
DVD-ROM and DVD-ROM drive malfunction	Yellow	Green
Unit malfunction <sup>Note</sup>	Red	Green



### NOTE:

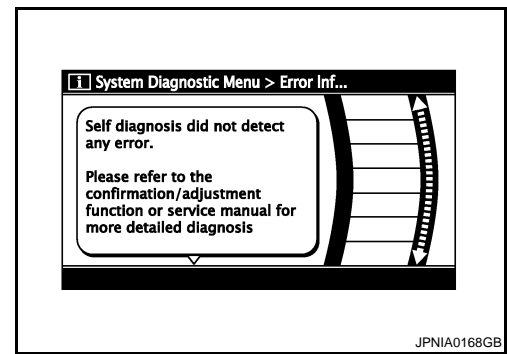
- Only the control unit (NAVI control unit) is displayed in red.
- The screen switch colors are determined according to the following order of priority: red > yellow > gray if multiple errors occur at the same time for a single unit.

# DIAGNOSIS SYSTEM (NAVI CONTROL UNIT)

[AUDIO WITH NAVIGATION]

## < FUNCTION DIAGNOSIS >

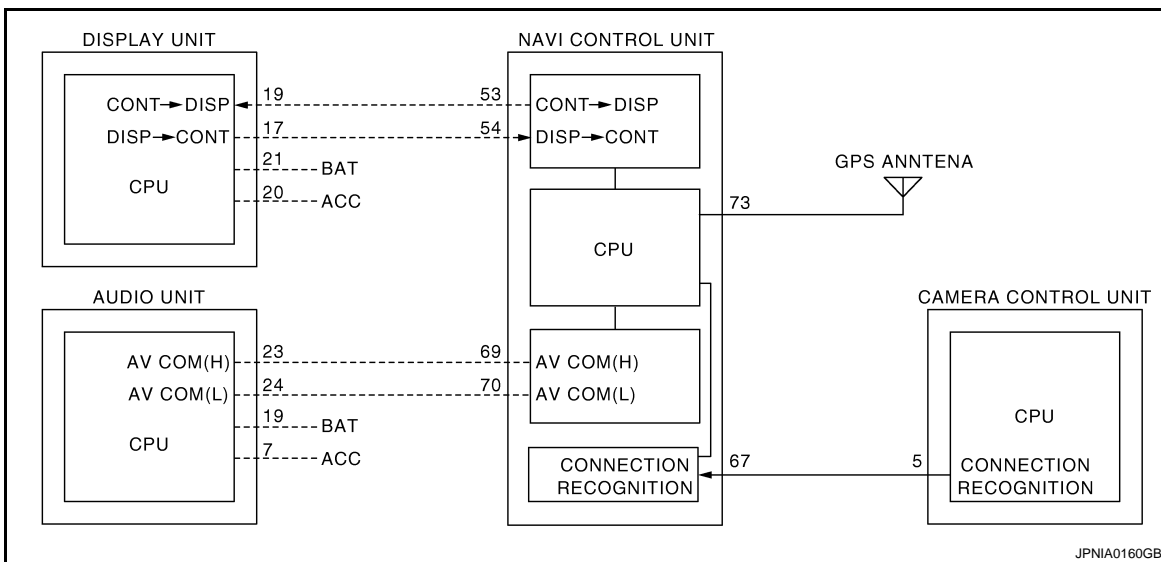
- The comments of the self-diagnosis results can be viewed with a component in the diagnosis result screen.



JPNIA0168GB

### Detection range of self-diagnosis mode

- The self-diagnosis mode allows the technician to diagnose the connection in the communication line between NAVI control unit and each unit and the internal operation of the NAVI control unit.
- Because the start condition of diagnosis function is a switch operation, the on board diagnosis function cannot be started up if any malfunction is detected in a switch.



JPNIA0160GB

### Self-diagnosis results

Check the applicable display at the following table, and then repair the malfunctioning parts.

### Self-diagnosis result chart

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

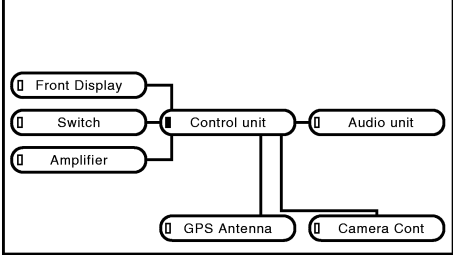
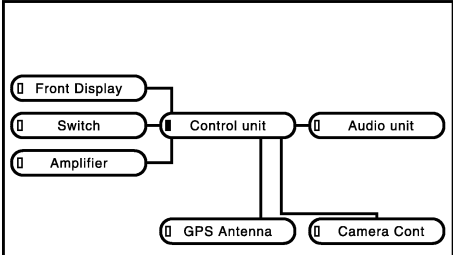
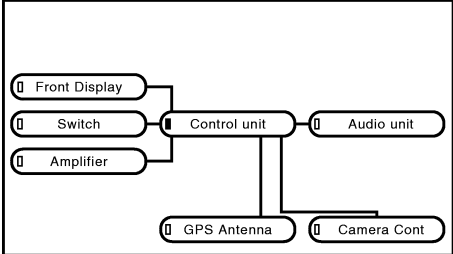
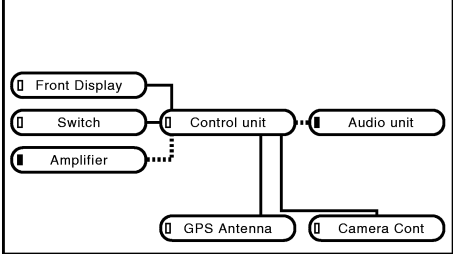
AV

O  
P

# DIAGNOSIS SYSTEM (NAVI CONTROL UNIT)

< FUNCTION DIAGNOSIS >

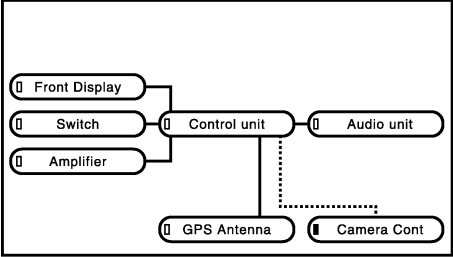
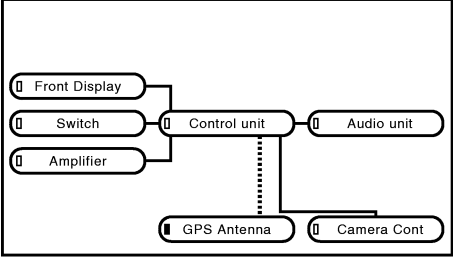
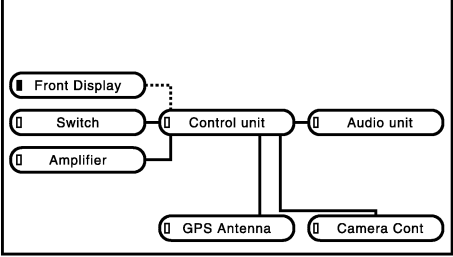
[AUDIO WITH NAVIGATION]

Area with yellow connection lines	Description	Possible malfunction location / Action to take
 <p>■ : Red</p> <p style="text-align: right;">SKIB9022E</p>	<p>NAVI control unit malfunction is detected.</p>	<p>NAVI control unit</p>
 <p>■ : Yellow</p> <p style="text-align: right;">JSNIA0391GB</p>	<ul style="list-style-type: none"> <li>• Malfunction is detected on DVD-ROM drive pickup lens in NAVI control unit.</li> <li>• There is dirt and damage on the map disc.</li> </ul>	<ul style="list-style-type: none"> <li>• Clean the DVD-ROM drive pickup lens in NAVI control unit using the specified cleaning disc.</li> <li>• Map disc</li> <li>• NAVI control unit</li> </ul>
 <p>■ : Gray</p> <p style="text-align: right;">SKIB9024E</p>	<p>DVD-ROM not inserted is detected.</p>	<p>Insert map disc</p>
 <p>■ : Gray    ..... : Yellow</p> <p style="text-align: right;">SKIB9025E</p>	<p>Malfunction is detected on communication signal between NAVI control unit and audio unit.</p>	<ul style="list-style-type: none"> <li>• NAVI control unit</li> <li>• Audio unit</li> </ul>

# DIAGNOSIS SYSTEM (NAVI CONTROL UNIT)

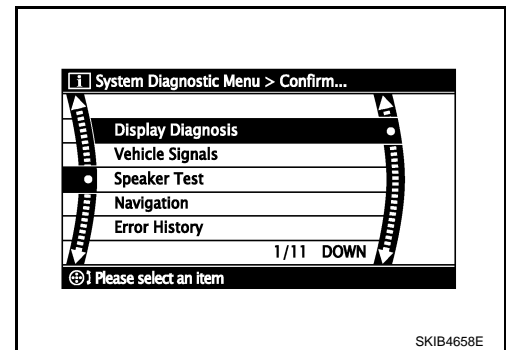
< FUNCTION DIAGNOSIS >

[AUDIO WITH NAVIGATION]

Area with yellow connection lines	Description	Possible malfunction location / Action to take
 <p>■ : Gray    ..... : Yellow</p> <p style="text-align: right; font-size: small;">JSNIA0392GB</p>	<p>A malfunction is detected in Camera-connection recognition signal circuit.</p>	<p>Camera connection recognition signal circuit</p>
 <p>■ : Gray    ..... : Yellow</p> <p style="text-align: right; font-size: small;">SKIB9028E</p>	<p>GPS antenna connection malfunction is detected.</p>	<ul style="list-style-type: none"> <li>• GPS antenna</li> <li>• GPS antenna feeder</li> </ul>
 <p>■ : Gray    ..... : Yellow</p> <p style="text-align: right; font-size: small;">JSNIA0393GB</p>	<p>Malfunction is detected on communication signal between NAVI control unit and display unit.</p>	<ul style="list-style-type: none"> <li>• NAVI control unit</li> <li>• Display unit</li> </ul>

## CONFIRMATION/ADJUSTMENT MODE

1. Start the diagnosis function and select "Confirmation / Adjustment". The confirmation/adjustment mode indicates where each item can be checked or adjusted.
2. Select each switch on the "Confirmation / Adjustment Mode" screen to display the relevant trouble diagnosis screen. Press the "BACK" switch to return to the initial "Confirmation / Adjustment Mode" screen.

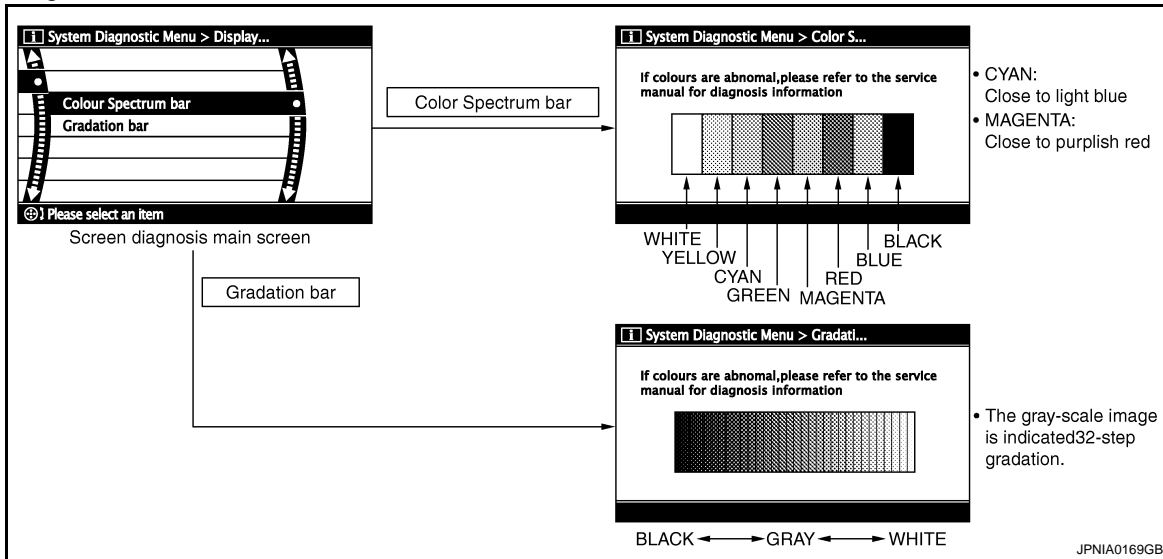


# DIAGNOSIS SYSTEM (NAVI CONTROL UNIT)

< FUNCTION DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## Display Diagnosis

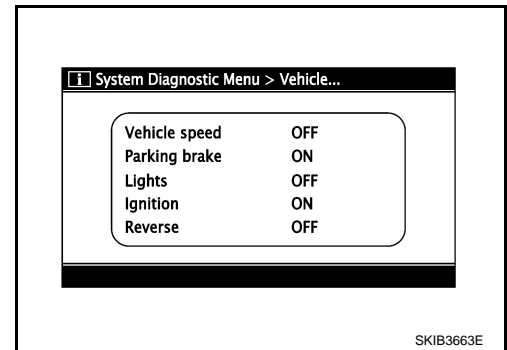


The tint of the color bar indication is as per the following list if RGB signal error is detected.

- R (red) signal error** : Light blue (Cyan) tint
- G (green) signal error** : Purple (Magenta) tint
- B (blue) signal error** : Yellow tint

## Vehicle Signals

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



Diagnosis item	Display	Vehicle status	Remarks
Vehicle speed	ON	Vehicle speed > 0 km/h (0 MPH)	Changes in indication may be delayed by approximately 1.5 seconds. This is normal.
	OFF	Vehicle speed = 0 km/h (0 MPH)	
	—	Ignition switch ACC	
Parking brake	ON	Parking brake is applied.	—
	OFF	Parking brake is released.	
Lights	ON	Light switch ON	—
	OFF	Light switch OFF	
Ignition	ON	Ignition switch ON	—
	OFF	Ignition switch in ACC position	
Reverse	ON	Selector lever in R position	Changes in indication may be delayed by approximately 1.5 seconds. This is normal.
	OFF	Selector lever in any position other than R	
	—	Ignition switch ACC	

## Speaker Test



# DIAGNOSIS SYSTEM (NAVI CONTROL UNIT)

[AUDIO WITH NAVIGATION]

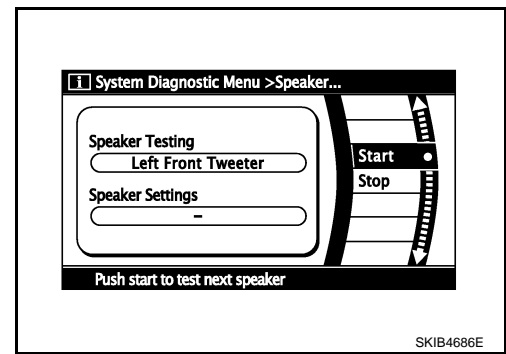
## < FUNCTION DIAGNOSIS >

Select "SPEAKER TEST" to display the Speaker Diagnosis screen. Press "START and NEXT" to generate a test tone in a speaker. Press "Start" to generate a test tone in the next speaker. Press "Stop" to stop the test tones.

### NOTE:

The frequency of test tone emitted from each speaker is as follows.

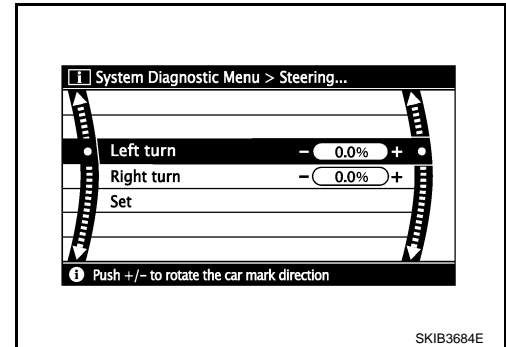
<b>Tweeter</b>	<b>: 3 kHz</b>
<b>Front door speaker</b>	<b>: 300 Hz</b>
<b>Rear door speaker</b>	<b>: 1 kHz</b>



Navigation

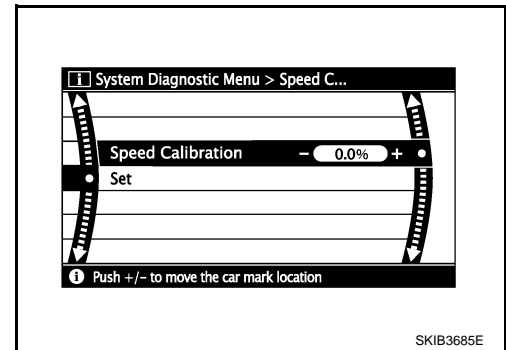
## STEERING ANGLE ADJUSTMENT

The steering angle output value detected with the gyroscope is adjusted.



## 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

The diagnostic results of "Self-diagnosis" determine if any malfunction occurred between selecting "Self-diagnosis" and displaying "Self-diagnostic Results".

The trouble diagnosis result will be judged normal if an error occurred before the ignition switch was turned ON and does not occur again until "Self-diagnosis" is completed. Therefore, errors in the past which cannot be found by "Self-diagnosis", must be found by checking the "Error record".

The error history shows the error occurrence frequency in past. The frequency of occurrence is displayed by 2 types: the count down type and the count up type. Select either type according to the error item.

In "Error History" of models with NAVI, time and place that the selected error last occurred are displayed. Be careful about the following.

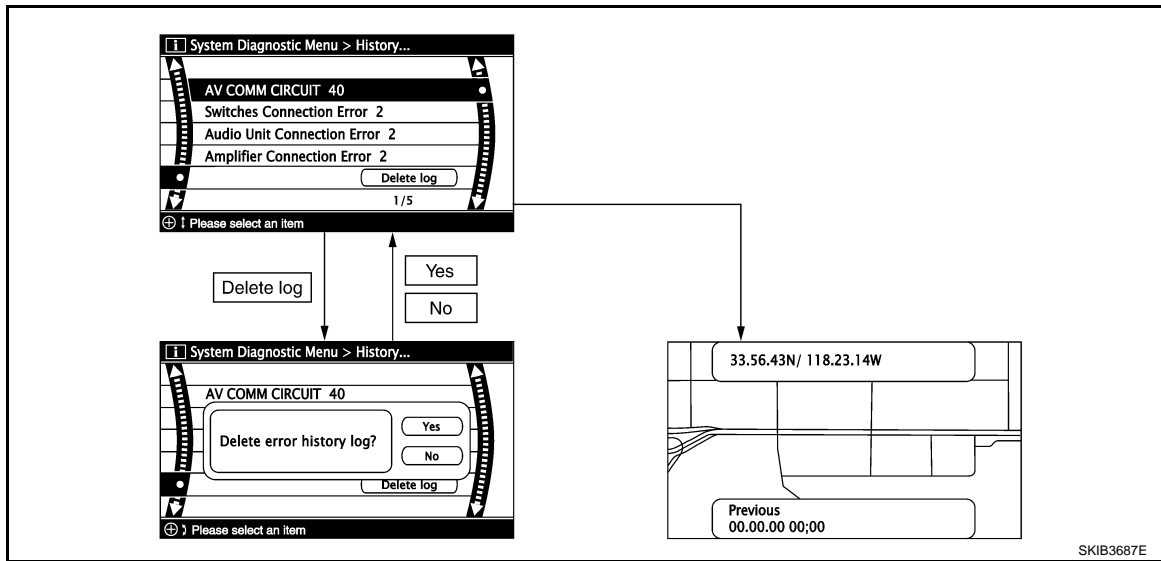
- The correct date of occurrence may not be able to be displayed if there is a malfunction with the GPS antenna circuit board in the NAVI control unit.
- Place of the error occurrence is represented by the position of the current location mark at the time an error occurred. If current location mark has deviated from the correct position, then the place of the error occurrence cannot be located correctly.

# DIAGNOSIS SYSTEM (NAVI CONTROL UNIT)

< FUNCTION DIAGNOSIS >

[AUDIO WITH NAVIGATION]

Transition Screen



### Count Down Type

- Set the counter to 40 when the error is detected. The counter decreases by 1 if the system is normal when turning the ignition switch ON.
- The lower limit of the counter is 1. It can be reset to 0 by “Delete log” switch or CONSULT-III.

### Count Up Type

- The counter increases 1 when the ignition switch is turned ON and the error is detected. The counter does not decrease even if it is normal when the ignition switch is turned ON the next time.
- The upper limit of the counter is 50. 51 or more is displayed as 50. It can be reset to 0 by “Delete log” switch or CONSULT-III.

Display type of occurrence frequency	Error history display item
Count down type	CAN_COMM_CIRCUIT, CONTROL UNIT (CAN), AV COMM CIRCUIT, CONTROL UNIT (AV)
Count up type	Other than the above

### Error Item

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

Error item	Description	Possible cause/Action to take
CAN_COMM_CIRCUIT	CAN communication malfunction is detected.	Perform the diagnosis using CONSULT-III, and then repair the malfunctioning parts based on diagnostic results. Refer to <a href="#">AV-69, "CONSULT - III Function (MULTI AV)"</a> .
CONTROL UNIT (CAN)	CAN initial diagnosis malfunction is detected.	NAVI control unit
CONTROL UNIT (AV)	AV communication circuit initial diagnosis malfunction is detected.	NAVI control unit
<ul style="list-style-type: none"> <li>• AV COMM CIRCUIT</li> <li>• Switches Connection Error</li> <li>• Audio Unit Connection Error</li> <li>• Amplifier Connection Error</li> <li>• RDS-TMC Error</li> </ul>	<ul style="list-style-type: none"> <li>• Audio unit power supply and ground circuit malfunction is detected.</li> <li>• Malfunction is detected on communication circuit between Audio unit and NAVI control unit.</li> <li>• Malfunction is detected on communication signal between audio unit and NAVI control unit.</li> </ul>	<ul style="list-style-type: none"> <li>• Audio unit power supply and ground circuit</li> <li>• Communication circuit between audio unit and NAVI control unit</li> </ul>

# DIAGNOSIS SYSTEM (NAVI CONTROL UNIT)

## < FUNCTION DIAGNOSIS >

## [AUDIO WITH NAVIGATION]

Error item	Description	Possible cause/Action to take
Front Display Connection Error	<ul style="list-style-type: none"> <li>Display unit power supply and ground circuit malfunction is detected.</li> <li>Malfunction is detected on communication circuit between display unit and NAVI control unit.</li> <li>Malfunction is detected on communication signal between display unit and NAVI control unit.</li> </ul>	<ul style="list-style-type: none"> <li>Display unit power supply and ground circuit</li> <li>Communication circuit between display unit and NAVI control unit</li> </ul>
GPS Antenna Error	GPS antenna connection malfunction is detected.	<ul style="list-style-type: none"> <li>GPS antenna feeder</li> <li>GPS antenna</li> </ul>
Camera Control Unit Connection Error	Camera and connection recognition signal circuit malfunction is detected.	Camera-connection recognition signal circuit
FLASH-ROM Error Of Control Unit	NAVI control unit malfunction is detected.	NAVI control unit
Connection Of Gyro	NAVI control unit malfunction is detected.	NAVI control unit
GPS Communication Error	GPS malfunction is detected.	Intermittent malfunction caused by strong radio interference may be detected if the symptoms such as the GPS receipt malfunction occur. Replace NAVI control unit if the malfunction always occurs.
GPS ROM Error		
GPS RAM Error		
GPS RTC Error		
DVD-ROM Communication Error	<ul style="list-style-type: none"> <li>Malfunction is detected on DVD-ROM drive pickup lens in NAVI control unit.</li> <li>There is dirt and damage on the map disc.</li> </ul>	<ul style="list-style-type: none"> <li>Map disc</li> <li>NAVI control unit</li> </ul>
DVD-ROM Read Error		
DVD-ROM Disc Error		
DVD-ROM Mechanism not Detected		
DVD-ROM Mechanism Error		
DVD-ROM Focus Error		
DVD-ROM TOC Error		
DVD-ROM Seek Error		
DVD-ROM Error Correction Error		
DVD-ROM Data Transfer Error		
DVD-ROM Data Error		
DVD-ROM Time-out		
DVD-ROM Loading / Eject Error		
CAN Controller Memory Error	NAVI control unit malfunction is detected.	NAVI control unit
Bluetooth Module Connection Error		

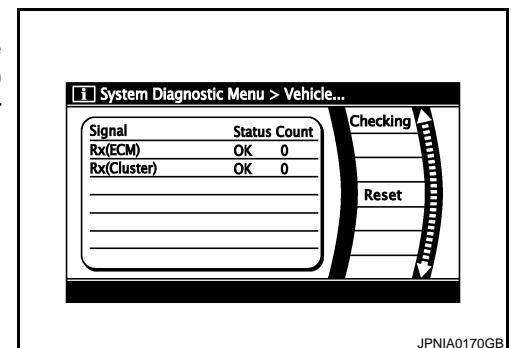
### Vehicle CAN Diagnosis

- CAN communication status and error counter is displayed.
- Error counter displays 0 if any malfunction is not detected in the past. It displays 40 if the malfunction is detected. It displays 39 when turning the ignition switch ON and it is normal. The lower limit of the counter is 1.
- The error counter displays 0 if it resets.

Items	Display (Current)	Malfunction counter (Past)
Rx (ECM)	OK / ???	0 – 40
Rx (Cluster)	OK / ???	0 – 40

#### NOTE:

“???” indicates UNKWN.



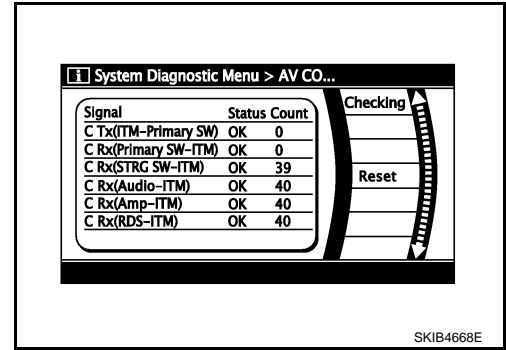
# DIAGNOSIS SYSTEM (NAVI CONTROL UNIT)

[AUDIO WITH NAVIGATION]

## < FUNCTION DIAGNOSIS >

### AV COMM Diagnosis

- Displays the communication status between NAVI control unit (master unit) and each unit.
- The error counter displays 0 if any malfunction was not detected in the past. It displays 40 if the malfunction is detected. It displays 39 when turning the ignition switch ON and it is normal. The lower limit of the counter is 1.
- The error counter is erased if it resets.



SKIB4668E

Items	Status (Current)	Counter (Past)
C Tx(ITM-PrimarySW)	OK / ???	0 - 40
C Rx(PrimarySW-ITM)	OK / ???	0 - 40
C Rx(STRG SW-ITM)	OK / ???	0 - 40
C Rx (Audio-ITM)	OK / ???	0 - 40
C Rx(Amp-ITM)	OK / ???	0 - 40
C Rx(RearCamera-ITM)	OK / ???	0 - 40
C Rx(XM-ITM)	OK / ???	0 - 40
C Rx(Amp-Audio)	OK / ???	0 - 40
C Tx(Audio-ITM)	OK / ???	0 - 40

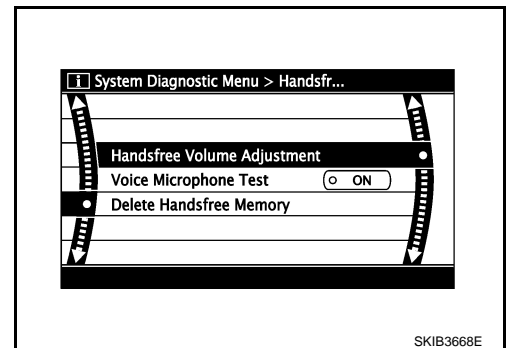
ITM: NAVI control unit

#### NOTE:

“???” indicates UNKWN.

### Handsfree Phone

The hands-free phone reception volume adjustment, microphone and speaker test, and memory erase functions are also available.

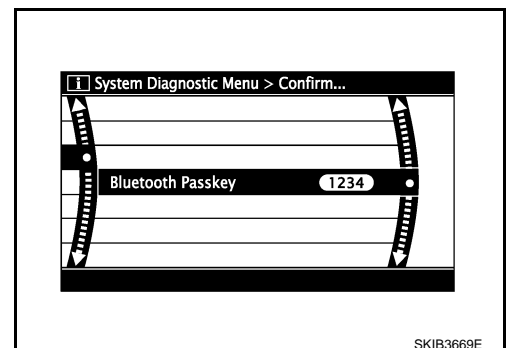


SKIB3668E

### Bluetooth

#### Confirmation/Change Passkey

- The passkey of Bluetooth can be confirmed and changed.
- The passkey can be changed by four digits within 0 to 9.



SKIB3669E

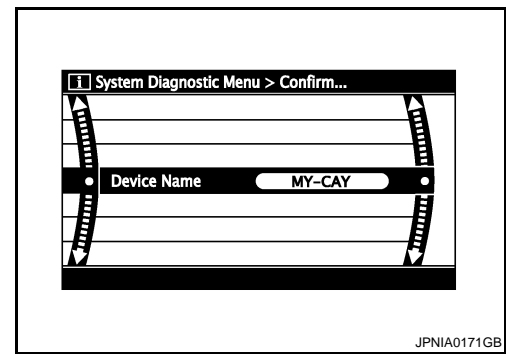
#### Confirmation/Change Device Name

# DIAGNOSIS SYSTEM (NAVI CONTROL UNIT)

[AUDIO WITH NAVIGATION]

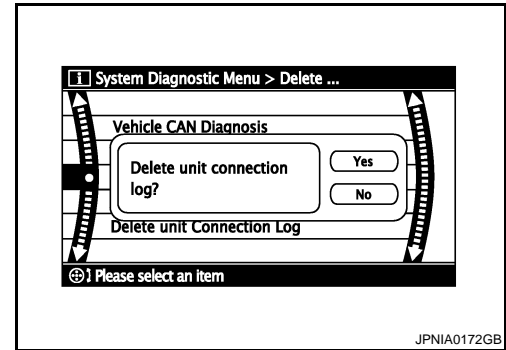
## < FUNCTION DIAGNOSIS >

- The device name of Bluetooth can be confirmed and changed.
- The device name can be changed by sixteen digits within A to Z (small character can be used) and - (hyphen).



### Delete Unit Connection Log

Deletes any unit connection records and error records from the NAVI control unit memory. (Clear the records of the unit that has been removed.)

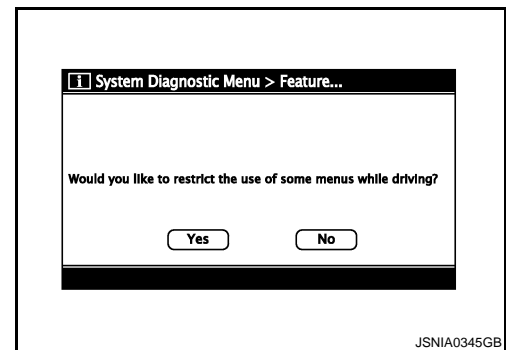


### Feature Restriction Setting

Operations of navigation system that are performed while driving can be restricted by using this function.

#### CAUTION:

**Once operational restrictions are imposed, they can not be cancelled even when the software is updated or the language-switching program is loaded.**



## CONSULT - III Function (MULTI AV)

INFOID:000000001193939

### CONSULT-III functions

CONSULT-III performs the following functions via the communication with the NAVI control unit.

Diagnosis mode	Description
Ecu Identification	The part number of NAVI control unit can be checked.
Self Diagnostic Result	Performs a diagnosis on the NAVI control unit and a connection diagnosis for the communication circuit of the Multi AV system, and displays the current and past malfunctions collectively.
Data Monitor	The diagnosis of vehicle signal that is input to the NAVI control unit can be performed.

### AV COMMUNICATION

When "AV communication" of "CAN Diag Support Monitor" is selected, the following function will be performed.

AV communication	AV&NAVI C/U	Displays the communication status from NAVI control unit to each unit as well as the error counter.
	AUDIO	Displays the NAVI control unit communication status and the error counter.

### ECU IDENTIFICATION

The part number of NAVI control unit is displayed.

### SELF DIAGNOSIS RESULT

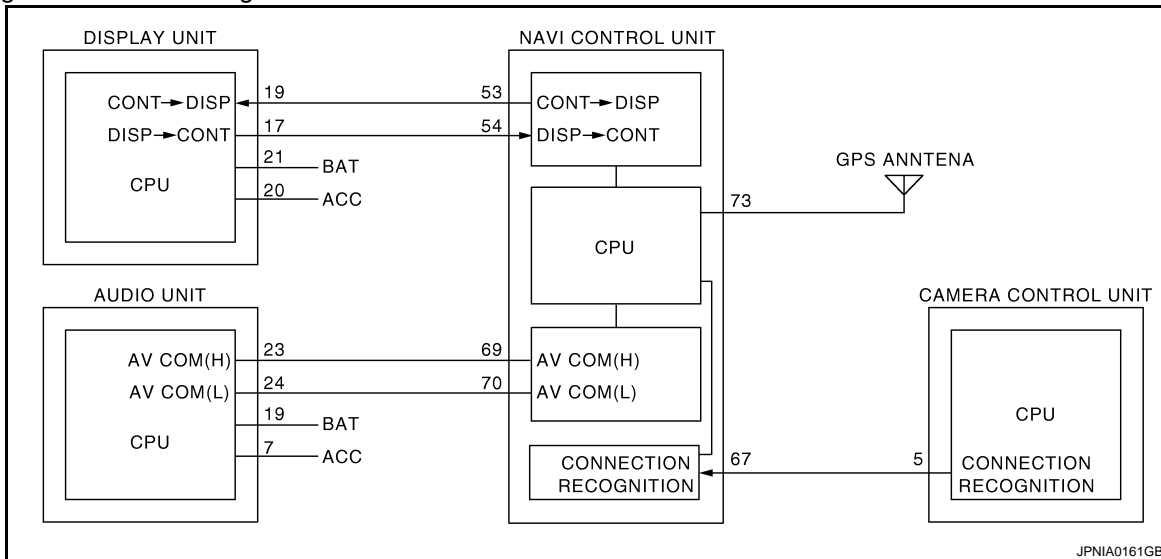
# DIAGNOSIS SYSTEM (NAVI CONTROL UNIT)

[AUDIO WITH NAVIGATION]

## < FUNCTION DIAGNOSIS >

- In CONSULT-III self-diagnosis, self-diagnosis results and error history are displayed collectively.
- The current malfunction indicates “CRNT”. The past malfunction indicates “PAST”.
- The timing is displayed as “0” if any of the error codes [U1000], [U1010], [U1300] and [U1310] is detected. The counter increases by 1 if the condition is normal at the next ignition switch ON cycle.

### Self-diagnosis detection range



### Self-diagnosis results display item

Error item	Description	Possible cause/Action to take
CAN COMM CIRCUIT[U1000]	CAN communication malfunction is detected.	Refer to <a href="#">AV-74, "Diagnosis Procedure"</a> .
CONTROL UNIT (CAN) [U1010]	CAN initial diagnosis malfunction is detected.	NAVI control unit
CONTROL UNIT (AV) [U1310]	AV communication circuit initial diagnosis malfunction is detected.	NAVI control unit
<ul style="list-style-type: none"> <li>• AV COMM CIRCUIT [U1300]</li> <li>• SWITCH CONN [U1240]</li> <li>• AUDIO H/U CONN [U1249]</li> <li>• AMP CONN [U124E]</li> <li>• RDS CONN [U124F]</li> </ul>	<ul style="list-style-type: none"> <li>• Audio unit power supply and ground circuit malfunction is detected.</li> <li>• Malfunction is detected on communication circuit between audio unit and NAVI control unit.</li> <li>• Malfunction is detected on communication signal between audio unit and NAVI control unit.</li> </ul>	<ul style="list-style-type: none"> <li>• Audio unit power supply and ground circuit</li> <li>• Communication circuit between audio unit and NAVI control unit</li> </ul>
FRONT DISP CONN [U1243]	<ul style="list-style-type: none"> <li>• Display unit power supply and ground circuit malfunction is detected.</li> <li>• Malfunction is detected on communication circuit between display unit and NAVI control unit.</li> <li>• Malfunction is detected on communication signal between display unit and NAVI control unit.</li> </ul>	<ul style="list-style-type: none"> <li>• Display unit power supply and ground circuit</li> <li>• Communication circuit between display unit and NAVI control unit</li> </ul>
GPS ANTENNA CONN [U1244]	GPS antenna connection malfunction is detected.	<ul style="list-style-type: none"> <li>• GPS antenna feeder</li> <li>• GPS antenna</li> </ul>
CAMERA CONT. CONN [U1250]	Camera and connection recognition signal circuit malfunction is detected.	Camera-connection recognition signal circuit
Control Unit FLASH-ROM [U1200]	NAVI control unit malfunction is detected.	NAVI control unit
Gyro NO CONN [U1201]	NAVI control unit malfunction is detected.	NAVI control unit

# DIAGNOSIS SYSTEM (NAVI CONTROL UNIT)

< FUNCTION DIAGNOSIS >

[AUDIO WITH NAVIGATION]

Error item	Description	Possible cause/Action to take
GPS COMM [U1204]	GPS malfunction is detected.	Intermittent malfunction caused by strong radio interference may be detected if the symptoms such as the GPS receipt malfunction occur. Replace NAVI control unit if the malfunction always occurs.
GPS ROM [U1205]		
GPS RAM [U1206]		
GPS RTC [U1207]		
DVD-ROM COMM [U1208]	<ul style="list-style-type: none"> <li>Malfunction is detected on DVD-ROM drive pickup lens in NAVI control unit.</li> <li>There is dirt and damage on the map disc.</li> </ul>	<ul style="list-style-type: none"> <li>Map disc</li> <li>NAVI control unit</li> </ul>
DVD-ROM READ [U1209]		
DVD-ROM DISC [U120A]		
DVD-ROM MECHA DETECT [U120C]		
DVD-ROM DRIVE MECHA [U120D]		
DVD-ROM FOCUS [U120E]		
DVD-ROM TOC [U120F]		
DVD-ROM SEEK [U1210]		
DVD-ROM ERR CORRECTION [U1211]		
DVD-ROM DATA FORWARD [U1212]		
DVD-ROM DATA [U1213]		
DVD-ROM TIMEOUT [U1214]		
DVD-ROM LOAD [U1215]		
CAN CONT [U1216]	NAVI control unit malfunction is detected.	NAVI control unit
BLUETOOTH CONN [U1217]		

## DATA MONITOR

### ALL SIGNALS

- Displays the status of the following vehicle signals inputted to the NAVI control unit.
- For each signal, actual signal can be compared with the condition recognized on the system.

Display Item	Display	Vehicle status	Remarks
VHCL SPD SIG	On	Vehicle speed >0 km/h (0 MPH)	Changes in indication may be delayed. This is normal.
	Off	Vehicle speed =0 km/h (0 MPH)	
PKB SIG	On	Parking brake is applied.	Changes in indication may be delayed. This is normal.
	Off	Parking brake is released.	
ILLUM SIG	On	Lighting switch ON	—
	Off	Lighting switch OFF	
IGN SIG	On	Ignition switch ON	—
	Off	Ignition switch in ACC position	
REV SIG	On	Selector lever in R position	Changes in indication may be delayed. This is normal.
	Off	Selector lever in any position other than R	

### SELECTION FROM MENU

Allows the technician to select which vehicle signals should be displayed and displays the status of the selected vehicle signals.

# DIAGNOSIS SYSTEM (NAVI CONTROL UNIT)

< FUNCTION DIAGNOSIS >

[AUDIO WITH NAVIGATION]

Item to be selected	Description
VHCL SPD SIG	The same as when "ALL SIGNALS" is selected.
PKB SIG	
ILLUM SIG	
IGN SIG	
REV SIG	



# DIAGNOSIS SYSTEM (CAMERA CONTROL UNIT)

< FUNCTION DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## DIAGNOSIS SYSTEM (CAMERA CONTROL UNIT)

### CONSULT-III Function (REAR VIEW CAMERA)

INFOID:000000001193940

CONSULT-III can display each diagnostic item using the diagnostic test modes shown following.

Diagnosis part	Check Item, Diagnosis Mode	Description
REAR VIEW CAMERA	ECU Identification	Displays rear view camera control unit part number.
	Data Monitor	Displays input data for rear view camera control unit in real-time.
	Work support	Adjusts the vehicle width and distance guiding lines that overlap camera image.

#### ECU IDENTIFICATION

Displays rear view camera control unit part number.

#### DATA MONITOR

Monitor item	Content
R POSI SIG [On/Off]	"On (selector lever R position)/Off (other than R position)" status as judged from the reverse signal is displayed.

#### WORK SUPPORT

Work item	Description
SELECT GUIDELINE PATTERN	The opening of the vehicle width and distance guiding lines can be selected from 2 patterns.
ADJ GUIDELINE POSITION	Adjusts the vehicle width and distance guiding lines upper/lower/left/right.

For details, refer to Refer to Service Manual.

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## COMPONENT DIAGNOSIS

### U1000 CAN COMM CIRCUIT

#### Description

INFOID:000000001193941

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN-H line, CAN-L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

CAN Communication Signal Chart. Refer to [LAN-28, "CAN Communication Signal Chart"](#).

#### DTC Logic

INFOID:000000001193942

#### DTC DETECTION LOGIC

DTC	Display contents of CONSULT-III	Diagnostic item is detected when...	Probable malfunction location
U1000	CAN COMM CIRCUIT [U1000]	NAVI control unit does not transmit or receive CAN communication signal for 2 seconds or more.	CAN communication system

#### Diagnosis Procedure

INFOID:000000001193943

#### 1. PERFORM SELF DIAGNOSTIC

1. Turn ignition switch ON and wait for 2 second or more.
2. Check "Self Diagnostic Result" of "MULTI AV".

Is "CAN COMM CIRCUIT" displayed?

- YES >> Refer to "LAN system". Refer to [LAN-13, "Trouble Diagnosis Flow Chart"](#).
- NO >> Refer to GI section. Refer to [GI-39, "Intermittent Incident"](#).

# U1010 CONTROL UNIT (CAN)

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## U1010 CONTROL UNIT (CAN)

### Description

INFOID:000000001193944

Initial diagnosis of NAVI control unit.

### DTC Logic

INFOID:000000001193945

### DTC DETECTION LOGIC

DTC	Display contents of CONSULT-III	Diagnostic item is detected when...	Probable malfunction location
U1010	CONTROL UNIT (CAN) [U1010]	CAN initial diagnosis malfunction is detected.	NAVI control unit

### Diagnosis Procedure

INFOID:000000001193946

#### 1. REPLACE NAVI CONTROL UNIT

Replace NAVI control unit when DTC U1010 is detected.

>> INSPECTION END

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# U1310 NAVI CONTROL UNIT

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## U1310 NAVI CONTROL UNIT

### Description

INFOID:000000001193947

Replace the NAVI control unit if this DTC is displayed. Refer to [AV-204. "Exploded View"](#).

Part name	Description
NAVI CONTORL UNIT	<ul style="list-style-type: none"><li>• Map data can be read from the map DVD-ROM by installing map DVD-ROM.</li><li>• It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the NAVI control unit.</li><li>• The NAVI control unit includes the audio, hands-free phone, navigation, and vehicle information functions.</li><li>• It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function.</li><li>• It inputs the illumination signals that are required for the display dimming control.</li><li>• It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).</li></ul>

### DTC Logic

INFOID:000000001193948

DTC	Display contents of CONSULT-III	DTC Detection Condition	Action to take
U1310	CONTROL UNIT (AV) [U1310]	An initial diagnosis error is detected in AV communication circuit.	Replace NAVI control unit.

# U1200 NAVI CONTROL UNIT

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## U1200 NAVI CONTROL UNIT

### Description

INFOID:000000001193949

Replace the NAVI control unit if this DTC is displayed. Refer to [AV-204. "Exploded View"](#).

Part name	Description
NAVI CONTORL UNIT	<ul style="list-style-type: none"><li>• Map data can be read from the map DVD-ROM by installing map DVD-ROM.</li><li>• It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the NAVI control unit.</li><li>• The NAVI control unit includes the audio, hands-free phone, navigation, and vehicle information functions.</li><li>• It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function.</li><li>• It inputs the illumination signals that are required for the display dimming control.</li><li>• It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).</li></ul>

### DTC Logic

INFOID:000000001193950

DTC	Display contents of CONSULT-III	DTC Detection Condition	Action to take
U1200	Cont Unit FLASH- ROM [U1200]	An internal malfunction is detected in NAVI control unit (FLASH-ROM).	Replace NAVI control unit.

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# U1201 NAVI CONTROL UNIT

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## U1201 NAVI CONTROL UNIT

### Description

INFOID:000000001193951

Replace the NAVI control unit if this DTC is displayed. Refer to [AV-204. "Exploded View"](#).

Part name	Description
NAVI CONTORL UNIT	<ul style="list-style-type: none"><li>• Map data can be read from the map DVD-ROM by installing map DVD-ROM.</li><li>• It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the NAVI control unit.</li><li>• The NAVI control unit includes the audio, hands-free phone, navigation, and vehicle information functions.</li><li>• It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function.</li><li>• It inputs the illumination signals that are required for the display dimming control.</li><li>• It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).</li></ul>

### DTC Logic

INFOID:000000001193952

DTC	Display contents of CONSULT-III	DTC Detection Condition	Action to take
U1201	GYRO NO CONN [U1201]	Internal malfunction of NAVI control unit (gyrocompass disconnection) is detected.	Replace NAVI control unit.

# U1216 NAVI CONTROL UNIT

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## U1216 NAVI CONTROL UNIT

### Description

INFOID:000000001193953

Replace the NAVI control unit if this DTC is displayed. Refer to [AV-204. "Exploded View"](#).

Part name	Description
NAVI CONTORL UNIT	<ul style="list-style-type: none"> <li>Map data can be read from the map DVD-ROM by installing map DVD-ROM.</li> <li>It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the NAVI control unit.</li> <li>The NAVI control unit includes the audio, hands-free phone, navigation, and vehicle information functions.</li> <li>It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function.</li> <li>It inputs the illumination signals that are required for the display dimming control.</li> <li>It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).</li> </ul>

### DTC Logic

INFOID:000000001193954

DTC	Display contents of CONSULT-III	DTC Detection Condition	Action to take
U1216	CAN CONT [U1216]	Internal malfunction of NAVI control unit (CAN controller) is detected.	Replace NAVI control unit.

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# U1217 NAVI CONTROL UNIT

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## U1217 NAVI CONTROL UNIT

### Description

INFOID:000000001193955

Replace the NAVI control unit if this DTC is displayed. Refer to [AV-204. "Exploded View"](#).

Part name	Description
NAVI CONTORL UNIT	<ul style="list-style-type: none"><li>• Map data can be read from the map DVD-ROM by installing map DVD-ROM.</li><li>• It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the NAVI control unit.</li><li>• The NAVI control unit includes the audio, hands-free phone, navigation, and vehicle information functions.</li><li>• It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function.</li><li>• It inputs the illumination signals that are required for the display dimming control.</li><li>• It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).</li></ul>

### DTC Logic

INFOID:000000001193956

DTC	Display contents of CONSULT-III	DTC Detection Condition	Action to take
U1217	BLUETOOTH MODULE CONN [U1217]	Internal malfunction of NAVI control unit (Bluetooth module connection malfunction) is detected.	Replace NAVI control unit.



U1204 GPS

Description

INFOID:000000001193957

An intermittent error caused by strong radio interference may be detected unless any symptoms (GPS reception error, etc.) occur. Replace the NAVI control unit if the malfunction occurs constantly. Refer to [AV-204, "Exploded View"](#).

Part name	Description
NAVI CONTORL UNIT	<ul style="list-style-type: none"> <li>Map data can be read from the map DVD-ROM by installing map DVD-ROM.</li> <li>It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the NAVI control unit.</li> <li>The NAVI control unit includes the audio, hands-free phone, navigation, and vehicle information functions.</li> <li>It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function.</li> <li>It inputs the illumination signals that are required for the display dimming control.</li> <li>It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).</li> </ul>

DTC Logic

INFOID:000000001193958

DTC	Display contents of CONSULT-III	DTC Detection Condition	Action to take
U1204	GPS CONN [U1204]	Internal malfunction of NAVI control unit (GPS malfunction) is detected.	Replace NAVI control unit.

Diagnosis Procedure

INFOID:000000001193959

1. PERFORM THE SELF-DIAGNOSIS

- Delete the self-diagnosis results. Turn ignition switch OFF.
- Turn ignition switch ON. Perform the self-diagnosis again.
- Check that the DTC is detected again.

Is any DTC detected?

- YES >> Replace NAVI control unit.
- NO >> The intermittent malfunction caused by strong radio interference can be detected.



U1205 GPS

Description

INFOID:000000001193960

An intermittent error caused by strong radio interference may be detected unless any symptoms (GPS reception error, etc.) occur. Replace the NAVI control unit if the malfunction occurs constantly. Refer to [AV-204](#), "[Exploded View](#)".

Part name	Description
NAVI CONTORL UNIT	<ul style="list-style-type: none"> <li>• Map data can be read from the map DVD-ROM by installing map DVD-ROM.</li> <li>• It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the NAVI control unit.</li> <li>• The NAVI control unit includes the audio, hands-free phone, navigation, and vehicle information functions.</li> <li>• It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function.</li> <li>• It inputs the illumination signals that are required for the display dimming control.</li> <li>• It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).</li> </ul>

DTC Logic

INFOID:000000001193961

DTC	Display contents of CONSULT-III	DTC Detection Condition	Action to take
U1205	GPS ROM [U1205]	Internal malfunction of NAVI control unit (GPS malfunction) is detected.	Replace NAVI control unit.

Diagnosis Procedure

INFOID:000000001193962

1. PERFORM THE SELF-DIAGNOSIS

1. Delete the self-diagnosis results. Turn ignition switch OFF.
2. Turn ignition switch ON. Perform the self-diagnosis again.
3. Check that the DTC is detected again.

Is any DTC detected?

- YES >> Replace NAVI control unit.  
 NO >> The intermittent malfunction caused by strong radio interference can be detected.

U1206 GPS

Description

INFOID:000000001193963

An intermittent error caused by strong radio interference may be detected unless any symptoms (GPS reception error, etc.) occur. Replace the NAVI control unit if the malfunction occurs constantly. Refer to [AV-204, "Exploded View"](#).

Part name	Description
NAVI CONTORL UNIT	<ul style="list-style-type: none"> <li>• Map data can be read from the map DVD-ROM by installing map DVD-ROM.</li> <li>• It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the NAVI control unit.</li> <li>• The NAVI control unit includes the audio, hands-free phone, navigation, and vehicle information functions.</li> <li>• It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function.</li> <li>• It inputs the illumination signals that are required for the display dimming control.</li> <li>• It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).</li> </ul>

DTC Logic

INFOID:000000001193964

DTC	Display contents of CONSULT-III	DTC Detection Condition	Action to take
U1206	GPS RAM [U1206]	Internal malfunction of NAVI control unit (GPS malfunction) is detected.	Replace NAVI control unit.

Diagnosis Procedure

INFOID:000000001193965

1. PERFORM THE SELF-DIAGNOSIS

1. Delete the self-diagnosis results. Turn ignition switch OFF.
2. Turn ignition switch ON. Perform the self-diagnosis again.
3. Check that the DTC is detected again.

Is any DTC detected?

- YES >> Replace NAVI control unit.
- NO >> The intermittent malfunction caused by strong radio interference can be detected.



## U1207 GPS

### Description

INFOID:000000001193966

An intermittent error caused by strong radio interference may be detected unless any symptoms (GPS reception error, etc.) occur. Replace the NAVI control unit if the malfunction occurs constantly. Refer to [AV-204, "Exploded View"](#).

Part name	Description
NAVI CONTORL UNIT	<ul style="list-style-type: none"> <li>Map data can be read from the map DVD-ROM by installing map DVD-ROM.</li> <li>It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the NAVI control unit.</li> <li>The NAVI control unit includes the audio, hands-free phone, navigation, and vehicle information functions.</li> <li>It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function.</li> <li>It inputs the illumination signals that are required for the display dimming control.</li> <li>It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).</li> </ul>

### DTC Logic

INFOID:000000001193967

DTC	Display contents of CONSULT-III	DTC Detection Condition	Action to take
U1207	GPS RTC [U1207]	Internal malfunction of NAVI control unit (GPS malfunction) is detected.	Replace NAVI control unit.

### Diagnosis Procedure

INFOID:000000001193968

#### 1. PERFORM THE SELF-DIAGNOSIS

1. Delete the self-diagnosis results. Turn ignition switch OFF.
2. Turn ignition switch ON. Perform the self-diagnosis again.
3. Check that the DTC is detected again.

#### Is any DTC detected?

- YES >> Replace NAVI control unit.
- NO >> The intermittent malfunction caused by strong radio interference can be detected.

# U1208 NAVI CONTROL UNIT

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## U1208 NAVI CONTROL UNIT

### Description

INFOID:000000001193969

Part name	Description
NAVI CONTORL UNIT	<ul style="list-style-type: none"> <li>Map data can be read from the map DVD-ROM by installing map DVD-ROM.</li> <li>It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the NAVI control unit.</li> <li>The NAVI control unit includes the audio, hands-free phone, navigation, and vehicle information functions.</li> <li>It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function.</li> <li>It inputs the illumination signals that are required for the display dimming control.</li> <li>It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).</li> </ul>
MAP DVD-ROM	A collection of map data

### DTC Logic

INFOID:000000001193970

DTC	Display contents of CONSULT-III	DTC Detection Condition	Probable malfunction location
U1208	DVD-ROM COMM [U1208]	<ul style="list-style-type: none"> <li>Malfunction is detected on DVD-ROM drive pickup lens in NAVI control unit.</li> <li>There is dirt and damage on the map disc.</li> </ul>	<ul style="list-style-type: none"> <li>Map disc</li> <li>NAVI control unit</li> </ul>

### Diagnosis Procedure

INFOID:000000001193971

#### 1. PERFORM THE SELF-DIAGNOSIS

- Delete the self-diagnosis results. Turn ignition switch OFF.
- Turn ignition switch ON. Replace map DVD-ROM with a normal one.
- Perform the self-diagnosis again.
- Check that the DTC is detected again.

#### Is any DTC detected?

- YES >> Replace NAVI control unit.  
 NO >> Replace Map disc.

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# U1209 NAVI CONTROL UNIT

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## U1209 NAVI CONTROL UNIT

### Description

INFOID:000000001193972

Part name	Description
NAVI CONTORL UNIT	<ul style="list-style-type: none"><li>• Map data can be read from the map DVD-ROM by installing map DVD-ROM.</li><li>• It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the NAVI control unit.</li><li>• The NAVI control unit includes the audio, hands-free phone, navigation, and vehicle information functions.</li><li>• It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function.</li><li>• It inputs the illumination signals that are required for the display dimming control.</li><li>• It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).</li></ul>
MAP DVD-ROM	A collection of map data

### DTC Logic

INFOID:000000001193973

DTC	Display contents of CONSULT-III	DTC Detection Condition	Probable malfunction location
U1209	DVD-ROM READ [U1209]	<ul style="list-style-type: none"><li>• Malfunction is detected on DVD-ROM drive pickup lens in NAVI control unit.</li><li>• There is dirt and damage on the map disc.</li></ul>	<ul style="list-style-type: none"><li>• Map disc</li><li>• NAVI control unit</li></ul>

### Diagnosis Procedure

INFOID:000000001193974

#### 1. PERFORM THE SELF-DIAGNOSIS

1. Delete the self-diagnosis results. Turn ignition switch OFF.
2. Turn ignition switch ON. Replace map DVD-ROM with a normal one.
3. Perform the self-diagnosis again.
4. Check that the DTC is detected again.

#### Is any DTC detected?

- YES >> Replace NAVI control unit.  
NO >> Replace Map disc.

# U120A NAVI CONTROL UNIT

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## U120A NAVI CONTROL UNIT

### Description

INFOID:000000001193975

Part name	Description
NAVI CONTORL UNIT	<ul style="list-style-type: none"> <li>Map data can be read from the map DVD-ROM by installing map DVD-ROM.</li> <li>It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the NAVI control unit.</li> <li>The NAVI control unit includes the audio, hands-free phone, navigation, and vehicle information functions.</li> <li>It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function.</li> <li>It inputs the illumination signals that are required for the display dimming control.</li> <li>It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).</li> </ul>
MAP DVD-ROM	A collection of map data

### DTC Logic

INFOID:000000001193976

DTC	Display contents of CONSULT-III	DTC Detection Condition	Probable malfunction location
U120A	DVD-ROM DISC [U120A]	<ul style="list-style-type: none"> <li>Malfunction is detected on DVD-ROM drive pickup lens in NAVI control unit.</li> <li>There is dirt and damage on the map disc.</li> </ul>	<ul style="list-style-type: none"> <li>Map disc</li> <li>NAVI control unit</li> </ul>

### Diagnosis Procedure

INFOID:000000001193977

#### 1. PERFORM THE SELF-DIAGNOSIS

- Delete the self-diagnosis results. Turn ignition switch OFF.
- Turn ignition switch ON. Replace map DVD-ROM with a normal one.
- Perform the self-diagnosis again.
- Check that the DTC is detected again.

#### Is any DTC detected?

- YES >> Replace NAVI control unit.  
 NO >> Replace Map disc.

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# U120C NAVI CONTROL UNIT

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## U120C NAVI CONTROL UNIT

### Description

INFOID:000000001193978

Part name	Description
NAVI CONTORL UNIT	<ul style="list-style-type: none"><li>• Map data can be read from the map DVD-ROM by installing map DVD-ROM.</li><li>• It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the NAVI control unit.</li><li>• The NAVI control unit includes the audio, hands-free phone, navigation, and vehicle information functions.</li><li>• It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function.</li><li>• It inputs the illumination signals that are required for the display dimming control.</li><li>• It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).</li></ul>
MAP DVD-ROM	A collection of map data

### DTC Logic

INFOID:000000001193979

DTC	Display contents of CONSULT-III	DTC Detection Condition	Probable malfunction location
U120C	DVD-ROM MECHA DETECT [U120C]	<ul style="list-style-type: none"><li>• Malfunction is detected on DVD-ROM drive pickup lens in NAVI control unit.</li><li>• There is dirt and damage on the map disc.</li></ul>	<ul style="list-style-type: none"><li>• Map disc</li><li>• NAVI control unit</li></ul>

### Diagnosis Procedure

INFOID:000000001193980

#### 1. PERFORM THE SELF-DIAGNOSIS

1. Delete the self-diagnosis results. Turn ignition switch OFF.
2. Turn ignition switch ON. Replace map DVD-ROM with a normal one.
3. Perform the self-diagnosis again.
4. Check that the DTC is detected again.

#### Is any DTC detected?

- YES >> Replace NAVI control unit.  
NO >> Replace Map disc.



# U120D NAVI CONTROL UNIT

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## U120D NAVI CONTROL UNIT

### Description

INFOID:000000001193981

Part name	Description
NAVI CONTORL UNIT	<ul style="list-style-type: none"><li>• Map data can be read from the map DVD-ROM by installing map DVD-ROM.</li><li>• It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the NAVI control unit.</li><li>• The NAVI control unit includes the audio, hands-free phone, navigation, and vehicle information functions.</li><li>• It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function.</li><li>• It inputs the illumination signals that are required for the display dimming control.</li><li>• It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).</li></ul>
MAP DVD-ROM	A collection of map data

### DTC Logic

INFOID:000000001193982

DTC	Display contents of CONSULT-III	DTC Detection Condition	Probable malfunction location
U120D	DVD-ROM DRIVE MECHA [U120D]	<ul style="list-style-type: none"><li>• Malfunction is detected on DVD-ROM drive pickup lens in NAVI control unit.</li><li>• There is dirt and damage on the map disc.</li></ul>	<ul style="list-style-type: none"><li>• Map disc</li><li>• NAVI control unit</li></ul>

### Diagnosis Procedure

INFOID:000000001193983

#### 1. PERFORM THE SELF-DIAGNOSIS

1. Delete the self-diagnosis results. Turn ignition switch OFF.
2. Turn ignition switch ON. Replace map DVD-ROM with a normal one.
3. Perform the self-diagnosis again.
4. Check that the DTC is detected again.

#### Is any DTC detected?

- YES >> Replace NAVI control unit.  
NO >> Replace Map disc.

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AV

# U120E NAVI CONTROL UNIT

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## U120E NAVI CONTROL UNIT

### Description

INFOID:000000001193984

Part name	Description
NAVI CONTORL UNIT	<ul style="list-style-type: none"><li>• Map data can be read from the map DVD-ROM by installing map DVD-ROM.</li><li>• It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the NAVI control unit.</li><li>• The NAVI control unit includes the audio, hands-free phone, navigation, and vehicle information functions.</li><li>• It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function.</li><li>• It inputs the illumination signals that are required for the display dimming control.</li><li>• It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).</li></ul>
MAP DVD-ROM	A collection of map data

### DTC Logic

INFOID:000000001193985

DTC	Display contents of CONSULT-III	DTC Detection Condition	Probable malfunction location
U120E	DVD-ROM FOCUS [U120E]	<ul style="list-style-type: none"><li>• Malfunction is detected on DVD-ROM drive pickup lens in NAVI control unit.</li><li>• There is dirt and damage on the map disc.</li></ul>	<ul style="list-style-type: none"><li>• Map disc</li><li>• NAVI control unit</li></ul>

### Diagnosis Procedure

INFOID:000000001193986

#### 1. PERFORM THE SELF-DIAGNOSIS

1. Delete the self-diagnosis results. Turn ignition switch OFF.
2. Turn ignition switch ON. Replace map DVD-ROM with a normal one.
3. Perform the self-diagnosis again.
4. Check that the DTC is detected again.

#### Is any DTC detected?

- YES >> Replace NAVI control unit.  
NO >> Replace Map disc.

# U120F NAVI CONTROL UNIT

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## U120F NAVI CONTROL UNIT

### Description

INFOID:000000001193987

Part name	Description
NAVI CONTROL UNIT	<ul style="list-style-type: none"> <li>Map data can be read from the map DVD-ROM by installing map DVD-ROM.</li> <li>It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the NAVI control unit.</li> <li>The NAVI control unit includes the audio, hands-free phone, navigation, and vehicle information functions.</li> <li>It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function.</li> <li>It inputs the illumination signals that are required for the display dimming control.</li> <li>It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).</li> </ul>
MAP DVD-ROM	A collection of map data

### DTC Logic

INFOID:000000001193988

DTC	Display contents of CONSULT-III	DTC Detection Condition	Probable malfunction location
U120F	DVD-ROM TOC [U120F]	<ul style="list-style-type: none"> <li>Malfunction is detected on DVD-ROM drive pickup lens in NAVI control unit.</li> <li>There is dirt and damage on the map disc.</li> </ul>	<ul style="list-style-type: none"> <li>Map disc</li> <li>NAVI control unit</li> </ul>

### Diagnosis Procedure

INFOID:000000001193989

#### 1. PERFORM THE SELF-DIAGNOSIS

- Delete the self-diagnosis results. Turn ignition switch OFF.
- Turn ignition switch ON. Replace map DVD-ROM with a normal one.
- Perform the self-diagnosis again.
- Check that the DTC is detected again.

#### Is any DTC detected?

- YES >> Replace NAVI control unit.  
 NO >> Replace Map disc.

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# U1210 NAVI CONTROL UNIT

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## U1210 NAVI CONTROL UNIT

### Description

INFOID:000000001193990

Part name	Description
NAVI CONTORL UNIT	<ul style="list-style-type: none"><li>• Map data can be read from the map DVD-ROM by installing map DVD-ROM.</li><li>• It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the NAVI control unit.</li><li>• The NAVI control unit includes the audio, hands-free phone, navigation, and vehicle information functions.</li><li>• It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function.</li><li>• It inputs the illumination signals that are required for the display dimming control.</li><li>• It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).</li></ul>
MAP DVD-ROM	A collection of map data

### DTC Logic

INFOID:000000001193991

DTC	Display contents of CONSULT-III	DTC Detection Condition	Probable malfunction location
U1210	DVD-ROM SEEK [U1210]	<ul style="list-style-type: none"><li>• Malfunction is detected on DVD-ROM drive pickup lens in NAVI control unit.</li><li>• There is dirt and damage on the map disc.</li></ul>	<ul style="list-style-type: none"><li>• Map disc</li><li>• NAVI control unit</li></ul>

### Diagnosis Procedure

INFOID:000000001193992

#### 1. PERFORM THE SELF-DIAGNOSIS

1. Delete the self-diagnosis results. Turn ignition switch OFF.
2. Turn ignition switch ON. Replace map DVD-ROM with a normal one.
3. Perform the self-diagnosis again.
4. Check that the DTC is detected again.

#### Is any DTC detected?

- YES >> Replace NAVI control unit.  
NO >> Replace Map disc.

# U1211 NAVI CONTROL UNIT

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## U1211 NAVI CONTROL UNIT

### Description

INFOID:000000001193993

Part name	Description
NAVI CONTORL UNIT	<ul style="list-style-type: none"> <li>Map data can be read from the map DVD-ROM by installing map DVD-ROM.</li> <li>It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the NAVI control unit.</li> <li>The NAVI control unit includes the audio, hands-free phone, navigation, and vehicle information functions.</li> <li>It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function.</li> <li>It inputs the illumination signals that are required for the display dimming control.</li> <li>It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).</li> </ul>
MAP DVD-ROM	A collection of map data

### DTC Logic

INFOID:000000001193994

DTC	Display contents of CONSULT-III	DTC Detection Condition	Probable malfunction location
U1211	DVD-ROM ERR CORRECTION [U1211]	<ul style="list-style-type: none"> <li>Malfunction is detected on DVD-ROM drive pickup lens in NAVI control unit.</li> <li>There is dirt and damage on the map disc.</li> </ul>	<ul style="list-style-type: none"> <li>Map disc</li> <li>NAVI control unit</li> </ul>

### Diagnosis Procedure

INFOID:000000001193995

#### 1. PERFORM THE SELF-DIAGNOSIS

- Delete the self-diagnosis results. Turn ignition switch OFF.
- Turn ignition switch ON. Replace map DVD-ROM with a normal one.
- Perform the self-diagnosis again.
- Check that the DTC is detected again.

#### Is any DTC detected?

- YES >> Replace NAVI control unit.  
 NO >> Replace Map disc.

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# U1212 NAVI CONTROL UNIT

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## U1212 NAVI CONTROL UNIT

### Description

INFOID:000000001193996

Part name	Description
NAVI CONTORL UNIT	<ul style="list-style-type: none"><li>• Map data can be read from the map DVD-ROM by installing map DVD-ROM.</li><li>• It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the NAVI control unit.</li><li>• The NAVI control unit includes the audio, hands-free phone, navigation, and vehicle information functions.</li><li>• It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function.</li><li>• It inputs the illumination signals that are required for the display dimming control.</li><li>• It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).</li></ul>
MAP DVD-ROM	A collection of map data

### DTC Logic

INFOID:000000001193997

DTC	Display contents of CONSULT-III	DTC Detection Condition	Probable malfunction location
U1212	DVD-ROM DATA FORWARD [U1212]	<ul style="list-style-type: none"><li>• Malfunction is detected on DVD-ROM drive pickup lens in NAVI control unit.</li><li>• There is dirt and damage on the map disc.</li></ul>	<ul style="list-style-type: none"><li>• Map disc</li><li>• NAVI control unit</li></ul>

### Diagnosis Procedure

INFOID:000000001193998

#### 1. PERFORM THE SELF-DIAGNOSIS

1. Delete the self-diagnosis results. Turn ignition switch OFF.
2. Turn ignition switch ON. Replace map DVD-ROM with a normal one.
3. Perform the self-diagnosis again.
4. Check that the DTC is detected again.

#### Is any DTC detected?

- YES >> Replace NAVI control unit.  
NO >> Replace Map disc.

# U1213 NAVI CONTROL UNIT

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## U1213 NAVI CONTROL UNIT

### Description

INFOID:000000001193999

Part name	Description
NAVI CONTORL UNIT	<ul style="list-style-type: none"><li>• Map data can be read from the map DVD-ROM by installing map DVD-ROM.</li><li>• It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the NAVI control unit.</li><li>• The NAVI control unit includes the audio, hands-free phone, navigation, and vehicle information functions.</li><li>• It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function.</li><li>• It inputs the illumination signals that are required for the display dimming control.</li><li>• It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).</li></ul>
MAP DVD-ROM	A collection of map data

### DTC Logic

INFOID:000000001194000

DTC	Display contents of CONSULT-III	DTC Detection Condition	Probable malfunction location
U1213	DVD-ROM DATA [U1213]	<ul style="list-style-type: none"><li>• Malfunction is detected on DVD-ROM drive pickup lens in NAVI control unit.</li><li>• There is dirt and damage on the map disc.</li></ul>	<ul style="list-style-type: none"><li>• Map disc</li><li>• NAVI control unit</li></ul>

### Diagnosis Procedure

INFOID:000000001194001

#### 1. PERFORM THE SELF-DIAGNOSIS

1. Delete the self-diagnosis results. Turn ignition switch OFF.
2. Turn ignition switch ON. Replace map DVD-ROM with a normal one.
3. Perform the self-diagnosis again.
4. Check that the DTC is detected again.

#### Is any DTC detected?

- YES >> Replace NAVI control unit.  
NO >> Replace Map disc.

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# U1214 NAVI CONTROL UNIT

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## U1214 NAVI CONTROL UNIT

### Description

INFOID:000000001194002

Part name	Description
NAVI CONTORL UNIT	<ul style="list-style-type: none"><li>• Map data can be read from the map DVD-ROM by installing map DVD-ROM.</li><li>• It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the NAVI control unit.</li><li>• The NAVI control unit includes the audio, hands-free phone, navigation, and vehicle information functions.</li><li>• It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function.</li><li>• It inputs the illumination signals that are required for the display dimming control.</li><li>• It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).</li></ul>
MAP DVD-ROM	A collection of map data

### DTC Logic

INFOID:000000001194003

DTC	Display contents of CONSULT-III	DTC Detection Condition	Probable malfunction location
U1214	DVD-ROM TIMEOUT [U1214]	<ul style="list-style-type: none"><li>• Malfunction is detected on DVD-ROM drive pickup lens in NAVI control unit.</li><li>• There is dirt and damage on the map disc.</li></ul>	<ul style="list-style-type: none"><li>• Map disc</li><li>• NAVI control unit</li></ul>

### Diagnosis Procedure

INFOID:000000001194004

#### 1. PERFORM THE SELF-DIAGNOSIS

1. Delete the self-diagnosis results. Turn ignition switch OFF.
2. Turn ignition switch ON. Replace map DVD-ROM with a normal one.
3. Perform the self-diagnosis again.
4. Check that the DTC is detected again.

#### Is any DTC detected?

- YES >> Replace NAVI control unit.  
NO >> Replace Map disc.



# U1215 NAVI CONTROL UNIT

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## U1215 NAVI CONTROL UNIT

### Description

INFOID:000000001194005

Part name	Description
NAVI CONTROL UNIT	<ul style="list-style-type: none"> <li>Map data can be read from the map DVD-ROM by installing map DVD-ROM.</li> <li>It is the master unit of the MULTI AV system, and it is connected to each control unit by means of communication. It operates each system according to communication signals from the NAVI control unit.</li> <li>The NAVI control unit includes the audio, hands-free phone, navigation, and vehicle information functions.</li> <li>It is connected to ECM and combination meter via CAN communication to obtain necessary information for the vehicle information function.</li> <li>It inputs the illumination signals that are required for the display dimming control.</li> <li>It inputs the signals for driving status recognition (vehicle speed, reverse and parking brake).</li> </ul>
MAP DVD-ROM	A collection of map data

### DTC Logic

INFOID:000000001194006

DTC	Display contents of CONSULT-III	DTC Detection Condition	Probable malfunction location
U1215	DVD-ROM LOAD [U1215]	<ul style="list-style-type: none"> <li>Malfunction is detected on DVD-ROM drive pickup lens in NAVI control unit.</li> <li>There is dirt and damage on the map disc.</li> </ul>	<ul style="list-style-type: none"> <li>Map disc</li> <li>NAVI control unit</li> </ul>

### Diagnosis Procedure

INFOID:000000001194007

#### 1. PERFORM THE SELF-DIAGNOSIS

- Delete the self-diagnosis results. Turn ignition switch OFF.
- Turn ignition switch ON. Replace map DVD-ROM with a normal one.
- Perform the self-diagnosis again.
- Check that the DTC is detected again.

#### Is any DTC detected?

- YES >> Replace NAVI control unit.  
 NO >> Replace Map disc.

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AV

# U1243 DISPLAY UNIT

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## U1243 DISPLAY UNIT

### Description

INFOID:000000001194008

Part name	Description
DISPLAY UNIT	<ul style="list-style-type: none"><li>• Display image is controlled by the serial communication from NAVI control unit.</li><li>• RGB image signal is input from NAVI control unit (RGB, RGB area and RGB synchronizing). Camera image signal is input from camera control unit.</li><li>• Synchronize signal (HP, VP) is output to NAVI control unit.</li></ul>

### DTC Logic

INFOID:000000001194009

DTC	Display contents of CONSULT-III	DTC Detection Condition	Possible causes
U1243	FRONT DISP CONN [U1243]	<ul style="list-style-type: none"><li>• Display unit power supply and ground circuit malfunction is detected.</li><li>• Malfunction is detected on communication circuit between display unit and NAVI control unit.</li><li>• Malfunction is detected on communication signal between display unit and NAVI control unit.</li></ul>	<ul style="list-style-type: none"><li>• Display unit power supply and ground circuit</li><li>• Communication circuit between display unit and NAVI control unit</li></ul>

### Diagnosis Procedure

INFOID:000000001194010

#### 1. CHECK DISPLAY UNIT POWER SUPPLY AND GROUND CIRCUIT

Check display unit power supply and ground circuit. Refer to [AV-104, "DISPLAY UNIT : Diagnosis Procedure"](#).

Is inspection result OK?

- YES >> GO TO 2.  
NO >> Repair malfunctioning parts.

#### 2. CHECK CONTINUITY COMMUNICATION CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and NAVI control unit connector.
3. Check continuity between display unit harness connector terminals 17, 19 and NAVI control unit harness connector terminals 54, 53.

**17 - 54 : Continuity should exist.**

**19 - 53 : Continuity should exist.**

4. Check continuity between display unit harness connector terminals 17, 19 and ground.

**17, 19 - Ground : Continuity should not exist.**

Is inspection result OK?

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

#### 3. CHECK COMMUNICATION SIGNAL

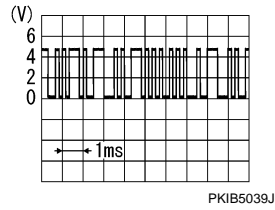
1. Connect display unit connector and NAVI control unit connector.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector terminal 17 and ground.

# U1243 DISPLAY UNIT

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

17 - Ground



Is inspection result OK?

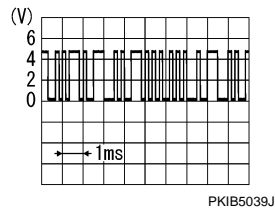
YES >> GO TO 4.

NO >> Replace NAVI control unit.

## 4.CHECK COMMUNICATION SIGNAL

Check signal between display unit harness connector terminal 19 and ground.

19 - Ground



Is inspection result OK?

YES >> INSPECTION END

NO >> Replace display unit.

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# U1244 GPS ANTENNA

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## U1244 GPS ANTENNA

### Description

INFOID:000000001194011

Part name	Description
GPS ANTENNA	GPS signal is received and sent to NAVI control unit.

### DTC Logic

INFOID:000000001194012

DTC	Display contents of CONSULT-III	DTC Detection Condition	Possible causes
U1244	GPS ANTENNA CONN [U1244]	GPS antenna connection malfunction is detected.	GPS antenna disconnection

### Diagnosis Procedure

INFOID:000000001194013

#### 1. CHECK GPS ANTENNA

Visually check GPS antenna and antenna feeder.

Is inspection result OK?

- YES >> GO TO 2.
- NO >> Repair malfunctioning parts.

#### 2. CHECK NAVI CONTROL UNIT VOLTAGE

1. Disconnect GPS antenna connector.
2. Turn ignition switch ON.
3. Check voltage between NAVI control unit terminal 73 and ground.

**73 - Ground : Approx. 5 V**

Is inspection result OK?

- YES >> INSPECTION END
- NO >> Replace NAVI control unit.

# U1250 CAMERA CONTROL UNIT

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## U1250 CAMERA CONTROL UNIT

### Description

INFOID:000000001194014

Part name	Description
CAMERA CONTROL UNIT	<ul style="list-style-type: none"><li>• Camera image signal is input from rear view camera, and camera image is indicated on the display.</li><li>• Power (camera ON signal) is sent to rear view camera.</li><li>• It is controlled by AV communication sent from NAVI control unit.</li><li>• NAVI control unit recognizes the presence of camera system with camera connection recognition signal.</li></ul>

### DTC Logic

INFOID:000000001194015

DTC	Display contents of CONSULT-III	DTC Detection Condition	Possible causes
U1250	CAMERA CONT. CONN [U1250]	A malfunction is detected in camera-connection recognition signal circuit.	Camera-connection recognition signal circuit

### Diagnosis Procedure

INFOID:000000001194016

#### 1. CHECK CAMERA-CONNECTION RECOGNITION SIGNAL CIRCUIT

1. Disconnect NAVI control unit connector and camera control unit connector.
2. Check continuity between NAVI control unit harness connector terminal 67 and camera control unit harness connector terminal 5.

**67 - 5 : Continuity should exist.**

Is inspection result OK?

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

#### 2. CHECK NAVI CONTROL UNIT VOLTAGE

1. Connect NAVI control unit connector.
2. Turn ignition switch ON.
3. Check voltage between NAVI control unit harness connector terminal 67 and ground.

**67 - Ground : Approx. 5 V**

Is inspection result OK?

- YES >> Replace camera control unit.  
NO >> Replace NAVI control unit.

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# U1300 AV COMM CIRCUIT

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## U1300 AV COMM CIRCUIT

### Description

INFOID:000000001194017

U1300 is indicated when malfunction occurs in communication signal of multi AV system. It is indicated simultaneously, without fail, with the malfunction of control units connected to NAVI control unit with communication line. It determines the possible malfunction cause from the table below.

### SELF-DIAGNOSIS RESULTS DISPLAY ITEM

DTC	Display contents of CONSULT-III	Description	Possible malfunction factor/Action to take
U1300 U1240 U1249 U124E U124F	<ul style="list-style-type: none"><li>• AV COMM CIRCUIT [U1300]</li><li>• SWITCH CONN [U1240]</li><li>• AUDIO H/U CONN [U1249]</li><li>• AMP CONN [U124E]</li><li>• RDS CONN [U124F]</li></ul>	<ul style="list-style-type: none"><li>• Audio unit power supply and ground circuit malfunction is detected.</li><li>• Malfunction occurs in AV communication circuit between NAVI control unit and audio unit.</li><li>• Malfunction is detected in AV communication signal between NAVI control unit and audio unit.</li></ul>	<ul style="list-style-type: none"><li>• Audio unit power supply and ground circuits Refer to <a href="#">AV-103, "AUDIO UNIT : Diagnosis Procedure"</a>.</li><li>• AV communication circuit between NAVI control unit and audio unit</li></ul>

# POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## POWER SUPPLY AND GROUND CIRCUIT

### NAVI CONTROL UNIT

#### NAVI CONTROL UNIT : Diagnosis Procedure

INFOID:000000001194018

#### 1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	38
Ignition switch ACC or ON	5
Ignition switch ON or START	4

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

Check voltage between NAVI control unit harness connectors and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Battery power supply	B95	2	OFF	12 V
ACC power supply	B95	5	ACC	12 V
Ignition signal	B96	63	ON	12 V

Is inspection result OK?

YES >> GO TO 3.

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

#### 3.CHECK GROUND CIRCUIT

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

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	B95	1	OFF	Continuity should exist.

Is inspection result OK?

YES >> INSPECTION END

NO >> Repair harness or connector.

## AUDIO UNIT

#### AUDIO UNIT : Diagnosis Procedure

INFOID:000000001194019

#### 1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	38
Ignition switch ACC or ON	5

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

Check voltage between audio unit harness connectors and ground.

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# POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Battery power supply	M46	19	OFF	12 V
ACC power supply	M46	7	ACC	12 V

Is inspection result OK?

YES >> GO TO 3.

NO >> Check harness between audio unit and fuse.

## 3.CHECK GROUND CIRCUIT

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

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	M46	8, 20	OFF	Continuity should exist.

Is inspection result OK?

YES >> INSPECTION END

NO >> Repair harness or connector.

## DISPLAY UNIT

### DISPLAY UNIT : Diagnosis Procedure

INFOID:000000001194020

## 1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	38
Ignition switch ACC or ON	5

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

Check voltage between display unit harness connectors and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Battery power supply	M49	21	OFF	12 V
ACC power supply	M49	20	ACC	12 V

Is inspection result OK?

YES >> GO TO 3.

NO >> Check harness between display unit and fuse.

## 3.CHECK GROUND CIRCUIT

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

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	M49	23	OFF	Continuity should exist.

Is inspection result OK?

YES >> INSPECTION END

NO >> Repair harness or connector.

## CAMERA CONTROL UNIT



# POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## CAMERA CONTROL UNIT : Diagnosis Procedure

INFOID:000000001194021

### 1.CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	38
Ignition switch ACC or ON	5

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

Check voltage between camera control unit harness connectors and ground.

Signal name	Connector No.	Terminal No.	Ignition switch position	Value (Approx.)
Battery power supply	B60	1	OFF	12 V
ACC power supply	B60	2	ACC	12 V

Is inspection result OK?

YES >> GO TO 3.

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

### 3.CHECK GROUND CIRCUIT

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

Signal name	Connector No.	Terminal No.	Ignition switch position	Continuity
Ground	B60	3	OFF	Continuity should exist.

Is inspection result OK?

YES >> INSPECTION END

NO >> Repair harness or connector.

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# RGB (R: RED) SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## RGB (R: RED) SIGNAL CIRCUIT

### Description

INFOID:000000001194022

Transmits the image displayed with NAVI control unit with RGB signal to the display unit.

### Diagnosis Procedure

INFOID:000000001194023

#### 1. CHECK CONTINUITY RGB (R: RED) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and NAVI control unit connector.
3. Check continuity between display unit harness connector terminal 1 and NAVI control unit harness connector terminal 44.

**1 - 44 : Continuity should exist.**

4. Check continuity between display unit harness connector terminal 1 and ground.

**1 - Ground : Continuity should not exist.**

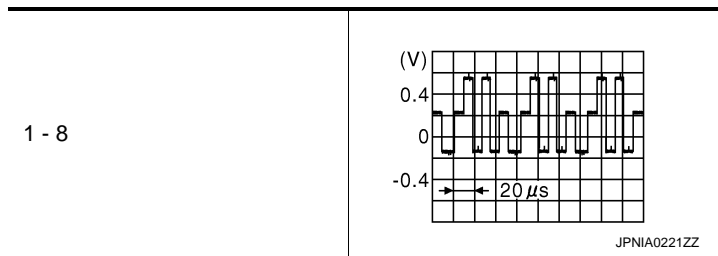
Is inspection result OK?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2. CHECK RGB (R: RED) SIGNAL

1. Connect display unit connector and NAVI control unit connector.
2. Turn ignition switch ON.
3. Start "Confirmation / Adjustment Mode", and then display color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.
4. Check signal between display unit harness connector terminal 1 and 8.



Is inspection result OK?

YES >> Replace display unit.

NO >> Replace NAVI control unit.

# RGB (G: GREEN) SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## RGB (G: GREEN) SIGNAL CIRCUIT

### Description

INFOID:000000001194024

Transmits the image displayed with NAVI control unit with RGB signal to the display unit.

### Diagnosis Procedure

INFOID:000000001194025

#### 1. CHECK CONTINUITY RGB (G: GREEN) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and NAVI control unit connector.
3. Check continuity between display unit harness connector terminal 3 and NAVI control unit harness connector terminal 45.

**3 - 45 : Continuity should exist.**

4. Check continuity between display unit harness connector terminal 3 and ground.

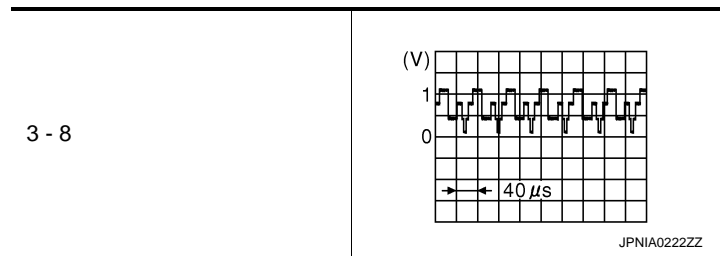
**3 - Ground : Continuity should not exist.**

#### Is inspection result OK?

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

#### 2. CHECK RGB (G: GREEN) SIGNAL

1. Connect display unit connector and NAVI control unit connector.
2. Turn ignition switch ON.
3. Start "Confirmation / Adjustment Mode", and then display color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.
4. Check signal between display unit harness connector terminal 3 and 8.



#### Is inspection result OK?

- YES >> Replace display unit.  
NO >> Replace NAVI control unit.

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

AV

# RGB (B: BLUE) SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## RGB (B: BLUE) SIGNAL CIRCUIT

### Description

INFOID:000000001194026

Transmits the image displayed with NAVI control unit with RGB signal to the display unit.

### Diagnosis Procedure

INFOID:000000001194027

#### 1. CHECK CONTINUITY RGB (B: BLUE) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and NAVI control unit connector.
3. Check continuity between display unit harness connector terminal 5 and NAVI control unit harness connector terminal 46.

**5 - 46 : Continuity should exist.**

4. Check continuity between display unit harness connector terminal 5 and ground.

**5 - Ground : Continuity should not exist.**

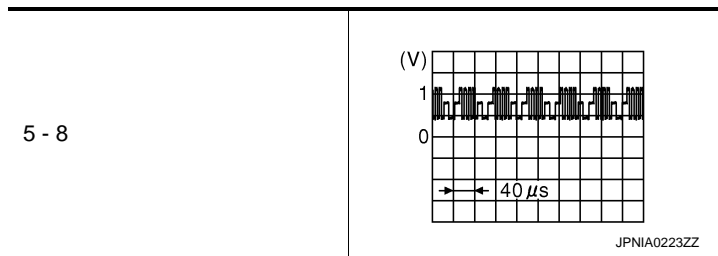
Is inspection result OK?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2. CHECK RGB (B: BLUE) SIGNAL

1. Connect display unit connector and NAVI control unit connector.
2. Turn ignition switch ON.
3. Start "Confirmation / Adjustment Mode", and then display color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.
4. Check signal between display unit harness connector terminal 5 and 8.



Is inspection result OK?

YES >> Replace display unit.

NO >> Replace NAVI control unit.

# RGB SYNCHRONIZING SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## RGB SYNCHRONIZING SIGNAL CIRCUIT

### Description

INFOID:000000001194028

Transmits the RGB synchronizing signal to the display unit so as to synchronize the RGB image displayed with NAVI control unit.

### Diagnosis Procedure

INFOID:000000001194029

#### 1. CHECK CONTINUITY RGB SYNCHRONIZING SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and NAVI control unit connector.
3. Check continuity between display unit harness connector terminal 7 and NAVI control unit harness connector terminal 48.

**7 - 48 : Continuity should exist.**

4. Check continuity between display unit harness connector terminal 7 and ground.

**7 - Ground : Continuity should not exist.**

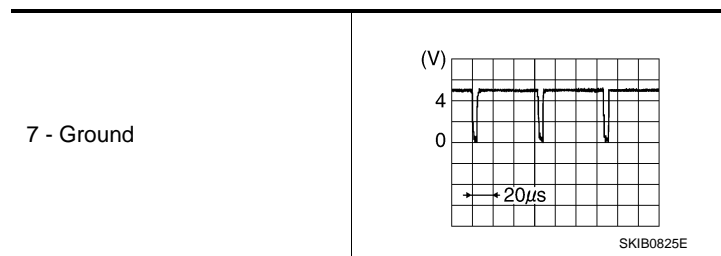
#### Is inspection result OK?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2. CHECK RGB SYNCHRONIZING SIGNAL

1. Connect display unit connector and NAVI control unit connector.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector terminal 7 and ground.



#### Is inspection result OK?

YES >> Replace display unit.

NO >> Replace NAVI control unit.

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

AV

# RGB AREA (YS) SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## RGB AREA (YS) SIGNAL CIRCUIT

### Description

INFOID:000000001194030

Transmits the display area of RGB image displayed by NAVI control unit with RGB area (YS) signal to display unit.

### Diagnosis Procedure

INFOID:000000001194031

#### 1. CHECK CONTINUITY RGB AREA (YS) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and NAVI control unit connector.
3. Check continuity between display unit harness connector terminal 2 and NAVI control unit harness connector terminal 50.

**2 - 50 : Continuity should exist.**

4. Check continuity between display unit harness connector terminal 2 and ground.

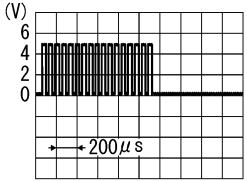
**2 - Ground : Continuity should not exist.**

#### Is inspection result OK?

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

#### 2. CHECK RGB SYNCHRONIZING SIGNAL

1. Connect display unit connector and NAVI control unit connector.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector terminal 2 and ground.

	At RGB image displayed	: Approx. 5 V
2 - Ground	At rear view camera image displayed	

PKIB4948J

#### Is inspection result OK?

- YES >> Replace display unit.  
 NO >> Replace NAVI control unit.

# HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

### Description

INFOID:000000001194032

In composite image (camera image), it transmits the vertical synchronizing (VP) signal and horizontal synchronizing (HP) signal from display unit to NAVI control unit so as to synchronize the RGB images displayed with NAVI control unit such as the image quality adjusting menu, etc.

### Diagnosis Procedure

INFOID:000000001194033

#### 1. CHECK CONTINUITY HORIZONTAL SYNCHRONIZING (HP) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and NAVI control unit connector.
3. Check continuity between display unit harness connector terminal 4 and NAVI control unit harness connector terminal 51.

**4 - 51 : Continuity should exist.**

4. Check continuity between display unit harness connector terminal 4 and ground.

**4 - Ground : Continuity should not exist.**

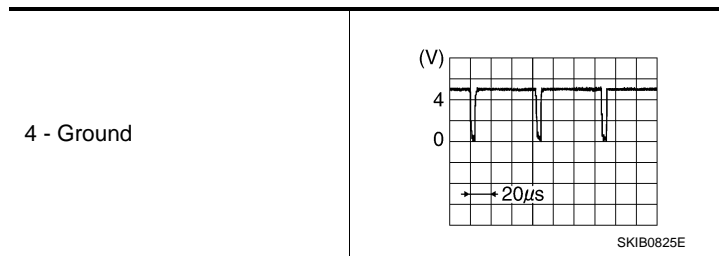
#### Is inspection result OK?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2. CHECK HORIZONTAL SYNCHRONIZING (HP) SIGNAL

1. Connect display unit connector and NAVI control unit connector.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector terminal 4 and ground.



#### Is inspection result OK?

YES >> Replace NAVI control unit.

NO >> Replace display unit.

A  
B  
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P

AV

# VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

### Description

INFOID:000000001194034

In composite image (camera image), it transmits the vertical synchronizing (VP) signal and horizontal synchronizing (HP) signal from display unit to NAVI control unit so as to synchronize the RGB images displayed with NAVI control unit such as the image quality adjusting menu, etc.

### Diagnosis Procedure

INFOID:000000001194035

#### 1. CHECK CONTINUITY VERTICAL SYNCHRONIZING (VP) SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector and NAVI control unit connector.
3. Check continuity between display unit harness connector terminal 6 and NAVI control unit harness connector terminal 52.

**6 - 52 : Continuity should exist.**

4. Check continuity between display unit harness connector terminal 6 and ground.

**6 - Ground : Continuity should not exist.**

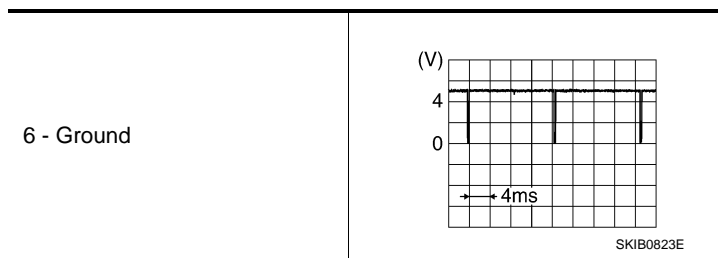
#### Is inspection result OK?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2. CHECK VERTICAL SYNCHRONIZING (VP) SIGNAL

1. Connect display unit connector and NAVI control unit connector.
2. Turn ignition switch ON.
3. Check signal between display unit harness connector terminal 6 and ground.



#### Is inspection result OK?

YES >> Replace NAVI control unit.

NO >> Replace display unit.



# MICROPHONE SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## MICROPHONE SIGNAL CIRCUIT

### Description

INFOID:000000001194036

Supplies power from NAVI control unit to microphone. The microphone transmits the sound voice to the NAVI control unit.

### Diagnosis Procedure

INFOID:000000001194037

#### 1. CHECK CONTINUITY BETWEEN NAVI CONTROL UNIT AND MICROPHONE CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect NAVI control unit connector and microphone connector.
3. Check continuity between NAVI control unit harness connector terminals 6, 7, 8 and microphone harness connector terminals 4, 2, 1.

**6 - 4 : Continuity should exist.**

**7 - 2 : Continuity should exist.**

**8 - 1 : Continuity should exist.**

4. Check continuity between NAVI control unit harness connector terminals 6, 8 and ground.

**6, 8 - Ground : Continuity should not exist.**

Is inspection result OK?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2. CHECK VOLTAGE MICROPHONE VCC

1. Connect NAVI control unit connector.
2. Turn ignition switch ON.
3. Check voltage between NAVI control unit harness connector terminals 6 and 7.

**6 - 7 : Approx. 5 V**

Is inspection result OK?

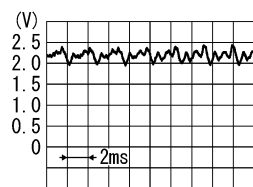
YES >> GO TO 3.

NO >> Replace NAVI control unit.

#### 3. CHECK MICROPHONE SIGNAL

1. Connect microphone connector.
2. Check signal between NAVI control unit harness connector terminals 8 and 7.

8 - 7



PKIB5037J

Is inspection result OK?

YES >> Replace NAVI control unit.

NO >> Replace microphone.

A  
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AV

# CAMERA IMAGE SIGNAL CIRCUIT (REAR VIEW CAMERA TO CAMERA CONTROL UNIT)

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## CAMERA IMAGE SIGNAL CIRCUIT (REAR VIEW CAMERA TO CAMERA CONTROL UNIT)

### Description

INFOID:000000001194038

- Camera control unit outputs camera ON signal to rear view camera and inputs rear view camera image signal from rear view camera when the reverse signal is input.
- The camera control unit that inputs the camera image signal transmits the camera image signal to the display unit.

### Diagnosis Procedure

INFOID:000000001194039

#### 1. CHECK CONTINUITY CAMERA IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect camera control unit connector and rear view camera connector.
3. Check continuity between camera control unit harness connector terminal 10 and rear view camera harness connector terminal 3.

**10 - 3 : Continuity should exist.**

4. Check continuity between camera control unit harness connector terminal 10 and ground.

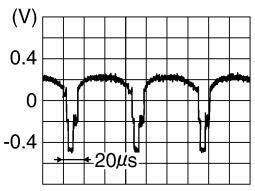
**10 - Ground : Continuity should not exist.**

#### Is inspection result OK?

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

#### 2. CHECK CAMERA IMAGE SIGNAL

1. Connect camera control unit connector and rear view camera connector.
2. Turn ignition switch ON.
3. Check signal between camera control unit harness connector terminal 10 and ground.

10 - Ground	At rear view camera image displayed	 <p style="text-align: right; font-size: small;">SKIB0827E</p>
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#### Is inspection result OK?

- YES >> Replace camera control unit.  
NO >> Replace rear view camera.

# CAMERA IMAGE SIGNAL CIRCUIT (CAMERA CONTROL UNIT TO DISPLAY UNIT)

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## CAMERA IMAGE SIGNAL CIRCUIT (CAMERA CONTROL UNIT TO DISPLAY UNIT)

### Description

INFOID:000000001194040

- Camera control unit outputs camera ON signal to rear view camera and inputs rear view camera image signal from rear view camera when the reverse signal is input.
- The camera control unit that inputs the camera image signal transmits the camera image signal to the display unit.

### Diagnosis Procedure

INFOID:000000001194041

#### 1. CHECK CONTINUITY CAMERA IMAGE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect camera control unit connector and display unit connector.
3. Check continuity between camera control unit harness connector terminal 12, 11 and display unit harness connector terminal 11, 12.

**12 - 11 : Continuity should exist.**

**11 - 12 : Continuity should exist.**

4. Check continuity between camera control unit harness connector terminal 12 and ground.

**12 - Ground : Continuity should not exist.**

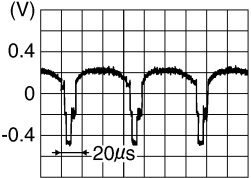
Is inspection result OK?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2. CHECK CAMERA IMAGE SIGNAL

1. Connect camera control unit connector and display unit connector.
2. Turn ignition switch ON.
3. Check signal between camera control unit harness connector terminal 12 and ground.

12 - Ground	At rear view camera image displayed	
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Is inspection result OK?

YES >> Replace display unit.

NO >> Replace camera control unit.

AV

## CAMERA ON SIGNAL CIRCUIT

### Description

INFOID:000000001194042

- Camera control unit outputs camera ON signal to rear view camera and inputs rear view camera image signal from rear view camera when the reverse signal is input.
- The camera control unit that inputs the camera image signal transmits the camera image signal to the display unit.

### Diagnosis Procedure

INFOID:000000001194043

#### 1. CHECK CONTINUITY CAMERA ON SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect camera control unit connector and rear view camera connector.
3. Check continuity between camera control unit harness connector terminal 8 and rear view camera harness connector terminal 1.

**8 - 1 : Continuity should exist.**

4. Check continuity between camera control unit harness connector terminal 8 and ground.

**8 - Ground : Continuity should not exist.**

#### Is inspection result OK?

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

#### 2. CHECK VOLTAGE CAMERA ON SIGNAL

1. Connect camera control unit connector and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever to "R" position.
4. Check signal between camera control unit harness connector terminal 8 and ground.

**8 - Ground : Approx. 6 V**

#### Is inspection result OK?

- YES >> Replace rear view camera.  
NO >> Replace camera control unit.

# STEERING SWITCH SIGNAL A CIRCUIT

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## STEERING SWITCH SIGNAL A CIRCUIT

### Description

INFOID:000000001194044

Transmits the steering switch signal to audio unit.

### Diagnosis Procedure

INFOID:000000001194045

#### 1.CHECK STEERING SWITCH SIGNAL A CIRCUIT

1. Disconnect audio unit connector and spiral cable connector.
2. Check continuity between audio unit harness connector terminal 6 and spiral cable harness connector terminal 24.

**6 - 24 : Continuity should exist.**

3. Check continuity between audio unit harness connector terminals 6 and ground.

**6 - Ground : Continuity should not exist.**

#### Is inspection result OK?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK SPIRAL CABLE

Check spiral cable.

#### Is inspection result OK?

YES >> GO TO 3.

NO >> Replace spiral cable.

#### 3.CHECK AUDIO UNIT VOLTAGE

1. Connect audio unit connector and spiral cable connector.
2. Turn ignition switch ON.
3. Check voltage between audio unit harness connector terminals 6 and 15.

**6 - 15 : Approx. 5 V**

#### Is inspection result OK?

YES >> GO TO 4.

NO >> Replace audio unit.

#### 4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to [AV-117, "Component Inspection"](#).

#### Is inspection result OK?

YES >> INSPECTION END

NO >> Replace steering switch.

### Component Inspection

INFOID:000000001194046

Measure the resistance between the steering switch connector terminals 20 to 17 and 16 to 17.

A  
B  
C  
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AV

# STEERING SWITCH SIGNAL A CIRCUIT

[AUDIO WITH NAVIGATION]

< COMPONENT DIAGNOSIS >

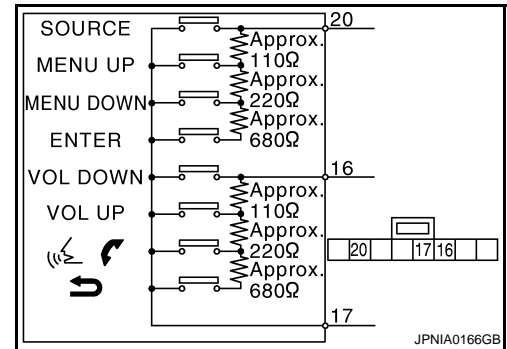
Standard

Between terminals 20 and 17

ENTER switch ON : 990 – 1030 Ω  
MENU DOWN switch ON : 324 – 336 Ω  
MENU UP switch ON : 108 – 112 Ω  
SOURCE switch ON : 0 Ω

Between terminals 16 and 17

↻ switch ON : 990 – 1030 Ω  
⏪ switch ON : 324 – 336 Ω  
VOL UP switch ON : 108 – 112 Ω  
VOL DOWN switch ON : 0 Ω



# STEERING SWITCH SIGNAL B CIRCUIT

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## STEERING SWITCH SIGNAL B CIRCUIT

### Description

INFOID:000000001194047

Transmits the steering switch signal to audio unit.

### Diagnosis Procedure

INFOID:000000001194048

#### 1.CHECK STEERING SWITCH SIGNAL B CIRCUIT

1. Disconnect audio unit connector and spiral cable connector.
2. Check continuity between audio unit harness connector terminal 16 and spiral cable harness connector terminal 32.

**16 - 32 : Continuity should exist.**

3. Check continuity between audio unit harness connector terminal 16 and ground.

**16 - Ground : Continuity should not exist.**

#### Is inspection result OK?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2.CHECK SPIRAL CABLE

Check spiral cable.

#### Is inspection result OK?

YES >> GO TO 3.

NO >> Replace spiral cable.

#### 3.CHECK AUDIO UNIT VOLTAGE

1. Connect audio unit connector and spiral cable connector.
2. Turn ignition switch ON.
3. Check voltage between audio unit harness connector terminals 16 and 15.

**16 - 15 : Approx. 5 V**

#### Is inspection result OK?

YES >> GO TO 4.

NO >> Replace audio unit.

#### 4.CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to [AV-119, "Component Inspection"](#).

#### Is inspection result OK?

YES >> INSPECTION END

NO >> Replace steering switch.

### Component Inspection

INFOID:000000001194049

Measure the resistance between the steering switch connector terminals 20 to 17 and 16 to 17.

A  
B  
C  
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G  
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M  
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AV

# STEERING SWITCH SIGNAL B CIRCUIT

[AUDIO WITH NAVIGATION]

< COMPONENT DIAGNOSIS >

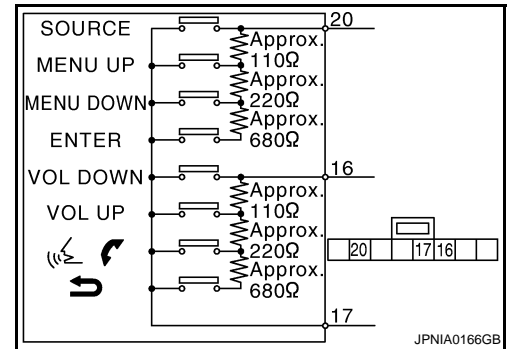
Standard

Between terminals 20 and 17

- ENTER switch ON : 990 – 1030 Ω
- MENU DOWN switch ON : 324 – 336 Ω
- MENU UP switch ON : 108 – 112 Ω
- SOURCE switch ON : 0 Ω

Between terminals 16 and 17

- ↶ switch ON : 990 – 1030 Ω
- ↷ switch ON : 324 – 336 Ω
- VOL UP switch ON : 108 – 112 Ω
- VOL DOWN switch ON : 0 Ω





# STEERING SWITCH SIGNAL GND CIRCUIT

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## STEERING SWITCH SIGNAL GND CIRCUIT

### Description

INFOID:000000001194050

Transmits the steering switch signal to audio unit.

### Diagnosis Procedure

INFOID:000000001194051

#### 1. CHECK STEERING SWITCH SIGNAL GND CIRCUIT

1. Disconnect audio unit connector and spiral cable connector.
2. Check continuity between audio unit harness connector terminal 15 and spiral cable harness connector terminal 31.

**15 - 31 : Continuity should exist.**

3. Connect audio unit connector.

Is inspection result OK?

YES >> GO TO 2.

NO >> Repair harness or connector.

#### 2. CHECK SPIRAL CABLE

Check spiral cable.

Is inspection result OK?

YES >> GO TO 3.

NO >> Replace spiral cable.

#### 3. CHECK GROUND CIRCUIT

1. Connect audio unit connector.
2. Check continuity between audio unit harness connector terminal 15 and ground.

**15 - Ground : Continuity should exist.**

Is inspection result OK?

YES >> GO TO 4.

NO >> Replace audio unit.

#### 4. CHECK STEERING SWITCH

1. Turn ignition switch OFF.
2. Check steering switch. Refer to [AV-121, "Component Inspection"](#).

Is inspection result OK?

YES >> INSPECTION END

NO >> Replace steering switch.

### Component Inspection

INFOID:000000001194052

Measure the resistance between the steering switch connector terminals 20 to 17 and 16 to 17.

Standard

**Between terminals 20 and 17**

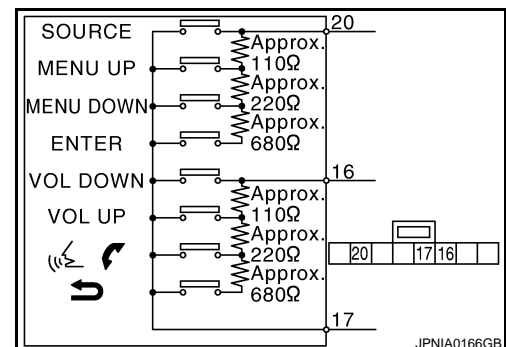
**ENTER switch ON : 990 – 1030 Ω**

**MENU DOWN switch ON : 324 – 336 Ω**

**MENU UP switch ON : 108 – 112 Ω**

**SOURCE switch ON : 0 Ω**

**Between terminals 16 and 17**



## STEERING SWITCH SIGNAL GND CIRCUIT

< COMPONENT DIAGNOSIS >

[AUDIO WITH NAVIGATION]

---

 switch ON	: 990 – 1030 $\Omega$
 switch ON	: 324 – 336 $\Omega$
VOL UP switch ON	: 108 – 112 $\Omega$
VOL DOWN switch ON	: 0 $\Omega$

## ECU DIAGNOSIS

### NAVI CONTROL UNIT

#### Reference Value

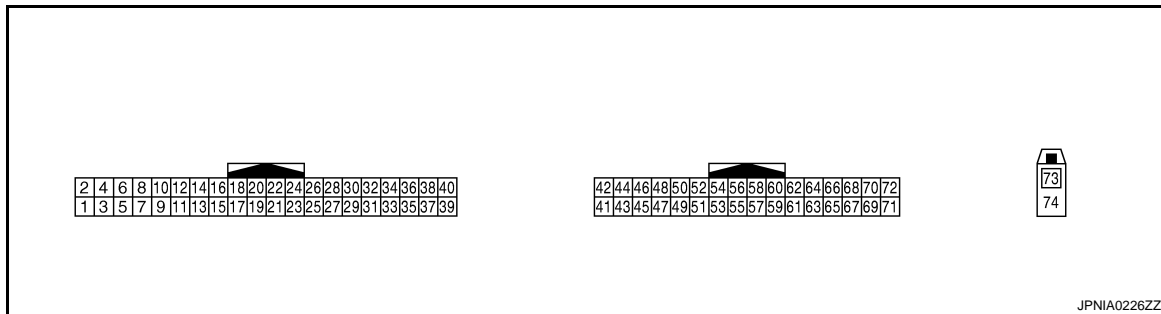
INFOID:000000001194053

#### VALUES ON THE DIAGNOSIS TOOL

CONSULT-III data monitor item

Display Item	Dis-play	Vehicle status	Remarks
VHCL SPD SIG	On	Vehicle speed >0 km/h (0 MPH)	Changes in indication may be delayed. This is normal.
	Off	Vehicle speed =0 km/h (0 MPH)	
PKB SIG	On	Parking brake is applied.	Changes in indication may be delayed. This is normal.
	Off	Parking brake is released.	
ILLUM SIG	On	Lighting switch ON	—
	Off	Lighting switch OFF	
IGN SIG	On	Ignition switch ON	—
	Off	Ignition switch in ACC position	
REV SIG	On	Selector lever in R position	Changes in indication may be delayed. This is normal.
	Off	Selector lever in any position other than R	

#### TERMINAL LAYOUT



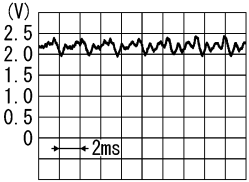
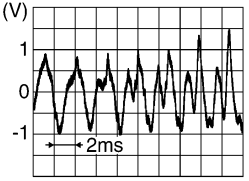
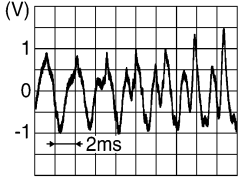
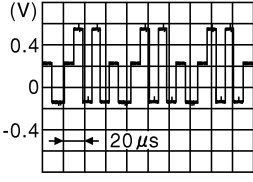
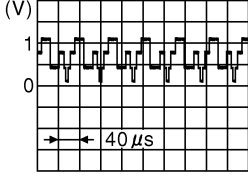
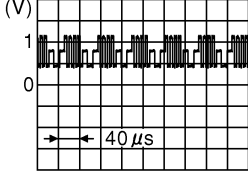
#### PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/Output			
1 (B)	Ground	GND	—	Ignition switch ON	—	0 V
2 (LG)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
5 (R)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
6 (B)	7	Microphone VCC	Output	Ignition switch ON	—	5 V
7	Ground	Microphone GND	—	Ignition switch ON	—	0 V

# NAVI CONTROL UNIT

< ECU DIAGNOSIS >

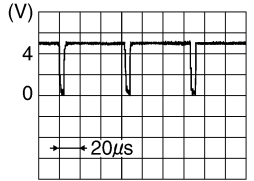
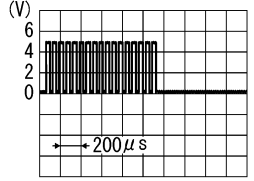
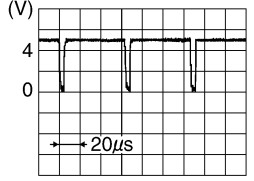
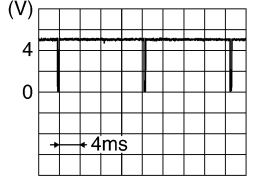
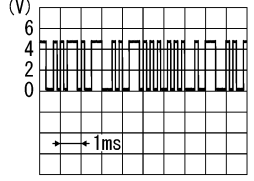
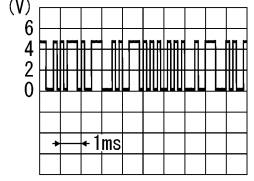
[AUDIO WITH NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
8 (W)	7	Microphone signal	Input	Ignition switch ON	Sounds	 <p style="text-align: right; font-size: small;">PKIB5037J</p>
9	—	Shield	—	—	—	—
10 (W)	11 (O)	TEL voice signal	Output	Ignition switch ON	TEL voice output	 <p style="text-align: right; font-size: small;">SKIB3609E</p>
12 (O)	14 (W)	Voice guidance signal	Output	Ignition switch ON	Voice guidance output	 <p style="text-align: right; font-size: small;">SKIB3609E</p>
13	—	Shield	—	—	—	—
44 (G)	47 (B)	RGB signal (R: red)	Output	Ignition switch ON	Start "Confirmation / Adjustment Mode", and then display color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	 <p style="text-align: right; font-size: small;">JPNIA0221ZZ</p>
45 (R)	47 (B)	RGB signal (G: green)	Output	Ignition switch ON	Start "Confirmation / Adjustment Mode", and then display color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	 <p style="text-align: right; font-size: small;">JPNIA0222ZZ</p>
46 (W)	47 (B)	RGB signal (B: blue)	Output	Ignition switch ON	Start "Confirmation / Adjustment Mode", and then display color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	 <p style="text-align: right; font-size: small;">JPNIA0223ZZ</p>
47 (B)	Ground	RGB ground	—	Ignition switch ON	—	0 V

# NAVI CONTROL UNIT

< ECU DIAGNOSIS >

[AUDIO WITH NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
48 (B)	Ground	RGB synchronizing signal	Output	Ignition switch ON	—	 <p style="text-align: right; font-size: small;">SKIB0825E</p>
49	Ground	Shield	—	—	—	—
50 (G)	Ground	RGB area (YS) signal	Output	Ignition switch ON	At RGB image displayed	5 V
					At rear view camera image displayed	 <p style="text-align: right; font-size: small;">PKIB4948J</p>
51 (R)	Ground	Horizontal synchronizing (HP) signal	Input	Ignition switch ON	—	 <p style="text-align: right; font-size: small;">SKIB0825E</p>
52 (W)	Ground	Vertical synchronizing (VP) signal	Input	Ignition switch ON	—	 <p style="text-align: right; font-size: small;">SKIB0823E</p>
53 (W)	Ground	Communication signal (CONT→DISP)	Output	Ignition switch ON	When adjusting display- brightness.	 <p style="text-align: right; font-size: small;">PKIB5039J</p>
54 (O)	Ground	Communication signal (DISP→CONT)	Input	Ignition switch ON	When adjusting display- brightness.	 <p style="text-align: right; font-size: small;">PKIB5039J</p>
55	—	Shield	—	—	—	—
61 (R/L)	Ground	Illumination signal	Input	OFF	Lighting switch is OFF.	0 V
					Lighting switch is ON.	12 V

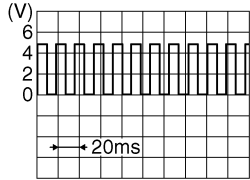
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# NAVI CONTROL UNIT

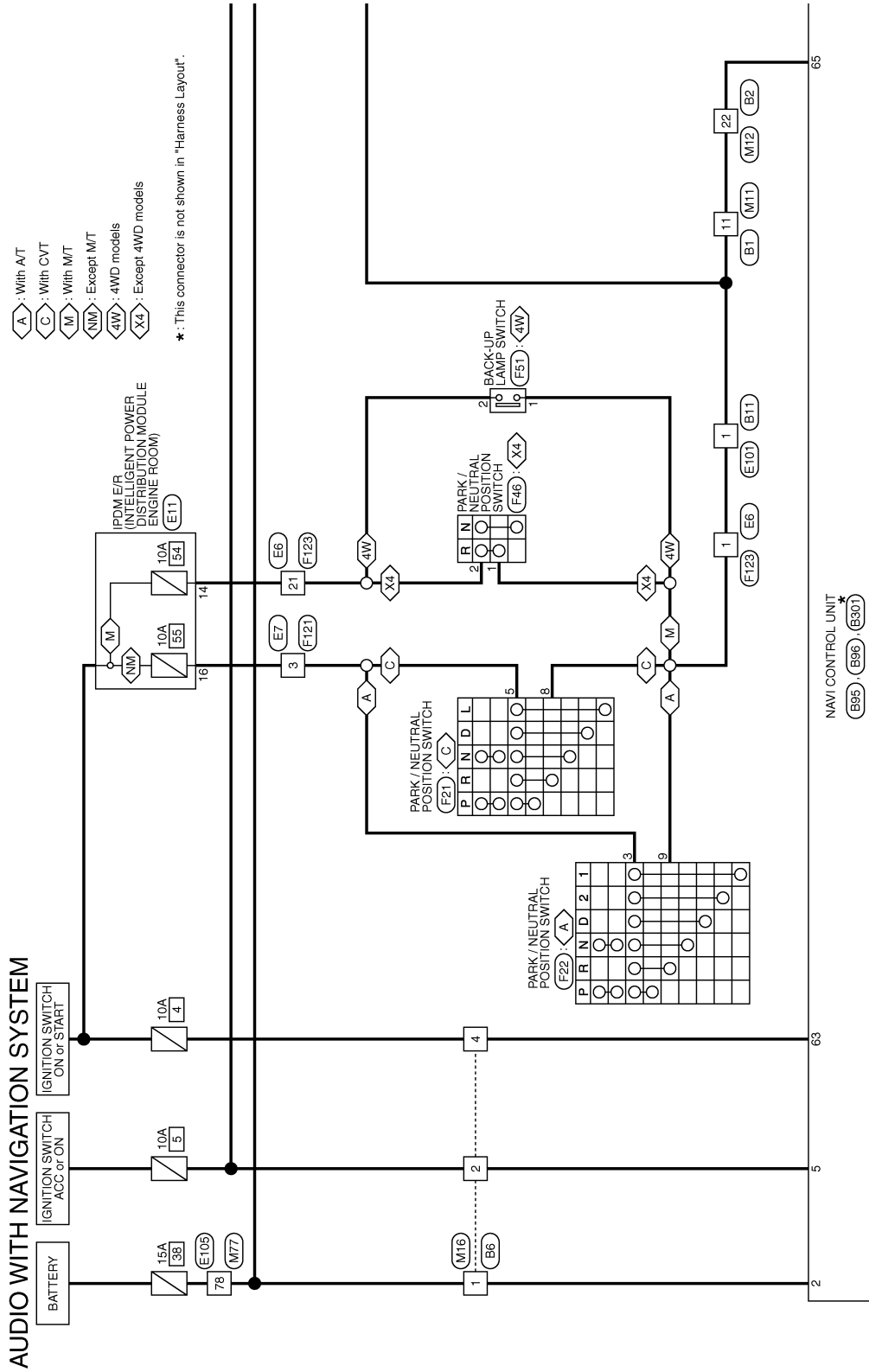
< ECU DIAGNOSIS >

[AUDIO WITH NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
63 (W)	Ground	Ignition signal	Input	Ignition switch ON	—	Battery voltage
64 (V)	Ground	Parking brake signal	Input	Ignition switch ON	Parking brake ON	0 V
					Parking brake OFF	12 V
65 (Y/G)	Ground	Reverse signal	Input	Ignition switch ON	R position	12 V
					Other than R position	0 V
66 (Y)	Ground	Vehicle speed signal (8-pulse)	Input	Ignition switch ON	When vehicle speed is approx. 40 km/h (25MPH)	 <p style="text-align: right; font-size: small;">SKIA6649J</p>
67 (Y)	Ground	Camera-connection recognition signal	Input	Ignition switch ON	Connected to camera control unit connector	0 V
					Not connected to camera control unit connector	5 V
69 (L)	—	AV communication signal (H)	Input/ Output	—	—	—
70 (P)	—	AV communication signal (L)	Input/ Output	—	—	—
71 (L)	—	CAN-H	Input/ Output	—	—	—
72 (P)	—	CAN-L	Input/ Output	—	—	—
73	Ground	GPS antenna signal	Input	Ignition switch ACC	Not connected to GPS antenna connector	5 V
74	—	Shield	—	—	—	—

## Wiring Diagram - AUDIO WITH NAVIGATION SYSTEM -

INFOID:000000001194054



2007/04/27

JCNWA0396GE

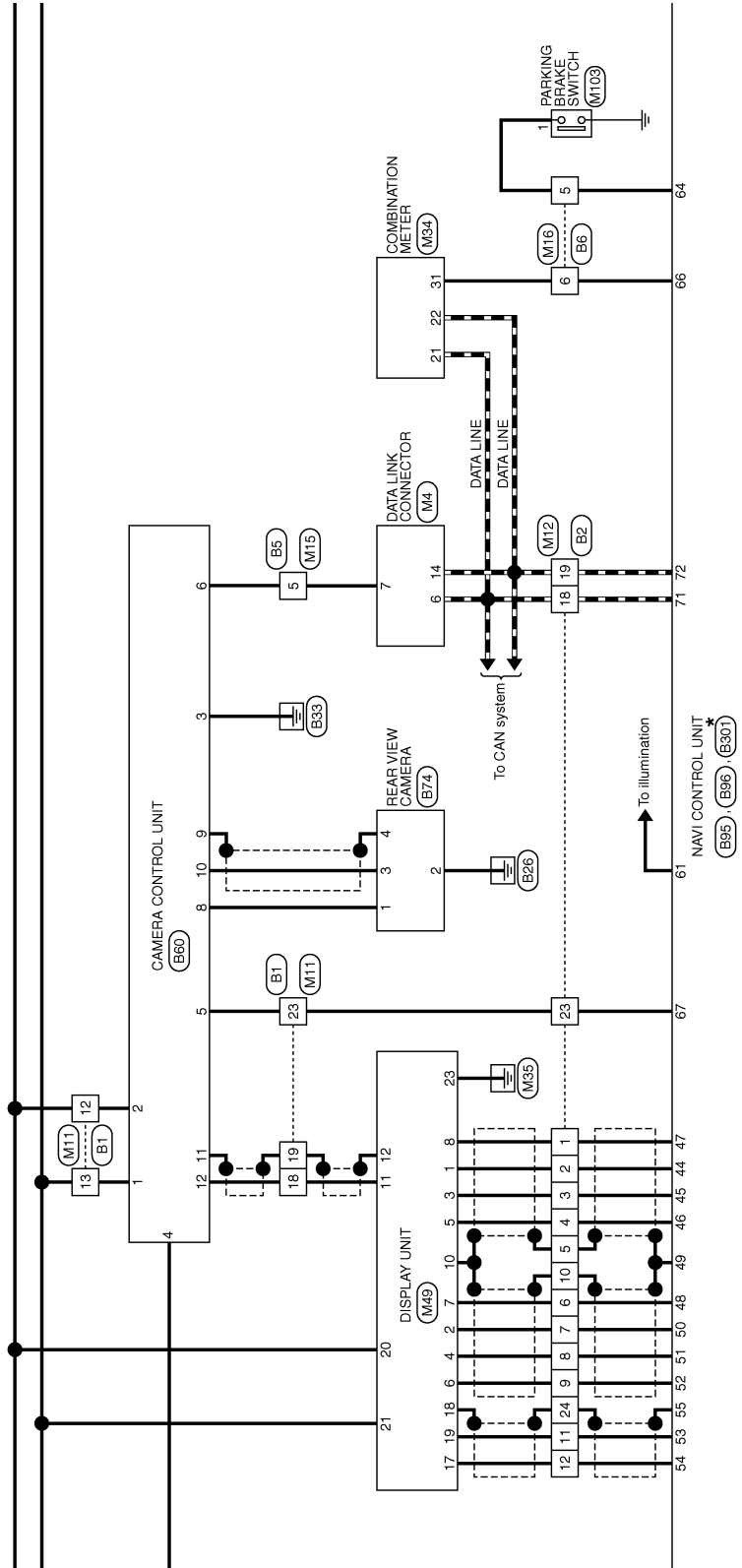
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# NAVI CONTROL UNIT

< ECU DIAGNOSIS >

[AUDIO WITH NAVIGATION]

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

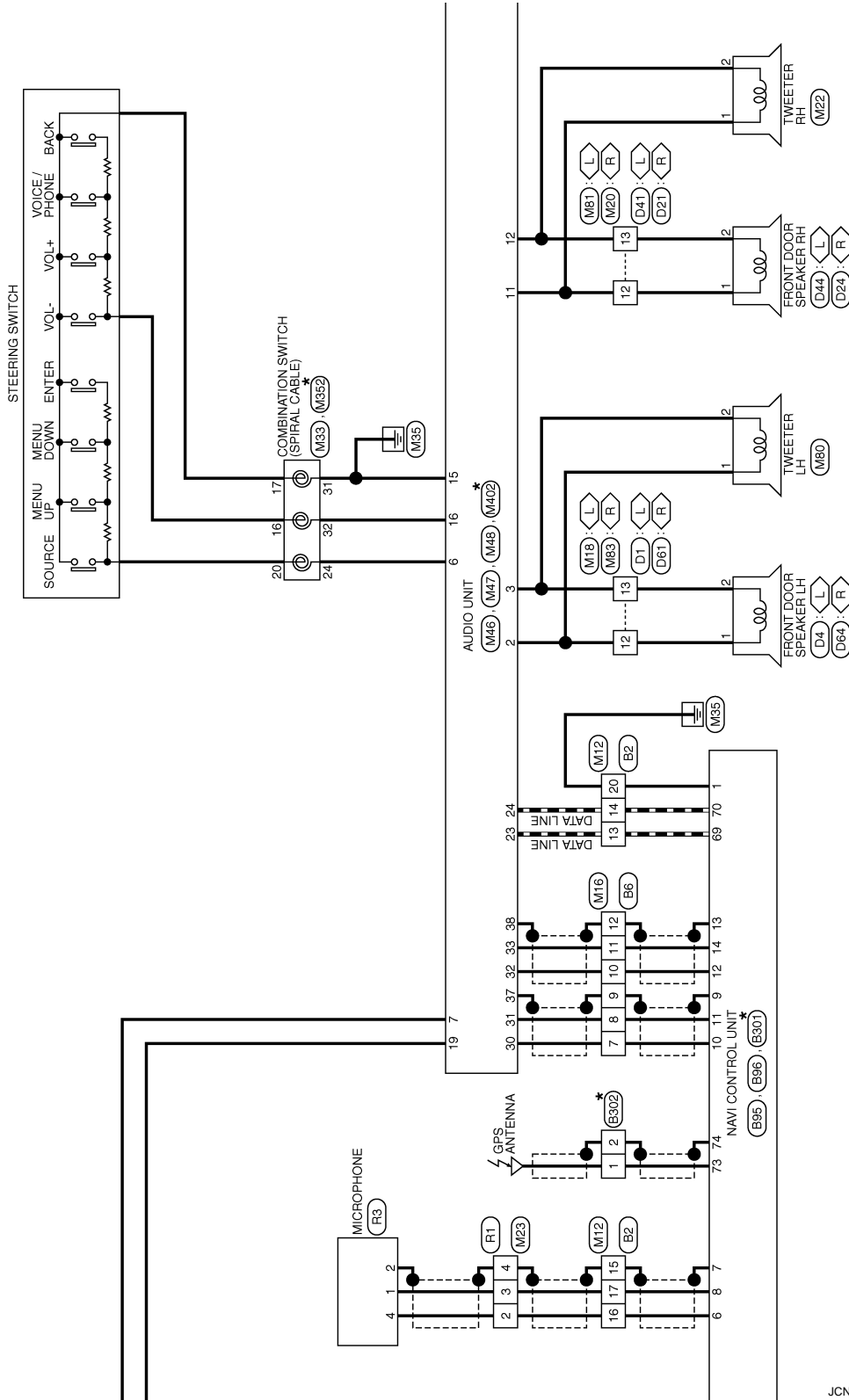


JCNWA0397GE



(L) : LHD models  
(R) : RHD models

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



JCNWA0398GE

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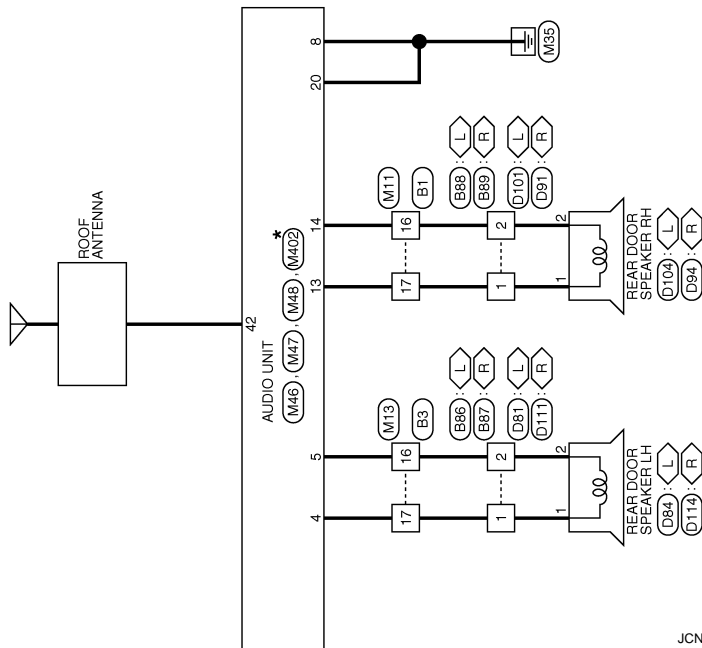
# NAVI CONTROL UNIT

< ECU DIAGNOSIS >

[AUDIO WITH NAVIGATION]

◁ L ▷ : LHD models  
 ▷ R ◁ : RHD models

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



JCNWA0399GE

# NAVI CONTROL UNIT

## AUDIO WITH NAVIGATION SYSTEM

<p>Connector No. B1                  Connector Name WIRE TO WIRE                  Connector Type TH24MW</p>		<p>1 2 3 4 5 6 7 8 9 10 11 12                  13 14 15 16 17 18 19 20 21 22 23 24</p>	<table border="1"> <tr> <td>Terminal No.</td> <td>Color of Wire</td> <td>Signal Name [Specification]</td> </tr> <tr> <td>11</td> <td>Y/G</td> <td>-</td> </tr> <tr> <td>12</td> <td>R</td> <td>-</td> </tr> <tr> <td>13</td> <td>LG</td> <td>-</td> </tr> <tr> <td>16</td> <td>V</td> <td>-</td> </tr> <tr> <td>17</td> <td>O</td> <td>-</td> </tr> <tr> <td>18</td> <td>R</td> <td>-</td> </tr> <tr> <td>19</td> <td>R</td> <td>-</td> </tr> <tr> <td>23</td> <td>Y</td> <td>-</td> </tr> </table>	Terminal No.	Color of Wire	Signal Name [Specification]	11	Y/G	-	12	R	-	13	LG	-	16	V	-	17	O	-	18	R	-	19	R	-	23	Y	-									
Terminal No.	Color of Wire	Signal Name [Specification]																																					
11	Y/G	-																																					
12	R	-																																					
13	LG	-																																					
16	V	-																																					
17	O	-																																					
18	R	-																																					
19	R	-																																					
23	Y	-																																					
<p>Connector No. B2                  Connector Name WIRE TO WIRE                  Connector Type TH24MW</p>		<p>1 2 3 4 5 6 7 8 9 10 11 12                  13 14 15 16 17 18 19 20 21 22 23 24</p>	<table border="1"> <tr> <td>Terminal No.</td> <td>Color of Wire</td> <td>Signal Name [Specification]</td> </tr> <tr> <td>1</td> <td>B</td> <td>-</td> </tr> <tr> <td>2</td> <td>G</td> <td>-</td> </tr> <tr> <td>3</td> <td>R</td> <td>-</td> </tr> <tr> <td>4</td> <td>W</td> <td>-</td> </tr> <tr> <td>5</td> <td>SHIELD</td> <td>-</td> </tr> <tr> <td>6</td> <td>B</td> <td>-</td> </tr> <tr> <td>7</td> <td>G</td> <td>-</td> </tr> <tr> <td>8</td> <td>R</td> <td>-</td> </tr> <tr> <td>9</td> <td>W</td> <td>-</td> </tr> <tr> <td>10</td> <td>SHIELD</td> <td>-</td> </tr> <tr> <td>11</td> <td>W</td> <td>-</td> </tr> </table>	Terminal No.	Color of Wire	Signal Name [Specification]	1	B	-	2	G	-	3	R	-	4	W	-	5	SHIELD	-	6	B	-	7	G	-	8	R	-	9	W	-	10	SHIELD	-	11	W	-
Terminal No.	Color of Wire	Signal Name [Specification]																																					
1	B	-																																					
2	G	-																																					
3	R	-																																					
4	W	-																																					
5	SHIELD	-																																					
6	B	-																																					
7	G	-																																					
8	R	-																																					
9	W	-																																					
10	SHIELD	-																																					
11	W	-																																					
<p>Connector No. B3                  Connector Name WIRE TO WIRE                  Connector Type TH24MW</p>		<p>1 2 3 4 5 6 7 8 9 10 11 12                  13 14 15 16 17 18 19 20 21 22 23 24</p>	<table border="1"> <tr> <td>Terminal No.</td> <td>Color of Wire</td> <td>Signal Name [Specification]</td> </tr> <tr> <td>16</td> <td>Y</td> <td>-</td> </tr> <tr> <td>17</td> <td>LG</td> <td>-</td> </tr> </table>	Terminal No.	Color of Wire	Signal Name [Specification]	16	Y	-	17	LG	-																											
Terminal No.	Color of Wire	Signal Name [Specification]																																					
16	Y	-																																					
17	LG	-																																					
<p>Connector No. B5                  Connector Name WIRE TO WIRE                  Connector Type NS08MW-CS</p>		<p>1 2 3                  4 5 6 7 8</p>	<table border="1"> <tr> <td>Terminal No.</td> <td>Color of Wire</td> <td>Signal Name [Specification]</td> </tr> <tr> <td>5</td> <td>O</td> <td>-</td> </tr> </table>	Terminal No.	Color of Wire	Signal Name [Specification]	5	O	-																														
Terminal No.	Color of Wire	Signal Name [Specification]																																					
5	O	-																																					
<p>Connector No. B6                  Connector Name WIRE TO WIRE                  Connector Type TH12MW</p>		<p>1 2 3 4 5 6                  7 8 9 10 11 12</p>	<table border="1"> <tr> <td>Terminal No.</td> <td>Color of Wire</td> <td>Signal Name [Specification]</td> </tr> <tr> <td>1</td> <td>LG</td> <td>-</td> </tr> <tr> <td>2</td> <td>R</td> <td>-</td> </tr> <tr> <td>4</td> <td>W</td> <td>-</td> </tr> <tr> <td>5</td> <td>V</td> <td>-</td> </tr> <tr> <td>6</td> <td>Y</td> <td>-</td> </tr> <tr> <td>7</td> <td>W</td> <td>-</td> </tr> <tr> <td>8</td> <td>O</td> <td>-</td> </tr> <tr> <td>9</td> <td>SHIELD</td> <td>-</td> </tr> <tr> <td>10</td> <td>O</td> <td>-</td> </tr> <tr> <td>11</td> <td>W</td> <td>-</td> </tr> <tr> <td>12</td> <td>SHIELD</td> <td>-</td> </tr> </table>	Terminal No.	Color of Wire	Signal Name [Specification]	1	LG	-	2	R	-	4	W	-	5	V	-	6	Y	-	7	W	-	8	O	-	9	SHIELD	-	10	O	-	11	W	-	12	SHIELD	-
Terminal No.	Color of Wire	Signal Name [Specification]																																					
1	LG	-																																					
2	R	-																																					
4	W	-																																					
5	V	-																																					
6	Y	-																																					
7	W	-																																					
8	O	-																																					
9	SHIELD	-																																					
10	O	-																																					
11	W	-																																					
12	SHIELD	-																																					
<p>Connector No. B8                  Connector Name WIRE TO WIRE                  Connector Type TH12MW</p>		<p>1 2 3 4 5 6                  7 8 9 10 11 12</p>	<table border="1"> <tr> <td>Terminal No.</td> <td>Color of Wire</td> <td>Signal Name [Specification]</td> </tr> <tr> <td>1</td> <td>LG</td> <td>-</td> </tr> <tr> <td>2</td> <td>R</td> <td>-</td> </tr> <tr> <td>4</td> <td>W</td> <td>-</td> </tr> <tr> <td>5</td> <td>V</td> <td>-</td> </tr> <tr> <td>6</td> <td>Y</td> <td>-</td> </tr> <tr> <td>7</td> <td>W</td> <td>-</td> </tr> <tr> <td>8</td> <td>O</td> <td>-</td> </tr> <tr> <td>9</td> <td>SHIELD</td> <td>-</td> </tr> <tr> <td>10</td> <td>O</td> <td>-</td> </tr> <tr> <td>11</td> <td>W</td> <td>-</td> </tr> <tr> <td>12</td> <td>SHIELD</td> <td>-</td> </tr> </table>	Terminal No.	Color of Wire	Signal Name [Specification]	1	LG	-	2	R	-	4	W	-	5	V	-	6	Y	-	7	W	-	8	O	-	9	SHIELD	-	10	O	-	11	W	-	12	SHIELD	-
Terminal No.	Color of Wire	Signal Name [Specification]																																					
1	LG	-																																					
2	R	-																																					
4	W	-																																					
5	V	-																																					
6	Y	-																																					
7	W	-																																					
8	O	-																																					
9	SHIELD	-																																					
10	O	-																																					
11	W	-																																					
12	SHIELD	-																																					
<p>Connector No. B11                  Connector Name WIRE TO WIRE                  Connector Type TK10MW-NS8</p>		<p>1 2 3 4 5                  6 7 8 9 10                  11 12 13 14 15 16 17 18</p>	<table border="1"> <tr> <td>Terminal No.</td> <td>Color of Wire</td> <td>Signal Name [Specification]</td> </tr> <tr> <td>1</td> <td>Y/G</td> <td>-</td> </tr> </table>	Terminal No.	Color of Wire	Signal Name [Specification]	1	Y/G	-																														
Terminal No.	Color of Wire	Signal Name [Specification]																																					
1	Y/G	-																																					
<p>Connector No. B60                  Connector Name CAMERA CONTROL UNIT                  Connector Type TH16FW</p>		<p>2 4 6 8 10 12 14 16                  1 3 5 7 9 11 13 15</p>	<table border="1"> <tr> <td>Terminal No.</td> <td>Color of Wire</td> <td>Signal Name [Specification]</td> </tr> <tr> <td>1</td> <td>LG</td> <td>BATTERY</td> </tr> <tr> <td>2</td> <td>R</td> <td>ACC</td> </tr> <tr> <td>3</td> <td>B</td> <td>GND</td> </tr> <tr> <td>4</td> <td>Y/G</td> <td>REVERSE SIGNAL</td> </tr> <tr> <td>5</td> <td>Y</td> <td>CONNECTION RECOGNITION</td> </tr> <tr> <td>6</td> <td>O</td> <td>DDL</td> </tr> <tr> <td>8</td> <td>V</td> <td>CAMERA ON SIGNAL</td> </tr> <tr> <td>9</td> <td>SHIELD</td> <td>SHIELD</td> </tr> <tr> <td>10</td> <td>W</td> <td>CAMERA IMAGE SIGNAL</td> </tr> <tr> <td>11</td> <td>SHIELD</td> <td>SHIELD</td> </tr> <tr> <td>12</td> <td>R</td> <td>CAMERA IMAGE SIGNAL</td> </tr> </table>	Terminal No.	Color of Wire	Signal Name [Specification]	1	LG	BATTERY	2	R	ACC	3	B	GND	4	Y/G	REVERSE SIGNAL	5	Y	CONNECTION RECOGNITION	6	O	DDL	8	V	CAMERA ON SIGNAL	9	SHIELD	SHIELD	10	W	CAMERA IMAGE SIGNAL	11	SHIELD	SHIELD	12	R	CAMERA IMAGE SIGNAL
Terminal No.	Color of Wire	Signal Name [Specification]																																					
1	LG	BATTERY																																					
2	R	ACC																																					
3	B	GND																																					
4	Y/G	REVERSE SIGNAL																																					
5	Y	CONNECTION RECOGNITION																																					
6	O	DDL																																					
8	V	CAMERA ON SIGNAL																																					
9	SHIELD	SHIELD																																					
10	W	CAMERA IMAGE SIGNAL																																					
11	SHIELD	SHIELD																																					
12	R	CAMERA IMAGE SIGNAL																																					

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## AUDIO WITH NAVIGATION SYSTEM

Connector No.	B74
Connector Name	REAR VIEW CAMERA
Connector Type	TH04MW



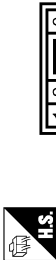
Terminal No.	Color of Wire	Signal Name [Specification]
1	V	CAMERA ON SIGNAL
2	B	GND
3	W	CAMERA IMAGE SIGNAL
4	SHIELD	SHIELD

Connector No.	B89
Connector Name	WIRE TO WIRE
Connector Type	NS08MW-CS



Terminal No.	Color of Wire	Signal Name [Specification]
1	O	
2	V	

Connector No.	B86
Connector Name	WIRE TO WIRE
Connector Type	NS08MW-CS



Terminal No.	Color of Wire	Signal Name [Specification]
1	LG	
2	Y	

Connector No.	B95
Connector Name	NAVI CONTROL UNIT
Connector Type	TH40PW



Terminal No.	Color of Wire	Signal Name [Specification]
1	B	GND
2	LG	BATTERY
5	R	ACC
6	B	MICROPHONE VCC
7	SHIELD	MICROPHONE GND
8	W	MICROPHONE SIGNAL
9	SHIELD	SHIELD
10	W	TEL VOICE SIGNAL (+)
11	O	TEL VOICE SIGNAL (-)
12	O	VOICE GUIDANCE SIGNAL (+)
13	SHIELD	SHIELD

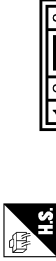
Connector No.	B87
Connector Name	WIRE TO WIRE
Connector Type	NS08MW-CS



Terminal No.	Color of Wire	Signal Name [Specification]
1	LG	
2	Y	

14	W	VOICE GUIDANCE SIGNAL (-)
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Connector No.	B88
Connector Name	WIRE TO WIRE
Connector Type	NS08MW-CS



Terminal No.	Color of Wire	Signal Name [Specification]
1	O	
2	V	



## AUDIO WITH NAVIGATION SYSTEM

Connector No.	B98
Connector Name	NAVI CONTROL UNIT
Connector Type	TH32FW

Terminal No.	Color of Wire	Signal Name [Specification]
44	G	RGB (R-RED) SIGNAL
45	R	RGB (G-GREEN) SIGNAL
46	W	RGB (B-BLUE) SIGNAL
47	B	RGB GND
48	B	RGB SYNC
49	B	SHIELD
50	G	RGB AREA (YS) SIGNAL
51	R	HP
52	W	YP
53	W	COMM (CONT→DISP)
54	O	COMM (DISP→CONT)

Connector No.	D1
Connector Name	WIRE TO WIRE
Connector Type	TK (8FW)


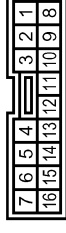



Terminal No.	Color of Wire	Signal Name [Specification]
12	L	-
13	G	-

55	SHIELD	SHIELD
61	R/L	ILLUMINATION
63	W	IGNITION
64	V	PARKING BRAKE
65	Y/G	REVERSE SIGNAL
66	Y	VEHICLE SPEED (S-PULSE)
67	Y	CONNECTION RECOGNITION
69	L	AV COMM (V)
70	P	AV COMM (L)
71	L	GAN-H
72	P	GAN-L



Terminal No.	Color of Wire	Signal Name [Specification]
73	-	GPS ANTENNA
74	SHIELD	SHIELD

Connector No.	D21
Connector Name	WIRE TO WIRE
Connector Type	TK (8FW)



Terminal No.	Color of Wire	Signal Name [Specification]
12	BR	-
13	P	-

Connector No.	B301
Connector Name	NAVI CONTROL UNIT
Connector Type	GT3S-PP-HU



Terminal No.	Color of Wire	Signal Name [Specification]
1	-	-
2	SHIELD	-

Connector No.	D24
Connector Name	FRONT DOOR SPEAKER RH
Connector Type	NS22FW-GS

Terminal No.	Color of Wire	Signal Name [Specification]
1	BR	-
2	P	-

Connector No.	B302
Connector Name	GPS ANTENNA
Connector Type	GT3S-PP-HU




















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**AUDIO WITH NAVIGATION SYSTEM**

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Connector No.</td><td>D41</td></tr> <tr><td>Connector Name</td><td>WIRE TO WIRE</td></tr> <tr><td>Connector Type</td><td>TK18FW</td></tr> </table>	Connector No.	D41	Connector Name	WIRE TO WIRE	Connector Type	TK18FW	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Terminal No.</td><td>13</td></tr> <tr><td>Color of Wire</td><td>BR</td></tr> <tr><td>Terminal No.</td><td>12</td></tr> <tr><td>Color of Wire</td><td>BR</td></tr> </table>	Terminal No.	13	Color of Wire	BR	Terminal No.	12	Color of Wire	BR	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Terminal No.</td><td>13</td><td>Color of Wire</td><td>G</td><td>Signal Name [Specification]</td><td></td></tr> <tr><td>12</td><td>L</td><td>L</td><td></td><td></td><td></td></tr> <tr><td>1</td><td>BR</td><td>BR</td><td></td><td></td><td></td></tr> <tr><td>2</td><td>P</td><td>P</td><td></td><td></td><td></td></tr> </table>	Terminal No.	13	Color of Wire	G	Signal Name [Specification]		12	L	L				1	BR	BR				2	P	P				<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Terminal No.</td><td>1</td><td>Color of Wire</td><td>O</td><td>Signal Name [Specification]</td><td></td></tr> <tr><td>2</td><td>Y</td><td>Y</td><td></td><td></td><td></td></tr> </table>	Terminal No.	1	Color of Wire	O	Signal Name [Specification]		2	Y	Y							
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**AUDIO WITH NAVIGATION SYSTEM**

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<table border="1"> <tr><td>Connector No.</td><td>E6</td></tr> <tr><td>Connector Name</td><td>WIRE TO WIRE</td></tr> <tr><td>Connector Type</td><td>TK24MW-1V</td></tr> </table>   <table border="1"> <tr><td>Terminal No.</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td></tr> </table>	Connector No.	E6	Connector Name	WIRE TO WIRE	Connector Type	TK24MW-1V	Terminal No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	<table border="1"> <tr><td>Connector No.</td><td>E7</td></tr> <tr><td>Connector Name</td><td>WIRE TO WIRE</td></tr> <tr><td>Connector Type</td><td>NS18MW-CS</td></tr> </table>   <table border="1"> <tr><td>Terminal No.</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td></tr> </table>	Connector No.	E7	Connector Name	WIRE TO WIRE	Connector Type	NS18MW-CS	Terminal No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	<table border="1"> <tr><td>Connector No.</td><td>E11</td></tr> <tr><td>Connector Name</td><td>IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)</td></tr> <tr><td>Connector Type</td><td>NS12FBR-CS</td></tr> </table>   <table border="1"> <tr><td>Terminal No.</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td></tr> </table>	Connector No.	E11	Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	Connector Type	NS12FBR-CS	Terminal No.	13	12	11	10	9	20	19	18	17	16	15	14	<table border="1"> <tr><td>Connector No.</td><td>E101</td></tr> <tr><td>Connector Name</td><td>WIRE TO WIRE</td></tr> <tr><td>Connector Type</td><td>TK10FW-NS8</td></tr> </table>   <table border="1"> <tr><td>Terminal No.</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td></tr> </table>	Connector No.	E101	Connector Name	WIRE TO WIRE	Connector Type	TK10FW-NS8	Terminal No.	10	9	8	7	6	5	4	3	2	1	18	17	16	15	14	13	12	11
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**AUDIO WITH NAVIGATION SYSTEM**

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Connector No.</td><td>E105</td></tr> <tr><td>Connector Name</td><td>WIRE TO WIRE</td></tr> <tr><td>Connector Type</td><td>TH63MW-NS16-TM4</td></tr> </table>	Connector No.	E105	Connector Name	WIRE TO WIRE	Connector Type	TH63MW-NS16-TM4	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Terminal No.</td><td>78</td></tr> <tr><td>Color of Wire</td><td>LG</td></tr> <tr><td>Signal Name [Specification]</td><td></td></tr> </table>	Terminal No.	78	Color of Wire	LG	Signal Name [Specification]		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Connector No.</td><td>F21</td></tr> <tr><td>Connector Name</td><td>PARK/NEUTRAL POSITION SWITCH</td></tr> <tr><td>Connector Type</td><td>RK08FG</td></tr> </table>	Connector No.	F21	Connector Name	PARK/NEUTRAL POSITION SWITCH	Connector Type	RK08FG	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Terminal No.</td><td>5</td></tr> <tr><td>Color of Wire</td><td>Y/R</td></tr> <tr><td>Signal Name [Specification]</td><td></td></tr> <tr><td>Terminal No.</td><td>8</td></tr> <tr><td>Color of Wire</td><td>Y/G</td></tr> <tr><td>Signal Name [Specification]</td><td></td></tr> </table>	Terminal No.	5	Color of Wire	Y/R	Signal Name [Specification]		Terminal No.	8	Color of Wire	Y/G	Signal Name [Specification]	
Connector No.	E105																																
Connector Name	WIRE TO WIRE																																
Connector Type	TH63MW-NS16-TM4																																
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<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Connector No.</td><td>F4E</td></tr> <tr><td>Connector Name</td><td>PARK/NEUTRAL POSITION SWITCH</td></tr> <tr><td>Connector Type</td><td>FEA03FG</td></tr> </table>	Connector No.	F4E	Connector Name	PARK/NEUTRAL POSITION SWITCH	Connector Type	FEA03FG	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Terminal No.</td><td>1</td></tr> <tr><td>Color of Wire</td><td>Y/G</td></tr> <tr><td>Signal Name [Specification]</td><td></td></tr> <tr><td>Terminal No.</td><td>2</td></tr> <tr><td>Color of Wire</td><td>R/B</td></tr> <tr><td>Signal Name [Specification]</td><td></td></tr> </table>	Terminal No.	1	Color of Wire	Y/G	Signal Name [Specification]		Terminal No.	2	Color of Wire	R/B	Signal Name [Specification]															
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Connector Type	RK02FB																																
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Connector No.	F123																																
Connector Name	WIRE TO WIRE																																
Connector Type	TK24FW-1V																																
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Connector Type	BD18FW																																
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Signal Name [Specification]																																	
Terminal No.	14																																
Color of Wire	P																																
Signal Name [Specification]																																	



**AUDIO WITH NAVIGATION SYSTEM**

Connector No. M11 Connector Name WIRE TO WIRE Connector Type TH24FW			
Terminal No.	Color of Wire	Signal Name [Specification]	
11	Y	-	
12	R	-	
13	LG	-	
16	V	-	
17	O	-	
18	W	-	
18	SHIELD	-	
23	Y	-	

Connector No. M12 Connector Name WIRE TO WIRE Connector Type TH24FW			
Terminal No.	Color of Wire	Signal Name [Specification]	
1	B	-	
2	G	-	
3	R	-	
4	W	-	
5	SHIELD	-	
6	B	-	
7	G	-	
8	R	-	
9	W	-	
10	SHIELD	-	
11	W	-	

Connector No. M13 Connector Name WIRE TO WIRE Connector Type TH24FW			
Terminal No.	Color of Wire	Signal Name [Specification]	
16	Y	-	
17	LG	-	

Connector No. M15 Connector Name WIRE TO WIRE Connector Type NS08FW-GS			
Terminal No.	Color of Wire	Signal Name [Specification]	
5	O	-	

Connector No. M18 Connector Name WIRE TO WIRE Connector Type TK16MW			
Terminal No.	Color of Wire	Signal Name [Specification]	
12	L	-	
13	G	-	

Connector No. M20 Connector Name WIRE TO WIRE Connector Type TK16MW			
Terminal No.	Color of Wire	Signal Name [Specification]	
12	BR	-	
13	P	-	

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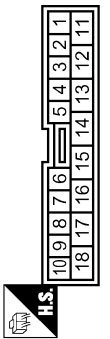
### AUDIO WITH NAVIGATION SYSTEM

Connector No.	M22
Connector Name	TWEETER RH
Connector Type	FCI 21 IP-0202S3017



Terminal No.	Color of Wire	Signal Name [Specification]
1	BR	-
2	P	-

Connector No.	M23
Connector Name	WIRE TO WIRE
Connector Type	TKDFW-WS3



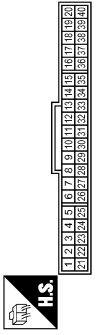
Terminal No.	Color of Wire	Signal Name [Specification]
2	W	-
3	B	-
4	SHIELD	-

Connector No.	M33
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TK08FGY-1V



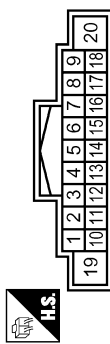
Terminal No.	Color of Wire	Signal Name [Specification]
24	R	-
31	B	-
32	Y	-

Connector No.	M34
Connector Name	COMBINATION METER
Connector Type	SAB4QFW



Terminal No.	Color of Wire	Signal Name [Specification]
21	L	CAN-H
22	P	CAN-L
31	Y	VEHICLE SPEED (6-PULSE)

Connector No.	M46
Connector Name	AUDIO UNIT
Connector Type	TH18FW-GS2



Terminal No.	Color of Wire	Signal Name [Specification]
2	L	SOUND SIGNAL FRONT LH (+)
3	G	SOUND SIGNAL FRONT LH (-)
4	LG	SOUND SIGNAL REAR LH (+)
5	Y	SOUND SIGNAL REAR RH (-)
6	R	STRG SW A
7	R	ACC
8	B	GND
11	BR	SOUND SIGNAL FRONT RH (+)
12	B	SOUND SIGNAL FRONT RH (-)
13	O	SOUND SIGNAL REAR RH (+)
14	V	SOUND SIGNAL REAR RH (-)

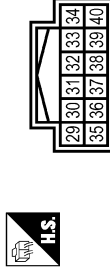
Terminal No.	15	B	STRG SW GND
Terminal No.	16	Y	STRG SW B
Terminal No.	19	LG	BATTERY
Terminal No.	20	B	GND

Connector No.	M47
Connector Name	AUDIO UNIT
Connector Type	TH08FW



Terminal No.	Color of Wire	Signal Name [Specification]
23	L	AV COMM (H)
24	P	AV COMM (L)

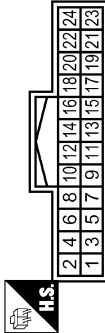
Connector No.	M48
Connector Name	AUDIO UNIT
Connector Type	TH12FW



Terminal No.	Color of Wire	Signal Name [Specification]
30	W	TEL VOICE SIGNAL (-)
31	O	TEL VOICE SIGNAL (-) (With navigation system)
32	O	VOICE GUIDANCE (+)
33	W	VOICE GUIDANCE (-)
37	SHIELD	SHIELD (With navigation system)
38	SHIELD	SHIELD

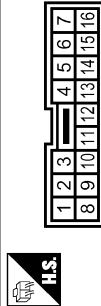
### AUDIO WITH NAVIGATION SYSTEM

Connector No.	M49
Connector Name	DISPLAY UNIT
Connector Type	TH24FW



Terminal No.	Color of Wire	Signal Name [Specification]
1	G	RGB (R-RED) SIGNAL
2	G	RGB AREA (Y.S) SIGNAL
3	R	RGB (G-GREEN) SIGNAL
4	R	HP
5	W	RGB (B-BLUE) SIGNAL
6	W	VP
7	B	RGB SYNC
8	B	RGB GND
10	SHIELD	SHIELD
11	R	CAMERA IMAGE SIGNAL
12	SHIELD	SHIELD

Connector No.	M81
Connector Name	WIRE TO WIRE
Connector Type	TK (BMW)

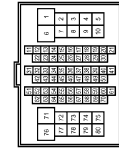


Terminal No.	Color of Wire	Signal Name [Specification]
12	BR	-
13	P	-

17	O	COMM (DISP—CONT)
18	SHIELD	SHIELD
19	W	COMM (CONT—DISP)
20	R	ACC
21	LG	BATTERY
22	B	GND



Connector No.	M77
Connector Name	WIRE TO WIRE
Connector Type	TH60FW-MS16-TM4



Terminal No.	Color of Wire	Signal Name [Specification]
78	LG	-

Connector No.	M83
Connector Name	WIRE TO WIRE
Connector Type	TK (BMW)



Terminal No.	Color of Wire	Signal Name [Specification]
12	L	-
13	G	-

Connector No.	M80
Connector Name	TWEETER LH
Connector Type	FGI21PC023S3017



Terminal No.	Color of Wire	Signal Name [Specification]
1	L	-
2	G	-

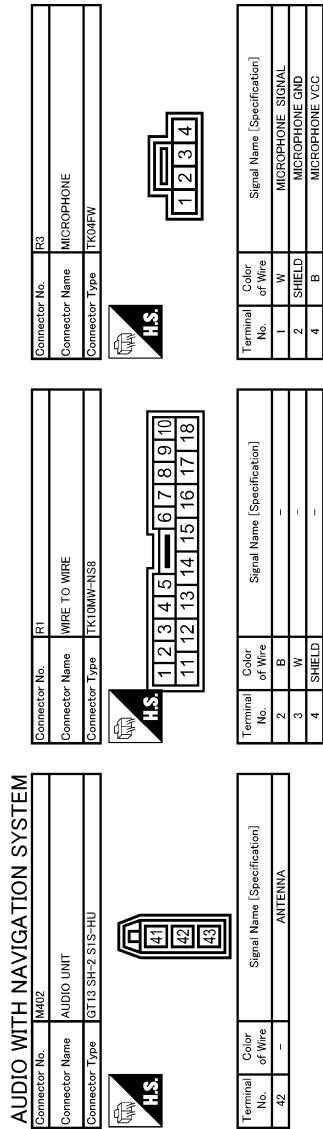
Connector No.	M35Z
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TK08MGY-X



Terminal No.	Color of Wire	Signal Name [Specification]
16	-	-
17	-	-
20	-	-

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AV



JCNWA0409GE

INFOID:000000001194055

## DTC Index

Self-diagnosis results display item

DTC	Error item	Refer to
U1000	CAN COMM CIRCUIT [U1000]	<a href="#">AV-74. "Diagnosis Procedure"</a>
U1010	CONTROL UNIT (CAN) [U1010]	<a href="#">AV-75. "Diagnosis Procedure"</a>

# NAVI CONTROL UNIT

< ECU DIAGNOSIS >

[AUDIO WITH NAVIGATION]

DTC	Error item	Refer to
U1310	CONTROL UNIT (AV) [U1310]	<a href="#">AV-76, "DTC Logic"</a>
U1300 U1240 U1249 U124E U124F	AV COMM CIRCUIT [U1300] SWITCH CONN [U1240] AUDIO H/U CONN [U1249] AMP CONN [U124E] RDS CONN [U124F]	<a href="#">AV-102, "Description"</a>
U1243	FRONT DISP CONN [U1243]	<a href="#">AV-98, "Diagnosis Procedure"</a>
U1244	GPS ANTENNA CONN [U1244]	<a href="#">AV-100, "Diagnosis Procedure"</a>
U1250	CAMERA CONT. CONN [U1250]	<a href="#">AV-101, "Diagnosis Procedure"</a>
U1200	Control Unit FLASH-ROM [U1200]	<a href="#">AV-77, "DTC Logic"</a>
U1201	Gyro NO CONN [U1201]	<a href="#">AV-78, "DTC Logic"</a>
U1204	GPS COMM [U1204]	<a href="#">AV-81, "Diagnosis Procedure"</a>
U1205	GPS ROM [U1205]	<a href="#">AV-82, "Diagnosis Procedure"</a>
U1206	GPS RAM [U1206]	<a href="#">AV-83, "Diagnosis Procedure"</a>
U1207	GPS RTC [U1207]	<a href="#">AV-84, "Diagnosis Procedure"</a>
U1208	DVD-ROM COMM [U1208]	<a href="#">AV-85, "Diagnosis Procedure"</a>
U1209	DVD-ROM READ [U1209]	<a href="#">AV-86, "Diagnosis Procedure"</a>
U120A	DVD-ROM DISC [U120A]	<a href="#">AV-87, "Diagnosis Procedure"</a>
U120C	DVD-ROM MECHA DETECT [U120C]	<a href="#">AV-88, "Diagnosis Procedure"</a>
U120D	DVD-ROM DRIVE MECHA [U120D]	<a href="#">AV-89, "Diagnosis Procedure"</a>
U120E	DVD-ROM FOCUS [U120E]	<a href="#">AV-90, "Diagnosis Procedure"</a>
U120F	DVD-ROM TOC [U120F]	<a href="#">AV-91, "Diagnosis Procedure"</a>
U1210	DVD-ROM SEEK [U1210]	<a href="#">AV-92, "Diagnosis Procedure"</a>
U1211	DVD-ROM ERR CORRECTION [U1211]	<a href="#">AV-93, "Diagnosis Procedure"</a>
U1212	DVD-ROM DATA FORWARD [U1212]	<a href="#">AV-94, "Diagnosis Procedure"</a>
U1213	DVD-ROM DATA [U1213]	<a href="#">AV-95, "Diagnosis Procedure"</a>
U1214	DVD-ROM TIMEOUT [U1214]	<a href="#">AV-96, "Diagnosis Procedure"</a>
U1215	DVD-ROM LOAD [U1215]	<a href="#">AV-97, "Diagnosis Procedure"</a>
U1216	CAN CONT [U1216]	<a href="#">AV-79, "DTC Logic"</a>
U1217	BLUETOOTH CONN [U1217]	<a href="#">AV-80, "DTC Logic"</a>

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# AUDIO UNIT

< ECU DIAGNOSIS >

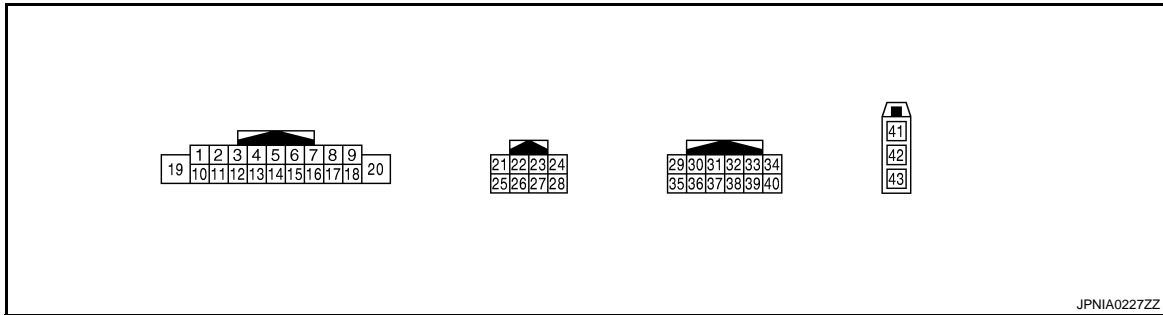
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## AUDIO UNIT

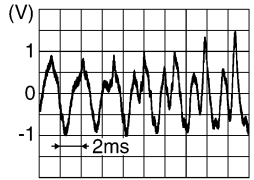
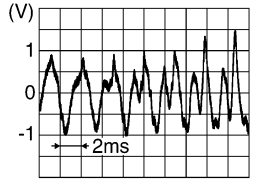
Reference Value

INFOID:000000001194056

### TERMINAL LAYOUT



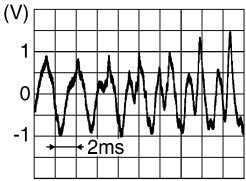
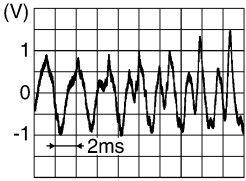


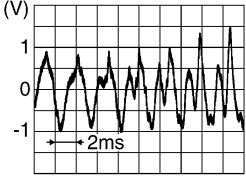
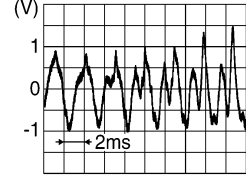
### PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
2 (L)	3 (G)	Sound signal front LH	Output	Ignition switch ON	Voice output	 SKIB3609E
4 (LG)	5 (Y)	Sound signal rear LH	Output	Ignition switch ON	Voice output	 SKIB3609E
6 (R)	15 (B)	Steering switch signal A	Input	Ignition switch ON	Keep pressing SOURCE switch.	0 V
					Keep pressing MENU UP switch.	1.2 V
					Keep pressing MENU DOWN switch.	2.5 V
					Keep pressing ENTER switch.	3.7 V
					Except for above.	5 V
7 (R)	Ground	ACC power supply	Input	Ignition switch ACC	-	Battery voltage
8 (B)	Ground	GND	-	Ignition switch ON	-	0 V
9 (R)	Ground	Illumination signal	Input	OFF	Lighting switch is OFF.	0 V
					Lighting switch is ON.	12 V

# AUDIO UNIT

< ECU DIAGNOSIS >

[AUDIO WITH NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
11 (BR)	12 (P)	Sound signal front RH	Output	Ignition switch ON	Voice output	 <small>SKIB3609E</small>
13 (O)	14 (V)	Sound signal rear RH	Output	Ignition switch ON	Voice output	 <small>SKIB3609E</small>
15 (B)	Ground	Steering switch signal GND	—	Ignition switch ON	—	0 V
16 (Y)	15 (B)	Steering switch signal B	Input	Ignition switch ON	Keep pressing VOL DOWN switch.	0 V
					Keep pressing VOL UP switch.	1.2 V
					Keep pressing  switch.	2.5 V
					Keep pressing  switch.	3.7 V
					Except for above.	5 V
19 (LG)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
20 (B)	Ground	GND	—	Ignition switch ON	—	0 V
23 (L)	—	AV communication signal (H)	Input/ Output	—	—	—
24 (P)	—	AV communication signal (L)	Input/ Output	—	—	—
30 (W)	31 (O)	TEL voice signal	Input	Ignition switch ON	TEL voice output	 <small>SKIB3609E</small>
32 (O)	33 (W)	Voice guidance signal	Input	Ignition switch ON	Voice guidance output	 <small>SKIB3609E</small>

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# AUDIO UNIT

< ECU DIAGNOSIS >

[AUDIO WITH NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
37	—	Shield	—	—	—	—
38	—	Shield	—	—	—	—
42	—	Antenna signal	Input	—	—	—



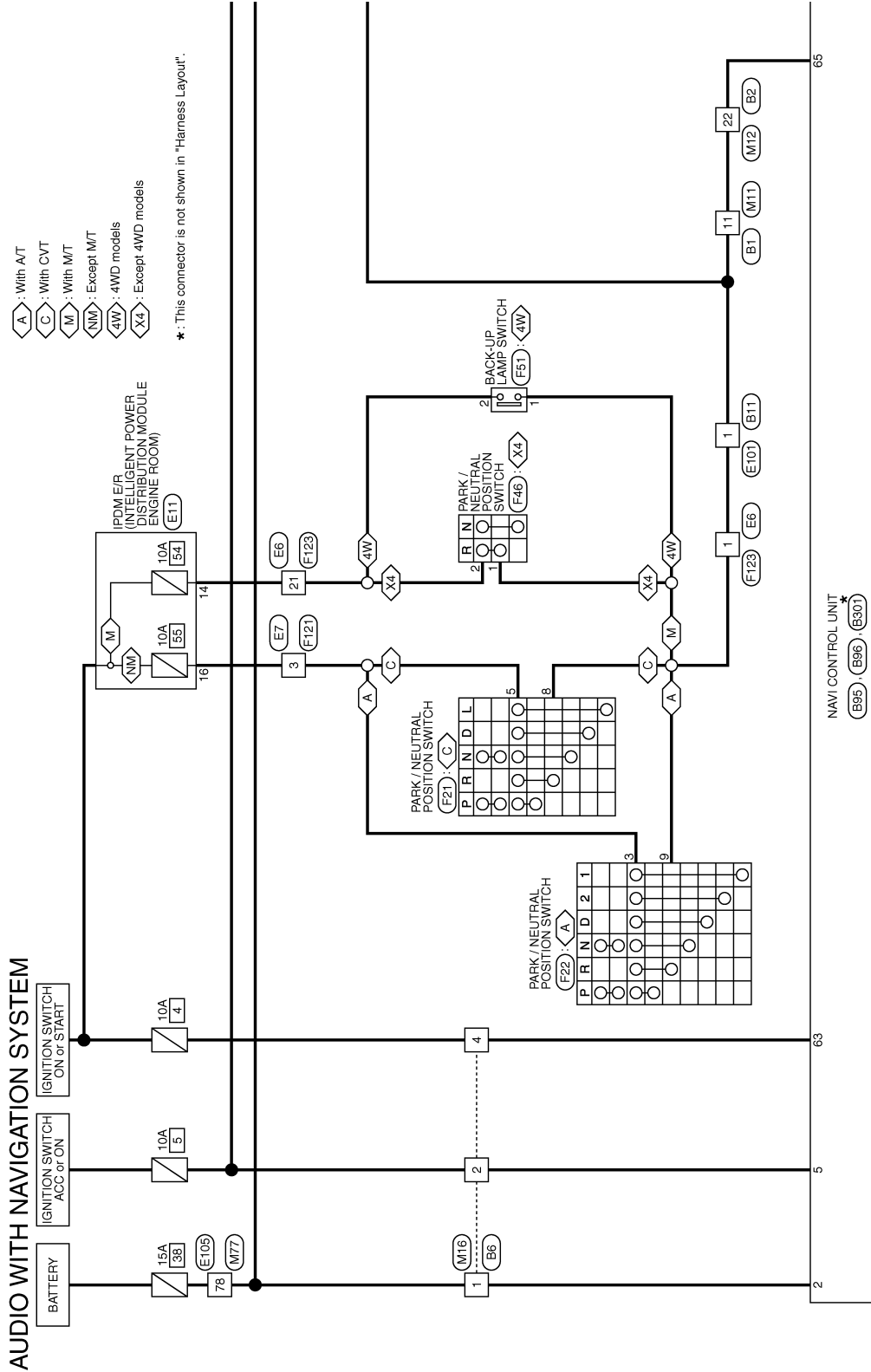
# AUDIO UNIT

< ECU DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## Wiring Diagram - AUDIO WITH NAVIGATION SYSTEM -

INFOID:000000001609236



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2007/04/27

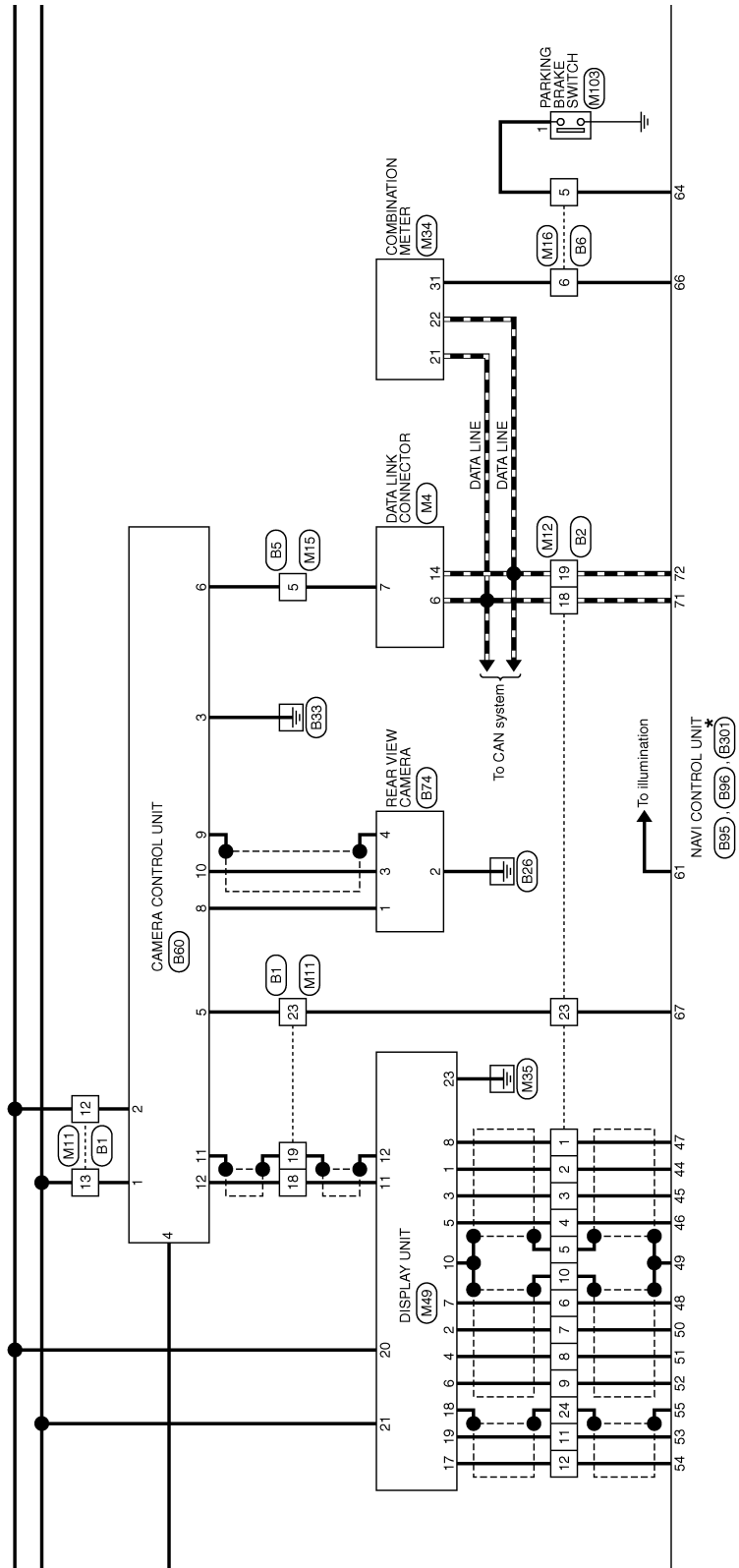
JCNWA0396GE

# AUDIO UNIT

< ECU DIAGNOSIS >

[AUDIO WITH NAVIGATION]

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



JCNWA0397GE

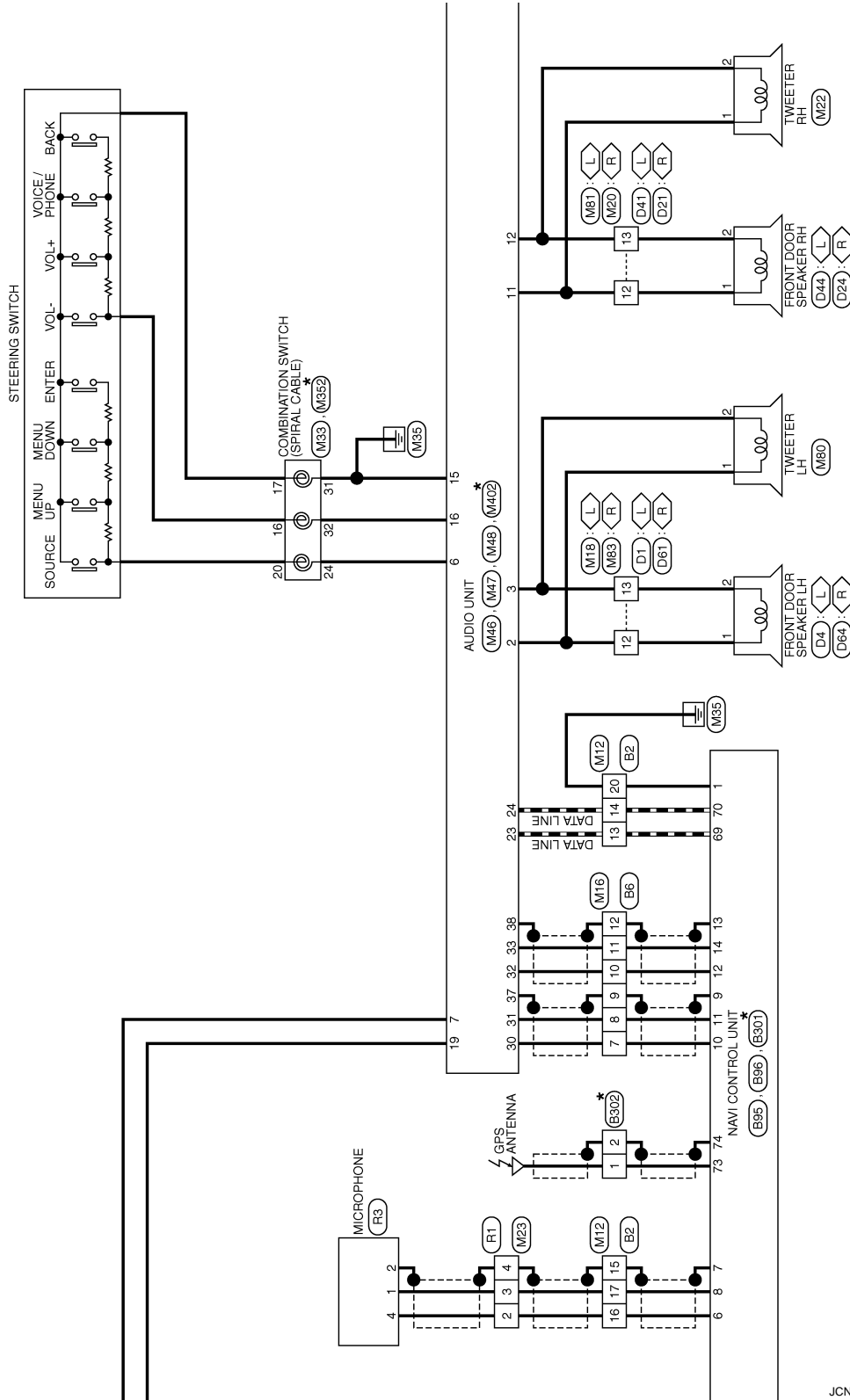
# AUDIO UNIT

< ECU DIAGNOSIS >

[AUDIO WITH NAVIGATION]

◁ L : LHD models  
 ▷ R : RHD models

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



JCNWA0398GE

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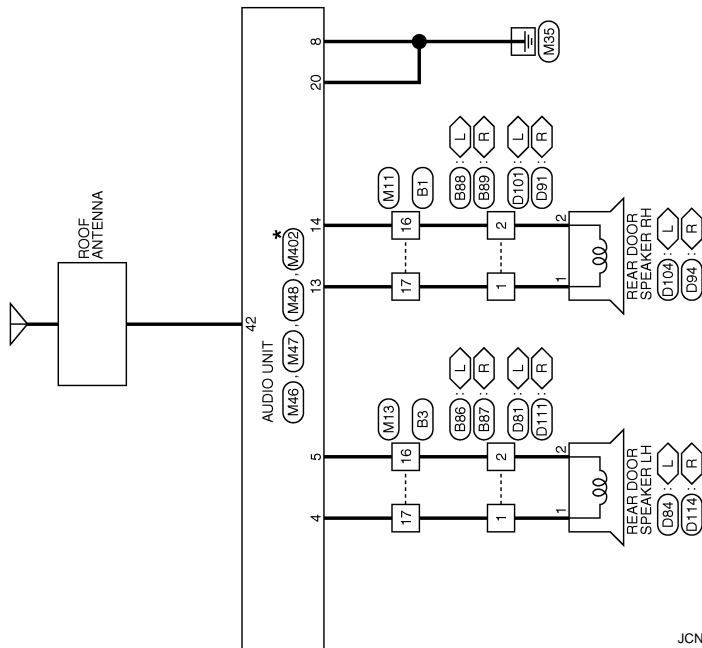
# AUDIO UNIT

< ECU DIAGNOSIS >

[AUDIO WITH NAVIGATION]

◁ L ▷ : LHD models  
 ▷ R ◁ : RHD models

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



JCNWA0399GE

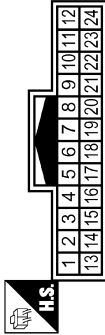
# AUDIO UNIT

< ECU DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## AUDIO WITH NAVIGATION SYSTEM

Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Type	TH24MW



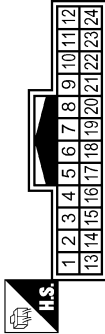
Terminal No.	Color of Wire	Signal Name [Specification]
11	Y/G	-
12	R	-
13	LG	-
16	V	-
17	O	-
18	R	-
19	SHIELD	-
23	Y	-

Connector No.	B5
Connector Name	WIRE TO WIRE
Connector Type	NS08MW-CS



Terminal No.	Color of Wire	Signal Name [Specification]
5	O	-

Connector No.	B2
Connector Name	WIRE TO WIRE
Connector Type	TH24MW



Terminal No.	Color of Wire	Signal Name [Specification]
1	B	-
2	G	-
3	R	-
4	W	-
5	SHIELD	-
6	B	-
7	G	-
8	R	-
9	W	-
10	SHIELD	-
11	W	-

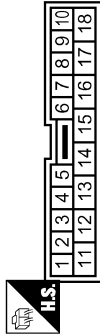
Connector No.	B6
Connector Name	WIRE TO WIRE
Connector Type	TH12MW



Terminal No.	Color of Wire	Signal Name [Specification]
1	LG	-
2	R	-
4	W	-
5	V	-
6	Y	-
7	W	-
8	O	-
9	SHIELD	-
10	O	-
11	W	-
12	SHIELD	-

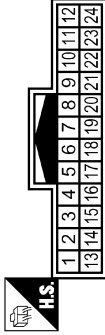
12	O	-
13	L	-
14	P	-
15	SHIELD	-
16	B	-
17	W	-
18	L	-
19	P	-
20	B	-
22	Y/G	-
23	Y	-
24	SHIELD	-

Connector No.	B11
Connector Name	WIRE TO WIRE
Connector Type	TK10MW-NS8



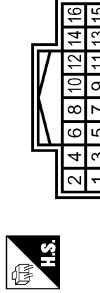
Terminal No.	Color of Wire	Signal Name [Specification]
1	Y/G	-

Connector No.	B3
Connector Name	WIRE TO WIRE
Connector Type	TH24MW



Terminal No.	Color of Wire	Signal Name [Specification]
16	Y	-
17	LG	-

Connector No.	B60
Connector Name	CAMERA CONTROL UNIT
Connector Type	TH16FW



Terminal No.	Color of Wire	Signal Name [Specification]
1	LG	BATTERY
2	R	ACC
3	B	GND
4	Y/G	REVERSE SIGNAL
5	Y	CONNECTION RECOGNITION
6	O	DDL
8	V	CAMERA ON SIGNAL
9	SHIELD	SHIELD
10	W	CAMERA IMAGE SIGNAL
11	SHIELD	SHIELD
12	R	CAMERA IMAGE SIGNAL

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# AUDIO UNIT

< ECU DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## AUDIO WITH NAVIGATION SYSTEM

Connector No.	B74
Connector Name	REAR VIEW CAMERA
Connector Type	TH04MW



Terminal No.	Color of Wire	Signal Name [Specification]
1	V	CAMERA ON SIGNAL
2	B	GND
3	W	CAMERA IMAGE SIGNAL
4	SHIELD	SHIELD

Connector No.	B89
Connector Name	WIRE TO WIRE
Connector Type	NS08MW-CS



Terminal No.	Color of Wire	Signal Name [Specification]
1	O	
2	V	

Connector No.	B86
Connector Name	WIRE TO WIRE
Connector Type	NS08MW-CS



Terminal No.	Color of Wire	Signal Name [Specification]
1	LG	
2	Y	

Connector No.	B95
Connector Name	NAVI CONTROL UNIT
Connector Type	TH40PW



Terminal No.	Color of Wire	Signal Name [Specification]
1	B	GND
2	LG	BATTERY
5	R	ACC
6	B	MICROPHONE VCC
7	SHIELD	MICROPHONE GND
8	W	MICROPHONE SIGNAL
9	SHIELD	SHIELD
10	W	TEL VOICE SIGNAL (+)
11	O	TEL VOICE SIGNAL (-)
12	O	VOICE GUIDANCE SIGNAL (+)
13	SHIELD	SHIELD

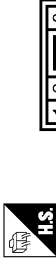
Connector No.	B87
Connector Name	WIRE TO WIRE
Connector Type	NS08MW-CS



Terminal No.	Color of Wire	Signal Name [Specification]
1	LG	
2	Y	

14	W	VOICE GUIDANCE SIGNAL (-)
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Connector No.	B88
Connector Name	WIRE TO WIRE
Connector Type	NS08MW-CS



Terminal No.	Color of Wire	Signal Name [Specification]
1	O	
2	V	

JCNWA0401GE

# AUDIO UNIT

< ECU DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## AUDIO WITH NAVIGATION SYSTEM

Connector No.	B396
Connector Name	NAVI CONTROL UNIT
Connector Type	TH32FW

Terminal No.	42	43	44	45	46	47	48	49	50	51	52	53	54
Color of Wire	OR	BL	GR	BR	GR	GR	GR	GR	GR	GR	GR	GR	GR
Signal Name [Specification]	RGB (R-RED) SIGNAL	RGB (G-GREEN) SIGNAL	RGB (B-BLUE) SIGNAL	RGB GND	RGB SYNC	SHIELD	RGB AREA (YS) SIGNAL	HP	YP	COMM (CONT→DISP)	COMM (DISP→CONT)		



Terminal No.	44	45	46	47	48	49	50	51	52	53	54
Color of Wire	G	R	W	B	B	B	G	R	W	W	O
Signal Name [Specification]	RGB (R-RED) SIGNAL	RGB (G-GREEN) SIGNAL	RGB (B-BLUE) SIGNAL	RGB GND	RGB SYNC	SHIELD	RGB AREA (YS) SIGNAL	HP	YP	COMM (CONT→DISP)	COMM (DISP→CONT)

Connector No.	D1
Connector Name	WIRE TO WIRE
Connector Type	TK (8FW)



Terminal No.	12	13
Color of Wire	L	G
Signal Name [Specification]		

55	SHIELD	SHIELD
61	R/L	ILLUMINATION
63	W	IGNITION
64	V	PARKING BRAKE
65	Y/G	REVERSE SIGNAL
66	Y	VEHICLE SPEED (S-PULSE)
67	Y	CONNECTION RECOGNITION
68	L	AV COMM (L)
70	P	AV COMM (L)
71	L	GAN+H
72	P	GAN-L

Connector No.	B301
Connector Name	NAVI CONTROL UNIT
Connector Type	GT3S-PPF-HU



Terminal No.	73	74
Color of Wire	-	SHIELD
Signal Name [Specification]	GPS ANTENNA	SHIELD

Connector No.	D21
Connector Name	WIRE TO WIRE
Connector Type	TK (8FW)



Terminal No.	12	13
Color of Wire	BR	P
Signal Name [Specification]		

Connector No.	B302
Connector Name	GPS ANTENNA
Connector Type	GT3S-PPF-HU



Terminal No.	1	2
Color of Wire	-	SHIELD
Signal Name [Specification]		

Connector No.	D24
Connector Name	FRONT DOOR SPEAKER RH
Connector Type	NS02FW-GS



Terminal No.	1	2
Color of Wire	BR	P
Signal Name [Specification]		

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JCNWA0402GE

# AUDIO UNIT

< ECU DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## AUDIO WITH NAVIGATION SYSTEM

<table border="1"> <tr><td>Connector No.</td><td>D41</td></tr> <tr><td>Connector Name</td><td>WIRE TO WIRE</td></tr> <tr><td>Connector Type</td><td>TK18FW</td></tr> </table>   <table border="1"> <tr><td>Terminal No.</td><td>12</td><td>BR</td><td>P</td></tr> <tr><td>13</td><td></td><td></td><td></td></tr> </table>	Connector No.	D41	Connector Name	WIRE TO WIRE	Connector Type	TK18FW	Terminal No.	12	BR	P	13				<table border="1"> <tr><td>Terminal No.</td><td>12</td><td>L</td><td>G</td></tr> <tr><td>13</td><td></td><td></td><td></td></tr> </table>	Terminal No.	12	L	G	13			
Connector No.	D41																						
Connector Name	WIRE TO WIRE																						
Connector Type	TK18FW																						
Terminal No.	12	BR	P																				
13																							
Terminal No.	12	L	G																				
13																							
<table border="1"> <tr><td>Connector No.</td><td>D44</td></tr> <tr><td>Connector Name</td><td>FRONT DOOR SPEAKER RH</td></tr> <tr><td>Connector Type</td><td>NS02FW-CS</td></tr> </table>   <table border="1"> <tr><td>Terminal No.</td><td>1</td><td>BR</td><td>P</td></tr> <tr><td>2</td><td></td><td></td><td></td></tr> </table>	Connector No.	D44	Connector Name	FRONT DOOR SPEAKER RH	Connector Type	NS02FW-CS	Terminal No.	1	BR	P	2				<table border="1"> <tr><td>Terminal No.</td><td>1</td><td>L</td><td>G</td></tr> <tr><td>2</td><td></td><td></td><td></td></tr> </table>	Terminal No.	1	L	G	2			
Connector No.	D44																						
Connector Name	FRONT DOOR SPEAKER RH																						
Connector Type	NS02FW-CS																						
Terminal No.	1	BR	P																				
2																							
Terminal No.	1	L	G																				
2																							
<table border="1"> <tr><td>Connector No.</td><td>D61</td></tr> <tr><td>Connector Name</td><td>WIRE TO WIRE</td></tr> <tr><td>Connector Type</td><td>TK18FW</td></tr> </table>   <table border="1"> <tr><td>Terminal No.</td><td>12</td><td>L</td><td>G</td></tr> <tr><td>13</td><td></td><td></td><td></td></tr> </table>	Connector No.	D61	Connector Name	WIRE TO WIRE	Connector Type	TK18FW	Terminal No.	12	L	G	13				<table border="1"> <tr><td>Terminal No.</td><td>12</td><td>L</td><td>G</td></tr> <tr><td>13</td><td></td><td></td><td></td></tr> </table>	Terminal No.	12	L	G	13			
Connector No.	D61																						
Connector Name	WIRE TO WIRE																						
Connector Type	TK18FW																						
Terminal No.	12	L	G																				
13																							
Terminal No.	12	L	G																				
13																							
<table border="1"> <tr><td>Connector No.</td><td>D64</td></tr> <tr><td>Connector Name</td><td>FRONT DOOR SPEAKER LH</td></tr> <tr><td>Connector Type</td><td>NS02FW-CS</td></tr> </table>   <table border="1"> <tr><td>Terminal No.</td><td>1</td><td>L</td><td>G</td></tr> <tr><td>2</td><td></td><td></td><td></td></tr> </table>	Connector No.	D64	Connector Name	FRONT DOOR SPEAKER LH	Connector Type	NS02FW-CS	Terminal No.	1	L	G	2				<table border="1"> <tr><td>Terminal No.</td><td>1</td><td>L</td><td>G</td></tr> <tr><td>2</td><td></td><td></td><td></td></tr> </table>	Terminal No.	1	L	G	2			
Connector No.	D64																						
Connector Name	FRONT DOOR SPEAKER LH																						
Connector Type	NS02FW-CS																						
Terminal No.	1	L	G																				
2																							
Terminal No.	1	L	G																				
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## AUDIO WITH NAVIGATION SYSTEM

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<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Connector No.</td><td>F123</td></tr> <tr><td>Connector Name</td><td>WIRE TO WIRE</td></tr> <tr><td>Connector Type</td><td>TK24FW-1V</td></tr> </table>	Connector No.	F123	Connector Name	WIRE TO WIRE	Connector Type	TK24FW-1V	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Terminal No.</td><td>1</td></tr> <tr><td>Color of Wire</td><td>Y/G</td></tr> <tr><td>Signal Name [Specification]</td><td></td></tr> <tr><td>Terminal No.</td><td>21</td></tr> <tr><td>Color of Wire</td><td>R/B</td></tr> <tr><td>Signal Name [Specification]</td><td></td></tr> </table>	Terminal No.	1	Color of Wire	Y/G	Signal Name [Specification]		Terminal No.	21	Color of Wire	R/B	Signal Name [Specification]		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Connector No.</td><td>M4</td></tr> <tr><td>Connector Name</td><td>DATA LINK CONNECTOR</td></tr> <tr><td>Connector Type</td><td>BD18FW</td></tr> </table>	Connector No.	M4	Connector Name	DATA LINK CONNECTOR	Connector Type	BD18FW	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Terminal No.</td><td>6</td></tr> <tr><td>Color of Wire</td><td>L</td></tr> <tr><td>Signal Name [Specification]</td><td></td></tr> <tr><td>Terminal No.</td><td>7</td></tr> <tr><td>Color of Wire</td><td>O</td></tr> <tr><td>Signal Name [Specification]</td><td></td></tr> <tr><td>Terminal No.</td><td>14</td></tr> <tr><td>Color of Wire</td><td>P</td></tr> <tr><td>Signal Name [Specification]</td><td></td></tr> </table>	Terminal No.	6	Color of Wire	L	Signal Name [Specification]		Terminal No.	7	Color of Wire	O	Signal Name [Specification]		Terminal No.	14	Color of Wire	P	Signal Name [Specification]	
Connector No.	F123																																												
Connector Name	WIRE TO WIRE																																												
Connector Type	TK24FW-1V																																												
Terminal No.	1																																												
Color of Wire	Y/G																																												
Signal Name [Specification]																																													
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Signal Name [Specification]																																													
Connector No.	M4																																												
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Connector Type	BD18FW																																												
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Color of Wire	O																																												
Signal Name [Specification]																																													
Terminal No.	14																																												
Color of Wire	P																																												
Signal Name [Specification]																																													

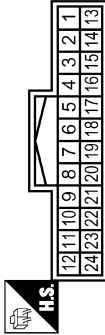
# AUDIO UNIT

< ECU DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## AUDIO WITH NAVIGATION SYSTEM

Connector No.	M11
Connector Name	WIRE TO WIRE
Connector Type	TH24FW



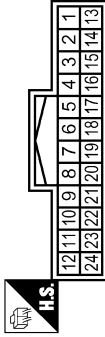
Terminal No.	Color of Wire	Signal Name [Specification]
11	Y	-
12	R	-
13	LG	-
16	V	-
17	O	-
18	W	-
18	SHIELD	-
23	Y	-

Connector No.	M15
Connector Name	WIRE TO WIRE
Connector Type	NS08FW-GS



Terminal No.	Color of Wire	Signal Name [Specification]
5	O	-

Connector No.	M12
Connector Name	WIRE TO WIRE
Connector Type	TH24FW



Terminal No.	Color of Wire	Signal Name [Specification]
1	B	-
2	G	-
3	R	-
4	W	-
5	SHIELD	-
6	B	-
7	G	-
8	R	-
9	W	-
10	SHIELD	-
11	W	-

Connector No.	M16
Connector Name	WIRE TO WIRE
Connector Type	TH12FW

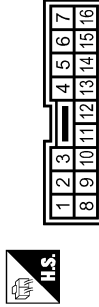


Terminal No.	Color of Wire	Signal Name [Specification]
1	LG	-
2	R	-
4	O	-
5	V	-
6	Y	-
7	W	-
8	O	-
8	SHIELD	-
10	O	-
11	W	-
12	SHIELD	-

12	O	-
13	L	-
14	P	-
15	SHIELD	-
16	W	-
17	B	-
18	L	-
19	P	-
20	B	-
22	Y	-
23	Y	-
24	SHIELD	-

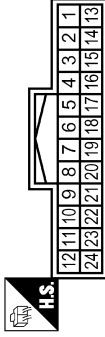
Terminal No.	Color of Wire	Signal Name [Specification]
16	Y	-
17	LG	-

Connector No.	M18
Connector Name	WIRE TO WIRE
Connector Type	TK16MW



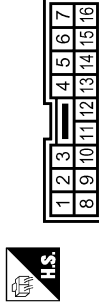
Terminal No.	Color of Wire	Signal Name [Specification]
12	L	-
13	G	-

Connector No.	M13
Connector Name	WIRE TO WIRE
Connector Type	TH24FW



Terminal No.	Color of Wire	Signal Name [Specification]
16	Y	-
17	LG	-

Connector No.	M20
Connector Name	WIRE TO WIRE
Connector Type	TK16MW



Terminal No.	Color of Wire	Signal Name [Specification]
12	BR	-
13	P	-

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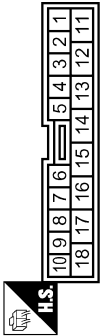
### AUDIO WITH NAVIGATION SYSTEM

Connector No.	M22
Connector Name	TWEETER RH
Connector Type	FCI 21 IP-0202S3017



Terminal No.	Color of Wire	Signal Name [Specification]
1	BR	-
2	P	-

Connector No.	M23
Connector Name	WIRE TO WIRE
Connector Type	TKDFW-WS3



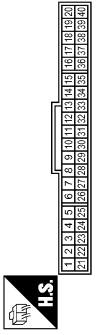
Terminal No.	Color of Wire	Signal Name [Specification]
2	W	-
3	B	-
4	SHIELD	-

Connector No.	M33
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TK08FGY-1V



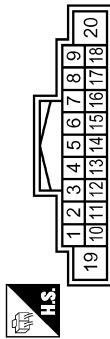
Terminal No.	Color of Wire	Signal Name [Specification]
24	R	-
31	B	-
32	Y	-

Connector No.	M34
Connector Name	COMBINATION METER
Connector Type	SAB40FW



Terminal No.	Color of Wire	Signal Name [Specification]
21	L	CAN-H
22	P	CAN-L
31	Y	VEHICLE SPEED (6-PULSE)

Connector No.	M46
Connector Name	AUDIO UNIT
Connector Type	TH18FW-GS2



Terminal No.	Color of Wire	Signal Name [Specification]
2	L	SOUND SIGNAL FRONT LH (+)
3	G	SOUND SIGNAL FRONT LH (-)
4	LG	SOUND SIGNAL REAR LH (+)
5	Y	SOUND SIGNAL REAR RH (-)
6	R	STRG SW A
7	R	ACC
8	B	GND
11	BR	SOUND SIGNAL FRONT RH (+)
12	B	SOUND SIGNAL FRONT RH (-)
13	O	SOUND SIGNAL REAR RH (+)
14	V	SOUND SIGNAL REAR RH (-)

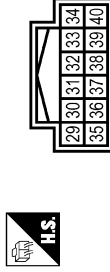
Terminal No.	15	B	STRG SW GND
Terminal No.	16	Y	STRG SW B
Terminal No.	19	LG	BATTERY
Terminal No.	20	B	GND

Connector No.	M47
Connector Name	AUDIO UNIT
Connector Type	TH08FW



Terminal No.	Color of Wire	Signal Name [Specification]
23	L	AV COMM (H)
24	P	AV COMM (L)

Connector No.	M48
Connector Name	AUDIO UNIT
Connector Type	TH12FW



Terminal No.	Color of Wire	Signal Name [Specification]
30	W	TEL VOICE SIGNAL (-)
31	O	TEL VOICE SIGNAL (-) (With navigation system)
32	O	VOICE GUIDANCE (+)
33	W	VOICE GUIDANCE (-)
37	SHIELD	SHIELD (With navigation system)
38	SHIELD	SHIELD

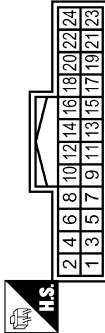
# AUDIO UNIT

< ECU DIAGNOSIS >

[AUDIO WITH NAVIGATION]

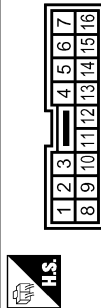
## AUDIO WITH NAVIGATION SYSTEM

Connector No.	M49
Connector Name	DISPLAY UNIT
Connector Type	TH24FW



Terminal No.	Color of Wire	Signal Name [Specification]
1	G	RGB (R-RED) SIGNAL
2	G	RGB AREA (Y.S) SIGNAL
3	R	RGB (G-GREEN) SIGNAL
4	R	HP
5	W	RGB (B-BLUE) SIGNAL
6	W	VP
7	B	RGB SYNC
8	B	RGB GND
10	SHIELD	SHIELD
11	R	CAMERA IMAGE SIGNAL
12	SHIELD	SHIELD

Connector No.	M81
Connector Name	WIRE TO WIRE
Connector Type	TK (BMW)



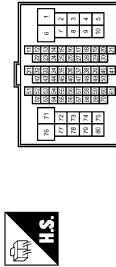
Terminal No.	Color of Wire	Signal Name [Specification]
12	BR	-
13	P	-

17	O	COMM (DISP—CONT)
18	SHIELD	SHIELD
19	W	COMM (CONT—DISP)
20	R	ACC
21	LG	BATTERY
23	B	GND



Terminal No.	Color of Wire	Signal Name [Specification]
78	LG	-

Connector No.	M77
Connector Name	WIRE TO WIRE
Connector Type	TH6DFW-MS16-TM4



Connector No.	M103
Connector Name	PARKING BRAKE SWITCH
Connector Type	P01FB-A



Terminal No.	Color of Wire	Signal Name [Specification]
1	V	-

Connector No.	M80
Connector Name	TWEETER LH
Connector Type	FGI21P0202S3017



Terminal No.	Color of Wire	Signal Name [Specification]
1	L	-
2	G	-

Connector No.	M352
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TK08MGY-X



Terminal No.	Color of Wire	Signal Name [Specification]
16	-	-
17	-	-
20	-	-

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**AUDIO WITH NAVIGATION SYSTEM**

Connector No.	M402
Connector Name	AUDIO UNIT
Connector Type	3T13 SH-2 S1S-HU



Terminal No.	Color of Wire	Signal Name (Specification)
42	-	ANTENNA

Connector No.	R1
Connector Name	WIRE TO WIRE
Connector Type	TK10MW-AS8



Terminal No.	Color of Wire	Signal Name (Specification)
2	B	-
3	W	-
4	SHIELD	-

Connector No.	R3
Connector Name	MICROPHONE
Connector Type	TK0MF



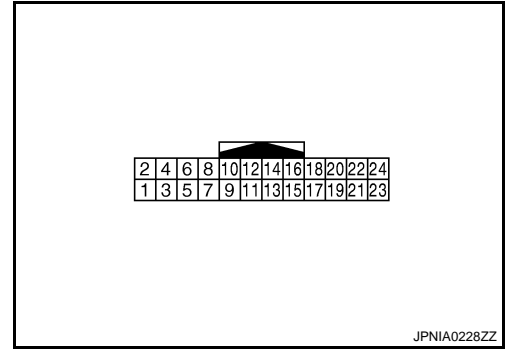
Terminal No.	Color of Wire	Signal Name (Specification)
1	W	MICROPHONE SIGNAL
2	SHIELD	MICROPHONE GND
4	B	MICROPHONE VCC

## DISPLAY UNIT

### Reference Value

INFOID:000000001194058

### TERMINAL LAYOUT



### PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/Output			
1 (G)	8 (B)	RGB signal (R: red)	Input	Ignition switch ON	Start "Confirmation / Adjustment Mode", and then display color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	<p style="text-align: right;">JPNIA0221ZZ</p>
2 (G)	Ground	RGB area (YS) signal	Input	Ignition switch ON	At RGB image displayed  At rear view camera image displayed	<p style="text-align: center;">5 V</p> <p style="text-align: right;">PKIB4948J</p>
3 (R)	8 (B)	RGB signal (G: green)	Input	Ignition switch ON	Start "Confirmation / Adjustment Mode", and then display color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNOSIS screen.	<p style="text-align: right;">JPNIA0222ZZ</p>
4 (R)	Ground	Horizontal synchronizing (HP) signal	Output	Ignition switch ON	—	<p style="text-align: right;">SKIB0825E</p>

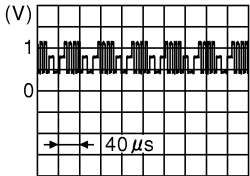
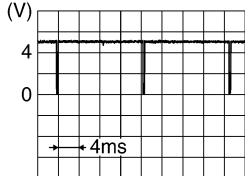
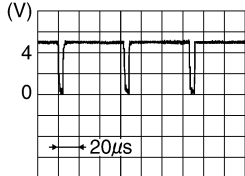
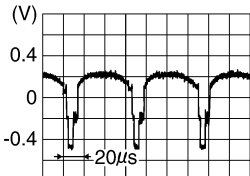
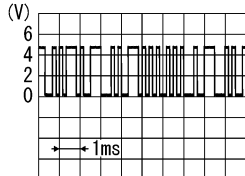
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# DISPLAY UNIT

< ECU DIAGNOSIS >

[AUDIO WITH NAVIGATION]

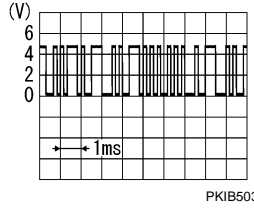
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
5 (W)	8 (B)	RGB signal (B: blue)	Input	Ignition switch ON	Start "Confirmation / Adjust- ment Mode", and then dis- play color bar by selecting "Color Spectrum Bar" on DISPLAY DIAGNO- SIS screen.	 <p style="text-align: right; font-size: small;">JPNIA0223ZZ</p>
6 (W)	Ground	Vertical synchronizing (VP) signal	Output	Ignition switch ON	—	 <p style="text-align: right; font-size: small;">SKIB0823E</p>
7 (B)	Ground	RGB synchronizing signal	Input	Ignition switch ON	—	 <p style="text-align: right; font-size: small;">SKIB0825E</p>
8 (B)	Ground	RGB ground	—	Ignition switch ON	—	0 V
10	Ground	Shield	—	Ignition switch ON	—	0 V
11 (R)	Ground	Camera image signal	Input	Ignition switch ON	At rear view camera image displayed	 <p style="text-align: right; font-size: small;">SKIB0827E</p>
12	—	Shield	—	—	—	—
17 (O)	Ground	Communication signal (DISP→CONT)	Output	Ignition switch ON	When adjusting display- brightness.	 <p style="text-align: right; font-size: small;">PKIB5039J</p>
18	—	Shield	—	—	—	—



# DISPLAY UNIT

< ECU DIAGNOSIS >

[AUDIO WITH NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
19 (W)	Ground	Communication signal (CONT→DISP)	Input	Ignition switch ON	When adjusting display- brightness.	
20 (R)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
21 (LG)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
23 (B)	Ground	GND	—	Ignition switch ON	—	0 V

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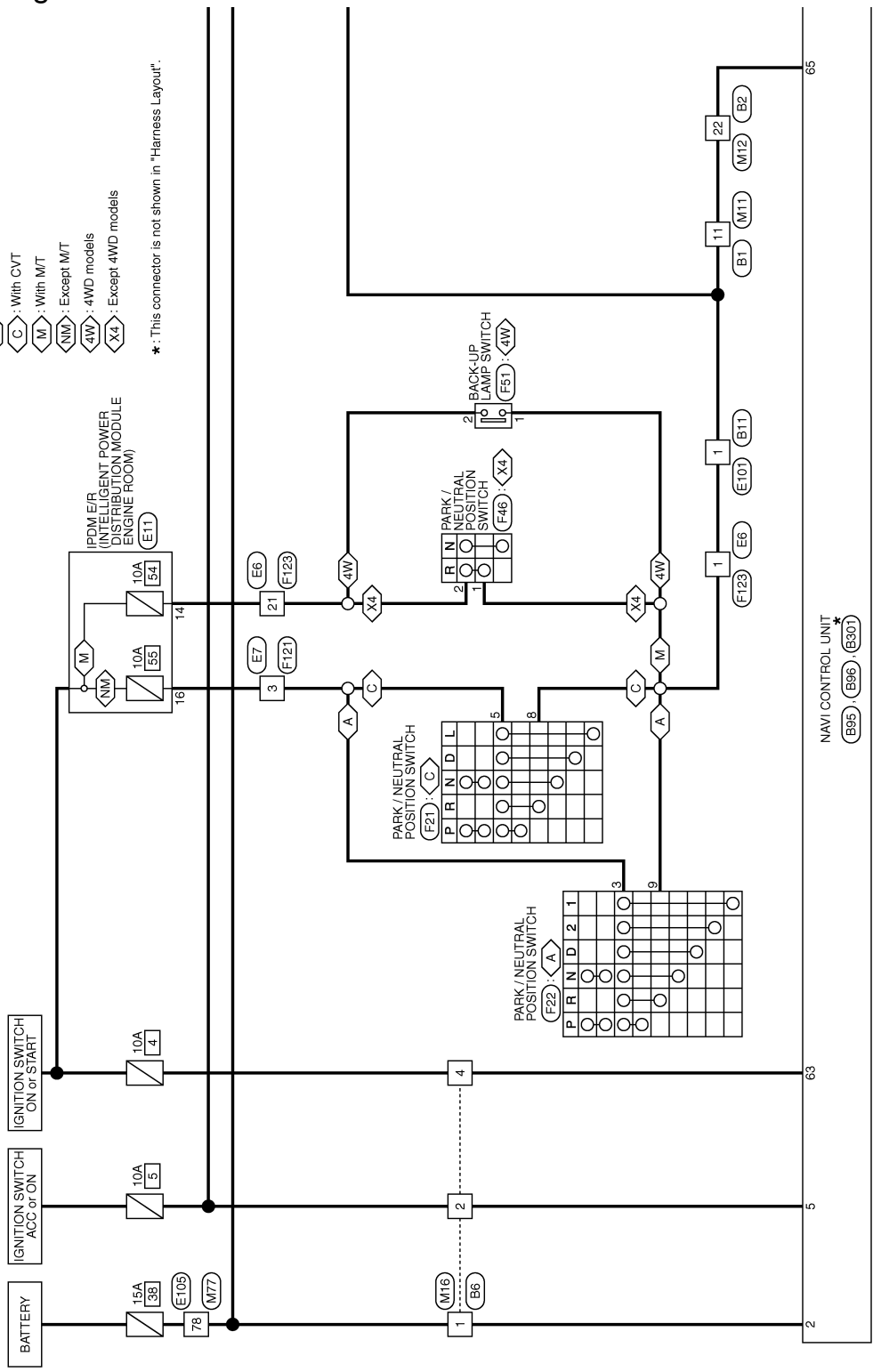
Wiring Diagram - AUDIO WITH NAVIGATION SYSTEM -

INFOID:000000001609237

- A : With A/T
- C : With CVT
- M : With M/T
- NM : Except M/T
- 4W : 4WD models
- X4 : Except 4WD models

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

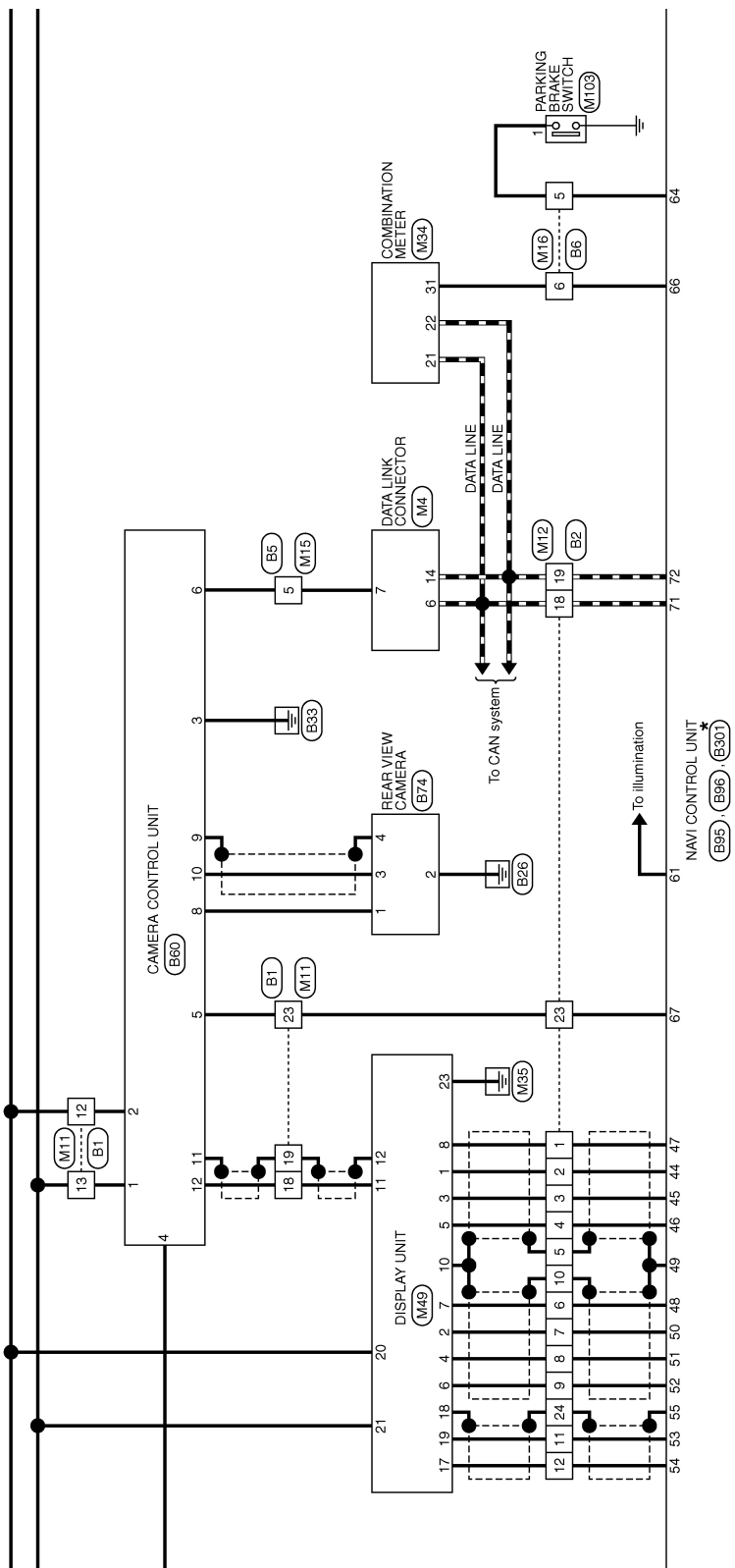
AUDIO WITH NAVIGATION SYSTEM



2007/04/27

JCNWA0396GE

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



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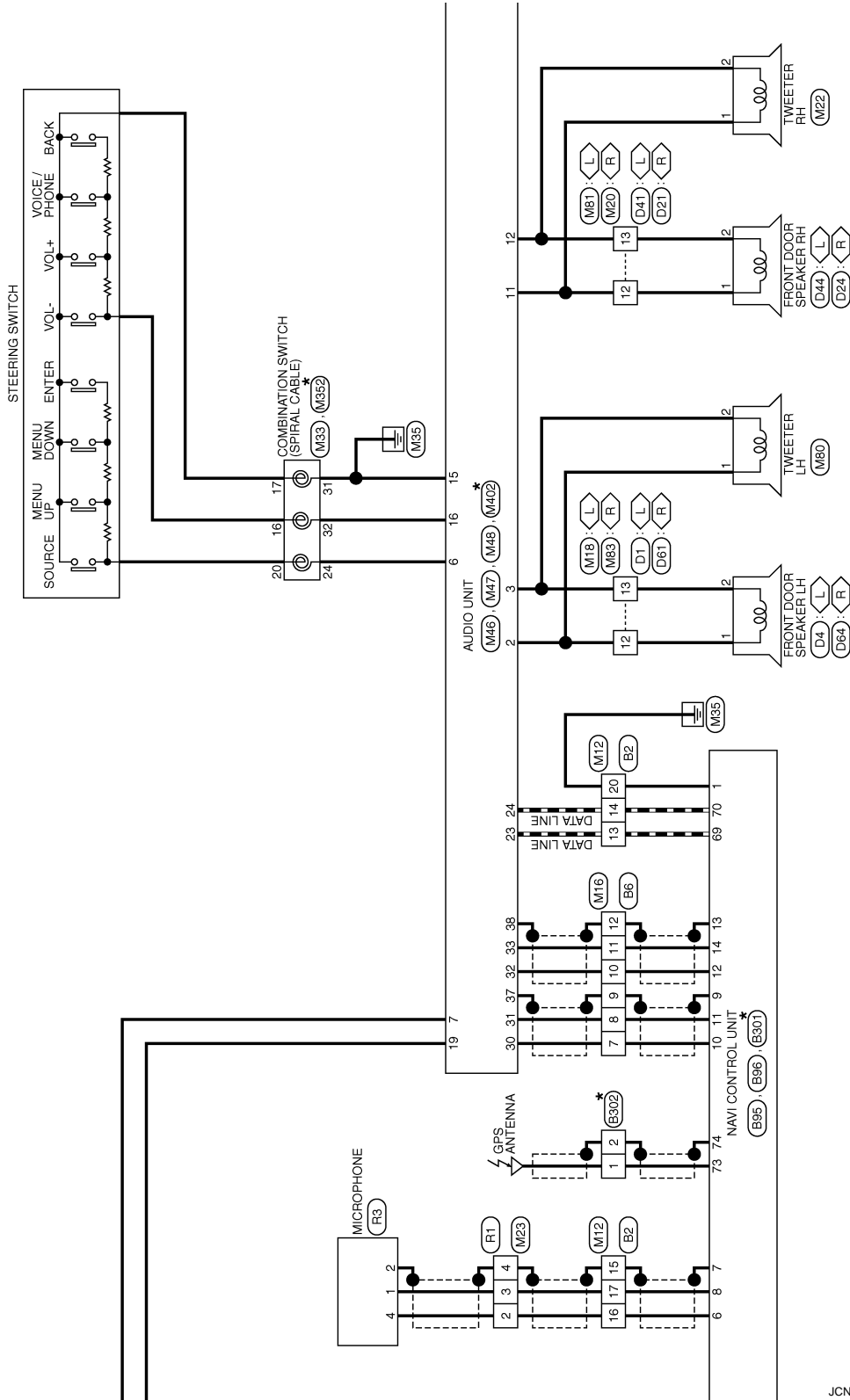
# DISPLAY UNIT

< ECU DIAGNOSIS >

[AUDIO WITH NAVIGATION]

L : LHD models  
R : RHD models

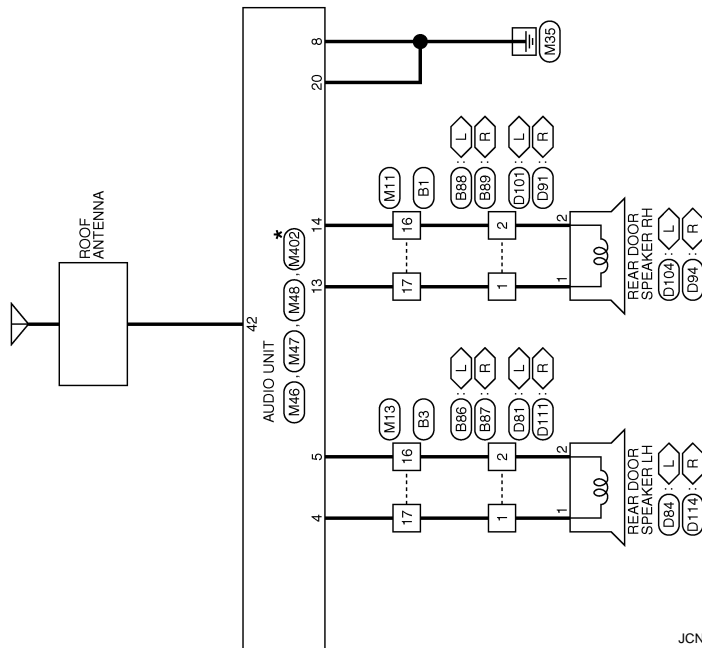
\* : This connector is not shown in "Harness Layout".



JCNWA0398GE

◊ L ◊ : LHD models  
 ◊ R ◊ : RHD models

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



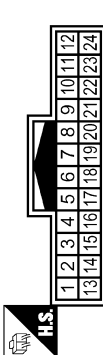
JCNWA0399GE

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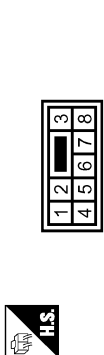
**AUDIO WITH NAVIGATION SYSTEM**

Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Type	TH24MW



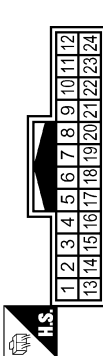
Terminal No.	Color of Wire	Signal Name (Specification)
1	Y	-
2	Y/G	-
3	R	-
4	LG	-
5	V	-
6	O	-
7	R	-
8	W	-
9	W	-
10	W	-
11	W	-
12	W	-
13	LG	-
14	Y	-
15	Y/G	-
16	R	-
17	O	-
18	R	-
19	SHIELD	-
20	SHIELD	-
21	SHIELD	-
22	SHIELD	-
23	SHIELD	-
24	SHIELD	-

Connector No.	B5
Connector Name	WIRE TO WIRE
Connector Type	NS08MW-CS



Terminal No.	Color of Wire	Signal Name (Specification)
5	O	-

Connector No.	B2
Connector Name	WIRE TO WIRE
Connector Type	TH24MW



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

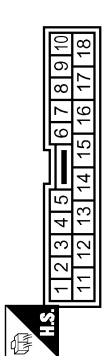
Connector No.	B6
Connector Name	WIRE TO WIRE
Connector Type	TH12MW



Terminal No.	Color of Wire	Signal Name (Specification)
1	LG	-
2	R	-
4	W	-
5	V	-
6	Y	-
7	W	-
8	O	-
9	SHIELD	-
10	O	-
11	W	-
12	SHIELD	-

12	O	-
13	L	-
14	P	-
15	SHIELD	-
16	B	-
17	W	-
18	L	-
19	P	-
20	B	-
22	Y/G	-
23	Y	-
24	SHIELD	-

Connector No.	B11
Connector Name	WIRE TO WIRE
Connector Type	TK10MW-NS8



Terminal No.	Color of Wire	Signal Name (Specification)
1	Y/G	-

Connector No.	B3
Connector Name	WIRE TO WIRE
Connector Type	TH24MW



Terminal No.	Color of Wire	Signal Name (Specification)
16	Y	-
17	LG	-

Connector No.	B60
Connector Name	CAMERA CONTROL UNIT
Connector Type	TH16FW



Terminal No.	Color of Wire	Signal Name (Specification)
1	LG	BATTERY
2	R	ACC
3	B	GND
4	Y/G	REVERSE SIGNAL
5	Y	CONNECTION RECOGNITION
6	O	DDL
8	V	CAMERA ON SIGNAL
9	SHIELD	SHIELD
10	W	CAMERA IMAGE SIGNAL
11	SHIELD	SHIELD
12	R	CAMERA IMAGE SIGNAL

**AUDIO WITH NAVIGATION SYSTEM**

Connector No.	B74
Connector Name	REAR VIEW CAMERA
Connector Type	TH03MW



Terminal No.	Color of Wire	Signal Name [Specification]
1	V	CAMERA ON SIGNAL
2	B	GND
3	W	CAMERA IMAGE SIGNAL
4	SHIELD	SHIELD

Connector No.	B86
Connector Name	WIRE TO WIRE
Connector Type	NS08MW-CS



Terminal No.	Color of Wire	Signal Name [Specification]
1	LG	-
2	Y	-

Connector No.	B87
Connector Name	WIRE TO WIRE
Connector Type	NS08MW-CS



Terminal No.	Color of Wire	Signal Name [Specification]
1	LG	-
2	Y	-

Connector No.	B88
Connector Name	WIRE TO WIRE
Connector Type	NS08MW-CS



Terminal No.	Color of Wire	Signal Name [Specification]
1	O	-
2	V	-

Connector No.	B89
Connector Name	WIRE TO WIRE
Connector Type	NS08MW-CS



Terminal No.	Color of Wire	Signal Name [Specification]
1	O	-
2	V	-

Connector No.	B95
Connector Name	NAVI CONTROL UNIT
Connector Type	TH03FW



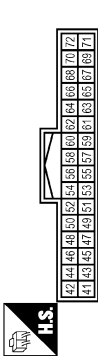
14	W	VOICE GUIDANCE SIGNAL (-)
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Terminal No.	Color of Wire	Signal Name [Specification]
1	B	GND
2	LG	BATTERY
5	R	ACC
6	B	MICROPHONE VCC
7	SHIELD	MICROPHONE GND
8	W	MICROPHONE SIGNAL
9	SHIELD	SHIELD
10	W	TEL VOICE SIGNAL (+)
11	O	TEL VOICE SIGNAL (-)
12	O	VOICE GUIDANCE SIGNAL (+)
13	SHIELD	SHIELD

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

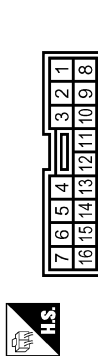
**AUDIO WITH NAVIGATION SYSTEM**

Connector No.	B96
Connector Name	NAVI CONTROL UNIT
Connector Type	TK32FW



Terminal No.	Color of Wire	Signal Name [Specification]
44	G	RGB (R/RED) SIGNAL
45	R	RGB (G/GREEN) SIGNAL
46	W	RGB (B/BLUE) SIGNAL
47	B	RGB GND
48	B	RGB SYNC
49	B	SHIELD
50	G	RGB AREA(L/S) SIGNAL
51	R	HP
52	W	VP
53	W	COMM (CONT—DISP)
54	O	COMM (DISP—CONT)

Connector No.	D1
Connector Name	WIRE TO WIRE
Connector Type	TK 8FW



Terminal No.	Color of Wire	Signal Name [Specification]
1	L	—
12	L	—
13	G	—

55	SHIELD	SHIELD
61	R/L	ILLUMINATION
63	W	IGNITION
64	V	PARKING BRAKE
65	Y/G	REVERSE SIGNAL
66	Y	VEHICLE SPEED (8-PULSE)
67	Y	CONNECTION RECOGNITION
68	L	AV COMM (H)
70	P	AV COMM (L)
71	L	CAN-H
72	P	CAN-L

Terminal No.	Color of Wire	Signal Name [Specification]
73	—	GPS ANTENNA
74	SHIELD	SHIELD

Connector No.	D4
Connector Name	FRONT DOOR SPEAKER LH
Connector Type	NS02FW-GS



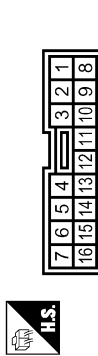
Terminal No.	Color of Wire	Signal Name [Specification]
1	L	—
2	G	—

Connector No.	B301
Connector Name	NAVI CONTROL UNIT
Connector Type	GTSS-PPF-HU



Terminal No.	Color of Wire	Signal Name [Specification]
1	—	—
2	SHIELD	—

Connector No.	D21
Connector Name	WIRE TO WIRE
Connector Type	TK 8FW



Terminal No.	Color of Wire	Signal Name [Specification]
1	BR	—
12	BR	—
13	P	—

Connector No.	B302
Connector Name	GPS ANTENNA
Connector Type	GTSS-PPF-HU



Terminal No.	Color of Wire	Signal Name [Specification]
1	—	—
2	SHIELD	—

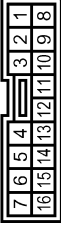















Connector No.	D24
Connector Name	FRONT DOOR SPEAKER RH
Connector Type	NS02FW-GS



Terminal No.	Color of Wire	Signal Name [Specification]
1	BR	—
2	P	—



























**AUDIO WITH NAVIGATION SYSTEM**

<table border="1"> <tr><td>Connector No.</td><td>D41</td></tr> <tr><td>Connector Name</td><td>WIRE TO WIRE</td></tr> <tr><td>Connector Type</td><td>TK18FW</td></tr> </table>  	Connector No.	D41	Connector Name	WIRE TO WIRE	Connector Type	TK18FW	<table border="1"> <tr><td>Terminal No.</td><td>Color of Wire</td><td>Signal Name [Specification]</td></tr> <tr><td>1</td><td>BR</td><td>-</td></tr> <tr><td>2</td><td>P</td><td>-</td></tr> <tr><td>13</td><td>-</td><td>-</td></tr> </table>	Terminal No.	Color of Wire	Signal Name [Specification]	1	BR	-	2	P	-	13	-	-
Connector No.	D41																		
Connector Name	WIRE TO WIRE																		
Connector Type	TK18FW																		
Terminal No.	Color of Wire	Signal Name [Specification]																	
1	BR	-																	
2	P	-																	
13	-	-																	
<table border="1"> <tr><td>Connector No.</td><td>D44</td></tr> <tr><td>Connector Name</td><td>FRONT DOOR SPEAKER RH</td></tr> <tr><td>Connector Type</td><td>NS02FW-GS</td></tr> </table>  	Connector No.	D44	Connector Name	FRONT DOOR SPEAKER RH	Connector Type	NS02FW-GS	<table border="1"> <tr><td>Terminal No.</td><td>Color of Wire</td><td>Signal Name [Specification]</td></tr> <tr><td>1</td><td>BR</td><td>-</td></tr> <tr><td>2</td><td>P</td><td>-</td></tr> </table>	Terminal No.	Color of Wire	Signal Name [Specification]	1	BR	-	2	P	-			
Connector No.	D44																		
Connector Name	FRONT DOOR SPEAKER RH																		
Connector Type	NS02FW-GS																		
Terminal No.	Color of Wire	Signal Name [Specification]																	
1	BR	-																	
2	P	-																	
<table border="1"> <tr><td>Connector No.</td><td>D61</td></tr> <tr><td>Connector Name</td><td>WIRE TO WIRE</td></tr> <tr><td>Connector Type</td><td>TK18FW</td></tr> </table>  	Connector No.	D61	Connector Name	WIRE TO WIRE	Connector Type	TK18FW	<table border="1"> <tr><td>Terminal No.</td><td>Color of Wire</td><td>Signal Name [Specification]</td></tr> <tr><td>1</td><td>L</td><td>-</td></tr> <tr><td>2</td><td>G</td><td>-</td></tr> <tr><td>13</td><td>-</td><td>-</td></tr> </table>	Terminal No.	Color of Wire	Signal Name [Specification]	1	L	-	2	G	-	13	-	-
Connector No.	D61																		
Connector Name	WIRE TO WIRE																		
Connector Type	TK18FW																		
Terminal No.	Color of Wire	Signal Name [Specification]																	
1	L	-																	
2	G	-																	
13	-	-																	
<table border="1"> <tr><td>Connector No.</td><td>D64</td></tr> <tr><td>Connector Name</td><td>FRONT DOOR SPEAKER LH</td></tr> <tr><td>Connector Type</td><td>NS02FW-GS</td></tr> </table>  	Connector No.	D64	Connector Name	FRONT DOOR SPEAKER LH	Connector Type	NS02FW-GS	<table border="1"> <tr><td>Terminal No.</td><td>Color of Wire</td><td>Signal Name [Specification]</td></tr> <tr><td>1</td><td>L</td><td>-</td></tr> <tr><td>2</td><td>G</td><td>-</td></tr> </table>	Terminal No.	Color of Wire	Signal Name [Specification]	1	L	-	2	G	-			
Connector No.	D64																		
Connector Name	FRONT DOOR SPEAKER LH																		
Connector Type	NS02FW-GS																		
Terminal No.	Color of Wire	Signal Name [Specification]																	
1	L	-																	
2	G	-																	
<table border="1"> <tr><td>Connector No.</td><td>D81</td></tr> <tr><td>Connector Name</td><td>WIRE TO WIRE</td></tr> <tr><td>Connector Type</td><td>NS08FW-GS</td></tr> </table>  	Connector No.	D81	Connector Name	WIRE TO WIRE	Connector Type	NS08FW-GS	<table border="1"> <tr><td>Terminal No.</td><td>Color of Wire</td><td>Signal Name [Specification]</td></tr> <tr><td>1</td><td>LG</td><td>-</td></tr> <tr><td>2</td><td>Y</td><td>-</td></tr> </table>	Terminal No.	Color of Wire	Signal Name [Specification]	1	LG	-	2	Y	-			
Connector No.	D81																		
Connector Name	WIRE TO WIRE																		
Connector Type	NS08FW-GS																		
Terminal No.	Color of Wire	Signal Name [Specification]																	
1	LG	-																	
2	Y	-																	
<table border="1"> <tr><td>Connector No.</td><td>D84</td></tr> <tr><td>Connector Name</td><td>REAR DOOR SPEAKER LH</td></tr> <tr><td>Connector Type</td><td>NS02FW-GS</td></tr> </table>  	Connector No.	D84	Connector Name	REAR DOOR SPEAKER LH	Connector Type	NS02FW-GS	<table border="1"> <tr><td>Terminal No.</td><td>Color of Wire</td><td>Signal Name [Specification]</td></tr> <tr><td>1</td><td>LG</td><td>-</td></tr> <tr><td>2</td><td>Y</td><td>-</td></tr> </table>	Terminal No.	Color of Wire	Signal Name [Specification]	1	LG	-	2	Y	-			
Connector No.	D84																		
Connector Name	REAR DOOR SPEAKER LH																		
Connector Type	NS02FW-GS																		
Terminal No.	Color of Wire	Signal Name [Specification]																	
1	LG	-																	
2	Y	-																	
<table border="1"> <tr><td>Connector No.</td><td>D91</td></tr> <tr><td>Connector Name</td><td>WIRE TO WIRE</td></tr> <tr><td>Connector Type</td><td>NS08FW-GS</td></tr> </table>  	Connector No.	D91	Connector Name	WIRE TO WIRE	Connector Type	NS08FW-GS	<table border="1"> <tr><td>Terminal No.</td><td>Color of Wire</td><td>Signal Name [Specification]</td></tr> <tr><td>1</td><td>O</td><td>-</td></tr> <tr><td>2</td><td>V</td><td>-</td></tr> </table>	Terminal No.	Color of Wire	Signal Name [Specification]	1	O	-	2	V	-			
Connector No.	D91																		
Connector Name	WIRE TO WIRE																		
Connector Type	NS08FW-GS																		
Terminal No.	Color of Wire	Signal Name [Specification]																	
1	O	-																	
2	V	-																	
<table border="1"> <tr><td>Connector No.</td><td>D94</td></tr> <tr><td>Connector Name</td><td>REAR DOOR SPEAKER RH</td></tr> <tr><td>Connector Type</td><td>NS02FW-GS</td></tr> </table>  	Connector No.	D94	Connector Name	REAR DOOR SPEAKER RH	Connector Type	NS02FW-GS	<table border="1"> <tr><td>Terminal No.</td><td>Color of Wire</td><td>Signal Name [Specification]</td></tr> <tr><td>1</td><td>O</td><td>-</td></tr> <tr><td>2</td><td>V</td><td>-</td></tr> </table>	Terminal No.	Color of Wire	Signal Name [Specification]	1	O	-	2	V	-			
Connector No.	D94																		
Connector Name	REAR DOOR SPEAKER RH																		
Connector Type	NS02FW-GS																		
Terminal No.	Color of Wire	Signal Name [Specification]																	
1	O	-																	
2	V	-																	

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

AV

**AUDIO WITH NAVIGATION SYSTEM**

<table border="1"> <tr><td>Connector No.</td><td>D101</td></tr> <tr><td>Connector Name</td><td>WIRE TO WIRE</td></tr> <tr><td>Connector Type</td><td>NS09FW-CS</td></tr> </table>   <table border="1"> <tr><td>Terminal No.</td><td>Color of Wire</td><td>Signal Name [Specification]</td></tr> <tr><td>1</td><td>O</td><td>-</td></tr> <tr><td>2</td><td>V</td><td>-</td></tr> </table>	Connector No.	D101	Connector Name	WIRE TO WIRE	Connector Type	NS09FW-CS	Terminal No.	Color of Wire	Signal Name [Specification]	1	O	-	2	V	-	<table border="1"> <tr><td>Connector No.</td><td>D104</td></tr> <tr><td>Connector Name</td><td>REAR DOOR SPEAKER RH</td></tr> <tr><td>Connector Type</td><td>NS02FW-CS</td></tr> </table>   <table border="1"> <tr><td>Terminal No.</td><td>Color of Wire</td><td>Signal Name [Specification]</td></tr> <tr><td>1</td><td>O</td><td>-</td></tr> <tr><td>2</td><td>V</td><td>-</td></tr> </table>	Connector No.	D104	Connector Name	REAR DOOR SPEAKER RH	Connector Type	NS02FW-CS	Terminal No.	Color of Wire	Signal Name [Specification]	1	O	-	2	V	-	<table border="1"> <tr><td>Connector No.</td><td>D111</td></tr> <tr><td>Connector Name</td><td>WIRE TO WIRE</td></tr> <tr><td>Connector Type</td><td>NS09FW-CS</td></tr> </table>   <table border="1"> <tr><td>Terminal No.</td><td>Color of Wire</td><td>Signal Name [Specification]</td></tr> <tr><td>1</td><td>LG</td><td>-</td></tr> <tr><td>2</td><td>Y</td><td>-</td></tr> </table>	Connector No.	D111	Connector Name	WIRE TO WIRE	Connector Type	NS09FW-CS	Terminal No.	Color of Wire	Signal Name [Specification]	1	LG	-	2	Y	-	<table border="1"> <tr><td>Connector No.</td><td>D114</td></tr> <tr><td>Connector Name</td><td>REAR DOOR SPEAKER LH</td></tr> <tr><td>Connector Type</td><td>NS02FW-CS</td></tr> </table>   <table border="1"> <tr><td>Terminal No.</td><td>Color of Wire</td><td>Signal Name [Specification]</td></tr> <tr><td>1</td><td>LG</td><td>-</td></tr> <tr><td>2</td><td>Y</td><td>-</td></tr> </table>	Connector No.	D114	Connector Name	REAR DOOR SPEAKER LH	Connector Type	NS02FW-CS	Terminal No.	Color of Wire	Signal Name [Specification]	1	LG	-	2	Y	-
Connector No.	D101																																																														
Connector Name	WIRE TO WIRE																																																														
Connector Type	NS09FW-CS																																																														
Terminal No.	Color of Wire	Signal Name [Specification]																																																													
1	O	-																																																													
2	V	-																																																													
Connector No.	D104																																																														
Connector Name	REAR DOOR SPEAKER RH																																																														
Connector Type	NS02FW-CS																																																														
Terminal No.	Color of Wire	Signal Name [Specification]																																																													
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Terminal No.	Color of Wire	Signal Name [Specification]																																																													
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Terminal No.	Color of Wire	Signal Name [Specification]																																																													
1	LG	-																																																													
2	Y	-																																																													
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Connector No.	E6																																																														
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Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)																																																														
Connector Type	NS12FBF-CS																																																														
Terminal No.	Color of Wire	Signal Name [Specification]																																																													
14	R/B	-																																																													
16	Y/R	-																																																													
Connector No.	E101																																																														
Connector Name	WIRE TO WIRE																																																														
Connector Type	TK10FW-NS8																																																														
Terminal No.	Color of Wire	Signal Name [Specification]																																																													
1	Y/G	-																																																													

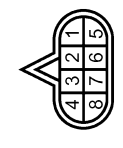
AUDIO WITH NAVIGATION SYSTEM

Connector No.	E105
Connector Name	WIRE TO WIRE
Connector Type	THB3MW-NS16-TM4



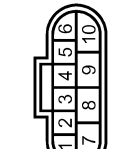
Terminal No.	78	Color of Wire	LG	Signal Name [Specification]	-
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Connector No.	F21
Connector Name	PARK/NEUTRAL POSITION SWITCH
Connector Type	RK08FG



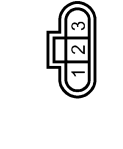
Terminal No.	5	Color of Wire	Y/R	Signal Name [Specification]	-
Terminal No.	8	Color of Wire	Y/G	Signal Name [Specification]	-

Connector No.	F22
Connector Name	PARK/NEUTRAL POSITION SWITCH
Connector Type	YDA08FB-HS4



Terminal No.	3	Color of Wire	Y/R	Signal Name [Specification]	VIGN
Terminal No.	9	Color of Wire	Y/G	Signal Name [Specification]	R RANGE SWITCH

Connector No.	F46
Connector Name	PARK/NEUTRAL POSITION SWITCH
Connector Type	FEA03FG



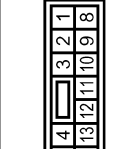
Terminal No.	1	Color of Wire	Y/G	Signal Name [Specification]	-
Terminal No.	2	Color of Wire	R/B	Signal Name [Specification]	-

Connector No.	F51
Connector Name	BACK-UP LAMP SWITCH
Connector Type	RK02FB



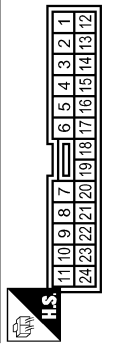
Terminal No.	1	Color of Wire	Y/G	Signal Name [Specification]	-
Terminal No.	2	Color of Wire	R/B	Signal Name [Specification]	-

Connector No.	F121
Connector Name	WIRE TO WIRE
Connector Type	NS18FW-GS



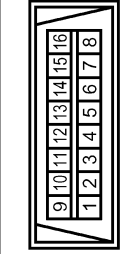
Terminal No.	3	Color of Wire	Y/R	Signal Name [Specification]	-
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Connector No.	F123
Connector Name	WIRE TO WIRE
Connector Type	TK24FW-1V



Terminal No.	1	Color of Wire	Y/G	Signal Name [Specification]	-
Terminal No.	21	Color of Wire	R/B	Signal Name [Specification]	-

Connector No.	M4
Connector Name	DATA LINK CONNECTOR
Connector Type	BD18FW



Terminal No.	6	Color of Wire	L	Signal Name [Specification]	-
Terminal No.	7	Color of Wire	O	Signal Name [Specification]	-
Terminal No.	14	Color of Wire	P	Signal Name [Specification]	-

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AV

**AUDIO WITH NAVIGATION SYSTEM**

Connector No.	M11
Connector Name	WIRE TO WIRE
Connector Type	TH24FW

Terminal No.	Color of Wire	Signal Name [Specification]
11	Y	-
12	R	-
13	LG	-
16	V	-
17	O	-
18	W	-
18	SHIELD	-
23	Y	-

Connector No.	M12
Connector Name	WIRE TO WIRE
Connector Type	TH24FW

Terminal No.	Color of Wire	Signal Name [Specification]
1	B	-
2	G	-
3	R	-
4	W	-
5	SHIELD	-
6	B	-
7	G	-
8	R	-
9	W	-
10	SHIELD	-
11	W	-

Connector No.	M13
Connector Name	WIRE TO WIRE
Connector Type	TH24FW

Terminal No.	Color of Wire	Signal Name [Specification]
16	Y	-
17	LG	-

Connector No.	M15
Connector Name	WIRE TO WIRE
Connector Type	NS08FW-GS

Terminal No.	Color of Wire	Signal Name [Specification]
5	O	-

Connector No.	M18
Connector Name	WIRE TO WIRE
Connector Type	TK (BMW)

Terminal No.	Color of Wire	Signal Name [Specification]
12	L	-
13	G	-

Connector No.	M16
Connector Name	WIRE TO WIRE
Connector Type	TH12FW

Terminal No.	Color of Wire	Signal Name [Specification]
1	LG	-
2	R	-
4	O	-
5	V	-
6	Y	-
7	W	-
8	O	-
8	SHIELD	-
10	O	-
11	W	-
12	SHIELD	-

Connector No.	M20
Connector Name	WIRE TO WIRE
Connector Type	TK (BMW)

Terminal No.	Color of Wire	Signal Name [Specification]
12	BR	-
13	P	-

### AUDIO WITH NAVIGATION SYSTEM

Connector No.	M22
Connector Name	TWEETER RH
Connector Type	FCI 211PC0203S0017



Terminal No.	Color of Wire	Signal Name [Specification]
1	BR	-
2	P	-

Connector No.	M23
Connector Name	WIRE TO WIRE
Connector Type	TKIDFW-MS8



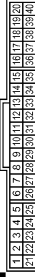
Terminal No.	Color of Wire	Signal Name [Specification]
2	W	-
3	B	-
4	SHIELD	-

Connector No.	M33
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TK08FGV-1V



Terminal No.	Color of Wire	Signal Name [Specification]
24	R	-
31	B	-
32	Y	-

Connector No.	M34
Connector Name	COMBINATION METER
Connector Type	SAB4QFW



Terminal No.	Color of Wire	Signal Name [Specification]
21	L	CAN-H
22	P	CAN-L
31	Y	VEHICLE SPEED (6-PULSE)

Connector No.	M46
Connector Name	AUDIO UNIT
Connector Type	TH18FW-GS2



Terminal No.	Color of Wire	Signal Name [Specification]
2	L	SOUND SIGNAL FRONT LH (+)
3	G	SOUND SIGNAL FRONT LH (-)
4	LG	SOUND SIGNAL REAR LH (+)
5	Y	SOUND SIGNAL REAR RH (-)
6	R	STRG SW A
7	R	ACC
8	B	GND
11	BR	SOUND SIGNAL FRONT RH (+)
12	P	SOUND SIGNAL FRONT RH (-)
13	O	SOUND SIGNAL REAR RH (+)
14	V	SOUND SIGNAL REAR RH (-)

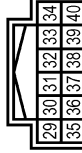
15	B	STRG SW GND
16	Y	STRG SW B
19	LG	BATTERY
20	B	GND

Connector No.	M47
Connector Name	AUDIO UNIT
Connector Type	TH08FW



Terminal No.	Color of Wire	Signal Name [Specification]
23	L	AV COMM (H)
24	P	AV COMM (L)

Connector No.	M48
Connector Name	AUDIO UNIT
Connector Type	TH12FW



Terminal No.	Color of Wire	Signal Name [Specification]
30	W	TEL VOICE SIGNAL (-)
31	O	TEL VOICE SIGNAL (-) [With navigation system]
32	O	VOICE GUIDANCE (+)
33	W	VOICE GUIDANCE (-)
37	SHIELD	SHIELD [With navigation system]
38	SHIELD	SHIELD

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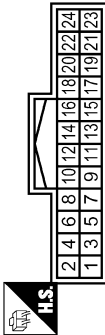
# DISPLAY UNIT

< ECU DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## AUDIO WITH NAVIGATION SYSTEM

Connector No.	M48
Connector Name	DISPLAY UNIT
Connector Type	TH24FW



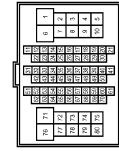
Terminal No.	Color of Wire	Signal Name [Specification]
1	G	RGB (RRED) SIGNAL
2	G	RGB AREA (YS) SIGNAL
3	R	RGB (GGREEN) SIGNAL
4	R	HP
5	W	RGB (BBLUE) SIGNAL
6	W	VP
7	B	RGB SYNC
8	B	RGB GND
10	SHIELD	SHIELD
11	R	CAMERA IMAGE SIGNAL
12	SHIELD	SHIELD

Connector No.	M81
Connector Name	WIRE TO WIRE
Connector Type	TK (BMW)



Terminal No.	Color of Wire	Signal Name [Specification]
12	BR	
13	P	

17	O	COMM (DISP—)CONT
18	SHIELD	SHIELD
19	W	COMM (CONT—)DISP
20	R	ACC
21	LG	BATTERY
23	B	GND



Terminal No.	Color of Wire	Signal Name [Specification]
78	LG	

Connector No.	M103
Connector Name	PARKING BRAKE SWITCH
Connector Type	P01FB-A



Terminal No.	Color of Wire	Signal Name [Specification]
1	V	

Connector No.	M80
Connector Name	TWEETER LH
Connector Type	FCI 21P-C023S017



Terminal No.	Color of Wire	Signal Name [Specification]
1	L	
2	G	

Connector No.	M352
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TK08MGY-X



Terminal No.	Color of Wire	Signal Name [Specification]
16		
17		
20		

AUDIO WITH NAVIGATION SYSTEM

Connector No.	M402
Connector Name	AUDIO UNIT
Connector Type	GT13 SH-2 SIS-HU



Terminal No.	Color of Wire	Signal Name [Specification]
42	-	ANTENNA

Connector No.	R1
Connector Name	WIRE TO WIRE
Connector Type	TK10MW-NS8



Terminal No.	Color of Wire	Signal Name [Specification]
2	B	-
3	W	-
4	SHIELD	-

Connector No.	R3
Connector Name	MICROPHONE
Connector Type	TK0MF



Terminal No.	Color of Wire	Signal Name [Specification]
1	W	MICROPHONE SIGNAL
2	SHIELD	MICROPHONE GND
4	B	MICROPHONE VCC

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# CAMERA CONTROL UNIT

< ECU DIAGNOSIS >

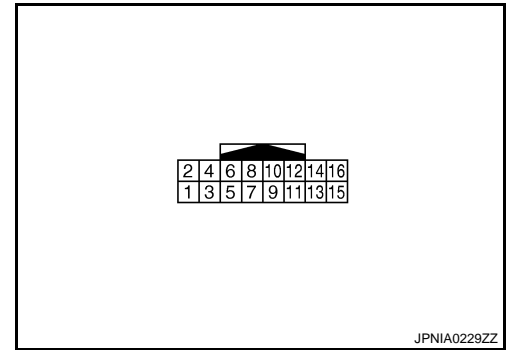
[AUDIO WITH NAVIGATION]

## CAMERA CONTROL UNIT

Reference Value

INFOID:000000001194060

TERMINAL LAYOUT



JPNIA0229ZZ

PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
1 (LG)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
2 (R)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
3 (B)	Ground	GND	—	Ignition switch ON	—	0 V
4 (Y/G)	Ground	Reverse signal	Input	Ignition switch ON	R position	12 V
					Other than R position	0 V
5 (Y)	Ground	Camera-connection recog- nition signal	—	Ignition switch ON	Connected to camera con- trol unit connector	0 V
					Not connected to camera control unit connector	5 V
6 (O)	—	Data transmit/receive sig- nal	—	—	—	—
8 (V)	Ground	Camera ON signal	Output	Ignition switch ON	R position	6 V
					Other than R position	0 V
9	—	Shield	—	—	—	—
10 (W)	Ground	Camera image signal	Input	Ignition switch ON	At rear view camera image displayed	

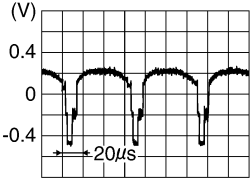
SKIB0827E



# CAMERA CONTROL UNIT

< ECU DIAGNOSIS >

[AUDIO WITH NAVIGATION]

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	-	Signal name	Input/ Output			
11	—	Shield	—	—	—	—
12 (R)	Ground	Camera image signal	Output	Ignition switch ON	At rear view camera image displayed	 <p style="text-align: right; font-size: small;">SKIB0827E</p>

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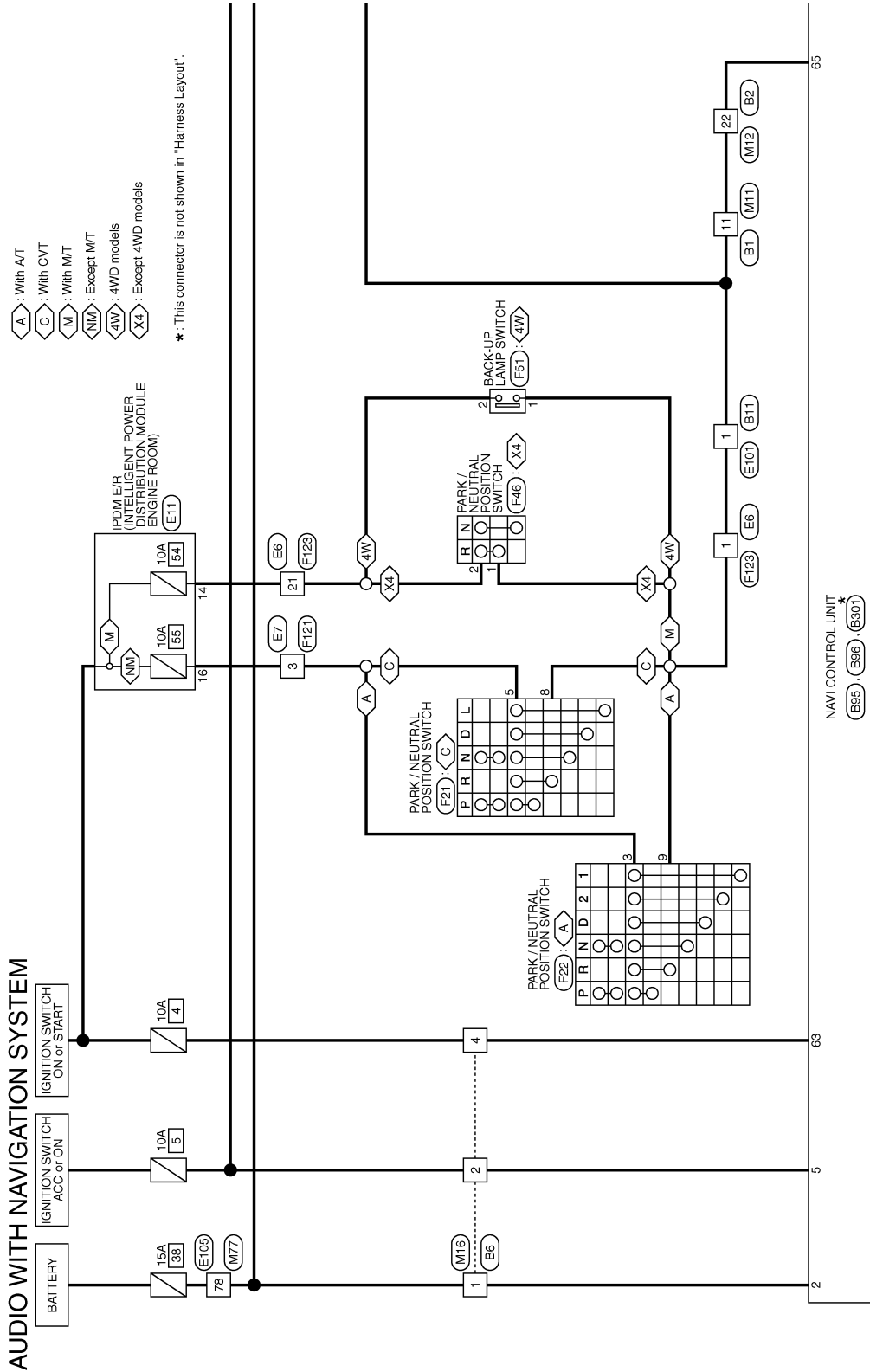
# CAMERA CONTROL UNIT

< ECU DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## Wiring Diagram - AUDIO WITH NAVIGATION SYSTEM -

INFOID:000000001609238



2007/04/27

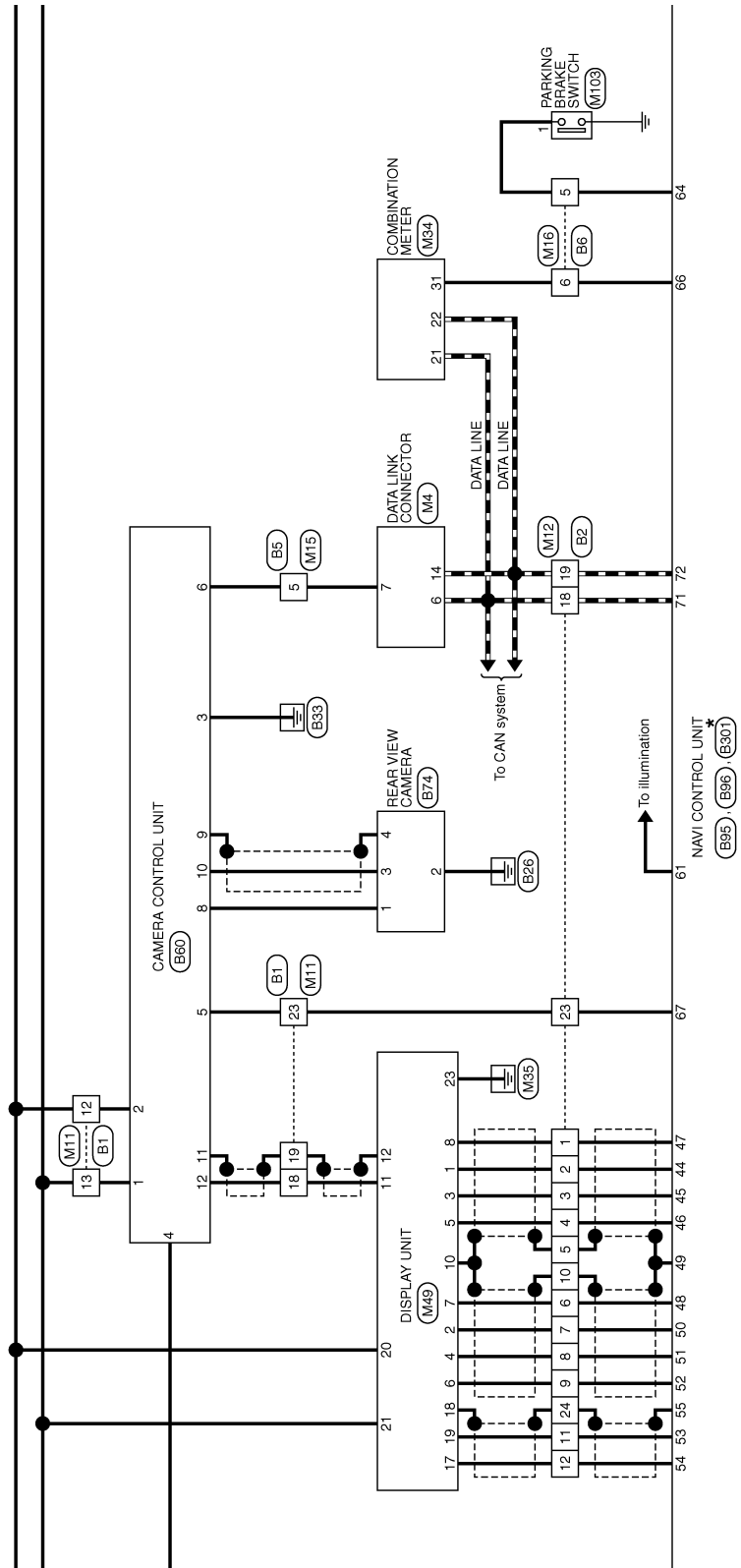
JCNWA0396GE

# CAMERA CONTROL UNIT

< ECU DIAGNOSIS >

[AUDIO WITH NAVIGATION]

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



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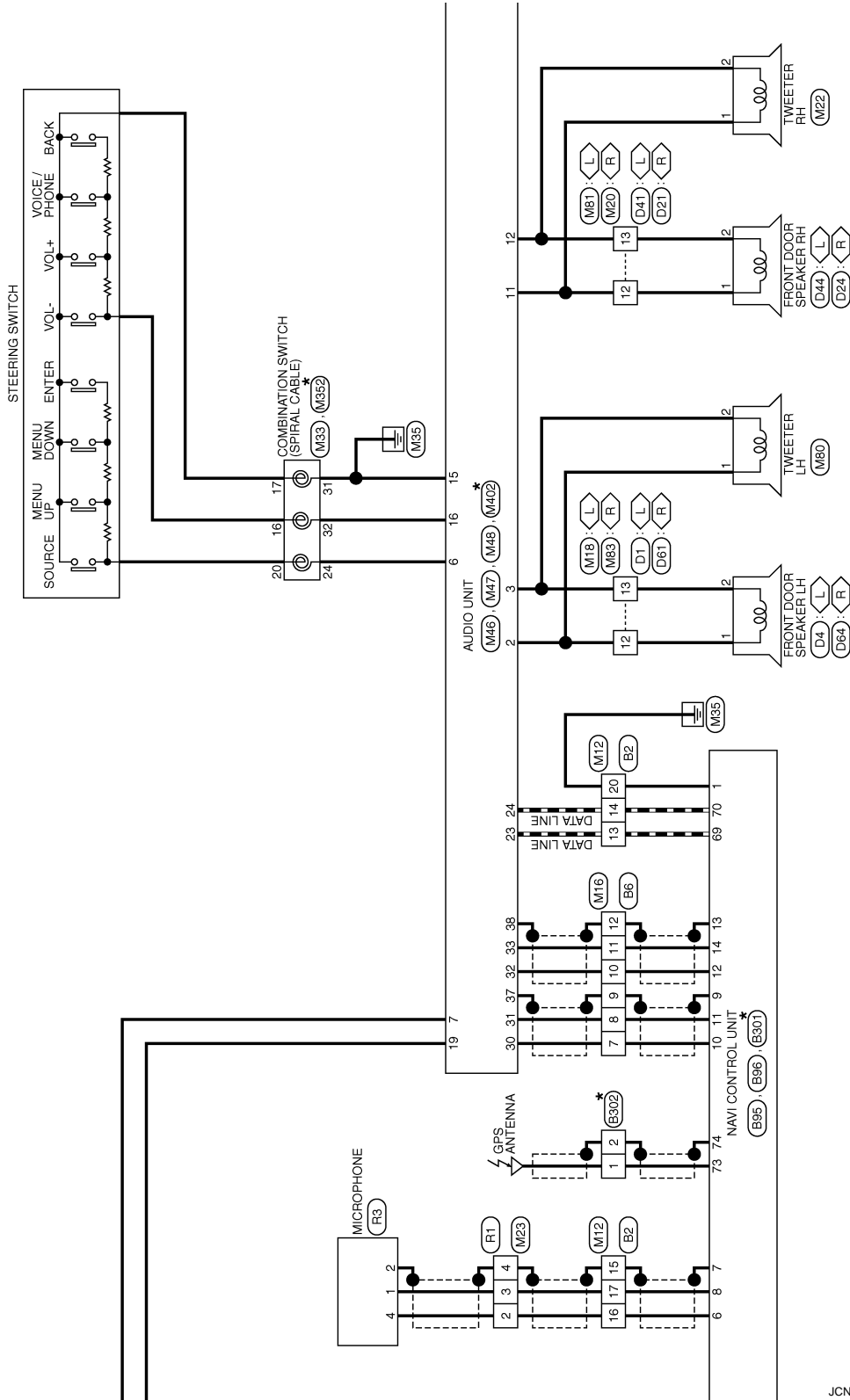
# CAMERA CONTROL UNIT

< ECU DIAGNOSIS >

[AUDIO WITH NAVIGATION]

◁ : LHD models  
 ▷ : RHD models

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



JCNWA0398GE

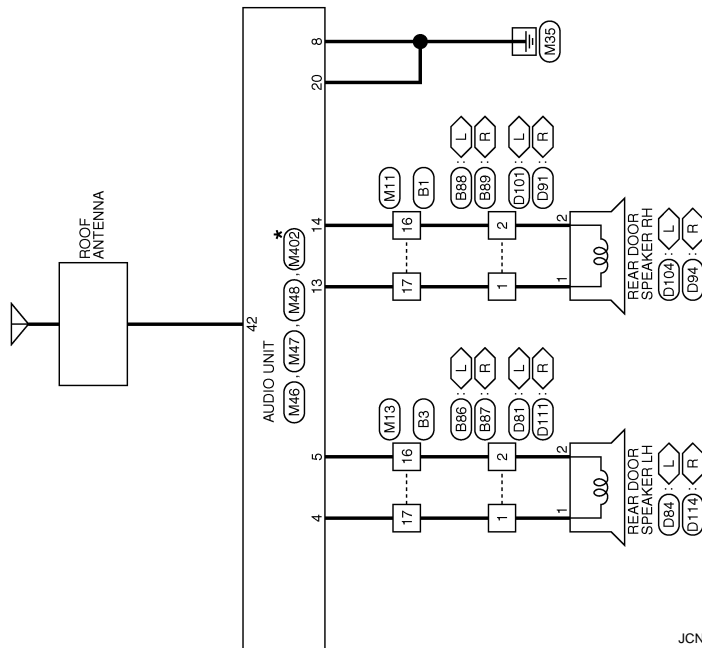
# CAMERA CONTROL UNIT

< ECU DIAGNOSIS >

[AUDIO WITH NAVIGATION]

◁ L ▷ : LHD models  
 ▷ R ◁ : RHD models

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



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# CAMERA CONTROL UNIT

< ECU DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## AUDIO WITH NAVIGATION SYSTEM

Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Type	TH24MW



Terminal No.	Color of Wire	Signal Name (Specification)
1	Y/G	-
2	R	-
3	LG	-
4	V	-
5	O	-
6	R	-
7	SHIELD	-
8	Y	-
18	SHIELD	-
23	Y	-

Connector No.	B5
Connector Name	WIRE TO WIRE
Connector Type	NS08MW-CS



Terminal No.	Color of Wire	Signal Name (Specification)
5	O	-

Connector No.	B2
Connector Name	WIRE TO WIRE
Connector Type	TH24MW



Terminal No.	Color of Wire	Signal Name (Specification)
1	B	-
2	G	-
3	R	-
4	W	-
5	SHIELD	-
6	B	-
7	G	-
8	R	-
9	W	-
10	SHIELD	-
11	W	-

Connector No.	B6
Connector Name	WIRE TO WIRE
Connector Type	TH12MW



Terminal No.	Color of Wire	Signal Name (Specification)
1	LG	-
2	R	-
4	W	-
5	V	-
6	Y	-
7	W	-
8	O	-
9	SHIELD	-
10	O	-
11	W	-
12	SHIELD	-

12	O	-
13	L	-
14	P	-
15	SHIELD	-
16	B	-
17	W	-
18	L	-
19	P	-
20	B	-
22	Y/G	-
23	Y	-
24	SHIELD	-

Connector No.	B11
Connector Name	WIRE TO WIRE
Connector Type	TK10MW-NS8



Terminal No.	Color of Wire	Signal Name (Specification)
1	Y/G	-

Connector No.	B3
Connector Name	WIRE TO WIRE
Connector Type	TH24MW



Terminal No.	Color of Wire	Signal Name (Specification)
16	Y	-
17	LG	-

Connector No.	B60
Connector Name	CAMERA CONTROL UNIT
Connector Type	TH16FW



Terminal No.	Color of Wire	Signal Name (Specification)
1	LG	BATTERY
2	R	ACC
3	B	GND
4	Y/G	REVERSE SIGNAL
5	Y	CONNECTION RECOGNITION
6	O	DDL
8	V	CAMERA ON SIGNAL
9	SHIELD	SHIELD
10	W	CAMERA IMAGE SIGNAL
11	SHIELD	SHIELD
12	R	CAMERA IMAGE SIGNAL

# CAMERA CONTROL UNIT

< ECU DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## AUDIO WITH NAVIGATION SYSTEM

Connector No.	B74
Connector Name	REAR VIEW CAMERA
Connector Type	TH03MW



Terminal No.	Color of Wire	Signal Name [Specification]
1	V	CAMERA ON SIGNAL
2	B	GND
3	W	CAMERA IMAGE SIGNAL
4	SHIELD	SHIELD

Connector No.	B88
Connector Name	WIRE TO WIRE
Connector Type	NS08MW-CS



Terminal No.	Color of Wire	Signal Name [Specification]
1	O	-
2	V	-

Connector No.	B86
Connector Name	WIRE TO WIRE
Connector Type	NS08MW-CS



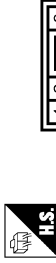
Terminal No.	Color of Wire	Signal Name [Specification]
1	LG	-
2	Y	-

Connector No.	B95
Connector Name	NAVI CONTROL UNIT
Connector Type	TH03FW



Terminal No.	Color of Wire	Signal Name [Specification]
1	B	GND
2	LG	BATTERY
5	R	ACC
6	B	MICROPHONE VCC
7	SHIELD	MICROPHONE GND
8	W	MICROPHONE SIGNAL
9	SHIELD	SHIELD
10	W	TEL VOICE SIGNAL (+)
11	O	TEL VOICE SIGNAL (-)
12	O	VOICE GUIDANCE SIGNAL (+)
13	SHIELD	SHIELD

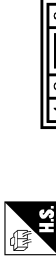
Connector No.	B87
Connector Name	WIRE TO WIRE
Connector Type	NS08MW-CS



Terminal No.	Color of Wire	Signal Name [Specification]
1	LG	-
2	Y	-

14	W	VOICE GUIDANCE SIGNAL (-)
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Connector No.	B88
Connector Name	WIRE TO WIRE
Connector Type	NS08MW-CS



Terminal No.	Color of Wire	Signal Name [Specification]
1	O	-
2	V	-

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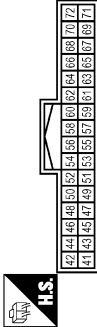
# CAMERA CONTROL UNIT

< ECU DIAGNOSIS >

[AUDIO WITH NAVIGATION]

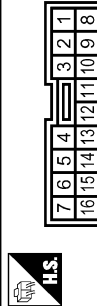
## AUDIO WITH NAVIGATION SYSTEM

Connector No.	B96
Connector Name	NAVI CONTROL UNIT
Connector Type	TK32FW



Terminal No.	Color of Wire	Signal Name [Specification]
44	G	RGB (R/RED) SIGNAL
45	R	RGB (G/GREEN) SIGNAL
46	W	RGB (B/BLUE) SIGNAL
47	B	RGB GND
48	B	RGB SYNC
49	B	SHIELD
50	G	RGB AREA(L/S) SIGNAL
51	R	HP
52	W	VP
53	W	COMM (CONT—DISP)
54	O	COMM (DISP—CONT)

Connector No.	D1
Connector Name	WIRE TO WIRE
Connector Type	TK 8FW



Terminal No.	Color of Wire	Signal Name [Specification]
13	L	
12	L	
1	L	

55	SHIELD	SHIELD
61	R/L	ILLUMINATION
63	W	IGNITION
64	V	PARKING BRAKE
65	Y/G	REVERSE SIGNAL
66	Y	VEHICLE SPEED (8-PULSE)
67	Y	CONNECTION RECOGNITION
68	L	AV COMM (H)
70	P	AV COMM (L)
71	L	CAN-H
72	P	CAN-L

Terminal No.	Color of Wire	Signal Name [Specification]
73	—	GPS ANTENNA
74	SHIELD	SHIELD

Connector No.	D4
Connector Name	FRONT DOOR SPEAKER LH
Connector Type	NS02FW-GS



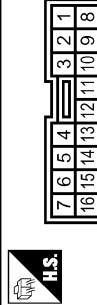
Terminal No.	Color of Wire	Signal Name [Specification]
1	L	
2	G	

Connector No.	B301
Connector Name	NAVI CONTROL UNIT
Connector Type	GTSS-PPF-HU



Terminal No.	Color of Wire	Signal Name [Specification]
1	—	
2	SHIELD	

Connector No.	D21
Connector Name	WIRE TO WIRE
Connector Type	TK 8FW



Terminal No.	Color of Wire	Signal Name [Specification]
13	P	
12	BR	
1	BR	

Connector No.	B302
Connector Name	GPS ANTENNA
Connector Type	GTSS-PPF-HU



Terminal No.	Color of Wire	Signal Name [Specification]
1	—	
2	SHIELD	

Connector No.	D24
Connector Name	FRONT DOOR SPEAKER RH
Connector Type	NS02FW-GS



Terminal No.	Color of Wire	Signal Name [Specification]
1	BR	
2	P	

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# CAMERA CONTROL UNIT

< ECU DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## AUDIO WITH NAVIGATION SYSTEM

<table border="1"> <tr><td>Connector No.</td><td>D41</td></tr> <tr><td>Connector Name</td><td>WIRE TO WIRE</td></tr> <tr><td>Connector Type</td><td>TK18FW</td></tr> </table>  <table border="1"> <tr><td>Terminal No.</td><td>Color of Wire</td><td>Signal Name [Specification]</td></tr> <tr><td>1</td><td>BR</td><td>-</td></tr> <tr><td>2</td><td>P</td><td>-</td></tr> <tr><td>13</td><td>-</td><td>-</td></tr> </table>	Connector No.	D41	Connector Name	WIRE TO WIRE	Connector Type	TK18FW	Terminal No.	Color of Wire	Signal Name [Specification]	1	BR	-	2	P	-	13	-	-	<table border="1"> <tr><td>Connector No.</td><td>D44</td></tr> <tr><td>Connector Name</td><td>FRONT DOOR SPEAKER RH</td></tr> <tr><td>Connector Type</td><td>NS02FW-GS</td></tr> </table>  <table border="1"> <tr><td>Terminal No.</td><td>Color of Wire</td><td>Signal Name [Specification]</td></tr> <tr><td>1</td><td>BR</td><td>-</td></tr> <tr><td>2</td><td>P</td><td>-</td></tr> </table>	Connector No.	D44	Connector Name	FRONT DOOR SPEAKER RH	Connector Type	NS02FW-GS	Terminal No.	Color of Wire	Signal Name [Specification]	1	BR	-	2	P	-	<table border="1"> <tr><td>Connector No.</td><td>D61</td></tr> <tr><td>Connector Name</td><td>WIRE TO WIRE</td></tr> <tr><td>Connector Type</td><td>TK18FW</td></tr> </table>  <table border="1"> <tr><td>Terminal No.</td><td>Color of Wire</td><td>Signal Name [Specification]</td></tr> <tr><td>1</td><td>L</td><td>-</td></tr> <tr><td>2</td><td>G</td><td>-</td></tr> <tr><td>13</td><td>-</td><td>-</td></tr> </table>	Connector No.	D61	Connector Name	WIRE TO WIRE	Connector Type	TK18FW	Terminal No.	Color of Wire	Signal Name [Specification]	1	L	-	2	G	-	13	-	-	<table border="1"> <tr><td>Connector No.</td><td>D64</td></tr> <tr><td>Connector Name</td><td>FRONT DOOR SPEAKER LH</td></tr> <tr><td>Connector Type</td><td>NS02FW-GS</td></tr> </table>  <table border="1"> <tr><td>Terminal No.</td><td>Color of Wire</td><td>Signal Name [Specification]</td></tr> <tr><td>1</td><td>L</td><td>-</td></tr> <tr><td>2</td><td>G</td><td>-</td></tr> </table>	Connector No.	D64	Connector Name	FRONT DOOR SPEAKER LH	Connector Type	NS02FW-GS	Terminal No.	Color of Wire	Signal Name [Specification]	1	L	-	2	G	-
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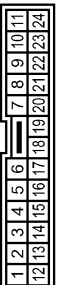







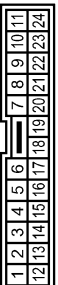






JCNWA0403GE

# CAMERA CONTROL UNIT

< ECU DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## AUDIO WITH NAVIGATION SYSTEM

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Connector No.	D101																																																														
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1	Y/G	-																																																													

JCNWA0404GE

# CAMERA CONTROL UNIT

< ECU DIAGNOSIS >

[AUDIO WITH NAVIGATION]

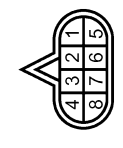
## AUDIO WITH NAVIGATION SYSTEM

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Connector Type	THB30W-NS16-TM4



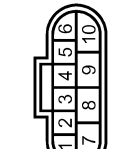
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Connector No.	F21
Connector Name	PARK/NEUTRAL POSITION SWITCH
Connector Type	RK08FG



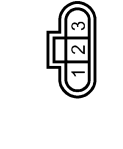
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Terminal No.	8	Color of Wire	Y/G	Signal Name [Specification]	-

Connector No.	F22
Connector Name	PARK/NEUTRAL POSITION SWITCH
Connector Type	YDA08FB-HS4



Terminal No.	3	Color of Wire	Y/R	Signal Name [Specification]	VIGN
Terminal No.	9	Color of Wire	Y/G	Signal Name [Specification]	R RANGE SWITCH

Connector No.	F46
Connector Name	PARK/NEUTRAL POSITION SWITCH
Connector Type	FEA03FG



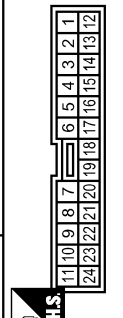
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Terminal No.	2	Color of Wire	R/B	Signal Name [Specification]	-

Connector No.	F51
Connector Name	BACK-UP LAMP SWITCH
Connector Type	RK02FB



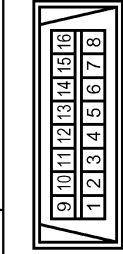
Terminal No.	1	Color of Wire	Y/G	Signal Name [Specification]	-
Terminal No.	2	Color of Wire	R/B	Signal Name [Specification]	-

Connector No.	F123
Connector Name	WIRE TO WIRE
Connector Type	TK24FW-1V



Terminal No.	1	Color of Wire	Y/G	Signal Name [Specification]	-
Terminal No.	21	Color of Wire	R/B	Signal Name [Specification]	-

Connector No.	M4
Connector Name	DATA LINK CONNECTOR
Connector Type	BD18FW



Terminal No.	6	Color of Wire	L	Signal Name [Specification]	-
Terminal No.	7	Color of Wire	O	Signal Name [Specification]	-
Terminal No.	14	Color of Wire	P	Signal Name [Specification]	-

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

JCNWA0405GE

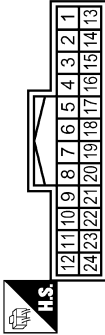
# CAMERA CONTROL UNIT

< ECU DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## AUDIO WITH NAVIGATION SYSTEM

Connector No.	M11
Connector Name	WIRE TO WIRE
Connector Type	TH24FW



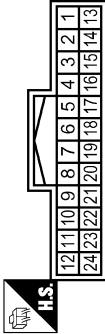
Terminal No.	Color of Wire	Signal Name [Specification]
11	Y	-
12	R	-
13	LG	-
16	V	-
17	O	-
18	W	-
18	SHIELD	-
23	Y	-

Connector No.	M15
Connector Name	WIRE TO WIRE
Connector Type	NS08FW-GS



Terminal No.	Color of Wire	Signal Name [Specification]
5	O	-

Connector No.	M12
Connector Name	WIRE TO WIRE
Connector Type	TH24FW



Terminal No.	Color of Wire	Signal Name [Specification]
1	B	-
2	G	-
3	R	-
4	W	-
5	SHIELD	-
6	B	-
7	G	-
8	R	-
9	W	-
10	SHIELD	-
11	W	-

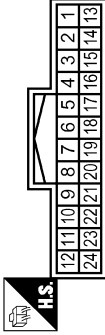
Connector No.	M16
Connector Name	WIRE TO WIRE
Connector Type	TH12FW



Terminal No.	Color of Wire	Signal Name [Specification]
1	LG	-
2	R	-
4	O	-
5	V	-
6	Y	-
7	W	-
8	O	-
8	SHIELD	-
10	O	-
11	W	-
12	SHIELD	-

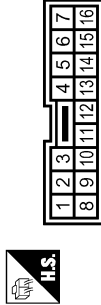
Terminal No.	Color of Wire	Signal Name [Specification]
12	O	-
13	L	-
14	P	-
15	SHIELD	-
16	W	-
17	B	-
18	L	-
18	P	-
20	B	-
22	Y	-
23	Y	-
24	SHIELD	-

Connector No.	M13
Connector Name	WIRE TO WIRE
Connector Type	TH24FW



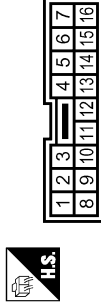
Terminal No.	Color of Wire	Signal Name [Specification]
16	Y	-
17	LG	-

Connector No.	M18
Connector Name	WIRE TO WIRE
Connector Type	TK16MW



Terminal No.	Color of Wire	Signal Name [Specification]
12	L	-
13	G	-

Connector No.	M20
Connector Name	WIRE TO WIRE
Connector Type	TK16MW



Terminal No.	Color of Wire	Signal Name [Specification]
12	BR	-
13	P	-

JCNWA0406GE

# CAMERA CONTROL UNIT

< ECU DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## AUDIO WITH NAVIGATION SYSTEM

Connector No.	M22
Connector Name	TWEETER RH
Connector Type	FCI 211PC0203S0017



Terminal No.	Color of Wire	Signal Name [Specification]
1	BR	-
2	P	-

Connector No.	M23
Connector Name	WIRE TO WIRE
Connector Type	TKIDFW-MS8



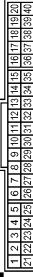
Terminal No.	Color of Wire	Signal Name [Specification]
2	W	-
3	B	-
4	SHIELD	-

Connector No.	M33
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TK08FGV-1V



Terminal No.	Color of Wire	Signal Name [Specification]
24	R	-
31	B	-
32	Y	-

Connector No.	M34
Connector Name	COMBINATION METER
Connector Type	SAB4QFW



Terminal No.	Color of Wire	Signal Name [Specification]
21	L	CAN-H
22	P	CAN-L
31	Y	VEHICLE SPEED (6-PULSE)

Connector No.	M46
Connector Name	AUDIO UNIT
Connector Type	TH18FW-GS2



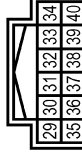
Terminal No.	Color of Wire	Signal Name [Specification]
2	L	SOUND SIGNAL FRONT LH (+)
3	G	SOUND SIGNAL FRONT LH (-)
4	LG	SOUND SIGNAL REAR LH (+)
5	Y	SOUND SIGNAL REAR LH (-)
6	R	STRG SW A
7	R	ACC
8	B	GND
11	BR	SOUND SIGNAL FRONT RH (+)
12	P	SOUND SIGNAL FRONT RH (-)
13	O	SOUND SIGNAL REAR RH (+)
14	V	SOUND SIGNAL REAR RH (-)

Connector No.	M47
Connector Name	AUDIO UNIT
Connector Type	TH08FW



Terminal No.	Color of Wire	Signal Name [Specification]
23	L	AV COMM (H)
24	P	AV COMM (L)

Connector No.	M48
Connector Name	AUDIO UNIT
Connector Type	TH12FW



Terminal No.	Color of Wire	Signal Name [Specification]
30	W	TEL VOICE SIGNAL (-)
31	O	TEL VOICE SIGNAL (-) [With navigation system]
32	O	VOICE GUIDANCE (+)
33	W	VOICE GUIDANCE (-)
37	SHIELD	SHIELD [With navigation system]
38	SHIELD	SHIELD

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

AV

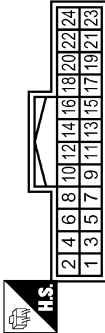
# CAMERA CONTROL UNIT

< ECU DIAGNOSIS >

[AUDIO WITH NAVIGATION]

## AUDIO WITH NAVIGATION SYSTEM

Connector No.	M48
Connector Name	DISPLAY UNIT
Connector Type	TH24FW



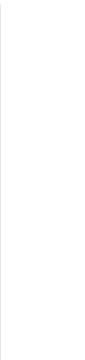
Terminal No.	Color of Wire	Signal Name [Specification]
1	G	RGB (RRED) SIGNAL
2	G	RGB AREA (YS) SIGNAL
3	R	RGB (GGREEN) SIGNAL
4	R	HP
5	W	RGB (BBLUE) SIGNAL
6	W	VP
7	B	RGB SYNC
8	B	RGB GND
10	SHIELD	SHIELD
11	R	CAMERA IMAGE SIGNAL
12	SHIELD	SHIELD

Connector No.	M81
Connector Name	WIRE TO WIRE
Connector Type	TK (BMW)



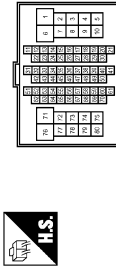
Terminal No.	Color of Wire	Signal Name [Specification]
12	BR	
13	P	

17	O	COMM (DISP-CONT)
18	SHIELD	SHIELD
19	W	COMM (CONT-DISP)
20	R	ACC
21	LG	BATTERY
23	B	GND



Terminal No.	Color of Wire	Signal Name [Specification]
78	LG	

Connector No.	M77
Connector Name	WIRE TO WIRE
Connector Type	TH6DFW-MS16-TM4



Connector No.	M103
Connector Name	PARKING BRAKE SWITCH
Connector Type	P01FB-A



Terminal No.	Color of Wire	Signal Name [Specification]
1	V	

Connector No.	M80
Connector Name	TWEETER LH
Connector Type	FCI 21P-C023S017



Terminal No.	Color of Wire	Signal Name [Specification]
1	L	
2	G	

Connector No.	M352
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TK08MGY-X



Terminal No.	Color of Wire	Signal Name [Specification]
16	-	
17	-	
20	-	

**AUDIO WITH NAVIGATION SYSTEM**

Connector No.	M402
Connector Name	AUDIO UNIT
Connector Type	GT13 SH-2 SIS-HU



Terminal No.	Color of Wire	Signal Name [Specification]
42	-	ANTENNA

Connector No.	R1
Connector Name	WIRE TO WIRE
Connector Type	TK10MW-NS8



Terminal No.	Color of Wire	Signal Name [Specification]
2	B	-
3	W	-
4	SHIELD	-

Connector No.	R3
Connector Name	MICROPHONE
Connector Type	TK0MF



Terminal No.	Color of Wire	Signal Name [Specification]
1	W	MICROPHONE SIGNAL
2	SHIELD	MICROPHONE GND
4	B	MICROPHONE VCC

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

JCNWA0409GE

## SYMPTOM DIAGNOSIS

### MULTI AV SYSTEM SYMPTOMS

#### Symptom Table

INFOID:000000001194062

#### RELATED TO NAVIGATION

**NOTE:**

Combined part of AV switch and audio unit.

Symptoms	Check items	Possible malfunction location/Action to take
AV switch cannot be operated. (All switches cannot be operated.)	"MULTI AV" is displayed on "SELECT SYSTEM" screen of CONSULT-III.	Perform the self-diagnosis using CONSULT-III. ( <a href="#">AV-69, "CONSULT - III Function (MULTI AV)"</a> )
	"MULTI AV" is not displayed on "SELECT SYSTEM" screen of CONSULT-III.	<ul style="list-style-type: none"> <li>• NAVI control unit power supply and ground circuit (<a href="#">AV-103, "NAVI CONTROL UNIT : Diagnosis Procedure"</a>)</li> <li>• Perform CAN diagnosis when "Please wait" is indicated on the screen for approximately 120 seconds after ignition switch ON.</li> </ul>
AV switch cannot be operated. (Only specified switch cannot be operated.)	CONSULT-III self-diagnosis detects a malfunction.	Perform the self-diagnosis using CONSULT-III. ( <a href="#">AV-69, "CONSULT - III Function (MULTI AV)"</a> )
	CONSULT-III self-diagnosis does not detect a malfunction.	Audio unit ( <a href="#">AV-205, "Exploded View"</a> )
Map screen is not displayed. (RGB image other than map is normal.)	-	Perform the self-diagnosis using CONSULT-III. ( <a href="#">AV-69, "CONSULT - III Function (MULTI AV)"</a> )
Fuel economy information display is malfunctioning.	-	NAVI control unit power supply and ground circuit (Ignition signal) ( <a href="#">AV-103, "NAVI CONTROL UNIT : Diagnosis Procedure"</a> )
Voice guidance is not heard.	-	Voice guidance signal circuit
Traffic information (RDS-TMC) is not received.	Radio broadcasts are received.	Audio unit ( <a href="#">AV-205, "Exploded View"</a> )
	Radio broadcasts are not received.	<ul style="list-style-type: none"> <li>• Radio antenna (<a href="#">AV-212, "Exploded View"</a>)</li> <li>• Antenna feeder (<a href="#">AV-219, "Harness Layout"</a>)</li> </ul>

#### RELATED TO REAR VIEW MONITOR

Symptoms	Check items	Possible malfunction location/Action to take
Warning message under the display is not displayed at rear view monitor image.	-	<ul style="list-style-type: none"> <li>• Horizontal synchronizing (HP) signal circuit (<a href="#">AV-111, "Diagnosis Procedure"</a>)</li> <li>• Vertical synchronizing (VP) signal circuit (<a href="#">AV-112, "Diagnosis Procedure"</a>)</li> <li>• RGB area (YS) signal circuit (<a href="#">AV-110, "Diagnosis Procedure"</a>)</li> </ul>
Camera image is not shown. (Only warning message under the display is displayed.)	"REAR VIEW CAMERA" is displayed on "SELECT SYSTEM" screen of CONSULT-III.	<ul style="list-style-type: none"> <li>• Camera image signal circuit (positive circuit) (Between camera control unit and display unit) (<a href="#">AV-115, "Diagnosis Procedure"</a>)</li> <li>• Camera ON signal circuit (<a href="#">AV-116, "Diagnosis Procedure"</a>)</li> <li>• Camera image signal circuit (Between rear view camera and camera control unit) (<a href="#">AV-114, "Diagnosis Procedure"</a>)</li> </ul>
	"REAR VIEW CAMERA" is not displayed on "SELECT SYSTEM" screen of CONSULT-III.	Camera control unit power supply and ground circuit ( <a href="#">AV-105, "CAMERA CONTROL UNIT : Diagnosis Procedure"</a> )
Camera image is rolling.	-	Camera image signal circuit (negative circuit) (Between camera control unit and display unit) ( <a href="#">AV-115, "Diagnosis Procedure"</a> )



# MULTI AV SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[AUDIO WITH NAVIGATION]

Symptoms	Check items	Possible malfunction location/Action to take
It cannot be switched to rear view monitor.	CONSULT-III self-diagnosis detects a malfunction.	Perform the self-diagnosis using CONSULT-III (MULTI AV) ( <a href="#">AV-69, "CONSULT - III Function (MULTI AV)"</a> ).
	CONSULT-III self-diagnosis does not detect a malfunction.	NAVI control unit reverse signal circuit




## RELATED TO AUDIO

Symptom	Check items	Possible malfunction location / Action to take
Audio sound is not heard.	No sound from all speakers	Audio unit ( <a href="#">AV-205, "Exploded View"</a> )
	Sound is not heard only from the specific places (Front RH, rear RH, front LH and rear LH).	Sound signal circuit of suspect system

## RELATED TO RGB IMAGE

Symptoms	Check items	Possible malfunction location/Action to take
Color of RGB image is not proper.	Light blue (Cyan) tint	RGB signal (R: red) circuit ( <a href="#">AV-106, "Diagnosis Procedure"</a> )
	Purple (Magenta) tint and image is rolling.	RGB signal (G: green) circuit ( <a href="#">AV-107, "Diagnosis Procedure"</a> )
	Screen looks yellowish.	RGB signal (B: blue) circuit ( <a href="#">AV-108, "Diagnosis Procedure"</a> )
<ul style="list-style-type: none"> <li>• RGB image is too dark.</li> <li>• RGB image is too fuzzy.</li> </ul>	–	RGB ground circuit
RGB image is not displayed. (Nothing is displayed on the screen.)	"MULTI AV" is displayed on "SELECT SYSTEM" screen of CONSULT-III.	Perform the self-diagnosis using CONSULT-III ( <a href="#">AV-69, "CONSULT - III Function (MULTI AV)"</a> ).
	"MULTI AV" is not displayed on "SELECT SYSTEM" screen of CONSULT-III.	NAVI control unit power supply and ground circuit ( <a href="#">AV-103, "NAVI CONTROL UNIT : Diagnosis Procedure"</a> )

## RELATED TO VOICE ACTIVATED CONTROL

Symptoms	Check items	Possible malfunction location/Action to take
The voice cannot be controlled even if the voice control screen is displayed.	Voice sounds at "Speaker Test" and "Voice Microphone Test" of "Confirmation / Adjustment Mode".	NAVI control unit ( <a href="#">AV-204, "Exploded View"</a> )
	Voice does not sound at "Speaker Test" and "Voice Microphone Test" of "Confirmation / Adjustment Mode".	<ul style="list-style-type: none"> <li>• MIC. power supply circuit (<a href="#">AV-113, "Diagnosis Procedure"</a>)</li> <li>• Shield (MIC.) circuit (<a href="#">AV-113, "Diagnosis Procedure"</a>)</li> <li>• MIC. signal circuit (<a href="#">AV-113, "Diagnosis Procedure"</a>)</li> </ul>
The voice cannot be controlled. (Voice control screen is not displayed.)	TEL operation screen is displayed by pressing and holding "  " switch of steering wheel switch.	NAVI control unit ( <a href="#">AV-204, "Exploded View"</a> )
	<ul style="list-style-type: none"> <li>• TEL operation screen is not displayed by pressing and holding "" switch of steering wheel switch.</li> <li>• Other steering wheel switches are normal.</li> </ul>	Steering switch ( <a href="#">AV-210, "Exploded View"</a> )
	"BACK", "VOL UP", "VOL DOWN" and "  " switches of steering wheel switch are not operated.	Steering switch signal B circuit <a href="#">AV-119, "Diagnosis Procedure"</a> ( <a href="#">AV-204, "Exploded View"</a> )
	All steering switches are not operated.	Steering switch signal ground circuit ( <a href="#">AV-121, "Diagnosis Procedure"</a> )

## RELATED TO HANDS FREE PHONE

# MULTI AV SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[AUDIO WITH NAVIGATION]

- Check that the cellular phone is corresponding type (Bluetooth<sup>®</sup> enabled) when the hands free related malfunction vehicle is in service before performing a diagnosis.
- There is a case that malfunction occurs due to the version change of the phone type, etc. even though it is a corresponding type. Therefore, confirm it by changing the cellular phone to another corresponding type phone, and check that it operates normally. It is necessary to distinguish whether the cause is the vehicle or cellular phone. Check to ensure the customer's phone is supported by checking the phone compatibility for the hands free system.

Simple check for Bluetooth<sup>®</sup> communication

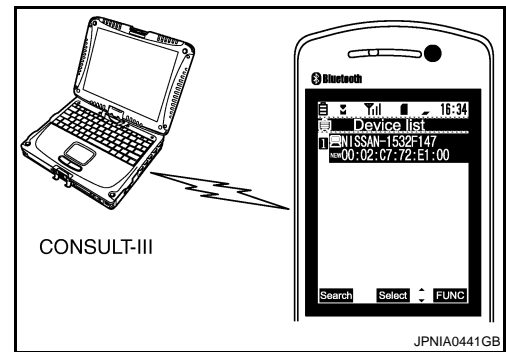
If cellular phone and NAVI control unit cannot be connected with Bluetooth<sup>®</sup> communication, following procedure allows the technician to judge which device has malfunction.

1. Turn on a cellular phone, not connecting Bluetooth<sup>®</sup> communication.
2. Start CONSULT-III, then start Windows<sup>®</sup>.
3. Set CONSULT-III near a cellular phone.
4. When operated Bluetooth<sup>®</sup> registration by cellular phone, check if CONSULT-III\* would be displayed on the device name.  
(If other Bluetooth<sup>®</sup> device is located near cellular phone, a name of the device would be displayed also.)

**NOTE:**

\*:Displayed device name is "NISSAN-\*\*\*\*\*".

- If no device name is displayed, cellular phone is malfunction. Repair the cellular phone first, then perform diagnosis.
- If CONSULT-III is displayed on device name, cellular phone is normal. Perform diagnosis as per the following table.



Trouble diagnosis chart by symptom

Symptoms	Check items	Possible malfunction location/Action to take
Does not recognize cellular phone connection.	Repeat the registration of cellular phone.	NAVI control unit ( <a href="#">AV-204, "Exploded View"</a> )
Hands free phone cannot be established.	<ul style="list-style-type: none"> <li>• Hands free phone operation can be made, but the communication cannot be established.</li> <li>• Hands free phone operation can be performed, however, voice between each other cannot be heard during the conversation.</li> </ul>	NAVI control unit ( <a href="#">AV-204, "Exploded View"</a> )
The other party's voice cannot be heard by hands free phone.	Check the "microphone speaker" in Inspection & Adjustment Mode if sound is heard.	NAVI control unit ( <a href="#">AV-204, "Exploded View"</a> )
	Check the "microphone speaker" in Inspection & Adjustment Mode if sound is not heard.	TEL voice signal circuit
Originating sound is not heard by the other party with hands free phone communication.	Sound operation function is normal.	NAVI control unit ( <a href="#">AV-204, "Exploded View"</a> )
	Sound operation function does not work.	Microphone signal circuit ( <a href="#">AV-113, "Diagnosis Procedure"</a> )

## RELATED TO STEERING WHEEL SWITCH

Symptoms	Possible malfunction location/Action to take
All steering switches are not operated.	Steering switch signal ground circuit ( <a href="#">AV-121, "Diagnosis Procedure"</a> )
Only specified switch cannot be operated.	Steering switch ( <a href="#">AV-210, "Exploded View"</a> )
"ENTER", "MENU UP", "MENU DOWN" and "SOURCE" switches are not operated.	Steering switch signal A circuit ( <a href="#">AV-117, "Diagnosis Procedure"</a> )
"BACK", "⏪", "VOL UP" and "VOL DOWN" switches are not operated.	Steering switch signal B circuit ( <a href="#">AV-119, "Diagnosis Procedure"</a> )

# NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >


[AUDIO WITH NAVIGATION]

## NORMAL OPERATING CONDITION

### Description

INFOID:000000001194063

### BASIC OPERATION

Symptoms	Possible cause	Possible solution
No image is displayed.	The brightness is at the lowest setting.	Adjust the brightness of the display.
	The display is turned off.	Push and hold  to turn on the display.
No voice guidance is available. The volume is too high or too low.	The volume is not set correctly, or it is turned off.	Adjust the volume of voice guidance.
	Volume guidance is not provided for narrow streets (roads displayed in gray).	This is not a malfunction.
No map is displayed on the screen.	The map DVD-ROM is not inserted, or it is inserted upside down.	Insert the map DVD-ROM correctly.
	A screen other than map screen is displayed.	Push "MAP".
The screen is too dim. The movement is slow.	The temperature in the interior of the vehicle is low.	Wait until the interior of the vehicle has warmed up.
Some pixels in the display are darker or brighter than others.	This condition is an inherent characteristic of liquid crystal displays.	This is not a malfunction.
Some menu items cannot be selected.	Some menu items become unavailable while the vehicle is driven.	Park the vehicle in a safe location, and then operate the navigation system.

**NOTE:**

Locations stored in the Address Book and other memory functions may be lost if the vehicle's battery is disconnected or becomes discharged. Service the vehicle's battery as necessary and re-enter the information in the Address Book If this occurs.

### VEHICLE ICON

Symptoms	Possible cause	Possible solution
Names of roads and locations differ between Plan view and Birdview™.	This is because the quantity of the displayed information is reduced so that the screen does not become too crowded. There is also a chance that names of the roads or locations may be displayed multiple times, and the names appearing on the screen may be different because of a processing procedure.	This is not a malfunction.
The vehicle icon is not displayed in the correct position.	The vehicle was transported after the ignition switch was turned off, for example, by a ferry or car transporter.	Drive the vehicle for a while on a road where GPS can be received.
	The position and direction of the vehicle may be incorrect depending on the driving environments and the levels of positioning accuracy of the navigation system.	This is not a malfunction. Drive the vehicle for a while to automatically correct the position and direction of the vehicle icon.
When the vehicle is traveling on a new road, the vehicle icon is located on another road nearby.	Because the new road is not stored in the map data, the system automatically places the vehicle icon on the nearest road available.	Updated road information will be included in the next version of the map DVD-ROM.
The screen does not switch to the night screen even after turning on the headlights.	The daytime screen was set the last time the headlights were turned on.	Set the screen to the night screen mode using when turning on the headlights.
The map does not scroll even when the vehicle is moving.	The current location map screen is not displayed.	Push "MAP".
The vehicle icon is not displayed.	The current location map screen is not displayed.	Push "MAP".

## NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[AUDIO WITH NAVIGATION]

Symptoms	Possible cause	Possible solution
The GPS indicator on the screen remains gray.	GPS signals cannot be received depending on the vehicle location, such as in a parking garage, on a road that has numerous tall buildings, etc.	Drive on an open, straight road for a while.
	GPS signals cannot be received because objects are placed on top of the display.	Remove the objects from top of the display.
	A sufficient amount of GPS satellites are not available.	Wait for the satellites to move locations available for navigation system.
The location of vehicle icon is misaligned from the actual position.	Speed calculations based on the speed sensor may be incorrect when using tire chains or replacing the tires.	Drive the vehicle for a while (at approximately 30 km/h (19 MPH) for about 30 minutes) to automatically correct the vehicle icon position. Contact an NISSAN / INFINITI dealer if this does not correct the vehicle icon position.
	The map data has mistake or is incomplete (the vehicle icon position is always misaligned in the same area).	Updated road information will be included in the next version of the map DVD-ROM.

### MAP DVD-ROM

Symptom	Possible cause	Possible solution
The message "Error" appears.	Map DVD-ROM is dirty or partially damaged.	Check the DVD-ROM and wipe it clean with a soft cloth.
		Replace the DVD-ROM if there is any damage.

### ROUTE CALCULATION AND VISUAL GUIDANCE

Symptoms	Possible cause	Possible solution
In the auto reroute calculation, waypoints are not included.	Waypoints already passed are not included in the auto reroute calculation.	In case of going to that waypoints again, edit the route.
Route information is not displayed.	Route calculation has not yet been performed.	Set the destination and perform route calculation.
	The vehicle is not driven on the suggested route.	Drive on the suggested route.
	Route guidance is set to off.	Turn on route guidance.
	Route information is not provided for narrow streets (roads displayed in gray).	This is not a malfunction.
The auto reroute calculation (or detour calculation) suggests the same route as the one previously suggested.	Route calculation took priority conditions into consideration, but the same route was calculated.	This is not a malfunction.
A waypoint cannot be added.	Five waypoints are already set on the route, including ones that already passed.	A maximum of 5 waypoints can be set on the route. In case of going to 6 or more waypoints, perform route calculations multiple times as necessary.
The suggested route is not displayed.	Roads near the destination cannot be calculated.	Reset the destination to a main or ordinary road, and recalculate the route.
	The starting point and destination are too close.	Set a more distant destination.
	The starting point and destination are too far away.	Divide the way by selecting one or two intermediate destinations, and perform route calculations multiple times.
	There are time restricted roads (by day of week, by time) near the current vehicle location or destination.	Set Use Time Restricted Roads to off.
A part of the route is not displayed.	The suggested route includes narrow streets (roads displayed in gray).	This is not a malfunction.

## NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >




[AUDIO WITH NAVIGATION]

Symptoms	Possible cause	Possible solution
The part of the route already passed is deleted.	A route is managed by sections between waypoints. The section between the starting point and the waypoint is deleted if you passed the first waypoint. (It may not be deleted depending on the area.)	This is not a malfunction.
An indirect route is suggested.	The system may suggest an indirect route if there are restrictions (such as one way streets) on roads close to the starting point or destination.	Adjust the location of the starting point or destination.
	The system may suggest an indirect route because route calculation does not take into consideration some areas such as narrow streets (gray roads).	Reset the destination to a main or ordinary road, and recalculate the route.
The landmark information does not correspond to the actual information.	This may be caused by insufficient or incorrect data on the DVD-ROM.	This is not a malfunction.
The suggested route does not exactly connect to the starting point, waypoints, or destination.	There is no data for route calculation closer to these locations.	Set the starting point, waypoints and destination on main road, and perform route calculation.

### VOICE GUIDANCE

Symptoms	Possible cause	Possible solution
The voice guidance is not available.	Voice guidance is only available at certain intersections. In some cases, voice guidance is not available even when the vehicle should make a turn.	This is not a malfunction.
	The vehicle has deviated from the suggested route.	Go back to the suggested route or request route calculation again.
	Voice guidance is set to off.	Turn on the voice guidance.
	Route guidance is set to off.	Turn on the voice guidance.
The guidance content does not correspond to the actual condition.	The content of the voice guidance may vary, depending on the types of intersections at which turns are made.	Follow all traffic rules and regulations.

### VOICE RECOGNITION

Symptom	Possible cause	Possible solution
The system does not recognize the command. The system recognizes the command incorrectly.	The interior of the vehicle is too noisy.	Close the windows or have other occupants be quiet.
	The volume of the voice is too low.	Speak louder.
	Pronunciation is unclear.	Speak clearly.
	Voice recognition mode is not yet ready to speak.	Push the release “  ” on the steering switch, and speak a command after the tone sounds.
	5 seconds or more have passed after pushed and released “  ” on the steering switch.	Make sure to speak a command within 5 seconds after push and release “  ” on the steering switch.
	Only a limited range of voice commands is usable for each screen.	Use a correct voice command appropriate for the current screen.

### REAR VIEW MONITOR

Symptoms	Possible cause	Possible solution
Rear view monitor image is not displayed	Shift lever (M/T models) or selector lever (CVT models) is not in R position.	Shift lever (M/T models) or selector lever (CVT models) is in R position.

# NORMAL OPERATING CONDITION

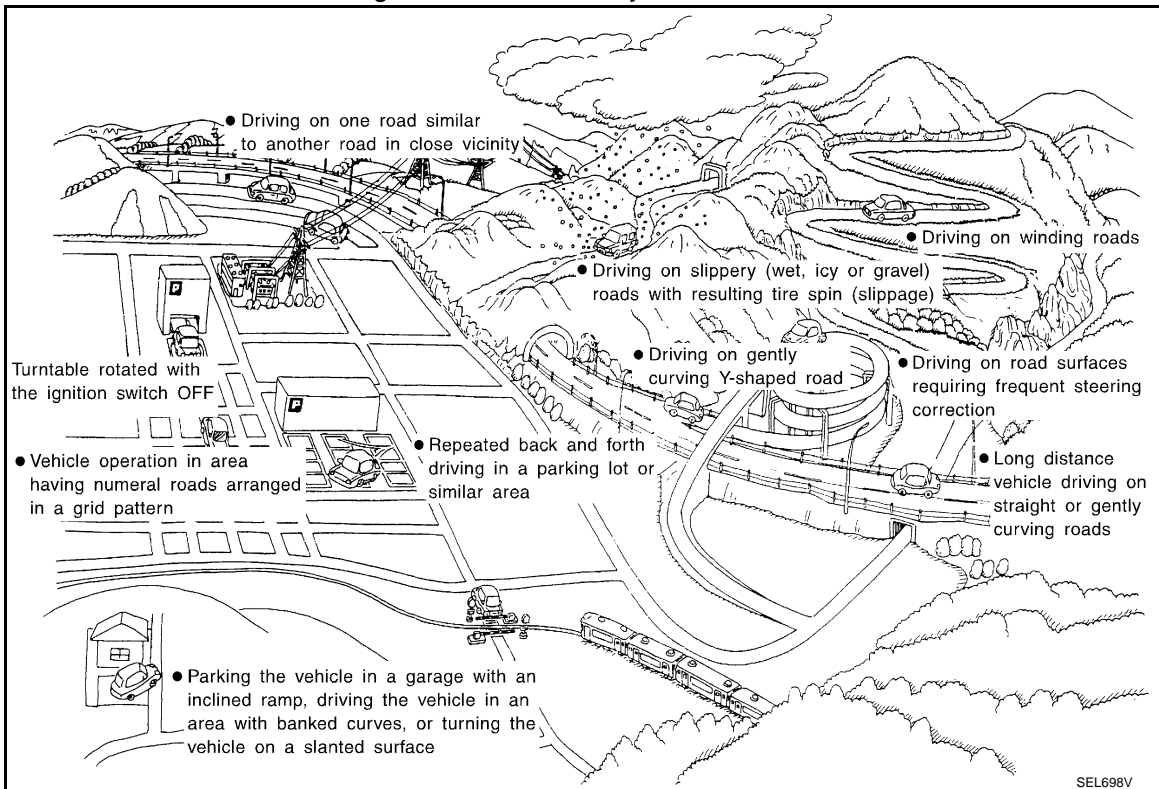
< SYMPTOM DIAGNOSIS >

[AUDIO WITH NAVIGATION]

Symptoms	Possible cause	Possible solution
Rear view monitor image is not clear	Front glass of camera lens is dirty.	Dip a soft cloth into water and wipe the glass softly.
	There are raindrops, snow, etc.	Wipe it with a soft cloth softly.
	The sunlight or the headlight of following vehicle is shining directly to the camera lens.	It returns to the original condition if the light applied to the lens disappears.

## EXAMPLES OF CURRENT LOCATION MARK DISPLACEMENT

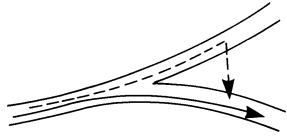
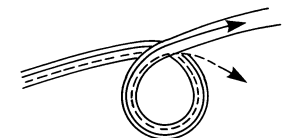
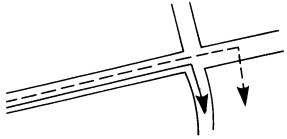
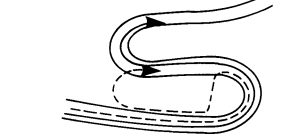
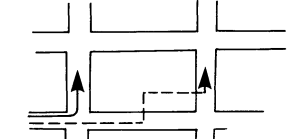
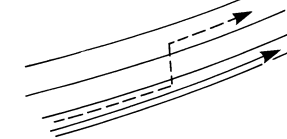
It calculates vehicle travel by reading travel distance and turn angle. Therefore, a mistake will occur in the current location display if the vehicle is driven in the following manner. Perform location correction if correct location has not been restored after driving the vehicle normally.



# NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[AUDIO WITH NAVIGATION]

	Cause (condition)	Driving condition	Remarks (correction, etc.)
Road pattern	<p>Y-intersections</p>  <p style="text-align: center;">ELK0192D</p>	<p>At a Y intersection or similar gradual division of roads, errors in the direction of travel deduced by the sensor may result in the current location mark appearing on the wrong road.</p>	
	<p>Spiral roads</p>  <p style="text-align: center;">ELK0193D</p>	<p>Turning angle errors accumulate and vehicle mark may deviate from the correct location when driving on a large, continuous spiral road (such as loop bridge).</p>	
	<p>Straight roads</p>  <p style="text-align: center;">ELK0194D</p>	<p>Map-matching does not work effectively enough and distance errors may accumulate when driving on a long, straight, slowly curving road without stopping. As a result, the vehicle mark may deviate from the correct location when the vehicle turns at a corner.</p>	<p>Perform location correction and, if necessary, direction correction if the correct location has not been restored after traveling about 10 km/h (6 MPH).</p>
	<p>Switchback turns</p>  <p style="text-align: center;">ELK0195D</p>	<p>The map may be matched to other roads in a similar direction nearby at every turn, and the vehicle mark may deviate from the correct location when driving on a zigzag road.</p>	
	<p>Grid pattern roads</p>  <p style="text-align: center;">ELK0196D</p>	<p>The map may be matched to them by mistake and the vehicle mark may deviate from the correct location when driving in a location where roads are laid out in a grid pattern, where many roads are running in the similar direction nearby.</p>	
	<p>Parallel roads</p>  <p style="text-align: center;">ELK0197D</p>	<p>The map may be matched to the other road by mistake and the vehicle mark may deviate from the correct location when two roads are running in parallel (such as highway and sideways).</p>	

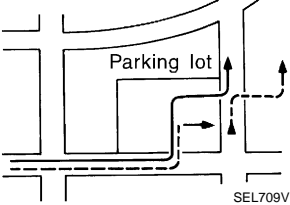
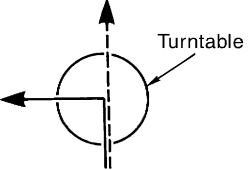
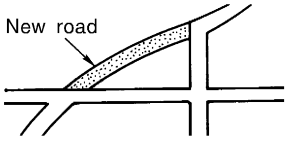
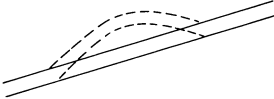
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# NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[AUDIO WITH NAVIGATION]

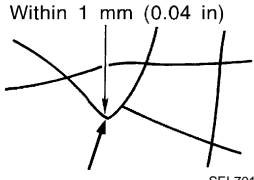
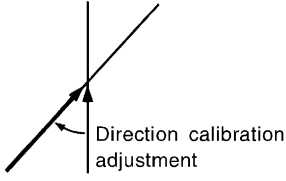
	Cause (condition)	Driving condition	Remarks (correction, etc.)
Place	In a parking lot  SEL709V	Matching may place the vehicle mark on a nearby road when driving in a parking lot, or other locations where there are no roads on the map. The vehicle mark may have deviated from the correct location when the vehicle returns to the road. Direction errors accumulate, and the vehicle mark may deviate from the correct location when driving in circle or turning the steering wheel repeatedly.	Perform location correction and, if necessary, direction correction if the correct location has not been restored after traveling about 10 km/h (6 MPH).
	Turntable  SEL710V	The navigation system cannot receive the signal from the gyroscope (angular speed sensor) when the ignition switch is OFF. Therefore, the displayed direction may be incorrect 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	An error in the turning angle will occur, and the vehicle mark may deviate from the road when parking in sloped garages, when traveling on banked roads, or in other cases where the vehicle turns when tilted.	
Map data	Roads not displayed on the map screen  SEL699V	Map matching does not function correctly and matches the location to a nearby road when driving on new roads or other roads not displayed on the map screen. The vehicle mark may deviate from the correct road when the vehicle returns to a road which is on the map.	
	Different road pattern (Changed due to repair)  ELK0201D	Map matching does not function correctly and matches the location to a nearby road if the road pattern stored in the map data and the actual road pattern are different. The vehicle mark may deviate from the correct road.	



# NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[AUDIO WITH NAVIGATION]

	Cause (condition)	Driving condition	Remarks (correction, etc.)
Vehicle	Use of tire chains	The vehicle mark may deviate from the correct road.	Drive the vehicle for a while. Adjust it with the distance adjustment function if distance still deviates. (Recover the original value if tire chains are removed.)
	Use of tires other than the specified size		Replace all tires with the specified size tire.
	Malfunctioning air pressure of tire		Adjust all tires to the specified air pressure.
	Replace tire		Drive the vehicle for a while. It adjusts with the distance adjustment function if the distance is still not in the correct location.
Driving manner	Just after the engine is started	The vehicle can be shown in the incorrect direction and may deviate from the correct location if vehicle is driven off just after the engine is started when gyroscope (angular speed sensor) correction is not completed.	Wait for a short while before driving after starting the engine.
	Continuous driving without stopping	Direction errors may accumulate, and the current location mark may deviate from the correct road when driving long distances without stopping.	Stop and adjust orientation.
	Abusive driving	Spinning the wheels or engaging in other kinds of abusive driving may result in the system being unable perform correct detection, and may cause the vehicle mark to deviate from the correct road.	Perform location correction and, if necessary, direction correction if after traveling about 10 km/h (6 MPH) the correct location has not been restored.
Position correction method	Position correction accuracy Within 1 mm (0.04 in)  <small>SEL701V</small>	Accuracy may be reduced when correct road cannot be found, particularly in places where there are many roads if accuracy of location settings is poor.	From the roads displayed on the screen, input a position within an accuracy of 1mm (0.04 in). <b>CAUTION:</b> <b>When correcting, use the most detailed map possible.</b>
	Direction when location is corrected  <small>SEL702V</small>	Accuracy may be reduced afterwards if accuracy of location settings during correction is poor.	Perform direction correction.

## THE CURRENT POSITION MARK SHOWS A POSITION THAT IS COMPLETELY INCORRECT.

In the following cases, the current location mark may be displayed in a completely incorrect location. If so, perform position/direction correction.

- When location correction has not been done
  - It may shift to a completely unexpected location and not return unless location correction is performed if GPS satellite reception is poor and the current location mark slips out of place. The position will be corrected if a GPS signal can be received.
- When vehicle is traveled by ferry, or when vehicle is towed.
  - Because calculation of the current location cannot be done when traveling with the ignition OFF, for example when traveling by ferry or when being towed, the location before travel is displayed. The location will be corrected if the precise location can be detected with GPS.

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## NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[AUDIO WITH NAVIGATION]

### THE CURRENT POSITION MARK JUMPS.

In the following cases, the current location mark may appear to jump as a result of automatic correction of the current location.

- When map matching has been done
  - The current location mark may seem to jump if current location and the current location mark are different when map matching is done. At this time, the location may be “corrected” to the incorrect road or to a location which is not on a road.
- When GPS location correction has been done
  - The current location mark may seem to jump if current location and the current location mark are different when location is corrected using GPS measurements. At this time, the location may be “corrected” to a location which is not on a road.

### THE CURRENT LOCATION MARK IS IN A RIVER OR THE SEA.

The navigation system moves the current location mark with no distinction between land and rivers or sea. It may appear that the vehicle is driving in a river or the sea if the location mark is somehow out of place.

### CURRENT LOCATION MARK ROTATES WITHOUT OPERATION

The rotating condition is recorded as the stop condition if the ignition switch is turned ON with the turntable rotating. Therefore, the current location mark might rotate when actually stopping.

### WHEN DRIVING ON THE SAME ROAD, SOMETIMES THE CURRENT LOCATION MARK IS IN THE CORRECT PLACE AND SOMETIMES IT IS IN THE INCORRECT PLACE.

The conditions of the GPS antenna (GPS data) and gyroscope (angular speed sensor) change gradually. Depending on the road traveled and operation of the steering wheel, the location detection results will be different. Therefore, even on a road on which the location has never been incorrect, conditions may cause the vehicle mark to deviate.

### 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 of the way map matching operates, when there are many roads running in similar directions in the surrounding area a matching determination may be impossible. The location will remain uncorrected until some special feature is found.

### ALTHOUGH THE GPS RECEIVING DISPLAY IS GREEN, THE VEHICLE MARK DOES NOT RETURN TO THE CORRECT LOCATION.

- GPS accuracy has a malfunction range of about 10 m (30 ft). In some cases the current location mark may not be on the correct street, even when GPS location correction is done.
- The navigation system compares the results of GPS location detection with the results from map-matching location detection. The one that is determined to have higher accuracy is used.
- Position correction by GPS is not available while the vehicle is stopped.

### THE NAME OF THE CURRENT PLACE IS NOT DISPLAYED.

The current place name might not be displayed when there is no name of place information in the map screen.

### THE DISPLAY IS DIFFERENT BETWEEN BIRDVIEW<sup>®</sup> AND (FLAT) MAP DISPLAY.

The following is different at Birdview<sup>®</sup>.

- The current place name displays names that 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 trimming of the character data is done to prevent the display from 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.

< PRECAUTION >

PRECAUTION

PRECAUTIONS

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

INFOID:000000001583040

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 AIRBAG" and "SEAT BELT" 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 AIRBAG".
- 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:000000001194065

AV COMMUNICATION SYSTEM

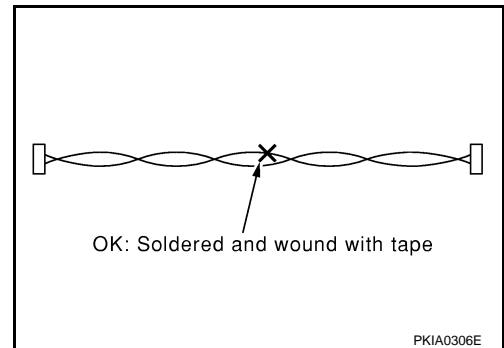
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precaution for Harness Repair

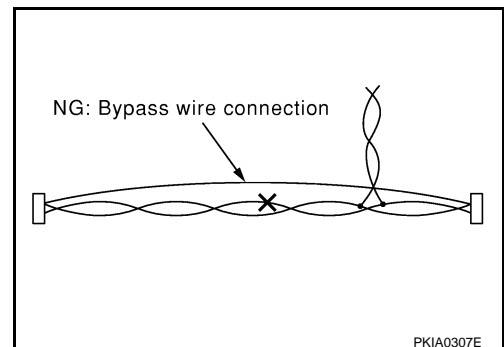
INFOID:000000001194066

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.)



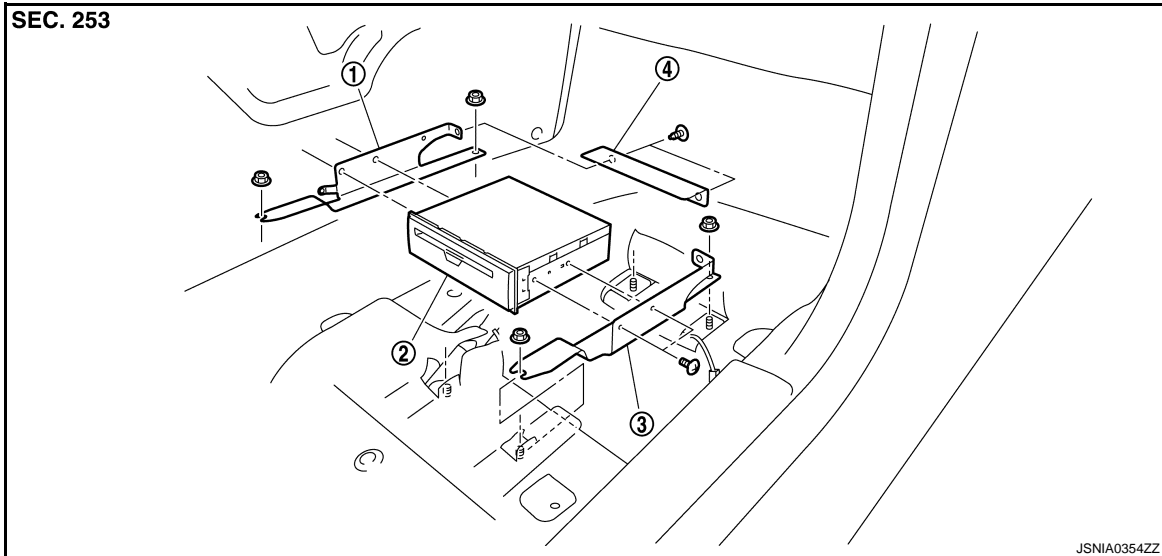
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## ON-VEHICLE REPAIR

### NAVI CONTROL UNIT

#### Exploded View

INFOID:000000001194067



- |                 |                      |               |
|-----------------|----------------------|---------------|
| 1. Bracket RH   | 2. NAVI control unit | 3. Bracket LH |
| 4. Bracket rear |                      |               |

#### Removal and Installation

INFOID:000000001194068

##### REMOVAL

1. Remove bracket nuts, and then remove NAVI control unit with bracket.
2. Remove bracket screws and clips, and then remove NAVI control unit.

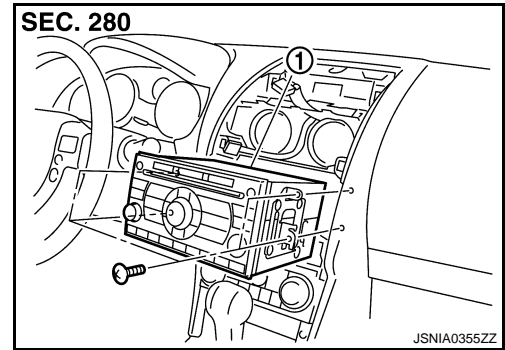
##### INSTALLATION

Install in the reverse order of removal.

## AUDIO UNIT

### Exploded View

INFOID:000000001194069



1. Audio unit

### Removal and Installation

INFOID:000000001194070

#### REMOVAL

1. Remove cluster lid C. Refer to [IP-11. "Exploded View"](#).
2. Remove audio unit with bracket.

#### INSTALLATION

Install in the reverse order of removal.

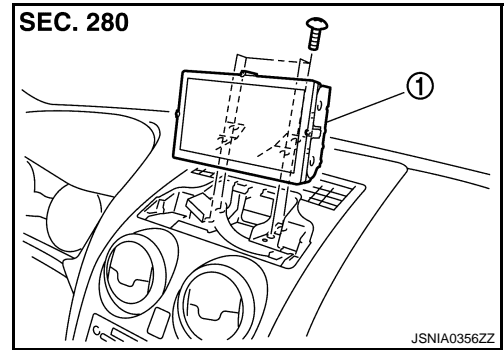
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## DISPLAY UNIT

### Exploded View

INFOID:000000001194071



1. Display unit

### Removal and Installation

INFOID:000000001194072

#### REMOVAL

1. Remove display unit cover. Refer to [IP-11. "Exploded View"](#).
2. Remove display unit with bracket.

#### INSTALLATION

Install in the reverse order of removal.

# FRONT DOOR SPEAKER

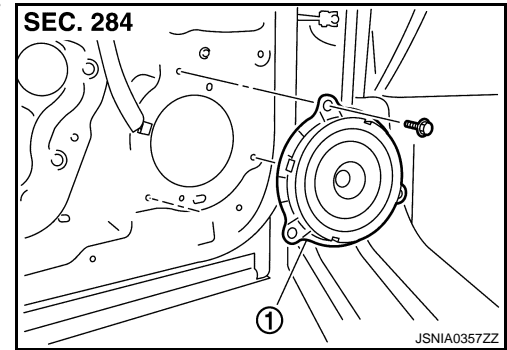
< ON-VEHICLE REPAIR >

[AUDIO WITH NAVIGATION]

## FRONT DOOR SPEAKER

Exploded View

INFOID:000000001194073



1. Front door speaker

### Removal and Installation

INFOID:000000001194074

#### REMOVAL

1. Remove front door finisher. Refer to [INT-10. "FRONT DOOR FINISHER : Exploded View"](#).
2. Remove front door speaker.

#### INSTALLATION

Install in the reverse order of removal.

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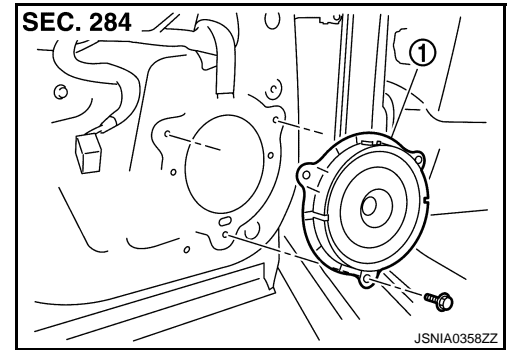
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< ON-VEHICLE REPAIR >

## REAR DOOR SPEAKER

Exploded View

INFOID:000000001194075



1. Rear door speaker

### Removal and Installation

INFOID:000000001194076

#### REMOVAL

1. Remove rear door finisher. Refer to [INT-12. "REAR DOOR FINISHER : Exploded View"](#).
2. Remove rear door speaker.

#### INSTALLATION

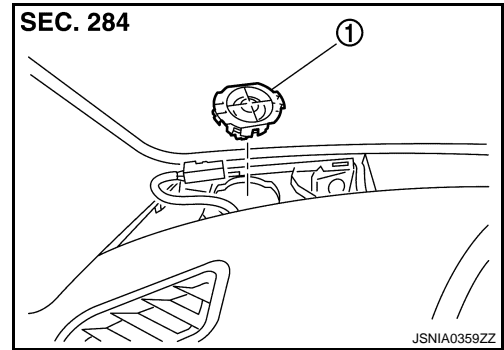
Install in the reverse order of removal.



## TWEETER

### Exploded View

INFOID:000000001194077



1. Tweeter

### Removal and Installation

INFOID:000000001194078

#### REMOVAL

1. Remove tweeter grill. Refer to [JP-11, "Exploded View"](#).
2. Remove tweeter.

#### INSTALLATION

Install in the reverse order of removal.

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< ON-VEHICLE REPAIR >

## STEERING SWITCH

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### Exploded View

INFOID:000000001194079

Refer to [SR-4, "Exploded View"](#).

### Removal and Installation

INFOID:000000001194080

#### REMOVAL

Refer to [SR-4, "Removal and Installation"](#).

#### INSTALLATION

Install in the reverse order of removal.

## MICROPHONE

### Exploded View

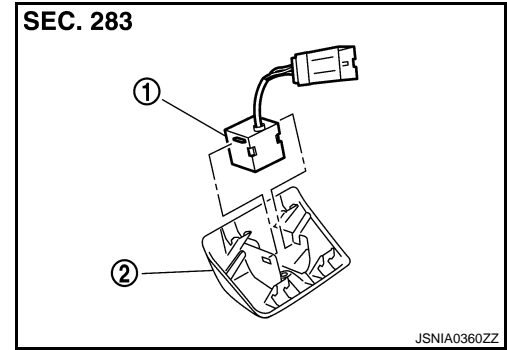
INFOID:000000001194081

### REMOVAL

Refer to [INT-20, "Exploded View"](#).

### DISASSEMBLY

1. Microphone
2. Microphone cover



### Removal and Installation

INFOID:000000001194082

### REMOVAL

1. Remove microphone cover. Refer to [INT-20, "Exploded View"](#).
2. Remove microphone.

### INSTALLATION

Install in the reverse order of removal.

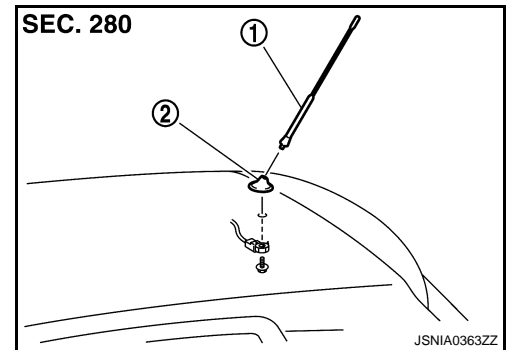
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## RADIO ANTENNA

### Exploded View

INFOID:000000001194083



1. Rod antenna
2. Antenna base

### Removal and Installation

INFOID:000000001194084

#### REMOVAL

1. Remove headlining. Refer to [INT-20, "Exploded View"](#).
2. Remove antenna base and antenna rod.

#### INSTALLATION

Install in the reverse order of removal.

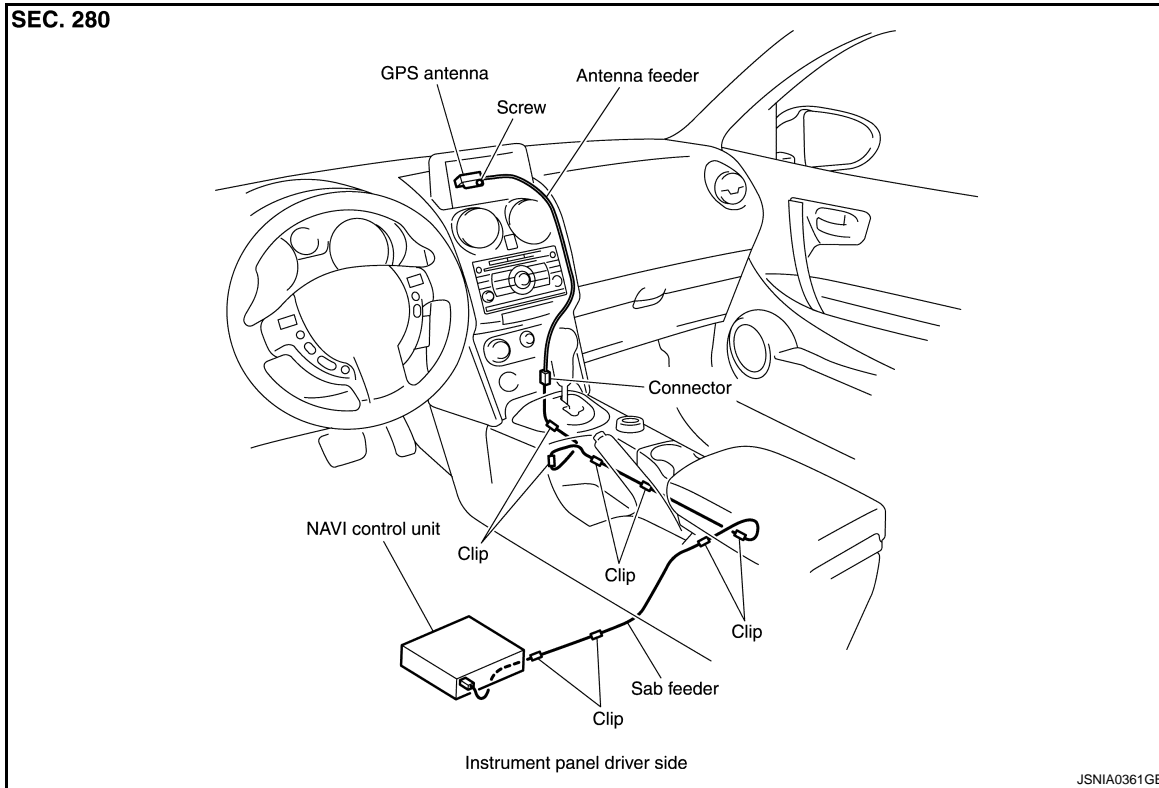
## GPS ANTENNA

## Harness Layout

INFOID:000000001194085

**NOTE:**

As for right-hand drive vehicles, install GPS antenna feeder between the center console and the instrument panel in the reverse of left-handle drive vehicles.



## Removal and Installation

INFOID:000000001194086

## REMOVAL

1. Remove display unit. Refer to [AV-206. "Exploded View"](#).
2. Remove audio unit. Refer to [AV-205. "Exploded View"](#).

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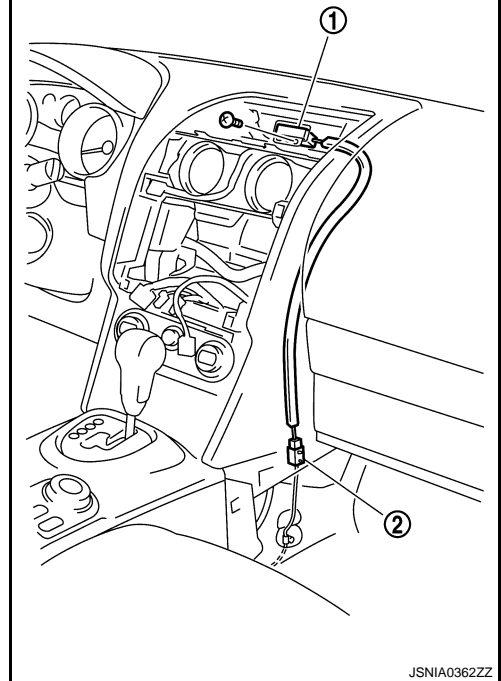
## GPS ANTENNA

< ON-VEHICLE REPAIR >

[AUDIO WITH NAVIGATION]

3. Remove instrument lower panel RH. Then remove GPS antenna connector (2). Refer to [IP-11, "Exploded View"](#).
4. Remove GPS antenna (1).

SEC. 280



### INSTALLATION

Install in the reverse order of removal.

# CAMERA CONTROL UNIT

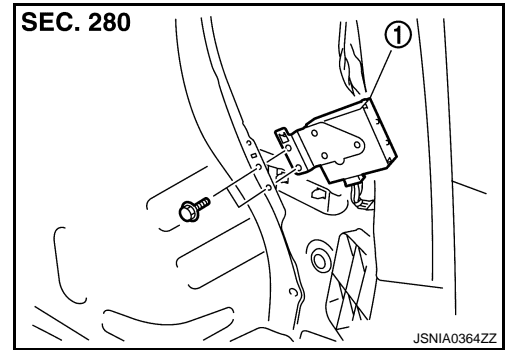
< ON-VEHICLE REPAIR >

[AUDIO WITH NAVIGATION]

## CAMERA CONTROL UNIT

Exploded View

INFOID:000000001194087



1. Camera control unit

### Removal and Installation

INFOID:000000001194088

#### REMOVAL

1. Remove luggage side lower finisher (RH). Refer to [INT-24, "Exploded View"](#).
2. Remove camera control unit.

#### INSTALLATION

Install in the reverse order of removal.

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

< ON-VEHICLE REPAIR >

## REAR VIEW CAMERA

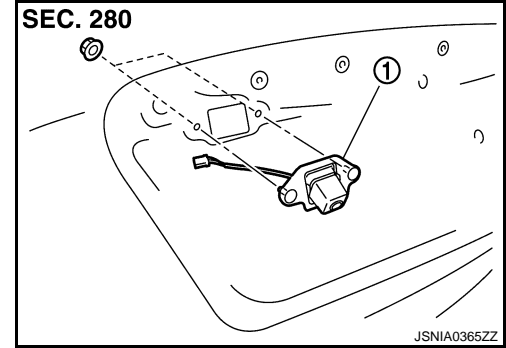
### Exploded View

INFOID:000000001194089

#### REMOVAL

Refer to [EXT-31, "Exploded View"](#).

#### DISASSEMBLY



1. Rear view camera

### Removal and Installation

INFOID:000000001194090

#### REMOVAL

1. Remove back door finisher. Refer to [EXT-31, "Exploded View"](#).
2. Remove back door trim finisher lower. Refer to [INT-26, "Exploded View"](#).
3. Remove rear view camera.

#### INSTALLATION

Install in the reverse order of removal.

### Adjustment

INFOID:000000001194091

#### DESCRIPTION

CONSULT-III is used to modify the guideline position that shows the width of vehicle and the distance from rear end of vehicle on the rear view monitor. These can be caused by condition variations of body assembly and camera installation.

### VEHICLE WIDTH AND DISTANCE GUIDING LINE CORRECTION PROCEDURE

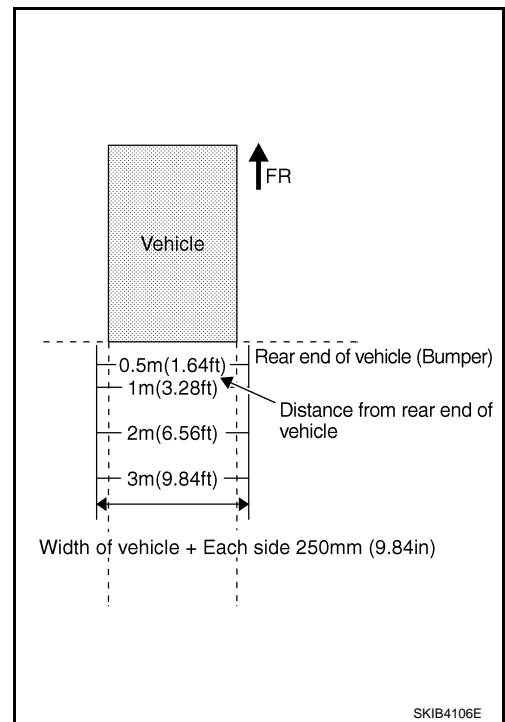


# REAR VIEW CAMERA

< ON-VEHICLE REPAIR >

[AUDIO WITH NAVIGATION]

1. Create a correction line to modify the guiding lines inside monitors. Draw lines on the rearward area of the vehicle passing through the following points: 250 mm (9.84 in) from both sides of the vehicle, and 0.5 m (1.64 ft), 1 m (3.28 ft), 2 m (6.56 ft), and 3 m (9.84 ft) from the rear end of the bumper.

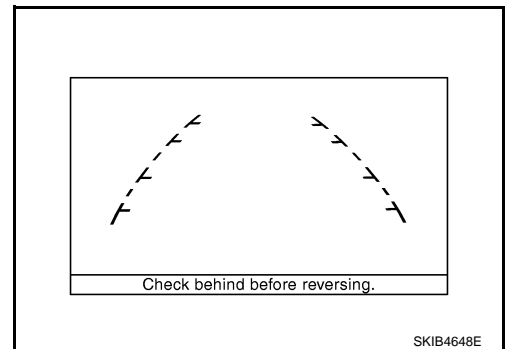


2. Connect CONSULT-III. Then touch "REAR VIEW CAMERA" on "SELECT SYSTEM" screen.

**CAUTION:**

**Correct the guiding line with the engine stopped for safety.**

3. Shift selector lever to R position.



4. Touch "ADJ GUIDELINE POSITION" on "SELECT WORK ITEM" screen.

**CAUTION:**

**Vehicle width guiding lines may move horizontally when starting "ADJ GUIDELINE POSITION" mode. It is normal.**

5. Touch "X UP", "X DOWN", "Y UP", and "Y DOWN" so as to align with a correction line created, and then adjust the guiding lines.

Adjustment direction	ADJUST MONITOR	
LEFT/RIGHT	X VALUE ADJ	- 8 - 8
UP/DOWN	Y VALUE ADJ	- 8 - 8

6. Touch "SAVE" so as to fix the lines if the guiding lines align with the correction lines. Then end the correction by touching "END". GO TO 7 if the guiding lines do not align with the correction lines.

7. Touch "SELECT GUIDELINE PATTERN" on "SELECT WORK ITEM" screen.

8. Change the pattern of the guiding lines by touching "UP" or "DOWN". [Select from among 2 patterns ("PATTERN NO. 0" or "1") of the guiding lines.]

9. Fix the pattern of the guiding lines by touching "SAVE".

## REAR VIEW CAMERA

< ON-VEHICLE REPAIR >

[AUDIO WITH NAVIGATION]

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10. End the correction by touching "END".

**CAUTION:**

The change is not reflected at the next starting if "SAVE" is not touched if the setting value is changed on "SELECT GUIDELINE PATTERN" and "ADJ GUIDELINE POSITION".

# ANTENNA FEEDER (RADIO)

< ON-VEHICLE REPAIR >

[AUDIO WITH NAVIGATION]

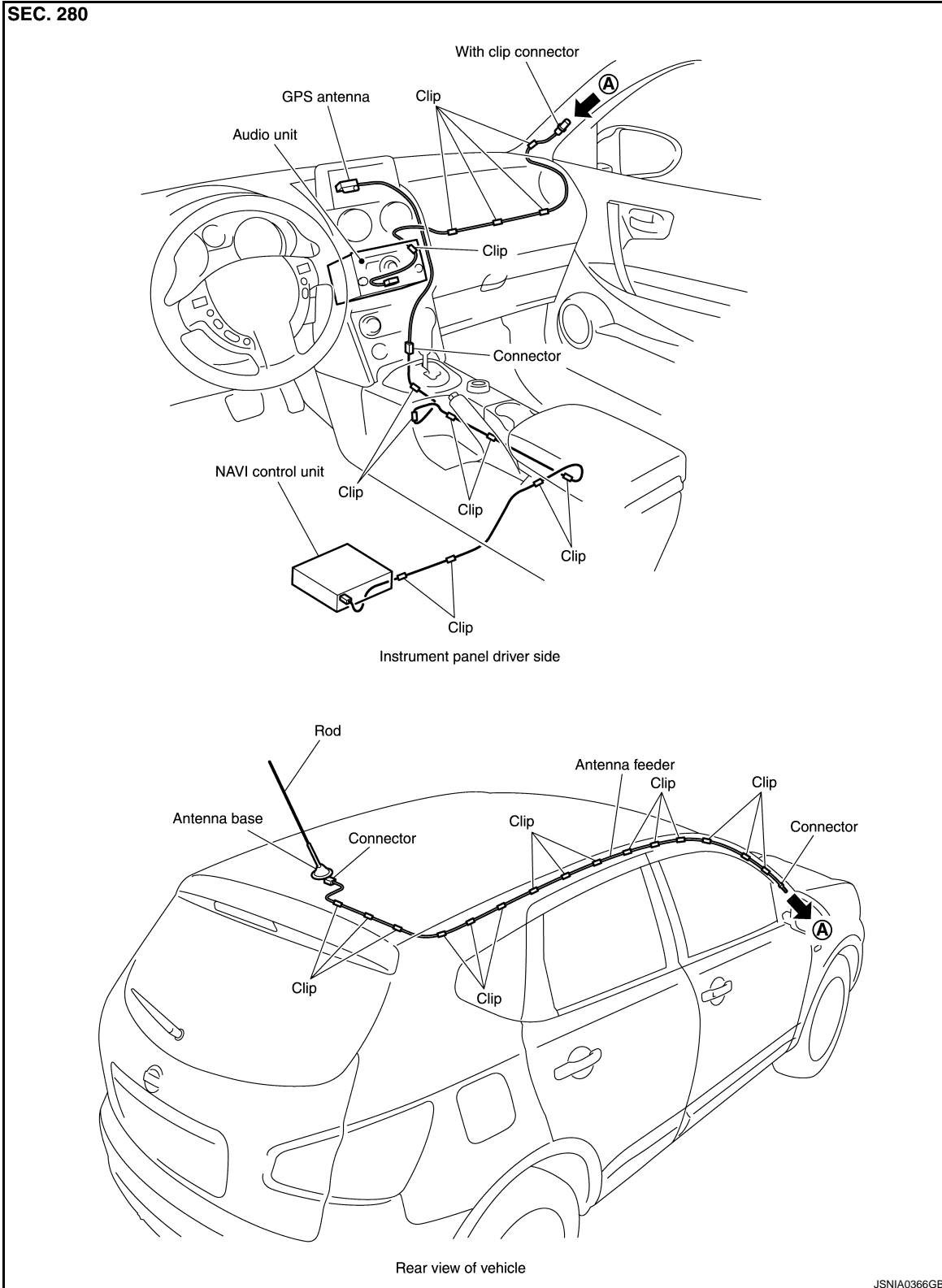
## ANTENNA FEEDER (RADIO)

### Harness Layout

INFOID:000000001194092

#### NOTE:

As for right-hand drive vehicles, install GPS antenna feeder between the center console and the instrument panel in the reverse of left-handle drive vehicles.



# ANTENNA FEEDER (GPS)

< ON-VEHICLE REPAIR >

[AUDIO WITH NAVIGATION]

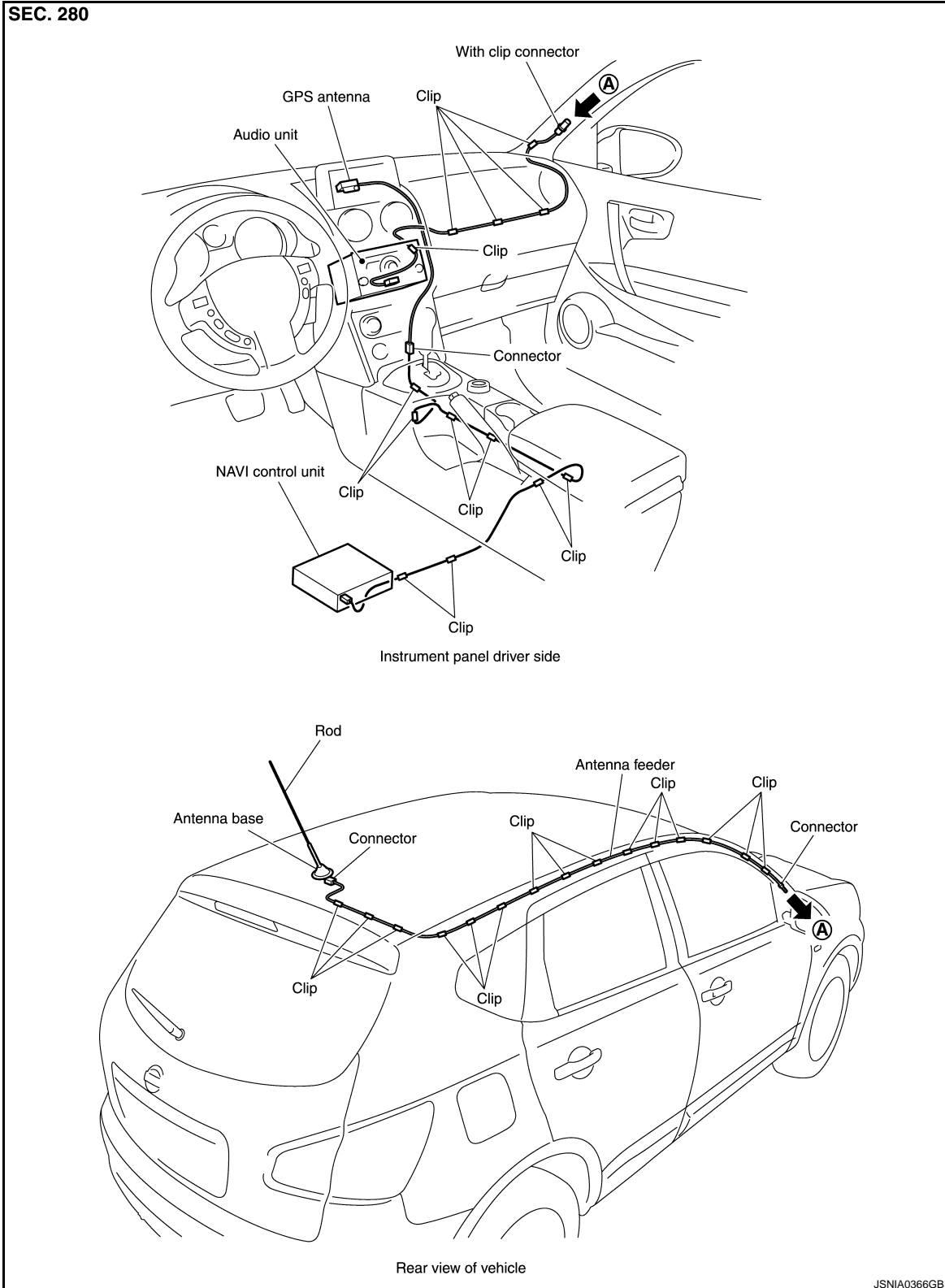
## ANTENNA FEEDER (GPS)

### Harness Layout

INFOID:000000001194093

#### NOTE:

As for right-hand drive vehicles, install GPS antenna feeder between the center console and the instrument panel in the reverse of left-handle drive vehicles.



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