

SECTION **AV**

AUDIO VISUAL, NAVIGATION & TELEPHONE SYSTEM

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PRECAUTIONS

PRECAUTIONS

PF0:00001

Precautions for Supplemental Restraint System (SRS) “AIR BAG” and “SEAT BELT PRE-TENSIONER”

EKS001C0

The Supplemental Restraint System such as “AIR BAG” and “SEAT BELT PRE-TENSIONER”, used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. Information necessary to service the system safely is included in the SRS and SB section of this Service Manual.

WARNING:

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

Wiring Diagrams and Trouble Diagnosis

EKS001RC

When you read wiring diagrams, refer to the followings:

- Refer to [GI-14, "How to Read Wiring Diagrams"](#) .
- Refer to [PG-2, "POWER SUPPLY ROUTING"](#) for power distribution circuit.

When you perform trouble diagnosis, refer to the followings:

- Refer to [GI-10, "HOW TO FOLLOW TEST GROUPS IN TROUBLE DIAGNOSES"](#) .
- Refer to [GI-26, "How to Perform Efficient Diagnosis for an Electrical Incident"](#) .

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AUDIO

PFP:28111

System Description AUDIO SYSTEM

EKS00190

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

Power is supplied at all times

- through 15A fuse [No. 52, located in the fuse, fusible link and relay block (J/B)]
- to audio unit terminal 73
- to CD auto changer terminal 12
- through 30A fuse (No. J, located in the fuse fusible link and relay box)
- to BOSE speaker amp. terminal 11.

With the ignition switch in the ACC or ON position, power is supplied

- through 10A fuse [No. 21, located in the fuse block (J/B) No.1]
- to audio unit terminal 72.
- to CD auto changer terminal 16.

Ground is supplied through the case of the audio unit.

Ground is also supplied to CD auto changer terminal 15 through body grounds M114 and M24.

Ground is also supplied to CD BOSE speaker amp. terminal 27 through body grounds B256 and B217.

When the audio unit is turned to the ON position, power is supplied.

- through audio unit terminal 12,11
- to BOSE speaker amp. terminal 5, 6.

When the audio unit is turned to the ON position, audio signals are supplied.

- through terminals 79, 80,81 and 82 of audio unit
- to terminals 39, 40,38and 41 of the BOSE speaker amp.
- through terminals 18, 19, 23, 22, 13, 29, 21, 20, 16, 17, 25, 24, 28 and 12 of the BOSE speaker amp.
- to instrument panel speakers and the front and rear door speakers and woofer terminals 1 and 2.

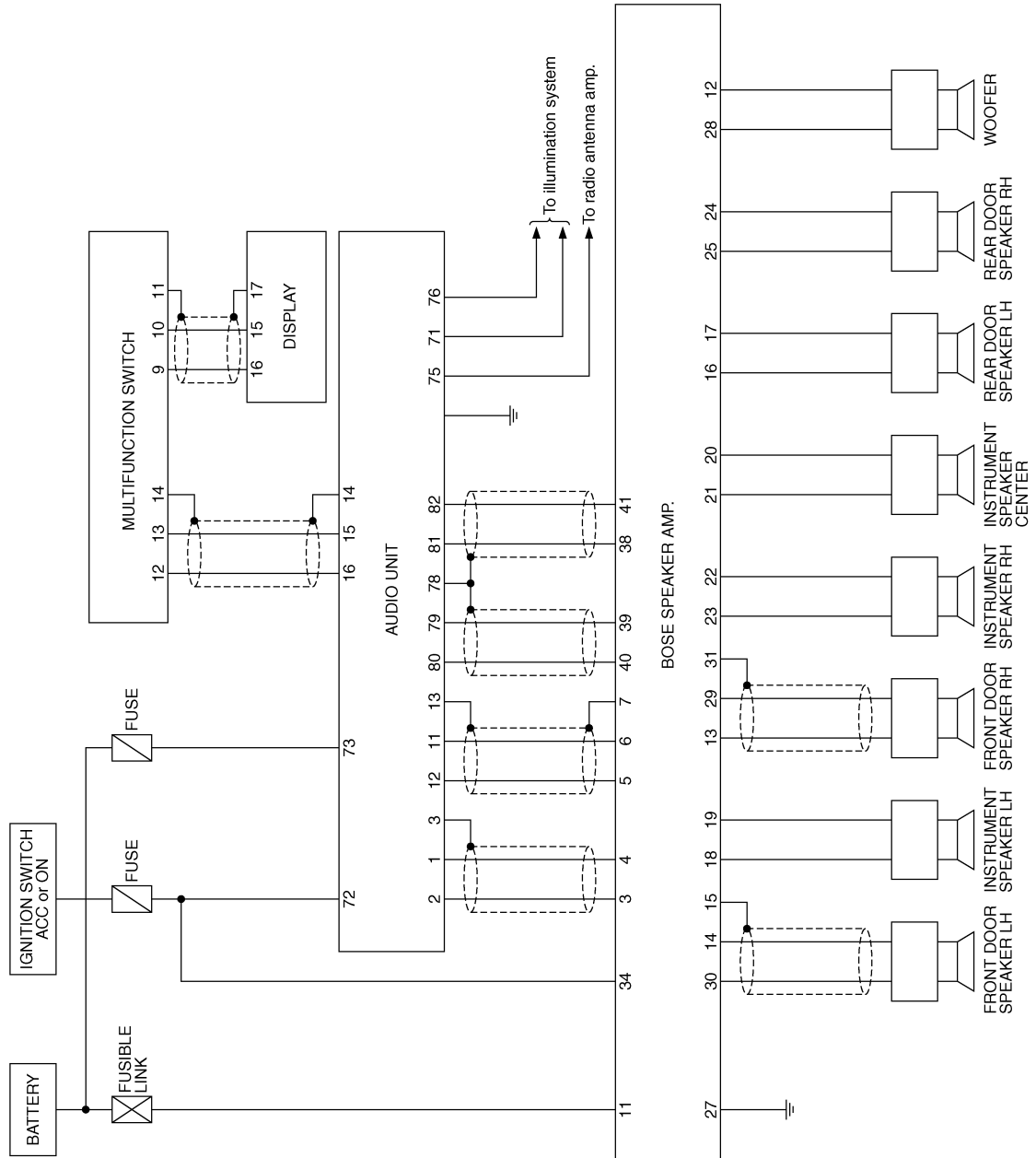
AV COMMUNICATION LINE

Audio system components (Audio unit, BOSE speaker amplifier, etc.) are connected by AV communication line and controlled by signals from the multifunction switch.

AUDIO

Schematic

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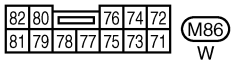
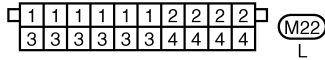
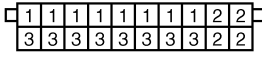
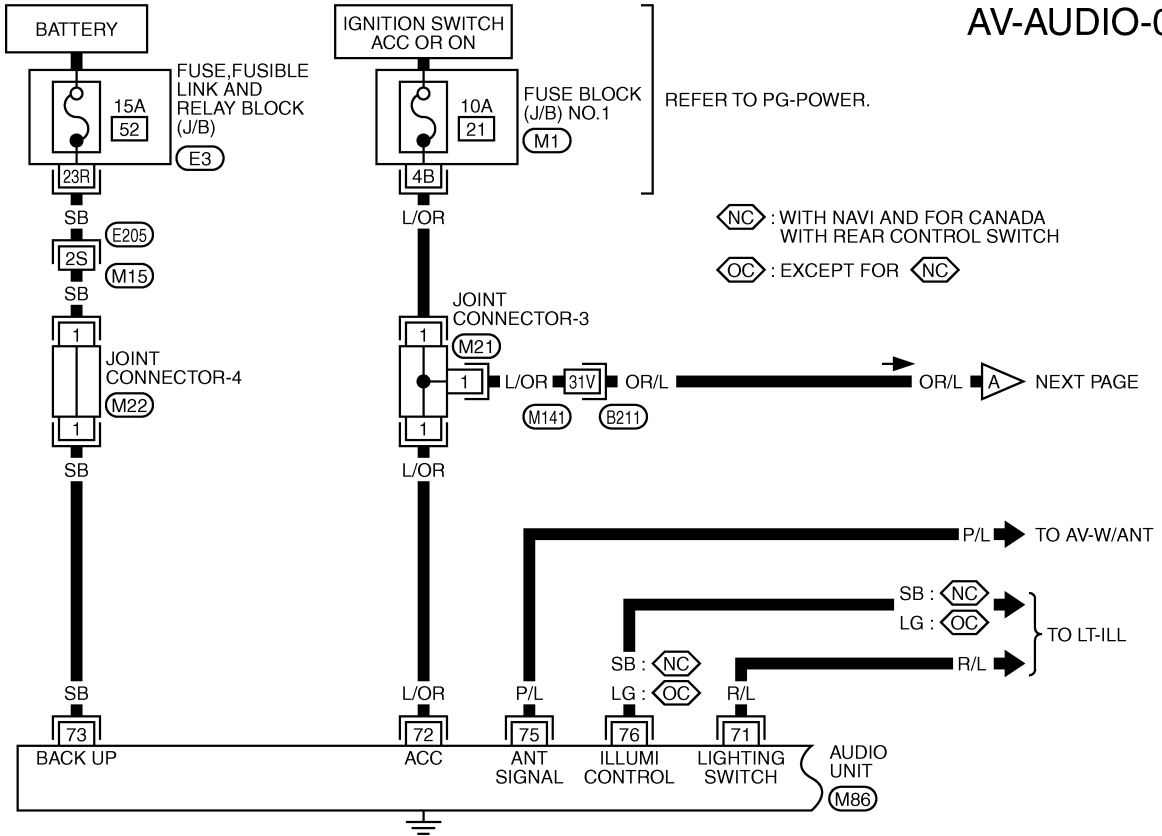
TKWM0131E

AUDIO

EKS0019N

Wiring Diagram—AUDIO—

AV-AUDIO-01



REFER TO THE FOLLOWING.

(E205), (B211) -SUPER MULTIPLE JUNCTION (SMJ)

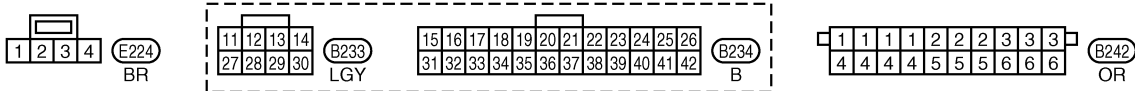
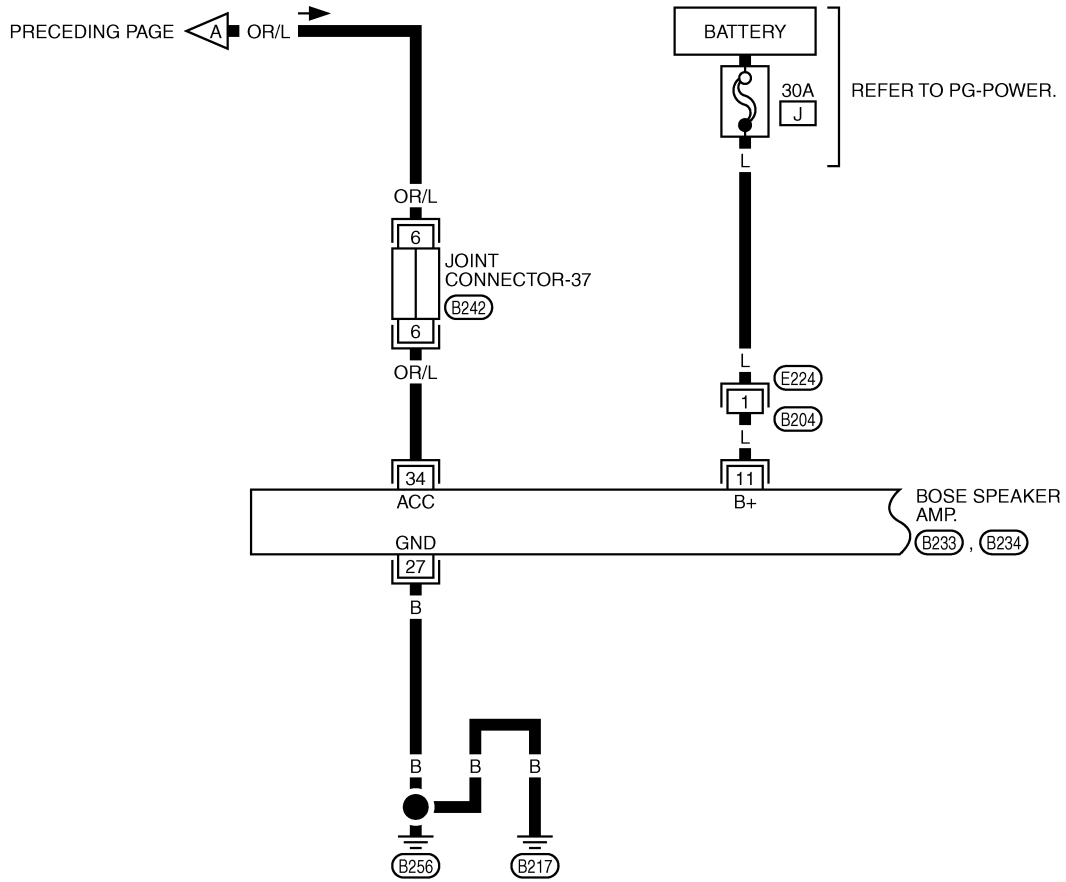
(M1) -FUSE BLOCK-JUNCTION BOX (J/B) NO.1

(E3) -FUSE,FUSIBLE LINK AND RELAY BLOCK (J/B)

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AUDIO

AV-AUDIO-02

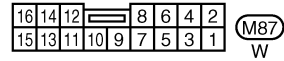
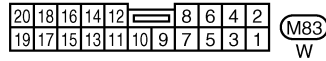
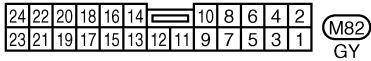
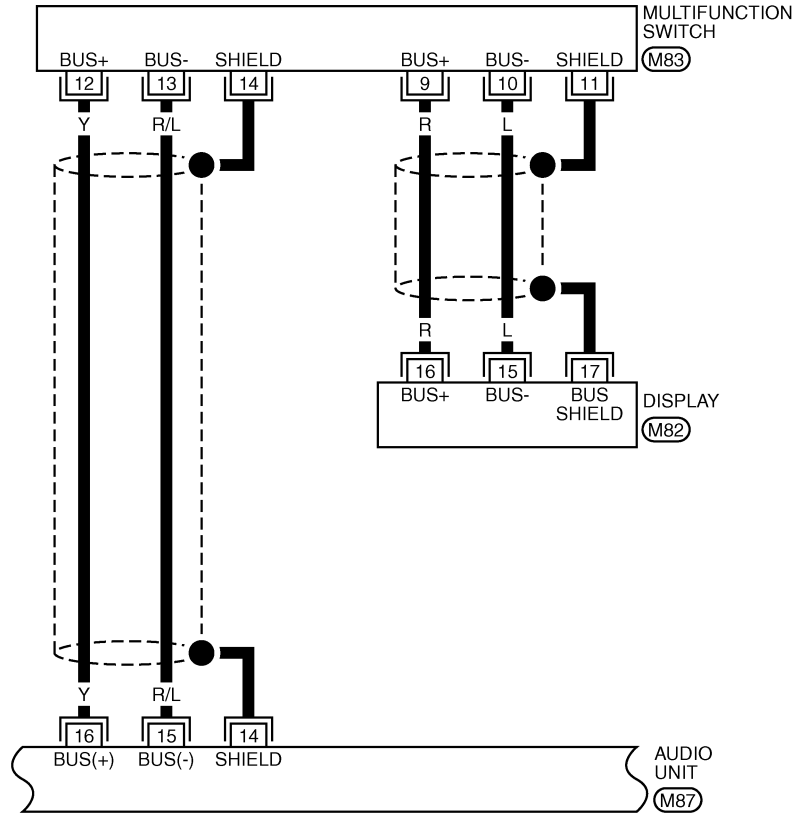


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AUDIO

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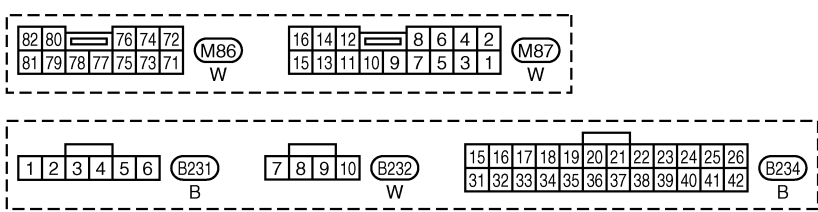
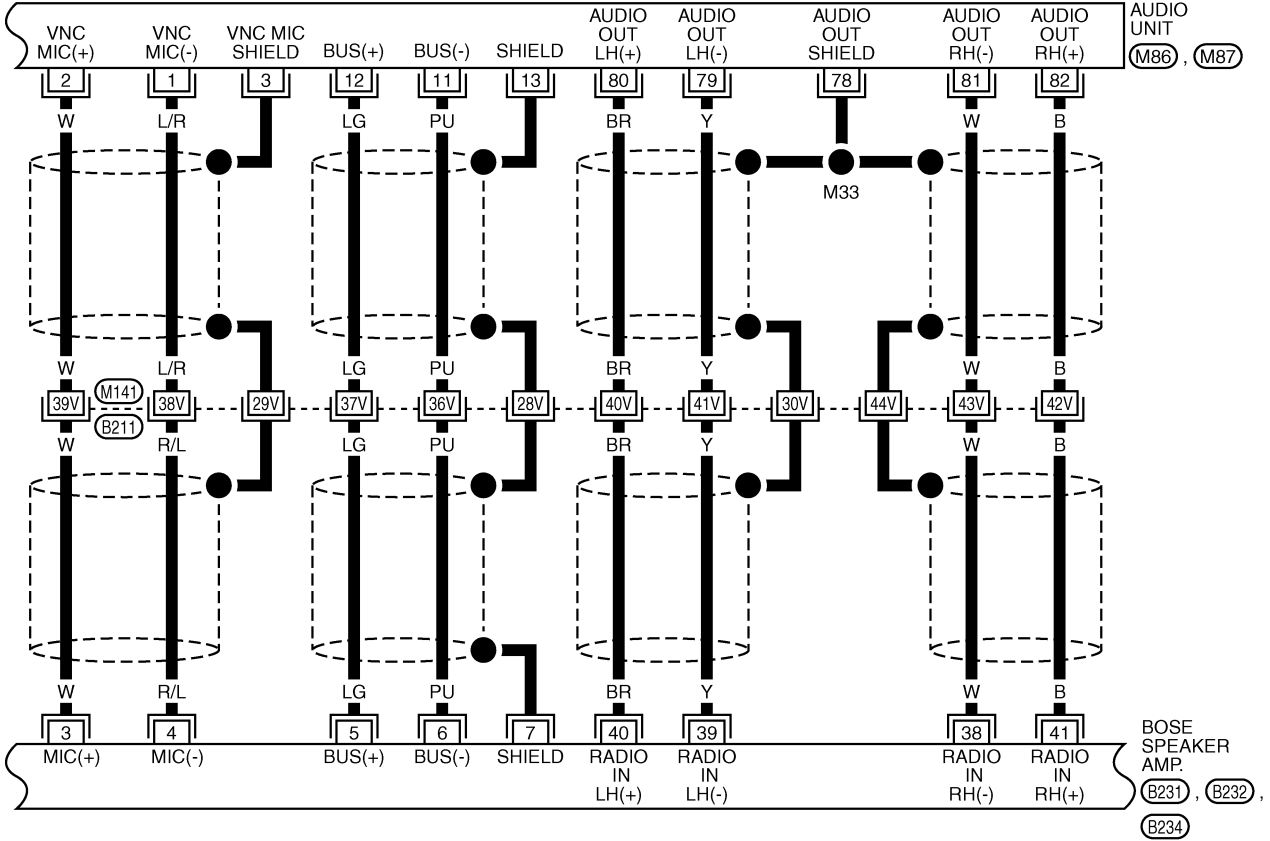


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AUDIO

AV-AUDIO-04

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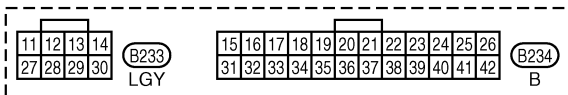
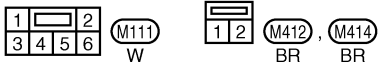
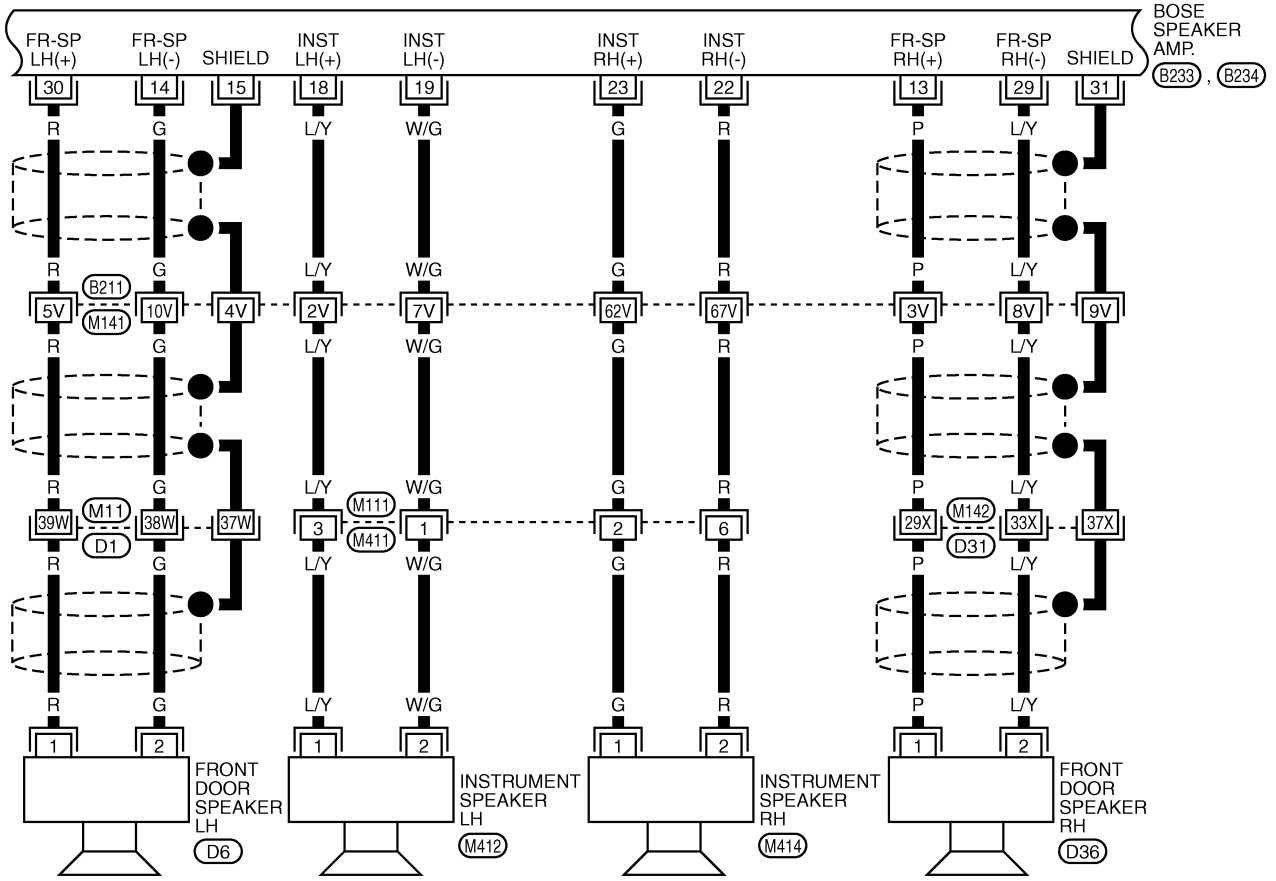


REFER TO THE FOLLOWING.
 (B211) -SUPER MULTIPLE JUNCTION (SMJ)

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AUDIO

AV-AUDIO-05

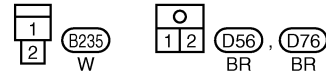
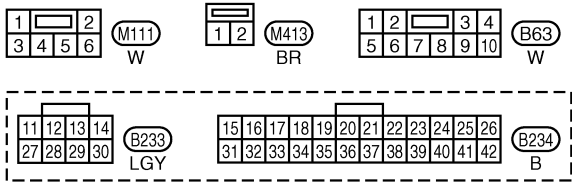
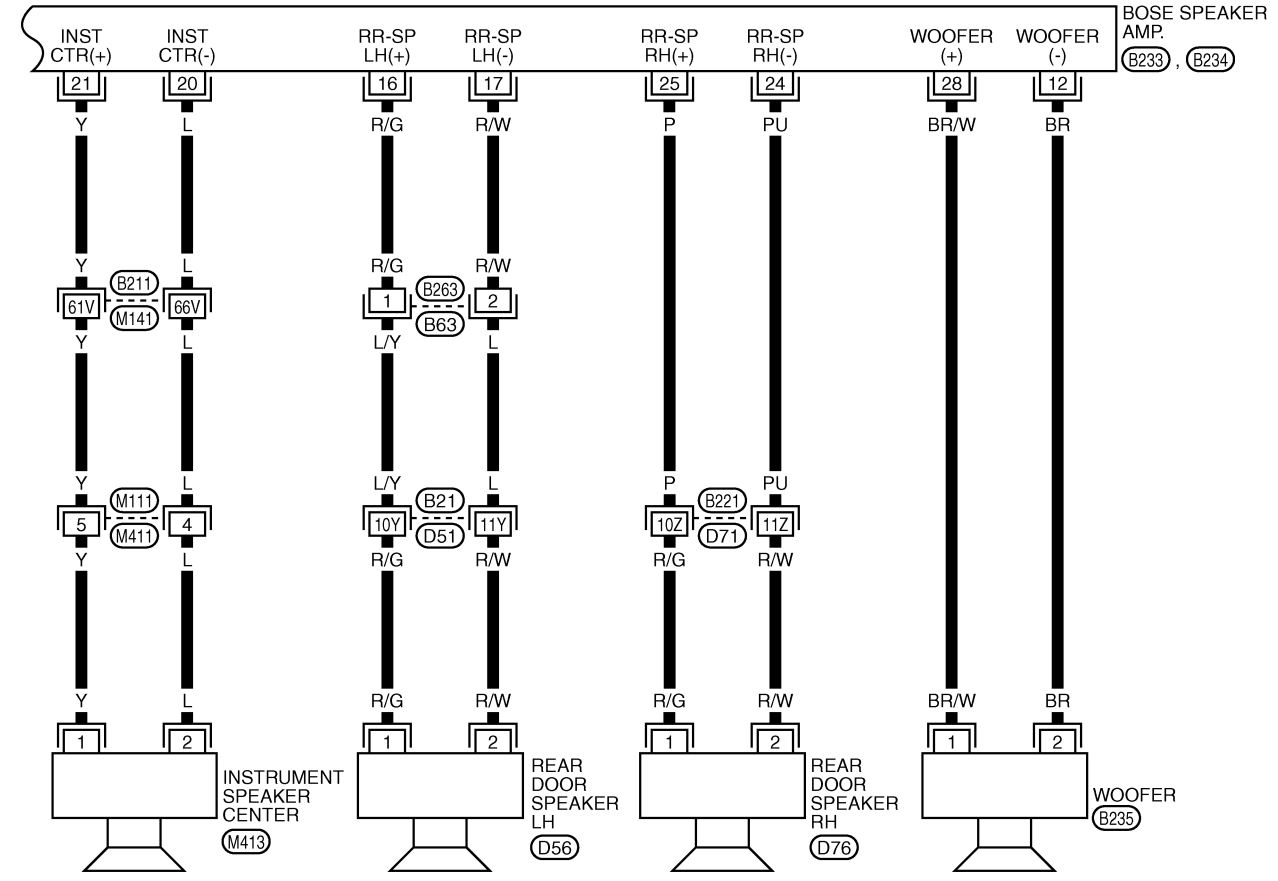


REFER TO THE FOLLOWING.
 (B211), (D1), (D31) -SUPER
 MULTIPLE JUNCTION (SMJ)

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AUDIO

AV-AUDIO-06



REFER TO THE FOLLOWING.
 (B21), (B211), (B221) -SUPER
 MULTIPLE JUNCTION (SMJ)

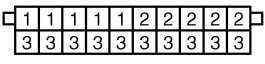
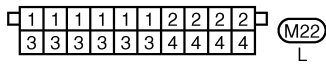
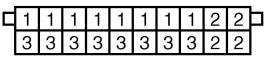
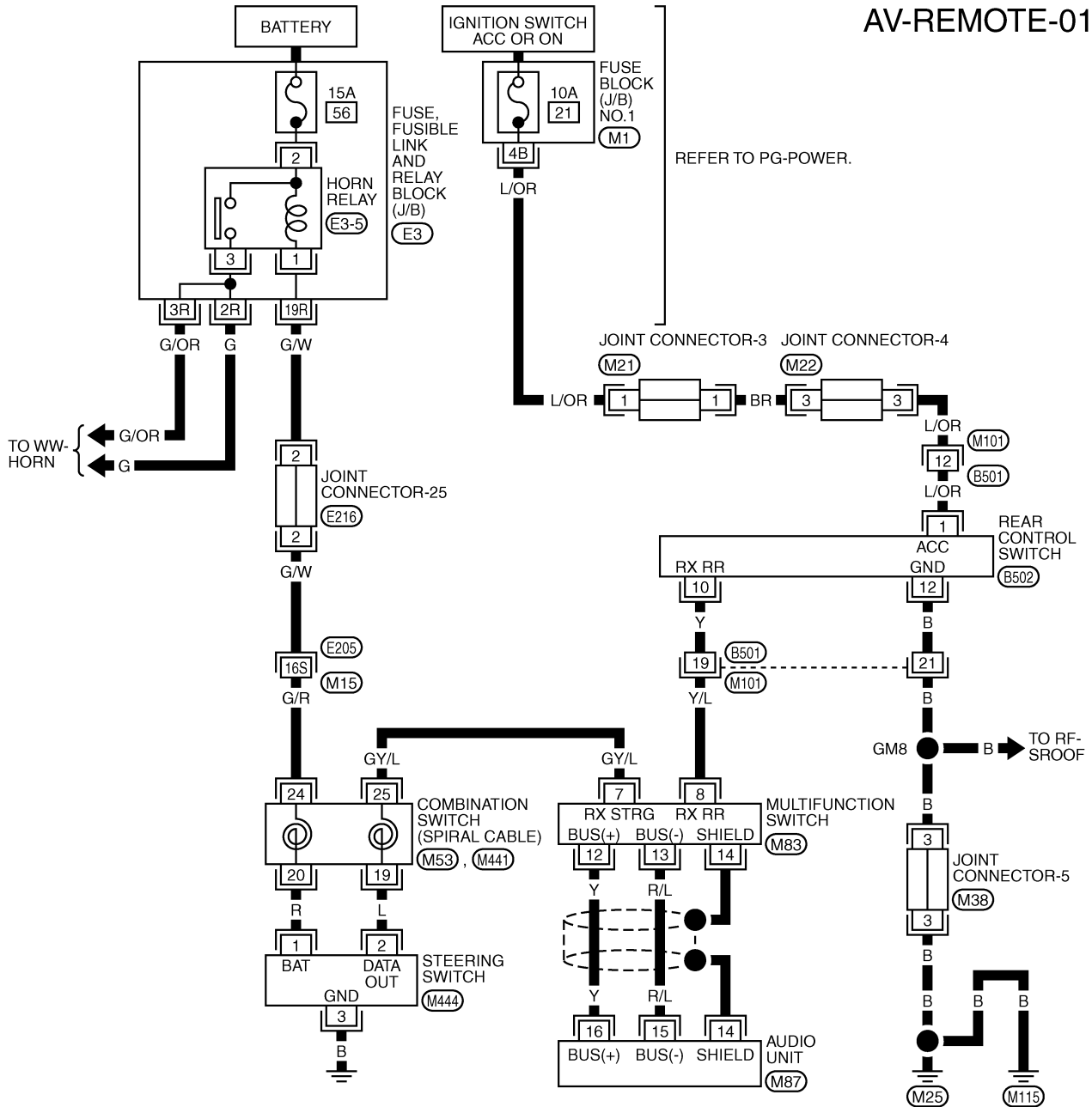
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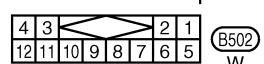
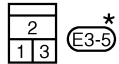
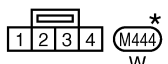
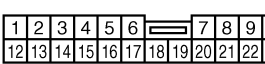
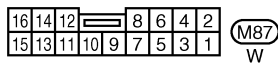
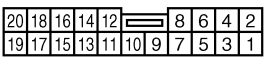
Wiring Diagram —REMOTE—

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AV-REMOTE-01



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



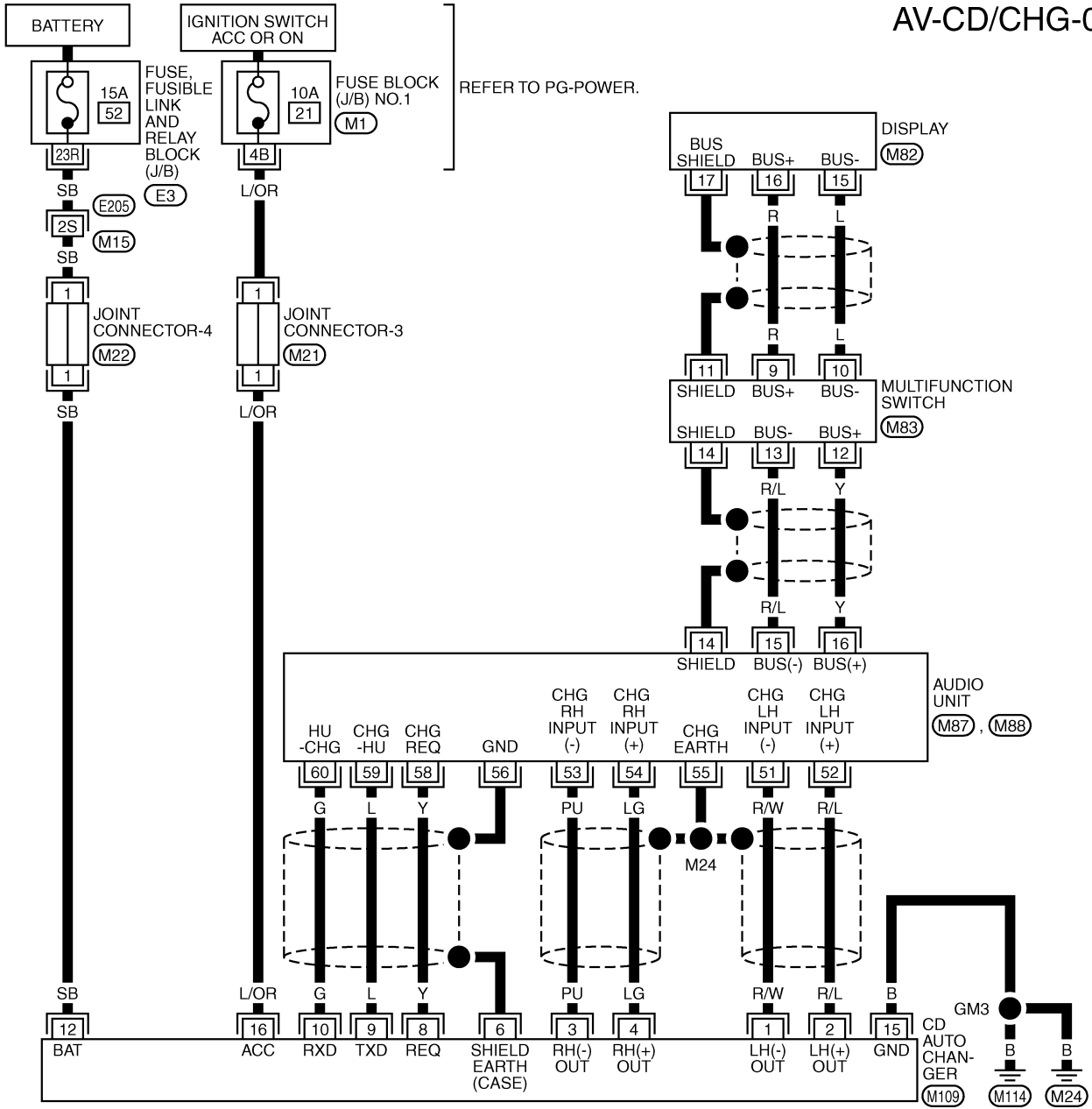
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 (M1) -FUSE BLOCK-JUNCTION BOX (J/B) NO.1
 (E3) -FUSE, FUSIBLE LINK AND RELAY BLOCK (J/B)

AUDIO

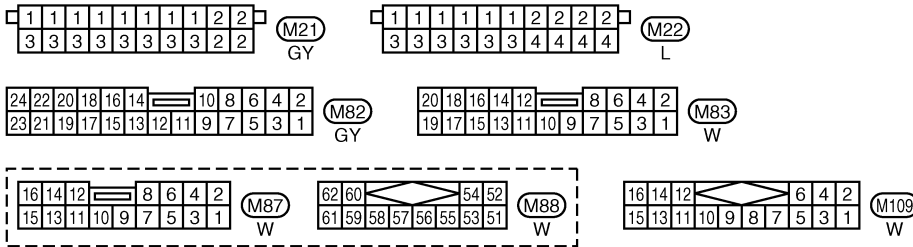
Wiring Diagram —CD AUTO CHANGER—

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AV-CD/CHG-01



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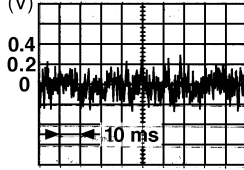
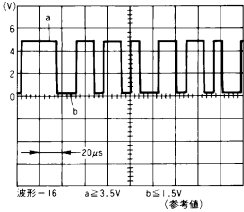
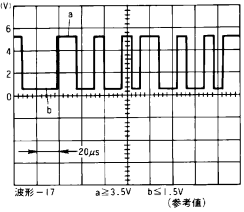
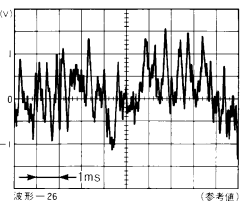
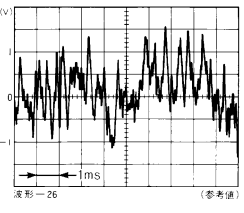
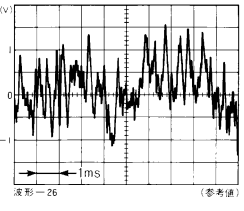
- (E205) -SUPER MULTIPLE JUNCTION (SMJ)
- (M1) -FUSE BLOCK-JUNCTION BOX (J/B) NO.1
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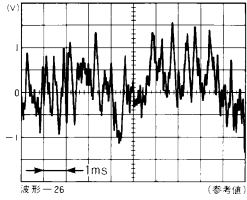
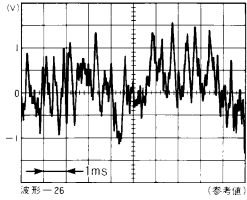
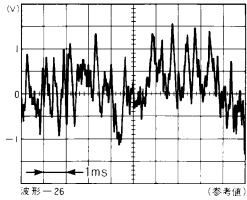
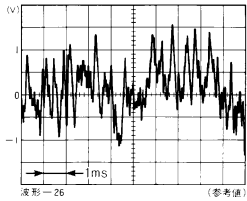
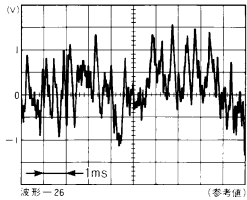
AUDIO

Terminals and Reference Value for Bose Speaker Amplifier

EKS000XT

Terminal No. (wire color)		Item	Signal input/ output	Condition		voltage	Example of symp- tom
+	-			Ignition switch	Operation		
3 (W)	4 (R/L)	Microphone	Input	ON	-	 <p style="text-align: right;">SKIA0471E</p>	Noise compensa- tion function does not operate.
5 (LG)	ground	Communica- tion signal (+)	Input/ output	ON	-	 <p style="text-align: right;">SKIA0175J</p>	System does not work properly.
6 (PU)	ground	Communica- tion signal (-)	Input/ output	ON	-	 <p style="text-align: right;">SKIA0176J</p>	System does not work properly.
7	-	Shield ground	-	-	-	-	-
11 (L)	ground	Battery power	Input	OFF	-	Battery voltage	System does not operate.
13 (P)	29 (L/Y)	Door Speaker output (front RH)	Output	ON	Receive radio broadcast	 <p style="text-align: right;">SKIA0177J</p>	No sound from front RH Door speaker.
15	-	Shield (sound)	-	-	-	-	-
16 (R/G)	17 (R/W)	Door Speaker output (rear LH)	Output	ON	Receive radio broadcast	 <p style="text-align: right;">SKIA0177J</p>	No sound from rear LH Door speaker.
18 (L/Y)	19 (W/G)	Instrument speaker out- put (LH)	output	ON	Receive radio broadcast	 <p style="text-align: right;">SKIA0177J</p>	No sound from LH Instrument speaker.

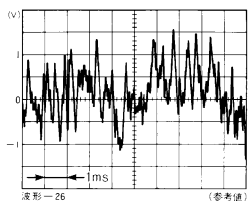
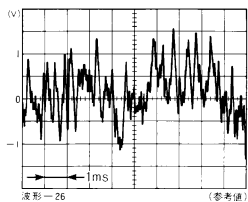
AUDIO

Terminal No. (wire color)		Item	Signal input/ output	Condition		voltage	Example of symp- tom
+	-			Ignition switch	Operation		
21 (Y)	20 (L)	Instrument speaker out- put (Center)	output	ON	Receive radio broadcast		No sound from center Instrument speaker.
23 (G)	22 (R)	Instrument speaker out- put (RH)	output	ON	Receive radio broadcast		No sound from RH Instrument speaker.
25 (P)	24 (PU)	Door Speaker output (rear RH)	Output	ON	Receive radio broadcast		No sound from rear RH Door speaker.
27	ground	Ground	-	ON	-	-	-
28 (BR/ W)	12 (BR)	Woofers output	Output	ON	-		No sound from Woofers.
30 (R)	14 (G)	Door Speaker output (front LH)	Output	ON	Receive radio broadcast		No sound from front LH Door speaker.
31	-	Shield (sound)	-	-	-	-	-
34 (OR/ L)	ground	ACC power	Input	ACC	-	Battery voltage	AV functions do not operate

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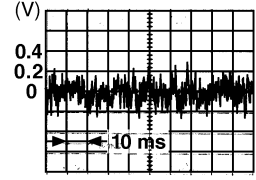
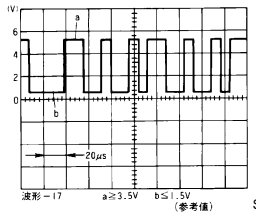
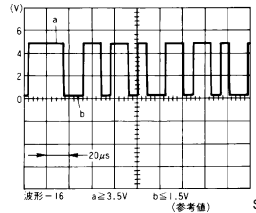
AV

AUDIO

Terminal No. (wire color)		Item	Signal input/ output	Condition		voltage	Example of symp- tom
+	-			Ignition switch	Operation		
40 (BR)	39 (Y)	Audio sound signal (LH)	Input	ON	Play cassette tape.		Audio sound not heard from LH speaker.
41 (B)	38 (W)	Audio sound signal (RH)	Input	ON	Play cassette tape.		Audio sound not heard from RH speaker.

Terminals and Reference Value for Audio Unit

EKS000XU

Terminal No.		Item	Signal input/ output	Condition		voltage	Example of symp- tom
+	-			Ignition switch	Operation		
2 (W)	1 (L/R)	Microphone	Output	ON	-		Noise compensa- tion function does not operate.
3	-	Shield ground (microphone)	-	-	-	-	-
11 (PU)	ground	Communica- tion signal (-)	Input/ output	ON	-		System does not work properly.
12 (LG)	ground	Communica- tion signal (+)	Input/ output	ON	-		System does not work properly.
13	-	Shield ground	-	-	-	-	-
14	-	Shield ground	-	-	-	-	-

AUDIO

Terminal No.1		Item	Signal input/output	Condition		voltage	Example of symptom
+	-			Ignition switch	Operation		
15 (R/L)	ground	Communication signal (-)	Input/output	ON	-		System does not work properly.
16 (Y)	ground	Communication signal (+)	Input/output	ON	-		System does not work properly.
52 (R/L)	51 (R/W)	CD sound signal (LH)	Input	ON	Play CD.		CD sound is not heard from LH speaker.
54 (LG)	53 (PU)	CD sound signal (RH)	Input	ON	Play CD.		CD sound is not heard from RH speaker.
55	-	Shield ground (signal)	-	-	-	-	-
56	-	Shield ground (signal)	-	-	-	-	-
58 (Y)	ground	Communication signal (CHG REQ1)	Input	ON	Insert/eject magazine.		CD Auto changer operation is not possible.
59 (L)	ground	Communication signal (CHG to COMB)	Input	ON	Insert/eject magazine.		CD Auto changer operation is not possible.

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AUDIO

Terminal No.1		Item	Signal input/output	Condition		voltage	Example of symptom
+	-			Ignition switch	Operation		
60 (G)	ground	Communication signal (COMB to CHG)	Output	ON	Press the CD switch.		CD Auto changer operation is not possible.
71 (R/L)	ground	Illumination signal	Input	OFF	Light switch is ON (position 1).	Battery voltage	Audio unit illumination does not come on when lighting switch is ON (position 1).
					Turn lighting switch OFF.	Approx. 3.0V or less	
72 (L/OR)	ground	ACC power	Input	ACC	-	Battery voltage	Audio unit operation is not possible.
73 (SB)	ground	Battery power	Input	OFF	-	Battery voltage	Cassette tape player operation is not possible.
75 (P/L)	ground	Radio antenna amp. ON signal	Output	ON	-	Approx.10V or more	Receiving status of radio broadcast becomes bad.
76 (SB) note1 (LG) note2	ground	Illumination control signal	Input	ON	Illumination control switch is operated by lighting switch in 1st position.	Changes between approx. 0 and approx. 12V.	Audio unit illumination cannot be controlled.
78	-	Shield (Audio sound signal)	-	-	-	-	-
80 (BR)	79 (Y)	Audio sound signal (LH)	Output	ON	Play cassette tape.		Audio sound is not heard from LH speaker.
82 (B)	81 (W)	Audio sound signal (RH)	Output	ON	Play cassette tape.		Audio sound is not heard from RH speaker.

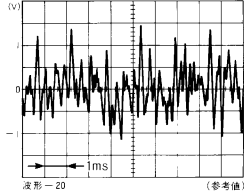
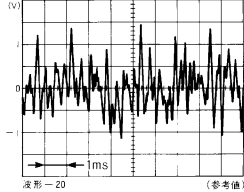
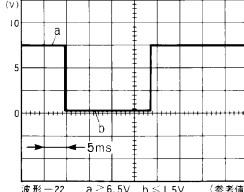
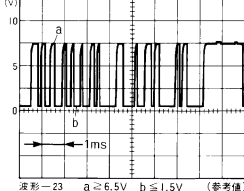
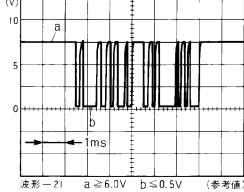
NOTE:

1. With navi and for canada with rear control switch.
2. Without navi.

AUDIO

Terminals and Reference Value for CD Auto Changer

EKS0012U

Terminal No.		Signal name	Signal input/output	Condition		voltage	Example of symptom
+	-			Ignition switch	Operation		
2 (R/L)	1 (R/W)	CD sound signal (LH)	Output	ON	Play CD.	 <p>波形-20 (参考値) SKIA0195J</p>	CD sound is not heard from LH speaker.
4 (LG)	3 (PU)	CD sound signal (RH)	Output	ON	Play CD.	 <p>波形-20 (参考値) SKIA0195J</p>	CD sound is not heard from RH speaker.
6	-	Shield (CD sound signal)	-	-	-	-	-
8 (Y)	ground	Communication signal (CHG REQ1)	Output	ON	Insert/eject magazine.	 <p>波形-22 a ≧ 6.5V b ≦ 1.5V (参考値) SKIA0196J</p>	CD Auto changer operation is not possible.
9 (L)	ground	Communication signal (CHG to COMB)	Output	ON	Insert/eject magazine.	 <p>波形-23 a ≧ 6.5V b ≦ 1.5V (参考値) SKIA0197J</p>	CD Auto changer operation is not possible.
10 (G)	ground	Communication signal (COMB to CHG)	Input	ON	Press the CD switch.	 <p>波形-21 a ≧ 6.5V b ≦ 0.5V (参考値) SKIA0198J</p>	CD Auto changer operation is not possible.
12 (SB)	ground	Battery power	Input	OFF	-	Battery voltage	CD Auto changer operation is not possible.
15 (B)	ground	Ground	-	ON	-	Approx. 0V	-
16 (L/OR)	ground	ACC power	Input	ACC	-	Battery voltage	CD Auto changer operation is not possible.

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Terminals and Reference Value for Rear Control Switch

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TERMINALS			ITEM	CONDITION		DATA (DC)
(+)		(-)		Ignition switch	Operation	
TERMINAL	WIRE COLOR					
1	L/OR	Ground	ACC Power	ACC	—	Ground battery voltage
12	B	Ground	Ground	ON	—	Approx. 0V
10	Y	Ground	Rear control switch communication signal	ON	Operate the rear control switch.	

Self-Diagnosis Function DESCRIPTION

EKS000XV

- Diagnosis function consists of the self-diagnosis mode, and the “CONFIRMATION/ADJUSTMENT” mode.
- Self-diagnosis mode checks for connection among Audio unit, and CD Auto changer and analyzes each unit, then displays the results.
- “CONFIRMATION/ADJUSTMENT” function analyzes each speaker.

DIAGNOSIS ITEM

Mode	Description
Self-diagnosis	<ul style="list-style-type: none"> ● Check connection among AV and NAVI control unit or AV control unit and Audio unit and CD Auto changer. ● Perform the unit diagnosis of Audio unit and CD Auto changer.
Confirmation/Adjustment	<ul style="list-style-type: none"> ● Check the connection of each speaker using a test tone.

Self-Diagnosis Mode OPERATION PROCEDURE

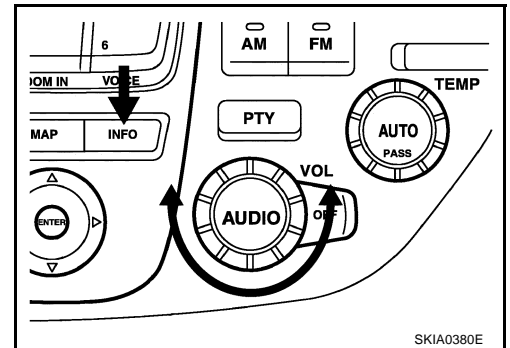
EKS001FA

- To start the self-diagnosis mode and to check the diagnosis result, refer to [AV-63, "Self-Diagnosis Mode"](#) for models with navigation system, and [DI-100, "Self-Diagnosis Mode \(without Navigation System\)"](#) for vehicles without navigation system.

Confirmation/Adjustment Mode OPERATION PROCEDURE

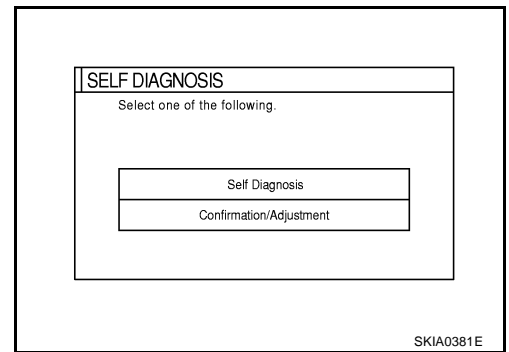
EKS000XX

1. Start the engine.
2. Turn the audio system off.
3. While pressing the “vehicle information” switch, turn the volume control dial clockwise or counterclockwise for 30 clicks or more. (When self-diagnosis mode is aggravated, a short beep will be heard.)
 - To return to the previous screen, press “PREV” switch.

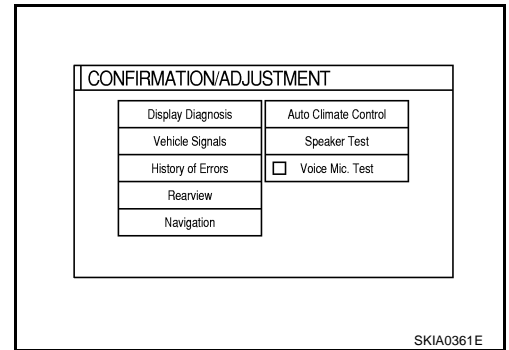


AUDIO

4. The initial trouble diagnosis screen will be shown, and items “Self-Diagnosis” and “Confirmation/Adjustment” will become selective.



5. When “Confirmation/Adjustment” is selected on the trouble diagnosis screen, the operation will enter the Confirmation/Adjustment mode. In this mode, check and adjustment of each item will become possible.

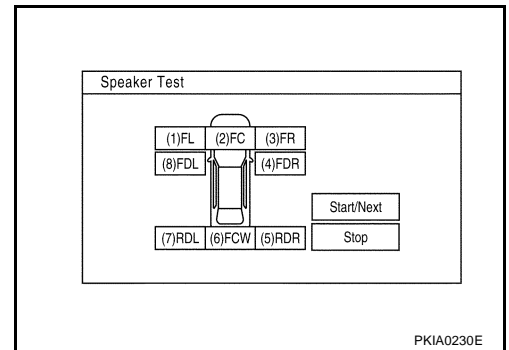


6. When “Speaker Test” is selected, the speaker diagnosis screen will be shown. Then press “Start/Next” and the test tone will be emitted from one speaker. Press “Start/Next” again and the test tone will be emitted from another speaker. Press “Stop” and the test tone will be stopped.

NOTE:

Test tones emitted from each speaker are as follows.

- Instrument speaker** :1KHz
- Door speaker** :1KHz
- Woofers** :100Hz



Trouble Diagnosis

EKS000XY

- The majority of the audio troubles are the result of outside causes (bad CD/cassette, electromagnetic interference, etc.). Check the inspection items below to diagnose the malfunction.

PROBLEM WITH RADIO, TAPE AND CD

Symptom	Check items	Possible cause
Inoperative	<ul style="list-style-type: none"> ● Check that the ignition switch is in the ACC position. 	<ul style="list-style-type: none"> ● Audio unit ● Audio unit power circuit
No sound	<ul style="list-style-type: none"> ● Check that the volume is not turned down. ● Check that the balance and fader control knobs are centered. 	<ul style="list-style-type: none"> ● Audio unit ● Audio unit power circuit ● Speaker ● Sound signal circuit between speaker and Audio unit
Poor sound	<ul style="list-style-type: none"> ● Check that the bass and treble adjustment knobs are centered. 	<ul style="list-style-type: none"> ● Audio unit ● CD Auto changer ● Speaker
Noisy	-	<ul style="list-style-type: none"> ● Audio unit ● CD Auto changer ● Each electrical equipment

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FOR RADIO ONLY

Symptom	Check items	Possible cause
No sound	<ul style="list-style-type: none"> ● Check that the radio is tuned to a station's frequency. 	<ul style="list-style-type: none"> ● Audio unit ● Antenna feeder ● Antenna amplifier ● Glass antenna
Noisy	<ul style="list-style-type: none"> ● Check that the radio is tuned to a station's frequency. ● Check that the signal of the received station is not weak. ● Check that no mirror-type window film nor any metal object (after-market antenna, etc.) is attached on the rear window glass (Note 1). ● Check whether or not the malfunction occurs only in a particular area. (Note 2) 	<ul style="list-style-type: none"> ● Audio unit ● Antenna feeder ● Antenna amplifier ● window antenna ● Noise prevention parts ● Each electrical equipment ● Wire harness of each piece of electrical equipment
Selected radio stations stored in memory are deleted	-	<ul style="list-style-type: none"> ● Audio unit ● Audio unit power circuit

NOTE:

1. The cause is a reduction in the receiving sensitivity of the window antenna.
2. This is noise resulting from variations in field strength, such as fading noise and multi-path noise, or external noise from trains and other sources. It is not a malfunction.
 - Fading noise: This noise occurs because of variations in the field strength in a narrow range due to mountains or buildings blocking the signal.
 - Multi-path noise: This noise results from the waves sent directly from the broadcast station arriving at the antenna at a different time from the waves which reflect off of mountains or buildings.

FOR CASSETTE PLAYER ONLY

Symptom	Check items	Possible cause
Cassette tape cannot be inserted.	<ul style="list-style-type: none"> ● Check that a cassette tape is not already inserted. ● Check that the cassette has no deformation or other abnormality. 	Audio unit, Audio unit power circuit
Cassette tape cannot be ejected.	<ul style="list-style-type: none"> ● Check that the cassette has no deformation or other abnormality. ● Check that the cassette tape does not sag. 	
Auto reverse does not work, or the tape direction changes in the middle of play.	<ul style="list-style-type: none"> ● There is a problem with tape winding. Check that there is no slack or other abnormality. ● Check that an old cassette tape is not being used. 	Audio unit
There is much noise.	<ul style="list-style-type: none"> ● Check that the cassette tape itself does not have a lot of noise, or that the tape does not have a low recording level. 	
The sound is not clear.	<ul style="list-style-type: none"> ● Check that the tune is recorded on tape with Dolby B NR OFF and played with Dolby B NR ON. ● Check that the sound quality of the cassette tape itself is not poor. 	
Sound fluctuates/tape speed not correct	<ul style="list-style-type: none"> ● Check that there is no tape winding problem, sagging, stretching, or other abnormality. ● Check that there is no problem with the recording speed of the cassette tape. 	
No sound.	<ul style="list-style-type: none"> ● Check that the cassette tape has been recorded on. 	

FOR CD ONLY

Symptom	Check items	Possible cause
The CD cannot be played.	<ul style="list-style-type: none"> ● Check that the CD is not upside down. ● Check that there is no dirt, damage, or water on the disc. 	CD Auto changer
The sound skips, stops suddenly, or is distorted.	<ul style="list-style-type: none"> ● Check that there is no dirt, damage, or water on the disc. ● Check that the trouble is not due to strong vibration. 	

AUDIO

Noise Inspection

EKS000XZ

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

NOTE:

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

TYPE OF NOISE AND POSSIBLE CAUSE

Occurrence condition		Possible cause
Occurs only when engine is ON.	A continuous growling noise occurs. The speed of the noise varies with changes in the engine speed.	<ul style="list-style-type: none"> ● Problem with the ignition condenser.
	A whistling noise occurs while the engine speed is high. A booming noise occurs while the engine is running and the light switch is ON.	<ul style="list-style-type: none"> ● Problem with the alternator
The occurrence of the noise is linked with the operation of the fuel pump.		<ul style="list-style-type: none"> ● Problem with the fuel pump condenser
Noise only occurs when various electrical components are operating.	A cracking or snapping sound occurs with the operation of various switches.	<ul style="list-style-type: none"> ● Relay malfunction, radio malfunction
	The noise occurs when various motors are operating.	<ul style="list-style-type: none"> ● Problem with the motor case ground ● Problem with the motor
The noise occurs constantly, not just under certain conditions.		<ul style="list-style-type: none"> ● Rear defogger coil malfunction ● Open circuit in printed heater ● Poor ground of antenna amplifier or antenna feeder line ● Mirror type film is attached on the rear window glass. ● After-market TV antenna and/or electrical accessories such as radio are attached on the rear window glass.
A cracking or snapping sound occurs while the vehicle is being driven, especially when it is vibrating excessively.		<ul style="list-style-type: none"> ● Problem with the ground wire of body parts ● Problem with ground due to part installation problem ● Problem with wiring connections or a short circuit

Power Supply Circuit Inspection

EKS000Y0

1. CHECK FUSE.

- Check that the following fuses of the Bose speaker amplifier, Audio unit and CD Auto changer are not blown, refer to [PG-75. "FUSE BLOCK - JUNCTION BOX \(J/B\) NO.1"](#) .[PG-78. "FUSE, FUSIBLE LINK AND RELAY BOX"](#) .

Unit	Terminals			Signal name	Fuse No.
	(+)		(-)		
	Connector	Terminal (wire color)			
Bose speaker amplifier	B233	11(L)	Ground	Battery power	#J
	B234	34(OR/L)	Ground	ACC power	#21
Audio unit	M86	73(SB)	Ground	Battery power	#52
	M86	72(L/OR)	Ground	ACC power	#21
CD Auto changer	M109	12(SB)	Ground	Battery power	#52
	M109	16(L/OR)	Ground	ACC power	#21

AUDIO

OK or NG

OK >> GO TO 2.

NG >> If fuse is blown be sure to eliminate cause of problem before installing new fuse. refer to [PG-2](#), "[POWER SUPPLY ROUTING](#)".

2. POWER SUPPLY CIRCUIT CHECK

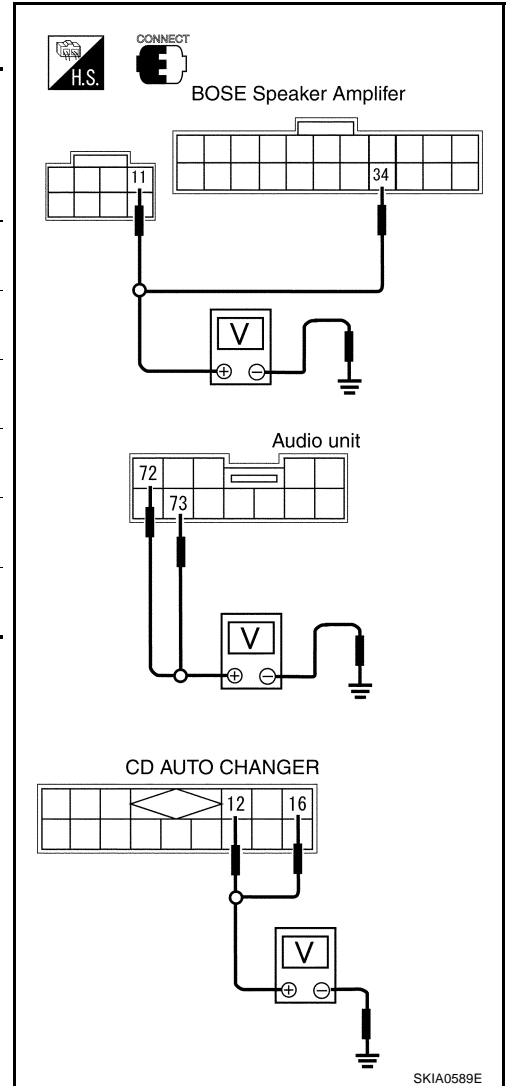
Disconnect the connector. Check voltage between the following harness connector terminal (+) and body ground (-).

Unit	Terminal No.			Power Source	Ignition switch	Reference voltage (V)
	(+) Terminal No.		(-)			
	Connector	Terminal (wire color)				
Bose speaker amplifier	B233	11 (L)	Ground	Battery power	OFF	Battery voltage
	B234	34 (OR/L)	Ground	ACC power	ACC	Battery voltage
Audio unit	M86	73 (SB)	Ground	Battery power	OFF	Battery voltage
	M86	72 (L/OR)	Ground	ACC power	ACC	Battery voltage
CD Auto changer	M109	12 (SB)	Ground	Battery power	OFF	Battery voltage
	M109	16 (L/OR)	Ground	ACC power	Battery voltage	

OK or NG

OK >> Inspection end.

NG >> Repair or replace harness.



Audio System Does Not Turn On

1. SELF-DIAGNOSIS

1. Perform self-diagnosis. Refer to [AV-63](#), "[Self-Diagnosis Mode](#)" for models with navigation system and [DI-100](#), "[Self-Diagnosis Mode \(without Navigation System\)](#)" for models without navigation system.

OK or NG

OK >> Replace Audio unit.

NG >> Check the malfunctioned area according to the self-diagnosis result.

Steering Switch Does Not Operate

1. SELF-DIAGNOSIS MODE OF MULTIFUNCTION SWITCH

1. Carry out the self-diagnosis mode in the self-diagnosis function.
2. Push steering switch.

Beep sound should operate.

OK or NG

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

2. SELF-DIAGNOSIS MODE OF AV COMMUNICATION LINE

1. Carry out the self-diagnosis mode in the self-diagnosis function. Refer to [AV-63, "Self-Diagnosis Mode" \(with navigation system\)](#) or refer to [DI-100, "Self-Diagnosis Mode \(without Navigation System\)"](#).

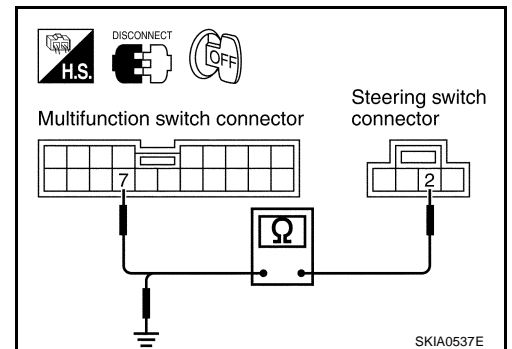
Dose self-diagnosis start?

- YES >> With self-diagnosis results, check the malfunction part.
 NO >> ● Check multifunction switch of power supply and ground circuit check. Refer to [DI-122, "Power Supply and Ground Circuit Check for Multifunction Switch"](#).
 ● Check harness between multifunction switch and AV and NAVI control unit or AV control unit.

3. CHECK STEERING SWITCH CIRCUIT

1. Turn the ignition switch OFF.
2. Disconnect steering switch connector and multifunction switch connector.
3. Check the following.
 - Continuity between steering switch harness connector M444 terminal 2 (L) and multifunction switch harness connector M83 terminal 7 (GY/L).
 - Continuity between steering switch harness connector M444 terminal 2 (L) and ground.

Terminals				Continuity
(+)		(-)		
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)	
M444	2 (L)	M83	7(GY/L)	Yes
M444	2 (L)	Ground		No



OK or NG

- OK >> Replace steering switch.
 NG >> Check the following.
 - Harness between for open or short steering switch and multifunction switch.
 - Connector housing terminal for disconnection and looseness.

4. CHECK HORN OPERATION

1. Check horn operation.

Horn should operate.

OK or NG

- OK >> GO TO 5.
 NG >> Check horn system.

AUDIO

5. POWER SUPPLY CIRCUIT CHECK

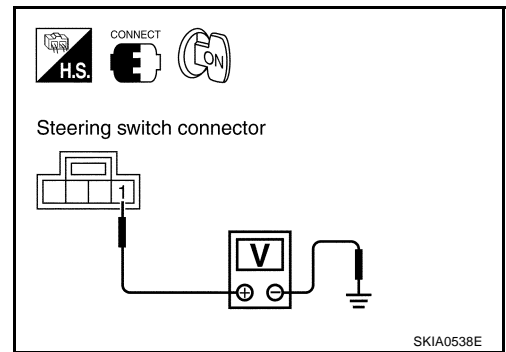
1. Connect steering switch connector.
2. Turn the ignition switch ON.
3. Check harness between steering switch harness connector M444 terminal 1(R) and ground.

Battery voltage should exist.

OK or NG

OK >> GO TO 6

NG >> Check harness for open or short between steering switch and horn relay [located in fuse, fusible link and relay block (J/B)]



6. STEERING SWITCH GROUND CIRCUIT CHECK

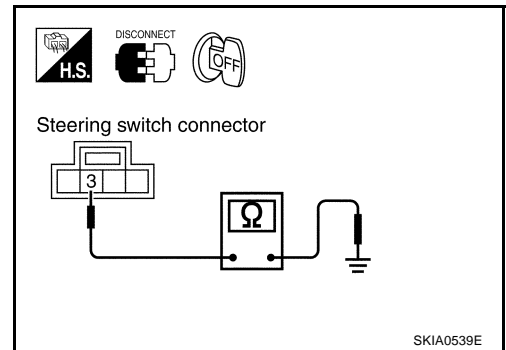
1. Disconnect steering switch connector.
2. Check harness between steering switch harness connector M444 terminal 3 and ground.

Continuity should exist.

OK or NG

OK >> Replace steering switch.

NG >> Repair or replace harness.



Rear Control Switch Audio Operation Does Not Work

EKS001JQ

Inspection procedure

1. SELF-DIAGNOSIS

1. Carry out the self-diagnosis mode in the self-diagnosis function. For models with navigation, refer to [AV-63, "Self-Diagnosis Mode"](#) , and for models without navigation, refer to [DI-100, "Self-Diagnosis Mode \(without Navigation System\)"](#) .

Is the self-diagnosis result OK?

OK >> GO TO 2.

NG >> With self-diagnosis results, check the faulty part.

AUDIO

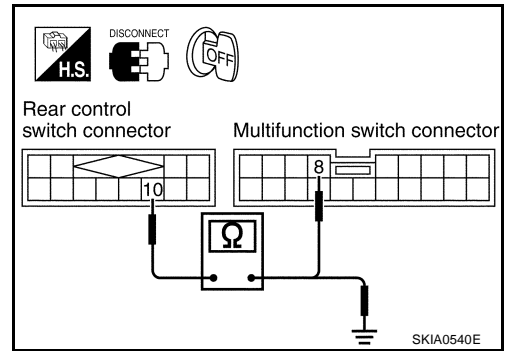
2. REAR CONTROL SWITCH OPEN OR SHORT CIRCUIT

1. Turn the ignition switch OFF.
2. Disconnect rear control switch connector and multifunction switch connector.
3. Check the following.
 - Continuity harness between rear control switch harness connector B502 terminal 10(Y) and multifunction switch harness connector M83 terminal 8(Y/L).
 - Continuity between rear control switch harness connector B502 terminal 10 (Y) and body ground.

Terminals				Continuity
(+)		(-)		
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)	
B502	10 (Y)	M83	8 (Y/L)	Yes
B502	10 (Y)	Ground		No

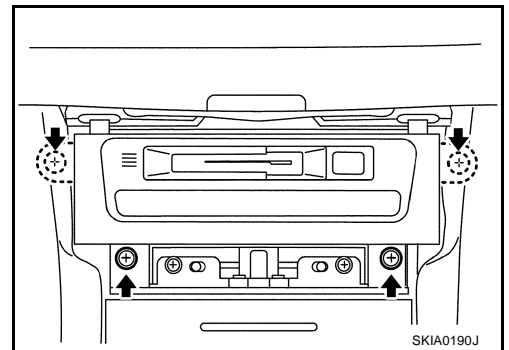
OK or NG

- OK >> Replace rear control switch.
- NG >> ● Check harness between rear control switch and multifunction switch for open or shorted circuit.
- Check connector housing terminal for disconnection and looseness.



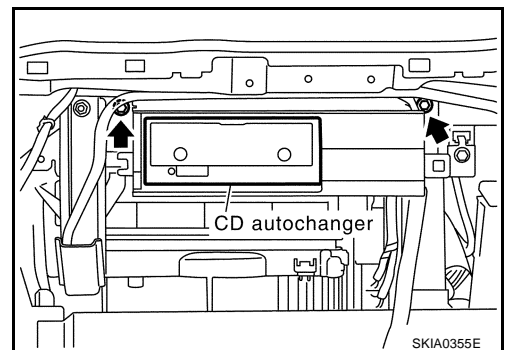
Removal and Installation of Audio Unit

1. Remove console box assembly. [IP-14, "CONSOLE BOX ASSEMBLY"](#).
2. Remove lower cluster lid C. [IP-13, "CLUSTER LID C"](#).
3. Remove screws (4) and remove Audio unit.



Removal and Installation of CD Auto Changer

1. Remove Glove box assembly.
 - Refer to [IP-15, "GLOVE BOX ASSEMBLY"](#) in "Exterior/Interior (EI)" section.
2. Remove screws (2) and remove CD Auto changer.

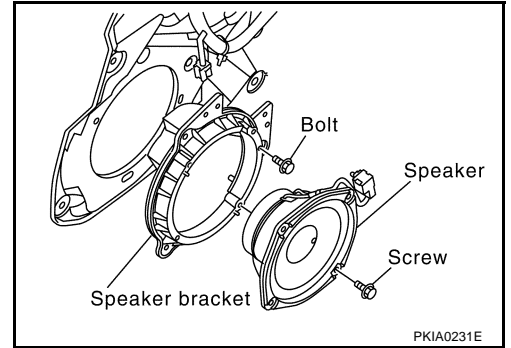


AUDIO

Removal and Installation of Door Speaker

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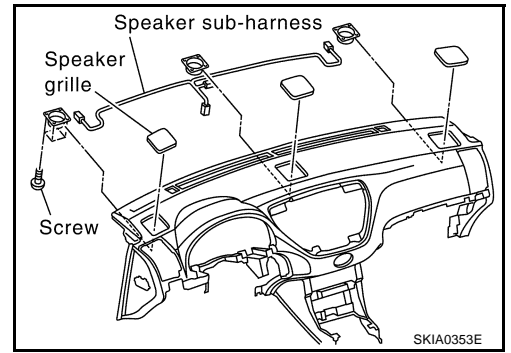
1. Remove door finisher.
 - Refer to [EI-31, "DOOR FINISHER"](#) in "Exterior/Interior (EI)" section.
2. Remove screws (3) and remove speaker.



Removal and Installation of Instrument Panel Speaker

EKS0012T

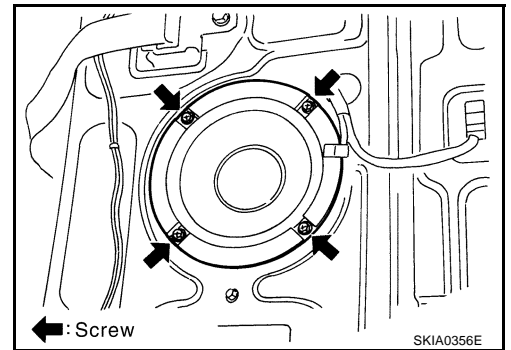
1. Remove instrument panel.
 - Refer to [IP-10, "INSTRUMENT PANEL ASSEMBLY"](#) in "Exterior/Interior (EI)" section.
2. Remove screws (4) and remove instrument panel speaker.



Removal and Installation of Woofer

EKS000Y7

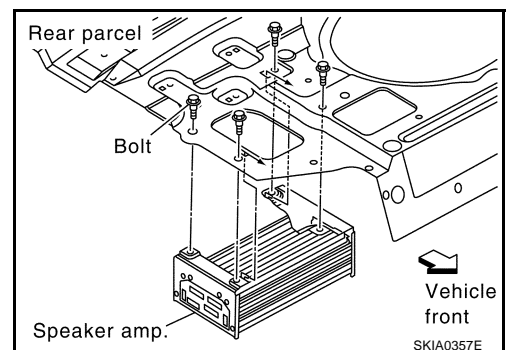
1. Remove rear parcel shelf finisher.
 - Refer to [EI-40, "REAR PARCEL SHELF FINISHER"](#) in "Exterior/Interior (EI)" section.
2. Remove screws (4) and remove woofer.



Removal and Installation of Bose Speaker Amplifier

EKS000Y8

1. Remove trunk trim.
 - Refer to [EI-51, "TRUNK ROOM TRIM & TRUNK LID FINISHER"](#) in "Exterior/Interior (EI)" section.
2. Remove rear parcel shelf finisher.
 - Refer to [EI-40, "REAR PARCEL SHELF FINISHER"](#) in "Exterior/Interior (EI)" section.
3. Remove screws (4) and remove Bose speaker amplifier from the trunk compartment.



AUDIO

Removal and Installation of Steering Wheel Switch

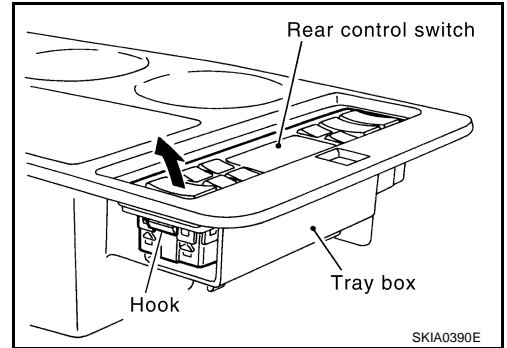
EKS001HQ

[SRS-34, "DRIVER AIR BAG MODULE"](#).

Removal and Installation of Rear Control Switch

EKS001HR

1. Remove the tray box from the center armrest.
 - Refer to [SE-123, "CENTER SEATBACK ASSEMBLY"](#) in "SEAT (SE)" section.
2. Remove the rear control switch from the tray box.



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AV

AUDIO ANTENNA

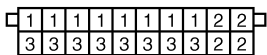
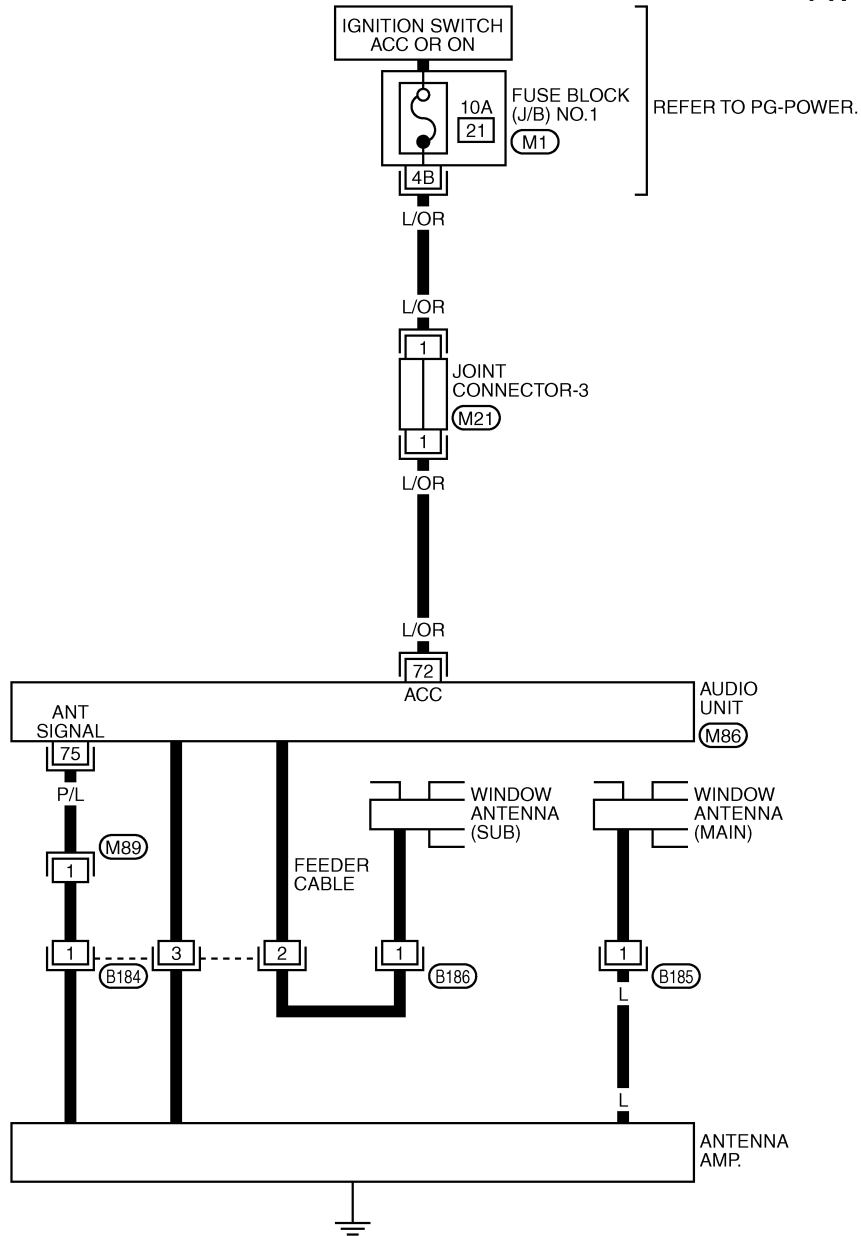
PFP:28200

AUDIO ANTENNA

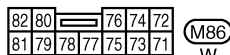
Wiring Diagram —W/ANT—

EKS001FC

AV-W/ANT-01



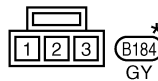
M21
GY



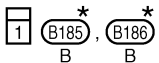
M86
W



M89
BR



B184
GY



B185
B

B186
B

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

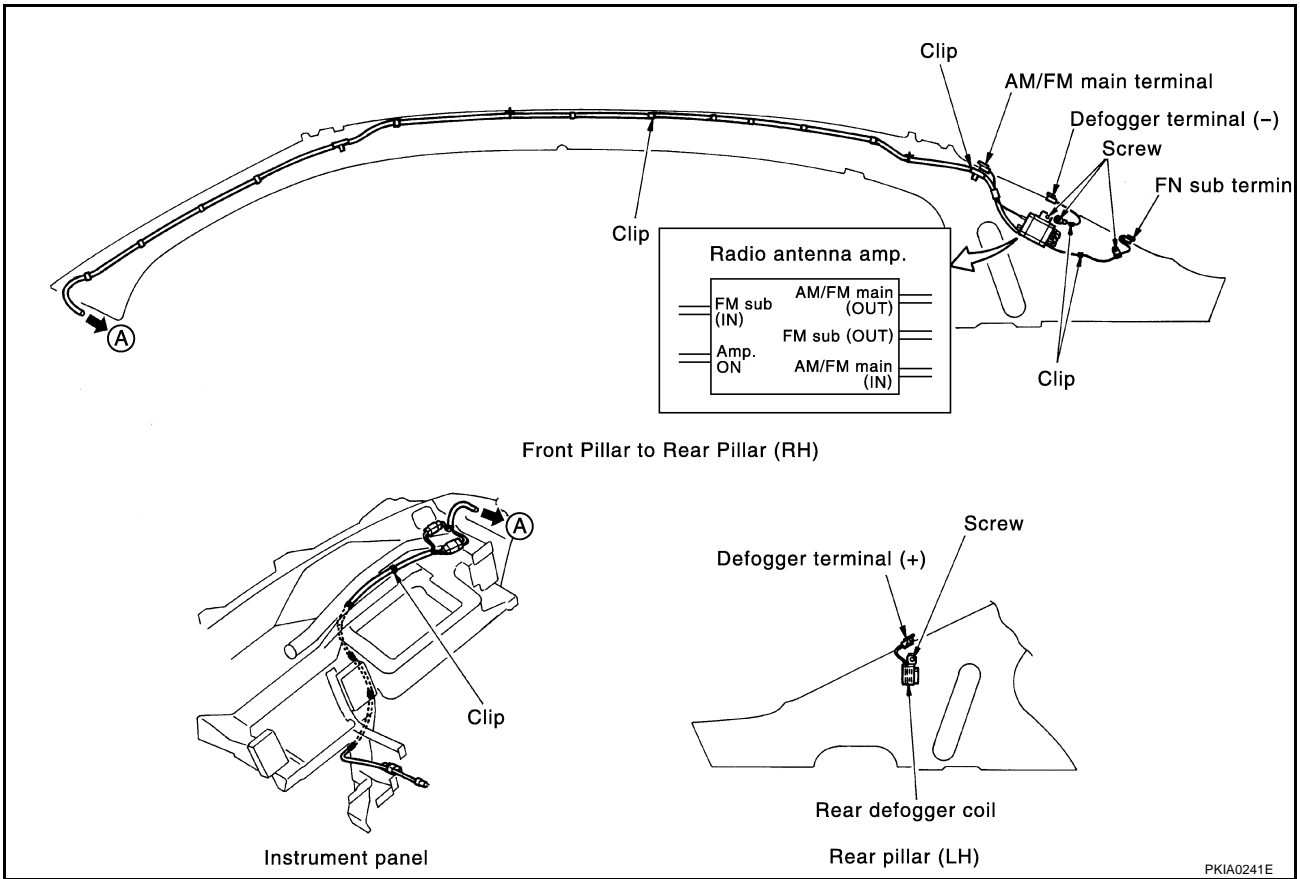
REFER TO THE FOLLOWING.

(M1) - FUSE BLOCK-JUNCTION BOX (J/B) NO.1

AUDIO ANTENNA

Location of Antenna

EKS000YO

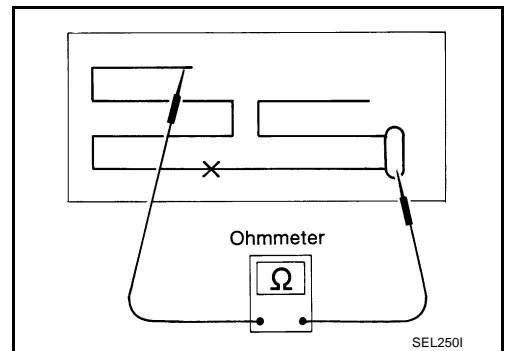


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Window Antenna Repair ELEMENT CHECK

EKS001FD

1. Attach probe circuit tester (in ohm range) to antenna terminal on each side. If an element is OK, continuity should exist. If an element is broken, no continuity should exist.



TELEPHONE (PRE WIRE)

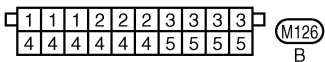
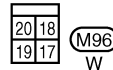
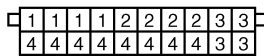
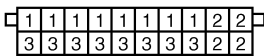
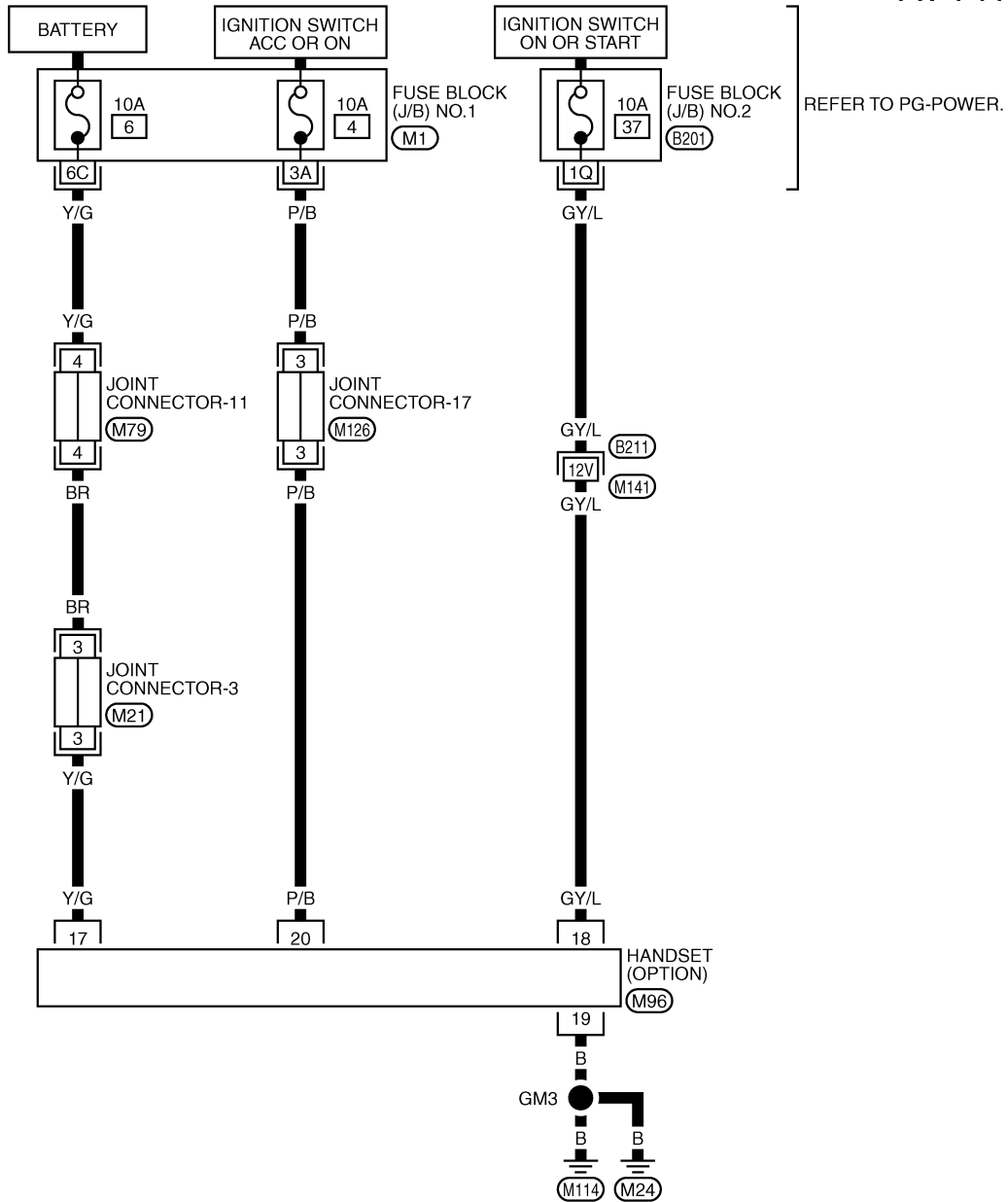
PFP:28342

TELEPHONE (PRE WIRE)

Wiring Diagram — PHONE —

EKS001FB

AV-PHONE-01



REFER TO THE FOLLOWING.

- (B211) -SUPER MULTIPLE JUNCTION (SMJ)
- (M1) -FUSE BLOCK-JUNCTION BOX (J/B) NO.1
- (B201) -FUSE BLOCK-JUNCTION BOX (J/B) NO.2

TKWM0141E

NAVIGATION SYSTEM

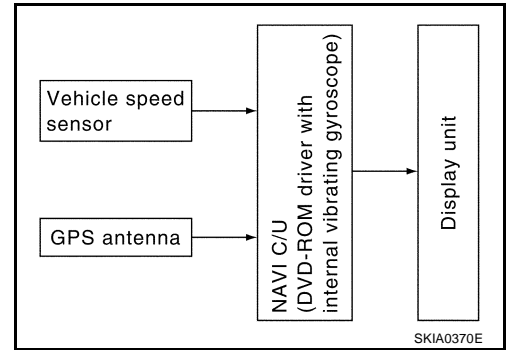
PFP:25915

System Description

EKS001LN

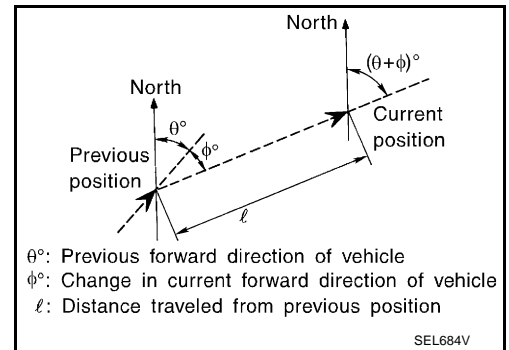
The navigation system periodically calculates the vehicle's current position according to the following three signals: Travel distance of the vehicle as determined by the vehicle speed sensor, turning angle of the vehicle as determined by the gyroscope (angular velocity sensor), and the direction of vehicle travel as determined by the GPS antenna (GPS information).

The current position of the vehicle is then identified by comparing the calculated vehicle position with map data read from the map DVD-ROM, which is stored in the DVD-ROM drive (map-matching), and indicated on the screen with a current-location mark.



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

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



TRAVEL DISTANCE

Travel distance calculations are based on the vehicle speed sensor input signal. Therefore, the calculation may become incorrect as the tires wear down. To prevent this, an automatic distance fine adjustment function has been adopted.

TRAVEL DIRECTION

Change in the travel direction of the vehicle is calculated by a gyroscope (angular velocity sensor) and a GPS antenna (GPS information). As the gyroscope and GPS antenna have both merit and demerit, input signals from them are prioritized in each situation. However, this order of priority may change in accordance with more detailed travel conditions so that the travel direction is detected more accurately.

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

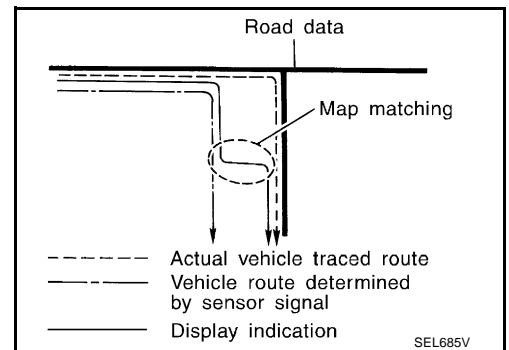
MAP-MATCHING

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

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

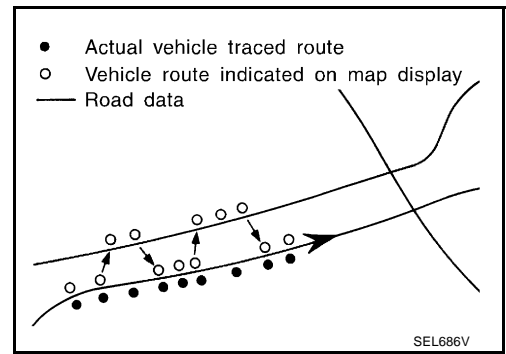
CAUTION:

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

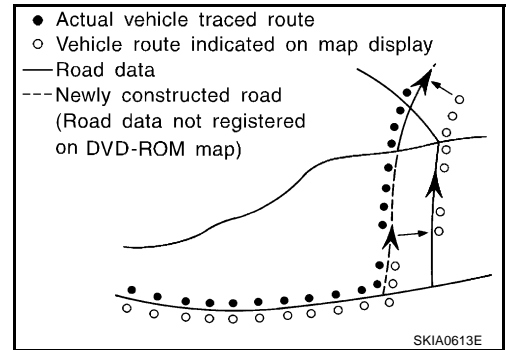


NAVIGATION SYSTEM

- In map-matching, alternative routes to reach the destination will be shown and prioritized, after the road on which the vehicle is currently driven has been judged and the current-location mark has been repositioned.
If there is an error in distance and/or direction, the alternative routes will be shown in different order of priority, and the wrong road can be avoided.
If two roads are running in parallel, they are of the same priority. Therefore, the current-location mark may appear on either of them alternately, depending on maneuvering of the steering wheel and configuration of the road.

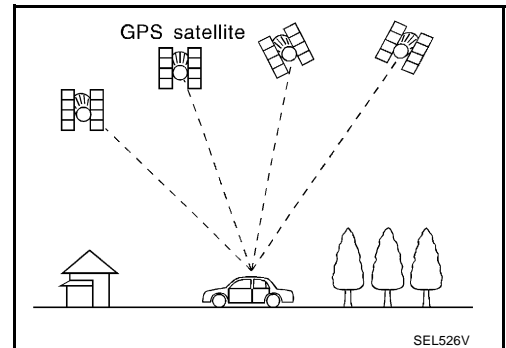


- Map-matching does not function correctly when the road on which the vehicle is driving is new and not recorded in the map DVD-ROM, or when the road pattern stored in the map data and the actual road pattern are different due to repair.
When driving on a road not present in the map, the map-matching function may find another road and position the current-location mark on it. Then, when the correct road is detected, the current-location mark may leap to it.
- Effective range for comparing the vehicle position and travel direction calculated by the distance and direction with the road data read from the map DVD-ROM is limited. Therefore, when there is an excessive gap between the current vehicle position and the position on the map, correction by map-matching is not possible.



GPS (GLOBAL POSITIONING SYSTEM)

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



Accuracy of the GPS will deteriorate under the following conditions.

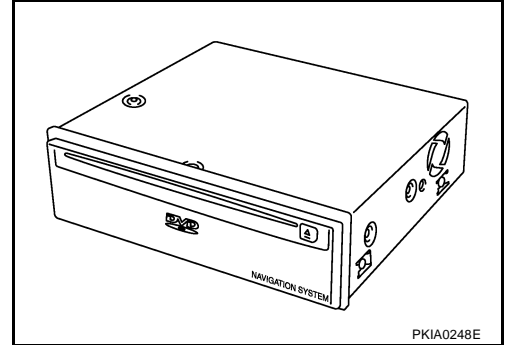
- In two-dimensional positioning, the GPS accuracy will deteriorate when the altitude of the vehicle position changes.
- There may be an error of approximately 100m(300ft) in position detected by three-dimensional positioning, which is more accurate than two-dimensional positioning. The accuracy can be even lower depending on the arrangement of the GPS satellites utilized for the positioning.
- Position detection is not possible when the vehicle is in an area where radio waves from the GPS satellite do not reach, such as in a tunnel, parking lot in a building, and under an elevated highway. Radio waves from the GPS satellites may not be received when some object is located over the GPS antenna.
- Position correction by GPS is not available while the vehicle is stopped.

NAVIGATION SYSTEM

COMPONENT DESCRIPTION

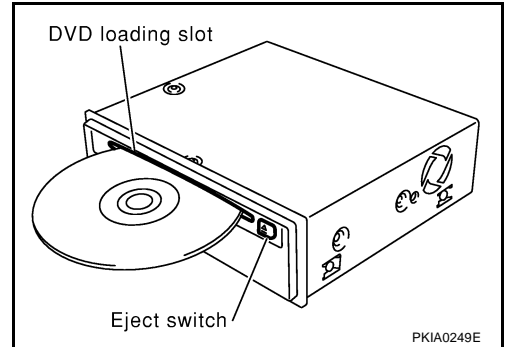
AV and NAVI Control Unit

- The gyro (angular speed sensor) and the DVD-ROM drive are built-in units that control the navigation functions.
- Signals are received from the gyro, the vehicle speed sensor, and the GPS antenna. Vehicle location is determined by combining this data with the data contained in the DVD-ROM map. Locational information is shown on liquid crystal display panel.



DVD-ROM Drive

Maps, traffic control regulations, and other pertinent information can be easily read from the DVD-ROM disc.

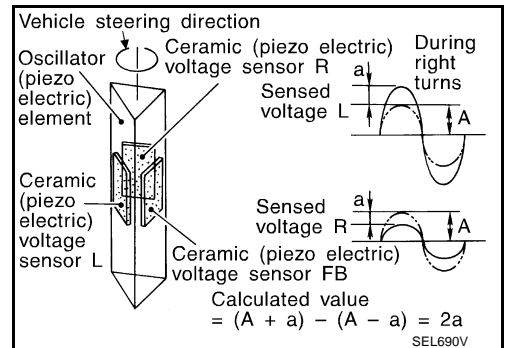


Map DVD-ROM

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

Gyro (Angular Speed Sensor)

- The oscillator gyro sensor is used to detect changes in vehicle steering angle.
- The oscillator gyro periodically senses oscillatory variation at the oscillation terminals. This variation is caused by changes in the vehicle angular velocity. Voltage variations are sensed by ceramic voltage sensors at the left and right sides of the terminals. Vehicle angular velocity corresponds directly with these changes in voltage.
- The gyro is built into the navigation (NAVI) control unit.



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NAVIGATION SYSTEM

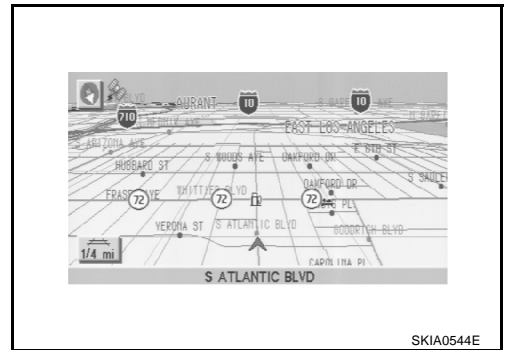
BIRD VIEW™

The BIRD VIEW™ provides a detailed and easily seen display of road conditions covering the vehicle's immediate to distant area.

- MAP DISPLAY

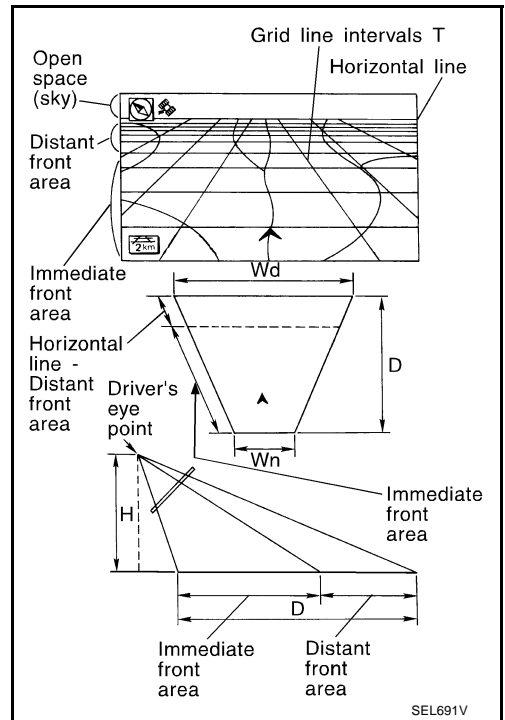


- BIRD VIEW™



Description

- Display area: Trapezoidal representation showing approximate distances (W_n , D , and W_d).
- Ten horizontal grid lines indicate display width while six vertical grid lines indicate display depth and direction.
- Drawing line area shows open space, depth, and immediate front area. Each area is to a scale of approximately 5:6:25.
- Pushing the "ZOOM IN" button during operation displays the scale change and the view point height on the left side of the screen.
The height of the view point increases or decreases when "ZOOM" or "WIDE" is selected with the joystick.



NAVIGATION SYSTEM

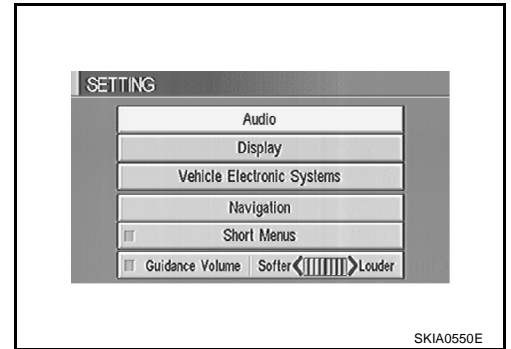
The function of each icon is as follows:

Icon	MODE		Description
	Easy	Expert	
Quick Stop	×	×	The selected facility is set as the destination or waypoint. (Route guidance has been turned OFF or the destination has been reached)
Where am I?	×	×	Next, current and previous street names can be displayed.
Route Info.*		×	The following items can be set. <ul style="list-style-type: none"> ● Complete Route ● Turn List ● Route Simulation (Displayed only when the destination area has been set.)
Edit Route*		×	Change the destination or add the transit points of the route set in the route guide. (Displayed only when the automatic reroute function has been turned OFF and the recommended route is not followed.)
Help	×		Explanation of Navigational functions appear on the Display.

*: When destinations have been entered, route guidance has been turned OFF or destination has been reached, "Route Info." and "Edit Route" are not displayed.

Display with Pushed "SETTING" Switch

The function of each icon is as follows:

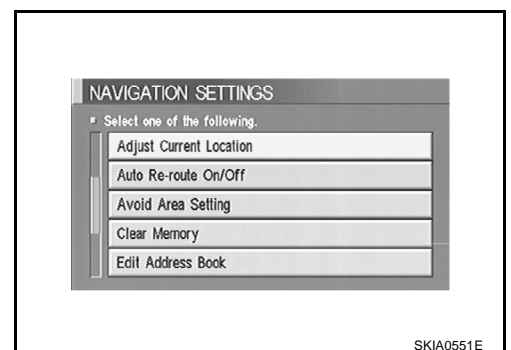


Icon	Description
Audio	Sound quality can be adjusted, and also ON/OFF setting of switch beep sound can be performed. Noise Compensation ON/OFF setting can be performed.
Display	Settings of display can be performed.
Vehicle Electronic Systems	Settings of vehicle electrical equipment can be performed.
Navigation	Settings and adjusting of navigation can be performed.
Short Menus	Easy Mode and Expert Easy Mode can be switched.
Guidance Volume	The volume and/or on/off of voice prompt can be controlled by the joystick.
Help (only easy mode)	Explanation of Navigational Functions Appear on the Display.

Navigation Setting

How To Perform Navigation Setting

1. Start the engine.
2. Push "SETTING" switch.
3. Select "NAVIGATION".



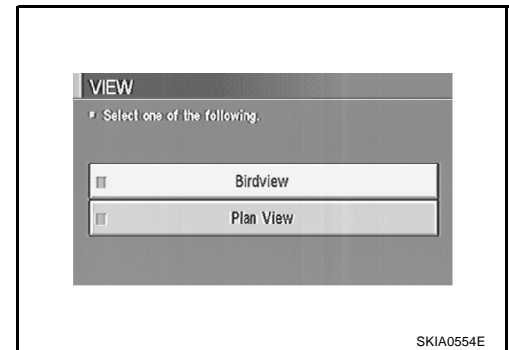
NAVIGATION SYSTEM

Application Items

Icon	Description	Reference page
View	Map display mode can be switched.	AV-40
Heading	Heading of the map display can be customized for either north heading or the actual driving direction of the vehicle.	AV-42
Nearby Display Icons	Icons of facilities can be displayed. Facilities to be displayed can be selected from the variety selections.	AV-42
Save Current Location	Current vehicle location can be registered in Address Book.	AV-41
Adjust Current Location	Current location of position marker can be adjusted. Direction of position marker also can be calibrated when heading direction of the vehicle on the display is not matched with the actual direction.	AV-42
Auto Re-route ON/OFF	ON/OFF of Auto Re-route can be switched.	AV-41
Avoid Area Setting	A particular area can be avoided when routing.	-
Clear Memory	Address Book, Previous destination or Avoid area can be deleted.	AV-43
Edit Address Book	Address Book can be edited.	AV-42
GPS Information	The GPS data includes longitude, latitude and altitude (distance above sea level) of the present vehicle position, and current date and time for the area in which the vehicle is being driven. Also indicated are the GPS reception conditions and the GPS satellite position.	AV-40
Quick Stop Customer Setting	One facility of your selection can be added to your Quick Stop.	AV-41
Set Average speed for Estimated Journey Time	Average vehicle speed can be set to calibrate estimated journey time for the destination.	AV-43
Tracking	Tracking to the present vehicle position can be displayed.	AV-41

“VIEW” MODE

- Select “Bird view™” or “Plan view” icon.
 - To open the map screen display with Bird View™, select “Bird View™”.
 - To open the map screen display with Plan View, select “Plan View”.

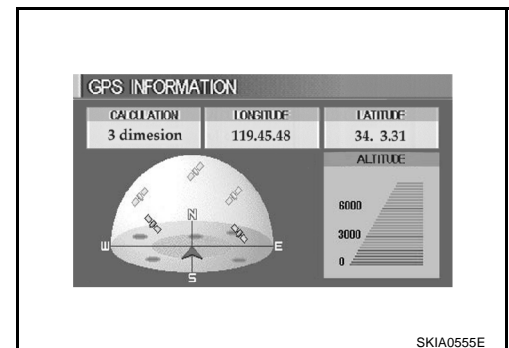


“GPS INFORMATION” MODE

- Latitude, longitude, altitude, astrometric state, and satellite location are displayed as GPS information.

NOTE:

Altitude is displayed only in three-dimensional status.



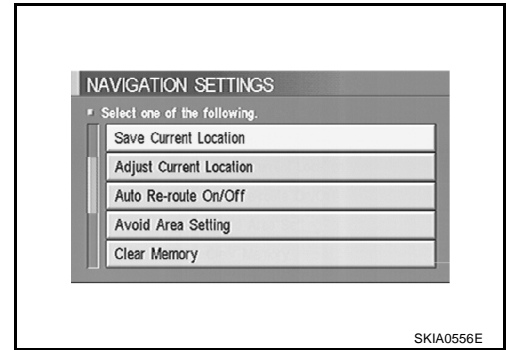
NAVIGATION SYSTEM

“SAVE CURRENT LOCATION” MODE

- The current vehicle location can be registered in “Address Book”.

NOTE:

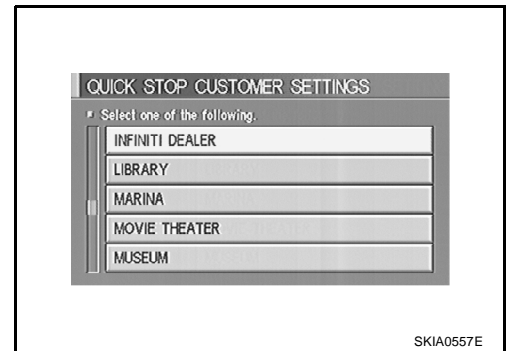
“Address Book” can store 50 items max.



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“QUICK STOP CUSTOMER SETTING” MODE

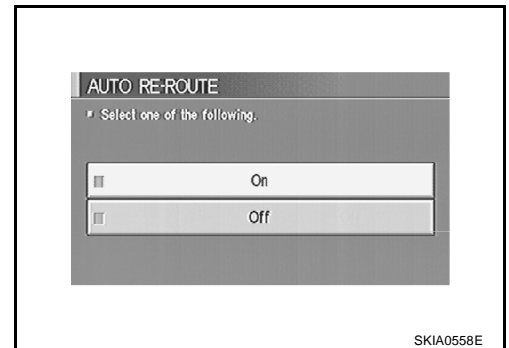
- Select a category for the “Quick Stop” menu.



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“AUTO RE-ROUTE” MODE

- To Perform the auto re-route of route, select “ON”.
- Not to Perform the auto re-route of route, select “OFF”.



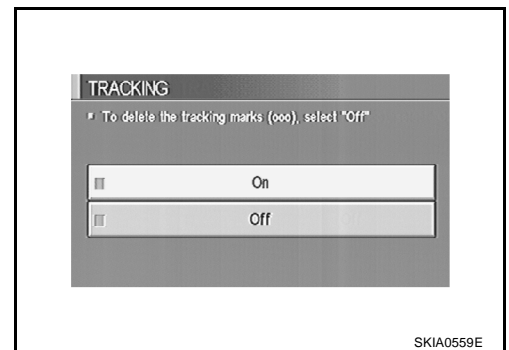
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“TRACKING” MODE

- To leave no trail on the map, select “Off”.
- To leave a trail in the map, select “On”.

NOTE:

When a trail display is turned OFF, trail data is erased from the memory.

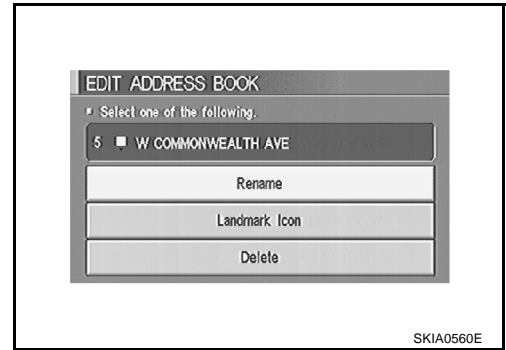


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NAVIGATION SYSTEM

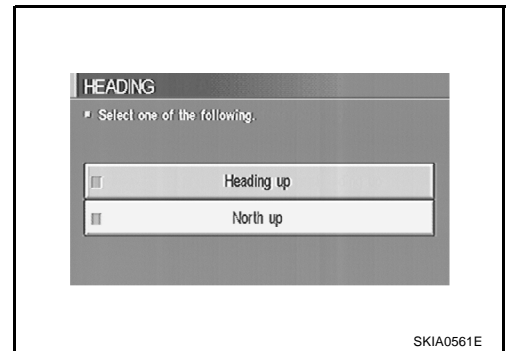
“EDIT ADDRESS BOOK” MODE

- Edit the items registered in Address Book.



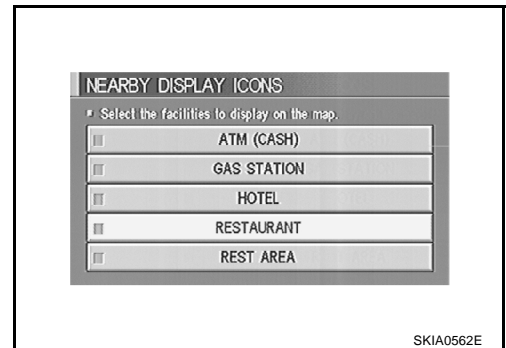
“HEADING” MODE

- To display North up, select “North up”.
- To display the car heading up, select “Heading up”.



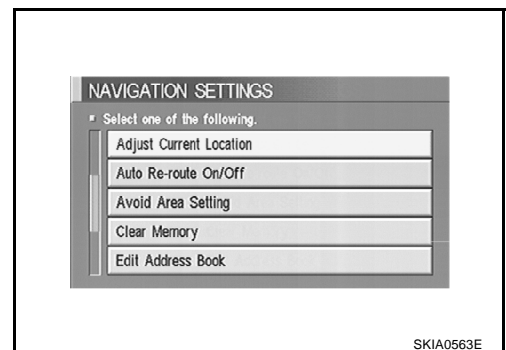
“NEARBY DISPLAY ICONS” MODE

- Select an icon to display on the map screen.



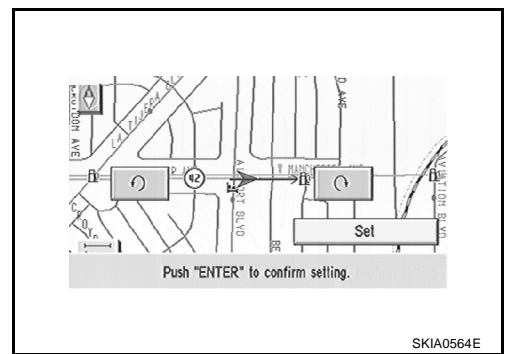
“ADJUST CURRENT LOCATION” MODE

1. Select an icon “right” or “left” to calibrate the heading direction. (Arrow marks will rotate corresponding to the calibration key.)



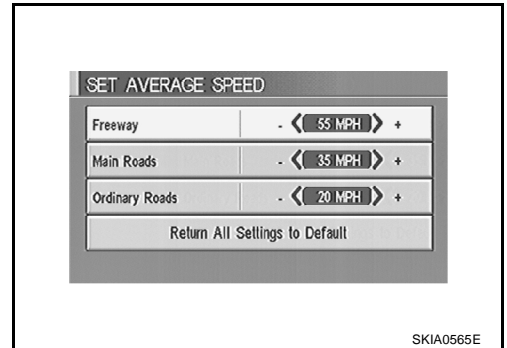
NAVIGATION SYSTEM

- Select "Set". Then the vehicle mark will be matched to the arrow mark.



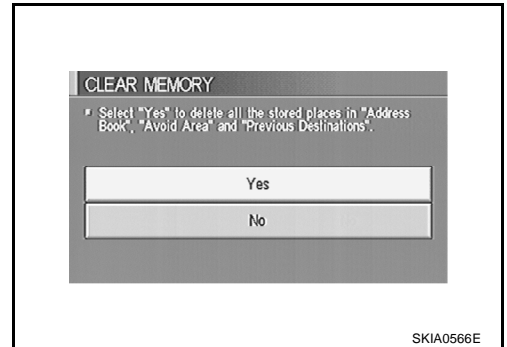
“SET AVERAGE SPEED FOR ESTIMATED JOURNEY TIME” MODE

- Set the average vehicle speed to calibrate the estimated journey time for the destination.
- Set three items; “Freeway”, “Main Roads”, and “Ordinary Roads”.



“CLEAR MEMORY” MODE

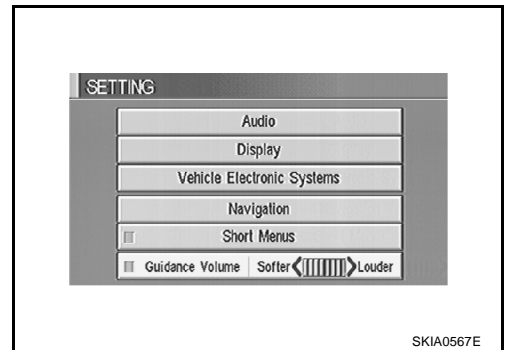
- To delete all the stored places in “Address Book”, “Avoid Area” and “Previous Dest”, select “Yes”.



GUIDE VOLUME SETTING

Description

Following voice guidance setting can be changed.



Activation/Deactivation Setting

- The voice prompt can be turned on/off by pressing the “Guidance Volume” button.

Voice Volume Setting

- Volume of the voice can be controlled by bending the joystick to left/right.

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Precautions for AV and NAVI Control Unit Replacement

EKS001L0

- When replacing the AV and NAVI control unit, eject the map DVD-ROM before disconnecting the battery.
- The AV and NAVI control unit has the following information stored in its memory. Record the memory contents before replacing the control unit, and input them in the new unit as necessary.

<FM-AM>

- **Preset frequency**
- **Area for indicating station, selection of overlapped stations**

<CD>

- **Program status**

<Sound quality>

- **Volume balance memory set values**
- **Equalizer memory set values**

<Image quality>

- **Brightness of light when ON/OFF**
- **Dimming switching**
- **Display color switching**

<Navigation mode>

- **Latest status (map screen/bird view™, reduced scale, rotation angle of map screen, route guide ON/OFF, track ON/OFF, etc.)**
- **Current position**
- **Destination, passing point 1 - 5**
- **Registered places, their names, etc.**

NOTE:

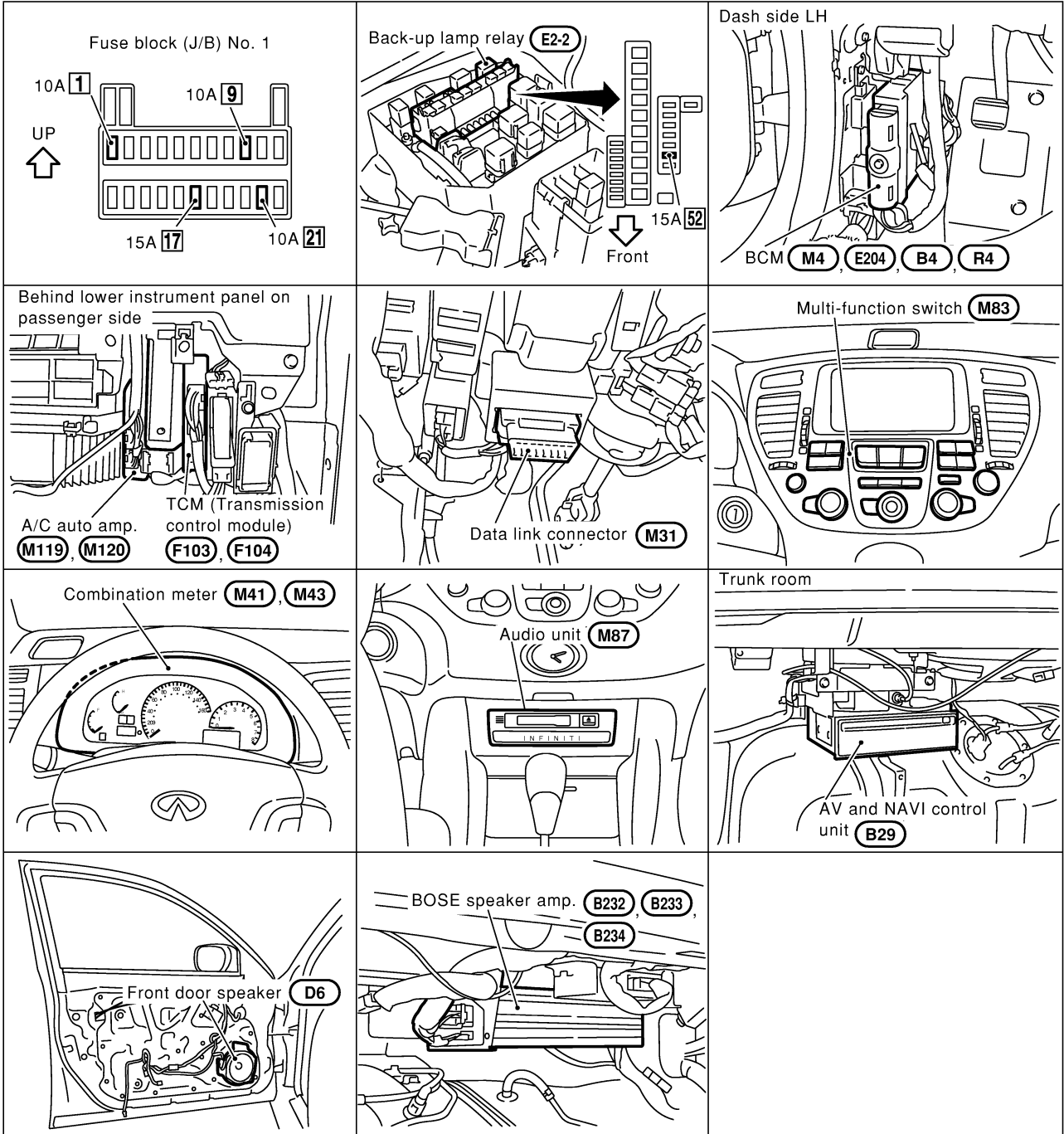
Only removing the battery does not erase the memory.

NAVIGATION SYSTEM

Component Parts Location

EKS001LP

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CKIM0006E

Location of Antenna

EKS001LQ

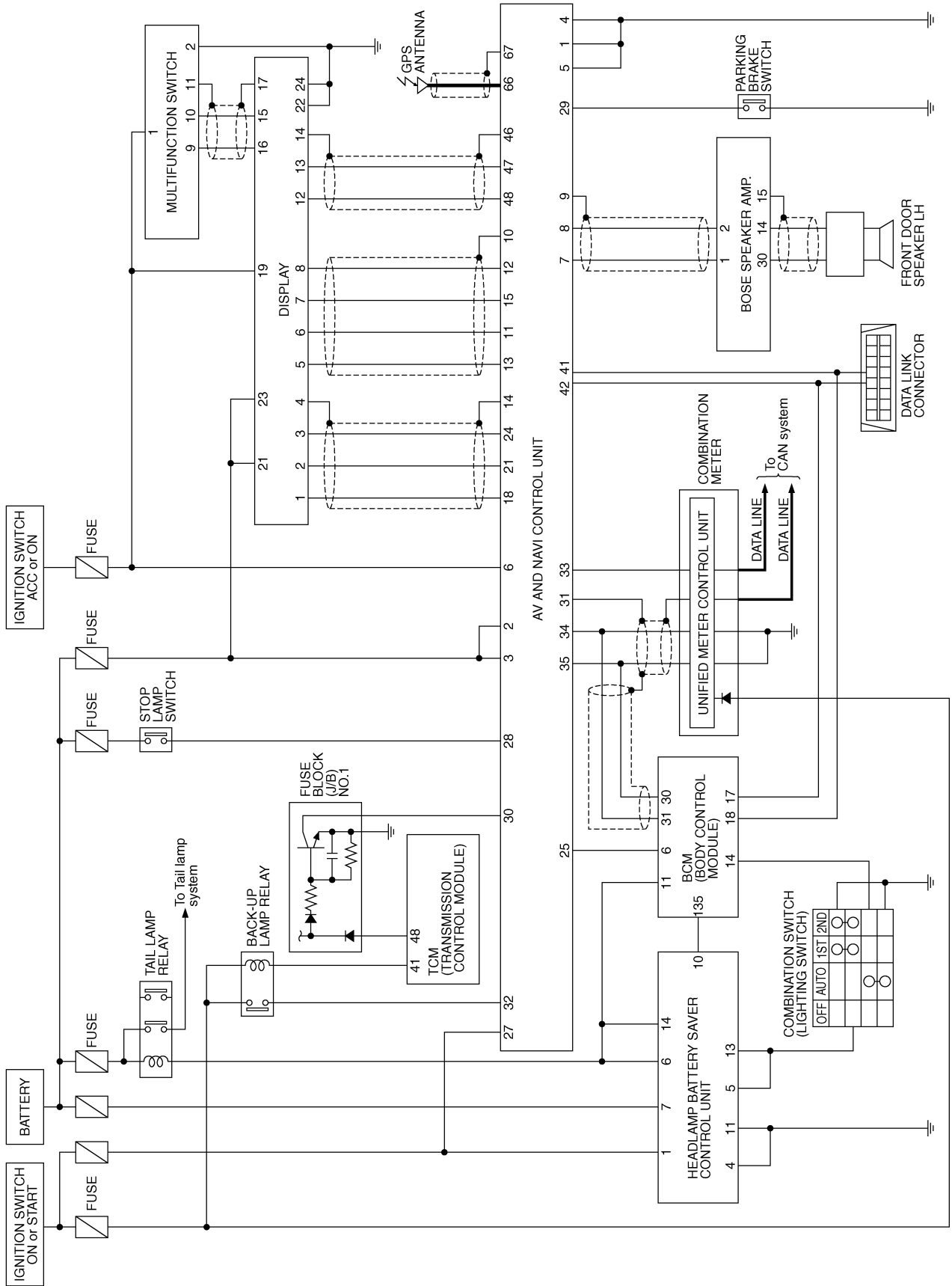
Refer to [AV-31, "Location of Antenna"](#) .

NAVIGATION SYSTEM

Schematic

EKS001LR

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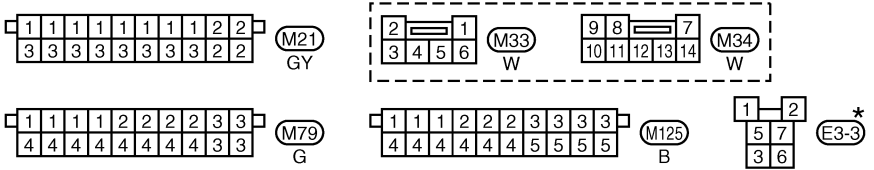
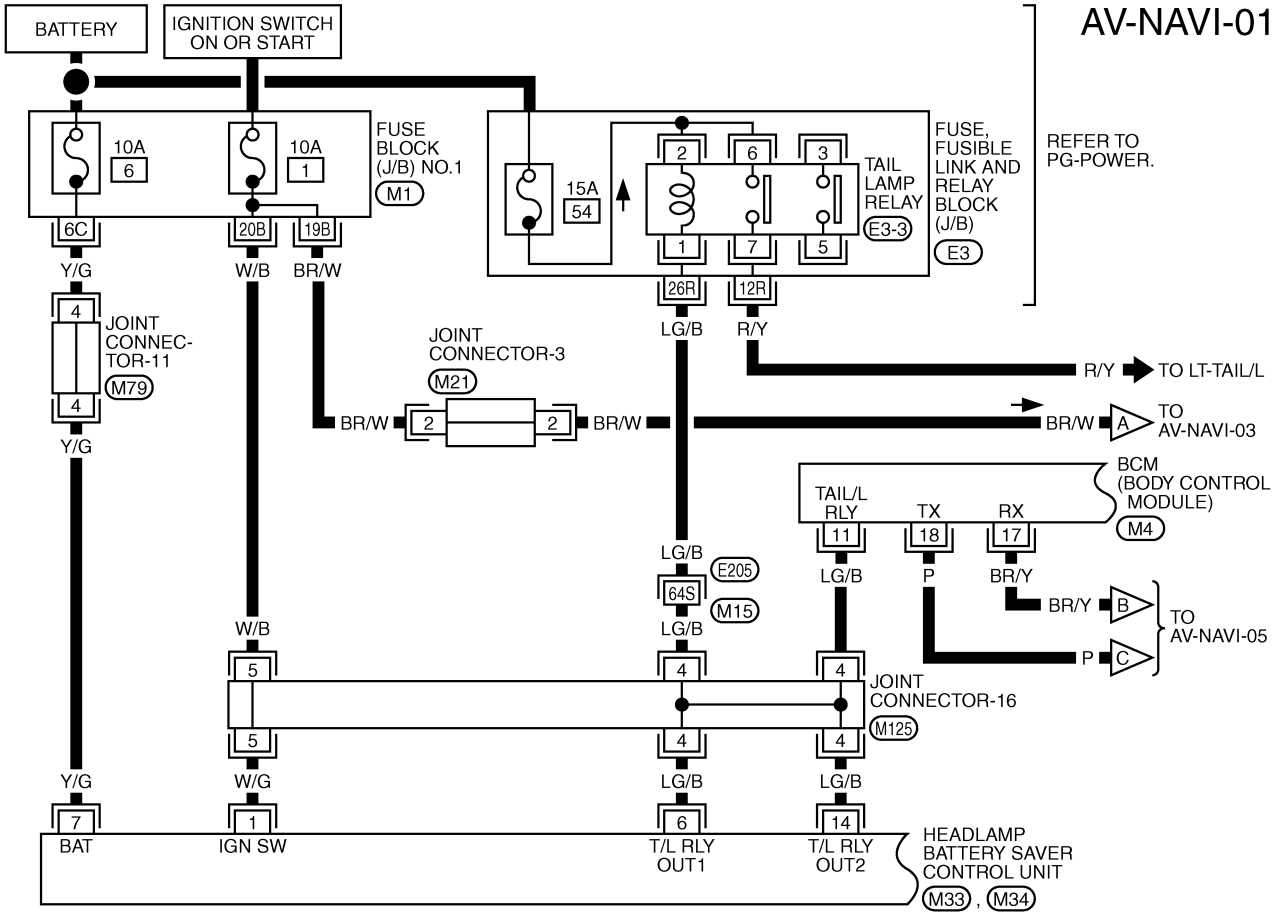
TKWM0158E

NAVIGATION SYSTEM

EKS001LS

Wiring Diagram —NAVI—

AV-NAVI-01



- REFER TO THE FOLLOWING.
- (E205) -SUPER MULTIPLE JUNCTION (SMJ)
 - (M1) -FUSE BLOCK-JUNCTION BOX (J/B) NO.1
 - (E3) -FUSE,FUSIBLE LINK AND RELAY BLOCK (J/B)
 - (M4) -ELECTRICAL UNITS

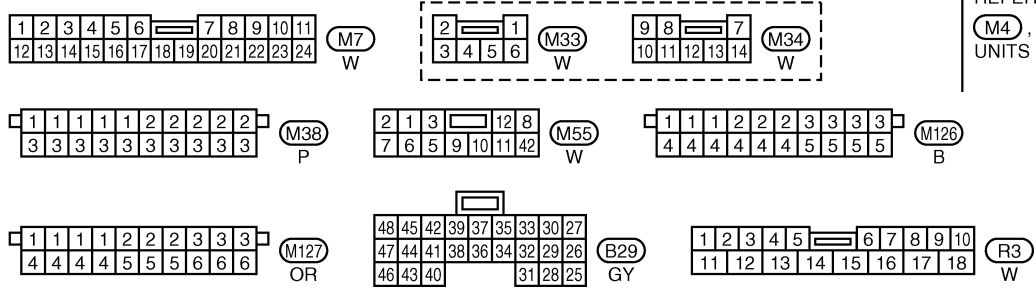
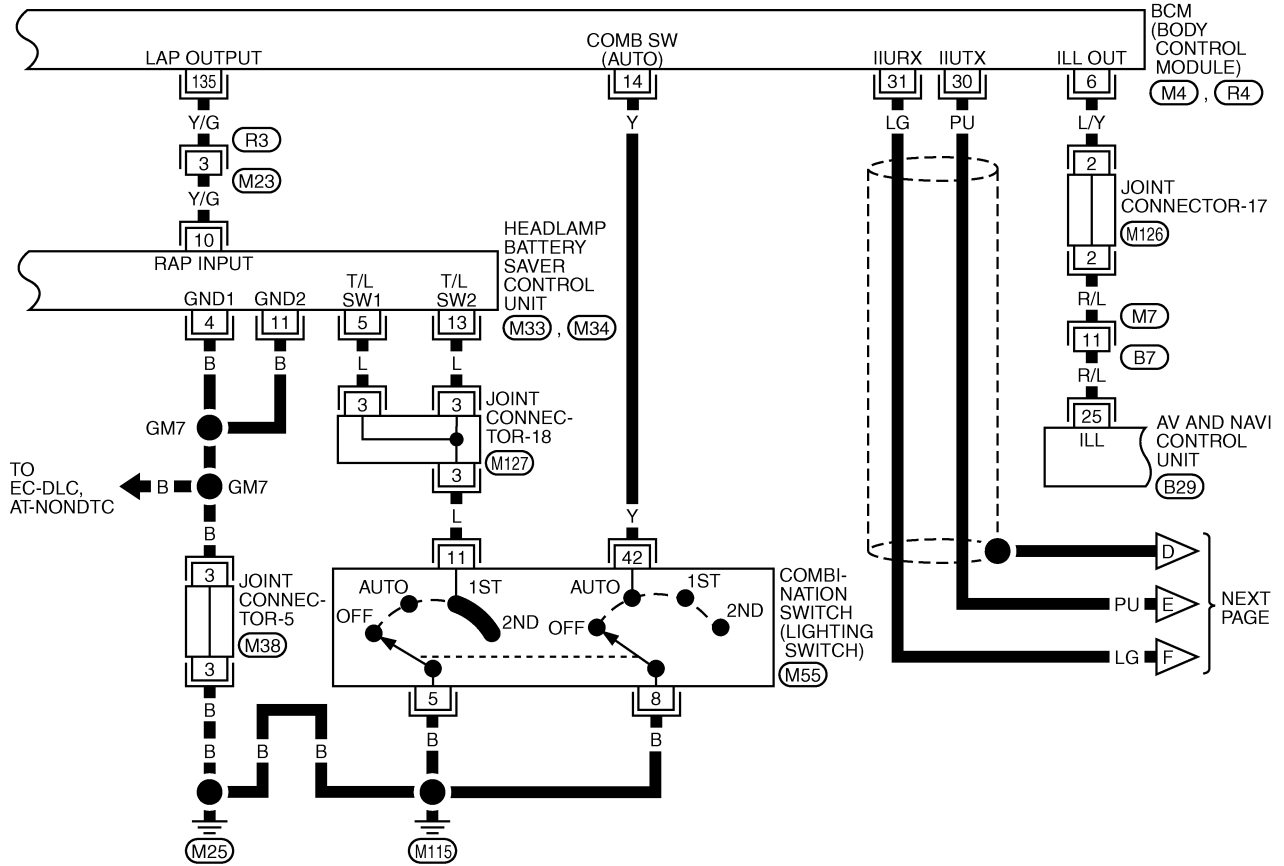
*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

TKWM0159E

NAVIGATION SYSTEM

AV-NAVI-02

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REFER TO THE FOLLOWING.
 (M4), (R4) -ELECTRICAL UNITS

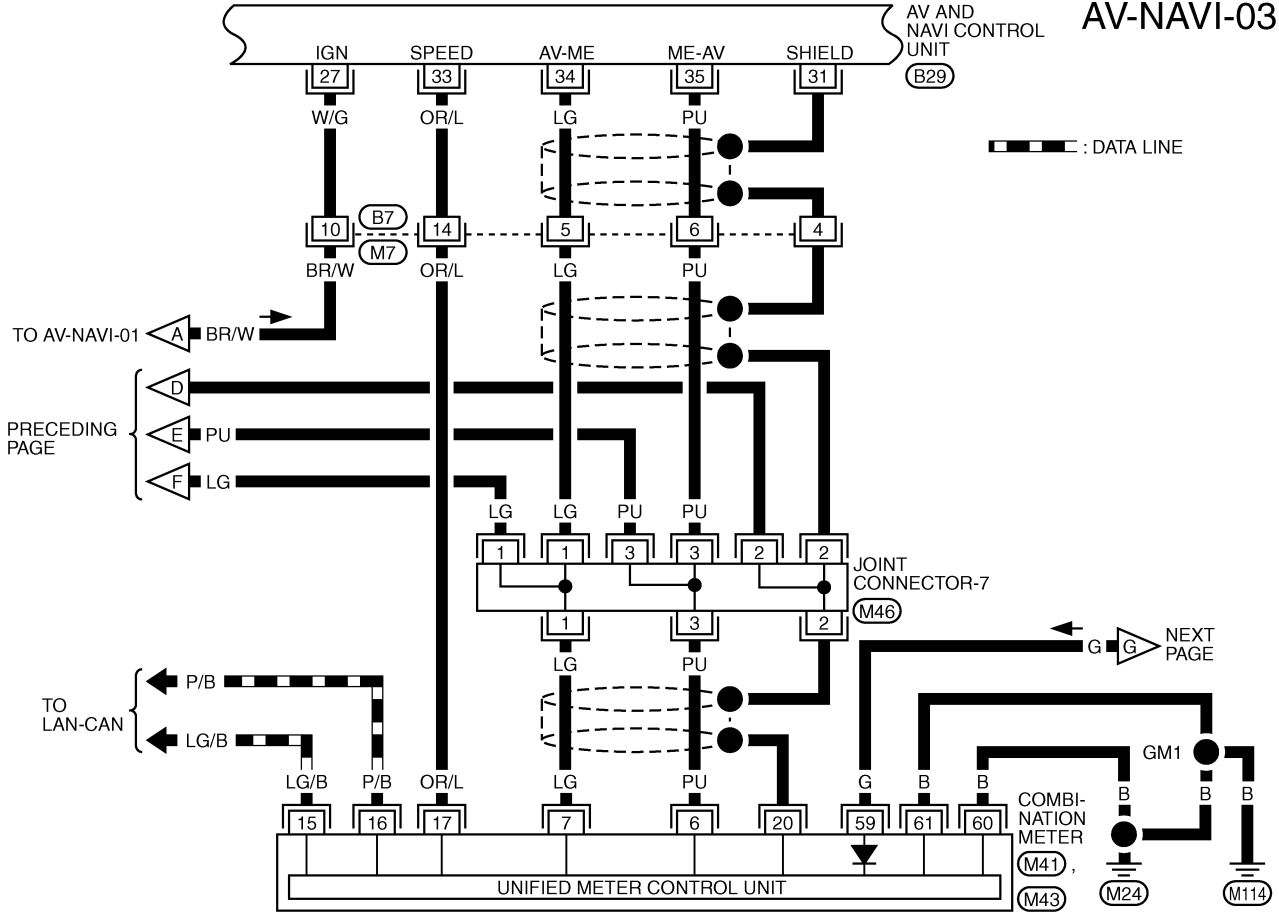
TKWM0160E

NAVIGATION SYSTEM

AV-NAVI-03

AV AND
NAVI CONTROL
UNIT
(B29)

— : DATA LINE



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

(M7) W

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

(M41) BR

45	46	47	48	49	50	51	52	53	54	55		
56	57	58	59	60	61	62	63	64	65	66	67	68

(M43) W

1	1	1	2	2	3	3	3
4	4	4	4	4	5	5	5

(M46) B

48	45	42	39	37	35	33	30	27
47	44	41	38	36	34	32	29	26
46	43	40			31	28	25	

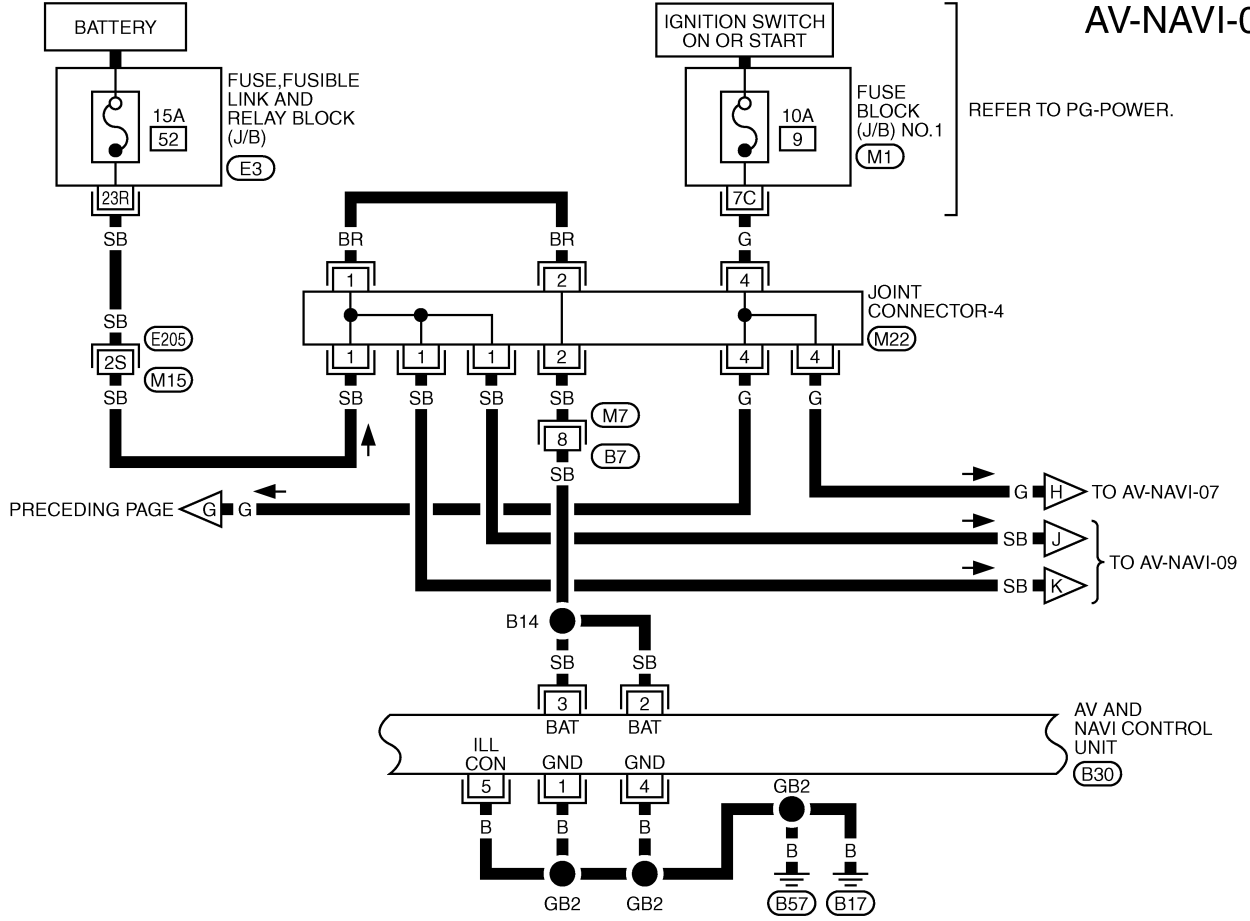
(B29) GY

TKWM0161E

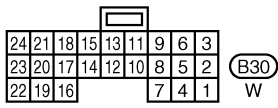
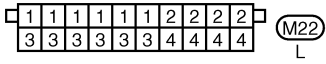
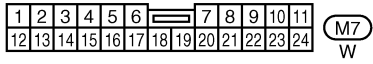
NAVIGATION SYSTEM

AV-NAVI-04

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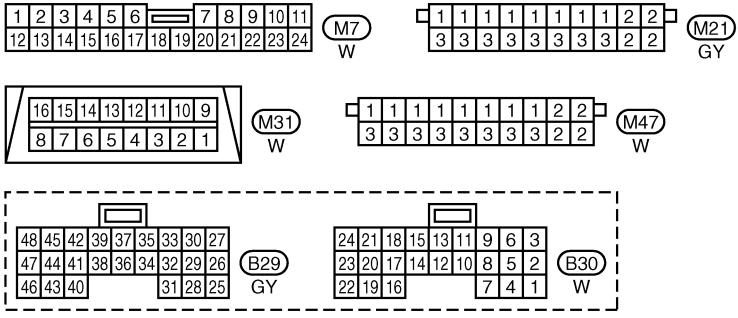
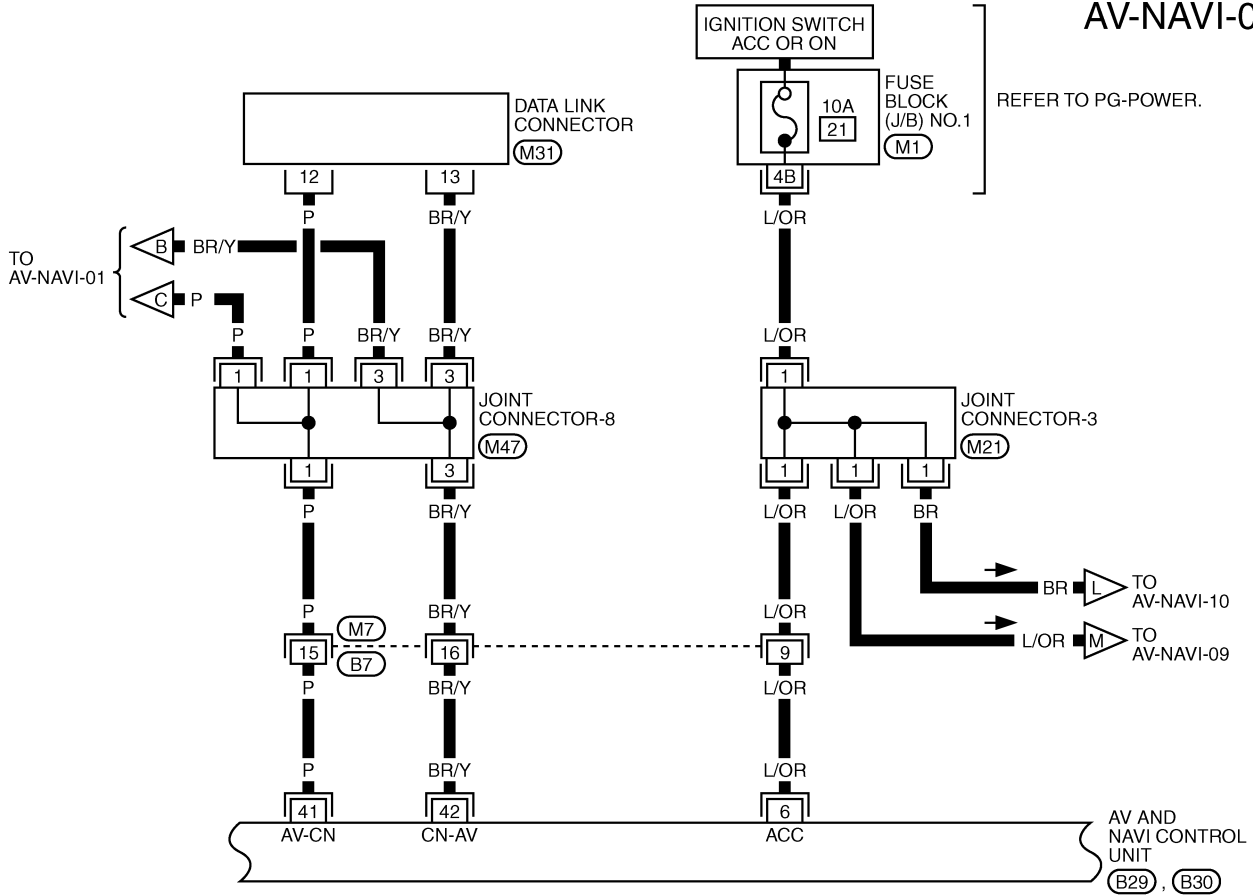


REFER TO THE FOLLOWING.
 (E205) -SUPER MULTIPLE JUNCTION (SMJ)
 (M1) -FUSE BLOCK-JUNCTION BOX (J/B) NO.1
 (E3) -FUSE, FUSIBLE LINK AND RELAY BLOCK (J/B)



NAVIGATION SYSTEM

AV-NAVI-05

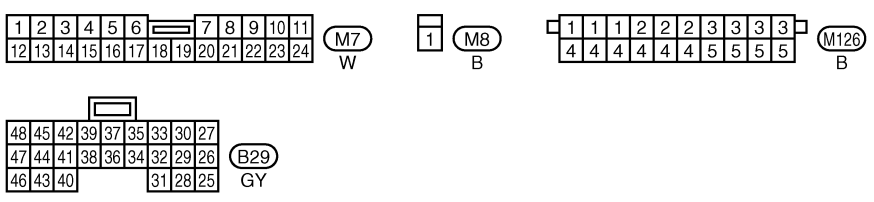
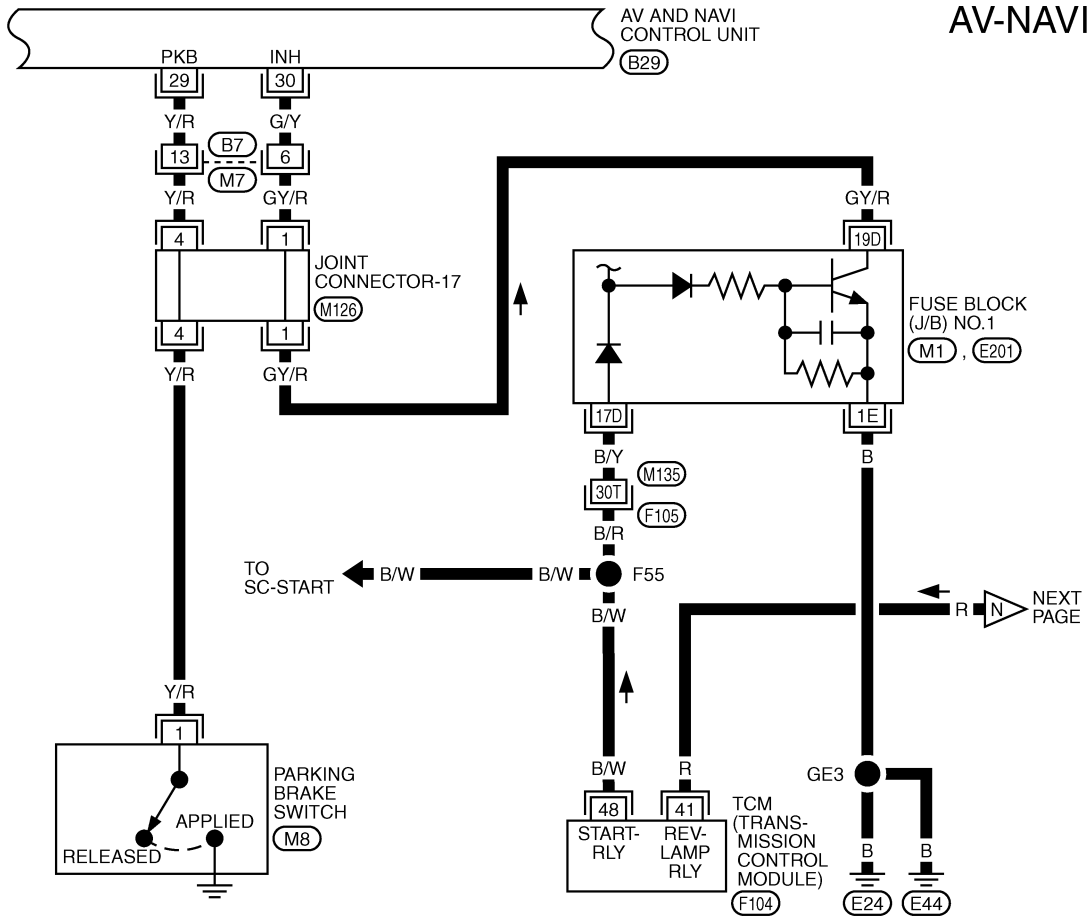


REFER TO THE FOLLOWING.
 (M1) - FUSE BLOCK-JUNCTION BOX (J/B) NO.1

TKWM0163E

NAVIGATION SYSTEM

AV-NAVI-06

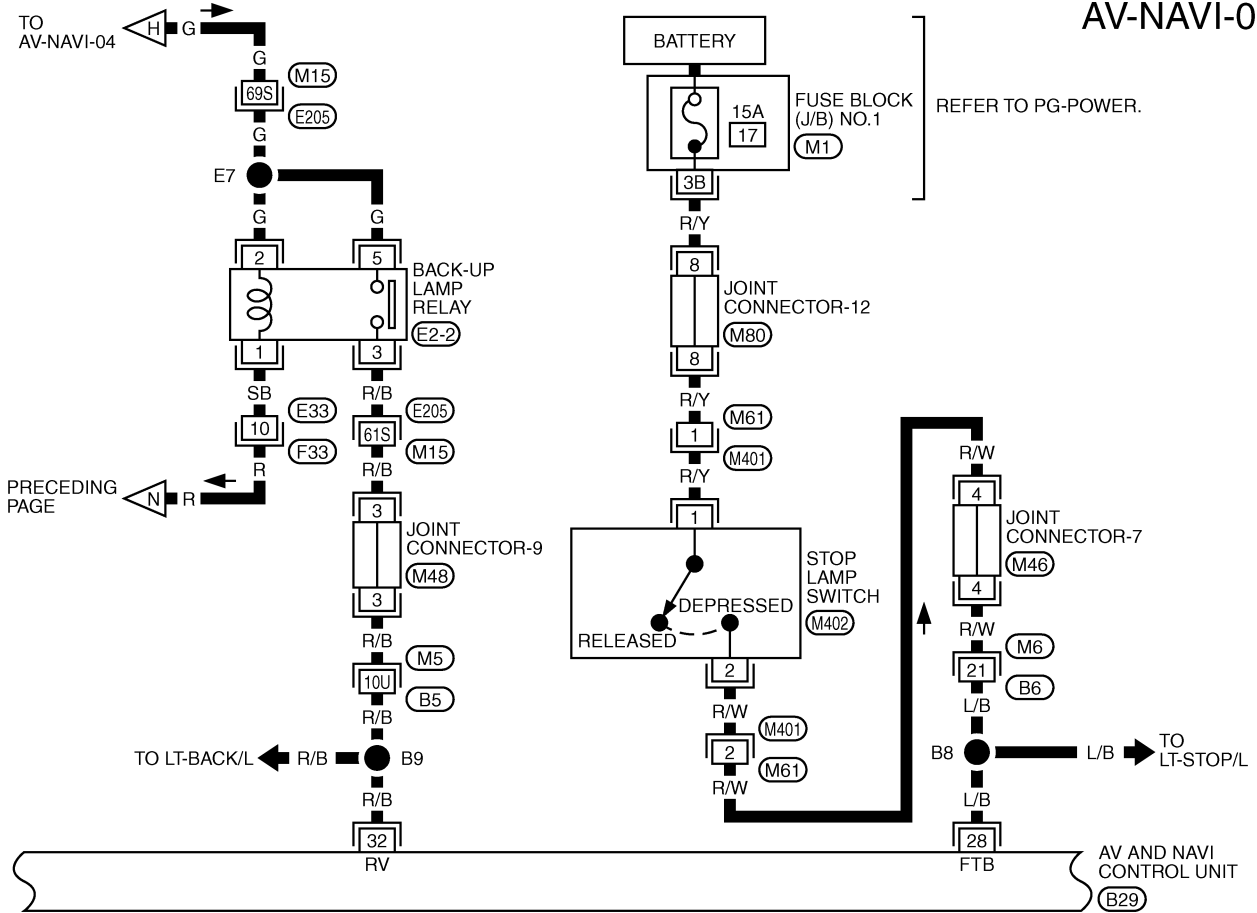


REFER TO THE FOLLOWING.
 (F105) -SUPER MULTIPLE JUNCTION (SMJ)
 (M1), (E201) -FUSE BLOCK-JUNCTION BOX (J/B) NO.1
 (F104) -ELECTRICAL UNITS

TKWM0164E

NAVIGATION SYSTEM

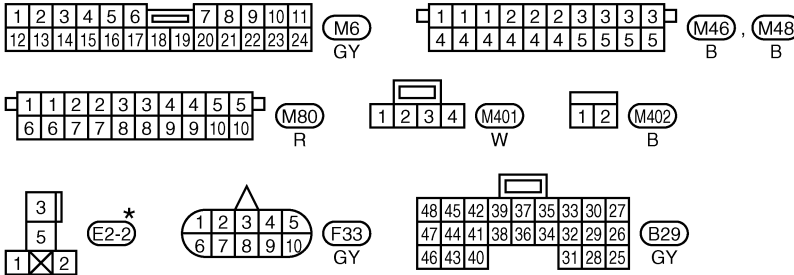
AV-NAVI-07



REFER TO PG-POWER.

REFER TO THE FOLLOWING.

- (M5, E205) -SUPER MULTIPLE JUNCTION (SMJ)
- (M1) -FUSE BLOCK-JUNCTION BOX (J/B) NO.1

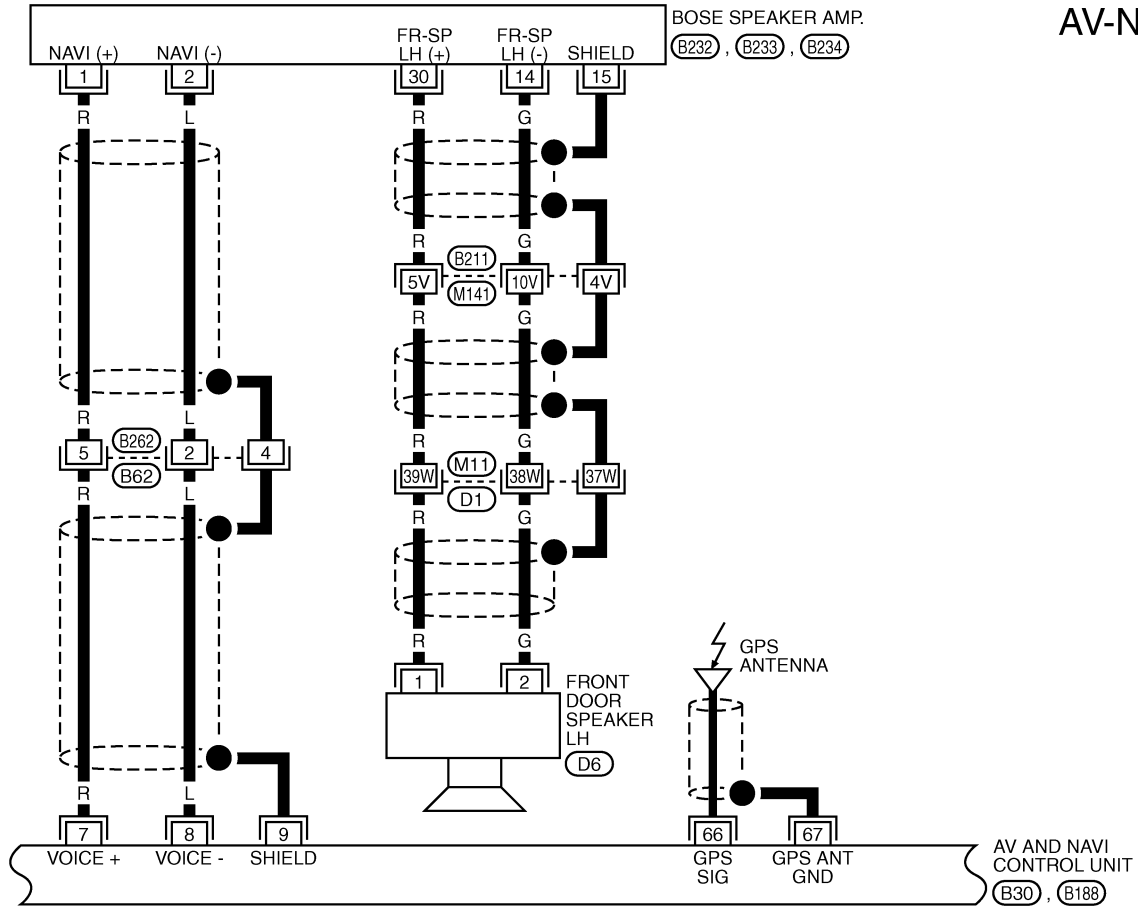


*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

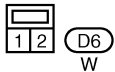
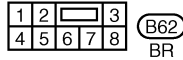
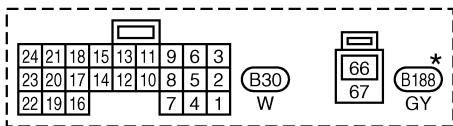
TKWM0165E

NAVIGATION SYSTEM

AV-NAVI-08



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

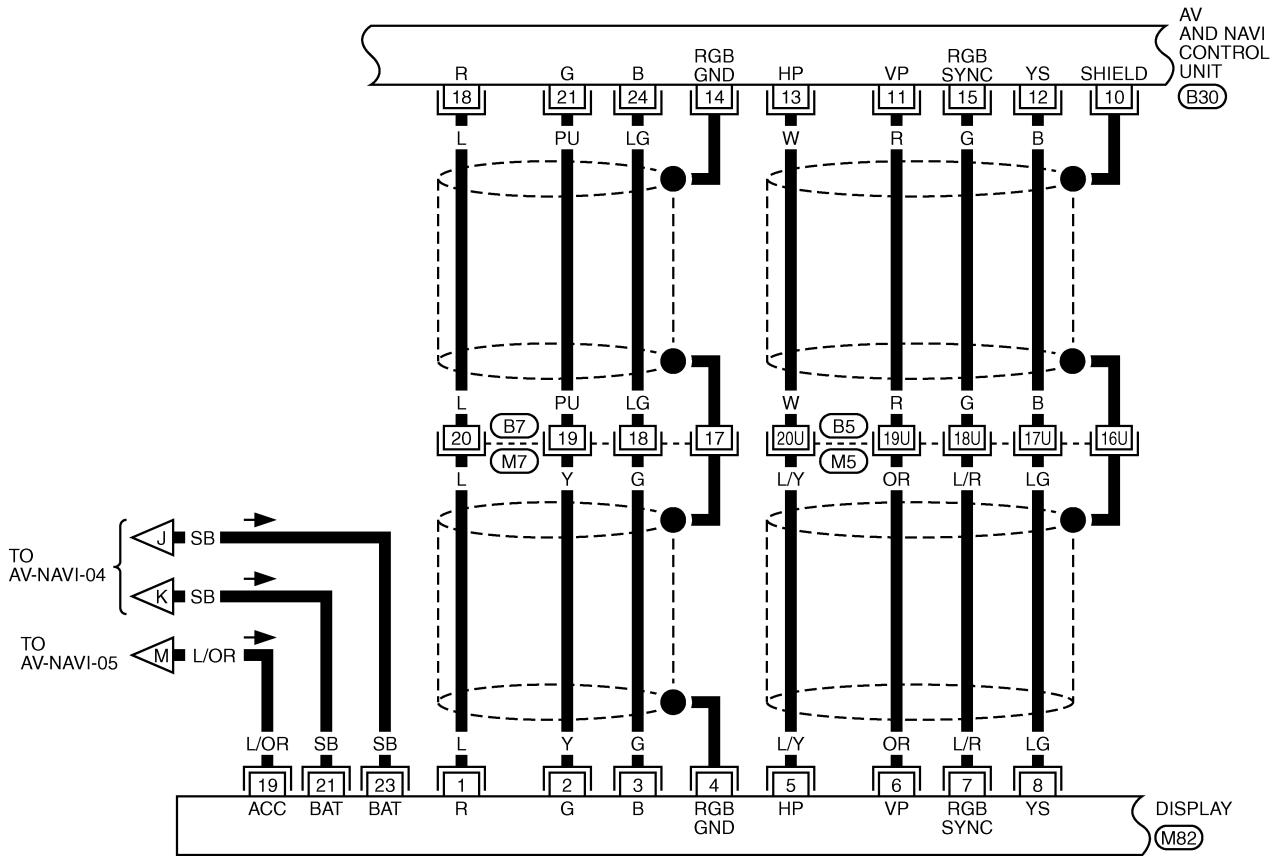
REFER TO THE FOLLOWING.

(B211), (D1) -SUPER MULTIPLE JUNCTION (SMJ)

AV

NAVIGATION SYSTEM

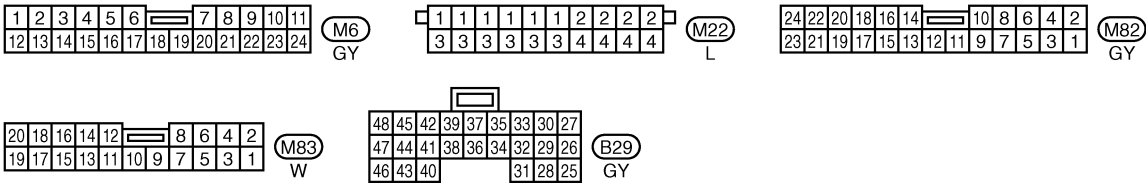
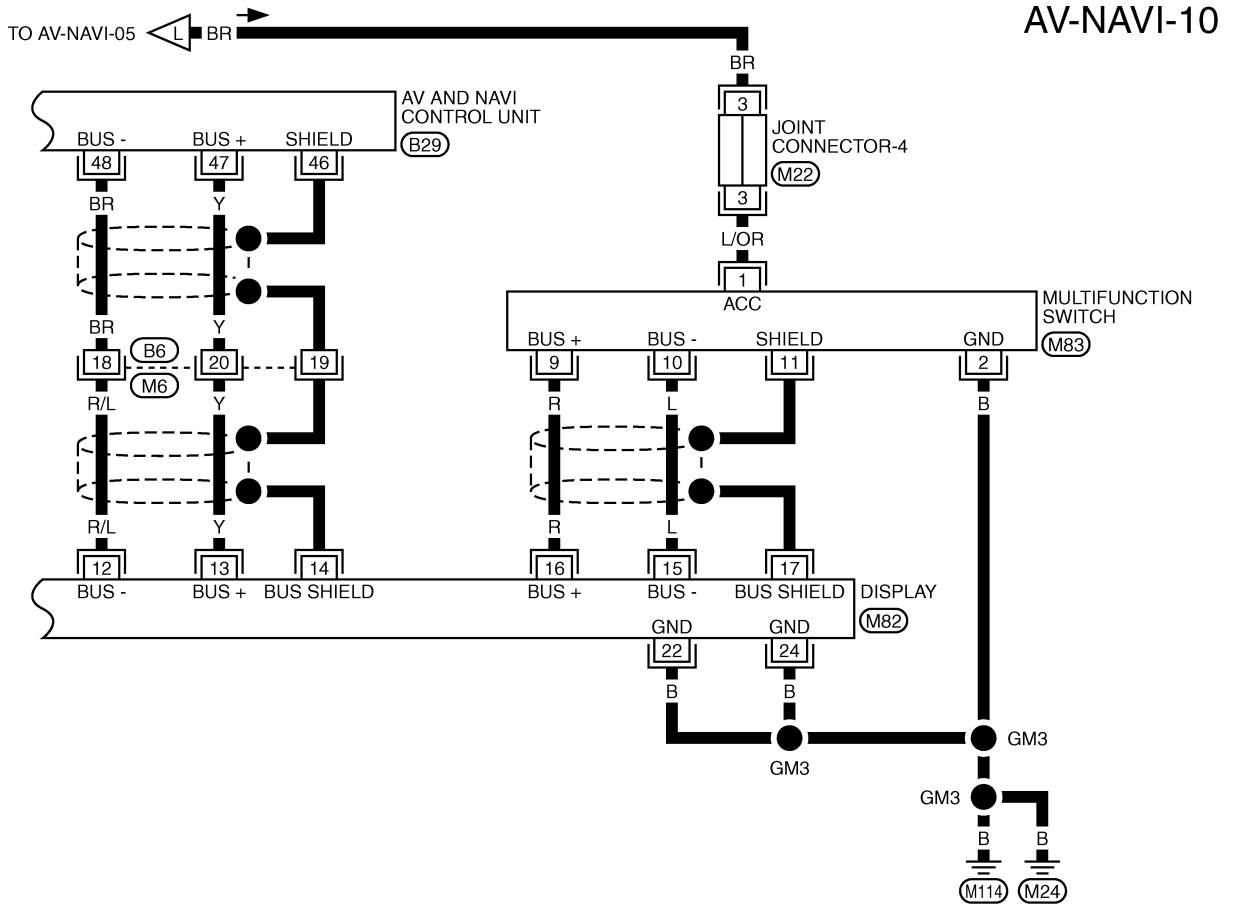
AV-NAVI-09



REFER TO THE FOLLOWING.
 (M5) -SUPER MULTIPLE JUNCTION (SMJ)

TKWM0168E

NAVIGATION SYSTEM



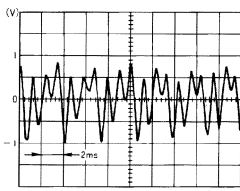
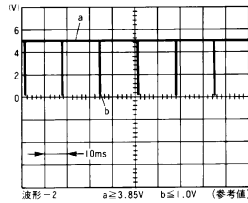
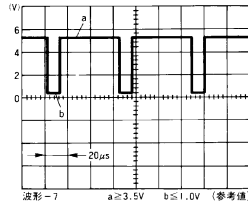
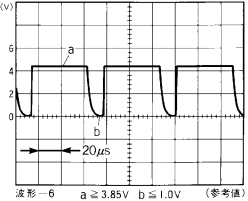
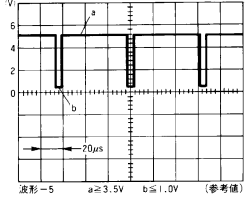
TKWM0169E

Terminals and Reference Value for AV and NAVI Control unit

EKS001LT

Terminal No. (wire color)		Item	Signal input/output	Condition		voltage	Example of symptom
+	-			Ignition switch	Operation		
1 (B)	ground	Ground	-	ON	-	Approx. 0 V	-
2 (SB)	ground	Battery power	Input	OFF	-	Battery voltage	System does not work properly.
3 (SB)				ON	-	Approx. 0 V	

NAVIGATION SYSTEM

Terminal No. (wire color)		Item	Signal input/output	Condition		voltage	Example of symptom
+	-			Ignition switch	Operation		
5 (B)	ground	Illumination ground	-	ON	-	Approx. 0 V	-
6 (L/OR)	ground	ACC signal	Input	ACC	-	Battery voltage	System does not work properly.
7 (R)	8 (L)	voice guide signal	Output	ON	Press the "voice" switch.	 SKIA0171J	Only route guide and operation guide are not heard.
9	-	Shield ground	-	-	-	-	-
10	ground	RGB Ground	-	ON	-	Approx. 0 V	-
11 (R)	10	Vertical synchronizing signal	Input	ON	-	 波形-2 a ≥ 3.85V b ≤ 1.0V (参考値) SKIA0161J	Superimposed screen is rolling.
12 (B)	10	RGB area signal	Output	ON	Press the "info" switch.	 波形-7 a ≥ 3.5V b ≤ 1.0V (参考値) SKIA0162J	RGB screen is not shown.
13 (W)	10	Horizontal synchronizing signal	Input	ON	Select "Rearview" in "CONFIRMATION/ADJUSTMENT" mode and display the rear view picture on the screen.	 波形-6 a ≥ 3.85V b ≤ 1.0V (参考値) SKIA0163J	RGB screen is not shown.
15 (G)	10	RGB synchronizing signal	Output	ON	Press the "MAP" switch.	 波形-5 a ≥ 3.5V b ≤ 1.0V (参考値) SKIA0164J	RGB screen is rolling.

NAVIGATION SYSTEM

Terminal No. (wire color)		Item	Signal input/output	Condition		voltage	Example of symptom
+	-			Ignition switch	Operation		
18 (L)	14	RGB signal (R: red)	Output	ON	Select "SCREEN ADJUSTMENT" of CONFIRMATION/ADJUSTMENT function.		RGB screen looks bluish.
21 (PU)	14	RGB signal (G: green)	Output	ON	Select "SCREEN ADJUSTMENT" of CONFIRMATION/ADJUSTMENT function.		RGB screen looks reddish.
24 (LG)	14	RGB signal (B: blue)	Output	ON	Select "SCREEN ADJUSTMENT" of CONFIRMATION/ADJUSTMENT function.		RGB screen looks yellowish.
25 (R/L)	ground	Illumination control signal	Input	ON	Optical sensor is exposed to light.	Approx. 3.5V or more	Screen does not switch between daytime mode and nighttime mode.
					Optical sensor is not exposed to light.	Approx. 1.5V or less	
27 (W/G)	ground	Ignition signal	Input	ON	-	Battery voltage	A/C operation is not possible. Vehicle information setting is not possible.
28 (L/B)	ground	Brake signal	Input	OFF	Depress brake pedal.	Battery voltage	Vehicle running/stopped judgment is not correct.
					Release the brake pedal.	Approx. 3.0V or less	
29 (Y/R)	ground	Parking Brake signal	Input	ON	Parking brake pedal is depressed.	Approx. 1.5V or less	Vehicle running/stopped judgment is not correct.
					Parking brake pedal is not depressed.	Approx. 3.5V or more	
30 (G/Y)	ground	Park/neutral position (PNP) signal	Input	ON	AT selector lever in P- or N-position	Approx. 1.5V or less	Vehicle running/stopped judgment is not correct.
					AT selector lever in any position other than P and N	Approx. 3.5V or more	
31	-	Shield ground	-	-	-	-	-

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NAVIGATION SYSTEM

Terminal No. (wire color)		Item	Signal input/output	Condition		voltage	Example of symptom
+	-			Ignition switch	Operation		
32 (R/B)	ground	Reverse signal	Input	ON	AT selector lever in R-position	Battery voltage	The navigation current-location mark moves strangely when the vehicle is moving backwards.
					AT selector lever not in R-position	Approx. 3.0V or less	
33 (OR/L)	ground	Vehicle speed signal (8-pulse)	Input	ON	When vehicle speed is approx. 40 km/h (25MPH)		Navigation current-location mark does not indicate the correct position.
34 (LG)	ground	Communication signal (AV - ME)	Output	ON	Display the vehicle information screen.		Clock cannot be adjusted. Vehicle information screen is not shown.
35 (PU)	ground	Communication signal (ME - AV)	Input	ON	Perform various settings on the vehicle information screen.		Clock cannot be adjusted. Vehicle information screen is not shown.
41 (P)	ground	CONSULT-II communication signal (AV - CN)	Output	ON	Perform CONSULT-II.		Diagnosis with CONSULT-II is not possible.
42 (BR/Y)	ground	CONSULT-II communication signal (CN - AV)	Input	ON	Perform CONSULT-II.		Diagnosis with CONSULT-II is not possible.
43 (R)	ground	A/C communication signal (AV - AC)	Output	ON	-		A/C operation is not possible.

NAVIGATION SYSTEM

Terminal No. (wire color)		Item	Signal input/output	Condition		voltage	Example of symptom
+	-			Ignition switch	Operation		
44 (W)	ground	A/C communication signal (AV - AC)	Input	ON	-		A/C status is not indicated correctly.
45 (B)	ground	A/C clock signal	Input	ON	-		A/C status is not indicated correctly.
46	-	Shield ground	-	-	-	-	-
47 (Y)	ground	Communication signal (+)	Input/output	ON	-		System does not work properly.
48 (BR)	ground	Communication signal (-)	Input/output	ON	-		System does not work properly.
49 (LG)	ground	Communication signal (+)	Input/output	ON	-		System does not work properly.
50 (PU)	ground	Communication signal (-)	Input/output	ON	-		System does not work properly.

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NAVIGATION SYSTEM

Terminal No. (wire color)		Item	Signal input/output	Condition		voltage	Example of symptom
+	-			Ignition switch	Operation		
51	-	Shield	-	-	-	-	-
66	67	GPS signal	Input	ON	Connector is not connected.	Approx. 5 V	Navigation system GPS correction is not possible.

On Board Self-Diagnosis Function (without CONSULT-II) DESCRIPTION

EKS001LU

- Diagnosis function consists of the self-diagnosis mode performed automatically and the CONFIRMATION/ADJUSTMENT mode operated manually.
- Self-diagnosis mode checks for connections between the units constituting this system, analyzes each individual unit at the same time, and displays the results on the LCD screen.
- CONFIRMATION/ADJUSTMENT mode is used to perform trouble diagnosis that require operation and judgment by an operator (trouble that cannot be automatically judged by the system), to check/change the set value, and to display the History of Errors of the navigation system.

DIAGNOSIS ITEM

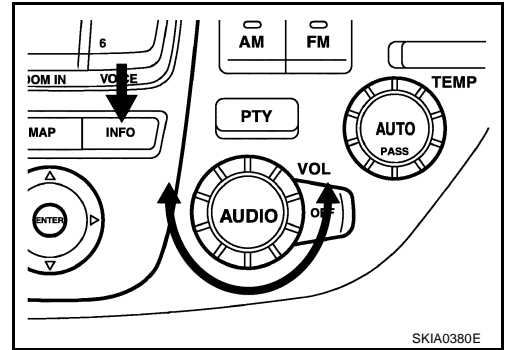
Mode		Description	
Self-diagnosis		<ul style="list-style-type: none"> ● AV and NAVI Control unit diagnosis (DVD-ROM drive will not be diagnosed when no map DVD-ROM is in it.). ● Analyzes connection between the AV and NAVI control unit and the GPS antenna connection between the AV and NAVI control unit and each unit, and operation of each unit. 	
CONFIRMATION/ ADJUSTMENT	Display diagnosis	Color tone and shading of the screen can be checked by the display of a color bar and a gray scale.	
	Vehicle signals	Analyzes the following vehicle signals: Vehicle speed signal, parking brake signal, light signal, ignition switch signal, and reverse signal.	
	Speaker Test	Checks the connection of each speaker using a test tone.	
	Auto Climate Control	Turns all A/C screens on display and A/C switch indicator lamp on.	
	Navigation	Display Longitude & Latitude	Display the map. Use the joystick to adjust position. Longitude and latitude will be displayed.
		Speed Calibration	Under ordinary conditions, the navigation system distance measuring function will automatically compensate for minute decreases in wheel and tire diameter caused by tire wear or low pressure. Speed calibration immediately restores system accuracy in cases such as when distance calibration is needed because of the use of tire chains in inclement weather.
		Angle adjustment	Corrects difference between actual turning angle of a vehicle and turning angle of the car mark on the display.
		Initialize Location	This mode is for initializing the current location. Use when the vehicle is transported a long distance on a trailer, etc.
History of Errors		Diagnosis results previously stored in the memory (before turning ignition switch ON) are displayed in this mode. Time and location when/where the errors occurred are also displayed.	
Rear view camera		Changes position of the aiming line overlapped on the rear view image.	

NAVIGATION SYSTEM

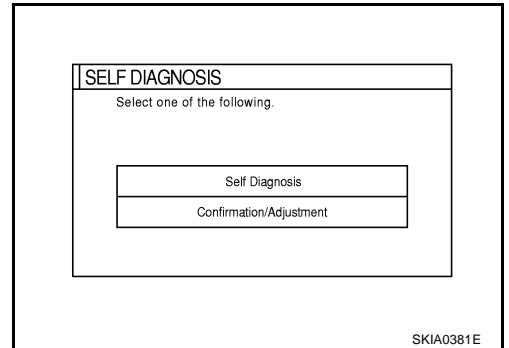
EKS001LV

Self-Diagnosis Mode OPERATION PROCEDURE

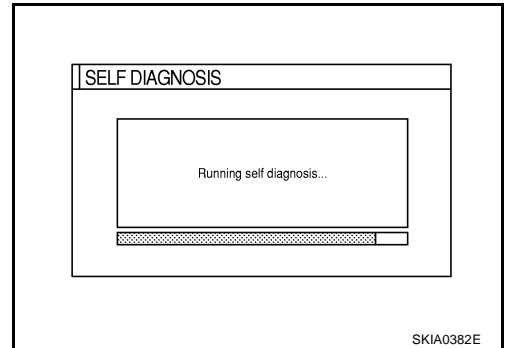
1. Start the engine.
2. Turn the audio system off.
3. While pressing the "INFO" switch, turn the volume control dial clockwise or counterclockwise for 30 clicks or more. (When the self-diagnosis mode is started, a short beep will be heard.)
 - Shifting from current screen to previous screen is performed by pressing "PREV" switch.



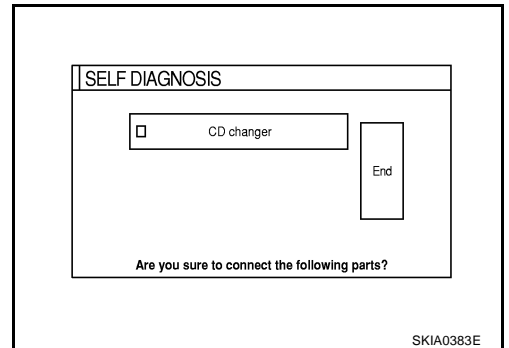
4. The initial trouble diagnosis screen will be shown, and items "SELF-DIAGNOSIS" and "CONFIRMATION/ADJUSTMENT" will become selective.



5. Perform self-diagnosis by selecting the "SELF-DIAGNOSIS".
 - Self-diagnosis subdivision screen will be shown and the operation enters the self-diagnosis mode.
 - A bar graph shown below the self-diagnosis subdivision screen indicates progress of the diagnosis.



6. When the self-diagnosis completes, optional part confirmation screen will be shown.
 - When connection of an optional part is judged faulty, a screen to check if the optional part is actually fitted on the vehicle or not will be shown. When fitted, select the switch of the part on the screen and press "END". Then the "Self diagnosis" screen will be shown.
 - When the optional part is connected normally, the switch for the part will not appear on the screen.



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NAVIGATION SYSTEM

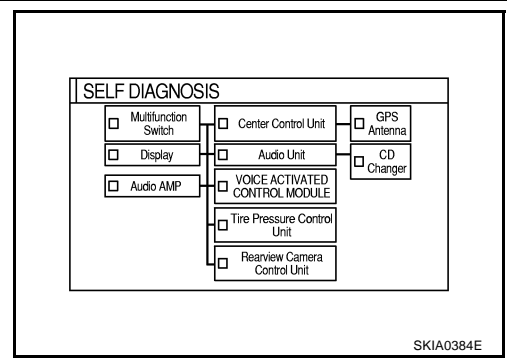
7. On the "Self diagnosis" screen, each unit name will be colored according to the diagnosis result, as follows.

- Green** : No malfunctioning.
- Yellow** : Cannot be judged by self-diagnosis results.
- Red** : Unit is malfunctioning.
- Gray** : Diagnosis has not been done.

● If several malfunctions are present in a unit, color of its switch on the screen will be either red, yellow, or gray, determined by the malfunction of the highest priority.

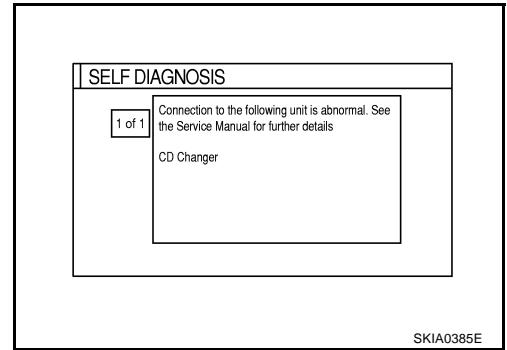
CAUTION:

"Tire Pressure Control Unit" on the screen will be illuminated in yellow when performing self-diagnosis with ignition switch in ACC position.



8. Select a switch on the "Self diagnosis" screen and comments for the diagnosis results will be shown.

- When the switch is green, the following comment will be shown. "Self-diagnosis was successful. Further diagnosis and adjustments are recommended. Follow the "confirmation and adjustments" menu or refer to the service manual."
- When the switch is yellow, the following comment will be shown. "Connection to the following unit is abnormal. See the service manual for further details".
- When the switch is red, the following comment will be shown. "Center Control Unit is abnormal".
- When the switch is gray, the following comment will be shown. "Self-diagnosis for DVD-ROM DRIVER of NAVI was not conducted because no DVD-ROM was available."



SELF-DIAGNOSIS RESULT

Quick Reference Table

1. Select an applicable diagnosis No. in the diagnosis result quick reference table.
2. Find estimated malfunctioning system in the diagnosis No. table and perform check by referring to the AV communication line circuit diagram.
3. Turn the ignition switch to OFF and perform self-diagnosis again.

Screen switch											Diagnosis No.
Switch color	Center Control unit*	Display	Multifunction Switch	Tire pressure control unit	Audio Unit	CD auto Changer	Audio Amp.	Rear-view Camara Control Unit	Voice Activated Control Module	GPS antenna	
Red	×										1
Grey	×										2

NAVIGATION SYSTEM

Screen switch											Diagnosis No.	
Switch color	Center Control unit*	Display	Multifunction Switch	Tire pressure control unit	Audio Unit	CD auto Changer	Audio Amp.	Rear-view Camara Control Unit	Voice Activated Control Module	GPS antenna		
Yellow	×	×									3	
	×		×								4	
	×			×							5	
	×					×	×				6	
							×				7	
	×							×			8	
	×								×		9	
	×									×	10	
	×										×	11
	×							×	×			12
	×					×	×	×	×			13
	×			×	×	×	×	×	×			14
	×	×	×	×	×	×	×	×	×			15
×	×	×	×	×	×	×	×	×	×		16	

*: Center Control unit = AV and NAVI control unit

CAUTION:

When an error is in the AV communication line, it cannot be detected on the screen because self-diagnosis is inoperative. However, the error can be detected with CONSULT-II.

Self-Diagnosis Codes

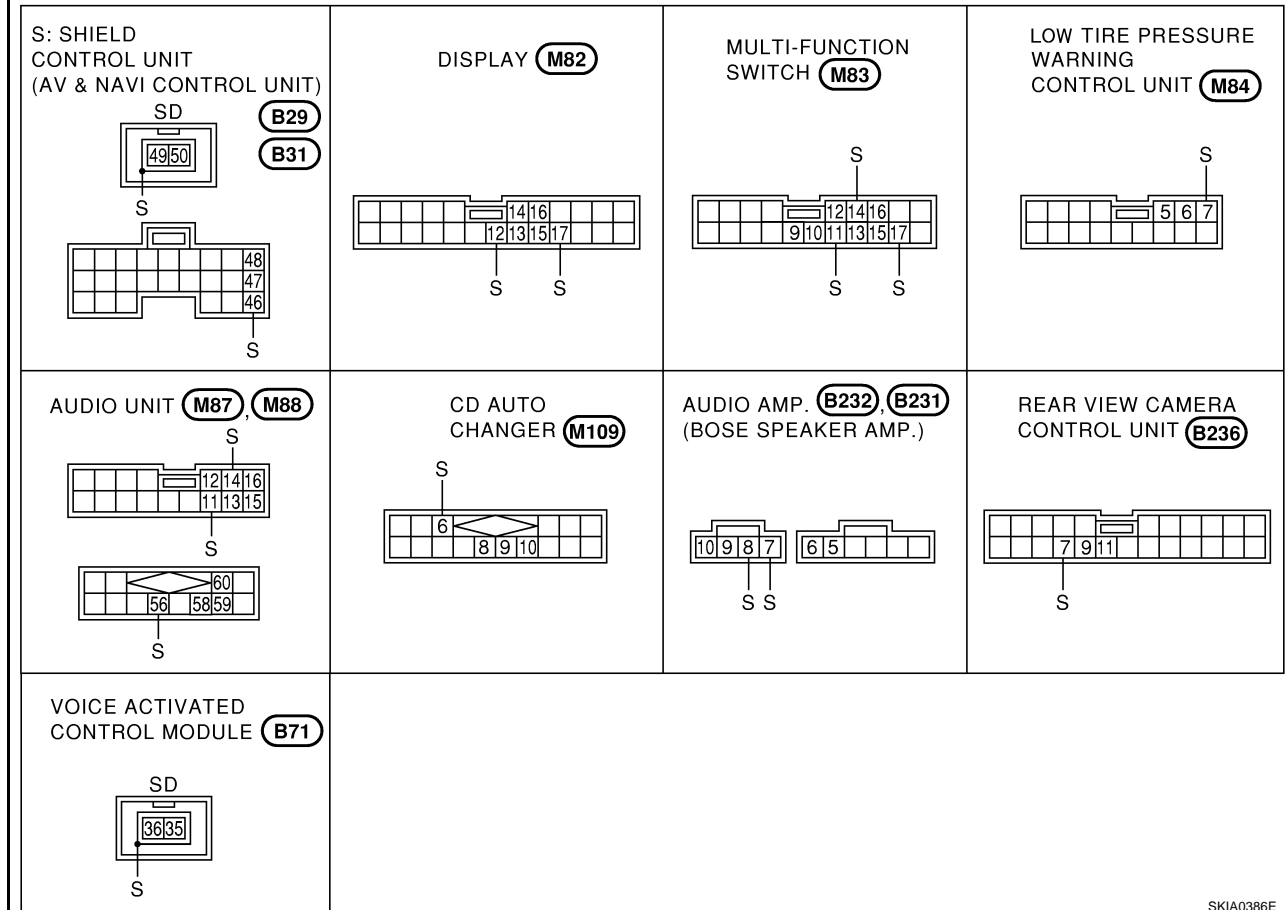
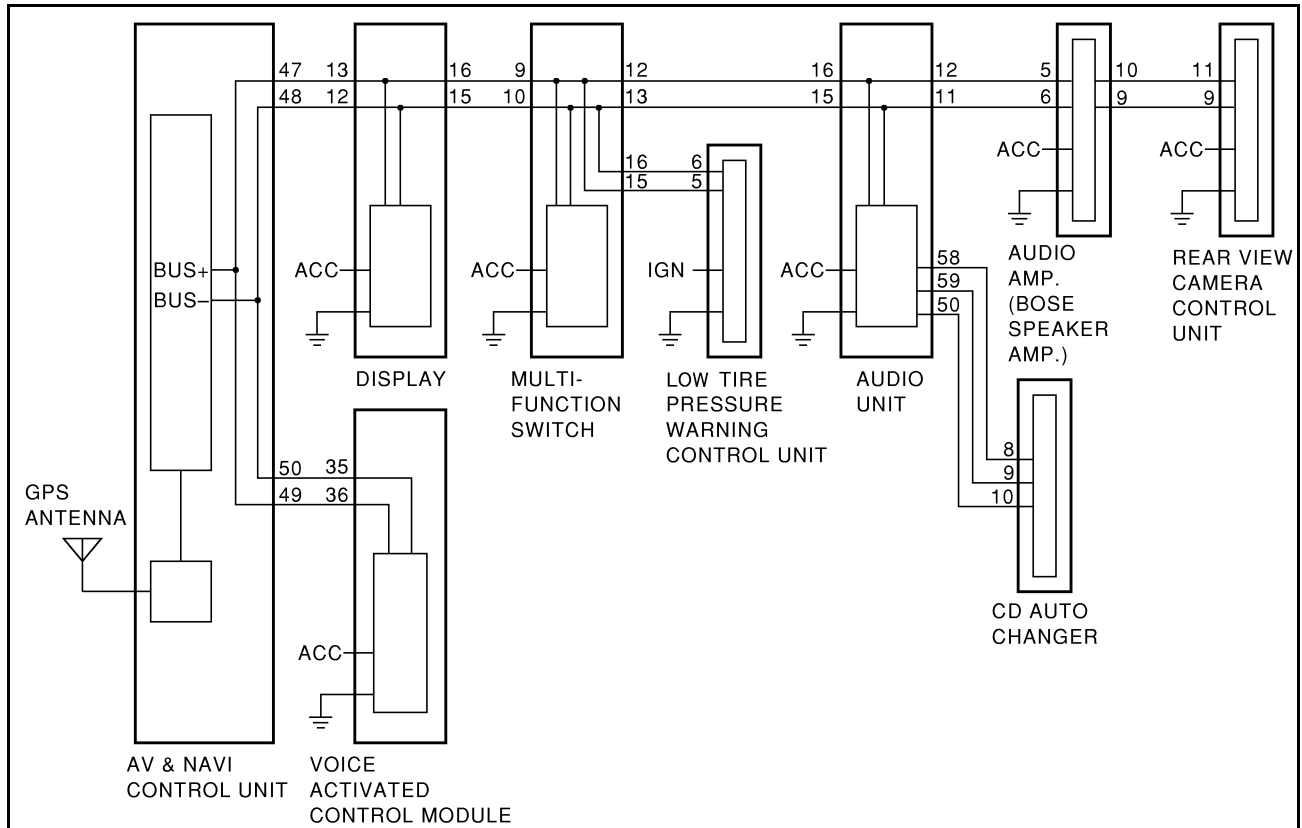
Diagnosis No.	Possible cause
1	AV and NAVI control unit malfunction
2	No map CD-ROM is inserted in the AV and NAVI control unit.
3	Display power supply and ground circuit
4	Multifunction switch power supply and ground circuit
5	Low tire pressure warning control unit power supply and ground circuit, AV communication line between low tire pressure warning control unit and multifunction switch.
6	Audio unit power supply and ground circuit
7	CD auto changer power supply and ground circuit, AV communication line between CD auto changer and audio unit.
8	Audio amplifier power supply and ground circuit.
9	Rearview camera control unit power supply and ground circuit.
10	Voice activated control module power supply and ground circuit. AV communication line between Voice activated Control unit and the AV and NAVI control unit.
11	GPS antenna system 1. Visually check for a broken wire in the GPS antenna coaxial cable. 2. Disconnect the GPS antenna connector, and check that approximately 5V is supplied from the AV and NAVI control unit. If not, the AV and NAVI control unit is malfunctioning. If 5V is supplied, replace the GPS antenna. If the connection is still abnormal after the replacement of the GPS antenna, the AV and NAVI control unit is malfunctioning.
12	AV communication line between audio amplifier and audio unit. Audio amplifier internal communication circuit.
13	AV communication line between audio unit and multifunction switch. Audio control unit communication circuit.
14	AV communication line between multifunction switch and display. Multifunction switch internal communication circuit.

NAVIGATION SYSTEM

Diagnosis No.	Possible cause
15	AV communication line between display and the AV and NAVI control unit. Display internal communication circuit.
16	<p>AV communication line circuit malfunction.</p> <ol style="list-style-type: none"><li data-bbox="288 306 1465 391">1. Disconnect the AV and NAVI control unit SD B31 connector, perform self-diagnosis. If the Voice activated control module is displayed in yellow as a result of self-diagnosis, check for short the communication circuits between AV and NAVI control unit and Voice activated control module.<li data-bbox="288 406 1469 519">2. Check for any incidents in the communication circuits between the AV and NAVI control unit and display, Voice Activated Control unit and display, display and multifunction switch, multifunction switch and low tire pressure warning control unit, multifunction switch and audio unit, audio unit and audio amplifier, audio amplifier and rear view camera control unit.<li data-bbox="288 534 1465 583">3. If the malfunction cannot be solved by the procedure above, the internal communication circuit of the AV and NAVI control unit is malfunctioning.

NAVIGATION SYSTEM

AV COMMUNICATION LINE CIRCUIT DIAGRAM



SKIA0386E

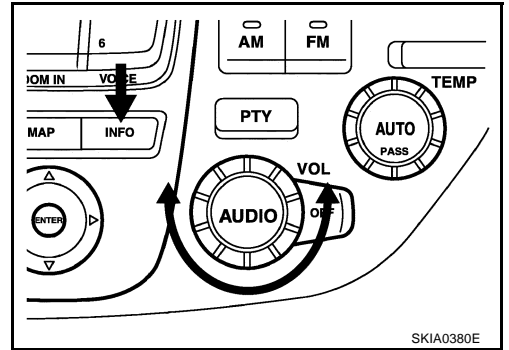
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NAVIGATION SYSTEM

EKS001LW

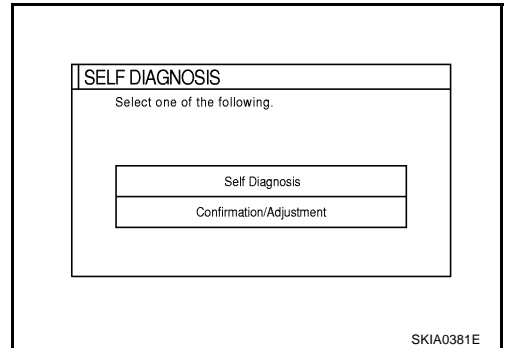
CONFIRMATION/ADJUSTMENT Mode OPERATION PROCEDURE

1. Start the engine.
2. Turn the audio system off.
3. While pressing the "INFO" switch, turn the volume control dial clockwise or counterclockwise for 30 clicks or more. (When the self-diagnosis mode is started, a short beep will be heard.)
 - Shifting from current screen to previous screen is performed by pressing "PREV" switch.



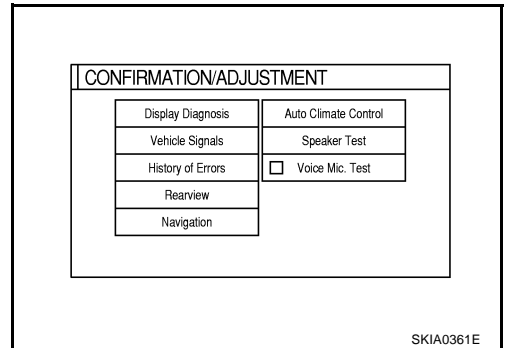
SKIA0380E

4. The initial trouble diagnosis screen will be shown, and items "SELF-DIAGNOSIS" and "CONFIRMATION/ADJUSTMENT" will become selective.



SKIA0381E

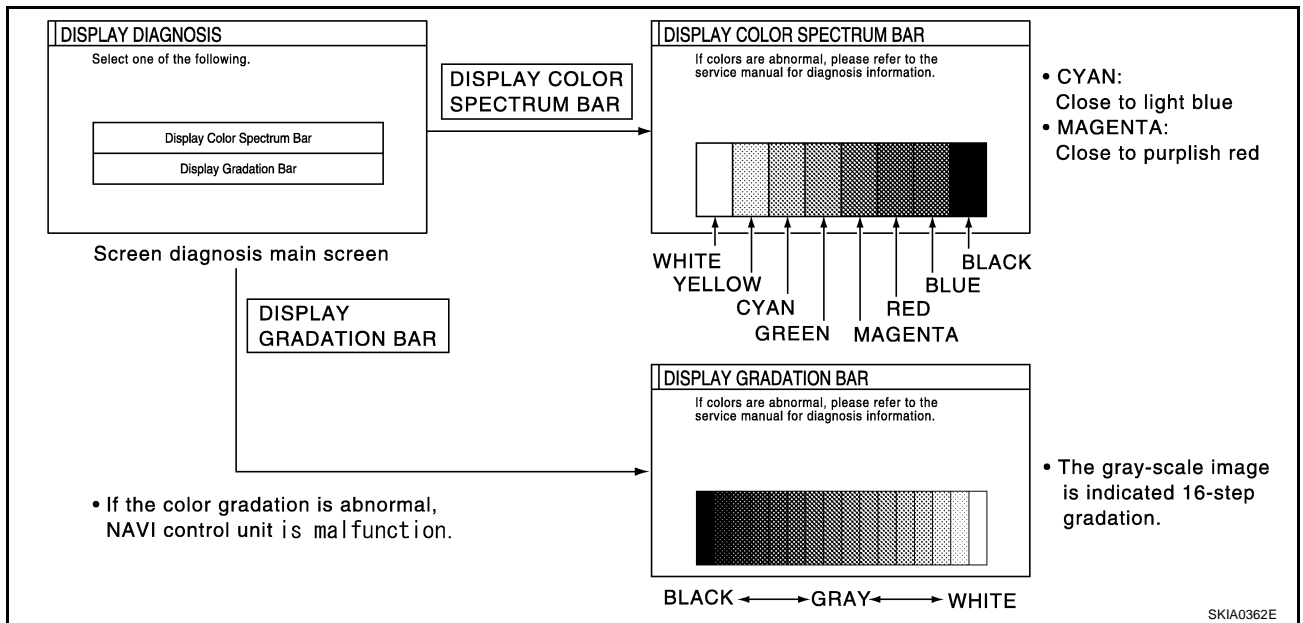
5. When "CONFIRMATION/ADJUSTMENT" is selected on the initial trouble diagnosis screen, the operation will enter the CONFIRMATION/ADJUSTMENT mode. In this mode, check and adjustment of each item will become possible.
6. Select each switch on "CONFIRMATION/ADJUSTMENT" screen to display the relevant diagnosis screen.



SKIA0361E

NAVIGATION SYSTEM

DISPLAY DIAGNOSIS



CAUTION:

When Display Color Spectrum Bar screen is completed after "PREV" switch is pressed, the screen color changes once. This is not abnormal.

- When RGB signal error occurred in the RGB system, tone of the color bar will change as follows.

R (red) signal error : Screen looks bluish
G (green) signal error : Screen looks yellowish
B (blue) signal error : Screen looks reddish

- When the color of the screen looks unusual, refer to [AV-80, "Color of RGB Image Is Not Proper"](#).

VEHICLE SIGNALS

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

VEHICLE SIGNALS	
Vehicle Speed	-
Parking Brake	ON
Light	OFF
IGN	OFF
Reverse	-

SKIA0363E

Diagnosis item	Display	Condition	Remarks
Vehicle speed	ON	Vehicle speed > 0 km/h (0 MPH)	Changes in indication may be delayed by approx. 1.5 seconds. This is normal.
	OFF	Vehicle speed = 0 km/h (0 MPH)	
	-	Ignition switch in ACC position	
Parking brake	ON	Parking brake is applied.	
	OFF	Parking brake is released.	
Lights	ON	Lighting switch ON	-
	OFF	Lighting switch OFF	

NAVIGATION SYSTEM

Diagnosis item	Display	Condition	Remarks
IGN	ON	Ignition switch ON	-
	OFF	Ignition switch ACC or OFF	
Reverse	ON	Selector lever in R-position	Changes in indication may be delayed by approx. 1.5 seconds. This is normal.
	OFF	Selector lever in other than R-position	
	-	Ignition switch in ACC position	

- If vehicle speed is NG, refer to [AV-76, "Vehicle Speed Signal Check"](#) .
- If parking brake is NG, refer to [AV-77, "Parking Brake Signal Check"](#) .
- If light is NG, refer to [AV-77, "Illumination Control Signal Check"](#) .
- If IGN is NG, refer to [AV-78, "Ignition Signal Check"](#) .
- If reverse is NG, refer to [AV-78, "Reverse Signal Check"](#)

SPEAKER TEST

- Refer to [AV-20, "Confirmation/Adjustment Mode"](#) for the details.

AUTO CLIMATE CONTROL

- Refer to "ATC Automatic Air Conditioner [ATC-48, "Self-diagnosis Function"](#) for the details.

NAVIGATION

Angle Adjustment

- Adjusts turning angle output detected by the gyroscope.

ANGLE ADJUSTMENT

Select "-" in case the car mark makes larger turn than reality and vice versa.

-

+

-2.5%
0.0
+2.5%

Left turn

Right turn

Set

SKIA0364E

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.

Speed Calibration

Choose "+" then push "ENTER" if the vehicle icon is behind the actual location. Choose "-" then push "ENTER" if it is ahead, then choose "Set".

-

+

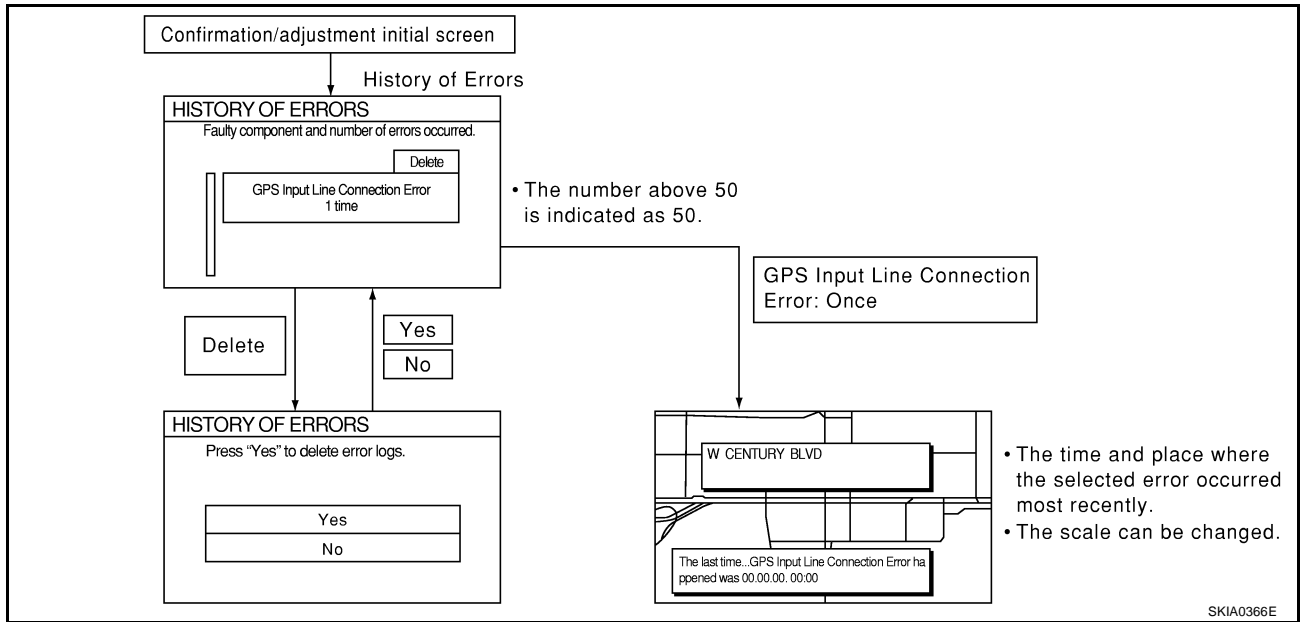
-2.5%
0.0
+2.5%

Set

SKIA0365E

NAVIGATION SYSTEM

HISTORY OF ERRORS



DIAGNOSIS BY HISTORY OF ERRORS

The "Self-diagnosis" results indicate whether an error occurred during the period from when the ignition switch is turned to ON until "Self-diagnosis" is completed.

If an error occurred before the ignition switch was turned to ON and does not occur again until the "Self-diagnosis" is completed, the diagnosis result will be judged normal. Therefore, those errors in the past, which cannot be found by the "Self-diagnosis," must be found by diagnosing the "History of Errors".

The History of Errors displays the time and place of the most recent occurrence of that error. However, take note of the following points.

- Correct time of the error occurrence may not be displayed when the GPS antenna substrate within the AV and NAVI control unit has malfunctioned.
- Place of the error occurrence is represented by the position of the current-location mark at the time when the error occurred. If the current-location mark has deviated from the correct position, then the place of the error occurrence may be located correctly.
- The maximum number of occurrences which can be stored is 50. For the 51st and later occurrences, the displayed number remains 50.

When a reproducible malfunction occurred but its cause cannot be identified because several errors are present, record the item, number and place (longitude/latitude) of error occurrence (or delete the History of Errors), then turn the ignition switch from OFF to ON to reproduce the malfunction. Check the History of Errors to find the items which show an increased number of occurrences, and diagnose the item.

Error item	Possible causes	Example of symptom
	Action/symptom	
Gyro sensor disconnected	Communications malfunction between NAVI control unit and internal gyro	<ul style="list-style-type: none"> • Navigation location detection performance has deteriorated. (Angular velocity cannot be detected.)
	<ul style="list-style-type: none"> • Perform self-diagnosis. • When the AV and NAVI control unit is judged normal by self-diagnosis, the symptom may be intermittent, caused by strong radio interference. 	
GPS disconnected	Communication error between AV and NAVI control unit and internal GPS substrate	<ul style="list-style-type: none"> • Navigation location detection performance has deteriorated. (Location correction using GPS is not performed.) • GPS receiving status remains gray.
	<ul style="list-style-type: none"> • Perform self-diagnosis. • When the AV and NAVI control unit is judged normal by self-diagnosis, the symptom may be intermittent, caused by strong radio interference. 	

NAVIGATION SYSTEM

Error item	Possible causes	Example of symptom
	Action/symptom	
GPS transmission cable malfunction	Malfunctioning transmission wires to AV and NAVI control unit and internal GPS substrate	<ul style="list-style-type: none"> ● During self-diagnosis, GPS diagnosis is not performed.
	<ul style="list-style-type: none"> ● Perform self-diagnosis. ● When the AV and NAVI control unit is judged normal by self-diagnosis, the symptom may be intermittent, caused by strong radio interference. 	
GPS input line connection error	Malfunctioning receiving wires to AV and NAVI control unit and internal GPS substrate	<ul style="list-style-type: none"> ● Navigation location detection performance has deteriorated. (Location correction using GPS is not performed.) ● GPS receiving status remains gray.
	<ul style="list-style-type: none"> ● Perform self-diagnosis. ● When the AV and NAVI control unit is judged normal by self-diagnosis, the symptom may be intermittent, caused by strong radio interference. 	
GPS TCX0 over GPS TCX0 under	Oscillating frequency of the GPS substrate frequency synchronizing oscillation circuit exceeded (or below) the specification	<ul style="list-style-type: none"> ● Navigation location detection performance has deteriorated. (Location correction using GPS is not performed.) ● GPS receiving status remains gray.
	<ul style="list-style-type: none"> ● Perform self-diagnosis. ● When the AV and NAVI control unit is judged normal by self-diagnosis, the symptom may be intermittent, caused by strong radio interference, or the control unit may have been subjected to excessively high or low temperatures. 	
GPS ROM malfunction GPS RAM malfunction	Contents of ROM (or RAM) in GPS substrate are malfunctioning.	<ul style="list-style-type: none"> ● Location detection accuracy of the navigation system will deteriorate, depending on the failed area in the memory, because GPS cannot make correct positioning. (Location correction using GPS is not performed.)
	<ul style="list-style-type: none"> ● Perform self-diagnosis. ● When the AV and NAVI control unit is judged normal by self-diagnosis, the symptom may be intermittent, caused by strong radio interference. 	
GPS RTC malfunction	Clock IC in GPS substrate is malfunctioning.	<ul style="list-style-type: none"> ● Correct time may not be displayed. ● After the power is turned on, the system always takes some time until GPS positioning becomes possible. (The GPS receiver starts positioning without re-collecting the whole satellite information when it judged the data stored in the receiver is correct.) ● Correct time of error occurrence may not be stored in the "History of Errors".
	<ul style="list-style-type: none"> ● Perform self-diagnosis. ● When the AV and NAVI control unit is judged normal by self-diagnosis, the symptom may be intermittent, caused by strong radio interference. 	
GPS antenna disconnected	Malfunctioning connection between GPS substrate in AV and NAVI control unit and GPS antenna.	<ul style="list-style-type: none"> ● Navigation location detection performance has deteriorated. (Location correction using GPS is not performed.) ● GPS receiving status remains gray.
	<ul style="list-style-type: none"> ● Perform self-diagnosis. ● When connection between AV and NAVI control unit and GPS antenna is judged normal by self-diagnosis, the symptom may be intermittent, caused by impact or vibration. 	
Low voltage of GPS	The power voltage supplied to the GPS circuit board has decreased.	<ul style="list-style-type: none"> ● Navigation location detection performance has deteriorated. (Location correction using GPS is not performed.) ● GPS receiving status remains gray.
	<ul style="list-style-type: none"> ● Perform self-diagnosis. ● When connection between AV and NAVI control unit and GPS antenna is judged normal by self-diagnosis, the symptom may be intermittent, caused by impact or vibration. 	

NAVIGATION SYSTEM

Error item	Possible causes	Example of symptom
	Action/symptom	
DVD-ROM Malfunction DVD-ROM Read error DVD-ROM Response Error	Malfunctioning AV and NAVI control unit	-
	Dedicated map DVD-ROM is in the system, but the data cannot be read.	<ul style="list-style-type: none"> ● The map of a particular location cannot be displayed. ● Specific guidance information cannot be displayed. ● Map display is slow. ● Guidance information display is slow. ● System has been affected by vibration.
	<ul style="list-style-type: none"> ● Is map DVD-ROM damaged, warped, or dirty? <ul style="list-style-type: none"> - If damaged or warped, the map DVD-ROM is malfunctioning. - If dirty, wipe the DVD-ROM clean with a soft cloth. ● Perform self-diagnosis. ● When AV and NAVI control unit is judged normal by self-diagnosis, the symptom is judged intermittent, caused by vibration. 	

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REAR VIEW CAMERA

- Refer to [DI-146, "Confirmation/Adjustment Mode"](#) for the details.

CONSULT-II Function OPERATION PROCEDURE

EKS001LX

1. Turn the ignition switch OFF.
2. Connect CONSULT-II to vehicle side data link connector.
3. Turn the ignition switch ON.
4. Touch "START" and then "MULTI AV SYSTEM" on the CONSULT-II screen.

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SELF-DIAG RESULTS

- Checks for connection between each unit and analyzes each individual unit, then displays the results on the screen.

Items Shown

Items shown	Malfunctioning part/reference page
NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED.	-
HEAD UNIT ABNORMAL	AV and NAVI control unit malfunction
MAP DISC NO INSERT	Refer to AV-64, "Quick Reference Table" .
MAP DISC ABNORMAL	MAP DVD-ROM malfunction
MAP DISC DRIVER ABNORMAL 1	-
MAP DISC OR DRIVER ABNORMAL	Refer to AV-64, "Quick Reference Table" .
GPS ANTENNA NO CONNECTION	Refer to AV-64, "Quick Reference Table" .
AUDIO HEAD UNIT ABNORMAL CONNECTION	Refer to AV-64, "Quick Reference Table" .
AIR COMP RECEIVER ABNORMAL CONNECTION	Refer to AV-64, "Quick Reference Table" .
BOSE AMP ABNORMAL CONNECTION	Refer to AV-64, "Quick Reference Table" .
BOSE AMP ABNORMAL	Bose amp malfunction
VOICE UNIT ABNORMAL CONNECTION	Refer to AV-64, "Quick Reference Table" .
VOICE UNIT ABNORMAL	Voice activated control module malfunction
REAR VIEW CAMERA ABNORMAL CONNECTION	Refer to AV-64, "Quick Reference Table" .
PANEL SW ABNORMAL CONNECTION (MULTIFUNCTION SW)	Refer to AV-64, "Quick Reference Table" .

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NAVIGATION SYSTEM

DATA MONITOR

- Displays status of the vehicle signal input to the AV and NAVI control unit. (Refer to [AV-68. "CONFIRMATION/ADJUSTMENT Mode"](#) for operation conditions for the connections to be indicated.)

DATA MONITOR			
MONITOR			
VHCL SPD SIG	OFF		
BREAK	ON		
MTR ILL DIM	OFF		
IGN SW	ON		
R POSI SIG	OFF		
		RECORD	
MODE	BACK	LIGHT	COPY

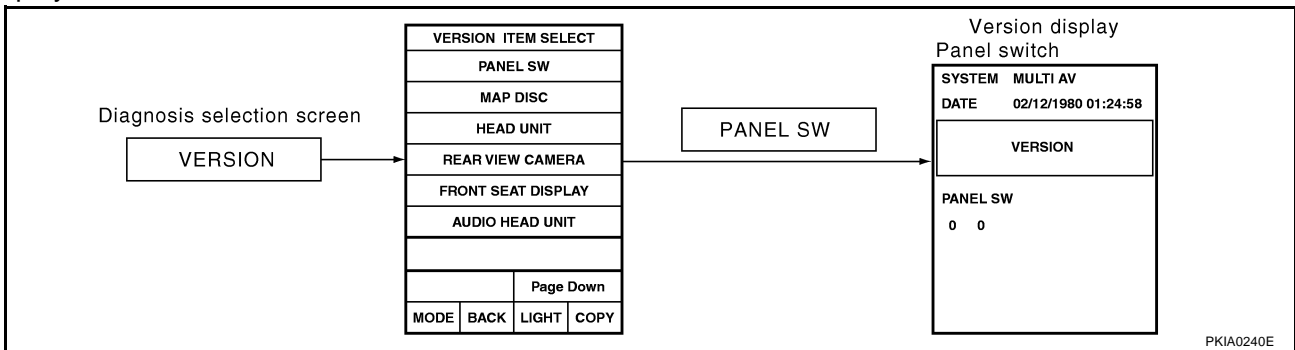
PKIA0239E

- For each signal, a comparison of actual operating status and the status recognized by the system can be checked.

DATA MONITOR item	Display	Condition	Remarks
VHCL SPD SIG	ON	Vehicle speed > km/h (0 MPH)	Changes in indication may be delayed by approx. 1.5 seconds. This is normal.
	OFF	Vehicle speed = km/h (0 MPH)	
	-	Ignition switch in ACC position	
BREAK	ON	Parking brake is applied.	
	OFF	Parking brake is released.	
MTR ILL DIM	ON	Lighting switch ON	
	OFF	Lighting switch OFF	-
IGN SW	ON	Ignition switch ON	-
	OFF	Ignition switch ACC or OFF	-
R POSI SIG	ON	Selector lever in R-position	Changes in indication may be delayed by approx. 1.5 seconds. This is normal.
	OFF	Selector lever in other than R-position	
	-	Ignition switch in ACC position	

VERSION

Displays version of each unit connected to the AV and NAVI control unit.



Version display	Remarks
"PANEL SW"	Multifunction switch
"MAP DISK"	Map Disc
"HEAD UNIT"	AV and NAVI control unit
"REAR VIEW CAMERA"	-
"FRONT SEAT DISPLAY"	Display
"AUDIO HEAD UNIT"	-
"AIR COMP RECEIVER"	Low Tire Pressure Warning Control Unit

NAVIGATION SYSTEM

Version display	Remarks
"BOSE AMP"	-
"VOICE UNIT"	Voice Activated Control Module

Power Supply and Ground Circuit Check

EKS001LY

1. CHECK FUSE.

- Check that the following fuses of the AV and NAVI control unit are not blown.

Terminals		Power source	Fuse No.
Connector	Terminal (wire color)		
B30	2(SB),3(SB)	Battery power	#52
B30	6(L/OR)	ACC power	#21

OK or NG

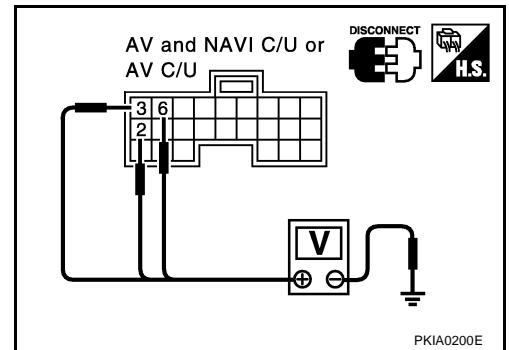
OK >> GO TO 2.

NG >> If fuse is blown be sure to eliminate case of problem before installing new fuse, refer to [PG-2](#), **"POWER SUPPLY ROUTING"**

2. POWER SUPPLY CIRCUIT CHECK

1. Disconnect the AV and NAVI control unit connector.
2. Check voltage between the following harness connector terminals and ground.

Terminals			Power source	Ignition switch	Reference voltage (V)
(+)		(-)			
Connector	Terminal (wire color)	(-)			
B30	2(SB), 3(SB)	Ground	Battery power	OFF	Approx. 12
B30	6(L/OR)	Ground	ACC power	ACC	Approx. 12



OK or NG

OK >> GO TO 3.

NG >> Check harness for open or short between AV and NAVI control unit and fuse.

3. GROUND CIRCUIT CHECK

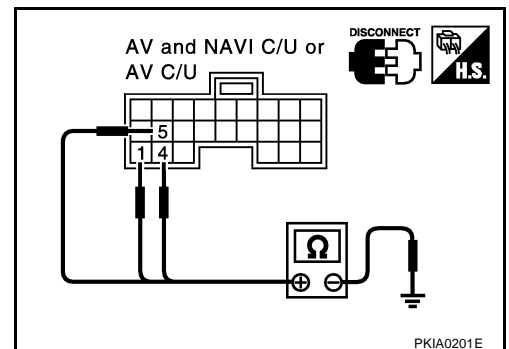
Check continuity between the following AV and NAVI control unit and ground.

Terminals			Ignition switch	Continuity
(+)		(-)		
Connector	Terminal (wire color)	(-)		
B30	1(B),4(B),5(B)	Ground	OFF	Yes

OK or NG

OK >> Inspection end.

NG >> Repair or replace harness.



NAVIGATION SYSTEM

EKS001LZ

Vehicle Speed Signal Check

1. HARNESS CHECK

1. Turn the ignition switch OFF.
2. Disconnect AV and NAVI control unit connector and combination meter connector.
3. Check continuity AV and NAVI control unit and combination meter.

Terminals				Continuity
AV and NAVI control unit(+)		combination meter(-)		
Connector	Terminal (wire color)	Connector	Terminal (wire color)	
B29	33(OR/L)	M41	17(OR/L)	YES

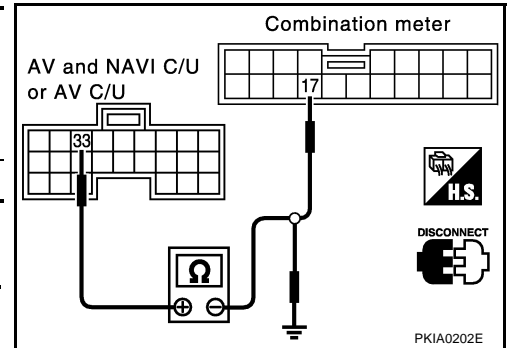
4. Check continuity AV and NAVI control unit harness connector terminal 33 and ground.

Terminals			Continuity
AV and NAVI control unit(+)		(-)	
Connector	Terminal (wire color)		
B29	33(OR/L)	Ground	NO

OK or NG

OK >> GO TO 2.

- NG >> ● Check harness for open or short between AV and NAVI control unit and combination meter.
● Check connector housings for disconnected or loose terminals.



2. VEHICLE SPEED SIGNAL CHECK 1

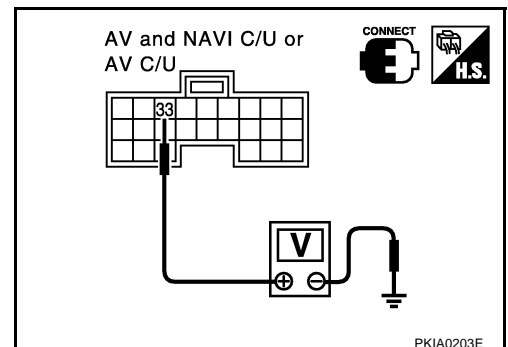
1. Connect AV and NAVI control unit connector and combination meter connector.
2. Turn the ignition switch ON.
3. Check voltage between AV and NAVI control unit and ground.

Terminals			voltage (V)
(+) Terminal (wire color)		(-)	
Connector	Terminal (wire color)		
B30	33(OR/L)	Ground	Approx. 3.5 or more

OK or NG

OK >> GO TO 3.

NG >> Replace AV and NAVI control unit



3. VEHICLE SPEED SIGNAL CHECK 2

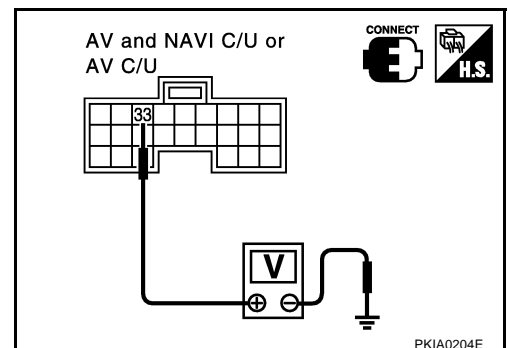
1. Connect combination meter connector.
2. While driving vehicle at a constant speed, check voltage signal between AV and NAVI control unit and ground.

Terminals			voltage (V)
(+) Terminal (wire color)		(-)	
Connector	Terminal (wire color)		
B30	33(OR/L)	Ground	AV-57. "Terminals and Reference Value for AV and NAVI Control unit"

OK or NG

OK >> Replace AV and NAVI control unit.

NG >> Check combination meter system, refer to [DI-21. "Inspection/Vehicle Speed Signal"](#)



NAVIGATION SYSTEM

EKS001M0

Parking Brake Signal Check

1. PARKING BRAKE CHECK

Depress Parking brake pedal and check if brake warning lamp comes on.

OK or NG

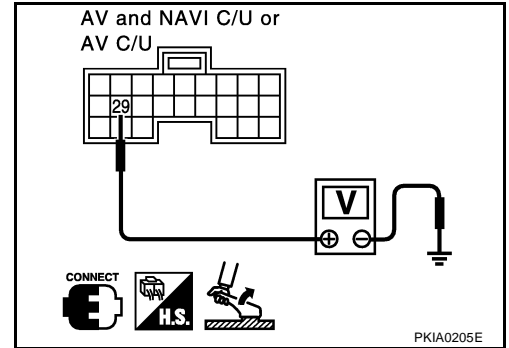
OK >> GO TO 2.

NG >> Check parking brake system. refer to [PB-3, "PARKING BRAKE SYSTEM"](#) .

2. PARKING BRAKE SIGNAL CHECK

1. Turn the ignition switch ON.
2. Check voltage between AV and NAVI control unit and ground while depressing brake pedal.

Terminals			Parking brake	
(+)		(-)	Release	Depress
Connector	Terminal (wire color)			
B29	29(Y/R)	Ground	Approx. 3.5V or more	Approx. 1.5V or less



OK or NG

OK >> Replace AV and NAVI control unit.

NG >> Check harness for open or short between AV and NAVI control unit and Parking brake switch.

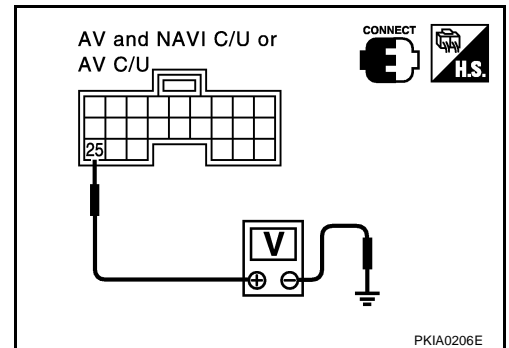
Illumination Control Signal Check

EKS001M1

1. ILLUMINATION CONTROL SIGNAL CHECK

1. Turn the ignition switch ON.
2. Check voltage between AV and NAVI control unit and ground.

Terminals			Light Switch	
(+)		(-)	ON	OFF
Connector	Terminal (wire color)			
B29	25(R/L)	Ground	Approx. 3.5V or more	Approx. 1.5V or less



OK or NG

OK >> Replace AV and NAVI control unit.

NG >> Check harness for open or short between AV and NAVI control unit and BCM.

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NAVIGATION SYSTEM

EKS001M2

Ignition Signal Check

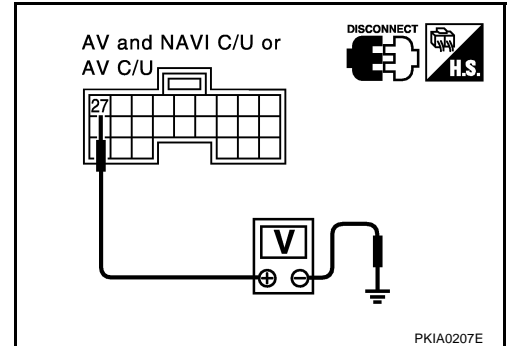
1. IGNITION SIGNAL CHECK

1. Disconnect the AV and NAVI control unit connector.
2. Turn the ignition switch ON.
3. Check voltage between AV and NAVI control unit and ground.

Terminals		(-)	Ignition switch position	
(+) Connector			ON	OFF
B29	27(W/G)	Ground	Battery voltage	0V

OK or NG

- OK >> Replace AV and NAVI control unit.
 NG >> Check harness for open or short between AV and NAVI control unit and fuse.



Reverse Signal Check

1. REVERSE LAMP CHECK

EKS001M3

1. Turn the ignition switch ON.
2. A/T Shift selector lever into R-position. Does "R" in the shift position indicator come on?

YES or NO

- YES >> GO TO 2.
 NO >> Check park/neutral position relay system. Refer to [AT-209, "PARK/NEUTRAL POSITION \(PNP\) SWITCH"](#)

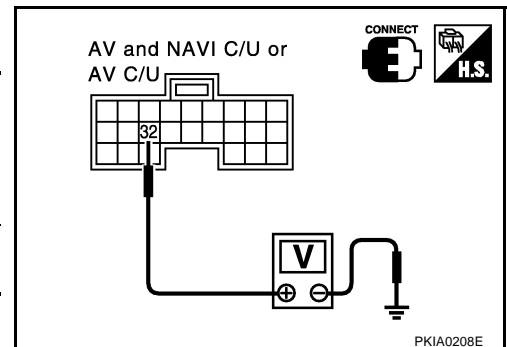
2. REVERSE SIGNAL CHECK

With the selector lever in R-position, Check voltage between AV and NAVI control unit and ground.

Terminals		(-)	A/T selector lever position	
(+) Connector			R-position	other than R-position
B29	32(R/B)	Ground	Battery voltage	Approx. 3.0V or less

OK or NG

- OK >> Replace AV and NAVI control unit.
 NG >> Check harness for open or short between AV and NAVI control unit and park/neutral position relay.



NAVIGATION SYSTEM

EKS001M4

RGB Screen Is Not Shown

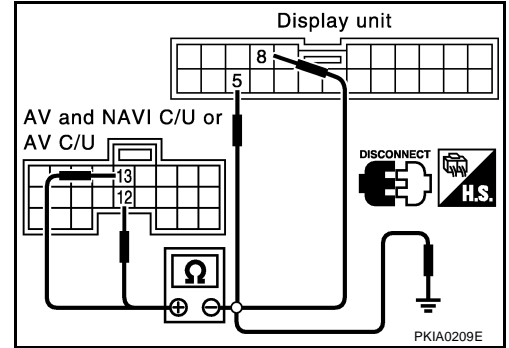
1. HARNESS CHECK

1. Turn the ignition switch OFF.
2. Disconnect AV and NAVI control unit connector and Display connector.
3. Check continuity between AV and NAVI control unit and Display.

Terminals				Continuity
AV and NAVI control unit (+)		Display (-)		
Connector	Terminal (wire color)	Connector	Terminal (wire color)	
B30	12 (B)	M82	8 (LG)	YES
B30	13 (W)	M82	5 (L/Y)	YES

4. Check continuity between AV and NAVI control unit and ground.

Terminals			Continuity
AV and NAVI control unit(+)		(-)	
Connector	Terminal (wire color)		
B30	12(B),13(W)	Ground	NO



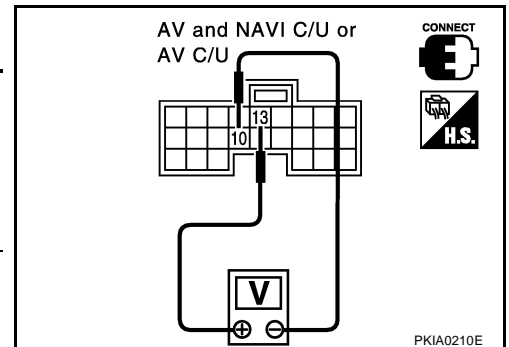
OK or NG

- OK >> GO TO 2.
- NG >>
 - Check harness for open or short between AV and NAVI control unit and Display.
 - Check connector housings for disconnected or loose terminals.

2. HORIZONTAL SYNCHRONIZATION SIGNAL CHECK

1. Connect AV and NAVI control unit connector and Display connector.
2. Turn the ignition switch ON.
3. Check voltage between AV and NAVI control unit connector terminals 13 and 10.

Terminals				voltage (v)
AV and NAVI control unit (+)		AV and NAVI control unit (-)		
Connector	Terminal (wire color)	Connector	Terminal	
B30	13 (W)	B30	10	AV-57. "Terminals and Reference Value for AV and NAVI Control unit"



OK or NG

- OK >> GO TO 3.
- NG >> Replace Display.

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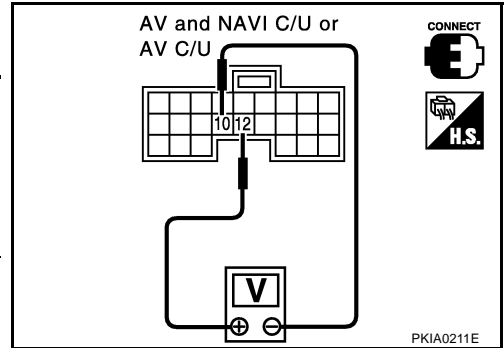
AV

NAVIGATION SYSTEM

3. RGB AREA SIGNAL CHECK

1. Press "INFO" switch.
2. Check voltage between AV and NAVI control unit connector terminals 12 and 10.

Terminals				voltage (v)
AV and NAVI control unit (+)		AV and NAVI control unit (-)		
Connector	Terminal (wire color)	Connector	Terminal	
B30	12 (B)	B30	10	AV-57. "Terminals and Reference Value for AV and NAVI Control unit"



OK or NG

- OK >> Replace Display
- NG >> Replace AV and NAVI control unit

Color of RGB Image Is Not Proper

EKS001M5

1. COLOR BAR DIAGNOSIS CHECK

Check color tone by "SCREEN ADJUSTMENT" of CONFIRMATION/ADJUSTMENT function.

OK or NG

- OK >> Inspection end.
- NG >> GO TO 2.

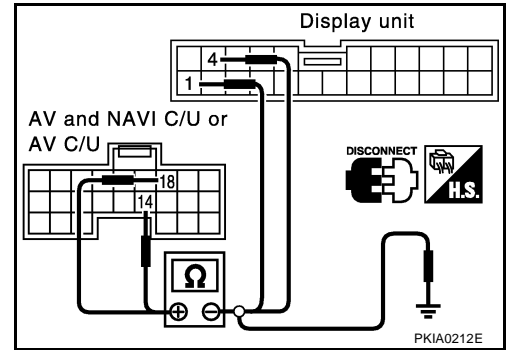
NAVIGATION SYSTEM

2. HARNESS CHECK

1. Turn the ignition switch OFF.
 2. Disconnect AV and NAVI control unit connector and Display connector.
 3. Check continuity between AV and NAVI control unit and Display.
 4. Check continuity between AV and NAVI control unit and ground.
- When the screen looks bluish

Terminals				Continuity
AV and NAVI control unit (+)		Display (-)		
Connector	Terminal (wire color)	Connector	Terminal (wire color)	
B30	18 (L)	M82	1 (L)	YES
B30	14	M82	4	YES

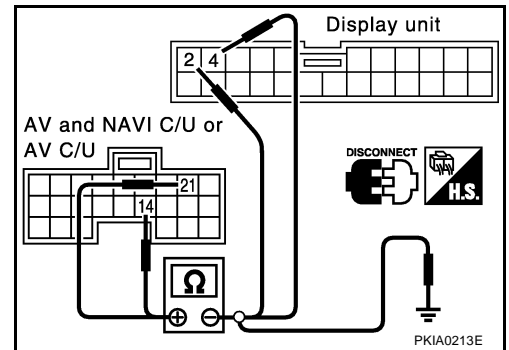
Terminals				Continuity
AV and NAVI control unit(+)			(-)	
Connector	Terminal (wire color)			
B30	14,18 (L)		Ground	NO



- When the screen looks reddish

Terminals				Continuity
AV and NAVI control unit (+)		Display (-)		
Connector	Terminal (wire color)	Connector	Terminal (wire color)	
B30	21 (PU)	M82	2 (Y)	YES
B30	14	M82	4	YES

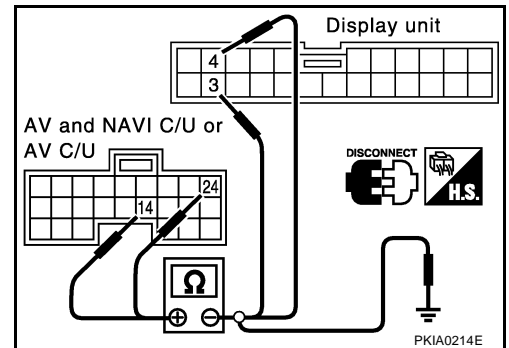
Terminals				Continuity
AV and NAVI control unit(+)			(-)	
Connector	Terminal (wire color)			
B30	14,21 (PU)		Ground	NO



- When the screen looks yellowish

Terminals				Continuity
AV and NAVI control unit (+)		Display (-)		
Connector	Terminal (wire color)	Connector	Terminal (wire color)	
B30	24 (LG)	M82	3 (G)	YES
B30	14	M82	4	YES

Terminals				Continuity
AV and NAVI control unit(+)			(-)	
Connector	Terminal (wire color)			
B30	14,24 (LG)		Ground	NO



OK or NG

- OK >> GO TO 3.
- NG >> ● Check harness for open or short between AV and NAVI control unit and Display.
 - Check connector housings for disconnected or loose terminals.

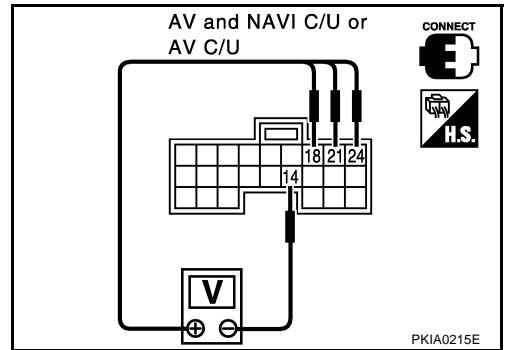
NAVIGATION SYSTEM

3. RGB SIGNAL CHECK

1. Connect AV and NAVI control unit connector and Display connector.
2. Turn the ignition switch ON.
3. Display "Color bar" by "CONFIRMATION/ADJUSTMENT" mode.
4. Check voltage between AV and NAVI control unit terminals 18, 21, 24 and 14.

- When the screen looks bluish

Terminals				voltage (v)
AV and NAVI control unit (+)		AV and NAVI control unit (-)		
Connector	Terminal (wire color)	Connector	Terminal	
B30	18 (L)	B30	14	AV-57, "Terminals and Reference Value for AV and NAVI Control unit"



- When the screen looks reddish

Terminals				voltage (v)
AV and NAVI control unit (+)		AV and NAVI control unit (-)		
Connector	Terminal (wire color)	Connector	Terminal	
B30	21 (PU)	B30	14	AV-57, "Terminals and Reference Value for AV and NAVI Control unit"

- When the screen looks yellowish

Terminals				voltage (v)
AV and NAVI control unit (+)		AV and NAVI control unit (-)		
Connector	Terminal (wire color)	Connector	Terminal	
B30	24 (LG)	B30	14	AV-57, "Terminals and Reference Value for AV and NAVI Control unit"

OK or NG

- OK >> Replace Display
- NG >> Replace AV and NAVI control unit

NAVIGATION SYSTEM

EKS001M6

RGB Screen Is Rolling

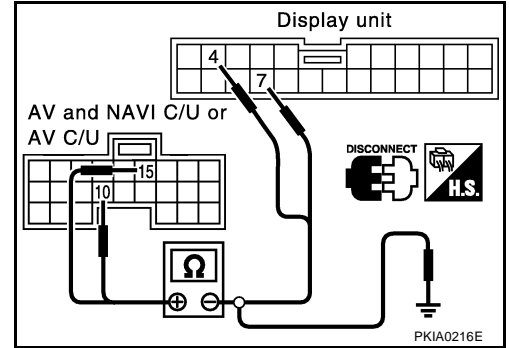
1. HARNESS CHECK

1. Turn the ignition switch OFF.
2. Disconnect AV and NAVI control unit connector and Display connector.
3. Check continuity between AV and NAVI control unit and Display.

Terminals				Continuity
AV and NAVI control unit (+)		Display (-)		
Connector	Terminal (wire color)	Connector	Terminal (wire color)	
B30	15 (G)	M82	7 (L/R)	YES
B30	10	M82	4	YES

4. Check continuity between AV and NAVI control unit and ground.

Terminals				Continuity
AV and NAVI control unit (+)		(-)		
Connector	Terminal (wire color)			
B30	10,15 (G)	Ground		NO



OK or NG

OK >> GO TO 2.

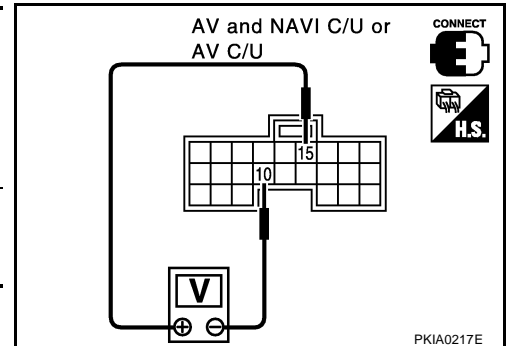
NG >> ● Check harness for open or short between AV and NAVI control unit and Display for open or short circuit.

- Check connector housings for disconnected or loose terminals.

2. RGB SYNCHRONIZING SIGNAL CHECK

1. Connect AV and NAVI control unit connector and Display connector.
2. Turn the ignition switch ON.
3. Check voltage between AV and NAVI control unit terminals 15 and 14.

Terminals				Reference signal
AV and NAVI control unit (+)		AV and NAVI control unit (-)		
Connector	Terminal (wire color)	Connector	Terminal	
B30	15 (G)	B30	10	AV-57. "Terminals and Reference Value for AV and NAVI Control unit"



OK or NG

OK >> Replace Display.

NG >> Replace AV and NAVI control unit.

Guide Sound Is Not Heard

EKS001M7

1. CHECK VOICE GUIDE SETTING.

- While driving in the dark pink route, voice guide does not operate.(note)
- Is volume setting not switched ON?

NOTE:

Voice guide is only available at intersections that satisfy certain conditions (indicated by ● on the map). Therefore, guidance may not be given even when the route on the map changes direction.

YES or NO

YES >> GO TO 2.

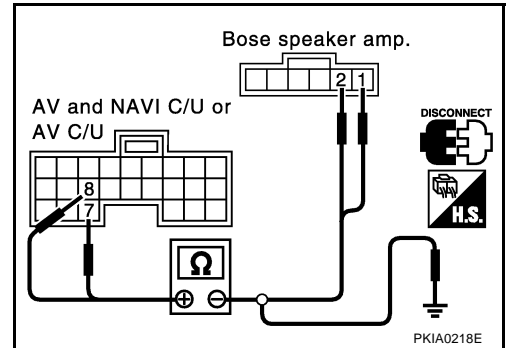
NO >> Switch the setting ON and turn the volume up.

NAVIGATION SYSTEM

2. HARNESS CHECK

1. Turn the ignition switch OFF.
2. Disconnect AV and NAVI control unit connector and Bose speaker amp. connector.
3. Check continuity between AV and NAVI control unit and Bose speaker amp.

Terminals				Continuity
AV and NAVI control unit (+)		Bose speaker amp. (-)		
Connector	Terminal (wire color)	Connector	Terminal (wire color)	
B30	7 (R)	B232	1 (R)	YES
B30	8 (L)	B232	2 (L)	YES



4. Check continuity between AV and NAVI control unit and ground.

Terminals			Continuity
AV and NAVI control unit(+)		(-)	
Connector	Terminal (wire color)	Terminal	
B30	7 (R),8 (L)	Ground	NO

Ok or NG

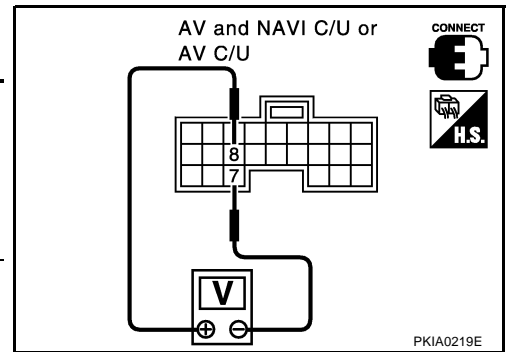
OK >> GO TO 3.

- NG >> ● Check harness for open or short between AV and NAVI control unit and Bose speaker amp.
 ● Check connector housings for disconnected or loose terminals.

3. VOICE GUIDE CHECK

1. Connect AV and NAVI control unit connector and Bose speaker amp. connector.
2. Turn the ignition switch ON.
3. Check voltage signal between AV and NAVI control unit terminals 8 and 7.

Terminals				voltage (v)
AV and NAVI control unit (+)		AV and NAVI control unit (-)		
Connector	Terminal (wire color)	Connector	Terminal	
B30	7 (R)	B30	8(L)	AV-57. "Terminals and Reference Value for AV and NAVI Control unit"



Ok or NG

OK >> Replace Bose speaker amp.

NG >> Replace AV and NAVI control unit

NAVIGATION SYSTEM

EKS001M8

No A/C Display is Shown

1. HARNESS CHECK

1. Turn the ignition switch OFF.
2. Disconnect A/C AUTO AMP. connector and AV and NAVI control unit connector.
3. Check continuity between A/C AUTO AMP. and AV and NAVI control unit.

Terminals				Continuity
AV and NAVI control unit (+)		A/C AUTO AMP. (-)		
Connector	Terminal (wire color)	Connector	Terminal (wire color)	
B29	44 (W)	M119	9 (W)	YES
B29	45 (B)	M119	20 (B)	YES

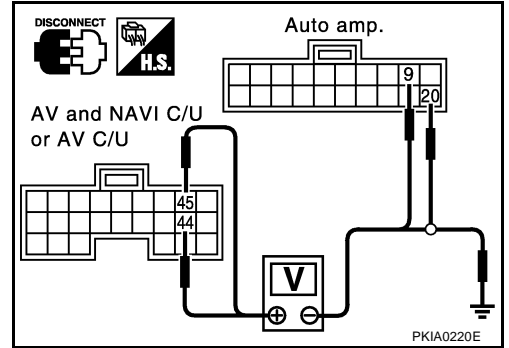
4. Check continuity between AV and NAVI control unit and ground.

Terminals				Continuity
AV and NAVI control unit(+)		(-)		
Connector	Terminal (wire color)			
B30	44 (W),45 (B)	Ground		NO

OK or NG

OK >> GO TO 2.

- NG >> ● Check harness between A/C AUTO AMP. and AV and NAVI control unit.
● Check connector housings for disconnected or loose terminals.



2. A/C-AV, AC-CLK COMMUNICATION SIGNAL CHECK

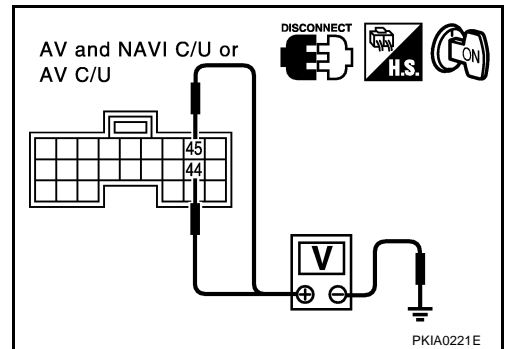
1. Connect A/C AUTO AMP. connector.
2. Turn the ignition switch ON.
3. Check voltage between AV and NAVI control unit and ground.

Terminals			Voltage (V)
(+) Terminal (wire color)		(-)	
Connector	Terminal (wire color)		
B29	44(W),45 (B)	ground	Approx. 3.5 or more

OK or NG

OK >> GO TO 3.

- NG >> Replace A/C AUTO AMP.



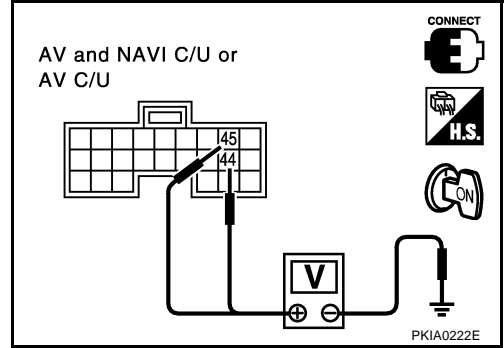
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NAVIGATION SYSTEM

3. A/C - AV, AC - CLK COMMUNICATION SIGNAL CHECK

1. Connect AV and NAVI control unit connector.
2. Turn the ignition switch ON.
3. Check voltage between AV and NAVI control unit terminals 44, 45 and ground.

Terminals (+)		(-)	Reference signal
Connector	Terminal (wire color)		
B29	44(W),45 (B)	ground	AV-57, "Terminals and Reference Value for AV and NAVI Control unit"



OK or NG

- OK >> Replace A/C auto amplifier
- NG >> Replace AV and NAVI control unit

A/C Operation Is Not Possible.

EKS001M9

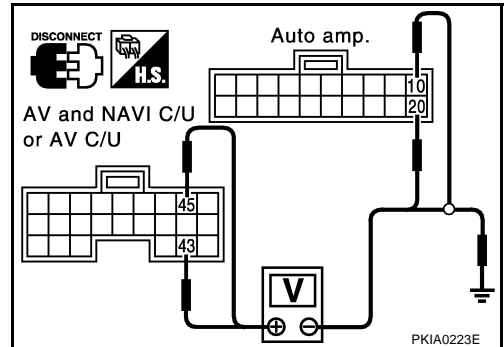
1. HARNESS CHECK

1. Turn the ignition switch OFF.
2. Disconnect A/C AUTO AMP. connector and AV and NAVI control unit connector.
3. Check continuity between A/C AUTO AMP. and AV and NAVI control unit.

Terminals				Continuity
AV and NAVI control unit (+)		A/C AUTO AMP. (-)		
Connector	Terminal (wire color)	Connector	Terminal (wire color)	
B29	43 (R)	M119	10 (R)	YES
B29	45 (B)	M119	20 (B)	YES

4. Check continuity between AV and NAVI control unit and ground.

Terminals			Continuity
AV and NAVI control unit(+)		(-)	
Connector	Terminal (wire color)		
B30	43 (R),45 (B)	Ground	NO



OK or NG

- OK >> GO TO 2.
- NG >>
 - Check harness for open or short between A/C AUTO AMP. and AV and NAVI control unit for open circuit.
 - Check connector housings for disconnected or loose terminals.

NAVIGATION SYSTEM

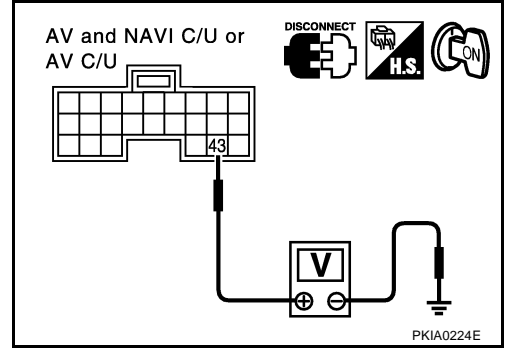
2. AV - A/C, AC - CLK COMMUNICATION SIGNAL CHECK

1. Connect A/C AUTO AMP. connector.
2. Turn the ignition switch ON.
3. Check voltage between AV and NAVI control unit terminal 43 and ground.

Terminals		(-)	Reference voltage (V)
(+)			
Connector	Terminal (wire color)		
B29	43 (R)	ground	Approx. 3.5 or more

OK or NG

- OK >> GO TO 3.
 NG >> Replace A/C auto amplifier



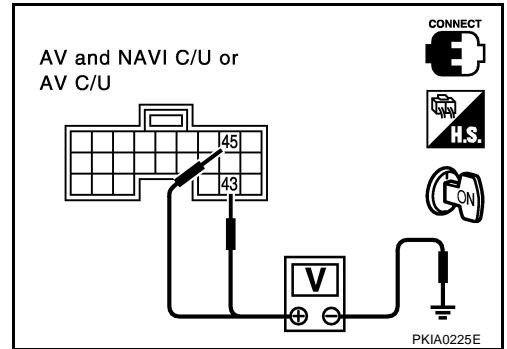
3. AV-A/C, AC-CLK COMMUNICATION SIGNAL CHECK

1. Connect AV and NAVI control unit connector.
2. Turn the ignition switch ON.
3. Check voltage between AV and NAVI control unit terminals 43, 45 and ground.

Terminals		(-)	Reference signal
(+)			
Connector	Terminal (wire color)		
B29	43 (R),45 (B)	ground	AV-57. "Terminals and Reference Value for AV and NAVI Control unit"

OK or NG

- OK >> Replace A/C auto amplifier
 NG >> Replace AV and NAVI control unit



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NAVIGATION SYSTEM

No Fuel Information Is Displayed/No Warning Message Is Displayed.

EKS001MA

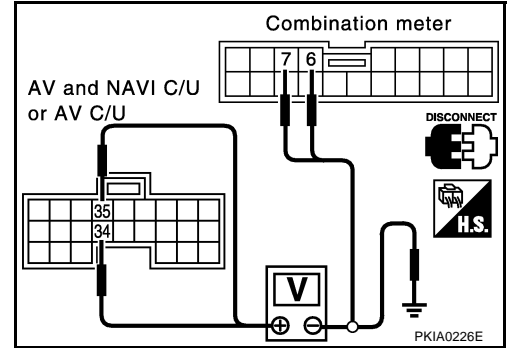
1. HARNESS CHECK

1. Turn the ignition switch OFF.
2. Disconnect connectors of combination meter, BCM, and AV and NAVI control unit.
3. Check continuity between AV and NAVI control unit and combination meter.

Terminals				Continuity
AV and NAVI control unit (+)		combination meter (-)		
Connector	Terminal (wire color)	Connector	Terminal (wire color)	
B29	34 (LG)	M41	7 (LG)	YES
B29	35 (PU)	M41	6 (PU)	YES

4. Check continuity between AV and NAVI control unit and ground.

Terminals			Continuity
AV and NAVI control unit(+)		(-)	
Connector	Terminal (wire color)		
B29	34 (LG),35 (PU)	Ground	NO



OK or NG

OK >> GO TO 2.

NG >> ● Check harness for open or short between AV and NAVI control unit and combination meter for open or short circuit.

- Check connector housings for disconnected or loose terminals.

2. COMMUNICATION SIGNAL (AV-ME) CHECK

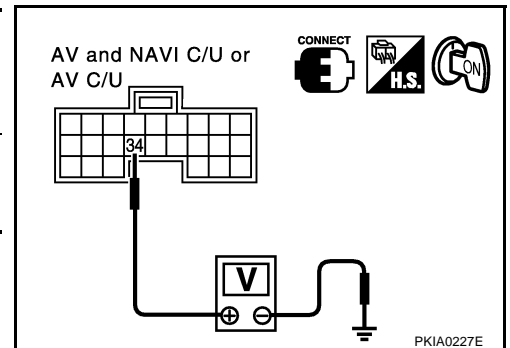
1. Connect connectors of combination meter, BCM, and AV and NAVI control unit.
2. Turn the ignition switch ON.
3. Check voltage between AV and NAVI control unit terminal 34 and ground.

Terminals			Voltage (V)
(+) Terminal (wire color)		(-)	
Connector	Terminal (wire color)		
B29	34 (LG)	ground	AV-57, "Terminals and Reference Value for AV and NAVI Control unit"

OK or NG

OK >> GO TO 3.

NG >> Replace AV and NAVI control unit



NAVIGATION SYSTEM

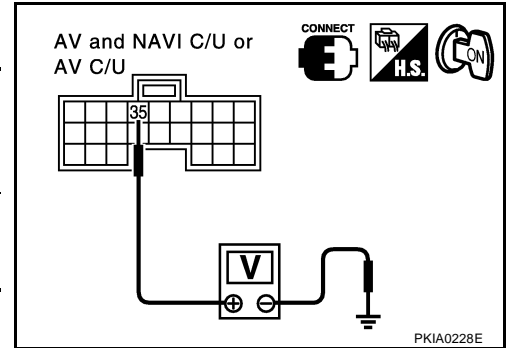
3. COMMUNICATION SIGNAL (ME-AV) CHECK

1. Turn ignition switch to ON and display "VEHICLE ELECTRONIC SYSTEMS" screen.
2. Check voltage between AV and NAVI control unit terminal 35 and ground.

Terminals			Voltage (V)
(+)		(-)	
Connector	Terminal (wire color)		
B29	35 (PU)	ground	AV-57. "Terminals and Reference Value for AV and NAVI Control unit"

OK or NG

- OK >> Replace AV and NAVI control unit.
 NG >> Replace combination meter,.



Vehicle Condition Setting Is Not Possible.

EKS001MB

1. HARNESS CHECK

1. Turn the ignition switch OFF.
2. Disconnect connectors of combination meter, BCM, and AV and NAVI control unit.
3. Check continuity AV and NAVI control unit and BCM.

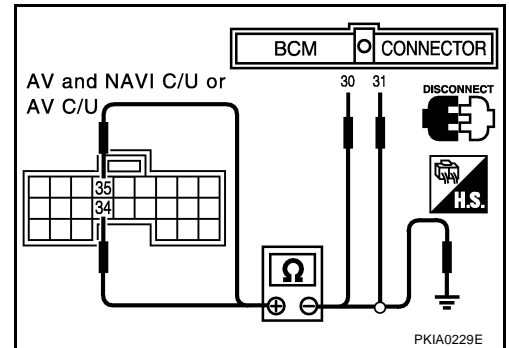
Terminals				Continuity
AV and NAVI control unit (+)		BCM (-)		
Connector	Terminal (wire color)	Connector	Terminal (wire color)	
B29	34 (LG)	M4	31 (LG)	YES
B29	35 (PU)	M4	30 (PU)	YES

4. Check continuity between AV and NAVI control unit and ground.

Terminals			Continuity
AV and NAVI control unit(+)		(-)	
Connector	Terminal (wire color)		
B29	34 (LG),35 (PU)	Ground	NO

OK or NG

- OK >> GO TO 2.
 NG >> ● Check harness between AV and NAVI control unit and BCM for open or short circuit.
 ● Check connector housings for disconnected or loose terminals.



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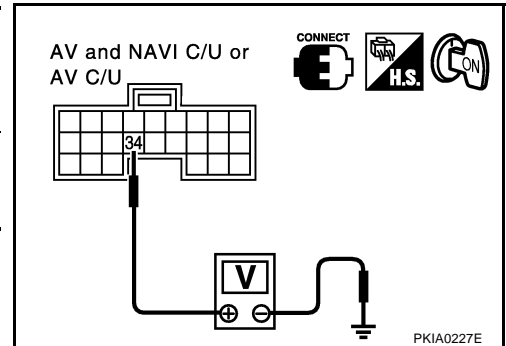
NAVIGATION SYSTEM

2. COMMUNICATION SIGNAL (AV-ME) CHECK

1. Connect connectors of combination meter, BCM, and control unit.
2. Turn the ignition switch ON.
3. Check voltage signal between AV and NAVI control unit terminal 34 and ground.

Terminals		Reference signal
(+)		
Connector	Terminal (wire color)	(-)
B29	34 (LG)	ground

[AV-57, "Terminals and Reference Value for AV and NAVI Control unit"](#)



OK or NG

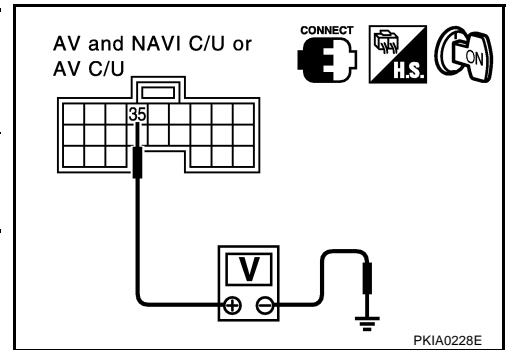
- OK >> GO TO 3.
 NG >> Replace AV and NAVI control unit

3. COMMUNICATION SIGNAL (ME-AV) CHECK

1. Turn ignition switch to ON and display "VEHICLE ELECTRONIC SYSTEMS" screen.
2. Check voltage signal between AV and NAVI control unit terminal 35 and ground.

Terminals		Reference signal
(+)		
Connector	Terminal (wire color)	(-)
B29	35 (PU)	ground

[AV-57, "Terminals and Reference Value for AV and NAVI Control unit"](#)



OK or NG

- OK >> Replace AV and NAVI control unit.
 NG >> Replace BCM .

Previous Conditions Are Not Stored.

1. BATTERY POWER CHECK

- Check AV and NAVI control unit battery power.
 Refer to [AV-75, "Power Supply and Ground Circuit Check"](#) .

OK or NG

- OK >> Replace AV and NAVI control unit
 NG >> Check AV and NAVI control unit battery power system harness

The Position of The Current-Location Mark Is Not Correct.

1. SELF-DIAGNOSIS

- "Self-diagnosis mode" of the self-diagnosis function [AV-63, "Self-Diagnosis Mode"](#) .

OK or NG

- OK >> GO TO 2.
 NG >> Check the applicable parts.

2. HISTORY OF ERRORS DIAGNOSIS

- Was any error stored in [AV-71, "HISTORY OF ERRORS"](#) of the CONFIRMATION/ADJUSTMENT mode?

YES or NO

- YES >> [AV-71, "DIAGNOSIS BY HISTORY OF ERRORS"](#).
 NO >> [AV-91, "Driving Test"](#)

NAVIGATION SYSTEM

Radio Wave From The GPS Satellite Is Not Received.

EKS001ME

1. ENVIRONMENT CHECK

- Check if any metal object that intercepts radio waves or an object that emits radio waves (such as a portable phone) is located near the GPS antenna. Check if the vehicle is shielded by a building.

OK or NG

OK >> ● System is not faulty.

The GPS antenna may not be able to receive radio waves from the GPS satellite if it is shielded by metal object or an object emitting radio waves is placed near it.

NG >> GO TO 2.

2. SELF-DIAGNOSIS

- Refer to [AV-63, "Self-Diagnosis Mode"](#).

OK or NG

OK >> Replace GPS antenna

NG >> Check the applicable parts.

Driving Test

EKS001MF

1. DRIVING TEST 1

1. Scroll the map screen to display the area to make correction. Press "ENTER" and select "CURRENT LOCATION CORRECTION".
2. Correct direction of the vehicle mark.
3. Perform the distance correction of the CONFIRMATION/ADJUSTMENT mode.
Note: Normally, adjustment is not necessary because this system has automatic distance correction function. However, when a tire chain is fitted, adjustment in accordance with the tire diameter ratio must be made.
4. Are symptoms applicable to the [AV-92, "Example of Symptoms Judged Not Abnormal"](#) present after driving the vehicle?

YES or NO

YES >> Limit of the location detection capacity of the navigation system

NO >> GO TO 2.

2. DRIVING TEST 2

- Did any problem occur when the proper test in the following test patterns is performed?
- Test pattern
Driving test finds the difference between the symptoms monitored with and without each sensor.
 - Test pattern 1: Test method with no GPS location correction
Disconnect the GPS antenna connector (GT5) connected to the AV and NAVI control unit. Accurately adjust the current position and the direction, then drive the vehicle.
 - Test pattern 2: Test method with no map-matching
Accurately adjust the current position and the direction. Eject the map DVD-ROM from the AV and NAVI control unit with the ignition switch turned to OFF, then drive the vehicle. After driving, insert the map

NAVIGATION SYSTEM

DVD-ROM back in the unit, display the track of the vehicle on the map screen and compare it with the actual road configuration.

- Sample tests
 - <To determine if the current-location mark skips at the same position, if so, whether it is caused by map-matching or by GPS>
Perform test pattern 1.
 - <To determine if the pattern of streets displayed is correct or not>
Perform test pattern 1&2.
Compare the track of the vehicle on the map screen and the actual road configuration. For fairly accurate tracking, plotting shall be made every several hundred meters.
 - <When the distance is adjusted accurately>
Perform test pattern 1&2.
Drive on a road of which distance is accurately known (by utilizing distance posts on a highway). Calculate the rate of change (increased/decreased) of the distance by comparing with the actual distance.
Correction = A/B
A: Distance shown on the screen
B: Actual distance

YES or NO

- YES >> ● If adjustment is insufficient, perform adjustment again.
- If any error is found in the map, please let us know.
 - Replace AV and NAVI control unit
- NO >> Limit of the location detection capacity of the navigation system

Example of Symptoms Judged Not Abnormal BASIC OPERATION

EKS001MG

Symptom	Cause	Remedy
No image is shown.	Display brightness adjustment is set fully to DARK side.	Adjust the display brightness.
No guide sound is heard. Audio guide volume is too low or too high.	Volume control is set to OFF, MIN or MAX.	Adjust the audio guide volume.
	Audio guidance is not available while the vehicle is driving on a dark pink route.	System is not malfunction.
Screen is too dark. Motion of the image is too slow.	Temperature inside the vehicle is low.	Wait until the temperature inside the vehicle reaches the proper temperature.
Small black or bright spots appear on the screen.	Symptom peculiar to a liquid crystal display.	System is not malfunction.

VEHICLE MARK

Symptom	Cause	Remedy
Map screen and bird view TM Name of the place vary with the screen.	Some thinning of the character data is done to prevent the display becoming to complex. In some cases and in some locations, the display contents may differ. The same place name, street name, etc. may not be displayed every time on account of the data processing.	System is not malfunction.
Vehicle mark is not positioned correctly.	Vehicle is transferred by ferry or by towing after its ignition switch is turned to OFF.	Drive the vehicle for a while in the GPS satellite signal receiving condition.
Screen will not switch to nighttime mode after the lighting switch is turned ON.	The daytime screen is selected by the "SWITCH SCREENS" when the last time the screen dimming setting is done. Switching between daytime/nighttime screen may be inhibited by the automatic illumination adjustment function.	Perform screen dimming and select the nighttime screen by "SWITCH SCREENS".
Map screen will not scroll in accordance with the vehicle travel.	Current location is not displayed.	Press "MAP" switch to display the current location.
Vehicle mark will not be shown.	Current location is not displayed.	Press "MAP" switch to display the current location.

NAVIGATION SYSTEM

Symptom	Cause	Remedy
Accuracy indicator (GPS satellite mark) on the map screen stays gray.	GPS satellite signal is intercepted because the vehicle is in or behind a building.	Move the vehicle out to an open space.
	GPS satellite signal cannot be received because an obstacle is placed on top of the display.	Do not place anything in the center on top of the display.
	GPS satellites are located badly.	Wait until the location becomes better.
Vehicle location accuracy is low.	Accuracy indicator (GPS satellite mark) on the map screen stays gray.	Current location is not determined.
	Vehicle speed setting by the vehicle speed pulse has been deviated (advanced or retarded) from the actual vehicle speed because tire chain is fitted or the system has been used on another vehicle.	Drive the vehicle for a while (for approx. 30 minutes at approx. 30 km/h(19MPH)) and the deviation will be automatically adjusted. If advancement or retard still occur, perform the distance adjustment by CONFIRMATION/ADJUSTMENT mode of diagnosis function.
	Map data has error or omission. (Vehicle mark is always deviated to the same position.)	As a rule, an updated map DVD-ROM will be released once a year.

DESTINATION, PASSING POINTS, AND MENU ITEMS CANNOT BE SELECTED/SET.

Symptom	Cause	Remedy
Destination cannot be set.	Destination to be set is on an expressway.	Set the destination on an ordinary road.
Passing point is not searched when re-searching the route.	The vehicle has already passed the passing point, or the system judged so.	To include the passing points that have been passed into the route again, set the route again.
Route information will not be displayed.	Route searching has not been done.	Set the destination and perform route searching.
	Vehicle mark is not on the recommended route.	Drive on the recommended route.
	Route guide is turned OFF.	Turn the route guide ON.
	Route information is not available on the dark pink route.	System is not malfunction.
After the route searching, no guide sign will appear as the vehicle goes near the entrance/exit to the toll road.	Vehicle mark is not on the recommended route. (On the display, only guide signs related to the recommended route will be shown.)	Drive on the recommended route.
Automatic route searching is not possible.	Vehicle is driving on a highway (gray route), or no recommended route is available.	Drive on a road to be searched. Or re-search the route manually. In this case, however, the whole route will be searched.
Performed automatic detour search (or detour search). However, the result is the same as that of the previous search.	Performed search with every conditions considered. However, the result is the same as that of the previous search.	System is not malfunction.
Passing points cannot be set.	More than five passing points were set.	Passing points can be set up to five. To stop at more than five points, perform sharing in several steps.
When setting the route, the starting point cannot be selected.	The current vehicle location is always set as the starting point of a route.	System is not malfunction.
Some menu items cannot be selected.	The vehicle is being driven.	Stop the vehicle at a safe place and then operate the system.

NAVIGATION SYSTEM

VOICE GUIDE

Symptom	Cause	Remedy
Voice guide will not operate.	Note: Voice guide is only available at intersections that satisfy certain conditions (indicated by ● on the map). Therefore, guidance may not be given even when the route on the map changes direction.	System is not malfunction.
	The vehicle is not on the recommended route.	Return to the recommended route or re-search the route.
	Voice guide is turned OFF.	Turn the voice guide ON.
	Route guide is turned OFF.	Turn the route guide ON.
Voice guide does not match the actual road pattern.	Voice guide may vary with the direction to which the vehicle is turn and the connection of the road to other roads.	Drive in conformity to the actual traffic rules.

ROUTE SEARCHING

Symptom	Cause	Remedy
No route is shown.	No road to be searched is found around the destination.	Find wider road (orange road or wider) nearby and reset the destination and passing points onto it. Take care of the traveling direction when there are separate up and down roads.
	Starting point and the destination are too close.	Set the destination at more distant point.
	Conditional traffic regulation (day of the week/ time of the day) is set at the area around the current position or the destination.	Turn the time-regulating search conditions OFF. Turn "Avoid regulation time" in the search conditions OFF.
Indicated route is intermittent.	In some areas, highways (gray routes) are not used for the search ^(Note) Therefore, the route to the current position or the passing points may be intermittent.	System is not malfunction.
When the vehicle has passed the recommended route, it is deleted from the screen.	A recommended route is controlled by each section. When the vehicle has passed the passing point 1, then the map data from the starting point up to the passing point 1 will be deleted. (The data may remain undeleted in some area.)	System is not malfunction.
Detouring route is recommended.	In some areas, highways (gray routes) are not used for the search. (Note). Therefore, detour route may be recommended.	Set the route closer to the basic route (gray route).
	A detour route may be shown when some traffic regulation (one-way traffic, etc.) is set at the area around the starting point or the destination.	Slightly move the starting point or the destination, or set the passing point on the route of your choice.
	In the area where highways (gray routes) are used for the search, left turn has priority around the current position and the destination (passing points). For this reason, the recommended route may be detouring.	System is not malfunction.
Landmarks on the map do not match the actual ones.	This can be happen due to omission or error in the map data.	As a rule, an updated map DVD-ROM will be released once a year. Wait until the latest map has become available.
Recommended route is far from the starting point, passing points, and destination.	Starting point, passing points, and destination of the route guide were set far from the desired points because route searching data around these area were not stored.	Reset the destination onto the road nearby. If this road is one of the highways (gray routes), an ordinary road nearby may be displayed as the recommended route.

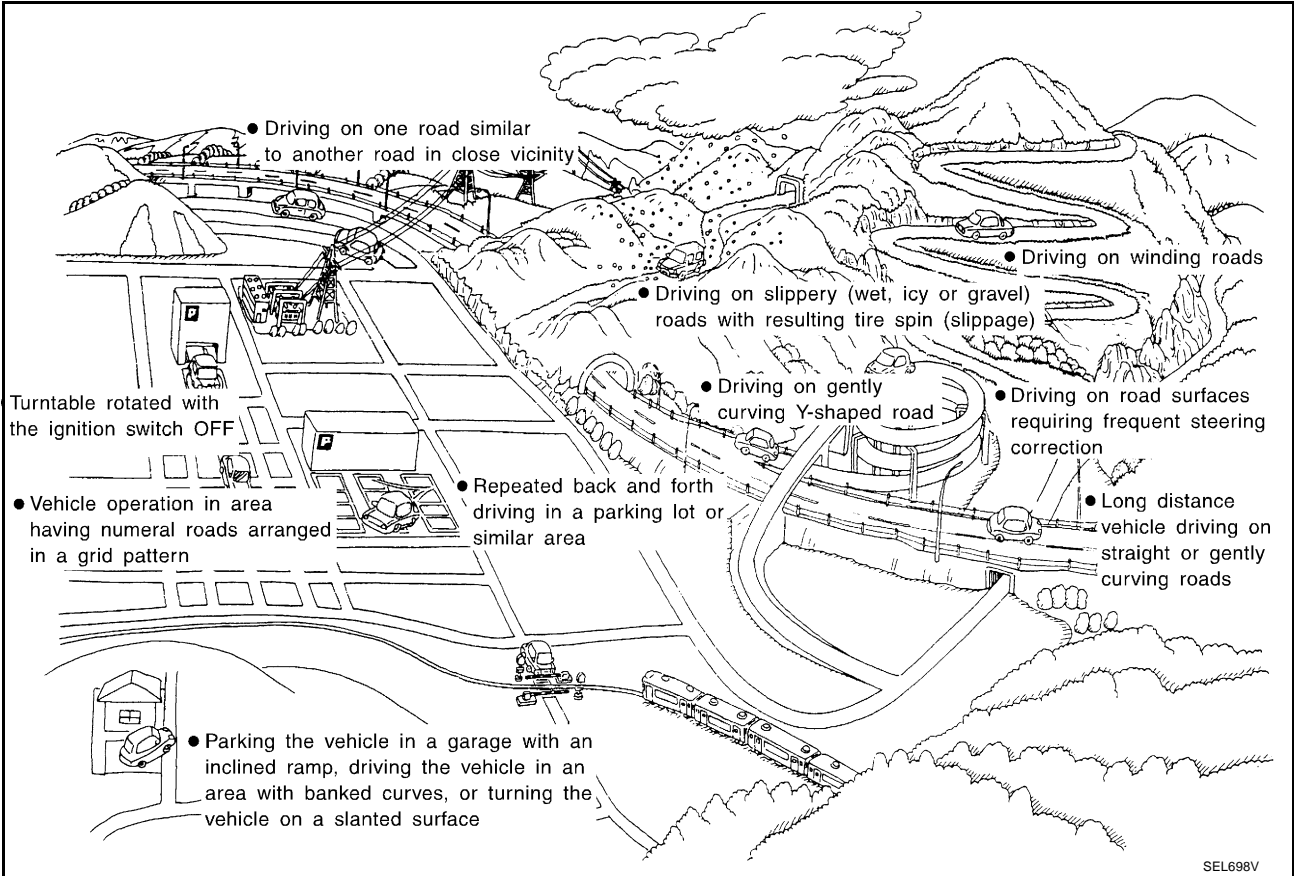
NOTE:

Except for the ordinance-designated cities and the prefectural capitals (Applicable areas may be changed in the updated map disc.)

NAVIGATION SYSTEM

EXAMPLES OF CURRENT-LOCATION MARK DISPLACEMENT

Vehicle's travel amount is calculated by reading its travel distance and turning angle. Therefore, if the vehicle is driven in the following manner, an error will occur in the vehicle's current location display. If correct location has not been restored after driving the vehicle for a while, perform location correction.

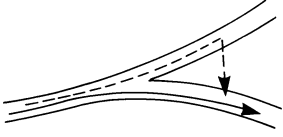
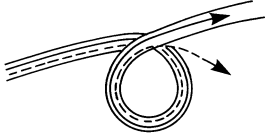
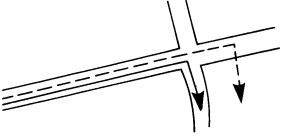
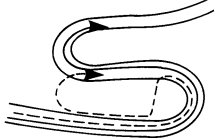
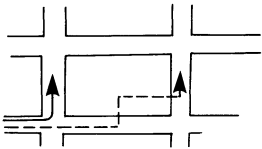
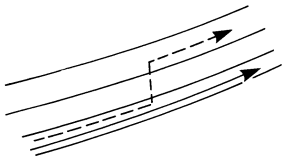


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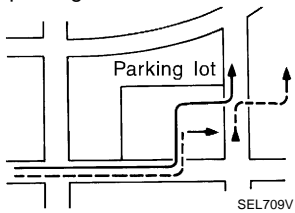
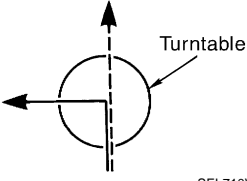
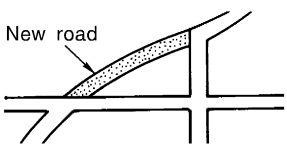
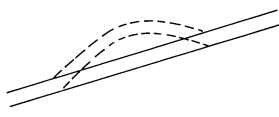
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NAVIGATION SYSTEM

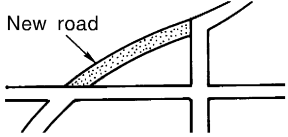
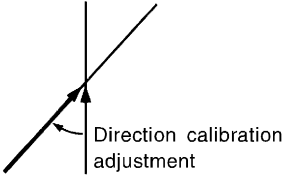
	Cause (condition) -:While driving ooo:Display	Driving condition	Remarks (correction, etc.)
Road configuration	<p>Y-intersections</p>  <p style="text-align: center; font-size: small;">ELK0192D</p>	<p>At a Y intersection or similar gradual division of roads, error the direction of travel deduced by the sensor may result in the current-location mark appearing on the wrong road.</p>	
	<p>Spiral roads</p>  <p style="text-align: center; font-size: small;">ELK0193D</p>	<p>When driving on a large, continuous spiral road (such as loop bridge), turning angle error is accumulated and the vehicle mark may deviate from the correct location.</p>	
	<p>Straight roads</p>  <p style="text-align: center; font-size: small;">ELK0194D</p>	<p>When driving on a long, straight road and slow curve without stopping, map-matching does not work effectively enough and distance errors may accumulate. As a result, the vehicle mark may deviate from the correct location when the vehicle turned at a corner.</p>	<p>If after travelling about 10 km(6miles) the correct location has not been restored, perform location correction and, if necessary, direction correction.</p>
	<p>Zigzag roads</p>  <p style="text-align: center; font-size: small;">ELK0195D</p>	<p>When driving on a zigzag road, the map may be matched to other roads in the similar direction nearby at every turn, and the vehicle mark may deviate from the correct location.</p>	
	<p>Roads laid out in a grid pattern</p>  <p style="text-align: center; font-size: small;">ELK0196D</p>	<p>When driving at where roads are laid out in a grid pattern, where many roads are running in the similar direction nearby, the map may be matched to them by mistake and the vehicle mark may deviate from the correct location.</p>	
	<p>Parallel roads</p>  <p style="text-align: center; font-size: small;">ELK0197D</p>	<p>When two roads are running in parallel (such as highway and side-way), the map may be matched to the other road by mistake and the vehicle mark may deviate from the correct location.</p>	

NAVIGATION SYSTEM

	Cause (condition) -:While driving ooo:Display	Driving condition	Remarks (correction, etc.)
Place	In a parking lot  SEL709V	When driving in a parking lot, or other location where there are no roads on the map, matching may place the vehicle mark on a nearby road. When the vehicle returns to the road, the vehicle mark may have deviated from the correct location. When driving in circle or turning the steering wheel repeatedly, direction errors accumulate, and the vehicle mark may deviate from the correct location.	If after travelling about 10km (6miles) the correct location has not been restored, perform location correction and, if necessary, direction correction.
	Turn table  SEL710V	When the ignition switch is OFF, the navigation system cannot get the signal from the gyroscope (angular speed sensor). Therefore, the displayed direction may be wrong and the correct road may not be easily returned to after rotating the vehicle on a turn table with the ignition OFF.	
	Slippery roads	On snow, wet roads, gravel, or other roads where tires may slip easily, accumulated mileage errors may cause the vehicle mark to deviate from the correct road.	
	Slopes	When parking in sloped garages, when travelling on banked roads, or in other cases where the vehicle turns when tilted, an error in the turning angle will occur, and the vehicle mark may deviate from the road.	
Map data	Road not displayed on the map screen  SEL699V	When driving on new roads or other roads not displayed on the map screen, map matching does not function correctly and matches the location to a nearby road. When the vehicle returns to a road which is on the map, the vehicle mark may deviate from the correct road.	
	Different road pattern (Changed due to repair)  ELK0201D	If the road pattern stored in the map data and the actual road pattern are different, map matching does not function correctly and matches the location to a nearby road. The vehicle mark may deviate from the correct road.	
Vehicle	Use of tire chains	When tire chains are used, the mileage is not correctly detected, and the vehicle mark may deviate from the correct road.	Drive the vehicle for a while. If the distance is still deviated, adjust it by using the distance adjustment function. (If the tire chain is removed, recover the original value.)

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NAVIGATION SYSTEM

Cause (condition)	-:While driving ooo:Display	Driving condition	Remarks (correction, etc.)
Precautions for driving	Just after the engine is started	If the vehicle is driven off just after the engine is started when the gyroscope (angular speed sensor) correction is not completed, the vehicle can lose its direction and may have deviated from the correct location.	Wait for a short while before driving after starting the engine.
	Continuous driving without stopping	When driving long distances without stopping, direction errors may accumulate, and the current-location mark may deviate from the correct road.	Stop and adjust the orientation.
	Abusive driving	Spinning the wheels or engaging in other kinds of abusive driving may result in the system being unable to perform correct detection, and may cause the vehicle mark to deviate from the correct road.	If after travelling about 10 km (6miles) the correct location has not been restored, perform location correction and, if necessary, direction correction.
How to correct location	Position correction accuracy  <small>SEL699V</small>	If the accuracy of location settings is poor, accuracy may be reduced when the correct road cannot be found, particularly in places where there are many roads.	Enter in the road displayed on the screen with an accuracy of approx. 1mm. Caution: Whenever possible, use detailed map for the correction.
	Direction when location is corrected  <small>SEL702V</small>	If the accuracy of location settings during correction is poor, accuracy may be reduced afterwards.	Perform direction correction.

THE CURRENT POSITION MARK SHOWS A POSITION WHICH IS COMPLETELY WRONG.

In the following cases, the current-location mark may appear on a completely different position in the map depending on the GPS satellite signal receiving conditions. In this case, perform location correction and direction correction.

- When location correction has not been done
 - If the receiving conditions of the GPS satellite signal is poor, if the current-location mark becomes out of place, it may move to a completely different location and not come back if location correction is not done. The position will be corrected if the GPS signal can be received.
- When the vehicle has traveled by ferry, or when the vehicle has been being towed
 - Because calculation of the current location cannot be done when travelling with the ignition OFF, for example when traveling by ferry or when being towed, the location before travel is displayed. If the precise location can be detected with GPS, the location will be corrected.

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
 - If the current location and the current-location mark are different when map matching is done, the current-location mark may seem to jump. At this time, the location may be "corrected" to the wrong road or to a location which is not on a road.
- When GPS location correction has been done
 - If the current location and the current-location mark are different when the location is corrected using GPS measurements, the current-location mark may seem to jump. At this time, the location may be "corrected" to a location which is not on a road.

NAVIGATION SYSTEM

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. If the location mark is somehow out of place, it may appear that the vehicle is driving in a river or the sea.

WHEN DRIVING ON THE SAME ROAD, SOMETIMES THE CURRENT-LOCATION MARK IS IN THE RIGHT PLACE AND SOMETIMES IT IS THE WRONG PLACE.

The conditions of the GPS antenna (GPS data) and gyroscope (angular speed sensor) change gradually. Depending on the road traveled and the operation of the steering wheel, the location detection results will be different. Therefore, even on a road on which the location has never been wrong, conditions may cause the vehicle mark to deviate.

LOCATION CORRECTION BY MAP MATCHING IS SLOW.

- The map matching function needs to refer to the data of the surrounding area. It is necessary to drive some distance for the function to work.
- Because map matching operates on this principle, when there are many roads running in similar directions in the surrounding area, no matching determination may be made. The location may not be corrected until some special feature is found.

ALTHOUGH THE GPS RECEIVING DISPLAY IS GREEN, THE VEHICLE MARK DOES NOT RETURN TO THE CORRECT LOCATION.

- The GPS accuracy has an error of about 100 m (300ft). 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 which is determined to have higher accuracy is used.
- GPS location correction may not be performed when the vehicle is stopped.

THE NAME OF THE CURRENT PLACE IS NOT DISPLAYED.

The current place name may not be displayed if there are no place names displayed on the map screen.

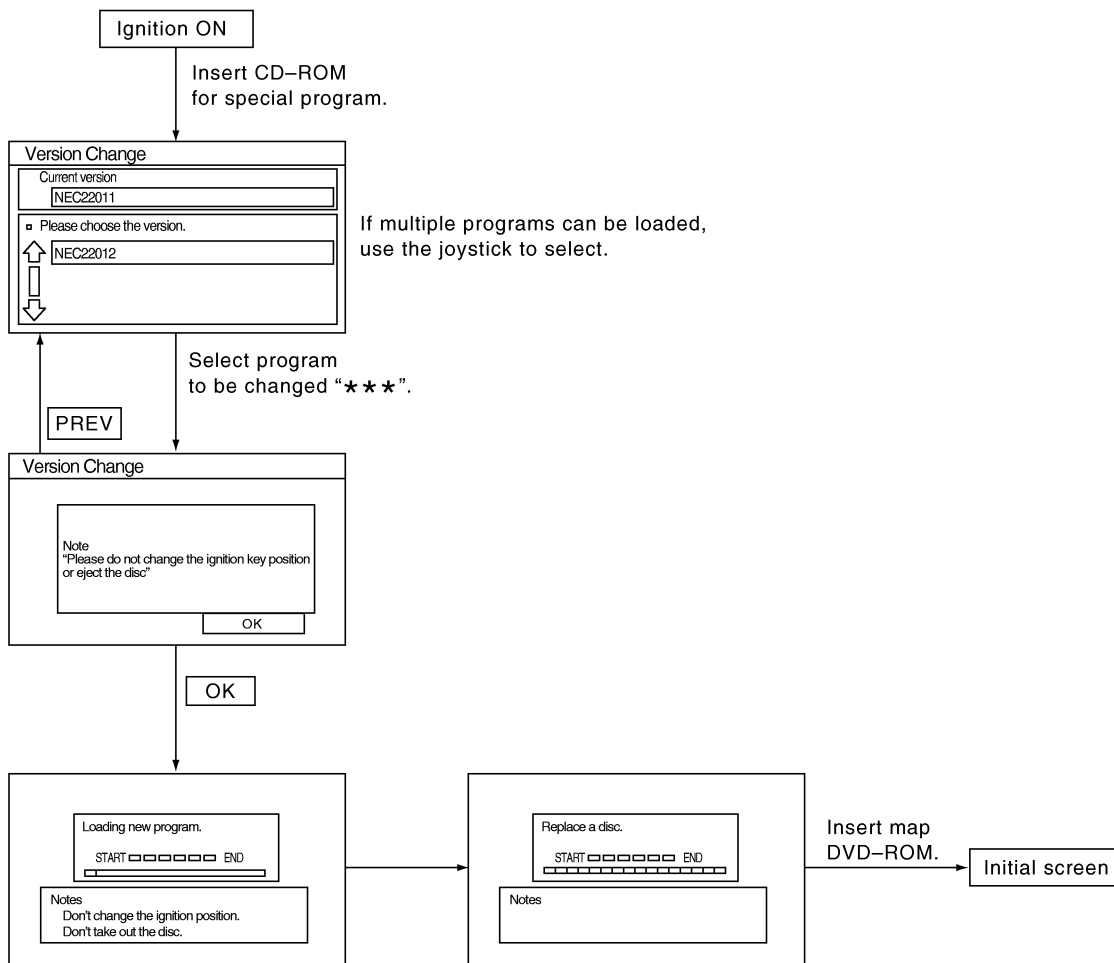
CONTENTS OF THE DISPLAY DIFFER FOR THE BIRD VIEW™ AND THE (FLAT) MAP SCREEN.

Difference of the bird view™ screen from the flat map screen are as follows.

- The current place name displays names which are primarily in the direction of vehicle travel.
- The amount of time before the vehicle travel or turn angle is updated on the screen is longer than for the (flat) map display.
- The conditions for display of place names, roads, and other data are different for nearby areas and for more distant areas.
- Some thinning of the character data is done to prevent the display becoming too complex. In some cases and in some locations, the display contents may differ.
- The same place name, street name, etc. may be displayed multiple times.

Program Loading

EKS001MH



NOTE: Always load a program with the engine running.

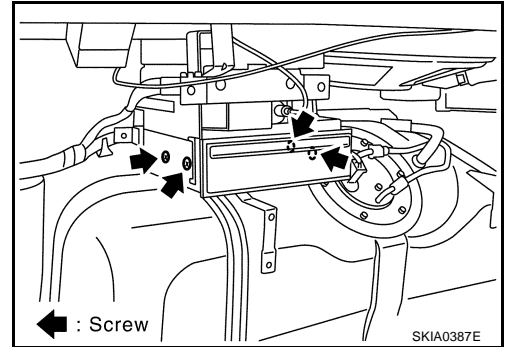
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NAVIGATION SYSTEM

Removal and Installation of AV and NAVI Control Unit

EKS001MJ

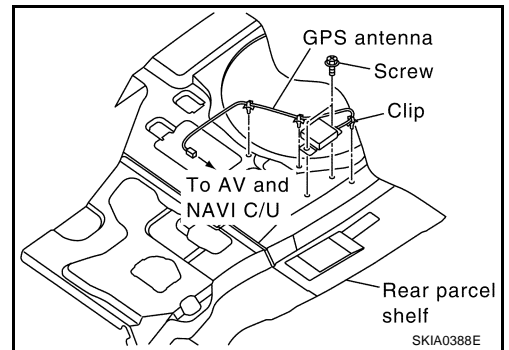
1. Refer to [AV-44, "Precautions for AV and NAVI Control Unit Replacement"](#) . and Take a note of necessary items.
2. Remove the trunk compartment trim. [EI-51, "TRUNK ROOM TRIM & TRUNK LID FINISHER"](#) .
3. Remove the screws and remove the AV and NAVI control unit.



Removal and Installation of GPS Antenna

EKS001MJ

1. Remove rear parcel shelf finisher. [EI-40, "REAR PARCEL SHELF FINISHER"](#) .
2. Remove the screws and remove the GPS antenna.



Removal and Installation of Steering Wheel Switch

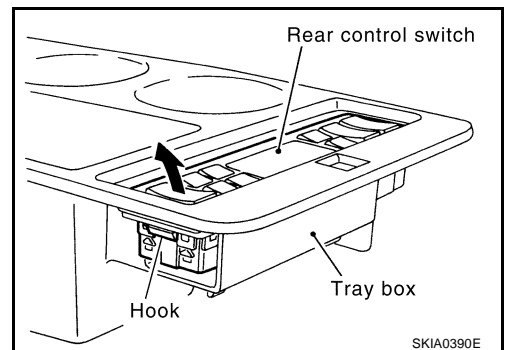
EKS001MK

[SRS-34, "DRIVER AIR BAG MODULE"](#).

Removal and Installation of Rear Control Switch

EKS001ML

1. Remove the tray box from the center armrest. [SE-123, "CENTER SEATBACK ASSEMBLY"](#) .
2. Remove the rear control switch from the tray box.



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