SECTION AV

AUDIO, VISUAL, NAVIGATION & TELEPHONE SYSTEM

CONTENTS

PRECAUTIONS

PFP:00001

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

AKS007WC

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

WARNING:

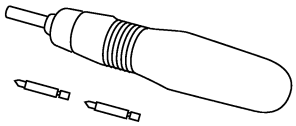
- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper maintenance, including incorrect removal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

PREPARATION

PFP:00002

Commercial Service Tools

AKS007VM

Tool name	Description
Power tool  PBIC0191E	Loosening bolts and nuts

AUDIO

PFP:28111

System Description

AKS005EV

BASE SYSTEM

For Audio System operation information, refer to Owner's Manual.
Power is supplied at all times

- through 15A fuse [No. 38, located in the fuse and fusible link block]
- to audio unit terminal 6
- to display unit terminal 1
- to A/C and AV switch terminal 1
- to option connector for satellite radio receiver terminal 22
- to option connector for DVD terminal 1.

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

- through 10A fuse [No. 6, located in the fuse block (J/B)]
- to audio unit terminal 10
- to display unit terminal 2
- to A/C and AV switch terminal 2
- to option connector for satellite radio receiver terminal 26
- to option connector for DVD terminal 2.

Ground is supplied through the case of the audio unit.
Audio unit and A/C and AV switch are connected by FPC (Flexible Print Circuit).
A/C and audio controller integrates A/C switches and audio switches.
When A/C and audio controller is pressed to audio switch, it sends audio signal to audio unit.
Then audio signals are supplied

- through audio unit terminals 1, 2, 3, 4, 13, 14, 15, and 16
- to terminals 1 and 2 of front door speaker LH and RH
- to terminals 1 and 2 of rear door speaker LH and RH
- to terminals 1 and 2 of tweeter LH and RH.

When one of audio steering wheel switch is pressed to volume up, seek up, or mode ON, resistance in audio steering wheel switch circuit changes depending on which button is pressed.
When one of audio steering wheel switch is pressed to volume down, seek down, or power ON, resistance in audio steering wheel switch circuit changes depending on which button is pressed.

BOSE SYSTEM

For Audio System operation information, refer to Owner's Manual.
Power is supplied at all times

- through 15A fuse [No. 38, located in the fuse and fusible link block]
- to audio unit terminal 6
- to BOSE speaker amp. terminal 1
- to A/C and AV switch terminal 1
- to display control unit terminal 1 (with navigation system)
- to display unit terminal 1 (without navigation system)
- to option connector for satellite radio receiver terminal 22
- to option connector for DVD terminal 1.

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

- through 10A fuse [No. 6, located in the fuse block (J/B)]
- to audio unit terminal 10
- to A/C and AV switch terminal 2
- to display control unit terminal 10 (with navigation system)
- to display unit terminal 2 (without navigation system)
- to option connector for satellite radio receiver terminal 26
- to option connector for DVD terminal 2.

Ground is supplied through the case of the audio unit.
Ground is also supplied

- to BOSE speaker amp. terminal 17
- through body ground B105 and B116,
- to A/C and AV switch terminal 5
- to display control unit terminal 3 (with navigation system)
- to display terminal 1 (with navigation system)
- to display unit terminal 6 (without navigation system)
- to option connector for DVD terminal 3
- through body ground M14 and M78.

Audio unit and A/C and AV switch are connected by FPC (Flexible Print Circuit).
A/C and audio controller integrates A/C switches and audio switches.
When A/C and audio controller is pressed to audio switch, it send audio signal to audio unit.
Then audio signals are supplied

- through audio unit terminals 1, 2, 3, 4, 13, 14, 15, and 16
- to BOSE speaker amp. terminals 23, 24, 25, 26, 27, 28, 29, and 30.

Audio signals are amplified by the BOSE speaker amp.
The amplified audio signals are supplied

- through BOSE speaker amp. terminals 2, 3, 9,10,11,12, 13, 14, 15, 16, 18, and 19
- to terminals 1 and 2 of front door speaker LH and RH
- to terminals 1 and 2 of rear door speaker LH and RH
- to terminals 1 and 2 of tweeter LH and RH
- to terminals 2, 3, 4 and 6 of woofer.

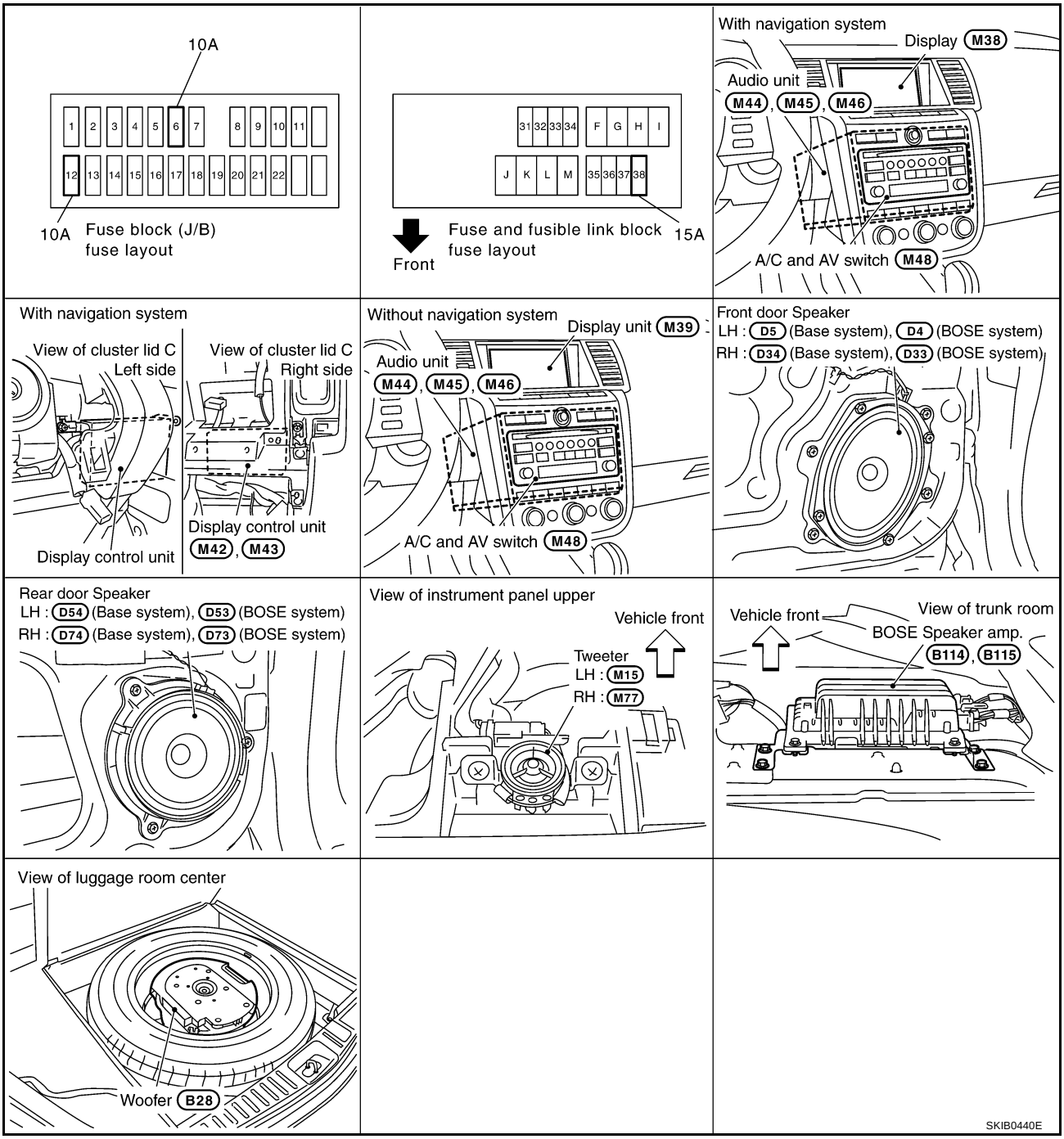
When one of audio steering wheel switch is pressed to volume up, seek up, or mode ON, resistance in audio steering wheel switch circuit changes depending on which button is pressed.
When one of audio steering wheel switch is pressed to volume down, seek down, or power ON, resistance in audio steering wheel switch circuit changes depending on which button is pressed.

SPEED SENSITIVE VOLUME SYSTEM

Volume level of this system gone up and down automatically in proportion to the vehicle speed. And the control level can be selected by the customer. This system is equipped for BOSE system.

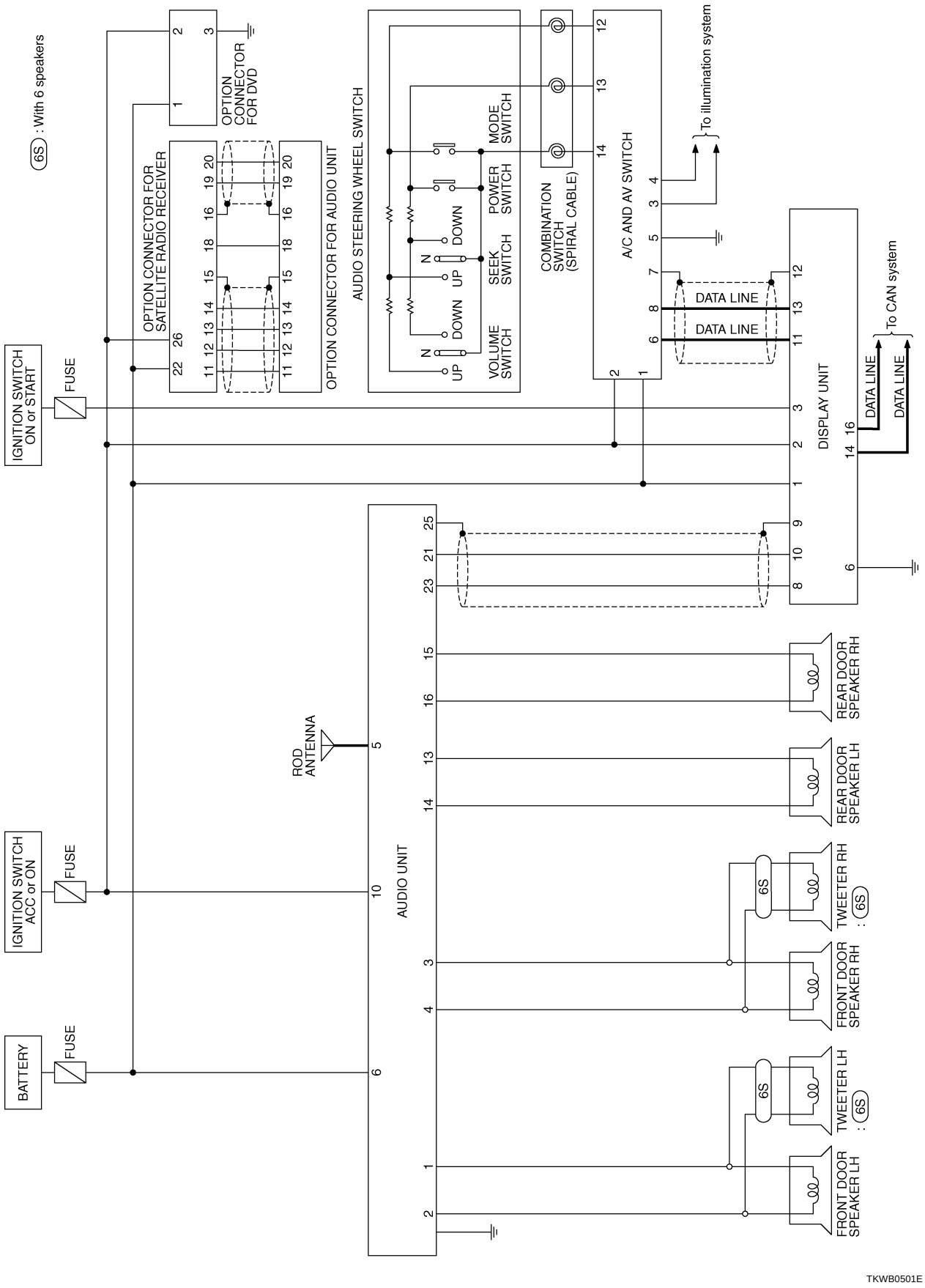
Component Parts and Harness Connector Location

AKS007I2



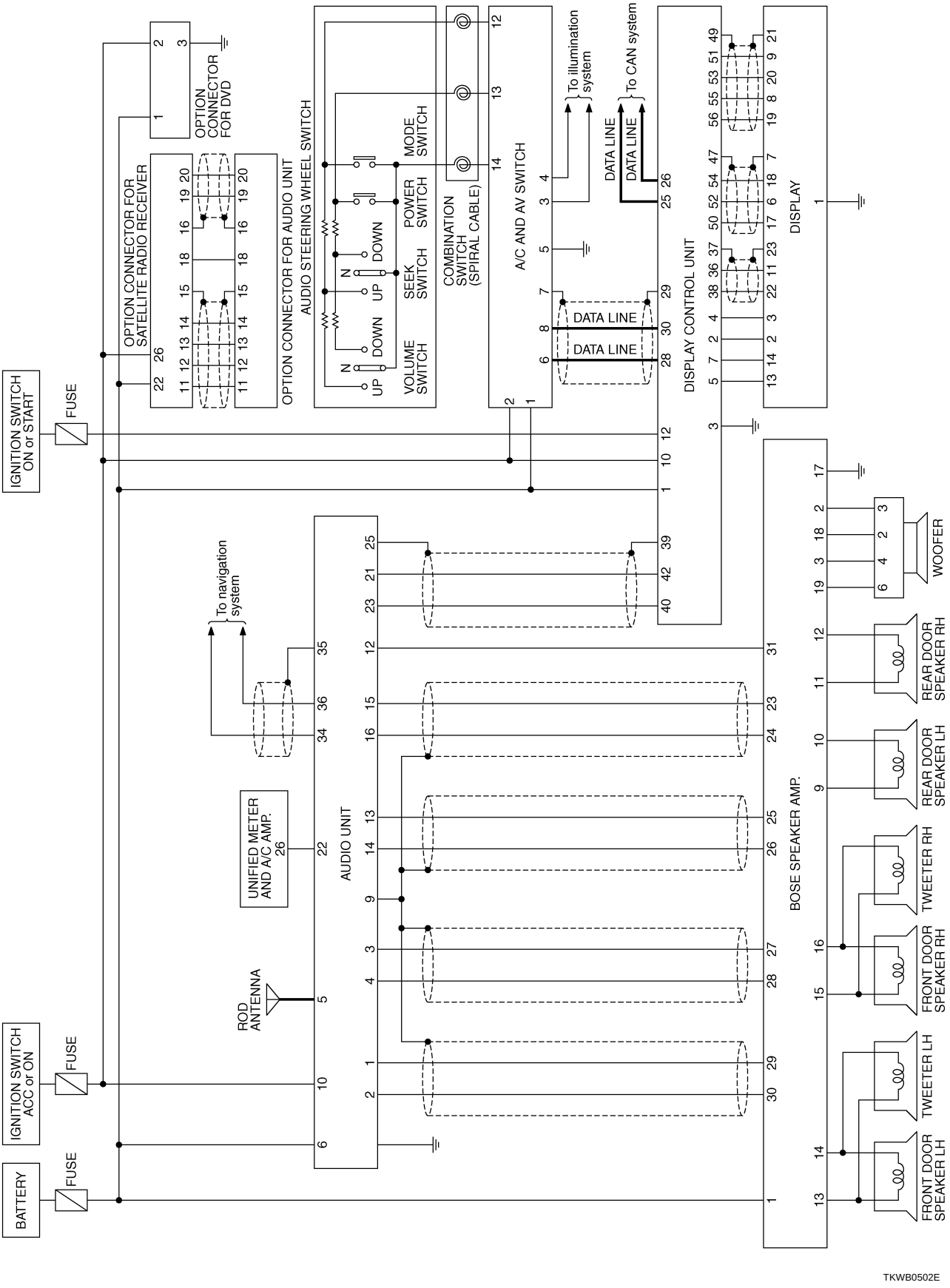
Schematic
BASE SYSTEM

AKS005EW



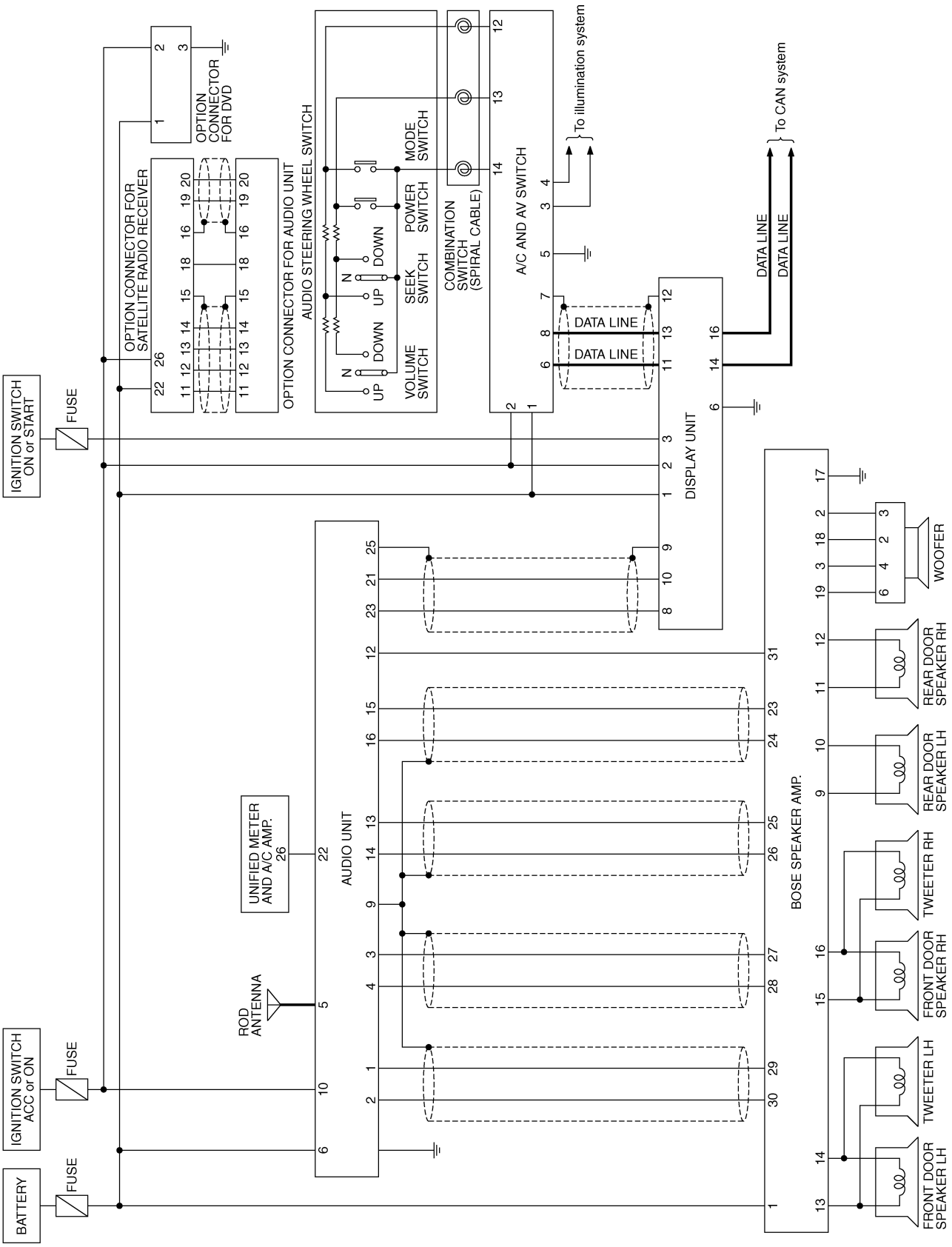
TKWB0501E

BOSE SYSTEM WITH NAVIGATION SYSTEM



TKWB0502E

BOSE SYSTEM WITHOUT NAVIGATION SYSTEM



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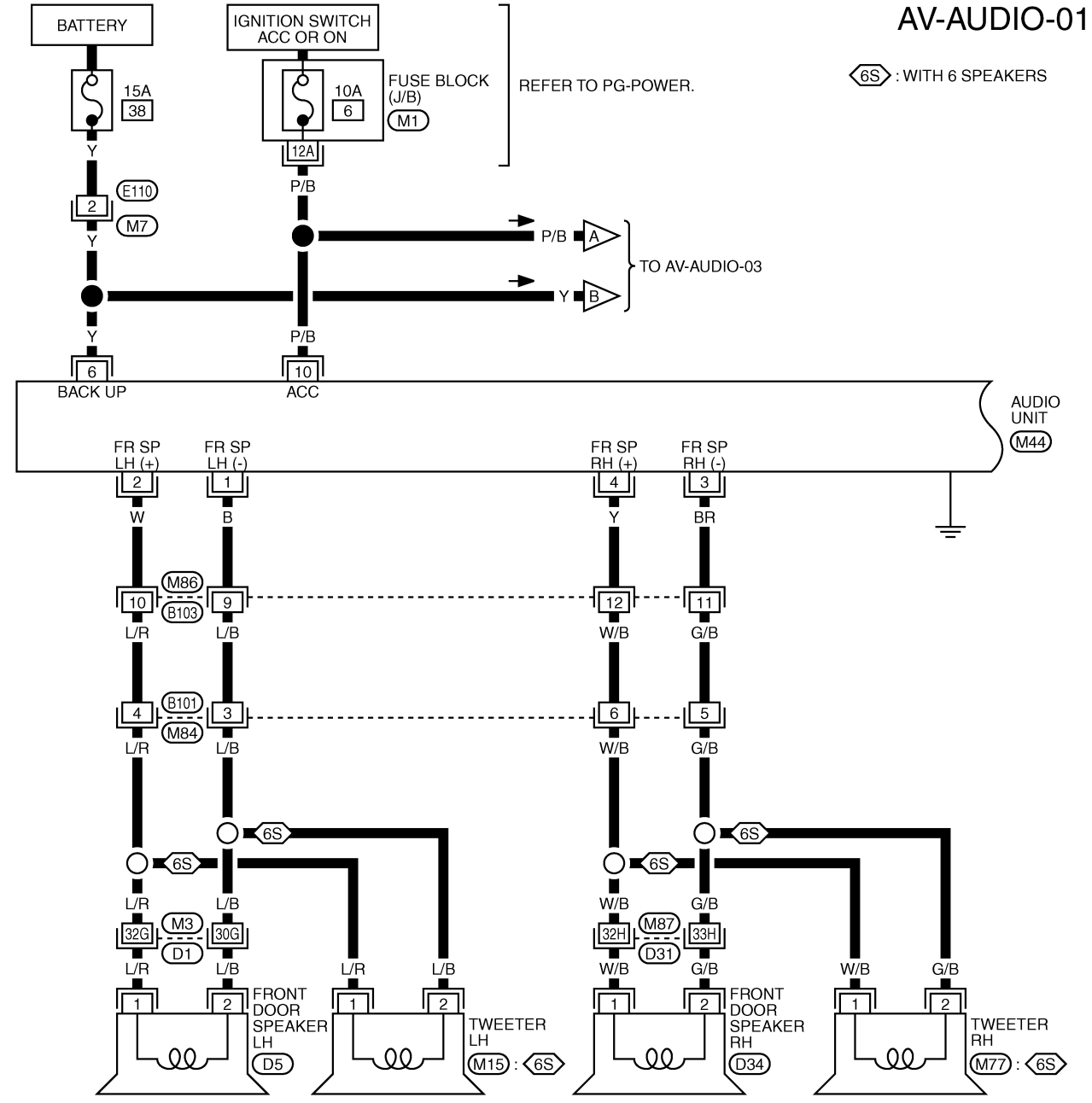
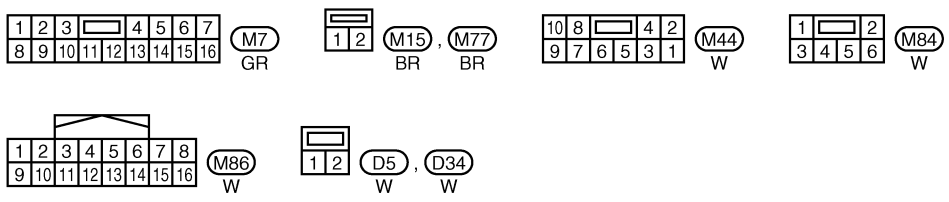
Wiring Diagram — AUDIO —

AKS005EX

BASE SYSTEM





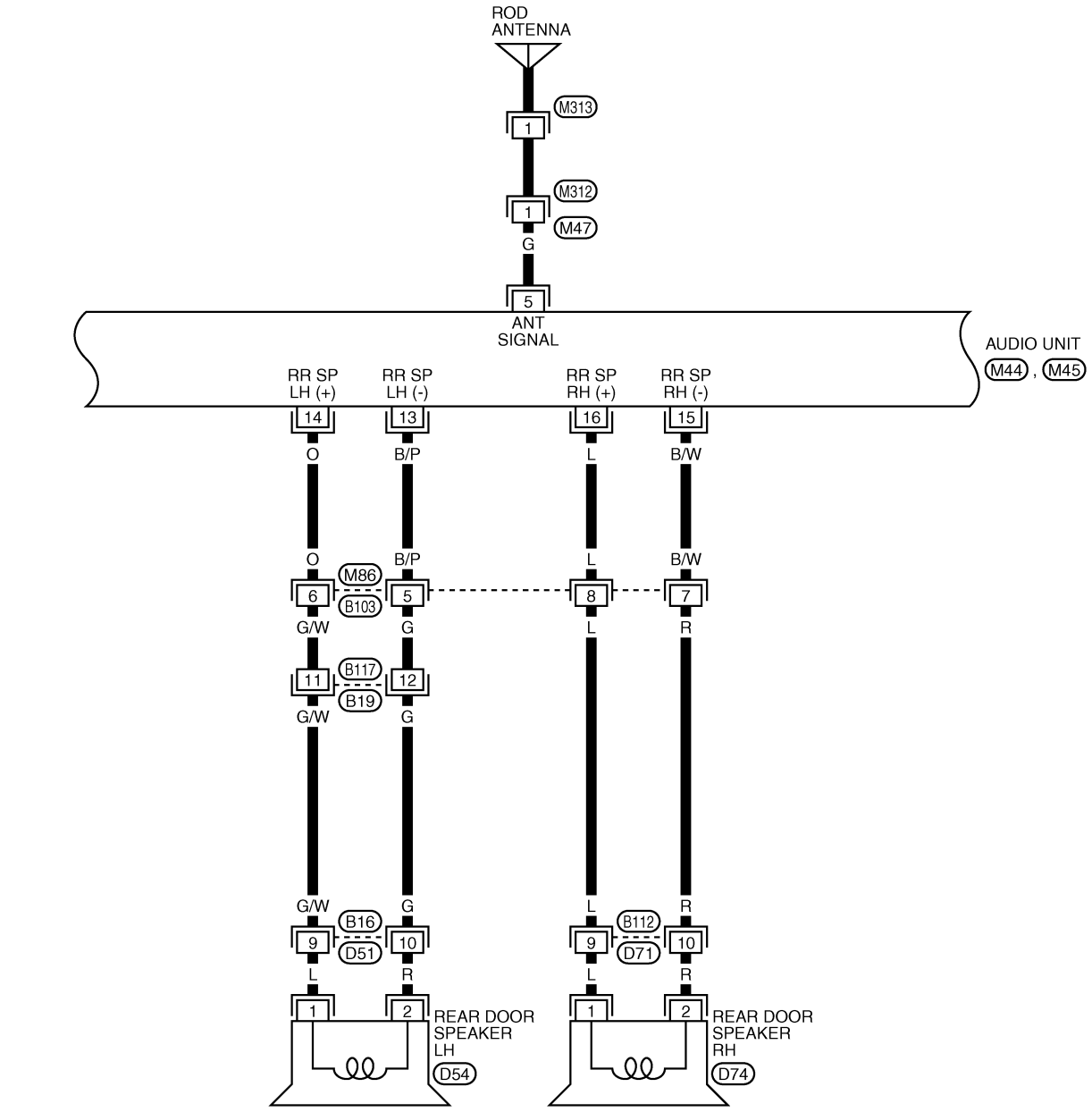
REFER TO THE FOLLOWING.

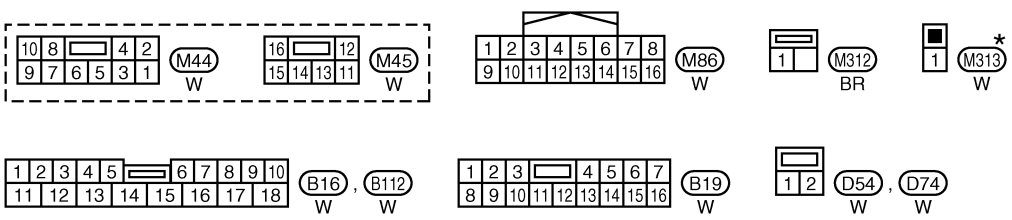
D1 , D31 -SUPER MULTIPLE JUNCTION (SMJ)

M1 -FUSE BLOCK-JUNCTION BOX (J/B)

TKWB0504E

AV-AUDIO-02

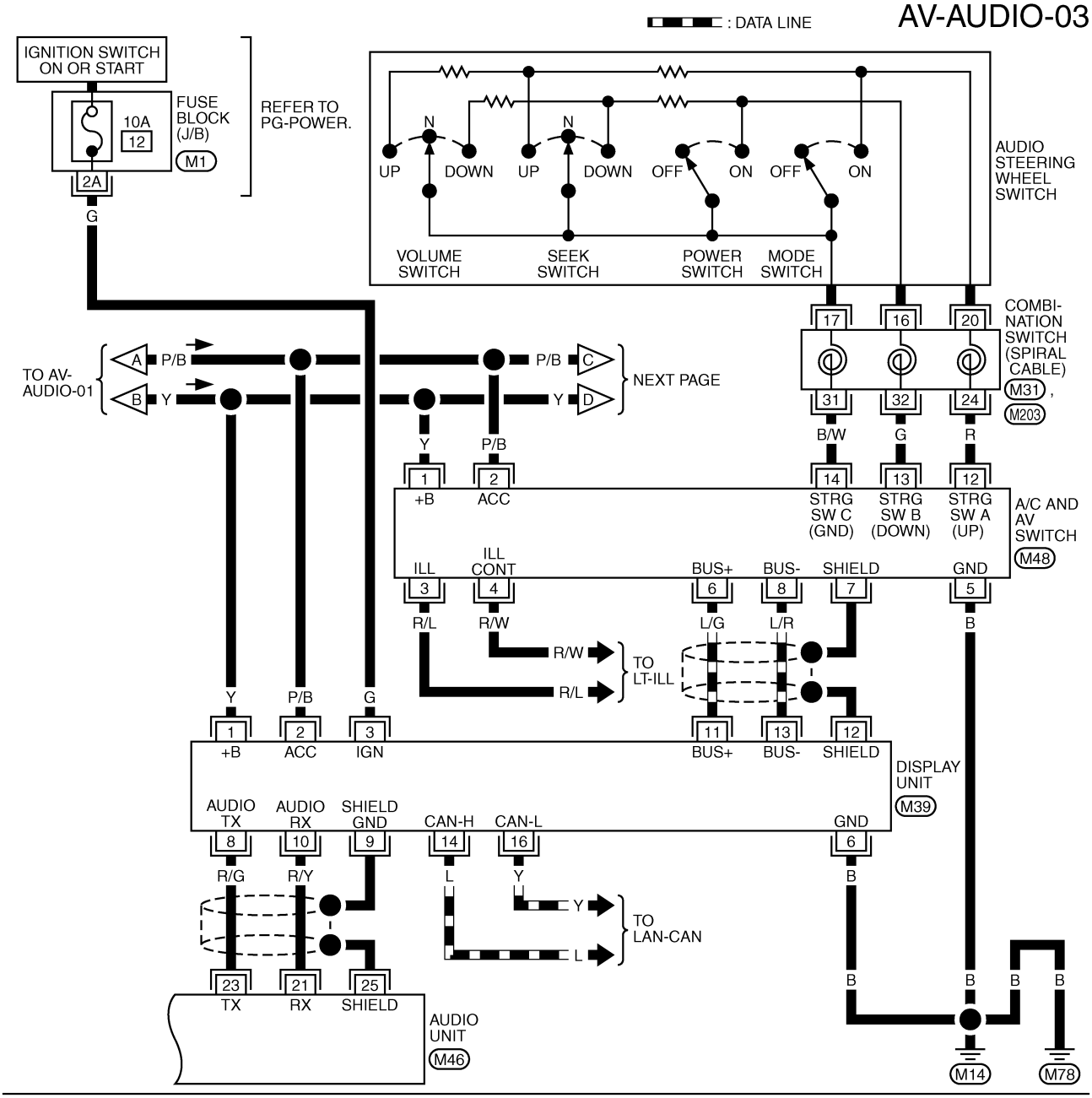


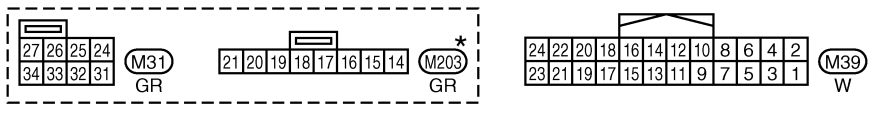


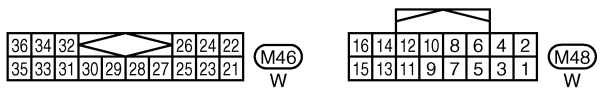
*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

TKWB0505E

AV-AUDIO-03







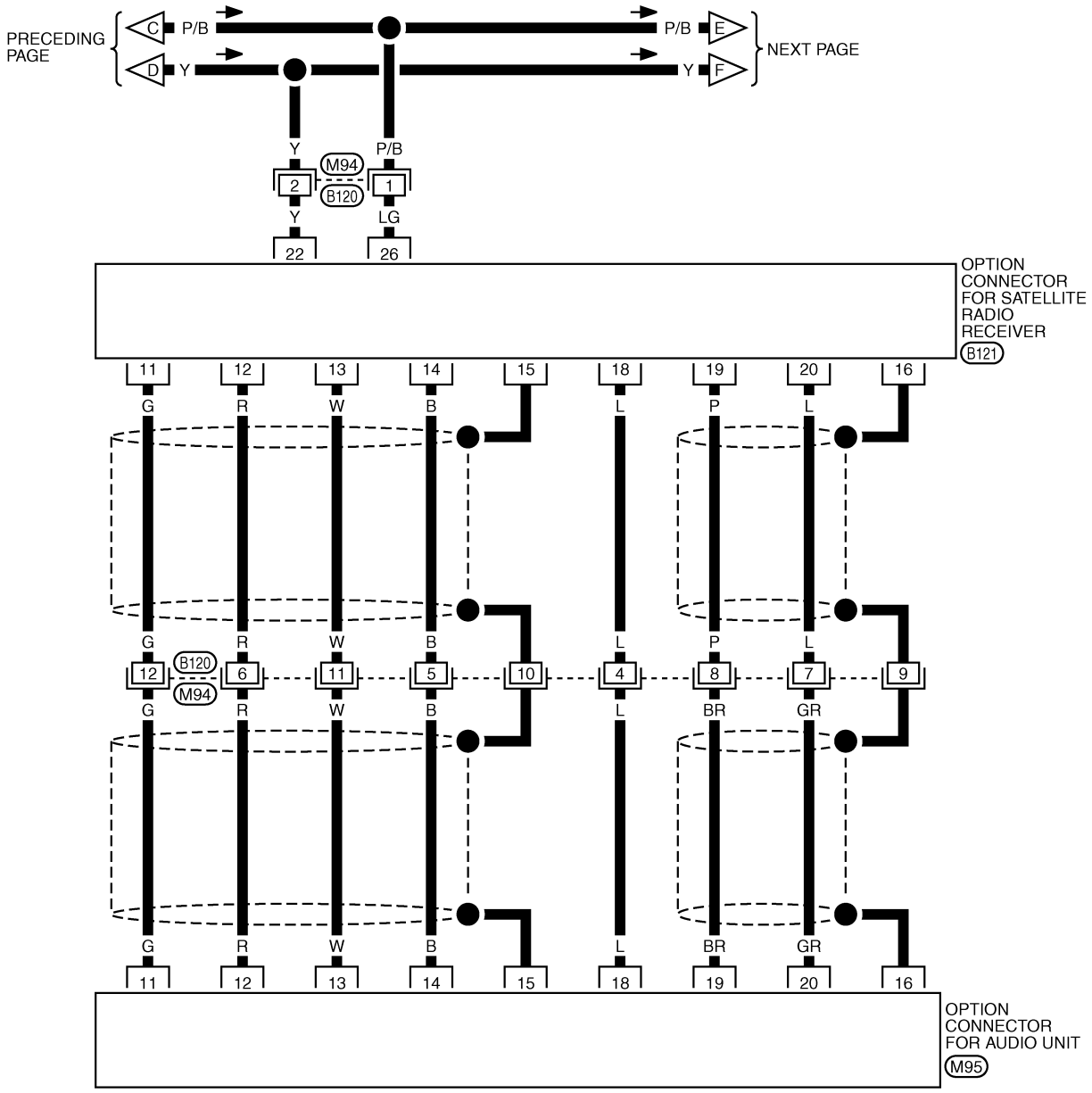
∗: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

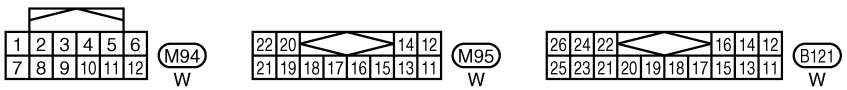
REFER TO THE FOLLOWING.

M1 -FUSE BLOCK-JUNCTION BOX (J/B)

TKWB0120E

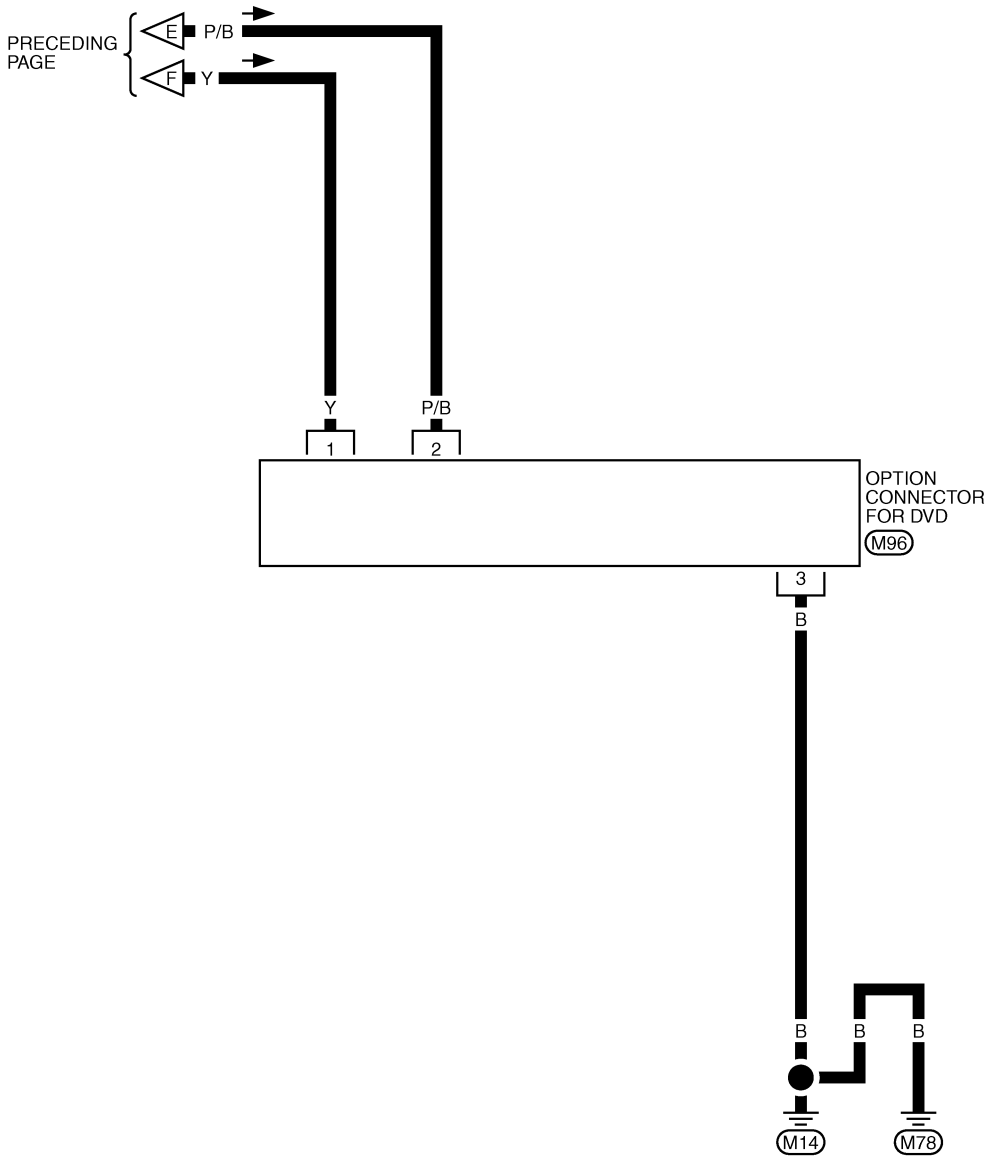
AV-AUDIO-04

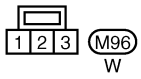




TKWB0507E

AV-AUDIO-05

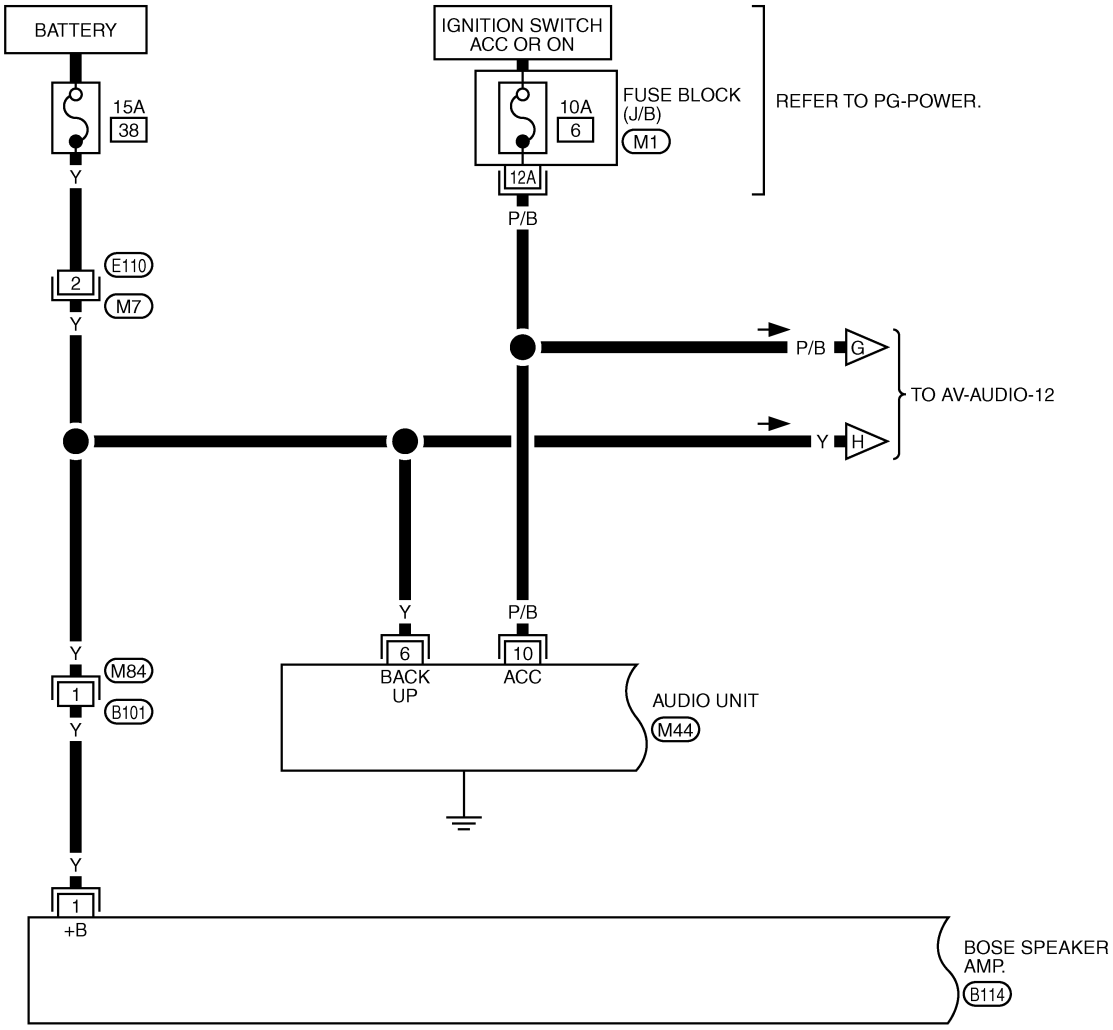


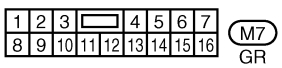


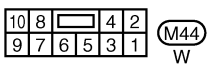
TKWB0097E

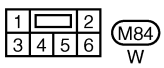
BOSE SYSTEM WITH NAVIGATION SYSTEM

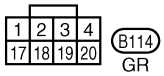
AV-AUDIO-06







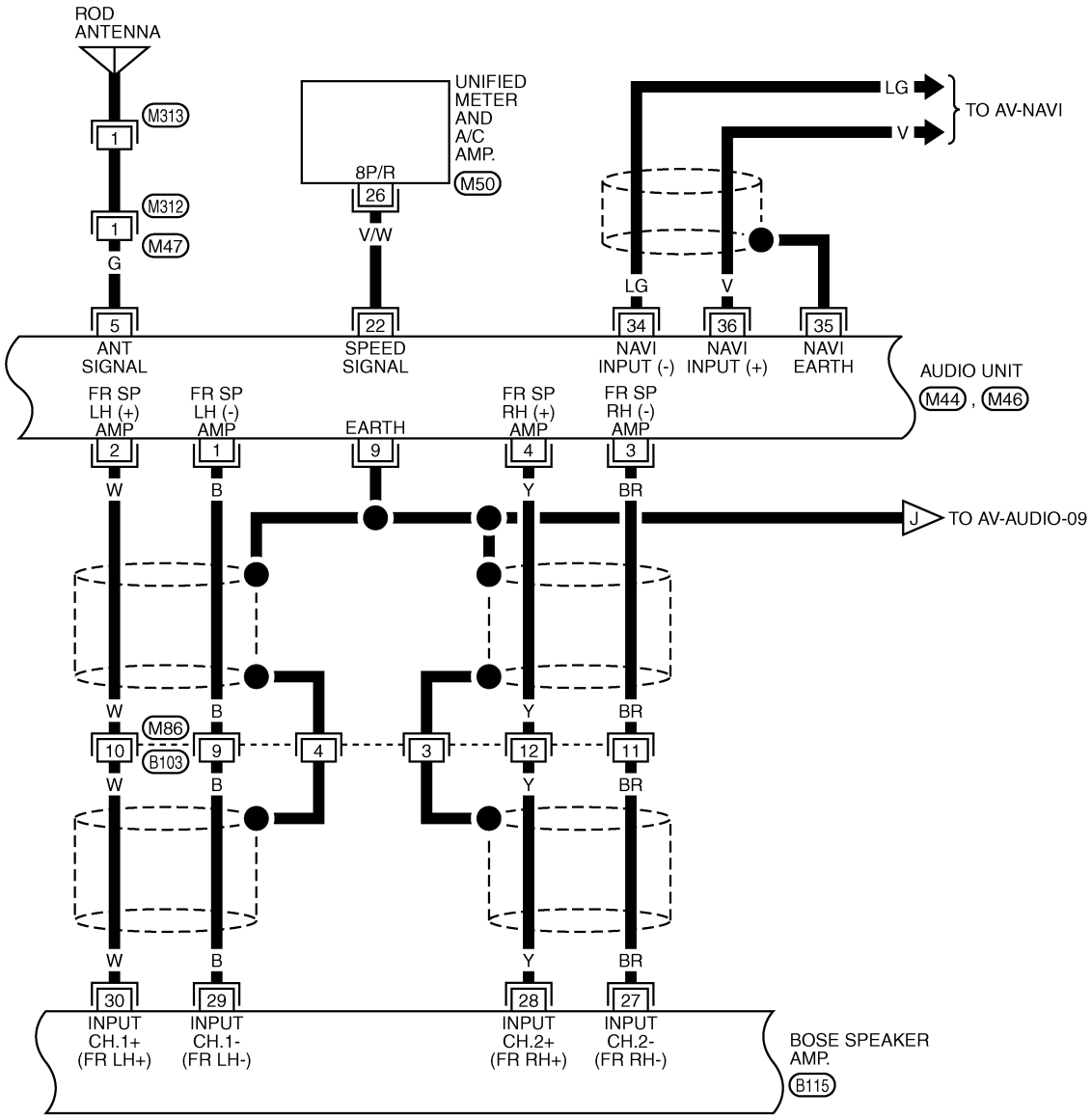


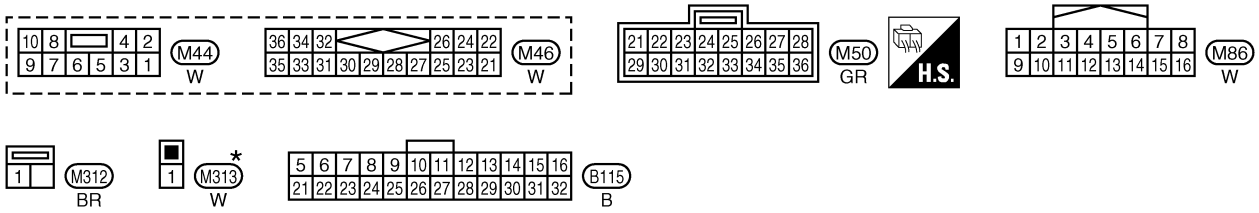


REFER TO THE FOLLOWING.
M1 -FUSE BLOCK-JUNCTION BOX (J/B)

TKWB0084E

AV-AUDIO-07

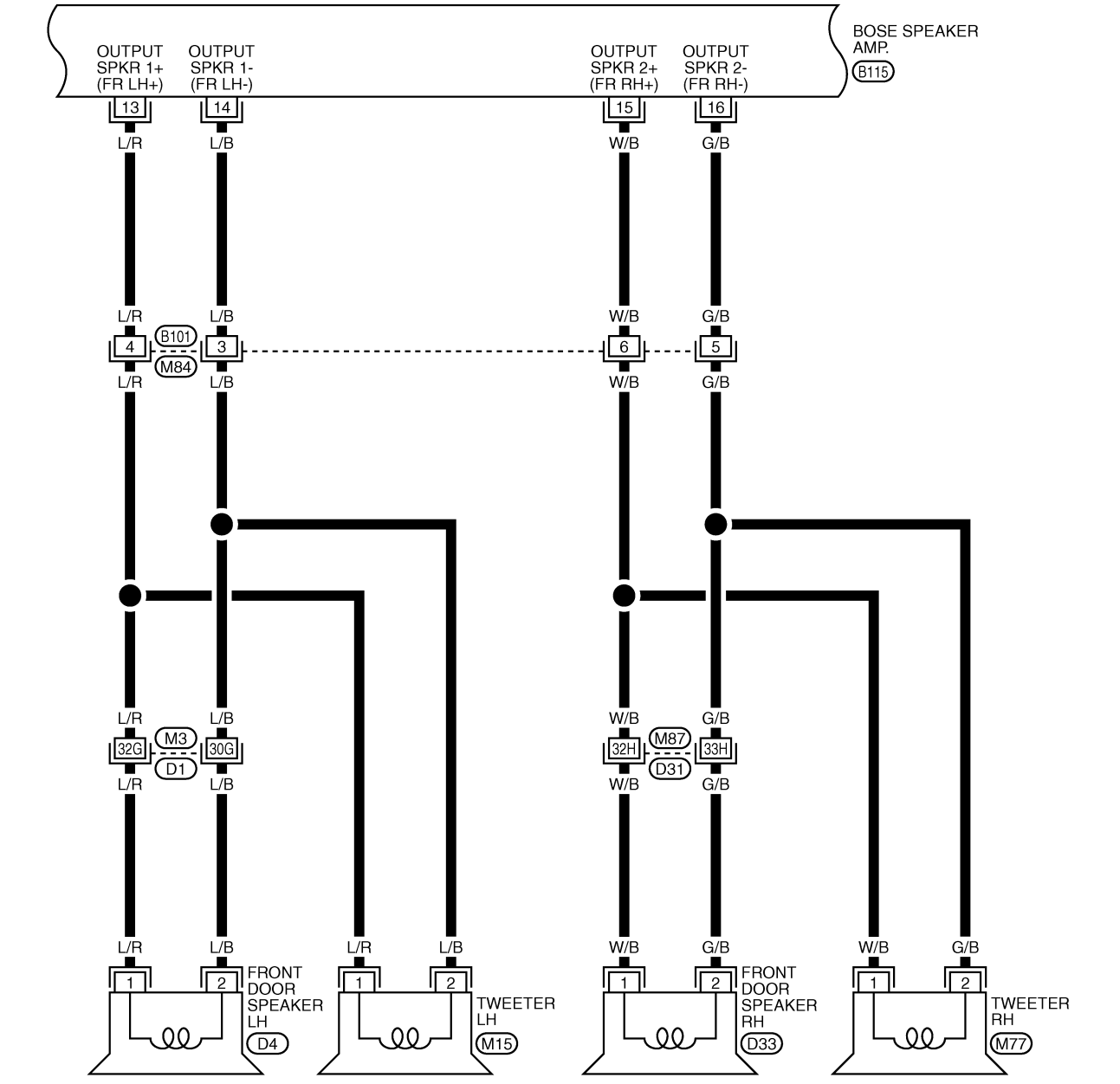




*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

TKWB0508E

AV-AUDIO-08



M15 , M77 BR BR

M84 W

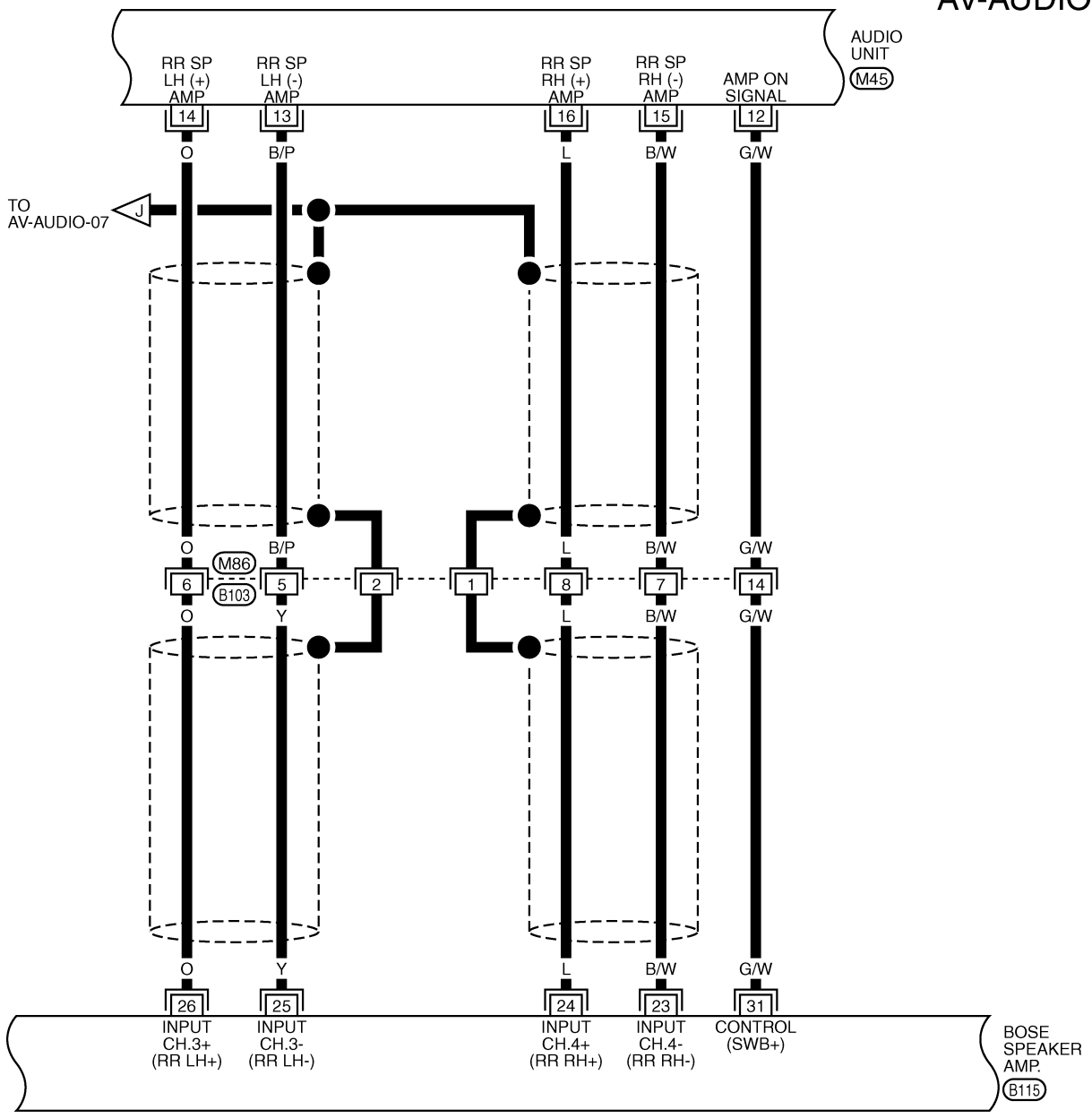
B115 B

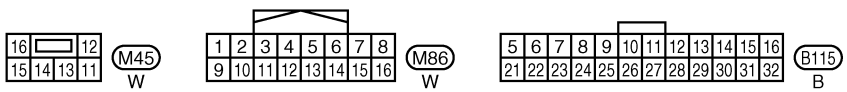
D4 , D33 BR BR

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

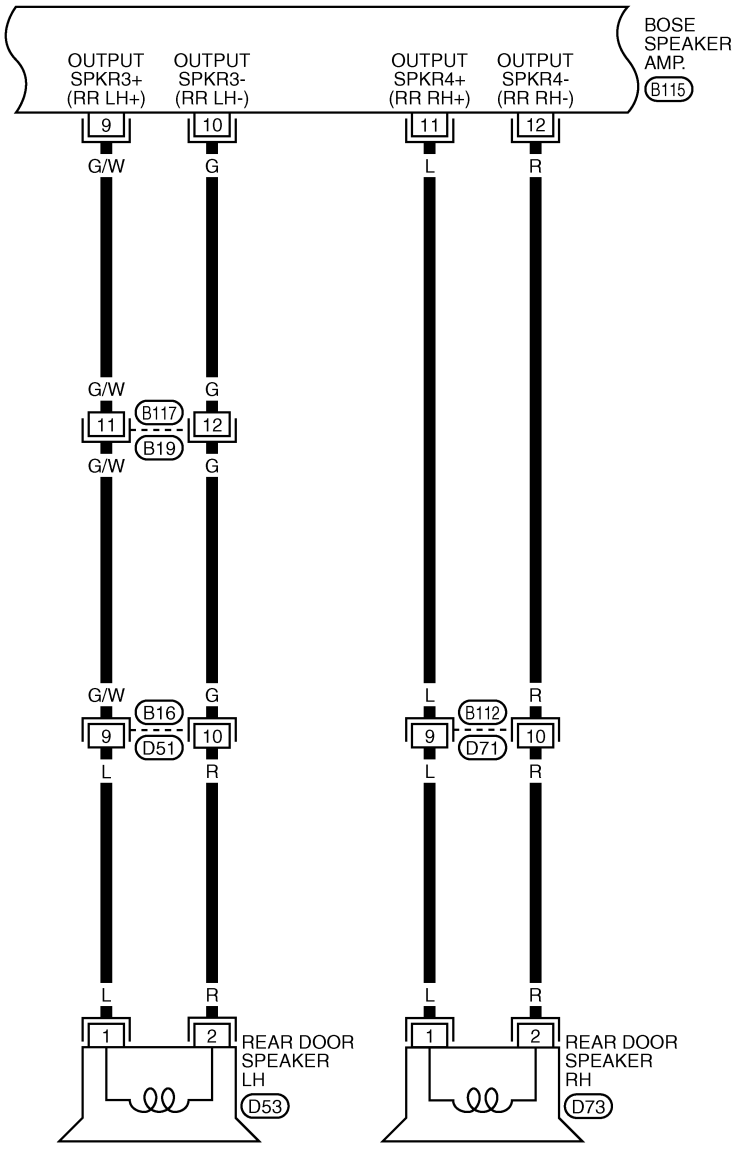
TKWB0085E

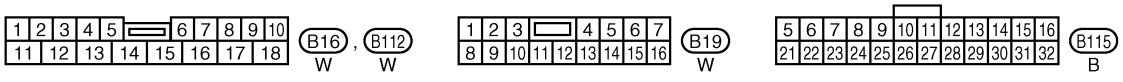
AV-AUDIO-09

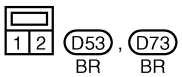




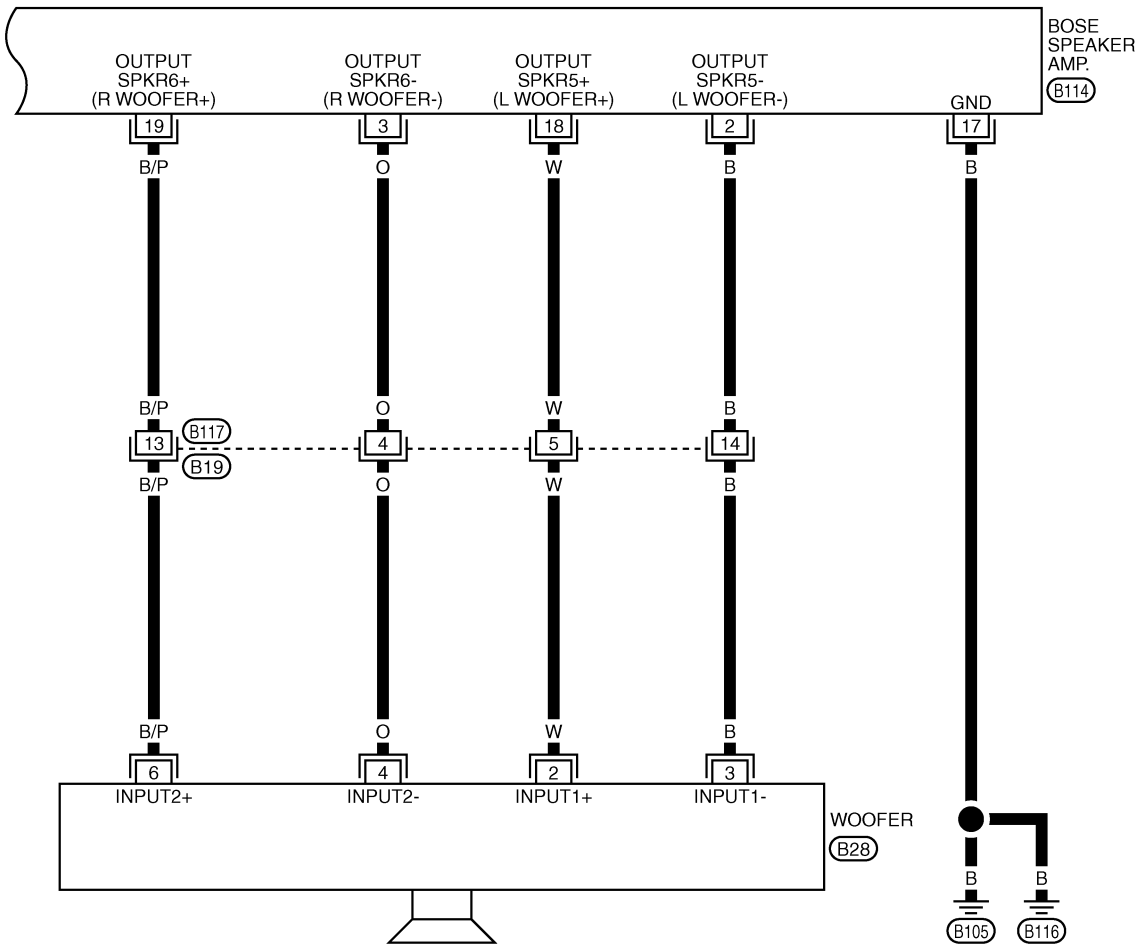
TKWB0509E

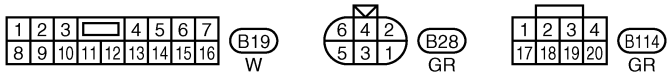

BOSE SPEAKER AMP.
B115
OUTPUT SPKR3+ (RR LH+)
OUTPUT SPKR3- (RR LH-)
OUTPUT SPKR4+ (RR RH+)
OUTPUT SPKR4- (RR RH-)
9
10
11
12
G/W
G
L
R
B117
B19
B16
D51
B112
D71
REAR DOOR SPEAKER LH
D53
REAR DOOR SPEAKER RH
D73


B16
W
B112
W
B19
W
B115
B


D53
BR
D73
BR

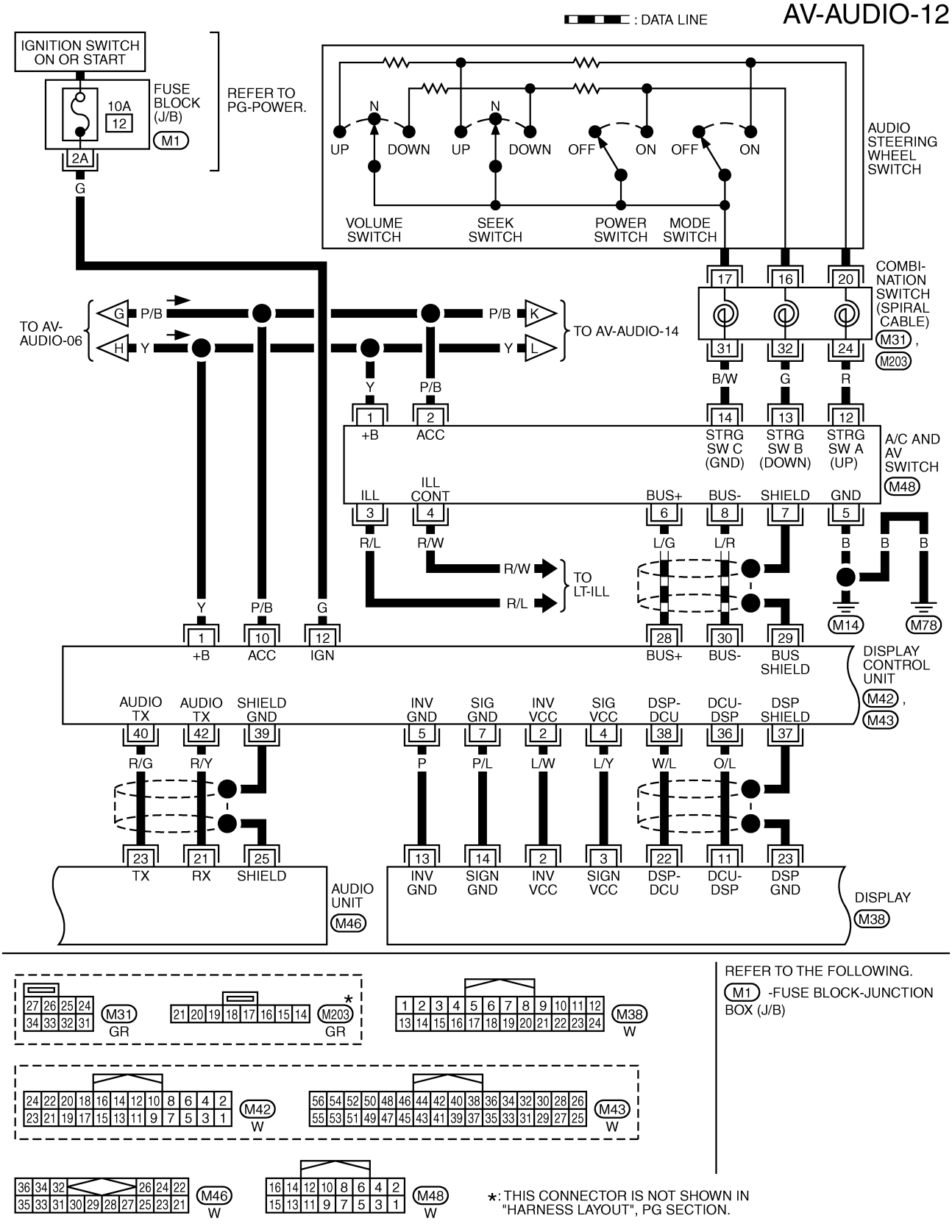
TKWB0917E


BOSE SPEAKER AMP.
B114
OUTPUT SPKR6+ (R WOOFER+)
OUTPUT SPKR6- (R WOOFER-)
OUTPUT SPKR5+ (L WOOFER+)
OUTPUT SPKR5- (L WOOFER-)
GND
19
3
18
2
17
B/P
O
W
B
B
B117
B19
13
4
5
14
6
4
2
3
INPUT2+
INPUT2-
INPUT1+
INPUT1-
WOOFER
B28
B105
B116


1 2 3 4 5 6 7
8 9 10 11 12 13 14 15 16
B19
W
6 4 2
5 3 1
B28
GR
1 2 3 4
17 18 19 20
B114
GR

TKWB0918E

AV-AUDIO-12



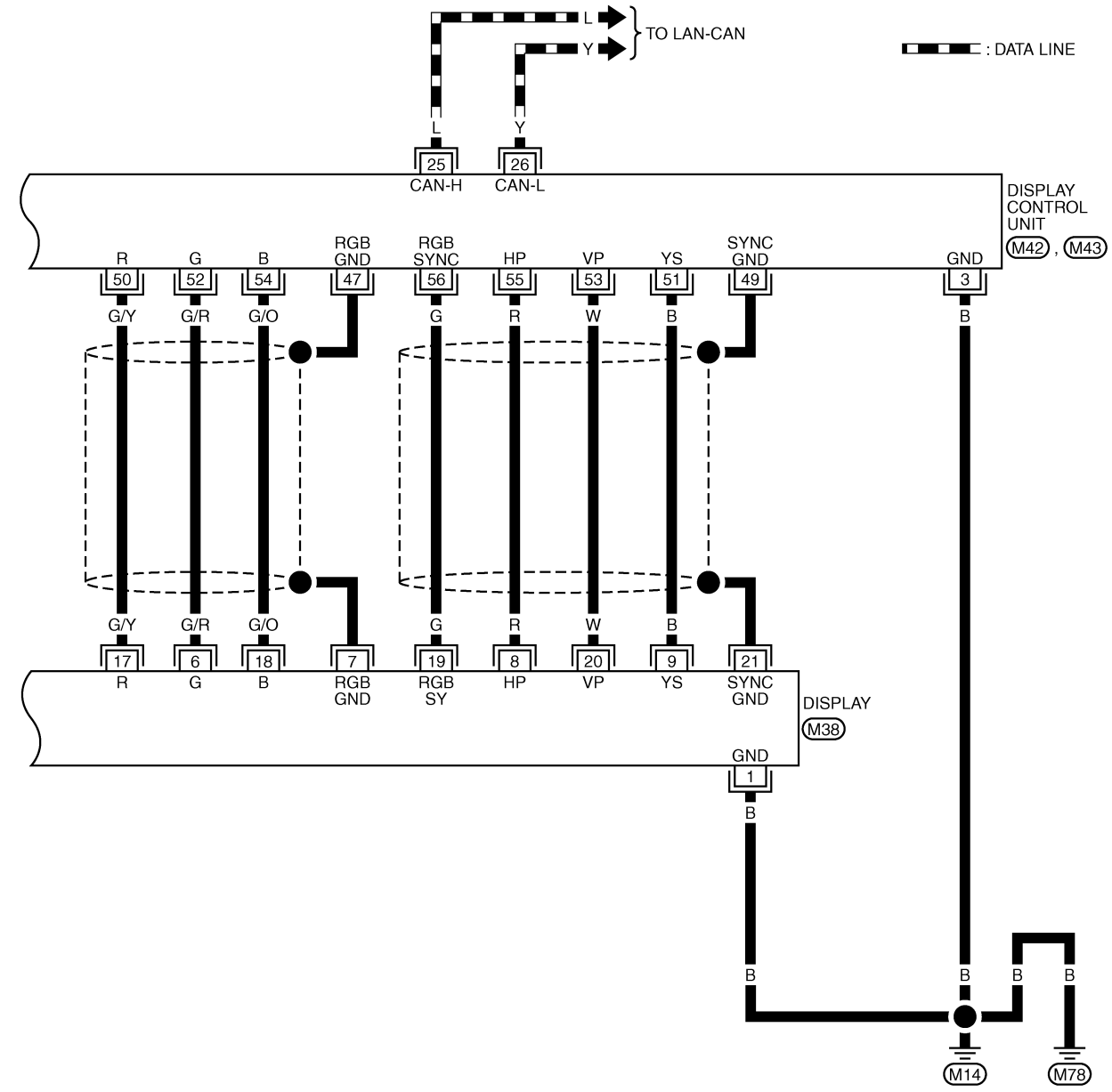
REFER TO THE FOLLOWING.

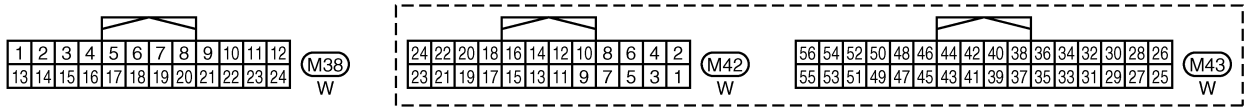
M1 -FUSE BLOCK-JUNCTION BOX (J/B)

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

TKWB0088E

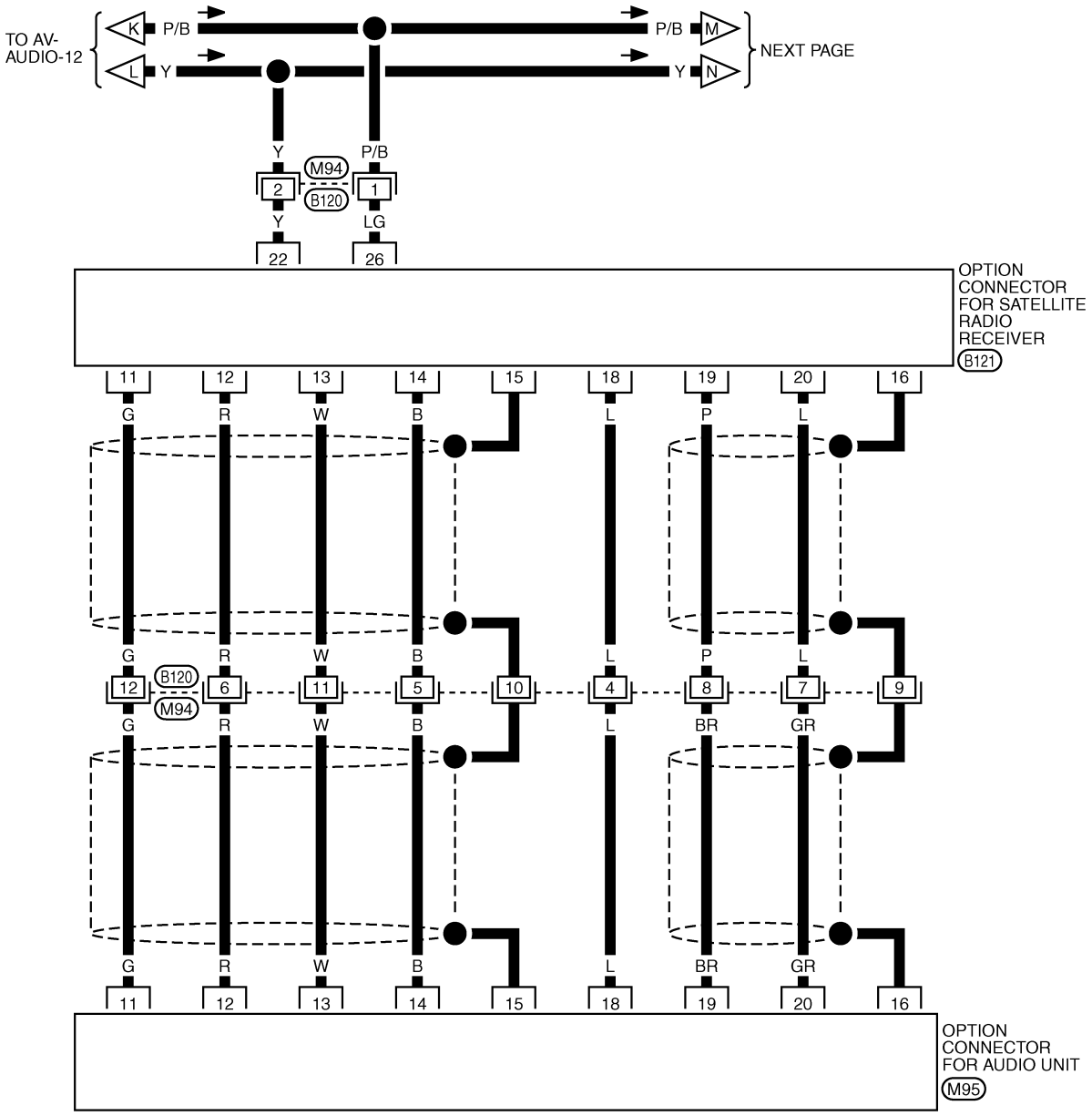
AV-AUDIO-13

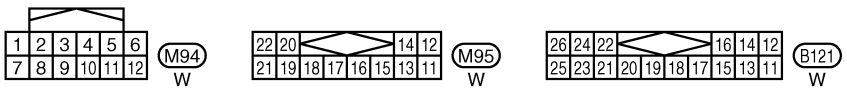




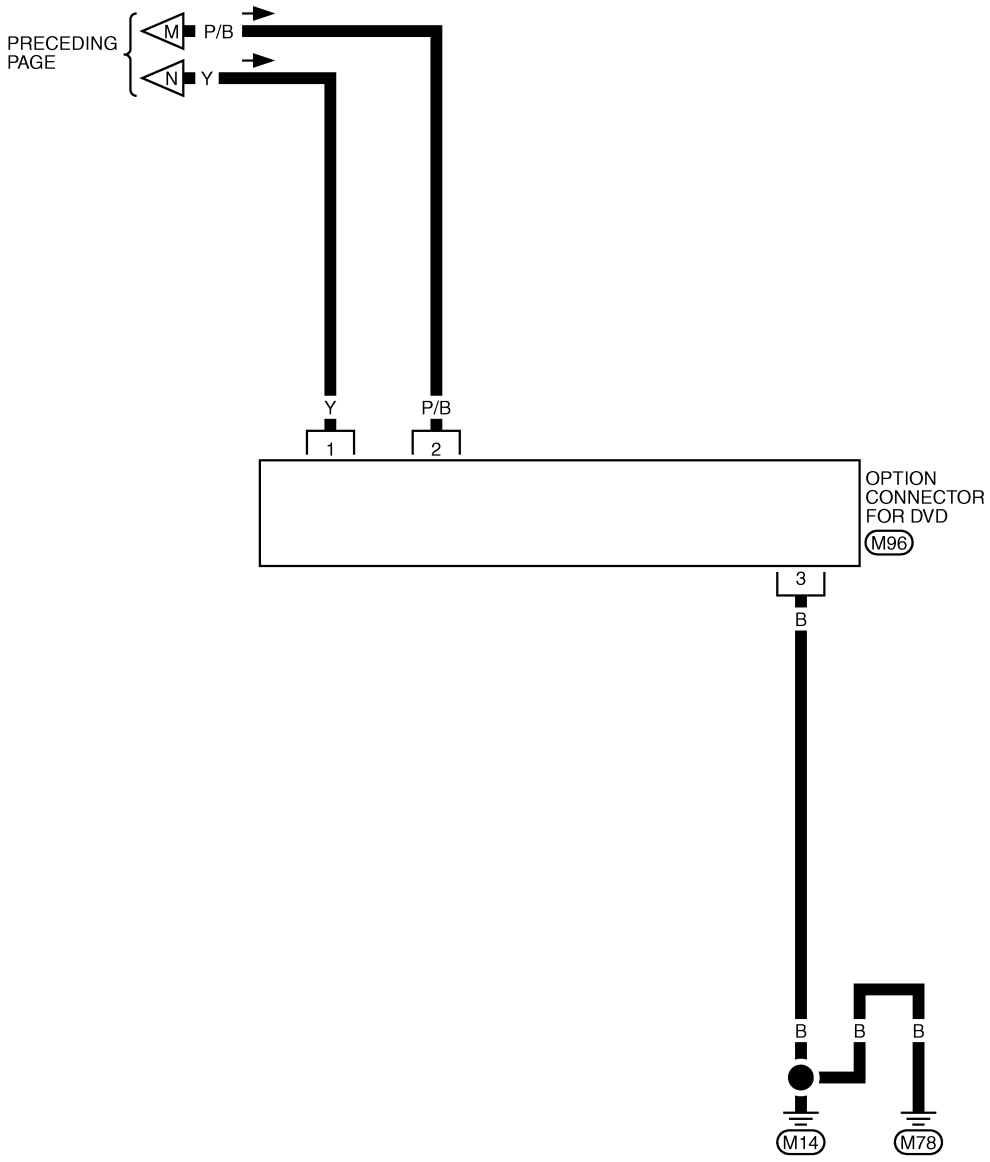
TKWB0089E

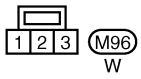
AV-AUDIO-14





TKWB0510E

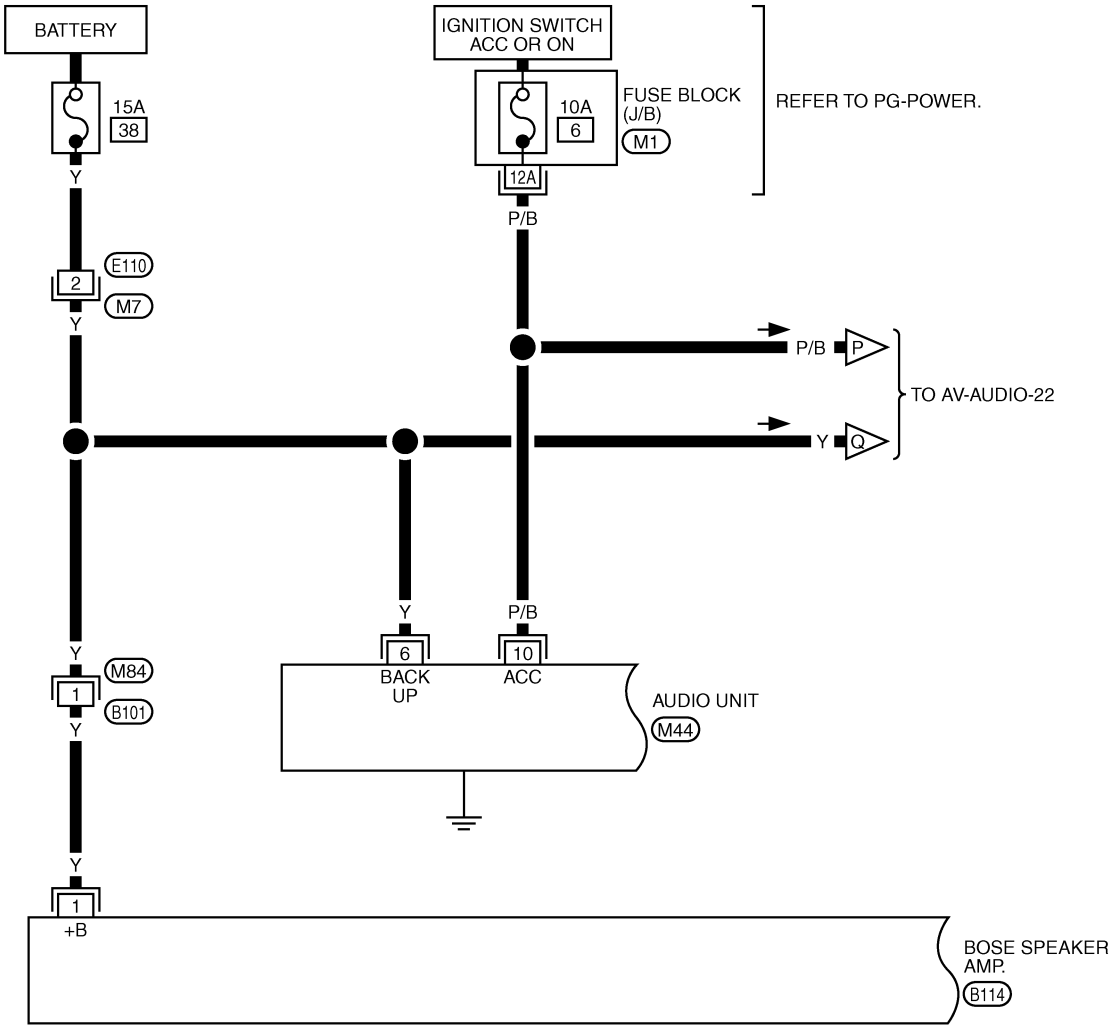

PRECEDING PAGE
M
P/B
N
Y
Y
P/B
1
2
OPTION CONNECTOR FOR DVD
M96
3
B
B
B
B
M14
M78

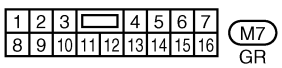

1 2 3
M96
W

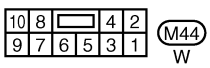
TKWB0099E

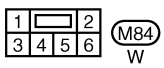
BOSE SYSTEM WITHOUT NAVIGATION SYSTEM

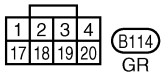
AV-AUDIO-16





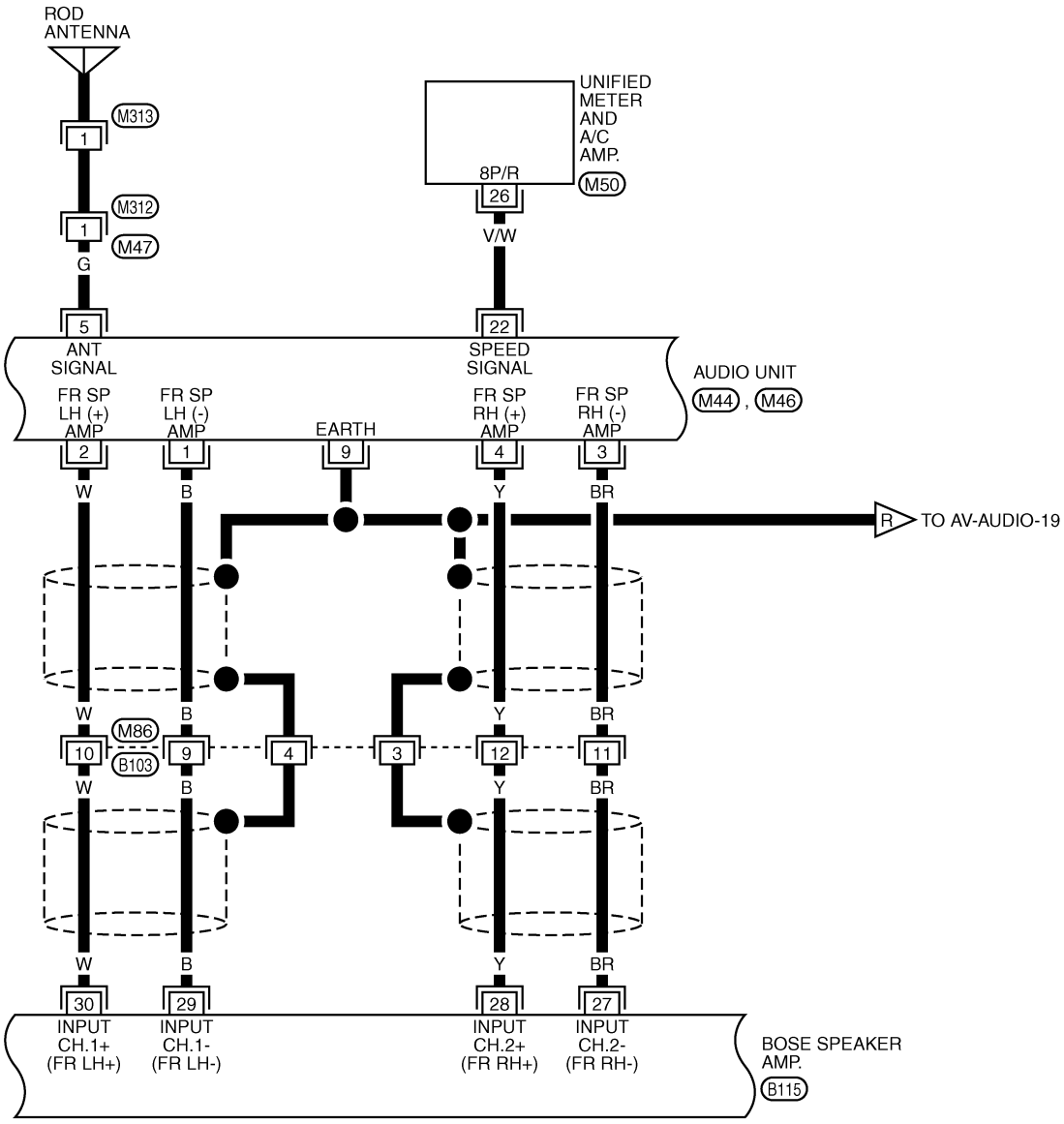


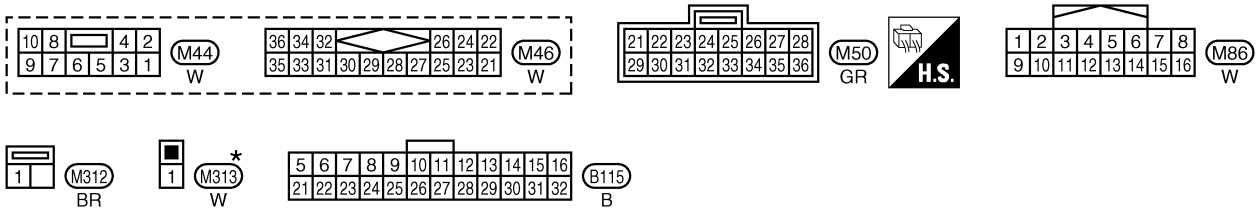




REFER TO THE FOLLOWING.
M1 -FUSE BLOCK-JUNCTION BOX (J/B)

TKWB0090E

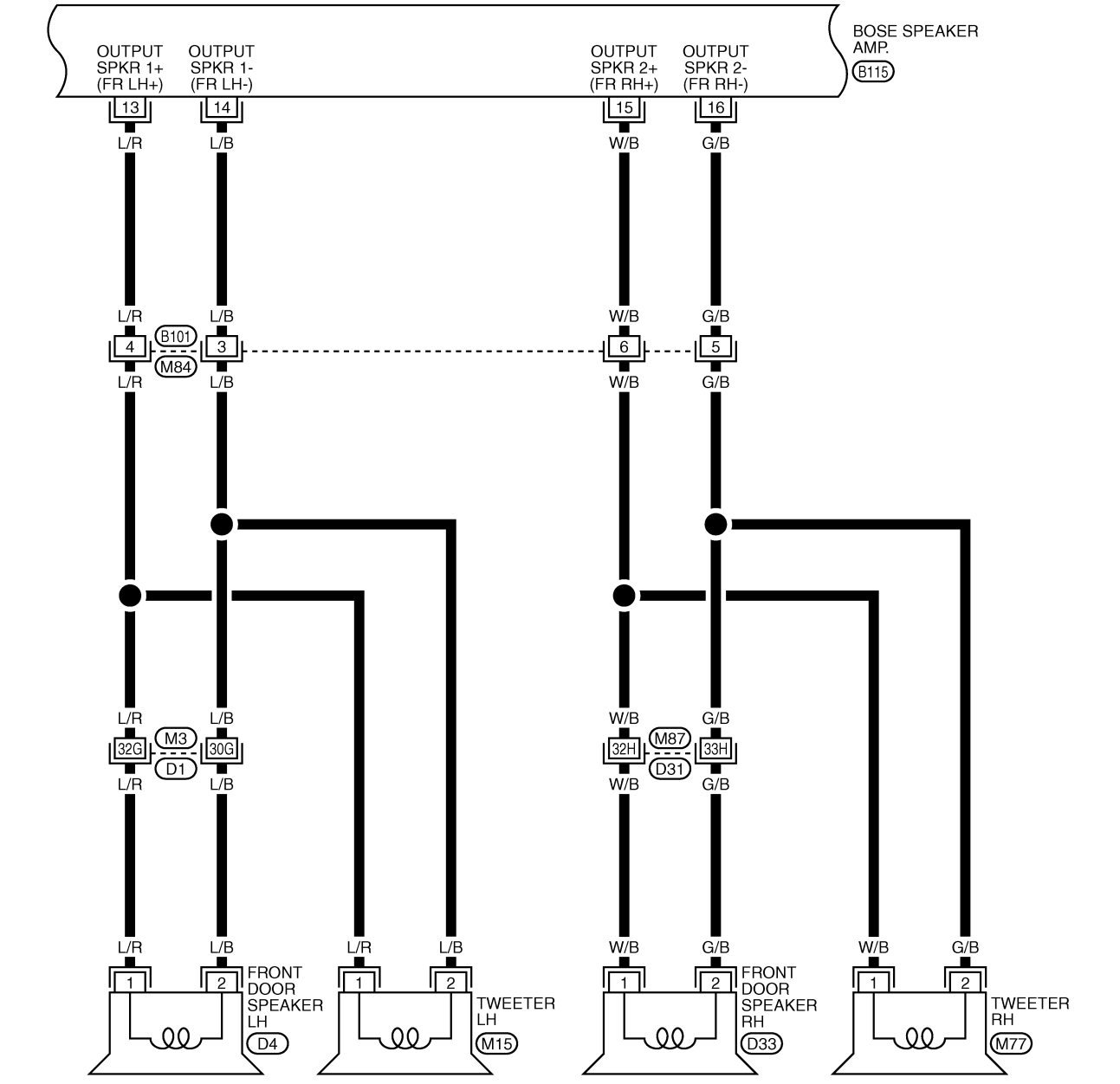


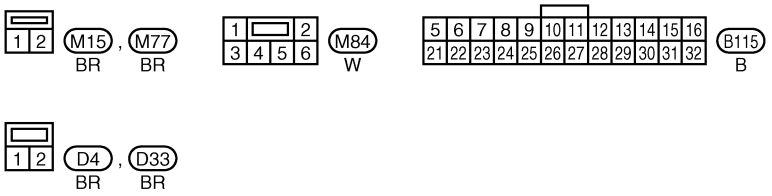


*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

TKWB0511E

AV-AUDIO-18

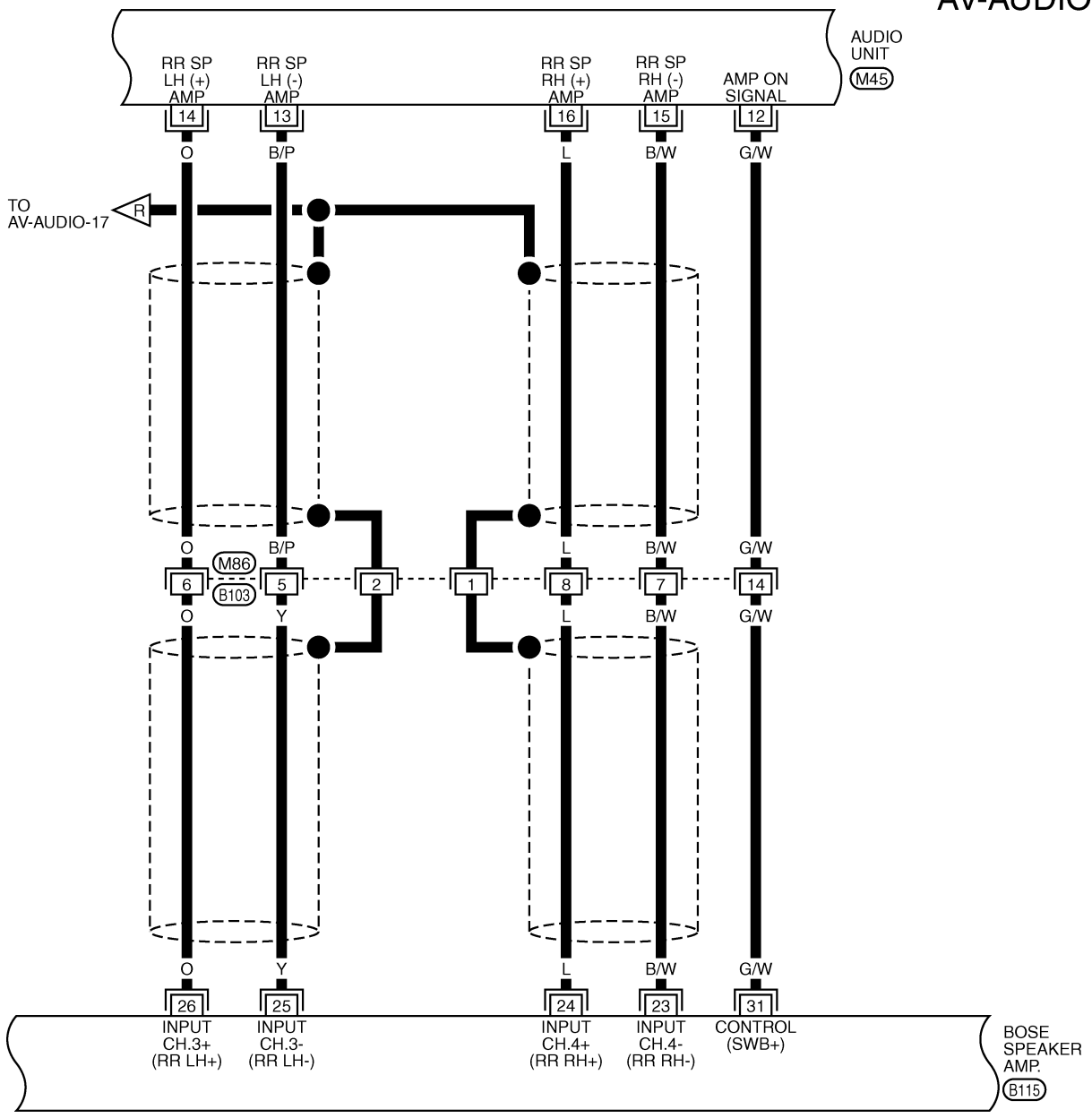


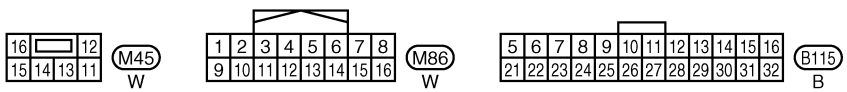


REFER TO THE FOLLOWING.
D1 , D31 -SUPER MULTIPLE JUNCTION (SMJ)

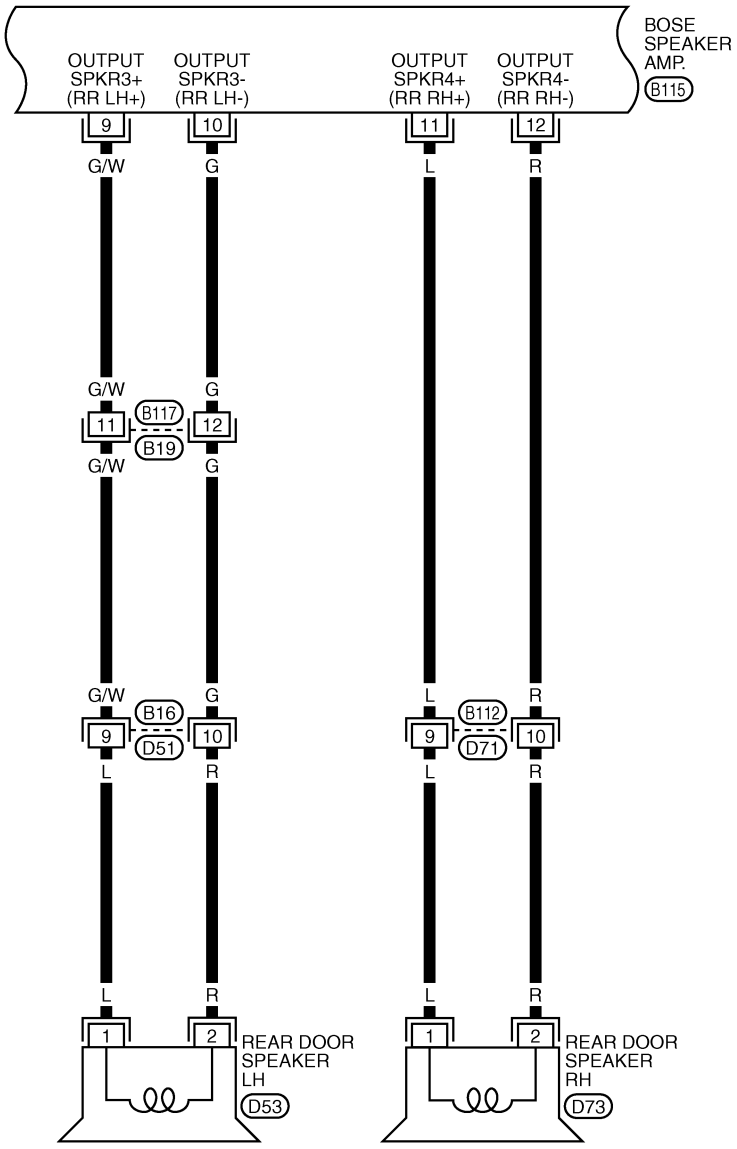
TKWB0091E

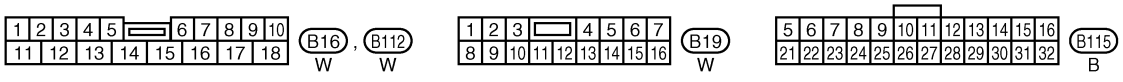
AV-AUDIO-19

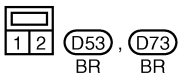




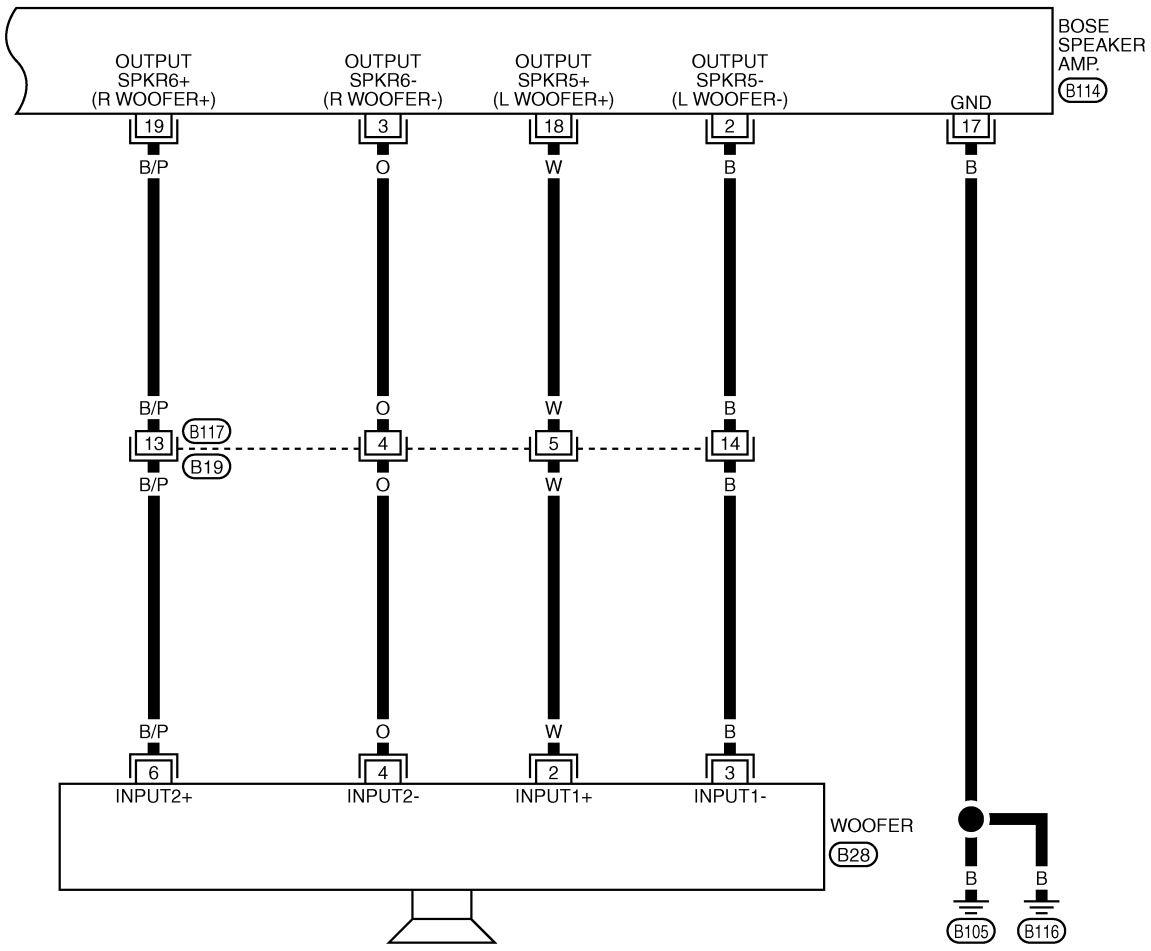
TKWB0512E

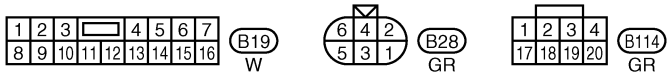

BOSE SPEAKER AMP.
B115
OUTPUT SPKR3+ (RR LH+)
OUTPUT SPKR3- (RR LH-)
OUTPUT SPKR4+ (RR RH+)
OUTPUT SPKR4- (RR RH-)
9
10
11
12
G/W
G
L
R
B117
B19
B16
D51
B112
D71
REAR DOOR SPEAKER LH
D53
REAR DOOR SPEAKER RH
D73


B16
W
B112
W
B19
W
B115
B


D53
BR
D73
BR

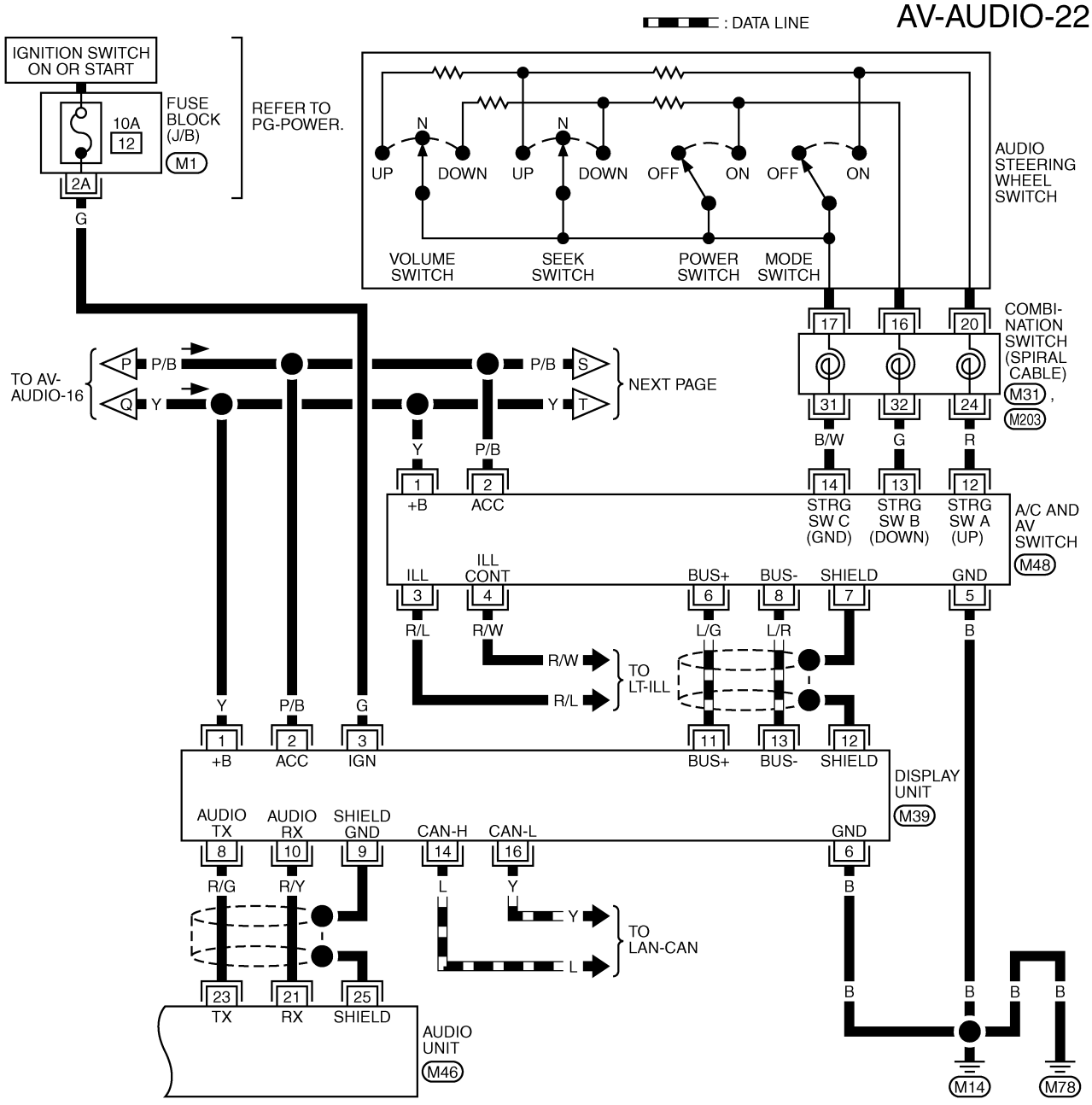
TKWB0919E

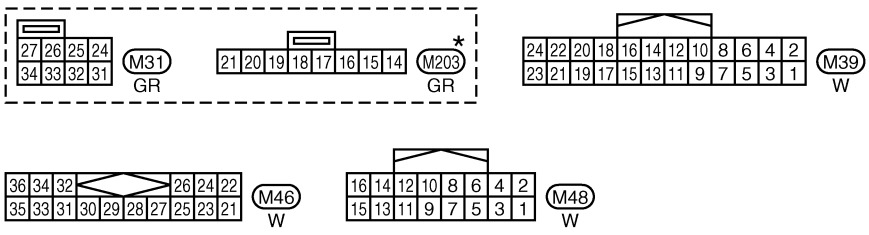

BOSE SPEAKER AMP.
B114
OUTPUT SPKR6+ (R WOOFER+)
OUTPUT SPKR6- (R WOOFER-)
OUTPUT SPKR5+ (L WOOFER+)
OUTPUT SPKR5- (L WOOFER-)
GND
19
3
18
2
17
B/P
O
W
B
B
B117
B19
13
4
5
14
6
4
2
3
INPUT2+
INPUT2-
INPUT1+
INPUT1-
WOOFER
B28
B105
B116


1 2 3 4 5 6 7
8 9 10 11 12 13 14 15 16
B19
W
6 4 2
5 3 1
B28
GR
1 2 3 4
17 18 19 20
B114
GR

TKWB0920E

AV-AUDIO-22





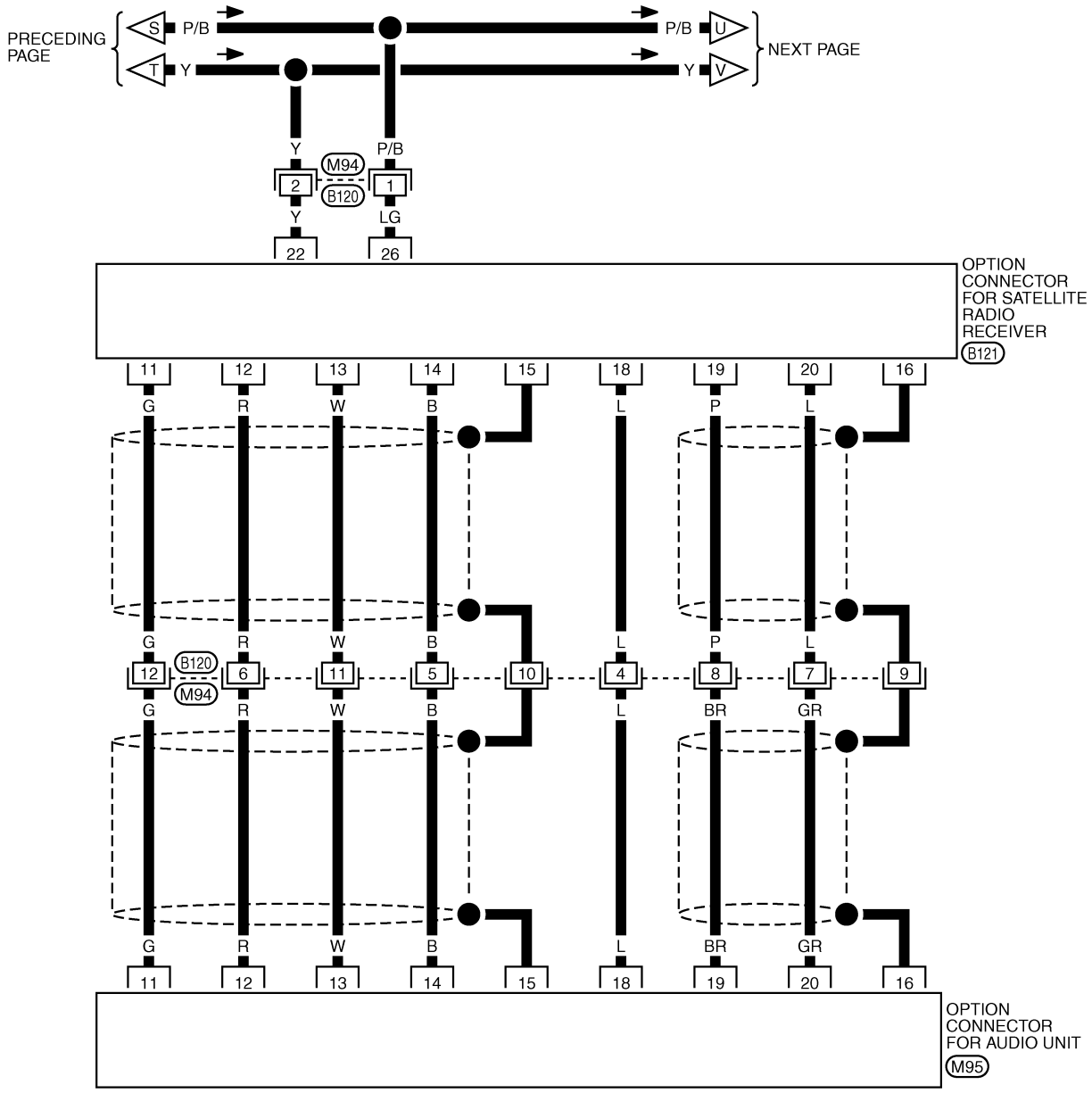
REFER TO THE FOLLOWING.

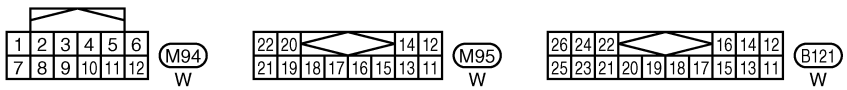
M1 -FUSE BLOCK-JUNCTION BOX (J/B)

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

TKWB0094E

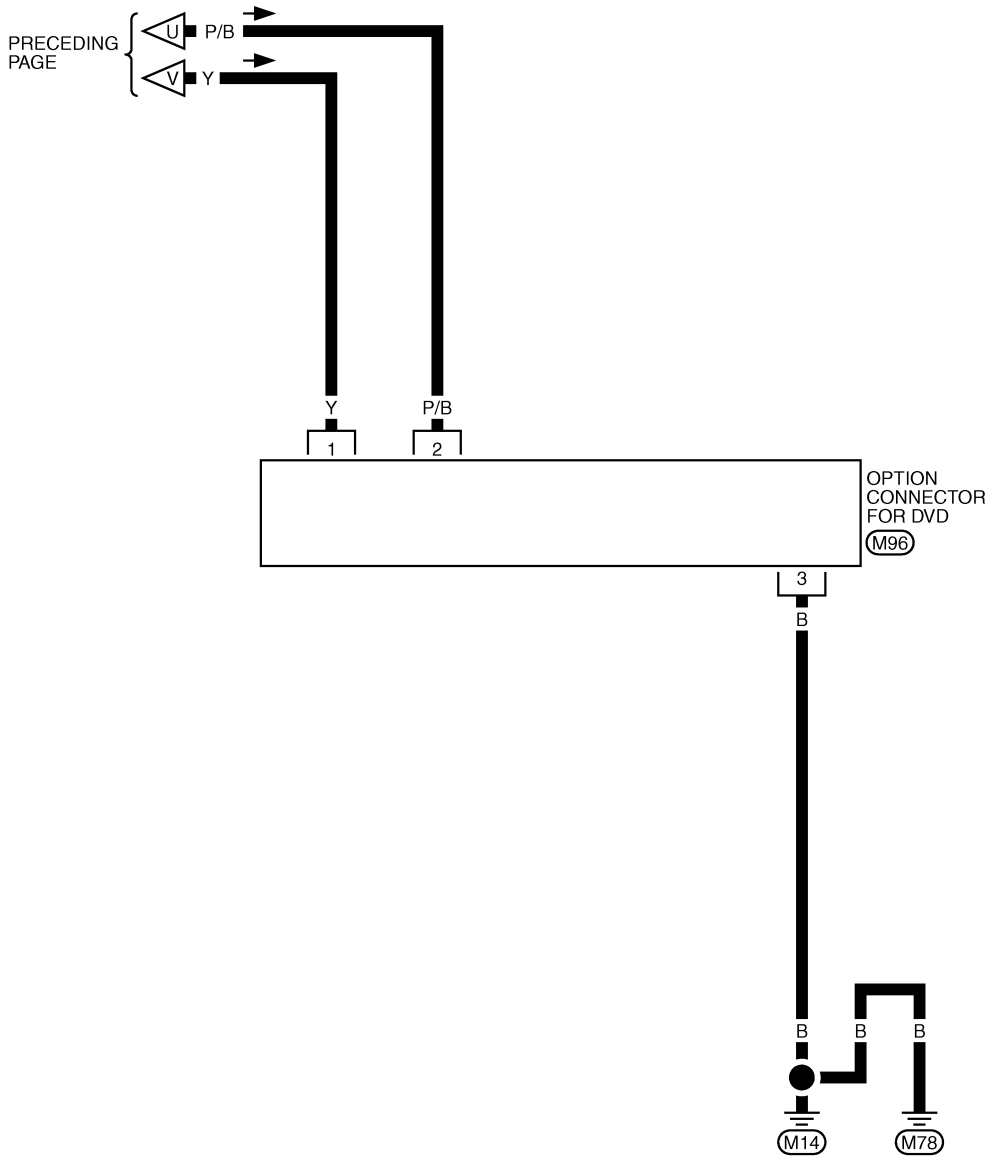
AV-AUDIO-23

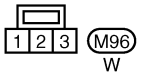




TKWB0513E

AV-AUDIO-24

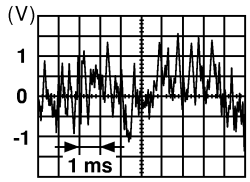
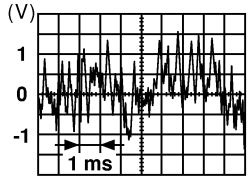
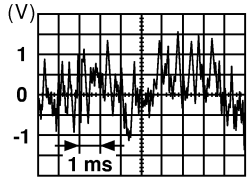
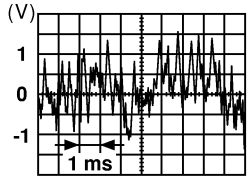
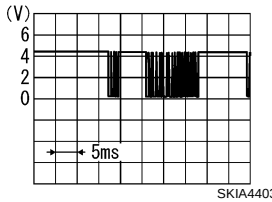
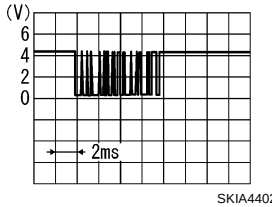




TKWB0101E

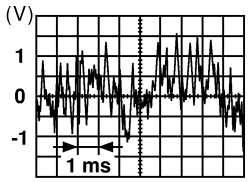
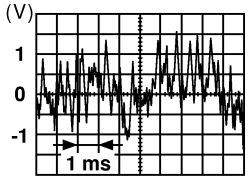
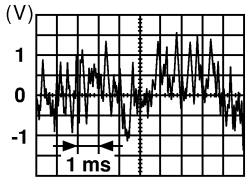
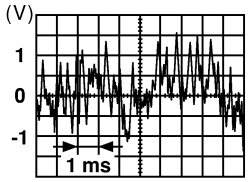
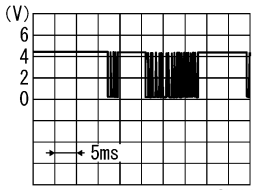
Terminals and Reference Value for Audio Unit for Base System

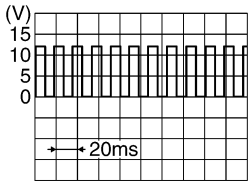
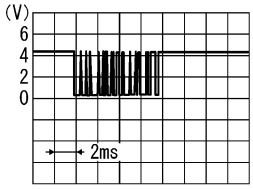
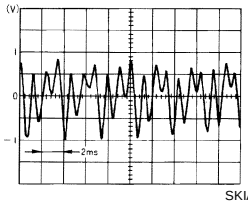
AKS005EY

Terminal (Wire color) +	Terminal (Wire color) –	Item	Signal input/ output	Condition: Ignition switch	Condition: Operation	Reference value	Example of symptom
2 (W)	1 (B)	Audio signal front LH	Output	ON	Receive audio signal	 SKIA0177E	No sound from front door speaker LH and tweeter LH.
4 (Y)	3 (BR)	Audio signal front RH	Output	ON	Receive audio signal	 SKIA0177E	No sound from front door speaker RH and tweeter RH.
5 (G)	Ground	Antenna amp. ON signal	Output	ON	—	Approx. 12 V	Antenna amp. does not work properly.
6 (Y)	Ground	Battery power supply	Input	OFF	—	Battery voltage	System does not work properly.
10 (P/B)	Ground	ACC power supply	Input	ACC	—	Battery voltage	System does not work properly.
14 (O)	13 (B/P)	Audio signal rear LH	Output	ON	Receive audio signal	 SKIA0177E	No sound from rear door speaker LH.
16 (L)	15 (B/W)	Audio signal rear RH	Output	ON	Receive audio signal	 SKIA0177E	No sound from rear door speaker RH.
21 (R/Y)	Ground	Audio RX	Output	ON	Operate audio volume switch	 SKIA4403E	Audio unit does not operate properly.
23 (R/G)	Ground	Audio TX	Input	ON	Operate audio volume switch	 SKIA4402E	Audio unit does not operate properly.
25	Ground	Shield	—	ON	—	Approx. 0 V	—

Terminals and Reference Value for Audio Unit for BOSE System

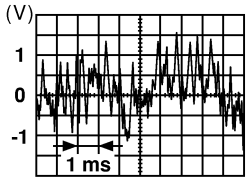
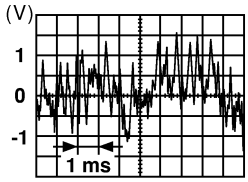
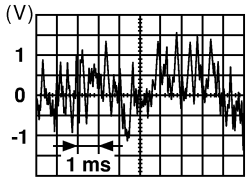
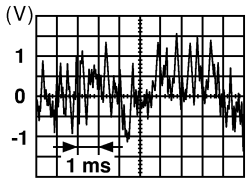
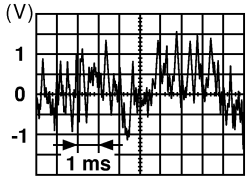
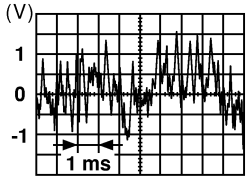
AKS005EZ

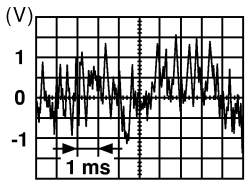
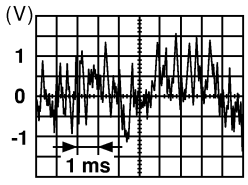
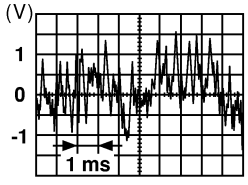
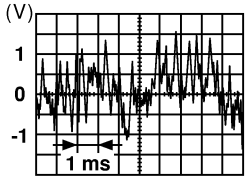
Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value	Example of symptom
+	–			Ignition switch	Operation		
2 (W)	1 (B)	Audio signal front LH	Output	ON	Receive audio signal	 SKIA0177E	No sound from front door speaker LH and tweeter LH.
4 (Y)	3 (BR)	Audio signal front RH	Output	ON	Receive audio signal	 SKIA0177E	No sound from front door speaker RH and tweeter RH.
5 (G)	Ground	Antenna amp. ON signal	Output	ON	—	Approx. 12 V	Antenna amp. does not work properly.
6 (Y)	Ground	Battery power supply	Input	OFF	—	Battery voltage	System does not work properly.
9	Ground	Shield	—	ON	—	Approx. 0 V	—
10 (P/B)	Ground	ACC power supply	Input	ACC	—	Battery voltage	System does not work properly.
12 (G/W)	Ground	Amp. ON signal	Output	ON	—	Approx. 12 V	BOSE speaker amp. does not work properly.
14 (O)	13 (B/P)	Audio signal rear LH	Output	ON	Receive audio signal	 SKIA0177E	No sound from rear door speaker LH.
16 (L)	15 (B/W)	Audio signal rear RH	Output	ON	Receive audio signal	 SKIA0177E	No sound from rear door speaker RH.
21 (R/Y)	Ground	Audio RX	Output	ON	Operate audio volume switch	 SKIA4403E	Audio unit does not operate properly.

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value	Example of symptom
+	–			Ignition switch	Operation		
22 (V/W)	Ground	Vehicle speed signal (8- pulse)	Input	ON	When vehicle speed is approx. 25 MPH (40 km/h)	**NOTE:** Maximum voltage may be 5 V due to specifications (connected units).  PKIA1935E	Speed sensitive volume system dose not work properly.
23 (R/G)	Ground	Audio TX	Input	ON	Operate audio volume switch	 SKIA4402E	Audio unit does not operate properly.
25	Ground	Shield	—	ON	—	Approx. 0 V	—
35	Ground	Shield	—	ON	—	Approx. 0 V	—
36 (V)	34 (LG)	Voice guidance signal	Input	ON	Press “GUIDE/ VOICE” button	 SKIA0171E	Only route guide and operation guide are not heard.

Terminals and Reference Value for BOSE Speaker Amp.

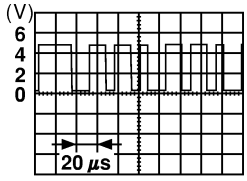
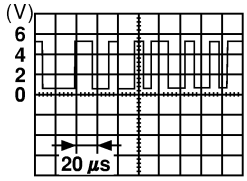
AKS005F0

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value	Example of symptom
+	–			Ignition switch	Operation		
1 (Y)	Ground	Battery power supply	Input	OFF	—	Battery voltage	No sound from all speakers.
9 (G/W)	10 (G)	Audio signal rear LH	Output	ON	Receive audio signal	 SKIA0177E	No sound from rear door speaker LH.
11 (L)	12 (R)	Audio signal rear RH	Output	ON	Receive audio signal	 SKIA0177E	No sound from rear door speaker RH.
13 (L/R)	14 (L/B)	Audio signal front LH	Output	ON	Receive audio signal	 SKIA0177E	No sound from front door speaker LH and tweeter LH.
15 (W/B)	16 (G/B)	Audio signal front RH	Output	ON	Receive audio signal	 SKIA0177E	No sound from front door speaker RH and tweeter RH.
17 (B)	Ground	Ground	—	ON	—	Approx. 0 V	—
18 (W)	2 (B)	Audio signal woofer 1	Output	ON	Receive audio signal	 SKIA0177E	No sound from woofer.
19 (B/P)	3 (O)	Audio signal woofer 2	Output	ON	Receive audio signal	 SKIA0177E	No sound from woofer.

Terminal (Wire color) +	Terminal (Wire color) –	Item	Signal input/ output	Condition: Ignition switch	Condition: Operation	Reference value	Example of symptom
24 (L)	23 (B/W)	Audio signal rear RH	Input	ON	Receive audio signal	 SKIA0177E	No sound from rear door speaker RH.
26 (O)	25 (Y)	Audio signal rear LH	Input	ON	Receive audio signal	 SKIA0177E	No sound from rear door speaker LH.
28 (Y)	27 (BR)	Audio signal front RH	Input	ON	Receive audio signal	 SKIA0177E	No sound from front door speaker RH and tweeter RH.
30 (W)	29 (B)	Audio signal front LH	Input	ON	Receive audio signal	 SKIA0177E	No sound from front door speaker LH and tweeter LH.
31 (G/W)	Ground	Control signal (SWB+)	Input	ON	—	Approx. 12 V	BOSE speaker amp. does not work properly.

Terminals and Reference Value for A/C and AV Switch

AKS00AJP

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value	Example of symptom
+	–			Ignition switch	Operation		
1 (Y)	Ground	Battery power supply	Input	OFF	—	Battery voltage	System does not work properly.
2 (P/B)	Ground	ACC power supply	Input	ACC	—	Battery voltage	System does not work properly.
3 (R/L)	Ground	Illumination signal	Input	ON	Lighting switch ON	Approx. 12 V	A/C and AV switch illumination does not function when lighting switch is ON.
					Lighting switch OFF	Approx. 0 V	
4 (R/W)	Ground	Illumination control signal	Input	ON	Illumination control switch is operated by lighting switch in ON position	Changes between approx. 0 and approx. 12 V.	A/C and AV switch illumination cannot be controlled.
5 (B)	Ground	Ground	—	ON	—	Approx. 0 V	—
6 (L/G)	Ground	Communication signal (+)	Input/ Output	ON	—	 SKIA0175E	System does not work properly.
7	Ground	Shield	—	ON	—	Approx. 0 V	—
8 (L/R)	Ground	Communication signal (–)	Input/ Output	ON	—	 SKIA0176E	System does not work properly.
12 (R)	Ground	Remote control A	Input	ON	Press and hold MODE switch	Approx. 0 V	Audio steering wheel switch controls do not function.
					Press and hold SEEK UP switch	Approx. 1.7 V	
					Press and hold VOL UP switch	Approx. 3.3 V	
					Except for above	Approx. 5 V	

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value	Example of symptom
+	–			Ignition switch	Operation		
13 (G)	Ground	Remote control B	Input	ON	Press and hold POWER switch	Approx. 0 V	Audio steering wheel switch controls do not function.
					Press and hold SEEK DOWN switch	Approx. 1.7 V	
					Press and hold VOL DOWN switch	Approx. 3.3 V	
					Except for above	Approx. 5 V	
14 (B/W)	Ground	Remote control ground	—	ON	—	Approx. 0 V	Audio steering wheel switch controls do not function.

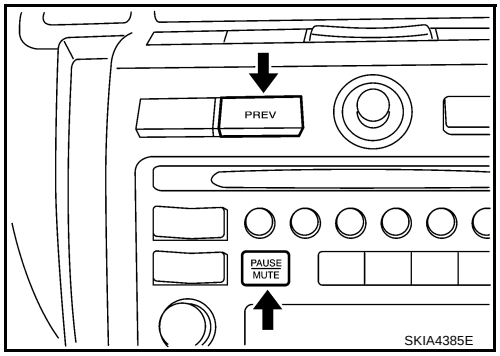
A/C and AV Switch Self-Diagnosis Function

AKS005RI

Performing self-diagnosis makes it possible to check operation of A/C and AV switch indicator (LED) and other switch.

STARTING THE SELF-DIAGNOSIS MODE

1. Turn ignition switch from OFF to ACC.
2. Within 10 seconds press and hold the switches “PAUSE/MUTE” and “PREV” simultaneously for 3 seconds.



DIAGNOSIS FUNCTION

The following are checked:

- All the indicators (LED) in the A/C and AV switch.
- Continuity of the switches by sounding the buzzer when the A/C and AV switch is pressed.
- Continuity of harness between A/C and AV switch and steering switch.

NOTE:

- Indicators (LED) of REC/FRE switch changes to “FRE”→“REC”→“FRE” every time the REC/FRE switch is pressed. (These two do not turn on at the same time.)
- Impossible to check rear window defogger switch operation (No beep sound even under normal status).

EXITING THE SELF-DIAGNOSIS MODE

- Turn ignition switch OFF.

Trouble Diagnosis

AKS005F2

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

MALFUNCTION WITH RADIO AND CD (BASE SYSTEM)

Make sure that other operation except audio system can be performed with A/C and AV switch. If these operations are inoperative with A/C and AV switch, refer to AV-101, "A/C and AV Switch Does Not Operate" .

Symptom	Check item
Inoperative	● Audio unit power supply circuit. Refer to AV-48, "Power Supply Circuit Inspection" . ● Audio communication line. Refer to AV-99, "Audio Communication Line Check" . ● A/C and AV switch. Refer to AV-51, "A/C and AV Switch Check" . ● Audio unit
Audio steering wheel switch dose not operate	● Audio steering wheel switch. Refer to AV-50, "Audio Steering Wheel Switch Check" . ● A/C and AV switch. Refer to AV-51, "A/C and AV Switch Check" .
No sound	● Front door speaker. Refer to AV-52, "Front Door Speaker Check (Base System)" . ● Rear door speaker. Refer to AV-54, "Rear Door Speaker Check (Base System)" . ● Audio unit

Symptom	Check item
Poor sound	● Audio unit ● Speaker
Noisy	● Audio unit ● Each electrical equipment

MALFUNCTION WITH RADIO, TAPE AND CD (BOSE SYSTEM)

Make sure that other operation except audio system can be performed with A/C and AV switch. If these operations are inoperative with A/C and AV switch, refer to AV-204, "Unable to Operate All of A/C and AV Switches (Unable to Start Self-Diagnosis)" (With navigation system), AV-101, "A/C and AV Switch Does Not Operate" (Without navigation system).

Symptom	Check item
Inoperative	● Audio unit power supply circuit. Refer to AV-48, "Power Supply Circuit Inspection" . ● Audio communication line (Without Navigation System). Refer to AV-99, "Audio Communication Line Check" . ● Audio communication line (With Navigation System). Refer to AV-151, "Self-Diagnosis Mode (DCU)" . ● A/C and AV switch. Refer to AV-51, "A/C and AV Switch Check" . ● Audio unit
Audio steering wheel switch dose not operate	● Audio steering wheel switch. Refer to AV-50, "Audio Steering Wheel Switch Check" . ● A/C and AV switch. Refer to AV-51, "A/C and AV Switch Check" .
No sound	● BOSE speaker amp. power supply and ground circuit. Refer to AV-48, "Power Supply Circuit Inspection" . ● Front door speaker. Refer to AV-56, "Front Door Speaker Check (BOSE System)" . ● Rear door speaker. Refer to AV-60, "Rear Door Speaker Check (BOSE System)" . ● BOSE speaker amp. ON signal ● BOSE speaker amp. ● Audio unit
Woofer does not sound	● Woofer. Refer to AV-64, "Woofer Check (BOSE System)" . ● BOSE speaker amp.
Speed sensitive volume system dose not work	● Vehicle speed signal. Refer to AV-65, "Vehicle Speed Signal Check" . ● Audio unit
Poor sound	● Audio unit ● BOSE speaker amp. ● Speaker ● Woofer
Noisy	● Audio unit ● BOSE speaker amp. ● Each electrical equipment

FOR RADIO ONLY

Symptom	Check item
No sound	● Audio unit ● Antenna feeder ● Antenna amp.
Noisy	● Audio unit ● Antenna feeder ● Antenna amp. ● Noise prevention parts ● Each electrical equipment ● Wire harness of each piece of electrical equipment
Selected radio stations stored in memory are deleted	Audio unit

NOTE:
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 item
Cassette tape cannot be inserted	● Cassette tape ● Audio unit
Cassette tape cannot be ejected	
Auto reverse does not work, or the tape direction changes in the middle of play	
There is much noise	
The sound is not clear	
Sound fluctuates/tape speed not correct	
No sound	

FOR CD ONLY

Symptom	Check item
CD cannot be inserted	● CD ● Audio unit
CD cannot be ejected	
The CD cannot be played	
The sound skips, stops suddenly, or is distorted	

Noise Inspection

AKS005F3

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 speed, ignition switch turned to each position, and operation of each piece of electrical equipment, and determine the cause.

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

TYPE OF NOISE AND POSSIBLE CAUSE

Occurrence condition		Check item
Occurs only when engine is ON	A continuous growling noise occurs. The speed of the noise varies with changes in the engine speed	● Ignition condenser
	A whistling noise occurs while the engine speed is high. A booming noise occurs while the engine is running and the lighting switch is ON	● Alternator
The occurrence of the noise is linked with the operation of the fuel pump		● Fuel pump condenser
Noise only occurs when various electrical components are operating	A cracking or snapping sound occurs with the operation of various switches	● Relay malfunction, radio malfunction
	The noise occurs when various motors are operating	● Motor case ground ● Motor
The noise occurs constantly, not just under certain conditions		● Poor ground of antenna amp. or antenna feeder line
A cracking or snapping sound occurs while the vehicle is being driven, especially when it is vibrating excessively		● Ground wire of body parts ● Ground due to incorrect installation of parts ● Wiring connections or a short circuit

Power Supply Circuit Inspection

AKS005F4

1. CHECK FUSE

Make sure that the following fuses of the BOSE speaker amp. and audio unit are not blown.

Unit	Signal	Fuse No.
Audio unit	Battery power supply	38
	Ignition switch ACC or ON	6
BOSE speaker amp.	Battery power supply	38

OK or NG

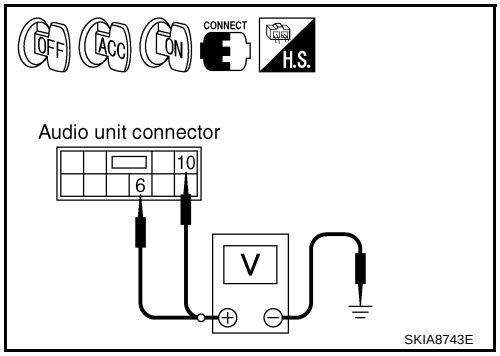
OK >> GO TO 2.

NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to PG-3, "POWER SUPPLY ROUTING CIRCUIT" .

2. CHECK POWER SUPPLY CIRCUIT

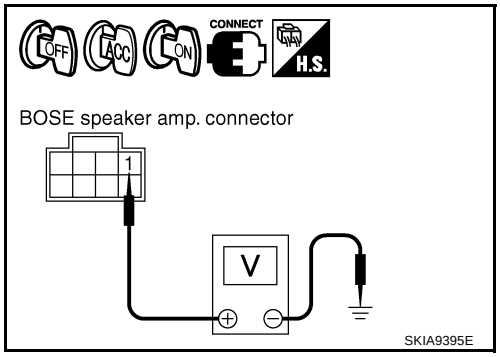
1. Check voltage between audio unit harness connector terminals and ground.

Terminals			OFF	ACC	ON
(+)		(–)			
Connector	Terminal (Wire color)				
M44	6 (Y)	Ground	Battery voltage	Battery voltage	Battery voltage
	10 (P/B)	Ground	0 V	Battery voltage	Battery voltage



2. Check voltage between BOSE speaker amp. harness connector terminal and ground.

Terminals			OFF	ACC	ON
(+)		(–)			
Connector	Terminal (Wire color)				
B114	1 (Y)	Ground	Battery voltage	Battery voltage	Battery voltage



OK or NG

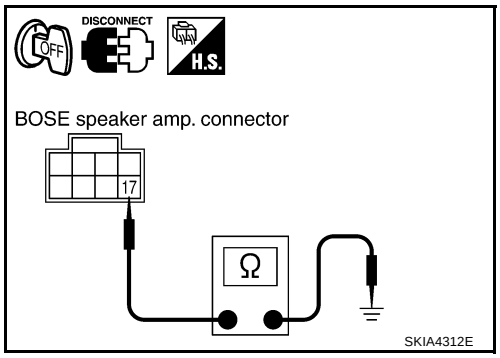
OK >> ● INSPECTION END (Base system)
● GO TO 3 (BOSE system).

NG >> Repair harness or connector.

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BOSE speaker amp. connector.
3. Check continuity between BOSE speaker amp. harness connector B114 terminal 17 (B) and ground.

17 – Ground : Continuity should exist.



OK or NG

OK >> INSPECTION END

NG >> Repair harness or connector.

Power Supply and Ground Circuit Check for A/C and AV Switch

AKS00AJO

1. CHECK FUSE

Make sure that the following fuses of the A/C and AV switch are not blown.

Unit	Signal	Fuse No.
A/C and AV switch	Battery power supply	38
	Ignition switch ACC or ON	6

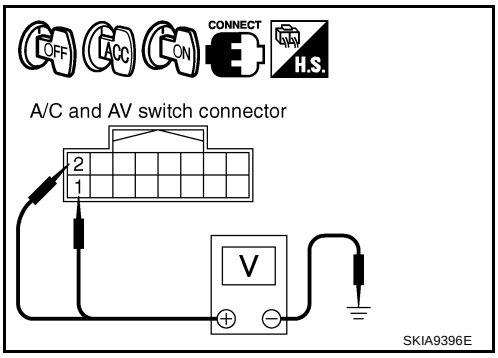
OK or NG

OK >> GO TO 2.
NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to PG-3, "POWER SUPPLY ROUTING CIRCUIT" .

2. CHECK POWER SUPPLY CIRCUIT

Check voltage between A/C and AV switch harness connector terminals and ground.

Terminals			OFF	ACC	ON
(+)		(–)			
Connector	Terminal (Wire color)				
M48	1 (Y)	Ground	Battery voltage	Battery voltage	Battery voltage
	2 (P/B)		0 V	Battery voltage	Battery voltage



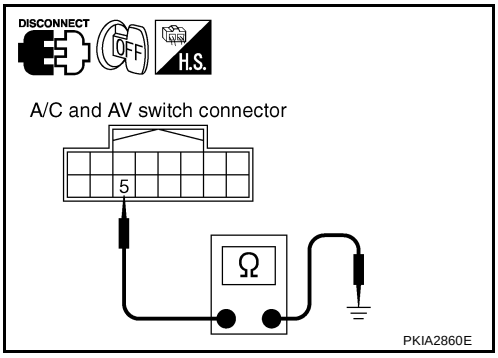
OK or NG

OK >> GO TO 3.
NG >> Repair harness or connector.

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect A/C and AV switch connector.
3. Check continuity between A/C and AV switch harness connector M48 terminal 5 (B) and ground.

5 – Ground : Continuity should exist.



OK or NG

OK >> INSPECTION END
NG >> Repair harness or connector.

Audio Steering Wheel Switch Check

AKS0069B

1. CHECK A/C AND AV SWITCH SELF-DIAGNOSIS FUNCTION

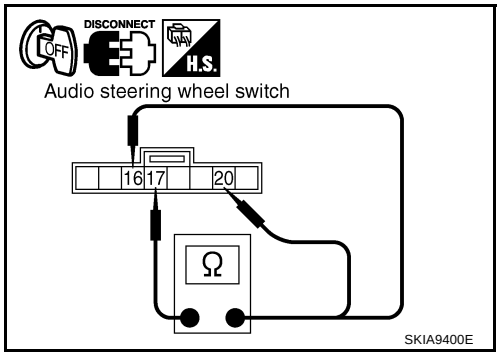
1. Start A/C and AV switch self-diagnosis function. Refer to AV-44, "A/C and AV Switch Self-Diagnosis Function" .
2. Operate audio steering wheel switch.

Does audio steering wheel switch operate normally?

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

2. CHECK AUDIO STEERING WHEEL SWITCH RESISTANCE

1. Turn ignition switch OFF.
2. Disconnect combination switch (spiral cable) connector.
3. Check resistance audio steering wheel switch harness connector terminals.



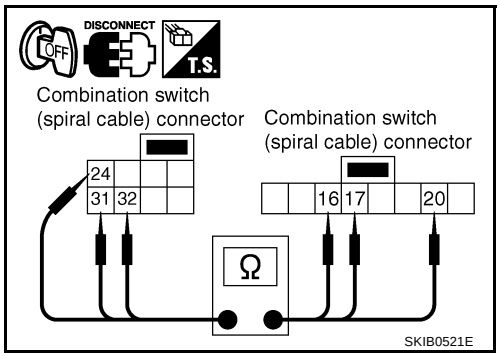
Terminal		Signal name	Condition	Resistance (Ω)
16	17	Seek down	Press and hold SEEK DOWN switch	Approx. 165
		Power	Press and hold POWER switch	Approx. 0
		Volume (down)	Press and hold VOL DOWN switch	Approx. 652
20		Seek up	Press and hold SEEK UP switch	Approx. 165
		Mode	Press and hold MODE switch	Approx. 0
		Volume (up)	Press and hold VOL UP switch	Approx. 652

OK or NG

OK >> GO TO 3.
NG >> Replace audio steering wheel switch.

3. CHECK SPIRAL CABLE

1. Disconnect spiral cable connector.
2. Check continuity between combination switch (spiral cable) terminals.



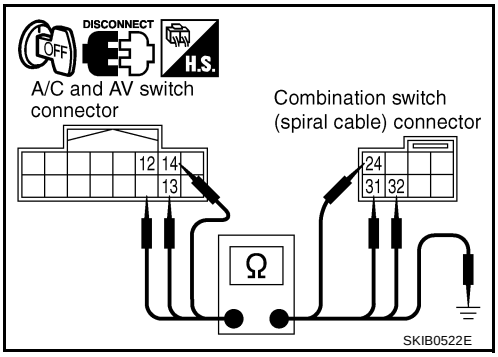
Terminals				Continuity
Combination switch (spiral cable)				
Connector	Terminal	Connector	Terminal	
M31	32	M203	16	Yes
	31		17	
	24		20	

OK or NG

OK >> GO TO 4.
NG >> Replace spiral cable.

4. CHECK HARNESS

1. Disconnect A/C and AV switch connector.
2. Check continuity between A/C and AV switch harness connector terminals and combination switch (spiral cable) harness connector terminals.



Terminals				Continuity
A/C and AV switch		Combination switch (spiral cable)		
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)	
M48	13 (G)	M31	32 (G)	Yes
	14 (B/W)		31 (B/W)	
	12 (R)		24 (R)	

3. Check continuity between A/C and AV switch harness connector terminals and ground.

Terminals			Continuity
A/C and AV switch			
Connector	Terminal (Wire color)		
M48	12 (R)	Ground	No
	13 (G)		
	14 (B/W)		

OK or NG

OK >> INSPECTION END
NG >> Repair harness or connector.

A/C and AV Switch Check

AKS007H8

1. CHECK A/C AND AV SWITCH SELF-DIAGNOSIS FUNCTION

1. Start A/C and AV switch self-diagnosis function. Refer to AV-44, "A/C and AV Switch Self-Diagnosis Function" .
2. Operate voluntary switch.

Does A/C and AV switch operate normally?

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

2. CHECK A/C AND AV SWITCH POWER SUPPLY AND GROUND CIRCUIT

Check A/C and AV switch power supply and ground circuit. Refer to AV-49, "Power Supply and Ground Circuit Check for A/C and AV Switch" .

OK or NG

OK >> Replace A/C and AV switch.
NG >> Repair malfunctioning parts.

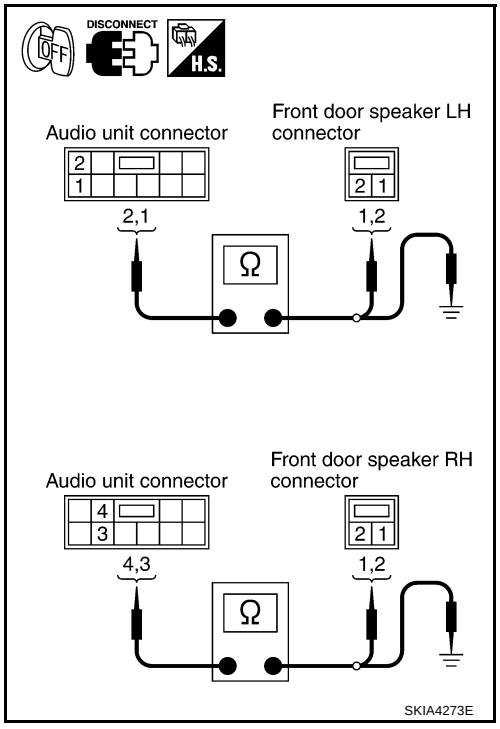
Front Door Speaker Check (Base System)

AKS005FT

1. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect audio unit and front door speaker connectors.
3. Check continuity between audio unit harness connector terminals and front door speaker harness connector terminals.

Terminals				Continuity
Audio unit		Front door speaker		
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)	
M44	2 (W)	D5	1 (L/R)	Yes
	1 (B)		2(L/B)	
	4 (Y)	D34	1 (W/B)	
	3 (BR)		2 (G/B)	



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

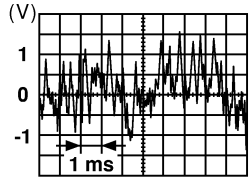
Terminals			Continuity
Audio unit			
Connector	Terminal (Wire color)		
M44	2 (W)	Ground	No
	1 (B)		
	4 (Y)		
	3 (BR)		

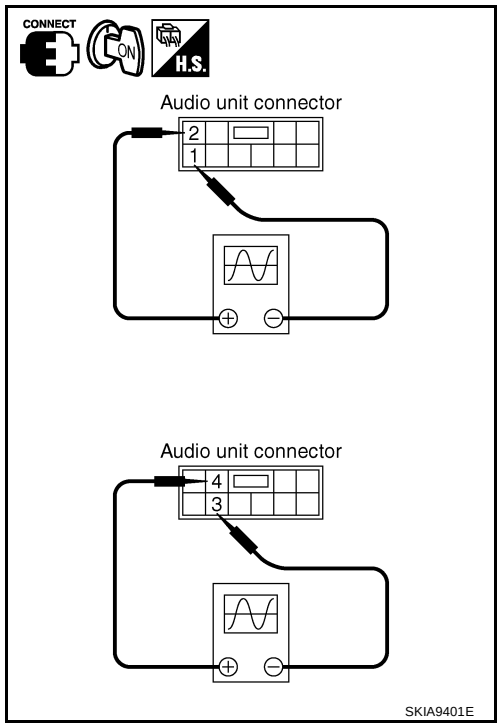
OK or NG

OK >> GO TO 2.
NG >> Repair harness or connector.

2. CHECK FRONT DOOR SPEAKER SIGNAL

1. Connect audio unit and front door speaker connectors.
2. Turn ignition switch ON.
3. Press “POWER” switch.
4. Check voltage waveform between audio unit harness connector terminals and ground with CONSULT-II or oscilloscope.

Terminals				Condition	Reference signal
(+)		(–)			
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)		
M44	2 (W)	M44	1 (B)	Receive audio signal.	 SKIA0177E
	4 (Y)		3 (BR)		



OK or NG

OK >> INSPECTION END
NG >> Replace audio unit.

Rear Door Speaker Check (Base System)

AKS005FU

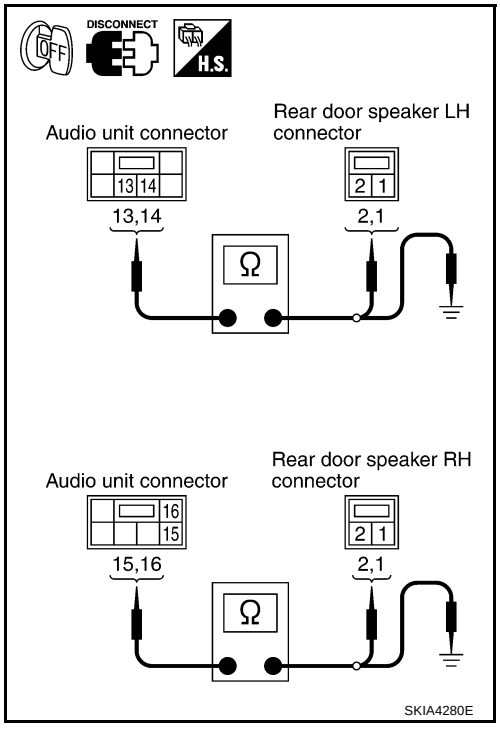
1. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect audio unit and rear door speaker connectors.
3. Check continuity between audio unit harness connector terminals and rear door speaker harness connector terminals.

Terminals				Continuity
Audio unit		Rear door speaker		
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)	
M45	13 (B/P)	D54	2 (R)	Yes
	14 (O)		1(L)	
	15 (B/W)	D74	2 (R)	
	16 (L)		1 (L)	

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

Terminals			Continuity
Audio unit			
Connector	Terminal (Wire color)		
M45	13 (B/P)	Ground	No
	14 (O)		
	15 (B/W)		
	16 (L)		

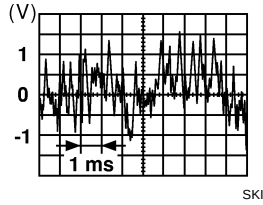


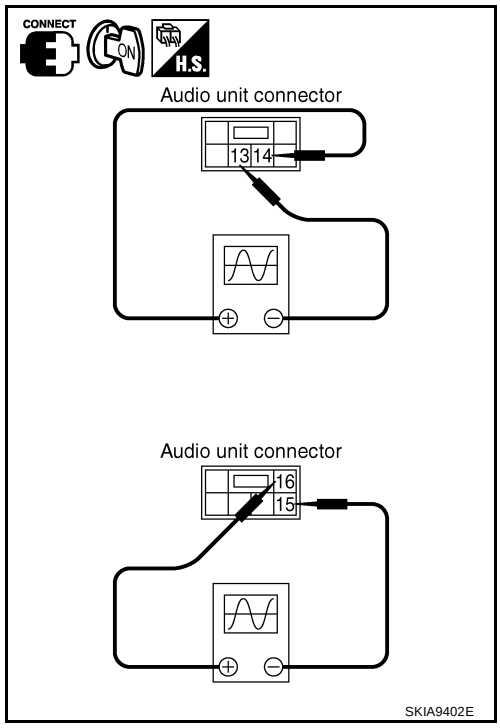
OK or NG

OK >> GO TO 2.
NG >> Repair harness or connector.

2. CHECK REAR DOOR SPEAKER SIGNAL

1. Connect audio unit and rear door speaker connectors.
2. Turn ignition switch ON.
3. Press “POWER” switch.
4. Check voltage waveform audio unit harness connector terminals with CONSULT-II or oscilloscope.

Terminals				Condition	Reference signal
(+)		(–)			
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)		
M45	14 (O)	M45	13 (B/P)	Receive audio signal.	 SKIA0177E
	16 (L)		15 (B/W)		



OK or NG

OK >> INSPECTION END
NG >> Replace audio unit.

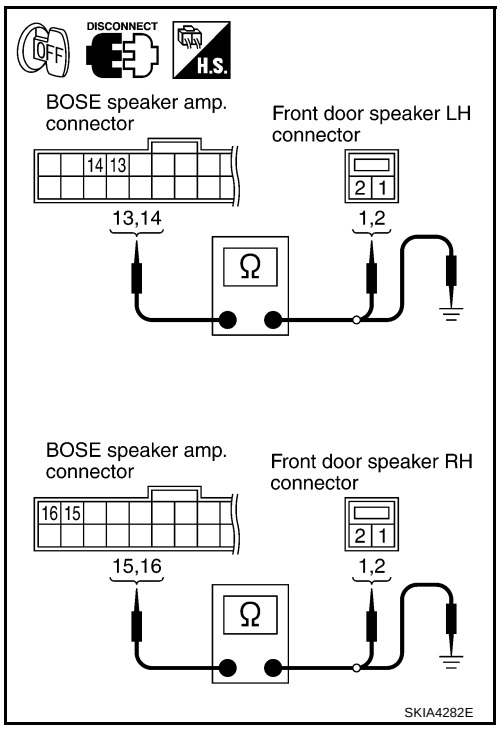
Front Door Speaker Check (BOSE System)

AKS005FV

1. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect BOSE speaker amp. and front door speaker connectors.
3. Check continuity between BOSE speaker amp. harness connector terminals and front door speaker harness connector terminals.

Terminals				Continuity
BOSE speaker amp.		Front door speaker		
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)	
B115	13 (L/R)	D4	1 (L/R)	Yes
	14 (L/B)		2 (L/B)	
	15 (W/B)	D33	1 (W/B)	
	16 (G/B)		2 (G/B)	



4. Check continuity between BOSE speaker amp. harness connector terminals and ground.

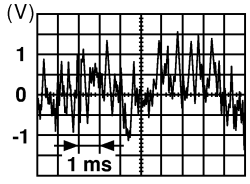
Terminals			Continuity
BOSE speaker amp.			
Connector	Terminal (Wire color)		
B115	13 (L/R)	Ground	No
	14 (L/B)		
	15 (W/B)		
	16 (G/B)		

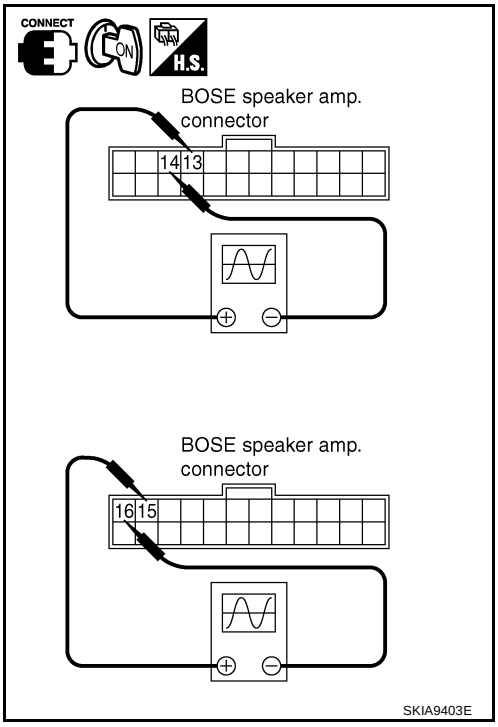
OK or NG

OK >> GO TO 2.
NG >> Repair harness or connector.

2. CHECK FRONT DOOR SPEAKER SIGNAL

1. Connect BOSE speaker amp. and front door speaker connectors.
2. Turn ignition switch ON.
3. Press “POWER” switch.
4. Check voltage waveform BOSE speaker amp. harness connector terminals with CONSULT-II or oscilloscope.

Terminals				Condition	Reference signal
(+)		(–)			
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)		
B115	13 (L/R)	B115	14 (L/B)	Receive audio signal.	 SKIA0177E
	15 (W/B)		16 (G/B)		

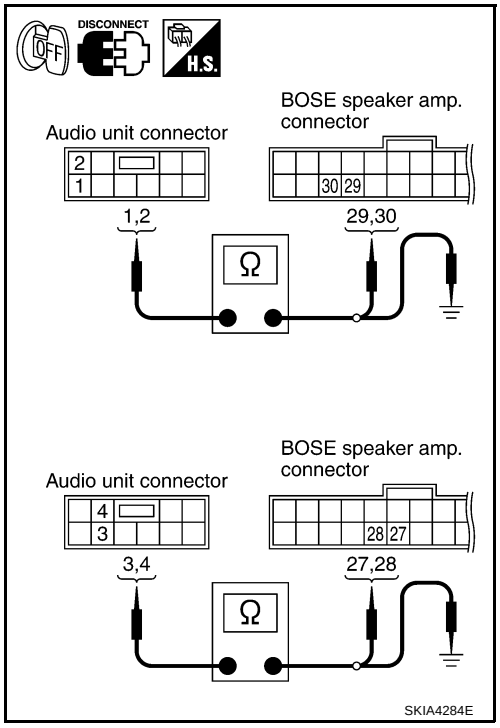


OK or NG

OK >> Replace front door speaker.
NG >> GO TO 3.

3. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect audio unit and BOSE speaker amp. connectors.
3. Check continuity between audio unit harness connector terminals and BOSE speaker amp. harness connector terminals.



Terminals				Continuity
Audio unit		BOSE speaker amp.		
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)	
M44	1 (B)	B115	29 (B)	Yes
	2 (W)		30 (W)	
	3 (BR)		27 (BR)	
	4 (Y)		28 (Y)	

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

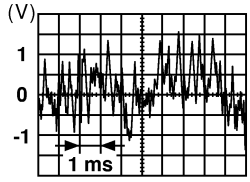
Terminals			Continuity
Audio unit			
Connector	Terminal (Wire color)		
M44	1 (B)	Ground	No
	2 (W)		
	3 (BR)		
	4 (Y)		

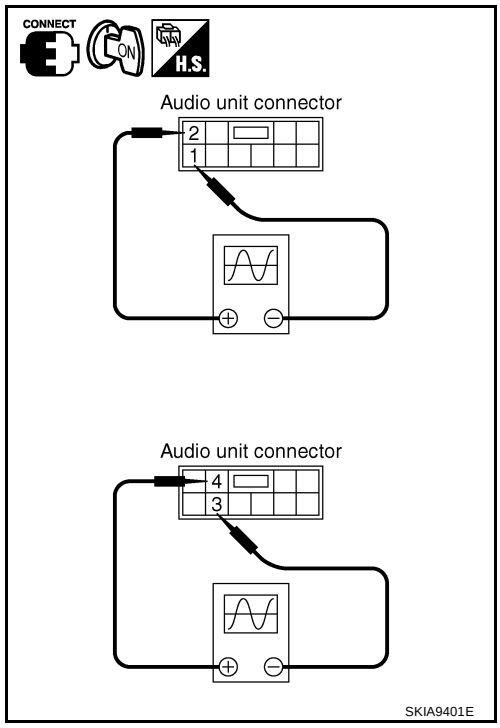
OK or NG

OK >> GO TO 4.
NG >> Repair harness or connector.

4. CHECK FRONT DOOR SPEAKER SIGNAL

1. Connect audio unit and BOSE speaker amp. connectors.
2. Turn ignition switch ON.
3. Press “POWER” switch.
4. Check voltage waveform audio unit harness connector terminals with CONSULT-II or oscilloscope.

Terminals				Condition	Reference signal
(+)		(–)			
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)		
M44	2 (W)	M44	1 (B)	Receive audio signal.	 SKIA0177E
	4 (Y)		3 (BR)		



OK or NG

OK >> INSPECTION END
NG >> Replace audio unit.

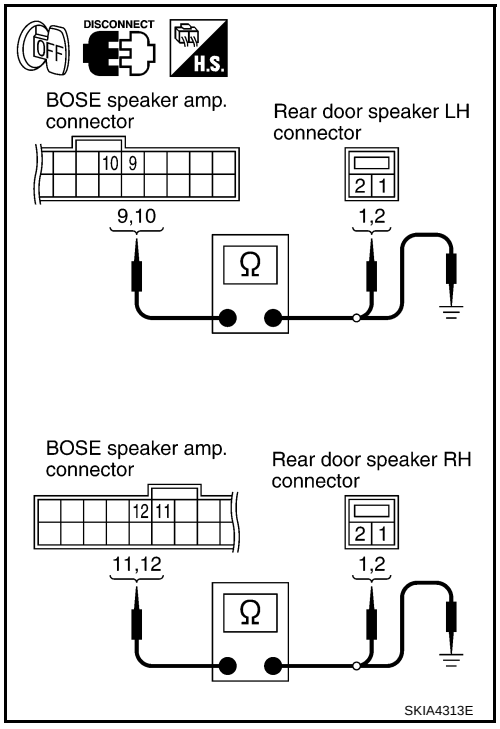
Rear Door Speaker Check (BOSE System)

AKS005FW

1. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect BOSE speaker amp. and rear door speaker connectors.
3. Check continuity between BOSE speaker amp. harness connector terminals and rear door speaker harness connector terminals.

Terminals				Continuity
BOSE speaker amp.		Rear door speaker		
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)	
B115	9 (G/W)	D53	1 (L)	Yes
	10 (G)		2 (R)	
	11 (L)	D73	1 (L)	
	12 (R)		2 (R)	



4. Check continuity between BOSE speaker amp. harness connector terminals and ground.

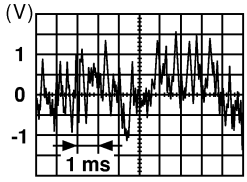
Terminals			Continuity
BOSE speaker amp.			
Connector	Terminal (Wire color)		
B115	9 (G/W)	Ground	No
	10 (G)		
	11 (L)		
	12 (R)		

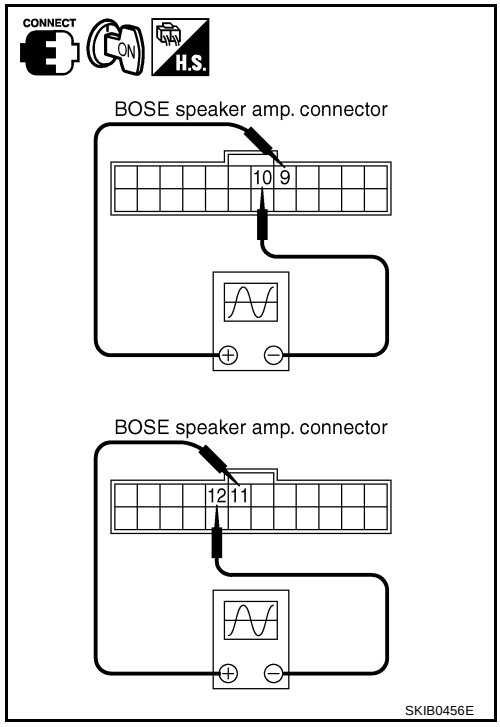
OK or NG

OK >> GO TO 2.
NG >> Repair harness or connector.

2. CHECK REAR DOOR SPEAKER SIGNAL

1. Connect BOSE speaker amp. and rear door speaker connectors.
2. Turn ignition switch ON.
3. Press “POWER” switch.
4. Check voltage waveform BOSE speaker amp. harness connector terminals with CONSULT-II or oscilloscope.

Terminals				Condition	Reference signal
(+)		(–)			
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)		
B115	9 (G/W)	B115	10 (G)	Receive audio signal.	 SKIA0177E
	11 (L)		12 (R)		



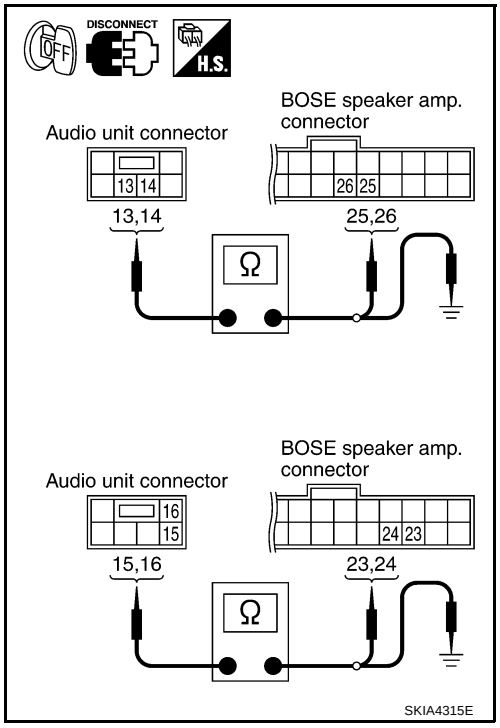
OK or NG

OK >> Replace rear door speaker.
NG >> GO TO 3.

3. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect audio unit and BOSE speaker amp. connectors.
3. Check continuity between audio unit harness connector terminals and BOSE speaker amp. harness connector terminals.

Terminals				Continuity
Audio unit		BOSE speaker amp.		
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)	
M45	13 (B/P)	B115	25 (Y)	Yes
	14 (O)		26 (O)	
	15 (B/W)		23 (B/W)	
	16 (L)		24 (L)	



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

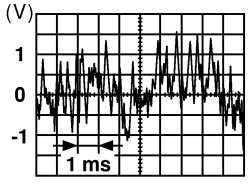
Terminals			Continuity
Audio unit		Ground	
Connector	Terminal (Wire color)		
M45	13 (B/P)		No
	14 (O)		
	15 (B/W)		
	16 (L)		

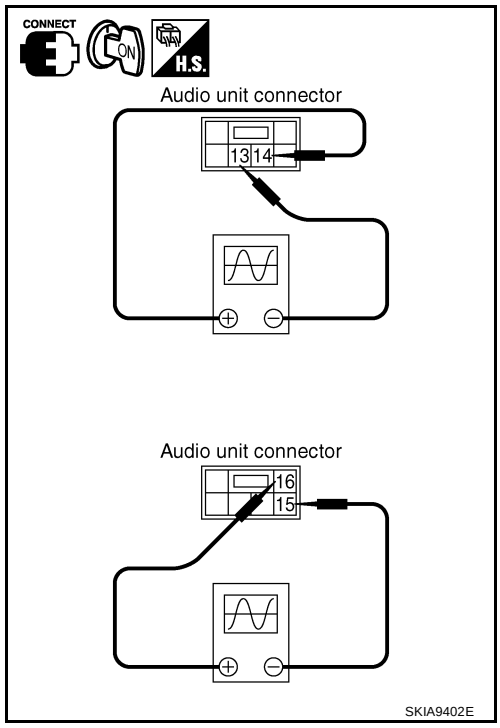
OK or NG

OK >> GO TO 4.
NG >> Repair harness or connector.

4. CHECK REAR DOOR SPEAKER SIGNAL

1. Connect audio unit and BOSE speaker amp. connectors.
2. Turn ignition switch ON.
3. Press “POWER” switch.
4. Check voltage waveform audio unit harness connector terminals with CONSULT-II or oscilloscope.

Terminals				Condition	Reference signal
(+)		(–)			
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)		
M45	14 (O)	M45	13 (B/P)	Receive audio signal.	 SKIA0177E
	16 (L)		15 (B/W)		



OK or NG

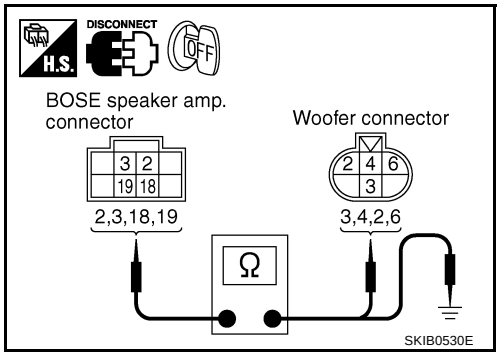
OK >> INSPECTION END
NG >> Replace audio unit.

Woofer Check (BOSE System)

AKS005FX

1. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect BOSE speaker amp. and woofer connectors.
3. Check continuity between BOSE speaker amp. harness connector terminals and woofer harness connector harness connector terminals.



Terminals				Continuity
BOSE speaker amp.		Woofer		
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)	
B114	2 (B)	B28	3 (B)	Yes
	3 (O)		4 (O)	
	18 (W)		2 (W)	
	19 (B/P)		6 (B/P)	

4. Check continuity between BOSE speaker amp, harness connector terminals and ground.

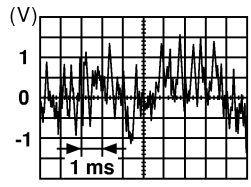
Terminals			Continuity
BOSE speaker amp.			
Connector	Terminal (Wire color)		
B114	2 (B)	Ground	No
	3 (O)		
	18 (W)		
	19 (B/P)		

OK or NG

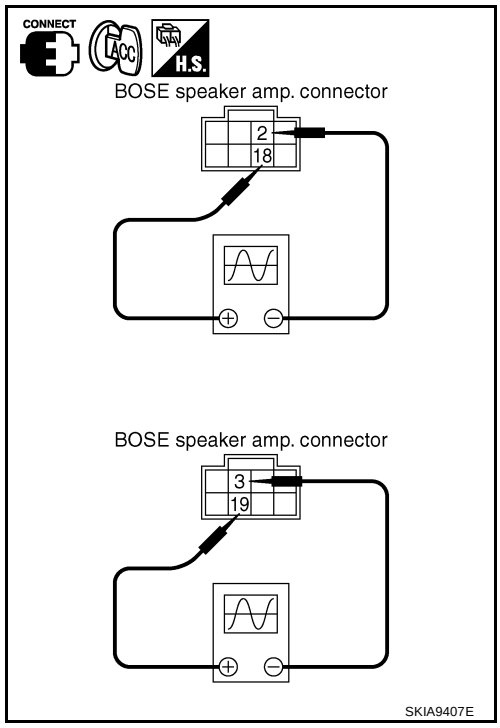
OK >> GO TO 2.
NG >> Repair harness or connector.

2. CHECK WOOFER SIGNAL

1. Connect BOSE speaker amp.and woofer connectors.
2. Turn ignition switch ON.
3. Press “POWER” switch.
4. Check voltage waveform BOSE speaker amp. harness connector terminals with CONSULT-II or oscilloscope.

Terminals				Condition	Reference signal
(+)		(–)			
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)		
B114	18 (W)	B114	2 (B)	Receive audio signal.	
	19 (B/P)		3 (O)		

SKIA0177E



SKIA9407E

OK or NG

OK >> INSPECTION END
NG >> Replace BOSE speaker amp.

Vehicle Speed Signal Check

AKS007PM

1. CHECK SPEEDOMETER FUNCTION

Does speedometer is operated normally?

Yes or No

Yes >> GO TO 2.
No >> Check combination meter trouble diagnosis. Refer to DI-19, "Vehicle Speed Signal Inspection" .

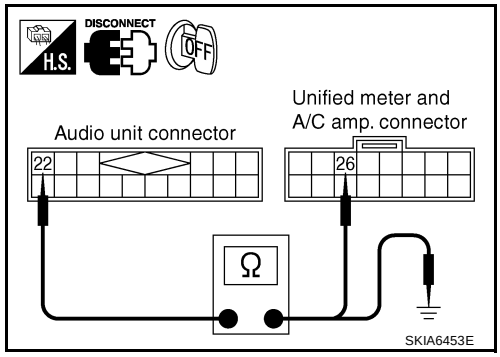
2. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect audio unit, unified meter and A/C amp., combination meter, shift lock control unit, NAVI control unit (With navigation system) and display unit (Without navigation system) or display control unit connectors (With navigation system).
3. Check continuity between audio unit harness connector M46 terminal 22 (V/W) and unified meter and A/C amp. harness connector M50 terminal 26 (V/W).

22 – 26 : Continuity should exist.

4. Check continuity between audio unit harness connector M46 terminal 22 (V/W) and ground.

22 – Ground : Continuity should not exist.



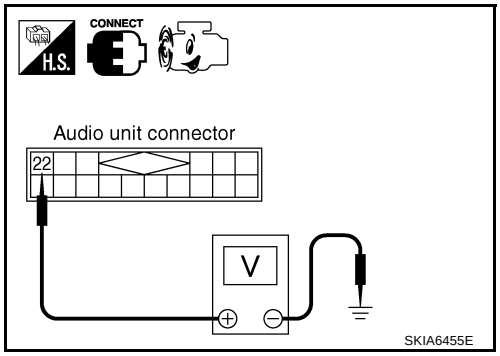
SKIA6453E

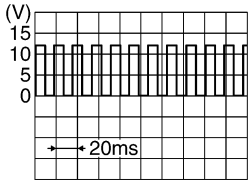
OK or NG

OK >> GO TO 3.
NG >> Repair harness or connector.

3. CHECK VEHICLE SPEED SIGNAL

1. Connect audio unit, unified meter and A/C amp., combination meter, shift lock control unit, NAVI control unit (With navigation system) and display unit (Without navigation system) or display control unit connectors (With navigation system).
2. Start engine and drive vehicle at more than 25 MPH (40 km/h).
3. Check voltage waveform between audio unit harness connector M46 terminal 22 (V/W) and ground with CONSULT-II or oscilloscope.



Terminals			Condition	Reference signal
(+)		(–)		
Connector	Terminal (Wire color)			
M46	22 (V/W)	Ground	When vehicle speed is approx. 25MPH (40 km/h)	**NOTE:** Maximum voltage may be 5 V due to specifications (connected units). 

PKIA1935E

OK or NG

OK >> INSPECTION END

NG >> Replace unified meter and A/C amp. Refer to DI-37, "Removal and Installation of Unified Meter and A/C Amp." .

Locking CD Auto Changer Mechanism

AKS004NR

CAUTION:

- **Prior to removing a malfunctioning CD auto changer unit that will be shipped for repair, the changer mechanism MUST BE LOCKED to prevent the mechanism from being damaged during shipping.**
- **If a CD is jammed or unable to be removed from the unit, do NOT lock the changer mechanism. If the unit is to be shipped for repair, carefully package the unit to prevent vibration and shock.**

DAMPER LOCK PROCEDURE

1. Eject and remove any CDs from the CD auto changer unit.
2. Turn ignition switch OFF. Wait until CD auto changer unit display is off and mechanism stops moving (mechanism sound stops).
3. Press any one of the disc selection buttons once. When a display shows on the CD auto changer unit, press the same disc selection button again within 5 seconds.
   - The changer mechanism will lock itself within 10 seconds.
4. After mechanism stops moving (mechanism sound stops), disconnect the battery cable from the negative terminal.

NOTE:

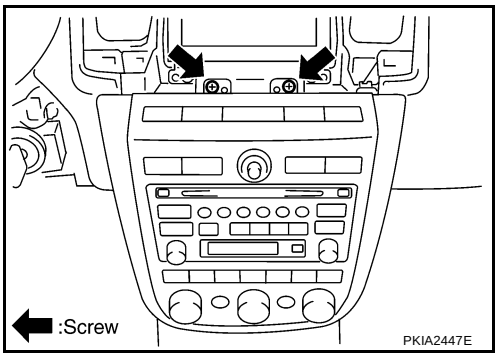
After installing a new or remanufactured CD auto changer unit, switching the CD auto changer unit ON will automatically unlock the mechanism. A special unlocking procedure is not required.

Removal and Installation of Audio Unit

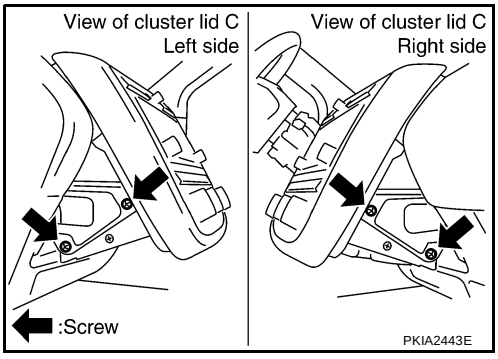
AKS004NS

REMOVAL

1. Perform damper lock operation (BOSE system). Refer to AV-67, "Locking CD Auto Changer Mechanism" .
2. Remove center ventilator. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY" .
3. Remove instrument stay cover (LH/RH). Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY" .
4. Remove screws (2).

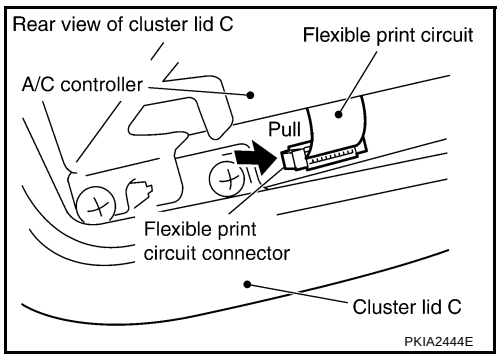


5. Remove screws (4).
6. Remove cluster lid C and audio unit.

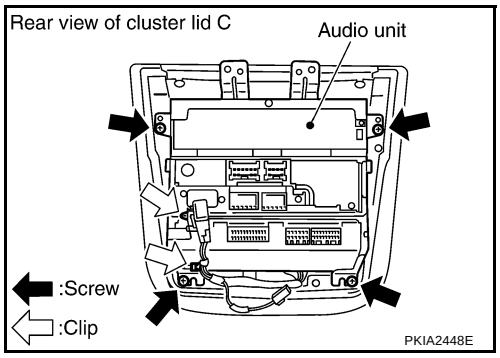


7. Unlock FPC (Flexible Print Circuit) connector lock on A/C and AV switch side.
8. Pull off flexible printed circuit from connector.

CAUTION:
Make sure mating surface of FPC (Flexible Print Circuit) and the direction of connector terminal.

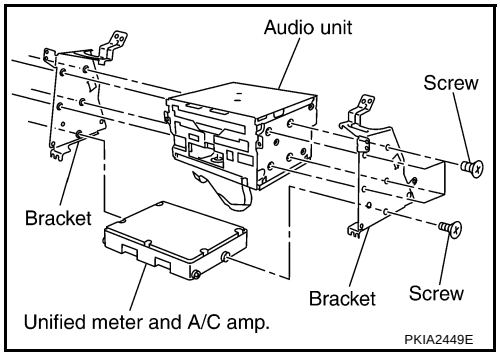


9. Remove screws (4) and clips (2). Then remove audio unit from cluster lid C.



10. Remove audio unit screws (8), unified meter and A/C amp. screws (2) and remove bracket.

CAUTION:
- **When carrying audio unit body, do not touch internal mechanism access from cassette tape slot.**
- **Be careful not to allow foreign material to enter from cassette tape slot.**
- **Use appropriate screws for each, as screws for audio unit are different from that for unified meter and A/C amp.**



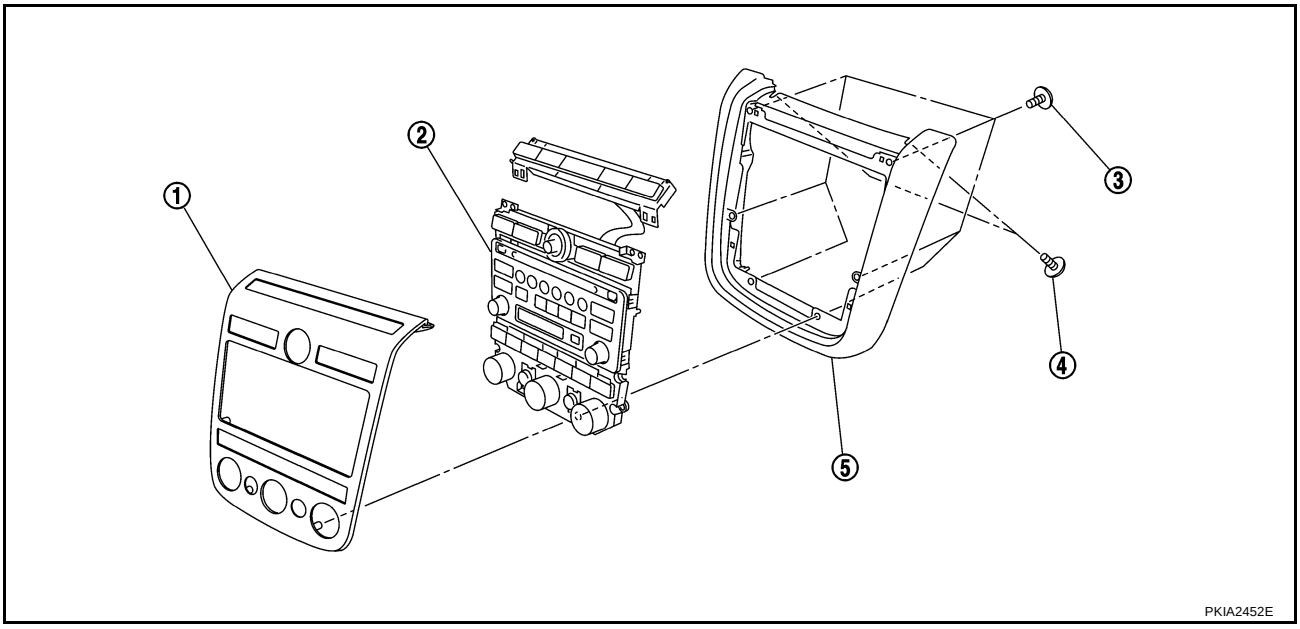
INSTALLATION

Installation is the reverse order of removal.

Removal and Installation for A/C and AV Switch

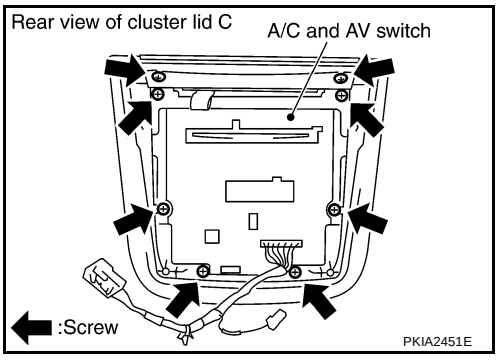
AKS004NU

REMOVAL



1. Front finisher
2. A/C and AV switch
3. Screws
4. Screws
5. Cluster lid C

1. Remove audio unit from cluster lid C. Refer to AV-67, "Removal and Installation of Audio Unit" .
2. Remove screws (8) and remove A/C and AV switch.



INSTALLATION

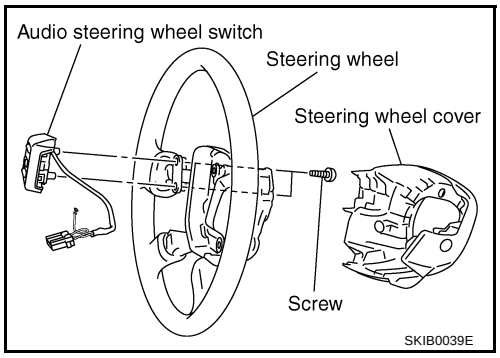
Installation is the reverse order of removal.

Removal and Installation of Audio Steering Wheel Switch

AKS00AS9

REMOVAL

1. Remove steering wheel. Refer to PS-10, "Removal and Installation" .
2. Remove steering wheel cover.
3. Remove screws (2) and remove audio steering wheel switch.



INSTALLATION

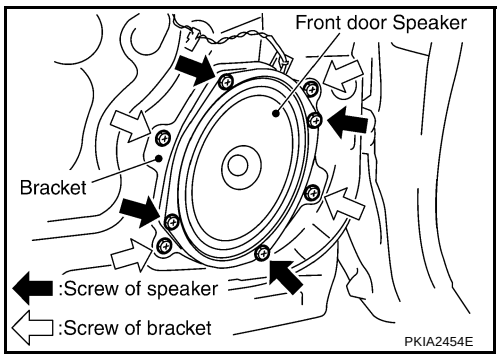
Installation is the reverse order of removal.

Removal and Installation of Front Door Speaker (Base System)

AKS004NV

REMOVAL

1. Remove door finisher. Refer to EI-30, "DOOR FINISHER" .
2. Remove screws (4) and remove speaker.
3. Remove screws (4) and remove bracket.



INSTALLATION

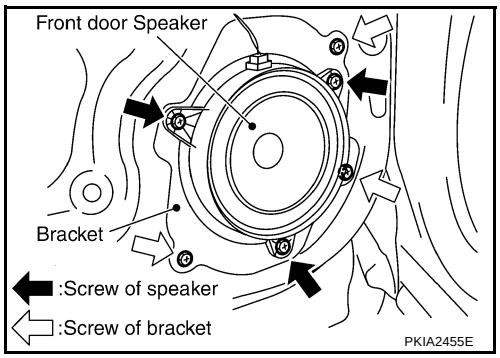
Installation is the reverse order of removal.

Removal and Installation of Front Door Speaker (BOSE System)

AKS004NW

REMOVAL

1. Remove door finisher. Refer to EI-30, "DOOR FINISHER" .
2. Remove screws (3) and remove speaker.
3. Remove screws (3) and remove bracket.



INSTALLATION

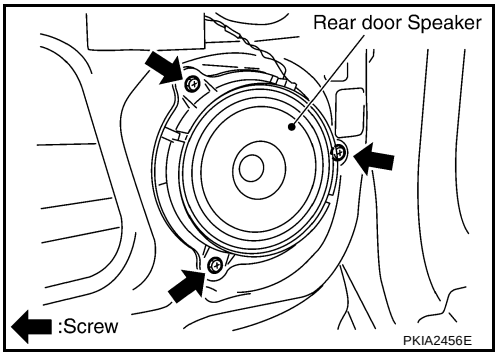
Installation is the reverse order of removal.

Removal and Installation of Rear Door Speaker (Base System)

AKS004NX

REMOVAL

1. Remove door finisher. Refer to EI-30, "DOOR FINISHER" .
2. Remove screws (3) and remove speaker.



INSTALLATION

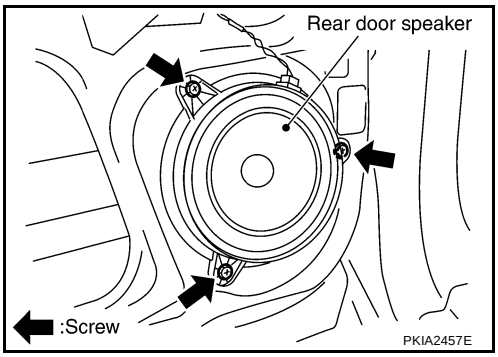
Installation is the reverse order of removal.

Removal and Installation of Rear Door Speaker (BOSE System)

AKS004NY

REMOVAL

1. Remove door finisher. Refer to EI-30, "DOOR FINISHER" .
2. Remove screws (3) and remove speaker.



INSTALLATION

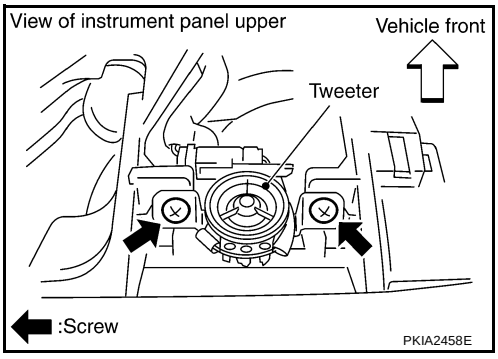
Installation is the reverse order of removal.

Removal and Installation of Tweeter

AKS004NZ

REMOVAL

1. Remove side ventilator assembly. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY" .
2. Remove instrument side finisher. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY" .
3. Remove screws (2) and remove tweeter.



INSTALLATION

Installation is the reverse order of removal.

Removal and Installation of Woofer

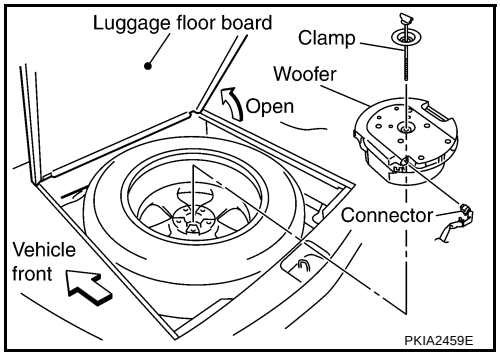
AKS004O0

REMOVAL

1. Open luggage floor finisher (center). Refer to EI-38, "LUGGAGE FLOOR TRIM" .
2. Remove woofer clamp and remove connector.
3. Remove woofer.

CAUTION:

Connectors must be placed in the left side, when installed.



INSTALLATION

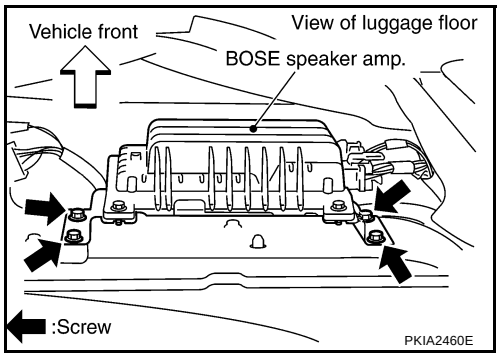
Installation is the reverse order of removal.

Removal and Installation of BOSE Speaker Amp.

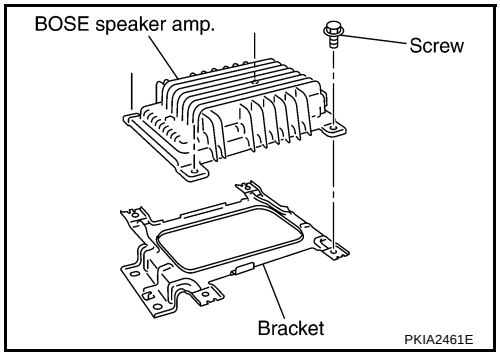
AKS004R3

REMOVAL

1. Remove luggage floor finisher (front). Refer to EI-38, "LUGGAGE FLOOR TRIM" .
2. Remove screws (4) and connectors (2) and remove BOSE speaker amp. from luggage floor.



3. Remove screws (4) and remove bracket.



INSTALLATION

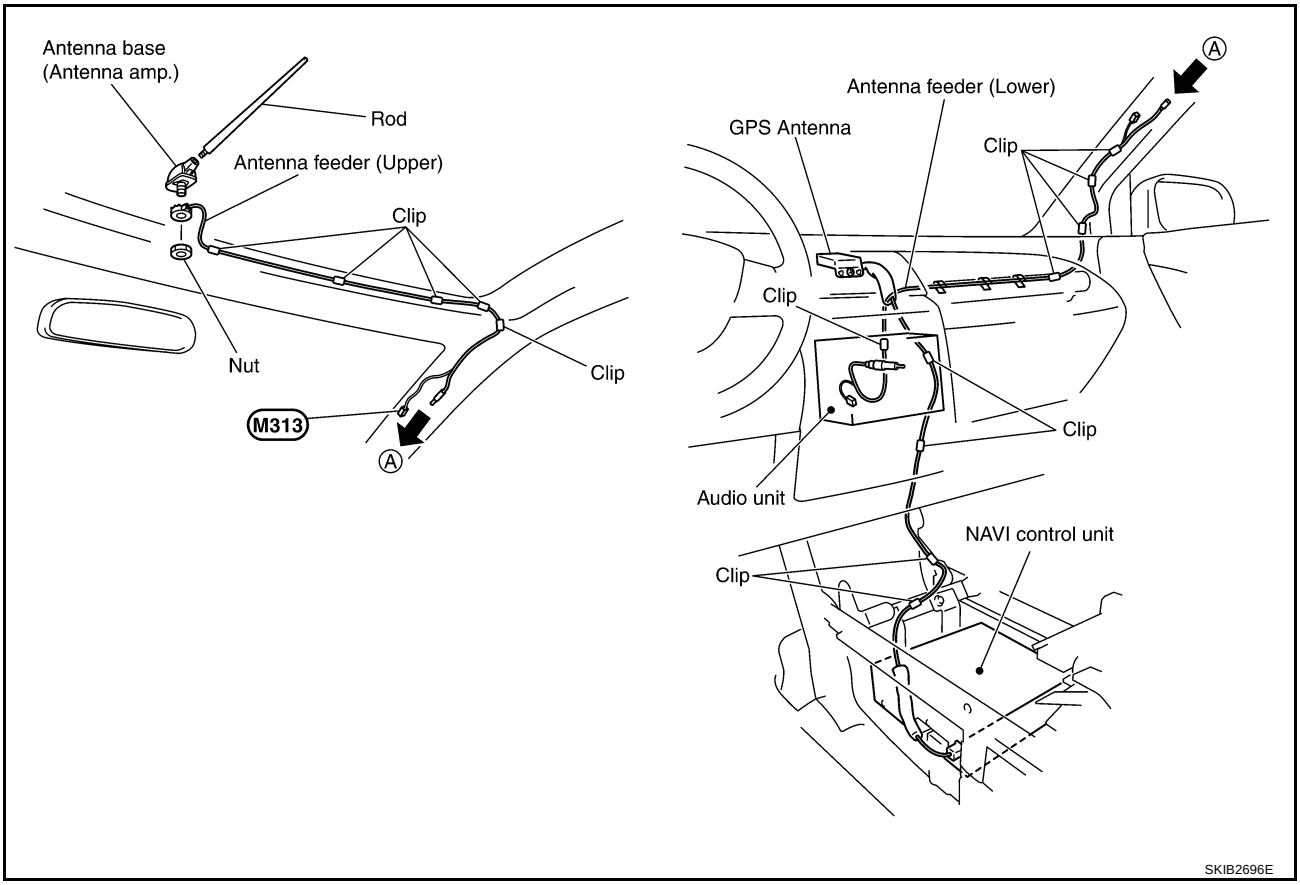
Installation is the reverse order of removal.

AUDIO ANTENNA

PFP:28200

Location of Antenna

AKS004O1

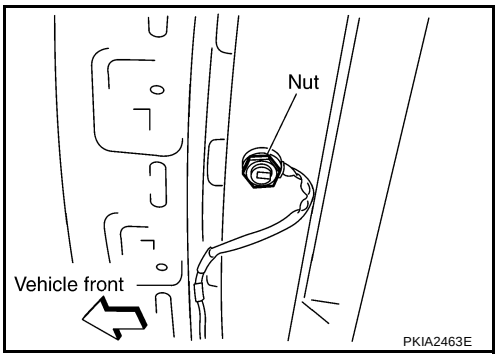


Removal and Installation of Roof Antenna

AKS004O3

REMOVAL

1. Remove head lining. Refer to EI-36, "HEADLINING" .
2. Remove nut and antenna base.



3. Remove instrument panel. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY" .
4. Remove antenna feeder (upper) and antenna feeder (lower).
5. Remove clips (5), and separate antenna feeder (upper) from vehicle.

INSTALLATION

Installation is the reverse order of removal.

INTEGRATED DISPLAY SYSTEM

PFP:28090

System Description

AKS004XS

A/C AND AV SWITCH SYSTEM

For system operation information, refer to Owner′s Manual.
Using the A/C and AV switch at the center of the instrument panel, the controls of the following systems are centralized:

- Integrated display system (Drive computer, setting screen, clock, etc.)
- Auto A/C system
- Audio system

PRECAUTION OF LCD MONITOR

- In order to use LED for backlight of a display, by in car temperature, brightness may change. In low temperature, the refreshing rate of the picture also becomes low because of the low response of the LCD monitor. When passenger room becomes warm, however, the LCD recovers the normal display.
- Backlight sometimes flickers or darkens according to the total consumption hours and the number of times switched ON and OFF. In this case, display unit should be replaced. (Exchange only of backlight is impossible.)

POWER SUPPLY AND GROUND

Power is supplied at all times

- through 15A fuse [No. 38, located in fuse and fusible link block]
- to audio unit terminal 6
- to display unit terminal 1
- to A/C and AV switch terminal 1.

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

- through 10A fuse [No. 6, located in fuse block (J/B)]
- to unified meter and A/C amp. terminal 35
- to display unit terminal 2
- to audio unit terminal 10
- to A/C and AV switch terminal 2
- to BCM terminal 11.

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

- through 10A fuse [No. 12, located in fuse block (J/B)]
- to unified meter and A/C amp. terminal 22
- to display unit terminal 3.

Ground is also supplied

- to unified meter and A/C amp. terminals 29, 30
- to display unit terminal 6
- to A/C and AV switch terminal 5
- to BCM terminals 52
- to low tire pressure warning control unit terminal 20
- through body grounds M14 and M78.

AV COMMUNICATION LINE

Display unit is controlled by the following unit with AV communication line.

- A/C and AV switch

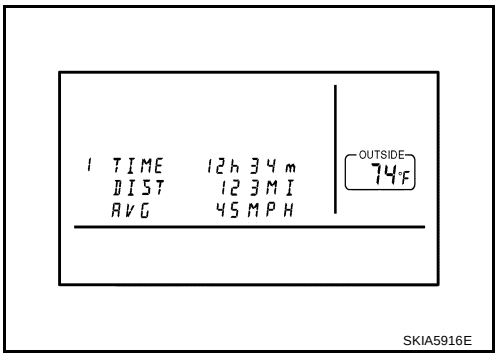
System Operation Description

AKS00EGX

Here is an example of functions. For details, refer to the owner's manual.

TRIP METER OPERATION

- When the “TRIP” button is pressed, the following modes will display on the screen.
  TRIP 1 (TIME, DIST, AVG) →TRIP 2 (TIME, DIST, AVG) → OFF
- To reset TRIP 1 or TRIP 2, press the “TRIP” button or “TRIP RESET” button for more than 1.5 seconds.



SKIA5916E

TIME Counter

Displays the total journey time since TRIP 1 or 2 has been reset. The maximum counter time is 99 hours 59 minutes. Once the counter reaches the maximum, it will start over from 00 minutes.

DIST Counter

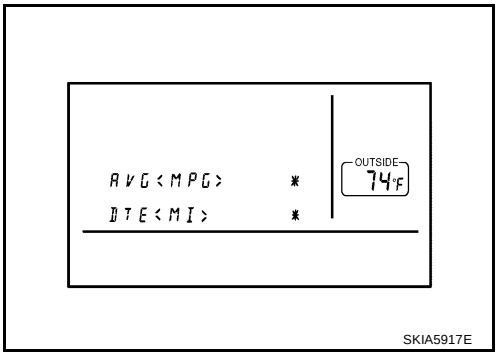
Displays the total journey distance since TRIP 1 or 2 has been reset. The maximum counter distance is 99999 miles (km). Once the counter reaches the maximum, it will start over from 0.0 mile (km).

AVG Counter

Displays the average speed of the journey since TRIP 1 or 2 has been reset.

FUEL CONSUMPTION DISPLAY

When the “FUEL ECON” button is pressed, the average fuel consumption AVG (MPG or L/100 km) and the distance to empty DTE (mile or km) will appear on the screen.



SKIA5917E

Average Fuel Consumption (AVG)

- The average fuel consumption mode displays the average fuel consumption (MPG or L/100 km) since the last reset.
- To reset, press the “FUEL ECON” or “TRIP RESET” button for more than 1.5 seconds.
- The display is updated every 30 seconds. During the first 30 seconds and 1,600 ft (500 m) after a reset or connecting battery cable, the display will show **.

Distance to Empty (DTE)

- The distance to empty (DTE) mode displays an estimation of the distance (mile or km) that can be driven before refueling. The DTE is constantly being calculated, based on the amount of fuel in the fuel tank and the actual fuel consumption.
- The display is updated every 30 seconds.
- When the fuel level reaches the minimum, the DTE displays *.

NOTE:

- If the amount of fuel added, while the ignition switch is in the OFF position, is small, the display may continue to indicate the DTE that was previously displayed.
- When driving uphill or on sharp curves, the fuel in the tank shifts and may cause the DTE indication display to charge.

CLOCK ADJUSTMENT

The digital clock displays the time when the ignition switch is in the ACC or ON position.
If the battery cable is disconnected, the clock will reset its time and the correct time will not be indicated.

1. Press the “H” button or “M” button for more than 1.5 seconds.
   The time indicator will flash.
2. Press the “H” button to adjust the hour.
   Press the “M” button to adjust the minute.
3. Press the “PREV” button to finish the adjustment.

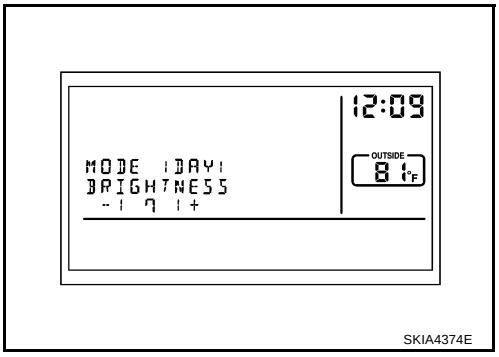
NOTE:
If the time adjusting mode is unchanged for approximately 10 seconds, the time adjusting mode will automatically return to the normal mode.

UNIT CHANGING

The unit (mile, °F, MPG or km, °C, L/100 km) displayed on the screen can be changed. To change the unit, press the “E/M” button.

DAY/NIGHT BUTTON

- To change the display brightness, press the “☀/☽” button. Pressing the button again will change the display to DAY or NIGHT display. Then, adjust the brightness moving the joystick right or left.
- If no operation is done within 10 seconds, or if the “PREV” button is pressed, the display will return to the previous display.
- Pressing the “☀/☽” button for more than approximately 1.5 seconds will turn the display off. The screen will change to “CONFIRM DISPLAY OFF YES or NO”.



SKIA4374E

SETTING DISPLAY

When the “SETTING” button is pressed, the following menu will display on the screen.
DISPLAY ON/OFF → LANGUAGE → BEEP SET → SERVICE ALERT → PERSONALIZED SETTING MENU → OFF

Setting items		Operation
DISPLAY		● To turn off the display, choose “OFF” on the screen using the joystick. ● The confirmation will appear. Select “YES” to turn off, and “NO” to cancel. ● To turn on the display, press display screen control, air conditioner or audio button.
LANGUAGE		To change the language, choose English or French using the joystick.
BEEP SET		To turn on/off the button beep sound, choose “ON” or “OFF” using the joystick.
SERVICE ALERT		To display the maintenance information on the screen when it has reached to the preset distance, choose “ON”.
PERSONALIZED SETTING MENU	SLIDE BACK DR SEAT ON EXIT*	To set the driver's seat so that it automatically moves back and returns to the original position for ease of entry and exit, choose “ON”.
	REMOTE UNLOCK DOOR LOGIC*	To set the unlock doors of the 1st unlocking operation, choose the desired function. Only the driver side door ⇔ All the doors
	HORN CHIRP WITH REMOTE*	To set the horn chirp mode that occurs when pressing the LOCK button on the remote controller, choose the desired function.
	LIGHTS FLASH WITH REMOTE*	To set the hazard indicator flash mode when the “LOCK” or “UNLOCK” button on the remote controller is pressed, choose the desired function.
	AUTO RE-LOCK TIME*	To set the auto door re-lock time, choose the desired time.
	AUTO HEADLIGHTS SENSITIVITY*	To set the sensitivity level of the automatic headlights, choose the level.
	AUTO HEADLIGHTS OFF DELAY*	To set the time for how long it takes the automatic turn off timer to extinguish the headlights in the AUTO position, select the “Automatic Headlights Off Delay” key, then move the joystick to the left or right to adjust the timer.
	SPEED SENSING WIPER INTERVAL*	To turn on the speed sensing wiper, choose “ON”.
	CONFIRM RESET SETTINGS*	To reset all settings of the personalized settings to the initial conditions, choose “YES”.
	RESET ALL SETTINGS*	To reset all settings of the personalized settings to the initial conditions, press “ENTER”.

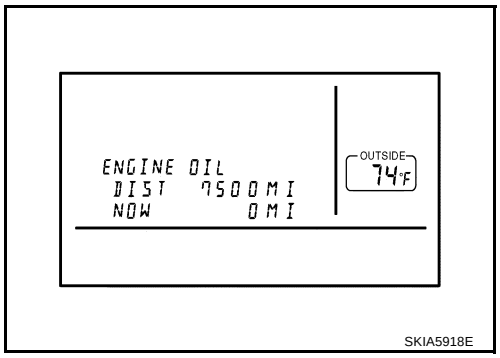
*: If equipped

MAINTENANCE DISPLAY

When the “MAINT” button is pressed, the following mode will display on the screen.
ENGINE OIL → TIRE ROTATION → TIRE PRESSURE (if equipped)

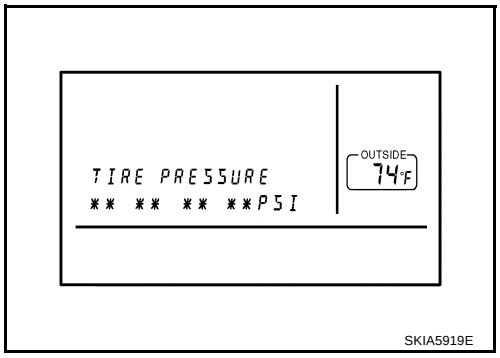
Engine Oil and Tire Rotation

- To set the maintenance distance, move the joystick left or right.
- To reset the driving distance, press the “MAINT” or “TRIP RESET” button for more than 1.5 seconds.



Tire Pressure

- Tire pressure signal is received from low tire pressure warning control unit via CAN communication.
- When FLAT TIRE signal is received from low tire pressure warning control unit, “FLAT TIRE” is displayed.



DOOR OPEN WARNING

- The door open warning will appear when the door is not securely closed while driving over 3 MPH (5 km/h).
- The door open warning will disappear when the vehicle speed slows down under 3 MPH (5 km/h) even if the door is not securely closed yet.

CAN Communication System Description

AKS007PU

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

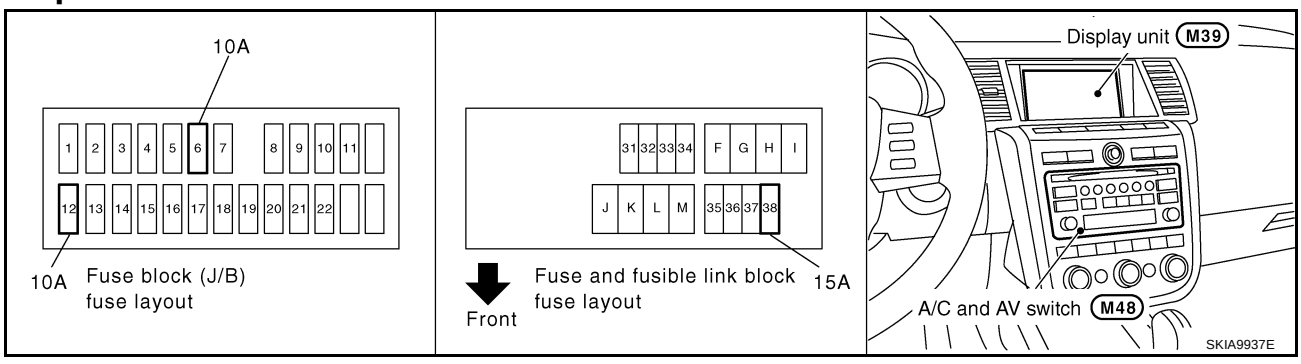
CAN Communication Unit

AKS007PV

Refer to LAN-29, "CAN Communication Unit" .

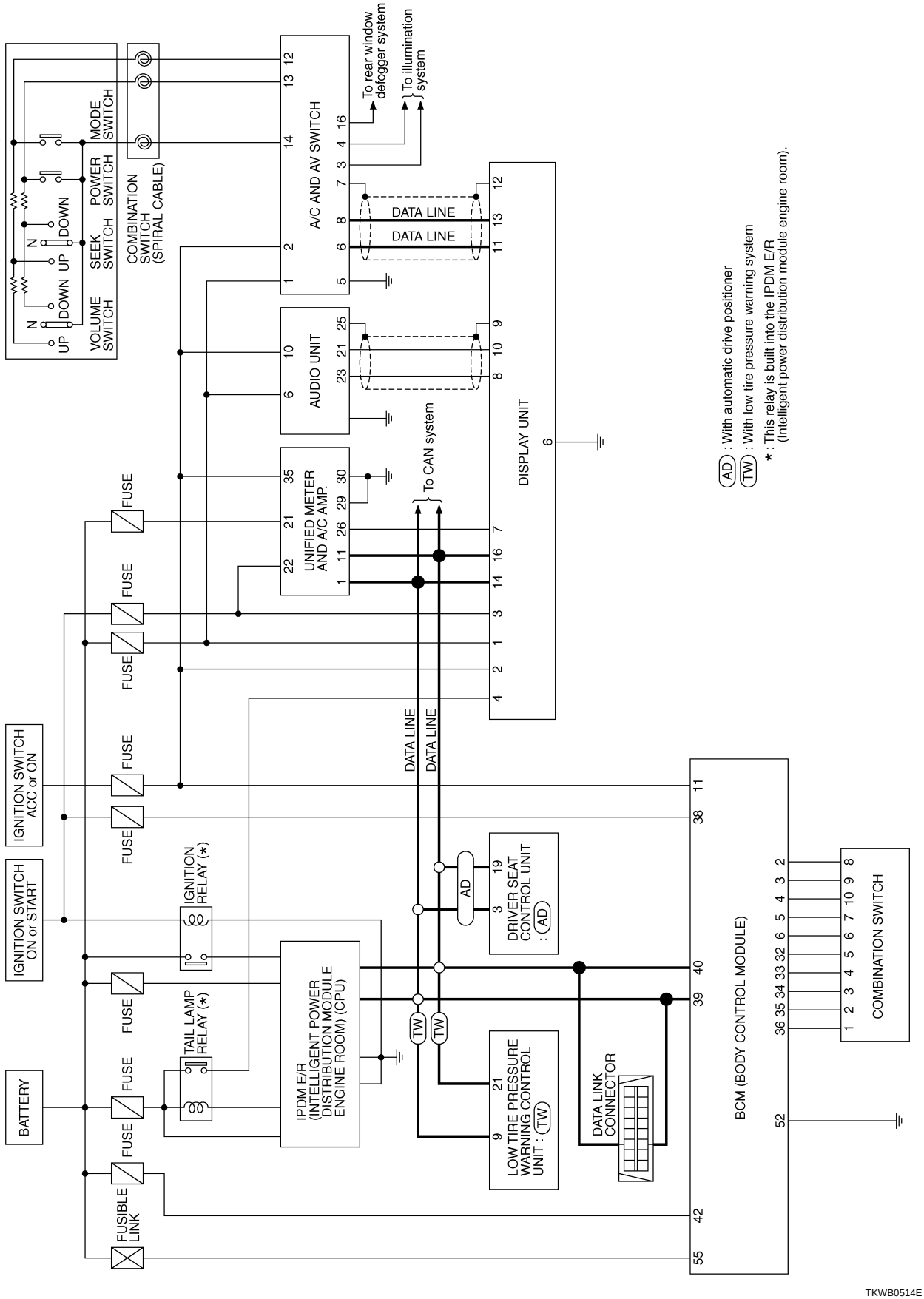
Component Parts and Harness Connector Location

AKS004XU



Schematic

AKS004YZ

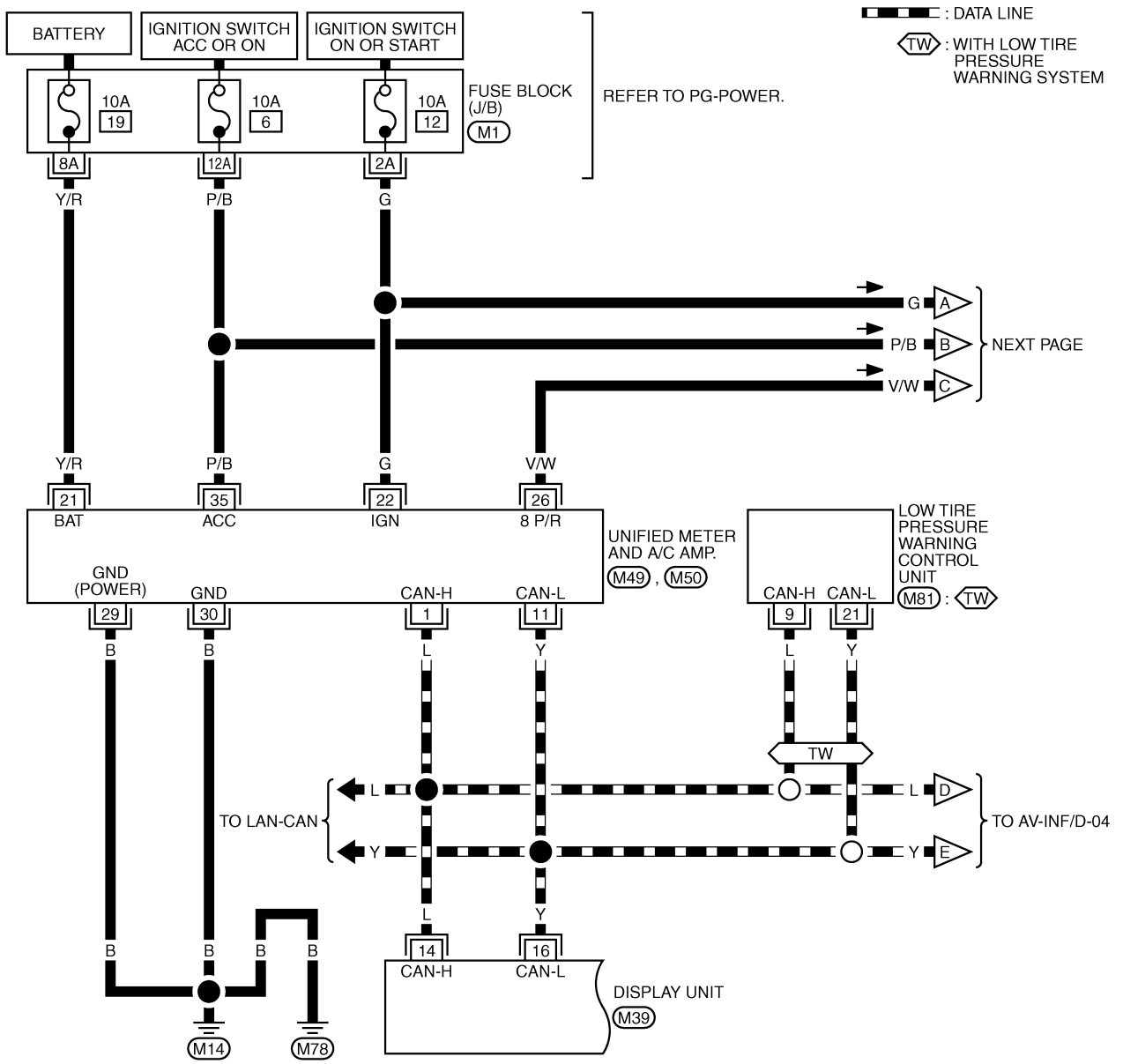


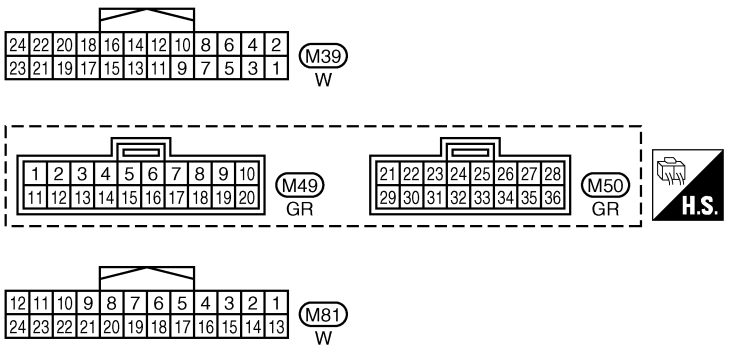
TKWB0514E

Wiring Diagram — INF/D —

AKS004Z0

AV-INF/D-01



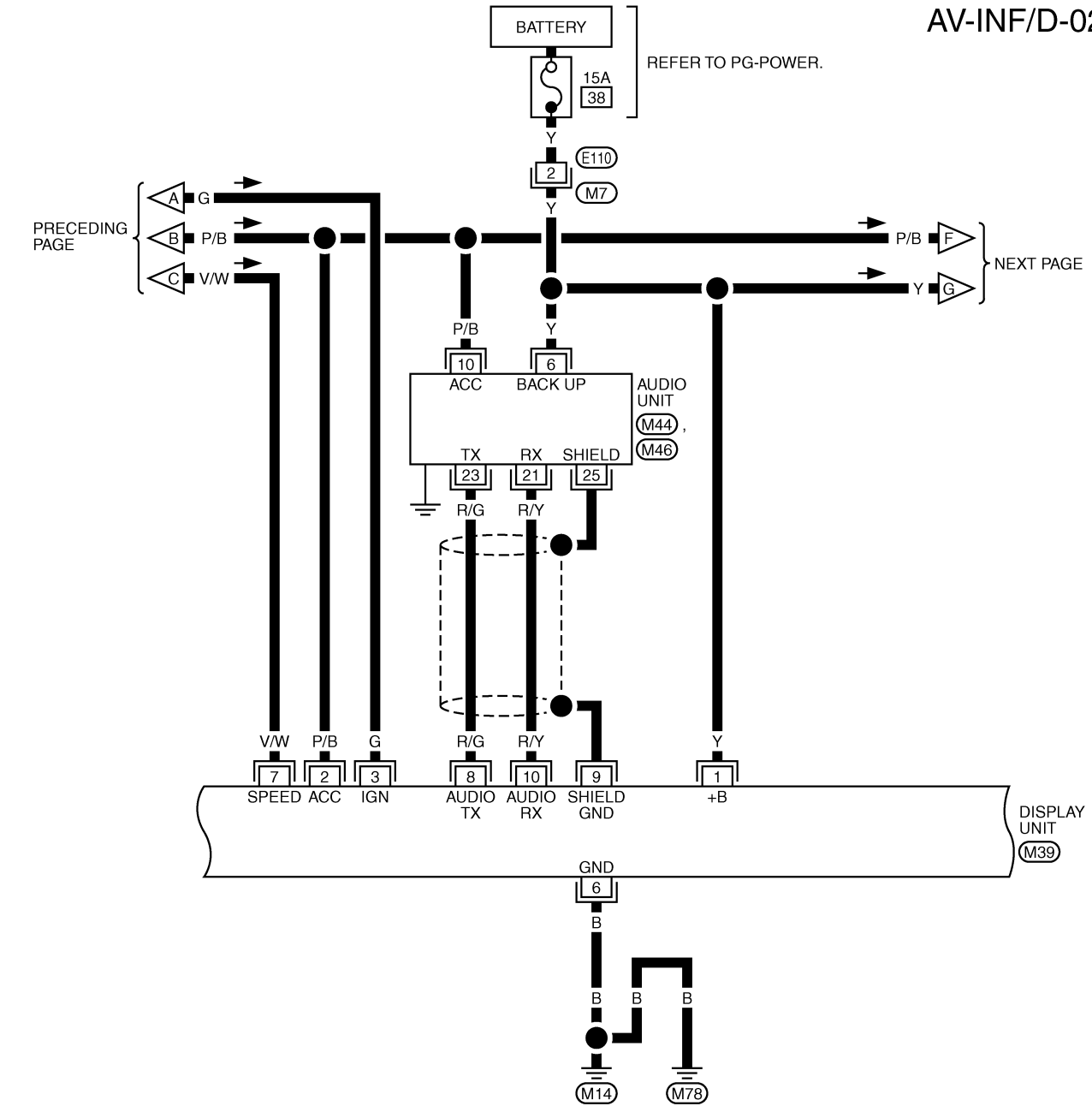


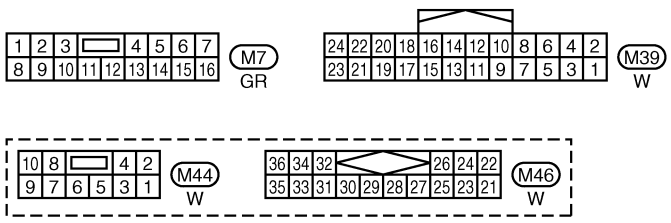
REFER TO THE FOLLOWING.

M1 -FUSE BLOCK-JUNCTION BOX (J/B)

TKWB0515E

AV-INF/D-02

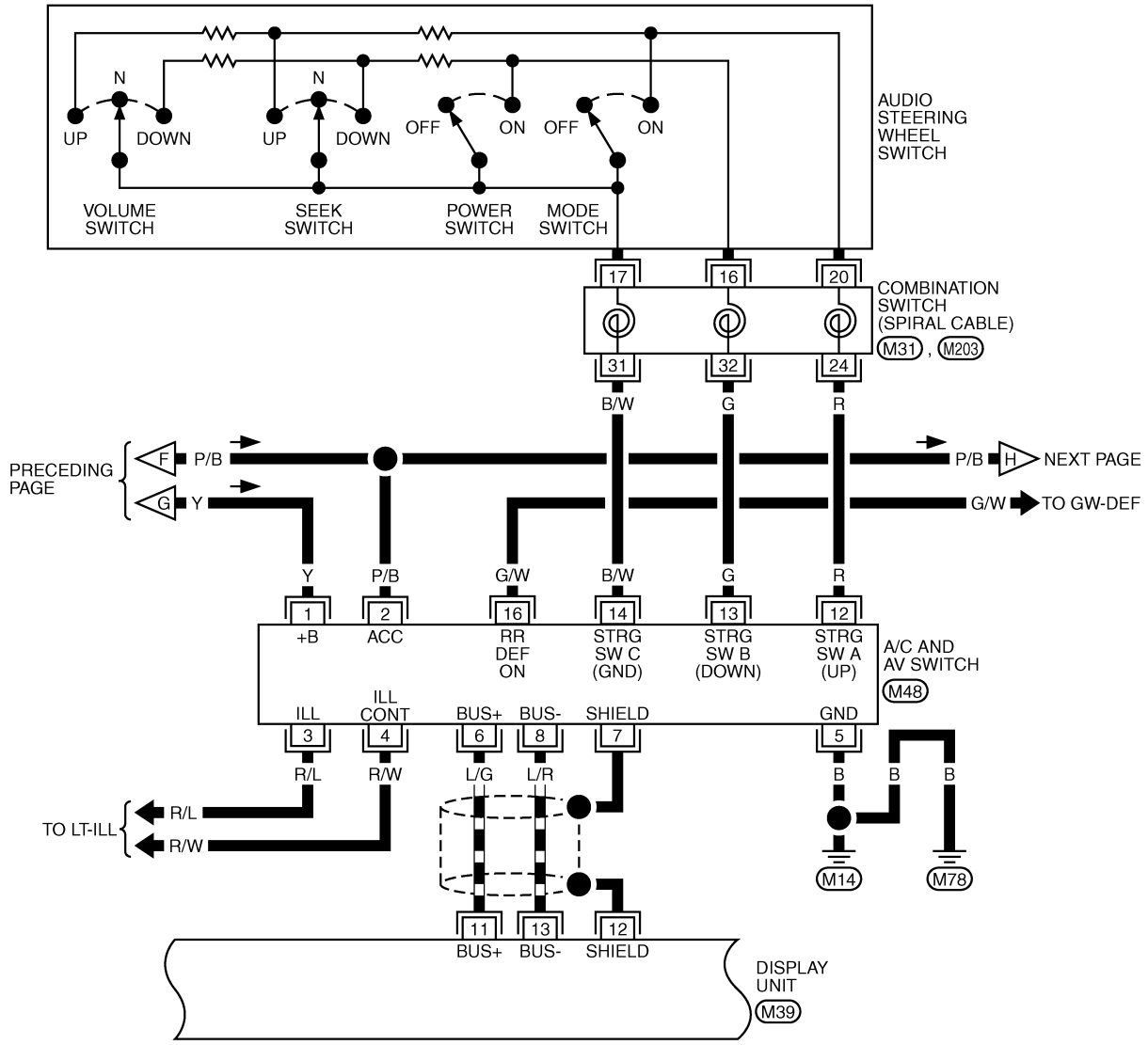


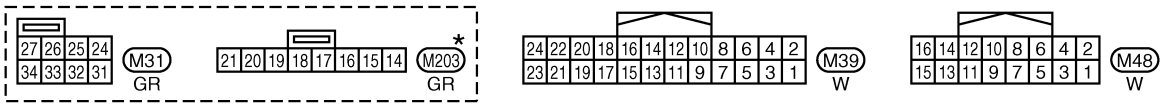


TKWA0839E

AV-INF/D-03

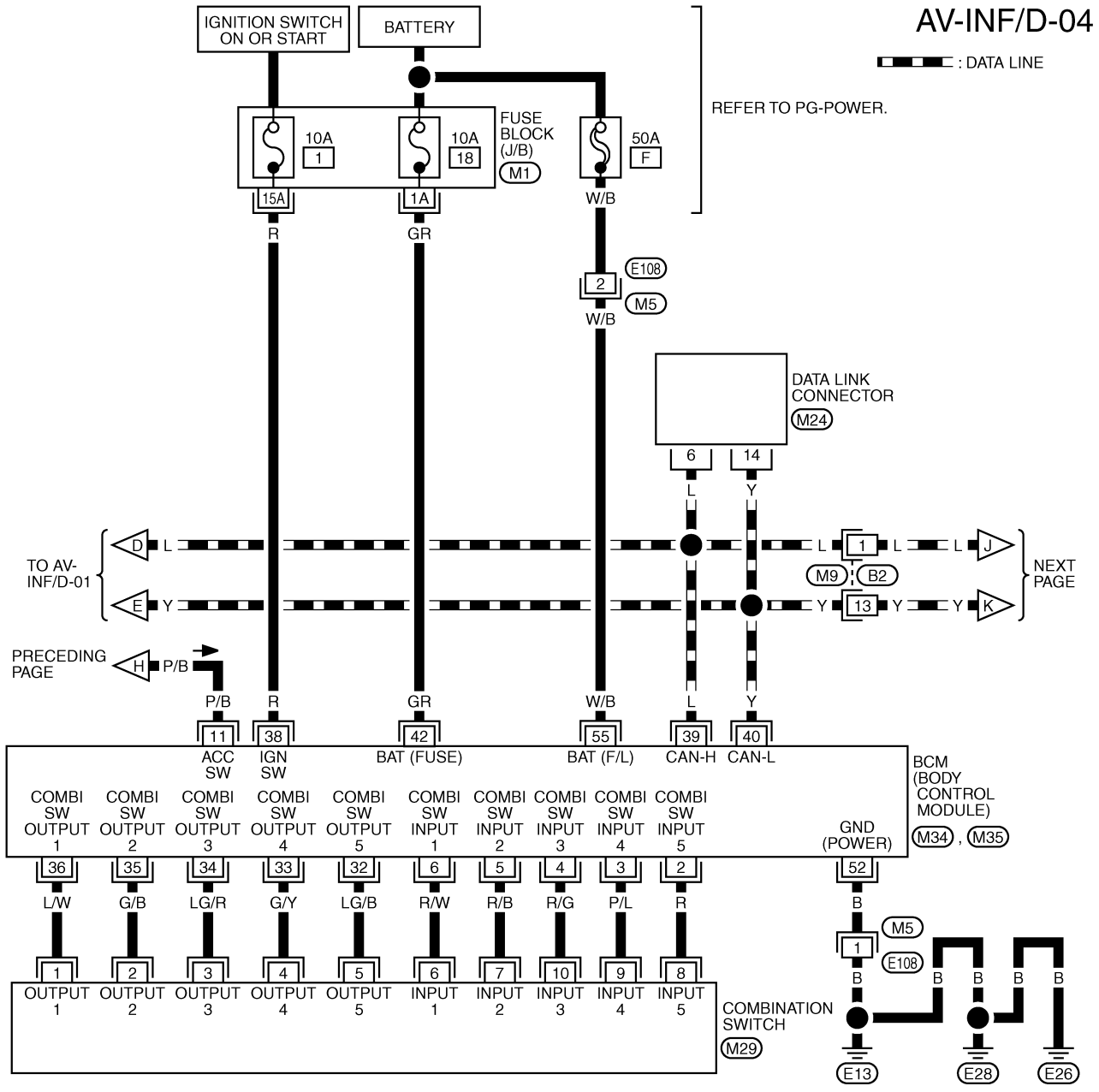
: DATA LINE

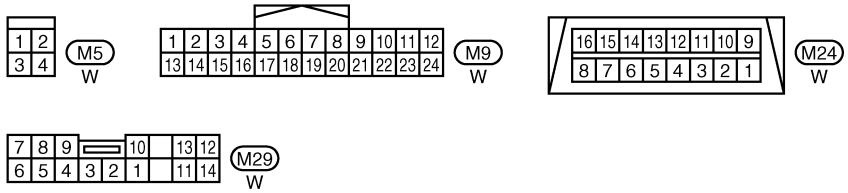




*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

TKWA1056E



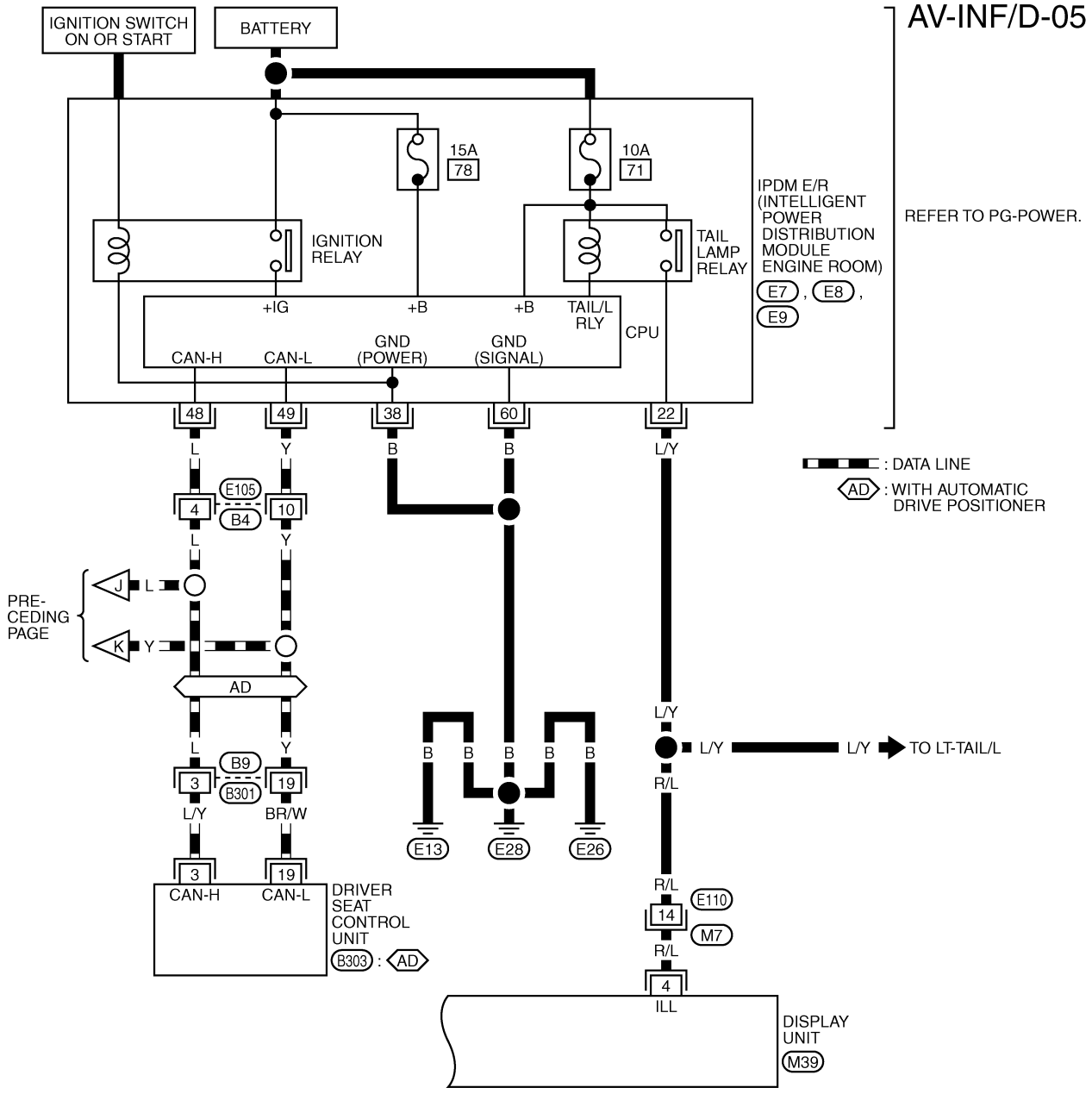


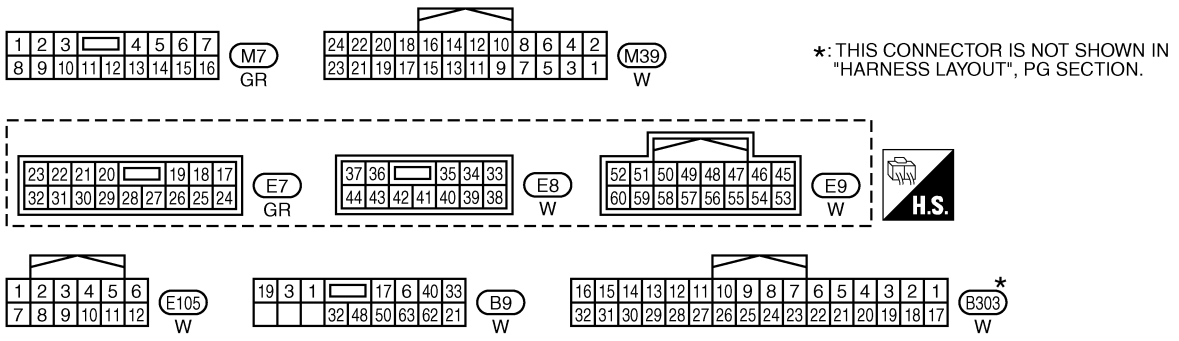
REFER TO THE FOLLOWING.

M1 -FUSE BLOCK-JUNCTION BOX (J/B)

M34 , M35 -ELECTRICAL UNITS

TKWB0516E

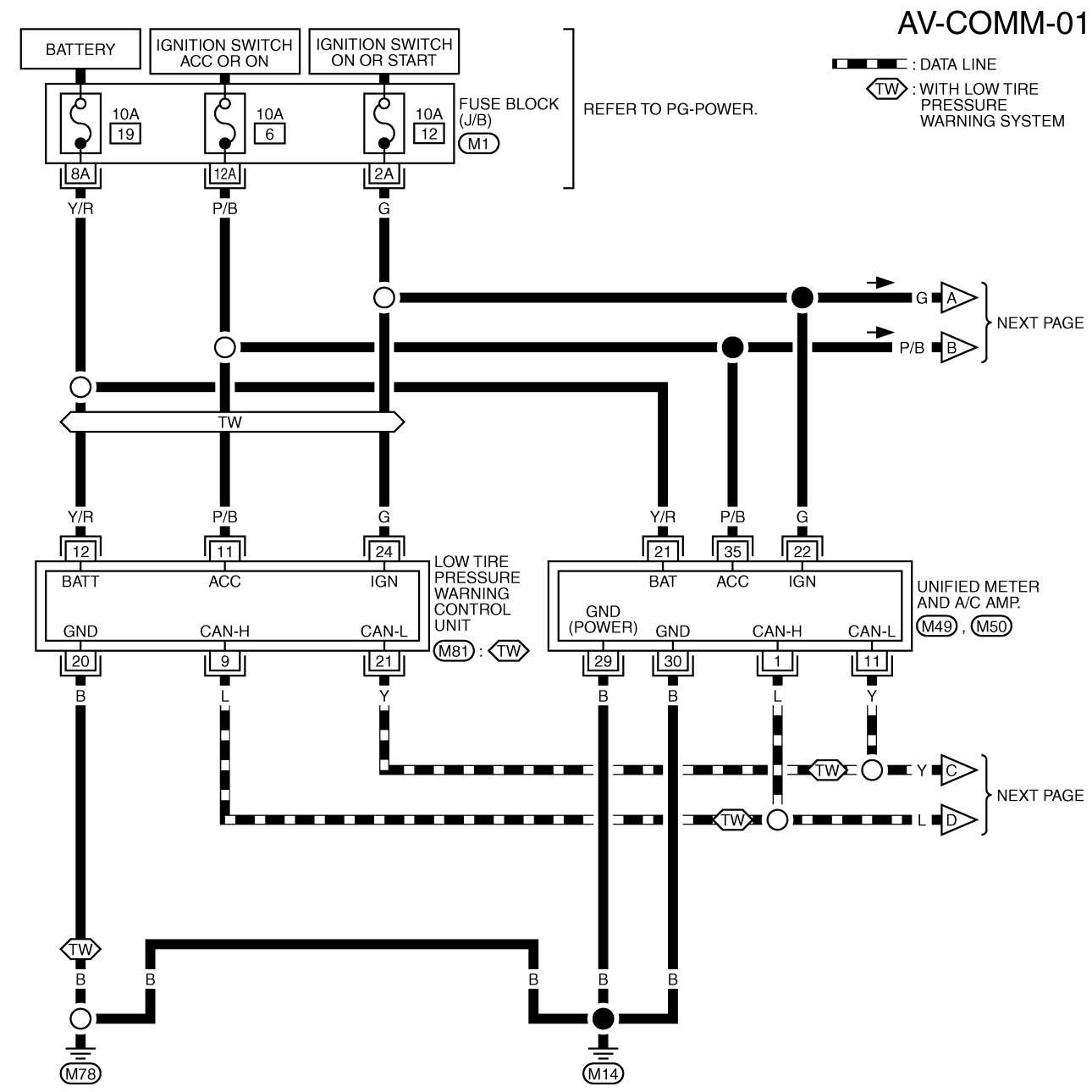

AV-INF/D-05
IGNITION SWITCH ON OR START
BATTERY
15A 78
10A 71
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E7 , E8 , E9
REFER TO PG-POWER.
IGNITION RELAY
TAIL LAMP RELAY
+IG
+B
+B
TAIL/L RLY
CPU
CAN-H
CAN-L
GND (POWER)
GND (SIGNAL)
48
49
38
60
22
L
Y
B
B
L/Y
: DATA LINE
AD : WITH AUTOMATIC DRIVE POSITIONER
E105
B4
4
10
PRE-CEDING PAGE
J L
K Y
AD
B9
B301
3
19
L/Y
BR/W
CAN-H
CAN-L
DRIVER SEAT CONTROL UNIT
B303 : AD
E13
E28
E26
L/Y
L/Y
L/Y
TO LT-TAIL/L
R/L
R/L
E110
14
M7
R/L
4
ILL
DISPLAY UNIT
M39

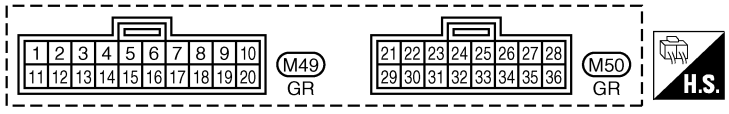

M7 GR
M39 W
*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.
E7 GR
E8 W
E9 W
H.S.
E105 W
B9 W
B303 W

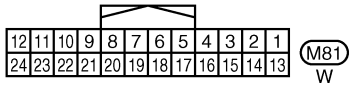
TKWB0517E

Wiring Diagram — COMM —

AKS004Z2

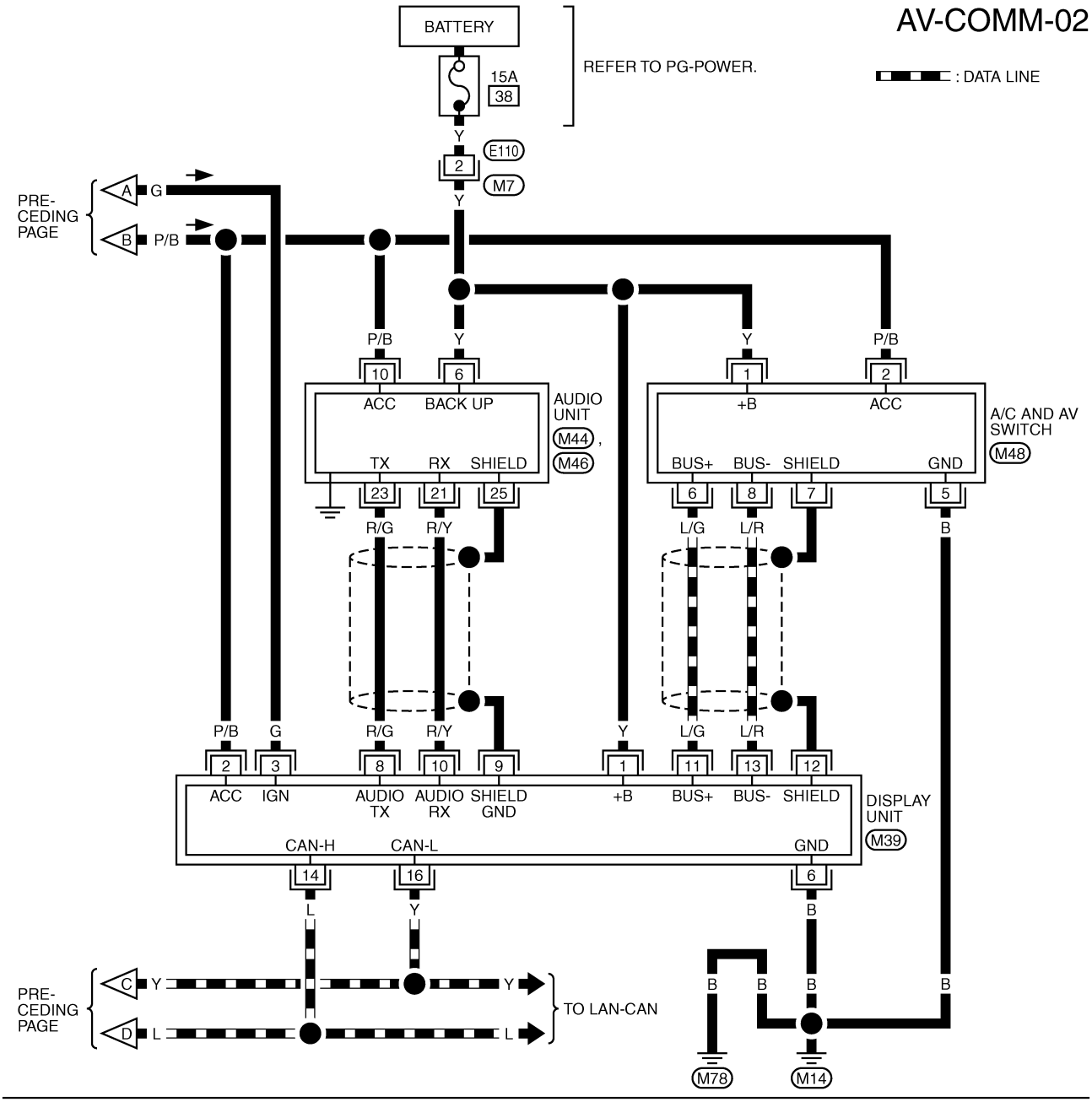


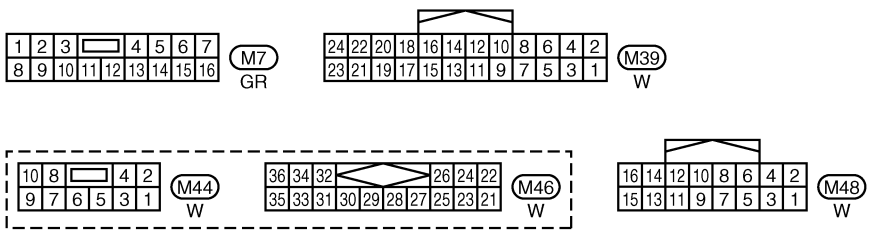




REFER TO THE FOLLOWING.
M1 -FUSE BLOCK-JUNCTION BOX (J/B)

TKWA1731E

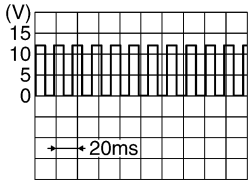
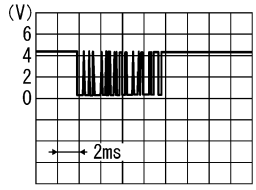
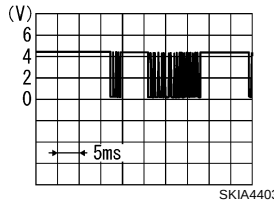
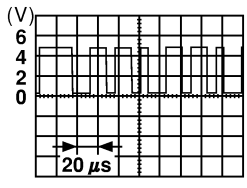

AV-COMM-02
BATTERY
15A
38
REFER TO PG-POWER.
: DATA LINE
E110
M7
PRE-CEDING PAGE
A
G
B
P/B
AUDIO UNIT
M44
M46
ACC
BACK UP
TX
RX
SHIELD
A/C AND AV SWITCH
M48
+B
ACC
BUS+
BUS-
SHIELD
GND
DISPLAY UNIT
M39
IGN
AUDIO TX
AUDIO RX
SHIELD GND
CAN-H
CAN-L
C
D
TO LAN-CAN
M78
M14

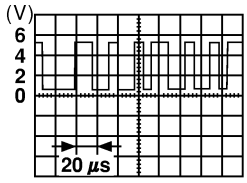

M7
GR
M39
W
M44
W
M46
W
M48
W

TKWA1732E

Terminals and Reference Value for Display Unit

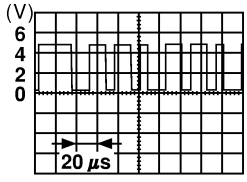
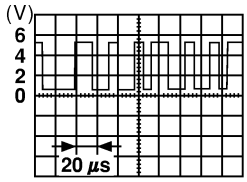
AKS004XW

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value	Example of symptom
+	–			Ignition switch	Operation		
1 (Y)	Ground	Battery power supply	Input	OFF	—	Battery voltage	System does not work properly.
2 (P/B)	Ground	ACC power supply	Input	ACC	—	Battery voltage	System does not work properly.
3 (G)	Ground	Ignition signal	Input	ON	—	Battery voltage	A/C operation is not possible. Vehicle information setting is not possible.
4 (R/L)	Ground	Illumination signal	Input	ON	Lighting switch ON	Approx. 12 V	Screen does not switch to night-time mode after the lighting switch is turned ON.
					Lighting switch OFF	Approx. 0 V	
6 (B)	Ground	Ground	—	ON	—	Approx. 0 V	—
7 (V/W)	Ground	Vehicle speed signal (8-pulse)	Input	ON	When vehicle speed is approx. 25 MPH (40 km/h)	 PKIA1935E	Drive computer item is not displayed correctly.
8 (R/G)	Ground	Audio TX	Output	ON	Operate audio volume switch	 SKIA4402E	Audio system does not operate properly.
9	Ground	Shield	—	ON	—	Approx. 0 V	—
10 (R/Y)	Ground	Audio RX	Input	ON	Operate audio volume switch	 SKIA4403E	Audio system does not operate properly.
11 (L/G)	Ground	Communication signal (+)	Input/ Output	ON	Operate A/C and AV switch	 SKIA0175E	System does not work properly.
12	Ground	Shield	—	ON	—	Approx. 0 V	—

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value	Example of symptom
+	–			Ignition switch	Operation		
13 (L/R)	Ground	Communication signal (–)	Input/ Output	ON	Operate A/C and AV switch	 SKIA0176E	System does not work properly.
14 (L)	—	CAN-H	—	—	—	—	—
16 (Y)	—	CAN-L	—	—	—	—	—

Terminals and Reference Value for A/C and AV Switch

AKS004XX

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value	Example of symptom
+	–			Ignition switch	Operation		
1 (Y)	Ground	Battery power supply	Input	OFF	—	Battery voltage	System does not work properly.
2 (P/B)	Ground	ACC power supply	Input	ACC	—	Battery voltage	System does not work properly.
3 (R/L)	Ground	Illumination signal	Input	ON	Lighting switch ON	Approx. 12 V	A/C and AV switch illumination does not come on when lighting switch is ON.
					Lighting switch OFF	Approx. 0 V	
4 (R/W)	Ground	Illumination control signal	Input	ON	Illumination control switch is operated by lighting switch in ON position	Changes between approx. 0 and approx. 12 V	A/C and AV switch illumination cannot be controlled.
5 (B)	Ground	Ground	—	ON	—	Approx. 0 V	—
6 (L/G)	Ground	Communication signal (+)	Input/ Output	ON	Operate A/C and AV switch	 SKIA0175E	System does not work properly.
7	Ground	Shield	—	ON	—	Approx. 0 V	—
8 (L/R)	Ground	Communication signal (–)	Input/ Output	ON	Operate A/C and AV switch	 SKIA0176E	System does not work properly.

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value	Example of symptom
+	–			Ignition switch	Operation		
12 (R)	Ground	Remote control A	Input	ON	Press and hold MODE switch	Approx. 0 V	Audio steering wheel switch controls do not function.
					Press and hold SEEK UP switch	Approx. 1.7 V	
					Press and hold VOL UP switch	Approx. 3.3 V	
					Except for above	Approx. 5 V	
13 (G)	Ground	Remote control B	Input	ON	Press and hold POWER switch	Approx. 0 V	Audio steering wheel switch controls do not function.
					Press and hold SEEK DOWN switch	Approx. 1.7 V	
					Press and hold VOL DOWN switch	Approx. 3.3 V	
					Except for above	Approx. 5 V	
14 (B/W)	Ground	Remote control ground	—	ON	—	Approx. 0 V	Audio steering wheel switch controls do not function.
16 (G/W)	Ground	Rear window defogger switch signal	Output	ON	Press and hold rear window defogger switch	Approx. 0 V	Rear window defogger does not operate.
					—	Approx. 5 V	

On Board Self-Diagnosis Function

AKS004XY

DESCRIPTION

- Diagnosis function consists of the self-diagnosis mode performed automatically.
- 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.

DIAGNOSIS ITEM

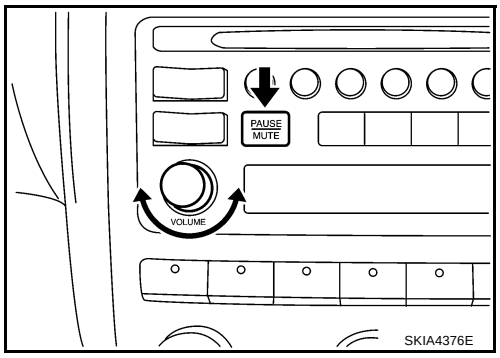
Mode	Item	Description	Reference page
Self-diagnosis	NETWORK CHECK	Check network between control unit and switch connected from display unit via communication line.	AV-91, "NETWORK CHECK"
	PARTS CHECK	● Perform diagnosis and setting of display unit. ● Perform self-diagnosis for auto air conditioner system.	AV-91, "PARTS CHECK"
	VERSION CHECK	Displays version of each unit.	AV-92, "VERSION CHECK"
	CAN DIAG MNTR	Display unit displays CAN communication status.	AV-92, "CAN DIAG MNTR (CAN DIAG MONITOR)"

Self-Diagnosis Mode

AKS004XZ

OPERATION PROCEDURES

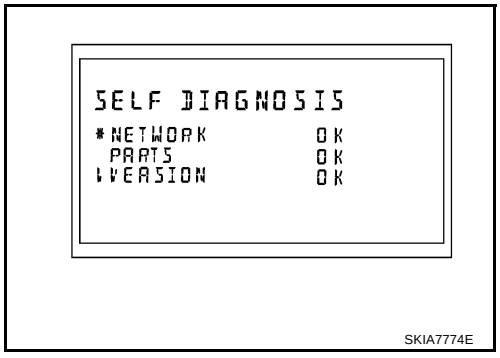
1. Start the engine.
2. Turn the audio system OFF.
3. While pressing the “PAUSE/MUTE” switch, turn the volume control dial clockwise or counterclockwise for 30 clicks or more. (When the self-diagnosis mode is started, a short beep will be heard.)



4. Select each connecting unit (IVCS, CHANGER, SATELLITE RADIO).

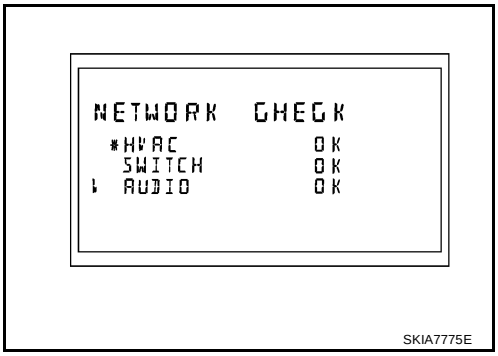
5. Self-diagnosis screen is displayed.
   - Using the joystick, select each item, and perform diagnosis.

   CAUTION:
   If self-diagnosis cannot be activated, refer to AV-94, "Trouble Diagnosis Chart by Symptom" .



NETWORK CHECK

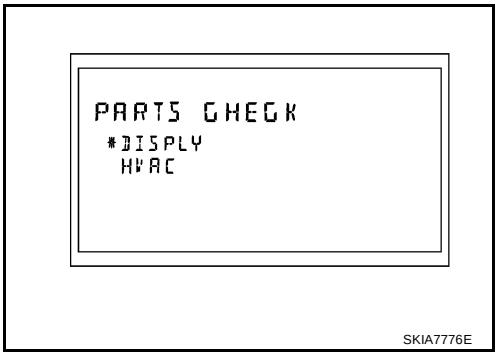
Selecting NETWORK CHECK on self-diagnosis screen, display self-diagnostic results.



Diagnosis item	Contents	DTC return condition	Reference at error
HVAC	OK/NG	Communication error between unified meter and A/C amp. and display unit.	AV-102, "CAN Communication Line Check"
SWITCH	OK/NG	Communication error between A/C and AV switch and display unit.	AV-101, "A/C and AV Switch Does Not Operate"
AUDIO	OK/NG	Communication error between audio and display unit.	AV-99, "Audio Communication Line Check"

PARTS CHECK

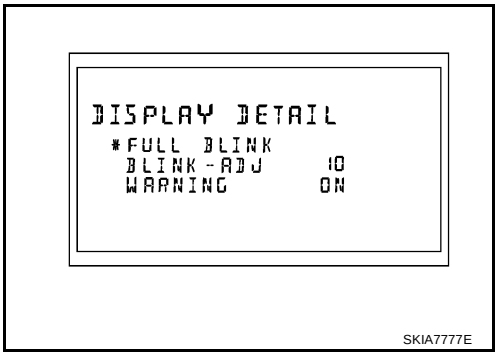
- Selecting PARTS CHECK on self-diagnosis screen, display selection screen.
- Select DISPLAY, indicate DISPLAY DETAIL screen. Display diagnosis and setting can be performed.
- Select HVAC, Indicate HVAC DETAIL screen. Auto air conditioner system self-diagnosis can be performed.



Display Detail Screen

Items	Description
FULL BLINK	All display unit segments turn ON.
BLANK–ADJ	Adjust the display timeout for 5 to 15 seconds. (Default is 10 seconds.)[Note]
WARNING	Select warning indication ON/OFF. (Default is ON.)

NOTE:
Except an audio screen.



HVAC DETAIL SCREEN

Press the joystick, start auto air conditioner system self-diagnosis. Refer to ATC-48, "Self-diagnosis Function" .

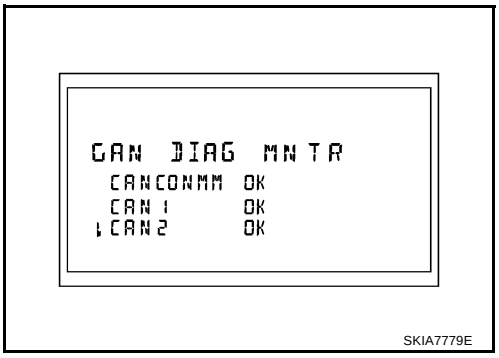
VERSION CHECK

Check ID and version of display, A/C and AV switch, and audio.

CAN DIAG MNTR (CAN DIAG MONITOR)

Display CAN communication status.

Items shown	Contents
CANCOMM	OK/NG
CAN1	OK/UNKWN
CAN2	OK/UNKWN
CAN3	OK/UNKWN
CAN4	OK/UNKWN
CAN5	OK/UNKWN
CAN6	OK/UNKWN
CAN7	OK/UNKWN
CAN8	OK/UNKWN
CAN9	OK/UNKWN



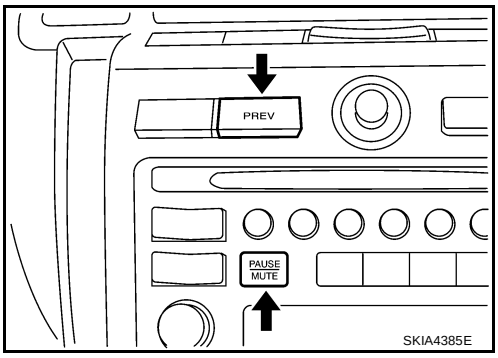
A/C and AV Switch Self-Diagnosis Function

AKS005FY

It can check ON/OFF operation of each switch in the A/C and AV switch and diagnose the input signals to the audio steering wheel switch.

STARTING THE SELF-DIAGNOSIS MODE

1. Turn ignition switch from OFF to ACC.
2. Within 10 seconds press and hold the switches “PAUSE/MUTE” and “PREV” simultaneously for 3 seconds.



DIAGNOSIS FUNCTION

The following are checked:

- All the indicators (LED) in the A/C and AV switch.
- Continuity of the switches by sounding the buzzer when the A/C and AV switch is pressed.
- Continuity of harness between A/C and AV switch and audio steering wheel switch.

NOTE:

- Indicators (LED) of REC/FRE switch change to “FRE”→“REC”→“FRE” every time the REC/FRE switch is pressed. (These two do not turn on at a time.)
- Impossible to check rear window defogger switch operation (No beep sound even under normal status).

EXITING THE SELF-DIAGNOSIS MODE

- Turn ignition switch OFF.

Trouble Diagnosis Chart by Symptom

AKS005IF

Symptom	Check item
No screen is shown.	● Display unit power supply and ground circuit. Refer to AV-95, "Power Supply and Ground Circuit Check for Display Unit" . ● Display unit
Screen does not switch to nighttime mode after the lighting switch is turned ON.	● Illumination signal. Refer to AV-98, "Illumination Signal Check" . ● Display unit
TRIP and FUEL ECON screen do not appear.	● Ignition signal. Refer to AV-98, "Ignition Signal Check" . ● Display unit
● Trip odometer (DIST) is not added up. ● Average vehicle speed (AVG) is not displayed.	● Vehicle speed signal. Refer to AV-97, "Vehicle Speed Signal Check" . ● Display unit
Average fuel consumption (AVG) is not displayed.	● Vehicle speed signal. Refer to AV-97, "Vehicle Speed Signal Check" . ● CAN communication line. Refer to AV-102, "CAN Communication Line Check" . ● Display unit
Distance to empty (DTE) is not displayed.	● Check if speedometer operates. If it does not operate, go to DI-19, "Vehicle Speed Signal Inspection" . ● Check if fuel gauge operates. If it does not operate, go to DI-21, "Fuel Level Sensor Signal Inspection" . ● CAN communication line. Refer to AV-102, "CAN Communication Line Check" . ● Display unit
Tire pressure is not displayed.	● Ignition signal. Refer to AV-98, "Ignition Signal Check" . ● Low tire pressure warning control unit. Refer to WT-17, "Self-Diagnosis" . ● CAN communication line. Refer to AV-102, "CAN Communication Line Check" . ● Display unit
Door warning screen does not appear.	● Ignition signal. Refer to AV-98, "Ignition Signal Check" . ● Vehicle speed signal. Refer to AV-97, "Vehicle Speed Signal Check" . ● CAN communication line. Refer to AV-102, "CAN Communication Line Check" . ● Display unit
A/C and AV switch and all switch operation are not possible. (Do not start self-diagnosis.)	Refer to AV-101, "A/C and AV Switch Does Not Operate" .
Air conditioner operation is not possible.	● Ignition signal. Refer to AV-98, "Ignition Signal Check" . ● A/C and AV switch. Refer to AV-99, "A/C and AV Switch Check" . ● CAN communication line. Refer to AV-102, "CAN Communication Line Check" .

Power Supply and Ground Circuit Check for Display Unit

AKS005FF

1. CHECK FUSE

Make sure that the following fuses of the display unit are not blown.

Unit	Signal	Fuse No.
Display unit	Battery power supply	38
	Ignition switch ACC or ON	6

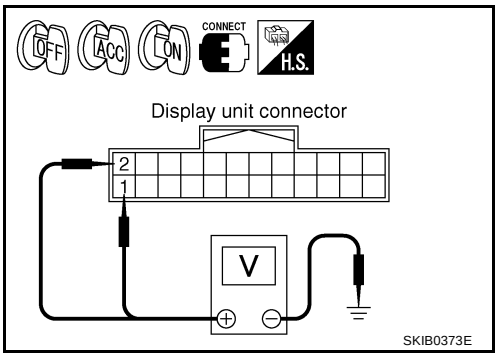
OK or NG

OK >> GO TO 2.
NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to PG-3, "POWER SUPPLY ROUTING CIRCUIT" .

2. CHECK POWER SUPPLY CIRCUIT

Check voltage between display unit harness connector terminals and ground.

Terminals (+) Connector	Terminals (+) Terminal (Wire color)	Terminals (–)	OFF	ACC	ON
M39	1 (Y)	Ground	Battery voltage	Battery voltage	Battery voltage
	2 (P/B)	Ground	0 V	Battery voltage	Battery voltage



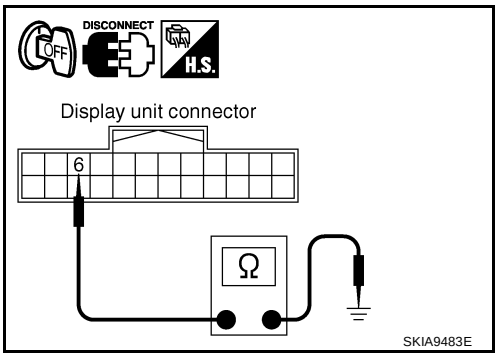
OK or NG

OK >> GO TO 3.
NG >> Repair harness or connector.

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display unit connector.
3. Check continuity between display unit harness connector M39 terminal 6 (B) and ground.

6 – Ground : Continuity should exist.



OK or NG

OK >> INSPECTION END
NG >> Repair harness or connector.

Power Supply and Ground Circuit Check for A/C and AV Switch

AKS005FG

1. CHECK FUSE

Make sure that the following fuses of the A/C and AV switch are not blown

Unit	Signal	Fuse No.
A/C and AV switch	Battery power supply	38
	Ignition switch ACC or ON	6

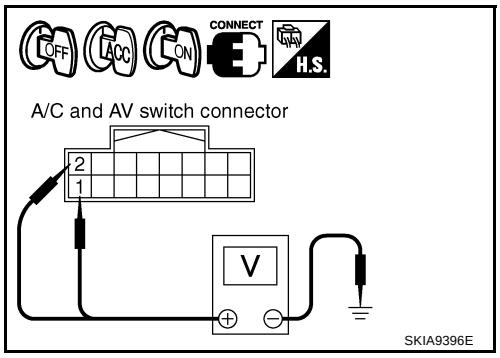
OK or NG

OK >> GO TO 2.
NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to PG-3, "POWER SUPPLY ROUTING CIRCUIT" .

2. CHECK POWER SUPPLY CIRCUIT

Check voltage between A/C and AV switch harness connector terminals and ground.

Terminals			OFF	ACC	ON
(+)		(–)			
Connector	Terminal (Wire color)				
M48	1 (Y)	Ground	Battery voltage	Battery voltage	Battery voltage
	2 (P/B)	Ground	0 V	Battery voltage	Battery voltage



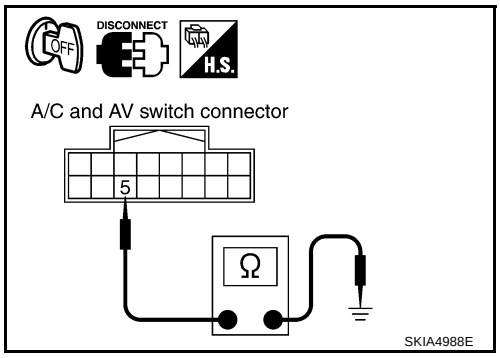
OK or NG

OK >> GO TO 3.
NG >> Repair harness or connector.

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect A/C and AV switch connector.
3. Check continuity between A/C and AV switch harness connector M48 terminal 5 (B) and ground.

5 – Ground : Continuity should exist.



OK or NG

OK >> INSPECTION END
NG >> Repair harness or connector.

Vehicle Speed Signal Check

AKS005G9

1. VEHICLE SPEED OPERATION CHECK

Does speedometer is operated normally?

YES or NO

YES >> GO TO 2.
NO >> Check combination meter trouble diagnosis. Refer to DI-19, "Vehicle Speed Signal Inspection" .

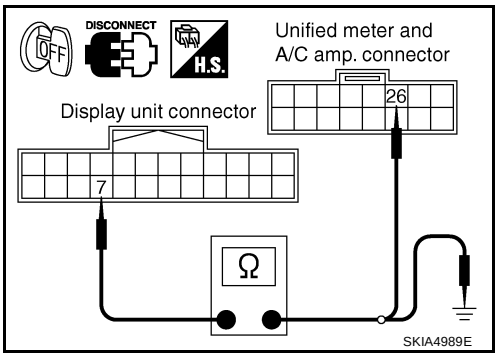
2. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect display unit, unified meter and A/C amp., combination meter, audio unit and shift lock control unit connectors.
3. Check continuity between display unit harness connector M39 terminal 7 (V/W) and unified meter and A/C amp. harness connector M50 terminal 26 (V/W).

   7 – 26 : Continuity should exist.

4. Check continuity between display unit harness connector M39 terminal 7 (V/W) and ground.

   7 – Ground : Continuity should not exist.



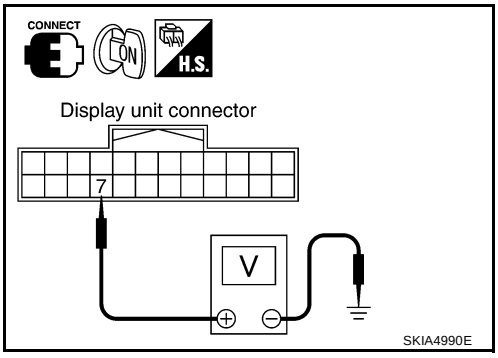
OK or NG

OK >> GO TO 3.
NG >> Repair harness or connector.

3. CHECK DISPLAY UNIT

1. Connect display unit connector.
2. Turn ignition switch ON.
3. Check voltage between display unit harness connector M39 terminal 7 (V/W) and ground.

   7 – Ground : Approx. 5 V



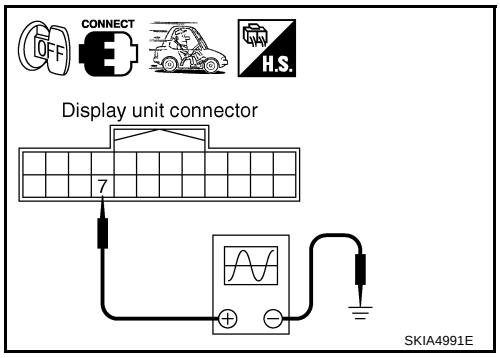
OK or NG

OK >> GO TO 4.
NG >> Replace display unit.

4. CHECK VEHICLE SPEED SIGNAL

1. Turn ignition switch OFF.
2. Connect unified meter and A/C amp., combination meter, audio unit and shift lock control unit connectors.
3. Drive vehicle at a constant speed.
4. Check voltage waveform between display unit harness connector M39 terminal 7 (V/W) and ground with CONSULT-II or oscilloscope.

7 – Ground **: Refer to AV-87, "Terminals and Reference Value for Display Unit" .**



OK or NG

OK >> INSPECTION END
NG >> Replace unified meter and A/C amp. Refer to DI-37, "Removal and Installation of Unified Meter and A/C Amp." .

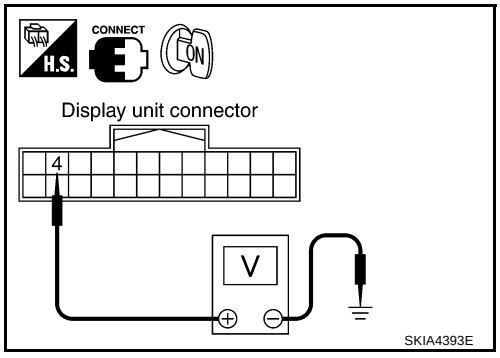
Illumination Signal Check

AKS005GA

1. CHECK ILLUMINATION SIGNAL

1. Turn ignition switch ON.
2. Check voltage between display unit harness connector terminals and ground.

Terminals			Lighting switch position	
(+)		(–)		
Connector	Terminal (Wire color)		ON	OFF
M39	4 (R/L)	Ground	Approx. 12 V	Approx. 0 V



OK or NG

OK >> INSPECTION END
NG >> Repair harness or connector.

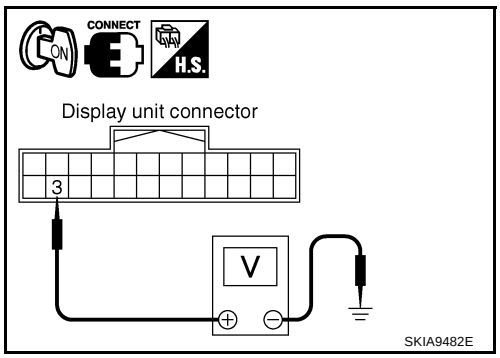
Ignition Signal Check

AKS005GB

1. CHECK IGNITION SIGNAL

1. Turn ignition switch ON.
2. Check voltage between display unit harness connector M39 terminal 3 (G) and ground.

3 – Ground **: Battery voltage**



OK or NG

OK >> INSPECTION END
NG >> Repair harness or connector.

A/C and AV Switch Check

AKS00AS1

1. CHECK A/C AND AV SWITCH SELF-DIAGNOSIS FUNCTION

1. Start A/C and AV switch self-diagnosis function. Refer to AV-93, "A/C and AV Switch Self-Diagnosis Function" .
2. Operate voluntary switch.

Does A/C and AV switch operate normally?

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

2. CHECK A/C AND AV SWITCH POWER SUPPLY AND GROUND CIRCUIT

Check A/C and AV switch power supply and ground circuit. Refer to AV-96, "Power Supply and Ground Circuit Check for A/C and AV Switch" .

OK or NG

OK >> Replace A/C and AV switch.
NG >> Repair malfunctioning parts.

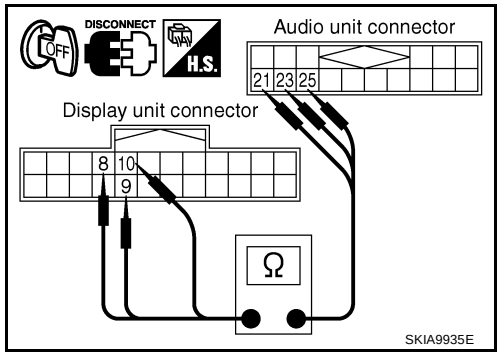
Audio Communication Line Check

AKS005FK

1. CHECK HARNESS

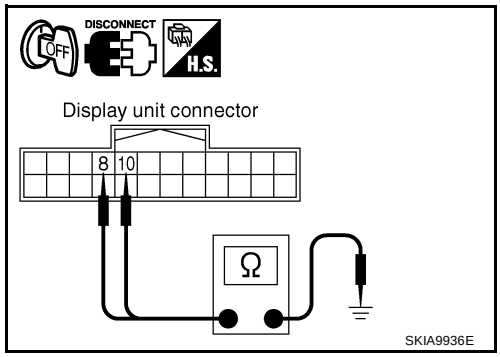
1. Turn ignition switch OFF.
2. Disconnect audio unit and display unit connectors.
3. Check continuity between audio unit harness connector terminals and display unit harness connector terminals.

Terminals				Continuity
Display unit		Audio unit		
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)	
M39	8 (R/G)	M46	23 (R/G)	Yes
	10 (R/Y)		21 (R/Y)	
	9		25	



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

Terminals			Continuity
Display unit		Ground	
Connector	Terminal (Wire color)		
M39	8 (R/G)		No
	10 (R/Y)		



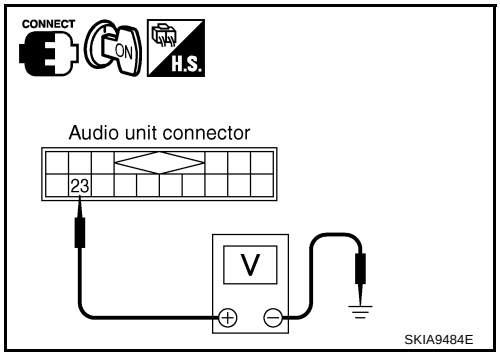
OK or NG

OK >> GO TO 2.
NG >> Repair harness or connector.

2. CHECK AUDIO UNIT

1. Connect audio unit connector.
2. Turn ignition switch ON.
3. Check voltage between audio unit harness connector M46 terminal 23 (R/G) and ground.

23 – Ground : Approx. 4 V



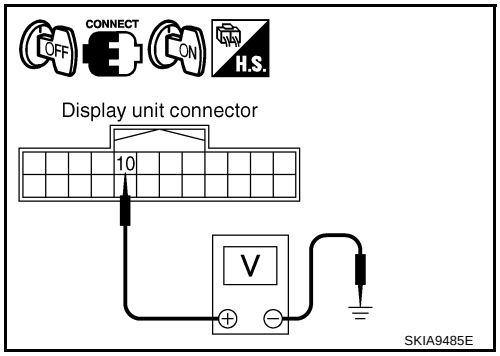
OK or NG

OK >> GO TO 3.
NG >> Replace audio unit.

3. CHECK DISPLAY UNIT

1. Turn ignition switch OFF.
2. Disconnect audio unit connector, and connect display unit connector.
3. Turn ignition switch ON.
4. Check voltage between display unit harness connector M39 terminal 10 (R/Y) and ground.

10 – Ground : Approx. 4 V



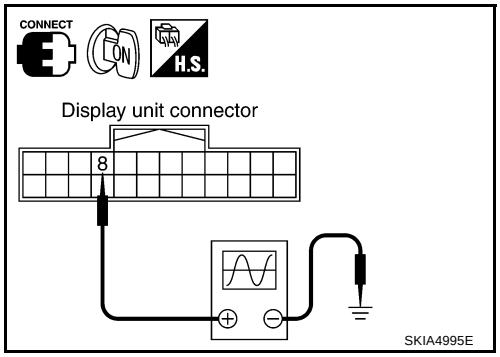
OK or NG

OK >> GO TO 4.
NG >> Replace display unit.

4. CHECK AUDIO TX COMMUNICATION SIGNAL

1. Turn ignition switch OFF.
2. Connect audio unit connector.
3. Turn ignition switch ON.
4. Check voltage waveform between display unit harness connector M39 terminal 8 (R/G) and ground with CONSULT-II or oscilloscope.

8 – Ground : Refer to AV-87, "Terminals and Reference Value for Display Unit" .



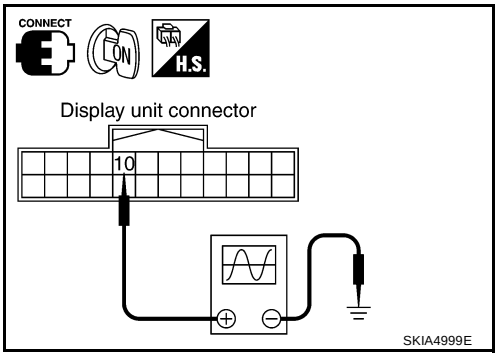
OK or NG

OK >> GO TO 5.
NG >> Replace display unit.

5. CHECK AUDIO RX COMMUNICATION SIGNAL

1. Turn ignition switch ON.
2. Check voltage waveform between display unit harness connector M39 terminal 10 (R/Y) and ground with CONSULT-II or oscilloscope.

10 – Ground	**: Refer to AV-87, "Terminals and Reference Value for Display Unit" .**



OK or NG

OK >> INSPECTION END
NG >> Replace audio unit.

A/C and AV Switch Does Not Operate

AKS005FL

1. CHECK A/C AND AV SWITCH

Check A/C and AV switch. Refer to AV-99, "A/C and AV Switch Check" .

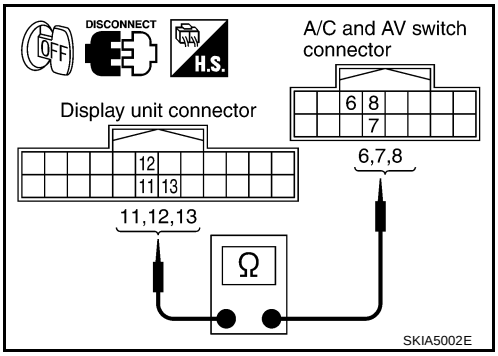
OK or NG

OK >> GO TO 2.
NG >> Repair malfunctioning parts.

2. CHECK A/C AND AV SWITCH CIRCUIT

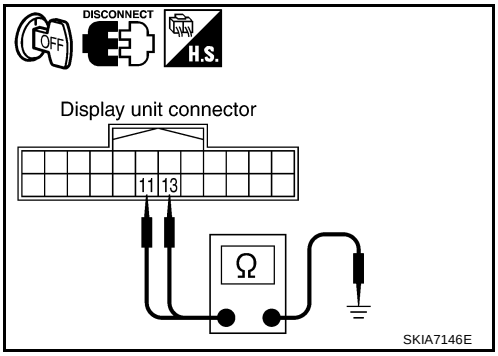
1. Turn ignition switch OFF.
2. Disconnect display unit and A/C and AV switch connectors.
3. Check continuity between display unit harness connector terminals and A/C and AV switch harness connector terminals.

Terminals				Continuity
Display unit		A/C and AV switch		
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)	
M39	11 (L/G)	M48	6 (L/G)	Yes
	13 (L/R)		8 (L/R)	
	12		7	



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

Terminals			Continuity
Display unit		Ground	
Connector	Terminal (Wire color)		
M39	11 (L/G)		No
	13 (L/R)		



OK or NG

OK >> GO TO 3.
NG >> Repair harness or connector.

3. CHECK A/C AND AV SWITCH AND DISPLAY UNIT

1. Replace A/C and AV switch.
2. Turn ignition switch ON.
3. Make sure that audio and air conditioner can be operated by A/C and AV switch.

OK or NG

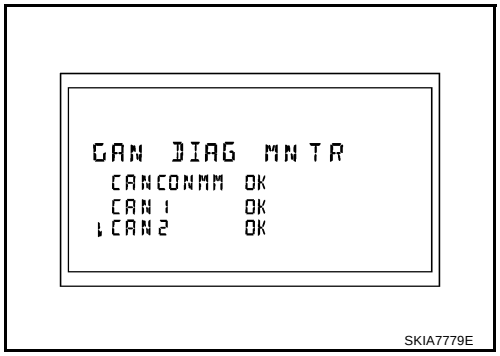
OK >> INSPECTION END
NG >> Replace display unit.

CAN Communication Line Check

AKS005H0

1. CHECK MONITOR DESCRIPTION

1. Start display unit self-diagnosis. Refer to AV-90, "Self-Diagnosis Mode" .
2. Select “CAN DIAG MNTR”. Refer to AV-92, "CAN DIAG MNTR (CAN DIAG MONITOR)" .



SKIA7779E

Diagnosis item	Data monitor display description	
	Normal condition	Error (example)
CANCOMM	OK	NG
CAN1	OK	UNKWN
CAN2	OK	UNKWN
CAN3	OK	UNKWN
CAN4	OK	UNKWN
CAN5	OK	UNKWN
CAN6	OK	UNKWN
CAN7	OK	UNKWN
CAN8	OK	UNKWN
CAN9	UNKWN	UNKWN

3. Record each item display description (OK/NG/UNKWN) displayed on the following CAN DIAG MONITOR Check Sheet.

CAN DIAG MONITOR Check Sheet

Diagnosis item	Screen display		Diagnosis item	Screen display	
CANCOMM	OK	NG	CAN5	OK	UNKWN
CAN1	OK	UNKWN	CAN6	OK	UNKWN
CAN2	OK	UNKWN	CAN7	OK	UNKWN
CAN3	OK	UNKWN	CAN8	OK	UNKWN
CAN4	OK	UNKWN	CAN9	OK	UNKWN

>> After filling in CAN DIAG MONITOR Check Sheet, go to LAN-5, "Precautions When Using CONSULT-II" .

Audio Steering Wheel Switch Check

AKS005FZ

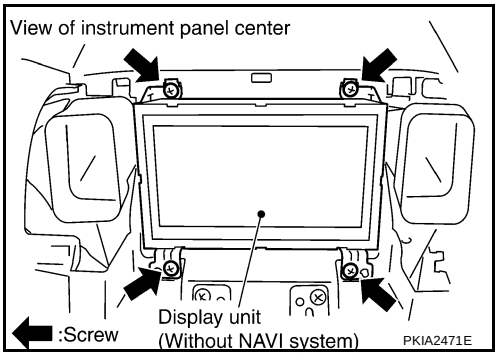
Refer to AV-50, "Audio Steering Wheel Switch Check" .

Removal and Installation of Display Unit

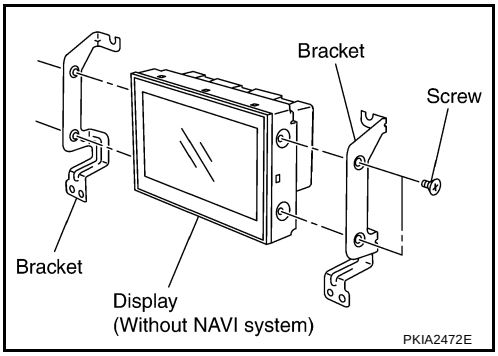
AKS005R3

REMOVAL

1. Remove center ventilator grille. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY" .
2. Remove screws (4) and remove display unit.



3. Remove screws (4) and remove bracket.



INSTALLATION

Installation is the reverse order of removal.

Removal and Installation of A/C and AV Switch

AKS005R2

Refer to AV-69, "Removal and Installation for A/C and AV Switch" .

Removal and Installation of Audio Steering Wheel Switch

AKS00ASA

Refer to AV-70, "Removal and Installation of Audio Steering Wheel Switch" .

NAVIGATION SYSTEM

PFP:25915

System Description

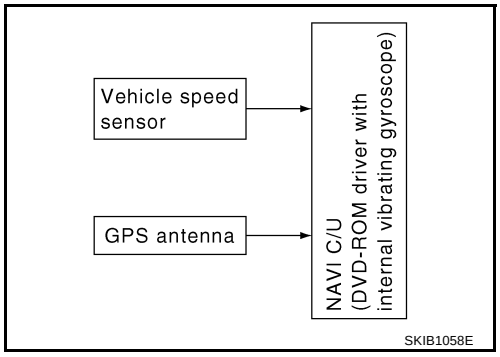
AKS00D2B

NAVIGATION SYSTEM

Location Detection Principle

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

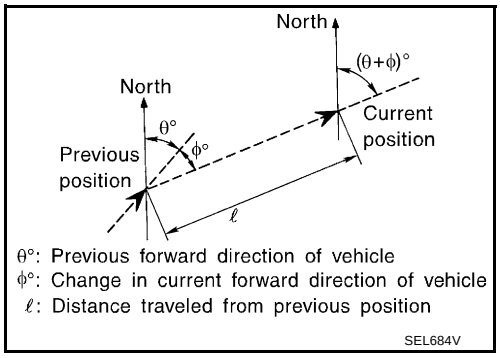
- Travel distance of the vehicle as determined by the vehicle speed sensor
- Turning angle of the vehicle as determined by the gyroscope (angular velocity sensor)
- Direction of vehicle travel as determined by the GPS antenna (GPS information)



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

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

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



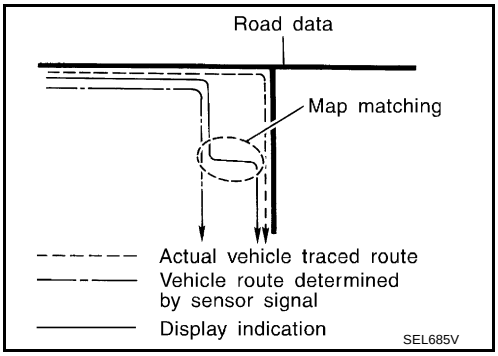
Type	Advantage	Disadvantage
Gyroscope (angular velocity sensor)	Can detect the vehicle's turning angle quite accurately.	Direction errors may accumulate when vehicle is driven for long distances without stopping.
GPS antenna (GPS information)	Can detect the vehicle's travel direction (North/South/East/West).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

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

Map-Matching

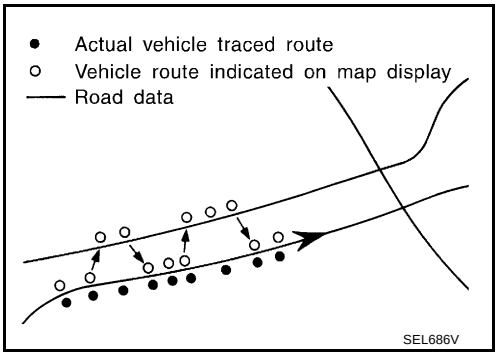
Map-matching compares a current location detected by the method in the “Location Detection Principle“ (refer to AV-104) with a road map data from Map DVD-ROM stored in DVD-ROM drive.

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

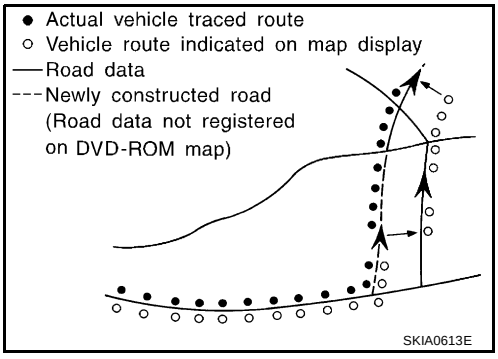


The vehicle position may not be corrected under the following circumstances and after driving for a certain time when GPS information is difficult to receive. In this case, the current-location mark on the display must be corrected manually.

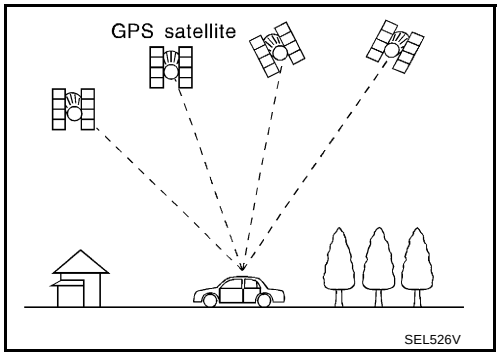
- In map-matching, alternative routes to reach the destination will be shown and prioritized, after the road on which the vehicle is currently driven has been judged and the current-location mark has been repositioned.
  If there is an error in distance and/or direction, alternative routes will be shown in different order of priority, and the incorrect 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 a road on which the vehicle is driving is new and not recorded in the map DVD-ROM, or when road pattern stored in the map data and the actual road pattern are different due to repair.
  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 change 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 current vehicle position and the position on the map, correction by map-matching is not possible.



GPS (Global Positioning System)



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

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 with radio waves from four or more GPS satellites (two-dimensional positioning).

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

Accuracy of GPS will deteriorate under the following conditions:

- In two-dimensional positioning, GPS accuracy will deteriorate when altitude of the vehicle position changes.
- The accuracy can be even lower depending on the arrangement of the GPS satellites utilized for the positioning.
- Position detection is not possible when vehicle is in an area where radio waves from the GPS satellite do not reach, such as in a tunnel, parking lot in a building, and under an elevated highway. Radio waves from the GPS satellites may not be received when some object is located over the GPS antenna.

NOTE:

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

REAR VIEW MONITOR

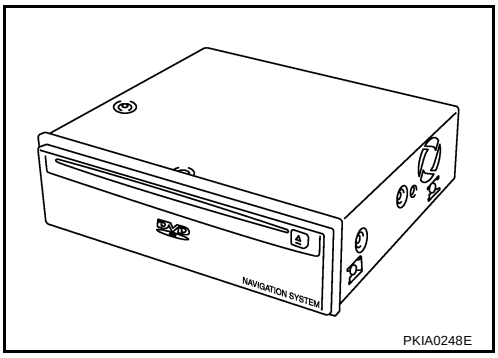
- A rear view monitor was set to vehicle, which can check rearward on screen when backing up the vehicle.
- The sense of vehicle width and sense of distance between vehicle and objects were set to be easier to get by combining guideline of distances and rear end to the rear view screen.
- Image quality of the rear view image and of the navigation screen can be adjusted separately.

Component Description

AKS00CMW

NAVI CONTROL UNIT

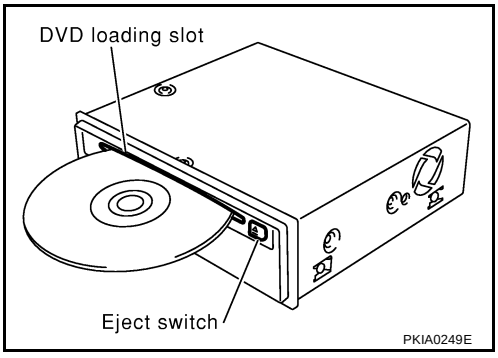
- The gyro (angular speed sensor) and the DVD-ROM drive are built-in units that control the navigation functions.
- Signals are received from the gyro, the vehicle speed sensor, and the GPS antenna. Vehicle location is determined by combining this data with the data contained in the DVD-ROM map. Locational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



PKIA0248E

DVD-ROM DRIVE

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



PKIA0249E

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 gyro is built into the navigation (NAVI) control unit.

System Operation Description

AKS00D2D

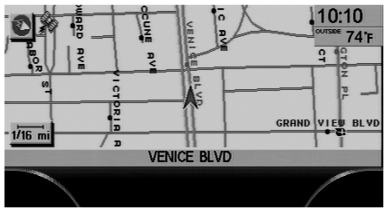
NAVIGATION SYSTEM

Here is an example of functions. For details, refer to the navigation system owner's manual.

BIRDVIEW™

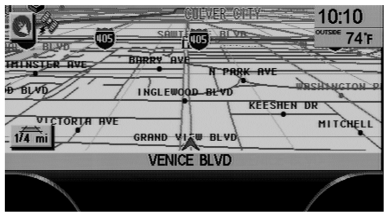
The BIRDVIEW™ provides a detailed and easily seen display of road conditions covering the vehicle's immediate to distant area.

- MAP DISPLAY



SKIA5818E

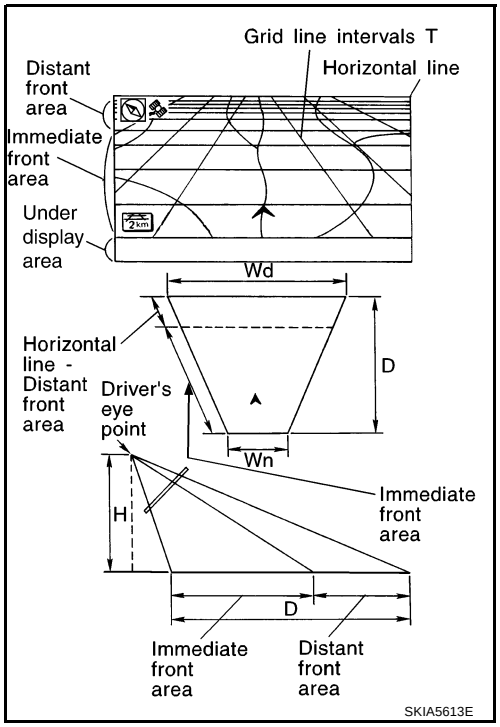
- BIRDVIEW™



SKIA5816E

Description

- Display area: Trapezoidal representation showing approximate distances (Wn, D, and Wd).
- Ten horizontal grid lines indicate display width while six vertical grid lines indicate display depth and direction.
- Pressing 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.

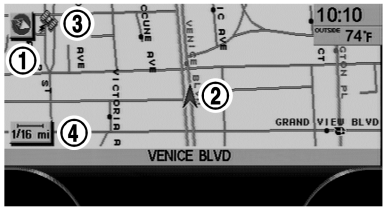


SKIA5613E

MAP DISPLAY

Function of each icon is as follows:

1. Azimuth indication.
2. Position marker.
   - The tip of the arrow shows the current location. The shaft of the arrow indicates the direction in which the vehicle is traveling.
3. GPS reception signal (indicates current reception conditions).
4. Distance display (shows the distance in a reduced scale).

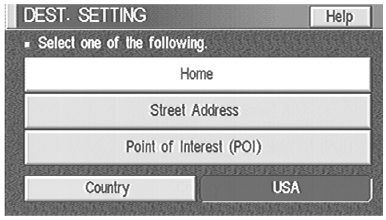


SKIA5817E

FUNCTION OF CENTER SWITCH

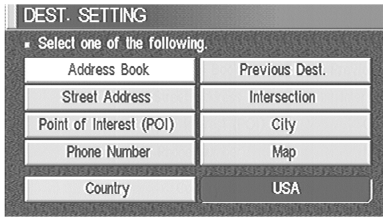
Display with Pressed “DEST” Button

- Easy Mode



SKIB3188E

- Expert Mode



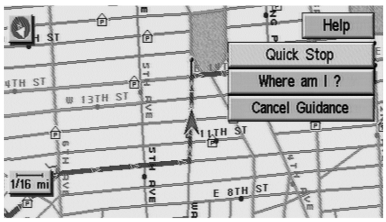
SKIB3189E

The function of each icon is as follows:

Icon	Mode		Description
	Easy	Expert	
Address Book		×	Favorite place can be saved to memory.
Street Address	×	×	The destination can be searched from the address.
Point of Interest (POI)	×	×	The destination of favorite facility can be searched.
Phone Number		×	When two or more countries are included in one DVD-ROM, the destination can be searched for under the country name.
Previous Dest.		×	The previous ten destinations stored in memory are displayed.
Intersection		×	The destination can be searched from the intersection.
City		×	The destination can be searched from city name.
Map		×	The destination can be searched from the map.
Home	×		Sets the home as a destination.
Help	×		Explanation of navigational functions appear on the display.
Country	×	×	Select country (USA, CANADA)

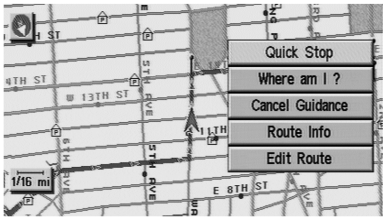
Display with Pressed “ROUTE” Button

- Easy Mode



SKIA4494E

- Expert Mode



SKIA4495E

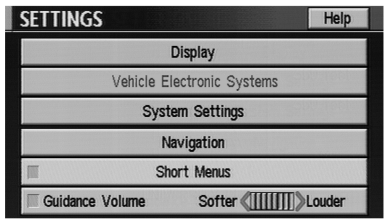
The function of each icon is as follows:

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.
Cancel Guidance	×	×	The following items can be set. ● All Destinations ● Way point ● Not Cancel
Route Info*		×	The following items can be set. ● 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 guidance. (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 Pressed “SETTING” Button

The function of each icon is as follows:



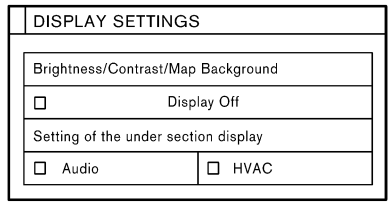
SKIA4496E

Icon	Description
Display	Settings of display can be performed.
Vehicle Electronic Systems	Settings of vehicle electrical equipment can be performed.
System Settings	Settings of linguistic select, time adjusting and beep sound 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.

Display Settings

How To Perform Display Settings.

1. Start the engine.
2. Press “SETTING” button.
3. Select “Display”.



SKIA5791E

Application Items

Icon	Description	Reference page
Brightness/Contrast/Map Background	Brightness, Contrast and Map Background can be set.	AV-111
Display Off	Display sleep mode ON/OFF can be switched.	AV-111
Setting of the under section display	The setting status of A/C or AV can be shown.	AV-111

Brightness/Contrast/Map Background

Select “Brightness/Contrast/Map Background”.

- Brightness, Contrast and Back ground are shown at the lower part of the screen, and it can be set by pressing joystick.

Display Off

Select “Display Off”.

- When setting is turned on (Indicator light ON), the display will be under sleep mode.

Setting Of the Under Section Display

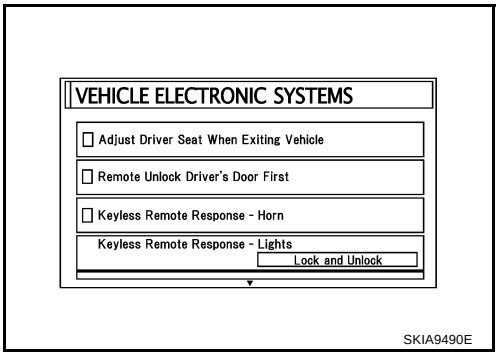
Select “Setting of the under section display”.

- The setting status that is selected from A/C or AV is shown at the lower part of the screen.

Vehicle Electronic Systems

How To Perform Vehicle Electronic Systems.

1. Start the engine.
2. Press “SETTING” button.
3. Select “Vehicle Electronic Systems”.



Application Items

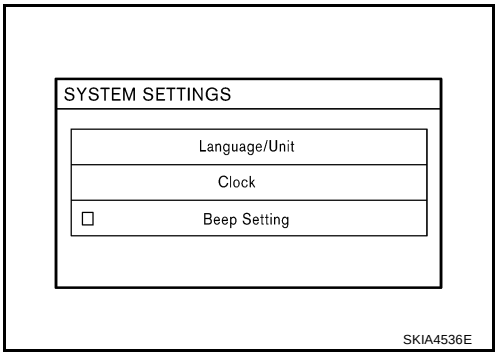
Icon	Description
Adjust Driver Seat When Exiting Vehicle*1	The driver's seat automatically moves back and returns to the original position for ease of exit and entry.
Selective Door Unlock*2 /Remote Unlock Driver's Door First	This key can switch the unlock doors of the 1st unlocking operation as follows: ON (Only the driver side door) ⇔ OFF (All the doors)
Keyless Remote Response - Horn*3	This key changes the horn chirp mode that occurs when pressing the LOCK button on the Intelligent Key or the keyfob.
Keyless Remote Response - Lights*3	This key changes the hazard indicator flash mode that occurs when pressing the LOCK or UNLOCK button on the Intelligent Key or the keyfob.
Auto Re-Lock Time	The length of the auto door re-lock time can be set. Select the “Auto Re-Lock time” key, then move the joystick and press the ENTER button to adjust the time.
Sensitivity of Automatic Headlights	Automatic light illumination can be set as desired. Select the “Sensitivity of Automatic Headlights” key, then move joystick to the left (lower) or right (higher).
Automatic Headlights Off Delay	You can control how long it takes the automatic turn off timer to extinguish the headlights in the AUTO position. Select the “Automatic Headlights Off Delay” key, then move the joystick to the left or right to adjust the timer.
Speed Dependent Wiper	This key turns on and off the driving speed dependent intermittent wiper function.
Intelligent Key Lock Response - Sound*2	The sound pattern of the Intelligent request switch operation can be set as desired. Select the “Intelligent Key lock response - Sound” key, then press the ENTER button to change the sound pattern.
Intelligent Key Unlock Response - Sound*2	The beep sounds when unlocking door with the Intelligent request switch can be turned on or off.
Return All Settings to Default	When this key is selected and turned on using the “ENTER” button, all settings made by VEHICLE ELECTRONICS will return to the initial conditions.

*1: If so equipped
*2: If Intelligent Key is equipped
*3: Even if you change the horn chirp or the hazard flash with the keyfob or the Intelligent Key, the change may not be reflected in the display. Use the keyfob or the Intelligent Key to return to the previous mode.

System Settings

How To Perform System Settings.

1. Start the engine.
2. Press “SETTING” button.
3. Select “System Settings”.



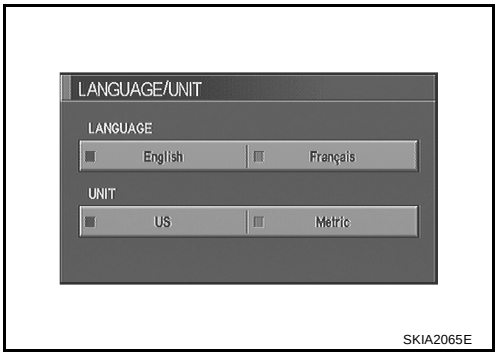
Application Items

Icon	Description	Reference page
Language/Unit	Settings of Language or unit can be performed.	AV-113
Clock	Settings of clock can be performed.	AV-113
Beep Setting	Settings of Beep sound can be performed.	AV-114

Language Setting

Select “Language/ Unit”.

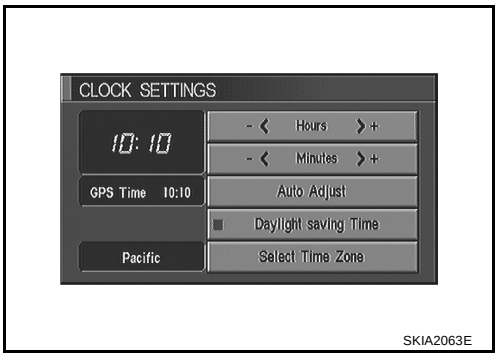
- Language setting can be switched.
- Unit setting can be changed.



Clock Settings

Select “Clock”.

- Select the “Hours” or “Minutes” key and tilt the joystick to the right or left to adjust the time.
- Turn ON and OFF daylight saving time.
- Select the “Auto Adjust” key. The time will be reset to the GPS time.
- Select the “Select Time Zone” key. The [TIME ZONE] screen will appear.



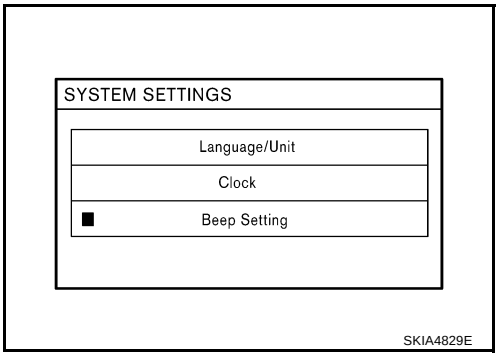
Beep Setting

Select “Beep Setting”.

- When Beep Setting is on (indicator light on), a beep will sound if the button is pressed.

NOTE:
Items in exception of Beep Setting ON/OFF.

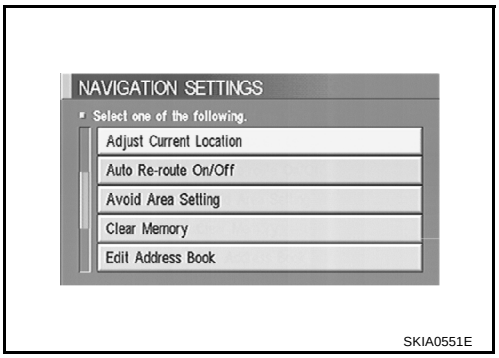
- An error beep.
- An interrupted-screen beep.



Navigation Settings

How To Perform Navigation Settings.

1. Start the engine.
2. Press “SETTING” button.
3. Select “Navigation”.

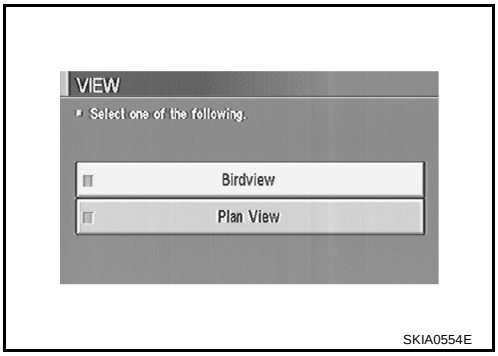


Application Items

Icon	Description	Reference page
View	Map display mode can be switched.	AV-115
Heading	Heading of the map display can be customized for either north heading or the actual driving direction of the vehicle.	AV-115
Nearby Display Icons	Icons of facilities can be displayed. Facilities to be displayed can be selected from the variety selections.	AV-115
Save Current Location	Current vehicle location can be registered in Address Book.	AV-115
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-116
Auto Re-route On/Off	ON/OFF of Auto Re-route can be switched.	AV-116
Avoid Area Setting	A particular area can be avoided when routing.	AV-116
Clear Memory	Address Book, Previous destination or Avoid area can be deleted.	AV-117
Edit Address Book	Address Book can be edited.	AV-117
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-117
Quick Stop Customer Setting	One facility of your selection can be added to your Quick Stop.	AV-117
Set Average Speed for Estimated Journey Time	Average vehicle speed can be set to calibrate estimated journey time for the destination.	AV-118
Tracking On/Off	Tracking to the present vehicle position can be displayed.	AV-118

“VIEW” MODE

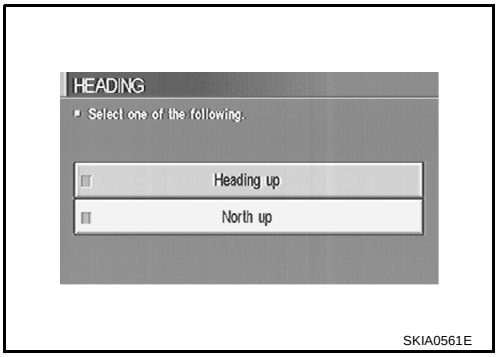
- To open the map screen display with BIRDVIEW™ , select “BIRDVIEW”
- To open the map screen display with Plan View, select “Plan View”.



SKIA0554E

“HEADING” MODE

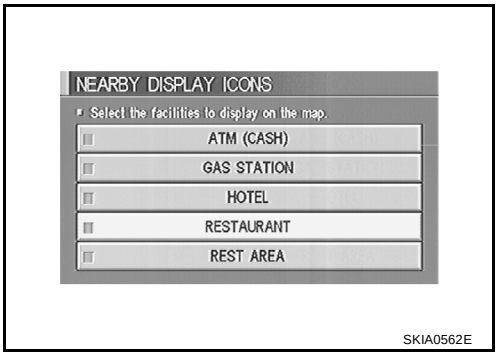
- To display North up, select “North up”.
- To display the car heading up, select “Heading up”.



SKIA0561E

“NEARBY DISPLAY ICONS” MODE

- Select an icon to display on the map screen.

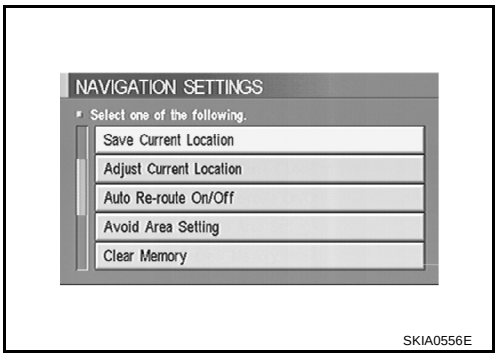


SKIA0562E

“SAVE CURRENT LOCATION” MODE

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

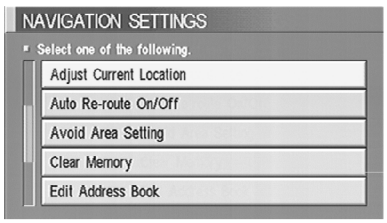
  NOTE:
  “Address Book” can store 50 items max.



SKIA0556E

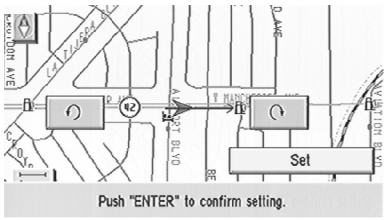
“ADJUST CURRENT LOCATION” MODE

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



SKIA0563E

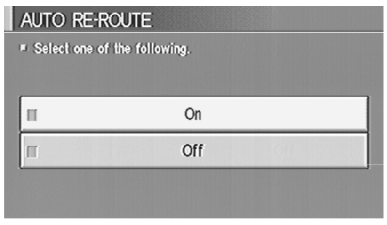
- Select “Set”. Then the vehicle mark will be matched to the arrow mark.



SKIA0564E

“AUTO RE-ROUTE” MODE

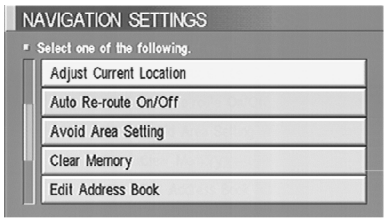
- To activate “AUTO RE-ROUTE” mode, select “On”.
- To disactivate “AUTO RE-ROUTE” mode, select “Off”.



SKIA0558E

“AVOID AREA SETTINGS” MODE

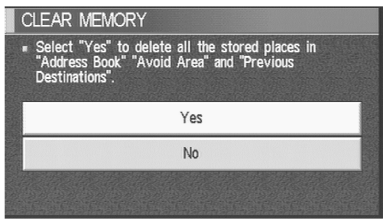
- Areas to avoid can be registered.



SKIA0563E

“CLEAR MEMORY” MODE

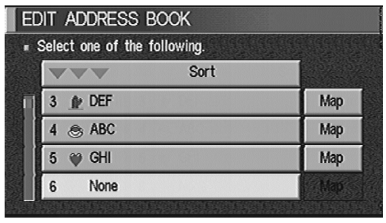
- To delete all the stored places in “Address Book”, “Avoid Area” and “Previous Dest”, select “Yes”.



SKIA3572E

“EDIT ADDRESS BOOK” MODE

- Edit the items registered in Address Book.

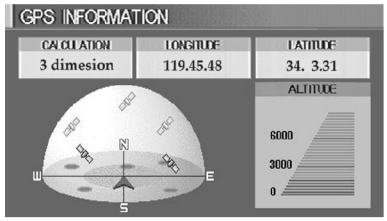


SKIA3511E

“GPS INFORMATION” MODE

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

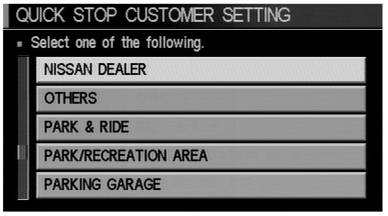
  NOTE:
  Altitude is displayed only in three–dimensional status.



SKIA0555E

“QUICK STOP CUSTOMER SETTING” MODE

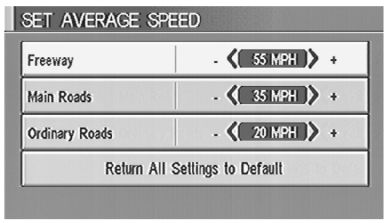
- Select a category for the “Quick Stop” menu.



SKIA5820E

“SET AVERAGE SPEED” MODE

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

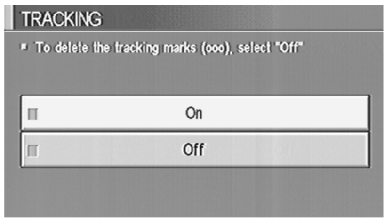


SKIA0565E

“TRACKING” MODE

- To delete the tracking marks on the map, select “Off”.
- To leave the tracking marks on the map, select “On”.

NOTE:
When a trail display is turned Off, trail data is erased from the memory.

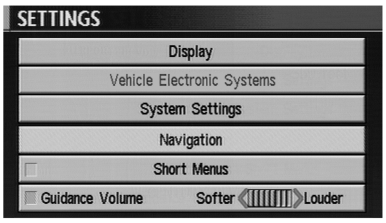


SKIA0559E

GUIDANCE VOLUME

Description

Following guidance volume setting can be changed.



SKIA4497E

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.

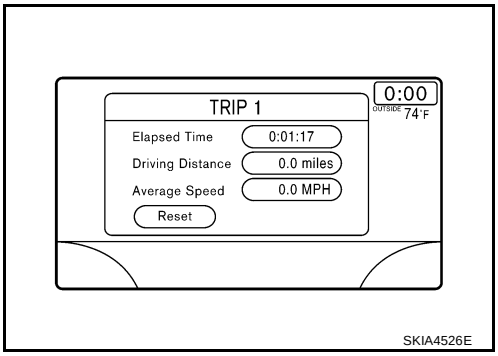
DISPLAY WITH PRESSED “TRIP” BUTTON

- When the “TRIP” button is pressed, the following models will display on the screen.
- Warning message (if there are any) →TRIP 1→TRIP 2→FUEL ECONOMY→MAINTENANCE→OFF.

Display items	Display/Setting contents		Reference page
Trip 1 or Trip 2	Elapsed Time	Displays driving time with a range of 0000:00:00 to 9999:59:59.	AV-119, "TRIP 1 OR TRIP 2"
	Driving Distance [(miles) or (km)]	Displays driving distance with a range of 00000.0 to 99999.9.	
	Average speed [(MPH) or (km/h)]	Displays average speed with a range of 000.0 to 999.9.	
Fuel Economy	Average Fuel Economy [(MPG) or (l/100km)]	Displays fuel economy with ignition switch ON, average fuel economy each 30 minutes.	AV-119, "FUEL ECONOMY"
	Distance to Empty [(miles) or (km)]	Displays possible driving distance with remaining fuel.	
	Fuel Economy [(MPG) or (l/100km)]	Displays fuel economy each approx. 100 ms.	
Maintenance	Engine oil	Maintenance intervals of engine oil and setting of oil change cycle.	AV-120, "MAINTE-NANCE"
	Tire rotation	Maintenance intervals of tire and setting of tire replacement cycle.	
	Tire pressure	Tire pressure displayed as tire pressure information.	

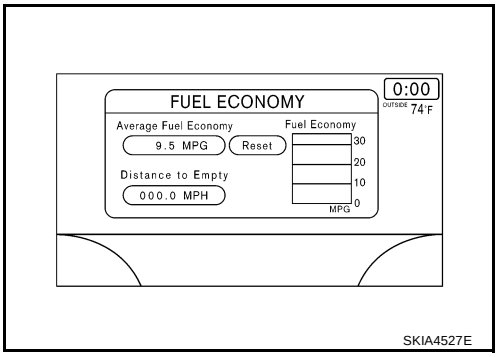
TRIP 1 OR TRIP 2

- Elapsed time, Driving distance and Average speed are displayed as Trip 1 information or Trip 2 information.
- The way to reset is by pressing the “Reset” switch or by keeping pressing “TRIP” button more than 1.5 seconds.



FUEL ECONOMY

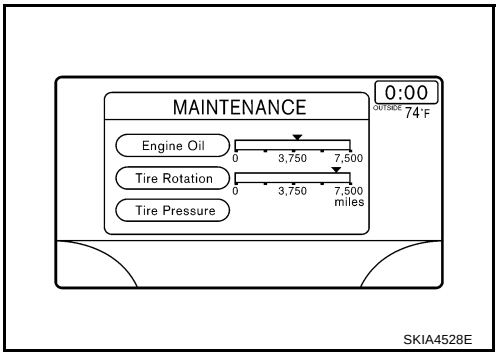
- Average Fuel Economy, Distance to Empty, Fuel Economy are displayed as Fuel Economy information.
- The way to reset is by pressing the “Reset” switch or by keeping pressing “TRIP” button more than 1.5 seconds.



MAINTENANCE

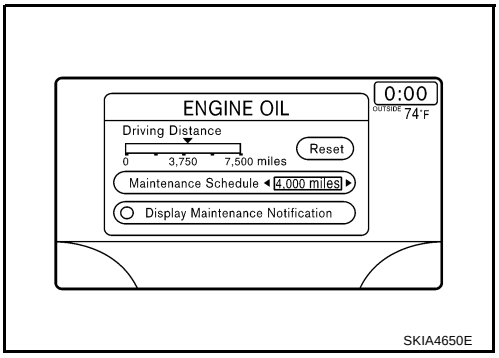
- Engine Oil, Tire Rotation and Tire pressure are displayed as Maintenance information.

NOTE:
In a case of a vehicle with Low tire pressure warning control unit, “Tire Pressure” switch is displayed.



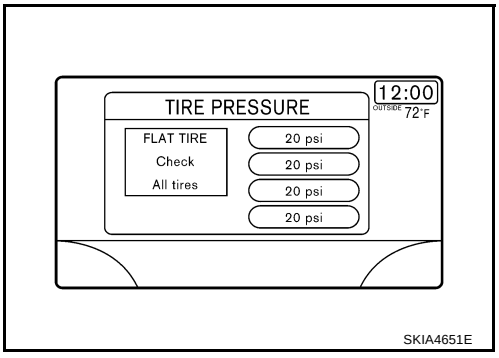
ENGINE OIL OR TIRE ROTATION

- Possible to set up interval of engine oil and tire rotation by moving joystick right and left.



TIRE PRESSURE

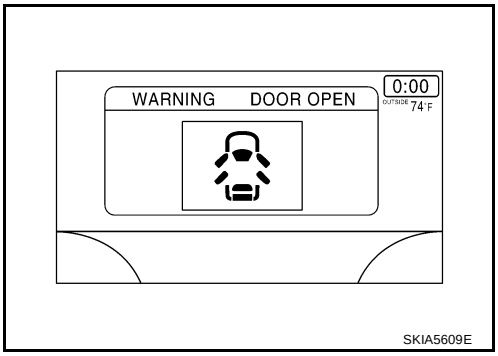
- Pressure indication in ** psi on the screen indicates that the pressure is being measured. After a few driving trips, the pressures for all four tires will be displayed.
- The order of tire pressure figures displayed on the screen does not correspond with the actual order of the tire position.
- Tire pressure rises and falls depending on the heat caused by the vehicle's traveling condition and the temperature.
- In case of low tire pressure, the low tire pressure warning light will come on and/or a warning is displayed on the screen.
- FLAT TIRE–very low tire air pressure.



NOTE:
- In a case of FLAT TIRE pressure, interrupt screen is not shown on the display.
- On the screen of TIRE PRESSURE, “FLAT TIRE”, “Check”, “All tire” is displayed.

WARNING INDICATIONS

Warning signal (Door switch signal) is received from BCM through CAN communication line.



Warning indicators	Warning lamps in instrument panel	Warning detection and cancel conditions		Cases of malfunction
DOOR OPEN	Door	Detection condition	Vehicle is running [approx. 5 km/h (3 MPH) or faster] and door ajar of any of the doors is detected.	Door is open
		Cancel condition	Vehicle is stopped and all the doors lock.	

REAR VIEW SCREEN

When A/T selector lever is in R position, rear view image is displayed on the display.

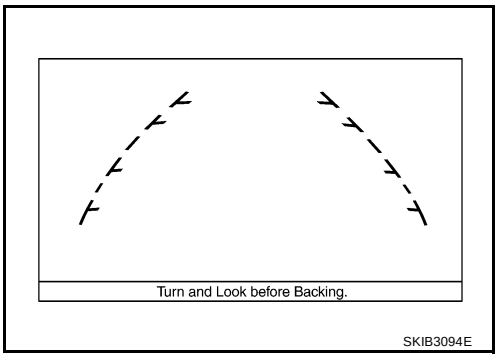
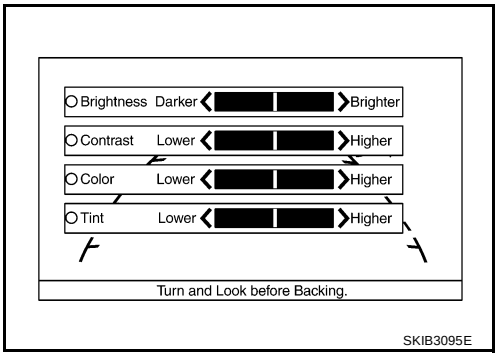


Image Quality Adjustment

- When pressing “SETTING” switch at rear view image, image quality can be adjusted.
- The image quality of the rear view image and the image quality of the RGB screen can be separately set. And then, it can be separately set when lighting switch is ON or OFF.



CAN Communication System Description

AKS007PX

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

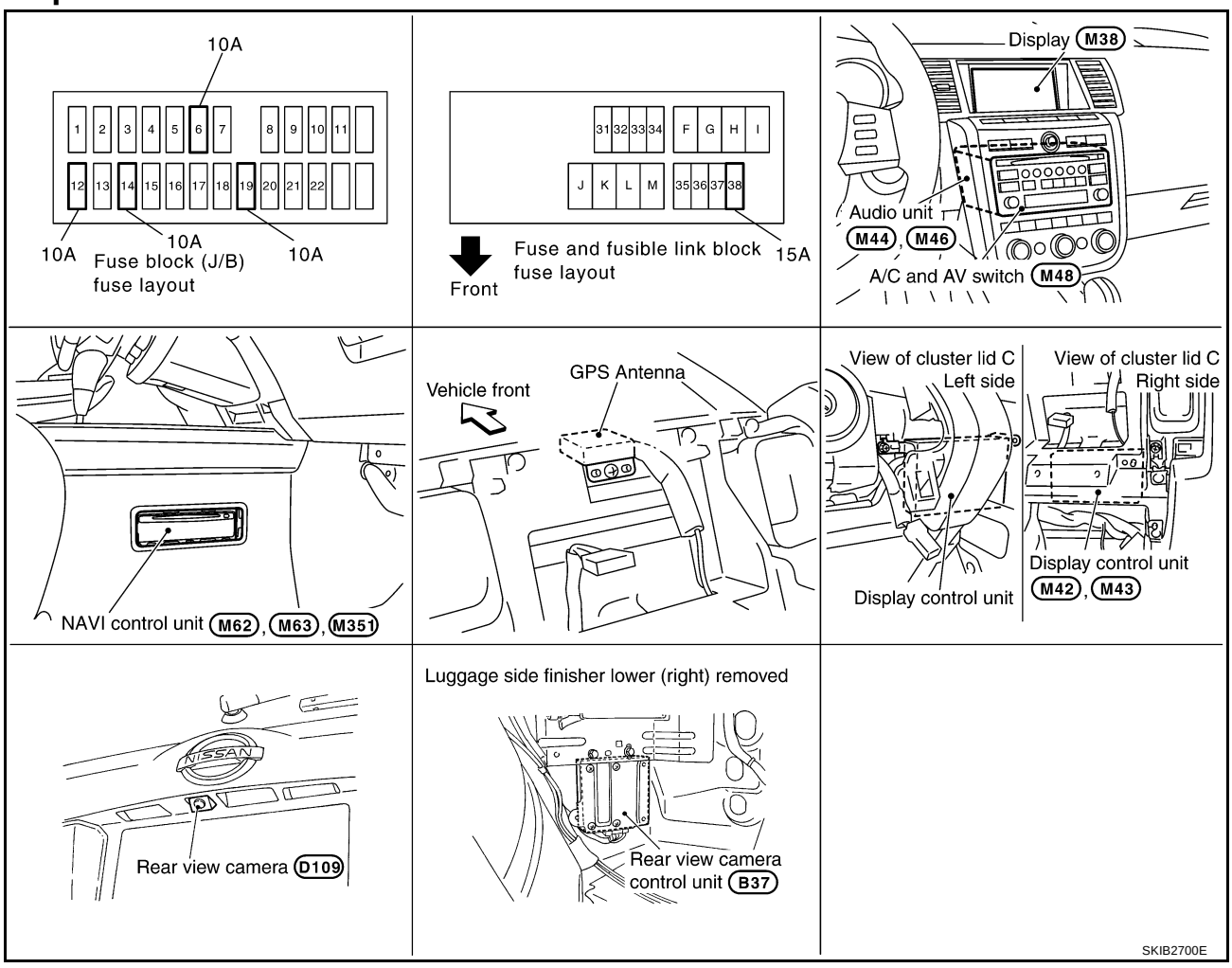
CAN Communication Unit

AKS007PY

Refer to LAN-29, "CAN Communication Unit" .

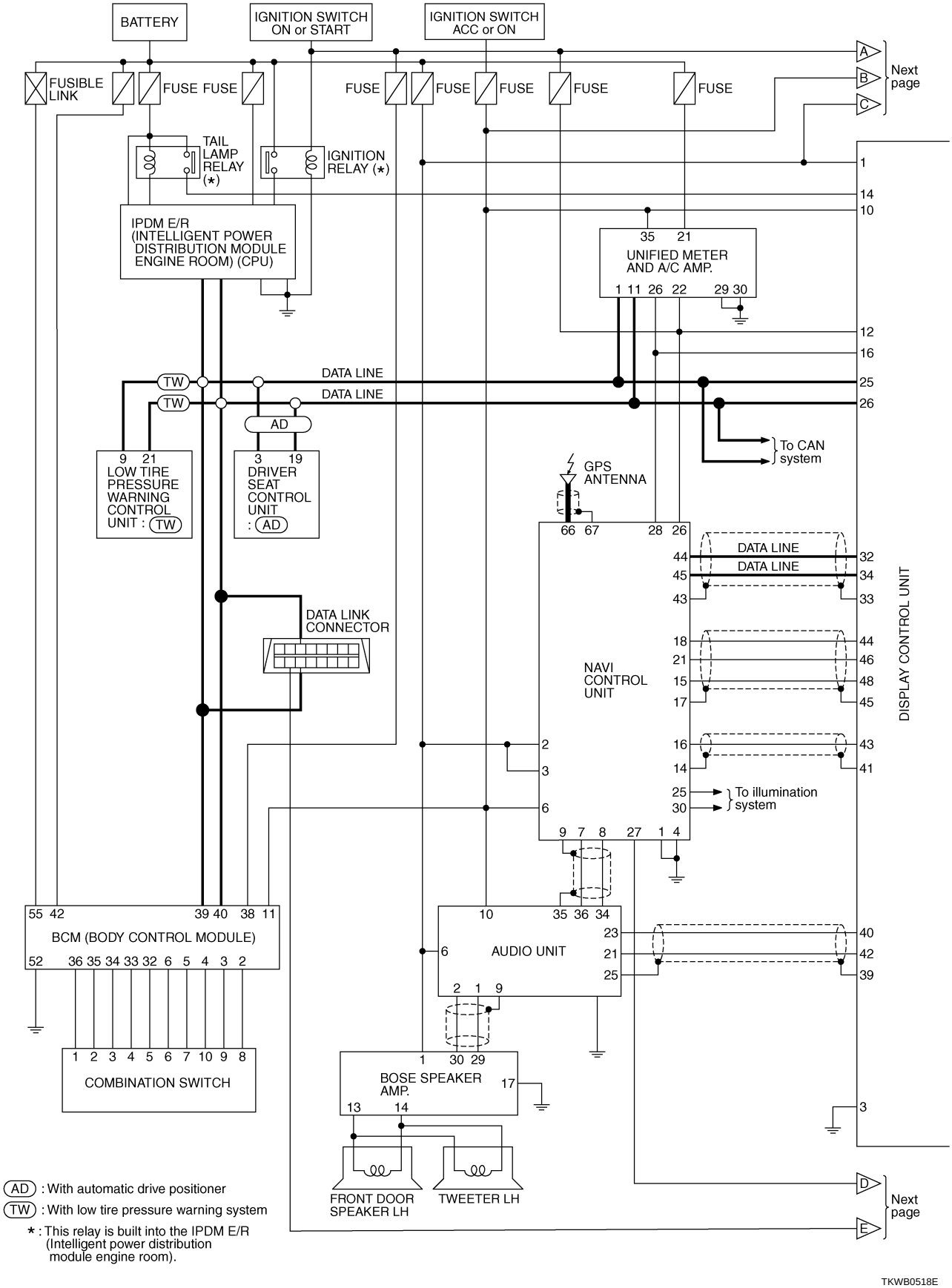
Component Parts and Harness Connector Location

AKS004R6

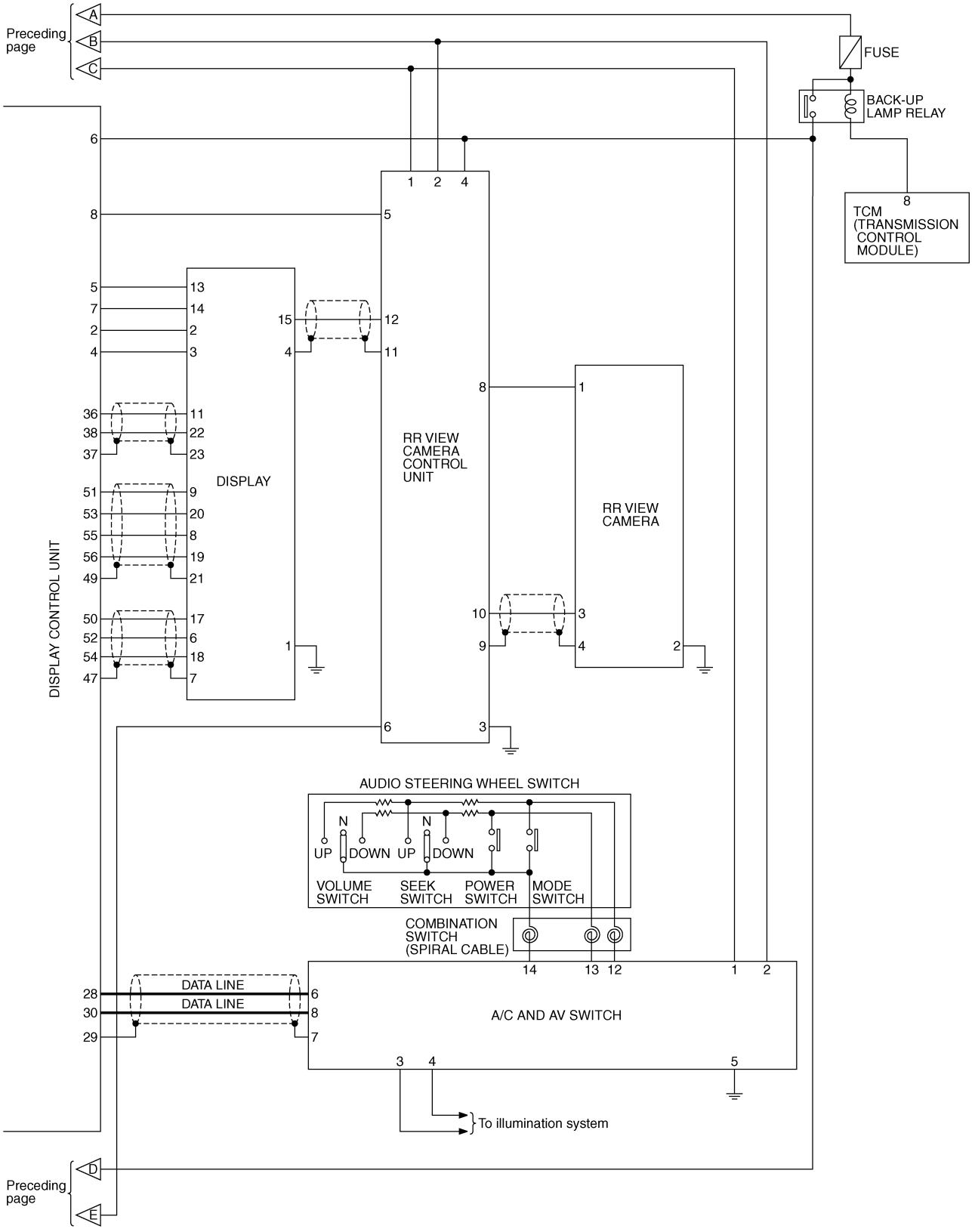


Schematic — NAVI —

AKS004R8



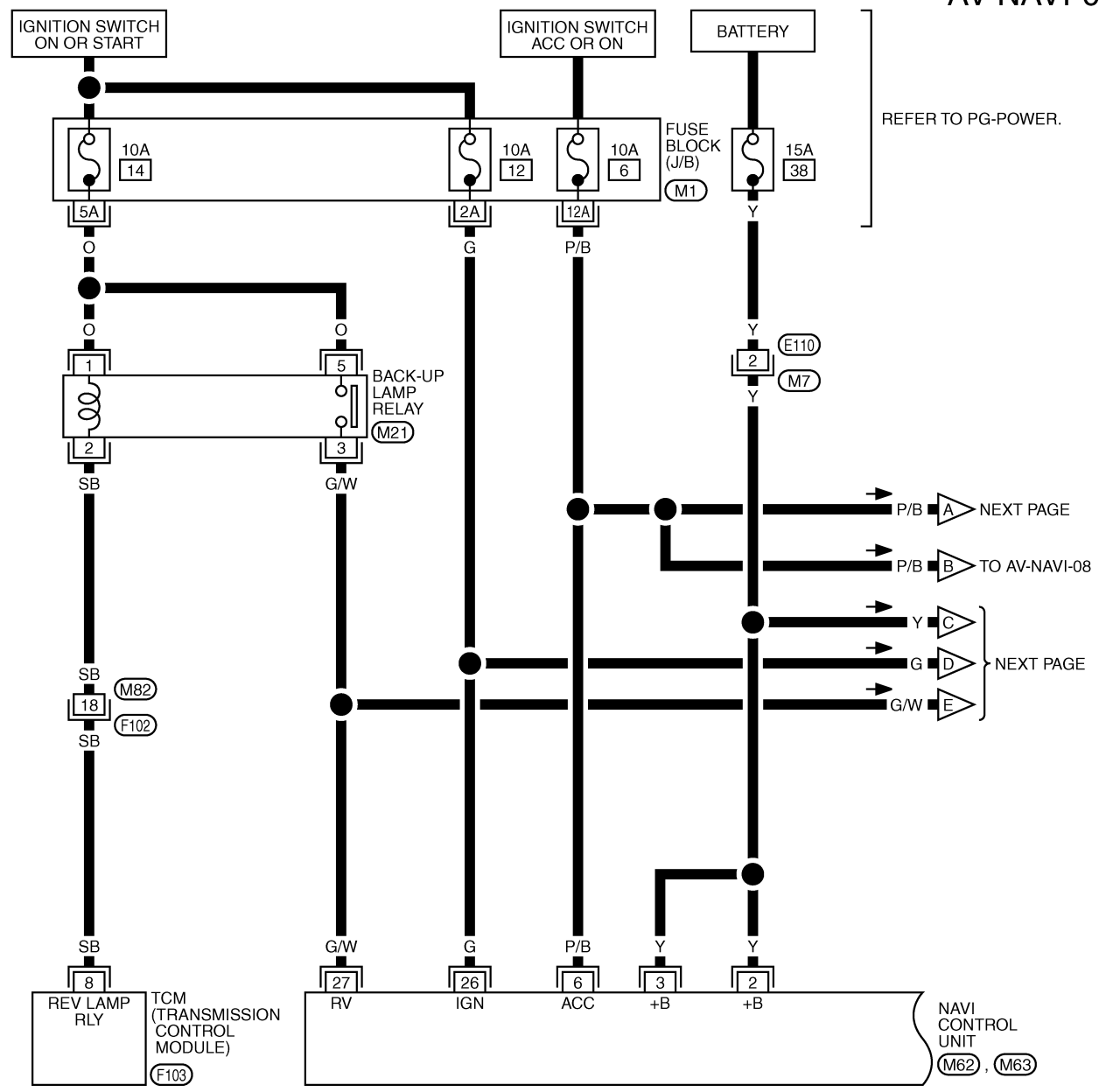
TKWB0518E

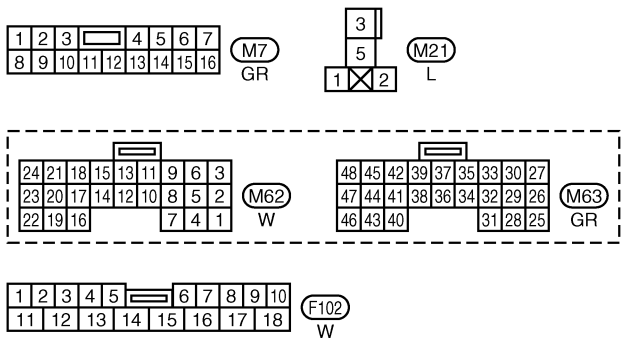

Preceding page
A
B
C
FUSE
BACK-UP LAMP RELAY
6
8
TCM (TRANSMISSION CONTROL MODULE)
1 2 4
5
DISPLAY CONTROL UNIT
5 7 2 4
13 14 2 3
15 4
12 11
36 38 37
11 22 23
DISPLAY
51 53 55 56 49
9 20 8 19 21
50 52 54 47
17 6 18 7
1
RR VIEW CAMERA CONTROL UNIT
8
1
10
3
9
4
2
RR VIEW CAMERA
6
3
AUDIO STEERING WHEEL SWITCH
N
N
UP
DOWN
UP
DOWN
VOLUME SWITCH
SEEK SWITCH
POWER SWITCH
MODE SWITCH
COMBINATION SWITCH (SPIRAL CABLE)
14 13 12
1 2
28
30
29
DATA LINE
DATA LINE
6
8
7
A/C AND AV SWITCH
3 4
5
To illumination system
D
E
Preceding page
TKWB0905E

Wiring Diagram — NAVI —

AKS004R9

AV-NAVI-01





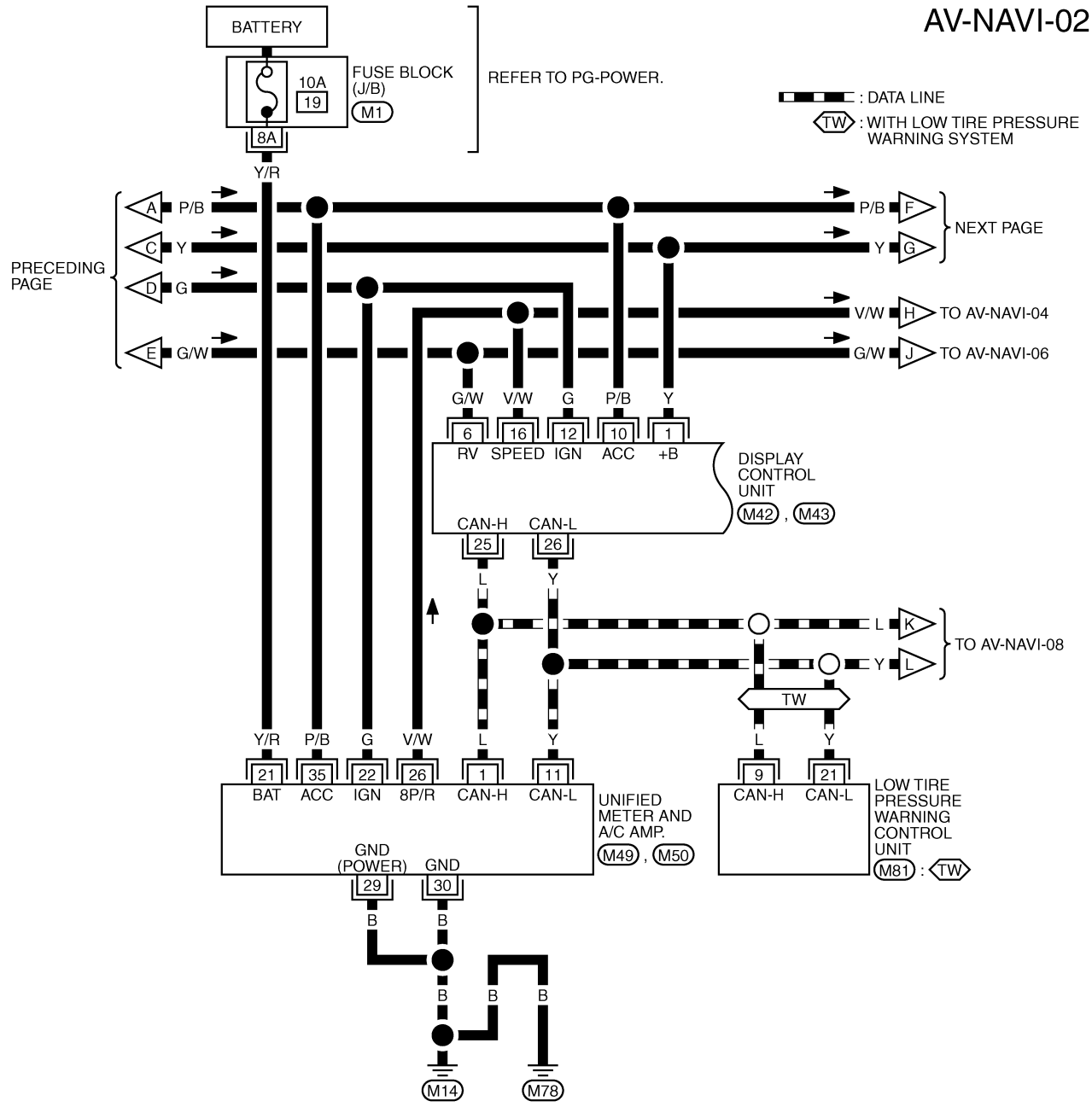
REFER TO THE FOLLOWING.

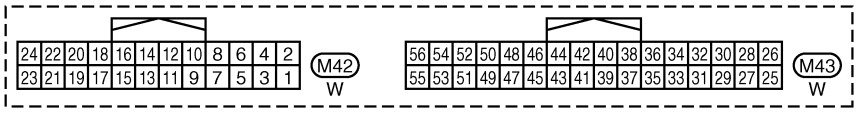
M1 -FUSE BLOCK-JUNCTION BOX (J/B)

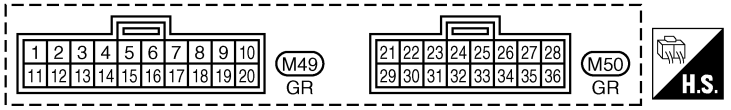
F103 -ELECTRICAL UNITS

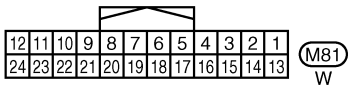
TKWB0906E

AV-NAVI-02







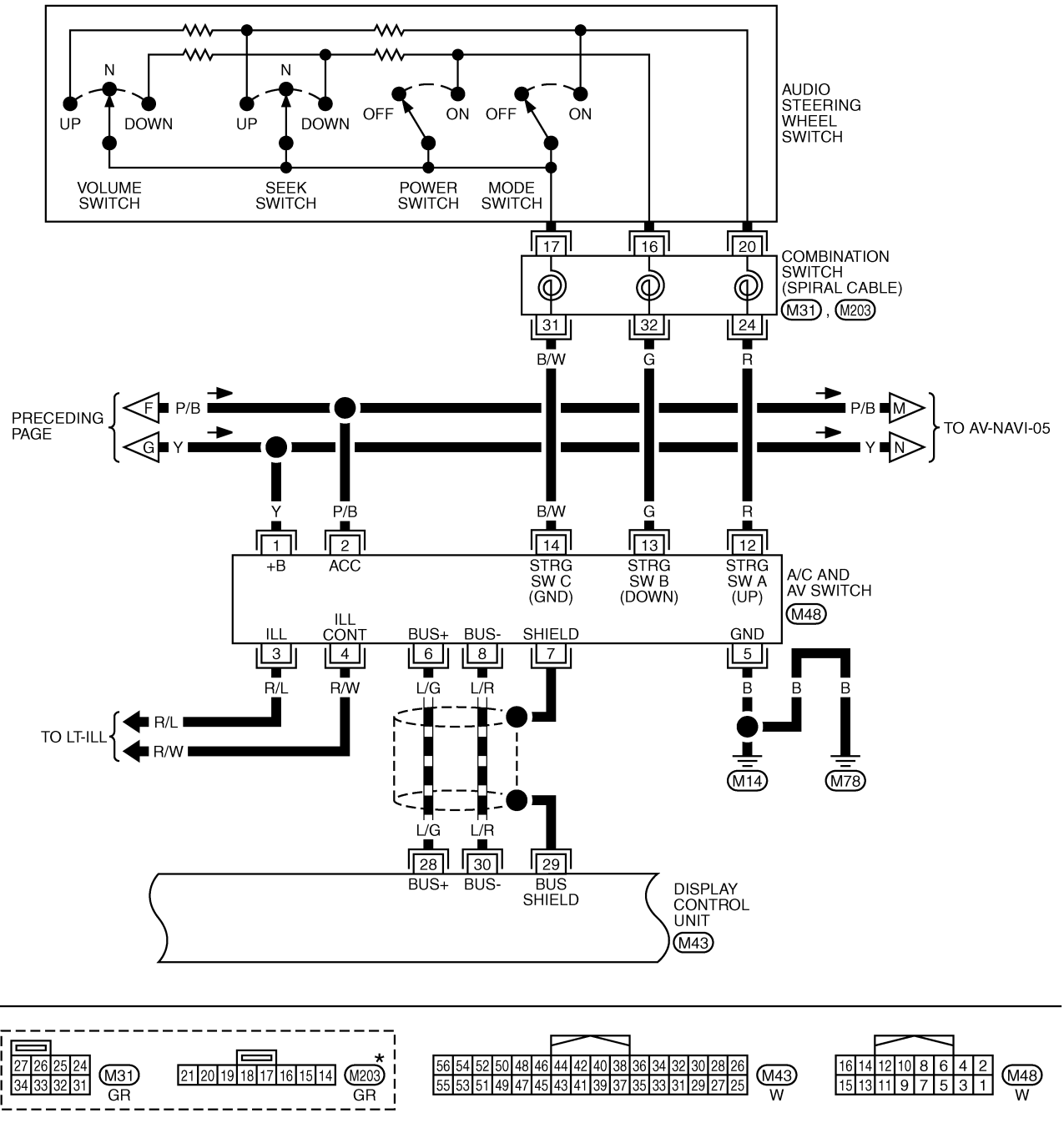


REFER TO THE FOLLOWING.
M1 -FUSE BLOCK-JUNCTION BOX (J/B)

TKWB0519E

AV-NAVI-03

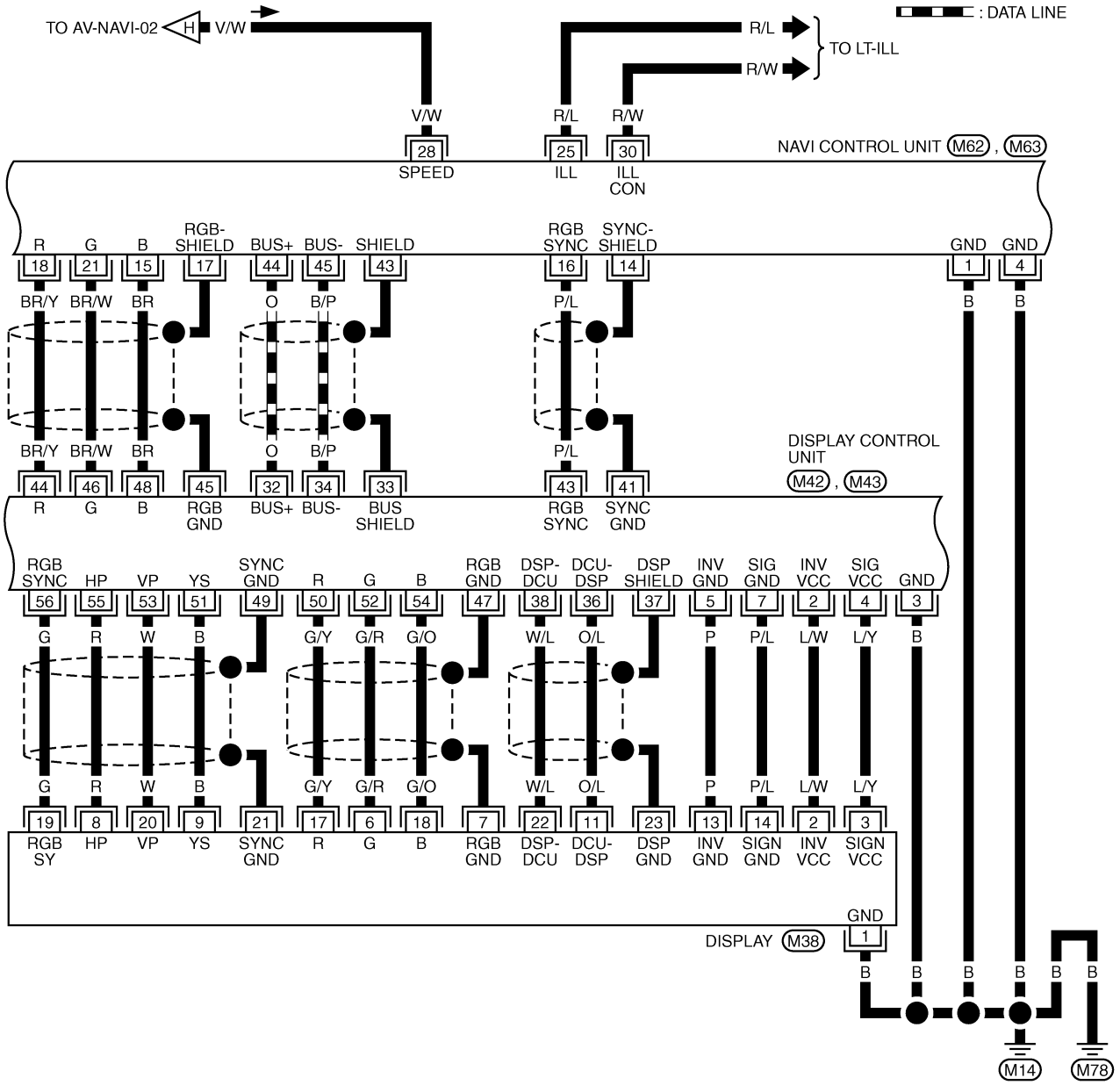
: DATA LINE

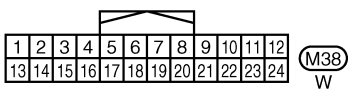


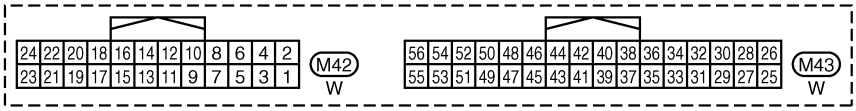
*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

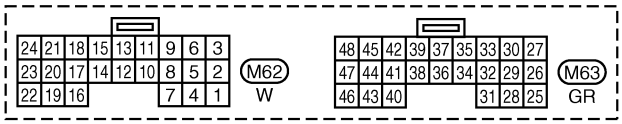
TKWB0907E

AV-NAVI-04

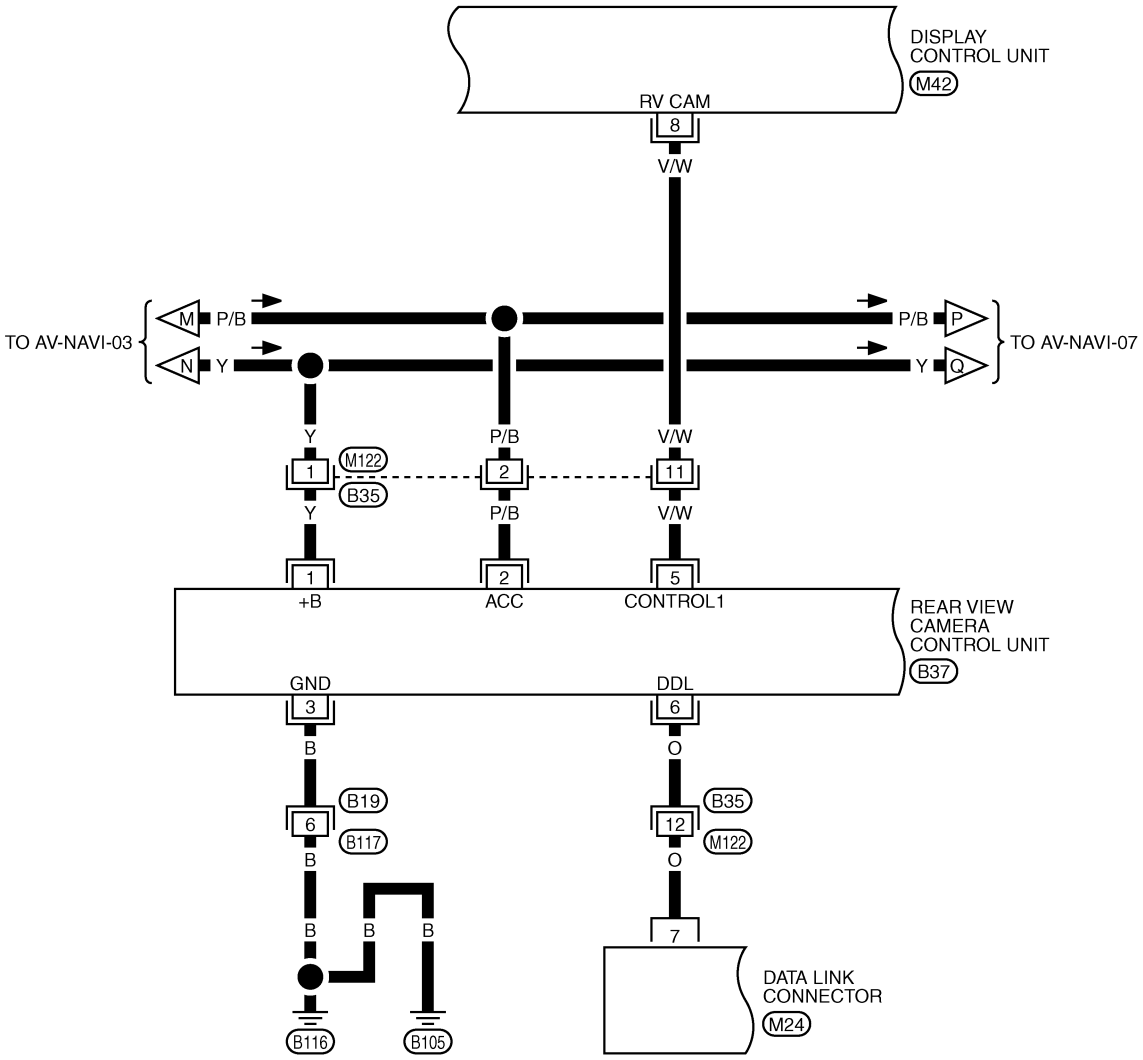


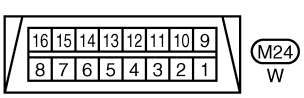


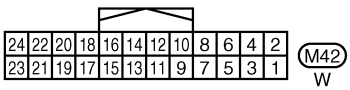


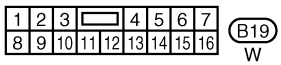


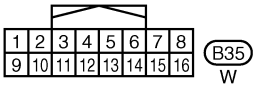
TKWA1737E

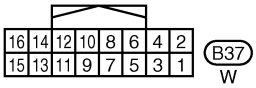

DISPLAY CONTROL UNIT
M42
RV CAM
8
V/W
TO AV-NAVI-03
M
P/B
N
Y
P/B
P
Y
Q
TO AV-NAVI-07
Y
P/B
V/W
M122
1
2
11
B35
Y
P/B
V/W
1
2
5
+B
ACC
CONTROL1
REAR VIEW CAMERA CONTROL UNIT
B37
GND
DDL
3
6
B
O
B19
6
B117
B35
12
M122
B
O
B
B
B
7
B116
B105
DATA LINK CONNECTOR
M24


16 15 14 13 12 11 10 9
8 7 6 5 4 3 2 1
M24
W


24 22 20 18 16 14 12 10 8 6 4 2
23 21 19 17 15 13 11 9 7 5 3 1
M42
W

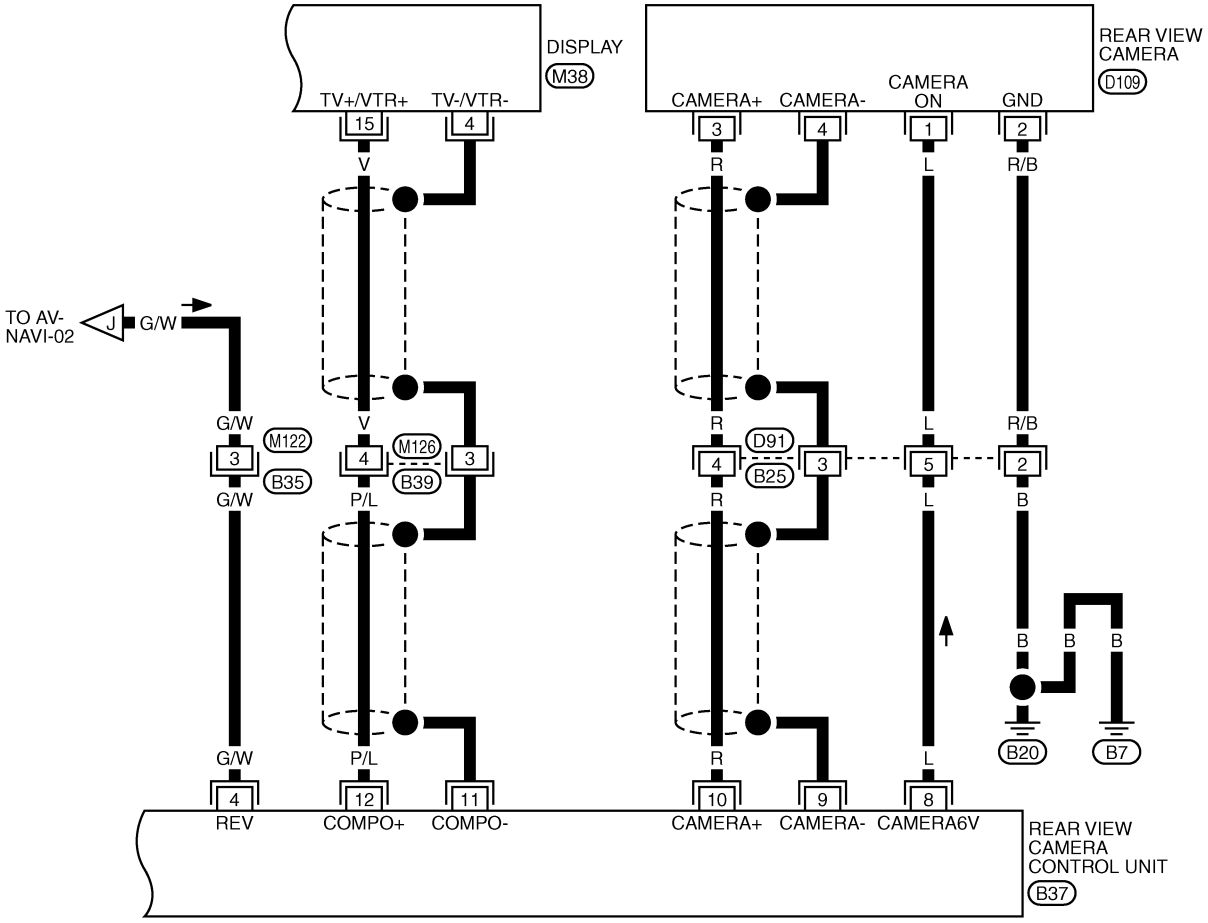

1 2 3 4 5 6 7
8 9 10 11 12 13 14 15 16
B19
W

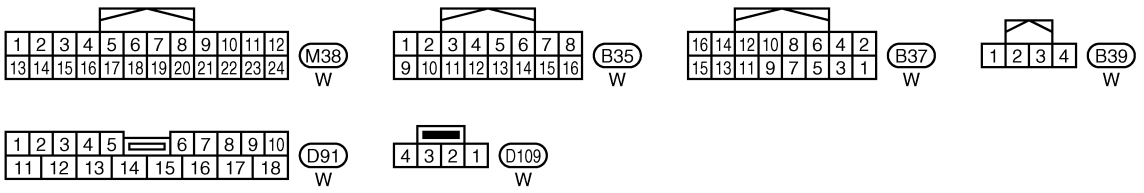

1 2 3 4 5 6 7 8
9 10 11 12 13 14 15 16
B35
W


16 14 12 10 8 6 4 2
15 13 11 9 7 5 3 1
B37
W

TKWB0908E

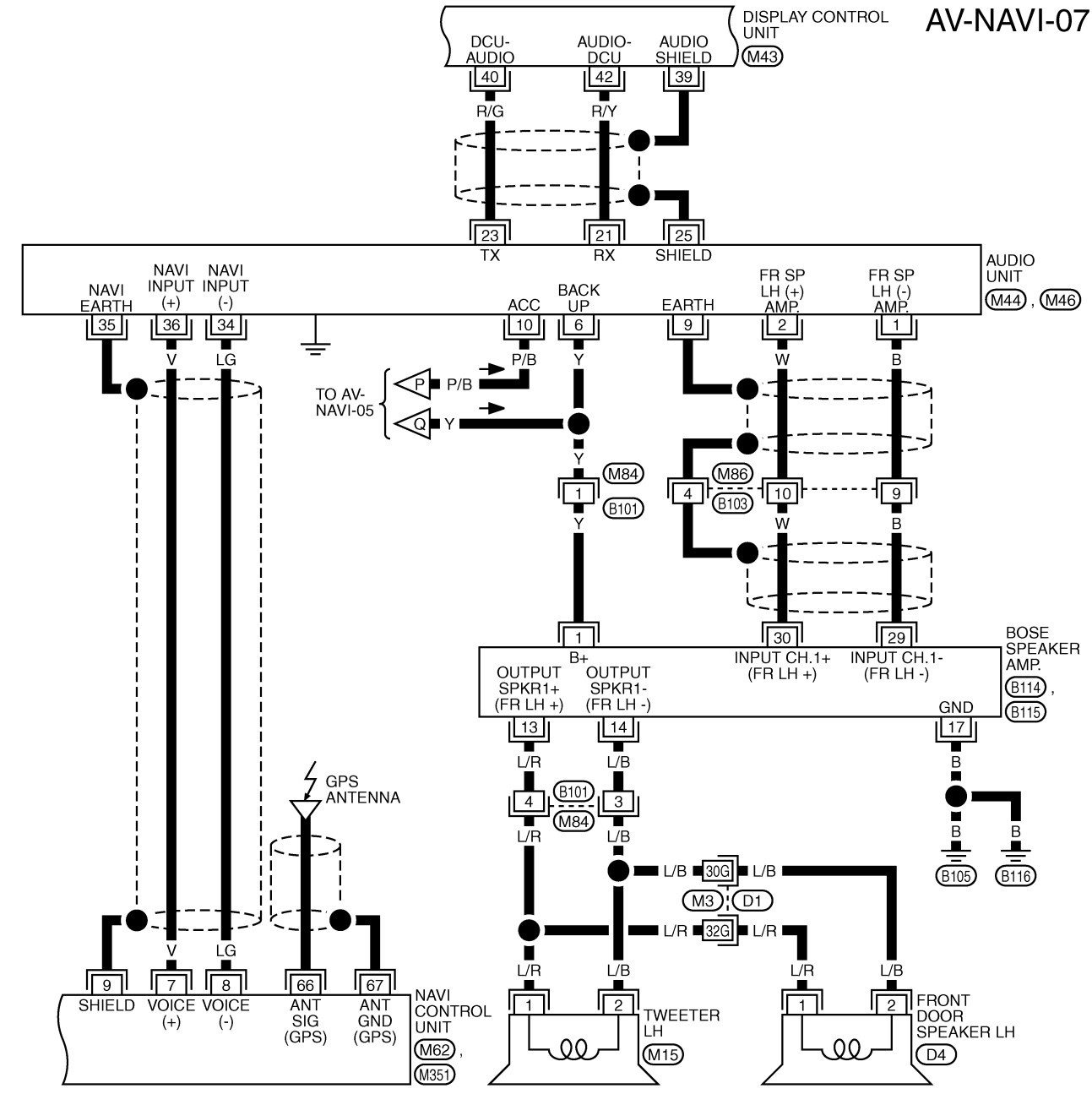
AV-NAVI-06

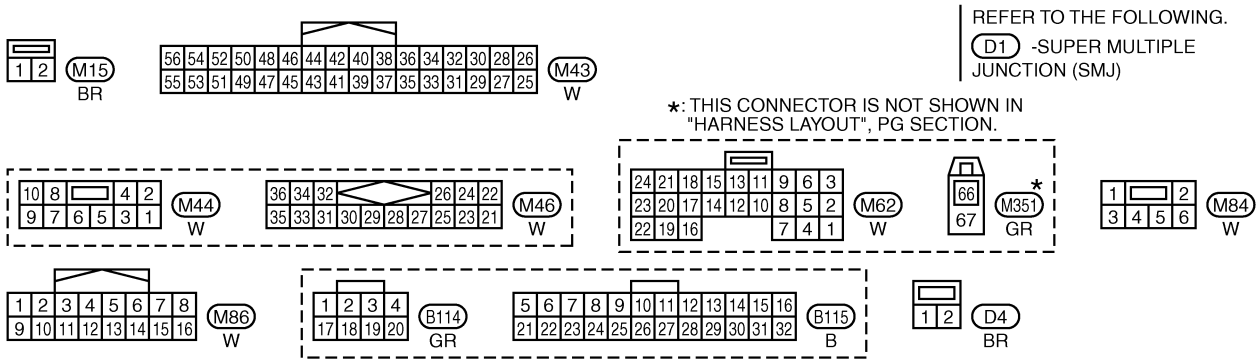




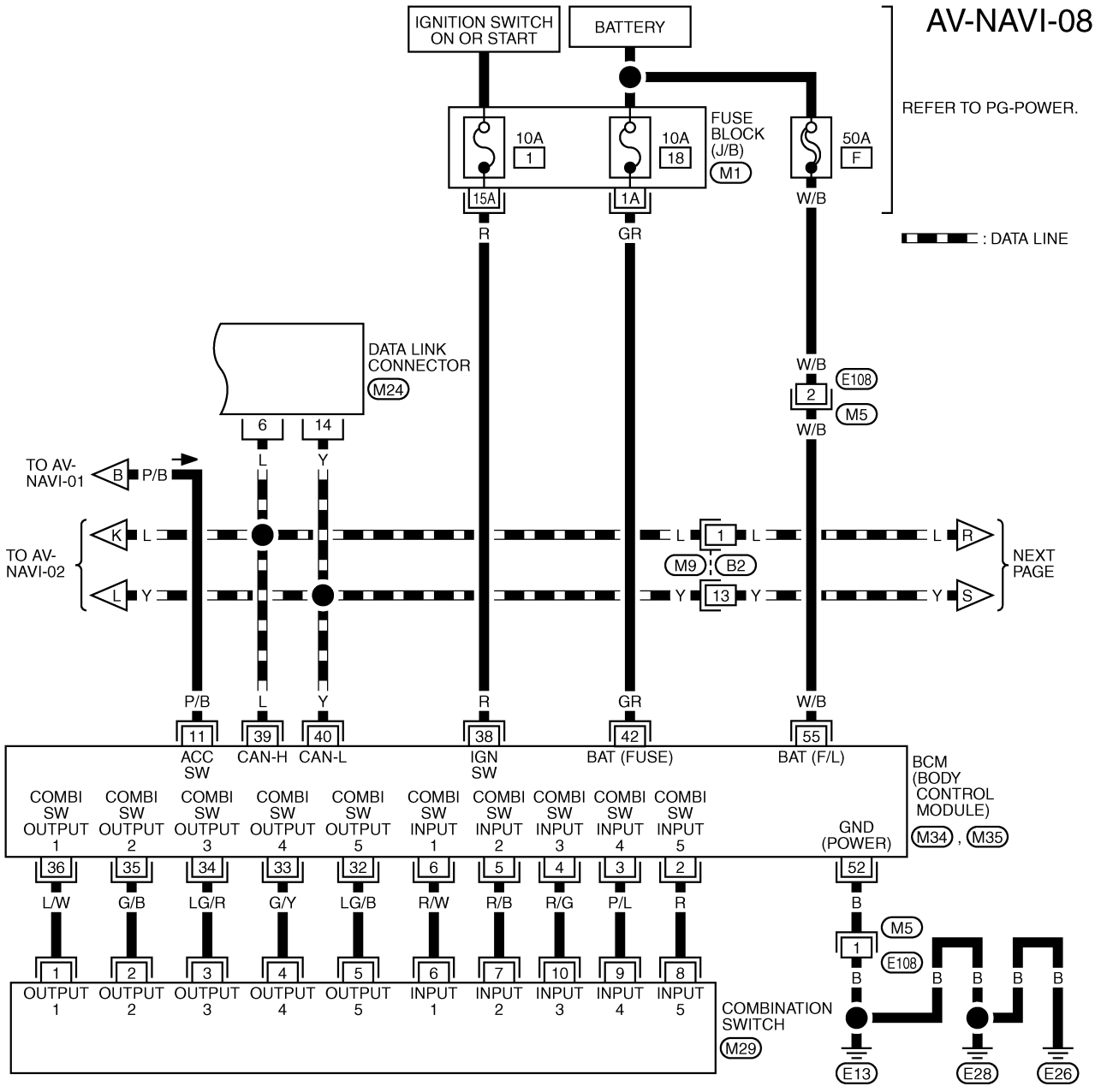
TKWB0909E

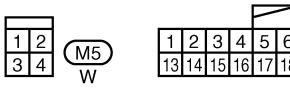
AV-NAVI-07

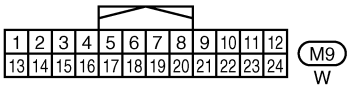


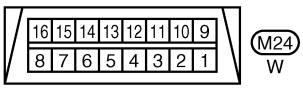


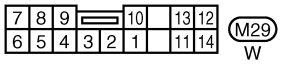
TKWB0520E









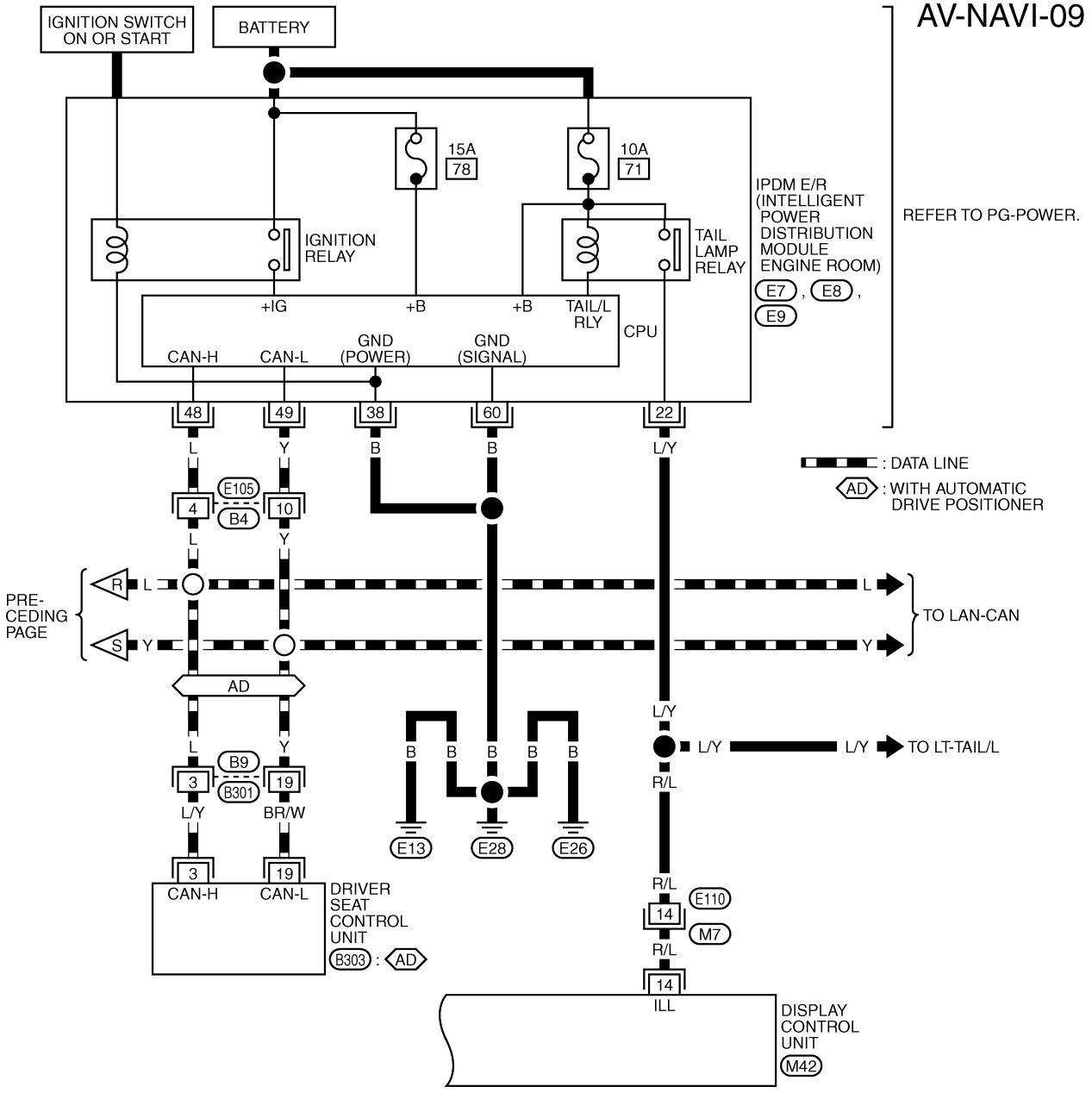


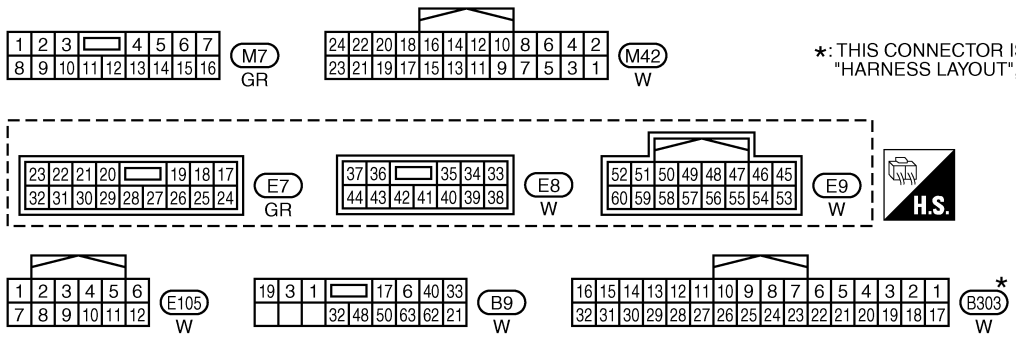
REFER TO THE FOLLOWING.

M1 -FUSE BLOCK-JUNCTION BOX (J/B)

M34, M35 -ELECTRICAL UNITS

TKWB0521E



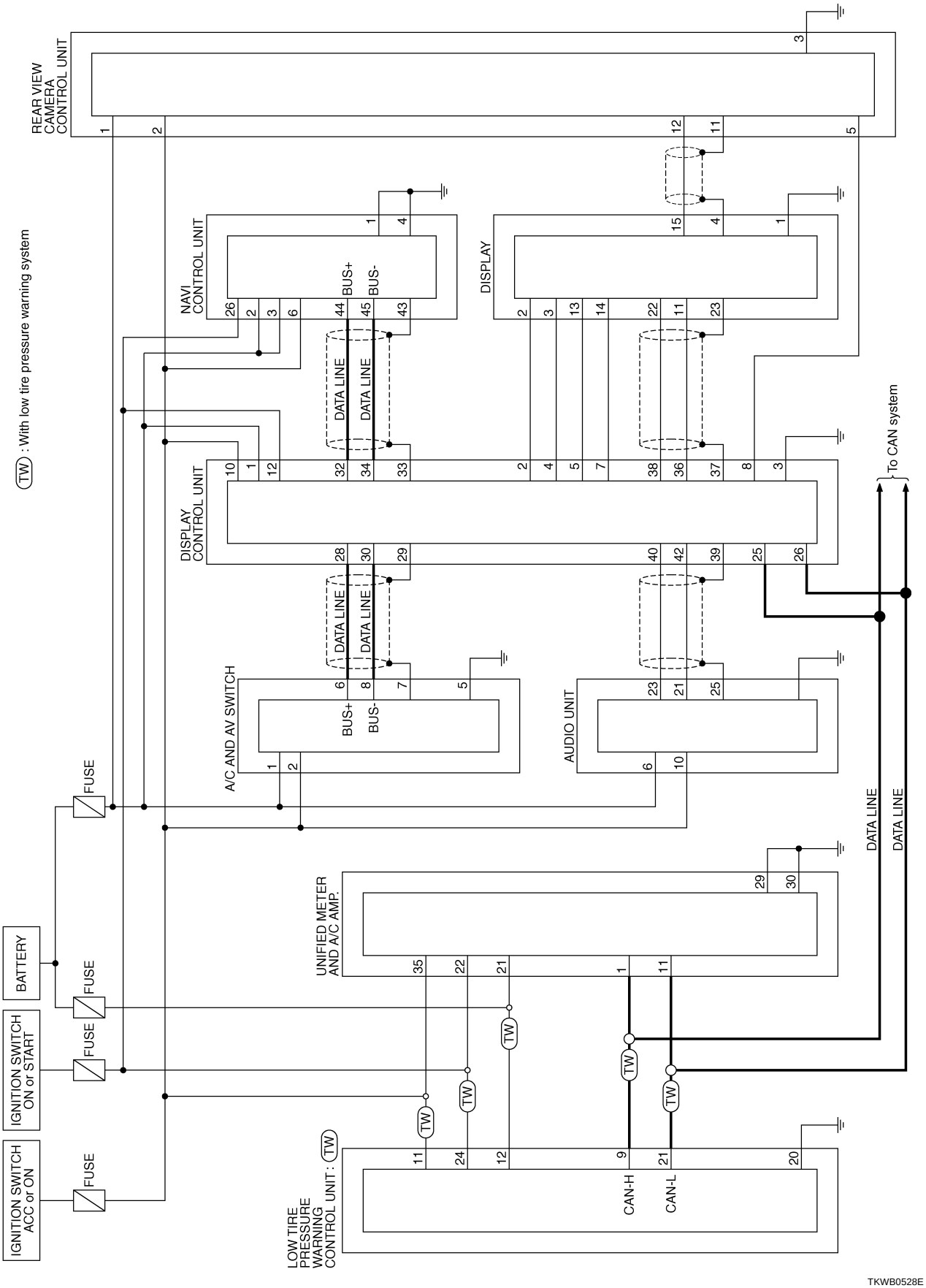


*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

TKWB0522E

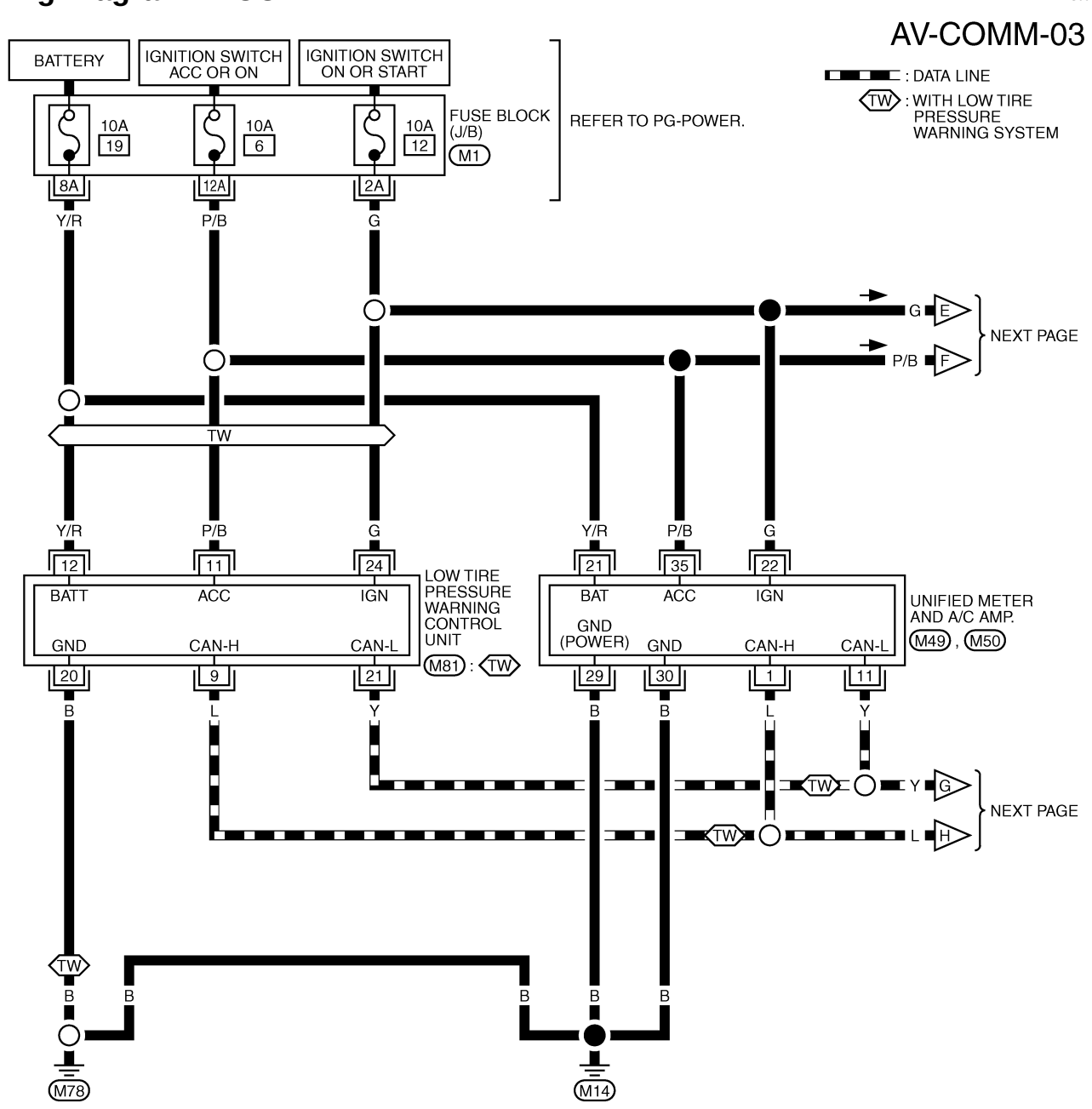
Schematic — COMM —

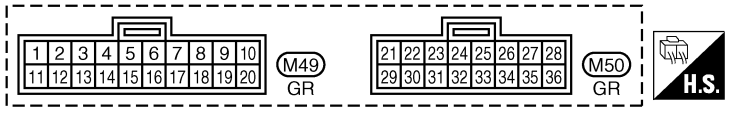
AKS007WB

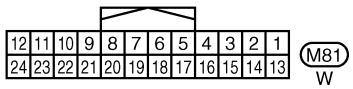


Wiring Diagram — COMM —

AKS004RB

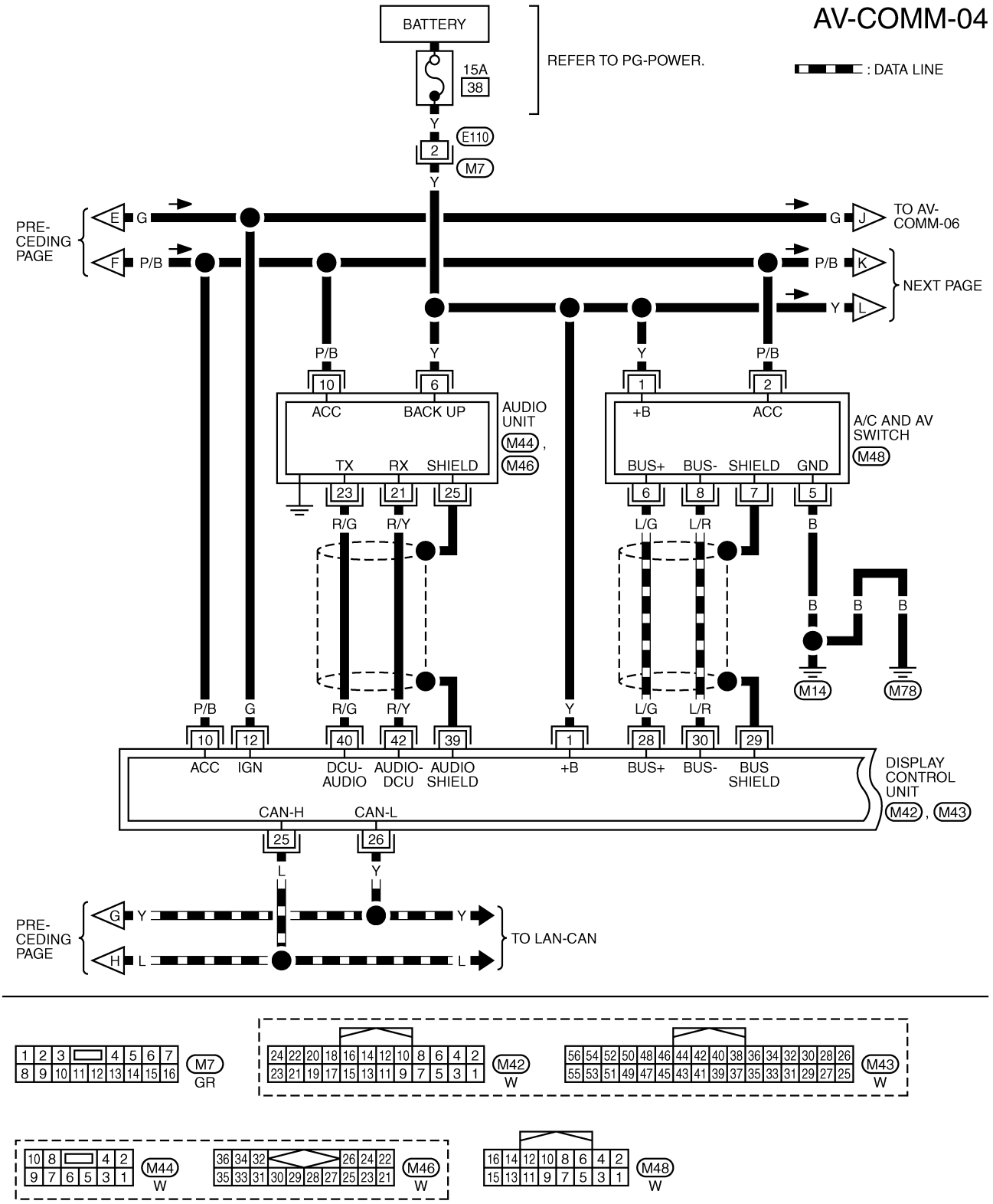






REFER TO THE FOLLOWING.
M1 -FUSE BLOCK-JUNCTION BOX (J/B)

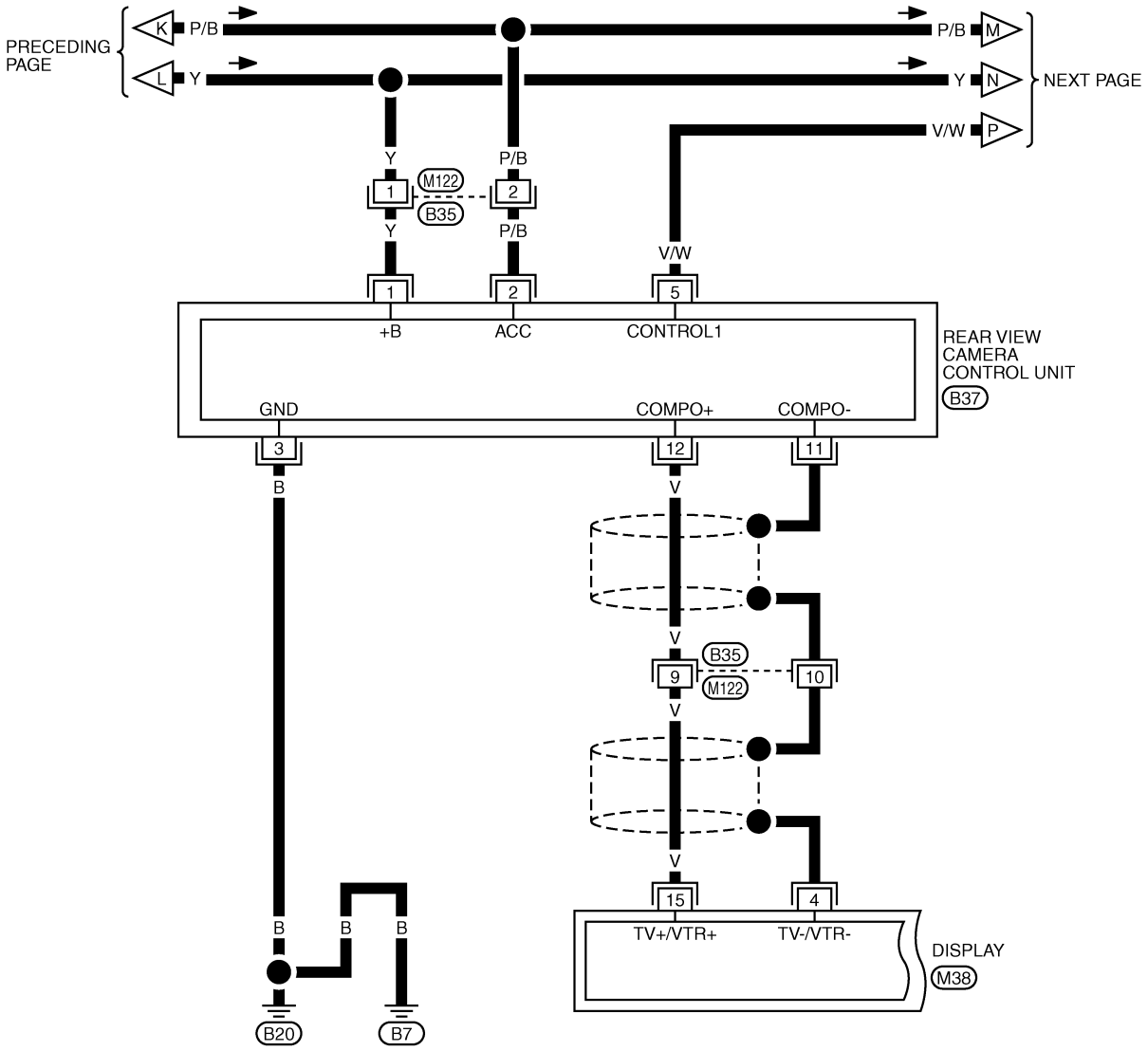
TKWA1733E

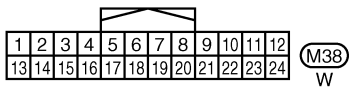

AV-COMM-04
BATTERY
15A
38
REFER TO PG-POWER.
: DATA LINE
E110
M7
PRE-CEDING PAGE
TO AV-COMM-06
NEXT PAGE
AUDIO UNIT
M44, M46
ACC
BACK UP
TX
RX
SHIELD
A/C AND AV SWITCH
M48
+B
BUS+
BUS-
GND
M14
M78
DISPLAY CONTROL UNIT
M42, M43
IGN
DCU-AUDIO
AUDIO-DCU
AUDIO SHIELD
BUS SHIELD
CAN-H
CAN-L
TO LAN-CAN

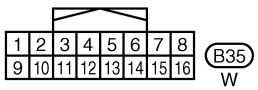
M7 GR
M42 W
M43 W
M44 W
M46 W
M48 W

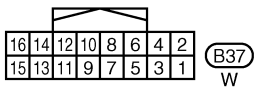
TKWB0529E

AV-COMM-05



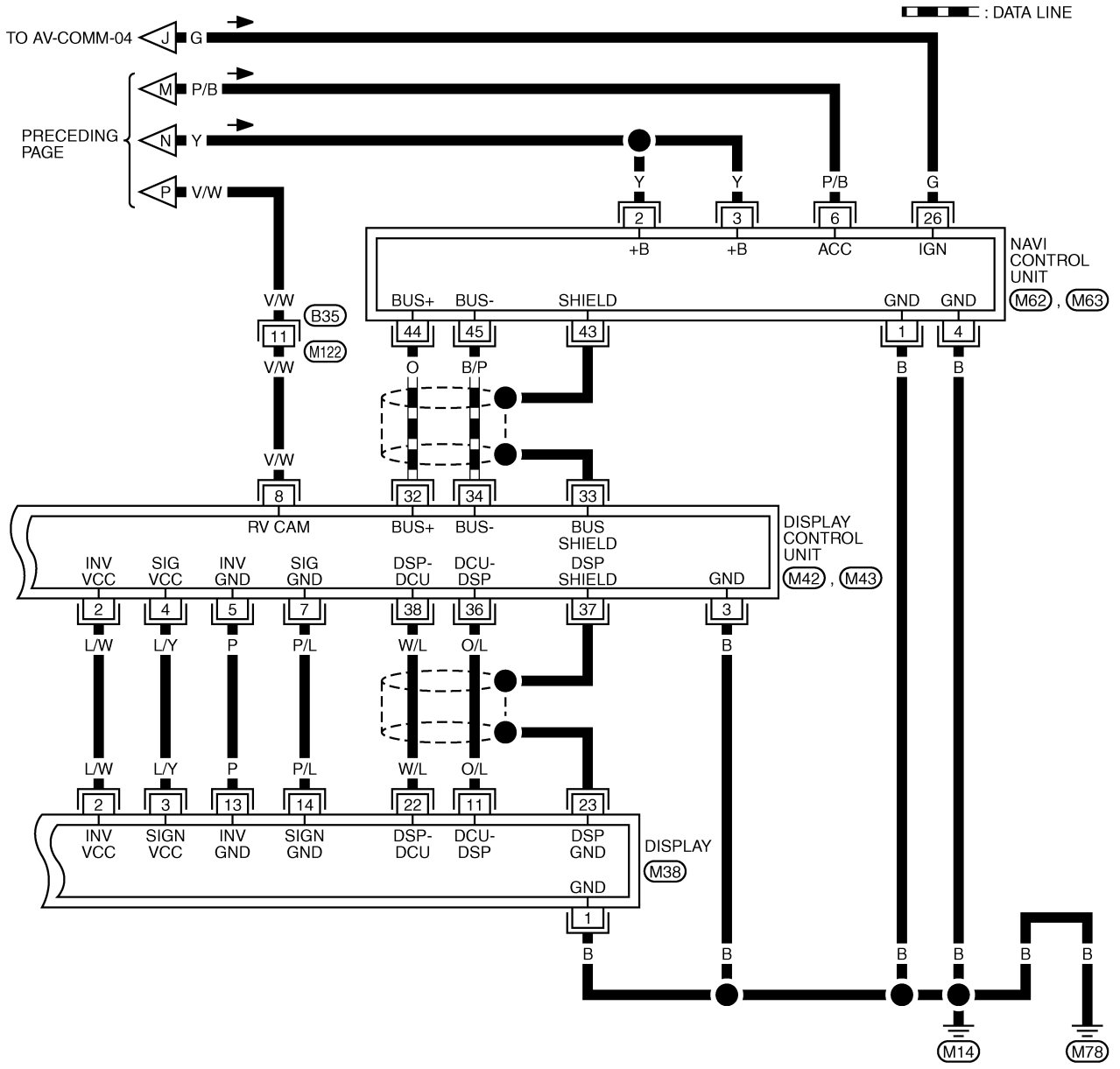


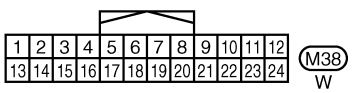


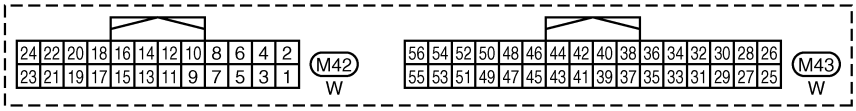


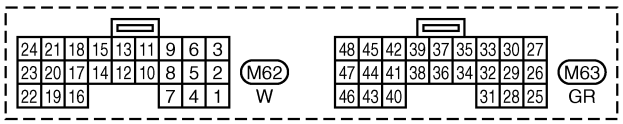
TKWB0530E

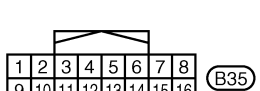
AV-COMM-06







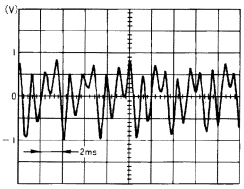
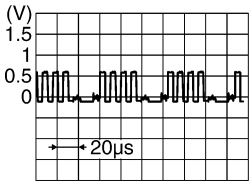
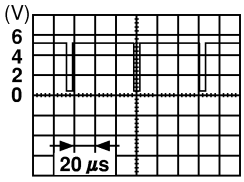
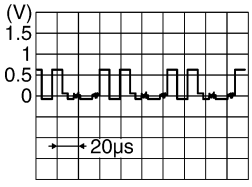
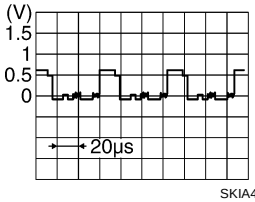


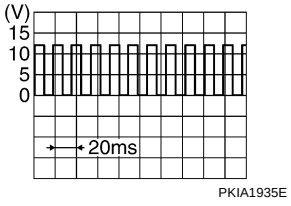
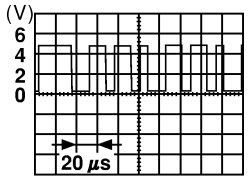
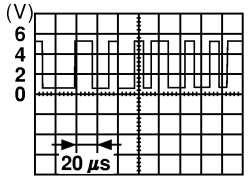


TKWB0531E

Terminals and Reference Value for NAVI Control Unit

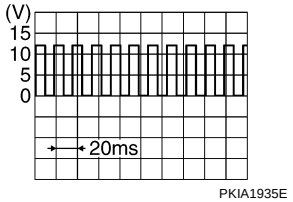
AKS004RC

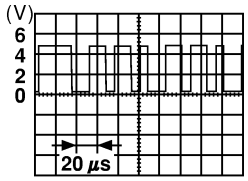
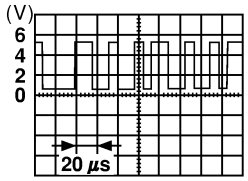
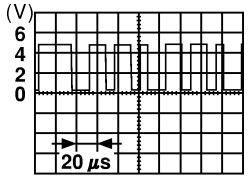
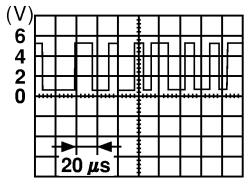
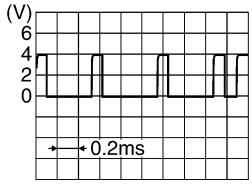
Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value	Example of symptom
+	–			Ignition switch	Operation		
1 (B)	Ground	Ground	—	ON	—	Approx. 0 V	—
2 (Y)	Ground	Battery power supply	Input	OFF	—	Battery voltage	System does not work properly.
3 (Y)							
4 (B)	Ground	Ground	—	ON	—	Approx. 0 V	—
6 (P/B)	Ground	ACC power supply	Input	ACC	—	Battery voltage	System does not work properly.
7 (V)	8 (LG)	Voice guidance signal	Output	ON	Press “GUIDE/ VOICE” button	 SKIA0171J	Only route guidance and operation guidance are not heard.
9	Ground	Shield	—	ON	—	Approx. 0 V	—
14	Ground	Shield	—	ON	—	Approx. 0 V	—
15 (BR)	17	RGB signal (B: blue)	Output	ON	Select “Display Diagnosis (NAVI)” of CONFIRMATION/ ADJUSTMENT function	 SKIA4979E	NAVI screen looks yellowish.
16 (P/L)	14	RGB synchronizing signal	Output	ON	—	 SKIA0164E	NAVI screen is rolling.
17	Ground	Shield	—	ON	—	Approx. 0 V	—
18 (BR/Y)	17	RGB signal (R: red)	Output	ON	Select “Display Diagnosis (NAVI)” of CONFIRMATION/ ADJUSTMENT function	 SKIA4977E	NAVI screen looks bluish.
21 (BR/W)	17	RGB signal (G: green)	Output	ON	Select “Display Diagnosis (NAVI)” of CONFIRMATION/ ADJUSTMENT function	 SKIA4978E	NAVI screen looks reddish.

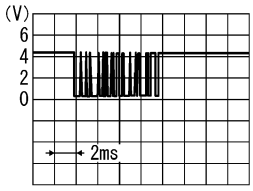
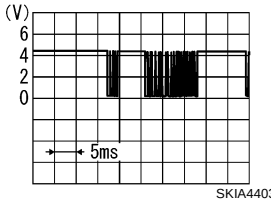
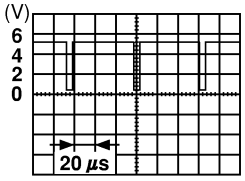
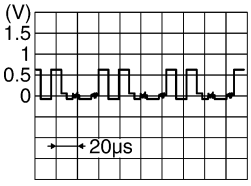
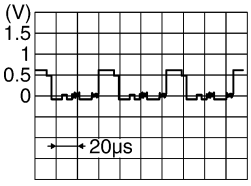
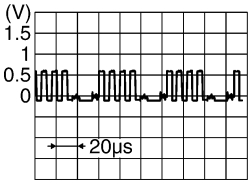
Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value	Example of symptom
+	–			Ignition switch	Operation		
25 (R/L)	Ground	Illumination signal	Input	OFF	Lighting switch ON	Approx. 12 V	NAVI screen does not switch to night-time mode after the lighting switch is turned ON.
					Lighting switch OFF	Approx. 0 V	
26 (G)	Ground	Ignition signal	Input	ON	—	Battery voltage	Navigation current-location mark does not indicate the correct position.
27 (G/W)	Ground	Reverse signal	Input	ON	Selector lever in R position	Approx. 12 V	Navigation current-location mark moves strangely when the vehicle is moving backwards.
					Selector lever except R position	Approx. 0 V	
28 (V/W)	Ground	Vehicle speed signal (8-pulse)	Input	ON	When vehicle speed is approx. 25 MPH (40 km/h)	**NOTE:** Maximum voltage may be 5 V due to specifications (connected units).  PKIA1935E	Navigation current-location mark does not indicate the correct position.
30 (R/W)	Ground	Illumination control signal	Input	ON	Illumination control switch is operated by lighting switch in ON position	Changes between approx. 0 and approx. 12 V	NAVI control unit illumination cannot be controlled.
43	Ground	Shield	—	ON	—	Approx. 0 V	—
44 (O)	Ground	Communication signal (+)	Input/ Output	ON	—	 SKIA0175E	System does not work properly.
45 (B/P)	Ground	Communication signal (–)	Input/ Output	ON	—	 SKIA0176E	System does not work properly.
66	67	GPS signal	Input	ON	Connector is not connected	Approx. 5 V	Navigation system GPS correction is not possible.

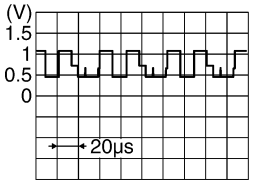
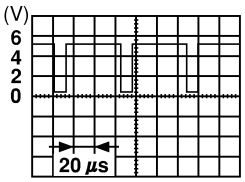
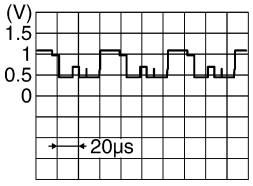
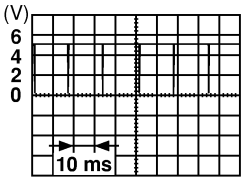
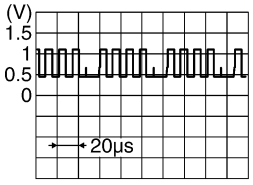
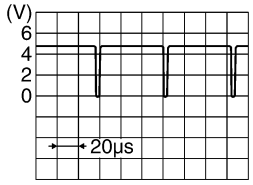
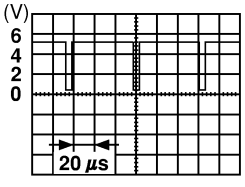
Terminals and Reference Value for Display Control Unit

AKS004YU

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value	Example of symptom
+	–			Ignition switch	Operation		
1 (Y)	Ground	Battery power supply	Input	OFF	—	Battery voltage	System does not work properly.
2 (L/W)	Ground	Power supply (Inverter)	Output	ON	—	Approx. 9 V	Screen is not shown.
3 (B)	Ground	Ground	—	ON	—	Approx. 0 V	—
4 (L/Y)	Ground	Power supply (Signal)	Output	ON	—	Approx. 9 V	Screen is not shown.
5 (P)	Ground	(Inverter) Ground	—	ON	—	Approx. 0 V	—
6 (G/W)	Ground	Reverse signal	Input	ON	Selector lever in R position	Approx. 12 V	The column of reverse on the vehicle signals screen does not show ON/OFF.
					Selector lever except R position	Approx. 0 V	
7 (P/L)	Ground	(Signal) Ground	—	ON	—	Approx. 0 V	—
8 (V/W)	Ground	Camera-connection recognition signal	Input	ON	Connected to rear view camera control unit connector	Approx. 0 V	Rear view image is not displayed.
					Not connected to rear view camera control unit connector	Approx. 5 V	
10 (P/B)	Ground	ACC power supply	Input	ACC	—	Battery voltage	System does not work properly.
12 (G)	Ground	Ignition signal	Input	ON	—	Battery voltage	A/C operation is not possible. Vehicle information setting is not possible.
14 (R/L)	Ground	Illumination signal	Input	OFF	Lighting switch ON	Approx. 12 V	Audio screen does not switch to night-time mode after the lighting switch is turned ON.
					Lighting switch OFF	Approx. 0 V	
16 (V/W)	Ground	Vehicle speed signal (8–pulse)	Input	ON	When vehicle speed is approx. 25 MPH (40 km/h)	**NOTE:** Maximum voltage may be 5 V due to specifications (connected units).  PKIA1935E	Value of vehicle information is not accurately displayed.
25 (L)	—	CAN-H	—	—	—	—	—
26 (Y)	—	CAN-L	—	—	—	—	—

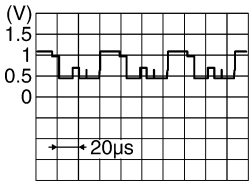
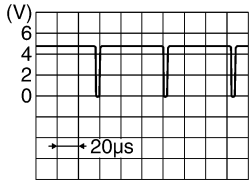
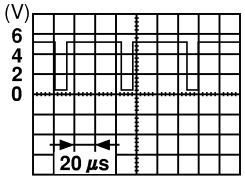
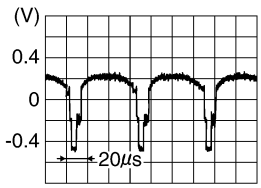
Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value	Example of symptom
+	–			Ignition switch	Operation		
28 (L/G)	Ground	Communication signal (+)	Input/ Output	ON	—	 SKIA0175E	System does not work properly.
29	Ground	Shield	—	ON	—	Approx. 0 V	—
30 (L/R)	Ground	Communication signal (–)	Input/ Output	ON	—	 SKIA0176E	System does not work properly.
32 (O)	Ground	Communication signal (+)	Input/ Output	ON	—	 SKIA0175E	System does not work properly.
33	Ground	Shield	—	ON	—	Approx. 0 V	—
34 (B/P)	Ground	Communication signal (–)	Input/ Output	ON	—	 SKIA0176E	System does not work properly.
36 (O/L)	Ground	Communication signal (DCU-DSP)	Output	ON	—	 SKIA4364E	Though a screen is displayed, it is impossible to adjust brightness.
37	Ground	Shield	—	ON	—	Approx. 0 V	—
38 (W/L)	Ground	Communication signal (DSP-DCU)	Input	ON	—	 SKIA4363E	Though a screen is displayed, it is impossible to adjust brightness.
39	Ground	Shield	—	ON	—	Approx. 0 V	—

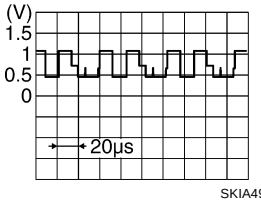
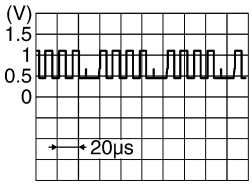
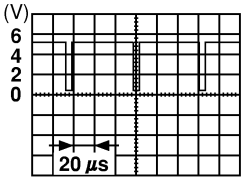
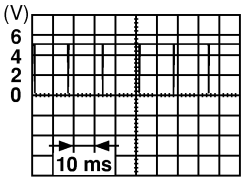
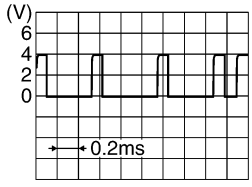
Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value	Example of symptom
+	–			Ignition switch	Operation		
40 (R/G)	Ground	Communication signal (Audio TX)	Output	ON	Operate audio volume	 SKIA4402E	Audio unit dose not operate properly.
41	Ground	Shield	—	ON	—	Approx. 0 V	—
42 (R/Y)	Ground	Communication signal (Audio RX)	Input	ON	Operate audio volume	 SKIA4403E	Audio unit dose not operate properly.
43 (P/L)	41	RGB synchronizing signal	Input	ON	—	 SKIA0164E	NAVI screen is rolling.
44 (BR/Y)	45	RGB signal (R: red)	Input	ON	Select “Display Diagnosis (NAVI)” of CONFIRMATION/ ADJUSTMENT function	 SKIA4977E	NAVI screen looks bluish.
45	Ground	Shield	—	ON	—	Approx. 0 V	—
46 (BR/W)	45	RGB signal (G: green)	Input	ON	Select “Display Diagnosis (NAVI)” of CONFIRMATION/ ADJUSTMENT function	 SKIA4978E	NAVI screen looks reddish.
47	Ground	Shield	—	ON	—	Approx. 0 V	—
48 (BR)	45	RGB signal (B: blue)	Input	ON	Select “Display Diagnosis (NAVI)” of CONFIRMATION/ ADJUSTMENT function	 SKIA4979E	NAVI screen looks yellowish.
49	Ground	Shield	—	ON	—	Approx. 0 V	—

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value	Example of symptom
+	–			Ignition switch	Operation		
50 (G/Y)	47	RGB signal (R: red)	Output	ON	Select “Display Diagnosis (DCU)” of CONFIRMATION/ ADJUSTMENT function	 SKIA4980E	Screen looks bluish.
51 (B)	49	RGB area (YS) signal	Output	ON	Set the selector lever in R position, and then display the rear view image	 SKIA0162E	Rear view image is not displayed.
52 (G/R)	47	RGB signal (G: green)	Output	ON	Select “Display Diagnosis (DCU)” of CONFIRMATION/ ADJUSTMENT function	 SKIA4981E	Screen looks reddish.
53 (W)	49	Vertical synchronizing (VP) signal	Input	ON	—	 SKIA0161E	Operating screen for audio and A/C is not displayed when showing NAVI screen.
54 (G/O)	47	RGB signal (B: blue)	Output	ON	Select “Display Diagnosis (DCU)” of CONFIRMATION/ ADJUSTMENT function	 SKIA4982E	Screen looks yellowish.
55 (R)	49	Horizontal synchronizing (HP) signal	Input	ON	—	 SKIA4983E	Operating screen for audio and A/C is not displayed when showing NAVI screen.
56 (G)	49	RGB synchronizing signal	Output	ON	Press “TRIP” button	 SKIA0164E	NAVI screen is rolling.

Terminals and Reference Value for Display

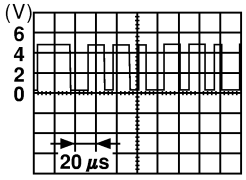
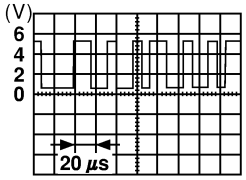
AKS004YV

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value	Example of symptom
+	–			Ignition switch	Operation		
1 (B)	Ground	Ground	—	ON	—	Approx. 0 V	—
2 (L/W)	Ground	Power supply (Inverter)	Input	ON	—	Approx. 9 V	Screen is not shown.
3 (L/Y)	Ground	Power supply (Signal)	Input	ON	—	Approx. 9 V	Screen is not shown.
4	Ground	Shield	—	ON	—	Approx. 0 V	—
6 (G/R)	7	RGB signal (G: green)	Input	ON	Select “Display Diagnosis (DCU)” of CONFIRMATION/ ADJUSTMENT function	 SKIA4981E	Screen looks reddish.
7	Ground	Shield	—	ON	—	Approx. 0 V	—
8 (R)	21	Horizontal synchronizing (HP) signal	Output	ON	—	 SKIA4983E	Operating screen for audio and A/C is not displayed when showing NAVI screen.
9 (B)	21	RGB area (YS) signal	Input	ON	Set the selector lever in R position, and then display the rear view image	 SKIA0162E	Rear view image is not displayed.
11 (O/L)	Ground	Communication signal (DCU-DSP)	Input	ON	—	 SKIA4364E	Though a screen is displayed, it is impossible to adjust brightness.
13 (P)	Ground	(Inverter) Ground	—	ON	—	Approx. 0 V	—
14 (P/L)	Ground	(Signal) Ground	—	ON	—	Approx. 0 V	—
15 (V)	4	Camera image signal	Input	ON	Set the selector lever in R position, and then display the rear view image	 SKIB0827E	Rear view image is not displayed.

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value	Example of symptom
+	–			Ignition switch	Operation		
17 (G/Y)	7	RGB signal (R: red)	Input	ON	Select “Display Diagnosis (DCU)” of CONFIRMATION/ ADJUSTMENT function	 SKIA4980E	Screen looks bluish.
18 (G/O)	7	RGB signal (B: blue)	Input	ON	Select “Display Diagnosis (DCU)” of CONFIRMATION/ ADJUSTMENT function	 SKIA4982E	Screen looks yellowish.
19 (G)	21	RGB synchronizing signal	Input	ON	Press “TRIP” button	 SKIA0164E	NAVI screen is rolling.
20 (W)	21	Vertical synchronizing (VP) signal	Output	ON	—	 SKIA0161E	Operating screen for audio and A/C is not displayed when showing NAVI screen.
21	Ground	Shield	—	ON	—	Approx. 0 V	—
22 (W/L)	Ground	Communication signal (DSP-DCU)	Output	ON	—	 SKIA4363E	Though a screen is displayed, it is impossible to adjust brightness.
23	Ground	Shield	—	ON	—	Approx. 0 V	—

Terminals and Reference Value for A/C and AV Switch

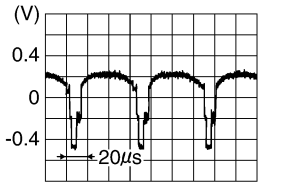
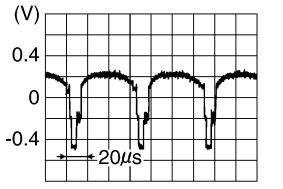
AKS005LS

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value	Example of symptom
+	–			Ignition switch	Operation		
1 (Y)	Ground	Battery power supply	Input	OFF	—	Battery voltage	System does not work properly.
2 (P/B)	Ground	ACC power supply	Input	ACC	—	Battery voltage	System does not work properly.
3 (R/L)	Ground	Illumination signal	Input	OFF	Lighting switch ON	Approx. 12 V	A/C and AV switch illumination does not function when lighting switch is ON.
					Lighting switch OFF	Approx. 0 V	
4 (R/W)	Ground	Illumination control signal	Output	ON	Illumination control switch is operated by lighting switch in ON position	Changes between approx. 0 and approx. 12 V	A/C and AV switch illumination cannot be controlled.
5 (B)	Ground	Ground	—	ON	—	Approx. 0 V	—
6 (L/G)	Ground	Communication signal (+)	Input/ Output	ON	—	 SKIA0175E	System does not work properly.
7	Ground	Shield	—	ON	—	Approx. 0 V	—
8 (L/R)	Ground	Communication signal (–)	Input/ Output	ON	—	 SKIA0176E	System does not work properly.
12 (R)	Ground	Remote control A	Input	ON	Press and hold MODE switch	Approx. 0 V	Audio steering wheel switch controls do not function.
					Press and hold SEEK UP switch	Approx. 1.7 V	
					Press and hold VOL UP switch	Approx. 3.3 V	
					Except for above	Approx. 5 V	

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value	Example of symptom
+	–			Ignition switch	Operation		
13 (G)	Ground	Remote control B	Input	ON	Press and hold POWER switch	Approx. 0 V	Audio steering wheel switch controls do not function.
					Press and hold SEEK DOWN switch	Approx. 1.7 V	
					Press and hold VOL DOWN switch	Approx. 3.3 V	
					Except for above	Approx. 5 V	
14 (B/W)	Ground	Remote control ground	—	ON	—	Approx. 0 V	Audio steering wheel switch controls do not function.

Terminals and Reference Value for Rear View Camera Control Unit

AKS00CGS

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value	Example of symptom
+	–			Ignition switch	Operation		
1 (Y)	Ground	Battery power supply	Input	OFF	—	Battery voltage	Rear view image is not displayed.
2 (P/B)	Ground	ACC power supply	Input	ACC	—	Battery voltage	Rear view image is not displayed.
3 (B)	Ground	Ground	—	ON	—	Approx. 0 V	—
4 (G/W)	Ground	Reverse signal	Input	ON	Selector lever in R position	Approx. 12 V	Rear view image is not displayed.
					Other than selector lever in R position	Approx. 0 V	
5 (V/W)	Ground	Camera-connection recognition signal	Output	ON	—	Approx. 0 V	Rear view image is not displayed.
6 (O)	—	Data transmit/ receive signal	—	—	—	—	—
8 (L)	Ground	Camera power supply	Output	ON	Set the selector lever in R position, and then display the rear view image	Approx. 6 V	Rear view image is not displayed.
9	Ground	Shield	—	ON	—	Approx. 0 V	—
10 (R)	9	Camera image signal	Input	ON	Set the selector lever in R position, and then display the rear view image	 SKIB0827E	Rear view image is not displayed.
11	Ground	Shield	—	ON	—	Approx. 0 V	—
12 (P/L)	11	Camera image signal	Output	ON	Set the selector lever in R position, and then display the rear view image	 SKIB0827E	Rear view image is not displayed.

On Board Self-Diagnosis Function

AKS004RD

DESCRIPTION

- Diagnosis function consists of the self-diagnosis mode performed automatically and the CONFIRMATION/ ADJUSTMENT mode operated manually.
- Self-diagnosis mode checks for connections between the units constituting this system, analyzes each individual unit at the same time, and displays the results on the LCD screen.
- CONFIRMATION/ADJUSTMENT mode is used to perform trouble diagnosis that require operation and judgment by an operator (incident 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 (DCU)				Display control unit diagnosis
Self-diagnosis (NAVI)				● NAVI Control unit diagnosis (DVD-ROM drive will not be diagnosed when no map DVD-ROM is in it) ● Analyzes connection between the NAVI control unit and the GPS antenna connection between the NAVI control unit and each unit, and operation of each unit.
CONFIRMATION/ ADJUSTMENT	Display diagnosis			On display control unit mode, color tone and shading of the screen can be checked by the display of a color bar and a gray scale.
	Vehicle signals			On display control unit mode, analyzes the following vehicle signals: Vehicle speed signal, light signal[NOTE] , ignition switch signal, and reverse signal.
	Auto Climate Control			A/C self-diagnosis of A/C system.
	Navigation	Display diagnosis		On NAVI control unit mode, color tone and shading of the screen can be checked by the display of a color bar and a gray scale.
		Vehicle signals		On NAVI control unit mode, analyzes the following vehicle signals: Vehicle speed signal, light signal, ignition switch signal, and reverse signal.
		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.
		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.
CAN DIAG SUPPOPT MONITOR				Display status of CAN communication.

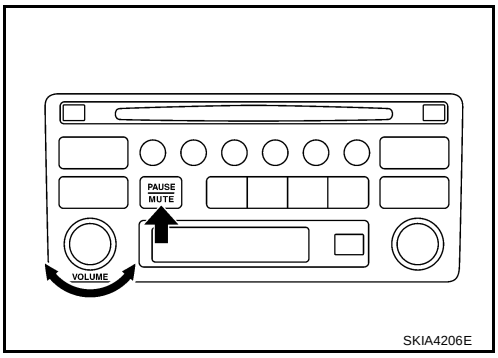
NOTE:
Make the status that is set by ☀/☽ function be shown.

Self-Diagnosis Mode (DCU)

AKS004RE

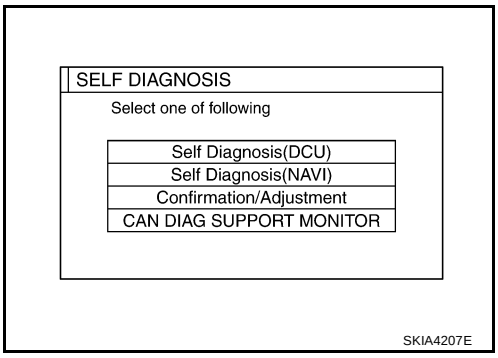
OPERATION PROCEDURE

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



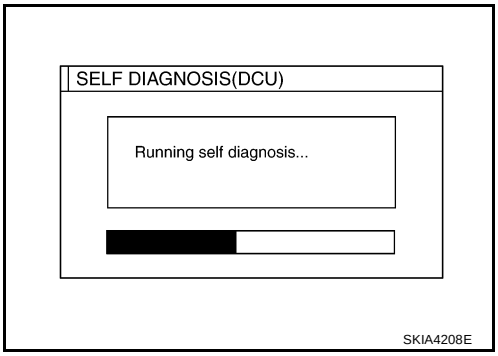
SKIA4206E

4. The initial trouble diagnosis screen will be shown, and items “Self-Diagnosis (DCU)”, “Self-Diagnosis (NAVI)”, “Confirmation/ Adjustment” and “CAN DIAG SUPPORT MONITOR” will become selective.



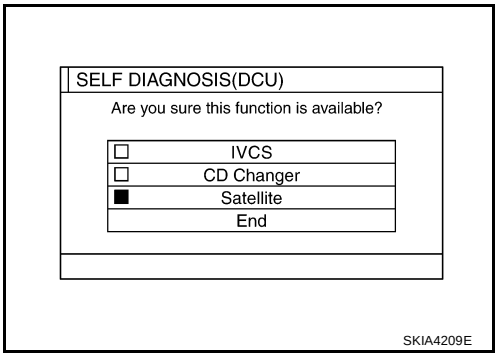
SKIA4207E

5. Perform self-diagnosis by selecting the “Self-diagnosis (DCU)”.
   - 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.



SKIA4208E

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



SKIA4209E

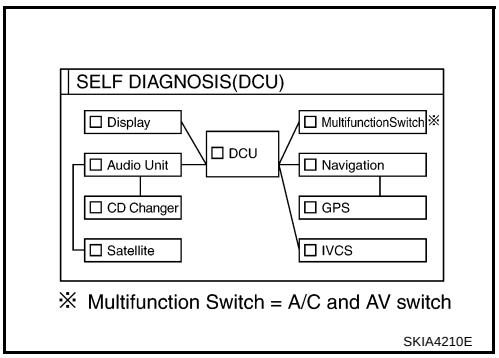
7. On the “SELF DIAGNOSIS” screen, each unit name will be colored according to the diagnosis result, as follows.

   Green : No malfunctioning.

   Gray : Cannot be judged by self-diagnosis results.

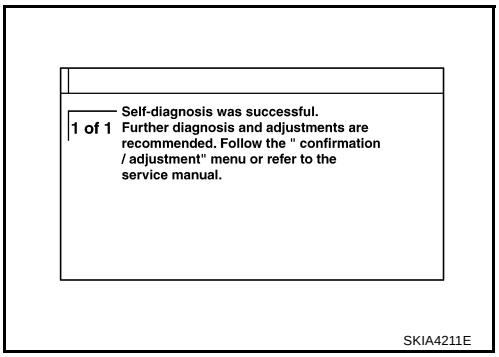
   Red : Unit is malfunctioning.

   - 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.



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/ adjustments” menu or refer to the service manual.”.
   - When the switch is gray, the following comment will be shown. “Connection to the following unit is abnormal. See the service manual for further details”.
   - When the switch is red, the following comment will be shown. “DCU is abnormal”.



SELF-DIAGNOSIS RESULT

Quick Reference Table

1. Select a malfunctioning diagnosis No. in the diagnosis result quick reference table.
2. Find estimated malfunctioning system in the diagnosis No. table and perform check by referring to AV-135, "Wiring Diagram — COMM —" .
3. Turn the ignition switch OFF and perform self-diagnosis again.

Switch color	Screen switch					Diagnosis No.
	DCU*	DISPLAY	Audio unit	Navigation	GPS antenna	
Red	×					1
Gray	×	×				2
	×		×			3
	×			×	×	4

*: DCU = Display control unit

CAUTION:

- **When A/C and AV switch has a malfunction, you cannot start. Refer to AV-204, "Unable to Operate All of A/C and AV Switches (Unable to Start Self-Diagnosis)" .**
- **When display has a malfunction, you cannot start. Refer to AV-196, "All Screens Are Not Displayed" .**

Self-Diagnosis Codes

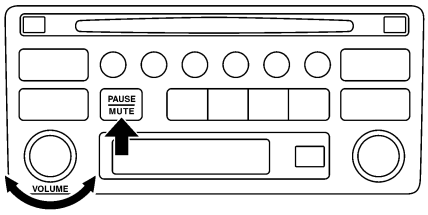
Diagnosis No.	Check item	Reference page
1	Display control unit malfunction	Refer to AV-220
2	Display communication line between display control unit and display	Refer to AV-186
3	Audio unit power supply circuit Audio communication line between display control unit and audio unit	Refer to AV-184
4	NAVI control unit power supply and ground circuit AV communication line between display control unit and NAVI control unit	Refer to AV-183

Self-Diagnosis Mode (NAVI)

AKS005R4

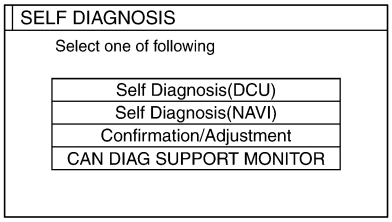
OPERATION PROCEDURE

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



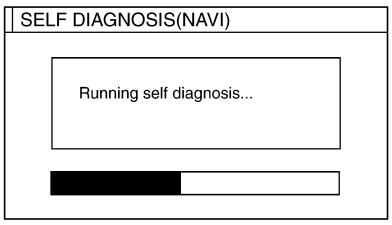
SKIA4206E

4. The initial trouble diagnosis screen will be shown, and items “Self-Diagnosis (DCU)”, “Self-Diagnosis (NAVI)”, “Confirmation/ Adjustment” and “CAN DIAG SUPPORT MONITOR” will become selective.



SKIA4207E

5. Perform self-diagnosis by selecting the “Self-diagnosis (NAVI)”.
   - Self-diagnosis subdivision screen will be shown and the operation enters the self-diagnosis mode.
   - A bar graph shown below the self-diagnosis subdivision screen indicates progress of the diagnosis.

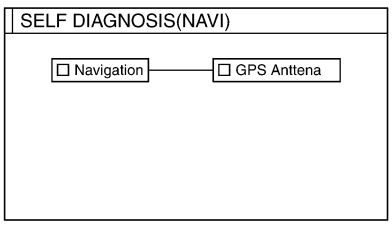


SKIA4212E

6. On the “SELF DIAGNOSIS (NAVI)” screen, each unit name will be colored according to the diagnosis result, as follows.

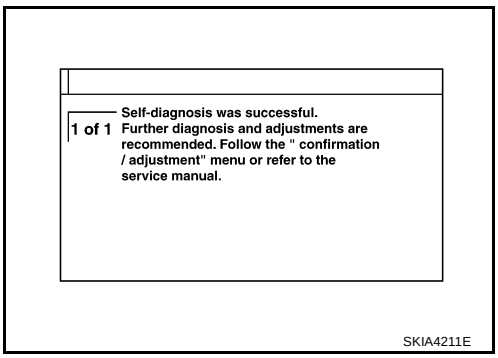
   Green : No malfunctioning.
   Yellow : Cannot be judged by self-diagnosis results.
   Red : Unit is malfunctioning.
   Gray : Diagnosis has not been done.

   - 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.



SKIA4214E

7. Select a switch on the “SELF DIAGNOSIS” screen and comments for the diagnosis results will be shown.
   - When the switch is green, the following comment will be shown. “Self-diagnosis 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 a malfunctioning 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 AV-135, "Wiring Diagram — COMM —" .
3. Turn the ignition switch OFF and perform self-diagnosis again.

Switch color	Screen switch		Diagnosis No.
	Navigation*	GPS antenna	
Red	×		1
Gray	×		2
Yellow	×		3
	×		4
	×	×	5

*: Navigation = NAVI control unit

CAUTION:

- **When A/C and AV switch has a malfunction, you cannot start. Refer to AV-204, "Unable to Operate All of A/C and AV Switches (Unable to Start Self-Diagnosis)" .**
- **When display has a malfunction, you cannot start. Refer to AV-196, "All Screens Are Not Displayed" .**

Self-Diagnosis Codes

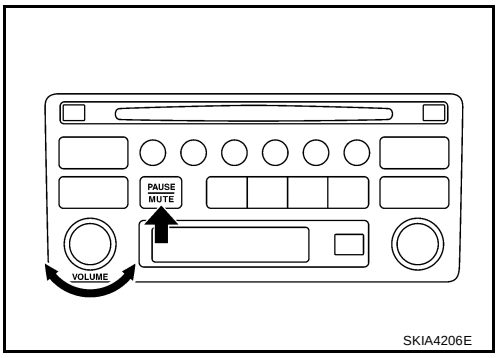
Diagnosis No.	Possible cause	Reference page
1	NAVI control unit malfunction	Refer to AV-217
2	No map DVD-ROM is inserted in the NAVI control unit.	Refer to AV-189
3	When “DVD-ROM error. Please check disc.” is shown. 1. Eject map DVD-ROM and check if it is compatible with the system. 2. Check ejected DVD-ROM for dirt, damage, and warp. 3. If no error is found, insert a known good map DVD-ROM of the same type and perform self-diagnosis again. If same result is shown, the NAVI control unit is malfunctioning. If result is normal, the map DVD-ROM is malfunctioning.	Refer to AV-189
4	If “Error found in DVD-ROM or DVD-ROM driver in control unit. Please perform diagnosis in accordance with service manual” is shown, carry out same inspection as diagnosis No. 3.	Refer to AV-189
5	GPS antenna system 1. Visually check for a broken wire in the GPS antenna coaxial cable. 2. Disconnect GPS antenna connector, and make sure approximately 5 V is supplied from the NAVI control unit. If not, the NAVI control unit is malfunctioning. If 5 V is supplied, replace the GPS antenna. If the connection is still malfunction after the replacement of the GPS antenna, the NAVI control unit is malfunctioning.	Refer to AV-189

CONFIRMATION/ADJUSTMENT Mode

AKS005R5

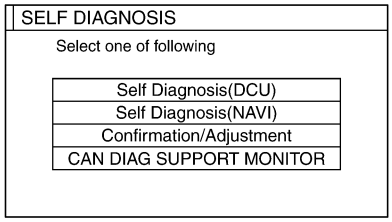
OPERATION PROCEDURE

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



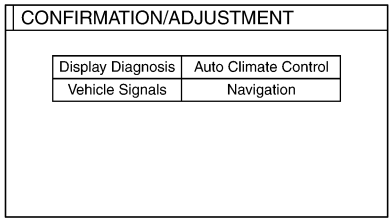
SKIA4206E

4. The initial trouble diagnosis screen will be shown, and items “Self-Diagnosis (DCU)”, “Self-Diagnosis (NAVI)”, “Confirmation/ Adjustment” and “CAN DIAG SUPPORT MONITOR” will become selective.



SKIA4207E

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. The initial trouble diagnosis screen will be shown, and items “Display Diagnosis”, “Vehicle Signals”, “Auto Climate Control” and “Navigation” will become selective.
7. Select each switch on “CONFIRMATION/ADJUSTMENT” screen to display the relevant diagnosis screen.



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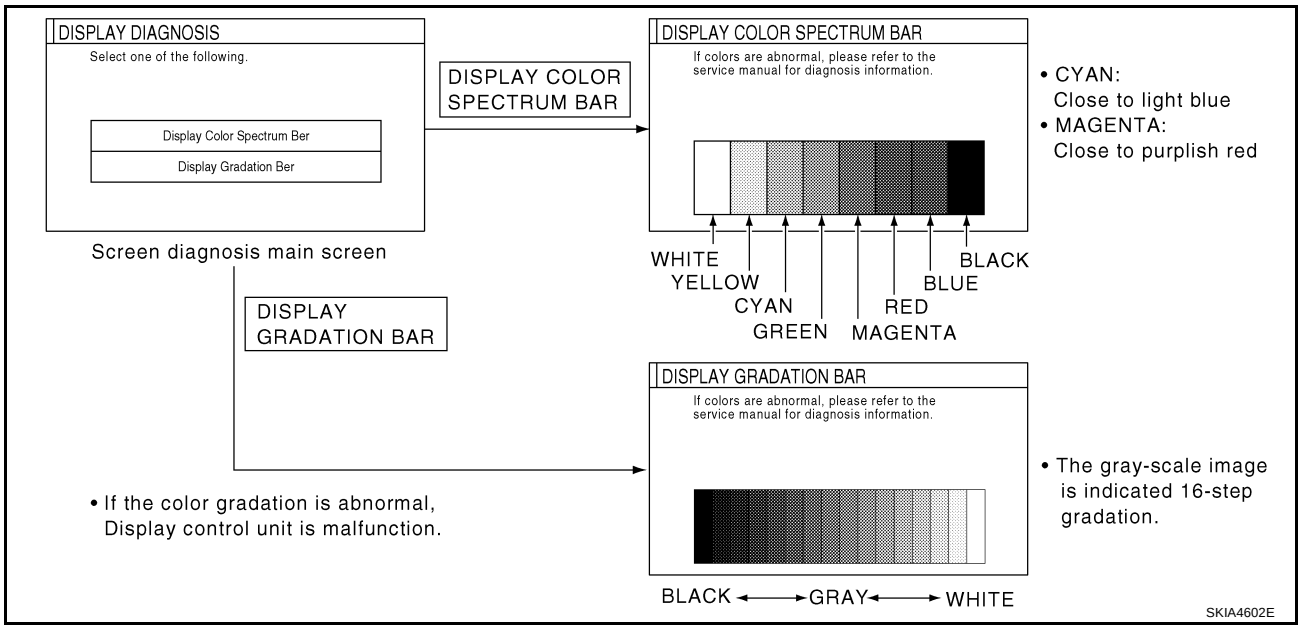
DISPLAY DIAGNOSIS



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

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

- When the color of the screen looks unusual, refer to AV-190, "Color of RGB Image is Not Proper" .

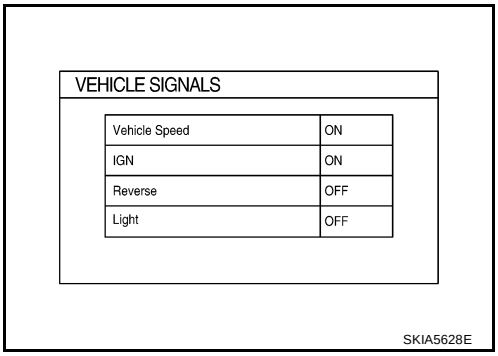
VEHICLE SIGNALS

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

CAUTION:
In case of confirming light signal, set D/N mode to ON/OFF of lighting switch (normal setting).

- **OFF: D (Day mode)**
- **ON: N (Night mode)**

Unless above setting, light signal (ON/OFF) may not be accurately displayed.



Diagnosis item	Display	Condition	Remarks
Vehicle speed	ON	Vehicle speed > 0 km/h (0 MPH)	Changes in indication may be delayed by approx. 1.5 seconds. This is normal.
	OFF	Vehicle speed = 0 km/h (0 MPH)	
	—	Ignition switch in ACC position	
Light	ON	Lighting switch ON	—
	OFF	Lighting switch OFF	
IGN	ON	Ignition switch ON	—
	OFF	Ignition switch ACC	
Reverse	ON	Selector lever in R position	Changes in indication may be delayed by approx. 1.5 seconds. This is normal.
	OFF	Selector lever except R position	
	—	Ignition switch in ACC position	

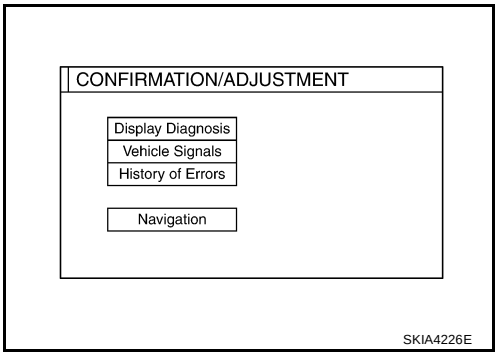
- If vehicle speed is NG, refer to AV-178, "Vehicle Speed Signal Check for Display Control Unit" .
- If light is NG, refer to AV-180, "Illumination Signal Check for Display Control Unit" .
- If IGN is NG, refer to AV-180, "Ignition Signal Check for Display Control Unit" .
- If reverse is NG, refer to AV-181, "Reverse Signal Check for Display Control Unit" .

AUTO CLIMATE CONTROL

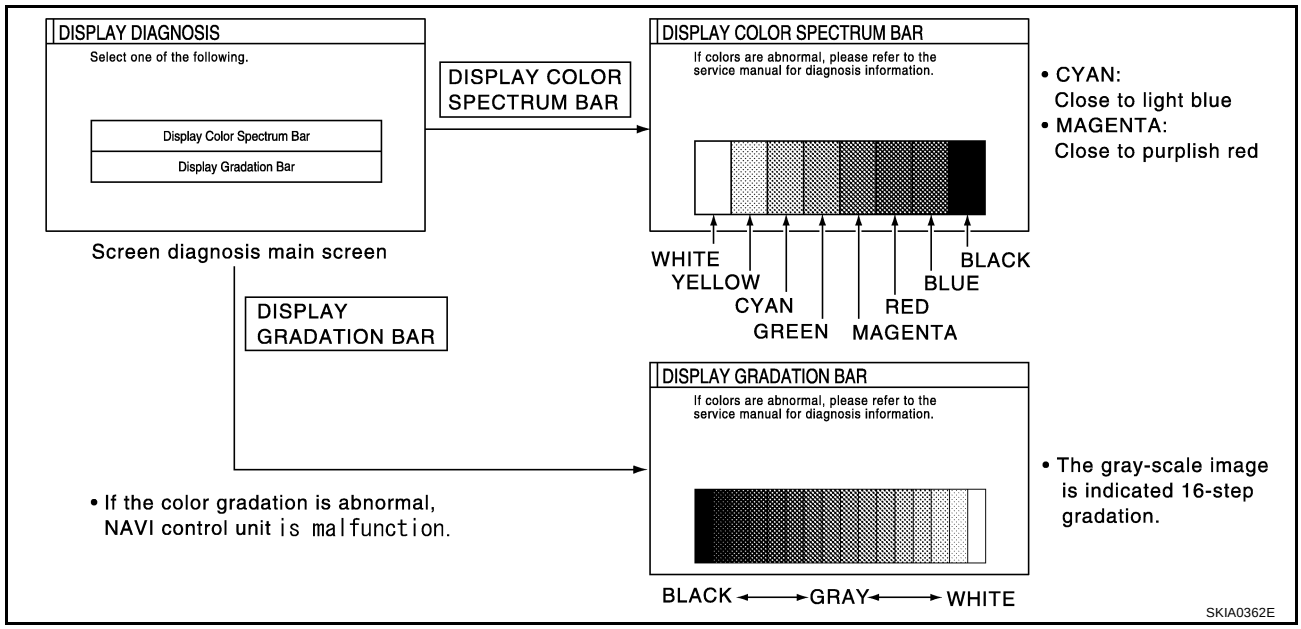
Refer to ATC Automatic Air Conditioner ATC-48, "Self-diagnosis Function" for details.

NAVIGATION

1. The initial trouble diagnosis screen will be shown, and items “Display Diagnosis”, “Vehicle Signals”, “History of Errors” and “Navigation” will become selective.
2. Select each switch on “CONFIRMATION/ADJUSTMENT” screen to display the relevant diagnosis screen.



DISPLAY DIAGNOSIS



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

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

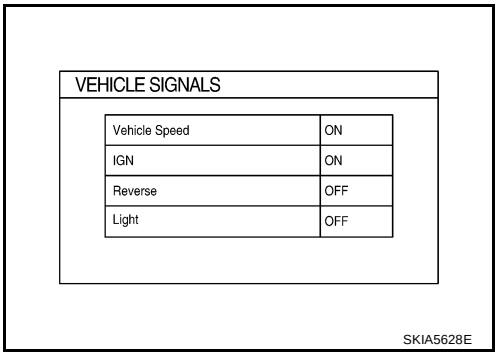
- When the color of the screen looks unusual, refer to AV-192, "Color of RGB Image is Not Proper (Only NAVI Screen)" .

VEHICLE SIGNALS

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

  CAUTION:
  In case of confirming light signal, set D/N mode to ON/OFF of light switch (normal setting).
  - **OFF: D (Day mode)**
  - **ON: N (Night mode)**

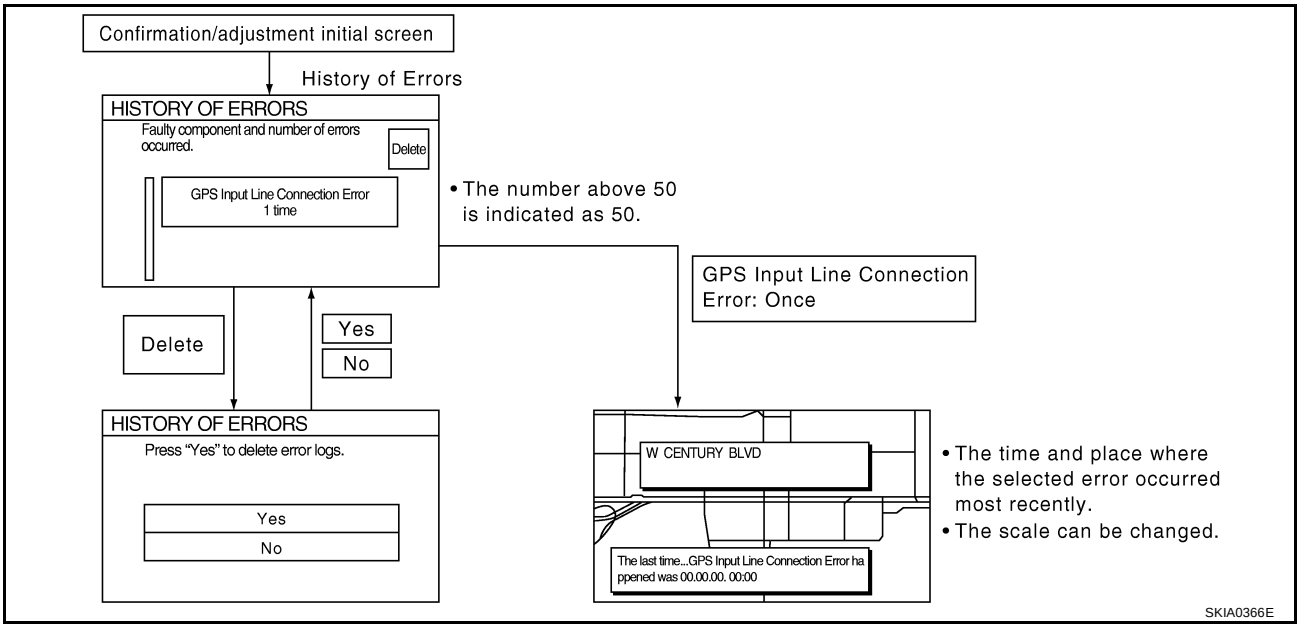
  Unless above setting, light signal (ON/OFF) may not be accurately displayed.



Diagnosis item	Display	Condition	Remarks
Vehicle speed	ON	Vehicle speed > 0 km/h (0 MPH)	Changes in indication may be delayed by approx. 1.5 seconds. This is normal.
	OFF	Vehicle speed = 0 km/h (0 MPH)	
	—	Ignition switch in ACC position	
Light	ON	Lighting switch ON	—
	OFF	Lighting switch OFF	
IGN	ON	Ignition switch ON	—
	OFF	Ignition switch ACC	
Reverse	ON	Selector lever in R position	Changes in indication may be delayed by approx. 1.5 seconds. This is normal.
	OFF	Selector lever in other than R position	
	—	Ignition switch in ACC position	

- If vehicle speed is NG, refer to AV-177, "Vehicle Speed Signal Check for NAVI Control Unit" .
- If light is NG, refer to AV-179, "Illumination Signal Check for NAVI Control Unit" .
- If IGN is NG, refer to AV-180, "Ignition Signal Check for NAVI Control Unit" .
- If reverse is NG, refer to AV-181, "Reverse Signal Check for NAVI Control Unit" .

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 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 max 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.

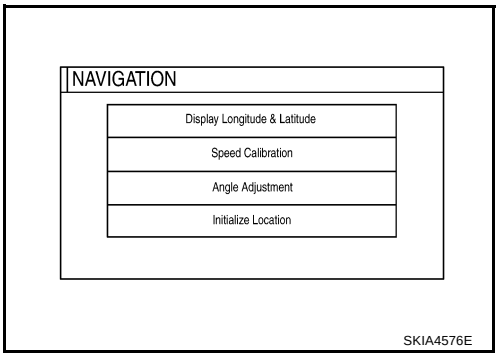
When a reproducible malfunction occurred but its cause cannot be identified because several errors are present, record the item, number and place (longitude/latitude) of error occurrence (or delete the History of Errors), then turn the ignition switch from OFF to ON to reproduce the malfunction. Check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

Error item	Possible causes Action/symptom	Example of symptom
Gyro sensor disconnected	Communications malfunction between NAVI control unit and internal gyro ● Perform self-diagnosis. ● When the NAVI control unit is judged normal by self-diagnosis, the symptom may be intermittent, caused by strong radio interference.	● Navigation location detection performance has deteriorated. (Angular velocity cannot be detected.)
GPS disconnected	Communication error between NAVI control unit and internal GPS substrate ● Perform self-diagnosis. ● When the NAVI control unit is judged normal by self-diagnosis, the symptom may be intermittent, caused by strong radio interference.	● Navigation location detection performance has deteriorated. (Location correction using GPS is not performed.) ● GPS receiving status remains gray.
GPS transmission cable malfunction	Malfunctioning transmission wires to NAVI control unit and internal GPS substrate ● Perform self-diagnosis. ● When the NAVI control unit is judged normal by self-diagnosis, the symptom may be intermittent, caused by strong radio interference.	● During self-diagnosis, GPS diagnosis is not performed.
GPS input line connection error	Malfunctioning receiving wires to NAVI control unit and internal GPS substrate ● Perform self-diagnosis. ● When the NAVI control unit is judged normal by self-diagnosis, the symptom may be intermittent, caused by strong radio interference.	● Navigation location detection performance has deteriorated. (Location correction using GPS is not performed.) ● GPS receiving status remains gray.
GPS TCX0 over GPS TCX0 under	Oscillating frequency of the GPS substrate frequency synchronizing oscillation circuit exceeded (or below) the specification ● Perform self-diagnosis. ● When the NAVI control unit is judged normal by self-diagnosis, the symptom may be intermittent, caused by strong radio interference, or the control unit may have been subjected to excessively high or low temperatures.	● Navigation location detection performance has deteriorated. (Location correction using GPS is not performed.) ● GPS receiving status remains gray.

Error item	Possible causes Action/symptom	Example of symptom
GPS ROM malfunction GPS RAM malfunction	Contents of ROM (or RAM) in GPS substrate are malfunctioning. ● Perform self-diagnosis. ● When the NAVI control unit is judged normal by self-diagnosis, the symptom may be intermittent, caused by strong radio interference.	● Location detection accuracy of the navigation system will deteriorate, depending on the error area in the memory, because GPS cannot make correct positioning. (Location correction using GPS is not performed.)
GPS RTC malfunction	Clock IC in GPS substrate is malfunctioning. ● Perform self-diagnosis. ● When the NAVI control unit is judged normal by self-diagnosis, the symptom may be intermittent, caused by strong radio interference.	● 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″.
GPS antenna disconnected	Malfunctioning connection between GPS substrate in NAVI control unit and GPS antenna. ● Perform self-diagnosis. ● When connection between NAVI control unit and GPS antenna is judged normal by self-diagnosis, the symptom may be intermittent, caused by impact or vibration.	● Navigation location detection performance has deteriorated. (Location correction using GPS is not performed.) ● GPS receiving status remains gray.
Low voltage of GPS	The power voltage supplied to the GPS circuit board has decreased. ● Perform self-diagnosis. ● When connection between NAVI control unit and GPS antenna is judged normal by self-diagnosis, the symptom may be intermittent, caused by impact or vibration.	● Navigation location detection performance has deteriorated. (Location correction using GPS is not performed.) ● GPS receiving status remains gray.
DVD-ROM malfunction DVD-ROM read error DVD-ROM response Error	Malfunctioning NAVI control unit	—
	Dedicated map DVD-ROM is in the system, but the data cannot be read. ● Is map DVD-ROM damaged, warped, or dirty? – If damaged or warped, the map DVD-ROM is malfunctioning. – If dirty, wipe the DVD-ROM clean with a soft cloth. ● Perform self-diagnosis. ● When NAVI control unit is judged normal by self-diagnosis, the symptom is judged intermittent, caused by vibration.	● 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.

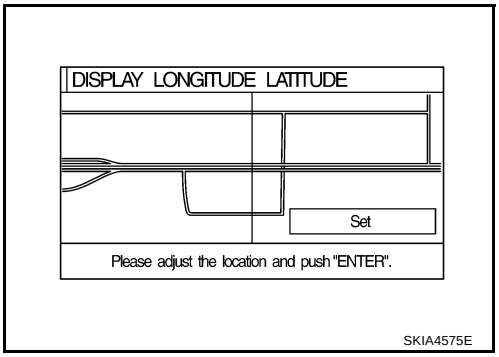
NAVIGATION

1. The initial trouble diagnosis screen will be shown, and items “Display Longitude & Latitude”, “Speed Calibration”, “Angle Adjustment” and “Initialize Location” will become selective.
2. Select each switch on “NAVIGATION” screen to display the relevant diagnosis screen.



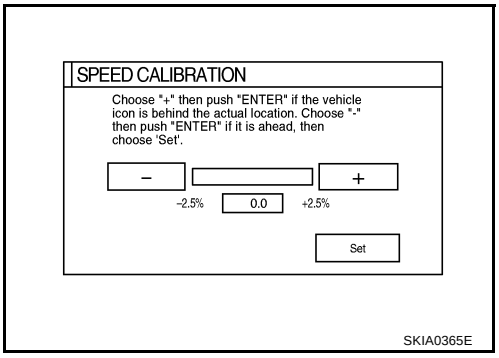
Display Longitude & Latitude

Able to confirm/adjust longitude and latitude.



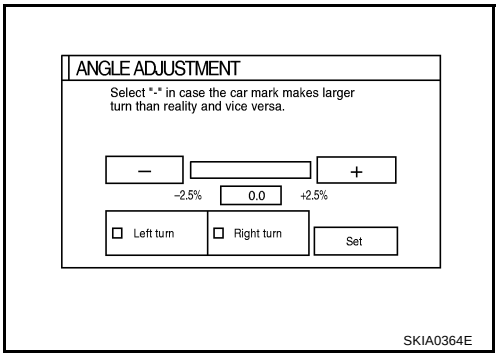
Speed Calibration

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.



Angle Adjustment

Adjusts turning angle output detected by the gyroscope.



Initialize Location

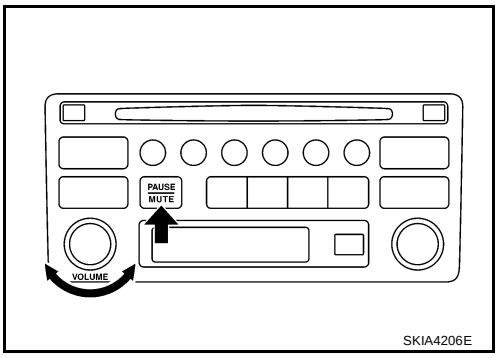
This mode is for initializing the current location.

CAN DIAG SUPPORT MONITOR

AKS005R6

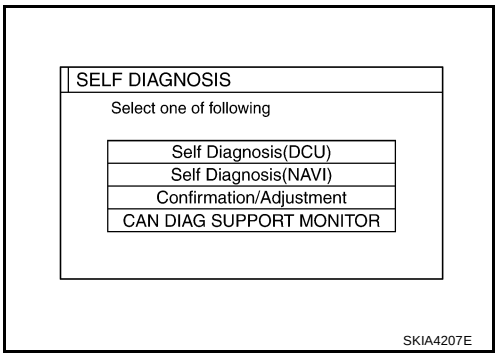
OPERATION PROCEDURE

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



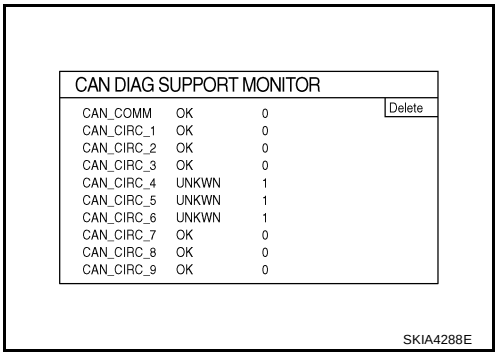
SKIA4206E

4. The initial trouble diagnosis screen will be shown, and items “Self-Diagnosis (DCU)”, “Self-Diagnosis (NAVI)”, “Confirmation/ Adjustment” and “CAN DIAG SUPPORT MONITOR” will become selective.
5. Select “CAN DIAG SUPPORT MONITOR”.



SKIA4207E

6. Display status of CAN communication.



SKIA4288E

Item	Content	Error counter (Reference value)
CANCOMM	OK/NG	0-50
CAN_CIRC_1	OK/UNKWN	0-50
CAN_CIRC_2	OK/UNKWN	0-50
CAN_CIRC_3	OK/UNKWN	0-50
CAN_CIRC_4	OK/UNKWN	0-50
CAN_CIRC_5	OK/UNKWN	0-50
CAN_CIRC_6	OK/UNKWN	0-50
CAN_CIRC_7	OK/UNKWN	0-50
CAN_CIRC_8	OK/UNKWN	0-50
CAN_CIRC_9	OK/UNKWN	0-50

NOTE:
Counter shows the status of CAN communication.

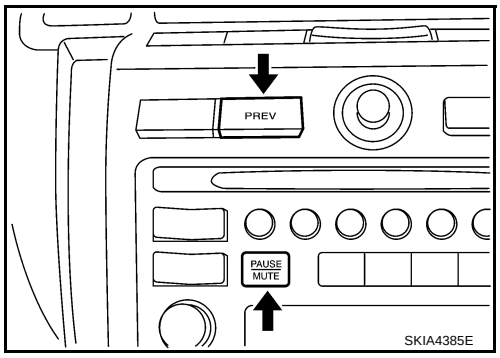
A/C and AV Switch Self-Diagnosis Function

AKS005R7

It can check ON/OFF operation of each switch in the A/C and AV Switch and diagnose the input signals to the audio steering wheel switch.

STARTING THE SELF-DIAGNOSIS MODE

1. Turn ignition switch from OFF to ACC.
2. Within 10 seconds press and hold the witches “PAUSE/MUTE” and “PREV” simultaneously for 3 seconds.



DIAGNOSIS FUNCTION

The following are checked:

- All the indicators (LED) in the A/C and AV switch.
- Continuity of the switches by sounding the buzzer when the A/C and AV switch is pressed.
- Continuity of harness between A/C and AV switch and audio steering wheel switch.

NOTE:

- Indicators (LED) of REC/FRE switch change to “FRE”→“REC”→“FRE” every time the REC/FRE switch is pressed. (These two do not turn on at a time.)
- Impossible to check rear window defogger switch operation (No beep sound even under normal status).

EXITING THE SELF-DIAGNOSIS MODE

- Turn ignition switch OFF.

CONSULT-II Functions (REAR VIEW CAMERA)

AKS00CGT

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

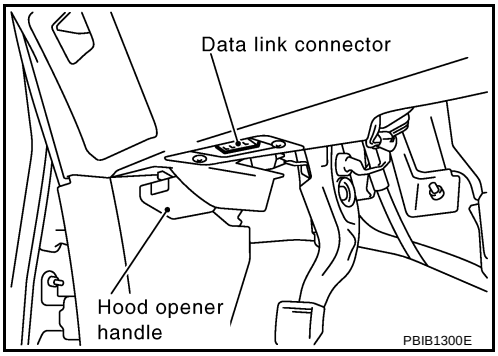
Diagnosis part	Check Item, Diagnosis Mode	Description
REAR VIEW CAMERA	WORK SUPPORT	It can adjust the vehicle width and distance guiding lines that overlap camera image.
	DATA MONITOR	Displays input data for rear view camera control unit in real-time.
	ECU PART NUMBER	Displays rear view camera control unit part number.

CONSULT-II BASIC OPERATION PROCEDURE

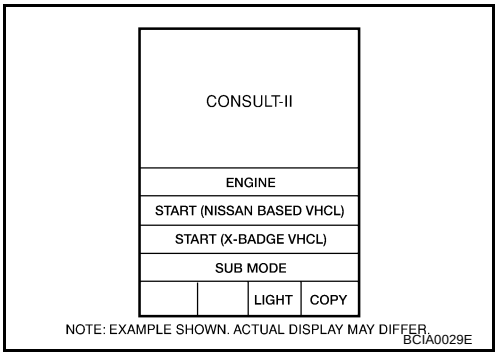
CAUTION:

If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which carries out CAN communication.

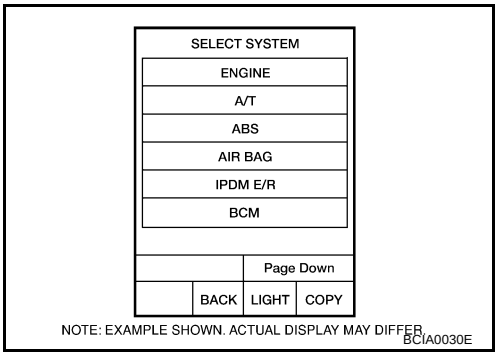
1. With the ignition switch OFF, connect “CONSULT-II” and “CONSULT-II CONVERTER” to the data link connector, and then turn the ignition switch ON.



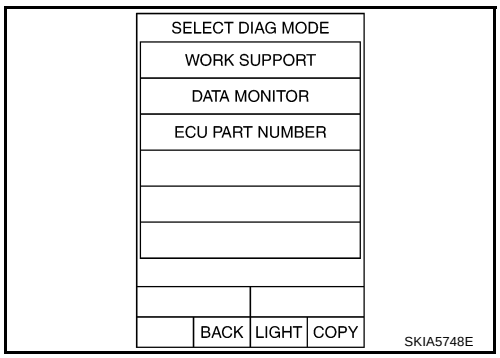
2. Touch “START (NISSAN BASED VHCL)”.



3. Touch “REARVIEW CAMERA”. If it is not indicated, check the following items.
   - Rear view camera control unit power supply and ground circuit. Refer to AV-176, "Power Supply and Ground Circuit Check for Rear View Camera Control Unit" .
   - CONSULT-II data link connector (DLC) circuit. Refer to GI-37, "CONSULT-II CHECKING SYSTEM" .



4. Touch any of “WORK SUPPORT”, “DATA MONITOR”, and “ECU PART NUMBER” on “SELECT DIAG MODE” screen.



WORK SUPPORT

Operation Procedure

1. Touch “WORK SUPPORT” on “SELECT DIAG MODE” screen.
2. Touch “SELECT GUIDELINE PATTERN” or “ADJ GUIDELINE POSITION” on “SELECT WORK ITEM” screen.

Item	Description
SELECT GUIDELINE PATTERN	The opening of the vehicle width and distance guiding lines can be selected from 2 patterns.
ADJ GUIDELINE POSITION	Make fine adjustment to the vehicle width and distance guiding lines upper/lower/left/right

For details, refer to AV-169, "Vehicle Width and Distance Guiding Line Correction" .

DATA MONITOR

Operation Procedure

1. Touch “DATA MONITOR” on “SELECT DIAG MODE” screen.
2. Touch either “ALL SIGNALS” or “SELECTION FROM MENU” on “SELECT MONITOR ITEM” screen.

Item	Description
ALL SIGNALS	Monitors all the signal.
SELECTION FROM MENU	Selects and monitors individual items.

3. When “SELECTION FROM MENU” is selected, touch individual items to be monitored. When “ALL SIGNALS” is selected, all the items will be monitored.
4. Touch “START”.
5. Touch “RECORD” while monitoring, then the status of the monitored item can be recorded. To stop recording, touch “STOP”.

Display Item List

Item	Description
R POSI SIG [ON/OFF]	“ON (Selector lever R position)/OFF (other than R position)” status as judged from the reverse signal is displayed.

When R position of the selector lever is not correctly displayed, refer to AV-182, "Reverse Signal Check for Rear View Camera Control Unit" , and then repair the malfunctioning parts by diagnostic results.

Vehicle Width and Distance Guiding Line Correction

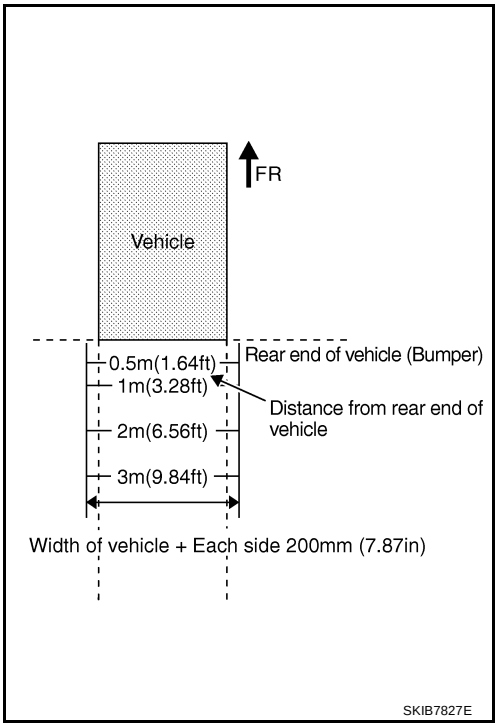
AKS00CGU

DESCRIPTION

CONSULT-II is used to modify the guiding lines of the width of vehicle and the distance from rear end of vehicle on the back view monitor when these lines are different from the image of rear view monitor, because of condition variations of body assembly and camera installation.

VEHICLE WIDTH AND DISTANCE GUIDING LINE CORRECTION PROCEDURE

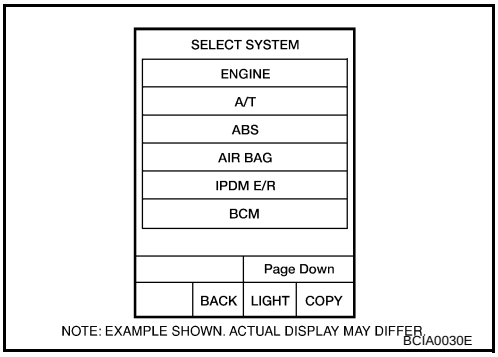
1. Create a correction line to modify the guiding lines inside monitors. Draw lines on the rearward area of the vehicle passing through the following points: 200 mm from both sides of the vehicle, and 0.5 m (1.64 ft), 1 m (3.28 ft), 2 m (6.56 ft), and 3 m (9.84 ft) from the rear end of the bumper.



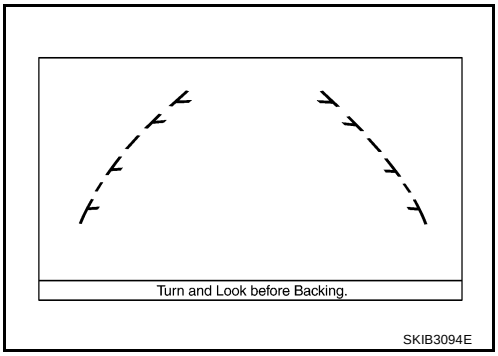
2. Connect CONSULT-II and CONSULT-II CONVERTER, and then touch “REARVIEW CAMERA” on “SELECT SYSTEM” screen.

CAUTION:

Correct the guiding line with the engine stopped for safety.

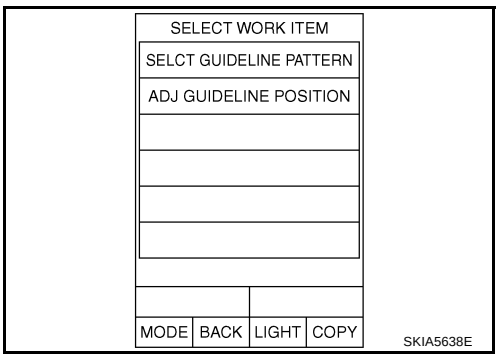


3. Shift selector lever to R position.



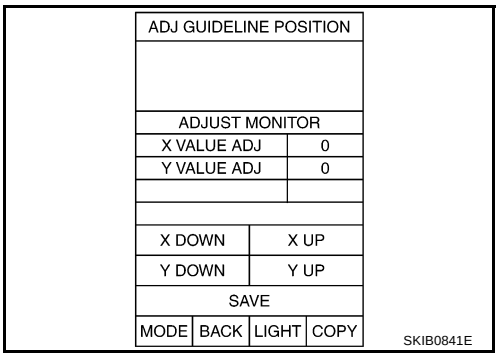
4. Touch “ADJ GUIDELINE POSITION” on “SELECT WORK ITEM” screen.

   NOTE:
   When starting “ADJ GUIDELINE POSITION” mode, vehicle width guiding lines may move horizontally. It is normal.



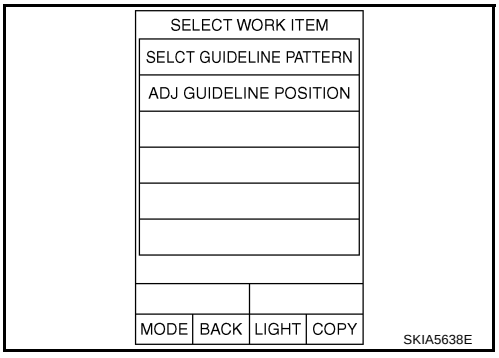
5. Touch “X UP”, “X DOWN”, “Y UP”, and “Y DOWN” so as to align with a correction line created, and then adjust the guiding lines.

Adjustment direction	ADJUST MONITOR	
LEFT/RIGHT	X VALUE ADJ	–8 - 8
UP/DOWN	Y VALUE ADJ	–8 - 8



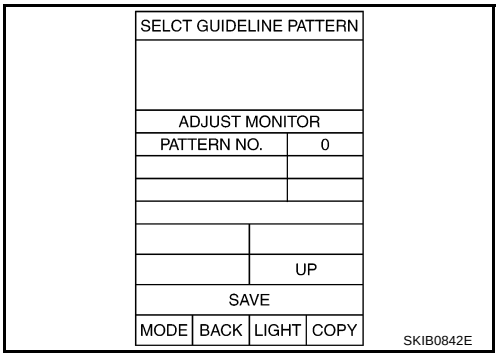
6. If the guiding lines align with the correction lines, touch “SAVE” so as to fix the lines, and then end the correction by touching “END”. GO TO 7 if the guiding lines do not align with the correction lines.

7. Touch “SELECT GUIDELINE PATTERN” on SELECT WORK ITEM screen.



8. Change the pattern of the guiding lines by touching “UP” or “DOWN”. [Select from among 2 patterns (“PATTERN NO. 0 or 1”) of the guiding lines.]
9. Fix the pattern of the guiding lines by touching “SAVE”.
10. End the correction by touching “END”.

    NOTE:
    If the setting value is changed on “SELECT GUIDELINE PATTERN” and “ADJ GUIDELINE POSITION”, the change is not reflected at the next starting if “SAVE” is not touched.



Power Supply and Ground Circuit Check for NAVI Control Unit

AKS004RH

1. CHECK FUSE

Make sure that the following fuses of NAVI control unit are not blown.

Unit	Signal	Fuse No.
NAVI control unit	Battery power supply	38
	ACC power supply	6

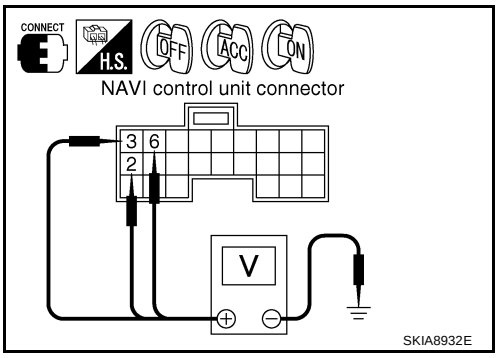
OK or NG

OK >> GO TO 2.
NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to PG-3, "POWER SUPPLY ROUTING CIRCUIT" .

2. CHECK POWER SUPPLY CIRCUIT

Check voltage between NAVI control unit harness connector terminals and ground.

Terminals (+) Connector	Terminals (+) Terminal (Wire color)	Terminals (–)	OFF	ACC	ON
M62	2 (Y), 3 (Y)	Ground	Battery voltage	Battery voltage	Battery voltage
	6 (P/B)		0 V	Battery voltage	Battery voltage



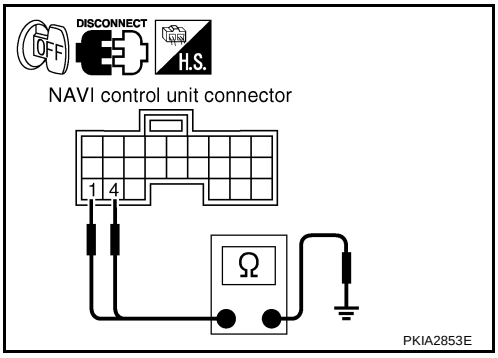
OK or NG

OK >> GO TO 3.
NG >> Repair harness or connector.

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect NAVI control unit connector.
3. Check continuity between NAVI control unit harness connector M62 terminals 1 (B), 4 (B) and ground.

1, 4 – Ground : Continuity should exist.



OK or NG

OK >> INSPECTION END
NG >> Repair harness or connector.

Power Supply and Ground Circuit Check for Display Control Unit

AKS005G3

1. CHECK FUSE

Make sure that the following fuses of display control unit are not blown.

Unit	Signal	Fuse No.
Display control unit	Battery power supply	38
	ACC power supply	6

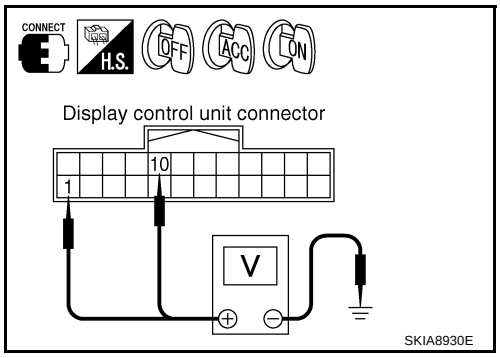
OK or NG

OK >> GO TO 2.
NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to PG-3, "POWER SUPPLY ROUTING CIRCUIT" .

2. CHECK POWER SUPPLY CIRCUIT

Check voltage between display control unit harness connector terminals and ground.

Terminals			OFF	ACC	ON
(+)		(–)			
Connector	Terminal (Wire color)				
M42	1 (Y)	Ground	Battery voltage	Battery voltage	Battery voltage
	10 (P/B)		0 V	Battery voltage	Battery voltage



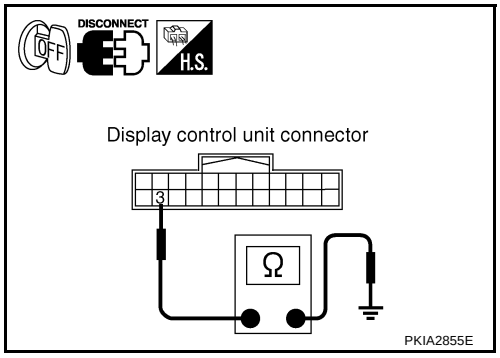
OK or NG

OK >> GO TO 3.
NG >> Repair harness or connector.

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display control unit connector.
3. Check continuity between display control unit harness connector M42 terminal 3 (B) and ground.

3 – Ground : Continuity should exist.



OK or NG

OK >> INSPECTION END
NG >> Repair harness or connector.

Power Supply and Ground Circuit Check for Display

AKS005G4

1. CHECK DISPLAY CONTROL UNIT POWER SUPPLY AND GROUND CIRCUIT

Check display control unit power supply and ground circuit. Refer to AV-172, "Power Supply and Ground Circuit Check for Display Control Unit" .

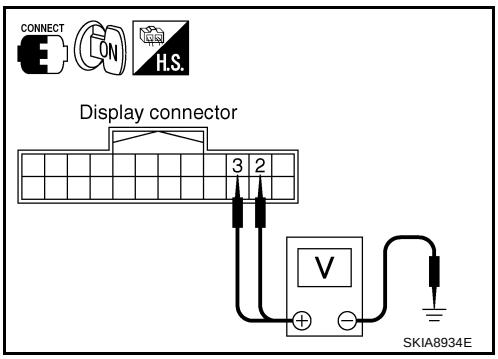
OK or NG

OK >> GO TO 2.
NG >> Repair malfunctioning parts.

2. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch ON.
2. Check voltage between display harness connector M38 terminals 2 (L/W), 3 (L/Y) and ground.

2, 3 – Ground : Approx. 9 V



OK or NG

OK >> GO TO 4.
NG >> GO TO 3.

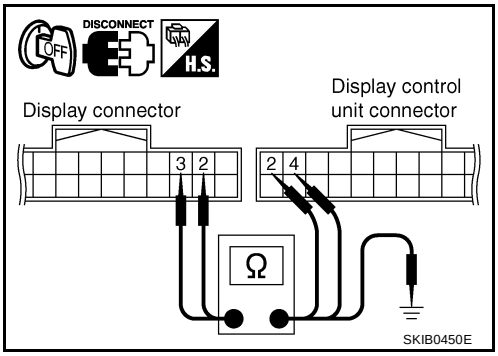
3. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect display and display control unit connectors.
3. Check continuity between display harness connector M38 terminals 2(L/W), 3(L/Y) and display control unit harness connector M42 terminals 2 (L/W), 4 (L/Y).

2 – 2 : Continuity should exist.
3 – 4 : Continuity should exist.

4. Check continuity between display harness connector M38 terminals 2 (L/W), 3 (L/Y) and ground.

2, 3 – Ground : Continuity should not exist.



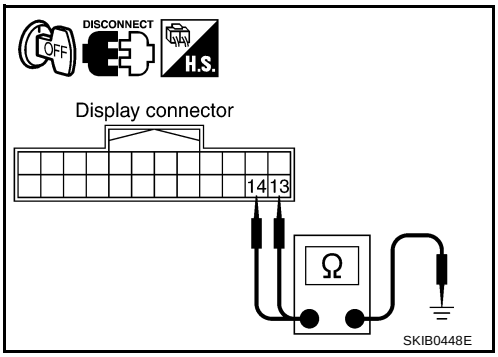
OK or NG

OK >> Replace display control unit.
NG >> Repair harness or connector.

4. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display connector.
3. Check continuity between display harness connector M38 terminals 13 (P), 14 (P/L) and ground.

13, 14 – Ground : Continuity should exist.



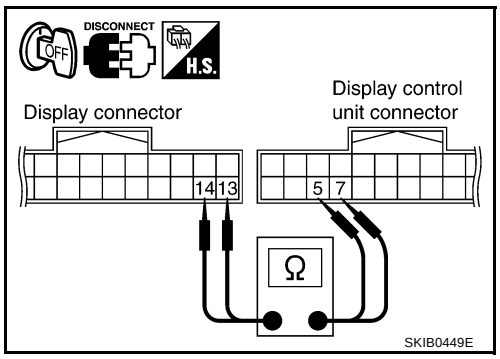
OK or NG

OK >> GO TO 6.
NG >> GO TO 5.

5. CHECK HARNESS

1. Disconnect display control unit connector.
2. Check continuity between display harness connector M38 terminals 13 (P), 14 (P/L) and display control unit harness connector M42 terminals 5 (P), 7(P/L).

13 – 5 : Continuity should exist.
14 – 7 : Continuity should exist.



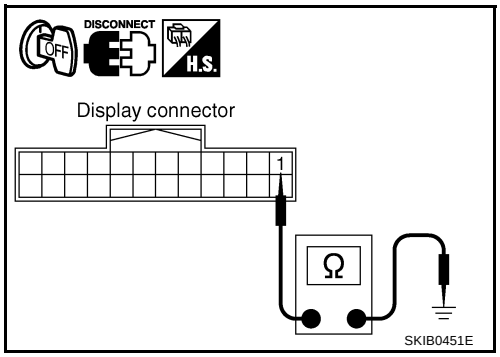
OK or NG

OK >> Replace display control unit.
NG >> Repair harness or connector.

6. CHECK GROUND CIRCUIT

Check continuity between display harness connector M38 terminal 1 (B) and ground.

1 – Ground : Continuity should exist.



OK or NG

OK >> INSPECTION END
NG >> Repair harness or connector.

Power Supply and Ground Circuit Check for A/C and AV Switch

AKS005LU

1. CHECK FUSE

Make sure that the following fuses of A/C and AV switch are not blown.

Unit	Signal	Fuse No.
A/C and AV switch	Battery power supply	38
	ACC power supply	6

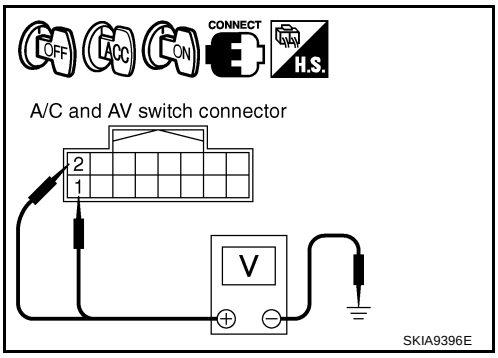
OK or NG

OK >> GO TO 2.
NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to PG-3, "POWER SUPPLY ROUTING CIRCUIT" .

2. CHECK POWER SUPPLY CIRCUIT

Check voltage between A/C and AV switch harness connector terminals and ground.

Terminals			OFF	ACC	ON
(+)		(–)			
Connector	Terminal (Wire color)				
M48	1 (Y)	Ground	Battery voltage	Battery voltage	Battery voltage
	2 (P/B)		0 V	Battery voltage	Battery voltage



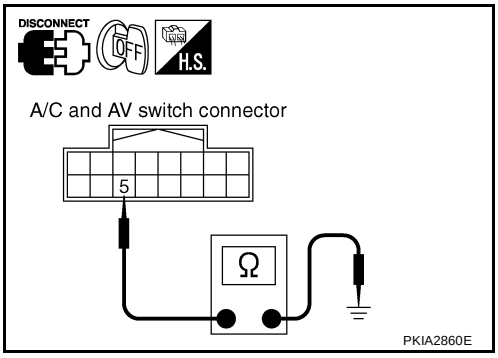
OK or NG

OK >> GO TO 3.
NG >> Repair harness or connector.

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect A/C and AV switch connector.
3. Check continuity between A/C and AV switch harness connector M48 terminal 5 (B) and ground.

5 – Ground : Continuity should exist.



OK or NG

OK >> INSPECTION END
NG >> Repair harness or connector.

Power Supply and Ground Circuit Check for Rear View Camera Control Unit

AKS00CGV

1. CHECK FUSE

Make sure that the following fuses of rear view camera control unit are not blown.

Unit	Signal	Fuse No.
Rear view camera control unit	Battery power supply	38
	ACC power supply	6

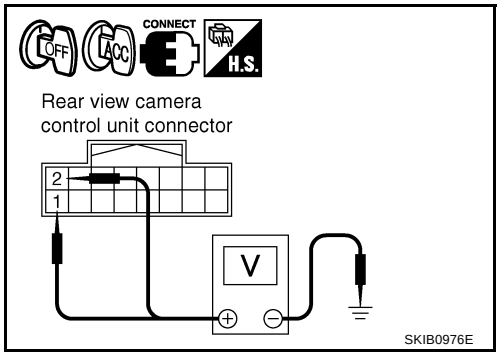
OK or NG

OK >> GO TO 2.
NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to PG-3, "POWER SUPPLY ROUTING CIRCUIT" .

2. CHECK POWER SUPPLY CIRCUIT

Check voltage between rear view camera control unit harness connector terminals and ground.

Terminals			OFF	ACC
(+)		(–)		
Connector	Terminal No. (Wire color)			
B37	1 (Y)	Ground	Battery voltage	Battery voltage
	2 (P/B)		0 V	Battery voltage



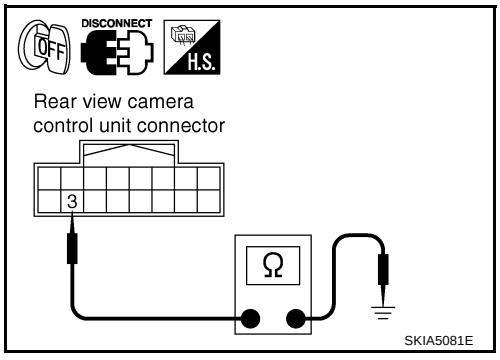
OK or NG

OK >> GO TO 3.
NG >> Repair harness or connector.

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect rear view camera control unit connector.
3. Check continuity between rear view camera control unit harness connector B37 terminal 3 (B) and ground.

3 – Ground : Continuity should exist.



OK or NG

OK >> INSPECTION END
NG >> Repair harness or connector.

Vehicle Speed Signal Check for NAVI Control Unit

AKS004RI

1. CHECK SPEEDOMETER FUNCTION

Does speedometer is operated normally?

YES or NO

YES >> GO TO 2.
NO >> Check combination meter trouble diagnosis. Refer to DI-19, "Vehicle Speed Signal Inspection" .

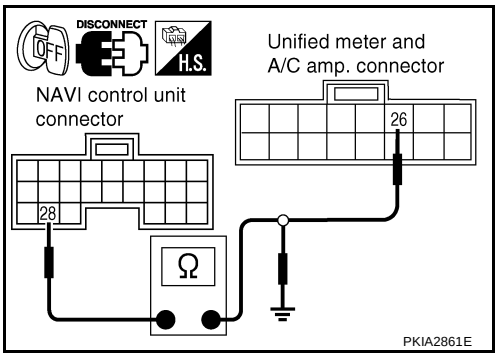
2. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect NAVI control unit, unified meter and A/C amp., combination meter, display control unit, audio unit and shift lock control unit connectors.
3. Check continuity between NAVI control unit harness connector M63 terminal 28 (V/W) and unified meter and A/C amp. harness connector M50 terminal 26 (V/W).

28 – 26 : Continuity should exist.

4. Check continuity between NAVI control unit harness connector M63 terminal 28 (V/W) and ground.

28 – Ground : Continuity should not exist.



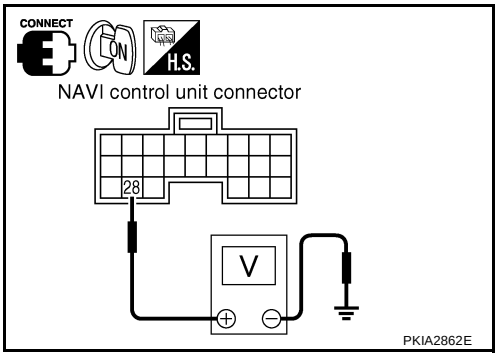
OK or NG

OK >> GO TO 3.
NG >> Repair harness or connector.

3. CHECK NAVI CONTROL UNIT

1. Connect NAVI control unit connector.
2. Turn ignition switch ON.
3. Check voltage between NAVI control unit harness connector M63 terminal 28 (V/W) and ground.

28 – Ground : Approx. 5 V

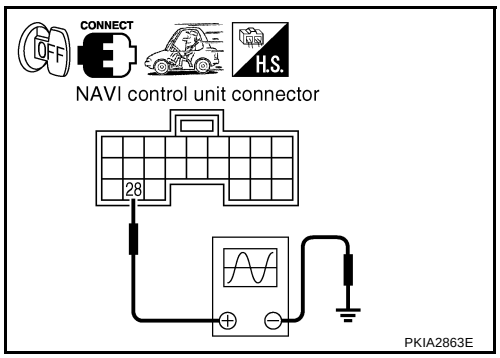


OK or NG

OK >> GO TO 4.
NG >> Replace NAVI control unit.

4. CHECK VEHICLE SPEED SIGNAL

1. Turn ignition switch OFF.
2. Connect unified meter and A/C amp., combination meter, display control unit, audio unit and shift lock control unit connectors.
3. Drive vehicle at a constant speed.
4. Check voltage waveform between NAVI control unit harness connector M63 terminal 28 (V/W) and ground with CONSULT-II or oscilloscope.



28 – Ground	**: Refer to AV-139, "Terminals and Reference Value for NAVI Control Unit" .**

OK or NG

OK >> INSPECTION END

NG >> Replace unified meter and A/C amp. Refer to DI-37, "Removal and Installation of Unified Meter and A/C Amp." .

Vehicle Speed Signal Check for Display Control Unit

AKS005G5

1. CHECK SPEEDOMETER FUNCTION

Does speedometer is operated normally?

YES or NO

YES >> GO TO 2.

NO >> Check combination meter trouble diagnosis. Refer to DI-19, "Vehicle Speed Signal Inspection" .

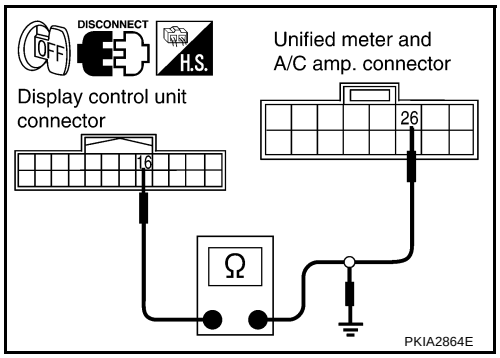
2. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect display control unit, unified meter and A/C amp., NAVI control unit, combination meter, audio unit and shift lock control unit connectors.
3. Check continuity between display control unit harness connector M42 terminal 16 (V/W) and unified meter and A/C amp. harness connector M50 terminal 26 (V/W).

16 – 26	**: Continuity should exist.**

4. Check continuity between display control unit harness connector M42 terminal 16 (V/W) and ground.

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



OK or NG

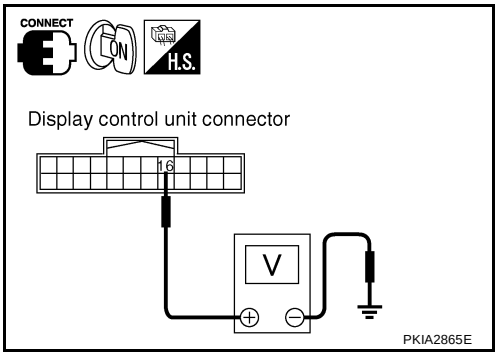
OK >> GO TO 3.

NG >> Repair harness or connector.

3. CHECK DISPLAY CONTROL UNIT

1. Connect display control unit connector.
2. Turn ignition switch ON.
3. Check voltage between display control unit harness connector M42 terminal 16 (V/W) and ground.

16 – Ground : Approx. 5 V



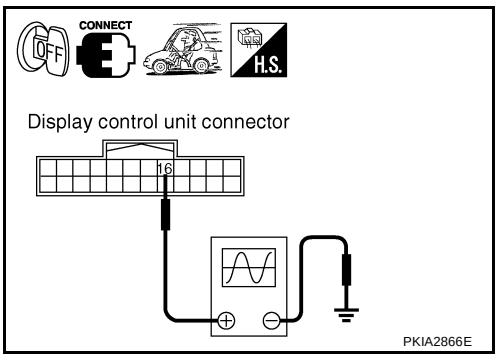
OK or NG

OK >> GO TO 4.
NG >> Replace display control unit.

4. CHECK VEHICLE SPEED SIGNAL

1. Turn ignition switch OFF.
2. Connect unified meter and A/C amp., NAVI control unit, combination meter, audio unit and shift lock control unit connectors.
3. Drive vehicle at a constant speed.
4. Check voltage waveform between display control unit harness connector M42 terminal 16 (V/W) and ground with CONSULT-II or oscilloscope.

16 – Ground : Refer to AV-141, "Terminals and Reference Value for Display Control Unit" .



OK or NG

OK >> INSPECTION END
NG >> Replace unified meter and A/C amp. Refer to DI-37, "Removal and Installation of Unified Meter and A/C Amp." .

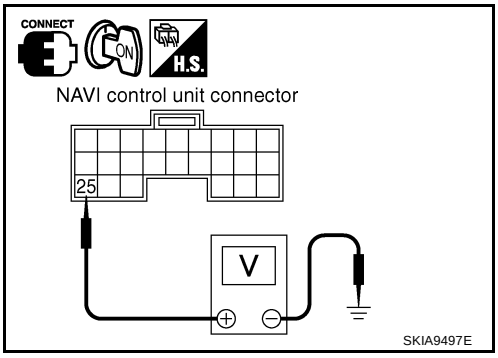
Illumination Signal Check for NAVI Control Unit

AKS004RJ

1. CHECK ILLUMINATION SIGNAL

Check voltage between NAVI control unit harness connector terminals and ground.

Terminals			Lighting switch position	
(+)		(–)		
Connector	Terminal (Wire color)		ON	OFF
M63	25 (R/L)	Ground	Approx. 12 V	Approx. 0 V



OK or NG

OK >> INSPECTION END
NG >> Repair harness or connector.

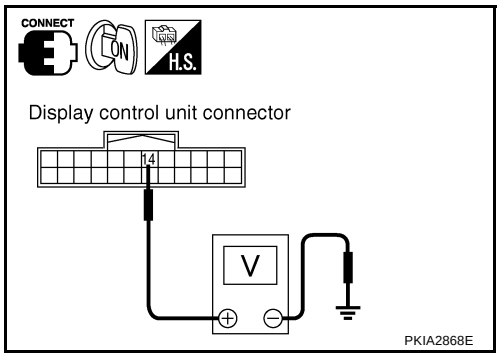
Illumination Signal Check for Display Control Unit

AKS005G6

1. CHECK ILLUMINATION SIGNAL

Check voltage between display control unit harness connector terminals and ground.

Terminals			Lighting switch position	
(+)		(–)		
Connector	Terminal (Wire color)		ON	OFF
M42	14 (R/L)	Ground	Approx. 12 V	Approx. 0 V



OK or NG

OK >> INSPECTION END
NG >> Repair harness or connector.

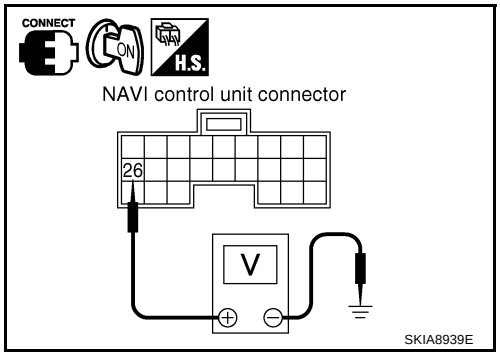
Ignition Signal Check for NAVI Control Unit

AKS004RK

1. CHECK IGNITION SIGNAL

1. Turn ignition switch ON.
2. Check voltage between NAVI control unit harness connector M63 terminal 26 (G) and ground.

26 – Ground : Battery voltage



OK or NG

OK >> INSPECTION END
NG >> Repair harness or connector.

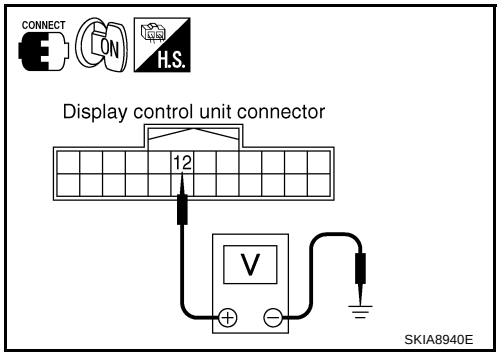
Ignition Signal Check for Display Control Unit

AKS005G7

1. CHECK IGNITION SIGNAL

1. Turn ignition switch ON.
2. Check voltage between display control unit harness connector M42 terminal 12 (G) and ground.

12 – Ground : Battery voltage



OK or NG

OK >> INSPECTION END
NG >> Repair harness or connector.

Reverse Signal Check for NAVI Control Unit

AKS005G8

1. CHECK REVERSE LAMP

1. Turn ignition switch ON.
2. Selector lever into R-position. Does “R” in the shift position indicator come on?

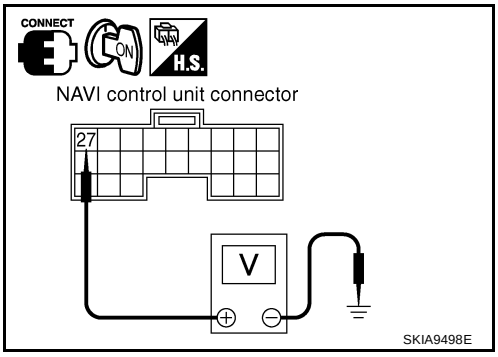
YES or NO

YES >> GO TO 2.
NO >> Check back-up lamp system. Refer to LT-151, "BACK-UP LAMP" .

2. CHECK REVERSE SIGNAL

Check voltage between NAVI control unit harness connector terminal and ground.

Terminals			Selector lever position	
(+)		(–)		
Connector	Terminal (Wire color)		R-position	Except R-position
M63	27 (G/W)	Ground	Approx. 12 V	Approx. 0 V



OK or NG

OK >> INSPECTION END
NG >> Repair harness or connector.

Reverse Signal Check for Display Control Unit

AKS004RL

1. CHECK REVERSE LAMP

1. Turn ignition switch ON.
2. Selector lever into R-position. Does “R” in the shift position indicator come on?

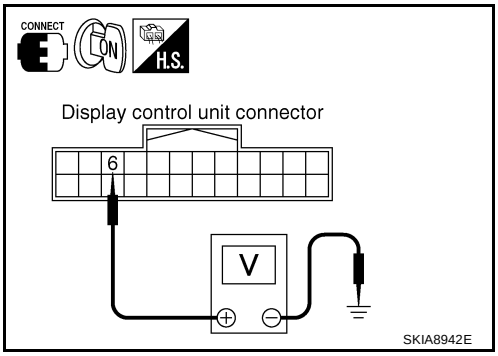
YES or NO

YES >> GO TO 2.
NO >> Check back-up lamp system. Refer to LT-151, "BACK-UP LAMP" .

2. CHECK REVERSE SIGNAL

Check voltage between display control unit harness connector terminal and ground.

Terminals			Selector lever position	
(+)		(–)		
Connector	Terminal (Wire color)		R-position	Except R-position
M42	6 (G/W)	Ground	Approx. 12 V	Approx. 0 V



OK or NG

OK >> INSPECTION END
NG >> Repair harness or connector.

Reverse Signal Check for Rear View Camera Control Unit

AKS00CGW

1. CHECK REVERSE LAMP

1. Turn ignition switch ON.
2. Selector lever into R-position. Does “R” in the shift position indicator come on?

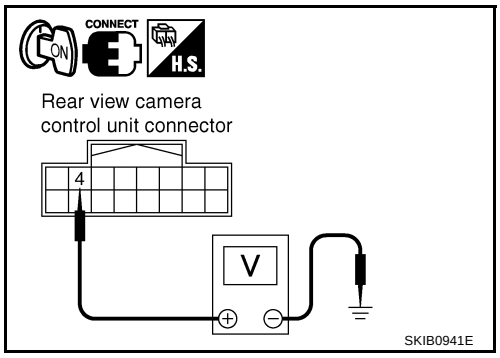
Does R position of shift position indicator turn on?

YES >> GO TO 2.
NO >> Check back-up lamp system. Refer to LT-151, "BACK-UP LAMP" .

2. CHECK REVERSE SIGNAL

Check voltage between rear view camera control unit harness connector terminal and ground.

Terminals			Selector lever position	
(+)		(–)		
Connector	Terminal (Wire color)		R-position	Except R-position
B37	4 (G/W)	Ground	Approx. 12 V	Approx. 0 V



OK or NG

OK >> INSPECTION END
NG >> Repair harness or connector.

When Malfunctioning Connection Between Display Control Unit and NAVI Control Unit

AKS005R8

1. CHECK NAVI CONTROL UNIT POWER SUPPLY AND GROUND CIRCUIT

Check NAVI control unit power supply and ground circuit. Refer to AV-171, "Power Supply and Ground Circuit Check for NAVI Control Unit" .

OK or NG

OK >> GO TO 2.
NG >> Repair malfunctioning parts.

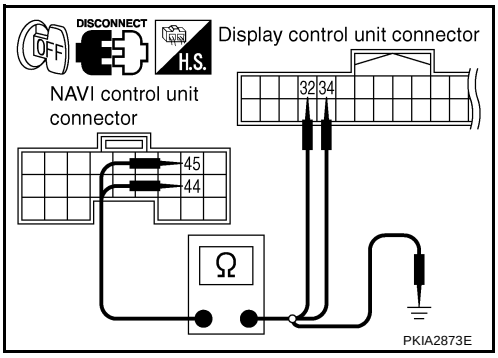
2. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect NAVI control unit and display control unit connectors.
3. Check continuity between NAVI control unit harness connector M63 terminals 44 (O), 45 (B/P) and display control unit harness connector M43 terminals 32 (O), 34 (B/P).

   44 – 32 : Continuity should exist.
   45 – 34 : Continuity should exist.

4. Check continuity between NAVI control unit harness connector M63 terminals 44 (O), 45 (B/P) and ground.

   44, 45 – Ground : Continuity should not exist.



OK or NG

OK >> GO TO 3.
NG >> Repair harness or connector.

3. SELF-DIAGNOSIS OF DCU

1. Replace NAVI control unit.
2. Connect NAVI control unit and display control unit connectors.
3. Turn ignition switch ON.
4. Start self-diagnosis of DCU, and check the self-diagnosis result.

OK or NG

OK >> INSPECTION END
NG >> Replace display control unit.

When Malfunctioning Connection Between Display Control Unit and Audio Unit

AKS005R9

1. CHECK AUDIO UNIT POWER SUPPLY CIRCUIT

Check audio unit power supply circuit. Refer to AV-48, "Power Supply Circuit Inspection" .

OK or NG

OK >> GO TO 2.
NG >> Repair malfunctioning parts.

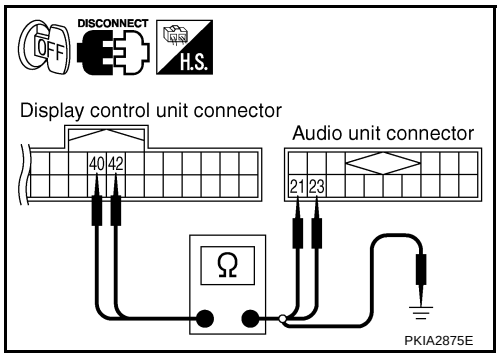
2. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect audio unit and display control unit connectors.
3. Check continuity between display control unit harness connector M43 terminals 40 (R/G), 42 (R/Y) and audio unit harness connector M46 terminals 23 (R/G), 21 (R/Y).

40 – 23 : Continuity should exist.
42 – 21 : Continuity should exist.

4. Check continuity between display control unit harness connector M43 terminals 40 (R/G), 42 (R/Y) and ground.

40, 42 – Ground : Continuity should not exist.



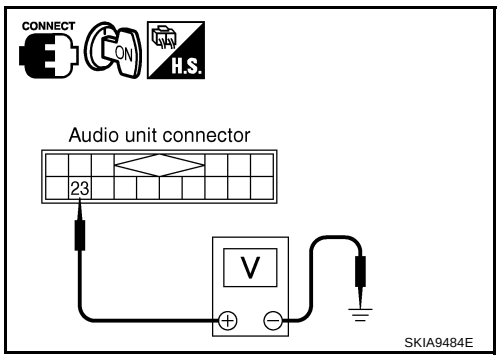
OK or NG

OK >> GO TO 3.
NG >> Repair harness or connector.

3. CHECK AUDIO UNIT

1. Connect audio unit connector.
2. Turn ignition switch ON.
3. Check voltage between audio unit harness connector M46 terminal 23 (R/G) and ground.

23 – Ground : Approx. 4 V



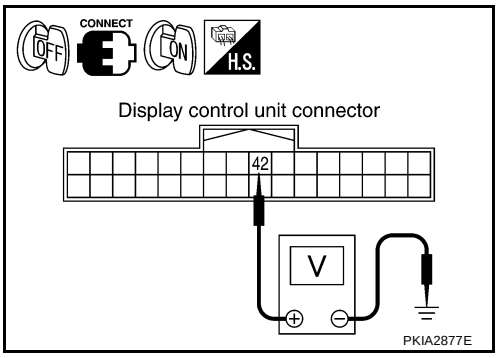
OK or NG

OK >> GO TO 4.
NG >> Replace audio unit.

4. CHECK DISPLAY CONTROL UNIT

1. Turn ignition switch OFF.
2. Disconnect audio unit connector, and connect display control unit connector.
3. Turn ignition switch ON.
4. Check voltage between display control unit harness connector M43 terminal 42 (R/Y) and ground.

42 – Ground : Approx. 4 V



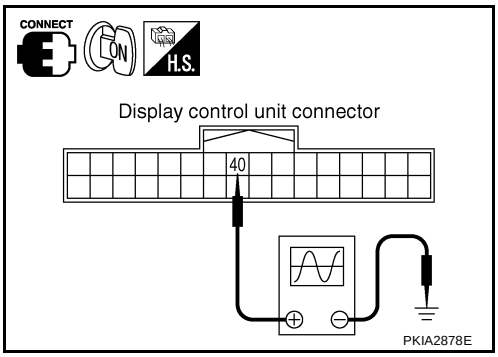
OK or NG

OK >> GO TO 5.
NG >> Replace display control unit.

5. CHECK AUDIO TX COMMUNICATION SIGNAL

1. Turn ignition switch OFF.
2. Connect audio unit connector.
3. Turn ignition switch ON.
4. Check voltage waveform between display control unit harness connector M43 terminal 40 (R/G) and ground with CONSULT-II or oscilloscope.

40 – Ground : Refer to AV-141, "Terminals and Reference Value for Display Control Unit" .



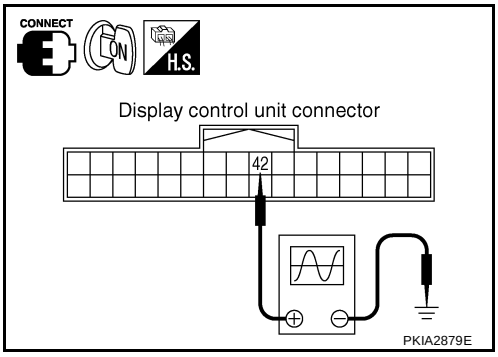
OK or NG

OK >> GO TO 6.
NG >> Replace display control unit.

6. CHECK AUDIO RX COMMUNICATION SIGNAL

Check voltage waveform between display control unit harness connector M43 terminal 42 (R/Y) and ground with CONSULT-II or oscilloscope.

42 – Ground : Refer to AV-141, "Terminals and Reference Value for Display Control Unit" .



OK or NG

OK >> Replace display control unit.
NG >> Replace audio unit.

When Malfunctioning Connection Between Display Control Unit and Display

AKS005RA

1. CHECK HARNESS

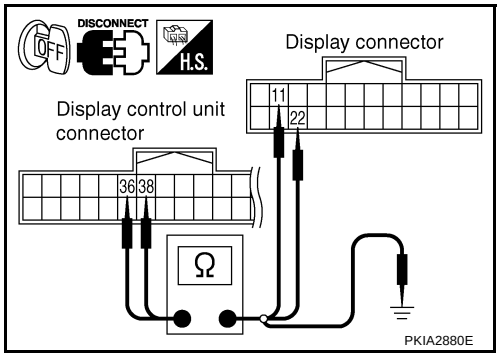
1. Turn ignition switch OFF.
2. Disconnect display control unit and display connectors.
3. Check continuity between display control unit harness connector M43 terminals 36 (O/L), 38 (W/L) and display harness connector M38 terminals 11 (O/L), 22 (W/L).

   36 – 11 : Continuity should exist.

   38 – 22 : Continuity should exist.

4. Check continuity between display control unit harness connector M43 terminals 36 (O/L), 38 (W/L) and ground.

   36, 38 – Ground : Continuity should not exist.



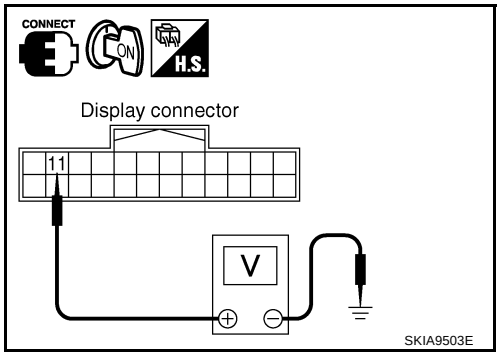
OK or NG

OK >> GO TO 2.
NG >> Repair harness or connector.

2. CHECK DISPLAY UNIT

1. Connect display connector.
2. Turn ignition switch ON.
3. Check voltage between display harness connector M38 terminal 11 (O/L) and ground.

   11 – Ground : Approx. 4 V



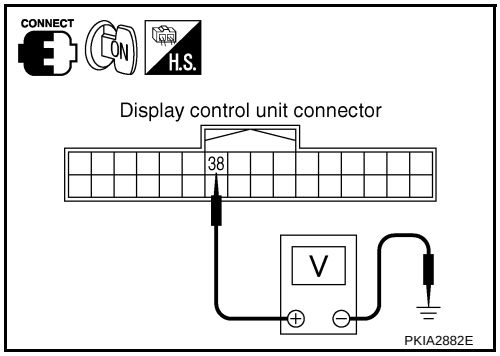
OK or NG

OK >> GO TO 3.
NG >> Replace display.

3. CHECK DISPLAY CONTROL UNIT

1. Turn ignition switch OFF.
2. Disconnect display connector, and connect display control unit connector.
3. Turn ignition switch ON.
4. Check voltage between display control unit harness connector M43 terminal 38 (W/L) and ground.

   38 – Ground : Approx. 4 V



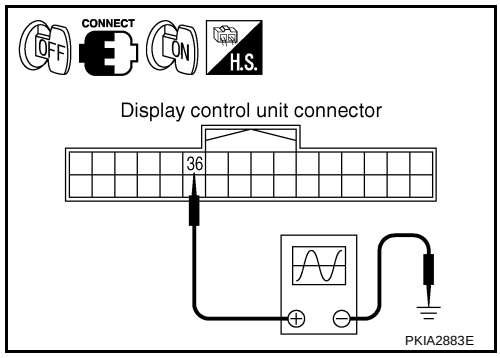
OK or NG

OK >> GO TO 4.
NG >> Replace display control unit.

4. CHECK COMMUNICATION SIGNAL (DCU–DSP)

1. Turn ignition switch OFF.
2. Connect display connector.
3. Turn ignition switch ON.
4. Check voltage waveform between display control unit harness connector M43 terminal 36 (O/L) and ground with CONSULT-II or oscilloscope.

36 – Ground	**: Refer to AV-141, "Terminals and Reference Value for Display Control Unit" .**



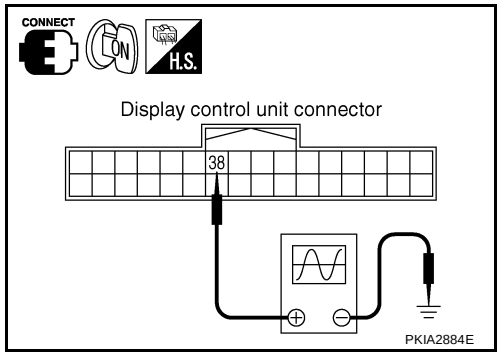
OK or NG

OK >> GO TO 5.
NG >> Replace display control unit.

5. CHECK COMMUNICATION SIGNAL (DSP–DCU)

Check voltage waveform between display control unit harness connector M43 terminal 38 (W/L) and ground with CONSULT-II or oscilloscope.

38 – Ground	**: Refer to AV-141, "Terminals and Reference Value for Display Control Unit" .**



OK or NG

OK >> Replace display control unit.
NG >> Replace display.

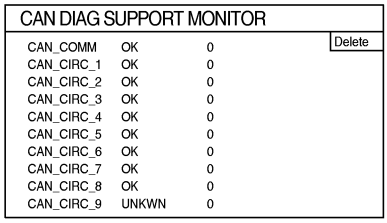
CAN Communication Line Check

AKS005RC

1. CHECK MONITOR DESCRIPTION

1. Start display control unit self-diagnosis. Refer to AV-151, "Self-Diagnosis Mode (DCU)" .
2. Select “CAN DIAG SUPPORT MONITOR”. Refer to AV-165, "CAN DIAG SUPPORT MONITOR" .

(Example)



PKIB6080E

Item	content		Error counter (Reference value)
	Normal condition	Error (Example)	
CANCOMM	OK	NG	0-50
CAN_CIRC_1	OK	UNKWN	0-50
CAN_CIRC_2	OK	UNKWN	0-50
CAN_CIRC_3	OK	UNKWN	0-50
CAN_CIRC_4	OK	UNKWN	0-50
CAN_CIRC_5	OK	UNKWN	0-50
CAN_CIRC_6	OK	UNKWN	0-50
CAN_CIRC_7	OK	UNKWN	0-50
CAN_CIRC_8	OK	UNKWN	0-50
CAN_CIRC_9	UNKWN	UNKWN	0-50

3. Record each item display description (OK/NG/UNKWN) displayed on the following CAN DIAG SUPPORT MONITOR Check Sheet.

CAN DIAG SUPPORT MONITOR Check Sheet

Diagnosis item	Screen display		Diagnosis item	Screen display	
CANCOMM	OK	NG	CAN_CIRC_5	OK	UNKWN
CAN_CIRC_1	OK	UNKWN	CAN_CIRC_6	OK	UNKWN
CAN_CIRC_2	OK	UNKWN	CAN_CIRC_7	OK	UNKWN
CAN_CIRC_3	OK	UNKWN	CAN_CIRC_8	OK	UNKWN
CAN_CIRC_4	OK	UNKWN	CAN_CIRC_9	OK	UNKWN

>> After filling in CAN DIAG SUPPORT MONITOR Check Sheet, GO TO LAN-5, "Precautions When Using CONSULT-II" .

If NAVI Control Unit Detects That DVD-ROM Map Is Not Inserted

AKS005RD

1. CHECK DVD-ROM

Make sure identified DVD-ROM map is inserted.

OK or NG

OK >> Replace NAVI control unit.
NG >> Insert identified DVD-ROM map.

If NAVI Control Unit Detects That Inserted DVD-ROM Map Malfunctioning or If It Is Impossible to Load Data From DVD-ROM Map

AKS005RE

1. CHECK 1: DVD-ROM

Remove inserted DVD-ROM map to check that it is identified.

OK or NG

OK >> GO TO 2.
NG >> Replace identified DVD-ROM map.

2. CHECK 2: DVD-ROM

Check removed DVD-ROM that there are dirt, scratch and warp.

OK or NG

OK >> GO TO 3.
NG >> Replace DVD-ROM map.

3. CHECK 3: DVD-ROM

Insert same DVD-ROM to make sure same diagnosis result is found as last self-diagnosis.

OK or NG

OK >> Replace NAVI control unit.
NG >> Replace DVD-ROM map.

If Connection Between NAVI Control Unit and GPS Antenna is Malfunctioning

AKS005RF

1. CHECK GPS ANTENNA

Check cable for GPS antenna by watching out to see that cable is malfunctioning.

OK or NG

OK >> GO TO 2.
NG >> Replace GPS antenna.

2. CHECK BY REPLACEMENT OF GPS ANTENNA

Replace other functional GPS antenna to try self-diagnosis again.

Result of self-diagnosis; Found same result?

YES >> Replace NAVI control unit.
NO >> Replace GPS antenna.

Color of RGB Image is Not Proper

AKS005SR

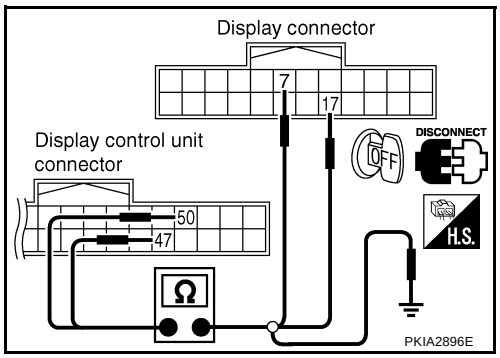
1. CHECK RGB HARNESS

1. Turn ignition switch OFF.
2. Disconnect display control unit and display connectors.
3. Check the malfunctioning circuit according to the symptoms.

- **When the screen looks bluish**

Terminals				Continuity
Display control unit		Display		
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)	
M43	50 (G/Y)	M38	17 (G/Y)	Yes
	47		7	

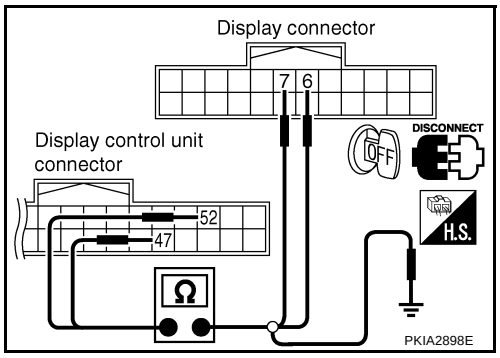
Terminals			Continuity
Display control unit		Ground	
Connector	Terminal (Wire color)		
M43	50 (G/Y)		No
	47		



- **When the screen looks reddish**

Terminals				Continuity
Display control unit		Display		
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)	
M43	52 (G/R)	M38	6 (G/R)	Yes
	47		7	

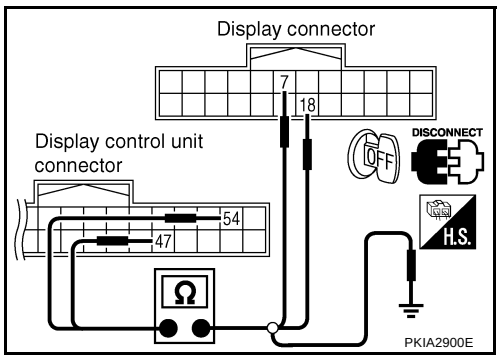
Terminals			Continuity
Display control unit		Ground	
Connector	Terminal (Wire color)		
M43	52 (G/R)		No
	47		



- **When the screen looks yellowish**

Terminals				Continuity
Display control unit		Display		
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)	
M43	54 (G/O)	M38	18 (G/O)	Yes
	47		7	

Terminals			Continuity
Display control unit		Ground	
Connector	Terminal (Wire color)		
M43	54 (G/O)		No
	47		



OK or NG

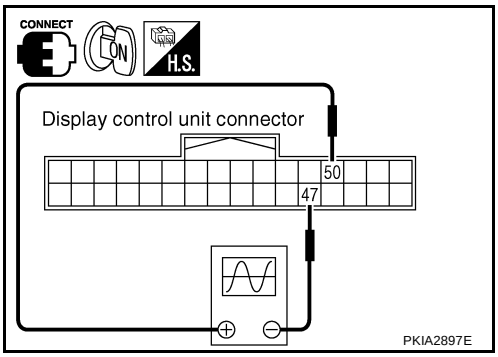
OK >> GO TO 2.
NG >> Repair harness or connector.

2. CHECK RGB SIGNAL

1. Connect display control unit and display connectors.
2. Turn ignition switch ON.
3. Display “Color bar” by “CONFIRMATION/ADJUSTMENT” mode.
4. Check the malfunctioning circuit according to the symptoms.

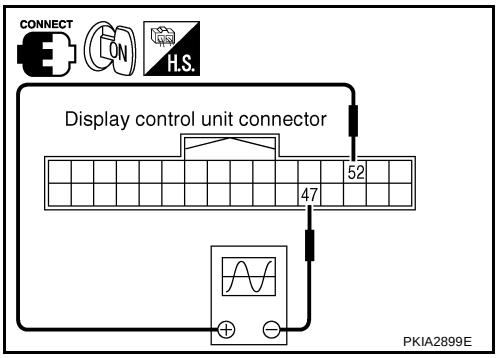
- **When the screen looks bluish.**
  Check voltage waveform between display control unit harness connector M43 terminals 50 (G/Y) and 47 with CONSULT-II or oscilloscope.

  50 – 47 : **Refer to** AV-141, "Terminals and Reference Value for Display Control Unit" .



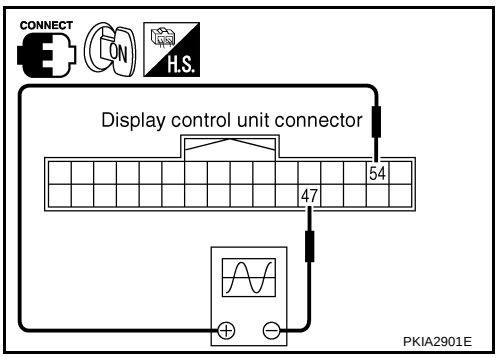
- **When the screen looks reddish.**
  Check voltage waveform between display control unit harness connector M43 terminals 52 (G/R) and 47 with CONSULT-II or oscilloscope.

  52 – 47 : **Refer to** AV-141, "Terminals and Reference Value for Display Control Unit" .



- **When the screen looks yellowish.**
  Check voltage waveform between display control unit harness connector M43 terminals 54 (G/O) and 47 with CONSULT-II or oscilloscope.

  54 – 47 : **Refer to** AV-141, "Terminals and Reference Value for Display Control Unit" .



OK or NG

OK >> Replace display.
NG >> Replace display control unit.

Color of RGB Image is Not Proper (Only NAVI Screen)

AKS005SO

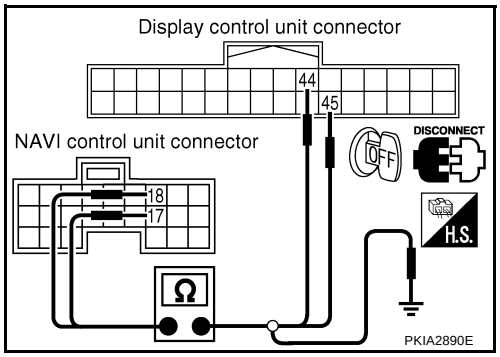
1. CHECK RGB HARNESS

1. Turn ignition switch OFF.
2. Disconnect NAVI control unit and display control unit connectors.
3. Check the malfunctioning circuit according to the symptoms.

- **When the screen looks bluish**

Terminals				Continuity
NAVI control unit		Display control unit		
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)	
M62	18 (BR/Y)	M43	44 (BR/Y)	Yes
	17		45	

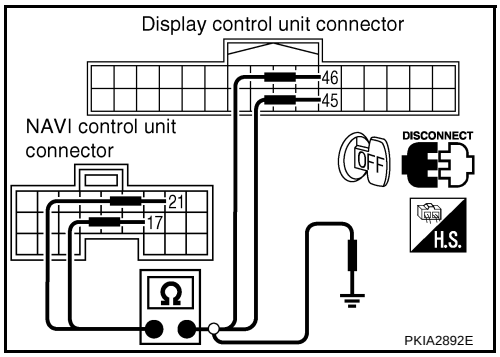
Terminals			Continuity
NAVI control unit		Ground	
Connector	Terminal (Wire color)		
M62	18 (BR/Y)		No
	17		



- **When the screen looks reddish**.

Terminals				Continuity
NAVI control unit		Display control unit		
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)	
M62	21 (BR/W)	M43	46 (BR/W)	Yes
	17		45	

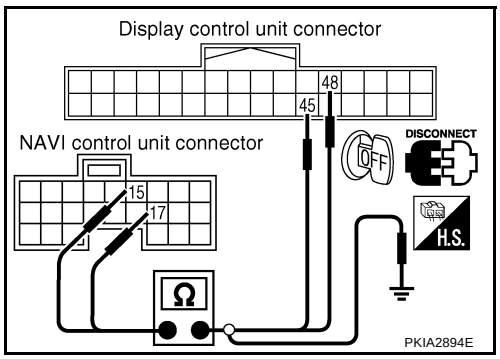
Terminals			Continuity
NAVI control unit		Ground	
Connector	Terminal (Wire color)		
M62	21 (BR/W)		No
	17		



- **When the screen looks yellowish**.

Terminals				Continuity
NAVI control unit		Display control unit		
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)	
M62	15 (BR)	M43	48 (BR)	Yes
	17		45	

Terminals			Continuity
NAVI control unit		Ground	
Connector	Terminal (Wire color)		
M62	15 (BR)		No
	17		



OK or NG

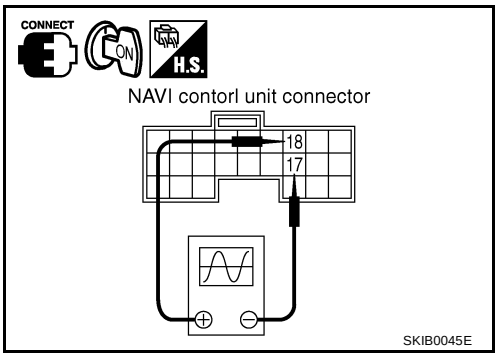
OK >> GO TO 2.
NG >> Repair harness or connector.

2. CHECK RGB SIGNAL

1. Connect NAVI control unit and display control unit connectors.
2. Turn ignition switch ON.
3. Display “Color bar” by “CONFIRMATION/ADJUSTMENT” mode.
4. Check the malfunctioning circuit according to the symptoms.

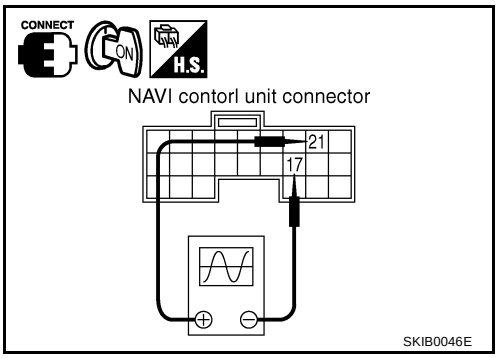
- **When the screen looks bluish.**
  Check voltage waveform between NAVI control unit harness connector M62 terminals 18 (BR/Y) and 17 with CONSULT-II or oscilloscope.

  18 – 17 **: Refer to AV-139, "Terminals and Reference Value for NAVI Control Unit" .**



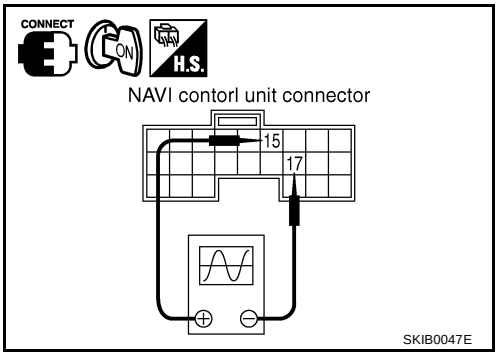
- **When the screen looks reddish.**
  Check voltage waveform between NAVI control unit harness connector M62 terminals 21 (BR/W) and 17 with CONSULT-II or oscilloscope.

  21 – 17 **: Refer to AV-139, "Terminals and Reference Value for NAVI Control Unit" .**



- **When the screen looks yellowish.**
  Check voltage waveform between NAVI control unit harness connector M62 terminals 15 (BR) and 17 with CONSULT-II or oscilloscope.

  15 – 17 **: Refer to AV-139, "Terminals and Reference Value for NAVI Control Unit" .**



OK or NG

OK >> Replace display control unit.
NG >> Replace NAVI control unit.

NAVI Screen is Rolling

AKS005RH

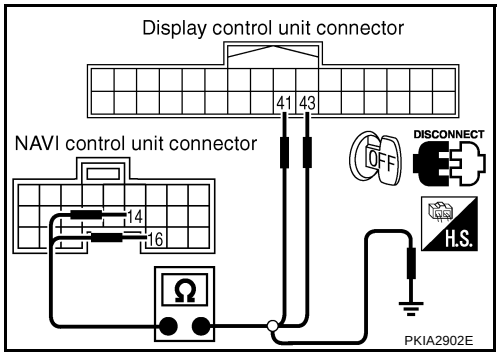
1. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect NAVI control unit and display control unit connectors.
3. Check continuity between NAVI control unit harness connector M62 terminals 16 (P/L), 14 and display control unit harness connector M43 terminals 43 (P/L), 41.

   16 – 43 : Continuity should exist.
   14 – 41 : Continuity should exist.

4. Check continuity between NAVI control unit harness connector M62 terminals 16 (P/L), 14 and ground.

   16, 14 – Ground : Continuity should not exist.



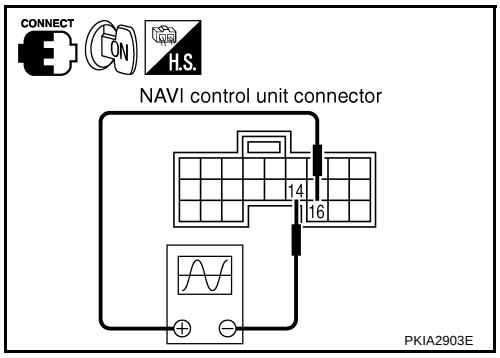
OK or NG

OK >> GO TO 2.
NG >> Repair harness or connector.

2. CHECK RGB SYNCHRONIZING SIGNAL

1. Connect NAVI control unit and display control unit connectors.
2. Turn ignition switch ON.
3. Check voltage waveform between NAVI control unit harness connector M43 terminals 16 (P/L) and 14 with CONSULT-II or oscilloscope.

   16 – 14 : Refer to AV-139, "Terminals and Reference Value for NAVI Control Unit" .



OK or NG

OK >> GO TO 3.
NG >> Replace NAVI control unit.

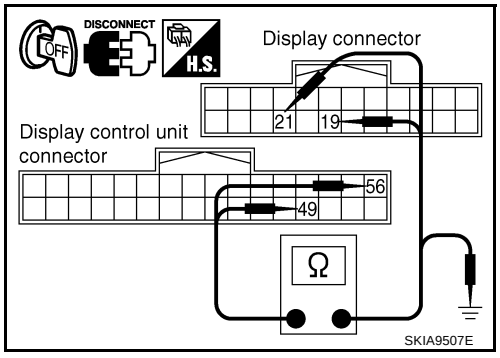
3. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect display control unit and display connectors.
3. Check continuity between display control unit harness connector M43 terminals 56 (G), 49 and display harness connector M38 terminals 19 (G), 21.

   56 – 19 : Continuity should exist.
   49 – 21 : Continuity should exist.

4. Check continuity between display control unit harness connector M43 terminals 56 (G), 49 and ground.

   56, 49 – Ground : Continuity should not exist.



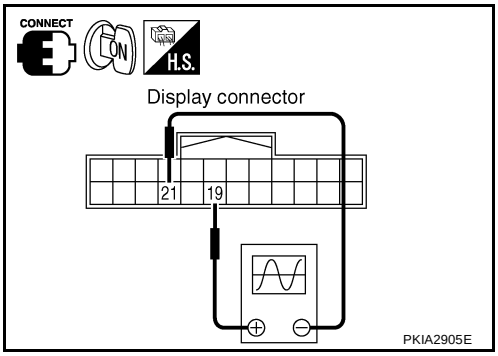
OK or NG

OK >> GO TO 4.
NG >> Repair harness or connector.

4. CHECK RGB SYNCHRONIZING SIGNAL

1. Connect display control unit and display connectors.
2. Turn ignition switch ON.
3. Check voltage waveform between display harness connector M38 terminals 19 (G) and 21 with CONSULT-II or oscilloscope.

19 – 21	**: Refer to AV-145, "Terminals and Reference Value for Display" .**



OK or NG

OK >> Replace display.
NG >> Replace display control unit.

Voice Guidance Is Not Heard

AKS004RP

1. CHECK VOICE GUIDANCE SETTING

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

NOTE:
Voice guidance 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.

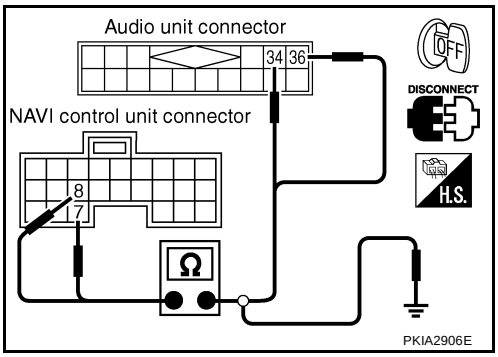
2. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect NAVI control unit and audio unit connectors.
3. Check continuity between NAVI control unit harness connector M62 terminals 7 (V), 8 (LG) and audio unit harness connector M46 terminals 36 (V), 34 (LG).

7 – 36	**: Continuity should exist.**
8 – 34	**: Continuity should exist.**

4. Check continuity between NAVI control unit harness connector M62 terminals 7 (V), 8 (LG) and ground.

7, 8 – Ground	**: Continuity should not exist.**



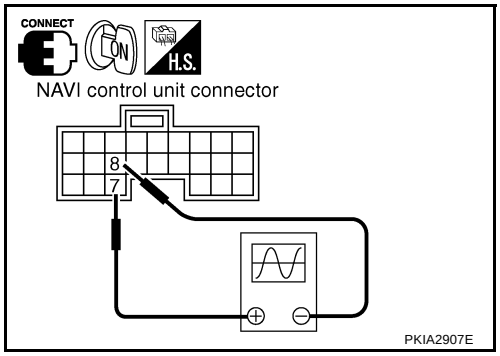
OK or NG

OK >> GO TO 3.
NG >> Repair harness or connector.

3. CHECK VOICE GUIDANCE SIGNAL

1. Connect NAVI control unit and audio unit connectors.
2. Turn ignition switch ON.
3. Check voltage waveform between NAVI control unit harness connector M62 terminals 7 (V) and 8 (LG) with CONSULT-II or oscilloscope.

7 – 8	**: Refer to AV-139, "Terminals and Reference Value for NAVI Control Unit" .**



OK or NG

OK >> Replace audio unit.
NG >> Replace NAVI control unit.

All Screens Are Not Displayed

AKS005P9

1. CHECK CONDITION

When operating audio and air conditioner, make sure that they operate correctly.

Do audio and air conditioner operate normally?

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

2. CHECK DISPLAY POWER SUPPLY AND GROUND CIRCUIT

Check display power supply and ground circuit. Refer to AV-173, "Power Supply and Ground Circuit Check for Display" .

OK or NG

OK >> Replace display.
NG >> Repair malfunctioning parts.

3. CHECK DISPLAY CONTROL UNIT POWER SUPPLY AND GROUND CIRCUIT

Check display control unit power supply and ground circuit. Refer to AV-172, "Power Supply and Ground Circuit Check for Display Control Unit" .

OK or NG

OK >> Replace display control unit.
NG >> Repair malfunctioning parts.

Operating Screen for Audio and A/C is Not Displayed When Showing NAVI Screen

AKS004RM

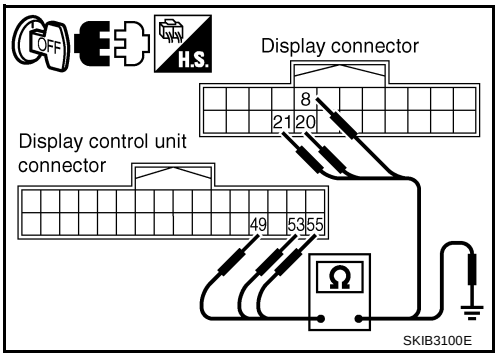
1. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect display control unit and display connectors.
3. Check continuity between display control unit harness connector M43 terminals 49, 53 (W), 55 (R) and display harness connector M38 terminals 21, 20 (W), 8 (R).

49 – 21 : Continuity should exist.
53 – 20 : Continuity should exist.
55 – 8 : Continuity should exist.

4. Check continuity between display control unit harness connector M43 terminals 53 (W), 55 (R) and ground.

53, 55 – Ground : Continuity should not exist.



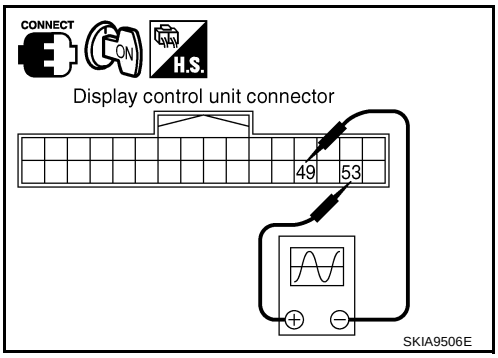
OK or NG

OK >> GO TO 2.
NG >> Repair harness or connector.

2. CHECK VERTICAL SYNCHRONIZING SIGNAL

1. Connect display control unit and display connectors.
2. Turn ignition switch ON.
3. Check voltage waveform between display control unit harness connector M43 terminals 53 (W) and 49 with CONSULT-II or oscilloscope.

53 – 49 : Refer to AV-141, "Terminals and Reference Value for Display Control Unit" .



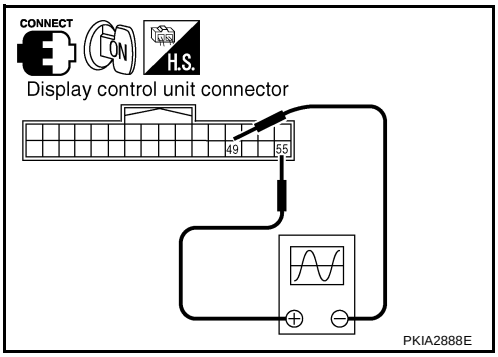
OK or NG

OK >> GO TO 3.
NG >> Replace display.

3. CHECK HORIZONTAL SYNCHRONIZING SIGNAL

Check voltage waveform between display control unit harness connector M43 terminals 55 (R) and 49 with CONSULT-II or oscilloscope.

55 – 49 : Refer to AV-141, "Terminals and Reference Value for Display Control Unit" .



OK or NG

OK >> Replace display control unit.
NG >> Replace display.

FUEL ECONOMY Screen is Not Shown

AKS005QX

1. CHECK IGNITION SIGNAL FOR DISPLAY CONTROL UNIT

Check ignition signal for display control unit. Refer to AV-180, "Ignition Signal Check for Display Control Unit" .

OK or NG

OK >> GO TO 2.
NG >> Repair malfunctioning parts.

2. CHECK CAN COMMUNICATION LINE

Check CAN communication line. Refer to AV-188, "CAN Communication Line Check" .

OK or NG

OK >> Replace display control unit.
NG >> After filling out CAN SUPPORT MONITOR check sheet, GO TO LAN-5, "Precautions When Using CONSULT-II" .

Average Fuel Economy is Not Shown

AKS005L9

1. CHECK VEHICLE SPEED SIGNAL FOR DISPLAY CONTROL UNIT

Check vehicle speed signal for display control unit. Refer to AV-178, "Vehicle Speed Signal Check for Display Control Unit" .

OK or NG

OK >> GO TO 2.
NG >> Repair malfunctioning parts.

2. CHECK CAN COMMUNICATION LINE

Check CAN communication line. Refer to AV-188, "CAN Communication Line Check" .

OK or NG

OK >> Replace display control unit.
NG >> After filling out CAN DIAG SUPPORT MONITOR check sheet, GO TO LAN-5, "Precautions When Using CONSULT-II" .

Distance to Empty is Not Shown

AKS005PB

1. CHECK SPEEDOMETER

Confirm that speedometer is functioning.

Is speedometer functioning?

YES >> GO TO 2.
NO >> Refer to DI-19, "Vehicle Speed Signal Inspection" .

2. CHECK FUEL METER

Confirm that fuel meter is functioning.

Is fuel meter functioning?

YES >> GO TO 3.
NO >> Refer to DI-21, "Fuel Level Sensor Signal Inspection" .

3. CHECK CAN COMMUNICATION LINE

Check CAN communication line. Refer to AV-188, "CAN Communication Line Check" .

OK or NG

OK >> Replace display control unit.
NG >> After filling out CAN DIAG SUPPORT MONITOR check sheet, GO TO LAN-5, "Precautions When Using CONSULT-II" .

Driving Distance or Average Speed is Not Shown

AKS005P4

1. CHECK IGNITION SIGNAL FOR DISPLAY CONTROL UNIT

Check ignition signal for display control unit. Refer to AV-180, "Ignition Signal Check for Display Control Unit" .

OK or NG

OK >> GO TO 2.
NG >> Repair malfunctioning parts.

2. CHECK VEHICLE SPEED SIGNAL FOR DISPLAY CONTROL UNIT

Check vehicle speed signal for display control unit. Refer to AV-178, "Vehicle Speed Signal Check for Display Control Unit" .

OK or NG

OK >> Replace display control unit.
NG >> Repair malfunctioning parts.

WARNING DOOR OPEN Screen is Not Shown

AKS005P6

1. CHECK IGNITION SIGNAL FOR DISPLAY CONTROL UNIT

Check ignition signal for display control unit. Refer to AV-180, "Ignition Signal Check for Display Control Unit" .

OK or NG

OK >> GO TO 2.
NG >> Repair malfunctioning parts.

2. CHECK VEHICLE SPEED SIGNAL FOR DISPLAY CONTROL UNIT

Check vehicle speed signal for display control unit. Refer to AV-178, "Vehicle Speed Signal Check for Display Control Unit" .

OK or NG

OK >> GO TO 3.
NG >> Repair malfunctioning parts.

3. CHECK CAN COMMUNICATION LINE

Check CAN communication line. Refer to AV-188, "CAN Communication Line Check" .

OK or NG

OK >> Replace display control unit.
NG >> After filling out CAN DIAG SUPPORT MONITOR check sheet, GO TO LAN-5, "Precautions When Using CONSULT-II" .

TIRE PRESSURE Screen is Not Shown

AKS004RR

1. CHECK LOW TIRE PRESSURE WARNING CONTROL UNIT

Check low tire pressure warning control unit. Refer to WT-17, "Self-Diagnosis" .

OK or NG

OK >> GO TO 2.
NG >> Repair malfunctioning parts.

2. CHECK IGNITION SIGNAL FOR DISPLAY CONTROL UNIT

Check ignition signal for display control unit. Refer to AV-180, "Ignition Signal Check for Display Control Unit" .

OK or NG

OK >> GO TO 3.
NG >> Repair malfunctioning parts.

3. CHECK CAN COMMUNICATION LINE

Check CAN communication line. Refer to AV-188, "CAN Communication Line Check" .

OK or NG

OK >> Replace display control unit.
NG >> After filling out CAN DIAG SUPPORT MONITOR check sheet, GO TO LAN-5, "Precautions When Using CONSULT-II" .

Rear View Image Is Not Displayed if Selector Lever Is Set in R Position (Other Image Is Displayed)

AKS00CGX

1. CHECK CONDITION

1. Turn ignition switch ON.
2. Check if the screen holds current display or shows nothing but warning message when shifting selector lever to R position.

Does the screen change?

YES >> GO TO 2.
NO >> GO TO 12.

2. CHECK REAR VIEW CAMERA CONTROL UNIT POWER SUPPLY AND GROUND CIRCUIT

Check rear view camera control unit power supply and ground circuit. Refer to AV-176, "Power Supply and Ground Circuit Check for Rear View Camera Control Unit" .

OK or NG

OK >> GO TO 3.
NG >> Repair malfunctioning parts.

3. CHECK REVERSE SIGNAL (REAR VIEW CAMERA CONTROL UNIT)

Check reverse signal (rear view camera control unit). Refer to AV-182, "Reverse Signal Check for Rear View Camera Control Unit" .

OK or NG

OK >> GO TO 4.
NG >> Repair malfunctioning parts.

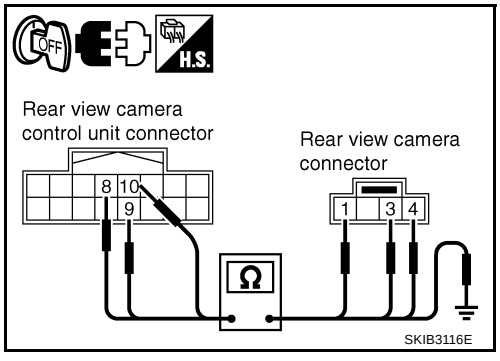
4. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect rear view camera control unit and rear view camera connectors.
3. Check continuity between rear view camera control unit harness connector B37 terminals 8 (L), 9, 10 (R) and rear view camera harness connector D109 terminals 1 (L), 4, 3 (R).

8 – 1 : Continuity should exist.
9 – 4 : Continuity should exist.
10 – 3 : Continuity should exist.

4. Check continuity between rear view camera control unit harness connector B37 terminals 8 (L), 10 (R) and ground.

8, 10 – Ground : Continuity should not exist.



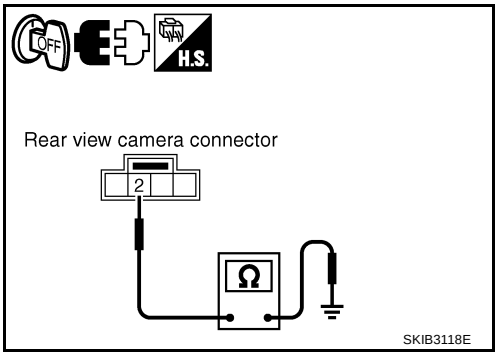
OK or NG

OK >> GO TO 5.
NG >> Repair harness or connector.

5. CHECK REAR VIEW CAMERA GROUND CIRCUIT

Check continuity between rear view camera harness connector D109 terminal 2 (R/B) and ground.

2 – Ground : Continuity should exist.



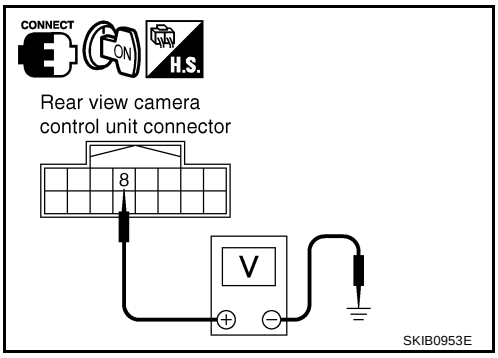
OK or NG

OK >> GO TO 6.
NG >> Repair harness or connector.

6. CHECK CAMERA POWER SUPPLY

1. Connect rear view camera control unit and rear view camera connectors.
2. Turn ignition switch ON.
3. When displaying rear view image, check voltage between rear view camera control unit harness connector B37 terminal 8 (L) and ground.

8 – Ground : Approx. 6 V



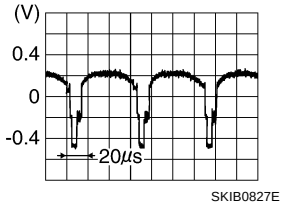
OK or NG

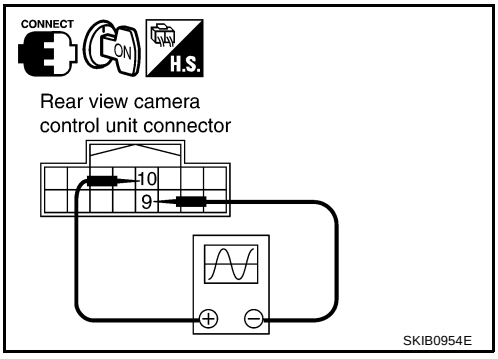
OK >> GO TO 7.
NG >> Replace rear view camera control unit.

7. CHECK CAMERA IMAGE SIGNAL

When displaying rear view image, check voltage waveform between rear view camera control unit harness connector B37 terminals 10 (R) and 9 with CONSULT-II or oscilloscope.

10 – 9:





OK or NG

OK >> GO TO 8.
NG >> Replace rear view camera.

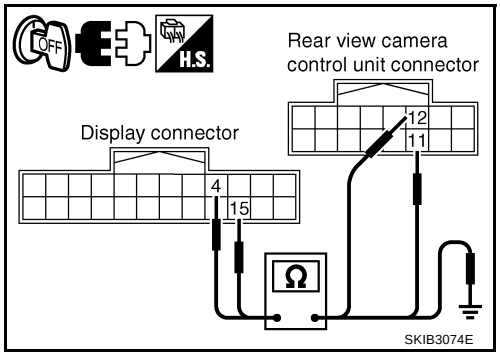
8. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect display and rear view camera control unit connectors.
3. Check continuity between display harness connector M38 terminals 15 (V), 4 and rear view camera control unit harness connector B37 terminals 12 (V), 11.

15 – 12 : Continuity should exist.
4 – 11 : Continuity should exist.

4. Check continuity between display harness connector M38 terminal 15 (V) and ground.

15 – Ground : Continuity should not exist.



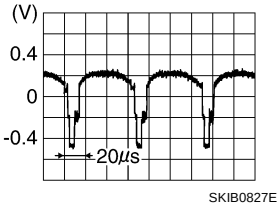
OK or NG

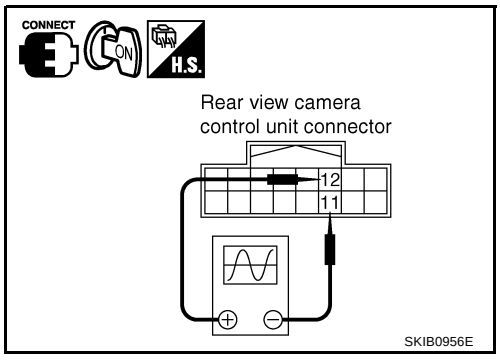
OK >> GO TO 9.
NG >> Repair harness or connector.

9. CHECK CAMERA IMAGE SIGNAL

1. Connect display and rear view camera control unit connectors.
2. Turn ignition switch ON.
3. When displaying rear view image, check voltage waveform between rear view camera control unit harness connector B37 terminals 12 (V) and 11 with CONSULT-II or oscilloscope.

12 – 11:





OK or NG

OK >> GO TO 10.
NG >> Replace rear view camera control unit.

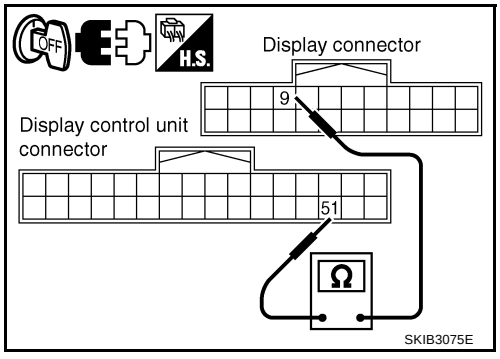
10. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect display control unit and display connectors.
3. Check continuity between display control unit harness connector M43 terminal 51 (B) and display harness connector M38 terminal 9 (B).

51 – 9 : Continuity should not exist.

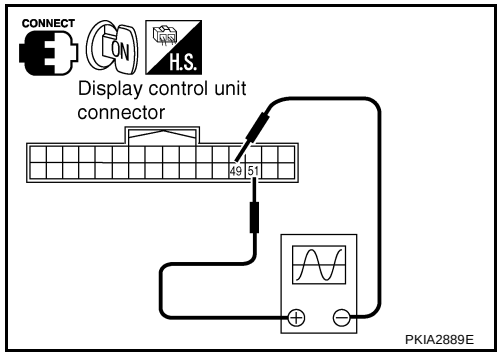
OK or NG

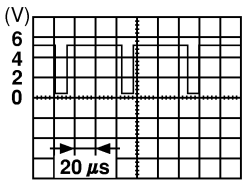
OK >> GO TO 11.
NG >> Repair harness or connector.



11. CHECK RGB AREA SIGNAL

1. Connect display control unit and display connectors.
2. Turn ignition switch ON.
3. Check voltage waveform between display control unit harness connector terminals 51 and 49 with CONSULT-II or oscilloscope.



Terminals				Condition	Reference value
(+)		(–)			
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)		
M43	51 (B)	M43	49	Set the selector lever in R position, and then display the rear view image.	

OK or NG

OK >> Replace display.
NG >> Replace display control unit.

12. SELF-DIAGNOSIS OF DCU

Start self-diagnosis of DCU, and check the self-diagnosis result. Refer to AV-151, "Self-Diagnosis Mode (DCU)" .

OK or NG

OK >> GO TO 13.
NG >> Repair the malfunctioning parts by self-diagnosis results.

13. CHECK REVERSE SIGNAL (DISPLAY CONTROL UNIT)

Select “VEHICLE SIGNALS” of CONFIRMATION/ADJUSTMENT mode, and then check reverse signal (display control unit). Refer to AV-161, "VEHICLE SIGNALS" .

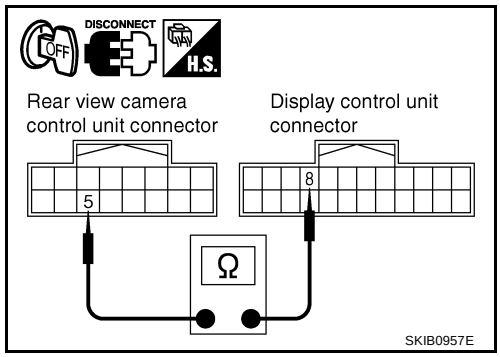
OK or NG

OK >> GO TO 14.
NG >> Repair malfunctioning parts.

14. CHECK HARNESS

1. Turn ignition switch OFF.
2. Disconnect rear view control unit and display control unit connectors.
3. Check continuity between rear view camera control unit harness connector B37 terminal 5 (V/W) and display control unit harness connector M42 terminal 8 (V/W).

5 – 8 : Continuity should exist.



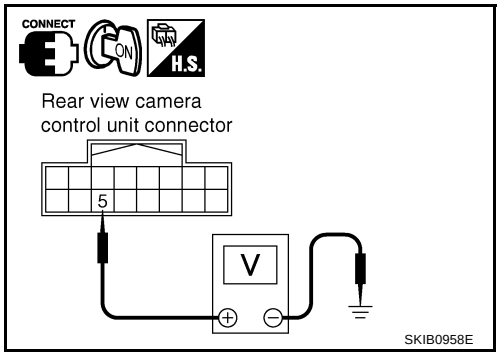
OK or NG

OK >> GO TO 15.
NG >> Repair harness or connector.

15. CHECK CAMERA-CONNECTION RECOGNITION SIGNAL

1. Connect rear view camera control unit and display control unit connectors.
2. Turn ignition switch ON.
3. Check voltage between rear view camera control unit harness connector B37 terminal 5 (V/W) and ground.

5 – Ground : Approx. 0 V



OK or NG

OK >> Replace display control unit.
NG >> Replace rear view camera control unit.

Unable to Operate All of A/C and AV Switches (Unable to Start Self-Diagnosis)

AKS005P7

1. A/C AND AV SWITCH SELF-DIAGNOSIS

Start A/C and AV switch self-diagnosis. Refer to AV-166, "A/C and AV Switch Self-Diagnosis Function" .

OK or NG

OK >> GO TO 3.
NG >> GO TO 2.

2. CHECK A/C AND AV SWITCH POWER SUPPLY AND GROUND CIRCUIT

Check A/C and AV switch power supply and ground circuit. Refer to AV-175, "Power Supply and Ground Circuit Check for A/C and AV Switch" .

OK or NG

OK >> Replace A/C and AV switch.
NG >> Repair malfunctioning parts.

3. CHECK DISPLAY CONTROL UNIT POWER SUPPLY AND GROUND CIRCUIT

Check display control unit power supply and ground circuit. Refer to AV-172, "Power Supply and Ground Circuit Check for Display Control Unit" .

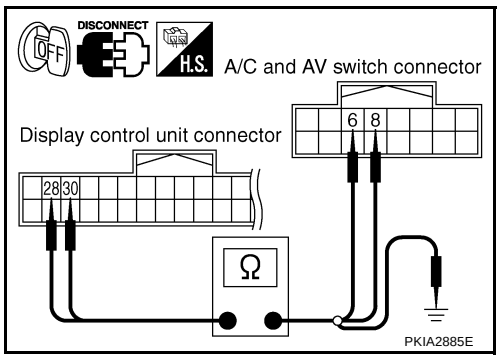
OK or NG

OK >> GO TO 4.
NG >> Repair malfunctioning parts.

4. CHECK A/C AND AV SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display control unit and A/C and AV switch connectors.
3. Check continuity between display control unit harness connector M43 terminals 28 (L/G), 30 (L/R) and A/C and AV switch harness connector M48 terminals 6 (L/G), 8 (L/R).

28 – 6 : Continuity should exist.
30 – 8 : Continuity should exist.



4. Check continuity between display control unit harness connector M43 terminals 28 (L/G), 30 (L/R) and ground.

28, 30 – Ground : Continuity should not exist.

OK or NG

OK >> GO TO 5.
NG >> Repair harness or connector.

5. SELF-DIAGNOSIS OF DCU

1. Replace A/C and AV switch.
2. Connect display control unit and A/C and AV switch connectors.
3. Turn ignition switch ON.
4. Start self-diagnosis of DCU, and check the self-diagnosis result.

OK or NG

OK >> INSPECTION END
NG >> Replace display control unit.

A/C Operation is Not Possible

AKS00BHC

1. A/C AND AV SWITCH SELF-DIAGNOSIS

Start A/C and AV switch self-diagnosis. Refer to AV-166, "A/C and AV Switch Self-Diagnosis Function" .

OK or NG

OK >> GO TO 3.
NG >> GO TO 2.

2. CHECK A/C AND AV SWITCH POWER SUPPLY AND GROUND CIRCUIT

Check A/C and AV switch power supply and ground circuit. Refer to AV-175, "Power Supply and Ground Circuit Check for A/C and AV Switch" .

OK or NG

OK >> Replace A/C and AV switch.
NG >> Repair malfunctioning parts.

3. CHECK IGNITION SIGNAL FOR DISPLAY CONTROL UNIT

Check ignition signal for display control unit. Refer to AV-180, "Ignition Signal Check for Display Control Unit" .

OK or NG

OK >> GO TO 4.
NG >> Repair malfunctioning parts.

4. CHECK CAN COMMUNICATION LINE

Check CAN communication line. Refer to AV-188, "CAN Communication Line Check" .

OK or NG

OK >> Replace display control unit.
NG >> After filling out CAN DIAG SUPPORT MONITOR check sheet, GO TO LAN-5, "Precautions When Using CONSULT-II" .

Position of Current–Location Mark is Not Correct

AKS004RV

1. SELF-DIAGNOSIS

“Self-diagnosis mode” of the self-diagnosis function. Refer to AV-154, "Self-Diagnosis Mode (NAVI)" .

OK or NG

OK >> GO TO 2.
NG >> Repair malfunctioning parts.

2. HISTORY OF ERRORS DIAGNOSIS

Was any error stored in AV-161, "HISTORY OF ERRORS" of the CONFIRMATION/ADJUSTMENT mode?

YES or NO

YES >> AV-162, "DIAGNOSIS BY HISTORY OF ERRORS".
NO >> AV-207, "Driving Test".

Radio Wave From GPS Satellite is Not Received

AKS004RW

1. CHECK ENVIRONMENT

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 malfunction.
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

“Self-diagnosis mode” of the self-diagnosis function. Refer to AV-154, "Self-Diagnosis Mode (NAVI)" .

OK or NG

OK >> Replace GPS antenna.
NG >> Repair malfunctioning parts.

Driving Test

AKS004RX

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 malfunctioning to the AV-208, "Example of Symptoms Judged Not Malfunction" 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 malfunction 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 GPS antenna connector (GT5) connected to the NAVI control unit. Accurately adjust the current location and the direction, then drive the vehicle.
  - Test pattern 2: Test method with no map-matching
    Accurately adjust the current location and the direction. Eject the map DVD-ROM from the NAVI control unit with ignition switch turned to OFF, then drive the vehicle. After driving, insert the map 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 = 1– 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 NAVI control unit.

NO >> Limit of the location detection capacity of the navigation system.

Example of Symptoms Judged Not Malfunction

AKS004RY

BASIC OPERATION

Symptom	Cause	Remedy
No image is shown.	Display brightness adjustment is set fully to DARK side.	Adjust the display brightness.
Voice guidance is not heard.	Volume control is set to OFF, MIN or MAX.	Adjust the voice guidance volume.
	Voice 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 BIRDVIEW™ Name of the place vary with the screen.	Some thinning of the character data is done to prevent the display becoming to complex. In some cases and in some locations, the display contents may differ. The same place name, street name, etc. may not be displayed every time on account of the data processing.	System is not 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” button to display the current location.
Vehicle mark will not be shown.	Current location is not displayed.	Press “MAP” button to display the current location.
Accuracy indicator (GPS satellite mark) on the map screen stays gray.	GPS satellite signal is intercepted because the vehicle is in or behind a building.	Move the vehicle out to an open space.
	GPS satellite signal cannot be received because an obstacle is placed on top of the 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 (19 MPH)] and the deviation will be automatically adjusted. If advancement or retard still occur, perform the distance adjustment by CONFIRMATION/ADJUSTMENT mode of diagnosis function.
	Map data has error or omission. (Vehicle mark is always deviated to the same position.)	As a rule, an updated map DVD-ROM will be released once a year.

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

Symptom	Cause	Remedy
Destination cannot be set.	Destination to be set is on an expressway.	Set the destination on an ordinary road.
Passing point is not searched when re-searching the route.	The vehicle has already passed the passing point, or the system judged so.	To include the passing points that have been passed into the route again, set the route again.
Route information will not be displayed.	Route searching has not been done.	Set the destination and perform route searching.
	Vehicle mark is not on the recommended route.	Drive on the recommended route.
	Route guidance is turned OFF.	Turn route guidance 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.

VOICE GUIDANCE

Symptom	Cause	Remedy
Voice guidance will not operate.	Note: Voice guidance 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 guidance is turned OFF.	Turn voice guidance ON.
	Route guidance is turned OFF.	Turn route guidance ON.
Voice guidance does not match the actual road pattern.	Voice guidance may vary with the direction to which the vehicle is turn and the connection of the road to other roads.	Drive in conformity to the actual traffic rules.

ROUTE SEARCH

Symptom	Cause	Remedy
No route is shown.	No road to be searched is found around the destination.	Find wider road (orange road or wider) nearby and reset the destination and passing points onto it. Take care of the traveling direction when there are separate up and down roads.
	Starting point and the destination are too close.	Set the destination at more distant point.
	Conditional traffic regulation (day of the week/ time of the day) is set at the area around the current location or the destination.	Turn the time-regulating search conditions OFF. Turn “Avoid regulation time” in the search conditions OFF.
Indicated route is intermittent.	In some areas, highways (gray routes) are not used for the search(Note) . Therefore, the route to the current location or the passing points may be intermittent.	System is not 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 location 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 guidance 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.

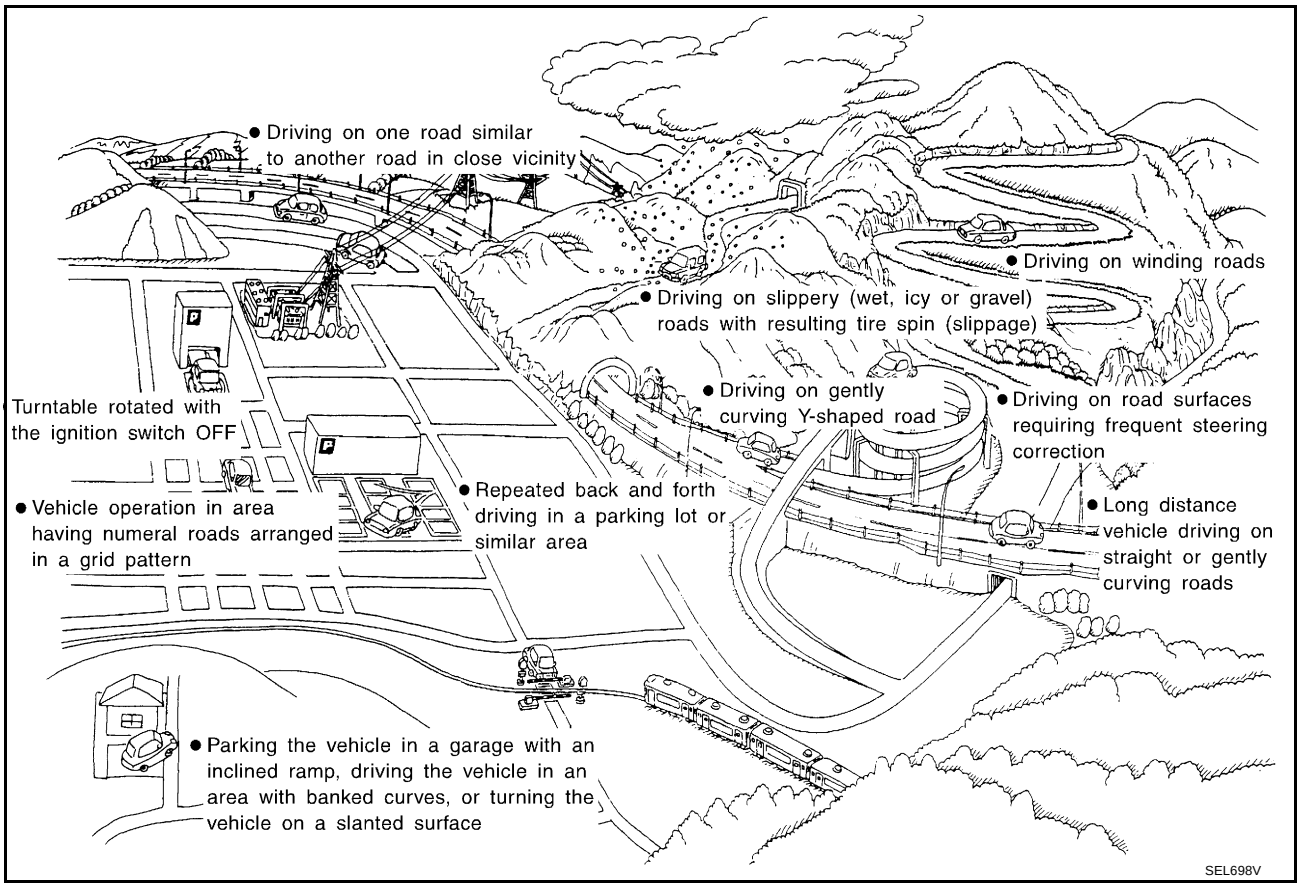
NOTE:
Except for the ordinance-designated cities and the prefectural capitals (Malfunctioning areas may be changed in the updated map disc.)

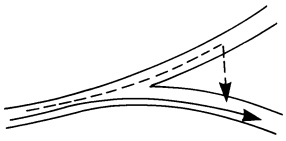
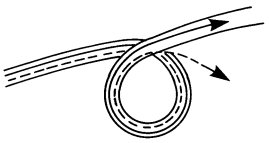
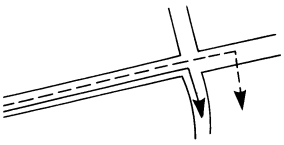
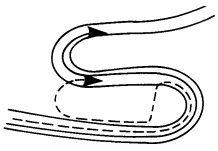
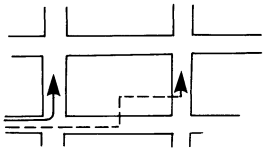
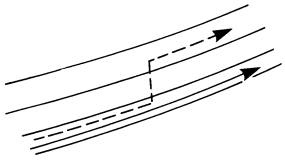
REAR VIEW MONITOR

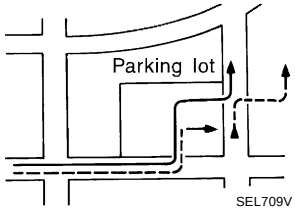
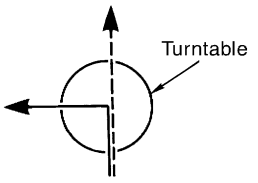
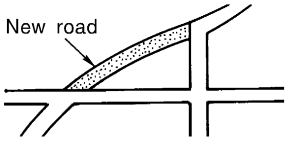
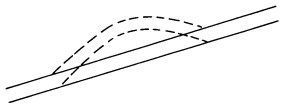
Symptom	Cause	Remedy
Rear view monitor image is not shown.	Selector lever is not set to R position.	Shift the selector lever to R position.
Rear view monitor image is fuzzy.	The front glass of the camera lens is dirty.	Wipe it with a soft wet cloth lightly.
	Adherence of raindrops or snow.	Wipe it with a soft cloth lightly.
	The lens is illuminated directly by sunlight or light from headlight of cars behind.	The fuzzy image recovers when the light is covered.

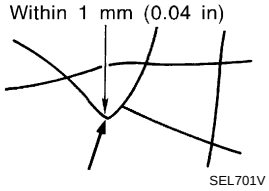
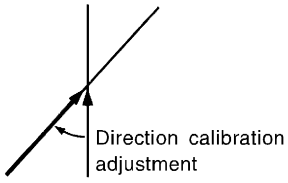
EXAMPLES OF CURRENT-LOCATION MARK DISPLACEMENT

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.



Cause (condition)		Driving condition	Remarks (correction, etc.)
Road configuration	Y–intersections  ELK0192D	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.	If after traveling about 10 km (6 miles) the correct location has not been restored, perform location correction, and if necessary, direction correction.
	Spiral roads  ELK0193D	When driving on a large, continuous spiral road (such as loop bridge), turning angle error is accumulated and the vehicle mark may deviate from the correct location.	
	Straight roads  ELK0194D	When driving on a long, straight road and slow curve without stopping, map-matching does not work effectively enough and distance errors may accumulate. As a result, the vehicle mark may deviate from the correct location when the vehicle turned at a corner.	
	Zigzag roads  ELK0195D	When driving on a zigzag road, the map may be matched to other roads in the similar direction nearby at every turn, and the vehicle mark may deviate from the correct location.	
	Roads laid out in a grid pattern  ELK0196D	When driving 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.	
	Parallel roads  ELK0197D	When two roads are running in parallel (such as highway and sideway), the map may be matched to the other road by mistake and the vehicle mark may deviate from the correct location.	

Cause (condition)		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 traveling about 10km (6miles) the correct location has not been restored, perform location correction and, if necessary, direction correction.
	Turntable  SEL710V	When the ignition switch is OFF, the navigation system cannot get the signal from the gyroscope (angular speed sensor). Therefore, the displayed direction may be wrong and the correct road may not be easily returned to after rotating the vehicle on a 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 traveling 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.)

Cause (condition)		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 perform correct detection, and may cause the vehicle mark to deviate from the correct road.	If after traveling about 10 km (6 miles) the correct location has not been restored, perform location correction and, if necessary, direction correction.
How to correct location	Position correction accuracy  SEL701V	If the accuracy of location settings is poor, accuracy may be reduced when the correct road cannot be found, particularly in places where there are many roads.	Enter in the road displayed on the screen with an accuracy of approx. 1mm. Caution: Whenever possible, use detailed map for the correction.
	Direction when location is corrected  SEL702V	If the accuracy of location settings during correction is poor, accuracy may be reduced afterwards.	Perform direction correction.

CURRENT LOCATION MARK SHOWS A POSITION WHICH IS COMPLETELY WRONG

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

- When location correction has not been done
  - If the receiving conditions of the GPS satellite signal is poor, if the 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 traveling with the ignition OFF, for example when traveling by ferry or when being towed, the location before travel is displayed. If the precise location can be detected with GPS, the location will be corrected.

CURRENT-LOCATION 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.

CURRENT LOCATION MARK IS IN A RIVER OR 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.

CURRENT-LOCATION MARK AUTOMATICALLY ROTATES

The system wrongly memorizes the rotating status as stopping when the ignition switch is turned ON with the turntable rotating. That causes the current-location mark to rotate when the vehicle is stopped.

WHEN DRIVING ON SAME ROAD, SOMETIMES CURRENT-LOCATION MARK IS IN RIGHT PLACE AND SOMETIMES IT IS 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 GPS RECEIVING DISPLAY IS GREEN, VEHICLE MARK DOES NOT RETURN TO CORRECT LOCATION

- The GPS accuracy has an error of approximately 10 m (30 ft). In some cases the current-location mark may not be on the correct street, even when GPS location-correction is done.
- The navigation system compares the results of GPS location detection with the results from map-matching location detection. The one which is determined to have higher accuracy is used.
- GPS location correction may not be performed when the vehicle is stopped.

NAME OF CURRENT PLACE IS NOT DISPLAYED

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

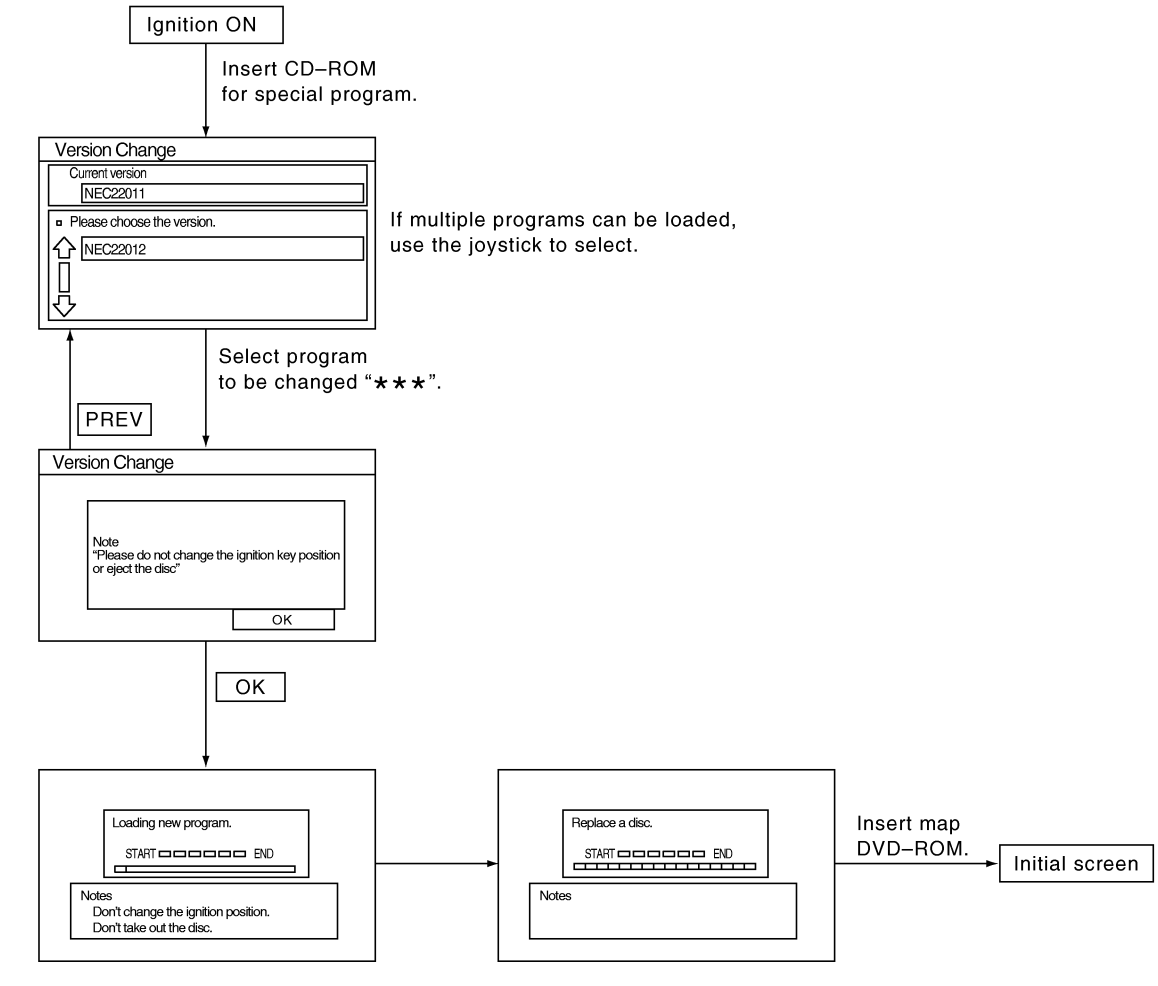
CONTENTS OF DISPLAY DIFFER FOR BIRDVIEW™ AND THE (FLAT) MAP SCREEN

Difference of the BIRDVIEW™ Screen From the Flat Map Screen Are As Follows

- The current place name displays names which are primarily in the direction of vehicle travel.
- The amount of time before the vehicle travel or turn angle is updated on the screen is longer than for the (flat) map display.
- The conditions for display of place names, roads, and other data are different for nearby areas and for more distant areas.
- Some thinning of the character data is done to prevent the display becoming to 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 of NAVI Control Unit

AKS004RZ



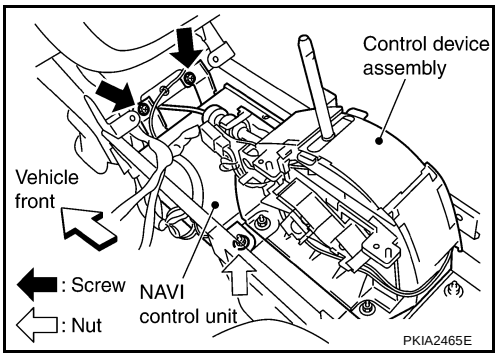
NOTE: Always load a program with the engine running.

Removal and Installation of NAVI Control Unit

AKS00684

REMOVAL

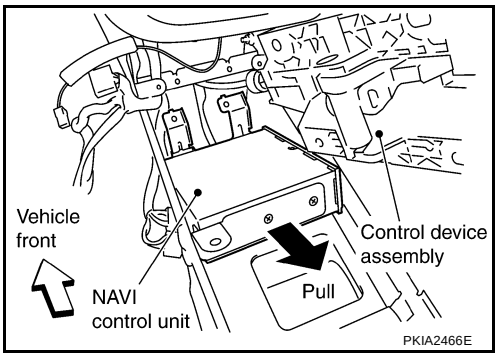
1. Remove center console. Refer to IP-17, "CENTER CONSOLE ASSEMBLY" .
2. Remove console cover (LH and RH). Refer to IP-17, "CENTER CONSOLE ASSEMBLY" .
3. Remove control device assembly and remove NAVI control unit screws (2) and nut.
4. Disconnect NAVI control unit connector.



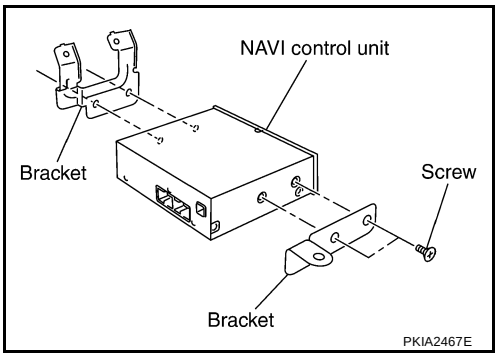
5. Pull NAVI control unit up-ward, then vehicle rear side.

CAUTION:

Cover unit with cloth avoid contact with console box bracket that may cause scratches or damages.



6. Remove screws (4) and remove bracket.



INSTALLATION

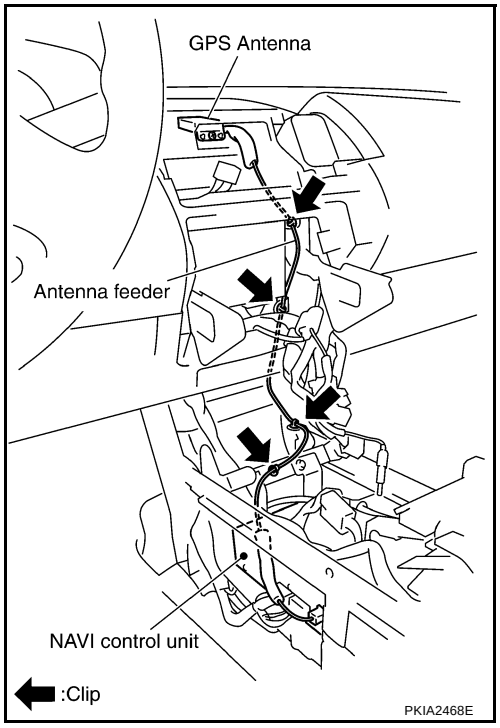
Installation is the reverse order of removal.

Removal and Installation of GPS Antenna

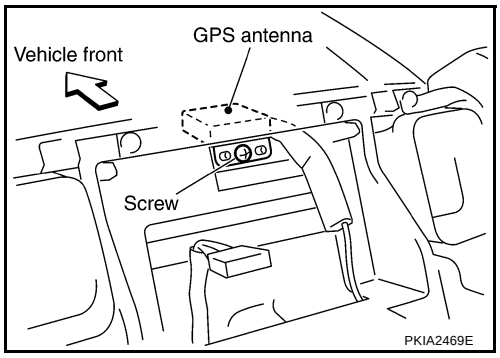
AKS00685

REMOVAL

1. Remove cluster lid C. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY" .
2. Remove center console. Refer to IP-17, "CENTER CONSOLE ASSEMBLY" .
3. Remove console cover (LH). Refer to IP-17, "CENTER CONSOLE ASSEMBLY" .
4. Remove display. Refer to AV-219, "Removal and Installation of Display" .
5. Disengaged the clips (4) to separate antenna feeder.



6. Remove screw and remove GPS antenna.



INSTALLATION

Installation is the reverse order of removal.

Removal and Installation of Audio Steering Wheel Switch

AKS00686

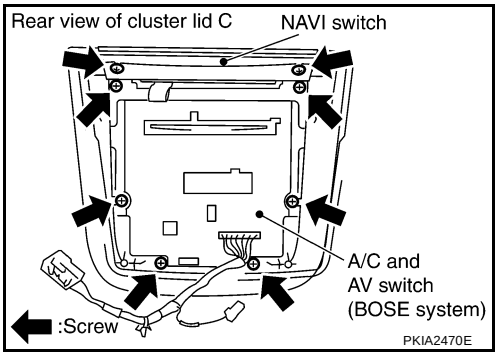
Refer to AV-70, "Removal and Installation of Audio Steering Wheel Switch" .

Removal and Installation of NAVI Switch

AKS00687

REMOVAL

1. Remove audio unit from cluster lid C. Refer to AV-67, "Removal and Installation of Audio Unit" .
2. Remove screws (8) and remove NAVI switch with A/C and audio controller.



INSTALLATION

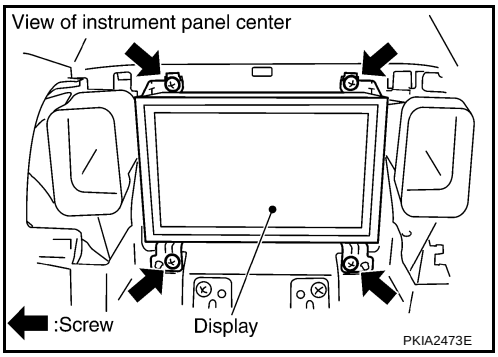
Installation is the reverse order of removal.

Removal and Installation of Display

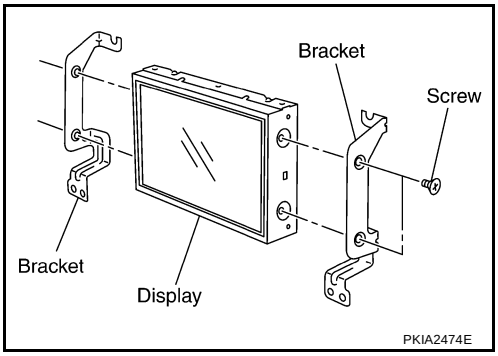
AKS00688

REMOVAL

1. Remove center ventilator. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY" .
2. Remove screws (4) and remove display.



3. Remove screws (4) and remove bracket.



INSTALLATION

Installation is the reverse order of removal.

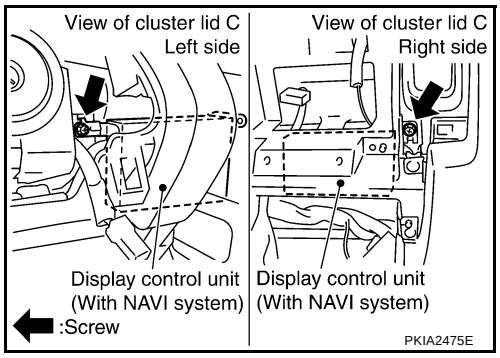
Removal and Installation of Display Control Unit

AKS00689

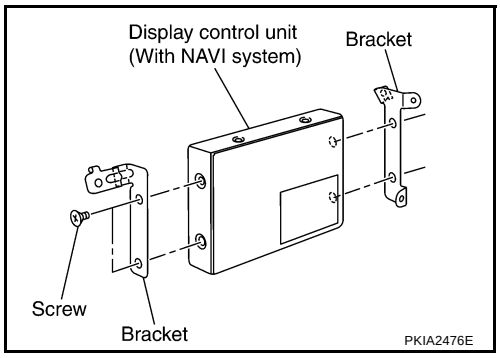
REMOVAL

1. Remove cluster lid C. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY" .
2. Remove steering lock escutcheon. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY" .
3. Remove screws (2) and remove display control unit.

   CAUTION:
   See the illustration attached, when install or remove screws for display control unit.



4. Remove screws (4) and remove bracket.



INSTALLATION

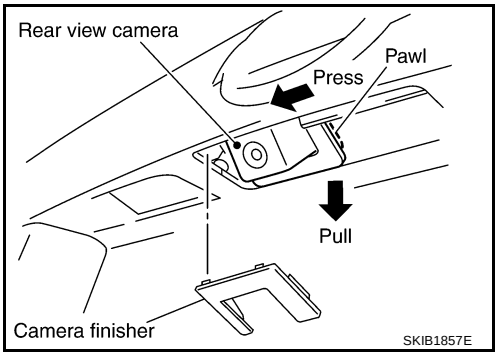
Installation is the reverse order of removal.

Removal and Installation of Rear View Camera

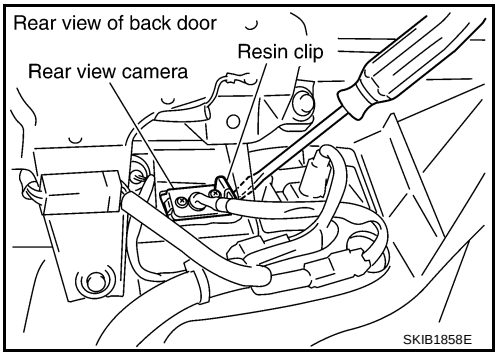
AKS00CGZ

REMOVAL

1. Remove back door trim. Refer to EI-40, "BACK DOOR TRIM" .
2. Unhook two pawls to remove the camera finisher from the back door. Pull the right pawl out with pressing the rear view camera to the left.



3. Press the resin clip from the inside of the back door with a minus screwdriver etc. Remove the rear view camera from the back door.
4. Disconnect connector.



INSTALLATION

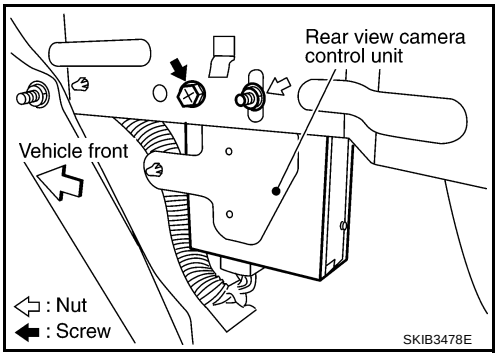
Installation is the reverse order of removal.
Modify the vehicle width and distance guiding line referring to AV-169, "Vehicle Width and Distance Guiding Line Correction" if there is a difference after installing rear view camera.

Removal and Installation of Rear View Camera Control Unit

AKS00CGY

REMOVAL

1. Remove luggage floor spacer (right). Refer to EI-38, "LUGGAGE FLOOR TRIM" .
2. Remove screw and nut.
3. Disconnect connector and remove rear view camera control unit.



INSTALLATION

Installation is the reverse order of removal.