SECTION AV
AUDIO-VISUAL SYSTEM

CONTENTS

WITHOUT MOBILE ENTERTAINMENT SYSTEM

WITH MOBILE ENTERTAINMENT SYSTEM

PRECAUTION

PFP:00011

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

NKS00485

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.**

Precautions for Trouble Diagnosis

NKS00486

AV COMMUNICATION SYSTEM

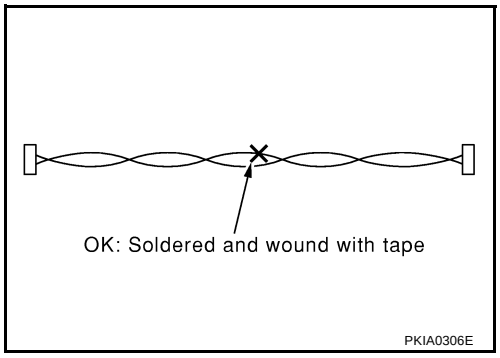
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precautions for Harness Repair

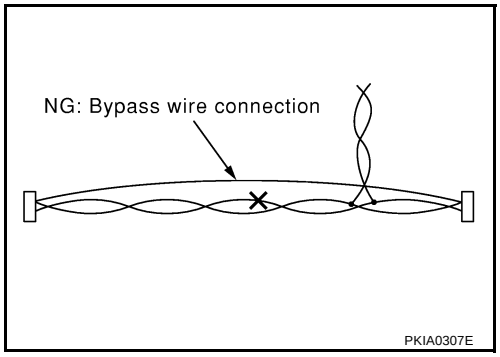
NKS00487

AV COMMUNICATION SYSTEM

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



- Do not perform bypass wire connections for the repair parts. (The spliced wire will become separated and the characteristics of twisted line will be lost.)

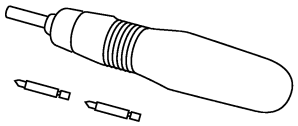


PREPARATION

PFP:00002

Commercial Service Tools

NKS00488

Tool name	Description
Power tool  PBIC0191E	Loosening bolts and nuts

SYSTEM DESCRIPTION

PFP:00000

System Functions

NKS00489

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

AUDIO

Speed Sensitive Volume (for BASE 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.
- The audio unit inputs the vehicle signal that is sent from unified meter and A/C amp via CAN communication through AV (NAVI) control unit.

Precision Phased Audio (for BASE System)

- It plays back the sound using the woofer (ultra-low bass and clear midrange sound) and reproduces the sound with presence.
- When the conventional BASS/TREBLE adjustment is a maximum, the sounds might be unclear because the volume of midrange sound also rises together with the bass and treble. The precision phased audio can emphasize ultra-low bass and ultra-high treble without changing the midrange sound by digital processing using DSP.

  NOTE:
  When the radio is played, the noise may increase more than the presence due to the characteristics of broadcasting waves. Therefore, the amplification rate while playing the radio is controlled lower than the rate while playing CD.

AudioPilot® (for BOSE System)

AudioPilot® is the sound improving system that picks up any noises and the sound of music coming into the vehicle by a microphone under the steering, and that the BOSE amp revises the frequency feature of music at real time in response to the frequency feature of the noise while driving and listening to music.

- If low frequency area noise from vehicle is loud, it adjusts low frequency element of music to be bigger than vehicle noise.
- If high frequency area noise from vehicle is loud, it adjusts all frequency element of music to be bigger than vehicle noise.

Centerpoint® (for BOSE Surround 5.1ch System)

CD and 2.0ch DVD stereo sound played at audio unit and DVD player are subjected to signal processing in BOSE amp. It can play the surround sound with presence.

VEHICLE INFORMATION SYSTEM

- The status of audio, climate control system, fuel consumption, and navigation system (if equipped) are displayed.
- AV (NAVI) control unit receives the data signal from ECM, unified meter and A/C amp and low tire pressure warning control unit via CAN communication. It calculates the values of fuel economy, tire pressure, and trip computer from the received information and displays them.

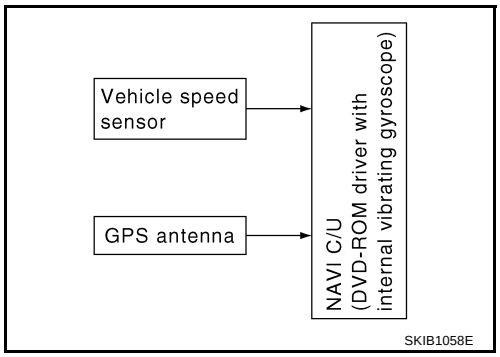
NAVIGATION SYSTEM

Location Detection Principle

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

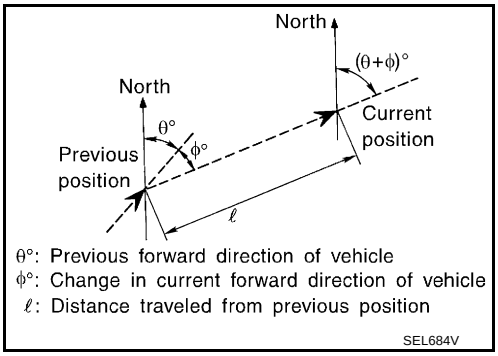
- Travel distance of the vehicle as determined by the vehicle speed sensor
- Turning angle of the vehicle as determined by the gyroscope (angular velocity sensor)
- Direction of vehicle travel as determined by the GPS antenna (GPS information)

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



indicated on the screen as a vehicle mark. More accurate data is judged and used by comparing vehicle position detection results found by the GPS with the result by map-matching.

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



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

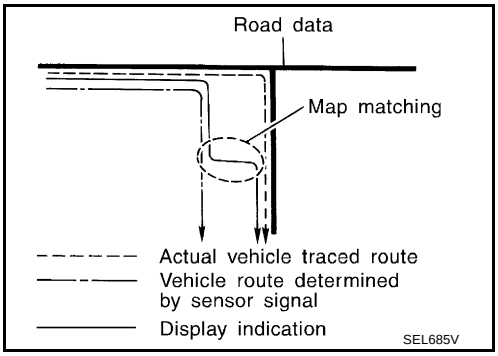
Type	Advantage	Disadvantage
Gyroscope (angular velocity sensor)	Can detect the vehicle's turning angle quite accurately.	Direction errors may accumulate when vehicle is driven for long distances without stopping.
GPS antenna (GPS information)	Can detect the vehicle's travel direction (North/South/East/West).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

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

Map-Matching

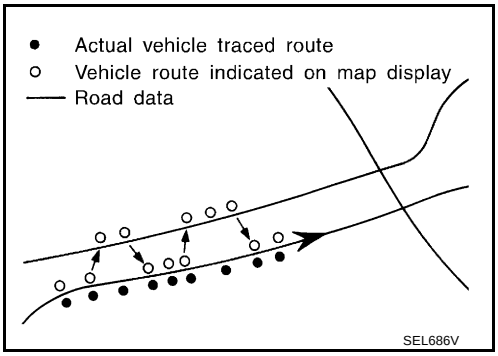
Map-matching compares a current location detected by the method in the “Location Detection Principle” with a road map data from Map DVD-ROM stored in DVD-ROM drive.

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

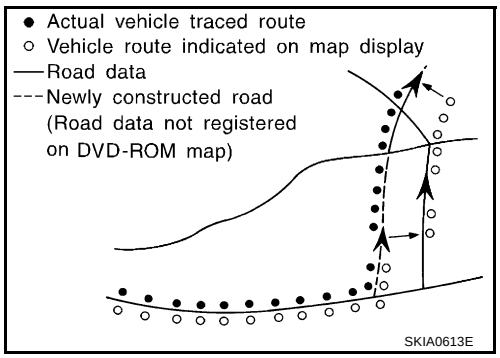


The vehicle position may not be corrected under the following circumstances and after driving for a certain time when GPS information is difficult to receive. In this case, the vehicle mark on the display must be corrected manually.

- In map-matching, alternative routes to reach the destination will be shown and prioritized, after the road on which the vehicle is currently driven has been judged and the vehicle mark has been repositioned.
  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 vehicle mark may appear on either of them alternately, depending on maneuvering of the steering wheel and configuration of the road.

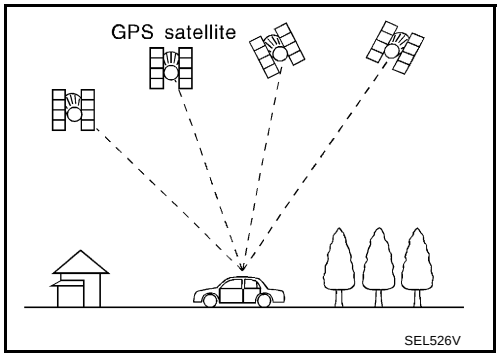


- Map-matching does not function correctly when a road on which the vehicle is driving is new and not recorded in the map DVD-ROM, or when road pattern stored in the map data and the actual road pattern are different due to repair.
  When driving on a road not present in the map, the map-matching function may find another road and position the vehicle mark on it. Then, when the correct road is detected, the vehicle 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 21,000 km (13,100miles).
The GPS receiver calculates the vehicle's position in three dimensions (latitude/longitude/altitude) according to the time lag of the radio waves received from four or more GPS satellites (three-dimensional positioning). 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 10 m (30 ft).
- 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.

HANDS-FREE PHONE

- AV (NAVI) control unit has Bluetooth module. It can perform wireless hands-free telephone calls using a cellular phone in vehicle compartment.
- 5 or more portable phones can be registered into the AV (NAVI) control unit.

REAR VIEW MONITOR

- The small CCD camera is equipped into the rear end of the vehicle. The rear view monitor that displays the area behind the vehicle while backing up is equipped.
- Guiding lines indicating side and rear clearances are provided in the rear view monitor image, which allows the driver to more easily judge distances between the vehicle and objects in the display. The possible route lines that indicate the possible route according to the steering angle are provided to help backing up when parking.
- Image quality of the rear view image and of the navigation screen can be adjusted separately.

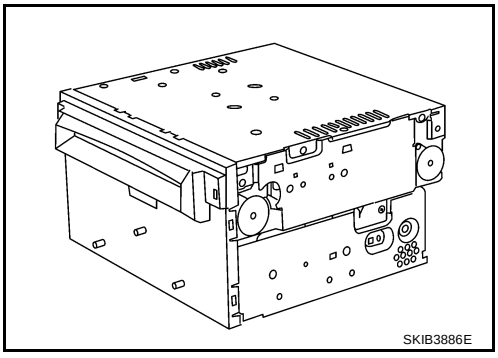
Component Description

NKS0048A

AUDIO UNIT

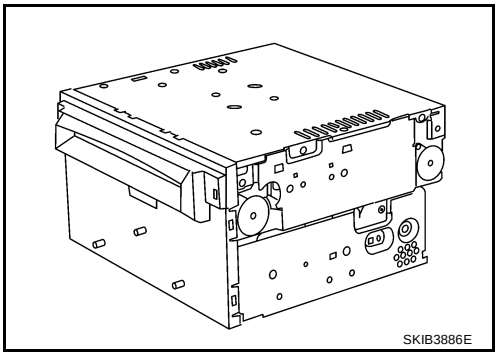
Base System

- It receives the TEL voice signal and voice guidance signal from AV (NAVI) control unit and output them to the front speaker.
- When the TEL voice and voice guidance is output, it controls the volume of each speaker.


SKIB3886E

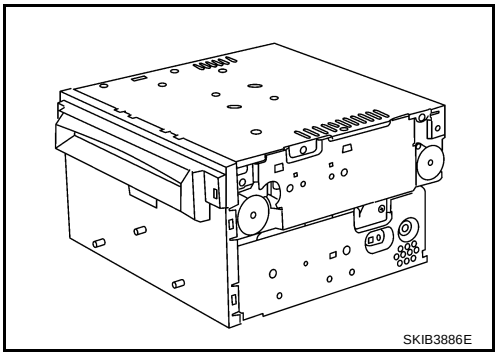
BOSE 2ch System

It receives the TEL voice signal from AV (NAVI) control unit and output it to the BOSE amp.


SKIB3886E

BOSE Surround 5.1ch System

- It receives the TEL voice signal from AV (NAVI) control unit and output it to the BOSE amp.
- DVD player receives the received AUX sound and the downmix sound of DVD player, and then sends them to the BOSE amp.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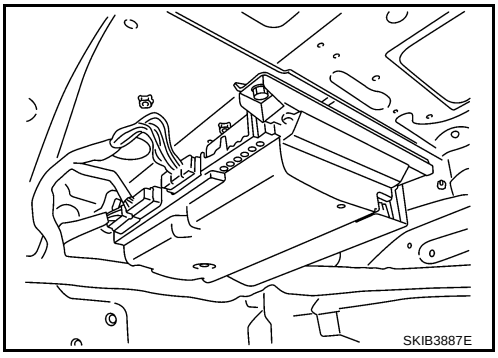
BOSE AMP

BOSE 2ch System

- It amplifies the sound signal from the audio unit and output it to each speaker.
- It receives the voice guidance signal from AV (NAVI) control unit and output it to the front speaker.
- It controls sound volume of each speaker when outputting TEL voice and voice guidance.
- It subjects to AudioPilot® processing when receiving sound signal from microphone for AudioPilot® .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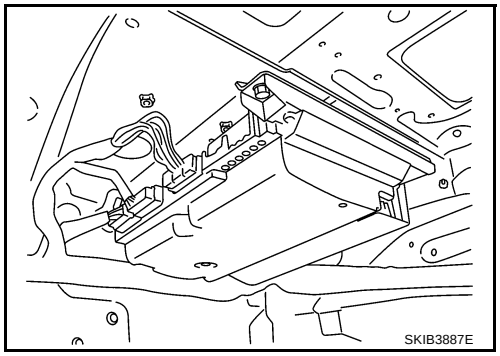
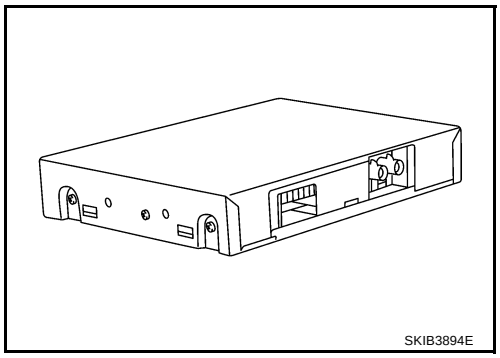
BOSE Surround 5.1ch System


SKIB3887E

- It amplifies the sound signal from the audio unit and the DVD sound signal from DVD player, and then output them to each speaker.
- It receives the voice guidance signal from AV (NAVI) control unit and output it to the front speaker.
- It controls sound volume of each speaker when outputting TEL voice and voice guidance.
- It subjects to AudioPilot® processing when receiving sound signal from microphone for AudioPilot® .
- It subjects to Centerpoint® processing.

SATELLITE TUNER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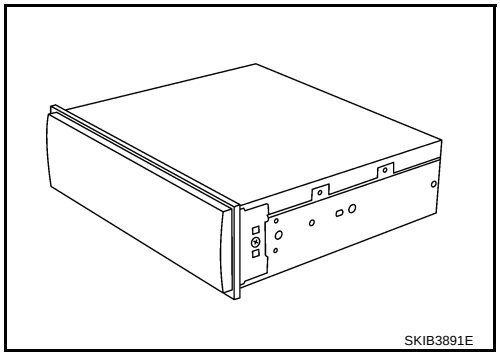
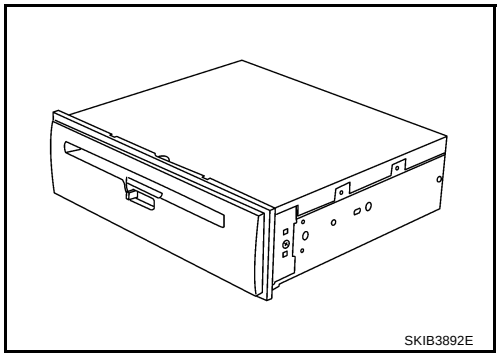
- The satellite tuner is connected with the audio unit via communication line.
- It sends the received sound signal from the satellite radio antenna to the audio unit.

AV CONTROL UNIT (WITHOUT NAVI)


SKIB3891E

- It controls each unit of the system by the operation signal from the multifunction switch and sends the image signal of operating condition or vehicle information, etc. to the front display unit.
- It receives the TEL input voice or the input voice at voice control from the microphone. It receives the received TEL voice, and then sends it to the audio unit.
- It sends the voice guidance signal to BOSE amp (BOSE system) and audio unit (BASE system).

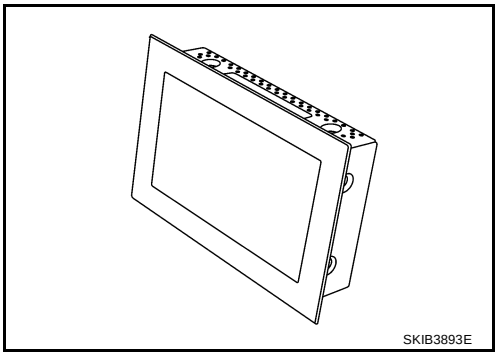
NAVI CONTROL UNIT (WITH NAVI)


SKIB3892E

- It controls each unit of the system by the operation signal from the multifunction switch and sends the image signal of operating condition or vehicle information, etc. to the front display unit.
- It receives the TEL input voice or the input voice at voice control from the microphone. It receives the received TEL voice, and then sends it to the audio unit.
- It sends the voice guidance signal to BOSE amp (BOSE system) and audio unit (BASE system).
- Signals are received from the gyro, the vehicle speed sensor, and the GPS antenna. Vehicle location is determined by combining this data with the data contained in the DVD-ROM map. Location information is shown on liquid crystal display panel.

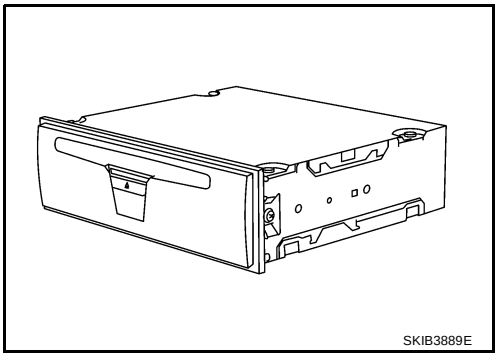
FRONT DISPLAY UNIT

- It receives the RGB signal and the image signal of DVD player and camera control unit from AV (NAVI) control unit.
- The changing of image is controlled by the communication with AV (NAVI) control unit.


SKIB3893E

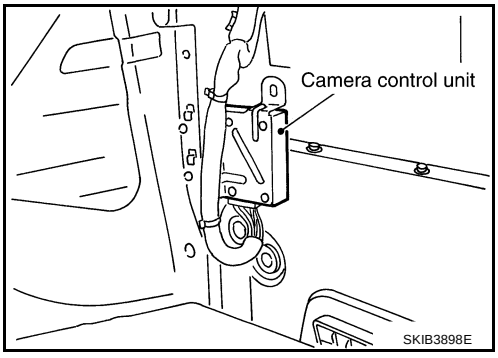
DVD PLAYER

- It sends the sound signal to the BOSE amp and sends the image signal to the front display unit.
- When the downmix function is turned ON when playing DVD, the sound signal is sent to the audio unit.
- It inputs the sound signal from auxiliary input jacks, and then sends it to audio unit.


SKIB3889E

CAMERA CONTROL UNIT

- When the reverse signal is input, the power is supplied to the rear view camera, and then the image signal from the rear view camera is sent to the front display unit.
- The camera control unit displays the guiding lines and possible route lines, and then it synthesizes them to the camera image.



SKIB3898E

CAN Communication System Description

NKS0048B

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

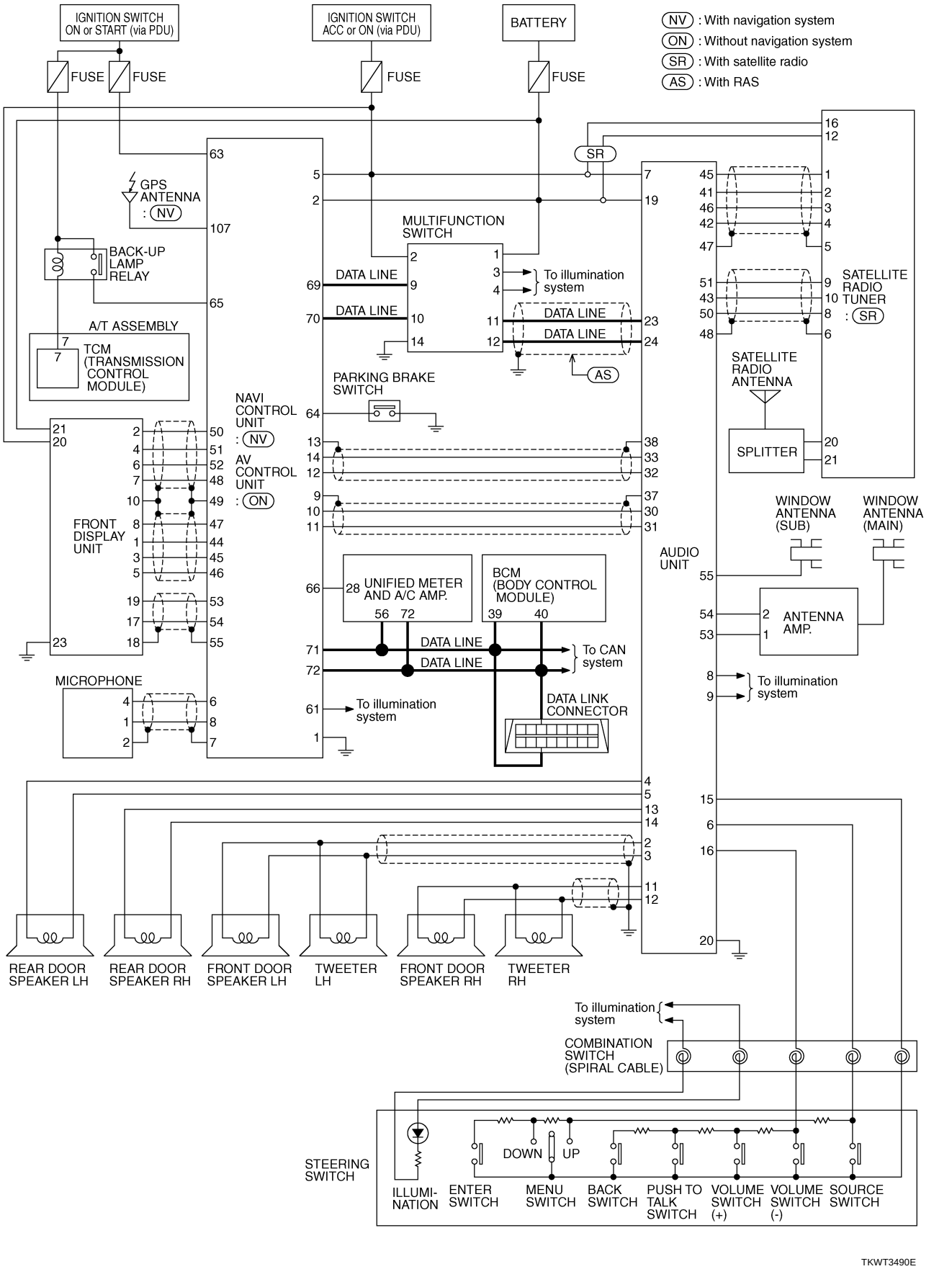
CAN Communication Unit

NKS0048C

Refer to LAN-34, "CAN Communication Unit" .

Schematic — Base Audio System —

NKS0048D



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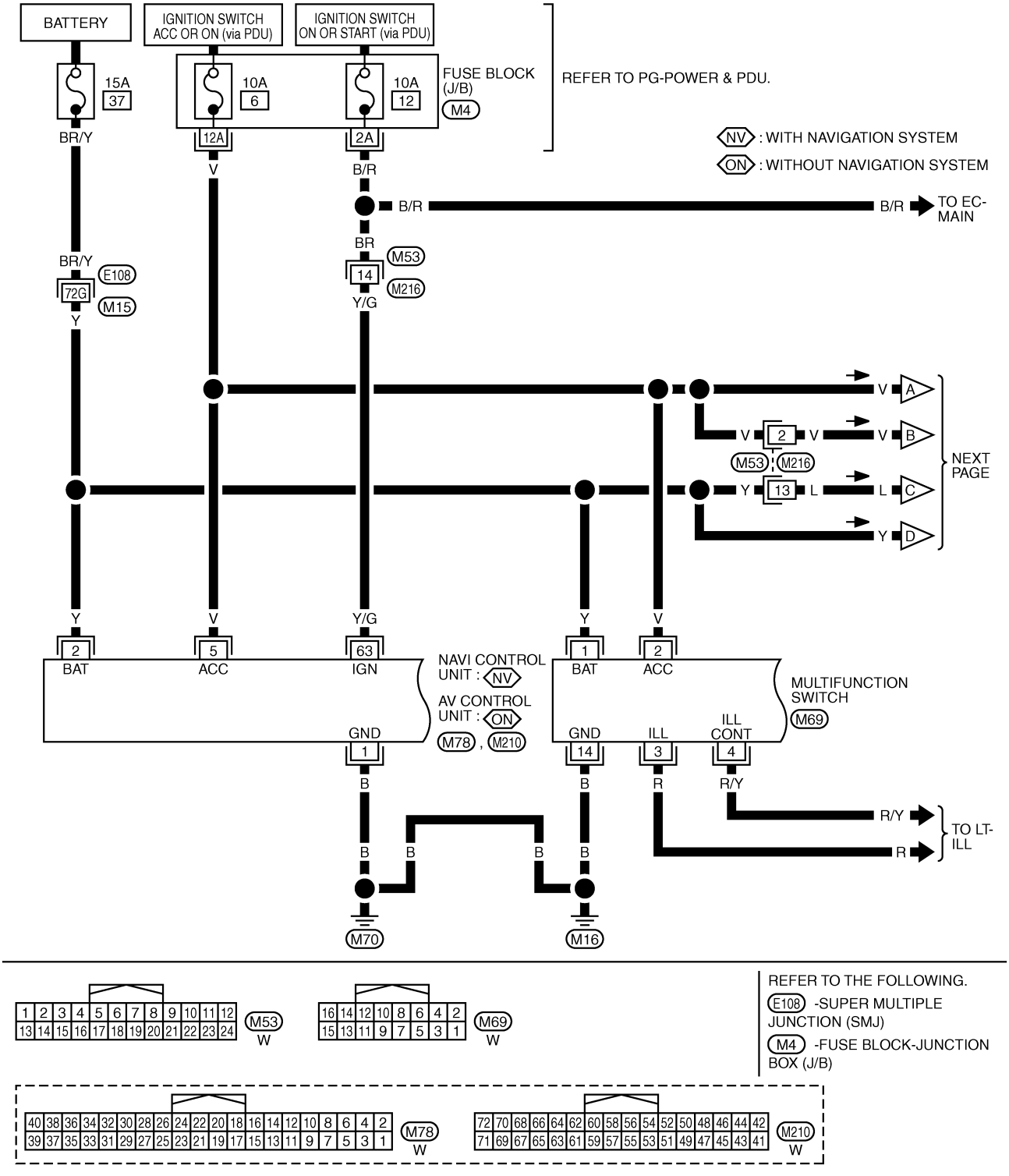
Wiring Diagram — AV — / Base Audio System

NKS0048E

AV-AV-01



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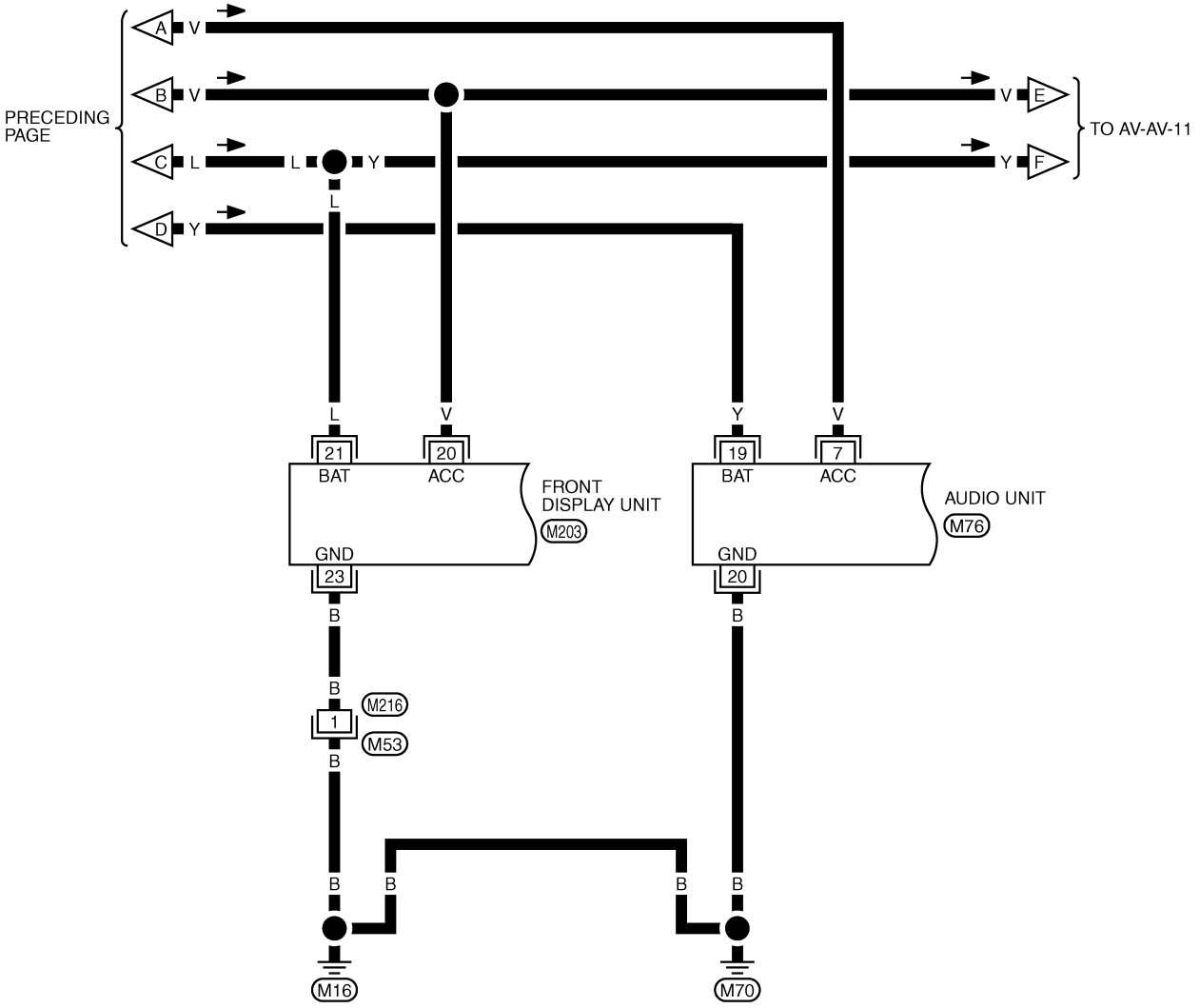
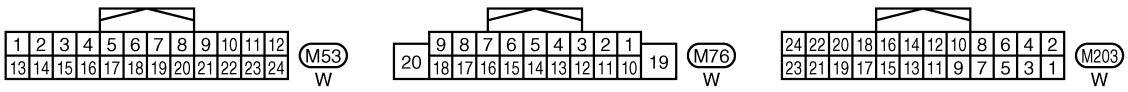
AV-AV-02





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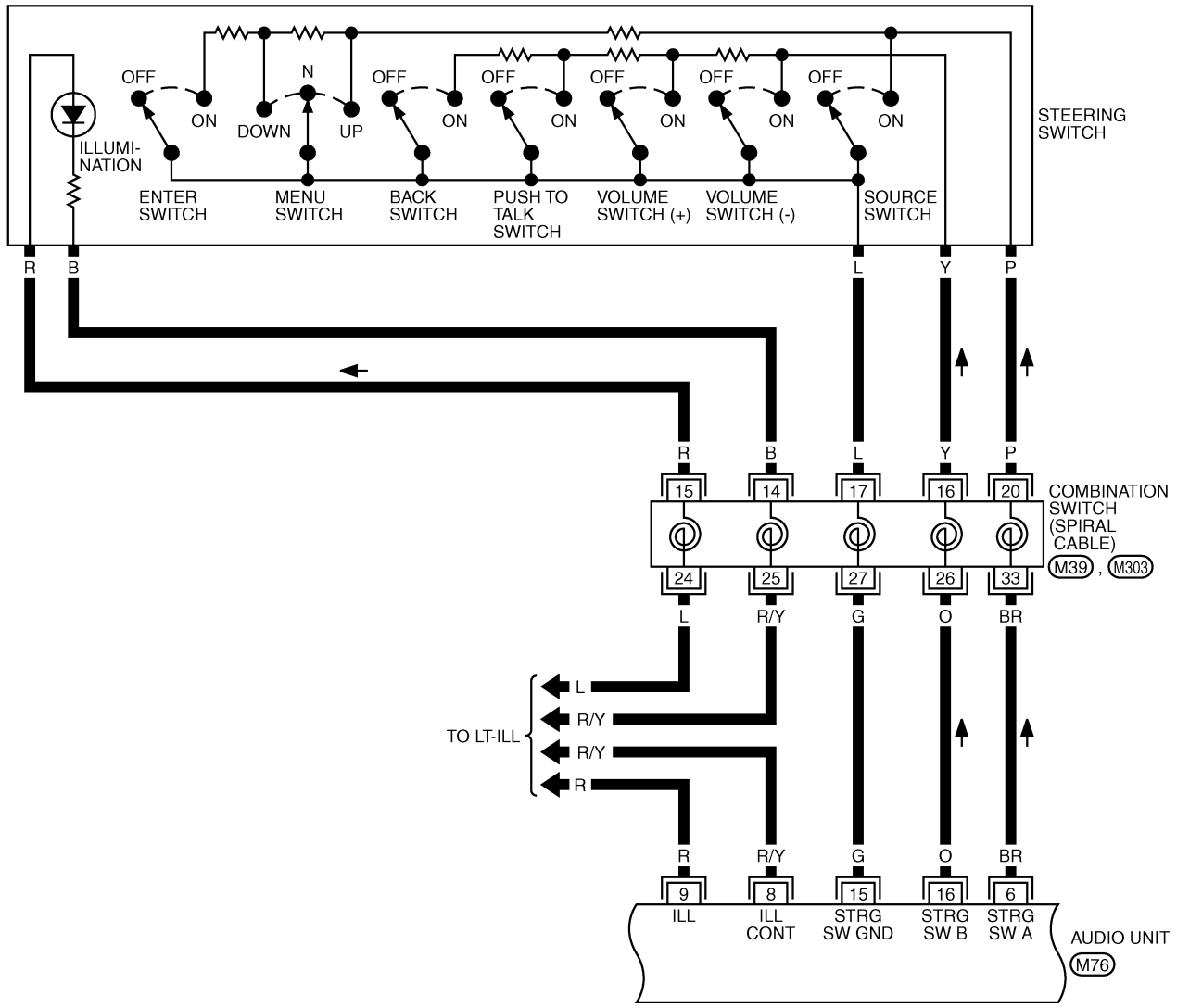
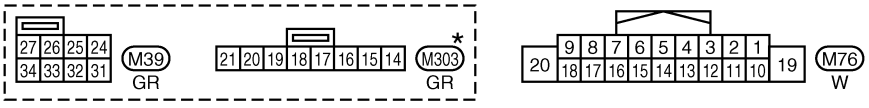
AV-AV-03





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

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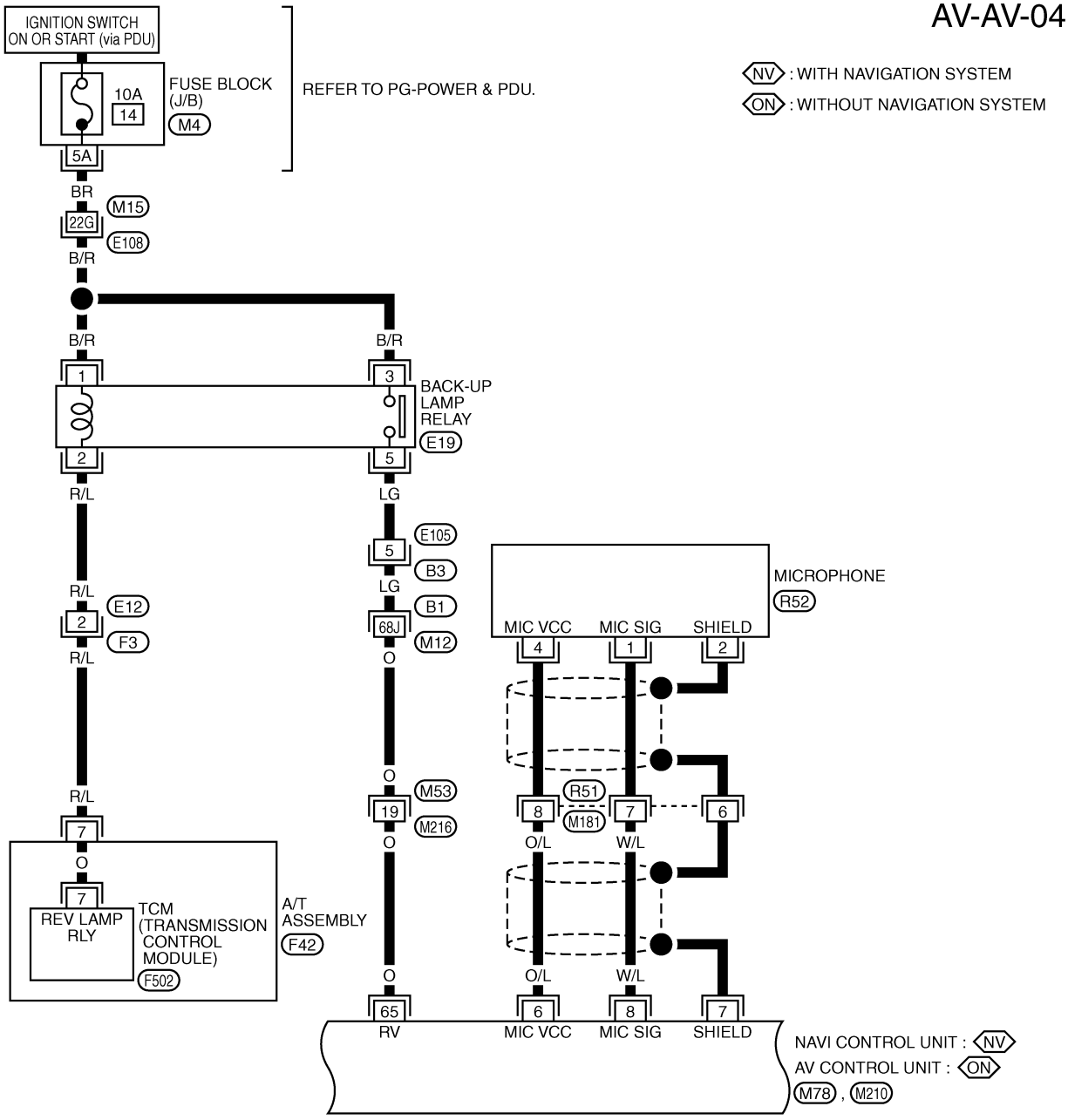
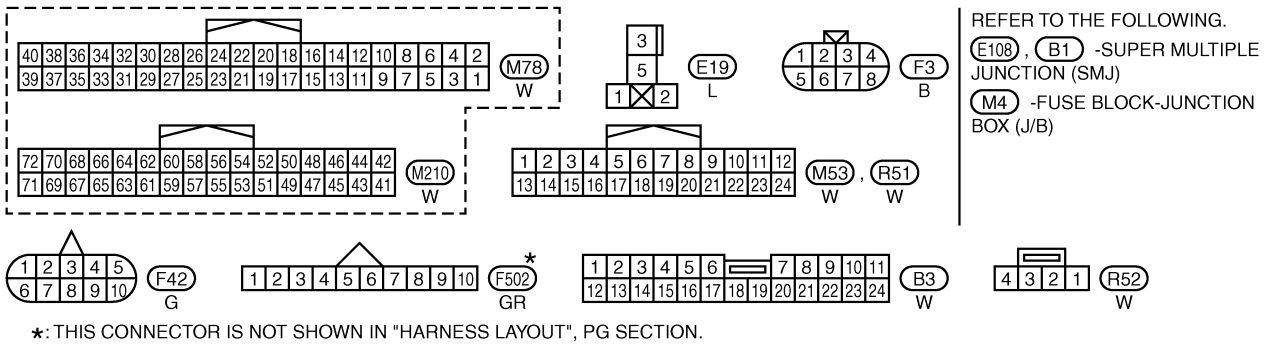
AV-AV-04





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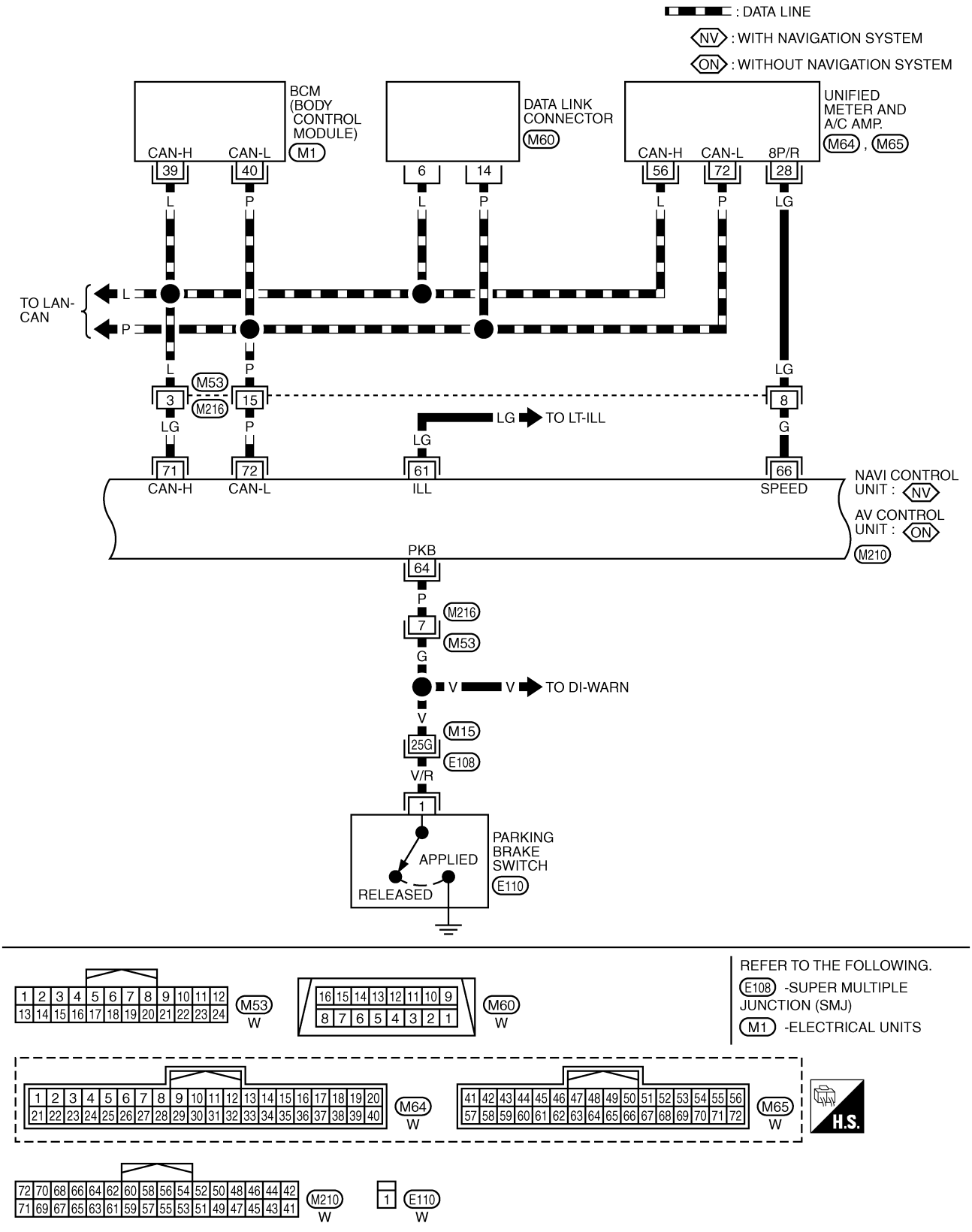
AV-AV-05



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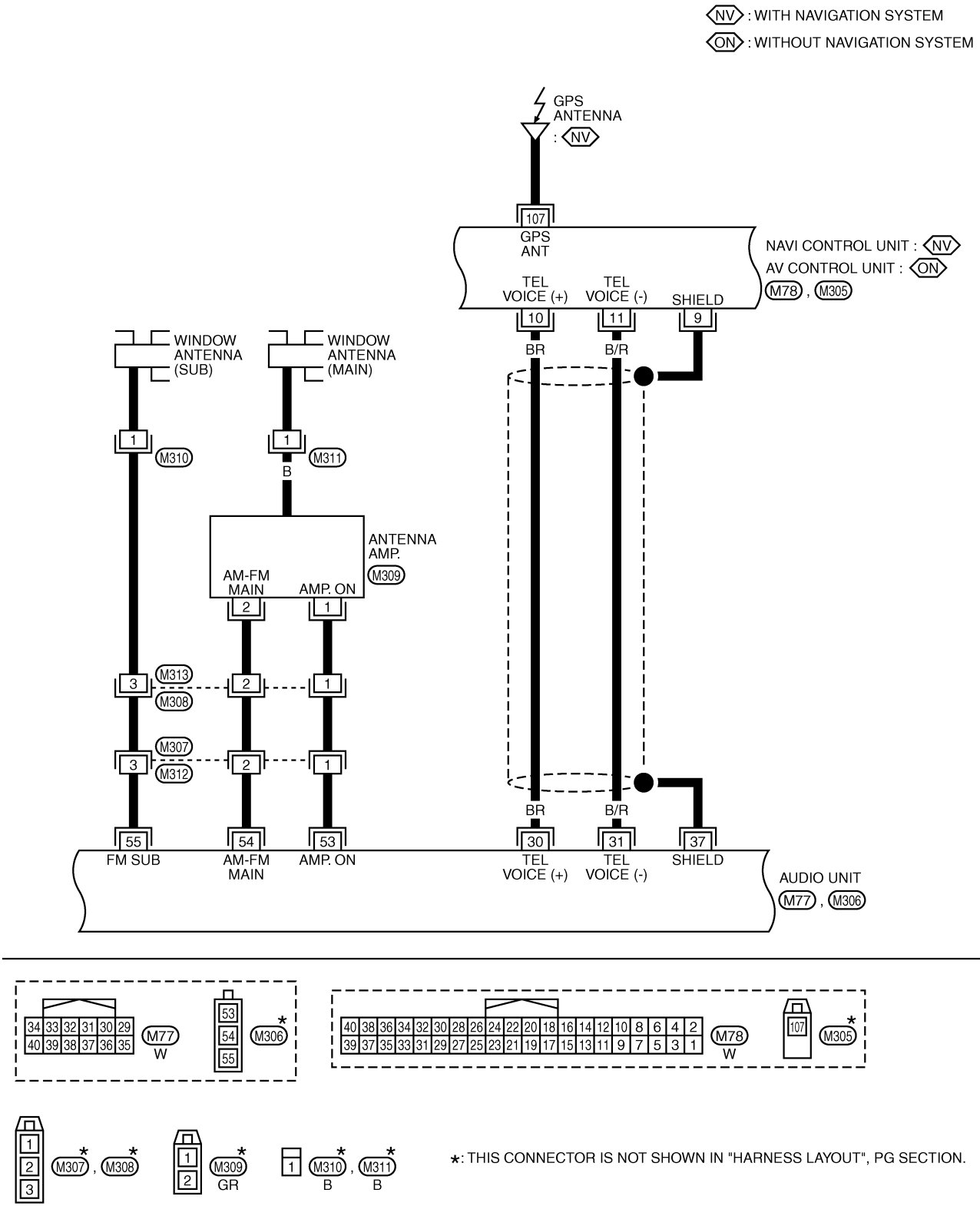
AV-AV-06



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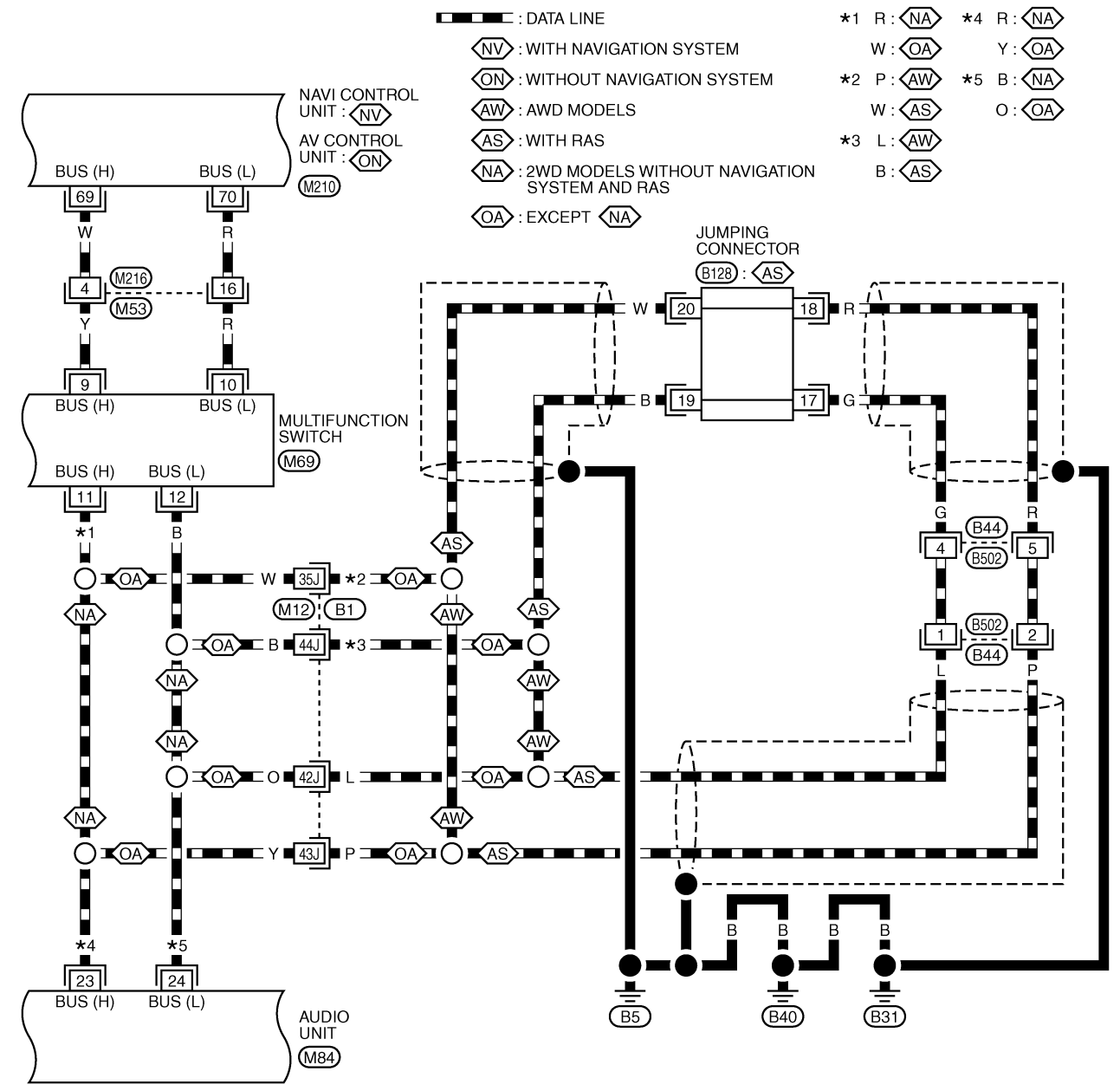
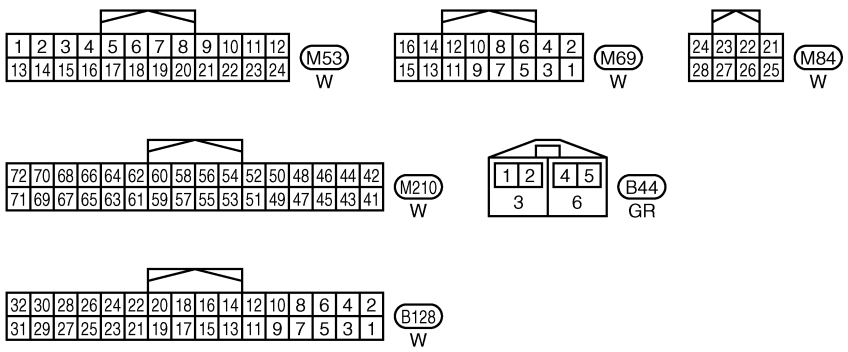
AV-AV-07





REFER TO THE FOLLOWING.
B1 -SUPER MULTIPLE JUNCTION (SMJ)

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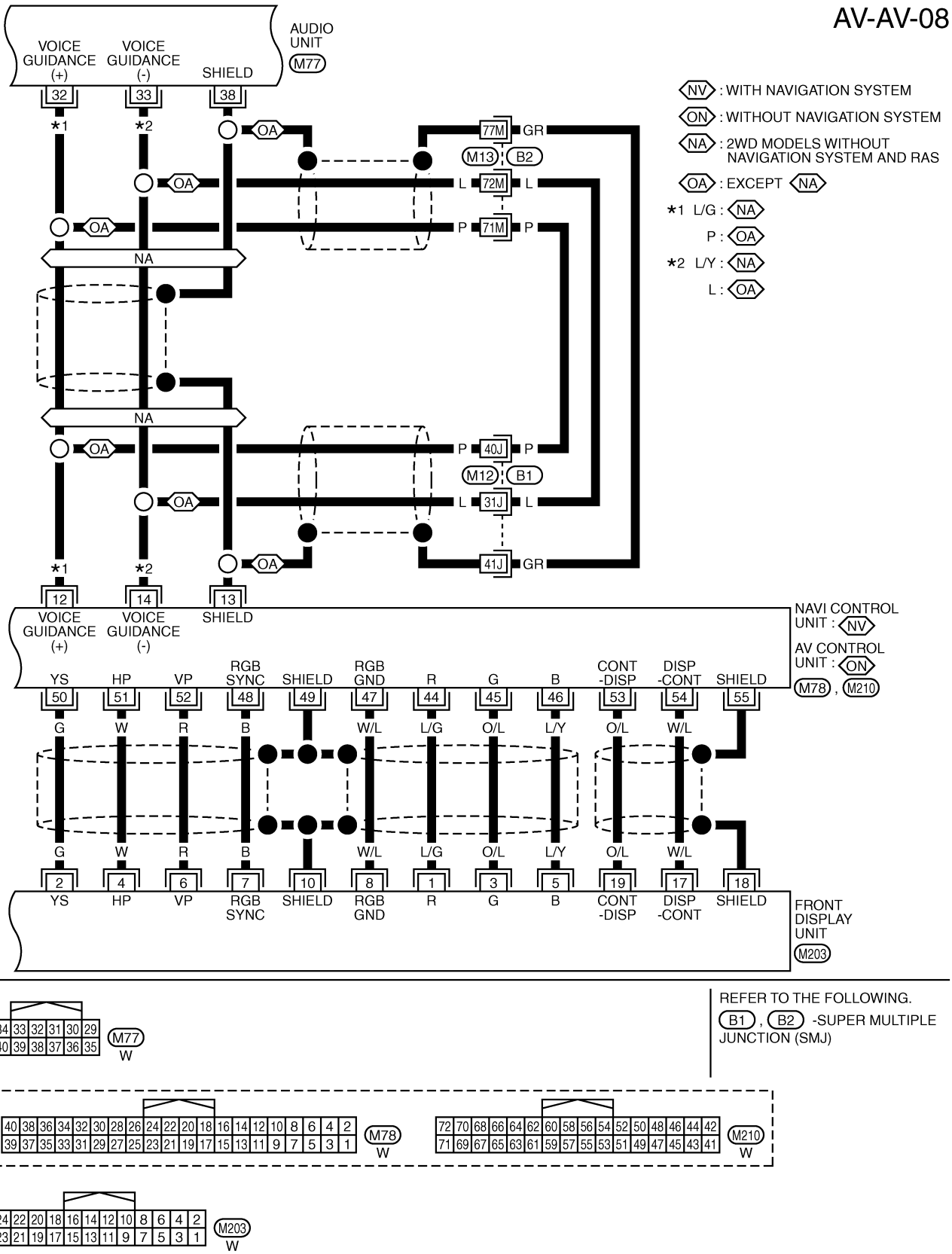
AV-AV-08



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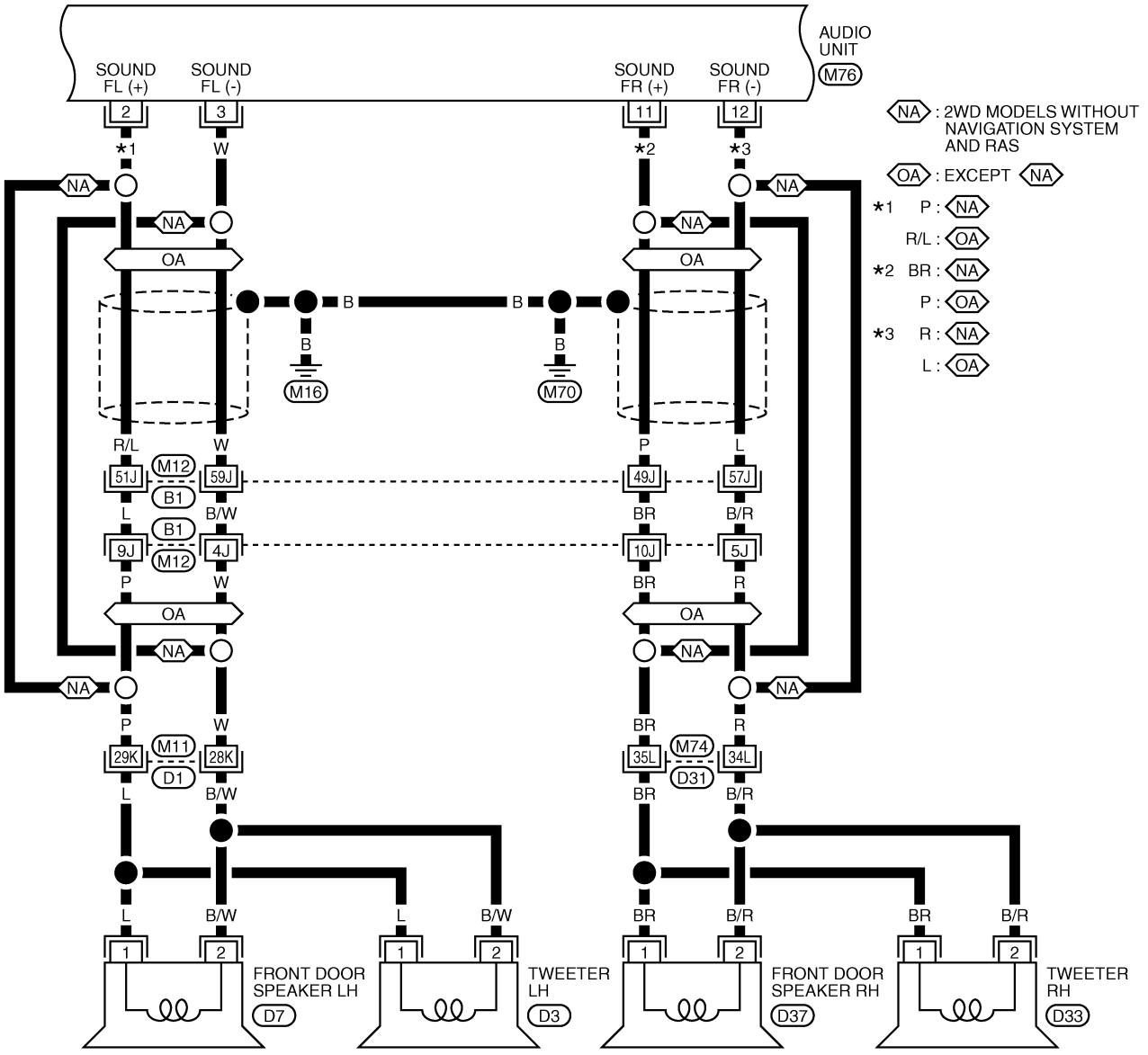
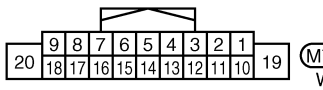
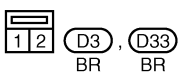
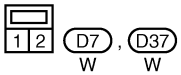
AV-AV-09





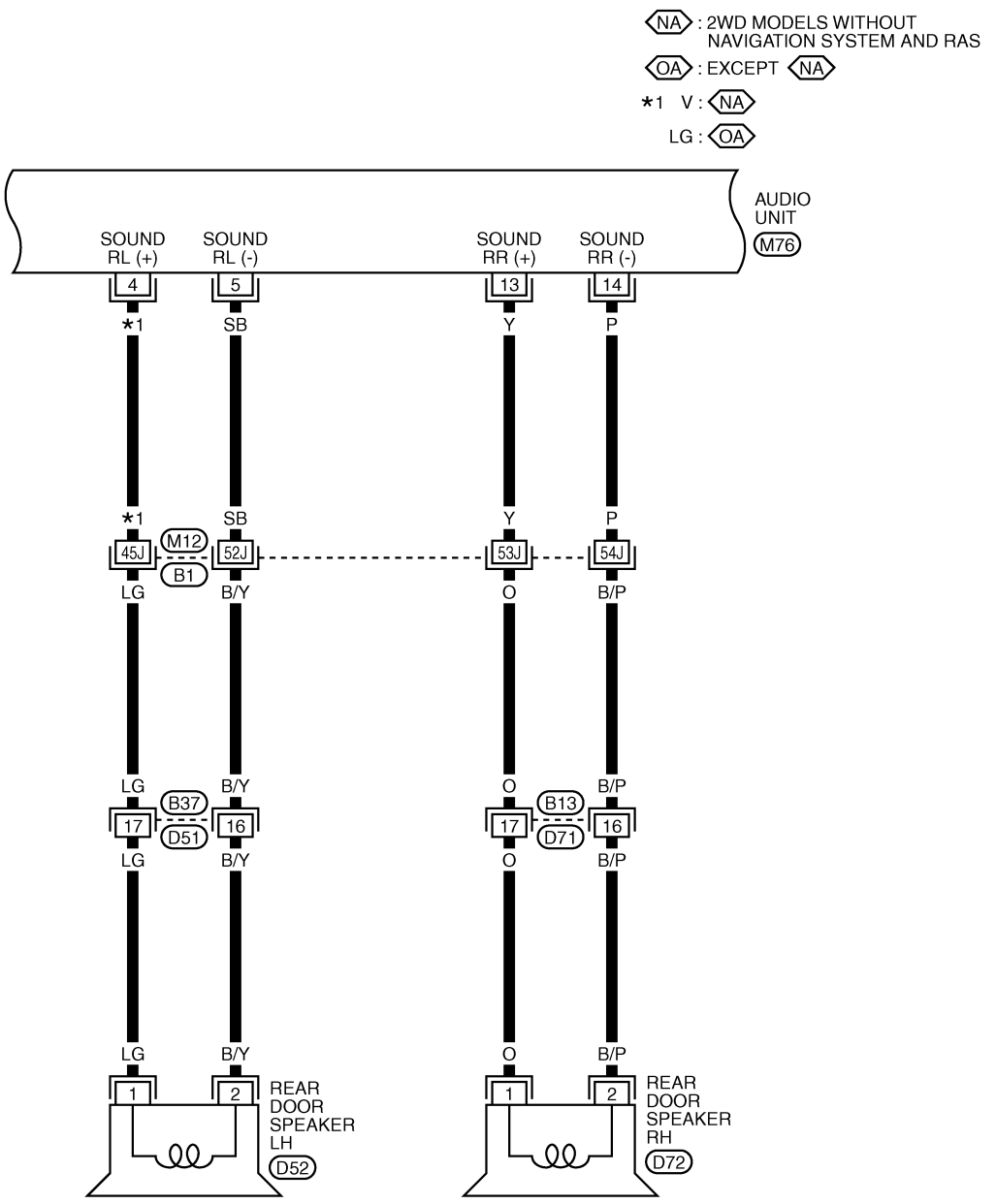


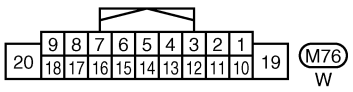


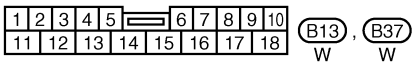
REFER TO THE FOLLOWING.
B1 , D1 , D31 -SUPER MULTIPLE JUNCTION (SMJ)

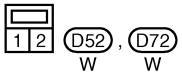
TKWT3499E

AV-AV-10





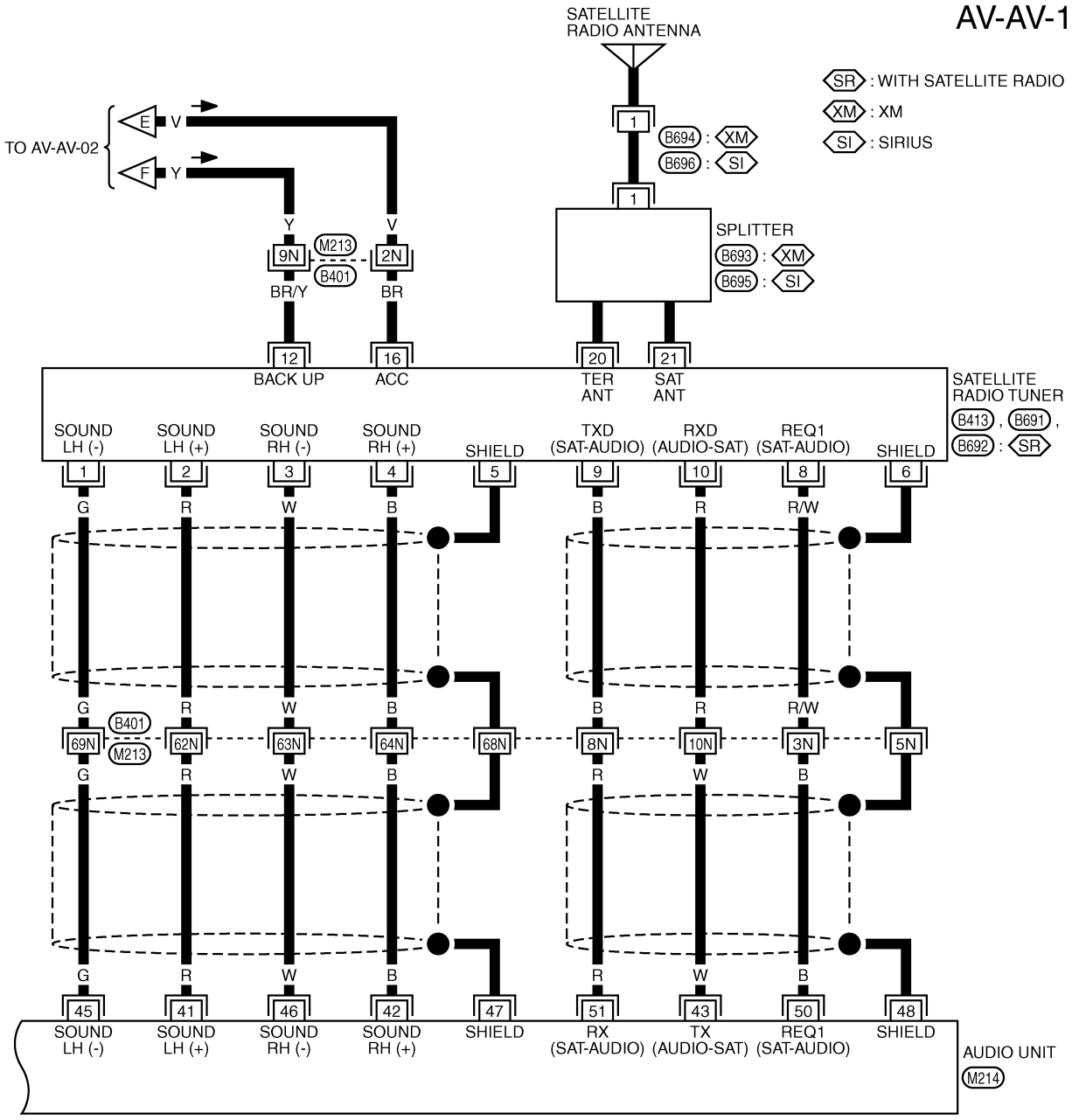


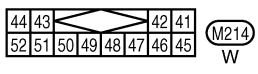


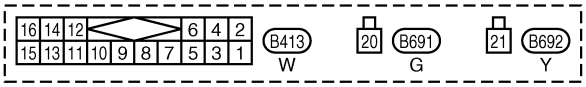
REFER TO THE FOLLOWING.
B1 -SUPER MULTIPLE JUNCTION (SMJ)

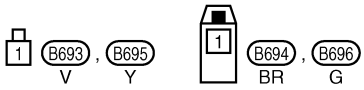
TKWT3500E

AV-AV-11







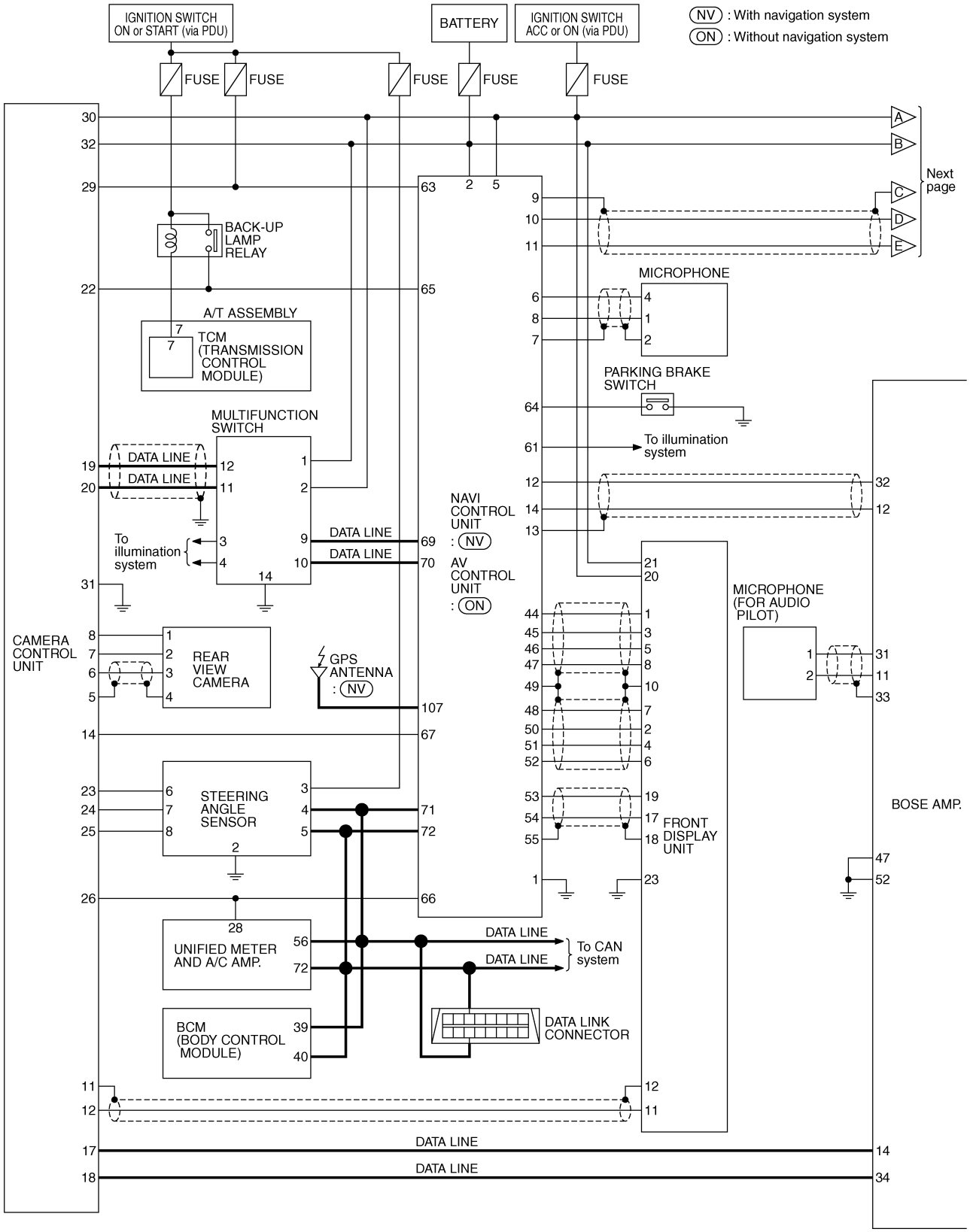


REFER TO THE FOLLOWING.
B401 -SUPER MULTIPLE JUNCTION (SMJ)

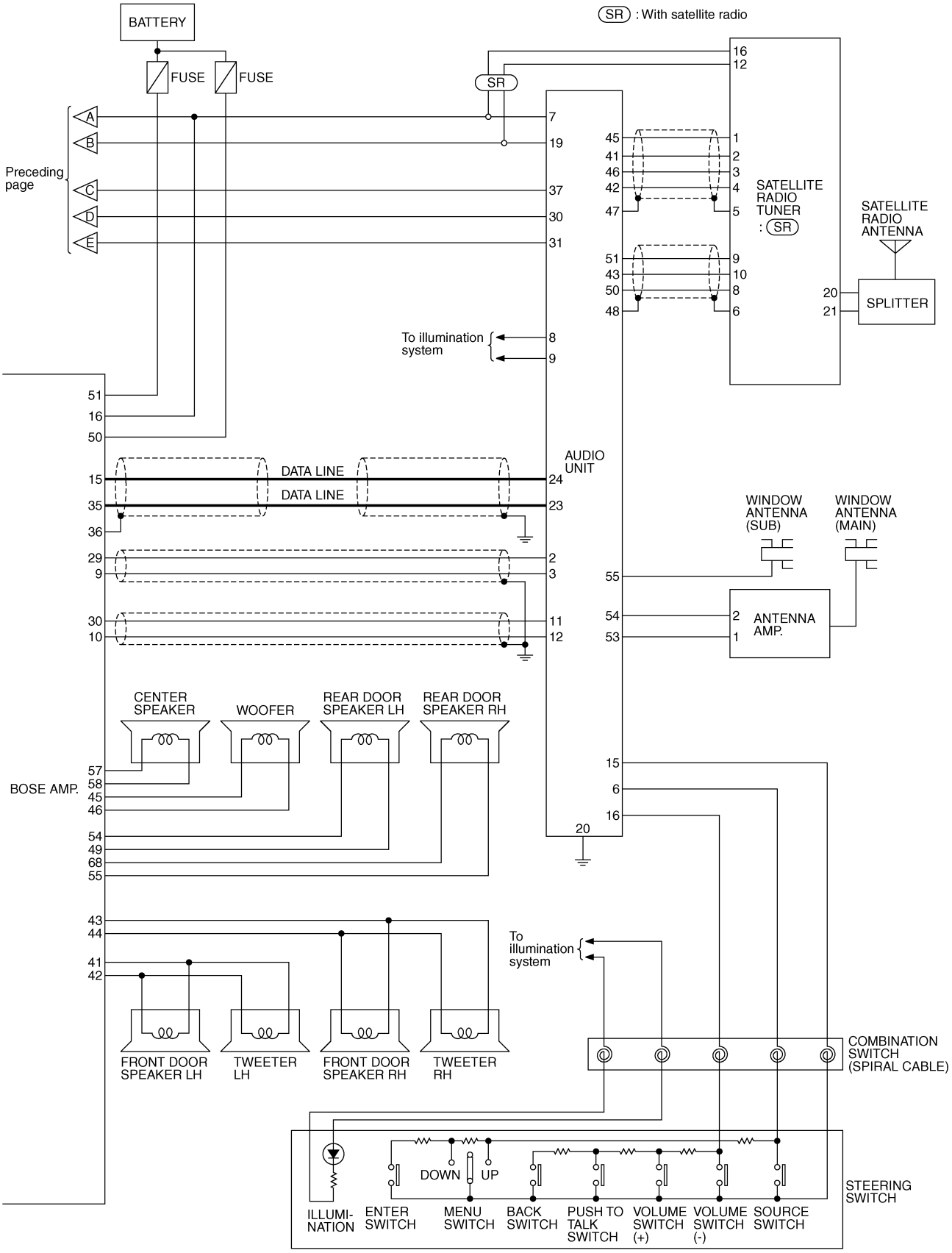
TKWT3501E

Schematic — BOSE Audio 2ch System —

NKS0048F



TKWT3502E


BATTERY
FUSE
FUSE
SR : With satellite radio
SR
Preceding page
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12
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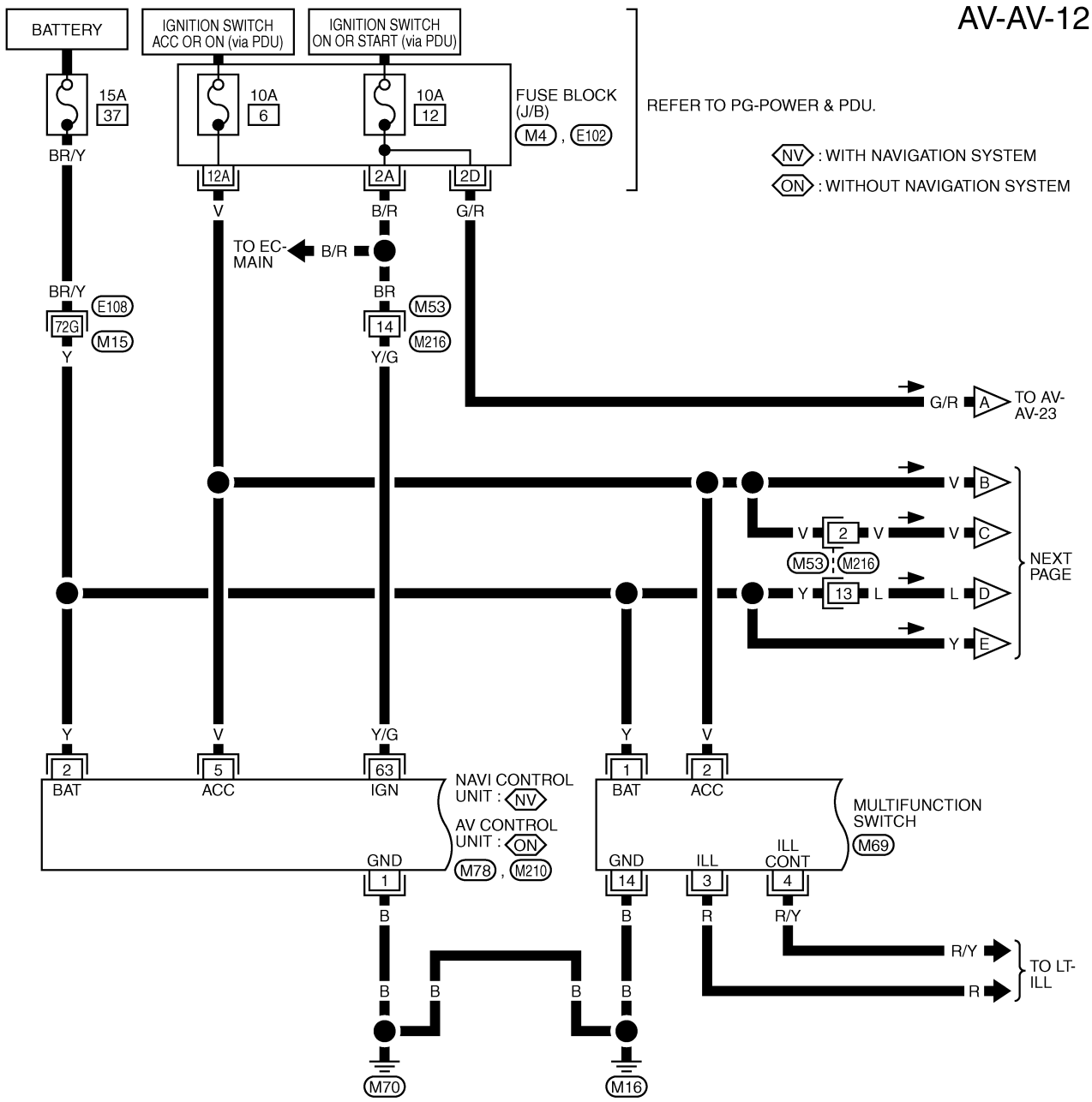
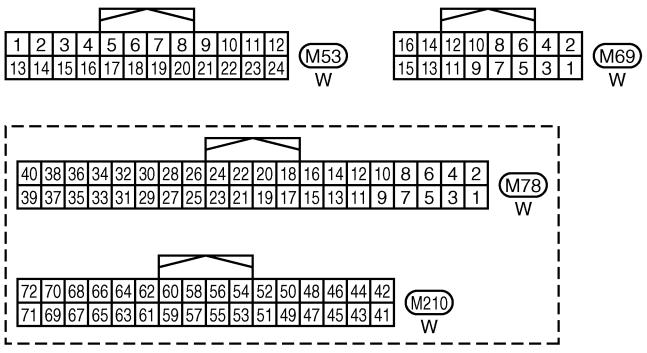
5
SATELLITE RADIO TUNER : SR
SATELLITE RADIO ANTENNA
51
43
50
48
9
10
8
6
20
21
SPLITTER
To illumination system
8
9
51
16
50
AUDIO UNIT
15
35
36
DATA LINE
DATA LINE
24
23
29
9
2
3
30
10
11
12
WINDOW ANTENNA (SUB)
WINDOW ANTENNA (MAIN)
55
54
53
2
1
ANTENNA AMP.
CENTER SPEAKER
WOOFER
REAR DOOR SPEAKER LH
REAR DOOR SPEAKER RH
BOSE AMP.
57
58
45
46
54
49
68
55
15
6
16
20
43
44
41
42
To illumination system
FRONT DOOR SPEAKER LH
TWEETER LH
FRONT DOOR SPEAKER RH
TWEETER RH
COMBINATION SWITCH (SPIRAL CABLE)
DOWN
UP
STEERING SWITCH
ILLUMI-NATION
ENTER SWITCH
MENU SWITCH
BACK SWITCH
PUSH TO TALK SWITCH
VOLUME SWITCH (+)
VOLUME SWITCH (-)
SOURCE SWITCH

TKWT3503E

Wiring Diagram — AV — / BOSE Audio 2ch System

NKS0048G

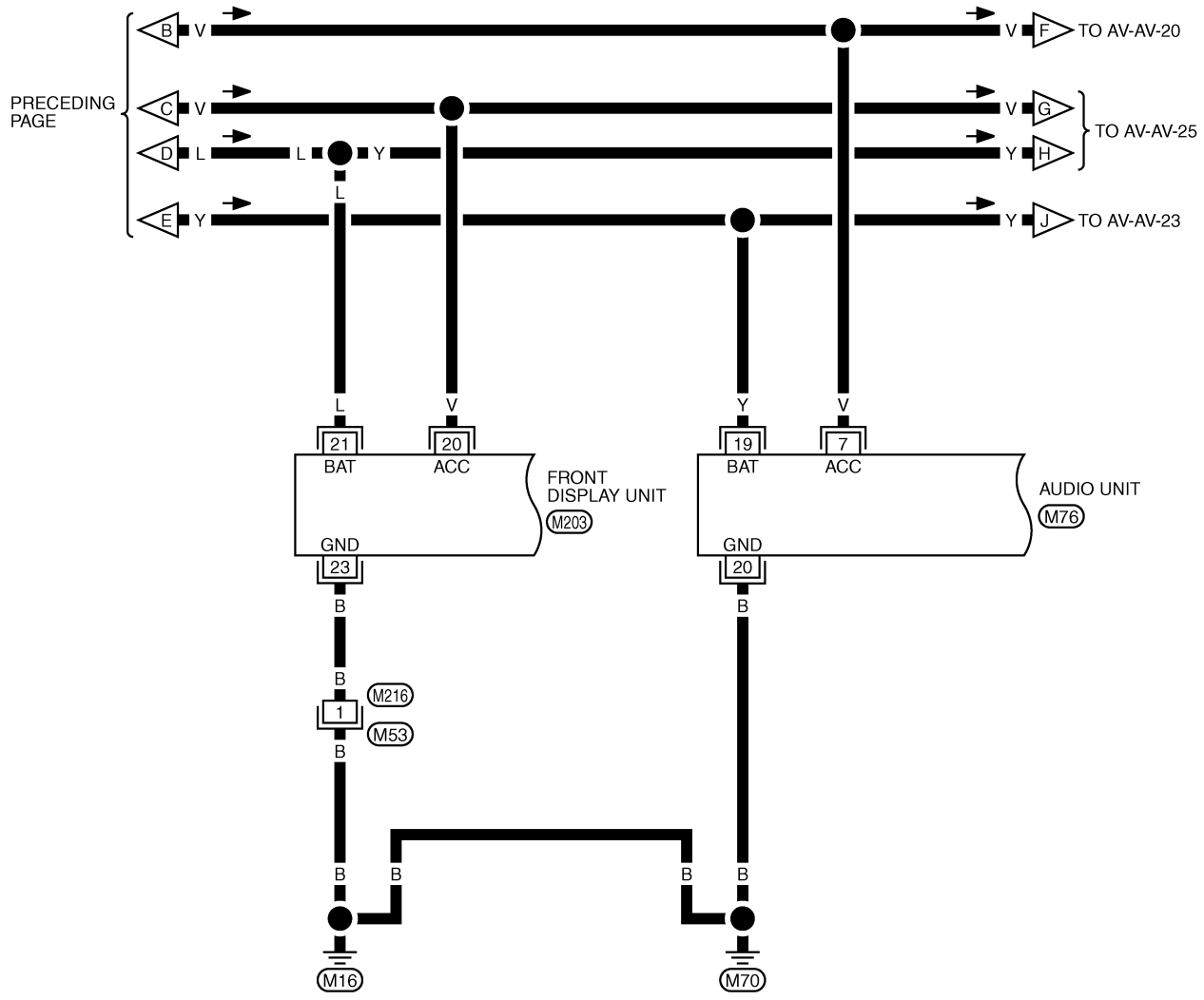


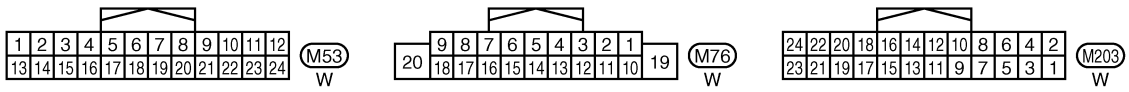


REFER TO THE FOLLOWING.
E108 -SUPER MULTIPLE JUNCTION (SMJ)
M4 , E102 -FUSE BLOCK-JUNCTION BOX (J/B)

TKWT3504E

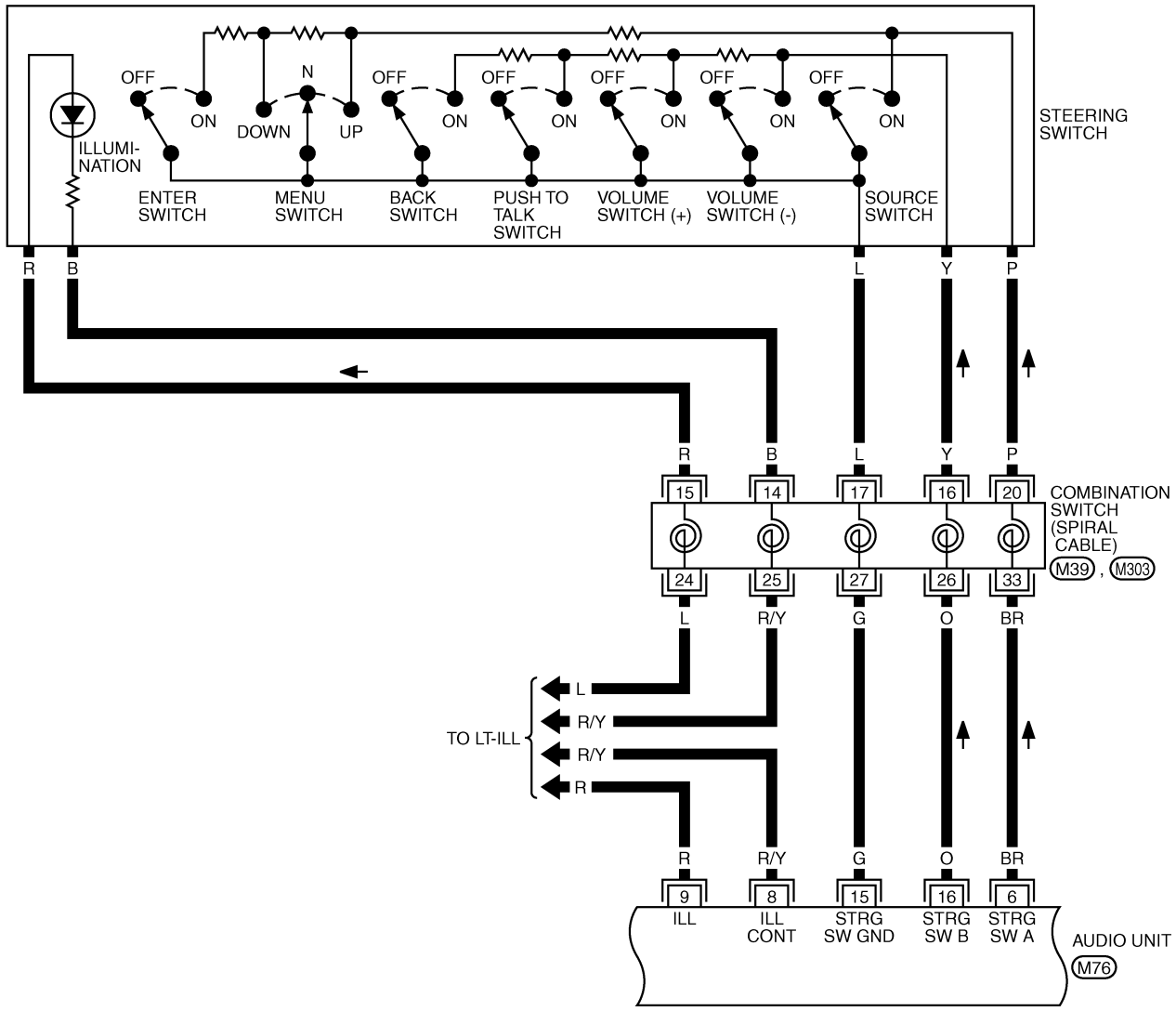
AV-AV-13

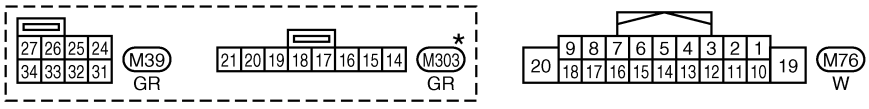




TKWT3505E

AV-AV-14

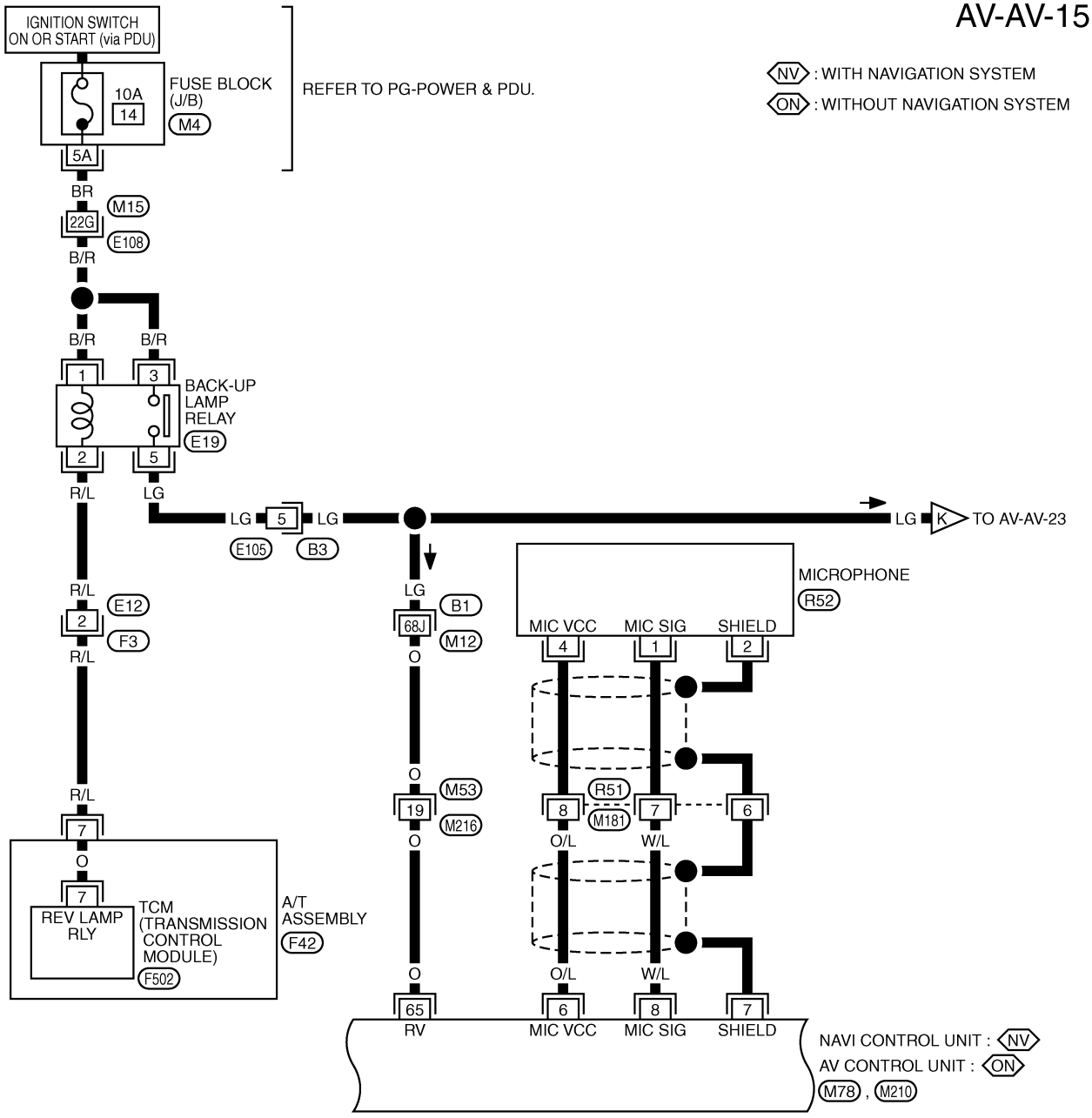




*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

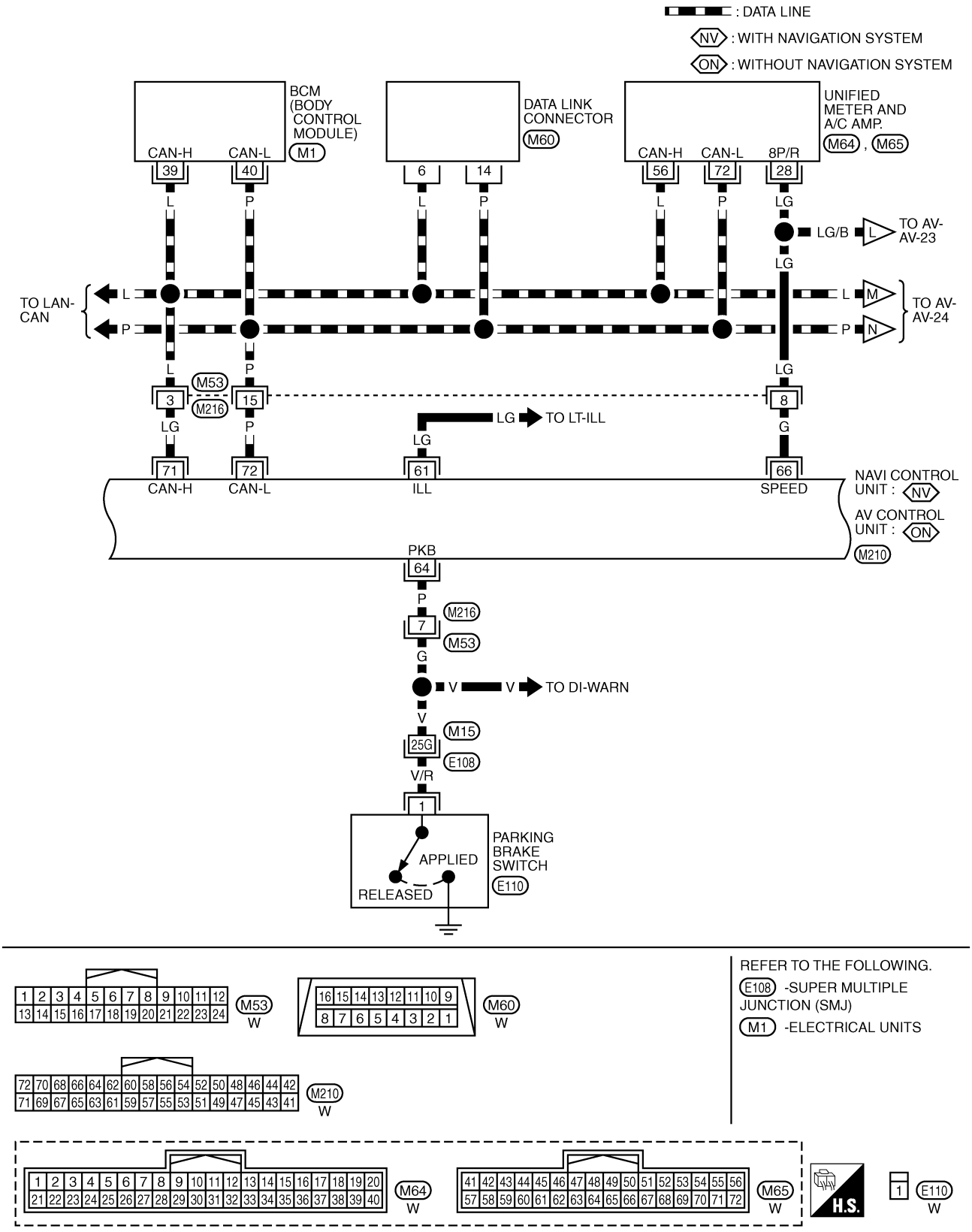
TKWT3506E

AV-AV-15



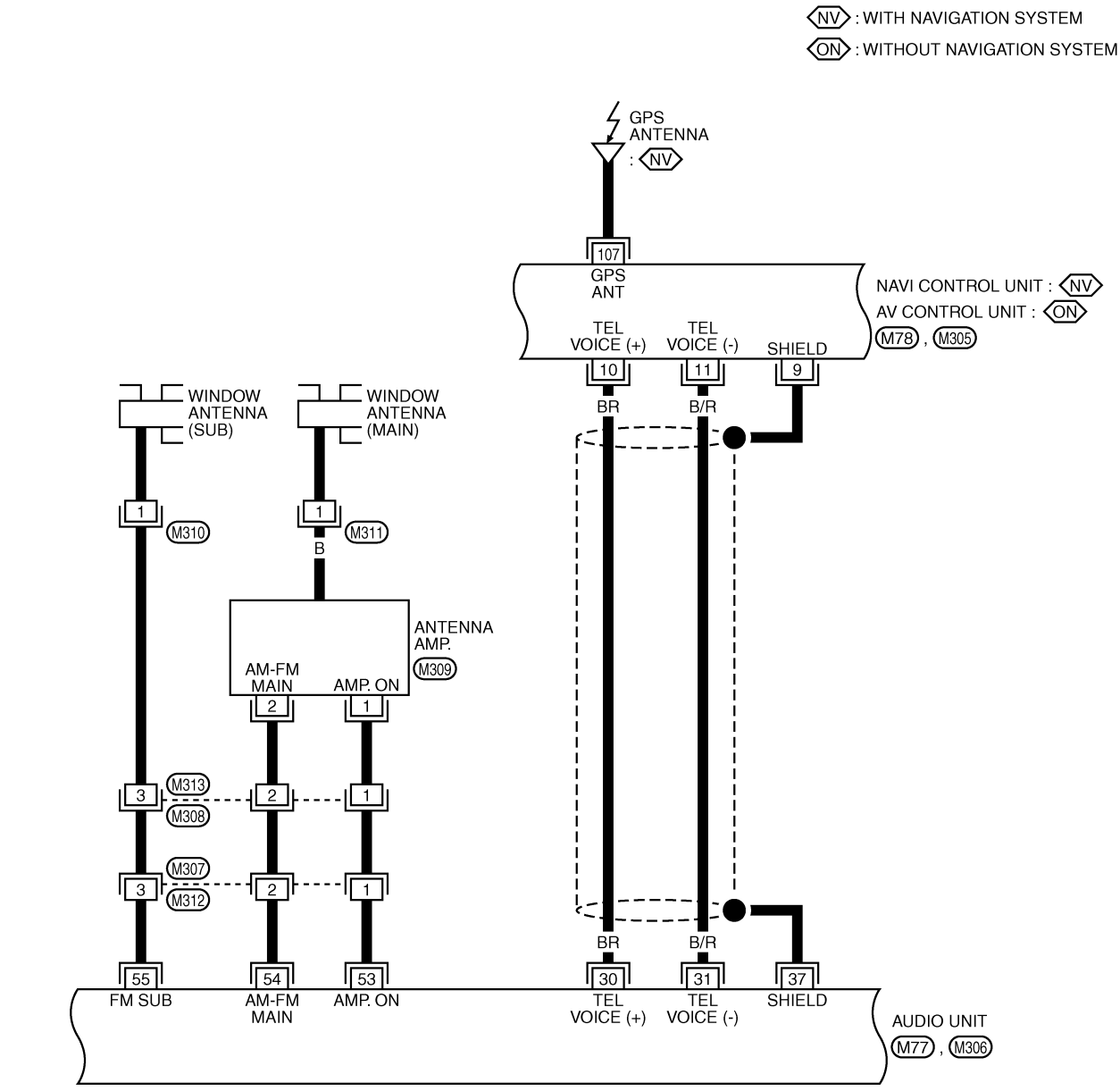
TKWT3507E

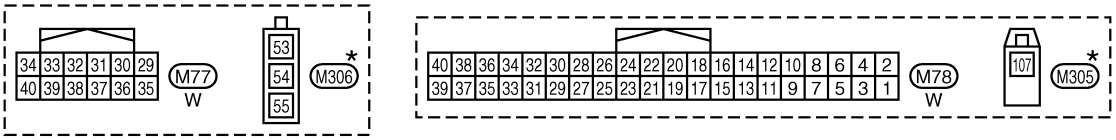
AV-AV-16



TKWT3508E

AV-AV-17

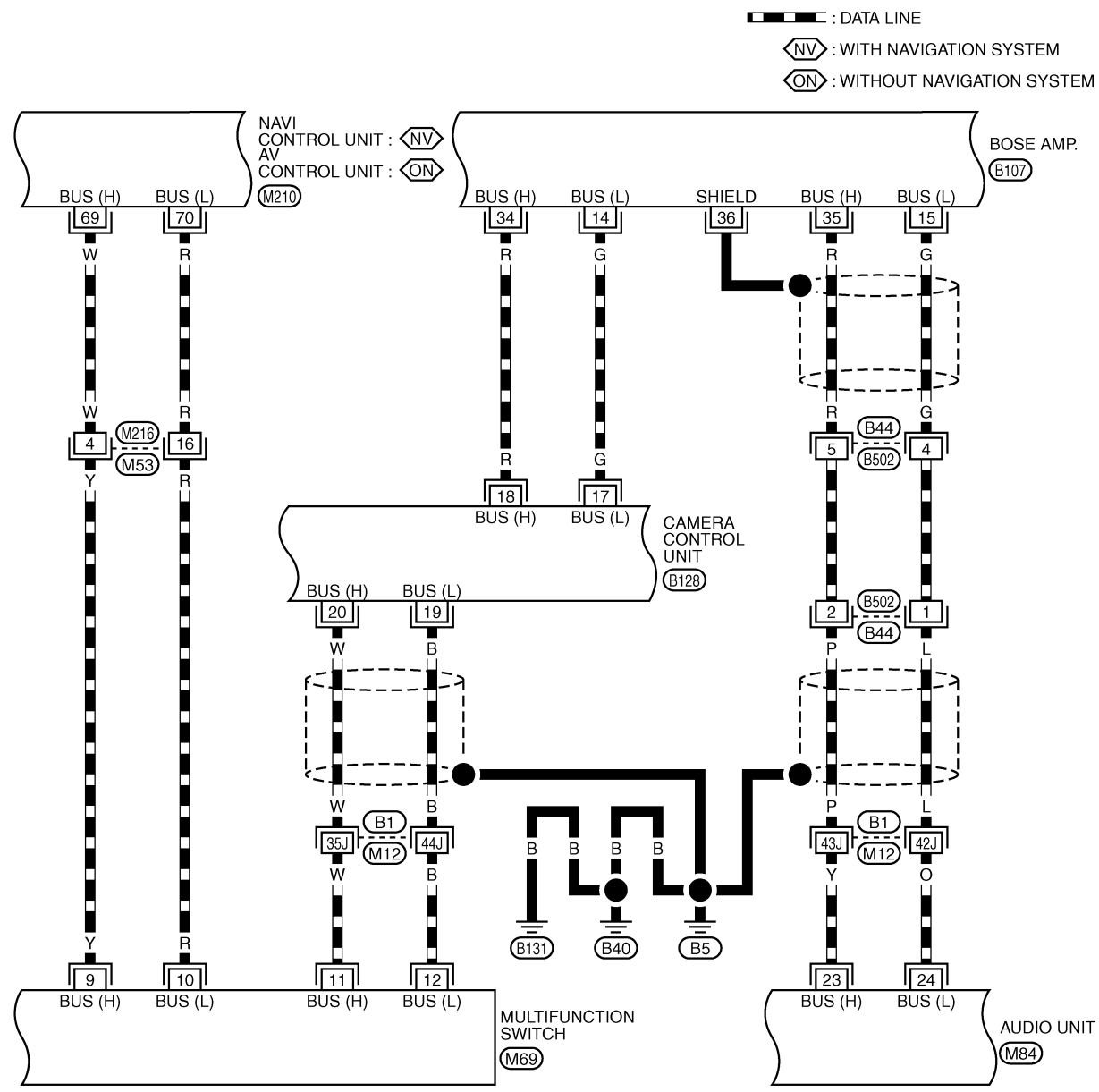


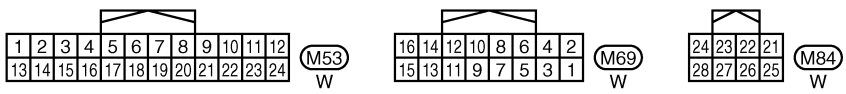


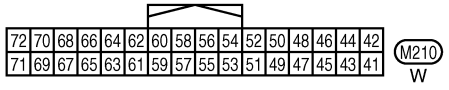
*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

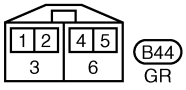
TKWT3509E

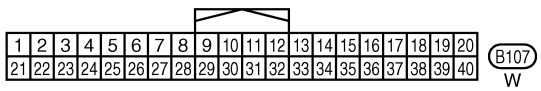
AV-AV-18

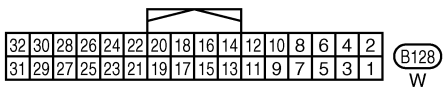








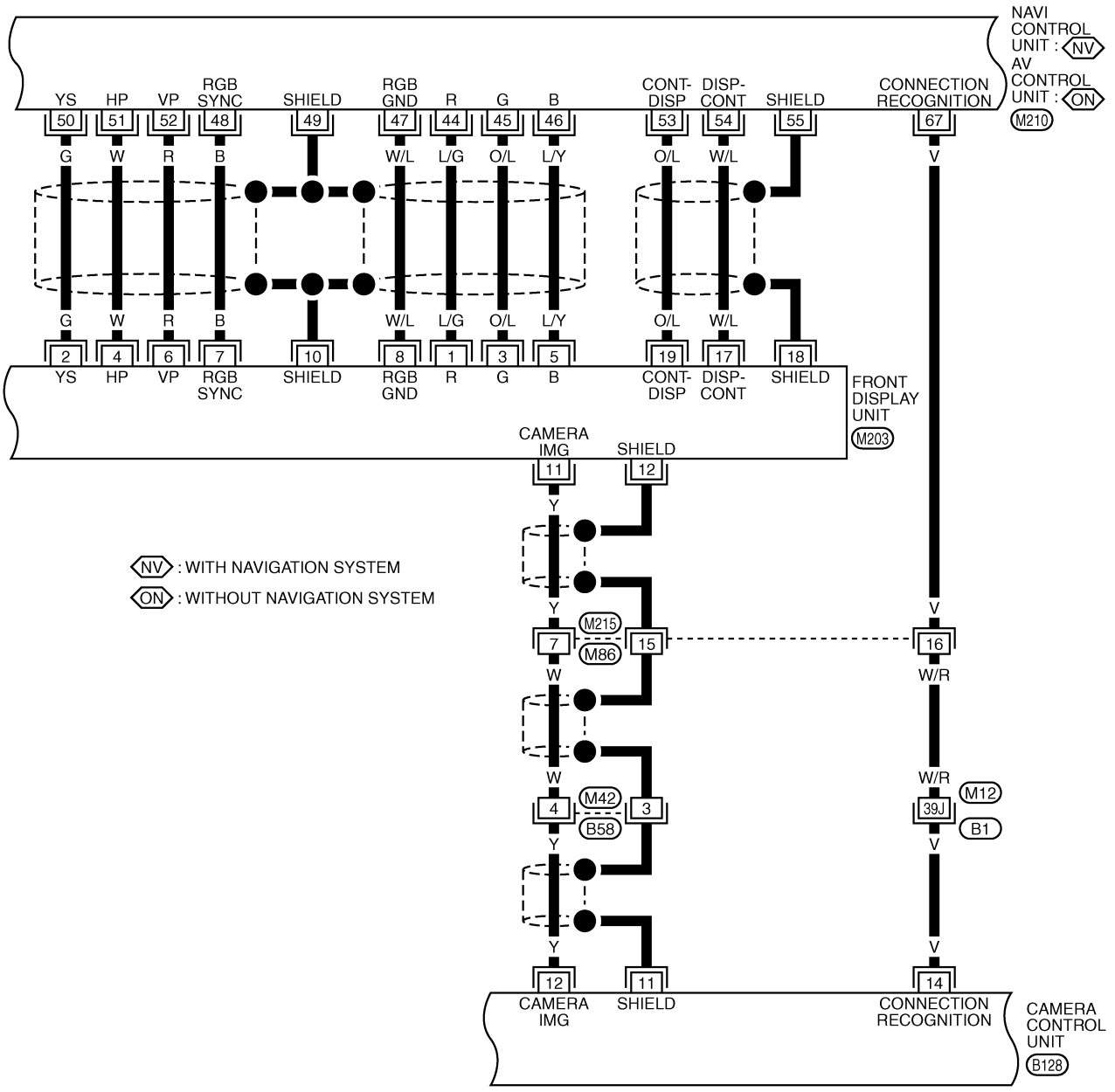


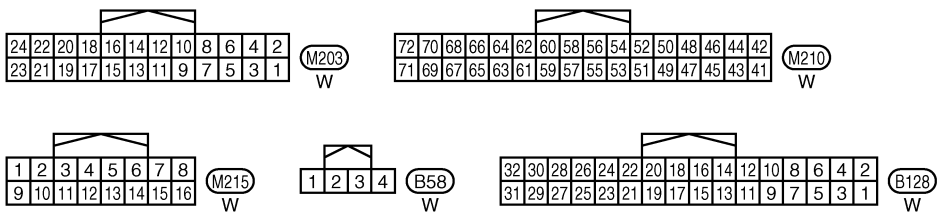


REFER TO THE FOLLOWING.
B1 -SUPER MULTIPLE JUNCTION (SMJ)

TKWT3510E

AV-AV-19

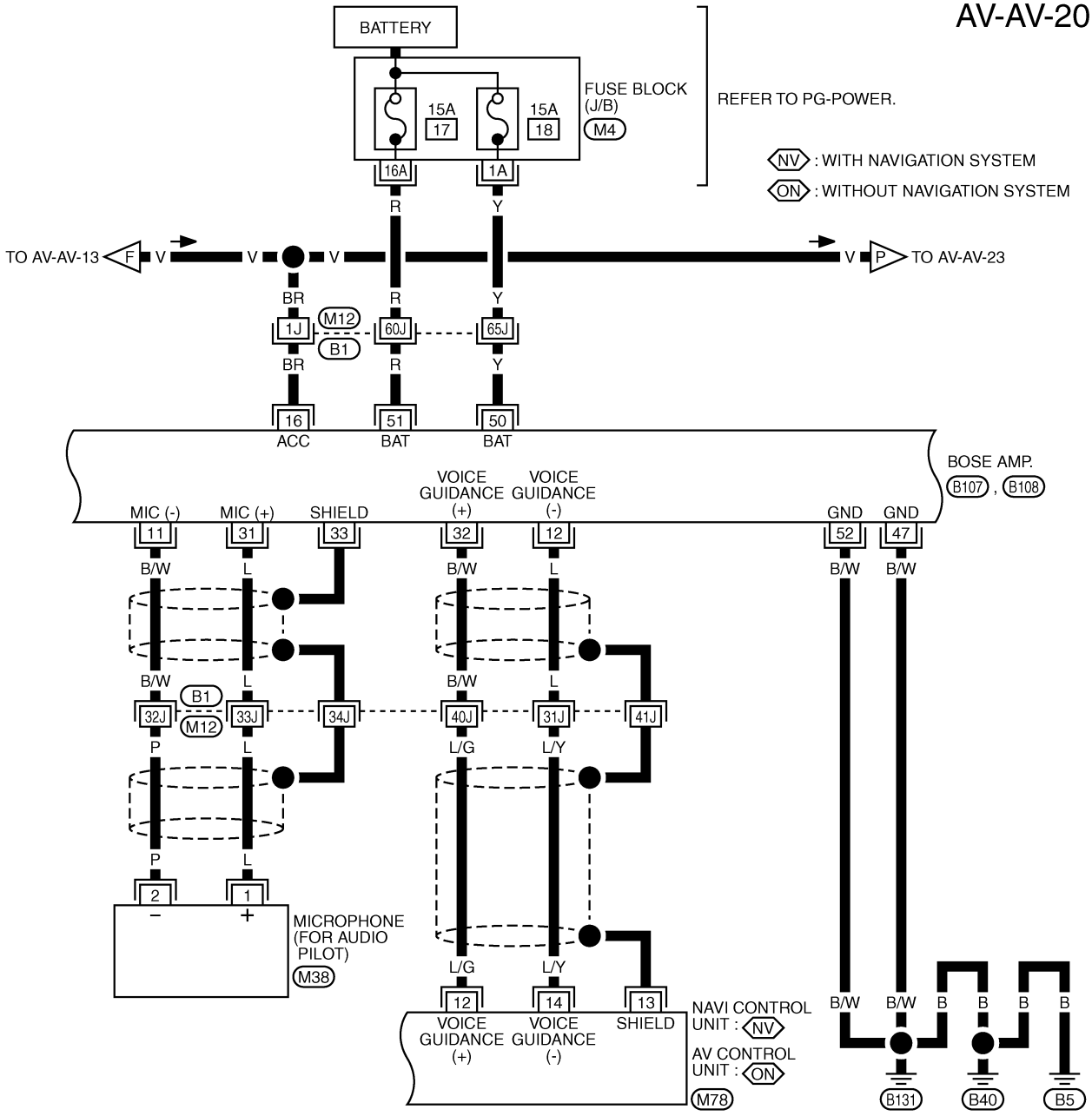


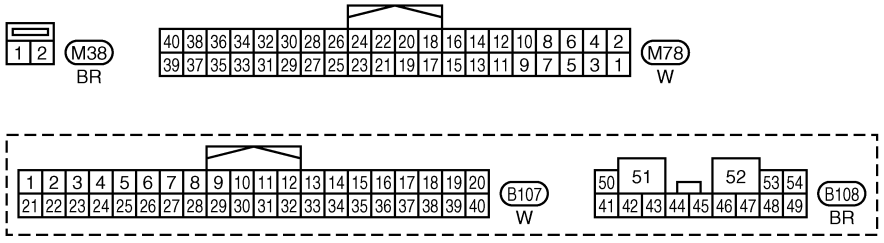


REFER TO THE FOLLOWING.
B1 -SUPER MULTIPLE JUNCTION (SMJ)

TKWT3511E

AV-AV-20





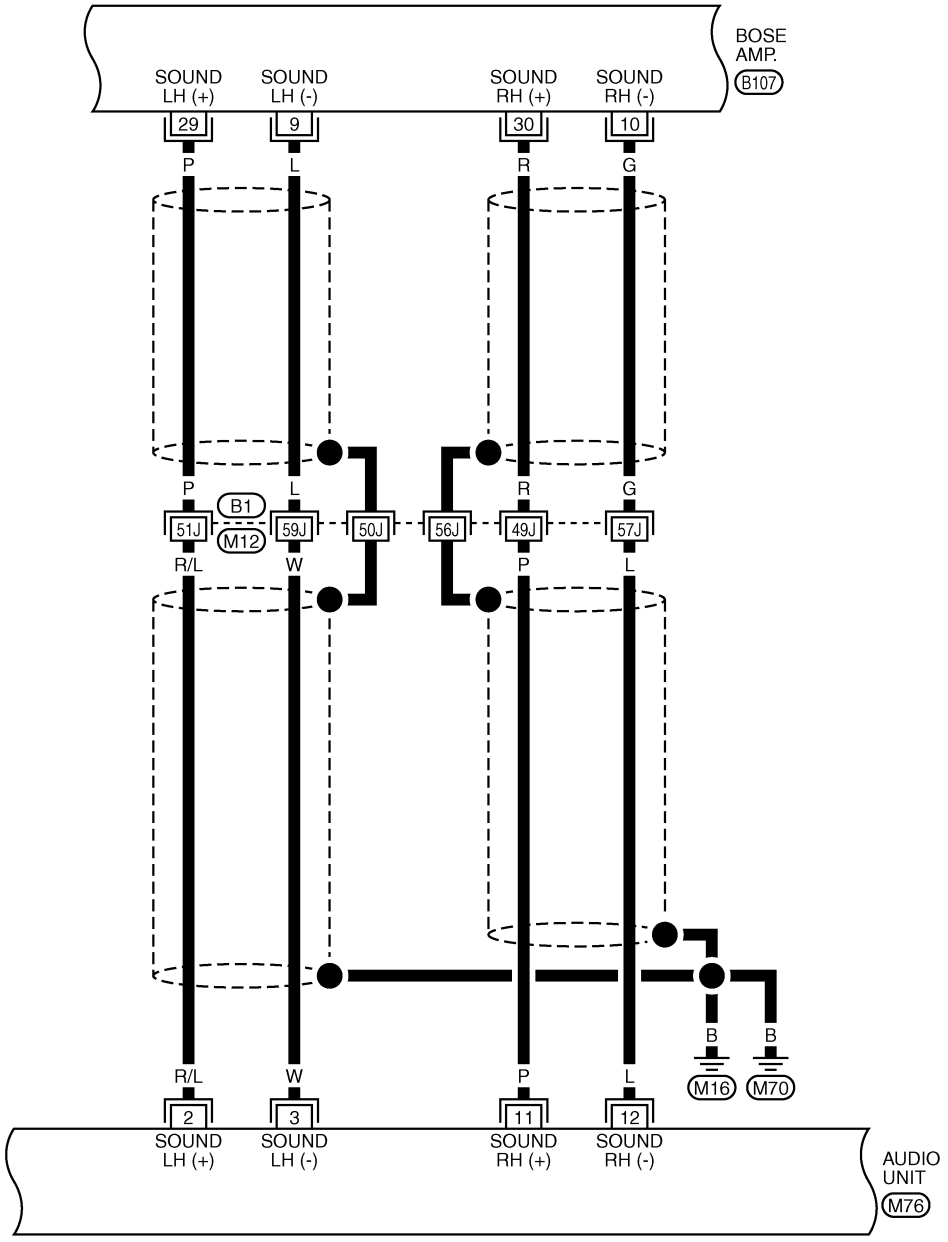
REFER TO THE FOLLOWING.

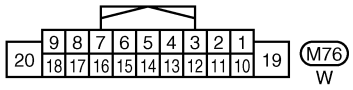
B1 -SUPER MULTIPLE JUNCTION (SMJ)

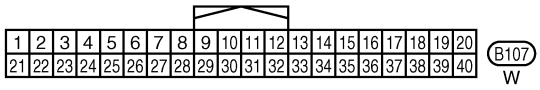
M4 -FUSE BLOCK-JUNCTION BOX (J/B)

TKWT3512E

AV-AV-21



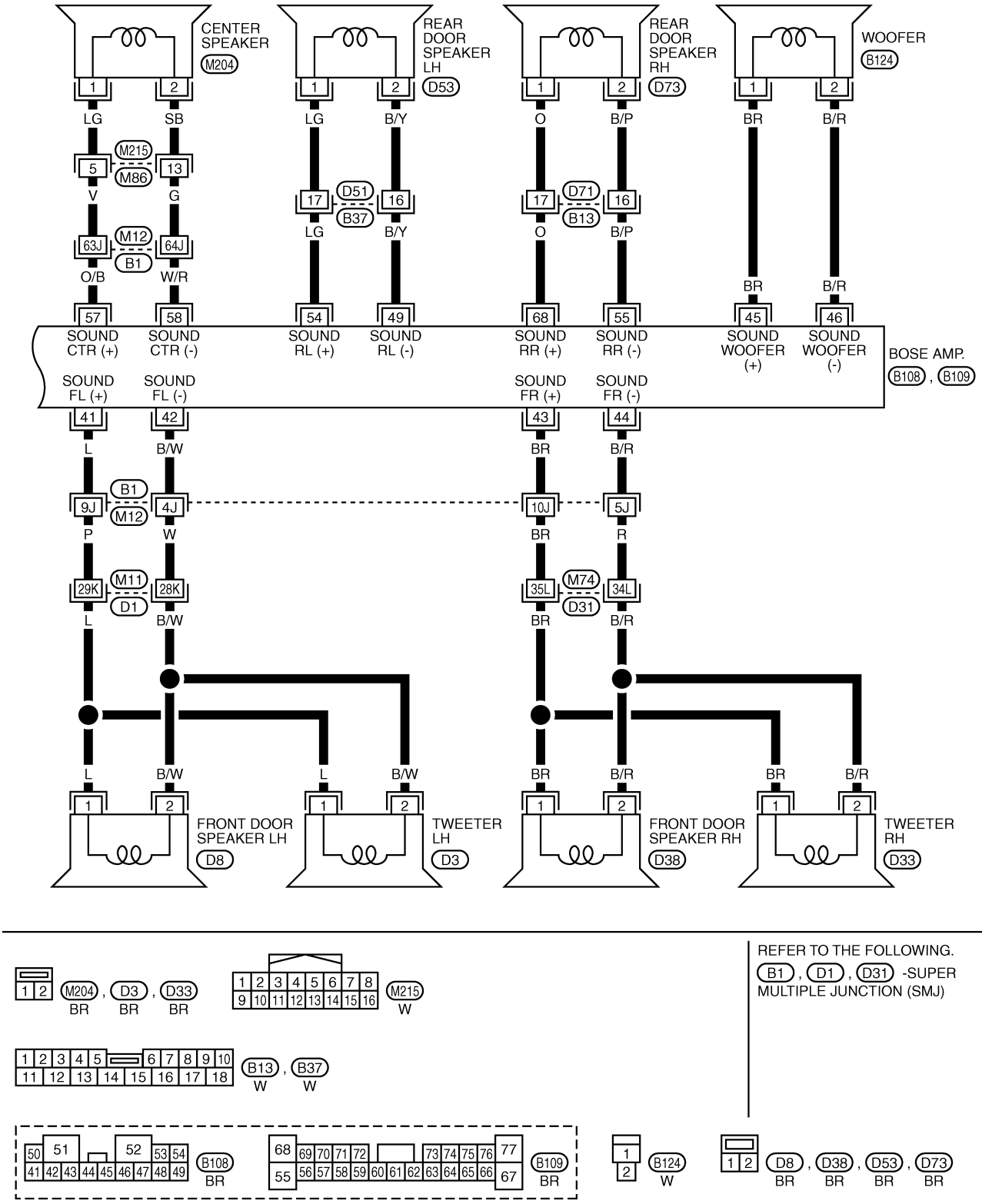




REFER TO THE FOLLOWING.
B1 -SUPER MULTIPLE JUNCTION (SMJ)

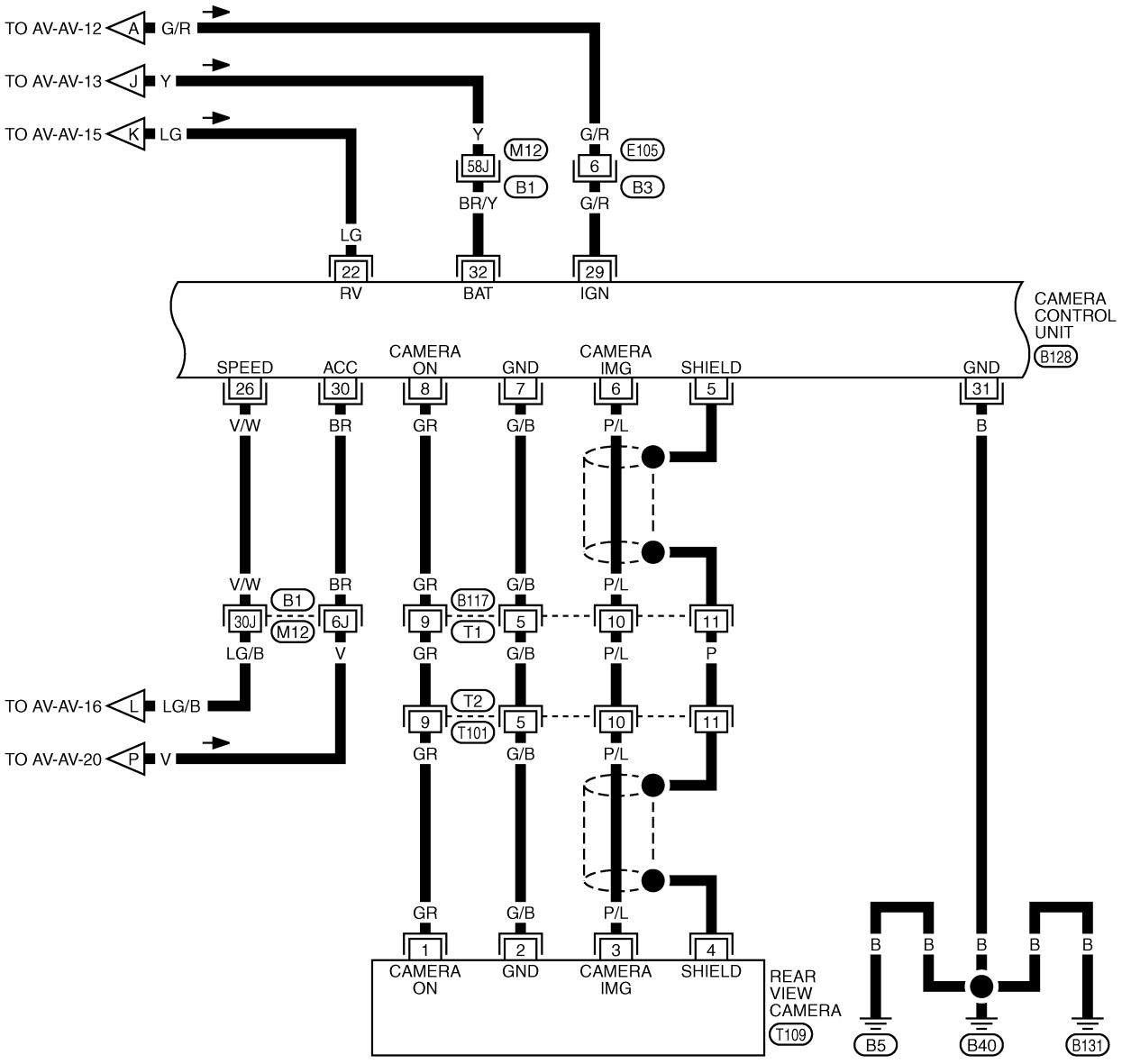
TKWT3513E

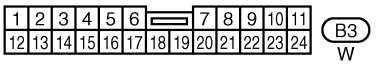
AV-AV-22

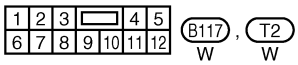


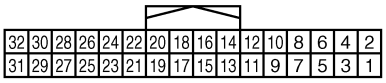
TKWT3514E

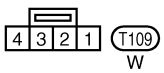
AV-AV-23







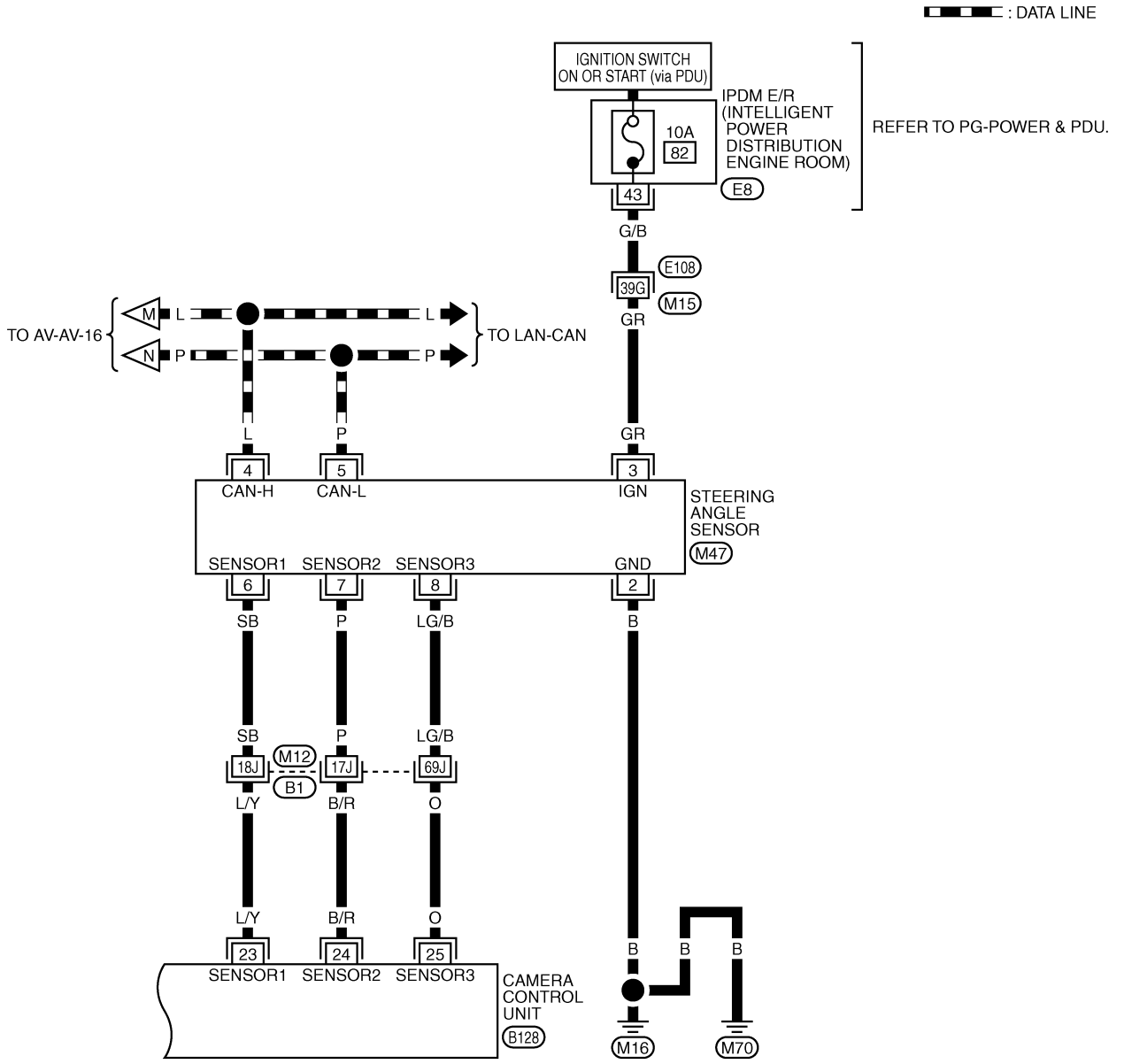


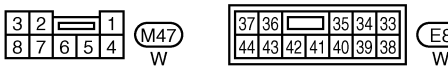


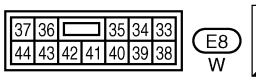
REFER TO THE FOLLOWING.
B1 -SUPER MULTIPLE JUNCTION (SMJ)

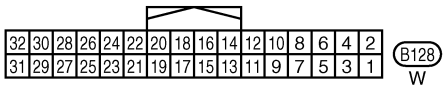
TKWT3515E

AV-AV-24





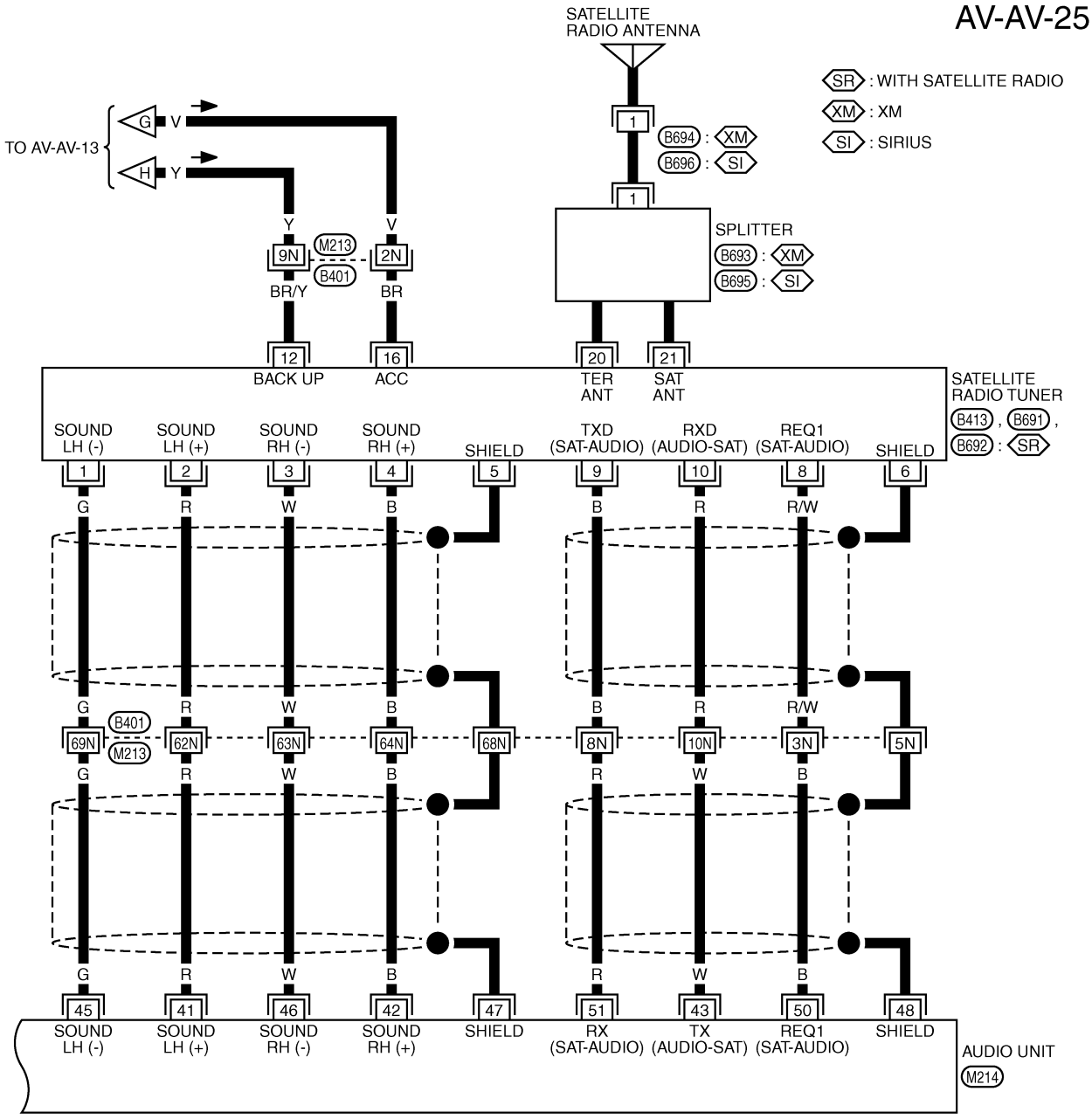


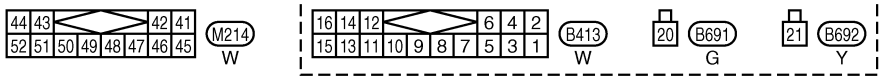


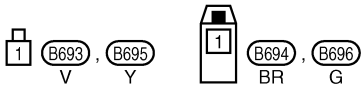
REFER TO THE FOLLOWING.
E108 , B1 -SUPER MULTIPLE JUNCTION (SMJ)

TKWT3516E

AV-AV-25





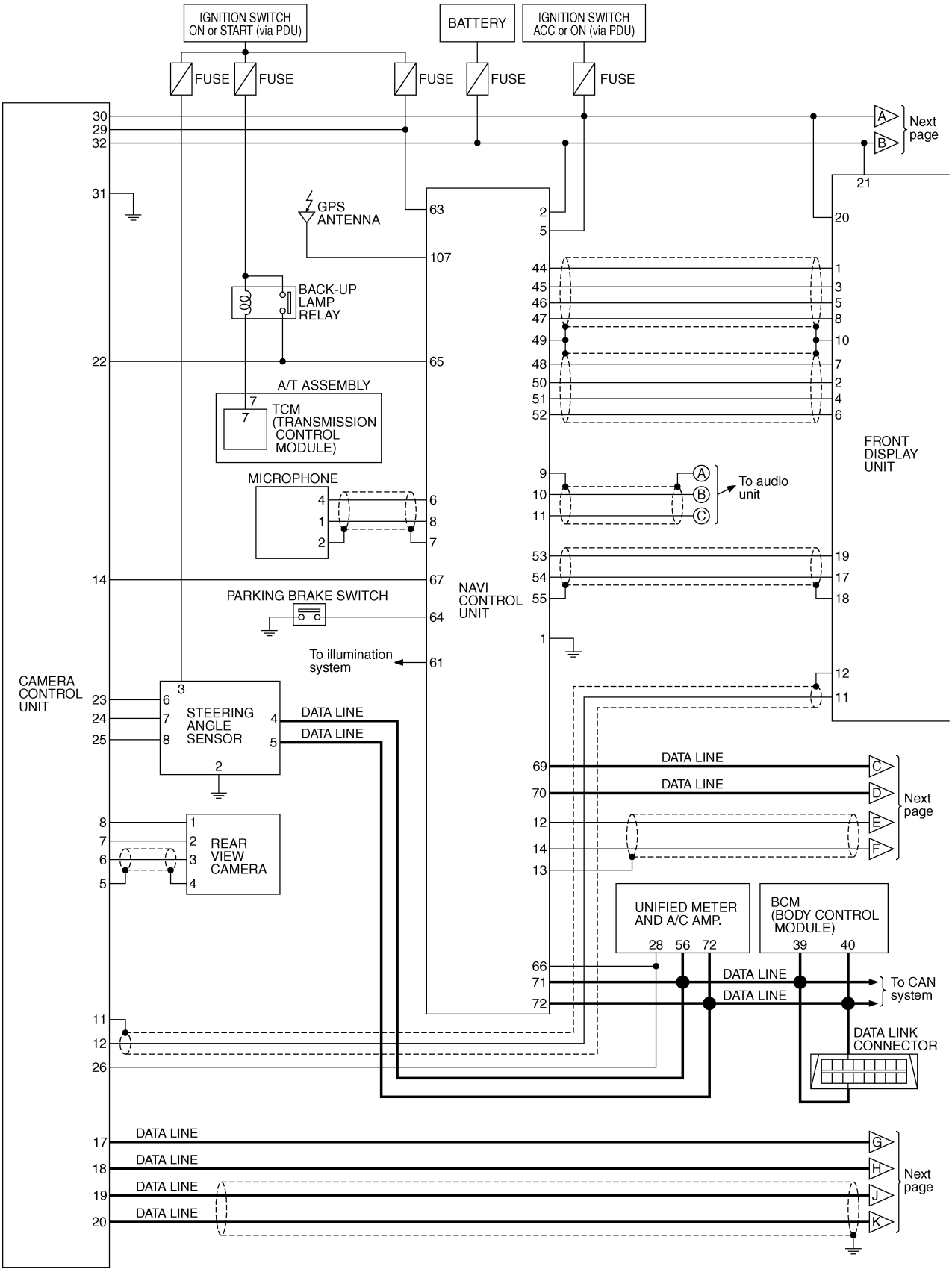


REFER TO THE FOLLOWING.
B401 -SUPER MULTIPLE JUNCTION (SMJ)

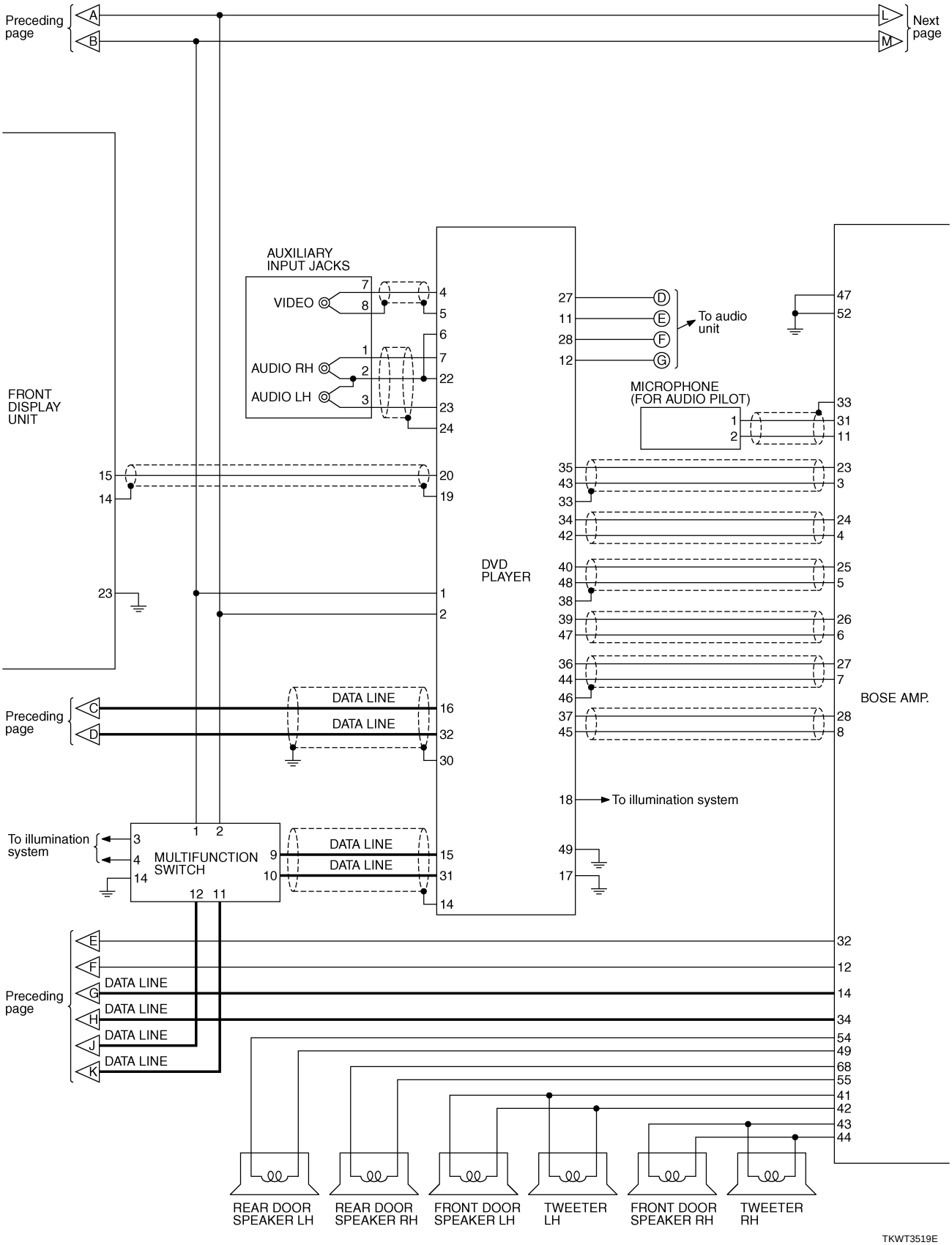
TKWT3517E

Schematic — BOSE Surround Audio 5.1ch System —

NKS0048H



TKWT3518E


Preceding page
A
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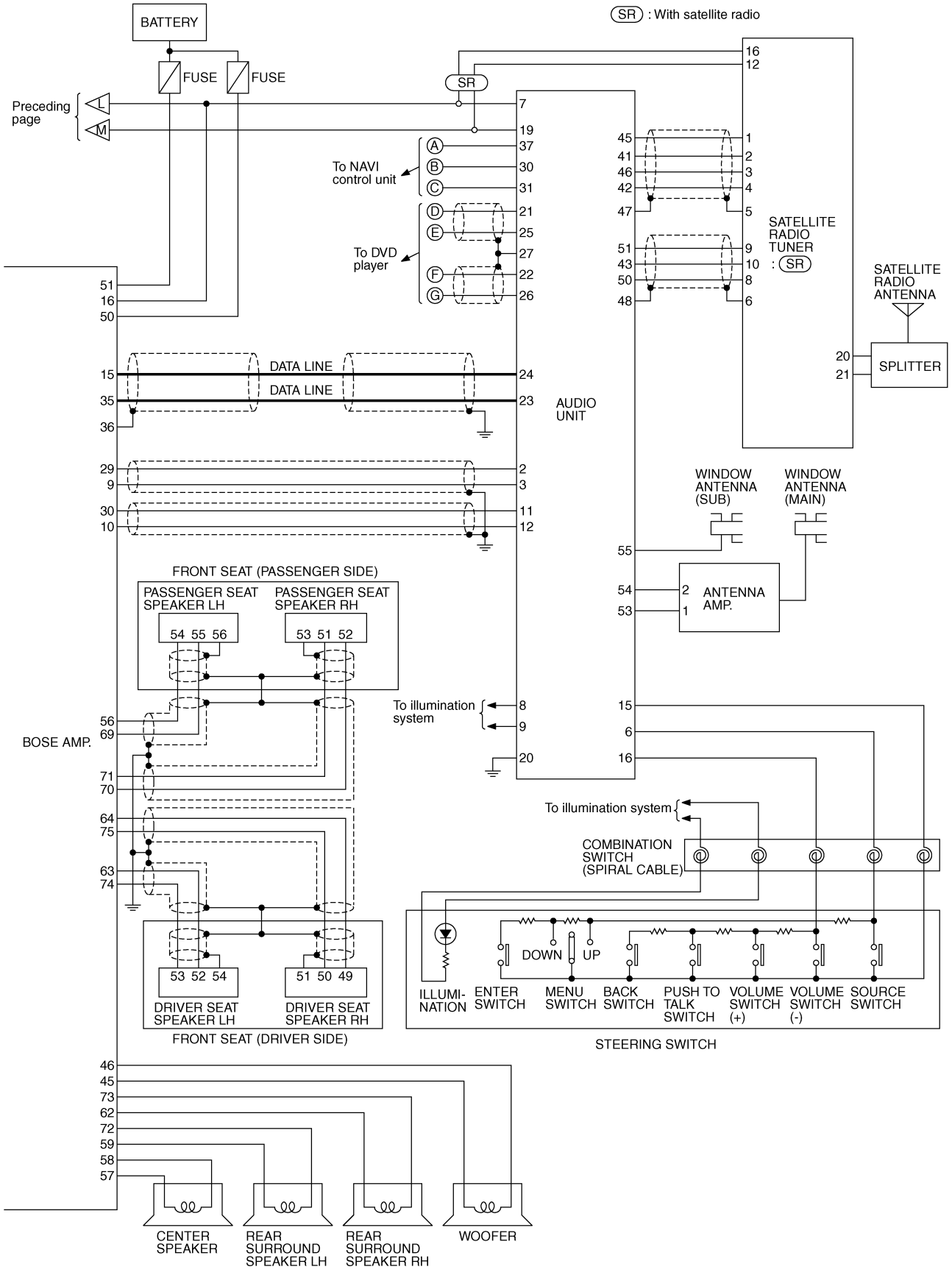
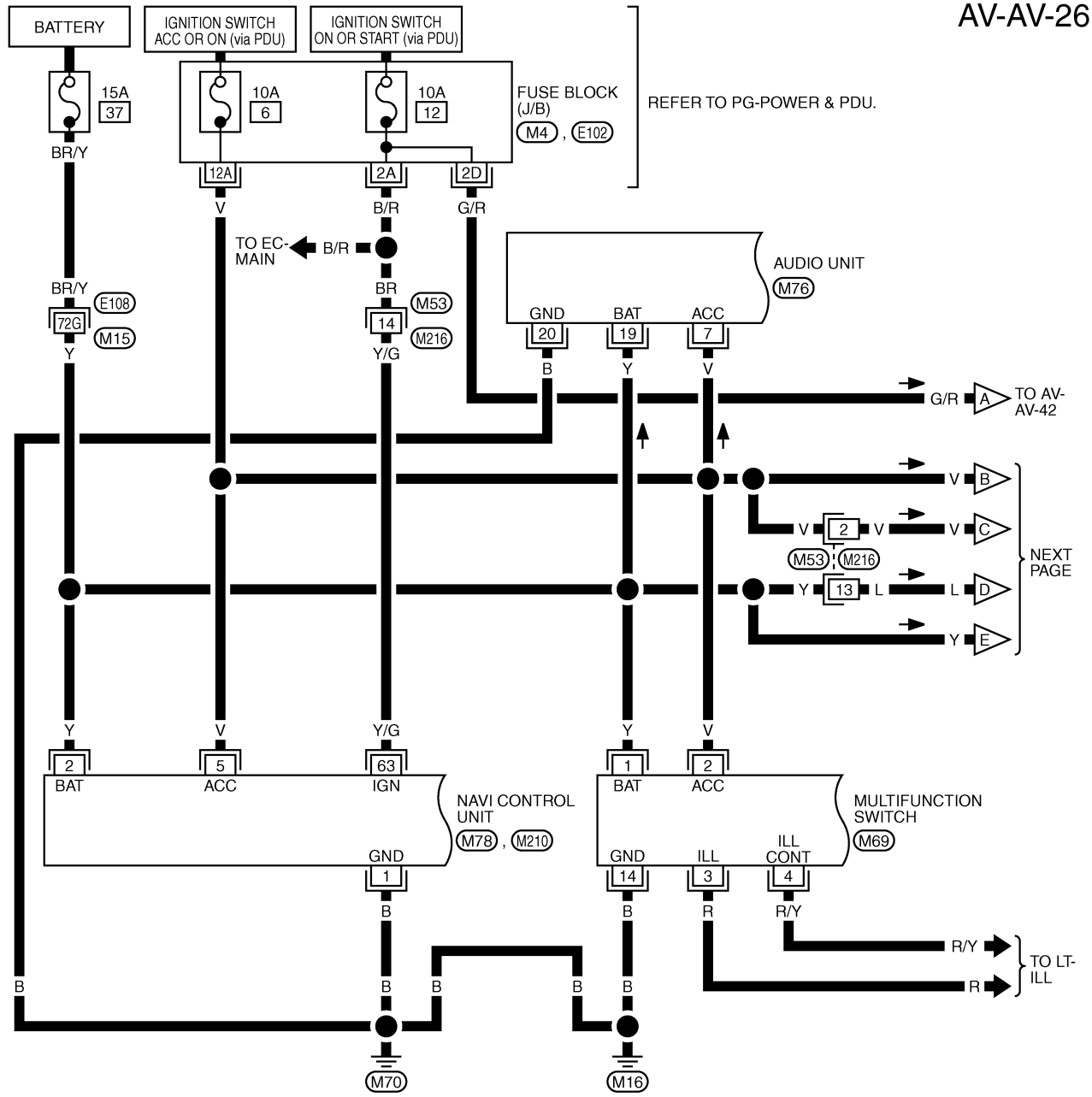
FRONT DISPLAY UNIT
AUXILIARY INPUT JACKS
VIDEO
AUDIO RH
AUDIO LH
DVD PLAYER
To audio unit
MICROPHONE (FOR AUDIO PILOT)
BOSE AMP.
DATA LINE
DATA LINE
To illumination system
MULTIFUNCTION SWITCH
To illumination system
DATA LINE
DATA LINE
DATA LINE
DATA LINE
DATA LINE
REAR DOOR SPEAKER LH
REAR DOOR SPEAKER RH
FRONT DOOR SPEAKER LH
TWEETER LH
FRONT DOOR SPEAKER RH
TWEETER RH
TKWT3519E


BATTERY
FUSE
FUSE
Preceding page
L
M
SR : With satellite radio
SR
To NAVI control unit
To DVD player
SATELLITE RADIO TUNER : SR
SATELLITE RADIO ANTENNA
SPLITTER
DATA LINE
DATA LINE
AUDIO UNIT
WINDOW ANTENNA (SUB)
WINDOW ANTENNA (MAIN)
ANTENNA AMP.
FRONT SEAT (PASSENGER SIDE)
PASSENGER SEAT SPEAKER LH
PASSENGER SEAT SPEAKER RH
54 55 56
53 51 52
To illumination system
BOSE AMP.
To illumination system
COMBINATION SWITCH (SPIRAL CABLE)
53 52 54
51 50 49
DRIVER SEAT SPEAKER LH
DRIVER SEAT SPEAKER RH
FRONT SEAT (DRIVER SIDE)
DOWN
UP
ILLUMI-NATION
ENTER SWITCH
MENU SWITCH
BACK SWITCH
PUSH TO TALK SWITCH
VOLUME SWITCH (+)
VOLUME SWITCH (-)
SOURCE SWITCH
STEERING SWITCH
CENTER SPEAKER
REAR SURROUND SPEAKER LH
REAR SURROUND SPEAKER RH
WOOFER
TKWT3520E

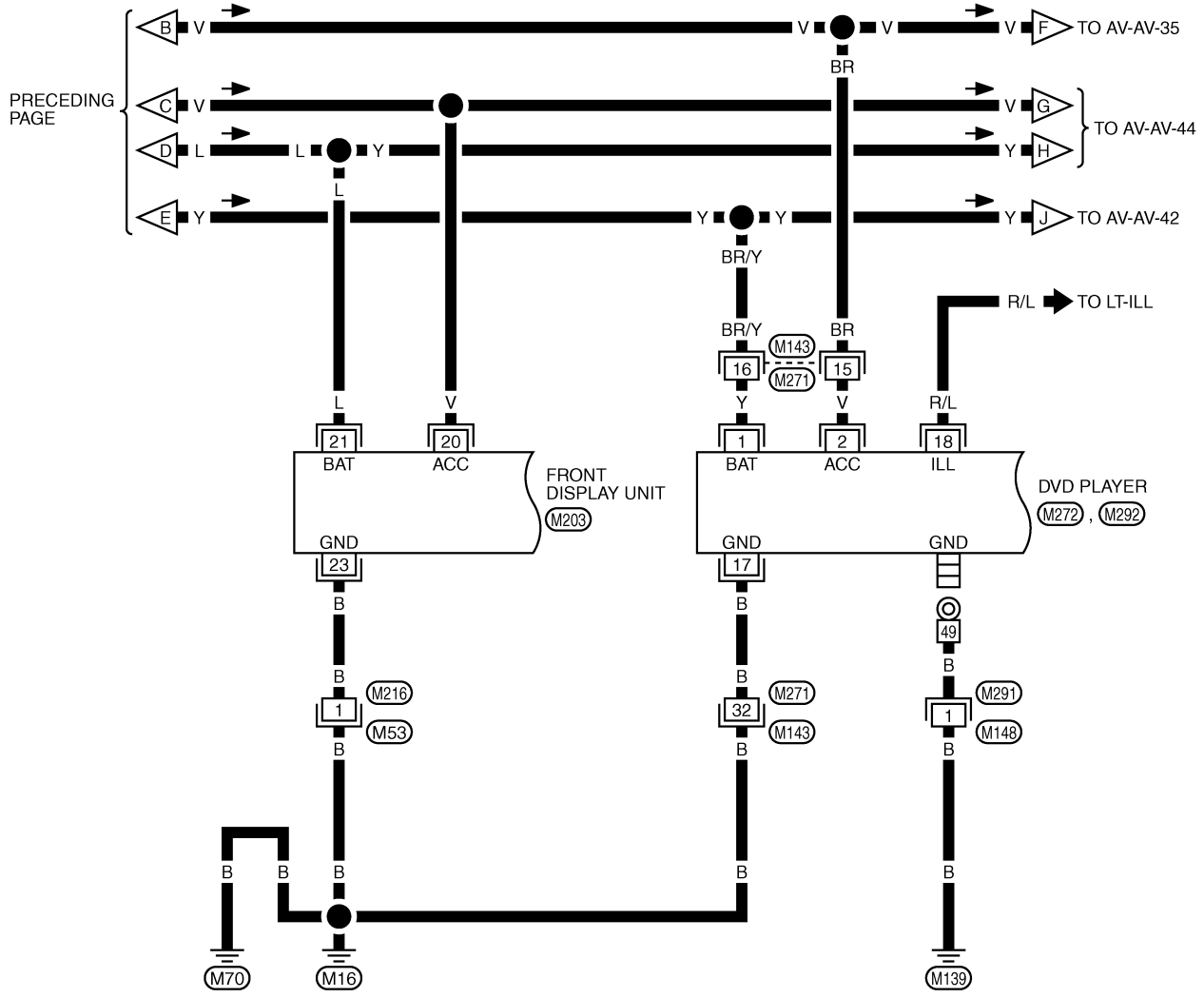
Wiring Diagram — AV — / BOSE Surround Audio 5.1ch System

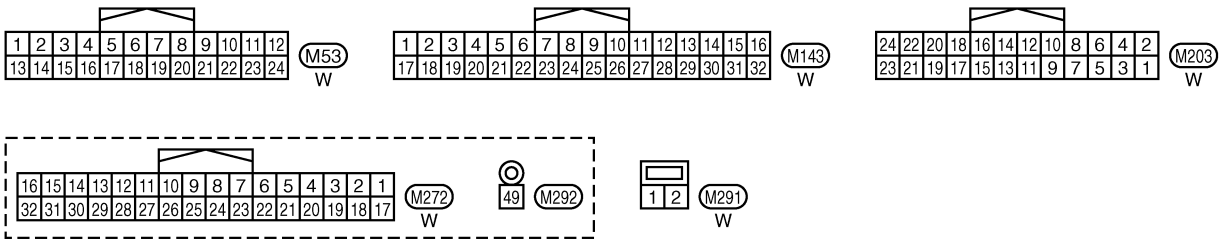
NKS0048I



TKWT3521E

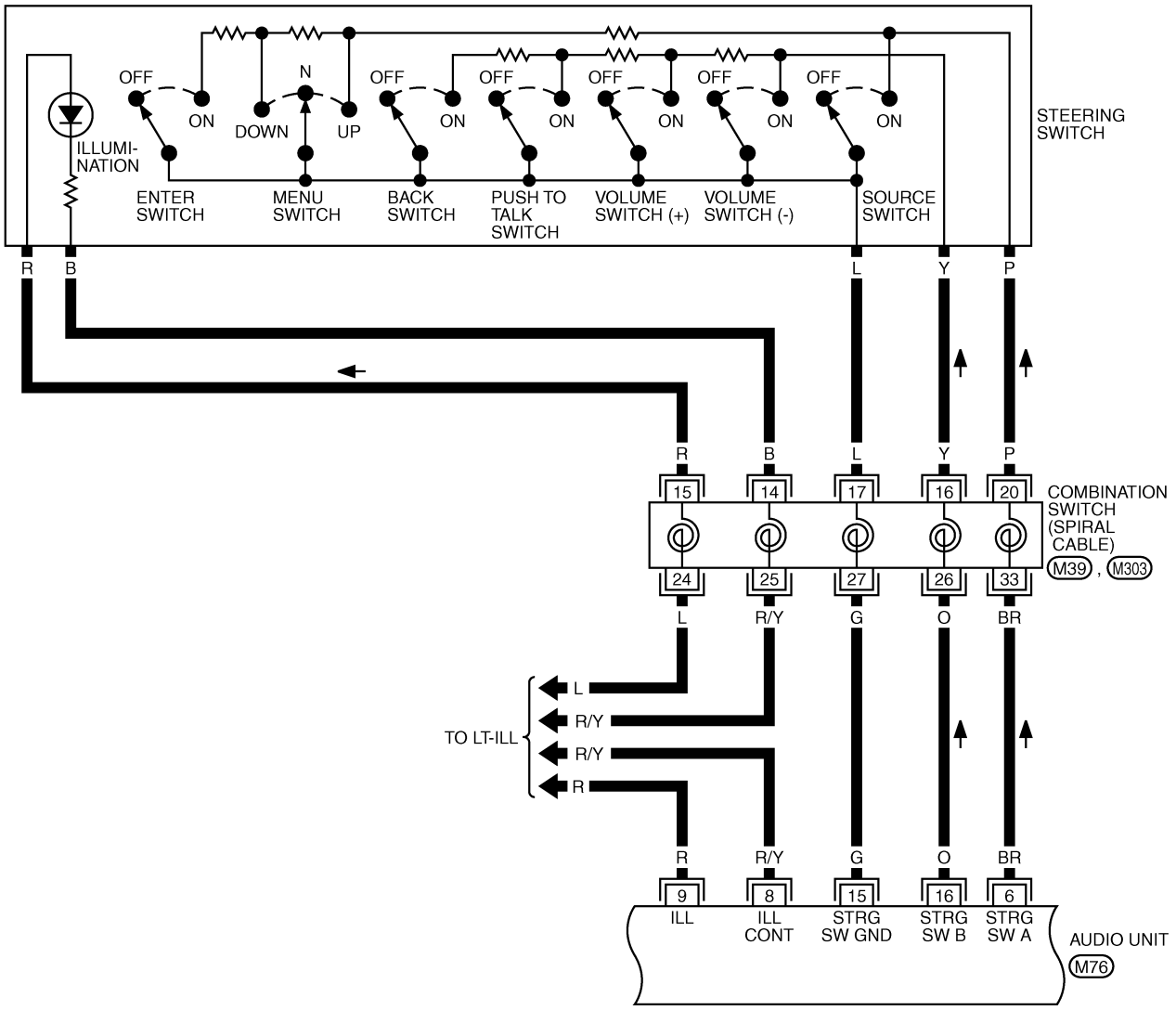
AV-AV-27

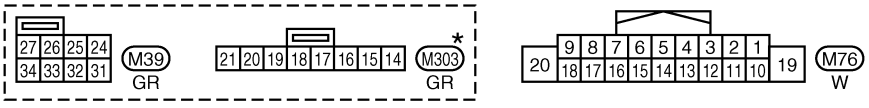




TKWT3522E

AV-AV-28

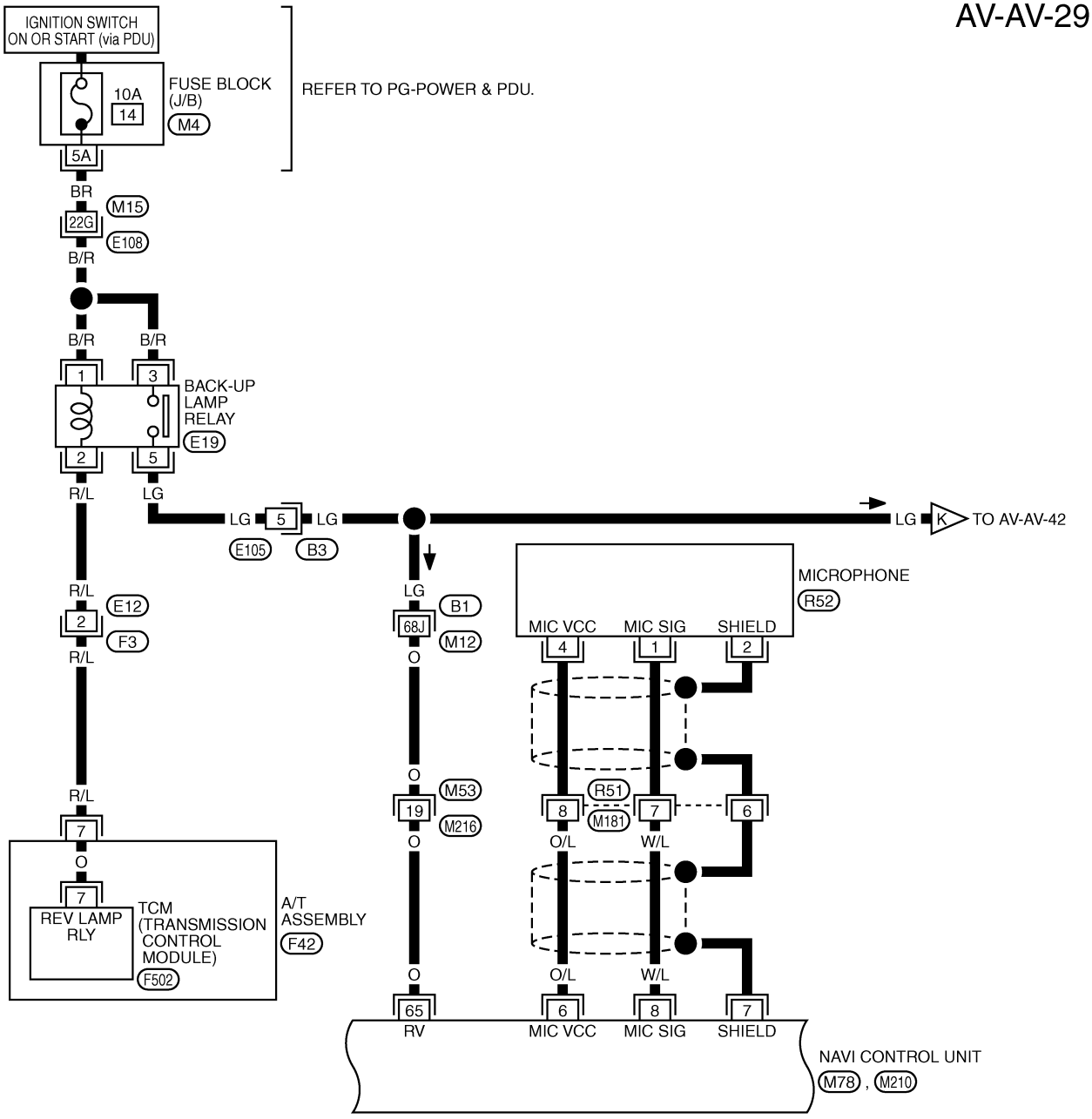


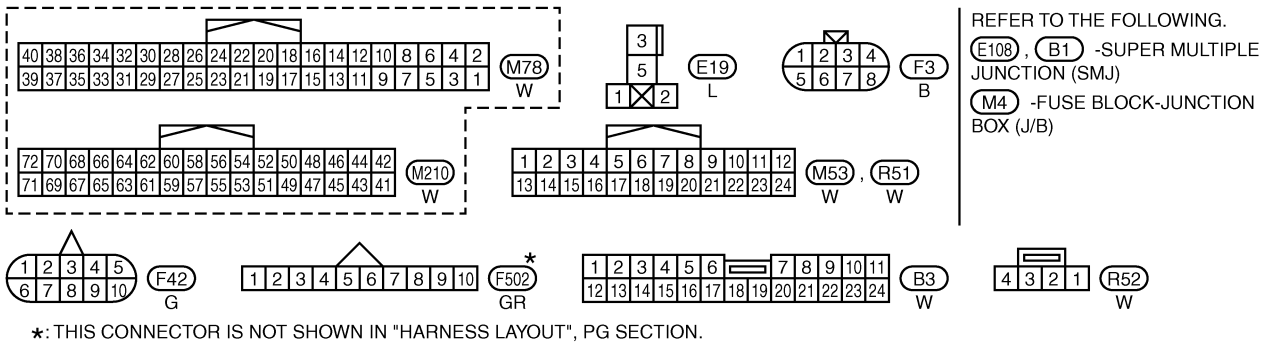


∗: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

TKWT3523E

AV-AV-29

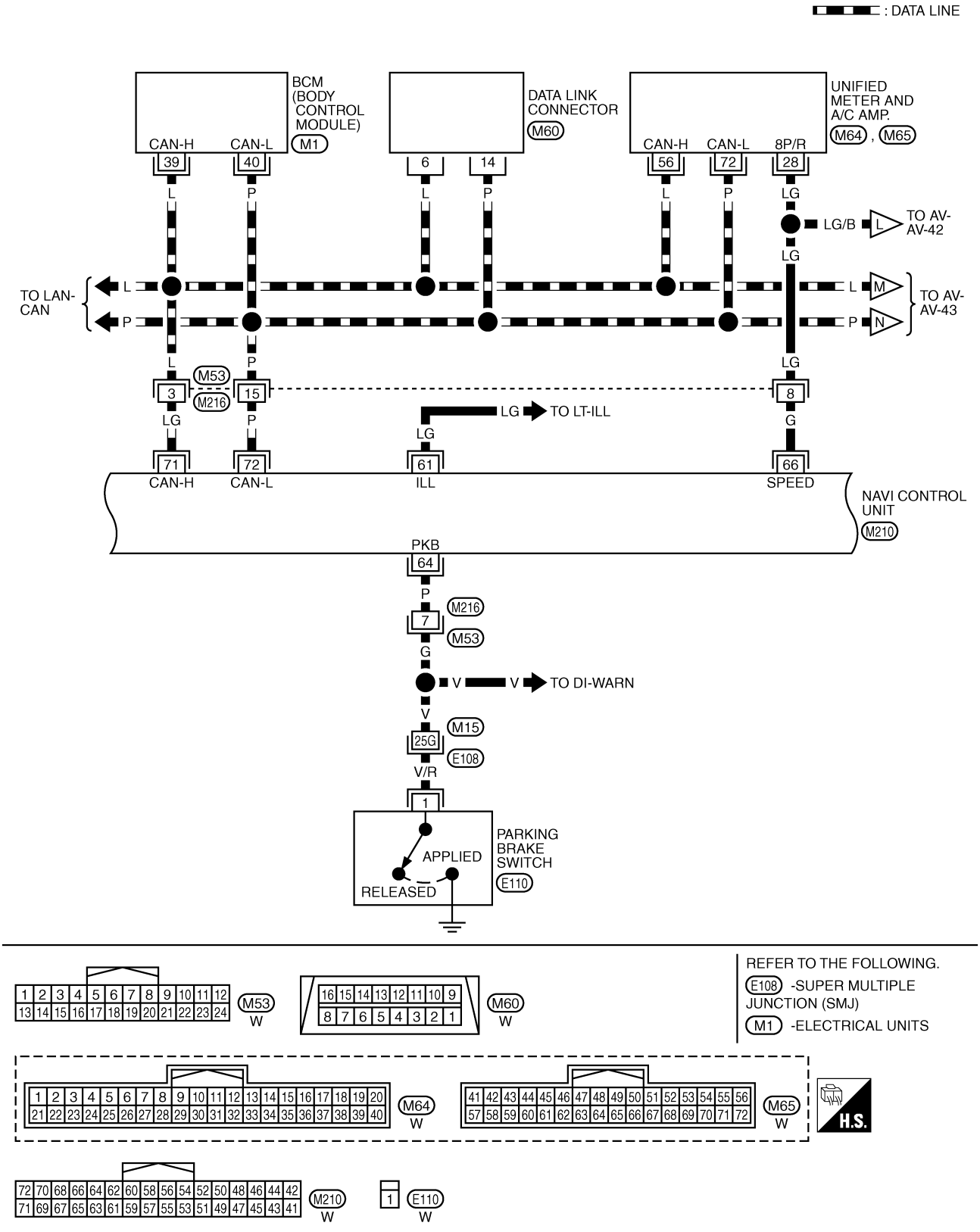




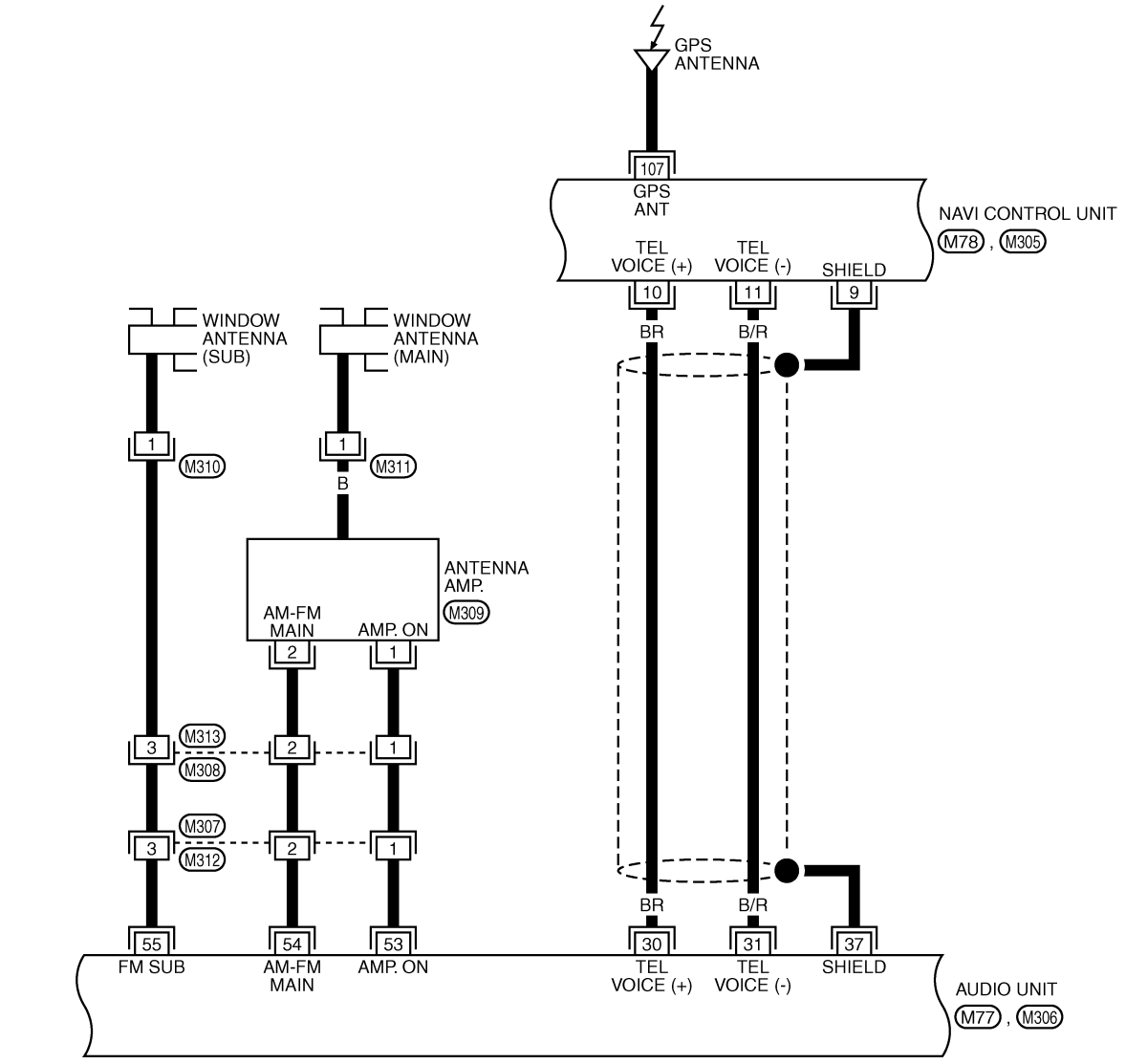
*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

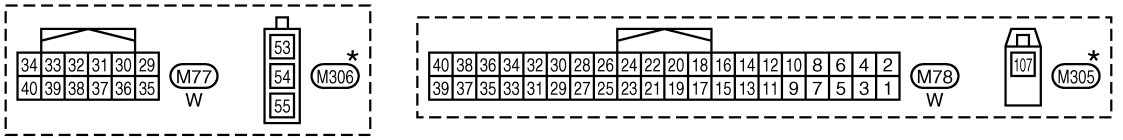
TKWT3524E

AV-AV-30



TKWT3525E

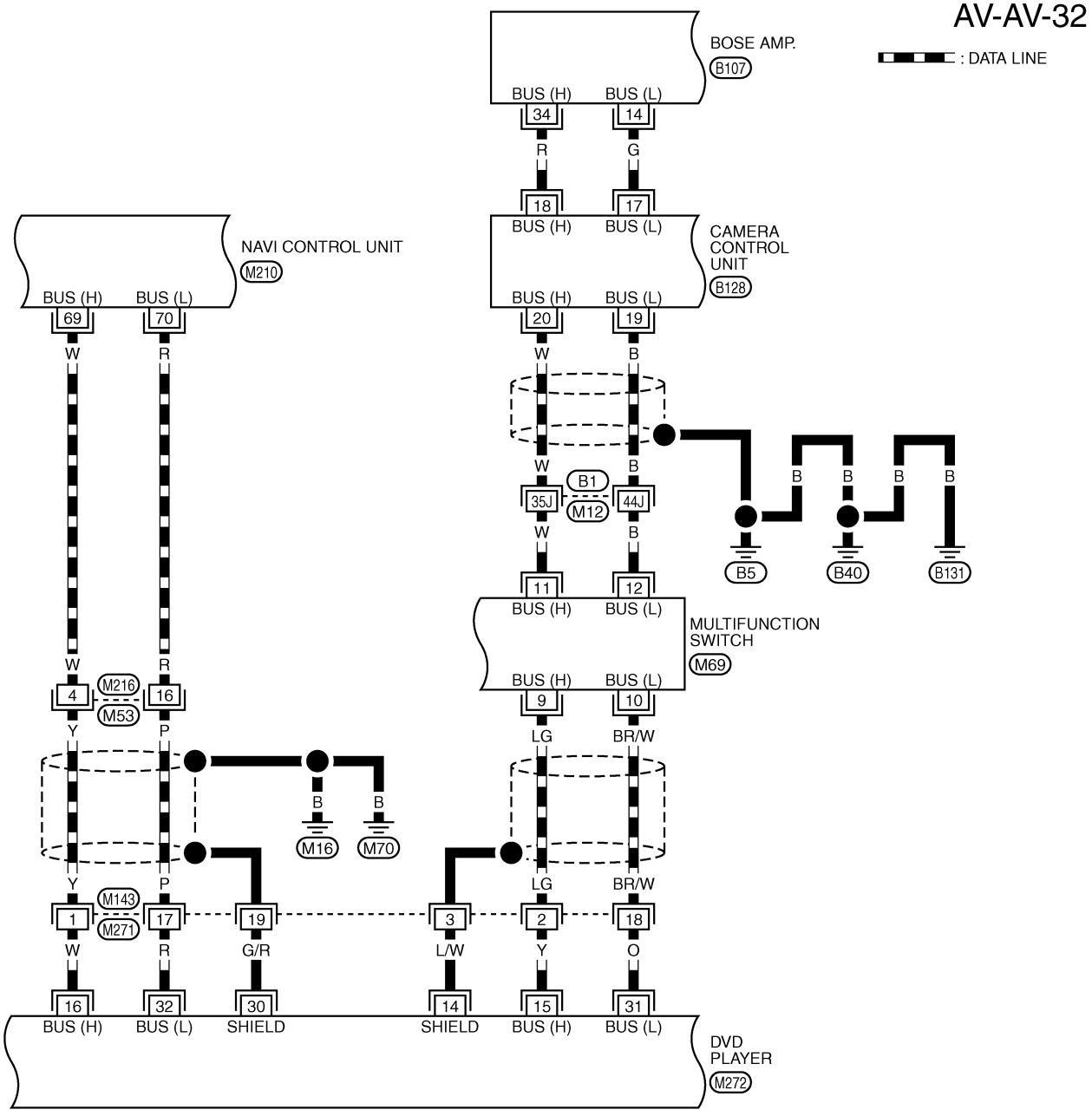


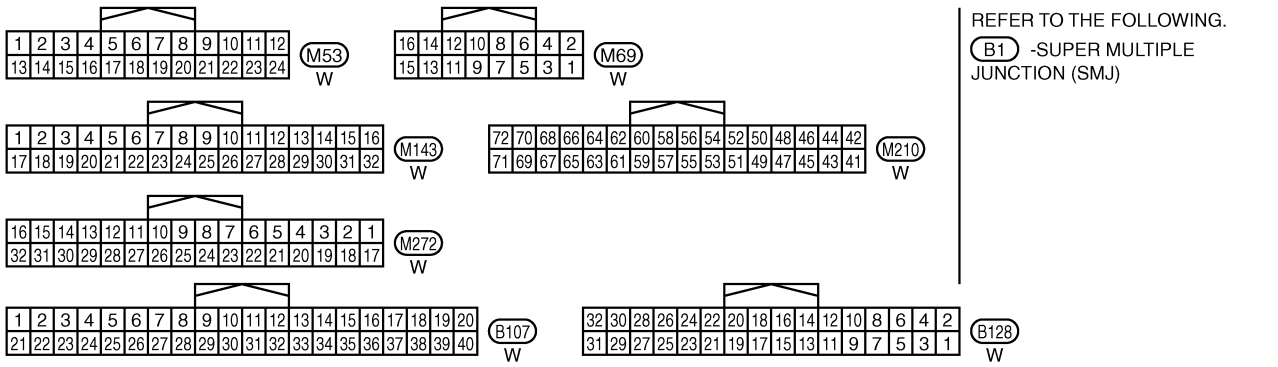


∗: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

TKWT3526E

AV-AV-32



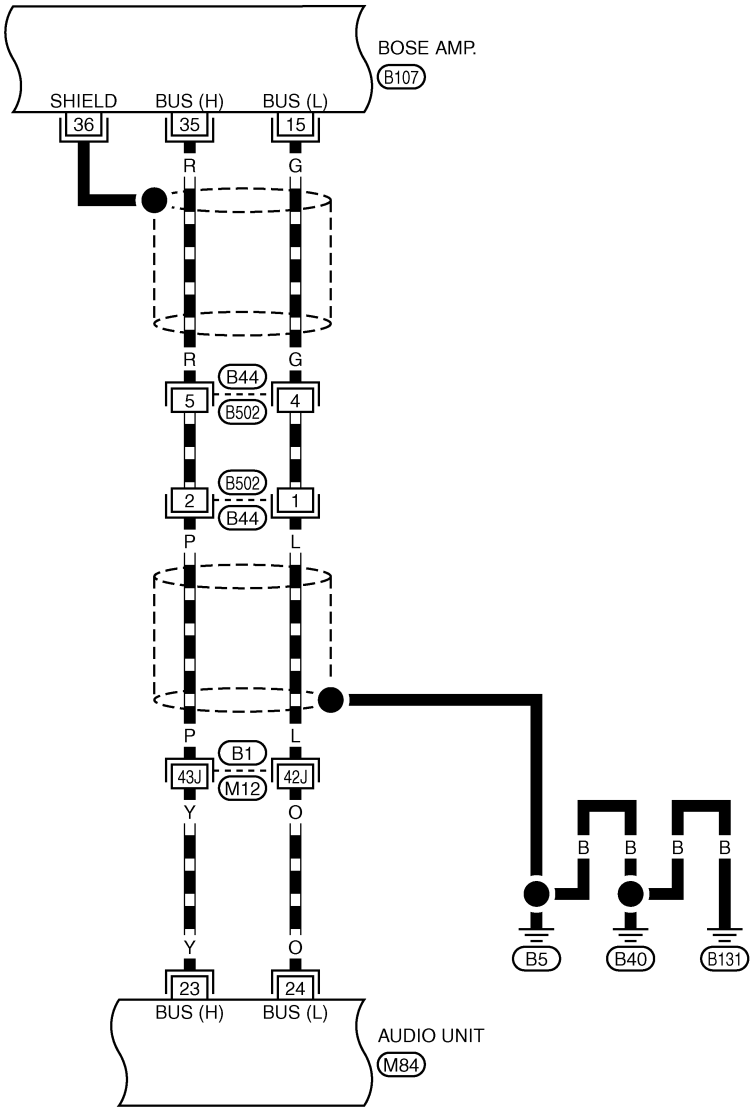


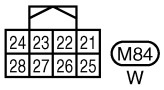
REFER TO THE FOLLOWING.
B1 -SUPER MULTIPLE JUNCTION (SMJ)

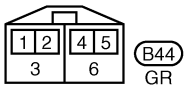
TKWT3527E

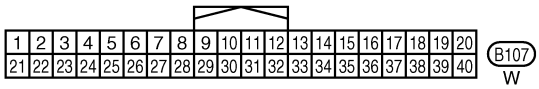
AV-AV-33

: DATA LINE





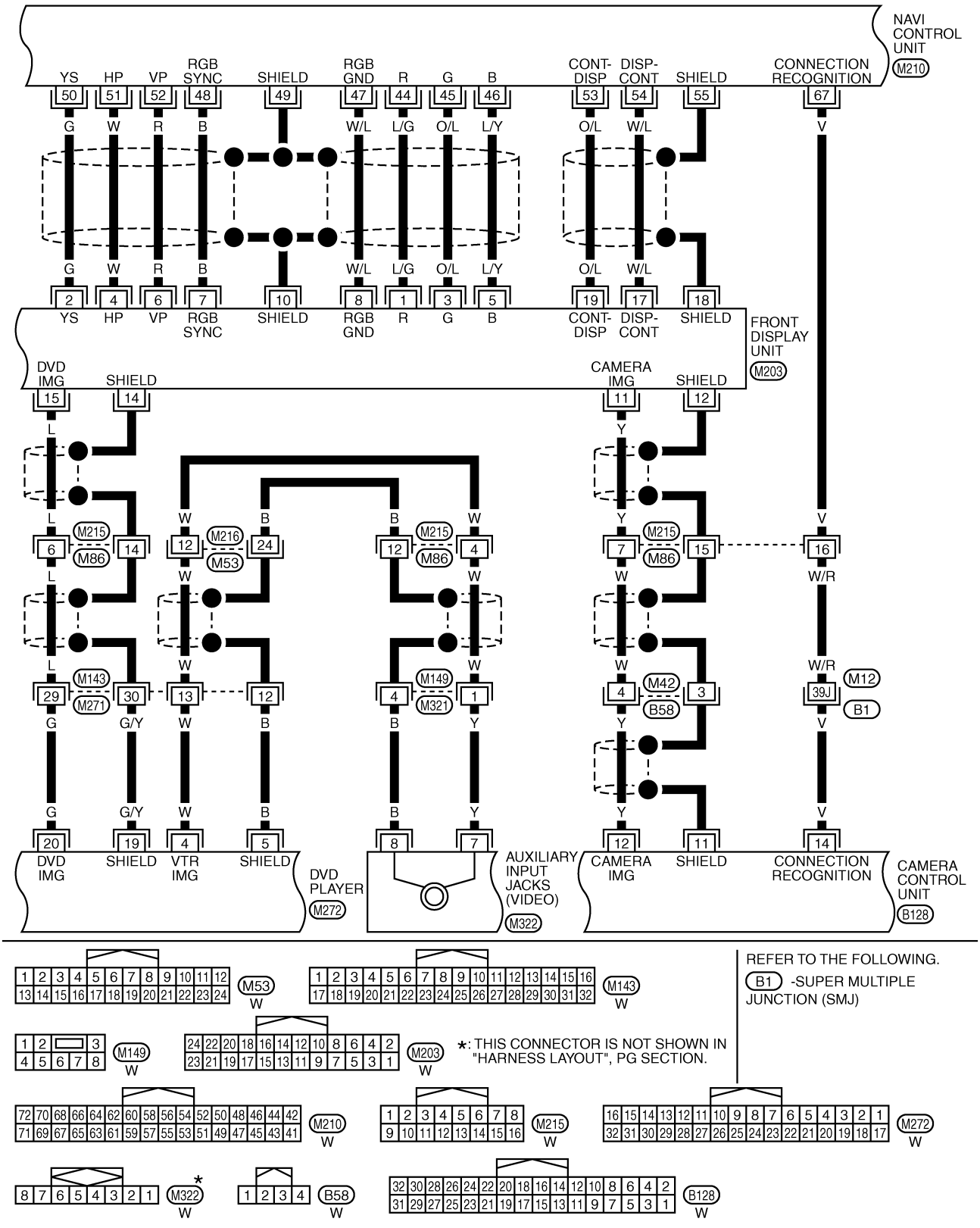




REFER TO THE FOLLOWING.
B1 -SUPER MULTIPLE JUNCTION (SMJ)

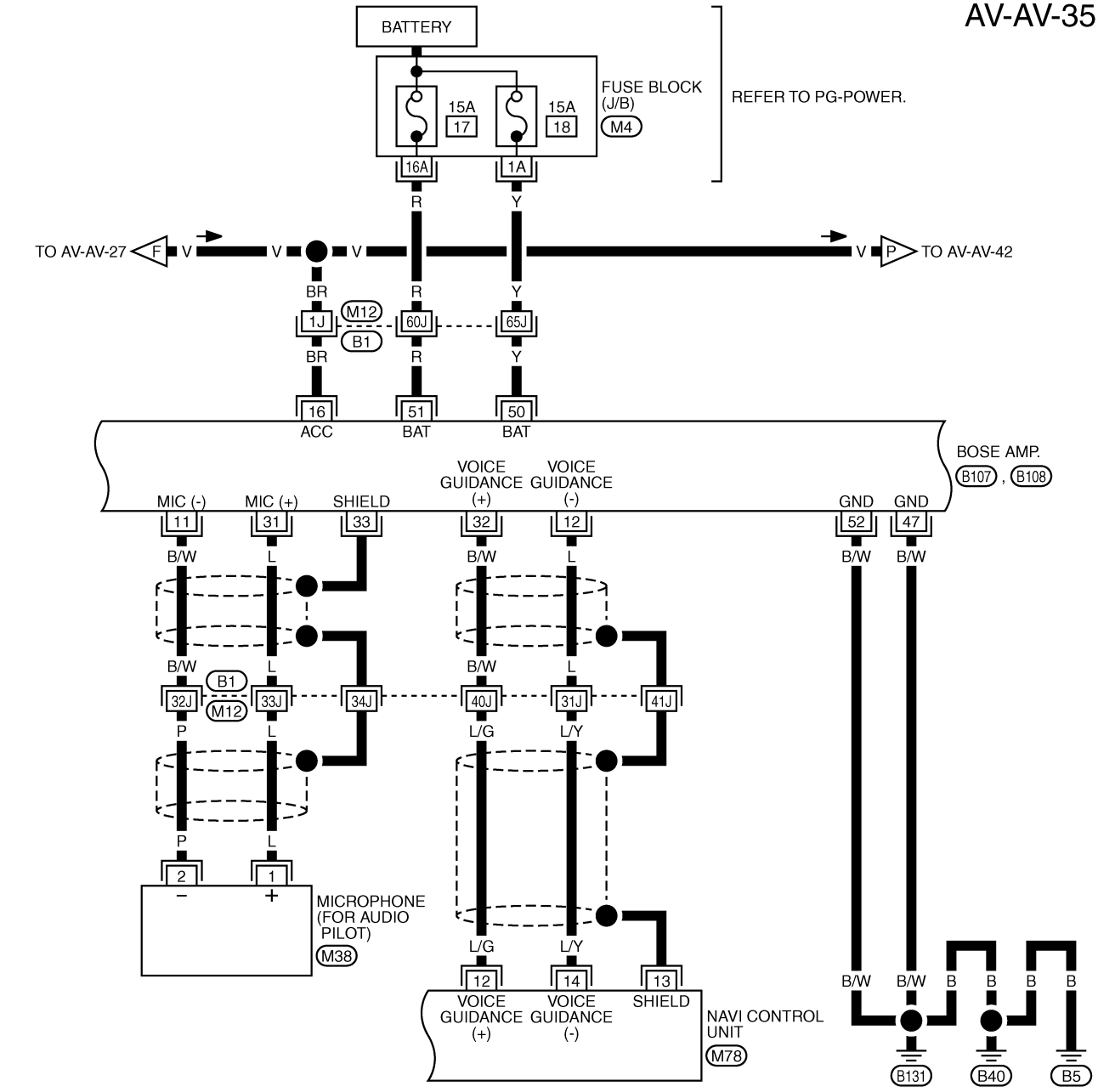
TKWT3528E

AV-AV-34



TKWT3529E

AV-AV-35



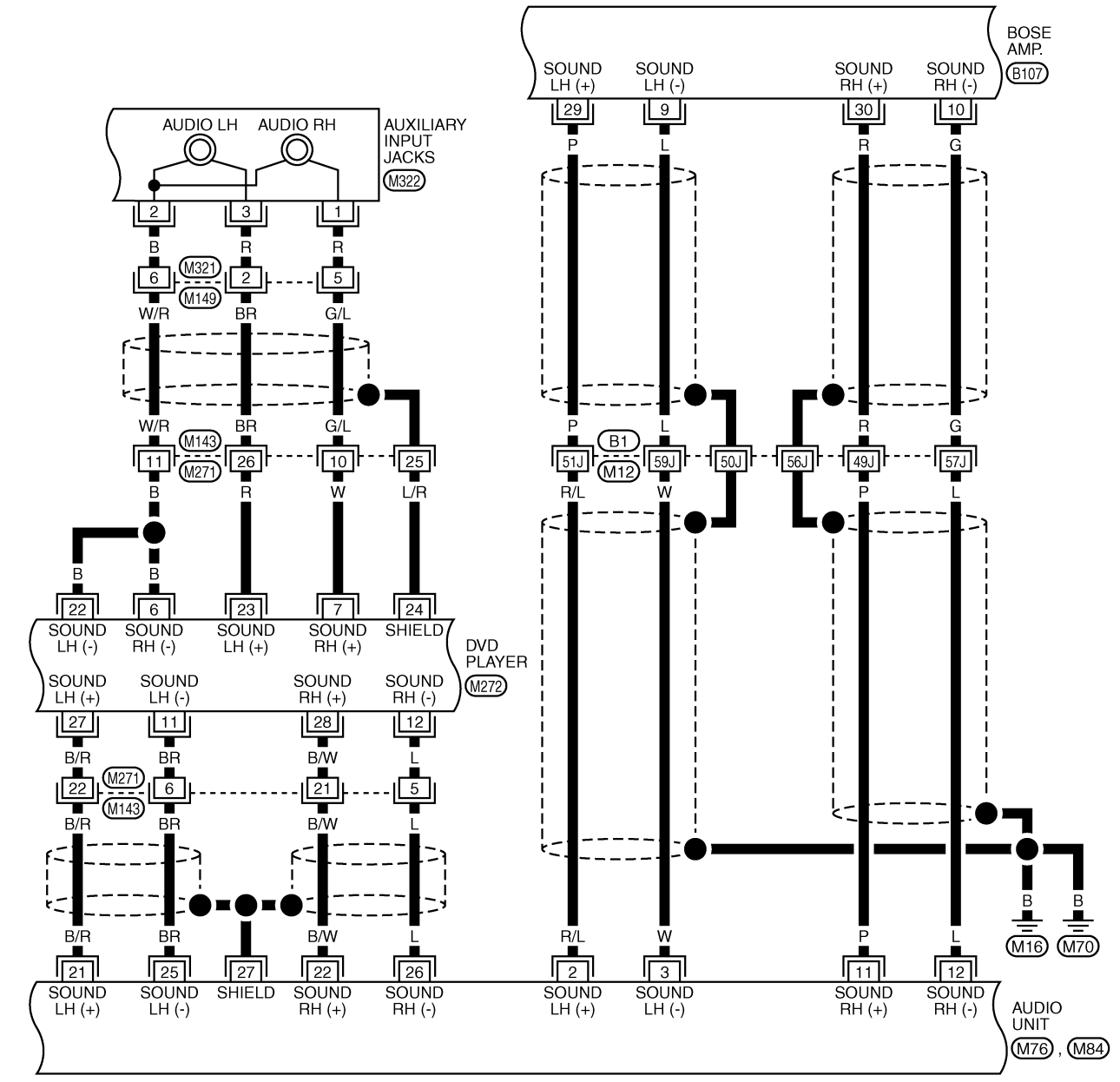
REFER TO THE FOLLOWING.

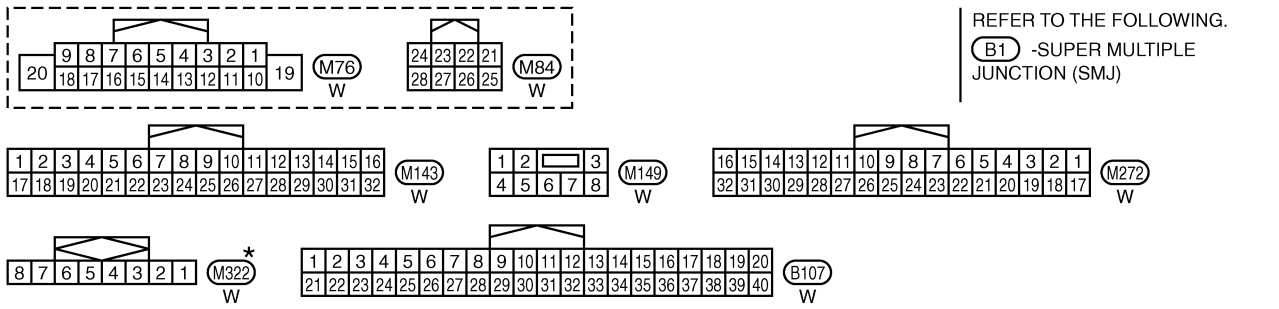
B1 -SUPER MULTIPLE JUNCTION (SMJ)

M4 -FUSE BLOCK-JUNCTION BOX (J/B)

TKWT3530E

AV-AV-36



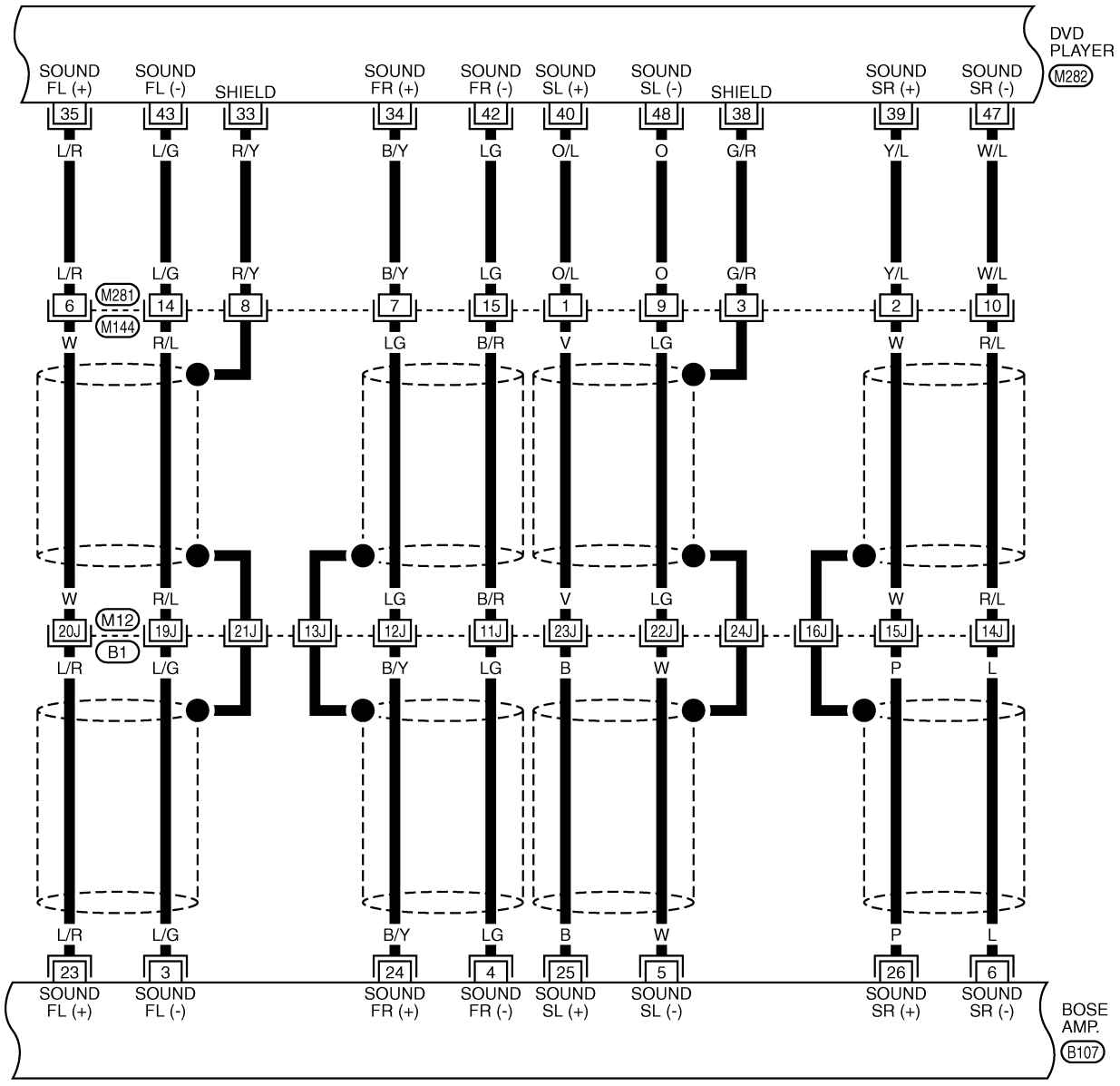


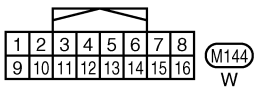
REFER TO THE FOLLOWING.
B1 -SUPER MULTIPLE JUNCTION (SMJ)

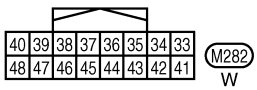
*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

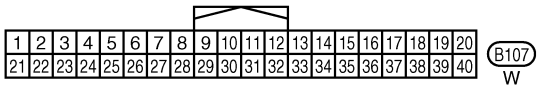
TKWT3531E

AV-AV-37





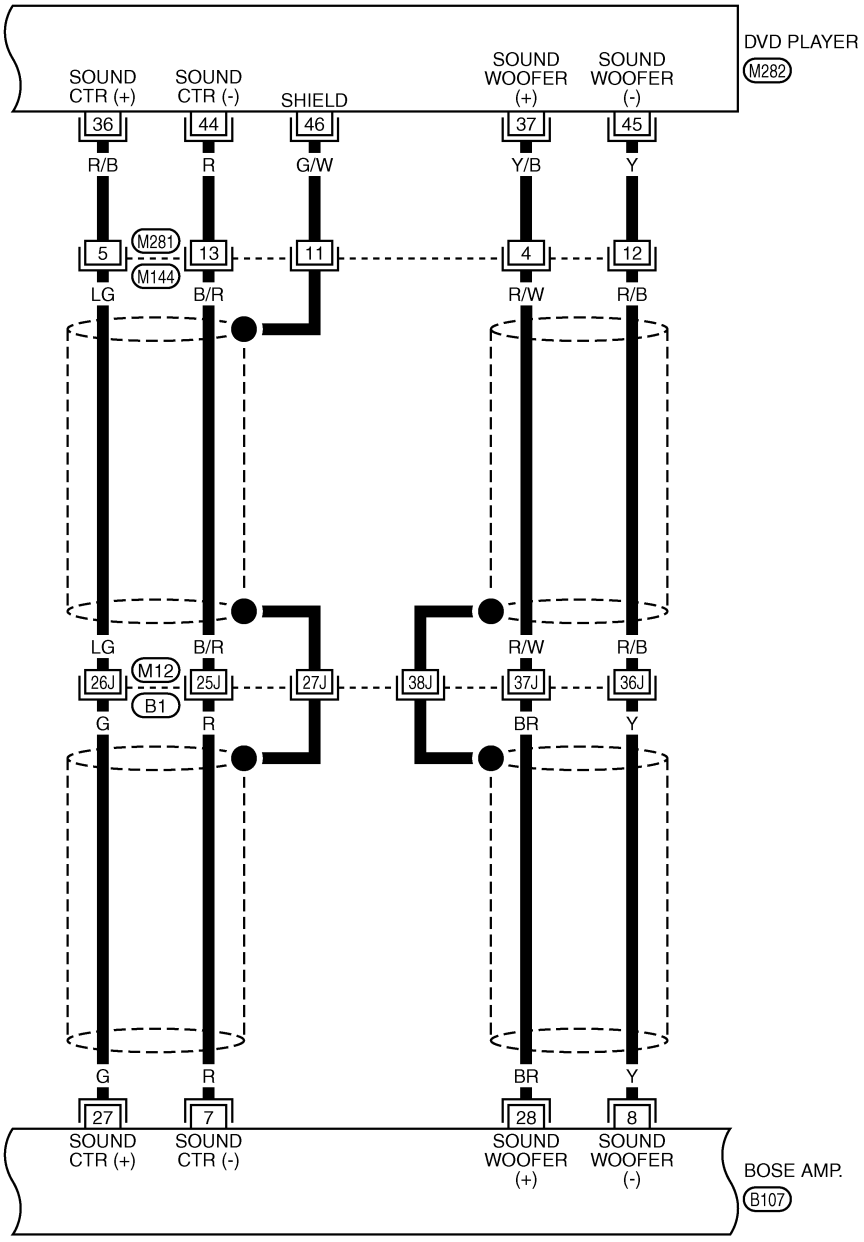


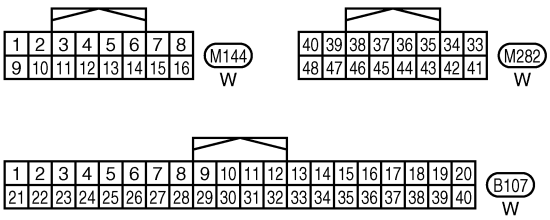


REFER TO THE FOLLOWING.
B1 -SUPER MULTIPLE JUNCTION (SMJ)

TKWT3532E

AV-AV-38

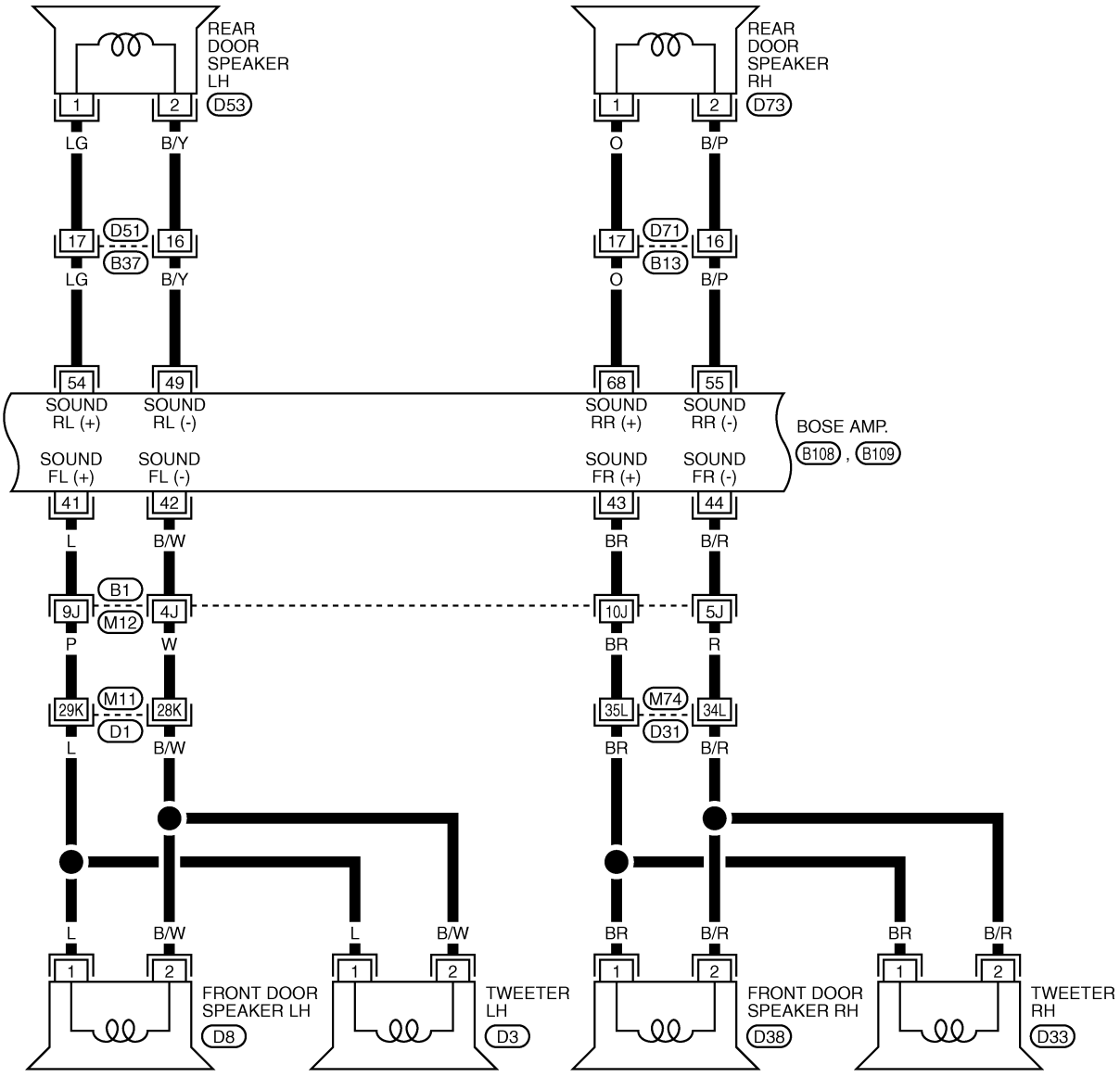


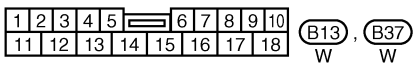


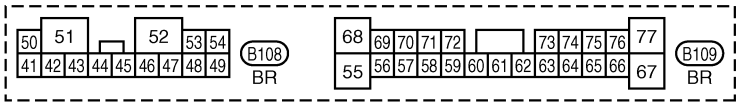
REFER TO THE FOLLOWING.
B1 -SUPER MULTIPLE JUNCTION (SMJ)

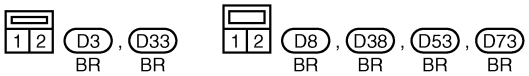
TKWT3533E

AV-AV-39





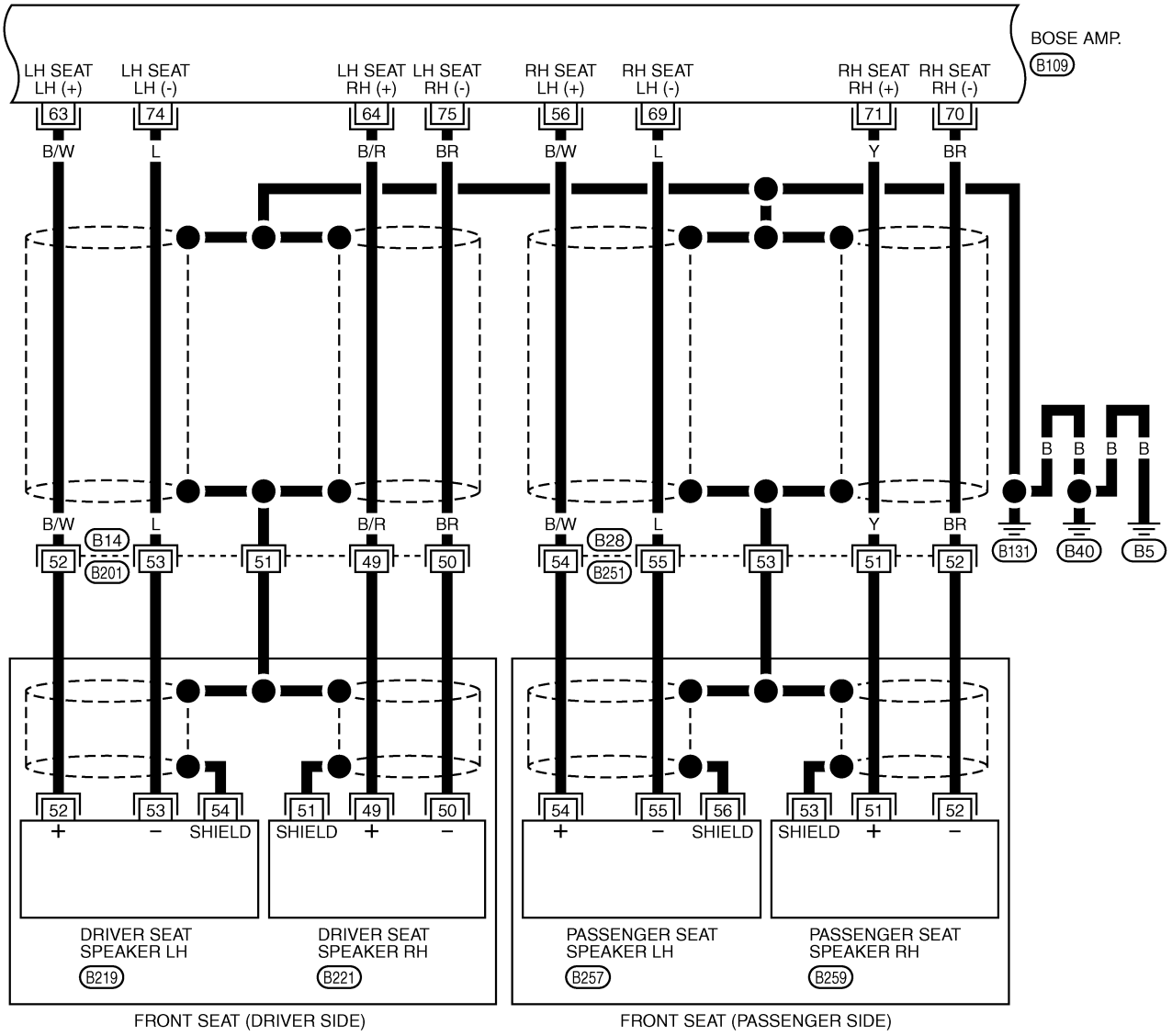


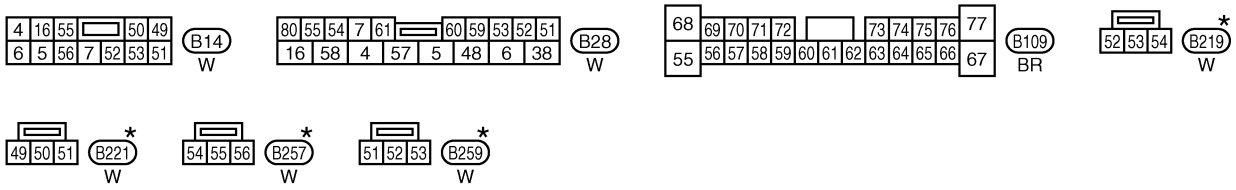


REFER TO THE FOLLOWING.
B1 , D1 , D31 -SUPER MULTIPLE JUNCTION (SMJ)

TKWT3534E

AV-AV-40

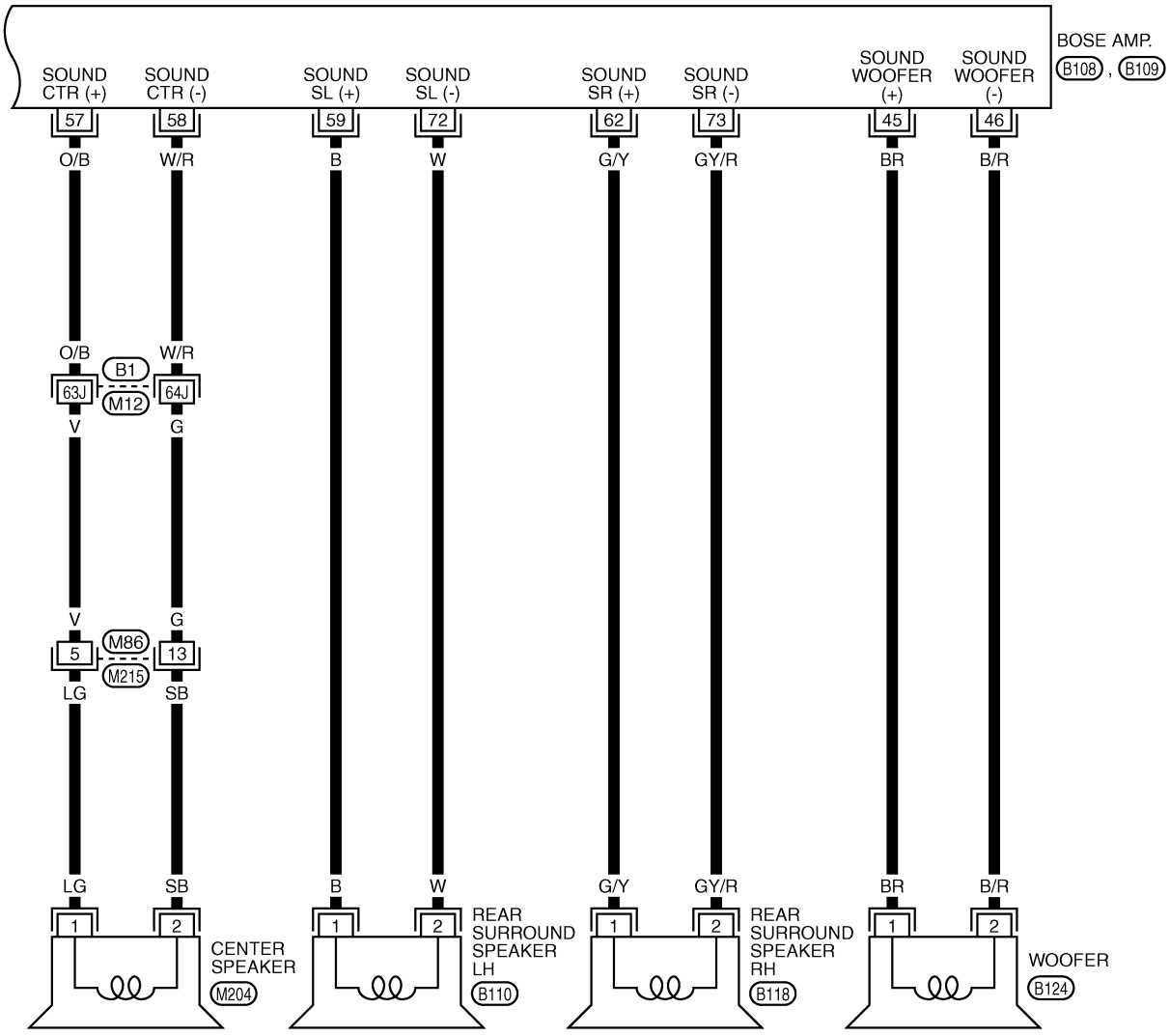


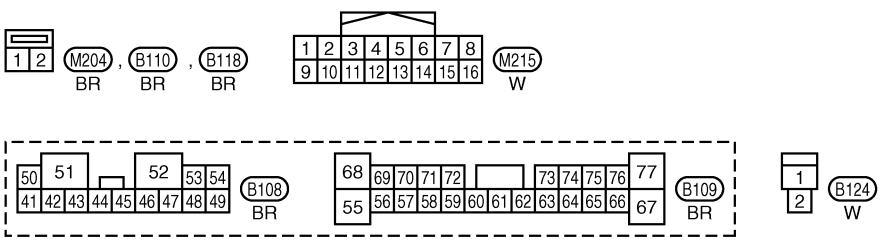


*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

TKWT3535E

AV-AV-41

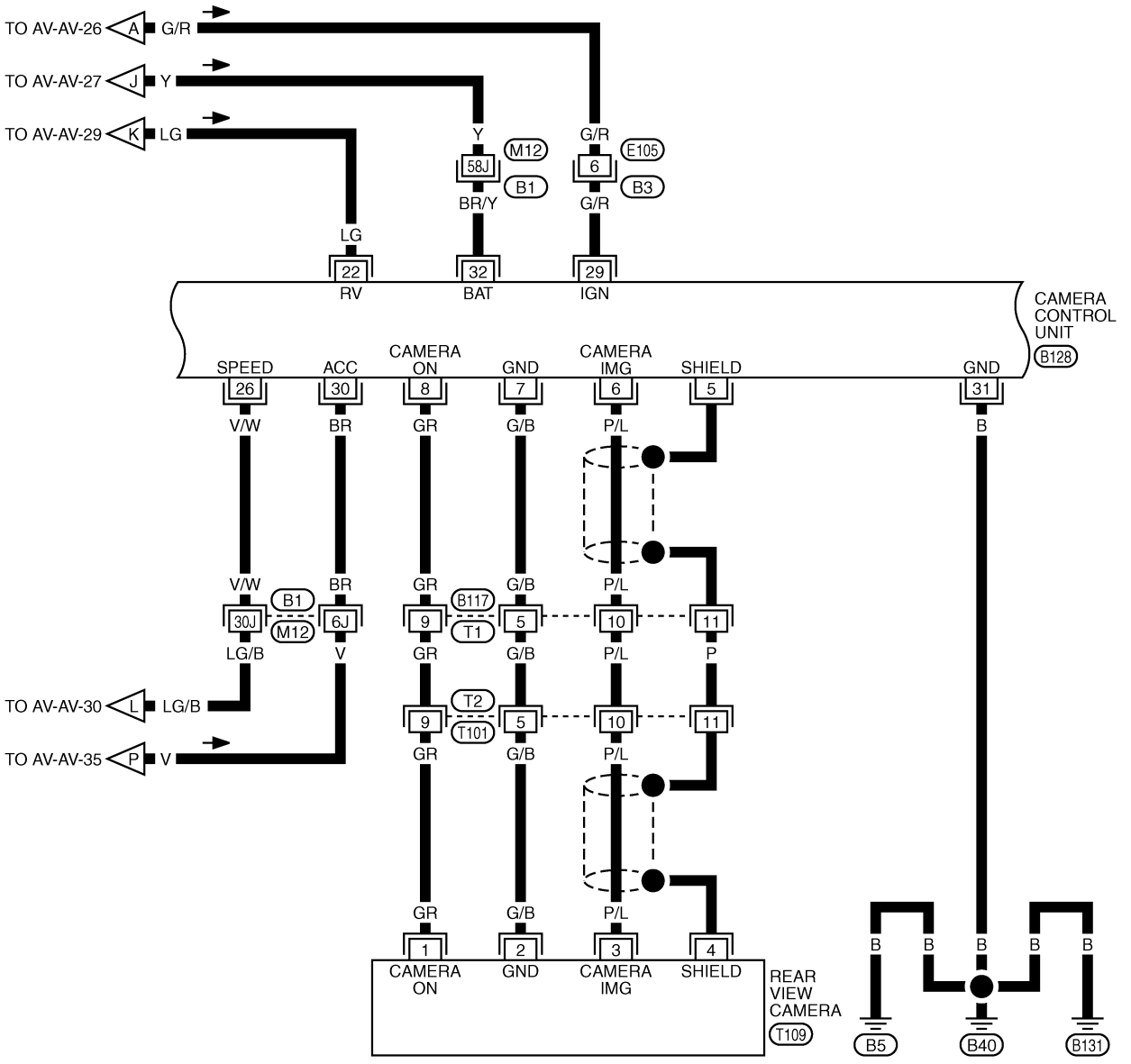


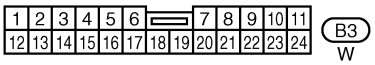


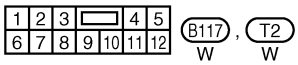
REFER TO THE FOLLOWING.
B1 -SUPER MULTIPLE JUNCTION (SMJ)

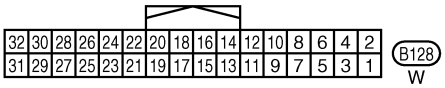
TKWT3536E

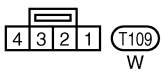
AV-AV-42







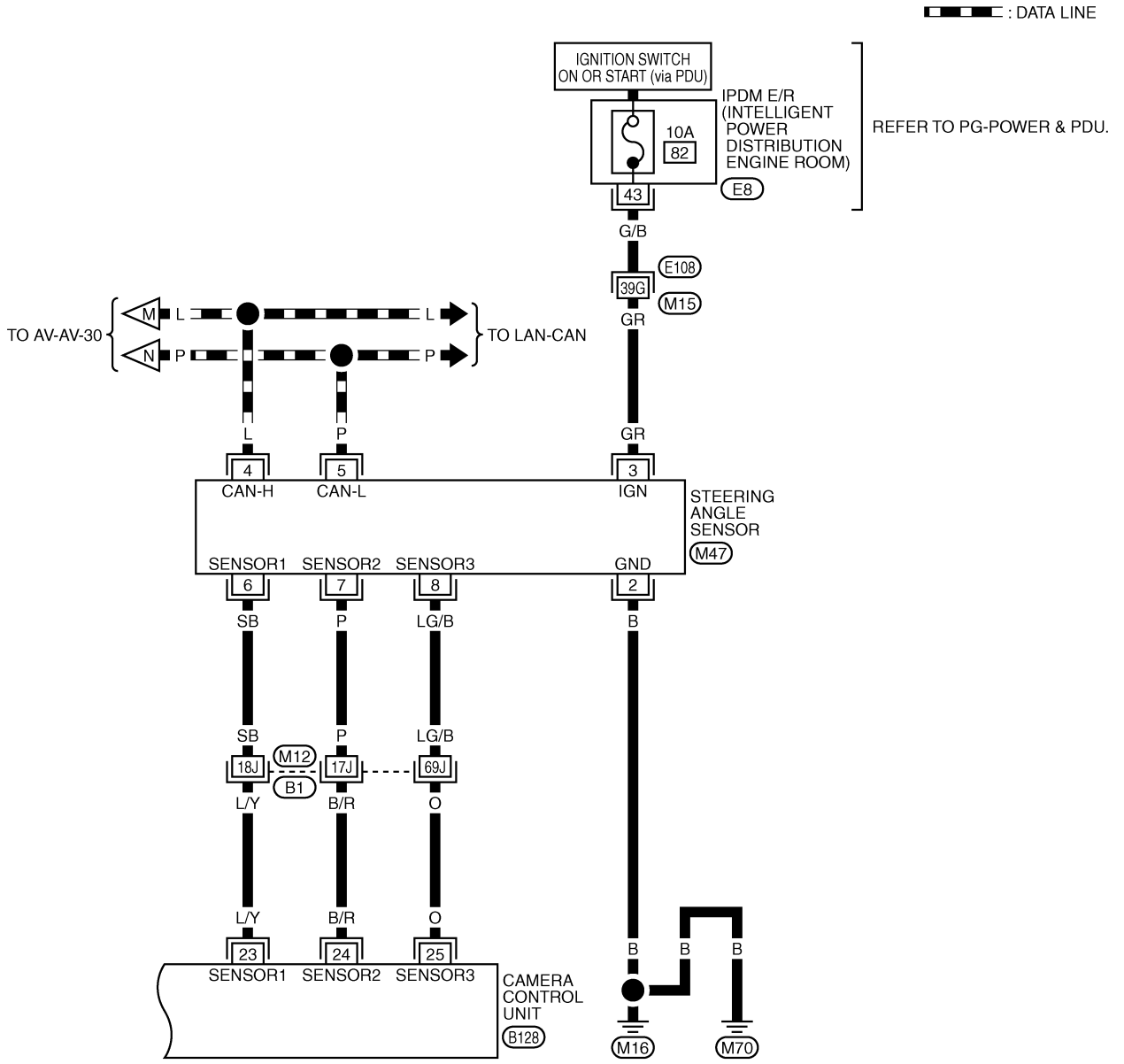


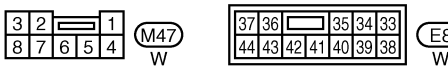


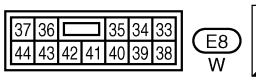
REFER TO THE FOLLOWING.
B1 -SUPER MULTIPLE JUNCTION (SMJ)

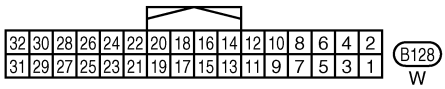
TKWT3537E

AV-AV-43





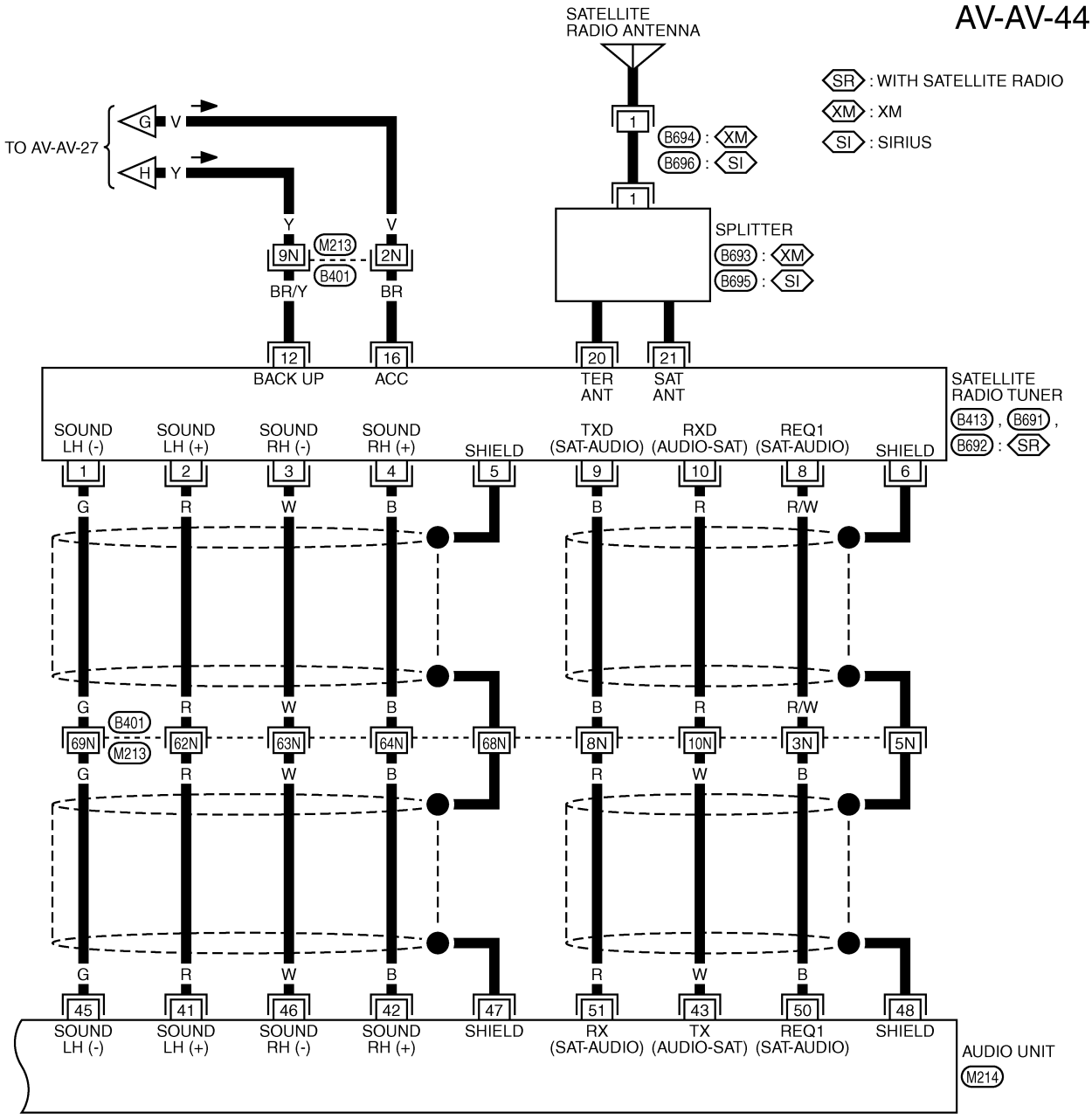


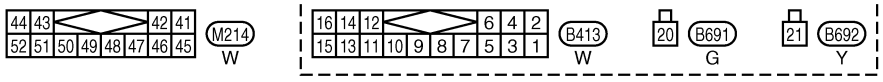


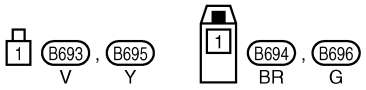
REFER TO THE FOLLOWING.
E108 , B1 -SUPER MULTIPLE JUNCTION (SMJ)

TKWT3538E

AV-AV-44





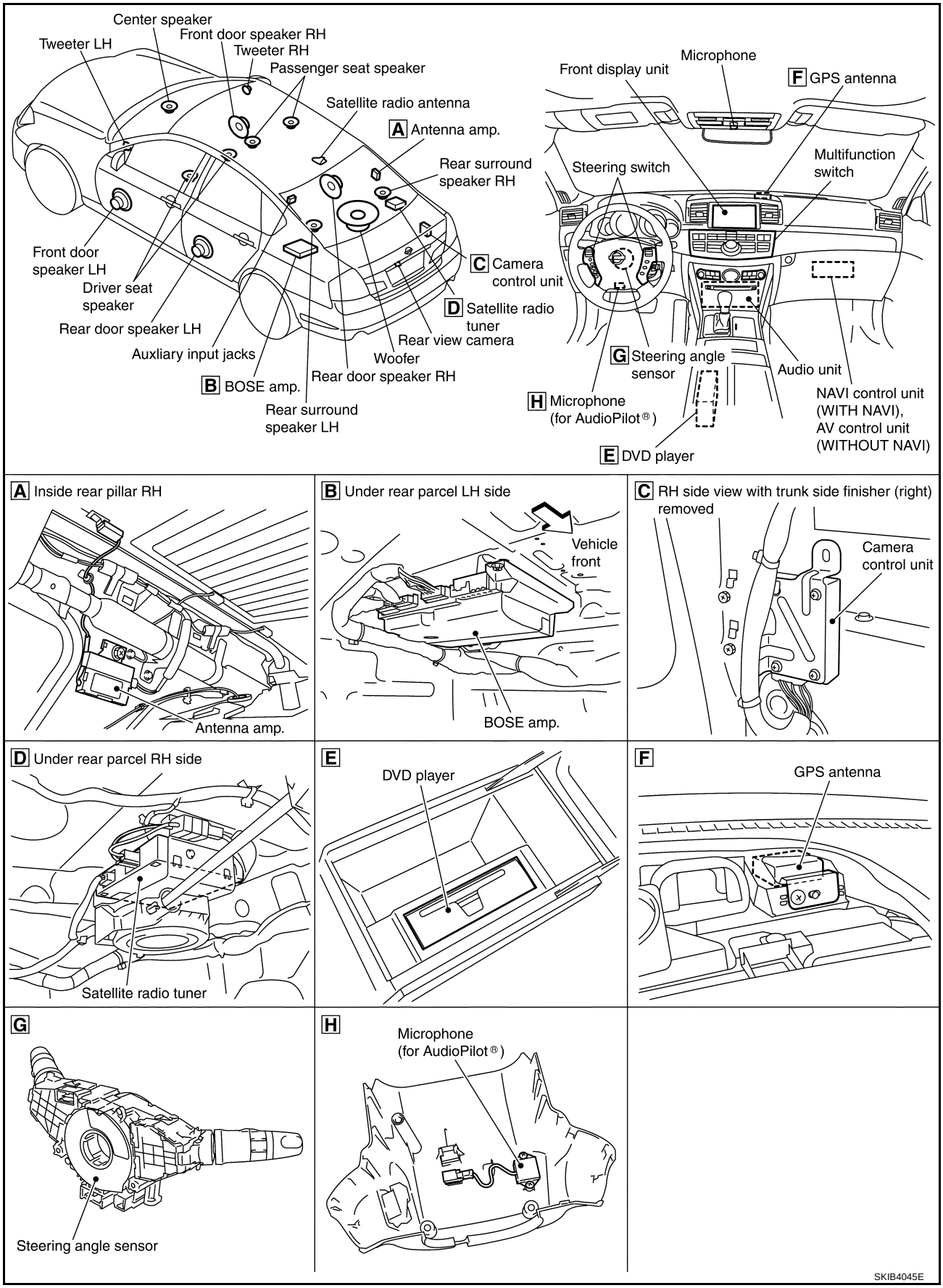


REFER TO THE FOLLOWING.
B401 -SUPER MULTIPLE JUNCTION (SMJ)

TKWT3539E

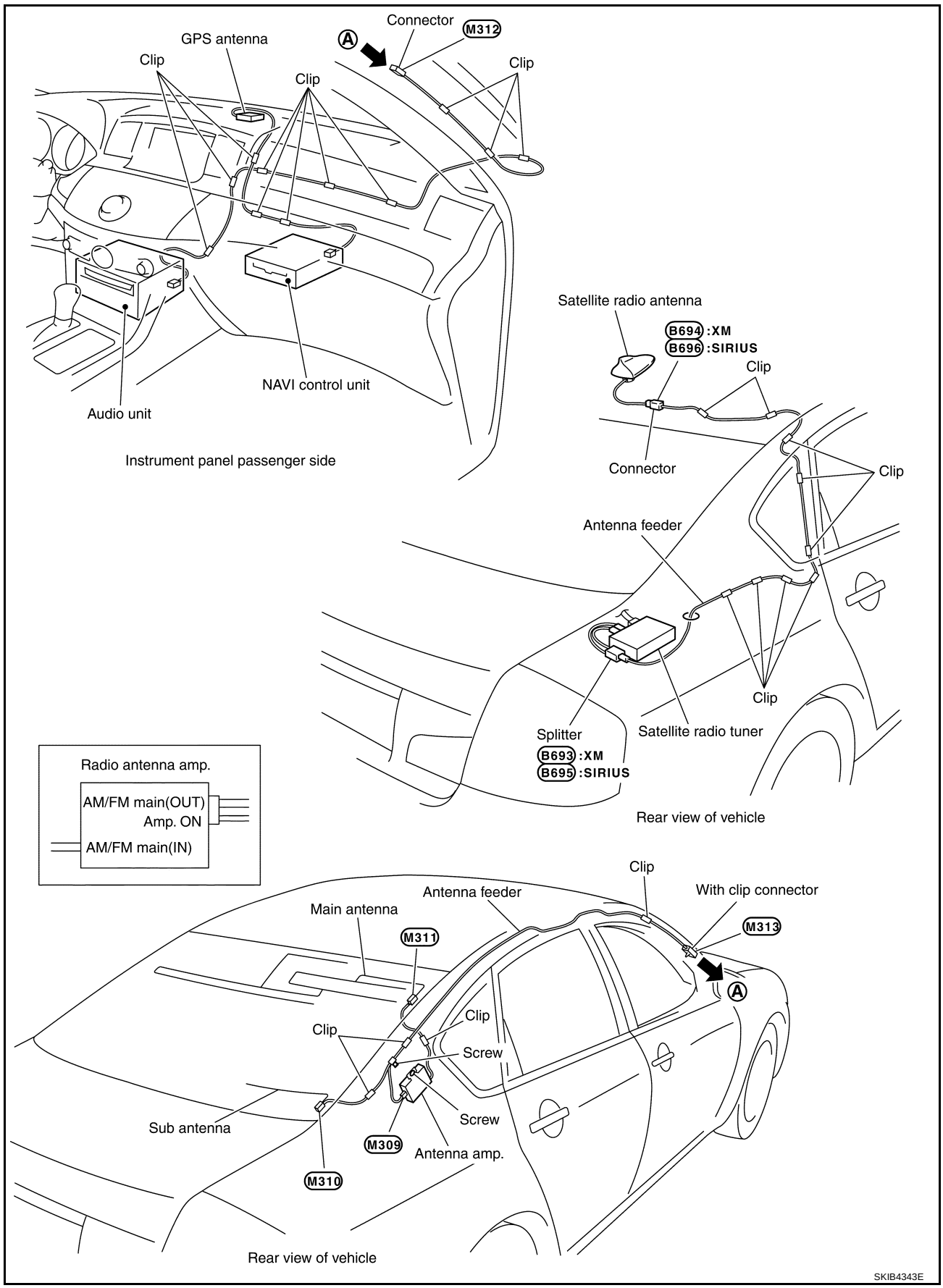
Component Parts Location

NKS0048J



Location of Antenna

NKS0048K

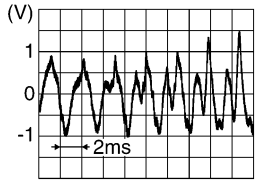
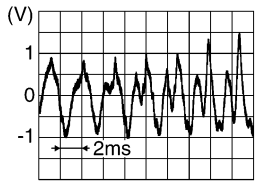


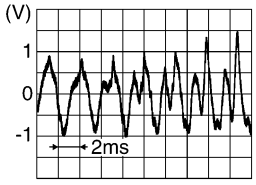
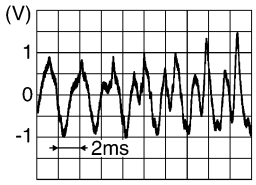
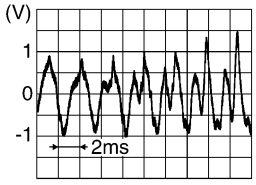
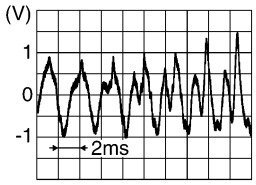
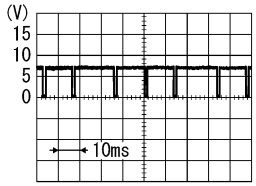
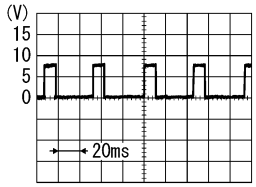
TERMINALS AND REFERENCE VALUE FOR CONTROL UNIT

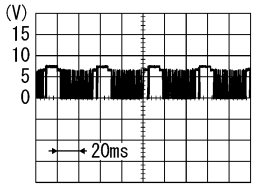
PFP:00000

Audio Unit for Base System

NKS0048L

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
2 (P)*1 (R/L)*2	3 (W)	Audio signal front LH	Output	ON	Receive audio signal.	 SKIB3609E
4 (V)*1 (LG)*2	5 (SB)	Audio signal rear LH				
6 (BR)	15 (G)	Steering switch signal A	Input	ON	Keep pushing SOURCE switch.	Approx. 0 V
					Keep pushing MENU UP switch.	Approx. 1.2 V
					Keep pushing MENU DOWN switch.	Approx. 2.5 V
					Keep pushing ENTER switch.	Approx. 3.7 V
					Except for above.	Approx. 5 V
7 (V)	Ground	ACC power supply	Input	ACC	–	Battery voltage
8 (R/Y)	Ground	Illumination control signal	Input	OFF	Illumination control switch is operated by lighting switch in ON position.	Change between approx. 0 V and approx. 12 V
9 (R)	Ground	Illumination signal	Input	OFF	Lighting switch is OFF.	Approx. 0 V
					Lighting switch is ON.	Approx. 12 V
11 (BR)*1 (P)*2	12 (R)*1 (L)*2	Audio signal front RH	Output	ON	Receive audio signal.	 SKIB3609E
13 (Y)	14 (P)	Audio signal rear RH				
15 (G)	Ground	Steering switch signal ground	–	ON	–	Approx. 0 V
16 (O)	15 (G)	Steering switch signal B	Input	ON	Keep pushing VOL DOWN switch.	Approx. 0 V
					Keep pushing VOL UP switch.	Approx. 1.2 V
					Keep pushing TEL switch.	Approx. 2.5 V
					Keep pushing BACK switch.	Approx. 3.7 V
					Except for above.	Approx. 5 V
19 (Y)	Ground	Battery power supply	Input	OFF	–	Battery voltage
20 (B)	Ground	Ground	–	ON	–	Approx. 0 V
23 (R)*1 (Y)*2	–	Communication signal (H)	Input/ Output	–	–	–

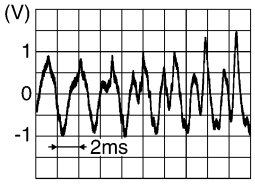
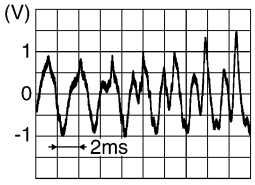
Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
24 (B)*1 (O)*2	–	Communication signal (L)	Input/ Output	–	–	–
30 (BR)	31 (B/R)	TEL voice signal	Input	ON	When inputting telephone voice.	 SKIB3609E
32 (L/G)*1 (P)*2	33 (L/Y)*1 (L)*2	Voice guidance signal	Input	ON	Push “VOICE” button.	 SKIB3609E
37	–	Shield	–	–	–	–
38	–	Shield	–	–	–	–
41 (R)	45 (G)	Audio signal LH	Input	ON	Satellite radio mode is ON.	 SKIB3609E
42 (B)	46 (W)	Audio signal RH	Input	ON	Satellite radio mode is ON.	 SKIB3609E
43 (W)	Ground	Communication signal (AUDIO-SAT)	Output	ON	Satellite radio mode is ON.	 SKIB3826E
47	–	Shield	–	–	–	–
48	–	Shield	–	–	–	–
50 (B)	Ground	REQ1 (SAT-AUDIO)	Input	ON	Satellite radio mode is ON.	 SKIB3825E

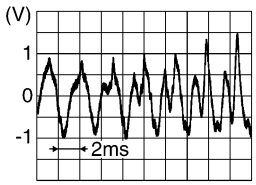
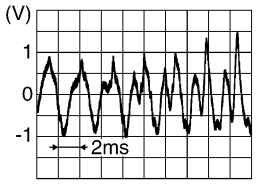
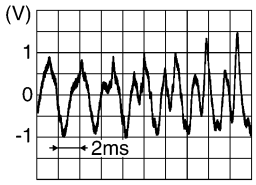
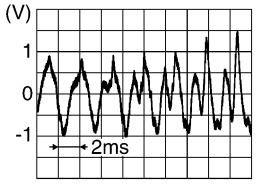
Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
51 (R)	Ground	Communication signal (SAT-AUDIO)	Input	ON	Satellite radio mode is ON.	 SKIB3824E
53	Ground	Antenna amp ON signal	Output	ON	–	Approx. 12 V
54	–	AM-FM main	Input	–	–	–
55	–	FM sub	Input	–	–	–

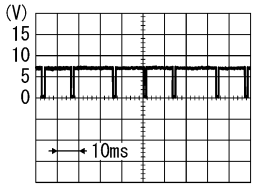
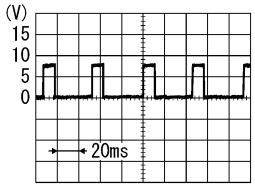
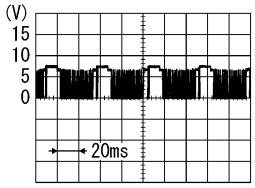
- *1: 2WD models without navigation system and RAS
- *2: Except *1

Audio Unit for BOSE System

NKS0048M

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
2 (R/L)	3 (W)	Audio signal LH	Output	ON	Receive audio signal.	 SKIB3609E
6 (BR)	15 (G)	Steering switch signal A	Input	ON	Keep pushing SOURCE switch.	approx. 0 V
					Keep pushing MENU UP switch.	Approx. 1.2 V
					Keep pushing MENU DOWN switch.	Approx. 2.5 V
					Keep pushing ENTER switch.	Approx. 3.7 V
					Except for above.	Approx. 5 V
7 (V)	Ground	ACC power supply	Input	ACC	–	Battery voltage
8 (R/Y)	Ground	Illumination control signal	Input	OFF	Illumination control switch is operated by lighting switch in ON position.	Change between approx. 0 V and approx. 12 V
9 (R)	Ground	Illumination signal	Input	OFF	Lighting switch is OFF.	Approx. 0 V
					Lighting switch is ON.	Approx. 12 V
11 (P)	12 (L)	Audio signal RH	Output	ON	Receive audio signal.	 SKIB3609E

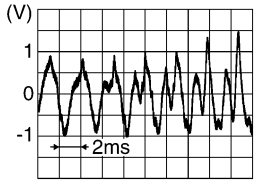
Terminal (Wire color) +	Terminal (Wire color) –	Item	Signal input/ output	Condition: Ignition switch	Condition: Operation	Reference value
15 (G)	Ground	Steering switch signal ground	–	ON	–	Approx. 0 V
16 (O)	15 (G)	Steering switch signal B	Input	ON	Keep pushing VOL DOWN switch.	Approx. 0 V
					Keep pushing VOL UP switch.	Approx. 1.2 V
					Keep pushing TEL, PTT switch.	Approx. 2.5 V
					Keep pushing BACK switch.	Approx. 3.7 V
					Except for above.	Approx. 5V
19 (Y)	Ground	Battery power supply	Input	OFF	–	Battery voltage
20 (B)	Ground	Ground	–	ON	–	Approx. 0 V
21* (B/R)	25* (BR)	Sound signal LH	Input	ON	When playing DVD (Down mix is ON)	 SKIB3609E
22* (B/W)	26* (L)	Sound signal RH				
23 (Y)	–	Communication signal (H)	Input/ Output	–	–	–
24 (O)	–	Communication signal (L)	Input/ Output	–	–	–
27*	–	Shield	–	–	–	–
30 (BR)	31 (B/R)	TEL voice signal	Input	ON	When inputting TEL voice signal.	 SKIB3609E
37	–	Shield	–	–	–	–
41 (R)	45 (G)	Audio signal LH	Input	ON	Satellite radio mode is ON.	 SKIB3609E
42 (B)	46 (W)	Audio signal RH	Input	ON	Satellite radio mode is ON.	 SKIB3609E

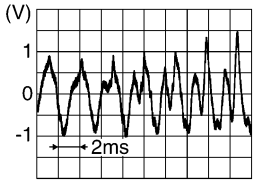
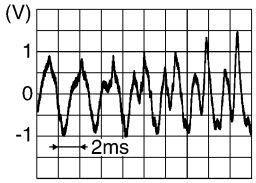
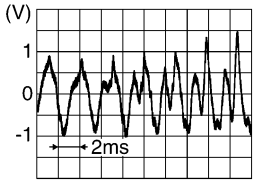
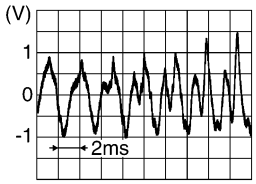
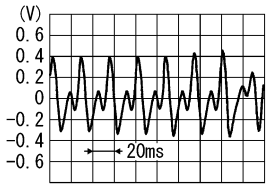
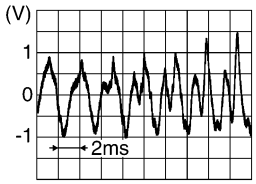
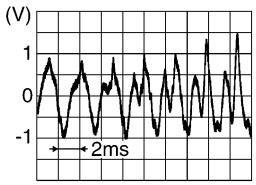
Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
43 (W)	Ground	Communication signal (AUDIO-SAT)	Output	ON	Satellite radio mode is ON.	 SKIB3826E
47	–	Shield	–	–	–	–
48	–	Shield	–	–	–	–
50 (B)	Ground	REQ1 (SAT-AUDIO)	Input	ON	Satellite radio mode is ON.	 SKIB3825E
51 (R)	Ground	Communication signal (SAT-AUDIO)	Input	ON	Satellite radio mode is ON.	 SKIB3824E
53	Ground	Antenna amp ON signal	Output	ON	–	Approx.12V
54	–	AM-FM main	Input	–	–	–
55	–	FM sub	Input	–	–	–

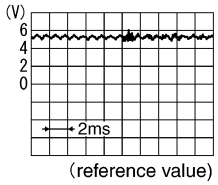
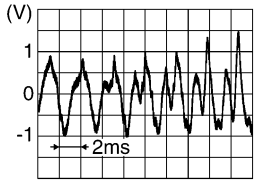
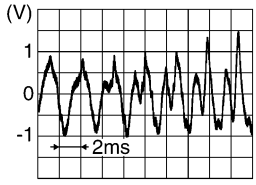
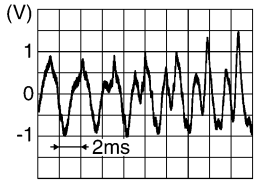
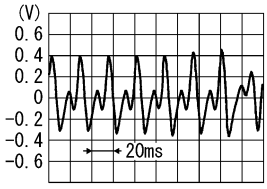
*: BOSE surround 5.1ch system

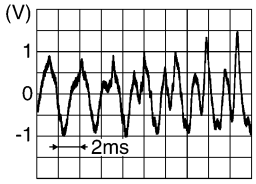
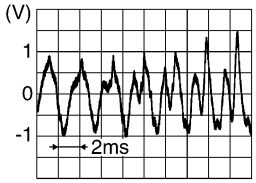
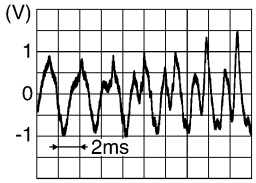
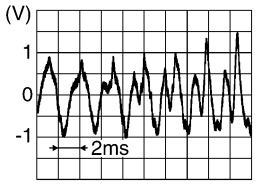
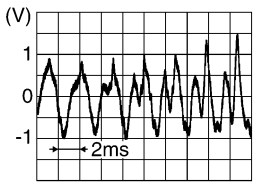
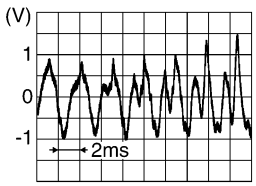
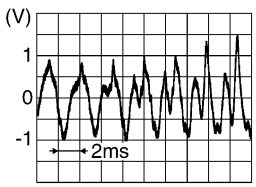
BOSE Amp

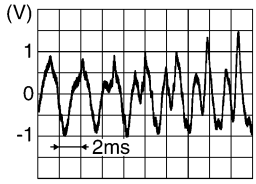
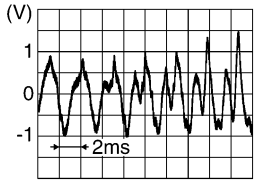
NKS0048N

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
14 (G)	–	Communication signal (L)	–	–	–	–
15 (G)	–	Communication signal (L)	–	–	–	–
16 (BR)	Ground	ACC power supply	Input	ACC	–	Battery voltage
23* (L/R)	3* (L/G)	DVD sound signal front LH	Input	ON	When playing DVD CAUTION	 SKIB3609E

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
24* (B/Y)	4* (LG)	DVD sound signal front RH	Input	ON	When playing DVD CAUTION	 SKIB3609E
25* (B)	5* (W)	DVD sound signal rear LH	Input	ON	When playing DVD CAUTION	 SKIB3609E
26* (P)	6* (L)	DVD sound signal rear RH	Input	ON	When playing DVD CAUTION	 SKIB3609E
27* (G)	7* (R)	DVD sound signal center	Input	ON	When playing DVD CAUTION	 SKIB3609E
28* (BR)	8* (Y)	DVD sound signal woofer	Input	ON	When playing DVD CAUTION	 PKIB6116J
29 (P)	9 (L)	Audio signal LH	Input	ON	Receive audio signal.	 SKIB3609E
30 (R)	10 (G)	Audio signal RH	Input	ON	Receive audio signal.	 SKIB3609E

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
31 (L)	11 (B/W)	MIC. signal	Input	ON	When inputting noise.	 (reference value) PKIA2104E
32 (B/W)	12 (L)	Voice guidance signal	Input	ON	When inputting voice guidance.	 SKIB3609E
33	–	Shield	–	–	–	–
34 (R)	–	Communication signal (H)	–	–	–	–
35 (R)	–	Communication signal (H)	–	–	–	–
36	–	Shield	–	–	–	–
41 (L)	42 (B/W)	Audio signal front LH	Output	ON	Receive audio signal.	 SKIB3609E
43 (BR)	44 (B/R)	Audio signal front RH	Output	ON	Receive audio signal.	 SKIB3609E
45 (BR)	46 (B/R)	Audio signal woofer	Output	ON	Receive audio signal.	 PKIB6116J
47 (B/W)	Ground	Ground	–	ON	–	Approx. 0 V
50 (Y)	Ground	Battery power supply	Input	OFF	–	Battery voltage
51 (R)	Ground	Battery power supply	Input	OFF	–	Battery voltage
52 (B/W)	Ground	Ground	–	ON	–	Approx. 0 V

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
54 (LG)	49 (B/Y)	Audio signal rear LH	Output	ON	Receive audio signal.	 SKIB3609E
56* (B/W)	69* (L)	Audio signal passenger seat LH	Output	ON	Receive audio signal.	 SKIB3609E
57 (O/B)	58 (W/R)	Audio signal center	Output	ON	Receive audio signal.	 SKIB3609E
59* (B)	72* (W)	Audio signal rear sur-round LH	Output	ON	Receive audio signal.	 SKIB3609E
62* (G/Y)	73* (GY/R)	Audio signal rear sur-round RH	Output	ON	Receive audio signal.	 SKIB3609E
63* (B/W)	74* (L)	Audio signal driver seat LH	Output	ON	Receive audio signal.	 SKIB3609E
64* (B/R)	75* (BR)	Audio signal driver seat RH	Output	ON	Receive audio signal.	 SKIB3609E

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
68 (O)	55 (B/P)	Audio signal rear RH	Output	ON	Receive audio signal.	 SKIB3609E
71* (Y)	70* (BR)	Audio signal passenger seat RH	Output	ON	Receive audio signal.	 SKIB3609E

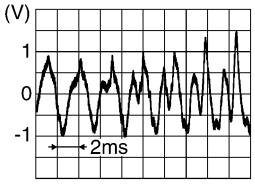
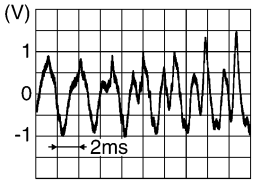
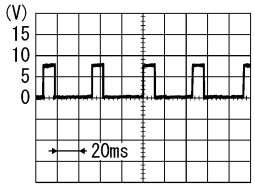
*: BOSE surround 5.1ch System

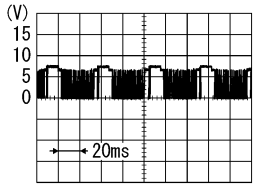
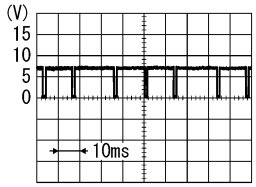
CAUTION:

When the stereo sound is played, only front RH and LH are input. When the monaural sound is played, only center is input. All surround sounds are input only when the 5.1 channel surround sound is played.

Satellite Radio Tuner

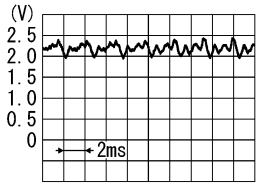
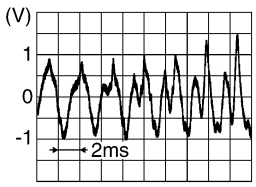
NKS0048O

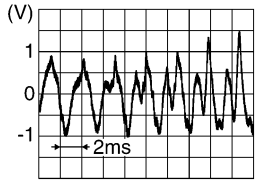
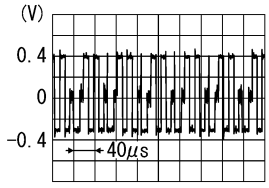
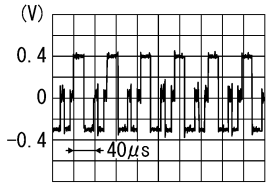
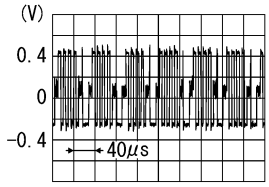
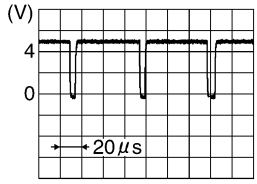
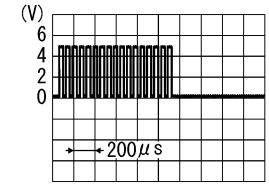
Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
2 (R)	1 (G)	Audio signal LH	Output	ON	Receive audio signal.	 SKIB3609E
4 (B)	3 (W)	Audio signal RH	Output	ON	Receive audio signal.	 SKIB3609E
5	–	Shield	–	–	–	–
6	–	Shield	–	ON	–	Approx. 0 V
8 (R/W)	Ground	REQ1 (SAT-AUDIO)	Output	ON	Set to the satellite radio mode	 SKIB3825E

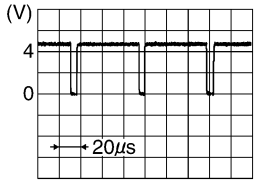
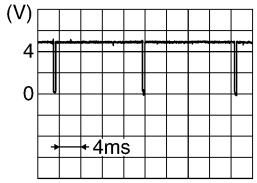
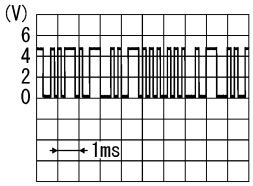
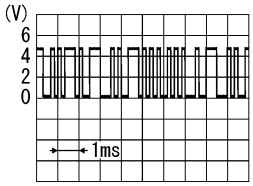
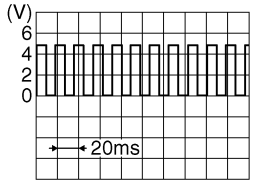
Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
9 (B)	Ground	Communication signal (SAT-AUDIO)	Output	ON	Set to the satellite radio mode	 SKIB3824E
10 (R)	Ground	Communication signal (AUDIO-SAT)	Input	ON	Set to the satellite radio mode	 SKIB3826E
12 (BR/Y)	Ground	Battery power supply	Input	OFF	–	Battery voltage
16 (BR)	Ground	ACC power supply	Input	ACC	–	Battery voltage
20	–	Terrestrial antenna signal	Input	–	–	–
21	–	Satellite antenna signal	Input	–	–	–

AV (NAVI) Control Unit

NKS0048P

Terminal (Wire color)		Item	Signal Input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
1 (B)	Ground	Ground	–	ON	–	Approx. 0 V
2 (Y)	Ground	Battery power supply	Input	OFF	–	Battery voltage
5 (V)	Ground	ACC power supply	Input	ACC	–	Battery voltage
6 (O/L)	7	MIC. power supply	Output	ON	–	Approx. 5 V
7	Ground	MIC. ground	–	ON	–	Approx. 0 V
8 (W/L)	7	MIC. signal	Input	ON	Give a voice.	 PKIB5037J
9	–	Shield	–	–	–	–
10 (BR)	11 (B/R)	TEL voice signal	Output	ON	When inputting TEL voice.	 SKIB3609E

Terminal (Wire color)		Item	Signal Input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
12 (L/G)*1 (P)*2	14 (L/Y)*1 (L)*2	Voice guidance signal	Output	ON	When inputting voice guidance.	 SKIB3609E
13	–	Shield	–	–	–	–
44 (L/G)	47 (W/L)	RGB signal (R: red)	Output	ON	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2238J
45 (O/L)	47 (W/L)	RGB signal (G: green)	Output	ON	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2236J
46 (L/Y)	47 (W/L)	RGB signal (B: blue)	Output	ON	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2237J
47 (W/L)	Ground	RGB ground	–	ON	–	Approx.0 V
48 (B)	Ground	RGB synchronizing signal	Output	ON	–	 SKIB3603E
49	–	Shield	–	–	–	–
50 (G)	Ground	RGB area (YS) signal	Output	ON	When inputting RGB image.	Approx. 5 V
					Set the selector lever in R position, and then display the rear view image.	 PKIB4948J

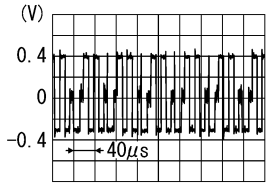
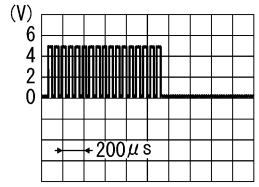
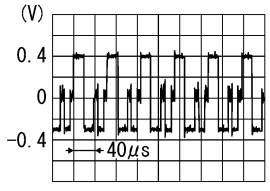
Terminal (Wire color)		Item	Signal Input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
51 (W)	Ground	Horizontal synchronizing (HP) signal	Input	ON	–	 SKIB3601E
52 (R)	Ground	Vertical synchronizing (VP) signal	Input	ON	–	 SKIB3598E
53 (O/L)	Ground	Communication signal (CONT-DISP)	Input	ON	When adjusting display brightness.	 PKIB5039J
54 (W/L)	Ground	Communication signal (DISP-CONT)	Input	ON	When adjusting display brightness.	 PKIB5039J
55	–	Shield	–	–	–	–
61 (LG)	Ground	Illumination signal	Input	OFF	Lighting switch is OFF.	Approx. 0 V
					Lighting switch is ON.	Approx. 12 V
63 (Y/G)	Ground	Ignition signal	Input	ON	–	Battery voltage
64 (P)	Ground	Parking brake signal	Input	ON	Parking brake ON.	Approx. 0 V
					Parking brake OFF.	Approx. 12 V
65 (O)	Ground	Reverse signal	Input	ON	Select lever in R position.	Approx. 12 V
					Other than selector lever in R position.	Approx. 0 V
66 (G)	Ground	Vehicle speed signal (8-pulse)	Input	ON	When vehicle speed is approx. 40 km/h (25 MPH).	 SKIA6649J

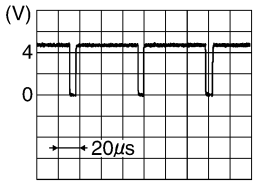
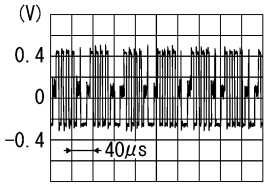
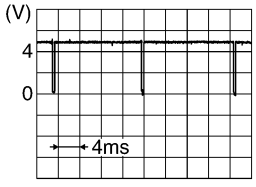
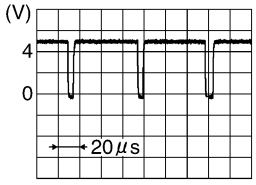
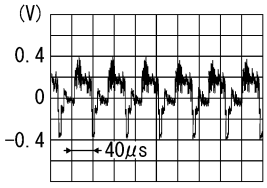
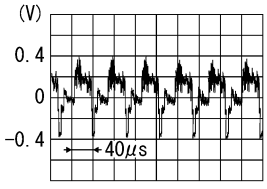
Terminal (Wire color)		Item	Signal Input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
67*3 (V)	Ground	Camera-connection recognition signal	Input	ON	Connected to rear view camera control unit connector.	Approx. 0 V
					Not connected to rear view camera control unit connector.	Approx. 5 V
69 (W)	–	Communication signal (H)	Input/ Output	–	–	–
70 (R)	–	Communication signal (L)	Input/ Output	–	–	–
71 (LG)	–	CAN-H	Input/ Output	–	–	–
72 (P)	–	CAN-L	Input/ Output	–	–	–
107*4	Ground	GPS signal	Input	ON	Connector is not connected.	Approx. 5 V

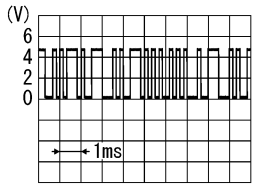
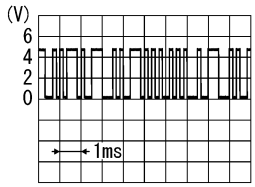
- *1: 2WD models without navigation system and RAS
- *2: Except *1
- *3: With rear view monitor
- *4: With navigation system

Front Display Unit

NKS0048Q

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
1 (L/G)	8 (W/L)	RGB Signal (R: red)	Input	ON	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2238J
2 (G)	Ground	RGB area (YS) signal	Input	ON	When inputting RGB image.	Approx.5 V
					Set the selector lever in R position, and then display the rear view image.	 PKIB4948J
3 (O/L)	8 (W/L)	RGB signal (G: green)	Input	ON	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2236J

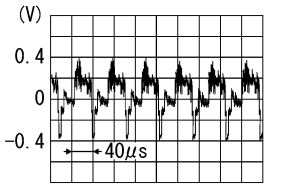
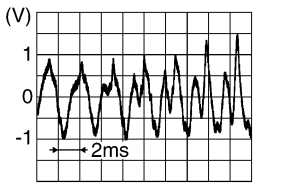
Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
4 (W)	Ground	Horizontal synchronizing (HP) signal	Output	ON	–	 SKIB3601E
5 (L/Y)	8 (W/L)	RGB signal (B: blue)	Input	ON	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2237J
6 (R)	Ground	Vertical synchronizing (VP) signal	Input	ON	–	 SKIB3598E
7 (B)	Ground	RGB synchronizing signal	Input	ON	–	 SKIB3603E
8 (W/L)	Ground	RGB ground	–	ON	–	Approx. 0 V
10	–	Shield	–	–	–	–
11*1 (Y)	Ground	Camera image signal	Input	ON	Set selector lever in R position, and then display the rear view image.	 SKIB2251J
12*1	–	Shield	–	–	–	–
14*2	–	Shield	–	–	–	–
15*2 (L)	Ground	Composite image signal	Output	ON	DVD image	 SKIB2251J

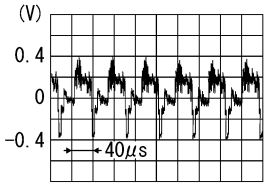
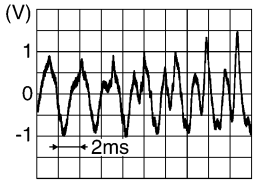
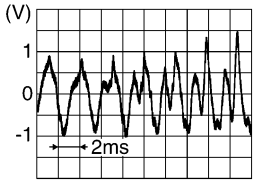
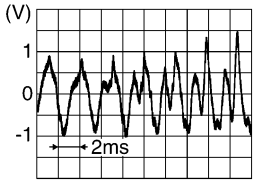
Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
17 (W/L)	Ground	Communication signal (DISP-CONT)	Output	ON	When adjusting display brightness.	 PKIB5039J
18	–	Shield	–	–	–	–
19 (O/L)	Ground	Communication signal (CONT-DISP)	Output	ON	When adjusting display brightness.	 PKIB5039J
20 (V)	Ground	ACC power supply	Input	ACC	–	Battery voltage
21 (L)	Ground	BAT power supply	Input	OFF	–	Battery voltage
23 (B)	Ground	Ground	–	ON	–	Approx. 0 V

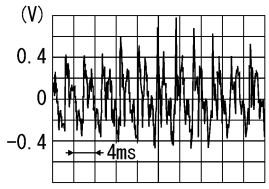
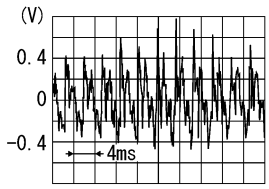
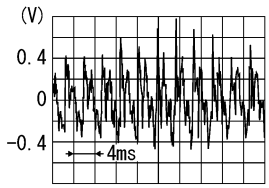
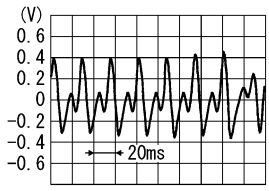
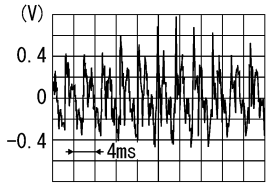
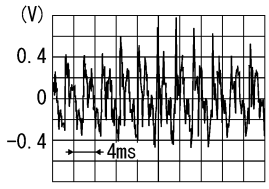
- *1: With rear view monitor
- *2: With BOSE surround 5.1ch system

DVD Player

NKS0048R

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
1 (Y)	Ground	Battery power supply	Input	OFF	–	Battery voltage
2 (V)	Ground	ACC power supply	Input	ACC	–	Battery voltage
4 (W)	Ground	AUX image signal	Input	ON	–	 SKIB2251J
5	–	Shield	–	–	–	–
7 (W)	6 (B)	AUX sound signal RH	Input	ON	AUX sound input	 SKIB3609E
14	–	Shield	–	–	–	–

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
15 (Y)	–	Communication signal (H)	Input/ Output	–	–	–
16 (W)	–	Communication signal (H)	Input/ Output	–	–	–
17 (B)	Ground	Ground	–	ON	–	Approx. 0 V
18 (R/L)	Ground	Illumination signal	Input	OFF	Lighting switch is OFF.	Approx. 0 V
					Lighting switch is ON.	Approx. 12 V
19	–	Shield	–	–	–	–
20 (G)	Ground	DVD / AUX image signal	Output	ON	DVD image	 SKIB2251J
23 (R)	22 (B)	AUX sound signal LH	Input	ON	AUX sound input	 SKIB3609E
24	–	Shield	–	–	–	–
27 (B/R)	11 (BR)	Sound signal LH	Output	ON	Sound output	 SKIB3609E
28 (B/W)	12 (L)	Sound signal RH	Output	ON	Sound output	 SKIB3609E
30	–	Shield	–	–	–	–
31 (O)	–	Communication signal (L)	Input/ Output	–	–	–
32 (R)	–	Communication signal (L)	Input/ Output	–	–	–
33 (R/Y)	–	Shield	–	–	–	–

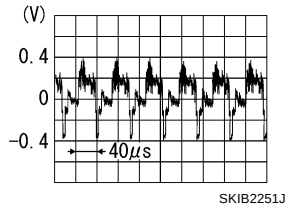
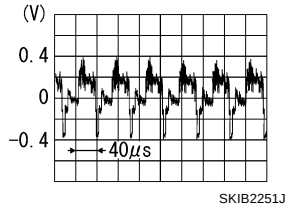
Terminal (Wire color) +	Terminal (Wire color) –	Item	Signal input/ output	Condition: Ignition switch	Condition: Operation	Reference value
34 (B/Y)	42 (LG)	DVD sound signal front RH	Output	ON	When playing DVD CAUTION	 SKIB1990E
35 (L/R)	43 (L/G)	DVD sound signal front LH	Output	ON	When playing DVD CAUTION	 SKIB1990E
36 (R/B)	44 (R)	DVD sound signal center	Output	ON	When playing DVD CAUTION	 SKIB1990E
37 (Y/B)	45 (Y)	DVD sound signal woofer	Output	ON	When playing DVD CAUTION	 PKIB6116J
38 (G/R)	–	Shield	–	–	–	–
39 (Y/L)	47 (W/L)	DVD sound signal rear RH	Output	ON	When playing DVD CAUTION	 SKIB1990E
40 (O/L)	48 (O)	DVD sound signal rear LH	Output	ON	When playing DVD CAUTION	 SKIB1990E
46 (G/W)	–	Shield	–	–	–	–

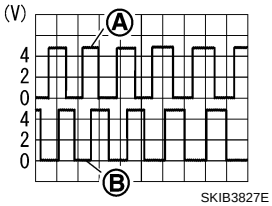
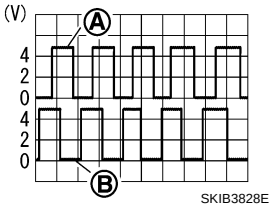
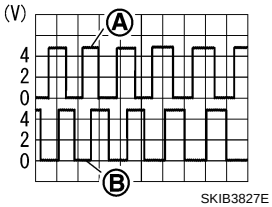
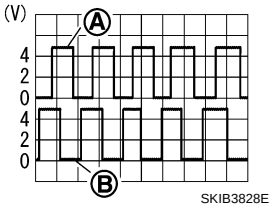
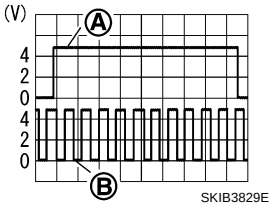
CAUTION:

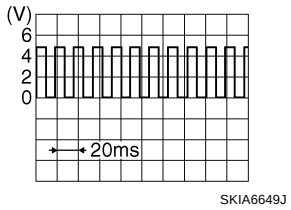
When the stereo sound is played, only front RH and LH are output. When the monaural sound is played, only center is output. All surround sounds are input only when the 5.1 channel surround sound is played.

Camera Control Unit

NKS0048S

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
5	–	Shield	–	–	–	–
6 (P/L)	Ground	Camera image signal	Input	ON	Set selector lever in R position, and then display the rear view image.	 SKIB2251J
7 (G/B)	Ground	Rear view camera ground	–	ON	–	Approx. 0 V
8 (GR)	Ground	Camera ON signal	Output	ON	Set selector lever in R position, and then display the rear view image.	Approx. 6 V
11	–	Shield	–	–	–	–
12 (Y)	Ground	Camera image signal	Output	ON	Set selector lever in R position, and then display the rear view image.	 SKIB2251J
14 (V)	Ground	Camera-connection recognition signal	Output	ON	–	Approx. 0 V
17 (G)	–	Communication signal (L)	Input/ Output	–	–	–
18 (R)	–	Communication signal (H)	Input/ Output	–	–	–
19 (B)	–	Communication signal (L)	Input/ Output	–	–	–
20 (W)	–	Communication signal (H)	Input/ Output	–	–	–
22 (LG)	Ground	Reverse signal	Input/ Output	ON	Select lever in R position.	Approx. 12 V
					Other than selector lever in R position.	Approx. 0 V

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
23 (L/Y)	Ground	Sensor signal 1	Input	ON	Turn the steering to the right	 SKIB3827E A: Sensor signal 1 B: Sensor signal 2
					Turn the steering to the left	 SKIB3828E A: Sensor signal 1 B: Sensor signal 2
24 (B/R)	Ground	Sensor signal 2	Input	ON	Turn the steering to the right	 SKIB3827E A: Sensor signal 1 B: Sensor signal 2
					Turn the steering to the left	 SKIB3828E A: Sensor signal 1 B: Sensor signal 2
25 (O)	Ground	Sensor signal 3	Input	ON	Turn the steering around the neutral position	 SKIB3829E A: Sensor signal 3 B: Sensor signal 1

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
26 (V/W)	Ground	Vehicle speed signal (8-pulse)	Input	ON	When vehicle speed is approx. 40 km/h (25 MPH).	 SKIA6649J
29 (G/R)	Ground	Ignition signal	Input	ON	–	Battery voltage
30 (BR)	Ground	ACC power supply	Input	ACC	–	Battery voltage
31 (B)	Ground	Ground	–	ON	–	Approx. 0 V
32 (BR/Y)	Ground	Battery power supply	Input	OFF	–	Battery voltage

DIAGNOSIS SYSTEM

PFP:00000

Multifunction Switch Self-Diagnosis Function

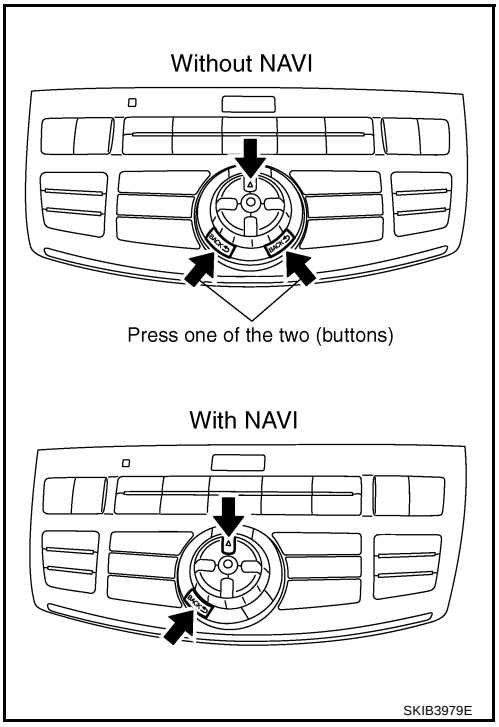
NKS0048T

It can check each switch ON/OFF (continuity) operation of centralized switches.

SELF-DIAGNOSIS MODE

- Turn the ignition switch from OFF position to ACC position. Within 10 seconds, press and hold BACK switch and ▲ switch for 3 seconds or more. Then, when these switches are released, the buzzer sounds, all indicators of multifunction switch turned on, and self-diagnosis mode is started.
- When each switch is pressed, the switch continuity can be checked by sounding the buzzer.

  CAUTION:
  The hazard switch cannot be checked.



FINISHING SELF-DIAGNOSIS MODE

- When the ignition switch is turned ON, self-diagnosis mode is canceled.

Multi AV System Diagnosis Functions

NKS0048U

- There are 2 diagnosis functions (On board diagnosis and diagnosis using CONSULT-II). It is necessary to use them properly according to the condition. If the on board diagnosis starts, perform diagnosis with on board diagnosis. If the on board diagnosis does not start (because the display is not displayed, the multifunction switch operation is not activated, etc.), perform diagnosis using CONSULT-II.
- At on board diagnosis, the AV (NAVI) control unit diagnosis function starts when multifunction switch operation and the AV (NAVI) control unit performs the diagnosis for each unit of system. Then, it displays the results on the display.
- At diagnosis using CONSULT-II, the AV (NAVI) control unit diagnosis function starts when the CAN communication and the AV (NAVI) control unit perform the diagnosis for each unit of system.

On Board Diagnosis

NKS0048V

DESCRIPTION

- It has Self-Diagnosis mode for conducting trouble diagnosis automatically and a Confirmation/Adjustment mode for operating manually.
- Self-diagnosis mode diagnoses AV (NAVI) control unit and communication of each unit composing system, and displays self-diagnosis results. NAVI control unit diagnoses communication with GPS antenna simultaneously.
- Confirmation/Adjustment mode is used to monitor the vehicle signals requiring operation and judgement by a technician (malfunctions that cannot be automatically judged by the system), the confirmation/change/adjustment of setting value, the error history of system, and the communication condition of system.

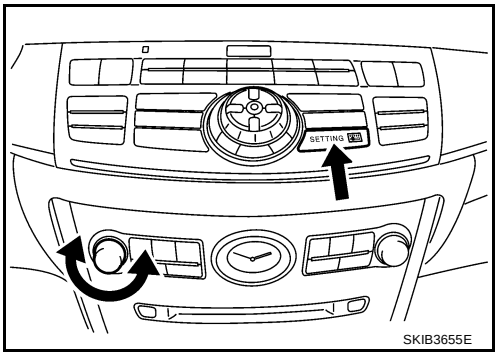
On Board Diagnosis Item

Mode			Description
Self Diagnosis			● AV (NAVI) control unit diagnosis and connection diagnosis between AV (NAVI) control unit and each unit ● The DVD-ROM drive diagnosis of NAVI control unit and the connection diagnosis between NAVI control unit and GPS antenna can be performed (DVD-ROM drive will not be diagnosed when no map DVD-ROM is in it.)
Confirmation/ Adjustment	Display Diagnosis		The tint can be confirmed by the color spectrum bar display. The shading of color can be confirmed by the gradation bar display.
	Vehicle Signals		Diagnosis of signals can be performed for vehicle speed, parking brake, lights, ignition switch, and reverse.
	Speaker Test		The connection of a speaker can be confirmed by test tone.
	Climate Control		Start auto air conditioner system self-diagnosis.
	Navigation*1	Steering Angle Adjustment	When there is a difference between the actual turning angle and the vehicle mark turning angle, it can be adjusted.
		Speed Calibration	When there is a difference between the current location mark and the actual location, it can be adjusted.
	Error History		The system malfunction and the frequency when occurred in the past are displayed. When the malfunctioning item is selected, the time and place that the selected malfunction last occurred are displayed.
	Synchronizer FES clock		-
	Vehicle CAN Diagnosis		The transmitting/receiving of CAN communication can be monitored.
	AV COMM Diagnosis		The communication condition of each unit of Multi AV system can be monitored.
	Handsfree Phone		The received volume adjustment of hands-free phone, microphone speaker check, and erase memory can be performed.
	Camera Cont.*2		The signal connected to camera control unit can be checked and the guiding line position that overlaps rear view camera image can be adjusted.
	Bluetooth		The passkey and the name of device can be checked and changed
	Delete Unit Connection Log		Erase the connection history of unit and error history

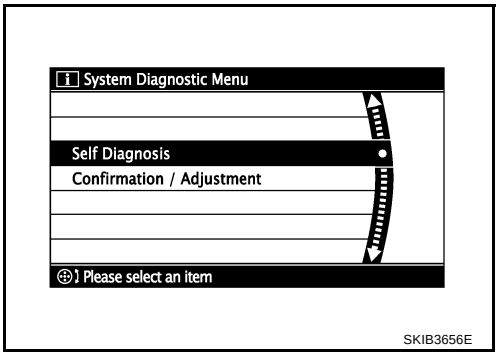
- *1: With navigation system
- *2: With rear view monitor

STARTING PROCEDURE

1. Start the engine.
2. Turn the audio system OFF.
3. While pushing the “SETTING” button, turn the volume control dial clockwise or counterclockwise for 40 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 pushing “BACK” button.



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

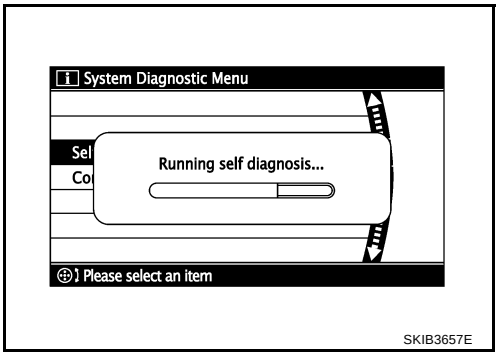


Self Diagnosis Mode

NKS0048W

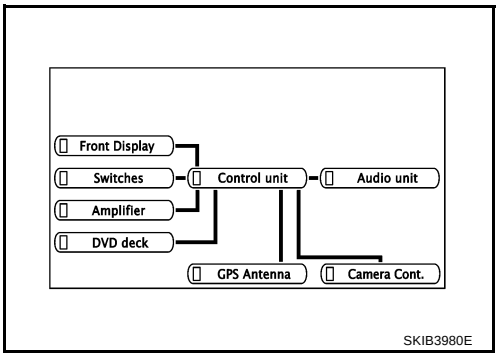
1. Start the diagnosis function, and then select “Self Diagnosis”.

– Self-diagnosis subdivision screen will be shown and the operation will enter the self-diagnosis mode.
– The bar graph visible on self-diagnosis screen displays progress of the diagnosis.



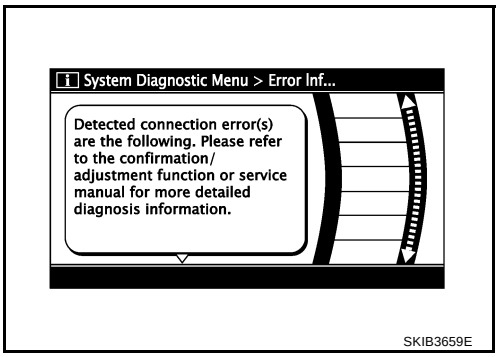
2. Diagnostic results are displayed when the self-diagnosis is complete. Each unit name and connection lines between each unit will be colored according to the diagnostic results, as follows.

Diagnosis results	Unit	Connection line
Normal	Green	Green
Connection malfunction	Gray	Yellow
DVD-ROM drive undiagnosed	Gray	Green
DVD-ROM and DVD-ROM drive malfunction	Yellow	Green
Unit returned an error[Note]	Red	Green



Note: Only control unit (AV control unit, NAVI control unit) is displayed in red.

– If multiple errors occur at the same time for a single unit, the screen switch colors are determined according to the following order of priority: red > yellow > gray.
– Select a switch on the “Diagnosis results” screen and comments for the trouble diagnosis results will be shown.



DIAGNOSIS RESULT

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

Control Unit Is Red, Gray, or Yellow

Switch color	Description	Possible malfunction/Action to take
Red	AV (NAVI) control unit malfunction is detected	Replace AV (NAVI) control unit Refer to AV-135, "AV (NAVI) Control Unit"
Yellow (With NAVI)	● Malfunction is detected on DVD-ROM drive pickup lens in NAVI control unit ● There is dirt and damage on the map disc	● Map disc ● NAVI control unit
Gray (With NAVI)	DVD-ROM not inserted is detected	Insert map disc

Connection Line Between Units Is Yellow (Only 1 Line)

Applicable parts	Description	Probable malfunction location
Control unit to Camera Cont.	Camera-connection recognition signal malfunction is detected	● Camera control unit power supply and ground circuit ● Camera-connection recognition signal circuit ● AV (NAVI) control unit ● Camera control unit
Control unit to GPS Antenna	GPS antenna connection malfunction is detected	● GPS antenna feeder ● GPS antenna ● NAVI control unit
Control unit to DVD deck	● DVD player power supply and ground circuit malfunction is detected ● Malfunction is detected on communication signal between DVD player and AV (NAVI) control unit	● DVD player power supply and ground circuit ● DVD player ● AV (NAVI) control unit
Control unit to Amplifier (BOSE system)	● BOSE amp power supply and ground circuit malfunction is detected ● Malfunction is detected on communication signal between BOSE amp and AV (NAVI) control unit	● BOSE amp power supply and ground circuit ● BOSE amp ● AV (NAVI) control unit
Control unit to Audio unit (BOSE system)	● Audio unit power supply and ground circuit malfunction is detected ● Malfunction is detected on communication circuit between audio unit and BOSE amp ● Malfunction is detected on communication signal between audio unit and AV (NAVI) control unit	● Audio unit power supply and ground circuit ● Communication circuit between BOSE amp and audio unit ● Audio unit ● BOSE amp ● AV (NAVI) control unit

Connection Line Between Units Is Yellow (2 or More Lines)

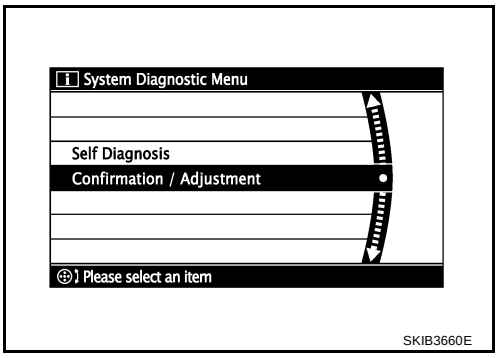
When 2 or more connection lines between control unit (AV control unit, NAVI control) and each unit are displayed in yellow, these communication system lines may be open or shorted. The malfunctioning parts can be detected by the combination of the connection lines displayed in yellow.

Applicable parts	Description	Probable malfunction location
Control unit to ● Amplifier ● Audio unit	Base system ● Audio unit power supply and ground circuit malfunction is detected ● Malfunction is detected on communication circuit between multifunction switch and audio unit ● Malfunction is detected on communication signal between audio unit and AV (NAVI) control unit	● Audio unit power and ground circuit ● Communication circuit between multifunction switch and audio unit ● Multifunction switch ● Audio unit ● AV (NAVI) control unit
	BOSE system ● Malfunction is detected on communication circuit between multifunction switch and camera control unit ● Malfunction is detected on communication circuit between camera control unit and BOSE amp	● Communication circuit between camera control unit and BOSE amp ● Multifunction switch ● Camera control unit ● BOSE amp

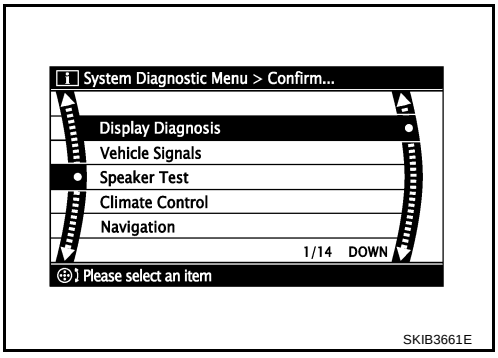
Confirmation/Adjustment Mode

NKS0048X

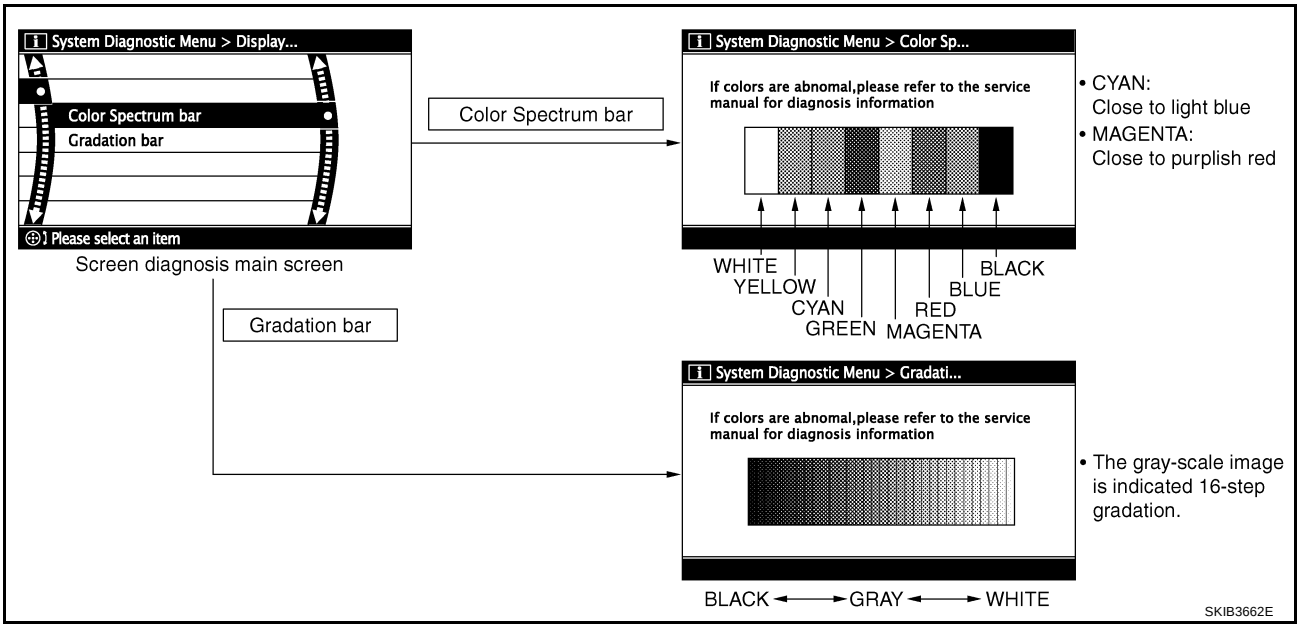
1. Start the diagnosis function, and then select “Confirmation/ Adjustment”.



2. Select each screen switch of Confirmation/Adjustment screen to display the relevant diagnosis screen. Press the “BACK” switch to return to the initial screen of Confirmation/Adjustment.



DISPLAY DIAGNOSIS

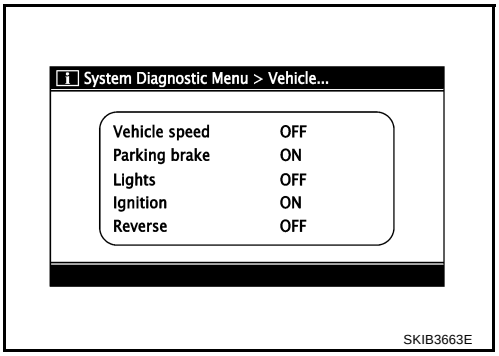


If RGB signal is malfunctioning, the tint of the color bar display is as follows.

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

VEHICLE SIGNALS

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



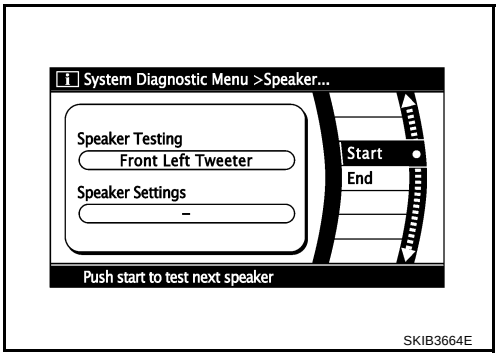
Diagnosis item	Dis-play	Vehicle status	Remarks
Vehicle speed	ON	Vehicle speed > 0 km/h (0 MPH)	Changes in indication may be delayed. This is normal.
	OFF	Vehicle speed = 0 km/h (0 MPH)	
	—	Ignition switch in ACC position	
Parking brake	ON	Parking brake is applied.	
	OFF	Parking brake is released.	
Lights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

SPEAKER TEST

When selecting “Speaker Test”, speaker diagnosis screen is displayed. When pressing “Start”, test tone emits from the speaker. At that time, when pressing “Start”, test tone emits from next speaker. Then, when pressing the “END”, test tone stops.

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

Tweeter : 3 kHz
Front door speaker : 300 Hz
Rear door speaker : 1 kHz
Rear surround speaker : 1 kHz
Center speaker : 1 kHz
Woofer : 100 Hz
Seat speaker : 1 kHz



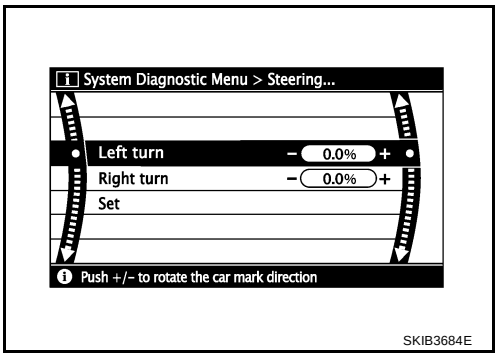
CLIMATE CONTROL

For details, refer to ATC-55, "Self-diagnosis Function" .

NAVIGATION

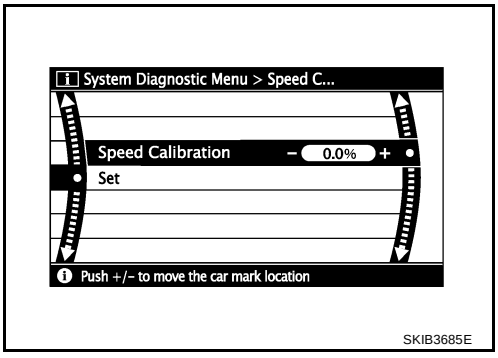
Steering Angle Adjustment

The steering angle output value detected with the gyroscope can be adjusted.



Speed Calibration

Usually the automatic distance correction function adjusts the malfunction in distance caused by the tires wearing down or the tire pressure change. If prompt adjustment is necessary when the tire chains are installed etc., perform this procedure.



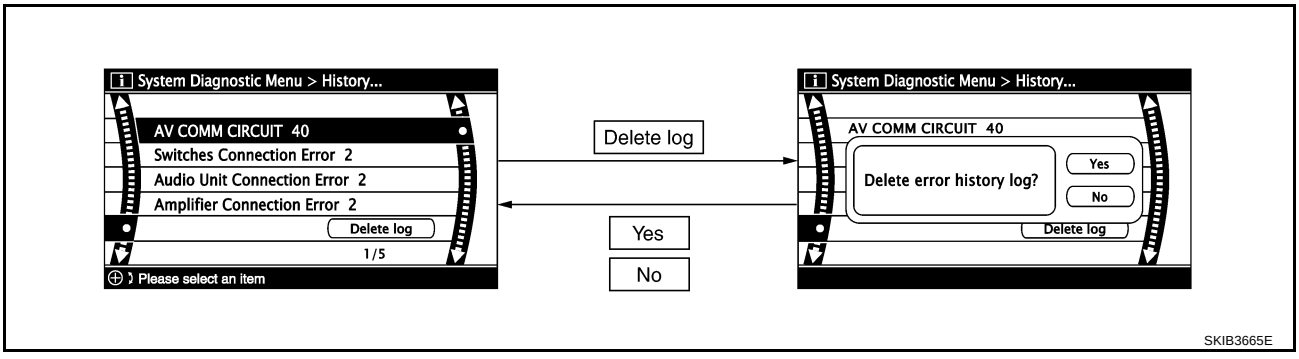
ERROR HISTORY

The diagnostic results of “Self-diagnosis” determine if any malfunction occurred between selecting “Self-diagnosis” and displaying “Self-diagnostic Results”.
If an error occurred before the ignition switch was turned ON and does not occur again until “Self-diagnosis” is completed, the trouble diagnosis result will be judged normal. Therefore, errors in the past which cannot be found by “Self-diagnosis”, must be found by checking the “Error record”.
The error history shows the error occurrence frequency in past. The frequency of occurrence is displayed by 2 types: the count down type and the count up type. Select either type according to the error item.
In “Error History” of models with NAVI, time and place that the selected error last occurred are displayed. Be careful about the following.

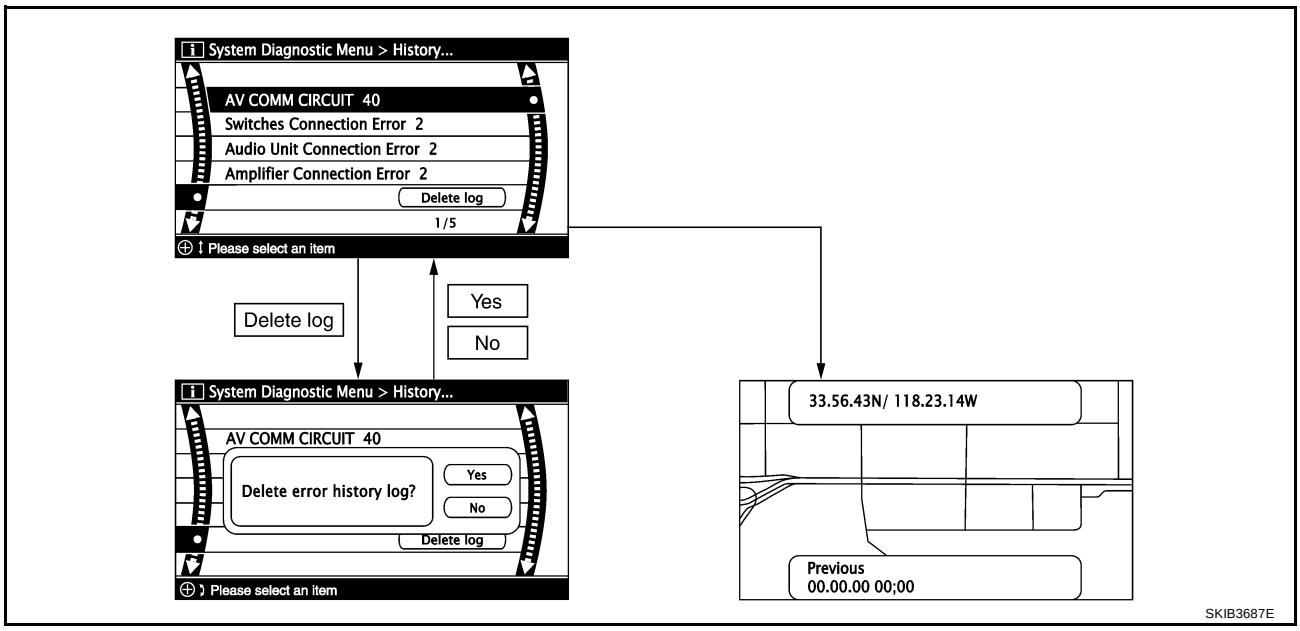
- If there is a malfunction with the GPS antenna circuit board in the NAVI control unit, the correct date of occurrence may not be able to be displayed.
- Place of the error occurrence is represented by the position of the current location mark at the time an error occurred. If current location mark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

Transition Screen

Without NAVI



With NAVI



Count Down Type

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

Count Up Type

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

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

Error Item

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

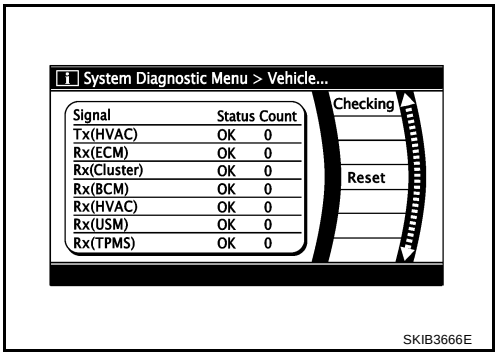
Error item	Description	Possible cause/Action to take
CAN_COMM_CIRCUIT	CAN communication malfunction is detected	Perform the diagnosis using CONSULT-II, and then repair the malfunctioning parts based on diagnostic results. Refer to AV-103, "SELF-DIAG RESULTS" .
CONTROL UNIT (CAN)	CAN initial diagnosis malfunction is detected	Replace AV (NAVI) control unit Refer to AV-135, "AV (NAVI) Control Unit"
CONTROL UNIT (AV)	AV communication circuit initial diagnosis malfunction is detected	Replace AV (NAVI) control unit Refer to AV-135, "AV (NAVI) Control Unit"
● AV COMM CIRCUIT ● Switches Connection Error ● DVD Deck Connection Error ● Audio Unit Connection Error ● Amplifier Connection Error ● Rearview Camera Connection Error	Malfunction is detected on communication circuit between AV (NAVI) control unit and DVD player	● Communication circuit between AV (NAVI) control unit and DVD player ● AV (NAVI) control unit ● DVD player

Error item	Description	Possible cause/Action to take
● AV COMM CIRCUIT ● Switches Connection Error ● Audio Unit Connection Error ● Amplifier Connection Error ● Rearview Camera Connection Error	BOSE surround 5.1ch system ● Malfunction is detected on communication circuit between DVD player and multifunction switch	● Communication circuit between DVD player and multifunction switch ● DVD player ● Multifunction switch
	BOSE 2ch system ● Malfunction is detected on communication circuit between AV (NAVI) control unit and multifunction switch	● Communication circuit between AV (NAVI) control unit and multifunction switch ● AV (NAVI) control unit ● Multifunction switch
● AV COMM CIRCUIT ● Audio Unit Connection Error ● Amplifier Connection Error ● Rearview Camera Connection Error	Malfunction is detected on communication circuit between multifunction switch and camera control unit	● Communication circuit between multifunction switch and camera control unit ● Multifunction switch ● Camera control unit
● AV COMM CIRCUIT ● Audio Unit Connection Error ● Amplifier Connection Error	Base system ● Audio unit power supply and ground circuit malfunction is detected ● Malfunction is detected on communication circuit between multifunction switch and audio unit ● Malfunction is detected on communication signal between audio unit and AV (NAVI) control unit	● Audio unit power supply and ground circuit ● Communication circuit between multifunction switch and audio unit ● Multifunction switch ● Audio unit ● AV (NAVI) control unit
	BOSE system ● Malfunction is detected on communication circuit between camera control unit and BOSE amp	● Communication circuit between camera control unit and BOSE amp ● Camera control unit ● BOSE amp
● AV COMM CIRCUIT ● Audio Unit Connection Error	● Audio unit power supply and ground circuit malfunction is detected ● Malfunction is detected on communication circuit between BOSE amp and audio unit ● Malfunction is detected on communication signal between audio unit and AV (NAVI) control unit	● Audio unit power supply and ground circuit ● Communication circuit between BOSE amp and audio unit ● Audio unit ● AV (NAVI) control unit
● AV COMM CIRCUIT ● Rearview Camera Connection Error	● Camera control unit power supply and ground circuit malfunction is detected ● Malfunction is detected on communication signal between camera control unit and AV (NAVI) control unit	● Camera control unit power supply and ground circuit ● Camera control unit ● AV (NAVI) control unit
● AV COMM CIRCUIT ● Switches Connection Error	● Multifunction switch power supply and ground circuit malfunction is detected ● Malfunction is detected on communication signal between multifunction switch and AV (NAVI) control unit	● Multifunction switch power supply and ground circuit ● Multifunction switch ● AV (NAVI) control unit
● AV COMM CIRCUIT ● DVD Deck Connection Error	● DVD player power supply and ground circuit malfunction is detected ● Malfunction is detected on communication signal between DVD player and AV (NAVI) control unit	● DVD player power supply and ground circuit ● DVD player ● AV (NAVI) control unit

Error item	Description	Possible cause/Action to take
● AV COMM CIRCUIT ● Amplifier Connection Error	● BOSE amp power supply and ground circuit malfunction is detected ● Malfunction is detected on communication signal between BOSE amp and AV (NAVI) control unit	● BOSE amp power supply and ground circuit ● BOSE amp ● AV (NAVI) control unit
Front Display Connection Error	● Front display unit power supply and ground circuit malfunction is detected ● Malfunction is detected on communication circuit between front display unit and AV (NAVI) control unit ● Malfunction is detected on communication signal between front display unit and AV (NAVI) control unit	● Front display unit power supply and ground ● Communication circuit between front display unit and AV (NAVI) control unit ● Front display unit ● AV (NAVI) control unit
GPS Antenna Error	GPS antenna connection malfunction is detected	● GPS antenna feeder ● GPS antenna ● NAVI control unit
Camera Control Unit Connection Error	Camera and connection recognition signal circuit malfunction is detected	● Camera-connection recognition signal circuit ● Camera control unit ● AV (NAVI) control unit
FLASH-ROM Error Of Control Unit	AV (NAVI) control unit malfunction is detected	Replace AV (NAVI) control unit Refer to AV-135, "AV (NAVI) Control Unit"
Connection Of Gyro	NAVI control unit malfunction is detected	Replace NAVI control unit Refer to AV-135, "AV (NAVI) Control Unit"
GPS Communication Error GPS ROM Error GPS RAM Error GPS RTC Error	GPS malfunction is detected	If the symptoms such as the GPS receipt malfunction occur, intermittent malfunction caused by strong radio interference may be detected. If the malfunction always occurs, replace NAVI control unit.
DVD-ROM Communication Error DVD-ROM Read Error DVD-ROM Disc Error DVD-ROM Mechanism not Detected DVD-ROM Mechanism Error DVD-ROM Focus Error DVD-ROM TOC Error DVD-ROM Seek Error DVD-ROM Error Correction Error DVD-ROM Data Transfer Error DVD-ROM Data Error DVD-ROM Time-out DVD-ROM Loading / Eject Error	● Malfunction is detected on DVD-ROM drive pickup lens in NAVI control unit ● There is dirt and damage on the map disc	● Map disc ● NAVI control unit Refer to AV-135, "AV (NAVI) Control Unit"
CAN Controller Memory Error Bluetooth Module Connection Error	AV (NAVI) control unit malfunction is detected	Replace AV (NAVI) control unit Refer to AV-135, "AV (NAVI) Control Unit"

VEHICLE CAN DIAGNOSIS

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

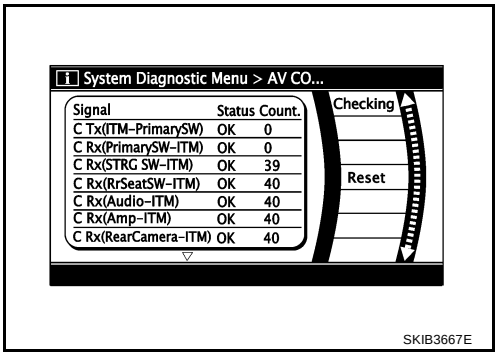


Items	Display (Current)	Error counter (Past)
Tx (HVAC)	OK /???	0 - 40
Rx (ECM)	OK /???	0 - 40
Rx (Cluster)	OK /???	0 - 40
Rx (BCM)	OK /???	0 - 40
Rx (HVAC)	OK /???	0 - 40
Rx (USM)	OK /???	0 - 40
Rx (TPMS)	OK /???	0 - 40

NOTE:
"???" indicates "UNKWN".

AV COMM DIAGNOSIS

- Displays the communication condition between AV (NAVI) control unit (master unit) and each unit and between audio unit (sub-master unit) and each unit.
- Error counter displays 0 if any malfunction is not detected in the past. If the malfunction is detected, it displays 40. When turning the ignition switch ON, if it is normal, it displays 39. The lower limit of the counter is 1.
- If it is reset, the error counter is deleted.



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

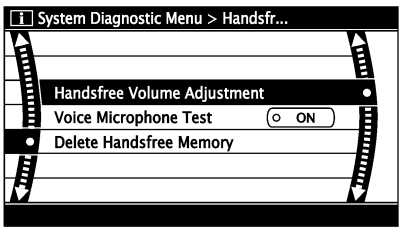
ITM: AV (NAVI) control unit

NOTE:
"???" indicates "UNKWN".

HANDSFREE PHONE

Handsfree Volume Adjustment

The received volume adjustment of hands-free phone can be adjusted to Low, Medium, and High settings.



SKIB3668E

Voice Microphone Test

When this function is turned “ON”, the voice that is input to microphone is output to front speaker via TEL voice signal line. The microphone and TEL voice signal line can be checked.

Delete Handsfree Memory

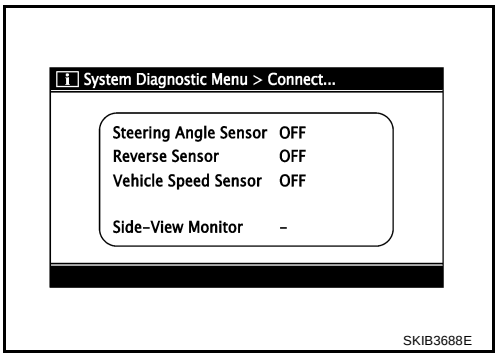
Erase the memory related to the hands-free phone.

CAMERA CONT.

There are 2 functions: “Connection Confirmation”, “Adjust offset of rear view camera”.

Connection Confirmation

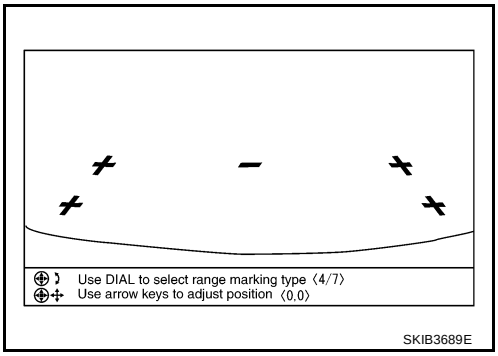
The input signals of steering angle sensor signal, reverse signal, and vehicle speed signal can be checked.



Diagnosis item	Display	Vehicle status
Steering Angle Sensor	ON	It turns ON when the steering is turning with the ignition switch ON (Once it turns ON, it does not change during Connection Confirmation mode)
	OFF	Turn ignition switch ACC It turns OFF when the steering is not turning with the ignition switch ON
	—	Camera-connection recognition signal malfunction
Reverse Sensor	ON	Selector lever in R position with ignition switch ON
	OFF	Turn ignition switch ACC Selector lever in any position other than R with ignition switch ON
	—	Camera-connection recognition signal malfunction
Vehicle Speed Sensor	ON	When vehicle speed is 0 km/h or more with ignition switch ON
	OFF	Turn ignition switch ACC When vehicle speed is 0 km/h with ignition switch ON
	—	Camera-connection recognition signal malfunction

Adjust Offset of Rear View Camera

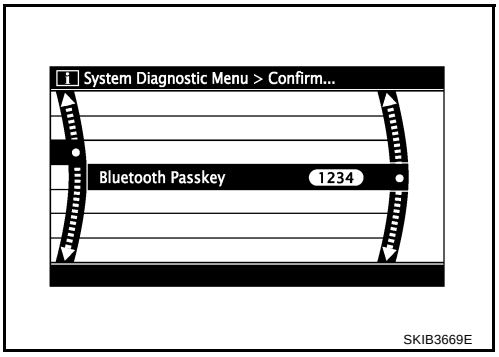
If the adjustment of rear view monitor guiding line display position is necessary when rear view camera is removed, use this mode to adjust it.



BLUETOOTH

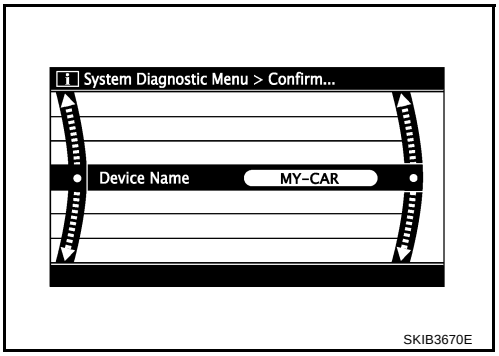
Confirm/Change Passkey

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



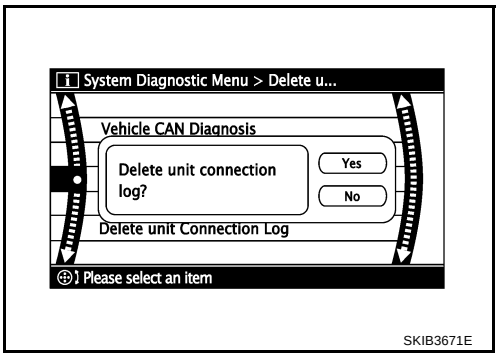
Confirm/Change Device Name

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



DELETE UNIT CONNECTION LOG

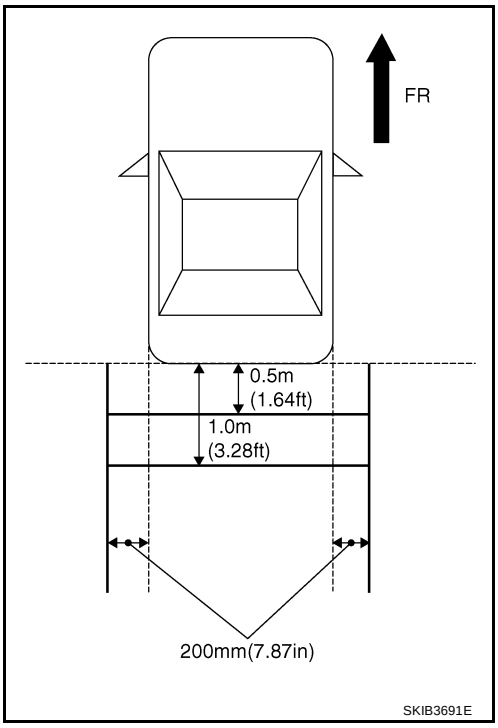
Erase the connection history of unit and error history that is recorded in AV (NAVI) control unit (clear the connection history of the removed unit).



Rear View Monitor Guiding Line Adjustment

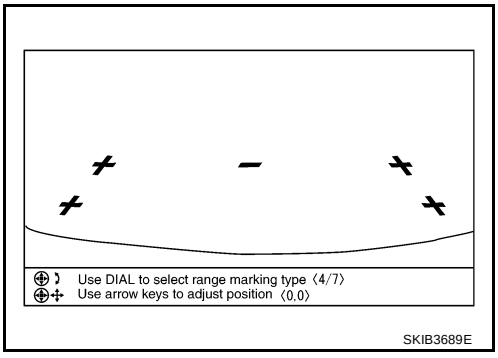
NKS0048Y

1. Draw lines on rearward area of the vehicle passing through the following points: 20 cm (7.87 in) from both sides of the vehicle, and 0.5 m (1.64 ft), 1.0 m (3.28 ft) from the rear end of the bumper.
2. Set into “Adjust offset of rear view camera” mode of Confirmation/Adjustment mode.



3. Rotate the center dial, and then select the guiding line pattern so that its angle is aligned with the correction line of the rear of the vehicle.

Selected pattern : 7



4. Make fine adjustment to the correction line of the rear of the vehicle with up/down/left/right switches so that its position is aligned with the guiding line. Press “OK” switch and record the adjusted guiding line position to the camera control unit.

Up/Down adjustment range : –20 - 20
Left/Right adjustment range : –20 - 20

CAUTION:
Never operate other function such as pressing BACK while writing index data.
If Confirmation/Adjustment mode does not function in the above procedure, perform one of the following service to adjust the index again.

- **Remove battery for five min. Then reconnect battery.**
- **Remove camera control unit connector for five min. Then reconnect camera control unit connector.**

CONSULT-II Functions (Multi AV)

NKS0048Z

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

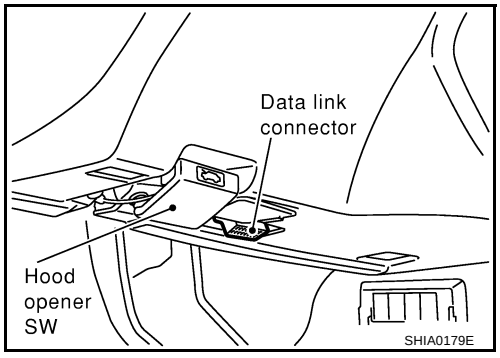
Diagnosis mode	Description
SELF-DIAG RESULTS	● Performs the connection diagnosis of communication circuit between AV (NAVI) control unit and system and displays the current and past malfunctions collectively. ● The DVD-ROM drive diagnosis of NAVI control unit and the connection diagnosis between NAVI control unit and GPS antenna can be performed (DVD-ROM drive will not be diagnosed when no map DVD-ROM is in it)
DATA MONITOR	The diagnosis of vehicle signal that is input to the AV (NAVI) control unit can be performed
CAN DIAG SUPPORT MNTR	The transmitting/receiving of CAN communication can be monitored. Refer to LAN-20, "CAN Diagnostic Support Monitor" .
AV COMM MONITOR	The transmitting/receiving of a system can be monitored
ECU PART NUMBER	The part number of AV (NAVI) control unit can be checked

OPERATION PROCEDURE

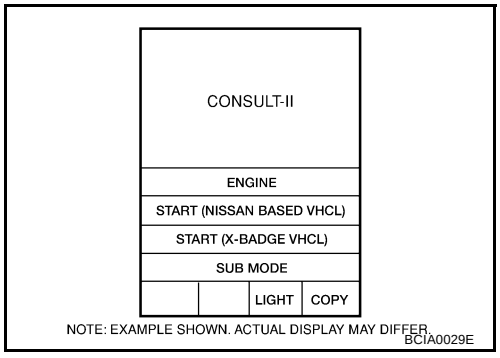
CAUTION:

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

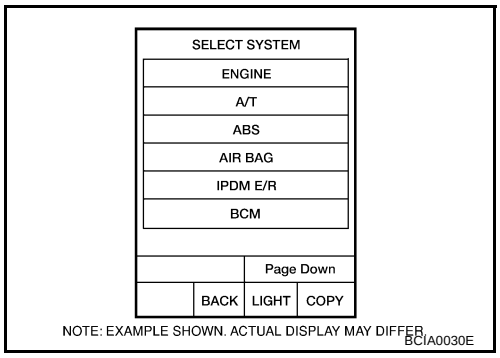
1. Turn ignition switch OFF.
2. Connect CONSULT-II and CONSULT-II CONVERTER to data link connector, and turn ignition switch ON.



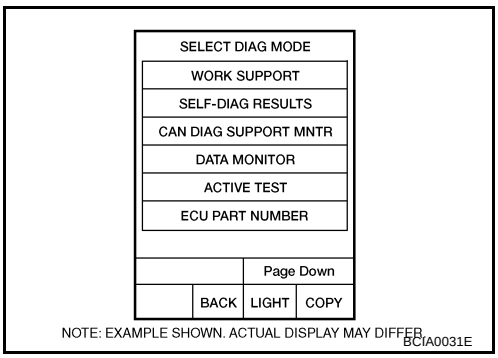
3. Touch “START (NISSAN BASED VHCL)”.



4. Touch “MULTI AV”
   If “MULTI AV” is not indicated, check the following item.
   - AV (NAVI) control unit power supply and ground circuit.
   - CONSULT-II data link connector (DLC) circuit
     Refer to LAN-7, "Precautions When Using CONSULT-II" .



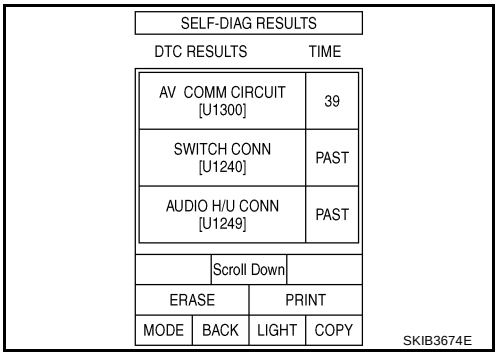
5. Select diagnosis item on “SELECT DIAG MODE” screen.



SELF-DIAG RESULTS

The self-diagnosis is started and self-diagnostic results are displayed by touching “START” after selecting “SELF-DIAG RESULTS”.

- In CONSULT-II self-diagnosis, self-diagnostic results and error history are displayed collectively.
- The current malfunction indicates “CRNT”. The past malfunction indicates “PAST”.
- If DTC [U1000], [U1300] are detected, “0” is displayed at “TIME”. If it is normal the next time ignition switch is ON of next time, add 1 to the “TIME”.



Display Item of SELF-DIAG RESULTS

Self-diagnostic results may be displayed simultaneously according to the cause. If some error items are displayed simultaneously, the detection of the cause can be performed by the combination of display items

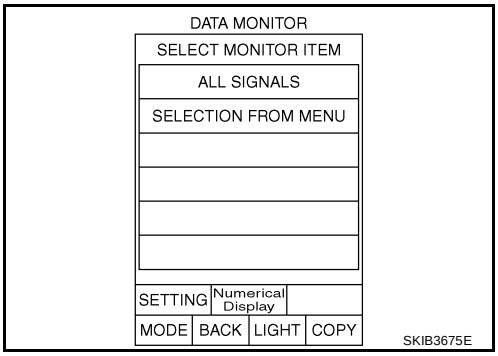
Error item	Description	Possible cause/Action to take
CAN COMM CIRCUIT [U1000]	CAN communication malfunction is detected	Print out the self-diagnostic results and go to LAN-7, "Precautions When Using CONSULT-II" .
CONTROL UNIT (CAN) [U1010]	CAN initial diagnosis malfunction is detected	Replace AV (NAVI) control unit Refer to AV-135, "AV (NAVI) Control Unit" .
CONTROL UNIT (AV) [U1310]	AV communication circuit initial diagnosis malfunction is detected	Replace AV (NAVI) control unit Refer to AV-135, "AV (NAVI) Control Unit" .
● AV COMM CIRCUIT [U1300] ● SWITCH CONN [U1240] ● DVD DECK CONN [U1248] ● AUDIO H/U CONN [U1249] ● AMP CONN [U124E] ● REAR CAMERA CONN [U1252]	Malfunction is detected on communication circuit between AV (NAVI) control unit and DVD player	● Communication circuit between AV (NAVI) control unit and DVD player ● AV (NAVI) control unit ● DVD player
● AV COMM CIRCUIT [U1300] ● SWITCH CONN [U1240] ● AUDIO H/U CONN [U1249] ● AMP CONN [U124E] ● REAR CAMERA CONN [U1252]	BOSE surround 5.1ch system ● Malfunction is detected on communication circuit between DVD player and multifunction switch	● Communication circuit between DVD player and multifunction switch ● DVD player ● Multifunction switch
	BOSE 2ch system ● Malfunction is detected on communication circuit between AV (NAVI) control unit and multifunction switch	● Communication circuit between AV (NAVI) control unit and multifunction switch ● AV (NAVI) control unit ● Multifunction switch
● AV COMM CIRCUIT [U1300] ● AUDIO H/U CONN [U1249] ● AMP CONN [U124E] ● REAR CAMERA CONN [U1252]	Malfunction is detected on communication circuit between multifunction switch and camera control unit	● Communication circuit between multifunction switch and camera control unit ● Multifunction switch ● Camera control unit

Error item	Description	Possible cause/Action to take
● AV COMM CIRCUIT [U1300] ● AUDIO H/U CONN [U1249] ● AMP CONN [U124E]	Base system ● Audio unit power supply and ground circuit malfunction is detected ● Malfunction is detected on communication circuit between multifunction switch and audio unit ● Malfunction is detected on communication signal between audio unit and AV (NAVI) control unit	● Audio unit power supply and ground circuit ● Communication circuit between multifunction switch and audio unit ● Multifunction switch ● Audio unit ● AV (NAVI) control unit
	BOSE system ● Malfunction is detected on communication circuit between camera control unit and BOSE amp	● Communication circuit between camera control unit and BOSE amp ● Camera control unit ● BOSE amp
● AV COMM CIRCUIT [U1300] ● AUDIO H/U CONN [U1249]	● Audio unit power supply and ground circuit malfunction is detected ● Malfunction is detected on communication circuit between BOSE amp and audio unit ● Malfunction is detected on communication signal between audio unit and AV (NAVI) control unit	● Audio unit power supply and ground circuit ● Communication circuit between BOSE amp and audio unit ● Audio unit ● AV (NAVI) control unit
● AV COMM CIRCUIT [U1300] ● REAR CAMERA CONN [U1252]	● Camera control unit power supply and ground circuit malfunction is detected ● Malfunction is detected on communication signal between camera control unit and AV (NAVI) control unit	● Camera control unit power supply and ground circuit ● Camera control unit ● AV (NAVI) control unit
● AV COMM CIRCUIT [U1300] ● SWITCH CONN [U1240]	● Multifunction switch power supply and ground circuit malfunction is detected ● Malfunction is detected on communication signal between multifunction switch and AV (NAVI) control unit	● Multifunction switch power supply and ground circuit ● Multifunction switch ● AV (NAVI) control unit
● AV COMM CIRCUIT [U1300] ● DVD DECK CONN [U1248]	● DVD player power supply and ground circuit malfunction detected ● Malfunction is detected on communication signal between DVD player and AV (NAVI) control unit	● DVD player power supply and ground circuit ● DVD player ● AV (NAVI) control unit
● AV COMM CIRCUIT [U1300] ● AMP CONN [U124E]	● BOSE amp power supply and ground circuit malfunction is detected ● Malfunction is detected on communication signal between BOSE amp and AV (NAVI) control unit	● BOSE amp power supply and ground circuit ● BOSE amp ● AV (NAVI) control unit
FRONT DISP CONN [U1243]	● Front display unit power supply and ground circuit malfunction is detected ● Malfunction is detected on communication circuit between front display unit and AV (NAVI) control unit ● Malfunction is detected on communication signal between front display unit and AV (NAVI) control unit	● Front display unit power supply and ground ● Communication circuit between front display unit and AV (NAVI) control unit ● Front display unit ● AV (NAVI) control unit

Error item	Description	Possible cause/Action to take
GPS ANTENNA CONN [U1244]	GPS antenna connection malfunction is detected	● GPS antenna feeder ● GPS antenna ● NAVI control unit
CAMERA CONT CONN [U1250]	Camera and connection recognition signal circuit malfunction is detected	● Camera-connection recognition signal circuit ● Camera control unit ● AV (NAVI) control unit
Cont Unit FLASH-ROM [U1200]	AV (NAVI) control unit malfunction is detected	Replace AV (NAVI) control unit Refer to AV-135, "AV (NAVI) Control Unit" .
GYRO NO CONN [U1201]	NAVI control unit malfunction is detected	Replace NAVI control unit Refer to AV-135, "AV (NAVI) Control Unit" .
GPS COMM [U1204]	GPS malfunction is detected	If the symptoms such as the GPS receipt malfunction occur, intermittent malfunction caused by strong radio interference may be detected. If the malfunction always occurs, replace NAVI control unit.
GPS ROM [U1205]		
GPS RAM [U1206]		
GPS RTC [U1207]		
DVD-ROM COMM [U1208]	● Malfunction is detected on DVD-ROM drive pickup lens in NAVI control unit ● There is dirt and damage on the map disc	● Map disc ● NAVI control unit Refer to AV-135, "AV (NAVI) Control Unit" .
DVD-ROM READ [U1209]		
DVD-ROM DISC [U120A]		
DVD-ROM MECHA DETECT [U120C]		
DVD-ROM DRIVE MECHA [U120D]		
DVD-ROM FOCUS [U120E]		
DVD-ROM TOC [U120F]		
DVD-ROM SEEK [U1210]		
DVD-ROM ERR CORRECTION [U1211]		
DVD-ROM DATA FORWARD [U1212]		
DVD-ROM DATA [U1213]		
DVD-ROM TIMEOUT [U1214]		
DVD-ROM LOAD [U1215]		
CAN CONT [U1216]	AV (NAVI) control unit malfunction is detected	Replace AV (NAVI) control unit Refer to AV-135, "AV (NAVI) Control Unit" .
BLUETOOTH CONN [U1217]		

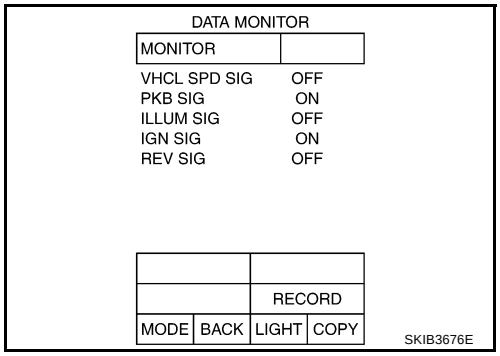
DATA MONITOR

When “DATA MONITOR” is selected, “ALL SIGNALS” and “SELECTION FROM MENU” are displayed.



ALL SIGNALS

- When “ALL SIGNALS” is selected and “START” is touched, the following vehicle signal condition that is input to AV (NAVI) control unit is displayed.
- For each signal, a comparison of actual operating status and the status recognized by the system can be checked.



Display Condition

Display Item	Display	Vehicle status	Remarks
VHCL SPD SIG	ON	Vehicle speed > 0 km/h (0 MPH)	Changes in indication may be delayed. This is normal.
	OFF	Vehicle speed = 0 km/h (0 MPH)	
PKB SIG	ON	Parking brake is applied.	
	OFF	Parking brake is released.	
ILLMU SIG	ON	Light switch ON	–
	OFF	Light switch OFF	
IGN SIG	ON	Ignition switch ON	–
	OFF	Ignition switch in ACC position	
REV SIG	ON	Selector lever in R position	Changes in indication may be delayed. This is normal.
	OFF	Other than selector lever in R position	

SELECTION FROM MENU

- When “SELECTION FROM MENU” is selected, the vehicle signal display can be selected. After that, the selected vehicle signal condition is displayed when “START” is touched.

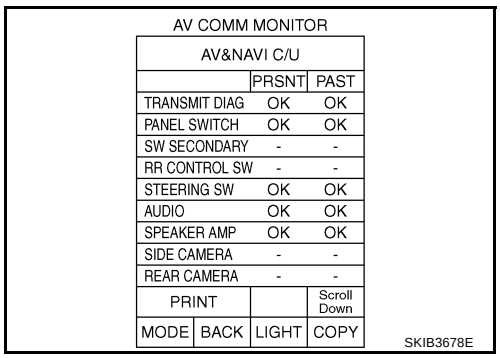
Item to be selected	Description
VHCL SPD SIG	As well as selecting “ALL SIGNALS”
PKB SIG	
ILLUM SIG	
IGN SIG	
REV SIG	

AV COMM MONITOR

When “AV COMM MONITOR” is selected, “AV&NAVI C/U” and “AUDIO” are displayed.

AV&NAVI C/U

- When “AV&NAVI C/U” is selected, the communication condition from AV (NAVI) control unit to each unit and malfunction counter are displayed.
- Error counter displays OK if any malfunction is not detected in the past. If the malfunction is detected, it displays 0. When turning the ignition switch ON, if it is normal, it displays 1. The upper limit of the counter is 39.

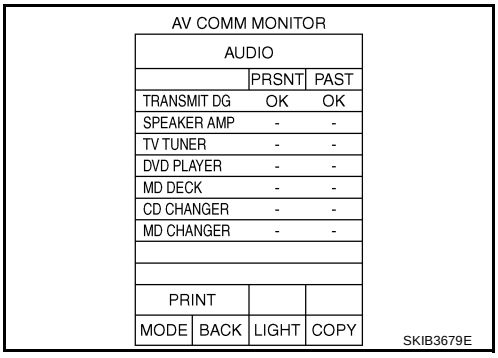


Items	Display (PRSNT)	Error counter (PAST)
TRANSMIT DIAG	OK / UNKWN	OK / 0 - 39
PANEL SWITCH	OK / UNKWN	OK / 0 - 39
SW SECONDARY	-	-
RR CONTROL SW	-	-

Items	Display (PRSNT)	Error counter (PAST)
STEERING SW	OK / UNKWN	OK / 0 - 39
AUDIO	OK / UNKWN	OK / 0 - 39
SPEAKER AMP	OK / UNKWN	OK / 0 - 39
SIDE CAMERA	-	-
REAR CAMERA	OK / UNKWN	OK / 0 - 39
TV TUNER	-	-
DVD PLAYER	OK / UNKWN	OK / 0 - 39
VIDEO DIST	-	-
ETC	-	-
FM MULTI	-	-
REMOTE CONT	-	-

AUDIO

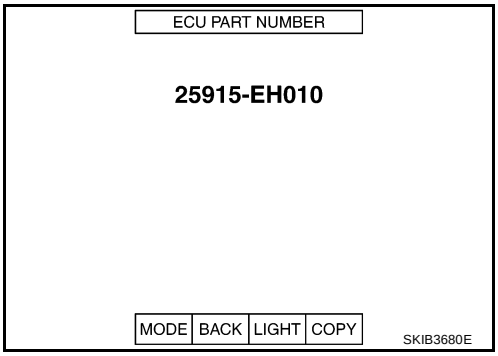
- When “AUDIO” is selected, the communication condition from audio unit to each unit and malfunction counter are displayed.
- Error counter displays OK if any malfunction is not detected in the past. If the malfunction is detected, it displays 0. When turning the ignition switch ON, if it is normal, it displays 1. The upper limit of the counter is 39.



Items	Display (Current)	Error counter (Past)
TRANSMIT DG	OK / UNKWN	OK / 0 - 39
SPEAKER AMP	OK / UNKWN	OK / 0 - 39
TV TUNER	-	-
DVD PLAYER	OK / UNKWN	OK / 0 - 39
MD DECK	-	-
CD CHANGER	-	-
MD CHANGER	-	-

ECU PART NUMBER

The part number of AV (NAVI) control unit is displayed.



TROUBLE DIAGNOSIS

PFP:00004

Multifunction Switch Cannot Be Operated

NKS00490

1. PERFORM CONSULT-II SELF-DIAGNOSIS

Perform CONSULT-II self-diagnosis and check the malfunction. Refer toAV-103, "SELF-DIAG RESULTS" .

Is there a malfunction?

YES >> AV-103, "Display Item of SELF-DIAG RESULTS".
NO >> Replace multifunction switch.

RGB Image Is Not Displayed

NKS00491

1. DIAGNOSIS USING CONSULT-II

Start CONSULT-II, and make sure that “MULTI AV” is displayed on SELECT SYSTEM screen. Refer to AV-102, "OPERATION PROCEDURE" .

OK or NG

OK >> GO TO 2.
NG >> Check AV (NAVI) control unit power supply and ground circuit.

2. PERFORM CONSULT-II SELF-DIAGNOSIS

Perform CONSULT-II self-diagnosis and check the malfunction. Refer to AV-103, "SELF-DIAG RESULTS" .

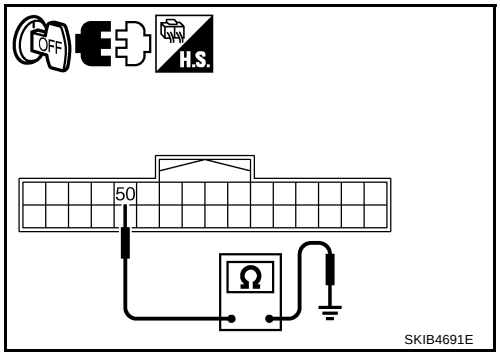
Is there a malfunction?

YES >> Refer to AV-103, "Display Item of SELF-DIAG RESULTS" .
NO >> GO TO 3.

3. CHECK HARNESS BETWEEN AV (NAVI) CONTROL UNIT AND FRONT DISPLAY UNIT

1. Turn ignition switch OFF.
2. Disconnect AV (NAVI) control unit connector and front display unit connector.
3. Check continuity between AV (NAVI) control unit harness connector M210 terminal 50 and ground.

50 – Ground : Continuity should not exist.



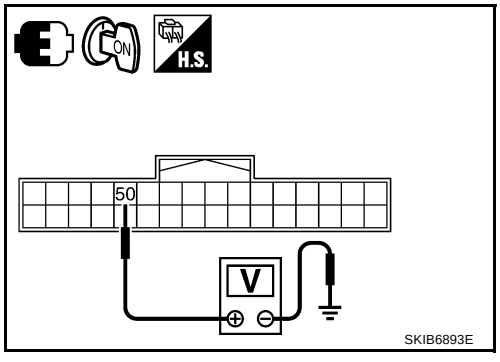
OK or NG

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

4. CHECK RGB AREA (YS) SIGNAL FOR AV (NAVI) CONTROL UNIT

1. Connect AV (NAVI) control unit connector.
2. Turn ignition switch ON.
3. Display RGB image.
4. Check voltage between AV (NAVI) control unit harness connector M210 terminal 50 and ground.

50 – Ground : Approx. 5 V



OK or NG

OK >> Replace front display unit.
NG >> Replace AV (NAVI) control unit.

RGB Screen Is Rolling

NKS00492

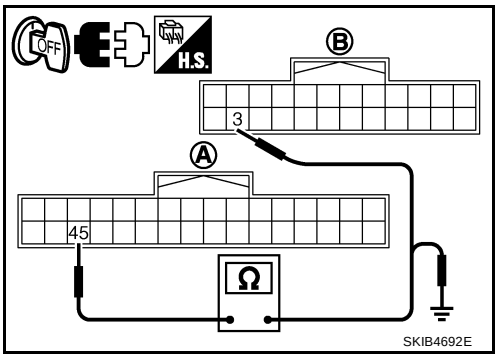
1. CHECK HARNESS

1. Disconnect AV (NAVI) control unit connector and front display unit connector.
2. Check continuity between AV (NAVI) control unit harness connector (A) M210 terminal 45 and front display unit harness connector (B) M203 terminal 3.

45 – 3 : Continuity should exist.

3. Check continuity between AV (NAVI) control unit harness connector (A) M210 terminal 45 and ground.

45 – Ground : Continuity should not exist.



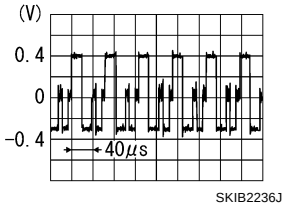
OK or NG

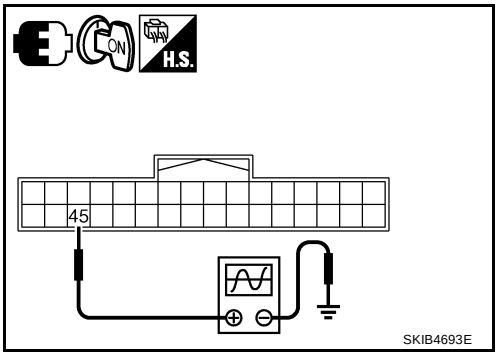
OK >> GO TO 2.
NG >> Repair harness or connector.

2. CHECK RGB SIGNAL (G: GREEN)

1. Connect AV (NAVI) control unit connector and front display unit connector.
2. Turn ignition switch ON.
3. Start Confirmation/Adjustment mode. Refer to AV-91, "Confirmation/Adjustment Mode" .
4. Display color bar by selecting “Display Color Spectrum Bar” on DISPLAY DIAGNOSIS screen. Refer to AV-91, "DISPLAY DIAGNOSIS" .
5. Check signal between AV (NAVI) control unit harness connector M210 terminal 45 and ground.

45 – Ground:





OK or NG

OK >> Replace front display unit.
NG >> Replace AV (NAVI) control unit.

Rear View Monitor Image Is Not Displayed

NKS00493

DVD IMAGE IS DISPLAYED

1. CONSULT-II DIAGNOSIS

Perform CONSULT-II self-diagnosis and check the malfunction. Refer to AV-103, "SELF-DIAG RESULTS" .

Is there a malfunction?

YES >> Refer to AV-103, "Display Item of SELF-DIAG RESULTS" .
NO >> GO TO 2.

2. REVERSE SIGNAL INSPECTION

1. Turn the ignition switch ON, and then select “Connection Confirmation” of “Camera Controller” on Confirmation/Adjustment mode.
2. Make sure that “Reverse Sensor” is turned ON when shifting the selector lever in R position.

Is it OK?

YES >> GO TO 3.
NO >> Check reverse signal circuit, and then repair the malfunctioning parts.

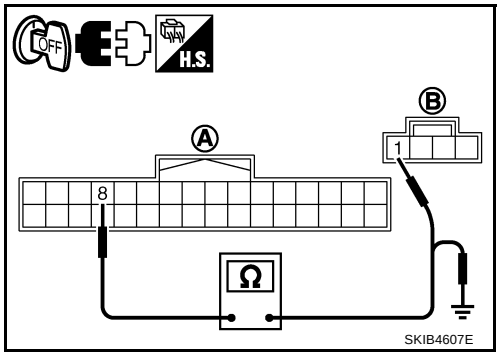
3. CHECK HARNESS BETWEEN CAMERA CONTROL UNIT AND REAR VIEW CAMERA

1. Turn ignition switch OFF.
2. Disconnect camera control unit connector and rear view camera connector.
3. Check continuity between camera control unit harness connector (A) B128 terminal 8 and rear view camera harness connector (B) T109 terminal 1.

8 – 1 : Continuity should exist.

4. Check continuity between camera control unit harness connector (A) B128 terminal 8 and ground.

8 – Ground : Continuity should not exist.



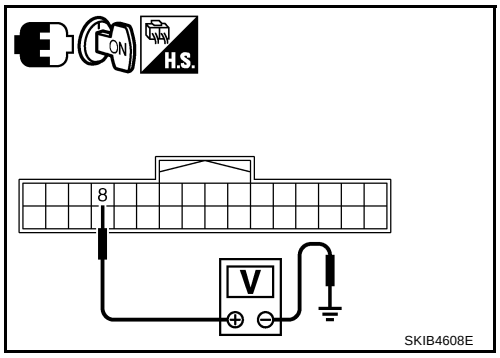
OK or NG

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

4. CHECK REAR VIEW CAMERA POWER SUPPLY

1. Connect camera control unit connector and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever in R position.
4. Check voltage between camera control unit harness connector B128 terminal 8 and ground.

8 – Ground : Approx. 6 V



OK or NG

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

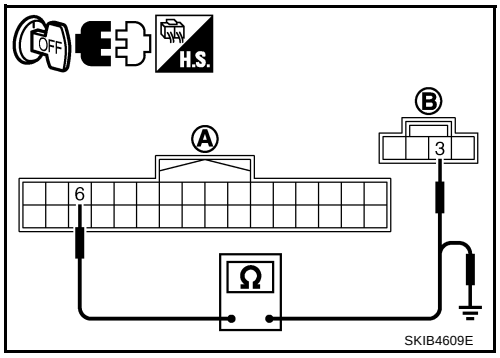
5. CHECK HARNESS BETWEEN CAMERA CONTROL UNIT AND REAR VIEW CAMERA

1. Turn ignition switch OFF.
2. Disconnect camera control unit connector and rear view camera connector.
3. Check continuity between camera control unit harness connector (A) B128 terminal 6 and rear view camera harness connector (B) T109 terminal 3.

6 – 3 : Continuity should exist.

4. Check continuity between camera control unit harness connector (A) B128 terminal 6 and ground.

6 – Ground : Continuity should not exist.



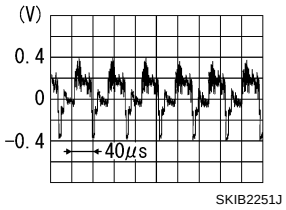
OK or NG

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

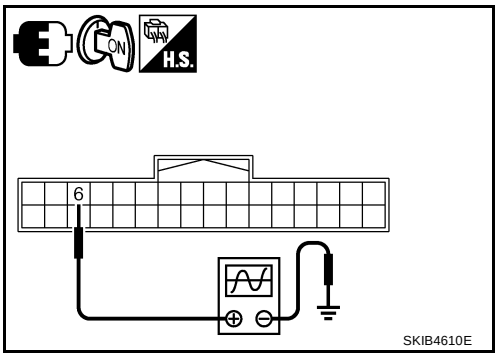
6. CHECK REAR VIEW IMAGE SIGNAL

1. Connect camera control unit connector and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever in R position.
4. Check signal between camera control unit harness connector B128 terminal 6 and ground.

6 – Ground:



SKIB2251J



SKIB4610E

OK or NG

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

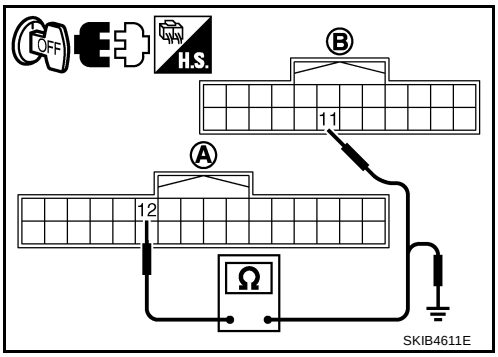
7. HARNESS CHECK BETWEEN CAMERA CONTROL UNIT AND FRONT DISPLAY UNIT

1. Turn ignition switch OFF.
2. Disconnect camera control unit connector and front display unit connector.
3. Check continuity between camera control unit harness connector (A) B128 terminal 12 and front display unit harness connector (B) M203 terminal 11.

12 - 11 : Continuity should exist.

4. Check continuity between camera control unit harness connector (A) B128 terminal 12 and ground.

12 - Ground : Continuity should not exist.



SKIB4611E

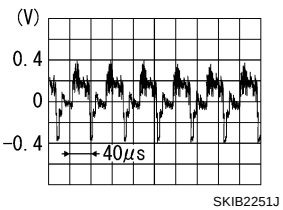
OK or NG

OK >> GO TO 8.
NG >> Repair harness or connector.

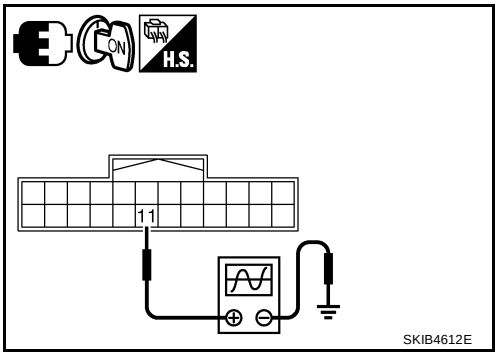
8. CHECK REAR VIEW IMAGE SIGNAL

1. Connect camera control unit connector and front display unit connector.
2. Turn ignition switch ON.
3. Shift the selector lever in R position.
4. Check signal between front display unit harness connector M203 terminal 11 and ground.

11 – Ground:



SKIB2251J



SKIB4612E

OK or NG

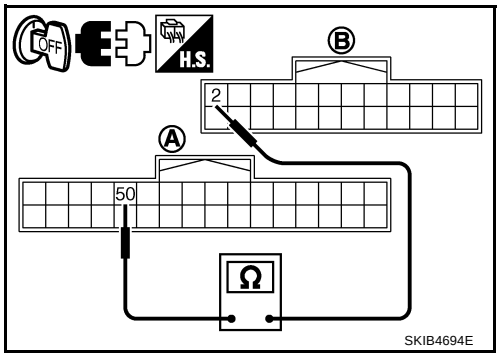
OK >> Replace front display unit.
NG >> Replace camera control unit.

DVD IMAGE IS NOT DISPLAYED

1. CHECK HARNESS BETWEEN AV (NAVI) CONTROL UNIT AND FRONT DISPLAY UNIT

1. Disconnect AV (NAVI) control unit connector and front display unit connector.
2. Check continuity between AV (NAVI) control unit harness connector (A) M210 terminal 50 and front display unit harness connector (B) M203 terminal 2.

50 – 2 : Continuity should exist.



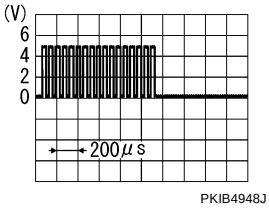
OK or NG

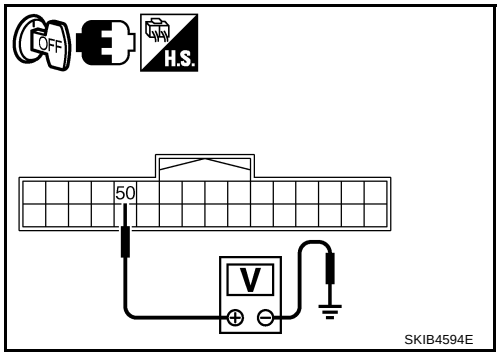
OK >> GO TO 2.
NG >> Repair harness or connector.

2. CHECK RGB AREA SIGNAL

1. Connect AV (NAVI) control unit connector and front display unit connector.
2. Turn ignition switch ON.
3. Shift the selector lever in R position.
4. Check signal between AV (NAVI) control unit harness connector M210 terminal 50 and ground.

50 – Ground:





OK or NG

OK >> Replace front display unit.
NG >> Replace AV (NAVI) control unit.

IT CANNOT BE SWITCHED TO REAR VIEW MONITOR IMAGE

1. CHECK REVERSE SIGNAL

Select “Vehicle Signals” on Confirmation/Adjustment mode, and make sure that the reverse signal is input normally. Refer to AV-92, "VEHICLE SIGNALS" .

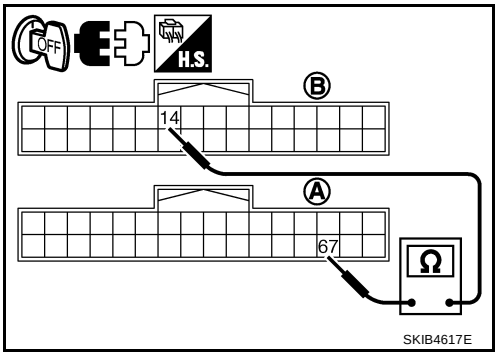
OK or NG

OK >> GO TO 2.
NG >> Check reverse signal circuit, and then repair the malfunctioning parts.

2. CHECK HARNESS BETWEEN AV (NAVI) CONTROL UNIT AND CAMERA CONTROL UNIT

1. Turn ignition switch OFF.
2. Disconnect AV (NAVI) control unit connector and camera control unit connector.
3. Check continuity between AV (NAVI) control unit harness connector (A) M210 terminal 67 and camera control unit harness connector (B) B128 terminal 14.

67 – 14 : Continuity should exist.



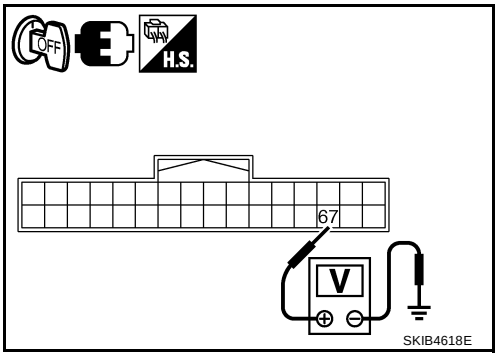
OK or NG

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

3. CHECK CAMERA-CONNECTION RECOGNITION SIGNAL

1. Connect AV (NAVI) control unit connector.
2. Turn ignition switch ON.
3. Check voltage between AV (NAVI) control unit harness connector M210 terminal 67 and ground.

67 – Ground: : Approx. 5 V



OK or NG

OK >> Replace camera control unit.
NG >> Replace AV (NAVI) control unit.

DVD Image Is Not Displayed

NKS00494

1. REAR VIEW MONITOR IMAGE CONFIRMATION

Make sure that rear view monitor image is displayed when setting the selector lever in R position.

Is it displayed?

YES >> GO TO 2.
NO >> GO TO 4.

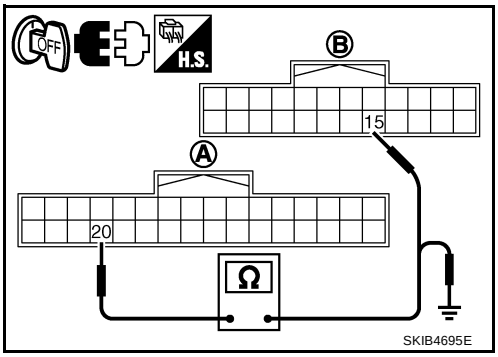
2. CHECK HARNESS BETWEEN DVD PLAYER AND FRONT DISPLAY UNIT

1. Turn ignition switch OFF.
2. Disconnect DVD player connector front display unit connector.
3. Check continuity between DVD player harness connector (A) M272 terminal 20 and front display unit harness connector (B) M203 terminal 15.

20 – 15 : Continuity should exist.

4. Check continuity between DVD player harness connector (A) M272 terminal 20 and ground.

20 – Ground : Continuity should not exist.

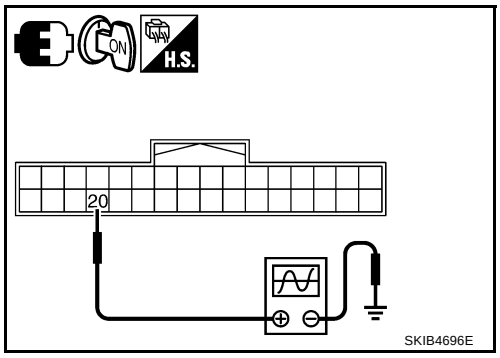


OK or NG

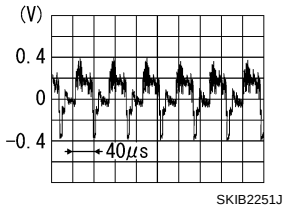
OK >> GO TO 3.
NG >> Repair harness or connector.

3. CHECK IMAGE SIGNAL

1. Connect DVD player connector and front display unit connector.
2. Turn ignition switch ON.
3. Display DVD image.
4. Check signal between DVD player harness connector M272 terminal 20 and ground.



20 – Ground:

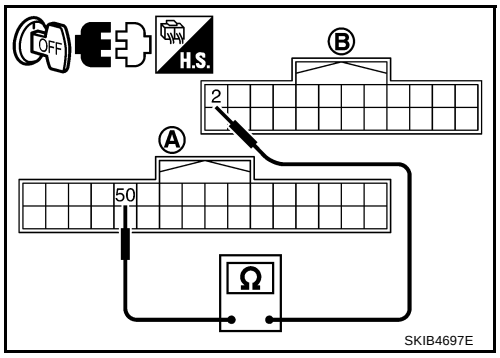


OK or NG

OK >> Replace front display unit.
NG >> Replace DVD player.

4. CHECK HARNESS BETWEEN AV (NAVI) CONTROL UNIT AND FRONT DISPLAY UNIT

1. Turn ignition switch OFF.
2. Disconnect AV (NAVI) control unit connector and front display unit connector.
3. Check continuity between AV (NAVI) control unit harness connector (A) M210 terminal 50 and front display unit harness connector (B) M203 terminal 2.



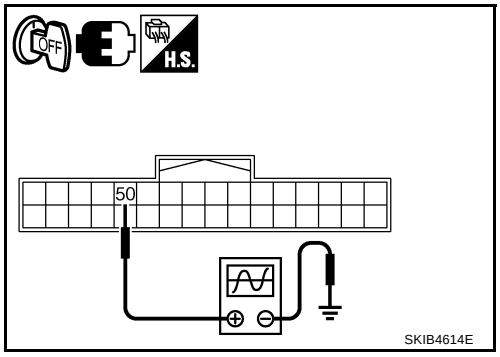
50 – 2 : Continuity should exist.

OK or NG

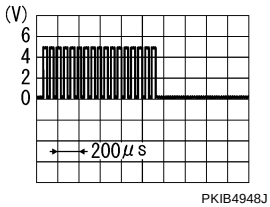
OK >> GO TO 5.
NG >> Repair harness or connector.

5. CHECK RGB AREA SIGNAL

1. Connect AV (NAVI) control unit connector and front display unit connector.
2. Turn ignition switch ON.
3. Shift the selector lever in R position.
4. Check signal between AV (NAVI) control unit harness connector M210 terminal 50 and ground.



50 – Ground:



OK or NG

OK >> Replace front display unit
NG >> Replace AV (NAVI) control unit.

Warning Message of Whether Rear View Image Is Rolling or Not Displayed

NKS00495

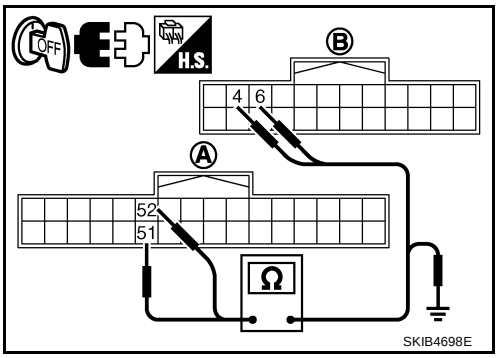
1. CHECK HARNESS BETWEEN AV (NAVI) CONTROL UNIT AND FRONT DISPLAY UNIT

1. Disconnect AV (NAVI) control unit connector and front display unit connector.
2. Check continuity between AV (NAVI) control unit harness connector (A) M210 terminals 51, 52 and display unit harness connector (B) M203 terminals 4, 6.

51 – 4 : Continuity should exist.
52 – 6 : Continuity should exist.

3. Check continuity between AV (NAVI) control unit harness connector (A) M210 terminals 51, 52 and ground.

51, 52 – Ground : Continuity should not exist.



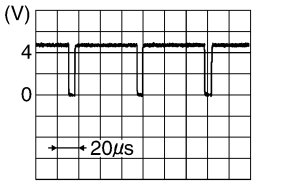
OK or NG

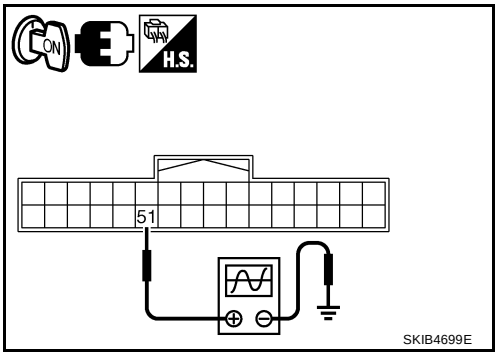
OK >> GO TO 2.
NG >> Repair harness or connector.

2. CHECK HORIZONTAL SYNCHRONIZING SIGNAL

1. Connect AV (NAVI) control unit connector and front display unit connector.
2. Turn ignition switch ON.
3. Check signal between AV (NAVI) control unit harness connector M210 terminal 51 and ground.

51 – Ground:





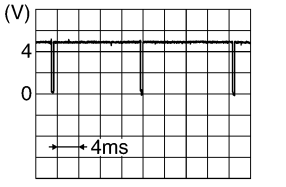
OK or NG

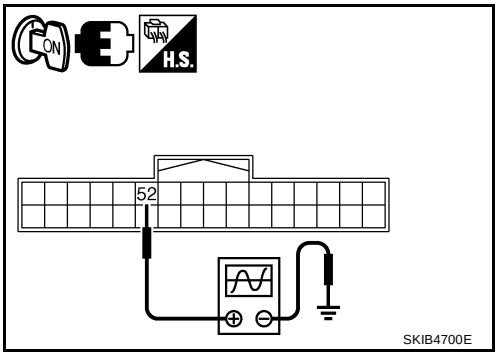
OK >> GO TO 3.
NG >> Replace front display unit.

3. CHECK VERTICAL SYNCHRONIZING SIGNAL

Check signal between AV (NAVI) control unit harness connector M210 terminal 52 and ground.

52 – Ground:





OK or NG

OK >> Replace AV (NAVI) control unit.
NG >> Replace front display unit.

DVD Operation Screen Is Not Displayed

NKS00496

Refer to AV-115, "Warning Message of Whether Rear View Image Is Rolling or Not Displayed" .

It Cannot Be Switched to DVD Mode

NKS00497

Refer to AV-116, "DVD SOUND IS NOT OUTPUT" .

Sound Is Not Output (Voice Guidance and TEL Voice Are Normal)

NKS00498

DVD AND AUDIO SOUND ARE NOT OUTPUT

1. PERFORM CONSULT-II SELF-DIAGNOSIS

Perform “SELF-DIAG RESULT” of CONSULT-II and check the malfunction. Refer to AV-103, "SELF-DIAG RESULTS" .

OK or NG

OK >> GO TO 2.
NG >> Refer to AV-103, "Display Item of SELF-DIAG RESULTS" .

2. CHECK AV COMM MONITOR

Select “AUDIO” of “AV COMM MONITOR”, and then check the displays of “TRANSMIT DG” and “SPEAKER AMP”.

A
TRANSMIT DG : OK
SPEAKER AMP : UNKWN

B
TRANSMIT DG : UNKWN
SPEAKER AMP : OK

A or B

A >> Replace BOSE amp.
B >> Replace audio unit.

DVD SOUND IS NOT OUTPUT

1. PERFORM CONSULT-II SELF-DIAGNOSIS

Perform “SELF-DIAG RESULT” of CONSULT-II and check the malfunction. Refer to AV-103, "SELF-DIAG RESULTS" .

OK or NG

OK >> GO TO 2
NG >> Refer to AV-103, "Display Item of SELF-DIAG RESULTS" .

2. CHECK AV COMM MONITOR

Select “AUDIO” of “AV COMM MONITOR”, and then check the displays of “TRANSMIT DG” and “DVD player”.

A
TRANSMIT DG : OK
DVD PLAYER : UNKWN

B
TRANSMIT DG : UNKWN
DVD PLAYER : OK

A or B

A >> Replace DVD player
B >> Replace audio unit.

Voice Activated Control System Is Not Activated

NKS00499

THE SCREEN IS SWITCHED BY PRESSING THE STEERING SWITCH

1. VOICE MICROPHONE TEST

Turn “Voice Microphone Test” ON at Confirmation/Adjustment mode, and then check the sounds emitted from the speaker. Refer to AV-98, "Voice Microphone Test" .

Is the sound output?

YES >> Replace AV (NAVI) control unit.
NO >> GO TO 2

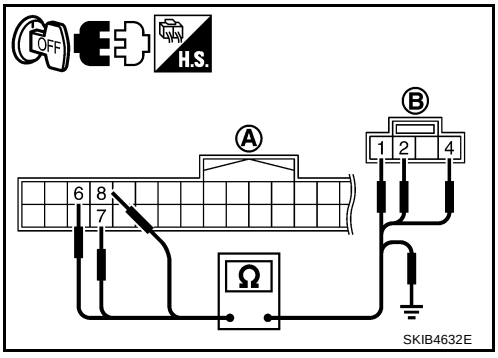
2. CHECK HARNESS BETWEEN AV (NAVI) CONTROL UNIT AND MIC.

1. Turn ignition switch OFF.
2. Disconnect AV (NAVI) control unit connector and MIC. connector.
3. Check continuity between AV (NAVI) control unit harness connector (A) M78 terminals 6, 7, 8 and MIC. harness connector (B) R52 terminals 4, 2, 1.

6 – 4 : Continuity should exist.
7 – 2 : Continuity should exist.
8 – 1 : Continuity should exist.

4. Check continuity between AV (NAVI) control unit harness connector (A) M78 terminals 6, 7, 8 and ground.

6, 7, 8 – Ground : Continuity should not exist.



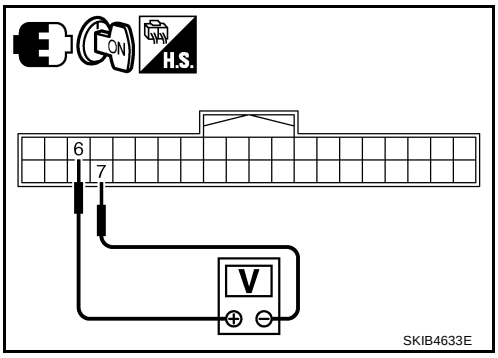
OK or NG
OK >> GO TO 3.
NG >> Repair harness or connector.

3. CHECK MIC. POWER SUPPLY

1. Connect AV (NAVI) control unit and MIC. connector.
2. Turn ignition switch ON.
3. Check voltage between AV (NAVI) control unit harness connector M78 terminals 6 and 7.

6 – 7 : Approx. 5 V

OK or NG
OK >> GO TO 4.
NG >> Replace AV (NAVI) control unit.

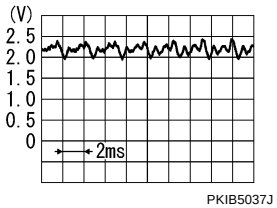


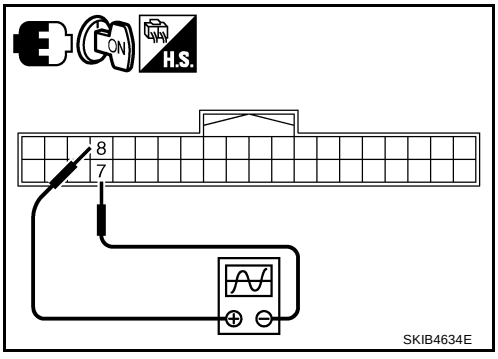
4. CHECK MIC. SIGNAL

1. Check signal between AV (NAVI) control unit harness connector M78 terminals 8 and 7.

Give a voice

8 – 7:





OK or NG
OK >> Replace AV (NAVI) control unit.
NG >> Replace MIC.

THE SCREEN IS NOT SWITCHED BY PRESSING THE STEERING SWITCH

Refer to AV-118, "Steering Switch Cannot Be Operated" .

Steering Switch Cannot Be Operated

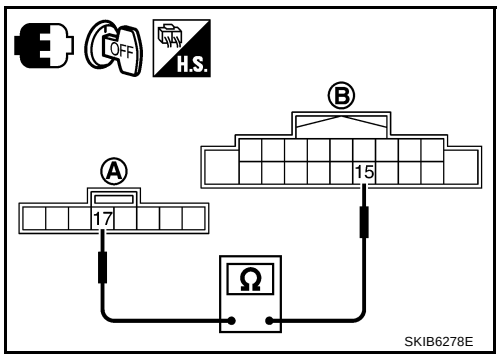
NKS0049A

NONE OF THE OPERATIONS WORK.

1. CHECK HARNESS

1. Check continuity between spiral cable harness connector (A) M303 terminal 17 and audio unit harness connector (B) M76 terminal 15.

17 – 15 : Continuity should exist.



OK or NG

OK >> Replace steering switch.
NG >> Check spiral cable. If the malfunction is detected, repair the harness and connector.

"ENTER", "MENU UP-DOWN", AND "SOURCE" SWITCHES ARE NOT OPERATED

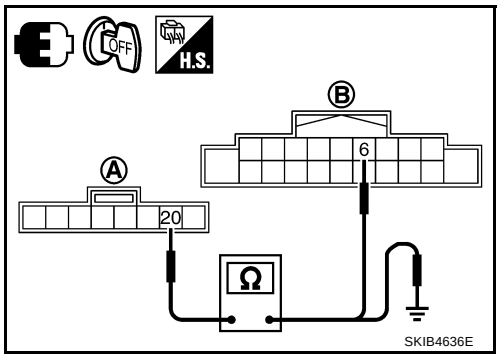
1. CHECK HARNESS

1. Check continuity between spiral cable harness connector (A) M303 terminal 20 and audio unit harness connector (B) M76 terminal 6.

20 – 6 : Continuity should exist.

2. Check continuity between spiral cable harness connector (A) M303 terminal 20 and ground.

20 – Ground : Continuity should not exist.



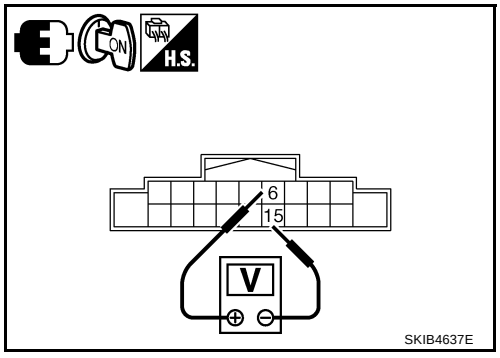
OK or NG

OK >> GO TO 2.
NG >> Check spiral cable. If the malfunction is detected, repair the harness and connector.

2. CHECK STEERING SWITCH SIGNAL A

1. Turn ignition switch ON.
2. Check voltage between audio unit harness connector M76 terminals 6 and 15

6 – 15 : Approx. 5 V



OK or NG

OK >> Replace steering switch.
NG >> Replace audio unit.

"PTT/TEL", "BACK", AND "VOLUME CONTROL" SWITCHES ARE NOT OPERATED

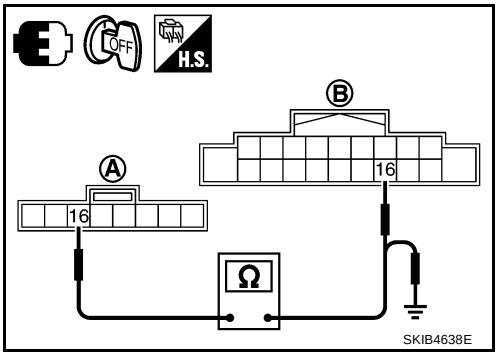
1. CHECK HARNESS

1. Check continuity between spiral cable harness connector (A) M303 terminal 16 and audio unit harness connector (B) M76 terminal 16.

   16 – 16 : Continuity should exist.

2. Check continuity between spiral cable harness connector (A) M303 terminal 16 and ground.

   16 – Ground : Continuity should not exist.



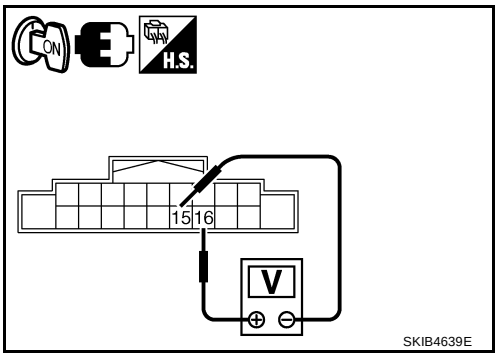
OK or NG

OK >> GO TO 2.
NG >> Check spiral cable. If the malfunction is detected, repair the harness and connector.

2. CHECK STEERING SWITCH SIGNAL B

1. Turn ignition switch ON.
2. Check voltage between audio unit harness connector M76 terminals 16 and 15

   16 – 15 : Approx. 5 V



OK or NG

OK >> Replace steering switch.
NG >> Replace audio unit.

The Hands-Free Phone Cannot Be Used

NKS0049B

THE VOICE CANNOT BE HEARD

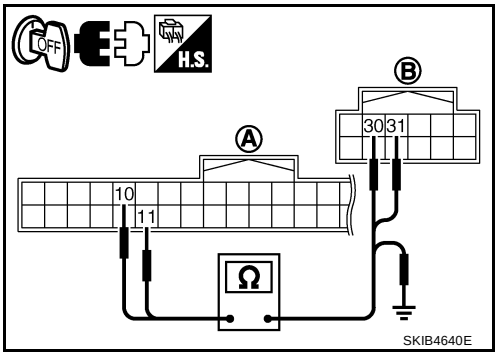
1. CHECK HARNESS AV (NAVI) CONTROL UNIT AND AUDIO UNIT

1. Disconnect AV (NAVI) control unit connector and audio unit connector.
2. Check continuity between AV (NAVI) control unit harness connector (A) M78 terminals 10, 11 and audio unit harness connector (B) M77 terminals 30, 31.

   10 – 30 : Continuity should exist.
   11 – 31 : Continuity should exist.

3. Check continuity between AV (NAVI) control unit harness connector (A) M78 terminals 10, 11 and ground.

   10, 11 – Ground : Continuity should not exist.

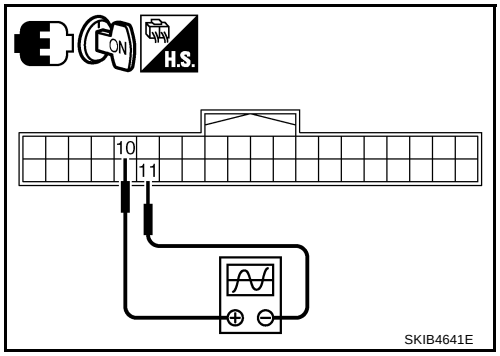


OK or NG

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

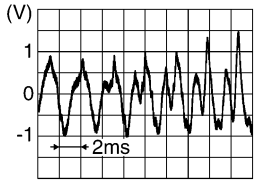
2. CHECK TEL VOICE SIGNAL

1. Connect AV (NAVI) control unit connector and audio unit connector.
2. Turn ignition switch ON.
3. Check signal between AV (NAVI) control unit harness connector M78 terminals 10 and 11



When inputting TEL voice

10 – 11:



OK or NG

OK >> Replace audio unit.
NG >> Replace AV (NAVI) control unit.

THE VOICE CANNOT BE TRANSMITTED

Refer to AV-116, "THE SCREEN IS SWITCHED BY PRESSING THE STEERING SWITCH" .

Voice Guidance Is Not Heard (Base System)

NKS0049C

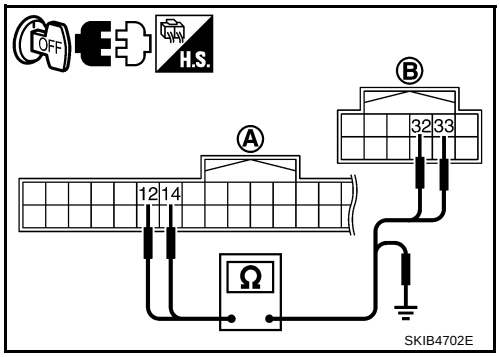
1. CHECK HARNESS BETWEEN AV (NAVI) CONTROL UNIT AND AUDIO UNIT

1. Disconnect AV (NAVI) control unit connector and audio unit connector.
2. Check continuity between AV (NAVI) control unit harness connector (A) M78 terminals 12, 14 and audio unit harness connector (B) M77 terminals 32, 33.

12 – 32 : Continuity should exist.
14 – 33 : Continuity should exist.

3. Check continuity between AV (NAVI) control unit harness connector (A) M78 terminals 12, 14 and ground.

12, 14 – Ground : Continuity should not exist.

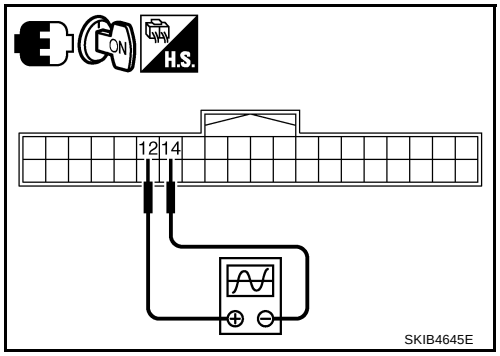


OK or NG

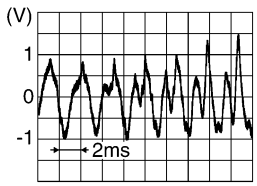
OK >> GO TO 2.
NG >> Repair harness or connector.

2. CHECK VOICE GUIDANCE SIGNAL

1. Connect AV (NAVI) control unit connector and audio unit connector.
2. Turn ignition switch ON.
3. Push the voice button.
4. Check signal between AV (NAVI) control unit harness connector M78 terminals 12 and 14.



12 – 14:



OK or NG

OK >> Replace AV (NAVI) control unit.
NG >> Replace audio unit.

Voice Guidance Is Not Heard (BOSE System)

NKS0049D

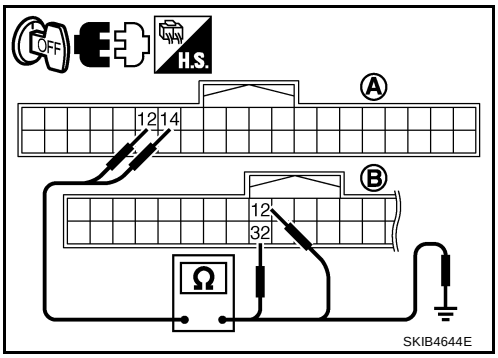
1. CHECK HARNESS BETWEEN AV (NAVI) CONTROL UNIT AND BOSE AMP

1. Disconnect AV (NAVI) control unit connector and BOSE amp connector.
2. Check continuity between AV (NAVI) control unit harness connector (A) M78 terminals 12, 14 and BOSE amp harness connector (B) B107 terminals 32, 12.

12 – 32 : Continuity should exist.
14 – 12 : Continuity should exist.

3. Check continuity between AV (NAVI) control unit harness connector (A) M78 terminals 12, 14 and ground.

12, 14 – Ground : Continuity should not exist.



SKIB4644E

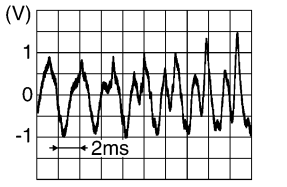
OK or NG

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

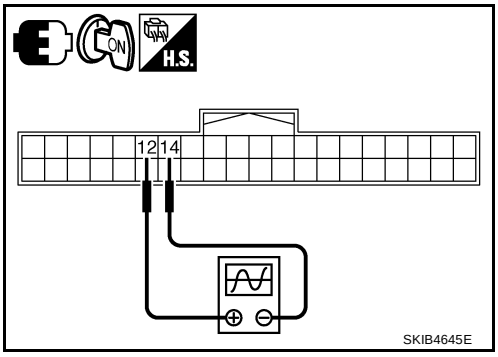
2. CHECK VOICE GUIDANCE SIGNAL

1. Connect AV (NAVI) control unit connector and BOSE amp connector.
2. Turn ignition switch ON.
3. Push the voice button.
4. Check signal between AV (NAVI) control unit harness connector M78 terminals 12 and 14.

12 – 14:



SKIB3609E



SKIB4645E

OK or NG

OK >> Replace AV (NAVI) control unit.
NG >> Replace BOSE amp.

Example of Symptoms Judged Not Malfunction

NKS0049E

BASIC OPERATION

Symptom	Possible cause	Possible solution
No image is displayed.	The brightness is at the lowest setting.	Adjust the brightness of the display.
	The display is turns off.	Push and hold ☀/☽ to turn on the display.
No voice guidance is available. The volume is too high or too low.	The volume is not set correctly, or it is turned off.	Adjust the volume of voice guidance.
	Volume guidance is not provided for narrow streets (roads displayed in gray).	This is not a malfunction.
No map is displayed on the screen.	The map DVD-ROM is not inserted, or it is inserted upside down.	Insert the map DVD-ROM correctly.
	A screen other than map screen is displayed.	Push “MAP”.
The screen is too dim. The movement is slow.	The temperature in the interior of the vehicle is low.	Wait until the interior of the vehicle has warmed up.
Some pixels in the display are darker or brighter than others.	This condition is an inherent characteristic of liquid crystal displays.	This is not a malfunction.
Some menu items cannot be selected.	Some menu items become unavailable while the vehicle is driven.	Park the vehicle in a safe location, and then operate the navigation system.

NOTE:
Locations stored in the Address Book and other memory functions may be lost if the vehicle's battery is disconnected or becomes discharged. If this occurs, service the vehicle's battery as necessary and re-enter the information in the Address Book.

VEHICLE ICON

Symptom	Possible cause	Possible solution
Names of roads and locations differ between Plan view and Bird-view™.	This is because the quantity of the displayed information is reduced so that the screen does not become too crowded. There is also a chance that names of the roads or locations may be displayed multiple times, and the names appearing on the screen may be different because of a processing procedure.	This is not a malfunction.
The vehicle icon is not displayed in the correct position.	The vehicle was transported after the ignition switch was turned off, for example, by a ferry or car transporter.	Drive the vehicle for a while on a road where GPS can be received.
	The position and direction of the vehicle may be incorrect depending on the driving environments and the levels of positioning accuracy of the navigation system.	This is not a malfunction. Drive the vehicle for a while to automatically correct the position and direction of the vehicle icon.
When the vehicle is travelling on a new road, the vehicle icon is located on another road nearby.	Because the new road is not stored in the map data, the system automatically places the vehicle ion on the nearest road available.	Updated road information will be included in the next version of the map DVD-ROM.
The screen does not switch to the night screen even after turning on the headlights.	The daytime screen was set the last time the headlights were turned on.	Set the screen to the night screen mode using when turning on the headlights.
The map does not scroll even when the vehicle is moving.	The current location map screen is not displayed.	Push “MAP”.
The vehicle icon is not displayed.	The current location map screen is not displayed.	Push “MAP”.
The GPS indicator on the screen remains gray.	GPS signals cannot be received depending on the vehicle location, such as in a parking garage, on a road that has numerous tall buildings, etc.	Drive on an open, straight road for a while.
	GPS signals cannot be received because objects are placed on the rear parcel shelf.	Remove the objects from the rear parcel shelf.
	A sufficient amount of GPS satellites are not available.	Wait for the satellites to move locations available for navigation system.

Symptom	Possible cause	Possible solution
The location of vehicle icon is misaligned from the actual position.	When using tire chains or replacing the tires, speed calculations based on the speed sensor may be incorrect.	Drive the vehicle for a while [at approximately 30km/h (19 MPH) for about 30 minutes] to automatically correct the vehicle icon position. If this does not correct the vehicle icon position, contact an INFINITI dealer.
	The map data has mistake or is incomplete (the vehicle icon position is always misaligned in the same area).	Updated road information will be included in the next version of the map DVD-ROM.

MAP DVD-ROM

Symptom	Possible cause	Possible solution
The message “Error” appears.	Map DVD-ROM is dirty or partially damaged.	Check the DVD-ROM and wipe it clean with a soft cloth.
		If there is any damage, replace the DVD-ROM.

ROUTE CALCULATION AND VISUAL GUIDANCE

Symptom	Possible cause	Possible solution
In the auto reroute calculation, waypoints are not included.	Waypoints already passed are not included in the auto reroute calculation.	In case of going to that waypoints again, edit the route.
Route information is not displayed.	Route calculation has not yet been performed.	Set the destination and perform route calculation.
	The vehicle is not driven on the suggested route.	Drive on the suggested route.
	Route guidance is set to off.	Turn on route guidance.
	Route information is not provided for narrow streets (roads displayed in gray).	This is not a malfunction.
The auto reroute calculation (or detour calculation) suggests the same route as the one previously suggested.	Route calculation took priority conditions into consideration, but the same route was calculated.	This is not a malfunction.
A waypoint cannot be added.	Five waypoints are already set on the route, including ones that already passed.	A maximum of 5 waypoints can be set on the route. In case of going to 6 or more waypoints, perform route calculations multiple times as necessary.
The suggested route is not displayed.	Roads near the destination cannot be calculated.	Reset the destination to a main or ordinary road, and recalculate the route.
	The starting point and destination are too close.	Set a more distant destination.
	The starting point and destination are too far away.	Divide the way by selecting one or two intermediate destinations, and perform route calculations multiple times.
	There are time restricted roads (by day of week, by time) near the current vehicle location or destination.	Set “Use Time Restricted Roads” to off.
A part of the route is not displayed.	The suggested route includes narrow streets (roads displayed in gray).	This is not a malfunction.
The part of the route already passed is deleted.	A route is managed by sections between waypoints. If you passed the first waypoint, the section between the starting point and the waypoint is deleted. (It may not be deleted depending on the area.)	This is not a malfunction.

Symptom	Possible cause	Possible solution
An indirect route is suggested.	If there are restrictions (such as one way streets) on roads close to the starting point or destination, the system may suggest an indirect route.	Adjust the location of the starting point or destination.
	The system may suggest an indirect route because route calculation does not take into consideration some areas such as narrow streets (gray roads).	Reset the destination to a main or ordinary road, and recalculate the route.
The landmark information does not correspond to the actual information.	This may caused by insufficient or incorrect data on the DVD-ROM.	This is not a malfunction.
The suggested route does not exactly connect to the starting point, waypoints, or destination.	There is no data for route calculation closer to these locations.	Set the starting point, waypoints and destination on main road, and perform route calculation.

VOICE GUIDANCE

Symptom	Possible cause	Possible solution
The voice guidance is not available.	Voice guidance is only available at certain intersections. In some cases, voice guidance is not available even when the vehicle should make a turn.	This is not a malfunction.
	The vehicle has deviated from the suggested route.	Go back to the suggested route or request route calculation again.
	Voice guidance is set to off.	Turn on the voice guidance.
	Route guidance is set to off.	Turn on the voice guidance.
The guidance content does not correspond to the actual condition.	The content of the voice guidance may vary, depending on the types of intersections at which turns are made.	Follow all traffic rules and regulations.

VOICE RECOGNITION

Symptom	Possible cause	Possible solution
The system does not recognize the command. The system recognizes the command incorrectly.	The interior of the vehicle is too noisy.	Close the windows or have other occupants be quiet.
	The volume of the voice is too low.	Speak louder.
	Pronunciation is unclear.	Speak clearly.
	Voice recognition mode is not yet ready to speak.	Push the release “PTT” on the steering switch, and speak a command after the tone sounds.
	5 seconds or more have passed after pushed and released “PTT” on the steering switch.	Make sure to speak a command within 5seconds after push and release “PTT” on the steering switch.
	Only a limited range of voice commands is usable for each screen.	Use a correct voice command appropriate for the current screen.

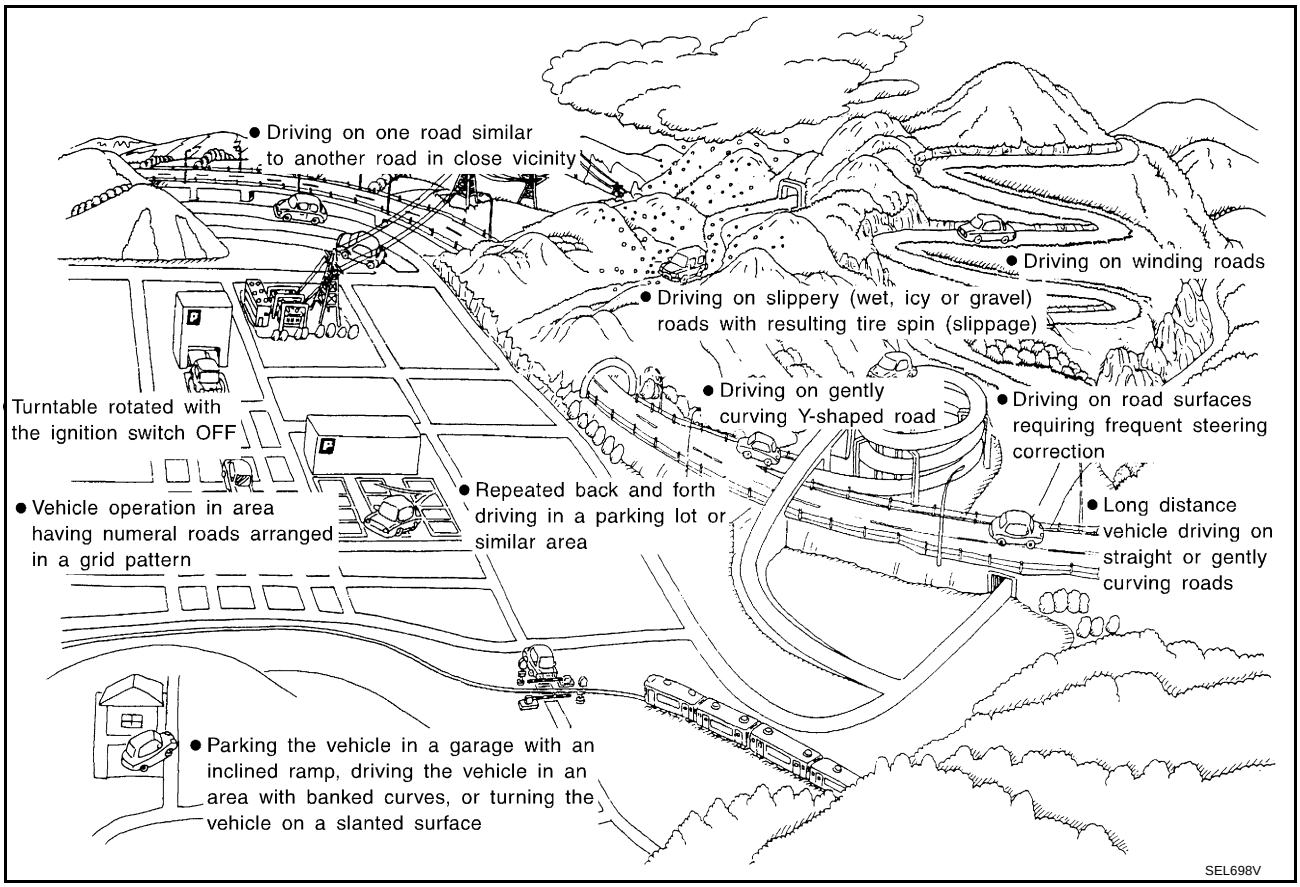
REAR VIEW MONITOR

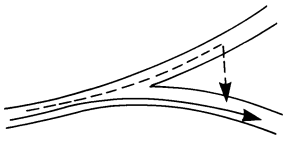
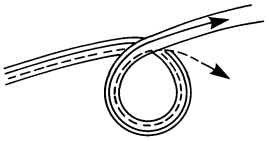
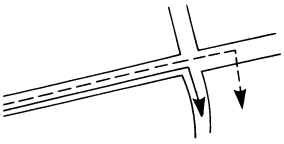
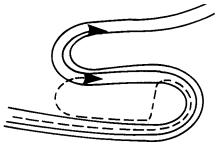
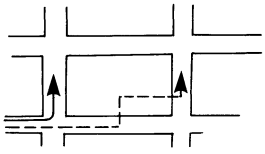
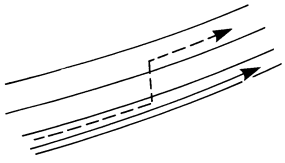
Symptom	Possible cause	Possible solution
Rear view monitor image is not displayed	The selector lever is not shifted in R position.	Shift the selector lever in R position.

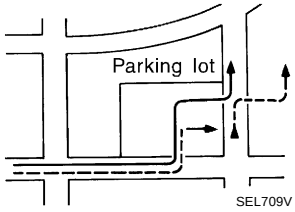
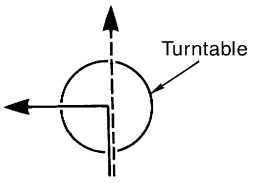
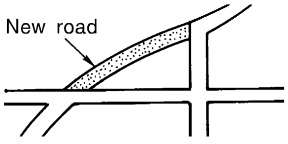
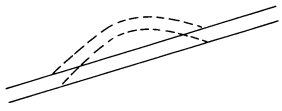
Symptom	Possible cause	Possible solution
Rear view monitor image is not clear	Front glass of camera lens is dirty	Dip a soft cloth into water and wipe the glass softly.
	There are raindrops, snow, etc.	Wipe it with a soft cloth softly.
	The sunlight or the headlight of following vehicle is shining directly to the camera lens.	It returns to the original condition if the light applied to the lens disappears
The center position of possible route line is not in the correct position	● Remove or replace the battery. ● Replace steering angle sensor or camera control unit. ● Turn steering wheel when turning ignition switch OFF.	Perform the neutral position correction as follows. ● Fully turn the steering wheel to left/right. ● Drive 100 m or more at vehicle speed 30 km/h or more.

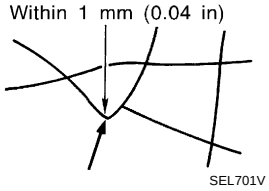
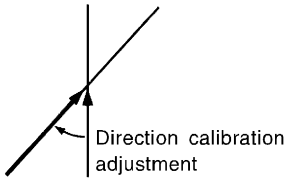
EXAMPLES OF VEHICLE MARK DISPLACEMENT

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 pattern	Y–intersections  ELK0192D	At a Y intersection or similar gradual division of roads, mistakes in the direction of travel deduced by the sensor may result in the vehicle 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 gentle curve road 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.	
	Switchback turn  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 10 km (6 miles) the correct location has not been restored, perform location correction and, if necessary, direction correction.
	Turntable  SEL710V	When the ignition switch is off, the navigation system cannot get the signal from the gyroscope (angular speed sensor). Therefore, the displayed direction may be wrong and the correct road may not be easily returned to after rotating the vehicle on a turntable with the ignition off.	
	Slippery roads	On snow, wet roads, gravel, or other roads where tires may slip easily, accumulated mileage errors may cause the vehicle mark to deviate from the correct road.	
	Slopes	When parking in sloped garages, when 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 vehicle 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. 1 mm (0.04 in). 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.

VEHICLE MARK SHOWS A POSITION WHICH IS COMPLETELY WRONG

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

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

VEHICLE MARK JUMPS

In the following cases, the vehicle mark may appear to jump as a result of automatic correction of the current location.

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

VEHICLE MARK IS IN A RIVER OR SEA

The navigation system moves the vehicle mark with no distinction between land and rivers or sea. If the vehicle mark is somehow out of place, it may appear that the vehicle is driving in a river or the sea.

VEHICLE MARK AUTOMATICALLY ROTATES

The system wrongly memorizes the rotating status as stopping when the ignition switch is turned ON with the turntable rotating. That causes the vehicle mark to rotate when the vehicle is stopped.

WHEN DRIVING ON SAME ROAD, SOMETIMES VEHICLE MARK IS IN RIGHT PLACE AND SOMETIMES IT IS 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 vehicle 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.

REMOVAL AND INSTALLATION

PFP:00000

Removal and Installation/Precautions for Replacement

NKS0049F

REMOVAL OF BATTERY

When the battery is removed, the possible route line center position of rear view monitor may not be in the correct position. Perform the center position correction with the following procedure.

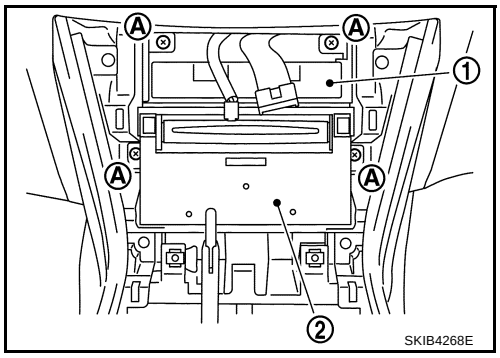
1. Fully turn the steering wheel to left/right.
2. Drive 100m (328.1 ft) or more at vehicle speed 30 km/h (18.6 MPH) or more.

Audio Unit

NKS0049G

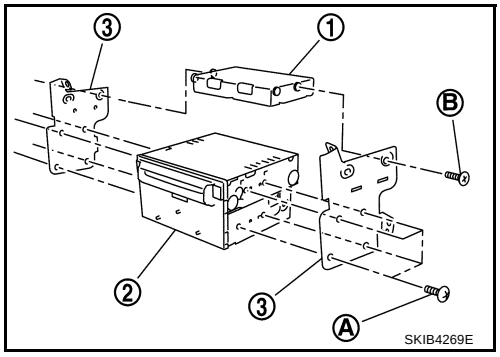
REMOVAL

1. Remove cluster lid C. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY" .
2. Remove screws (A) and remove audio unit (2) in conjunction with unified meter and A/C amp (1).



3. Remove screws (A) and (B)
4. Remove meter and A/C amp (1), audio unit (2) and bracket (3).

CAUTION:
Be careful not to allow foreign material to enter from CD slot.



INSTALLATION

Installation is the reverse order of removal.

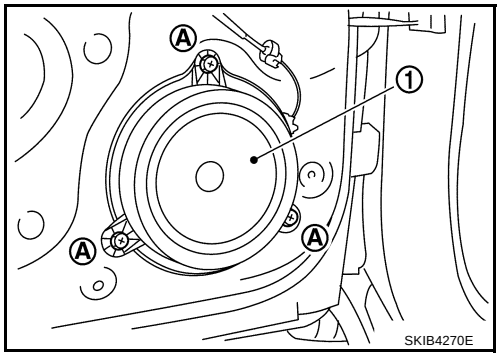
CAUTION:
Unified meter and A/C amp screws are different from other securing screws. Never confuse them when installing.

Front Door Speaker

NKS0049H

REMOVAL

1. Remove front door finisher. Refer to EI-34, "DOOR FINISHER" .
2. Remove screws (A) and remove front door speaker (1).



INSTALLATION

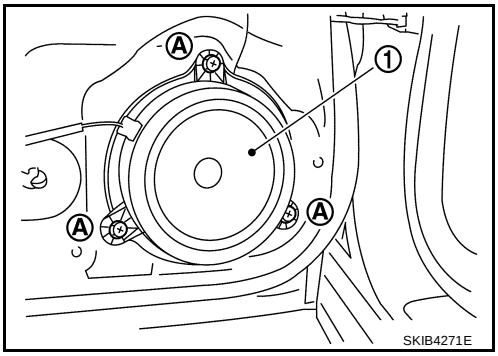
Installation is the reverse order of removal.

Rear Door Speaker

NKS0049I

REMOVAL

1. Remove rear door finisher. Refer to EI-34, "DOOR FINISHER" .
2. Remove screws (A) and remove rear door speaker (1).



INSTALLATION

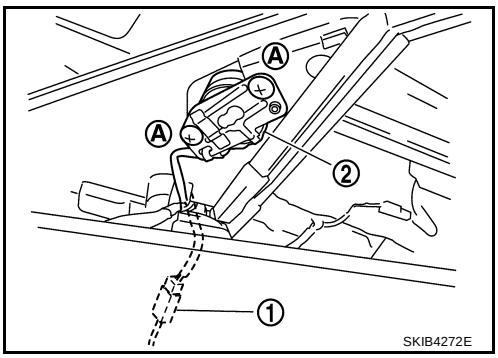
Installation is the reverse order of removal.

Tweeter

NKS0049J

REMOVAL

1. Remove front door finisher. Refer to EI-34, "DOOR FINISHER" .
2. Remove door sash inner cover (front). Refer to EI-34, "DOOR FINISHER" .
3. Remove screws (A), and disconnect connector (1).
4. Remove tweeter (2).



INSTALLATION

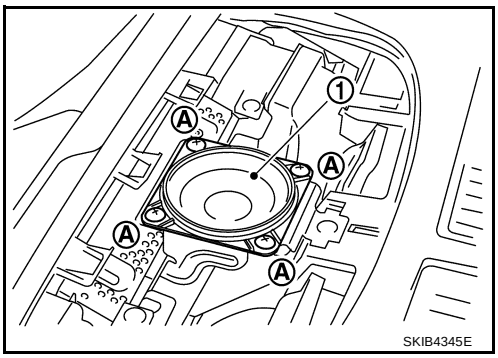
Installation is the reverse order of removal.

Center Speaker

NKS0049K

REMOVAL

1. Remove upper ventilator grill. Refer to ATC-146, "REMOVAL" .
2. Remove screws (A) and disconnect connector.
3. Remove center speaker (1).



INSTALLATION

Installation is the reverse order of removal.

Seat Speaker

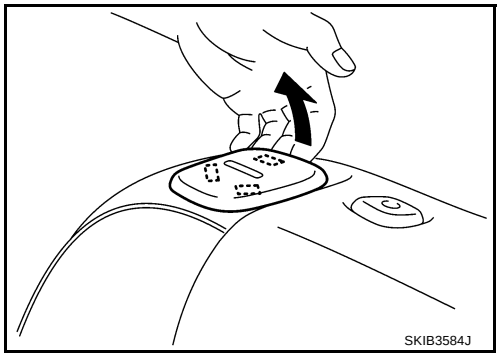
NKS0049L

REMOVAL

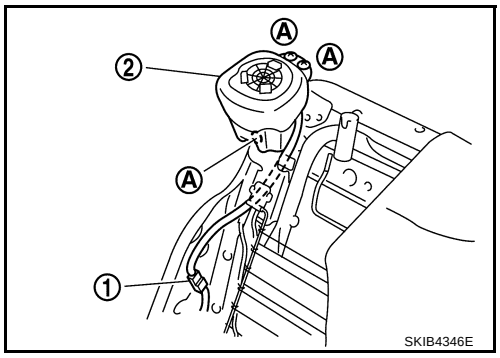
1. Remove seat speaker grill as shown in the figure.

   CAUTION:
   Never reuse seat speaker grill. The pawl is broken when removing.

2. Remove front seat back trim and pad. Refer to SE-167, "Removal and Installation" .



3. Remove screws (A) and disconnect connector (1).
4. Remove seat speaker (2).



INSTALLATION

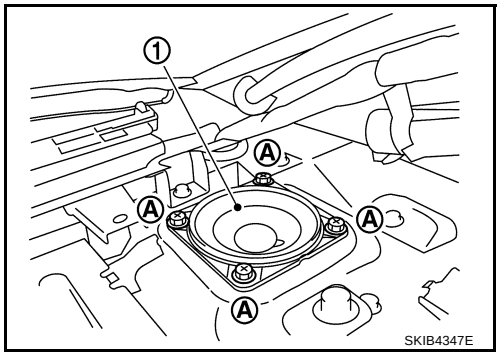
Installation is the reverse order of removal.

Rear Surround Speaker

NKS0049M

REMOVAL

1. Remove rear parcel shelf finisher. Refer to EI-42, "Removal and Installation" .
2. Remove screws (A) and disconnect connector.
3. Remove rear surround speaker (1).



INSTALLATION

Installation is the reverse order of removal.

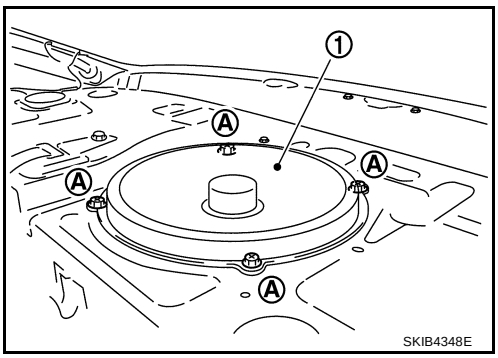
Woofer

NKS0049N

REMOVAL

1. Remove rear parcel shelf finisher. Refer to EI-42, "Removal and Installation" .

2. Remove screws (A) and disconnect connector.
3. Remove woofer (1).



INSTALLATION

Installation is the reverse order of removal.

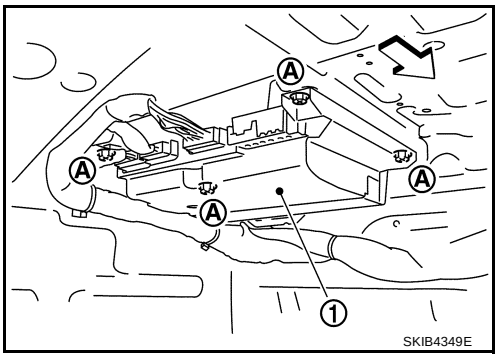
BOSE Amp

NKS0049O

⇦: Vehicle front

REMOVAL

1. Remove trunk front finisher. Refer to EI-56, "Removal and Installation for Trunk Room Trim" .
2. Remove screws (A), and disconnect connector.
3. Remove BOSE amp (1).



INSTALLATION

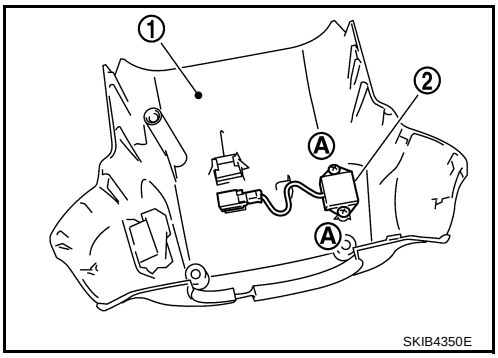
Installation is the reverse order of removal.

AudioPilot® Microphone

NKS0049P

REMOVAL

1. Remove steering column lower cover. Refer to IP-11, "Removal and Installation of Instrument Panel & Pad" .
2. Remove screws (A) and disconnect connector.
3. Remove Microphone (2) from steering column lower cover (1).



INSTALLATION

Installation is the reverse order of removal.

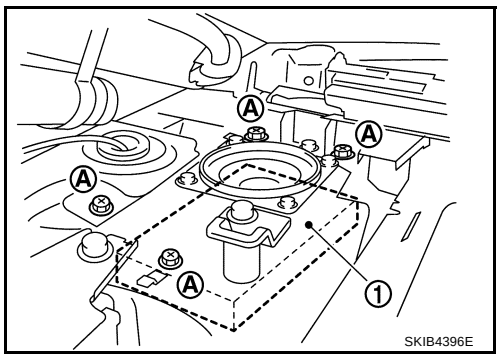
Satellite Radio Tuner

NKS0049Q

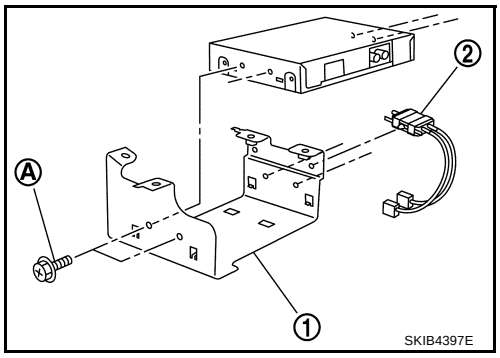
REMOVAL

1. Remove trunk front finisher. Refer to EI-56, "Removal and Installation for Trunk Room Trim" .
2. Remove rear parcel shelf finisher. Refer to EI-42, "Removal and Installation" .

3. Remove screws (A).
4. Disconnect connector and remove satellite radio tuner (1) from trunk room side.



5. Disconnect screws (A), and remove bracket (1) and splitter (2).



INSTALLATION

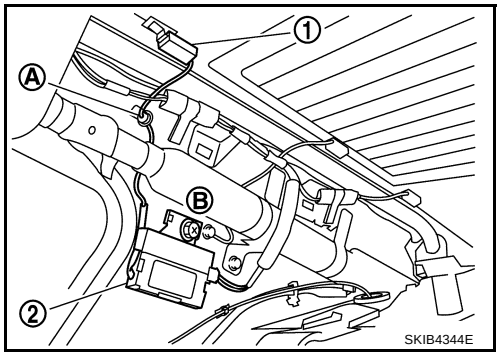
Installation is the reverse order of removal.

Antenna Amp

NKS0049R

REMOVAL

1. Remove rear pillar finisher (RH). Refer to EI-37, "Removal and Installation" .
2. Disengaged the clip (A) to separate glass terminal (1).
3. Remove screw (B) and remove antenna amp (2) from vehicle.



INSTALLATION

Installation is the reverse order of removal.

Satellite Radio Antenna

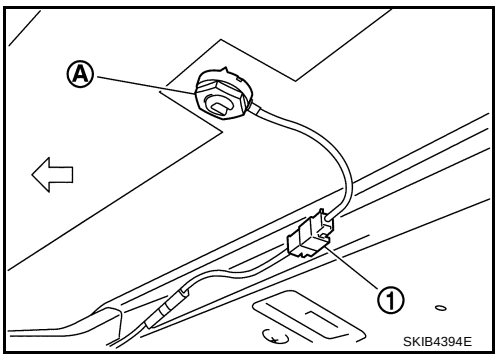
NKS0049S

⇦: Vehicle front

REMOVAL

1. Remove rear pillar finisher. Refer to EI-37, "Removal and Installation" .
2. Remove personal lamp. Refer to LT-291, "REMOVAL AND INSTALLATION" .
3. Remove assist grip (rear). Refer to EI-52, "Removal and Installation" .
4. Remove rear display cover. Refer to AV-292, "Rear Display Unit" .
5. Remove head lining assembly (rear) to obtain work space between the head lining assembly and vehicle.

6. Remove nut (A), and then disconnect connector (1).
7. Remove satellite radio antenna.



INSTALLATION

Installation is the reverse order of removal.

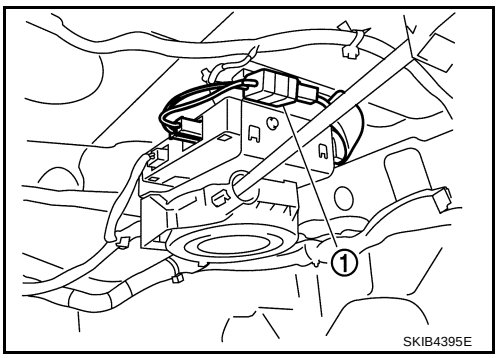
Roof antenna mounting nut : 6.0 N·m (0.61 kg-m, 53 in-lb)

Splitter

NKS0049T

REMOVAL

1. Remove trunk front finisher. Refer to EI-56, "Removal and Installation for Trunk Room Trim" .
2. Disconnect connector and remove splitter (1).



INSTALLATION

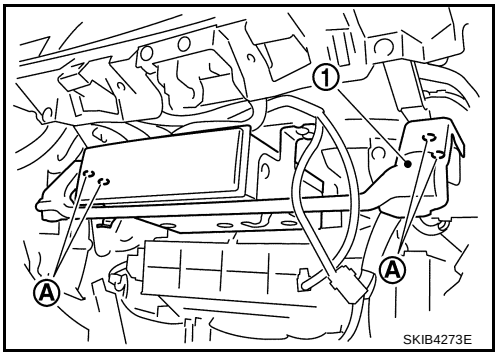
Installation is the reverse order of removal.

AV (NAVI) Control Unit

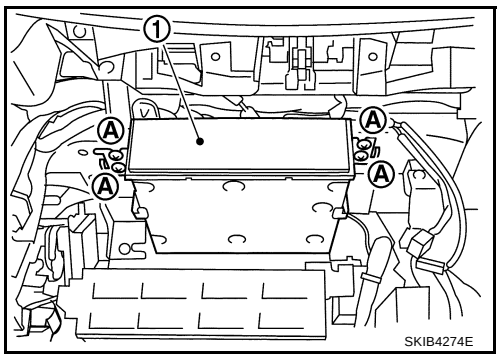
NKS0049U

REMOVAL

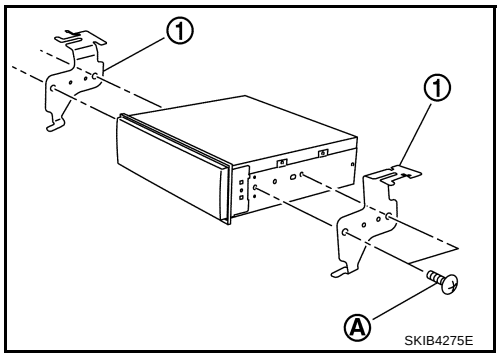
1. Remove glove box cover. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY" .
2. Remove screws (A), and remove knee assist protector assembly (1).



3. Remove screws (A), and disconnect connector.
4. Remove AV (NAVI) control unit (1).



5. Remove screws (A) and remove bracket (1).



INSTALLATION

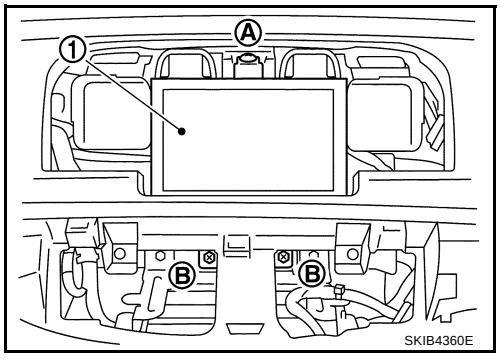
Installation is the reverse order of removal.

Front Display Unit (Base System)

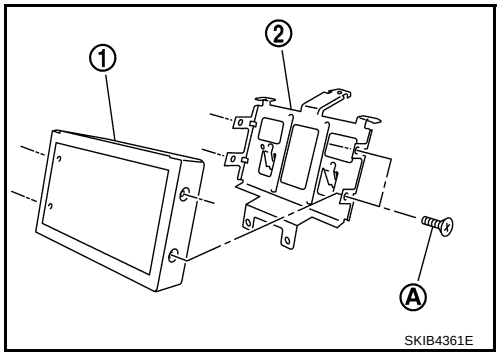
NKS0049V

REMOVAL

1. Remove upper ventilator grille. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY" .
2. Remove multifunction switch. Refer to AV-137, "Multifunction Switch" .
3. Remove screws (A) and screws (B).
4. Disconnect connector, and remove display (1).



5. Remove screws (A) separate front display unit (1) from bracket (2).



INSTALLATION

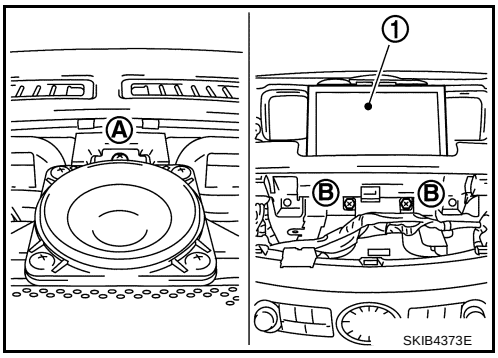
Installation is the reverse order of removal.

Front Display Unit (BOSE System)

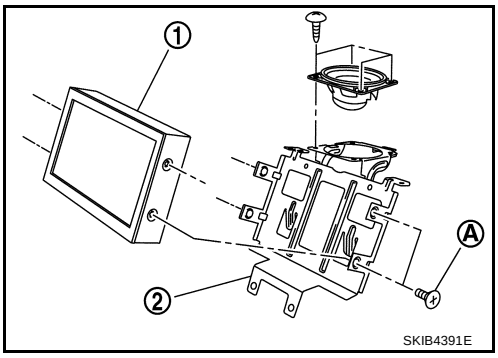
NKS0049W

REMOVAL

1. Remove upper ventilator grille. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY" .
2. Remove multifunction switch. Refer to ATC-124, "Removal and Installation of Multifunction Switch" .
3. Remove screw (A).
4. Remove screws (B) and disconnect connector, and remove display (1).



5. Remove screws (A) separate front display (1) unit from bracket (2).



INSTALLATION

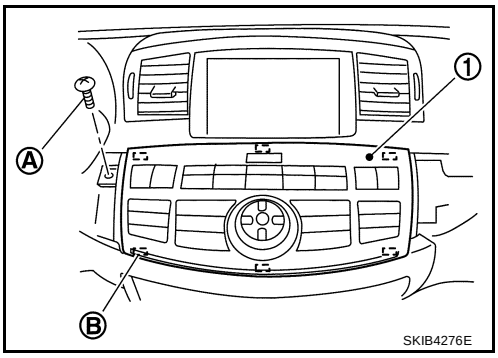
Installation is the reverse order of removal.

Multifunction Switch

NKS0049X

REMOVAL

1. Remove instrument panel finisher B and C. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY" .
2. Remove screw (A).
3. Disengage tabs (B) and connector to separate multifunction switch (1) from instrument panel.



INSTALLATION

Installation is the reverse order of removal.

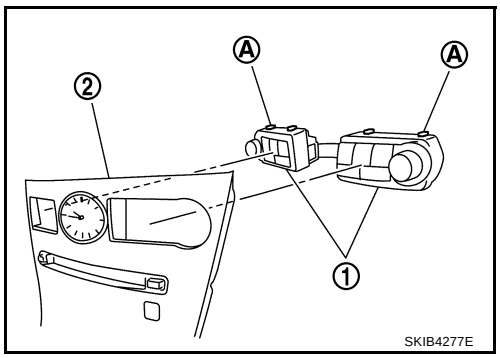
Preset Switch

NKS0049Y

REMOVAL

1. Remove cluster lid C. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY" .

2. Disengage tabs (A) to separate preset switch (1) from cluster lid C (2).



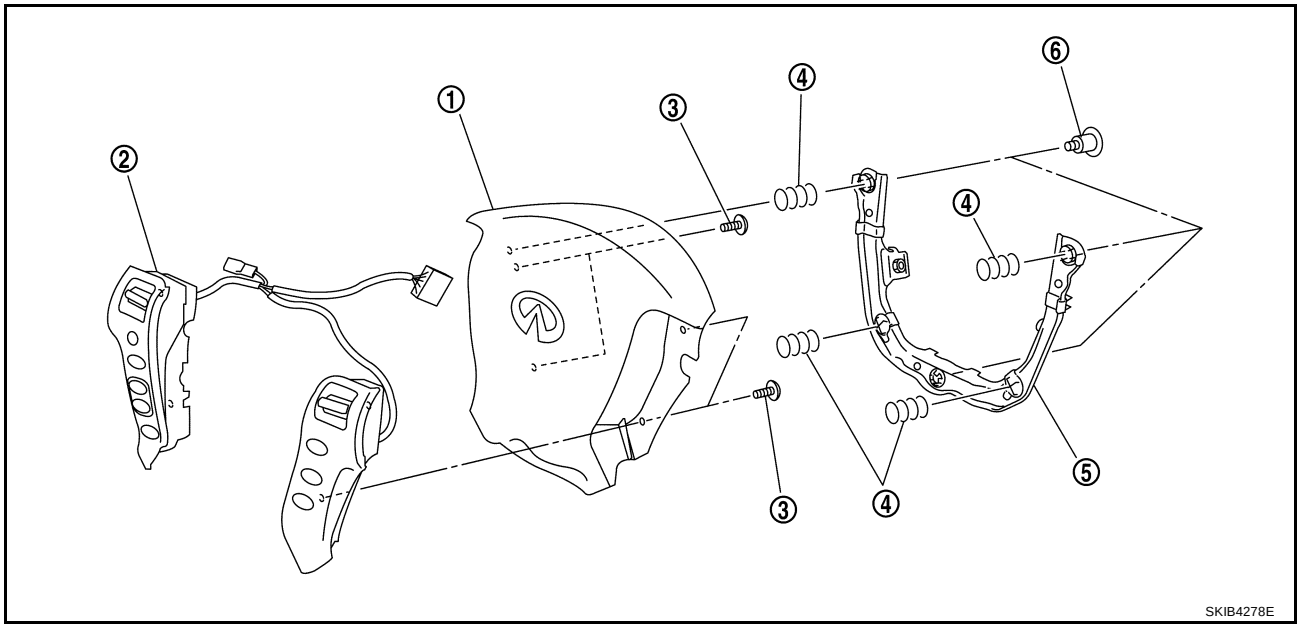
INSTALLATION

Installation is the reverse order of removal.

Steering Switch

NKS0049Z

REMOVAL



1. Air bag	2. Steering switch	3. Screw
4. Spring	5. Bracket	6. Screw

1. Refer to SRS-38, "DRIVER AIR BAG MODULE" .

INSTALLATION

Installation is the reverse order of removal.

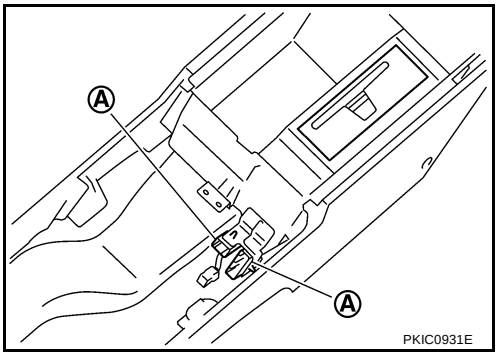
DVD Player

NKS004A0

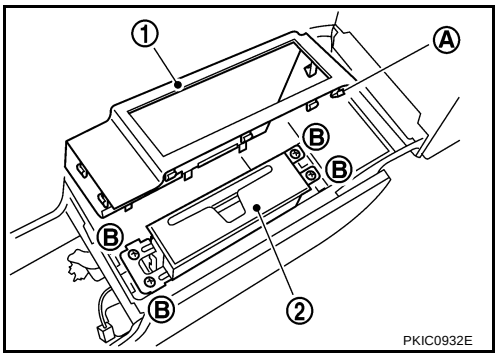
REMOVAL

1. Remove cup holder. Refer to IP-11, "Removal and Installation of Instrument Panel & Pad" .
2. Disconnect sub harness connector.

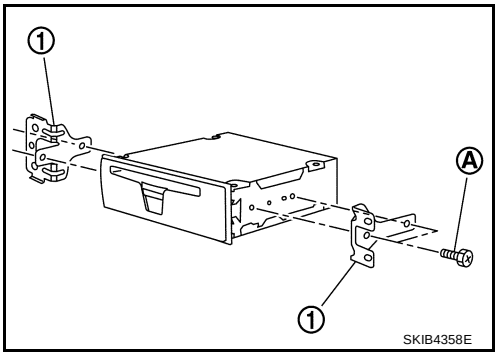
3. Remove sub harness connectors (A) from bracket.



4. Remove metal clips (A) and 8 pawls. Then remove DVD player cover (1).
5. Remove screws (B) and remove DVD player (2).



6. Remove screws (A) and remove brackets (1).



INSTALLATION

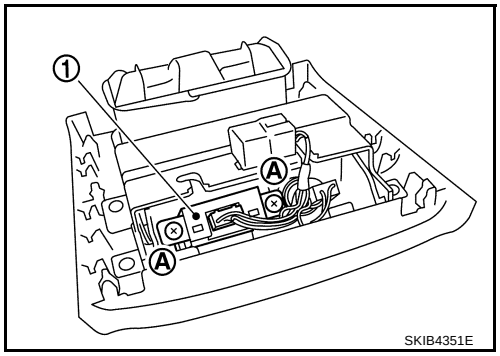
Installation is the reverse order of removal.

Auxiliary Input Jacks

NKS004A1

REMOVAL

1. Remove center console rear finisher. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY" .
2. Remove screws (A) and disconnect connector. Remove auxiliary input jacks (1) from center console rear finisher.



INSTALLATION

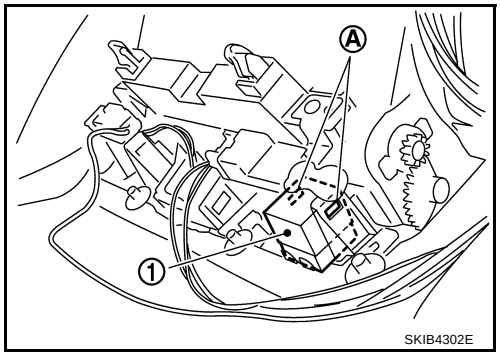
Installation is the reverse order of removal.

Microphone

NKS004A2

REMOVAL

1. Remove front pillar garnish. Refer to EI-37, "BODY SIDE TRIM" .
2. Remove sun-visor and sun-visor holder. Refer to EI-52, "HEADLINING" .
3. Remove dual-sunvisor. Refer to EI-52, "HEADLINING" .
4. Remove assistance grip (front). Refer to EI-52, "HEADLINING" .
5. Bear down headlining assembly (front) to obtain work space between headlining assembly and vehicle.
6. Disengage tabs (A) and connector to separate microphone unit (1).



INSTALLATION

Installation is the reverse order of removal.

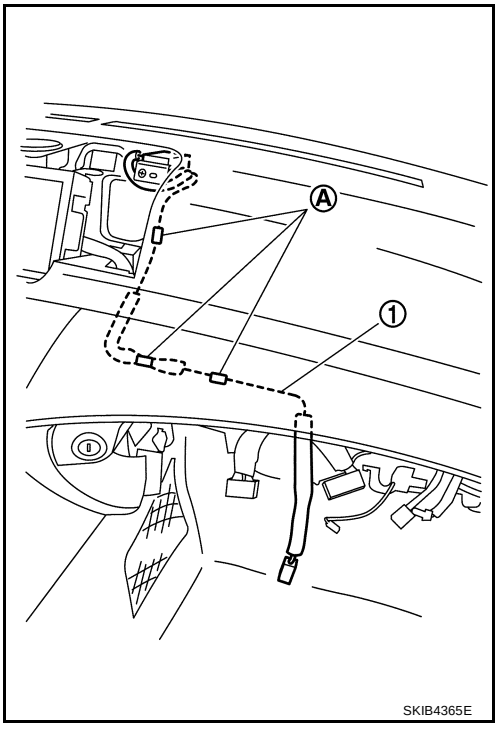
GPS Antenna

NKS004A3

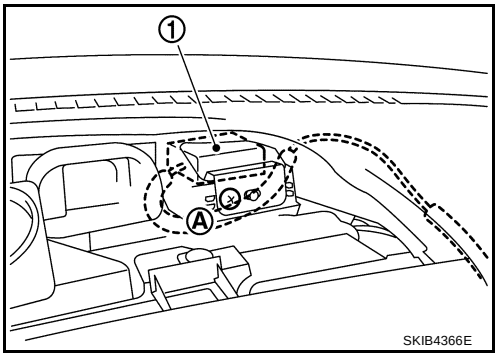
REMOVAL

1. Remove NAVI control unit. Refer to AV-135, "AV (NAVI) Control Unit" .
2. Remove upper ventilator grille. Refer toIP-10, "INSTRUMENT PANEL ASSEMBLY" .

3. Remove clips (A) and remove antenna feeder (1) from instrument panel and pad.



4. Remove screw (A) and remove GPS antenna (1).



INSTALLATION

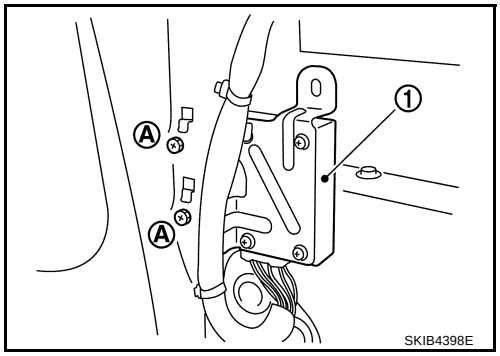
Installation is the reverse order of removal.

Camera Control Unit

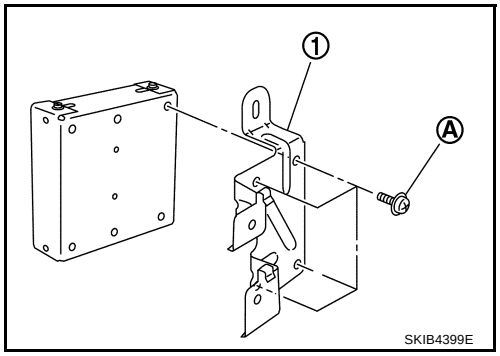
NKS004A4

REMOVAL

1. Remove trunk side finisher (RH). Refer to EI-56, "Removal and Installation for Trunk Room Trim" .
2. Remove screws (A) and disconnect connector, and remove rear view camera control unit (1).



3. Remove screws (A) and remove bracket (1).



INSTALLATION

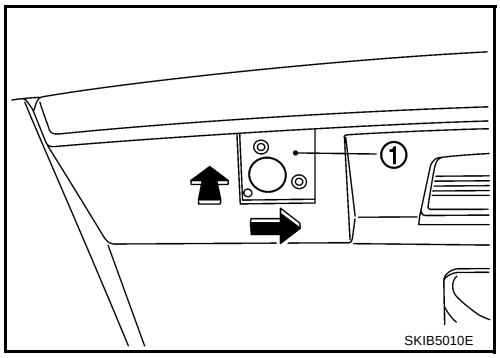
Installation is the reverse order of removal.

Rear View Camera

NKS004A5

REMOVAL

1. Remove trunk lid finisher inner. Refer to EI-56, "TRUNK ROOM TRIM & TRUNK LID FINISHER" .
2. Remove screws attaching camera and camera bracket.
3. Remove connector and connector clip.
4. Remove camera bracket (1) while pushing right direction of vehicle.



INSTALLATION

1. Install rear view camera and camera bracket while pressing to trunk room side.
2. Install connector and connector clip.
3. Install trunk lid finisher inner.

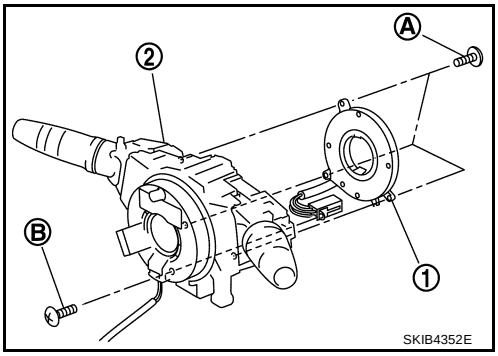
Steering Angle Sensor

NKS004A6

REMOVAL

1. Remove combination switch. Refer to SRS-40, "SPIRAL CABLE" .

2. Remove screws (A) and remove connector mount screw (B).
3. Remove steering angle sensor (1) from combination switch (2).



INSTALLATION

Installation is the reverse order of removal.

CAUTION:

Insert the projection area, and install steering wheel angle sensor while fitting adjusting the triangle marks (Larger mark should be upward.).

PRECAUTION

PFP:00011

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

NKS004A7

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.**

Precautions for Trouble Diagnosis

NKS004A8

AV COMMUNICATION SYSTEM

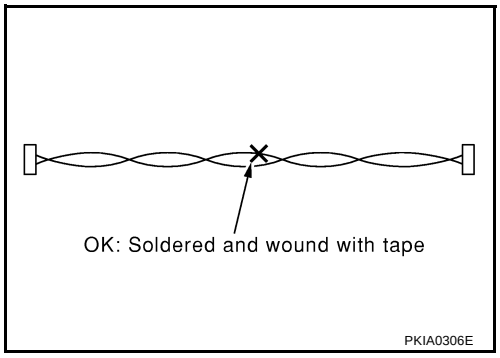
- Do not apply voltage of 7.0 V or higher to the measurement terminals.
- Use the tester with its open terminal voltage being 7.0 V or less.
- Be sure to turn ignition switch OFF and disconnect the battery cable from the negative terminal before checking the circuit.

Precautions for Harness Repair

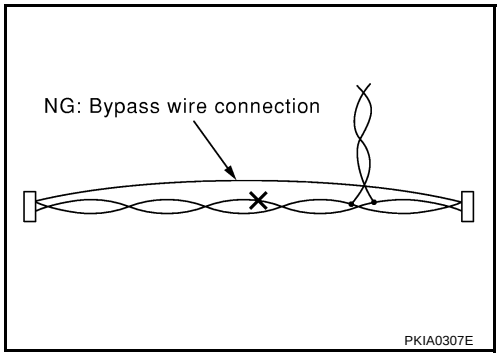
NKS004A9

AV COMMUNICATION SYSTEM

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



- Do not perform bypass wire connections for the repair parts. (The spliced wire will become separated and the characteristics of twisted line will be lost.)

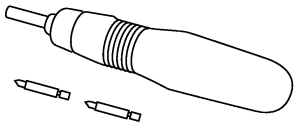


PREPARATION

PFP:00002

Commercial Service Tools

NKS004AA

Tool name	Description
Power tool  PBIC0191E	Loosening bolts and nuts

SYSTEM DESCRIPTION

PFP:00000

System Functions

NKS004AB

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

AUDIO

AudioPilot® (for BOSE System)

AudioPilot® is the sound improving system that picks up any noises and the sound of music coming into the vehicle by a microphone under the steering, and that the BOSE amp revises the frequency feature of music at real time in response to the frequency feature of the noise while driving and listening to music.

- If low frequency area noise from vehicle is loud, it adjusts low frequency element of music to be bigger than vehicle noise.
- If high frequency area noise from vehicle is loud, it adjusts all frequency element of music to be bigger than vehicle noise.

Centerpoint® (for BOSE Surround 5.1ch System)

CD and 2.0ch DVD stereo sound played at audio unit and DVD player are subjected to signal processing in BOSE amp. It can play the surround sound with presence.

VEHICLE INFORMATION SYSTEM

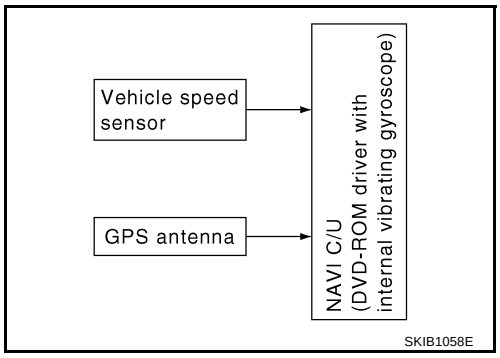
- The status of audio, climate control system, fuel consumption, and navigation system (if equipped) are displayed.
- AV (NAVI) control unit receives the data signal from ECM, unified meter and A/C amp and low tire pressure warning control unit via CAN communication. It calculates the values of fuel economy, tire pressure, and trip computer from the received information and displays them.

NAVIGATION SYSTEM

Location Detection Principle

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

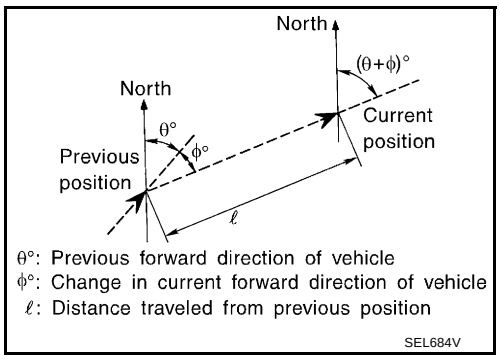
- Travel distance of the vehicle as determined by the vehicle speed sensor
- Turning angle of the vehicle as determined by the gyroscope (angular velocity sensor)
- Direction of vehicle travel as determined by the GPS antenna (GPS information)



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

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

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



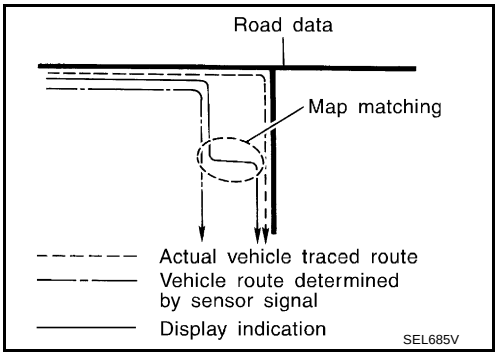
Type	Advantage	Disadvantage
Gyroscope (angular velocity sensor)	Can detect the vehicle's turning angle quite accurately.	Direction errors may accumulate when vehicle is driven for long distances without stopping.
GPS antenna (GPS information)	Can detect the vehicle's travel direction (North/South/East/West).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

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

Map-Matching

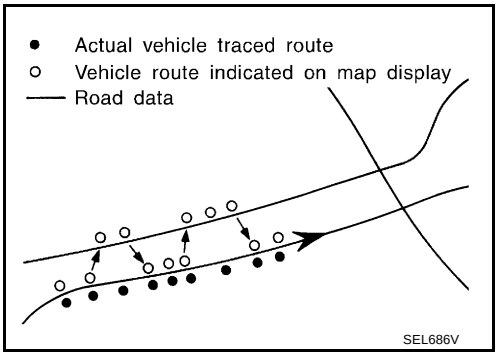
Map-matching compares a current location detected by the method in the “Location Detection Principle” with a road map data from Map DVD-ROM stored in DVD-ROM drive.

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

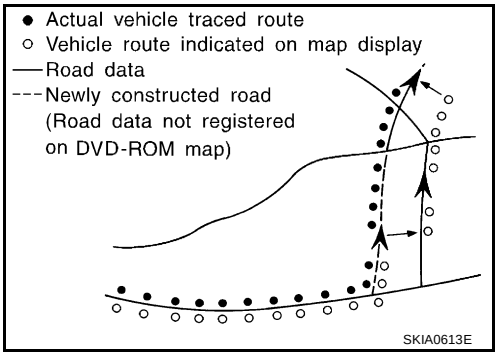


The vehicle position may not be corrected under the following circumstances and after driving for a certain time when GPS information is difficult to receive. In this case, the vehicle mark on the display must be corrected manually.

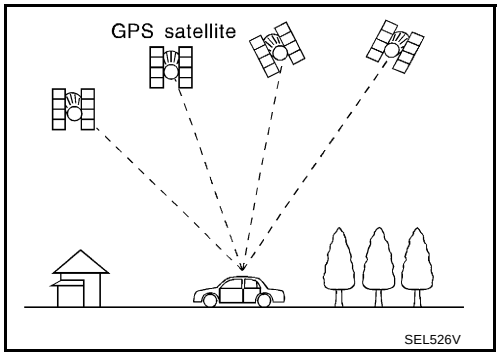
- In map-matching, alternative routes to reach the destination will be shown and prioritized, after the road on which the vehicle is currently driven has been judged and the vehicle mark has been repositioned.
  If there is an error in distance and/or direction, alternative routes will be shown in different 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 vehicle mark may appear on either of them alternately, depending on maneuvering of the steering wheel and configuration of the road.



- Map-matching does not function correctly when a road on which the vehicle is driving is new and not recorded in the map DVD-ROM, or when road pattern stored in the map data and the actual road pattern are different due to repair.
  When driving on a road not present in the map, the map-matching function may find another road and position the vehicle mark on it. Then, when the correct road is detected, the vehicle 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 21,000 km (13,100miles).
The GPS receiver calculates the vehicle's position in three dimensions (latitude/longitude/altitude) according to the time lag of the radio waves received from four or more GPS satellites (three-dimensional positioning). 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 10 m (30ft).
- Because the signals of GPS satellite is controlled by the Tracking and Control Center in the United States, the accuracy may be degraded lower intentionally or the radio waves may stop.

MOBILE ENTERTAINMENT SYSTEM

- The wireless headphone has been adopted to the rear seat. It is possible to listen to a separate sound in front seat and rear seat and to see a separate image in front display and rear display.
- When headphone mode is turned ON at radio/CD changer mode, AUX or DVD mode is turned ON only for rear seat. The image that is different from front seat is displayed and a separate sound is output from speaker and headphone.

HANDS-FREE PHONE

- AV (NAVI) control unit has a Bluetooth module. It can perform wireless hands-free telephone calls using the portable phone in a pocket.
- 5 or more portable phones can be registered into the AV (NAVI) control unit.

REAR VIEW MONITOR

- The small CCD camera is equipped into the rear end of the vehicle. The rear view monitor that displays the area behind the vehicle while backing up is equipped.
- Guiding lines indicating side and rear clearances are provided in the rear view monitor image, which allows the driver to more easily judge distances between the vehicle and objects in the display. The possible route lines that indicate the possible route according to the steering angle are provided to help backing up when parking.
- Image quality of the rear view image and of the navigation screen can be adjusted separately.

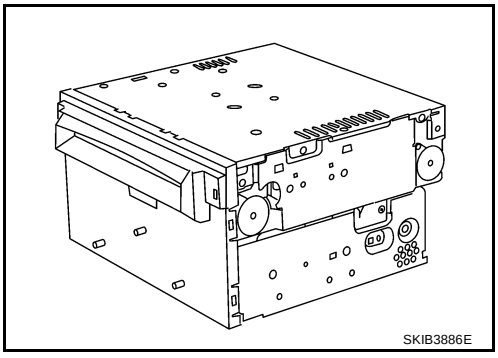
Component Description

NKS004AC

AUDIO UNIT

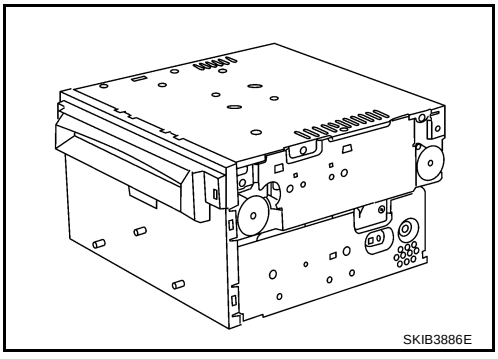
BOSE 2ch System

- It receives the TEL voice signal from AV (NAVI) control unit and output it to the BOSE amp.
- It receives the sound signal from DVD player and sends it to the BOSE amp.
- It controls sound volume of each speaker when outputting TEL voice and voice guidance.
- It subjects to AudioPilot® processing when receiving sound signal from microphone for AudioPilot® .


SKIB3886E

BOSE Surround 5.1ch System

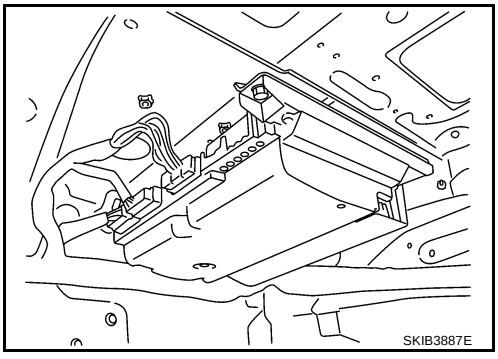
- It receives the TEL voice signal from AV (NAVI) control unit and output it to the BOSE amp.
- DVD player receives the received AUX sound and the downmix sound of DVD player, and then sends them to the BOSE amp.


SKIB3886E

BOSE AMP

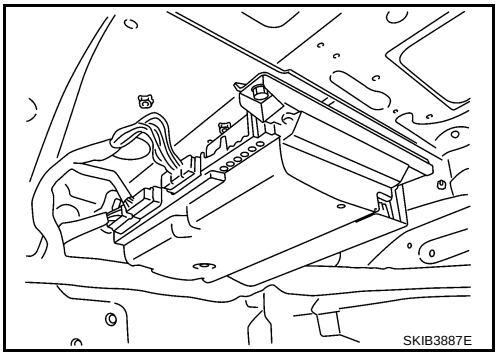
BOSE 2ch System

- It amplifies the sound signal from the audio unit and output it to each speaker.
- It receives the voice guidance signal from AV (NAVI) control unit and output it to the front speaker.
- It controls sound volume of each speaker when outputting TEL voice and voice guidance.
- It subjects to AudioPilot® processing when receiving sound signal from microphone for AudioPilot® .


SKIB3887E

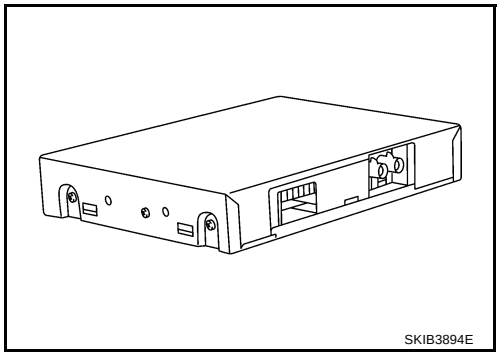
BOSE Surround 5.1ch System

- It amplifies the sound signal from the audio unit and the DVD sound signal from DVD player, and then output them to each speaker.
- It receives the voice guidance signal from AV (NAVI) control unit and output it to the front speaker.
- It controls sound volume of each speaker when outputting TEL voice and voice guidance.
- It subjects to AudioPilot® processing when receiving sound signal from microphone for AudioPilot® .
- It subjects to Centerpoint® processing.


SKIB3887E

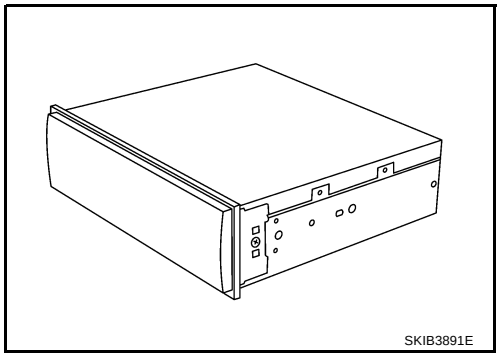
SATELLITE TUNER

- The satellite tuner is connected with the audio unit via communication line.
- It sends the received sound signal from the satellite radio antenna to the audio unit.


SKIB3894E

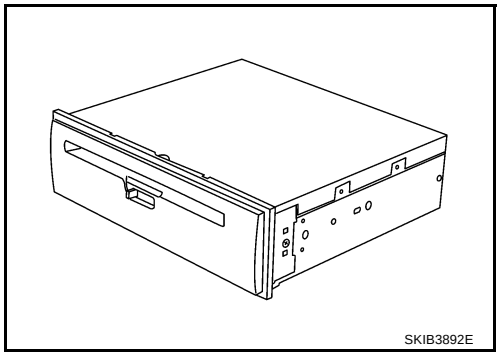
AV CONTROL UNIT (WITHOUT NAVI)

- It controls each unit of the system by the operation signal from the multifunction switch and sends the image signal of operating condition or vehicle information, etc. to the display unit.
- It receives the TEL input voice or the input voice at voice control from the microphone. It receives the received TEL voice, and then sends it to the audio unit.
- It sends the voice guidance signal to BOSE amp (BOSE system).


SKIB3891E

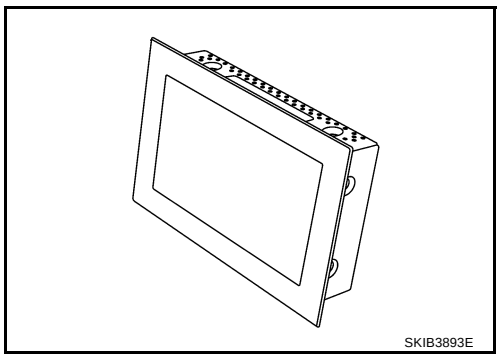
NAVI CONTROL UNIT (WITH NAVI)

- It controls each unit of the system by the operation signal from the multifunction switch and sends the image signal of operating condition or vehicle information, etc. to the display unit.
- It receives the TEL input voice or the input voice at voice control from the microphone. It receives the received TEL voice, and then sends it to the audio unit.
- The gyro (angle speed sensor) and the DVD-ROM drive are built-in units that control the navigation functions.
- Signals are received from the gyro, the vehicle speed sensor, and the GPS antenna. Vehicle location is determined by combining this data with the data contained in the DVD-ROM map. Location information is shown on liquid crystal display panel.


SKIB3892E

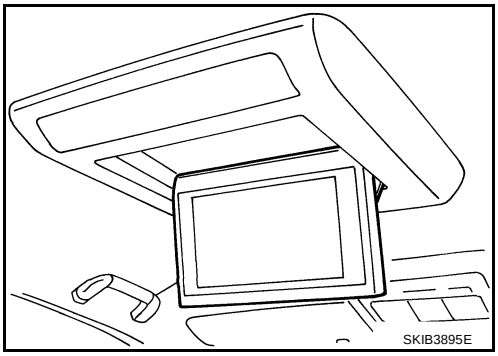
FRONT DISPLAY UNIT

- It receives the RGB signal and the image signal of video distributor and camera control unit from AV (NAVI) control unit.
- The changing of image is controlled by the communication with AV (NAVI) control unit.


SKIB3893E

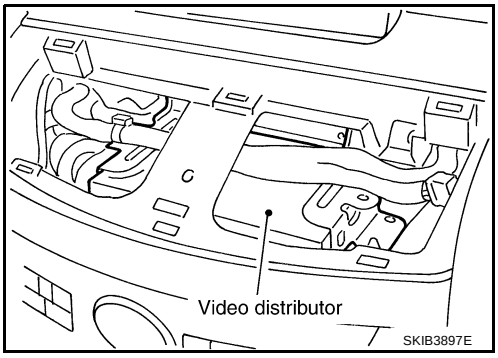
REAR DISPLAY UNIT

- It receives the image signal from the video distributor.
- The changing of image is controlled by the communication with video distributor.
- It receives the operation signal from remote control, and then sends it to the video distributor.



VIDEO DISTRIBUTOR

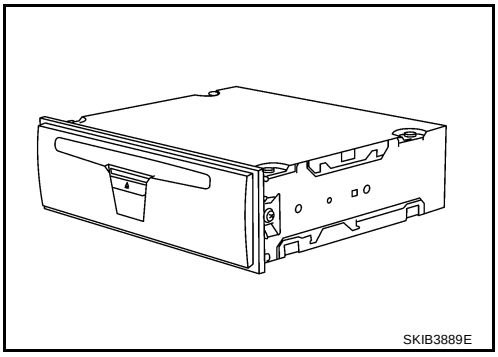
- It receives the image signal from the AV (NAVI) control unit, DVD player, and auxiliary input jack, and then sends it to the front display and rear display.
- It supplies the power to the remote control receiver, and then receives the operation signal from the remote control receiver.
- It sends ON signal to headphone amp.



DVD PLAYER

BOSE 2ch System

- It sends the sound signal when playing DVD to the audio unit, headphone amp, and then it sends the image signal to the video distributor.
- It inputs the sound signal from auxiliary input jacks, and then sends it to audio unit, headphone amp.

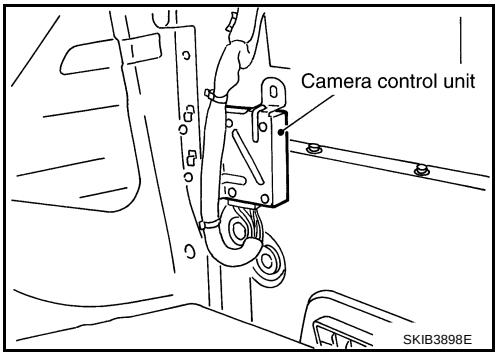


BOSE Surround 5.1ch System

- It sends the sound signal when playing DVD to the BOSE amp, headphone amp, and then it sends the image signal to the video distributor.
- When the downmix function is turned ON when playing DVD, the sound signal is sent to the audio unit.
- It inputs the sound signal from auxiliary input jacks, and then sends it to audio unit, headphone amp.

CAMERA CONTROL UNIT

- When the reverse signal is input, the power is supplied to the rear view camera, and then the image signal from the rear view camera is sent to the display unit.
- The camera control unit displays the guiding lines and possible route lines, and then it synthesizes them to the camera image.



CAN Communication System Description

NKS004AD

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

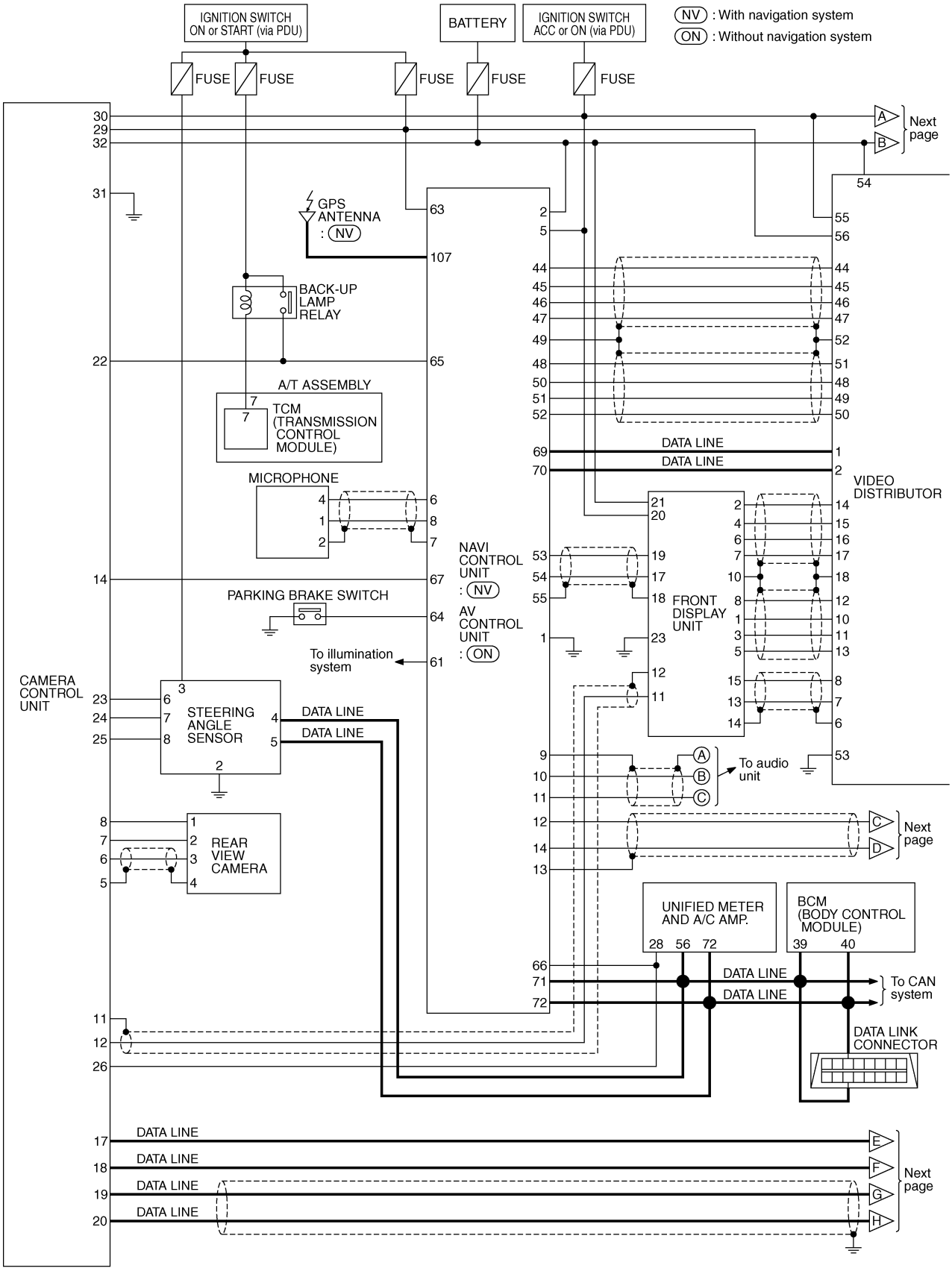
CAN Communication Unit

NKS004AE

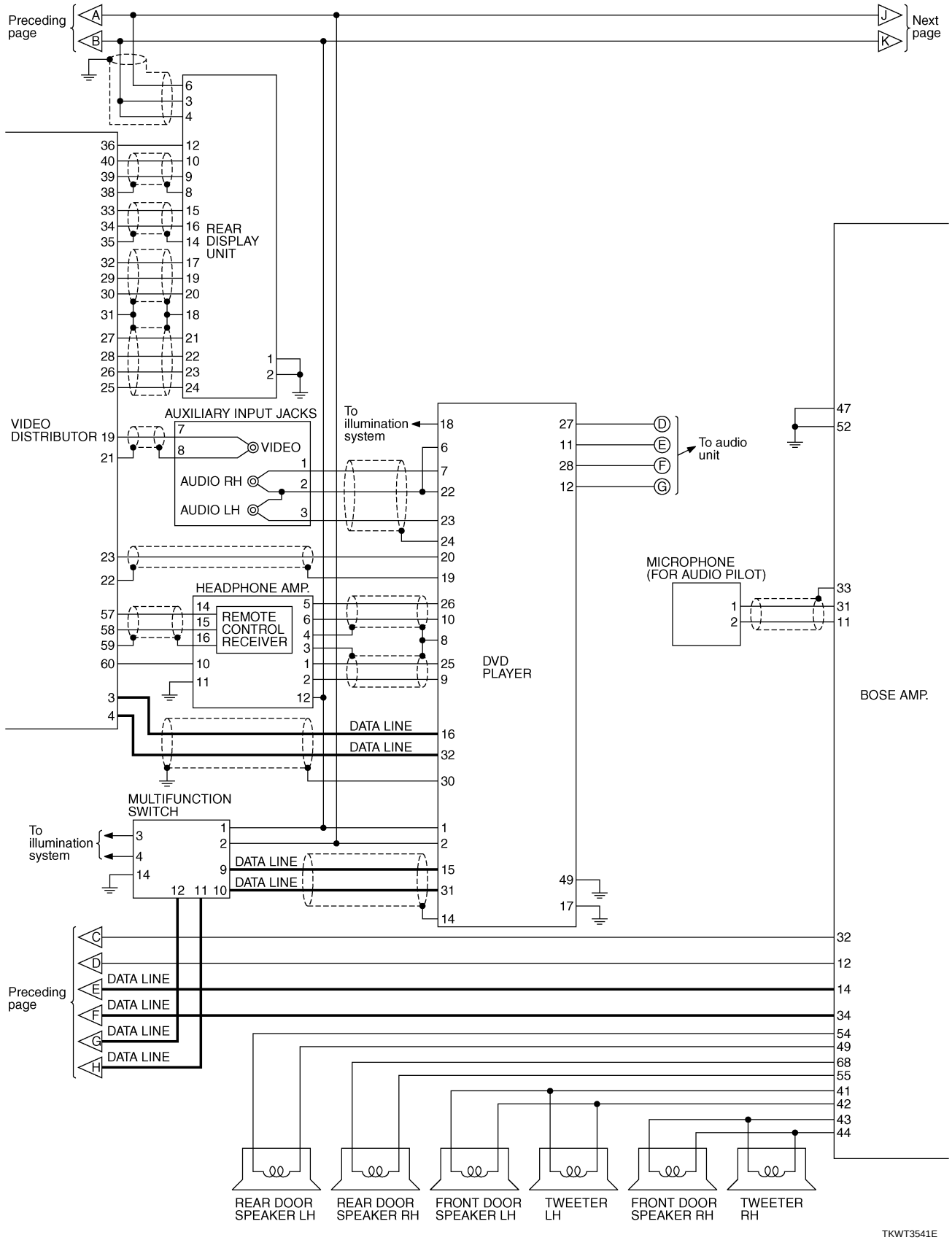
Refer to LAN-34, "CAN Communication Unit" .

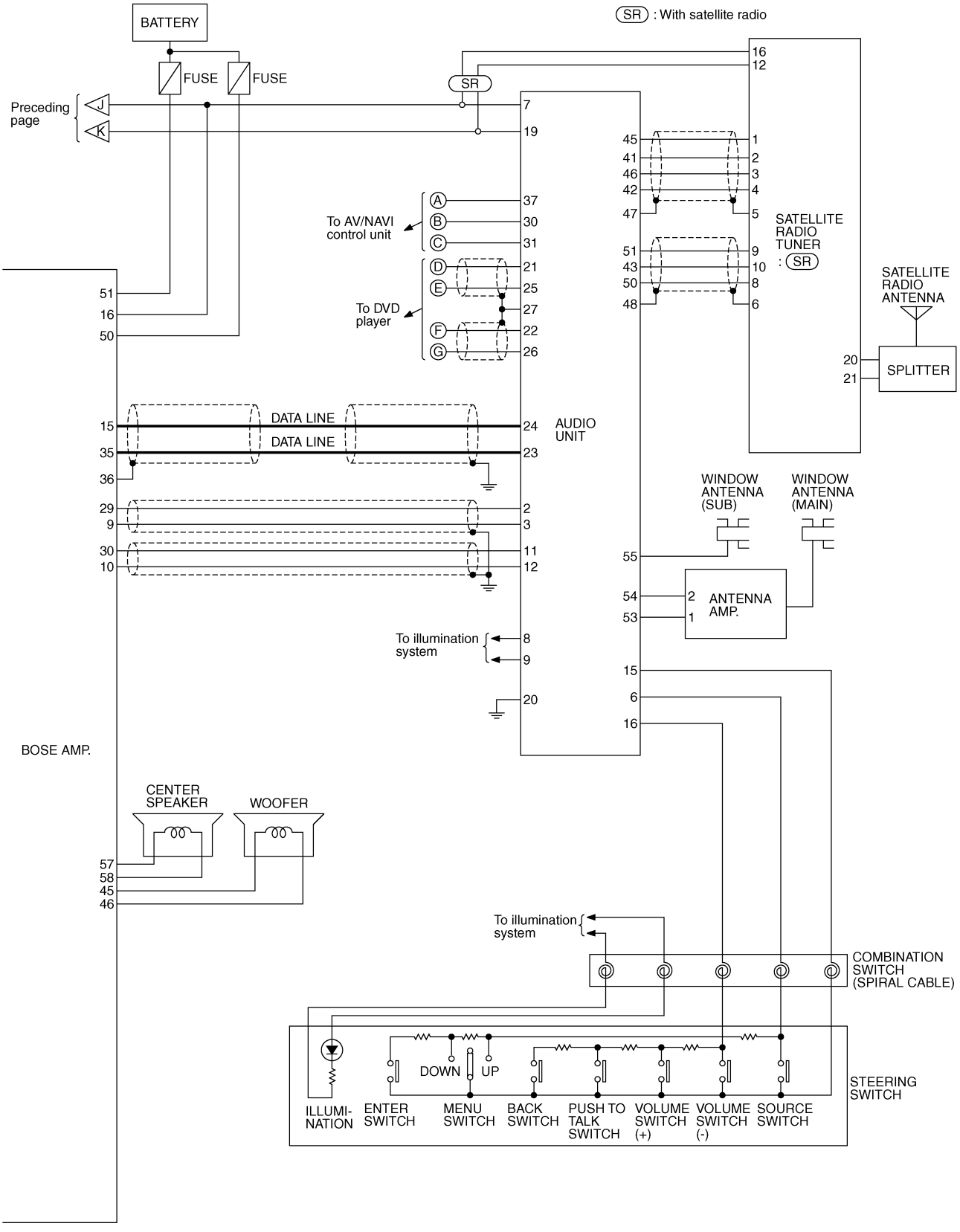
Schematic — BOSE Audio 2ch System —

NKS004AF



TKWT3540E

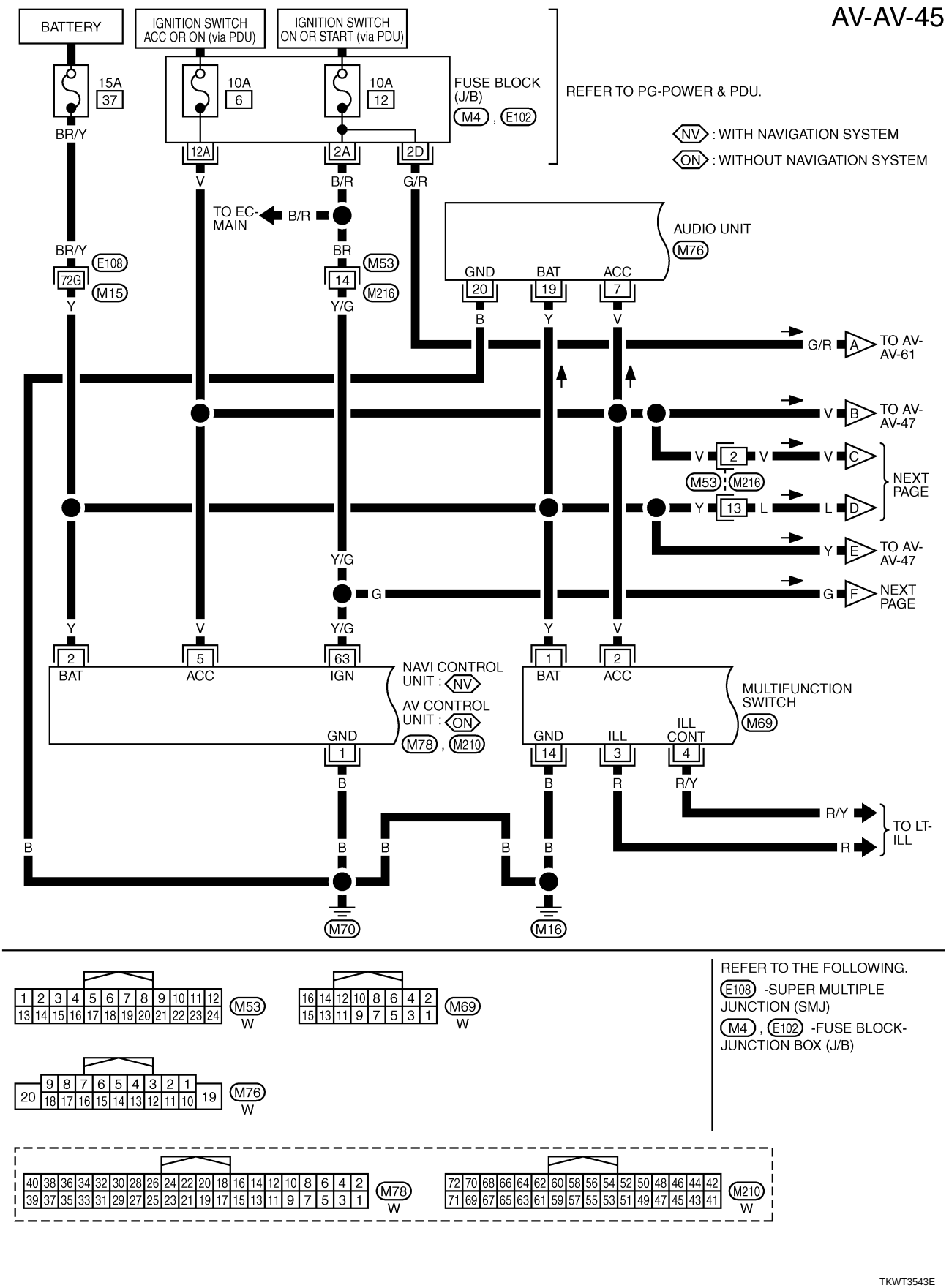

Preceding page
Next page
REAR DISPLAY UNIT
AUXILIARY INPUT JACKS
VIDEO DISTRIBUTOR
VIDEO
AUDIO RH
AUDIO LH
To illumination system
To audio unit
HEADPHONE AMP.
REMOTE CONTROL RECEIVER
DVD PLAYER
MICROPHONE (FOR AUDIO PILOT)
BOSE AMP.
MULTIFUNCTION SWITCH
DATA LINE
REAR DOOR SPEAKER LH
REAR DOOR SPEAKER RH
FRONT DOOR SPEAKER LH
TWEETER LH
FRONT DOOR SPEAKER RH
TWEETER RH
TKWT3541E


SR : With satellite radio
BATTERY
FUSE
FUSE
Preceding page
J
K
SR
16
12
7
19
45
41
46
42
47
1
2
3
4
5
SATELLITE RADIO TUNER : SR
51
43
50
48
9
10
8
6
SATELLITE RADIO ANTENNA
20
21
SPLITTER
To AV/NAVI control unit
A
B
C
37
30
31
To DVD player
D
E
F
G
21
25
27
22
26
51
16
50
15
35
36
DATA LINE
DATA LINE
24
23
AUDIO UNIT
29
9
30
10
2
3
11
12
WINDOW ANTENNA (SUB)
WINDOW ANTENNA (MAIN)
55
54
53
2
1
ANTENNA AMP.
To illumination system
8
9
20
15
6
16
BOSE AMP.
CENTER SPEAKER
WOOFER
57
58
45
46
To illumination system
COMBINATION SWITCH (SPIRAL CABLE)
STEERING SWITCH
DOWN
UP
ILLUMI-NATION
ENTER SWITCH
MENU SWITCH
BACK SWITCH
PUSH TO TALK SWITCH
VOLUME SWITCH (+)
VOLUME SWITCH (-)
SOURCE SWITCH

TKWT3542E

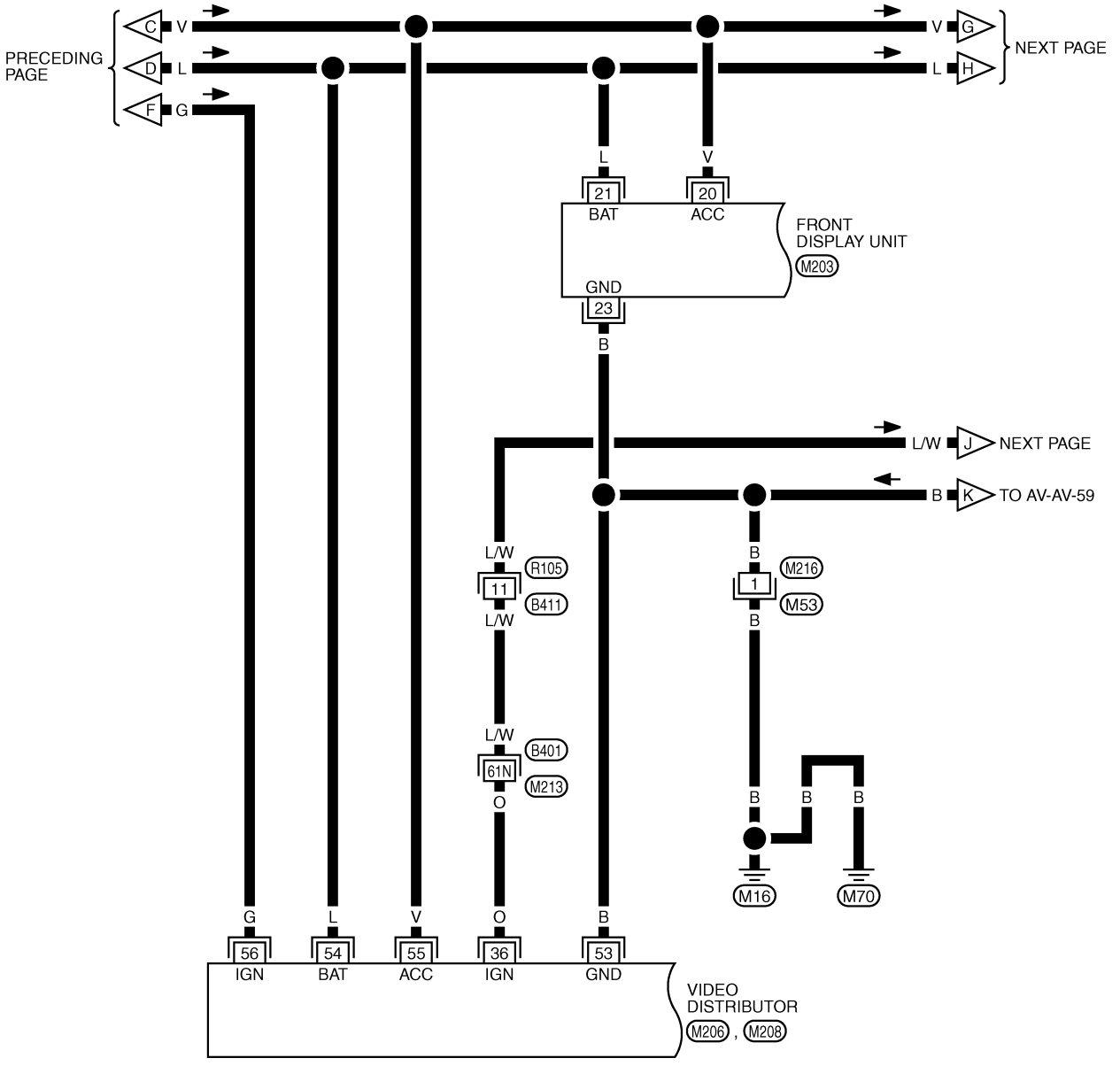
Wiring Diagram — AV — / BOSE Audio 2ch System

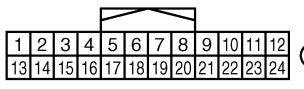
NKS004AG

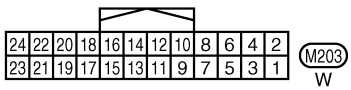


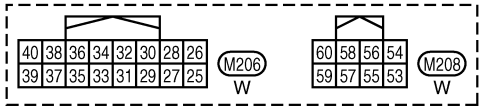
TKWT3543E

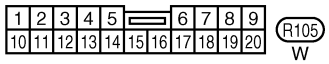
AV-AV-46







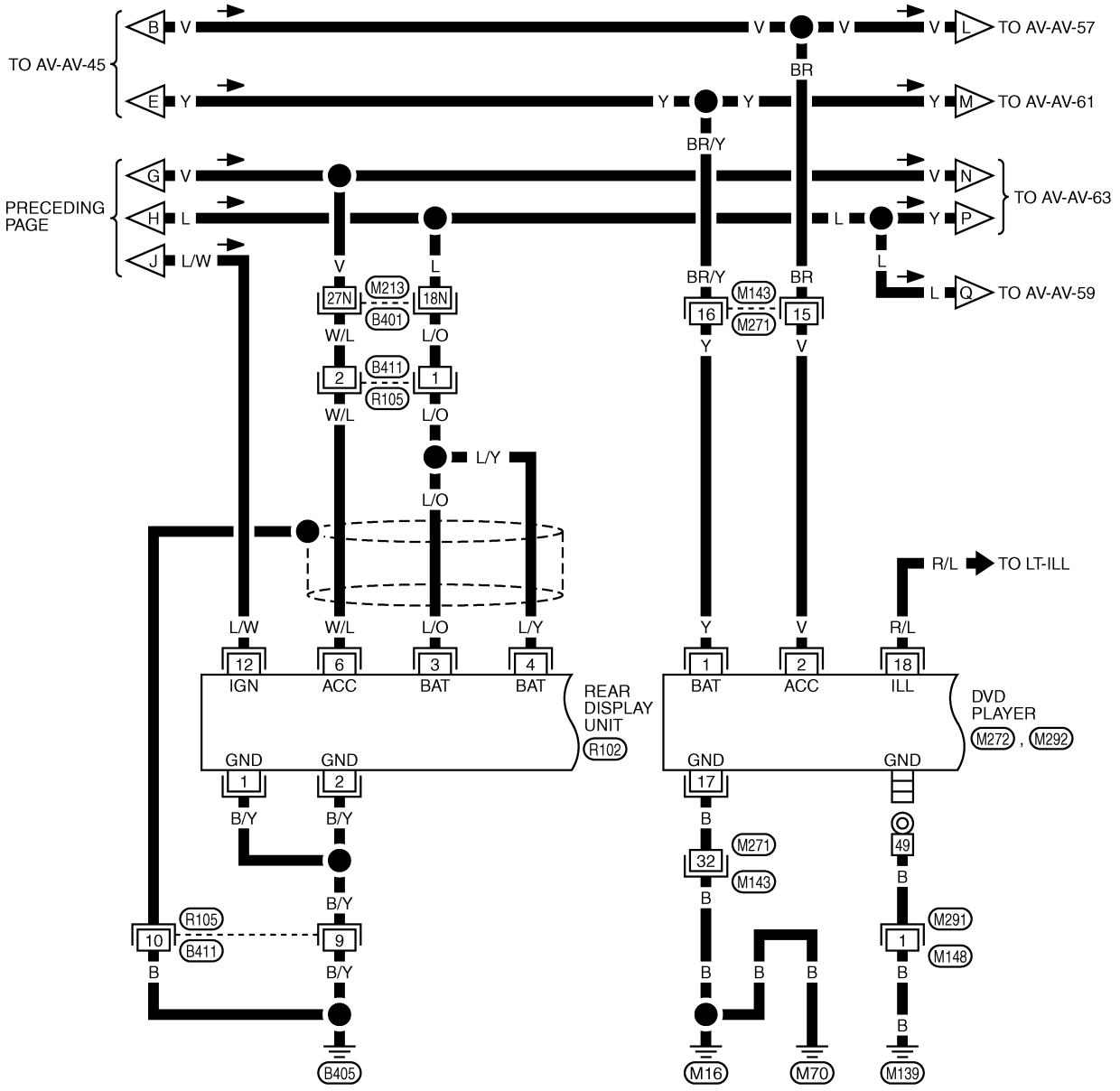


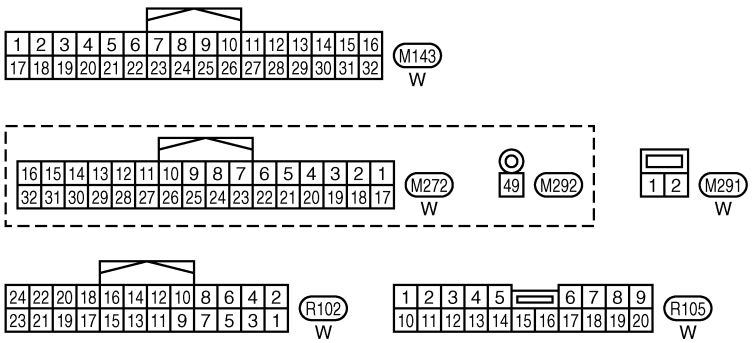


REFER TO THE FOLLOWING.
B401 -SUPER MULTIPLE JUNCTION (SMJ)

TKWT3544E

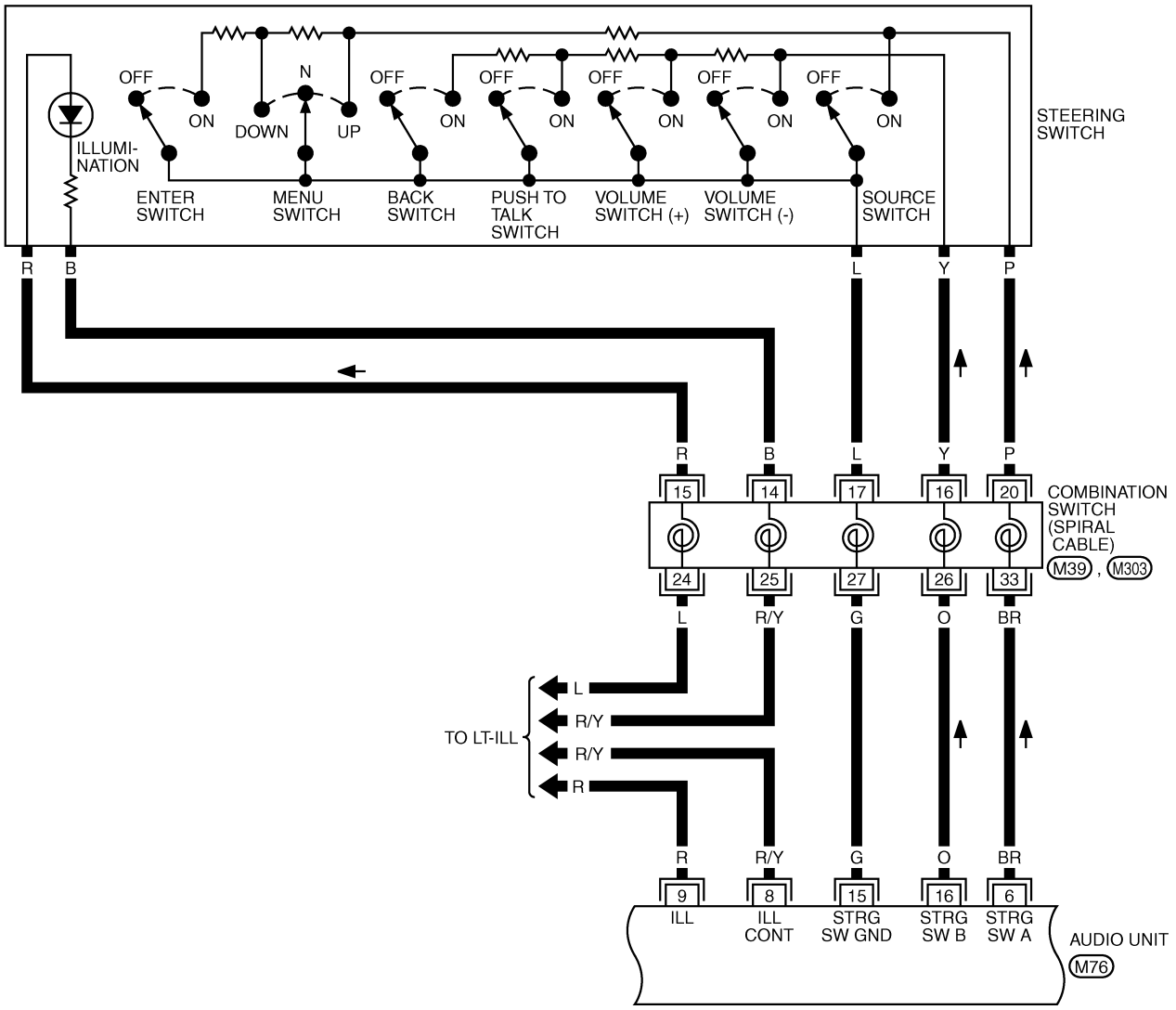
AV-AV-47

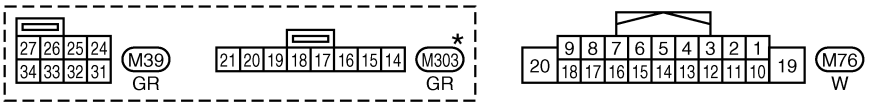




REFER TO THE FOLLOWING.
B401 -SUPER MULTIPLE JUNCTION (SMJ)

TKWT3545E

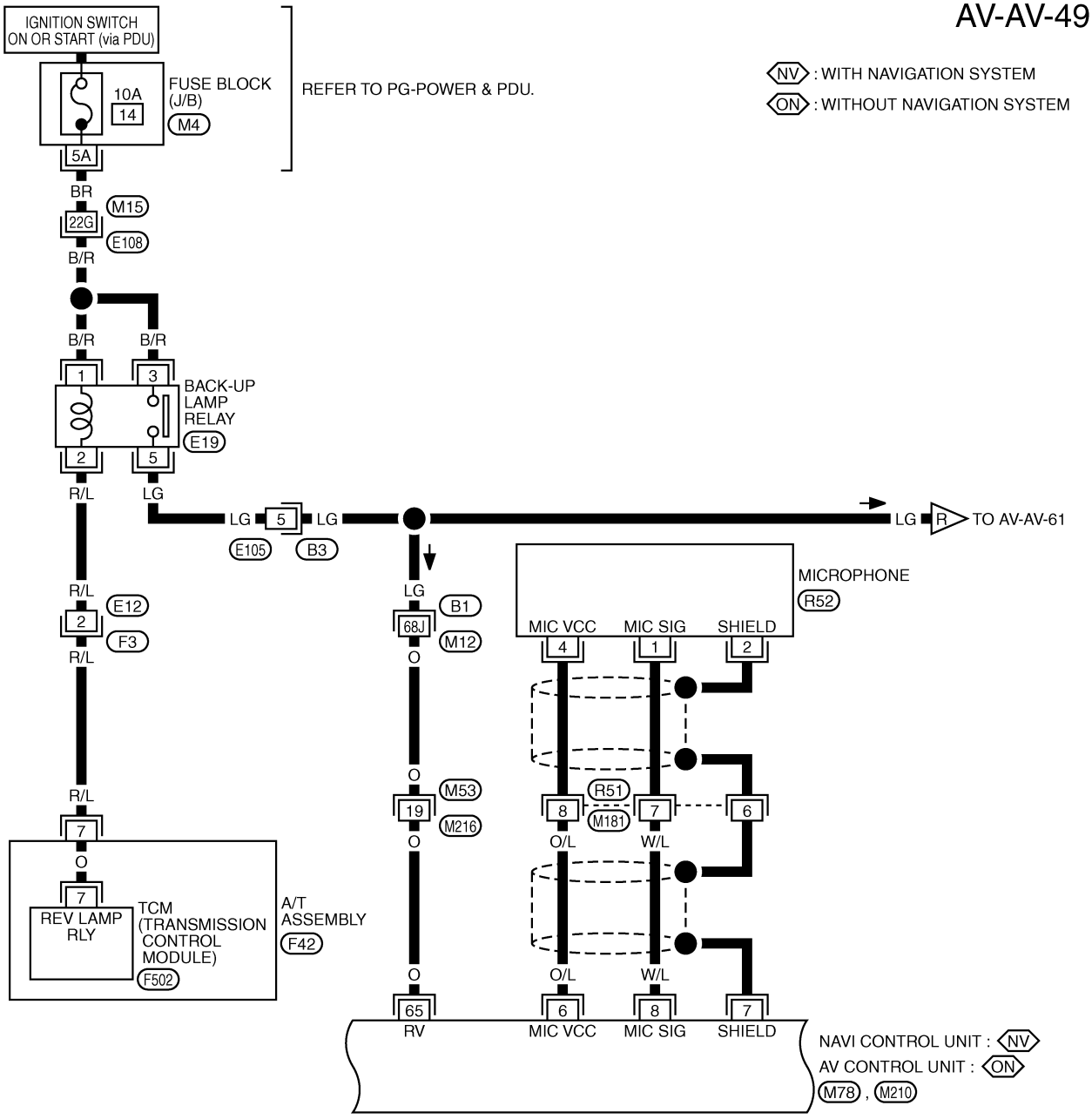


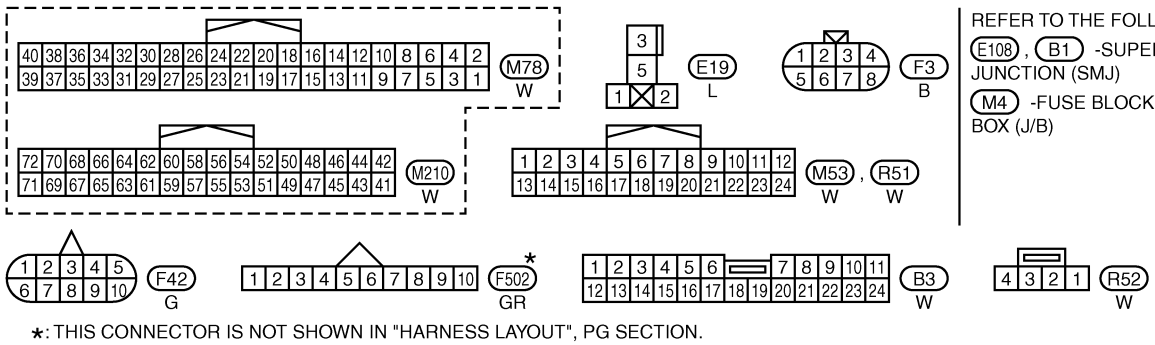


*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

TKWT3546E

AV-AV-49

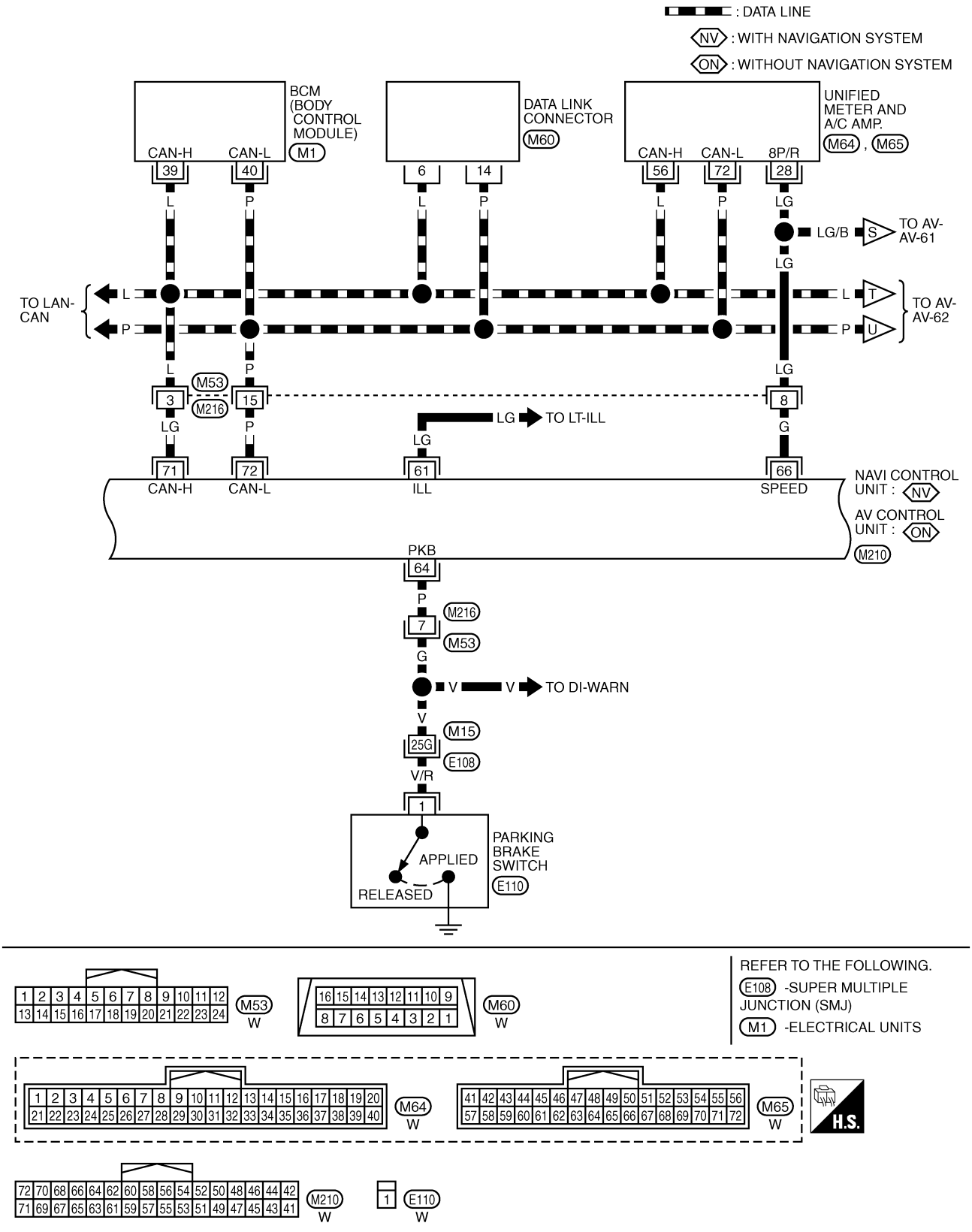




*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

TKWT3547E

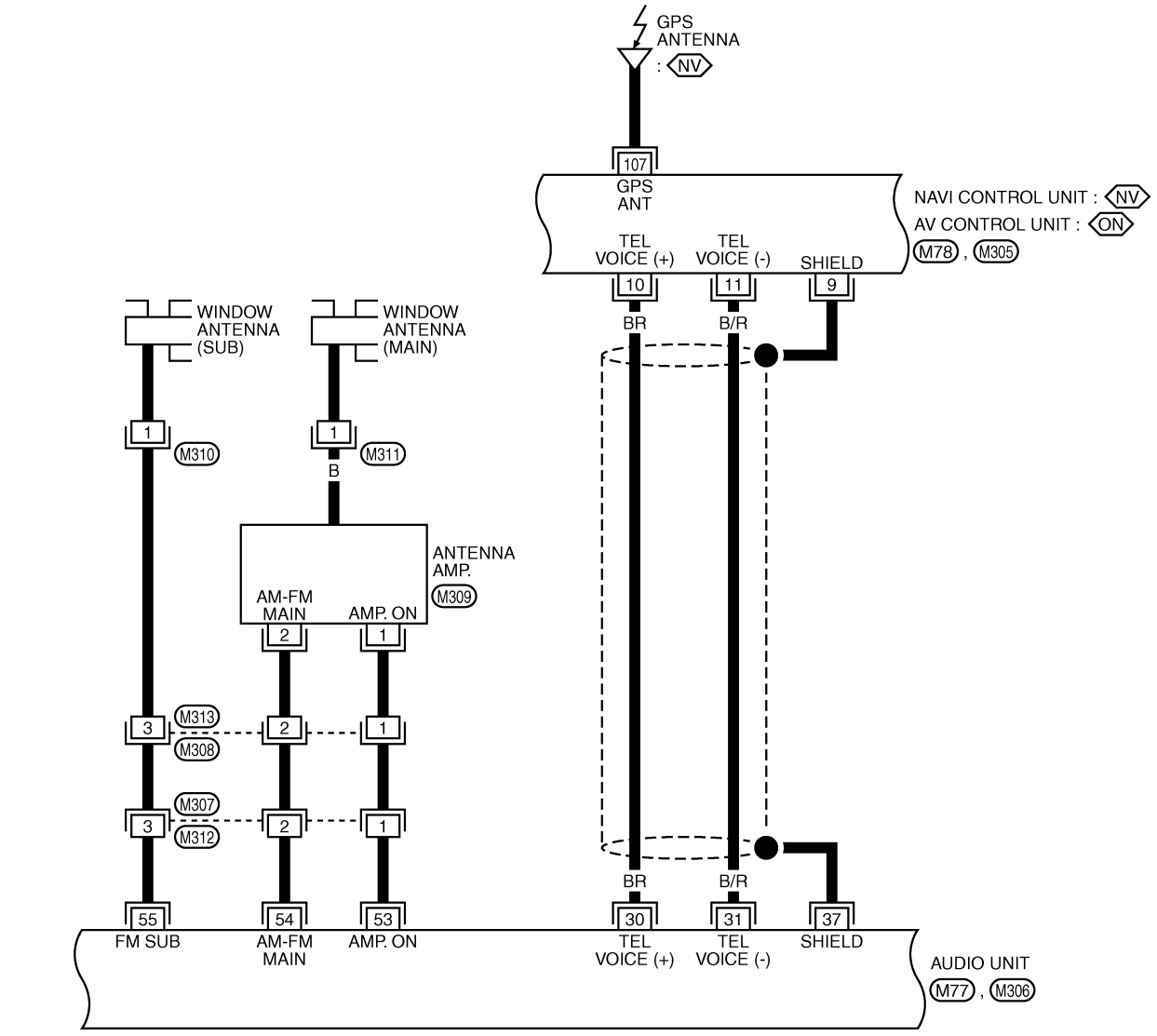
AV-AV-50

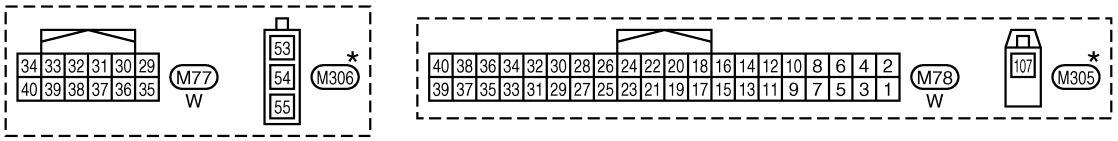


TKWT3548E

AV-AV-51

NV : WITH NAVIGATION SYSTEM
ON : WITHOUT NAVIGATION SYSTEM

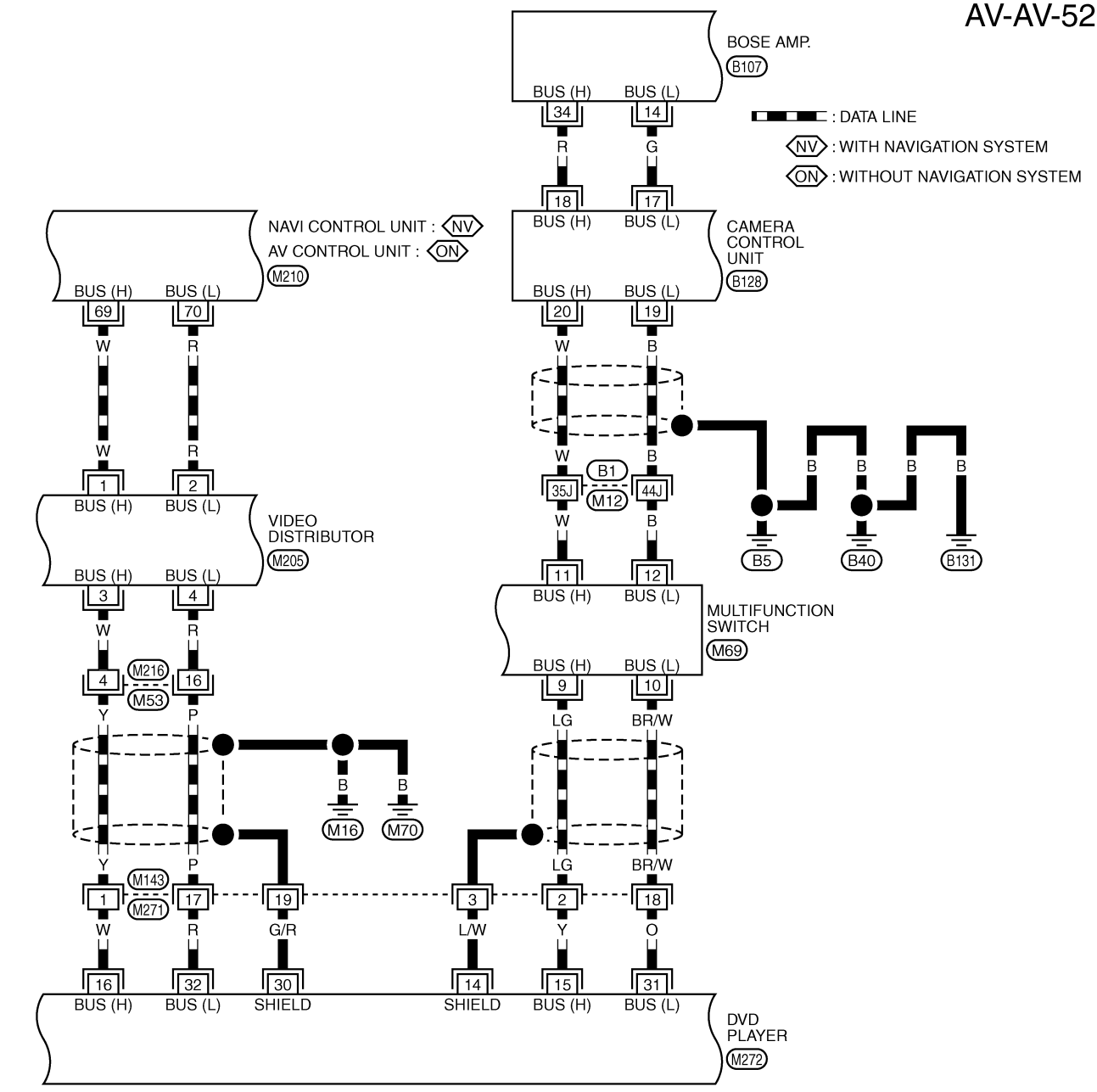




*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

TKWT3549E

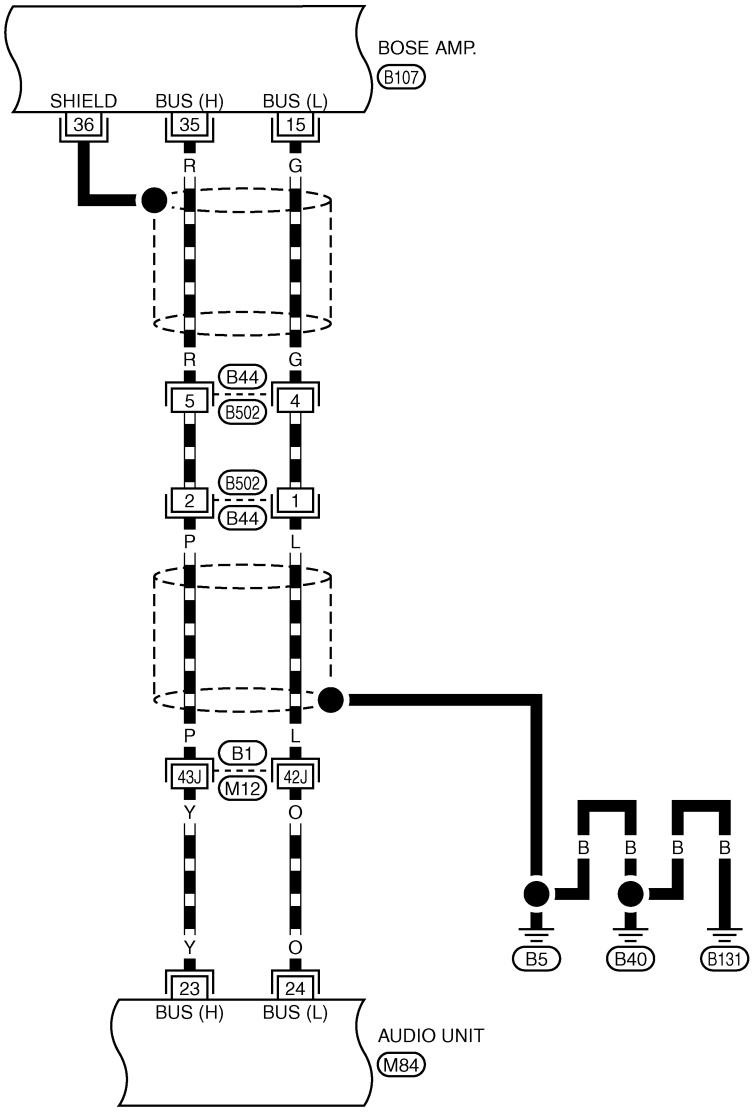
AV-AV-52

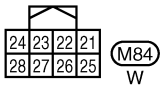


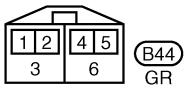
TKWT3550E

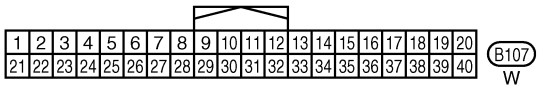
AV-AV-53

: DATA LINE





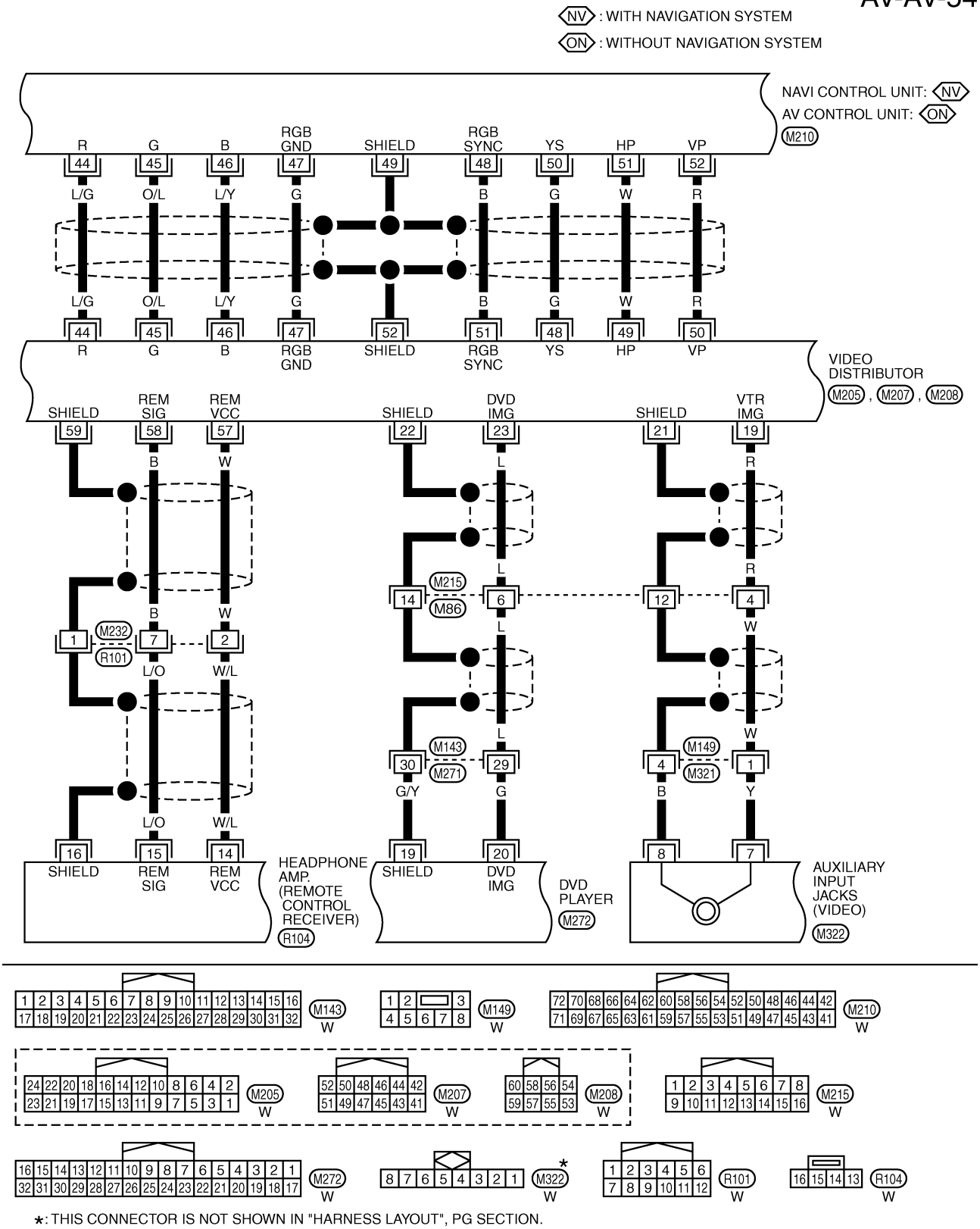




REFER TO THE FOLLOWING.
B1 -SUPER MULTIPLE JUNCTION (SMJ)

TKWT3551E

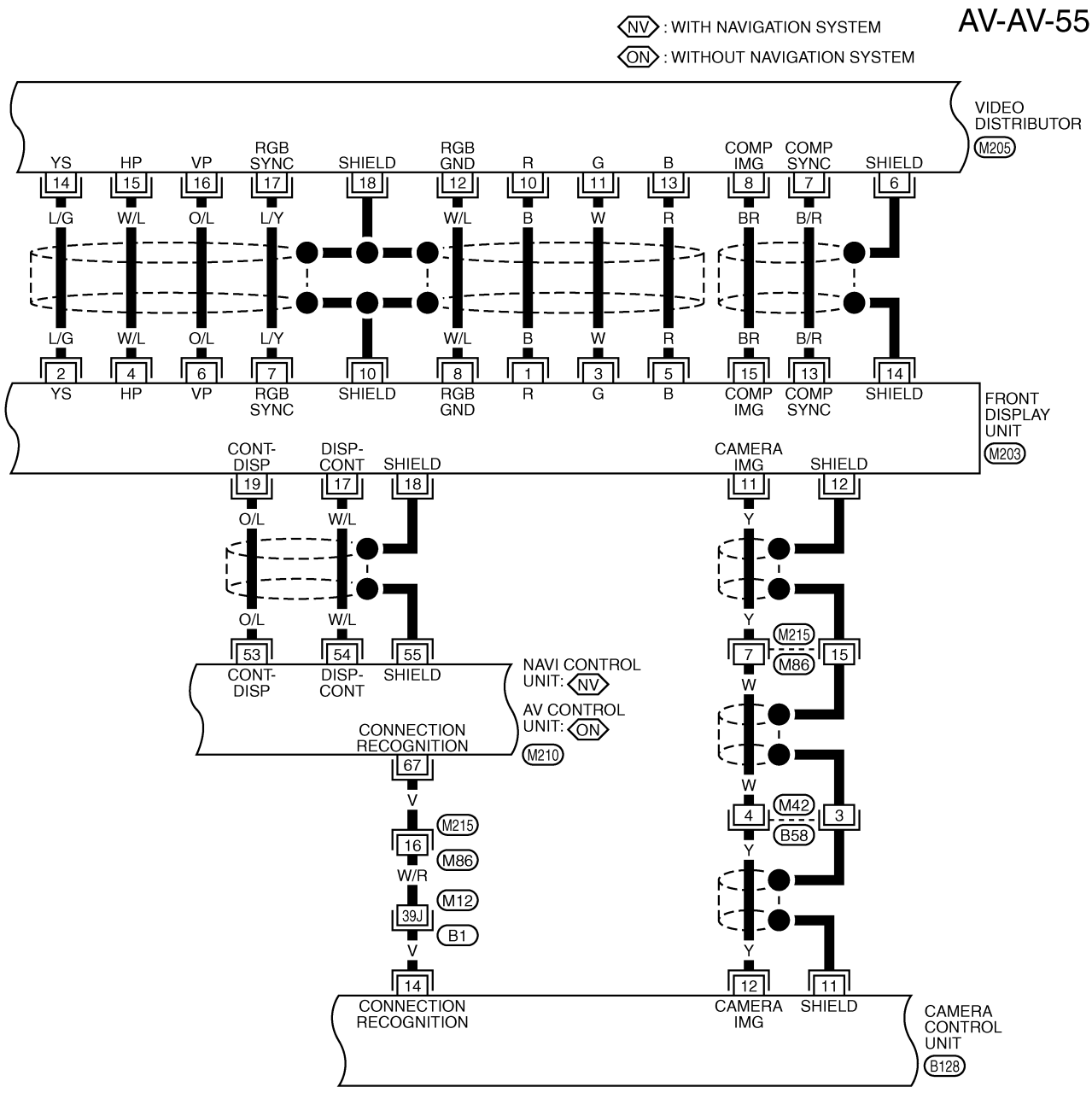
AV-AV-54

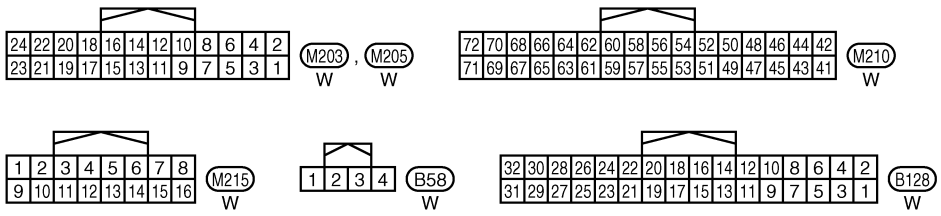


*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

TKWT3552E

AV-AV-55

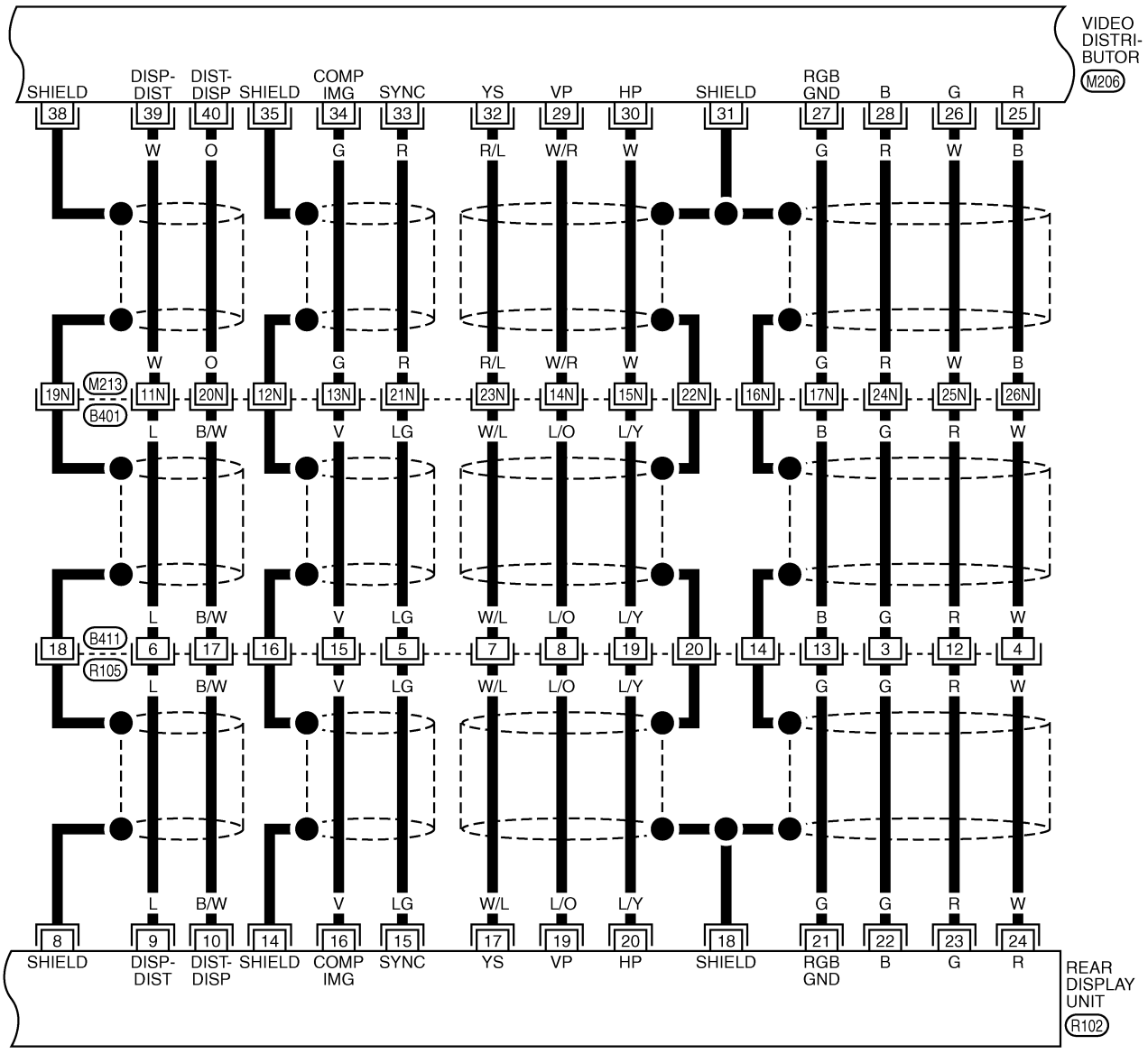


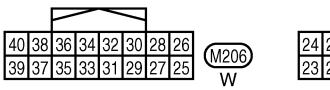


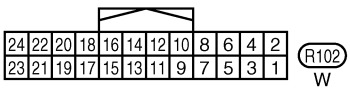
REFER TO THE FOLLOWING.
B1 -SUPER MULTIPLE JUNCTION (SMJ)

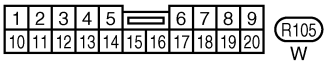
TKWT3553E

AV-AV-56





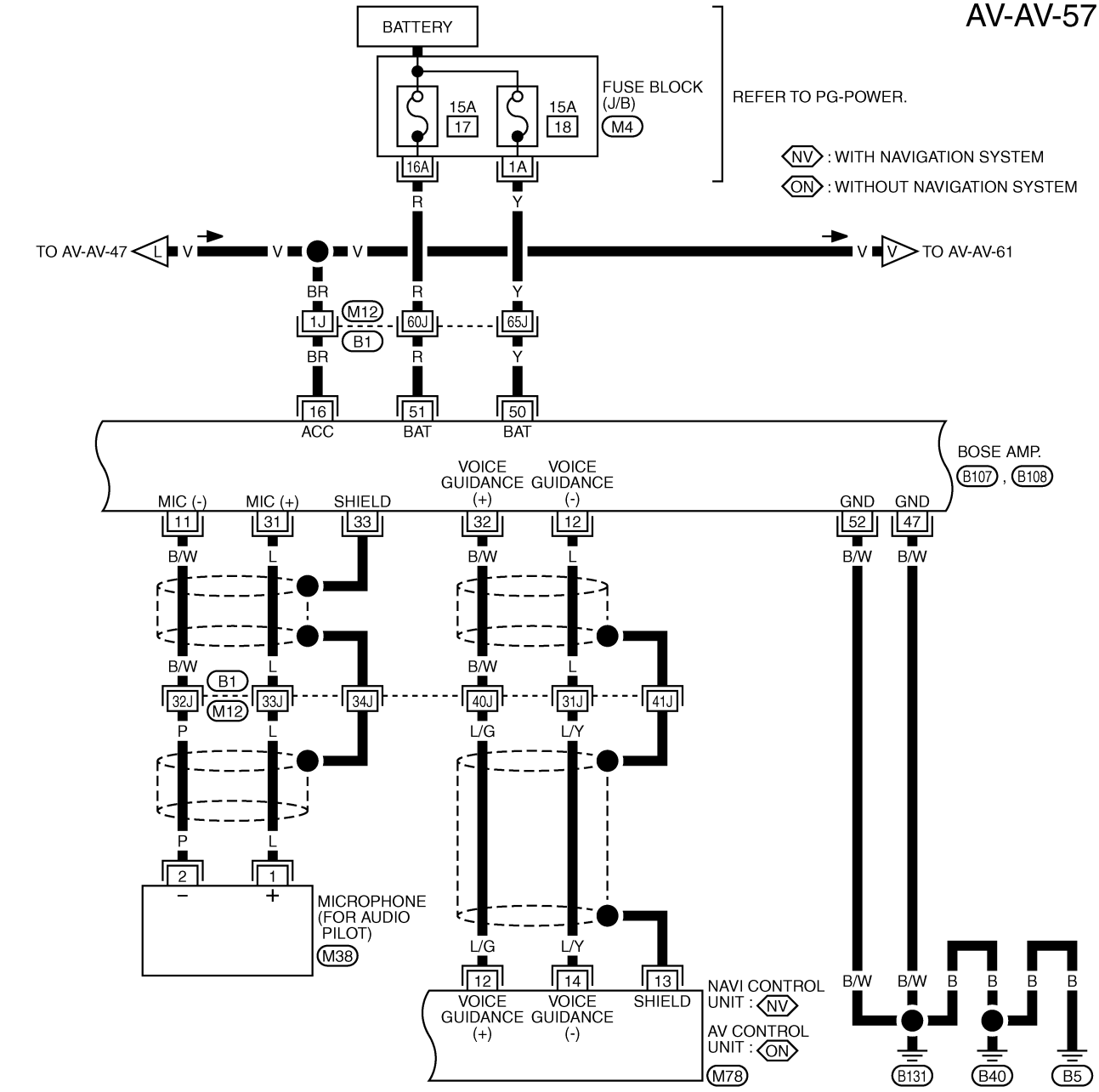


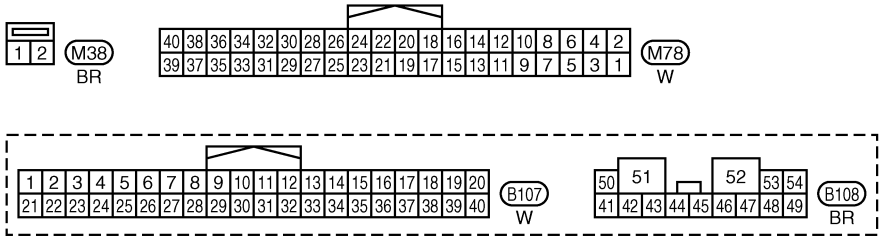


REFER TO THE FOLLOWING.
B401 -SUPER MULTIPLE JUNCTION (SMJ)

TKWT3554E

AV-AV-57





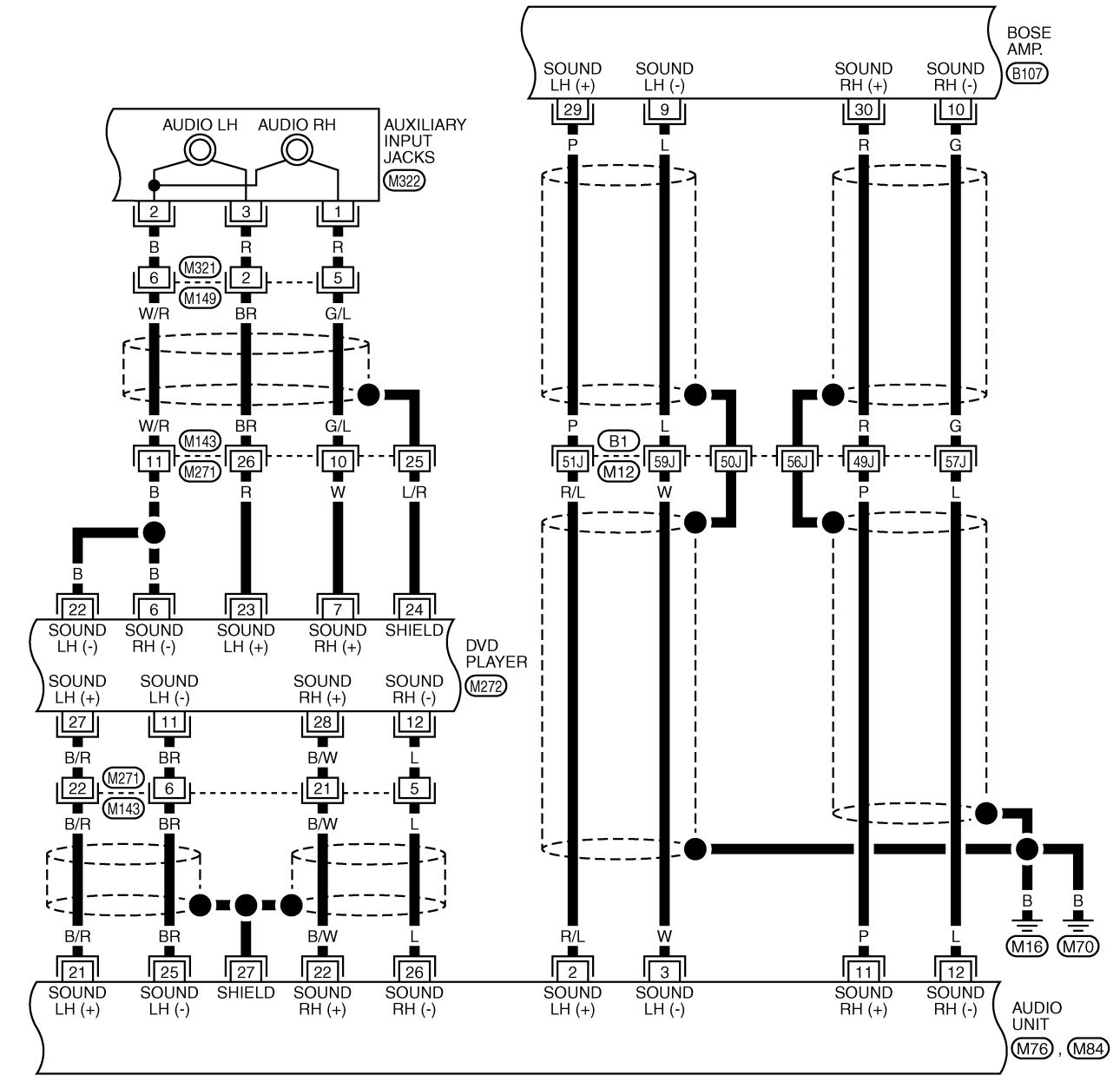
REFER TO THE FOLLOWING.

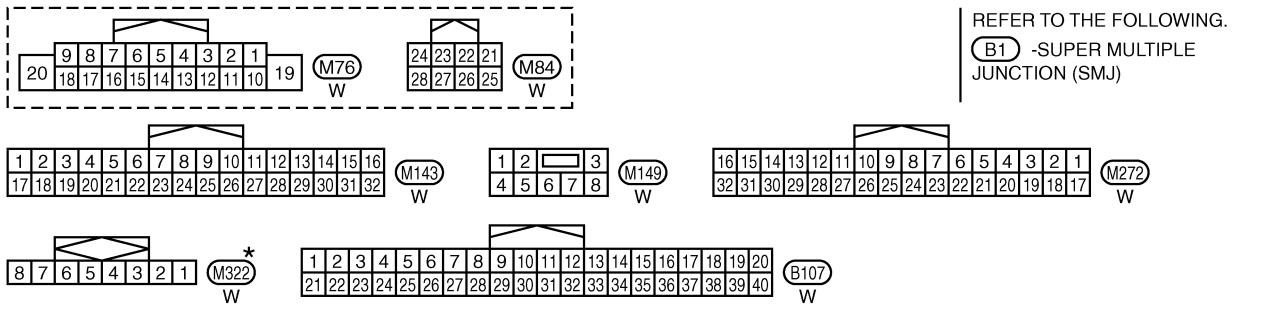
B1 -SUPER MULTIPLE JUNCTION (SMJ)

M4 -FUSE BLOCK-JUNCTION BOX (J/B)

TKWT3555E

AV-AV-58



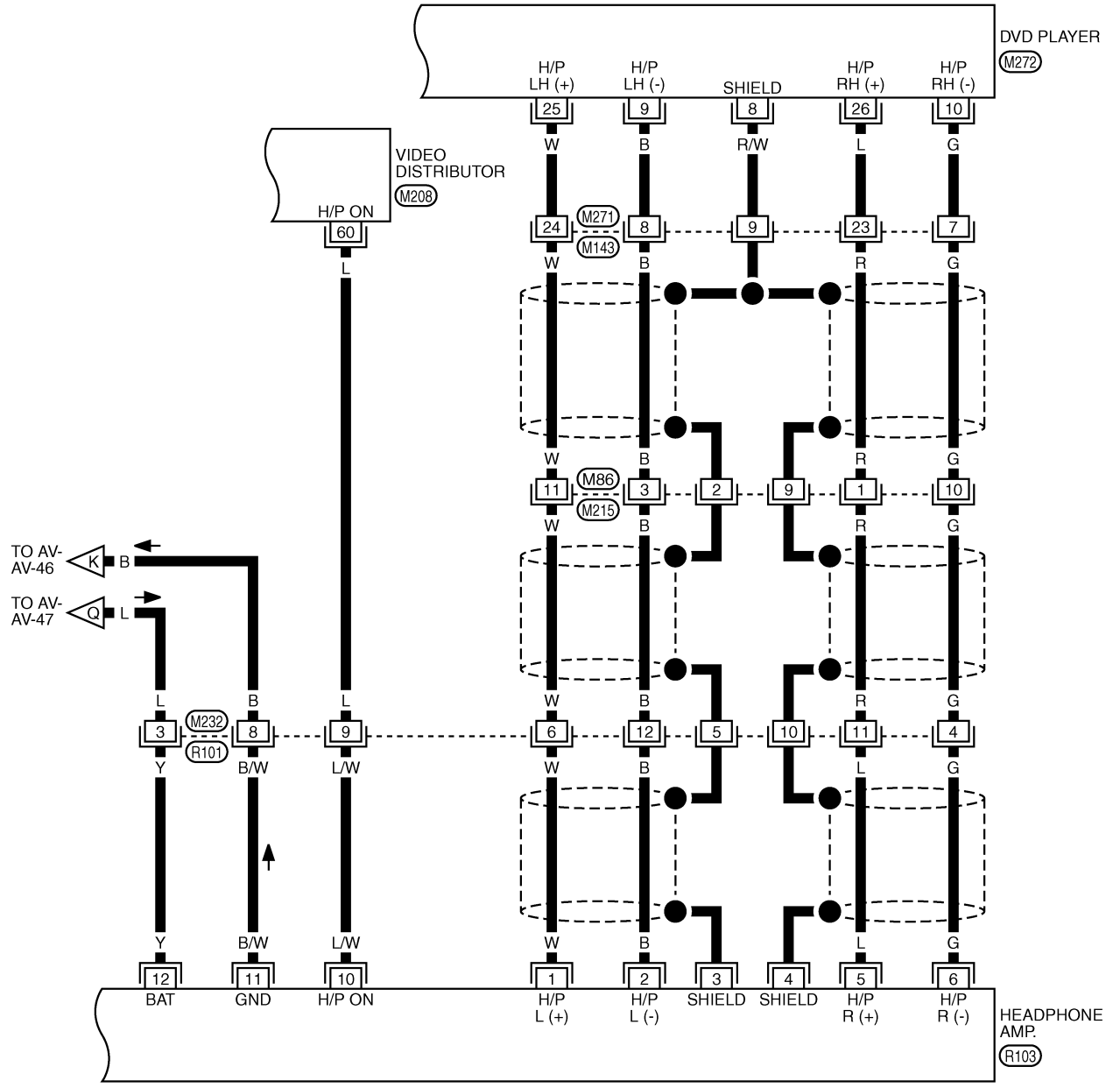


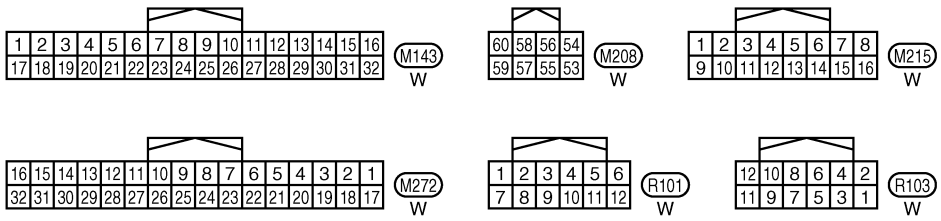
REFER TO THE FOLLOWING.
B1 -SUPER MULTIPLE JUNCTION (SMJ)

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

TKWT3556E

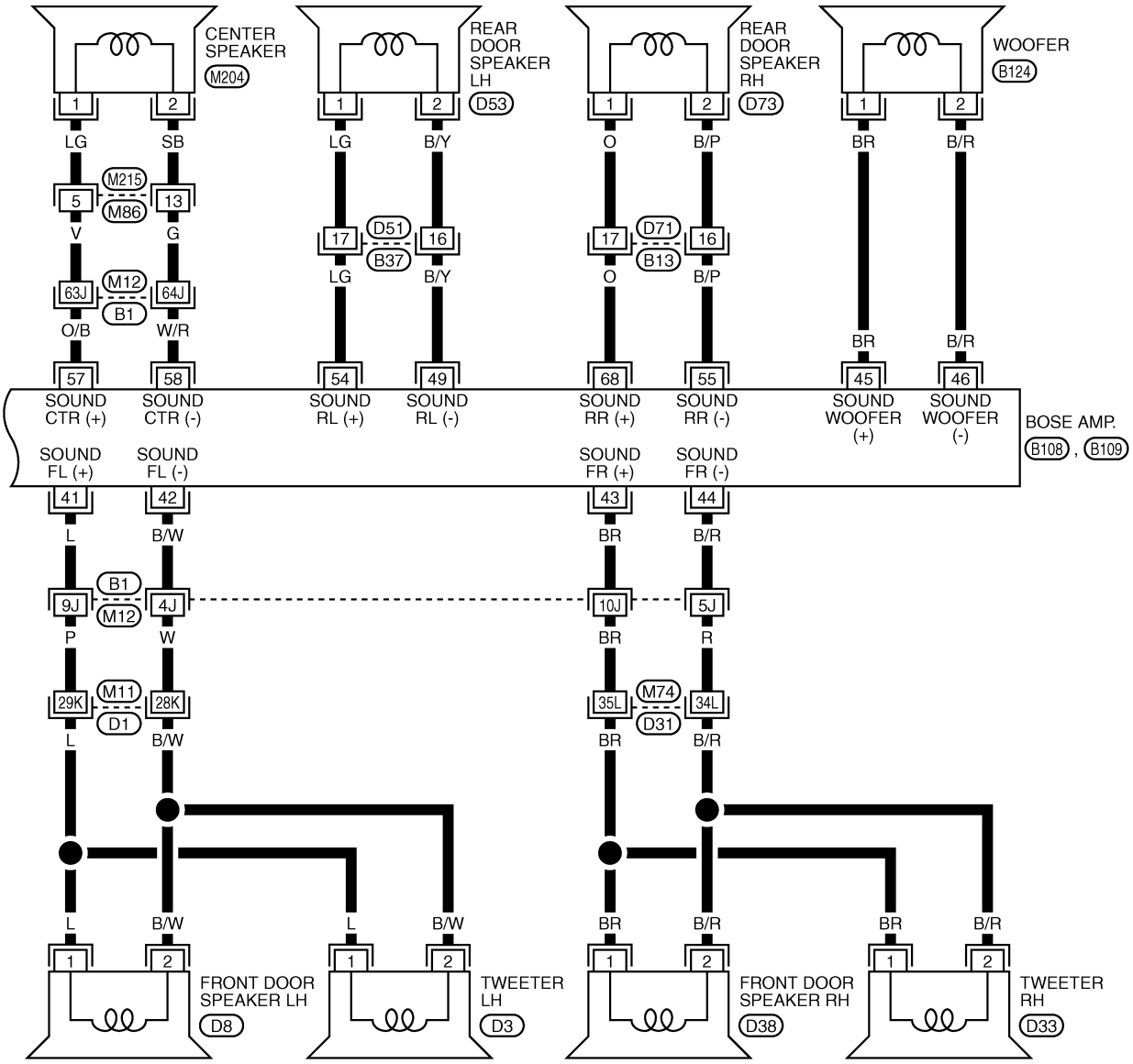
AV-AV-59

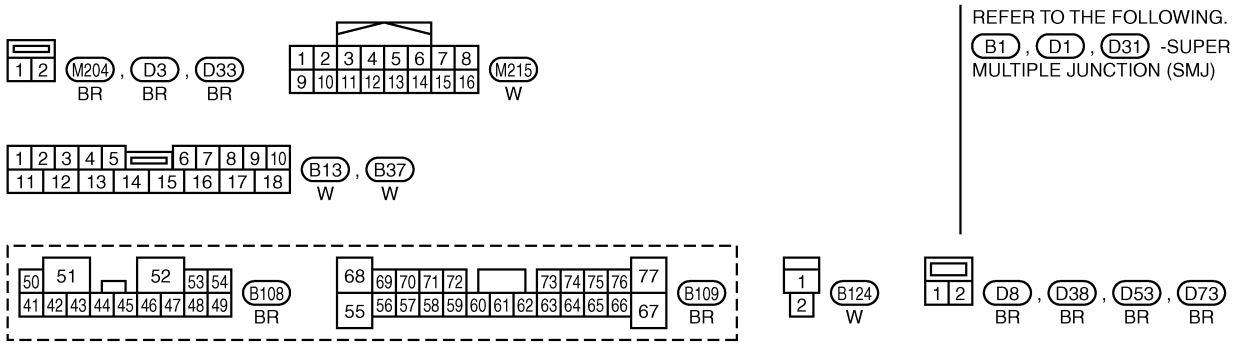




TKWT3557E

AV-AV-60

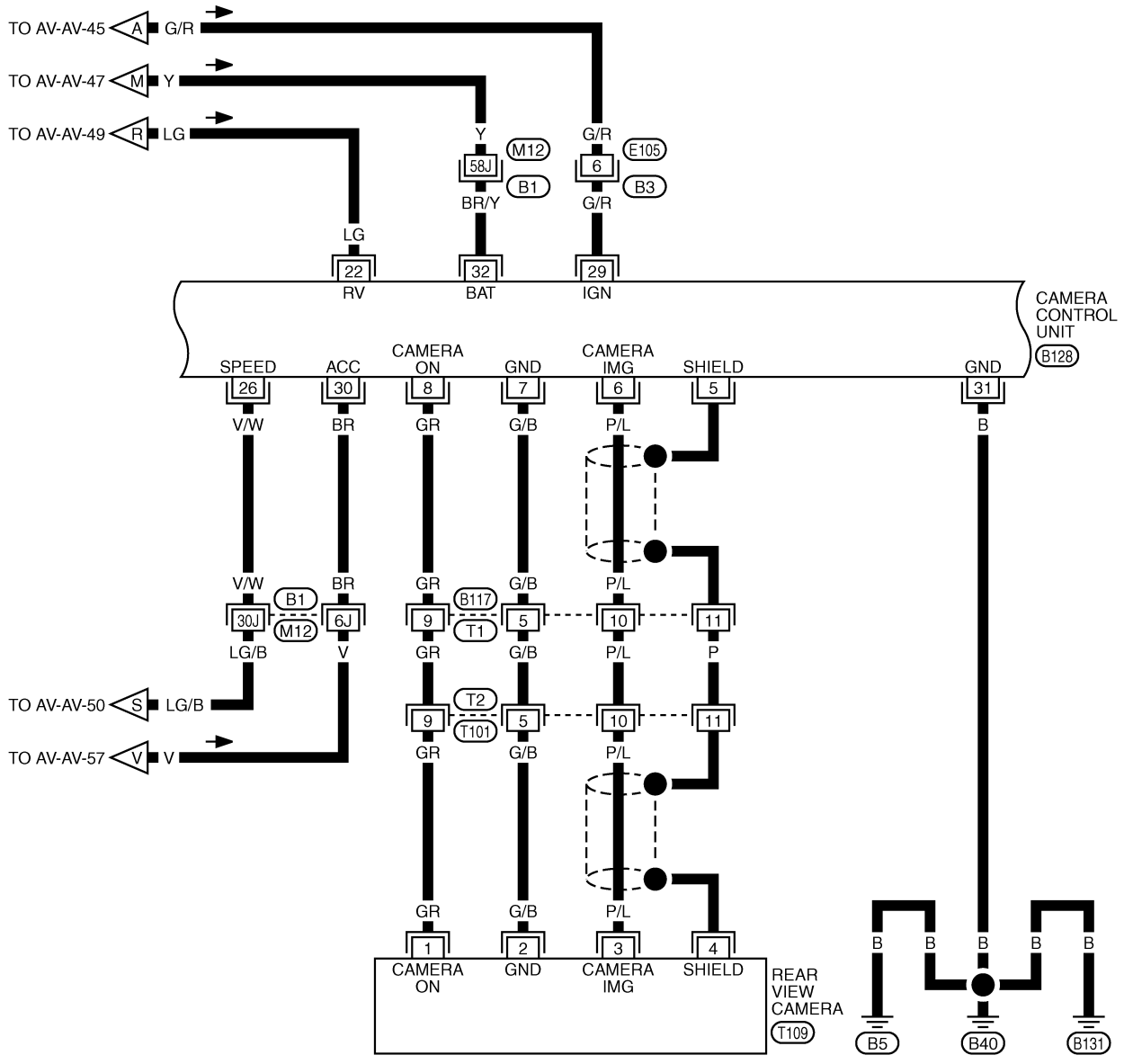


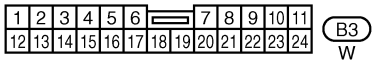


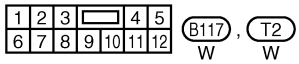
REFER TO THE FOLLOWING.
B1 , D1 , D31 -SUPER MULTIPLE JUNCTION (SMJ)

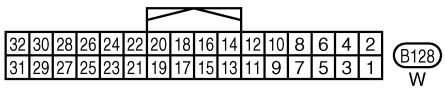
TKWT3558E

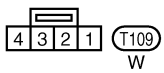
AV-AV-61







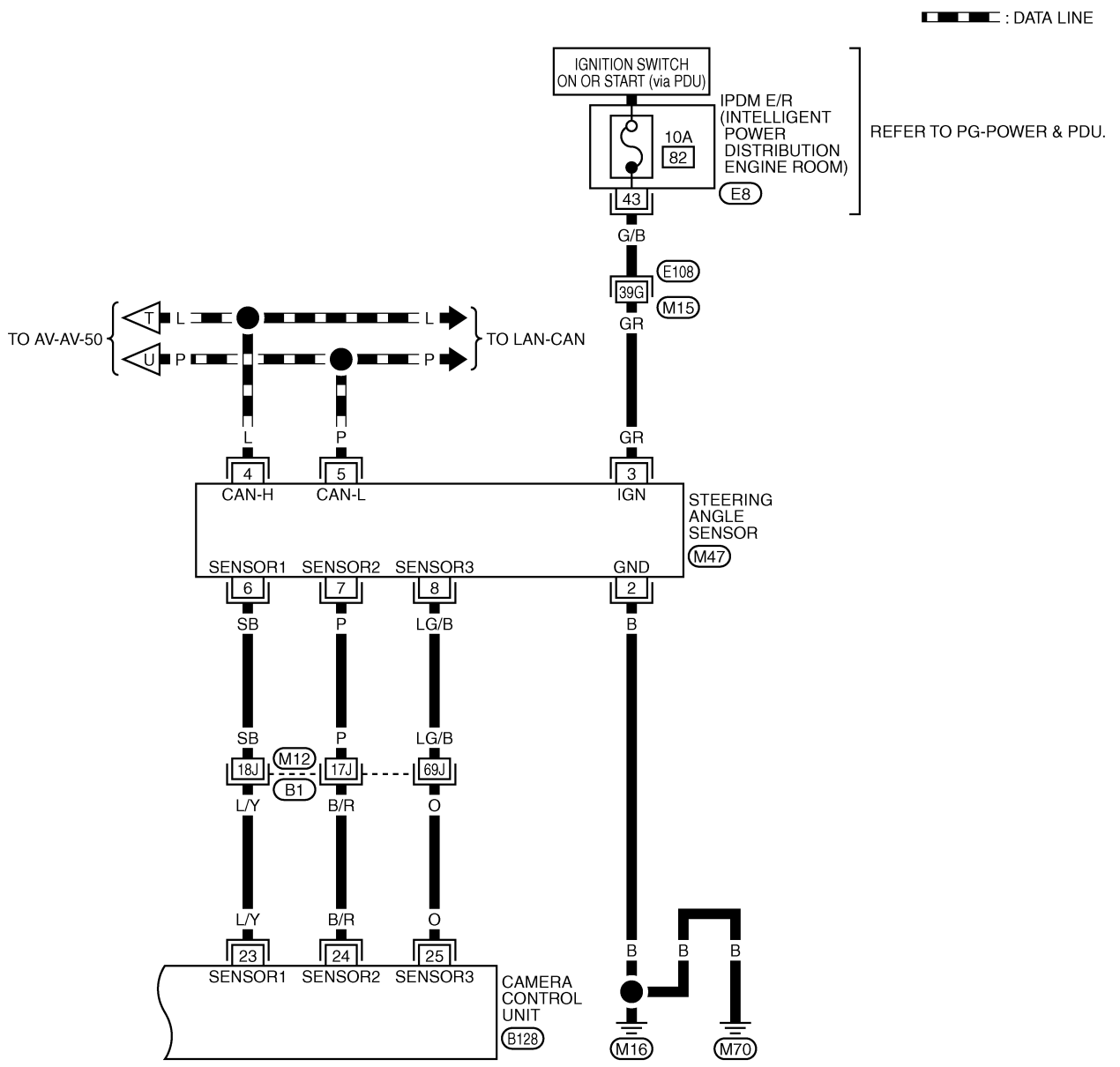


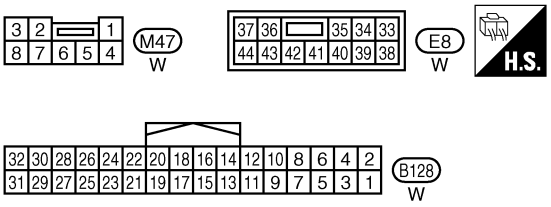


REFER TO THE FOLLOWING.
B1 -SUPER MULTIPLE JUNCTION (SMJ)

TKWT3559E

AV-AV-62

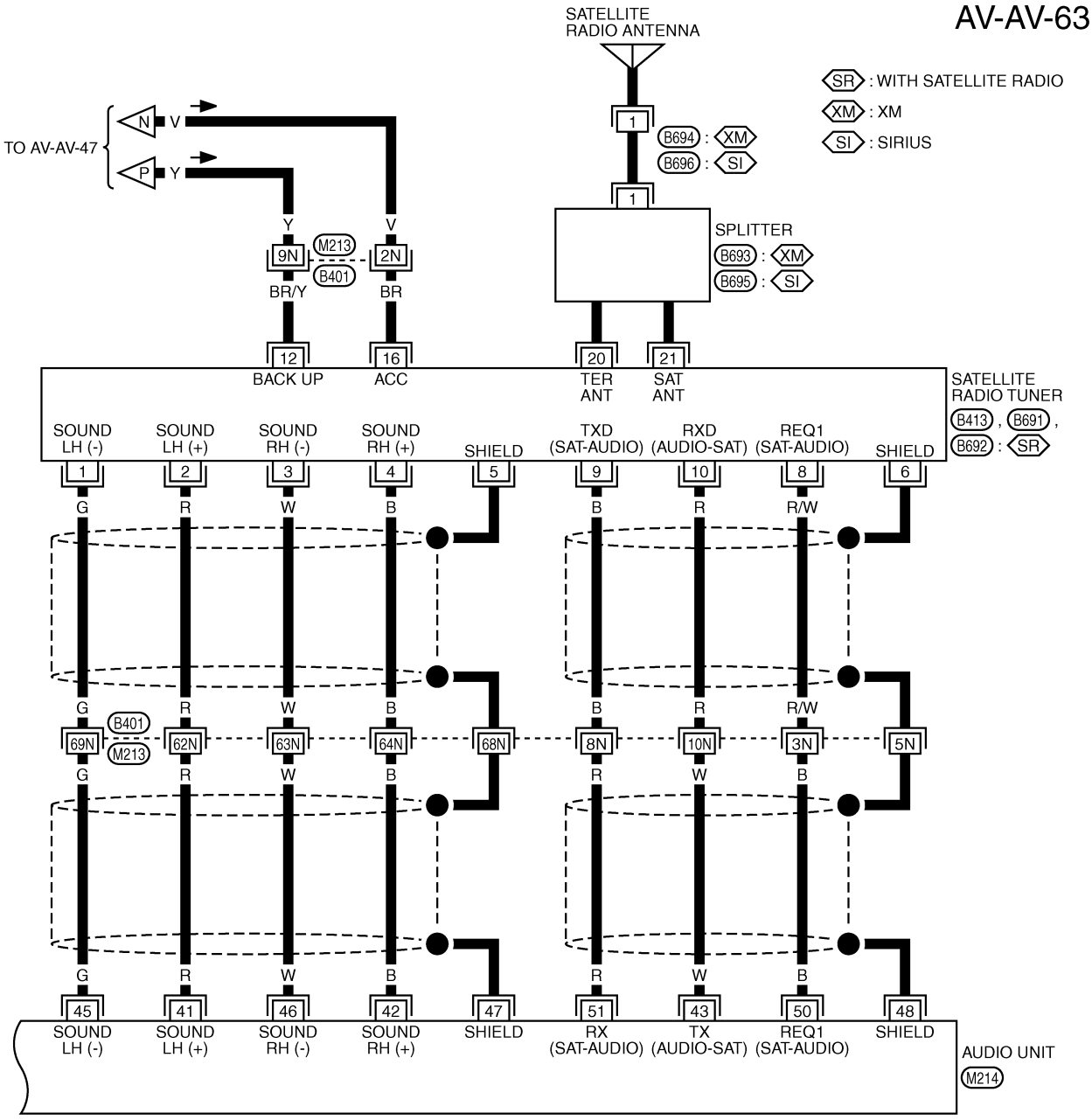


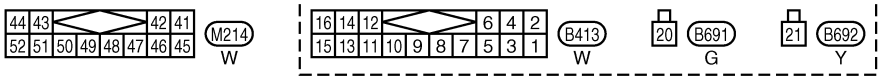


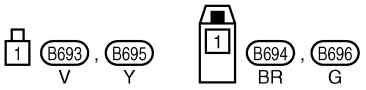
REFER TO THE FOLLOWING.
E108 , B1 -SUPER MULTIPLE JUNCTION (SMJ)

TKWT3560E

AV-AV-63





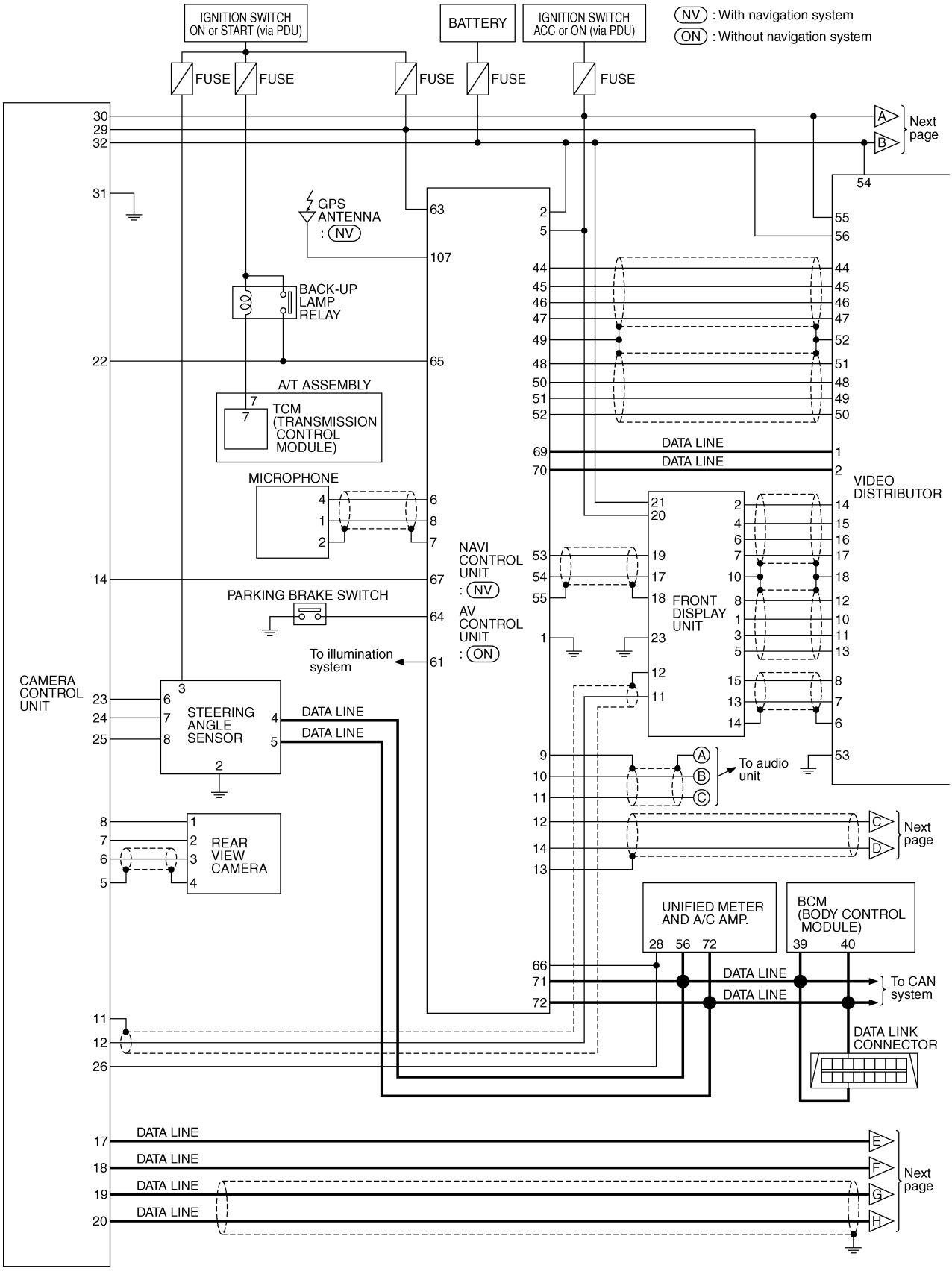


REFER TO THE FOLLOWING.
B401 -SUPER MULTIPLE JUNCTION (SMJ)

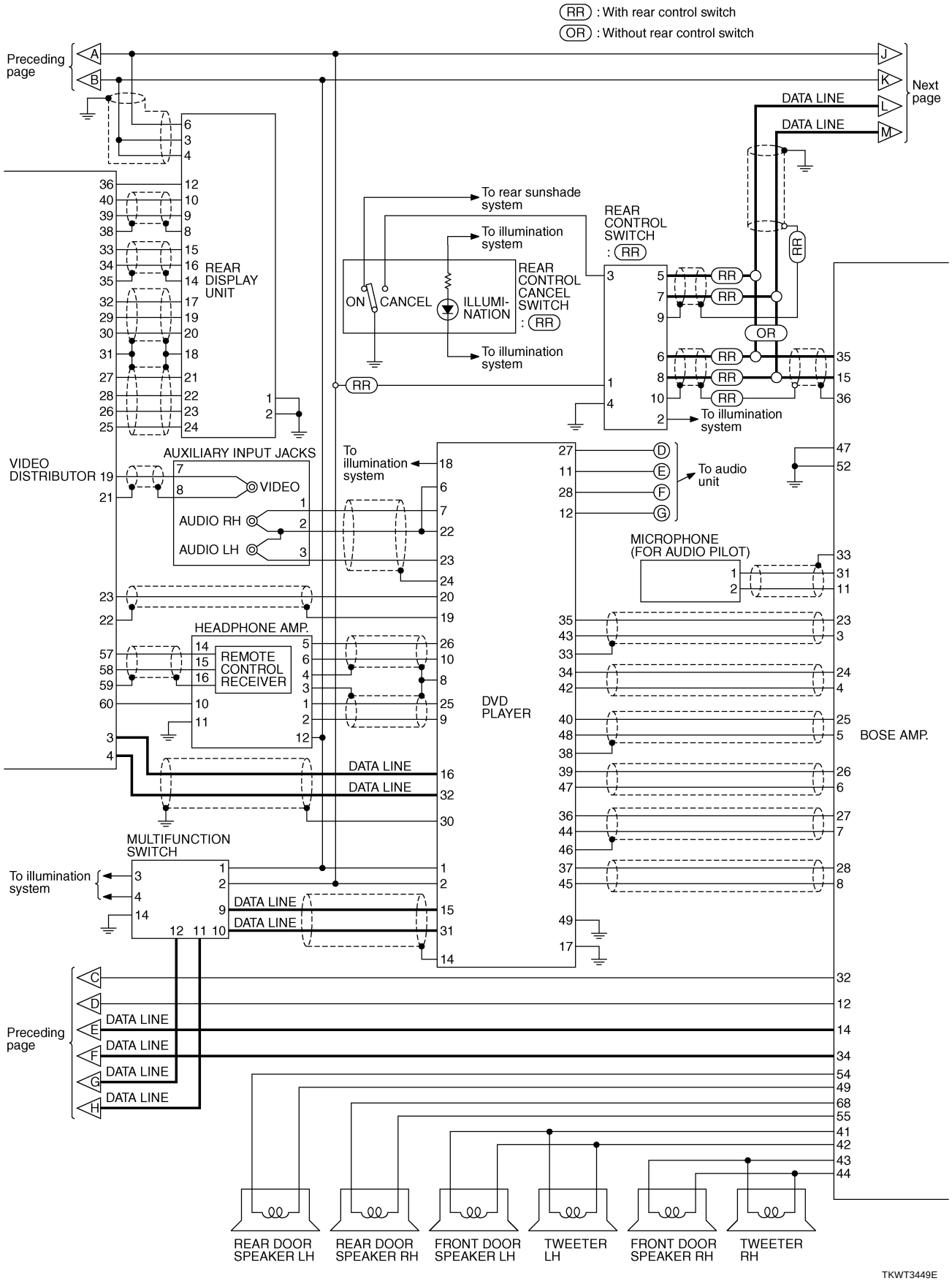
TKWT3561E

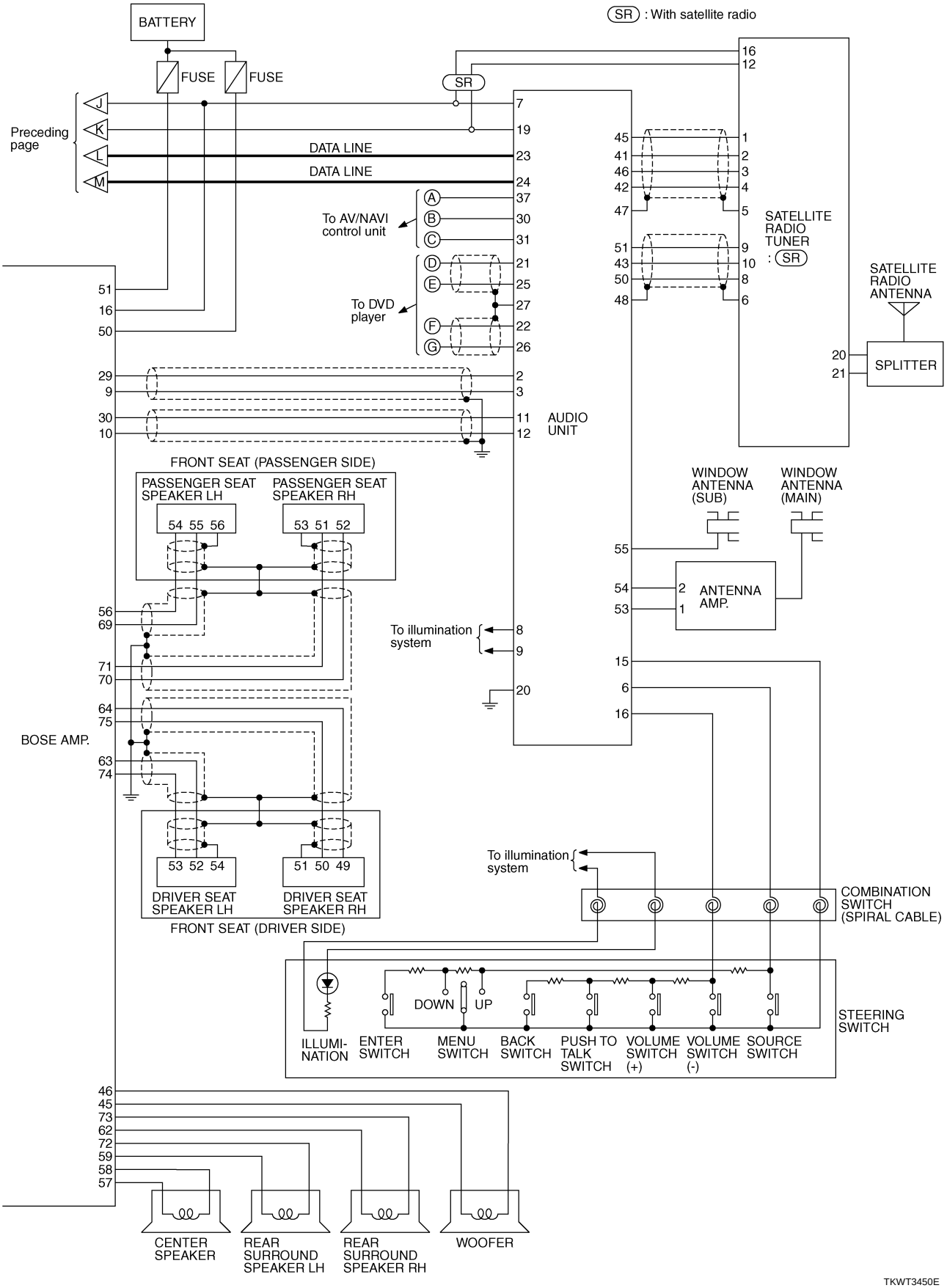
Schematic — BOSE Surround Audio 5.1ch System —

NKS004AH



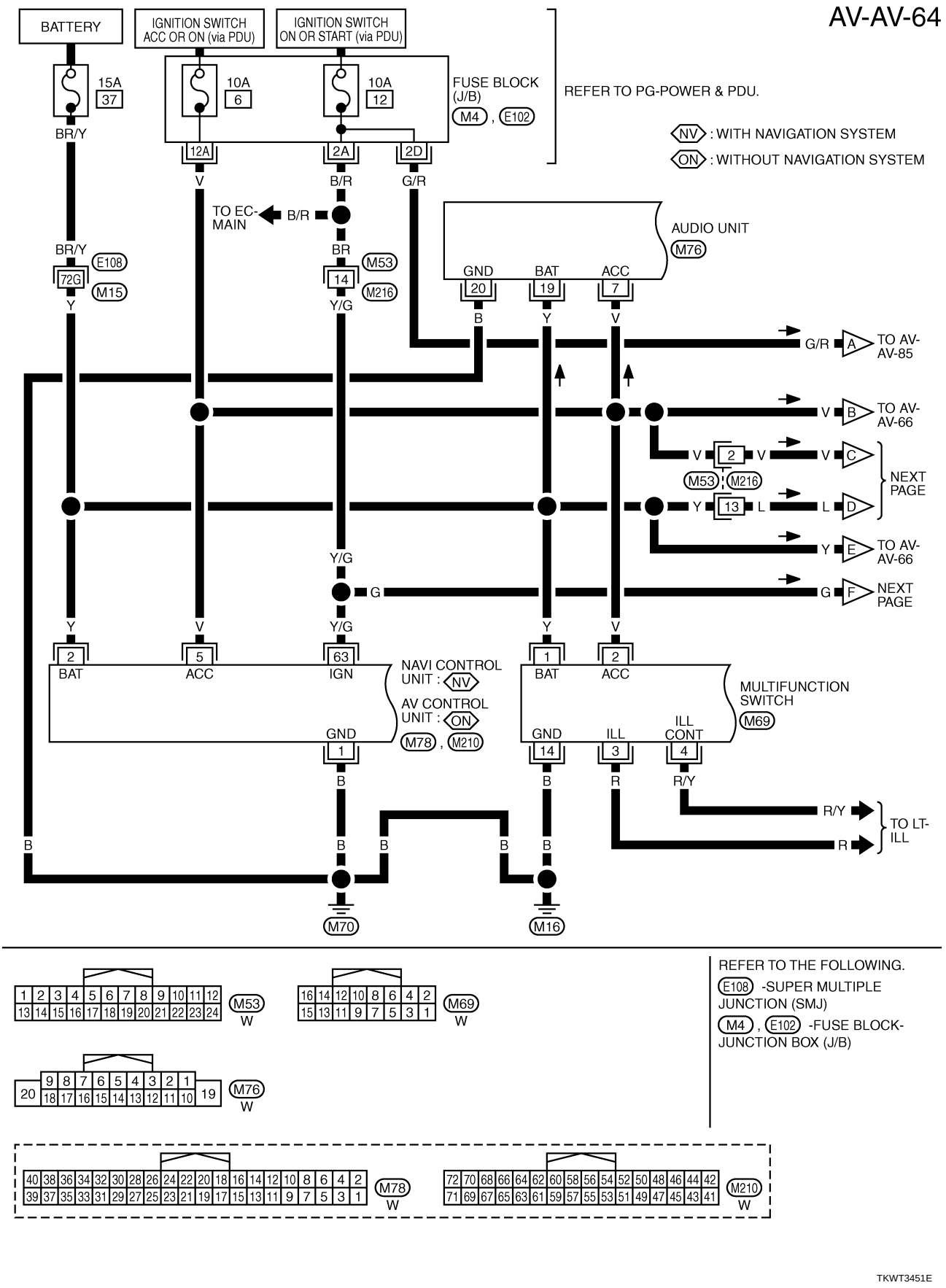
TKWT3448E


RR : With rear control switch
OR : Without rear control switch
Preceding page
Next page
DATA LINE
REAR DISPLAY UNIT
To rear sunshade system
To illumination system
REAR CONTROL SWITCH : RR
REAR CONTROL CANCEL SWITCH : RR
ON
CANCEL
ILLUMI-NATION
OR
To illumination system
To audio unit
AUXILIARY INPUT JACKS
VIDEO DISTRIBUTOR
VIDEO
AUDIO RH
AUDIO LH
HEADPHONE AMP.
REMOTE CONTROL RECEIVER
DVD PLAYER
MICROPHONE (FOR AUDIO PILOT)
BOSE AMP.
MULTIFUNCTION SWITCH
REAR DOOR SPEAKER LH
REAR DOOR SPEAKER RH
FRONT DOOR SPEAKER LH
TWEETER LH
FRONT DOOR SPEAKER RH
TWEETER RH
TKWT3449E


SR : With satellite radio
BATTERY
FUSE
FUSE
Preceding page
J
K
L
M
SR
DATA LINE
DATA LINE
To AV/NAVI control unit
To DVD player
SATELLITE RADIO TUNER : SR
SATELLITE RADIO ANTENNA
SPLITTER
AUDIO UNIT
FRONT SEAT (PASSENGER SIDE)
PASSENGER SEAT SPEAKER LH
PASSENGER SEAT SPEAKER RH
WINDOW ANTENNA (SUB)
WINDOW ANTENNA (MAIN)
ANTENNA AMP.
To illumination system
BOSE AMP.
DRIVER SEAT SPEAKER LH
DRIVER SEAT SPEAKER RH
FRONT SEAT (DRIVER SIDE)
COMBINATION SWITCH (SPIRAL CABLE)
STEERING SWITCH
ILLUMI-NATION
ENTER SWITCH
MENU SWITCH
BACK SWITCH
PUSH TO TALK SWITCH
VOLUME SWITCH (+)
VOLUME SWITCH (-)
SOURCE SWITCH
DOWN
UP
CENTER SPEAKER
REAR SURROUND SPEAKER LH
REAR SURROUND SPEAKER RH
WOOFER
TKWT3450E

Wiring Diagram — AV — / BOSE Surround Audio 5.1ch System

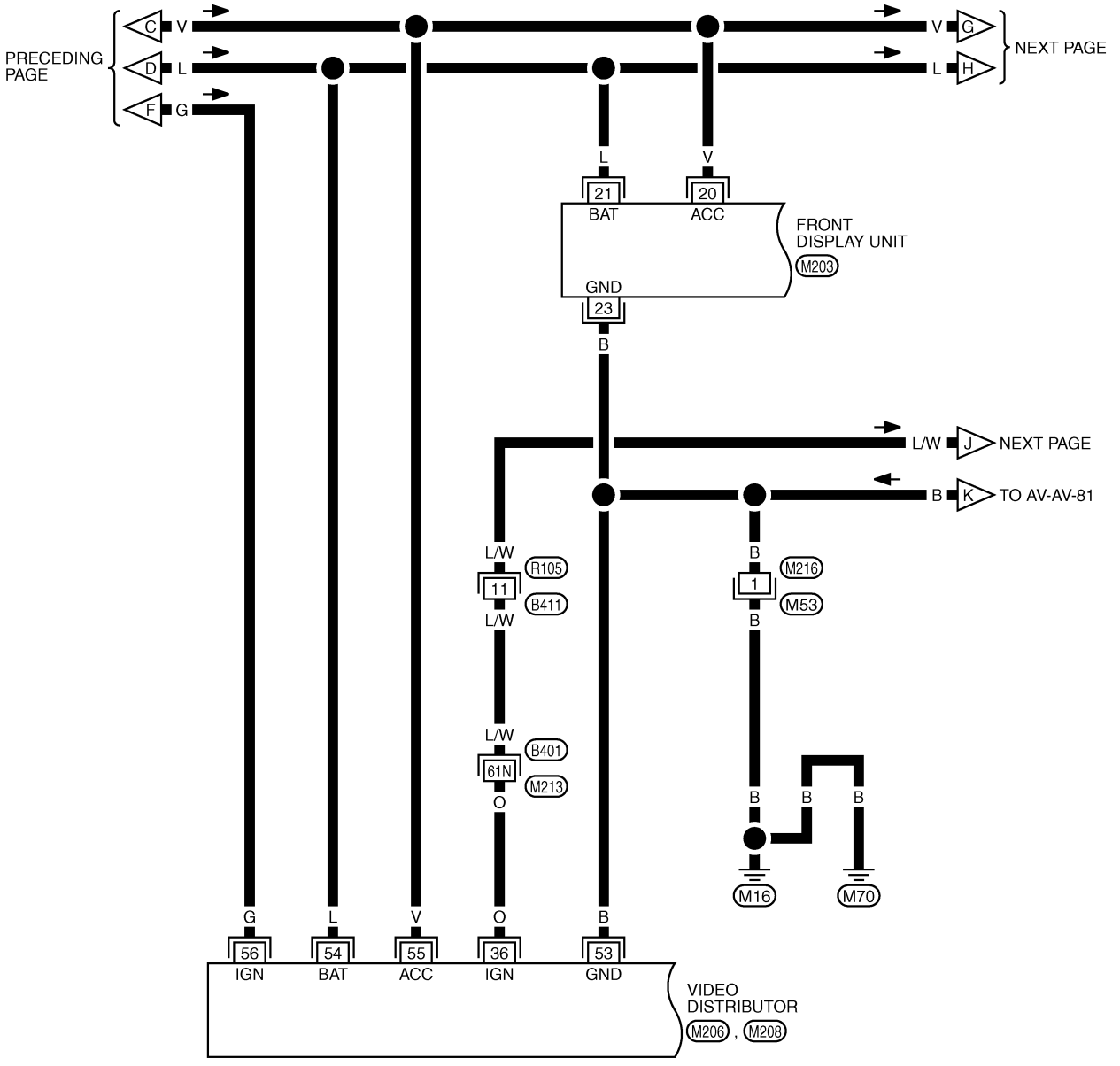
NKS004AI

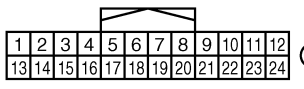


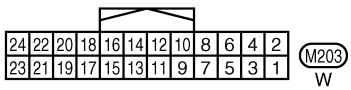
REFER TO THE FOLLOWING.
E108 -SUPER MULTIPLE JUNCTION (SMJ)
M4 , E102 -FUSE BLOCK-JUNCTION BOX (J/B)

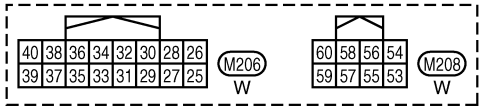
TKWT3451E

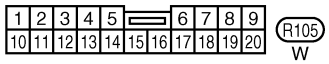
AV-AV-65







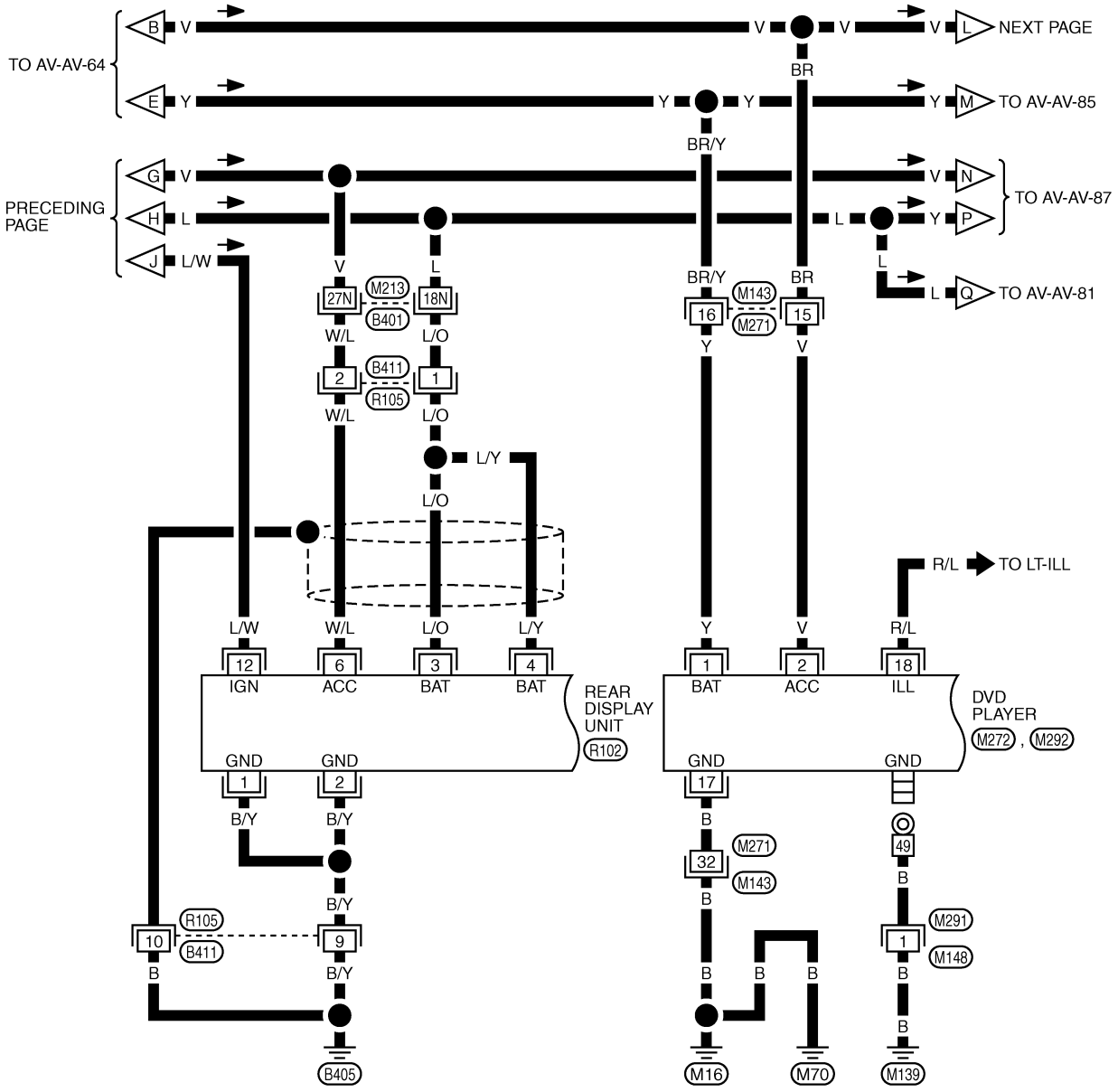


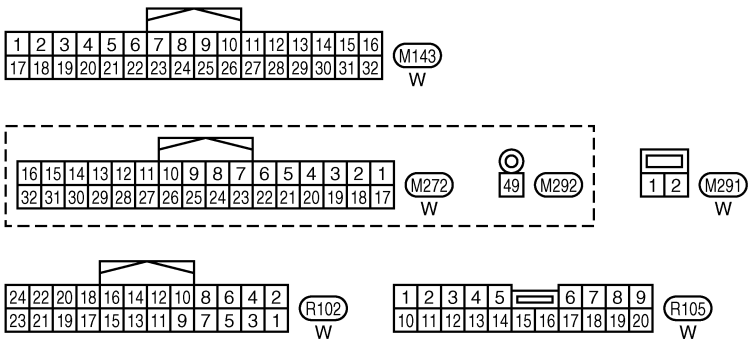


REFER TO THE FOLLOWING.
B401 -SUPER MULTIPLE JUNCTION (SMJ)

TKWT3452E

AV-AV-66

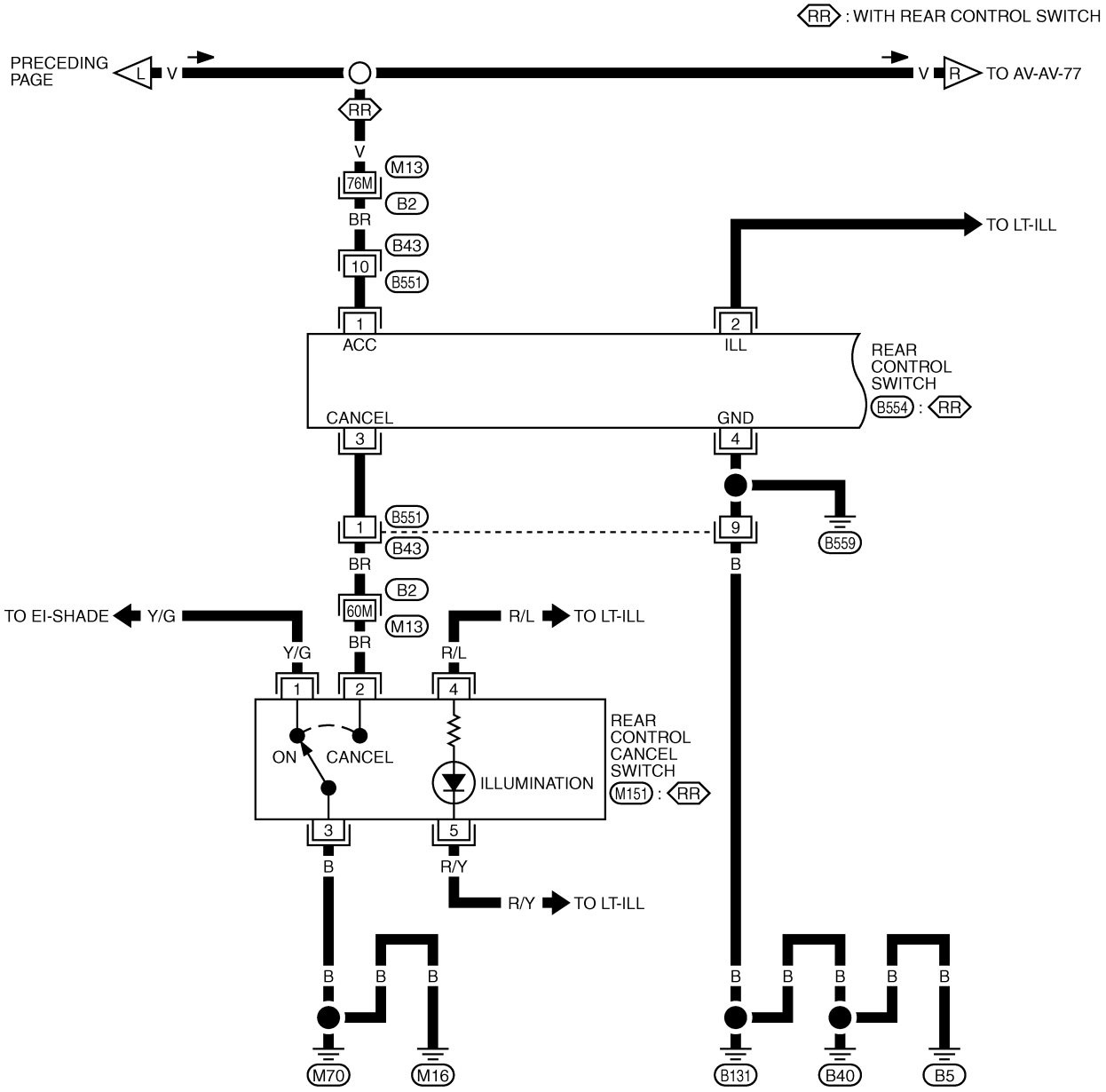


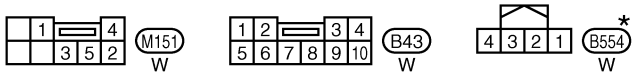


REFER TO THE FOLLOWING.
B401 -SUPER MULTIPLE JUNCTION (SMJ)

TKWT3453E

AV-AV-67



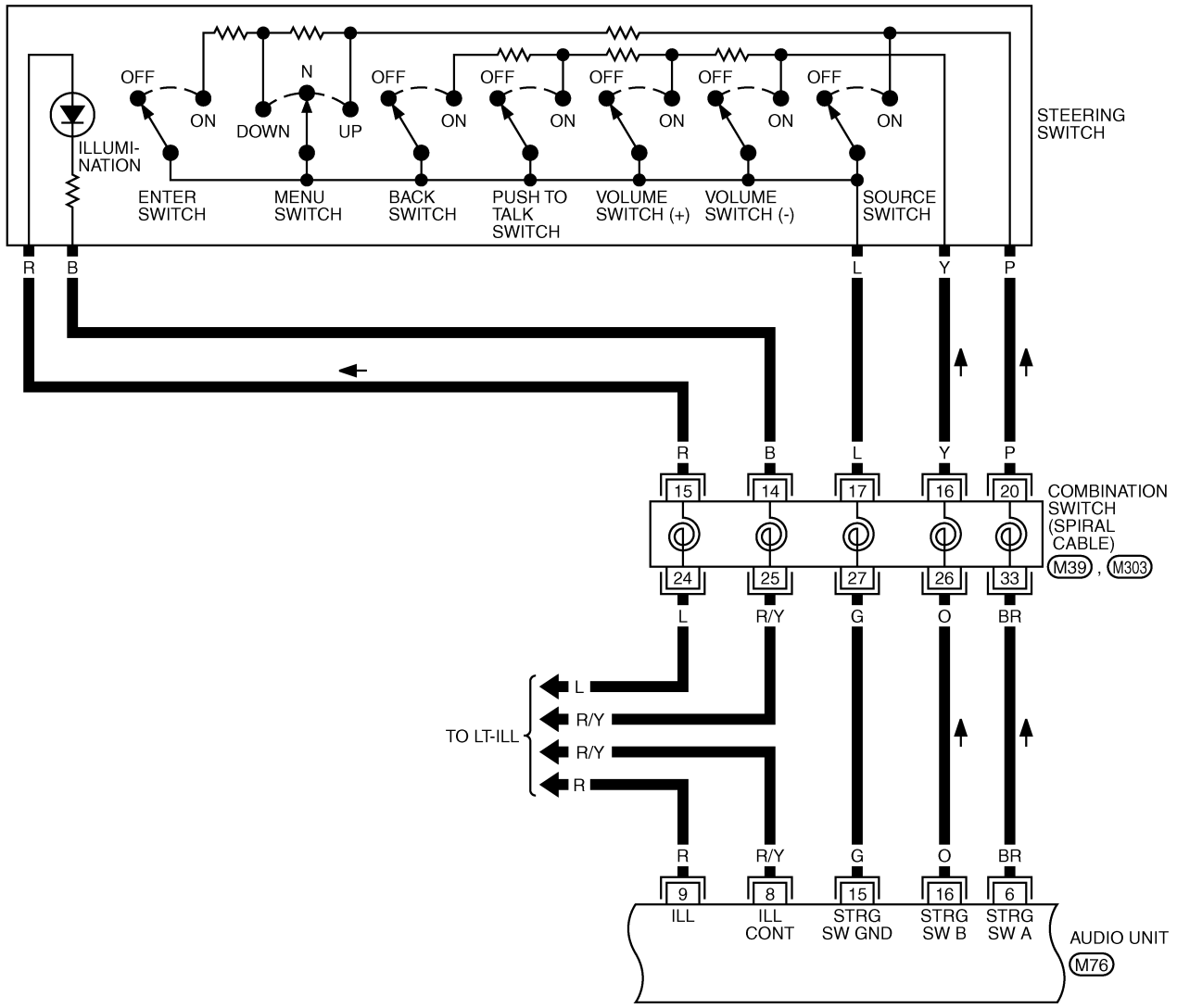


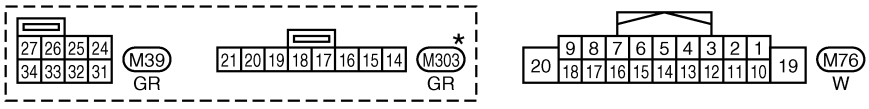
*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

REFER TO THE FOLLOWING.
B2 -SUPER MULTIPLE JUNCTION (SMJ)

TKWT3454E

AV-AV-68

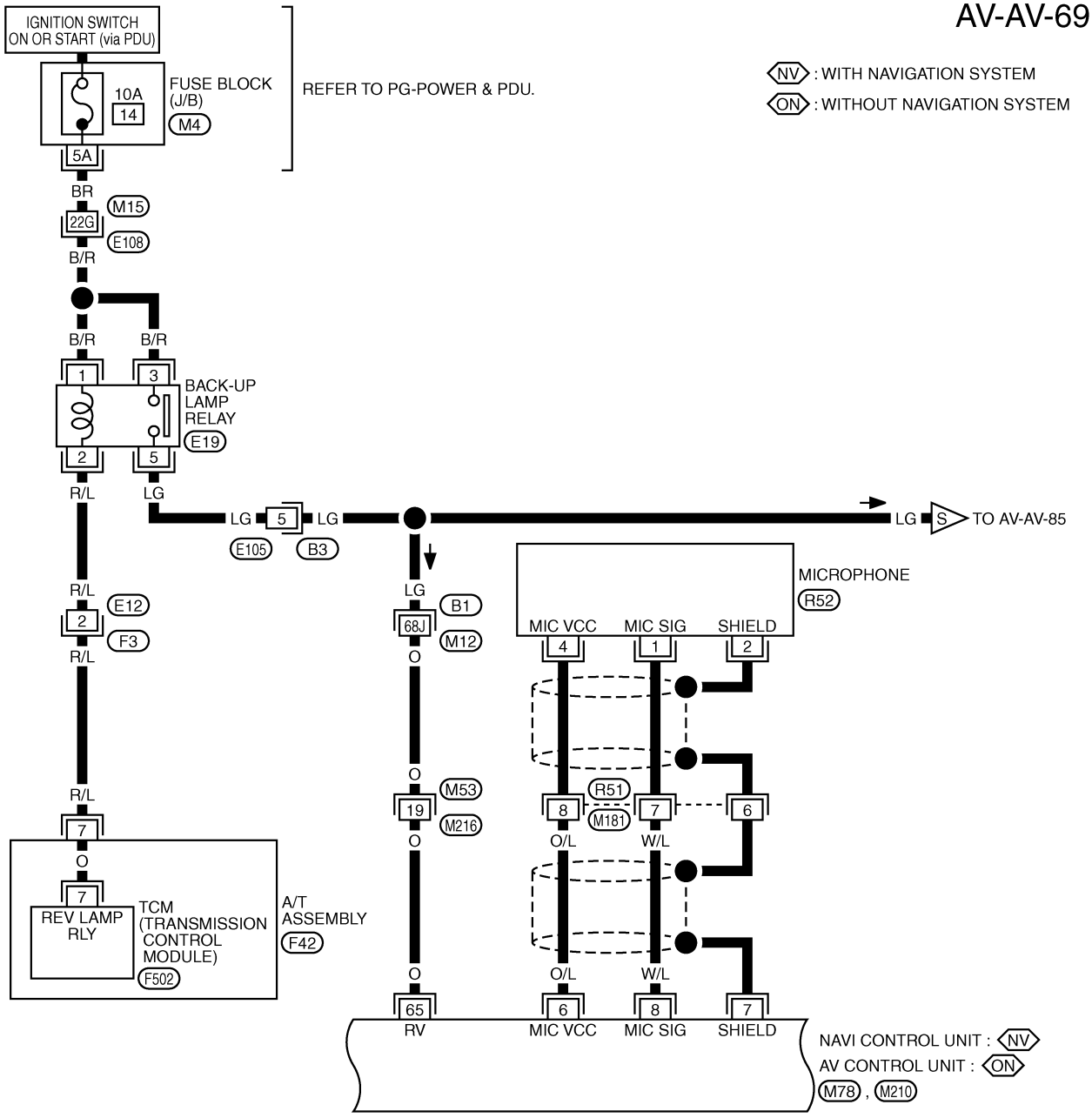




*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

TKWT3455E

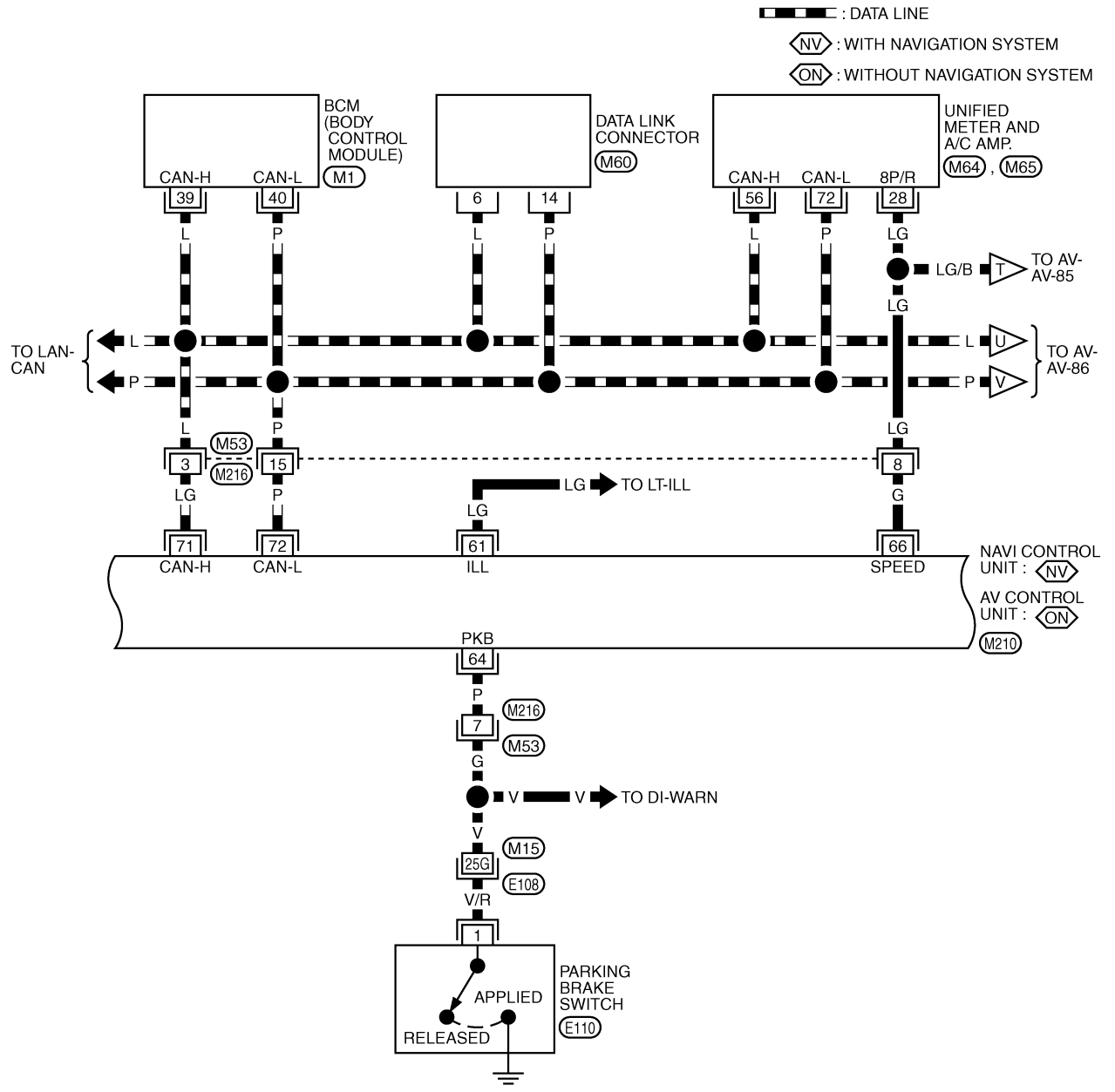
AV-AV-69



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

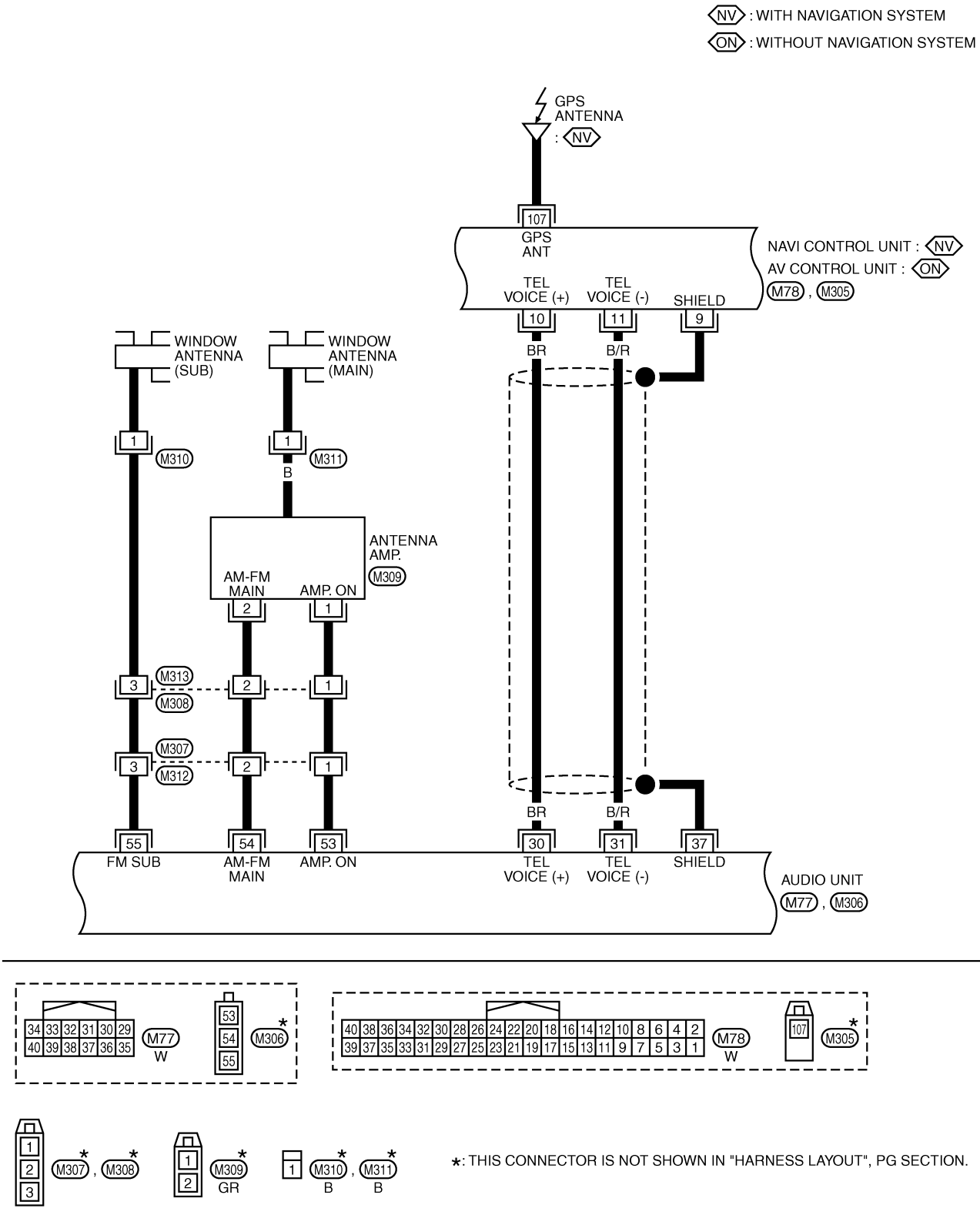
TKWT3456E

AV-AV-70



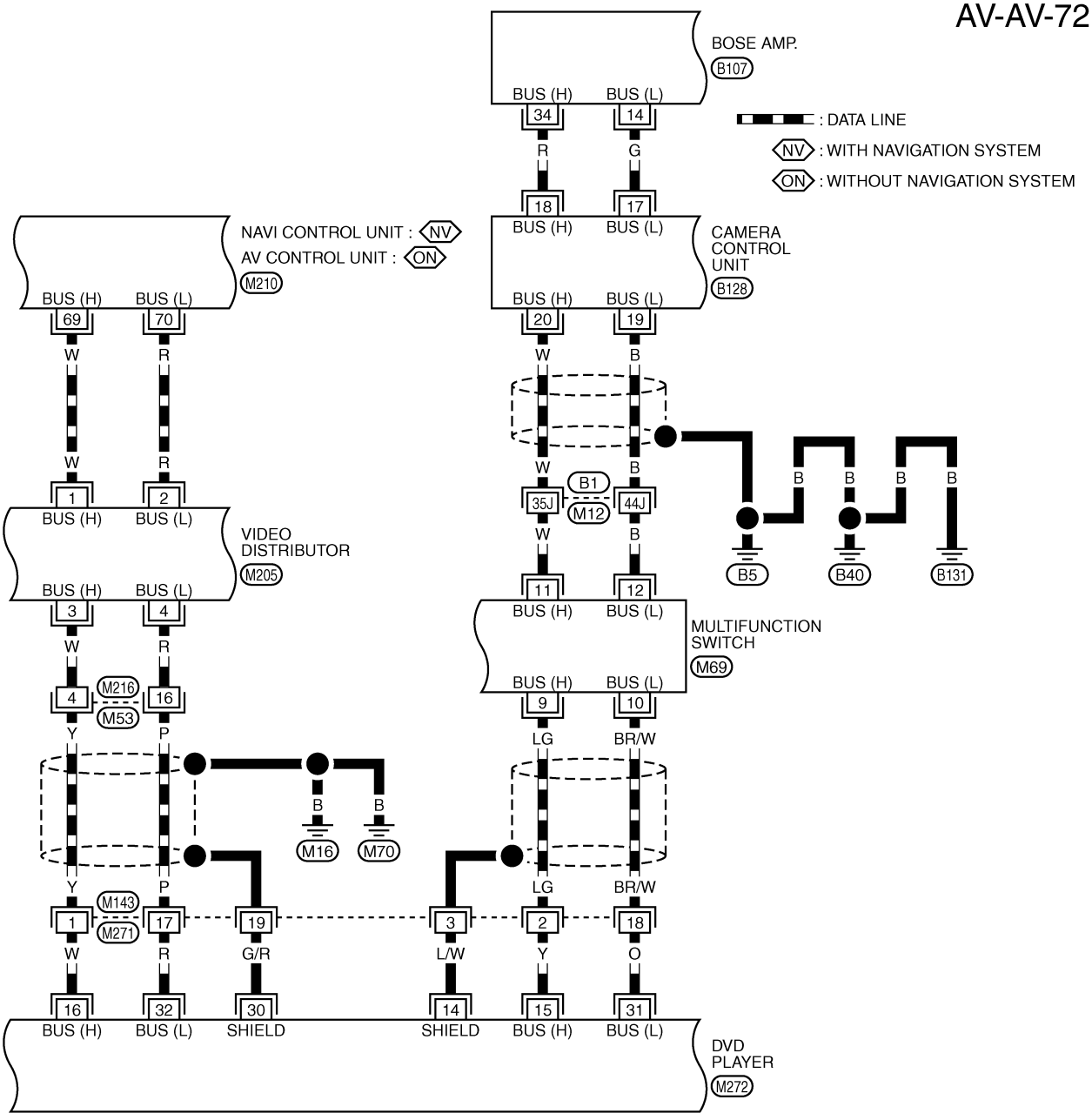
TKWT3457E

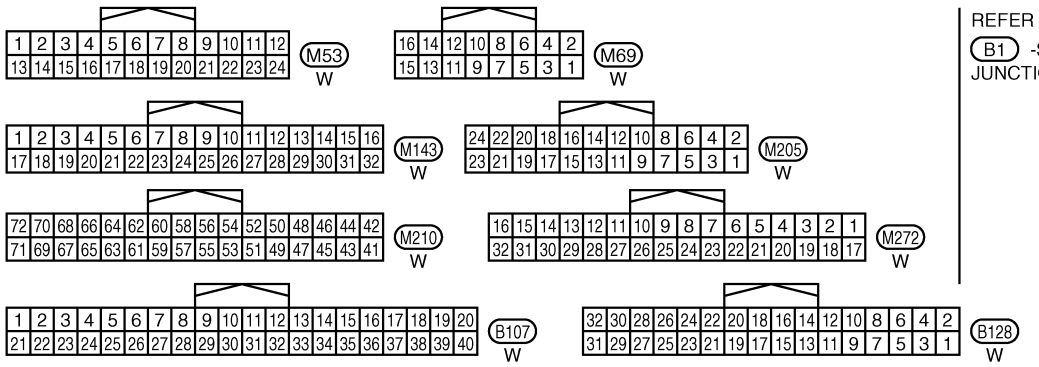
AV-AV-71



TKWT3458E

AV-AV-72

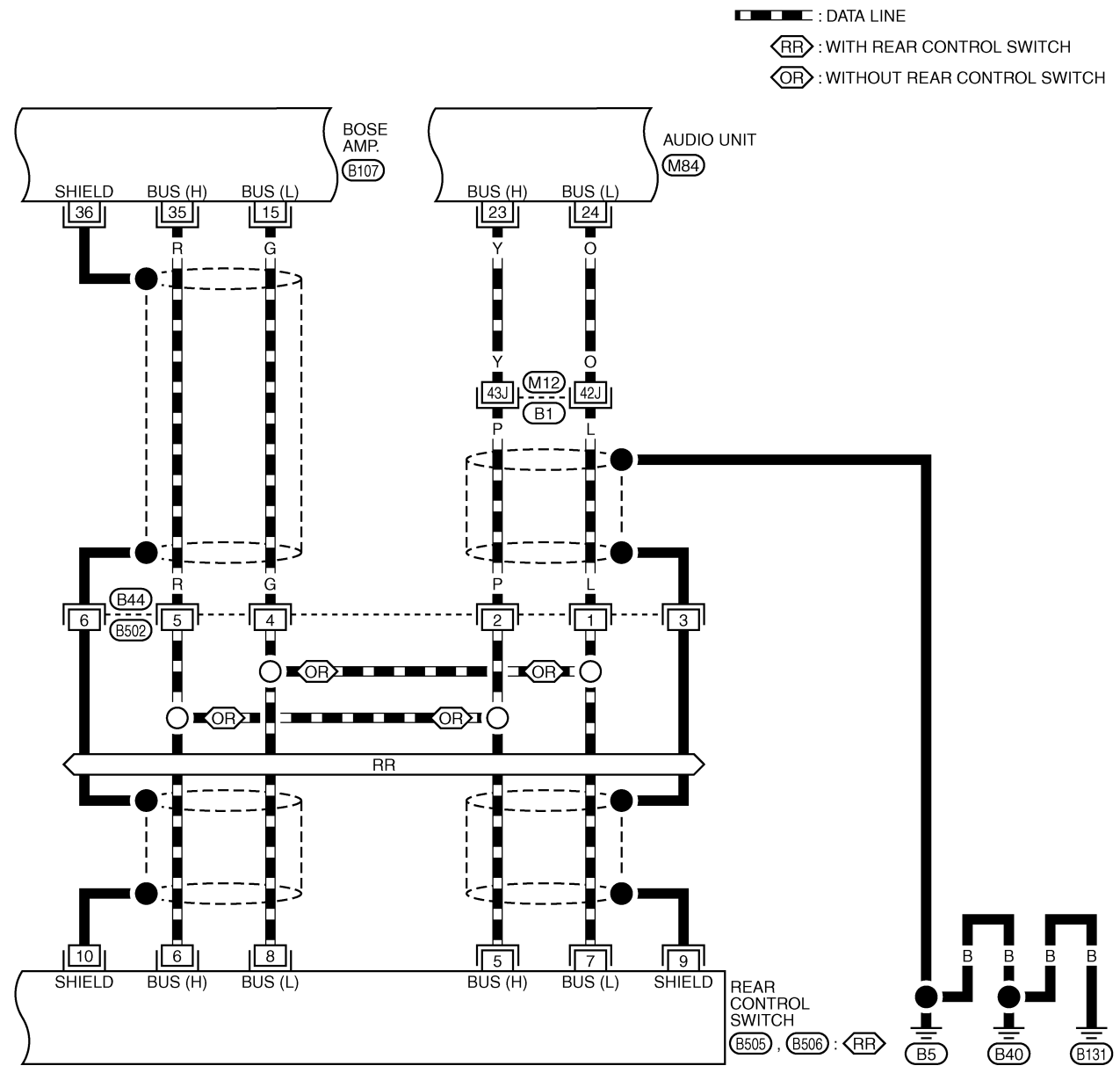


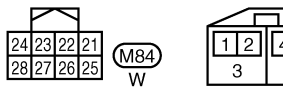


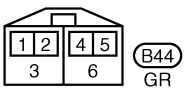
REFER TO THE FOLLOWING.
B1 -SUPER MULTIPLE JUNCTION (SMJ)

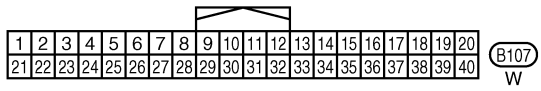
TKWT3459E

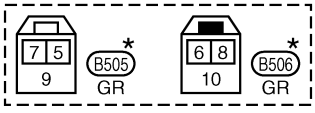
AV-AV-73









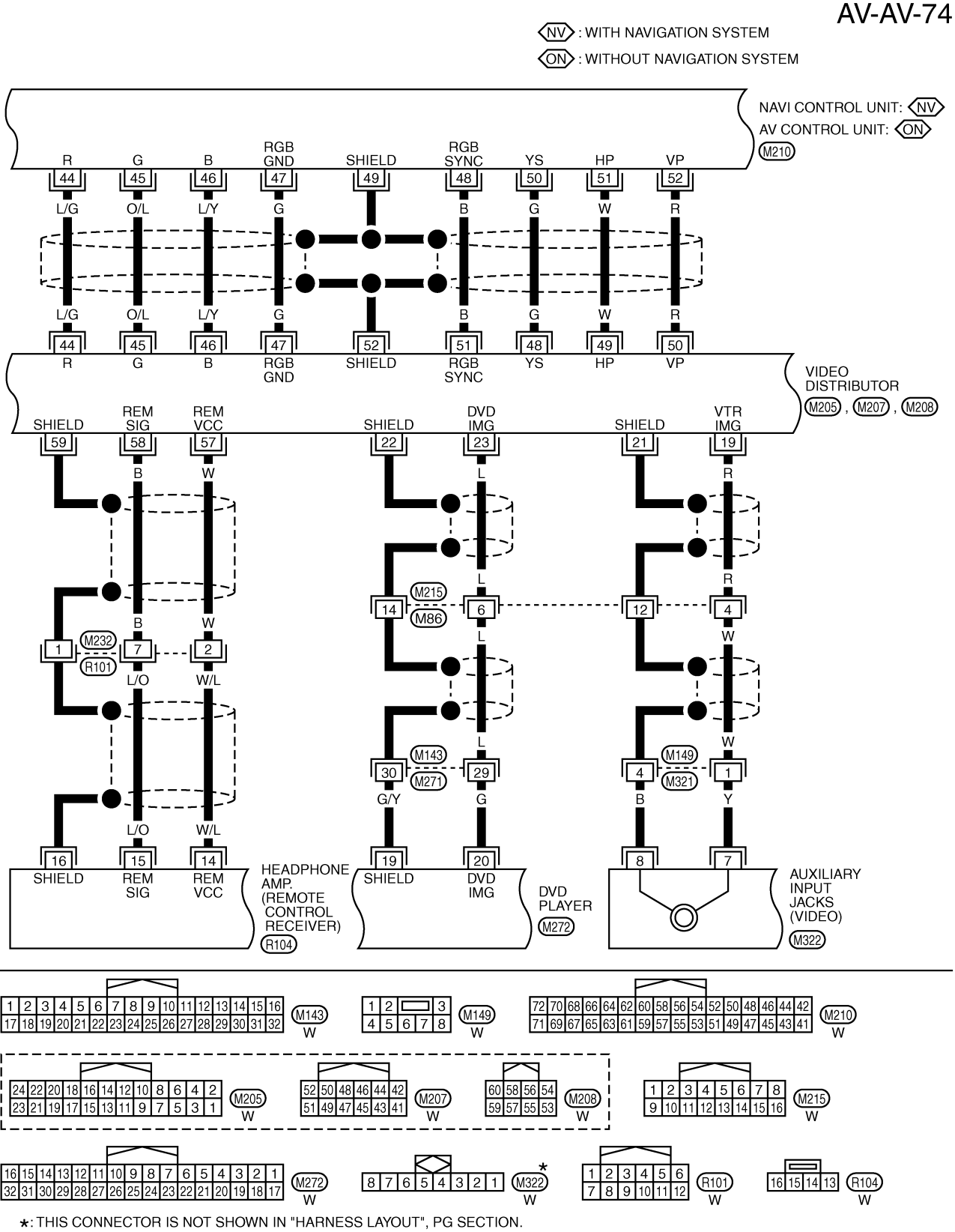


∗: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

REFER TO THE FOLLOWING.
B1 -SUPER MULTIPLE JUNCTION (SMJ)

TKWT3460E

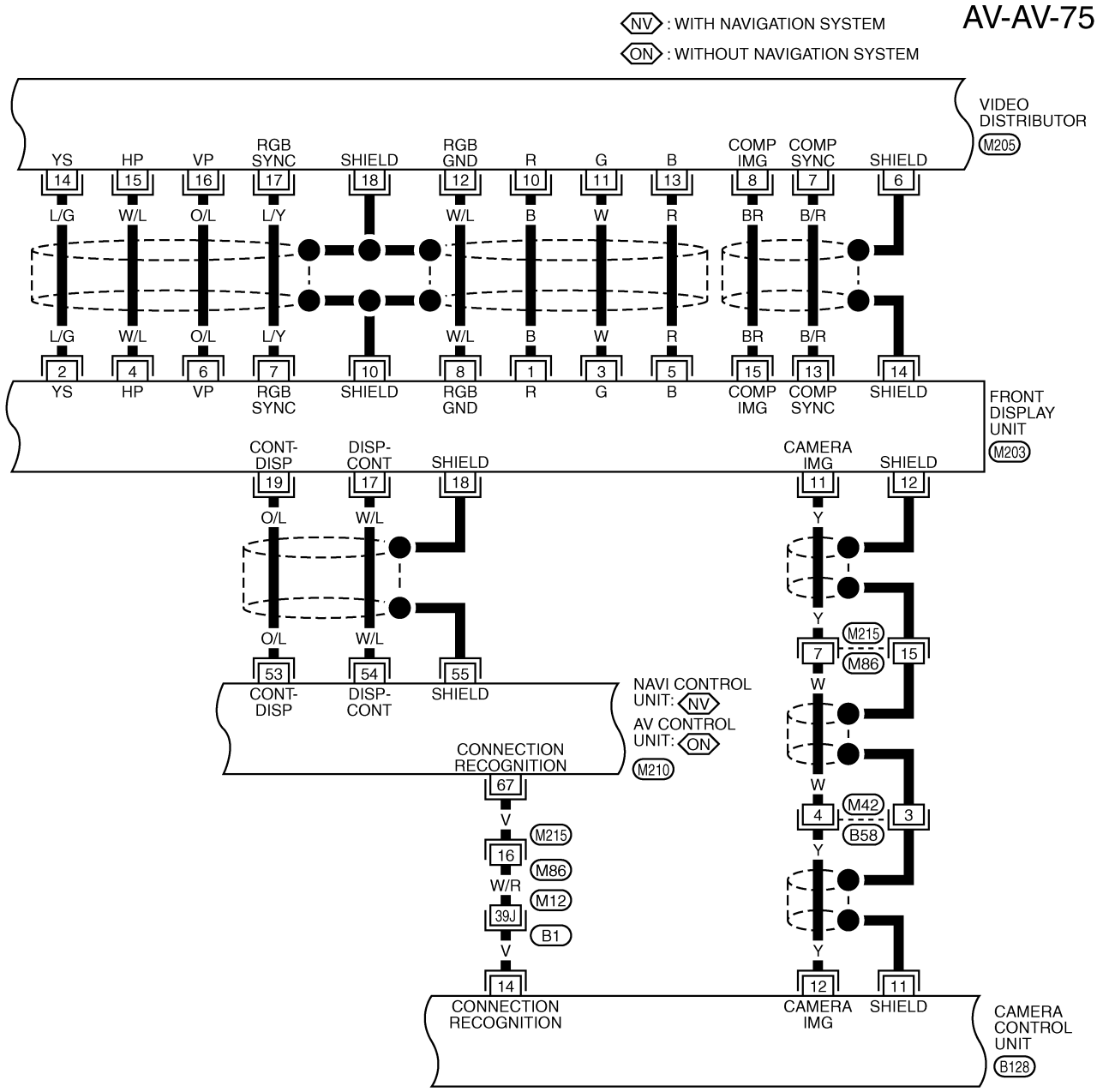
AV-AV-74

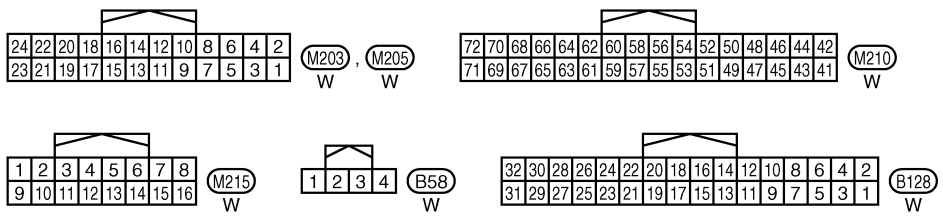


*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

TKWT3461E

AV-AV-75

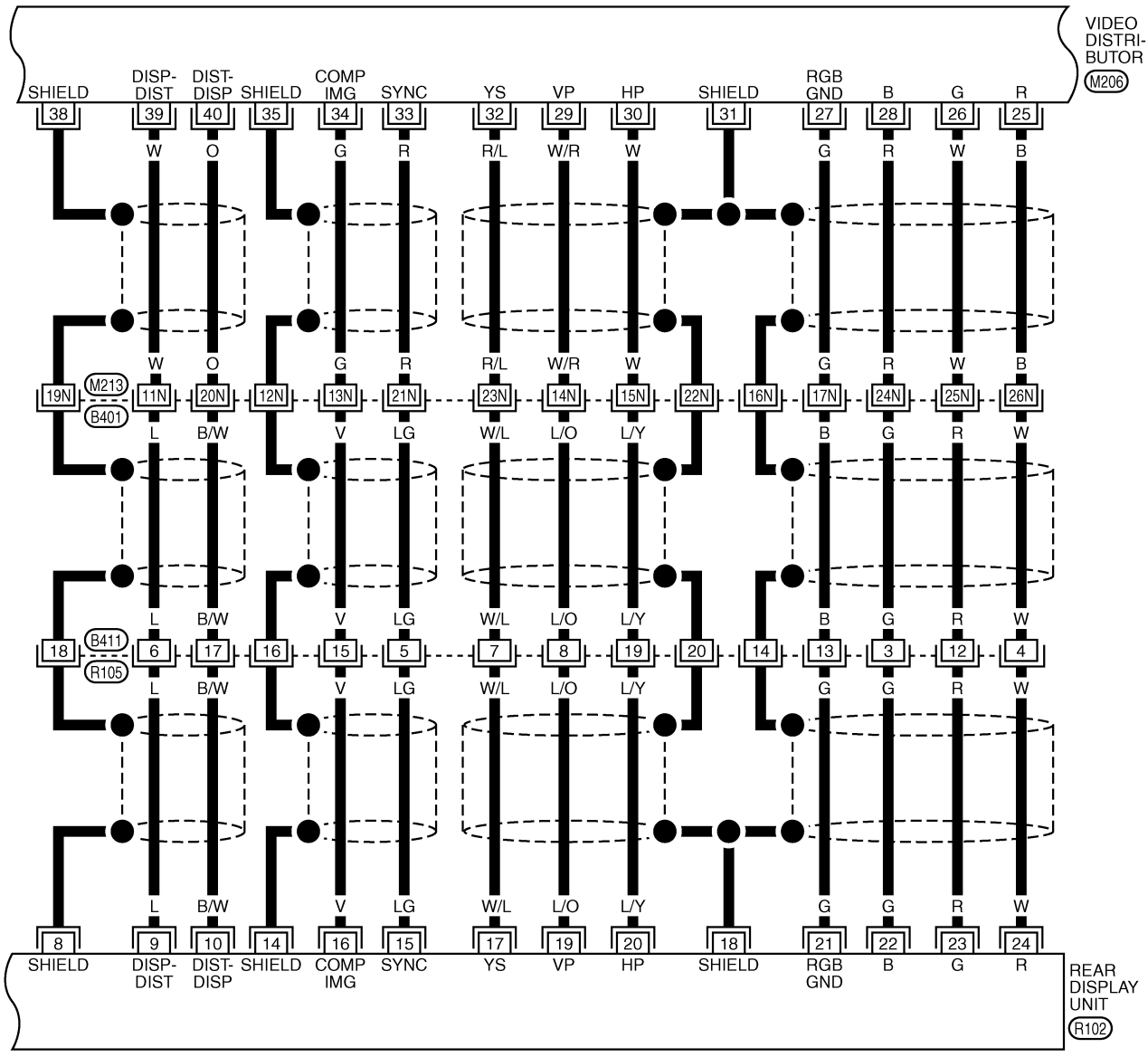


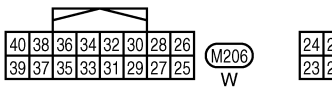


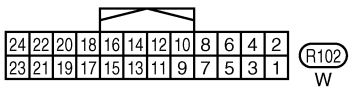
REFER TO THE FOLLOWING.
B1 -SUPER MULTIPLE JUNCTION (SMJ)

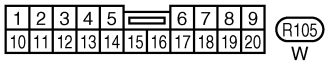
TKWT3462E

AV-AV-76





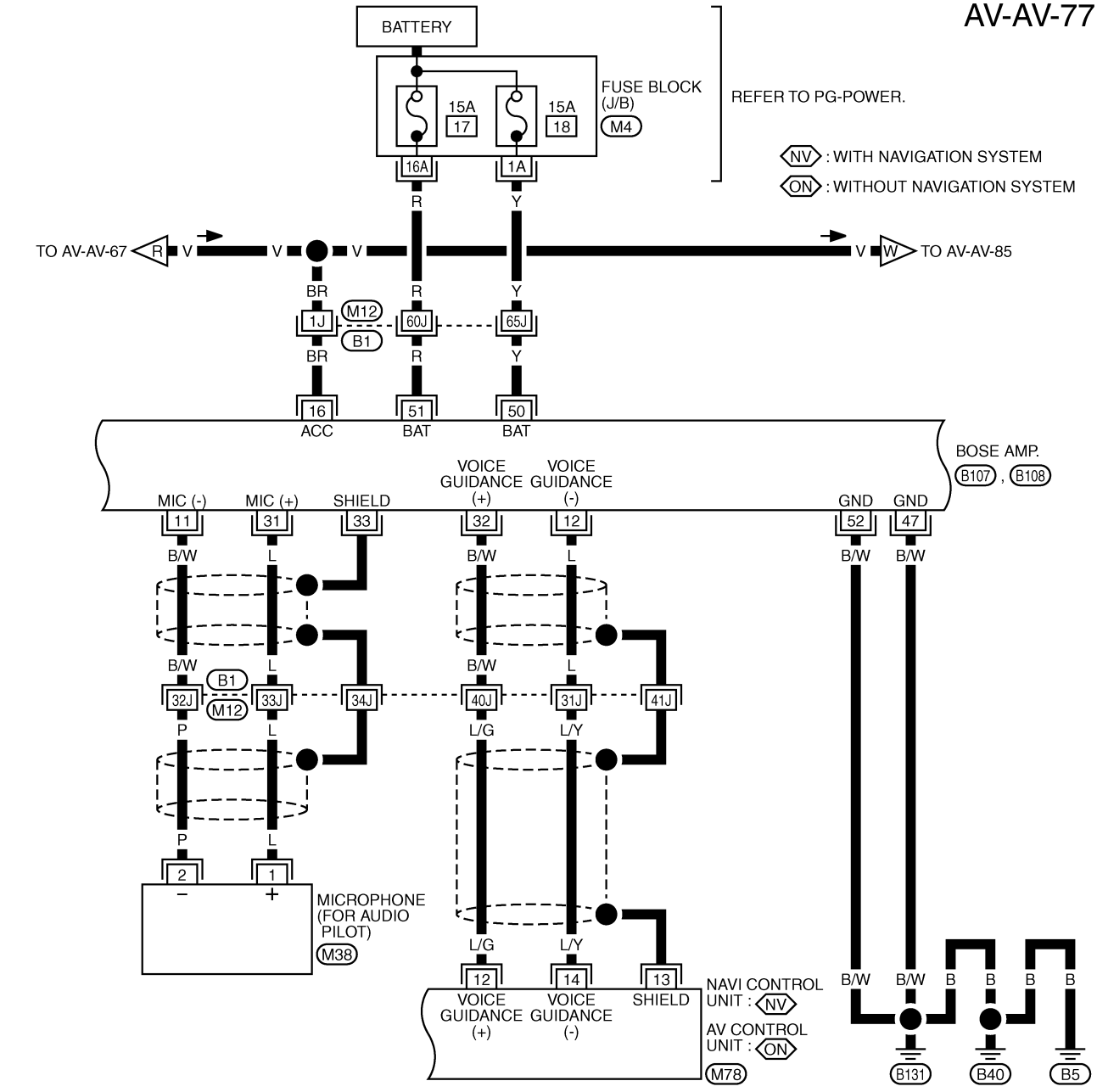


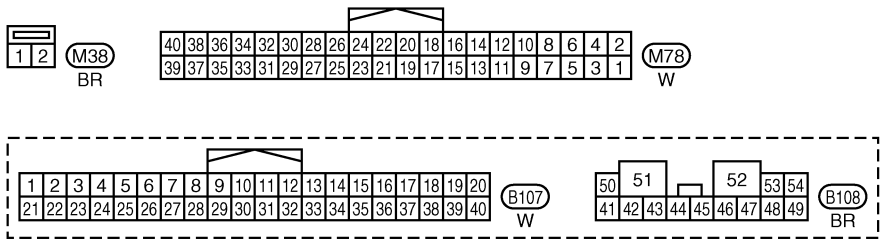


REFER TO THE FOLLOWING.
B401 -SUPER MULTIPLE JUNCTION (SMJ)

TKWT3463E

AV-AV-77





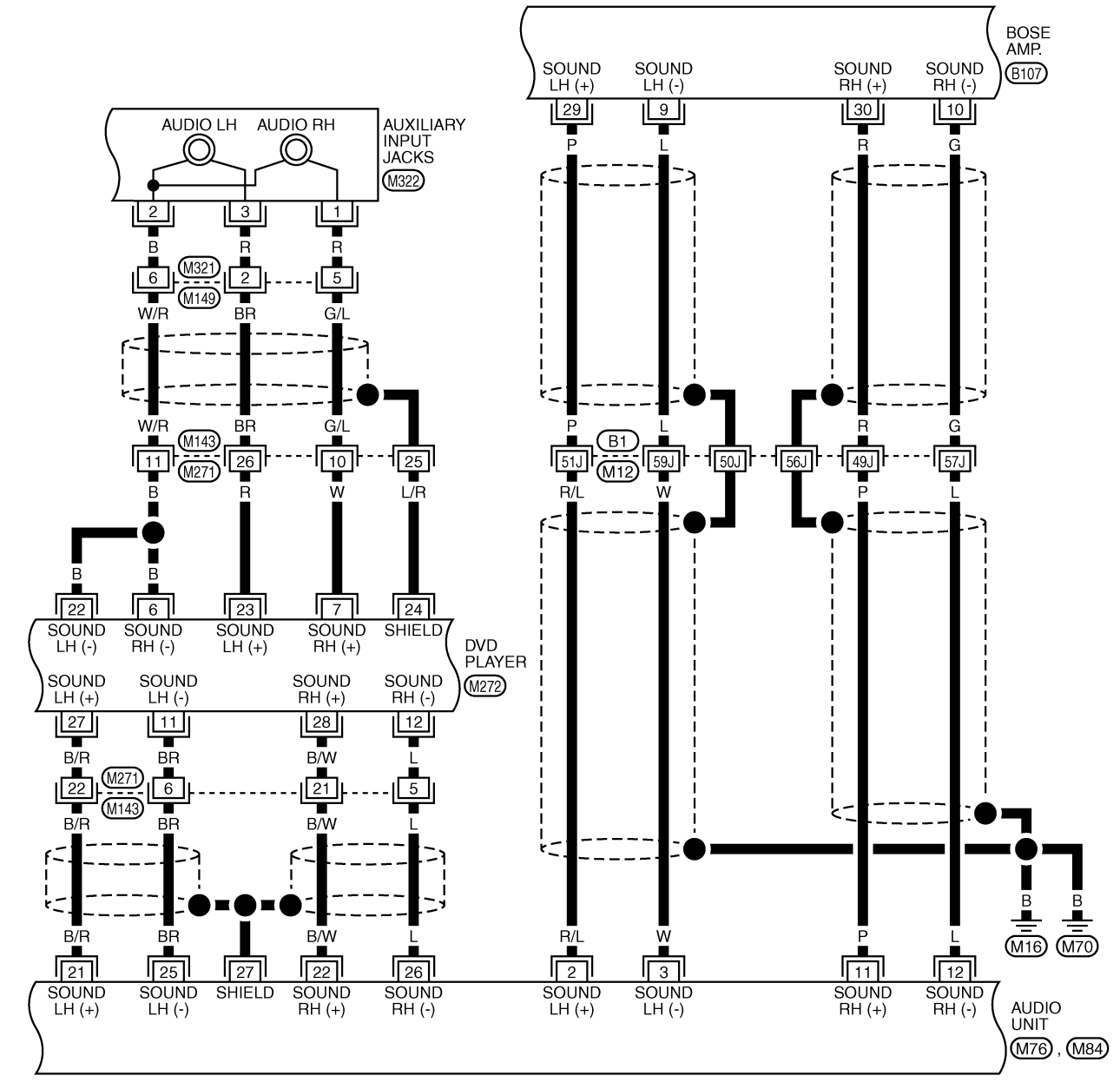
REFER TO THE FOLLOWING.

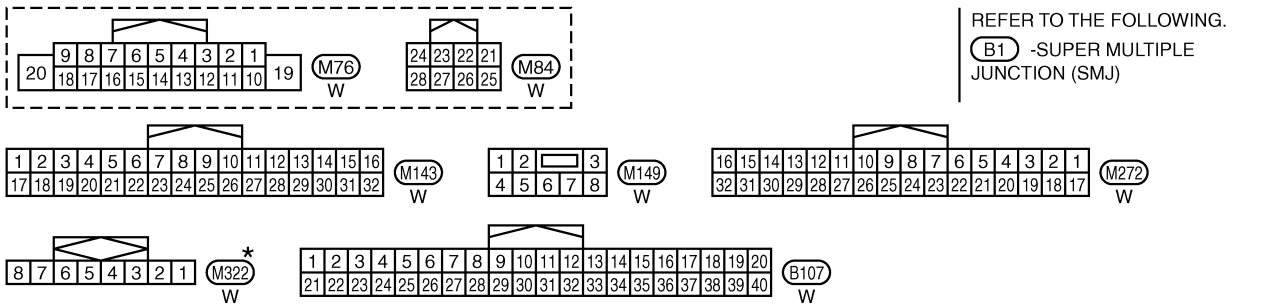
B1 -SUPER MULTIPLE JUNCTION (SMJ)

M4 -FUSE BLOCK-JUNCTION BOX (J/B)

TKWT3464E

AV-AV-78



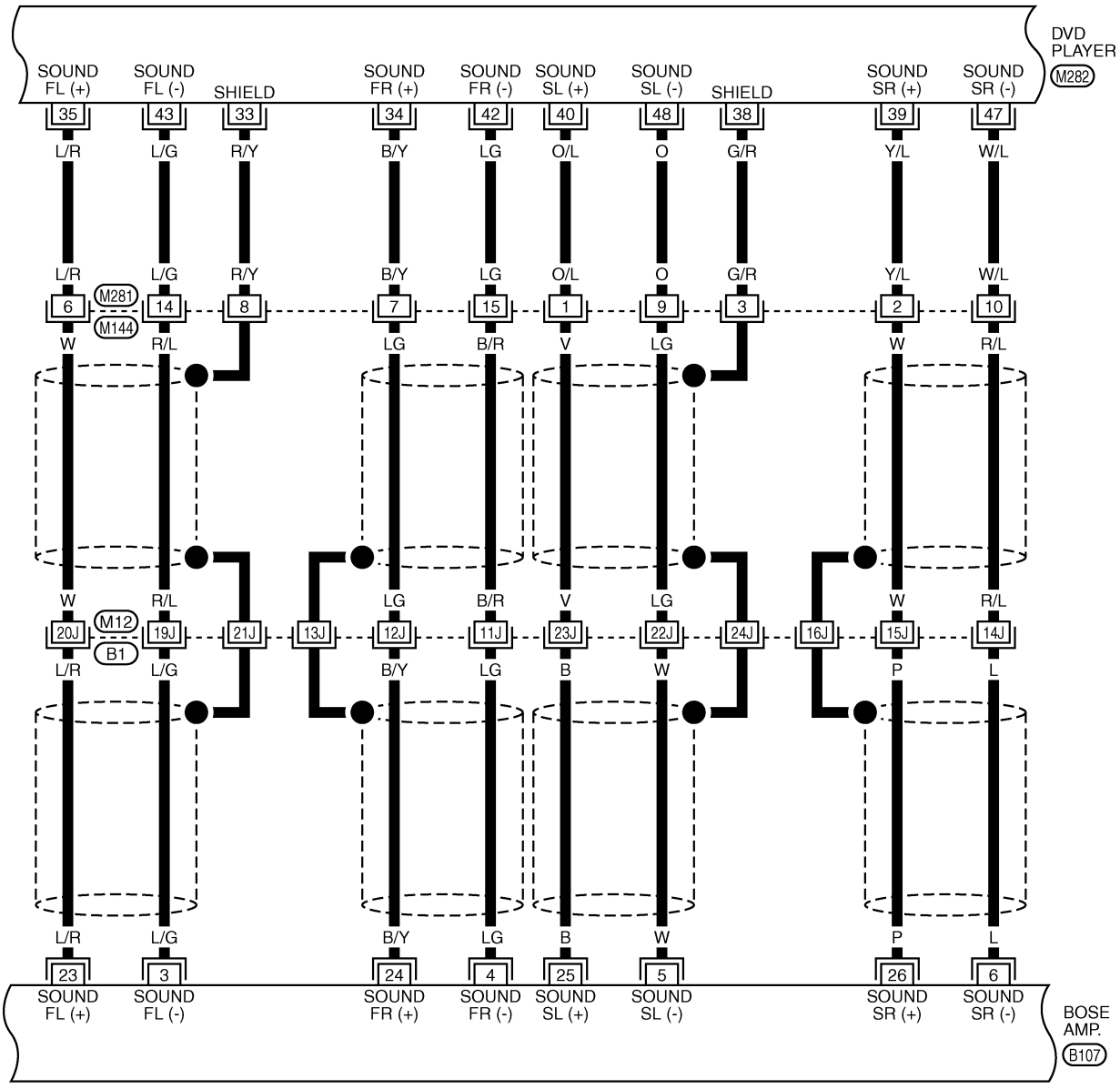


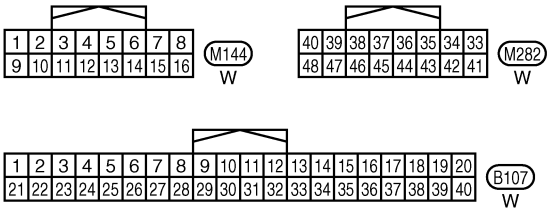
REFER TO THE FOLLOWING.
B1 -SUPER MULTIPLE JUNCTION (SMJ)

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

TKWT3465E

AV-AV-79

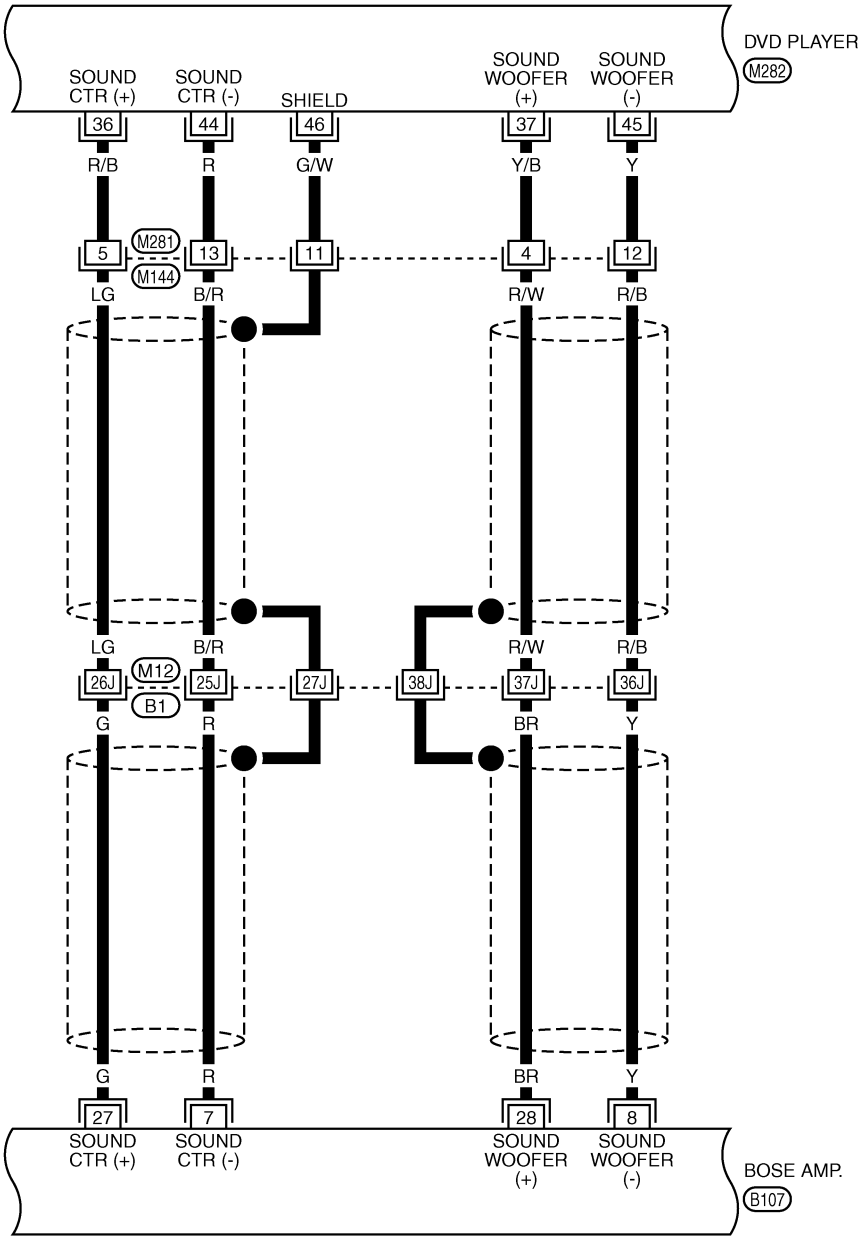


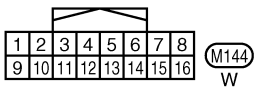


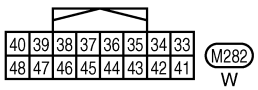
REFER TO THE FOLLOWING.
B1 -SUPER MULTIPLE JUNCTION (SMJ)

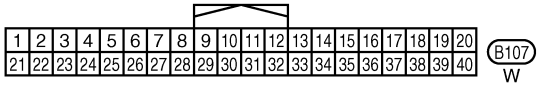
TKWT3466E

AV-AV-80





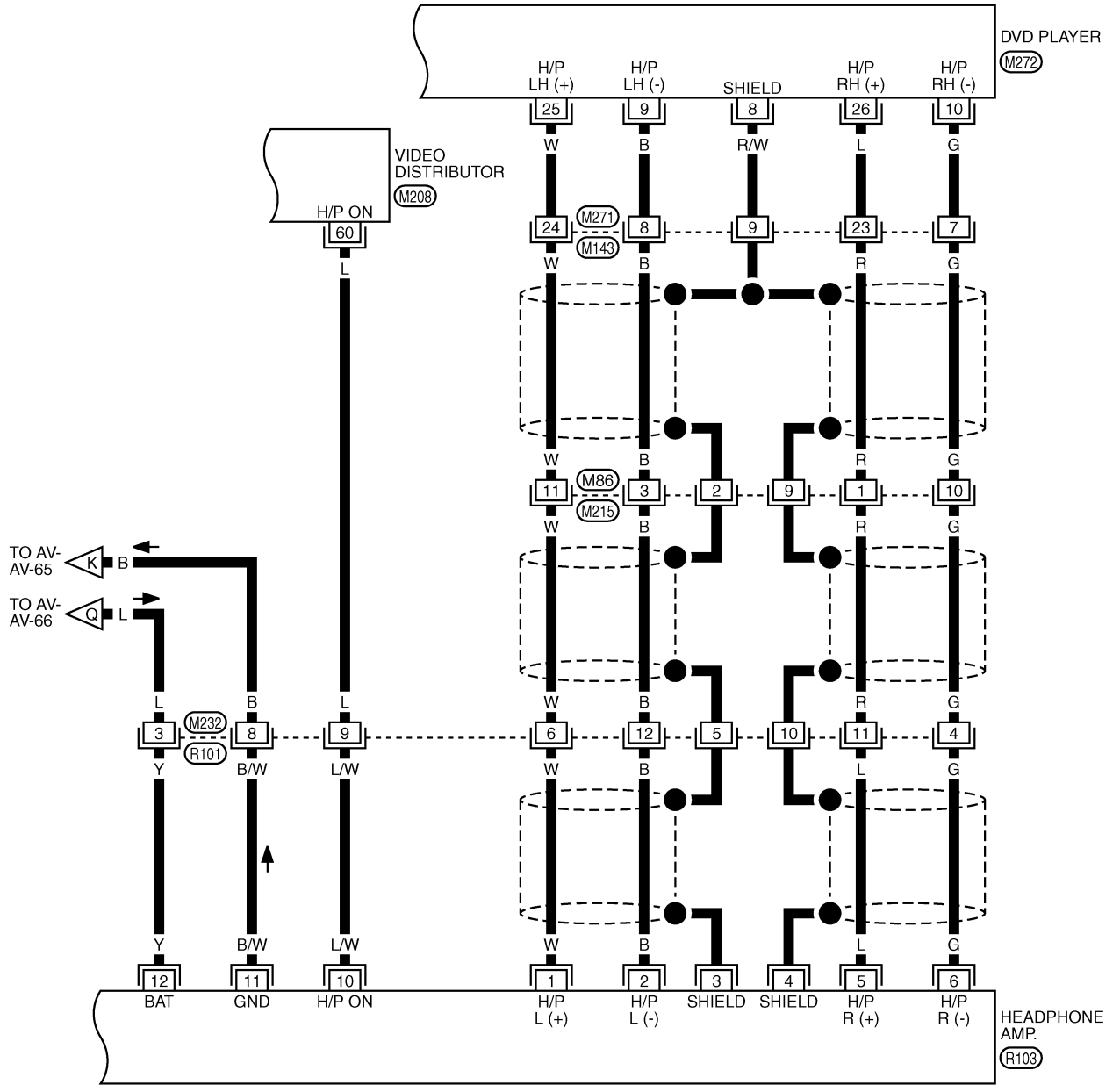


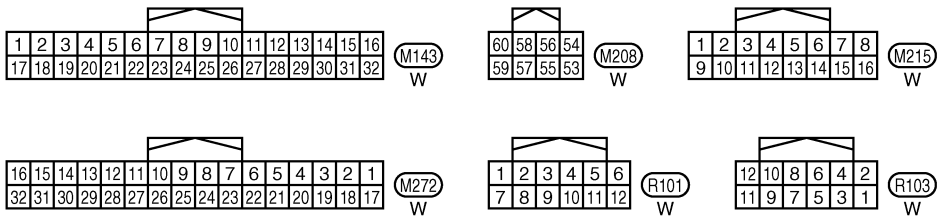


REFER TO THE FOLLOWING.
B1 -SUPER MULTIPLE JUNCTION (SMJ)

TKWT3467E

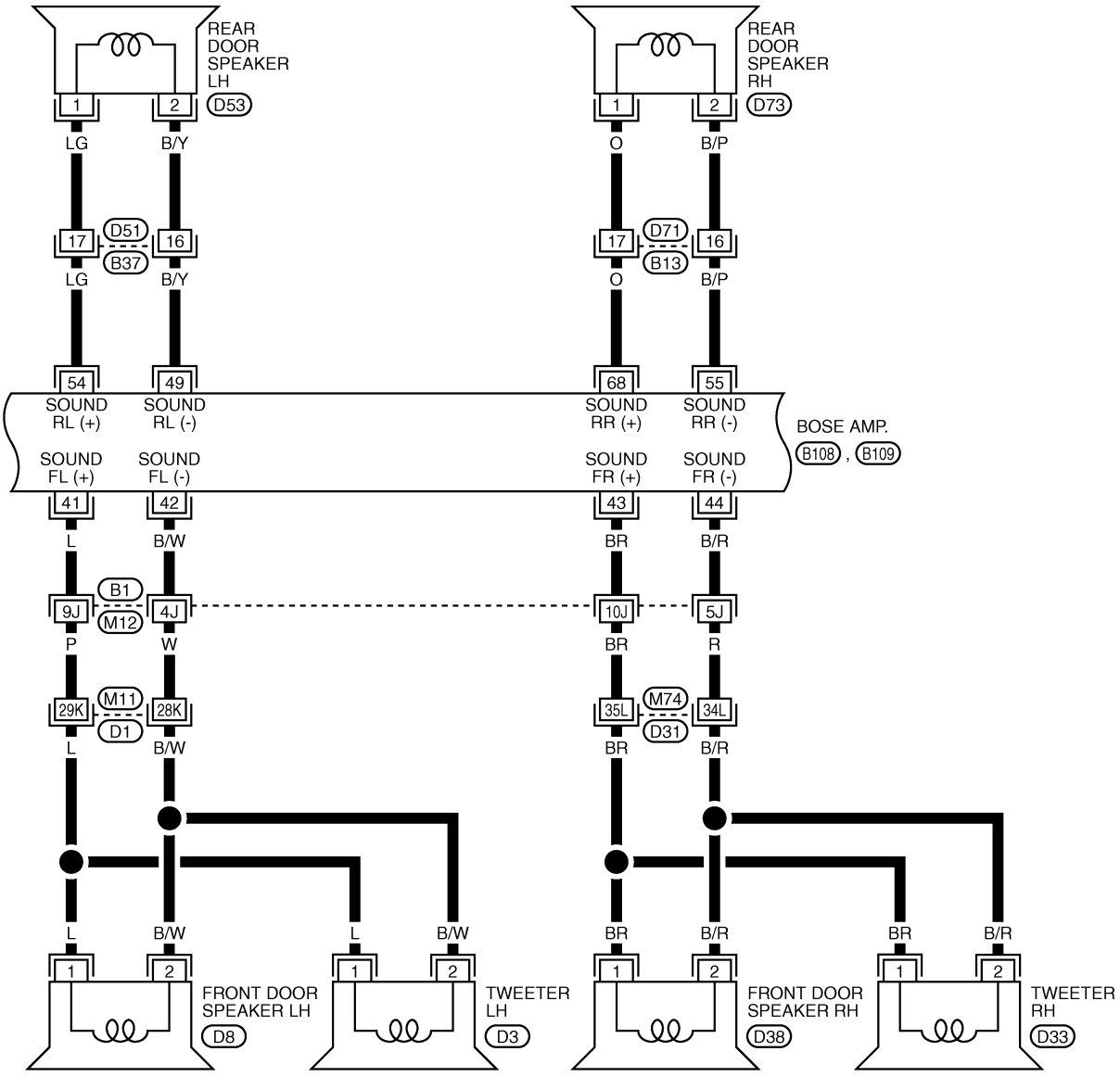
AV-AV-81





TKWT3468E

AV-AV-82



B13 , B37 W W

B108 BR

B109 BR

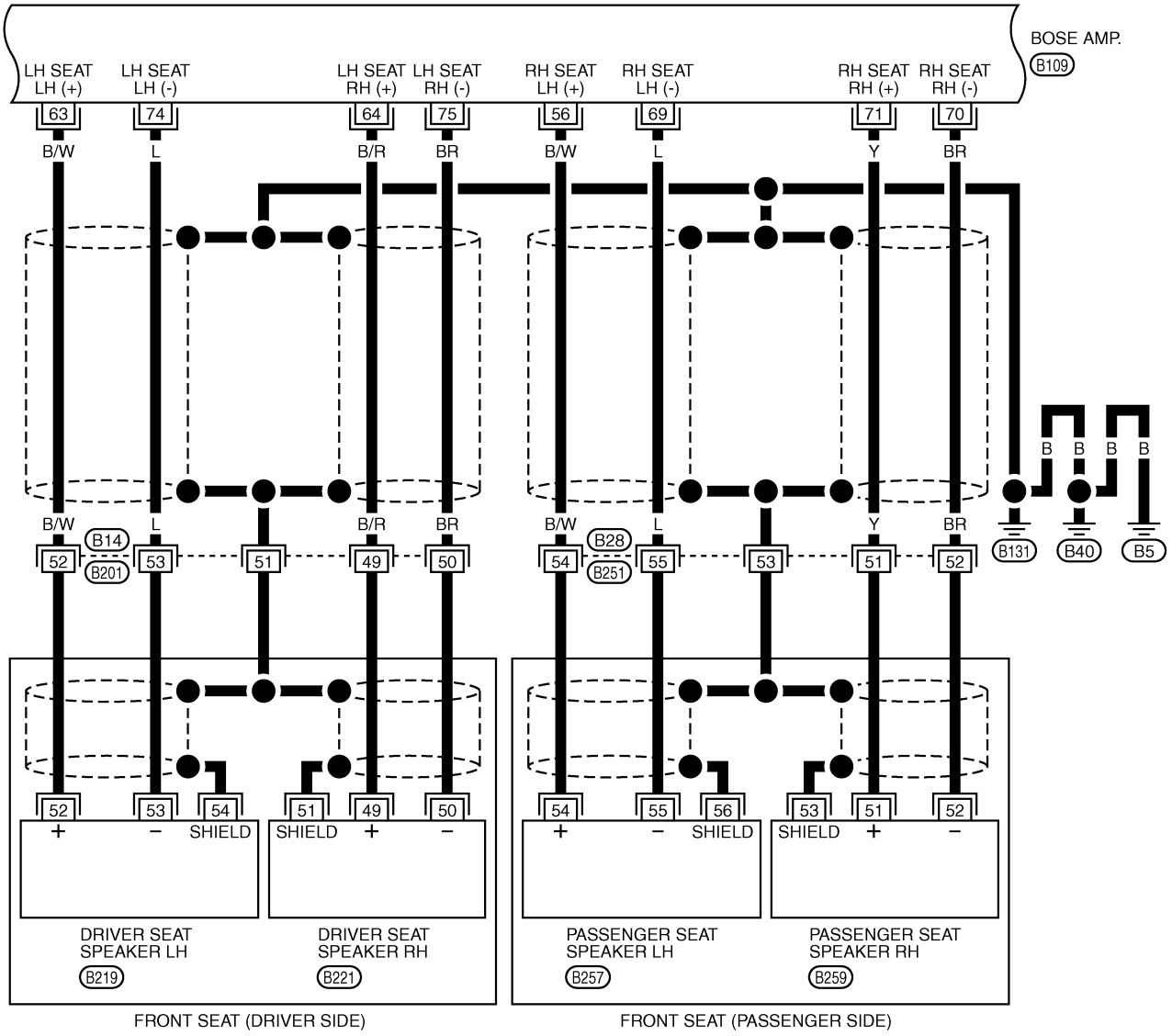
D3 , D33 BR BR

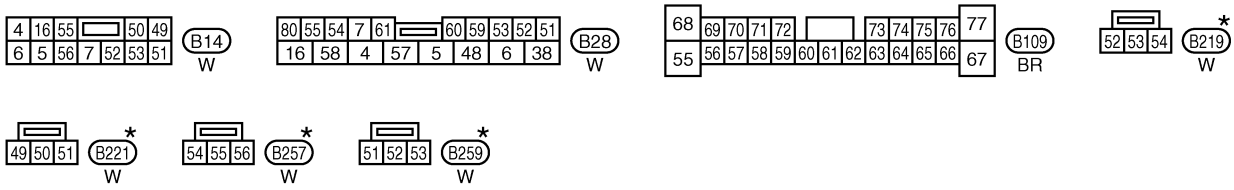
D8 , D38 , D53 , D73 BR BR BR BR

REFER TO THE FOLLOWING.
B1 , D1 , D31 -SUPER MULTIPLE JUNCTION (SMJ)

TKWT3469E

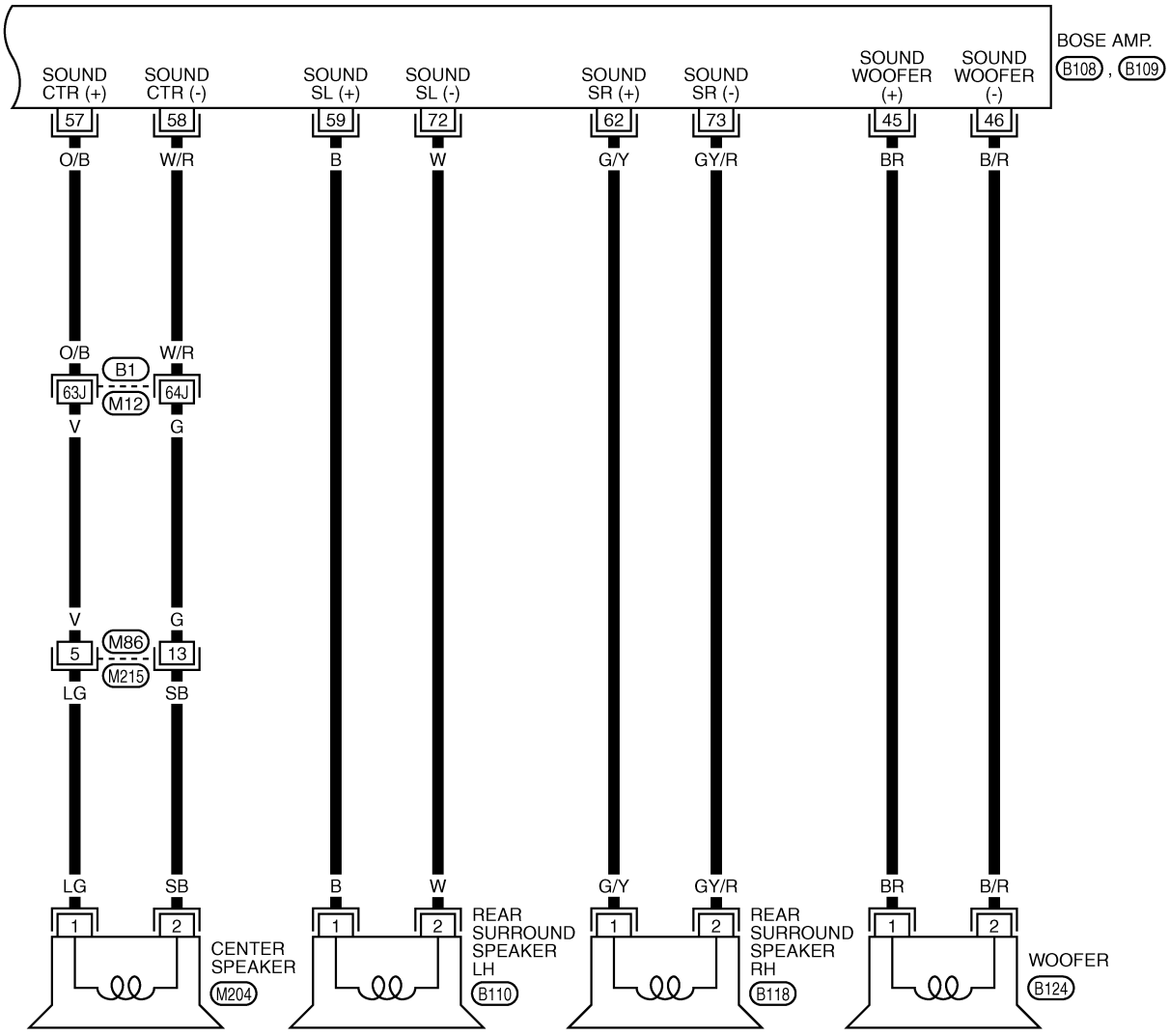
AV-AV-83

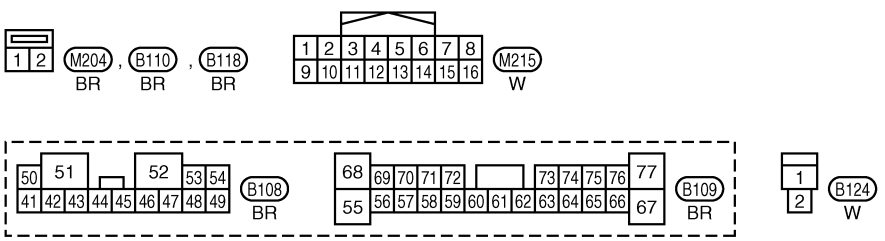




*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

TKWT3470E

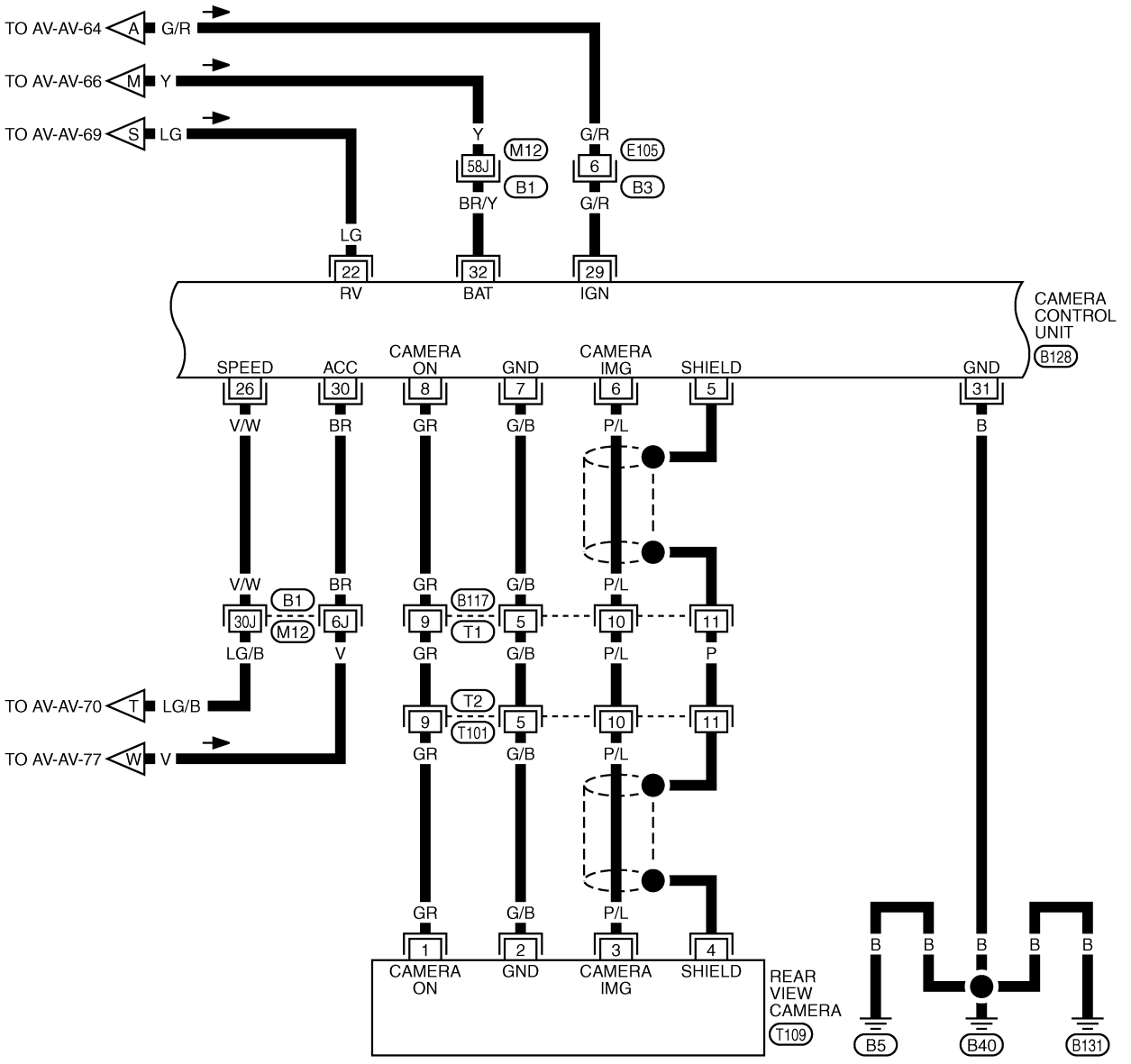




REFER TO THE FOLLOWING.
B1 -SUPER MULTIPLE JUNCTION (SMJ)

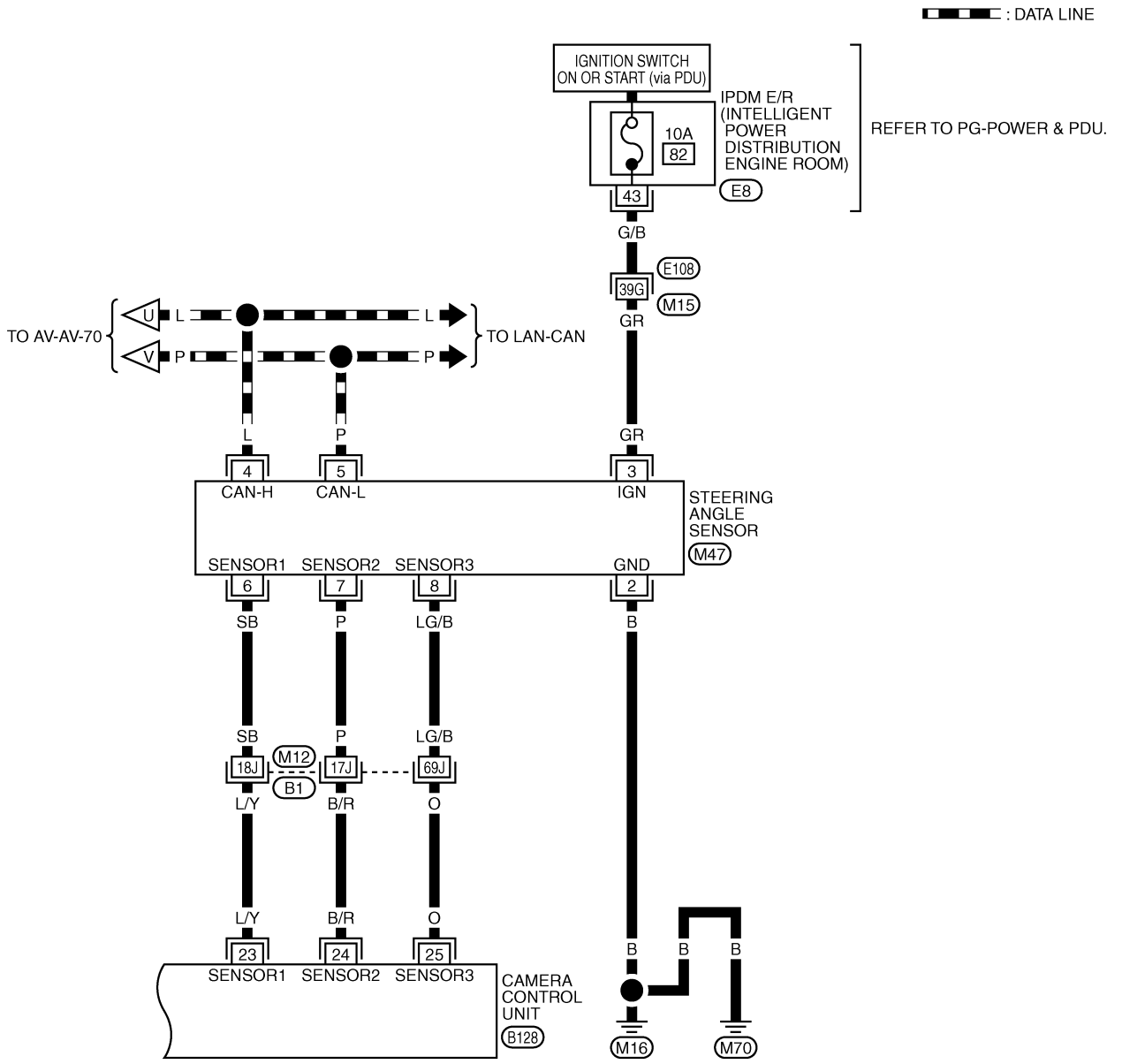
TKWT3471E

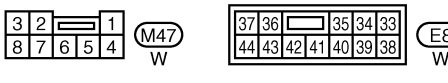
AV-AV-85

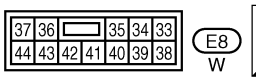


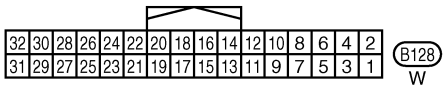
TKWT3472E

AV-AV-86





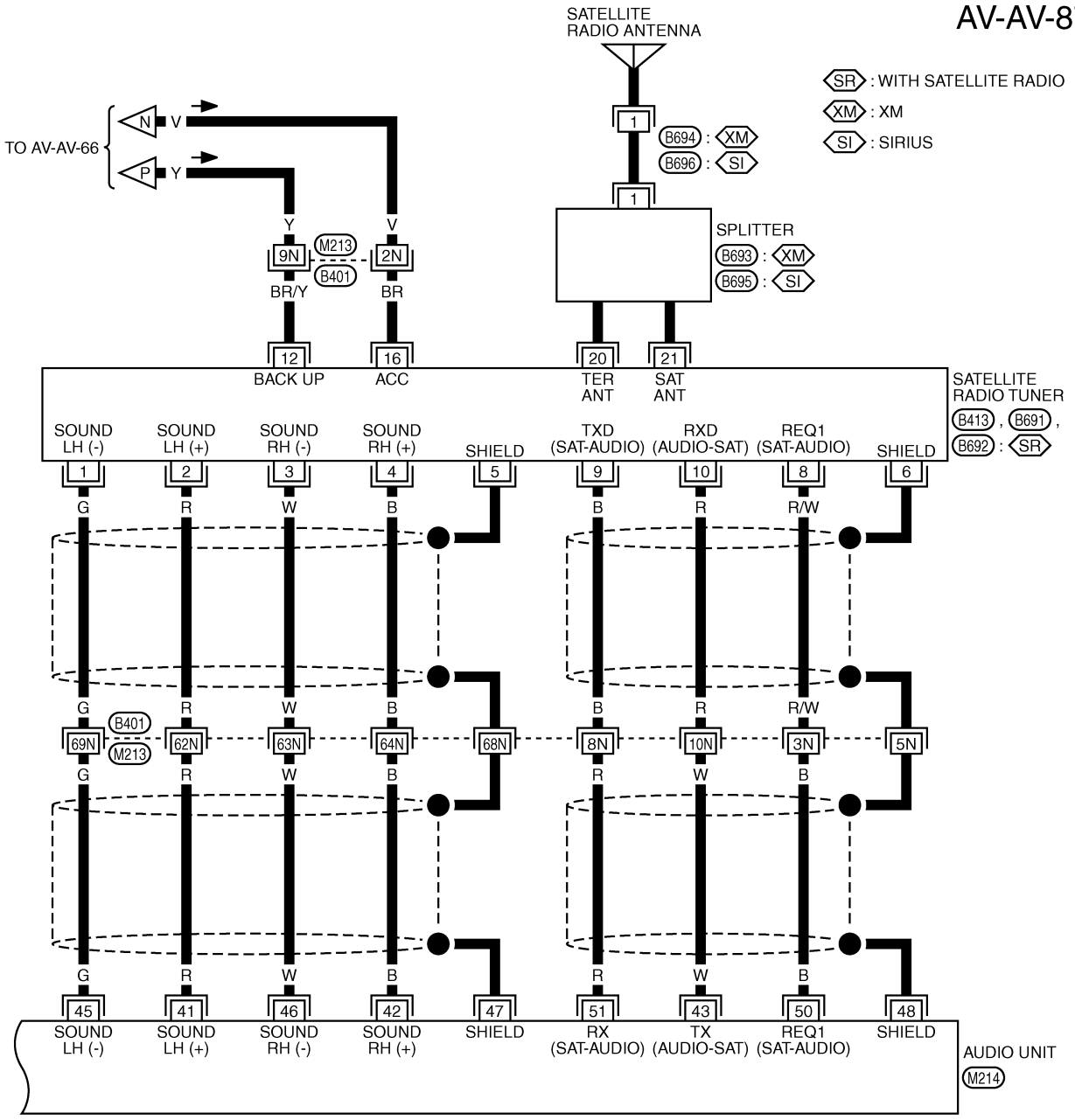


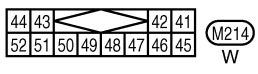


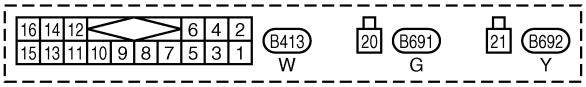
REFER TO THE FOLLOWING.
E108 , B1 -SUPER MULTIPLE JUNCTION (SMJ)

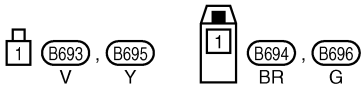
TKWT3473E

AV-AV-87







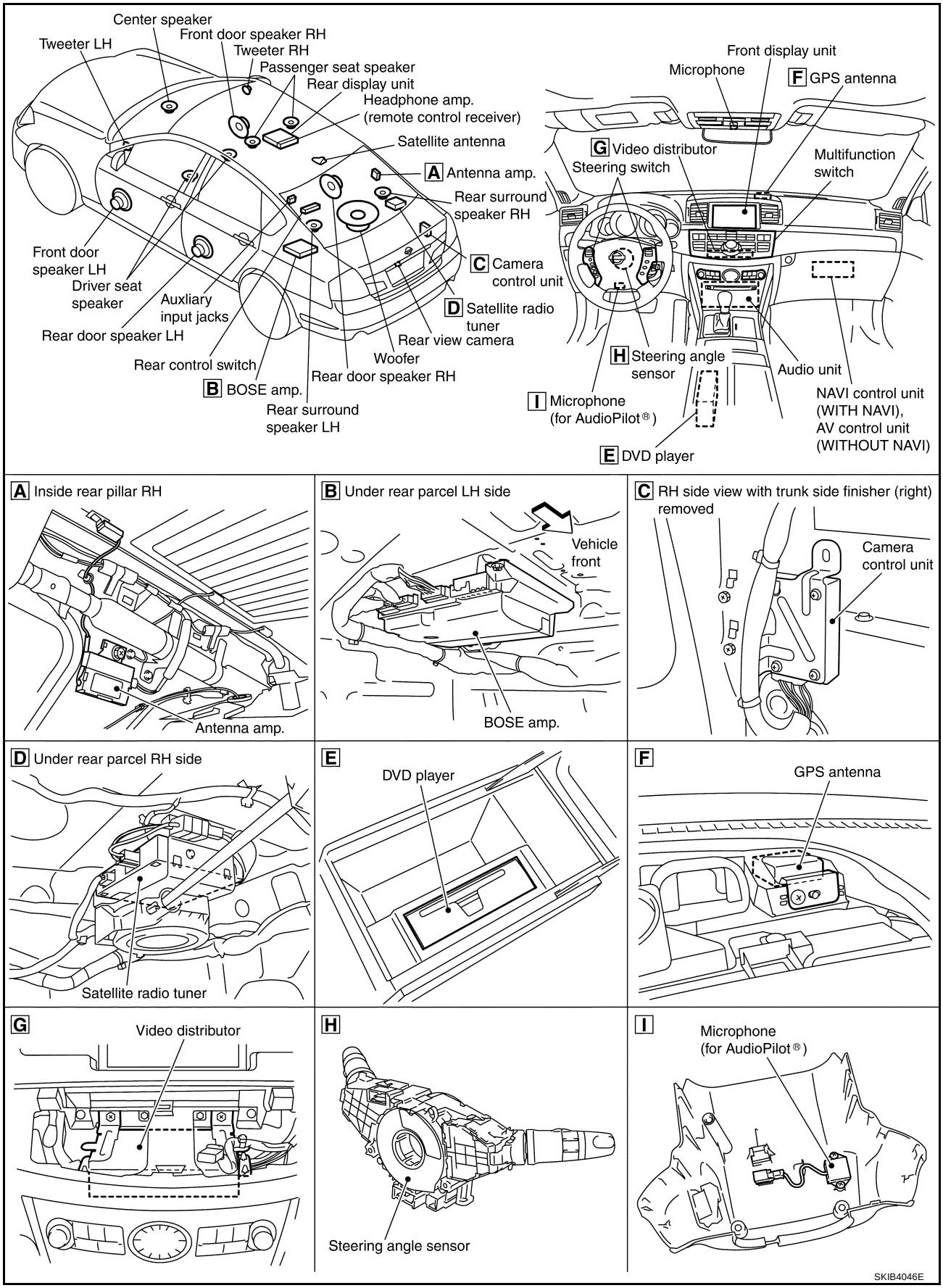


REFER TO THE FOLLOWING.
B401 -SUPER MULTIPLE JUNCTION (SMJ)

TKWT3474E

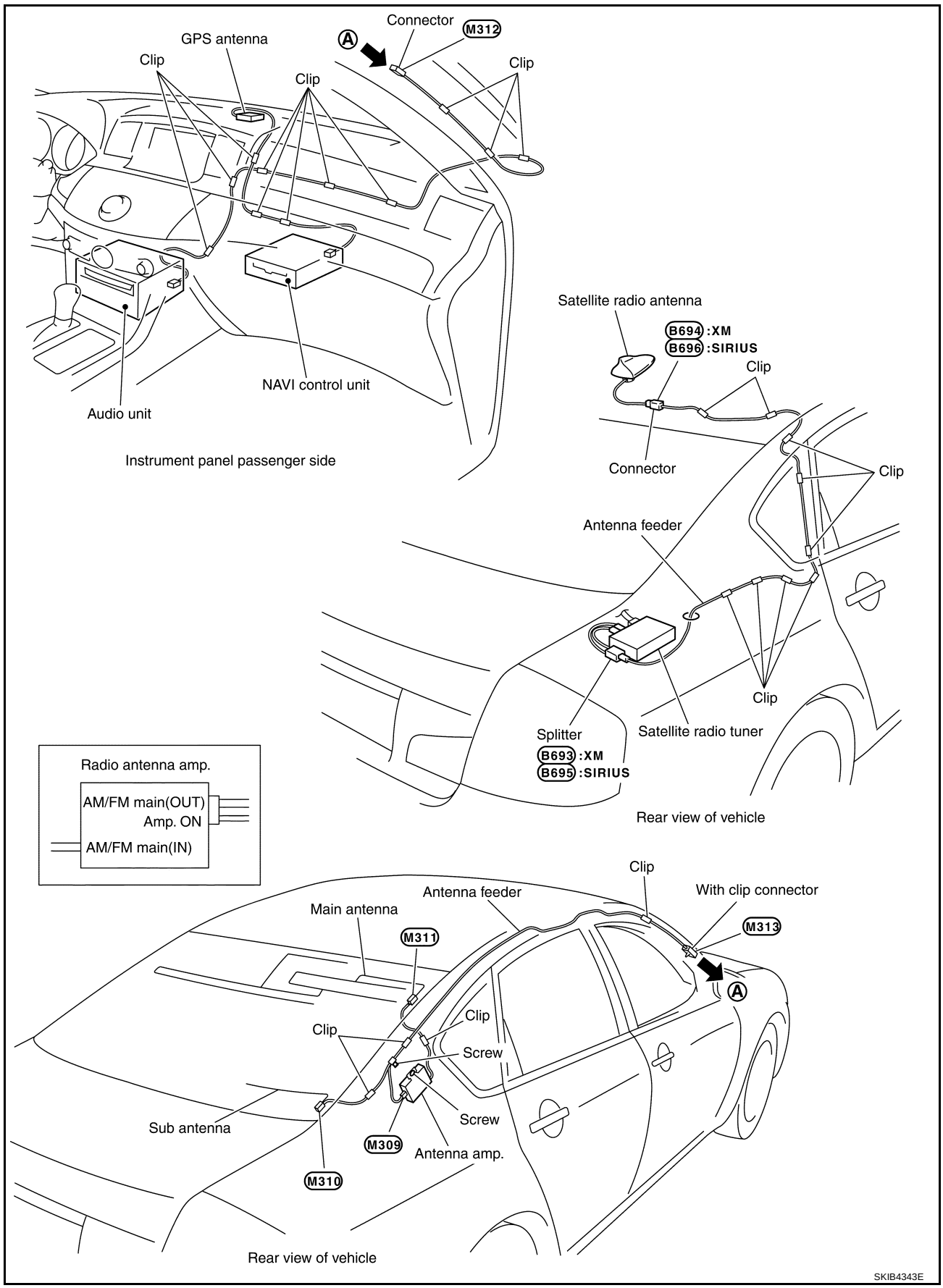
Component Parts Location

NKS004AJ



Location of Antenna

NKS004AK

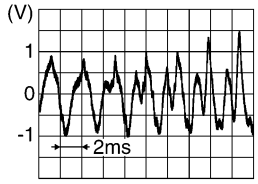
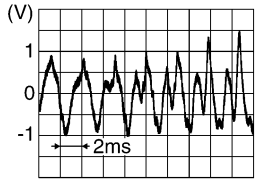


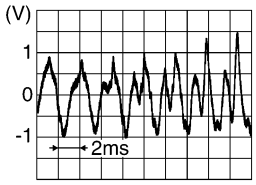
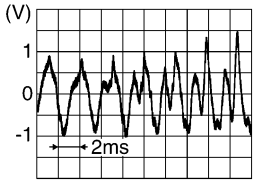
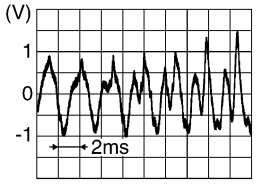
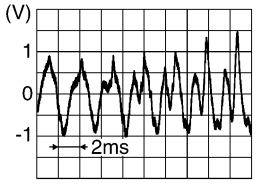
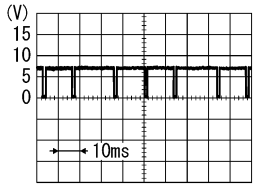
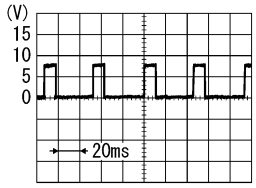
TERMINALS AND REFERENCE VALUE FOR CONTROL UNIT

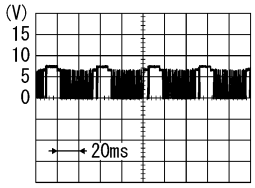
PFP:00000

Audio Unit

NKS004AL

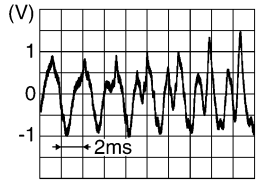
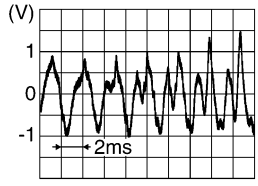
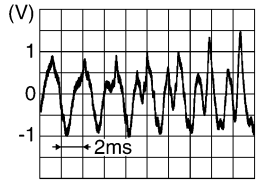
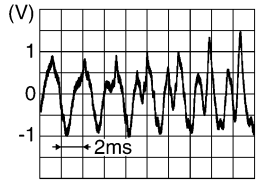
Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
2 (R/L)	3 (W)	Audio signal LH	Output	ON	Receive audio signal.	 SKIB3609E
6 (BR)	15 (G)	Steering switch signal A	Input	ON	Keep pushing SOURCE switch.	approx. 0 V
					Keep pushing MENU UP switch.	Approx. 1.2 V
					Keep pushing MENU DOWN switch.	Approx. 2.5 V
					Keep pushing ENTER switch.	Approx. 3.7 V
					Except for above.	Approx. 5 V
7 (V)	Ground	ACC power supply	Input	ACC	–	Battery voltage
8 (R/Y)	Ground	Illumination control signal	Input	OFF	Illumination control switch is operated by lighting switch in ON position.	Change between approx. 0 V and approx. 12 V
9 (R)	Ground	Illumination signal	Input	OFF	Lighting switch is OFF.	Approx. 0 V
					Lighting switch is ON.	Approx. 12 V
11 (P)	12 (L)	Audio signal RH	Output	ON	Receive audio signal.	 SKIB3609E
15 (G)	Ground	Steering switch signal ground	–	ON	–	Approx. 0 V
16 (O)	15 (G)	Steering switch signal B	Input	ON	Keep pushing VOL DOWN switch.	Approx. 0 V
					Keep pushing VOL UP switch.	Approx. 1.2 V
					Keep pushing TEL, PTT switch.	Approx. 2.5 V
					Keep pushing BACK switch.	Approx. 3.7 V
					Except for above.	Approx. 5 V
19 (Y)	Ground	Battery power supply	Input	OFF	–	Battery voltage
20 (B)	Ground	Ground	–	ON	–	Approx. 0 V

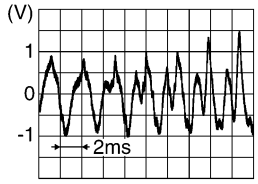
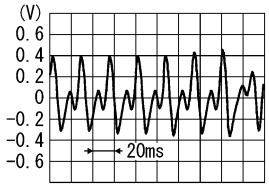
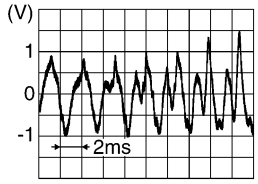
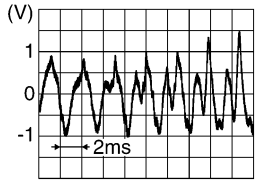
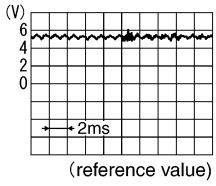
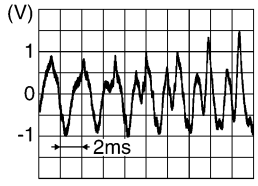
Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
21 (B/R)	25 (BR)	Sound signal LH	Input	ON	When playing DVD	 SKIB3609E
22 (B/W)	26 (L)	Sound signal RH				
23 (Y)	–	Communication signal (H)	Input/ Output	–	–	–
24 (O)	–	Communication signal (L)	Input/ Output	–	–	–
27	–	Shield	–	–	–	–
30 (BR)	31 (B/R)	TEL voice signal	Input	ON	When inputting TEL voice signal.	 SKIB3609E
37	–	Shield	–	–	–	–
41 (R)	45 (G)	Audio signal LH	Input	ON	Satellite radio mode is ON.	 SKIB3609E
42 (B)	46 (W)	Audio signal RH	Input	ON	Satellite radio mode is ON.	 SKIB3609E
43 (W)	Ground	Communication signal (AUDIO-SAT)	Output	ON	Satellite radio mode is ON.	 SKIB3826E
47	–	Shield	–	–	–	–
48	–	Shield	–	–	–	–
50 (B)	Ground	REQ1 (SAT-AUDIO)	Input	ON	Satellite radio mode is ON.	 SKIB3825E

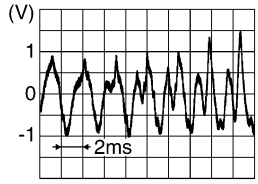
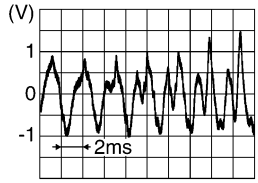
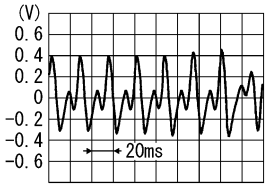
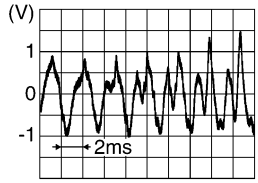
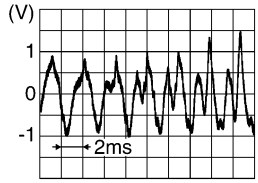
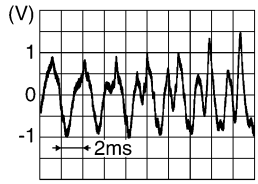
Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
51 (R)	Ground	Communication signal (SAT-AUDIO)	Input	ON	Satellite radio mode is ON.	 SKIB3824E
53	Ground	Antenna amp ON signal	Output	ON	–	Approx.12V
54	–	AM-FM main	Input	–	–	–
55	–	FM sub	Input	–	–	–

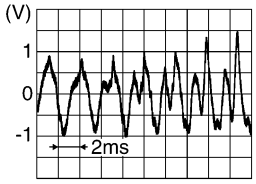
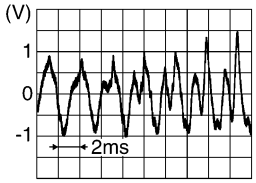
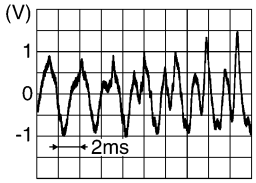
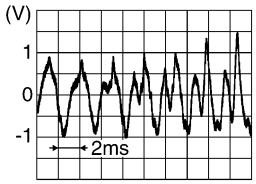
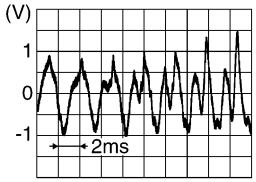
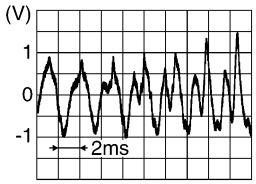
BOSE Amp

NKS004AM

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
14 (G)	–	Communication signal (L)	–	–	–	–
15 (G)	–	Communication signal (L)	–	–	–	–
16 (BR)	Ground	ACC power supply	Input	ACC	–	Battery voltage
23* (L/R)	3* (L/G)	DVD sound signal front LH	Input	ON	When playing DVD CAUTION	 SKIB3609E
24* (B/Y)	4* (LG)	DVD sound signal front RH	Input	ON	When playing DVD CAUTION	 SKIB3609E
25* (B)	5* (W)	DVD sound signal rear LH	Input	ON	When playing DVD CAUTION	 SKIB3609E
26* (P)	6* (L)	DVD sound signal rear RH	Input	ON	When playing DVD CAUTION	 SKIB3609E

Terminal (Wire color) +	Terminal (Wire color) –	Item	Signal input/ output	Condition: Ignition switch	Condition: Operation	Reference value
27* (G)	7* (R)	DVD sound signal center	Input	ON	When playing DVD[CAUTION]	 SKIB3609E
28* (BR)	8* (Y)	DVD sound signal woofer	Input	ON	When playing DVD[CAUTION]	 PKIB6116J
29 (P)	9 (L)	Audio signal LH	Input	ON	Receive audio signal.	 SKIB3609E
30 (R)	10 (G)	Audio signal RH	Input	ON	Receive audio signal.	 SKIB3609E
31 (L)	11 (B/W)	MIC. signal	Input	ON	When inputting noise.	 PKIA2104E
32 (B/W)	12 (L)	Voice guidance signal	Input	ON	When inputting voice guidance.	 SKIB3609E
33	–	Shield	–	–	–	–
34 (R)	–	Communication signal (H)	–	–	–	–
35 (R)	–	Communication signal (H)	–	–	–	–
36	–	Shield	–	–	–	–

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
41 (L)	42 (B/W)	Audio signal front LH	Output	ON	Receive audio signal.	 SKIB3609E
43 (BR)	44 (B/R)	Audio signal front RH	Output	ON	Receive audio signal.	 SKIB3609E
45 (BR)	46 (B/R)	Audio signal woofer	Output	ON	Receive audio signal.	 PKIB6116J
47 (B/W)	Ground	Ground	–	ON	–	Approx. 0 V
50 (Y)	Ground	Battery power supply	Input	OFF	–	Battery voltage
51 (R)	Ground	Battery power supply	Input	OFF	–	Battery voltage
52 (B/W)	Ground	Ground	–	ON	–	Approx. 0 V
54 (LG)	49 (B/Y)	Audio signal rear LH	Output	ON	Receive audio signal.	 SKIB3609E
56* (B/W)	69* (L)	Audio signal passenger seat LH	Output	ON	Receive audio signal.	 SKIB3609E
57 (O/B)	58 (W/R)	Audio signal center	Output	ON	Receive audio signal.	 SKIB3609E

Terminal (Wire color) +	Terminal (Wire color) –	Item	Signal input/ output	Condition: Ignition switch	Condition: Operation	Reference value
59* (B)	72* (W)	Audio signal rear surround LH	Output	ON	Receive audio signal.	 SKIB3609E
62* (G/Y)	73* (GY/R)	Audio signal rear surround RH	Output	ON	Receive audio signal.	 SKIB3609E
63* (B/W)	74* (L)	Audio signal driver seat LH	Output	ON	Receive audio signal.	 SKIB3609E
64* (B/R)	75* (BR)	Audio signal driver seat RH	Output	ON	Receive audio signal.	 SKIB3609E
68 (O)	55 (B/P)	Audio signal rear RH	Output	ON	Receive audio signal.	 SKIB3609E
71* (Y)	70* (BR)	Audio signal passenger seat RH	Output	ON	Receive audio signal.	 SKIB3609E

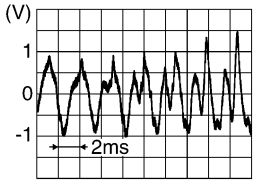
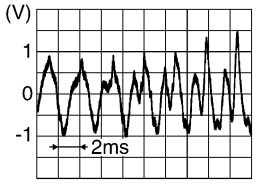
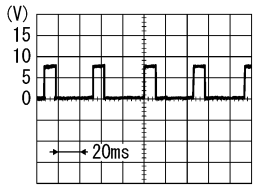
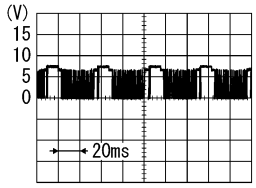
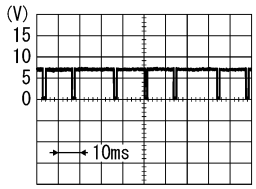
*: BOSE surround 5.1ch system

CAUTION:

When the stereo sound is played, only front RH and LH are input. When the monaural sound is played, only center is input. All surround sounds are input only when the 5.1 channel surround sound is played.

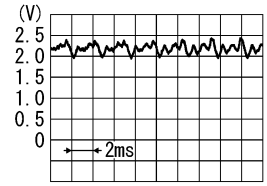
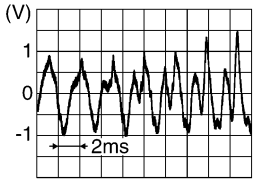
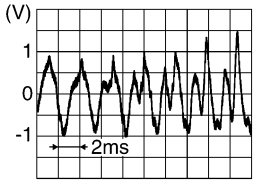
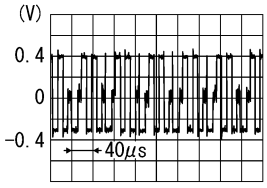
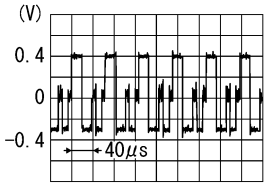
Satellite Radio Tuner

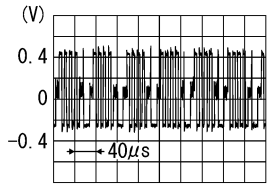
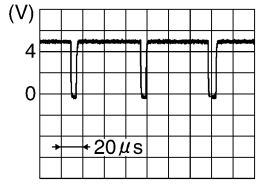
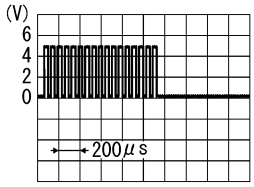
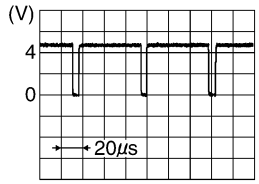
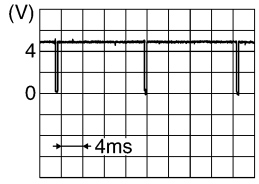
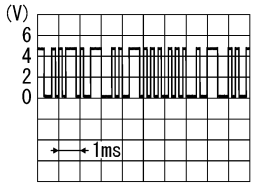
NKS004AN

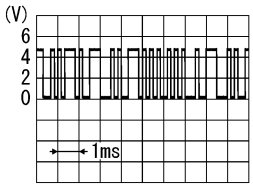
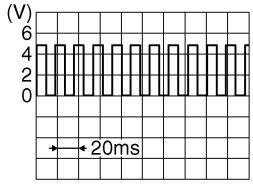
Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
2 (R)	1 (G)	Audio signal LH	Output	ON	Receive audio signal.	 SKIB3609E
4 (B)	3 (W)	Audio signal RH	Output	ON	Receive audio signal.	 SKIB3609E
5	–	Shield	–	–	–	–
6	–	Shield	–	ON	–	Approx. 0 V
8 (R/W)	Ground	REQ1 (SAT-AUDIO)	Output	ON	Set to the satellite radio mode	 SKIB3825E
9 (B)	Ground	Communication signal (SAT-AUDIO)	Output	ON	Set to the satellite radio mode	 SKIB3824E
10 (R)	Ground	Communication signal (AUDIO-SAT)	Input	ON	Set to the satellite radio mode	 SKIB3826E
12 (BR/Y)	Ground	Battery power supply	Input	OFF	–	Battery voltage
16 (BR)	Ground	ACC power supply	Input	ACC	–	Battery voltage
20	–	Terrestrial antenna signal	Input	–	–	–
21	–	Satellite antenna signal	Input	–	–	–

AV (NAVI) Control Unit

NKS004AO

Terminal (Wire color)		Item	Signal Input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
1 (B)	Ground	Ground	–	ON	–	Approx. 0V
2 (Y)	Ground	Battery power supply	Input	OFF	–	Battery voltage
5 (V)	Ground	ACC power supply	Input	ACC	–	Battery voltage
6 (O/L)	7	MIC. VCC	Output	ON	–	Approx. 5 V
7	Ground	MIC. ground	–	ON	–	Approx. 0 V
8 (W/L)	7	MIC. signal	Input	ON	Give a voice.	 PKIB5037J
9	–	Shield	–	–	–	–
10 (BR)	11 (B/R)	TEL voice signal	Output	ON	When inputting TEL voice.	 SKIB3609E
12 (L/G)	14 (L/Y)	Voice guidance signal	Output	ON	When inputting voice guidance.	 SKIB3609E
13	–	Shield	–	–	–	–
44 (L/G)	47 (G)	RGB signal (R: red)	Output	ON	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2238J
45 (O/L)	47 (G)	RGB signal (G: green)	Output	ON	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2236J

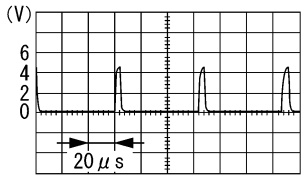
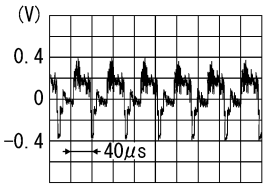
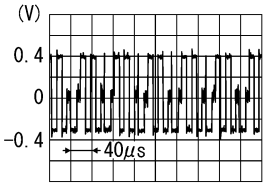
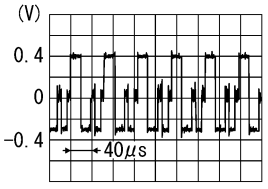
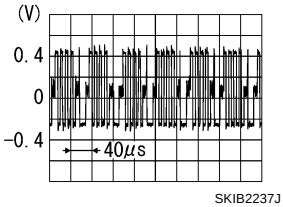
Terminal (Wire color)		Item	Signal Input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
46 (L/Y)	47 (G)	RGB signal (B: blue)	Output	ON	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2237J
47 (G)	Ground	RGB ground	–	ON	–	Approx. 0 V
48 (B)	Ground	RGB synchronizing signal	Output	ON	–	 SKIB3603E
49	–	Shield	–	–	–	–
50 (G)	Ground	RGB area (YS) signal	Output	ON	When inputting RGB image.	Approx. 5 V
					Set the selector lever in R position, and then display the rear view image.	 PKIB4948J
51 (W)	Ground	Horizontal synchronizing (HP) signal	Input	ON	–	 SKIB3601E
52 (R)	Ground	Vertical synchronizing (VP) signal	Input	ON	–	 SKIB3598E
53 (O/L)	Ground	Communication signal (CONT-DISP)	Input	ON	When adjusting display brightness.	 PKIB5039J

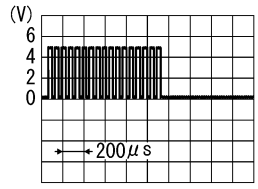
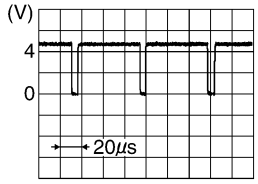
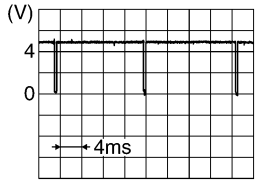
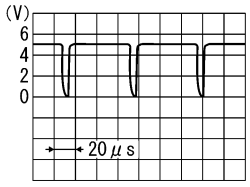
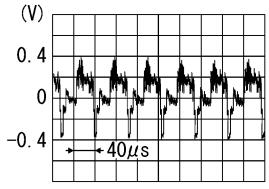
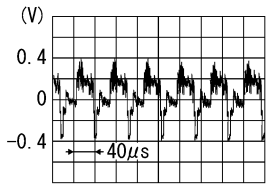
Terminal (Wire color)		Item	Signal Input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
54 (W/L)	Ground	Communication signal (DISP-CONT)	Input	ON	When adjusting display brightness.	 PKIB5039J
55	–	Shield	–	–	–	–
61 (LG)	Ground	Illumination signal	Input	OFF	Lighting switch is OFF.	Approx. 0 V
					Lighting switch is ON.	Approx. 12 V
63 (Y/G)	Ground	Ignition signal	Input	ON	–	Battery voltage
64 (P)	Ground	Parking brake signal	Input	ON	Parking brake ON.	Approx. 0 V
					Parking brake OFF.	Approx. 12 V
65 (O)	Ground	Reverse signal	Input	ON	Select lever in R position.	Approx. 12 V
					Other than selector lever in R position.	Approx. 0 V
66 (G)	Ground	Vehicle speed signal (8-pulse)	Input	ON	When vehicle speed is approx. 40 km/h (25 MPH).	 SKIA6649J
67 (V)	Ground	Camera-connection recognition signal	Input	ON	Connected to rear view camera control unit connector.	Approx. 0 V
					Not connected to rear view camera control unit connector.	Approx. 5 V
69 (W)	–	Communication signal (H)	Input/ Output	–	–	–
70 (R)	–	Communication signal (L)	Input/ Output	–	–	–
71 (LG)	–	CAN-H	Input/ Output	–	–	–
72 (P)	–	CAN-L	Input/ Output	–	–	–
107*	Ground	GPS signal	Input	ON	Connector is not connected.	Approx. 5 V

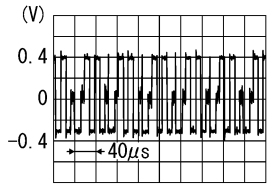
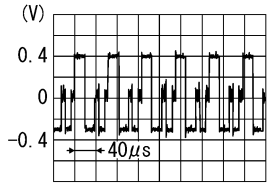
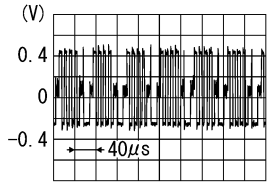
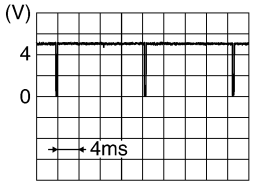
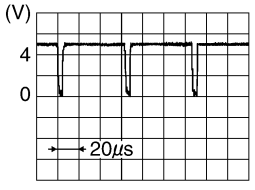
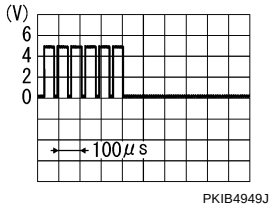
*: With navigation system

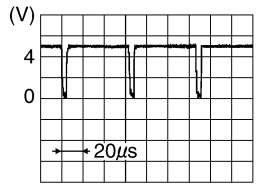
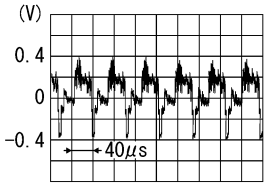
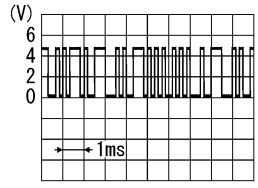
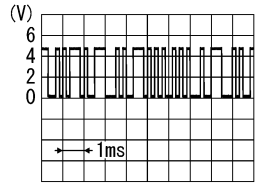
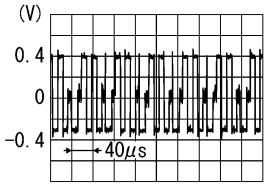
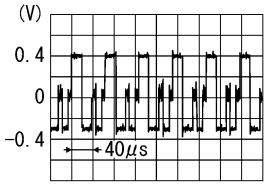
Video Distributor

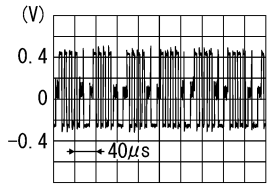
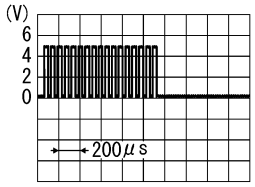
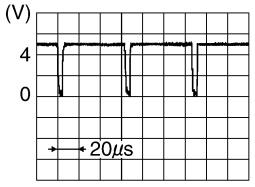
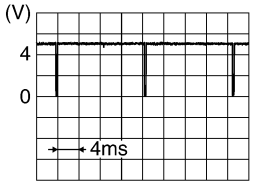
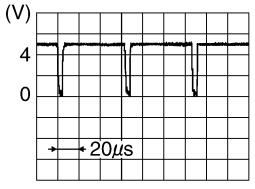
NKS004AP

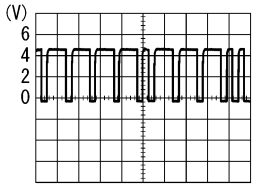
Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value
+	–			Ignition Switch	Operation	
1 (W)	–	Communication signal (H)	Input/ Output	–	–	–
2 (R)	–	Communication signal (L)	Input/ Output	–	–	–
3 (W)	–	Communication signal (H)	Input/ Output	–	–	–
4 (R)	–	Communication signal (L)	Input/ Output	–	–	–
6	–	Shield	–	–	–	–
7 (B/R)	Ground	Composite synchronizing signal (front)	Output	ON	Front display DVD image	 SKIA0187E
8 (BR)	Ground	Composite image signal (front)	Output	ON	Front display DVD image	 SKIB2251J
10 (B)	12 (W/L)	RGB signal (R: red) (front)	Output	ON	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2238J
11 (W)	12 (W/L)	RGB signal (G: green) (front)	Output	ON	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2236J
12 (W/L)	–	RGB ground	–	ON	–	Approx. 0 V
13 (R)	12 (W/L)	RGB signal (B: blue) (front)	Output	ON	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2237J

Terminal (Wire color) +	Terminal (Wire color) –	Item	Signal input/ output	Condition: Ignition Switch	Condition: Operation	Reference value
14 (L/G)	Ground	RGB area (YS) signal (front)	Output	ON	When inputting RGB image.	Approx. 5 V
					Set the selector lever in R position, and then display the rear view image.	 PKIB4948J
15 (W/L)	Ground	Horizontal synchronizing (HP) signal (front)	Input	ON	–	 SKIB3601E
16 (O/L)	Ground	Vertical synchronizing (VP) signal (front)	Input	ON	–	 SKIB3598E
17 (L/Y)	Ground	RGB synchronizing signal (front)	Output	ON	–	 SKIA3222J
18	–	Shield	–	–	–	–
19 (R)	Ground	AUX image signal	Input	ON	AUX image	 SKIB2251J
21	–	Shield	–	–	–	–
22	–	Shield	–	–	–	–
23 (L)	Ground	DVD image signal	Input	ON	DVD image	 SKIB2251J

Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value
+	–			Ignition Switch	Operation	
25 (B)	27 (G)	RGB signal (R: red) (rear)	Output	ON	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2238J
26 (W)	27 (G)	RGB signal (G: green) (rear)	Output	ON	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2236J
27 (G)	Ground	RGB ground	–	ON	–	Approx. 0 V
28 (R)	27 (G)	RGB signal (B: blue) (rear)	Output	ON	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2237J
29 (W/R)	Ground	Vertical synchronizing (VP) signal (rear)	Input	ON	–	 SKIB0823E
30 (W)	Ground	Horizontal synchronizing (HP) signal (rear)	Input	ON	–	 SKIB0825E
31	–	Shield	–	–	–	–
32 (R/L)	Ground	RGB area (YS) signal (rear)	Output	ON	When inputting RGB image.	Approx. 5 V
					Rear display DVD image	 PKIB4949J

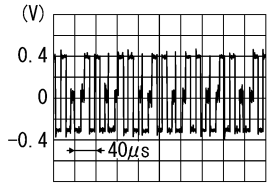
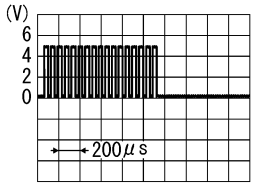
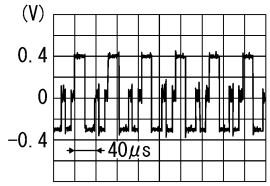
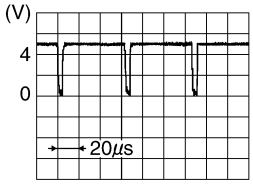
Terminal (Wire color) +	Terminal (Wire color) –	Item	Signal input/ output	Condition: Ignition Switch	Condition: Operation	Reference value
33 (R)	Ground	Image synchronizing signal (rear)	Output	ON	Rear display RGB image	 SKIB0825E
34 (G)	Ground	Composite image signal (rear)	Output	ON	Rear display DVD image	 SKIB2251J
35	–	Shield	–	–	–	–
36 (O)	Ground	Ignition signal (rear display)	Output	ON	–	Approx. 0 V
				ACC	–	Approx. 5 V
38	–	Shield	–	–	–	–
39 (W)	Ground	Communication signal (DISP-DIST)	Input	ON	Image quality adjustment	 PKIB5039J
40 (O)	Ground	Communication signal (DIST-DISP)	Output	ON	Image quality adjustment	 PKIB5039J
44 (L/G)	47 (G)	RGB signal (R: red)	Input	ON	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2238J
45 (O/L)	47 (G)	RGB signal (G: green)	Input	ON	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2236J

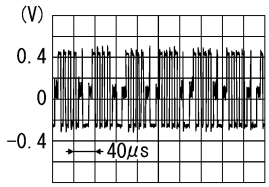
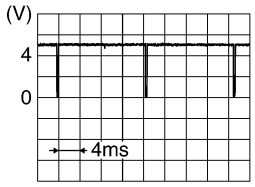
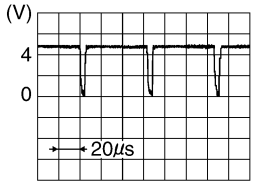
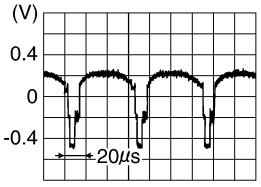
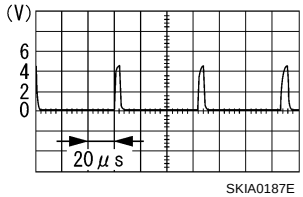
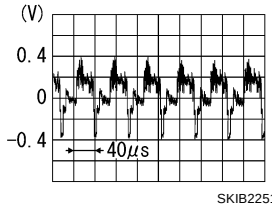
Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value
+	–			Ignition Switch	Operation	
46 (L/Y)	47 (G)	RGB signal (B: blue)	Input	ON	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2237J
47 (G)	Ground	RGB ground	–	ON	–	Approx. 0 V
48 (G)	Ground	RGB area (YS) signal	Input	ON	When inputting RGB image.	Approx. 5 V
					Set the selector lever in R position, and then display the rear view image.	 PKIB4948J
49 (W)	Ground	Horizontal synchronizing (HP) signal	Output	ON	–	 SKIB0825E
50 (R)	Ground	Vertical synchronizing (VP) signal	Output	ON	–	 SKIB0823E
51 (B)	Ground	RGB synchronizing signal	Input	ON	–	 SKIB0825E
52	–	Shield	–	–	–	–
53 (B)	Ground	Ground	–	ON	–	Approx. 0 V
54 (L)	Ground	Battery power supply	Input	OFF	–	Battery voltage
55 (V)	Ground	ACC power supply	Input	ACC	–	Battery voltage
56 (G)	Ground	Ignition signal	Input	ON	–	Battery voltage
57 (W)	Ground	Remote control receiver VCC	Output	ON	–	Approx. 5 V

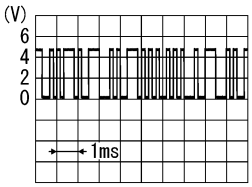
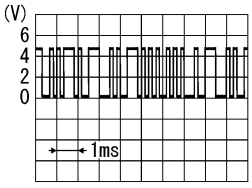
Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value
+	–			Ignition Switch	Operation	
58 (B)	Ground	Remote control signal	Output	ON	Rear seat remote controller operation	 PKIB6988J
59	–	Shield	–	–	–	–
60 (L)	Ground	Headphone amp ON signal	Input	ON	Headphone mode is ON.	Approx. 4 V
					Headphone mode is OFF.	Approx. 0 V

Front Display Unit

NKS004AQ

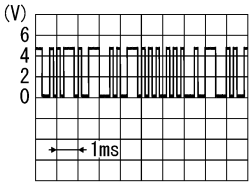
Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
1 (B)	8 (W/L)	RGB signal (R: red)	Input	ON	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2238J
2 (L/G)	Ground	RGB area (YS) signal	Input	ON	When inputting RGB image.	Approx. 5 V
					Set the selector lever in R position, and then display the rear view image.	 PKIB4948J
3 (W)	8 (W/L)	RGB signal (G: green)	Input	ON	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2236J
4 (W/L)	Ground	Horizontal synchronizing (HP) signal	Output	ON	–	 SKIB0825E

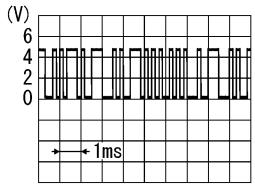
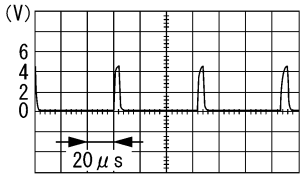
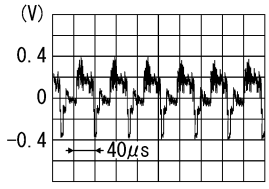
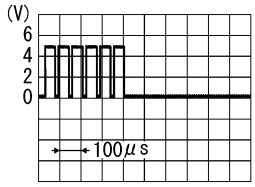
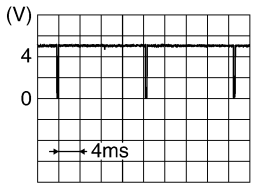
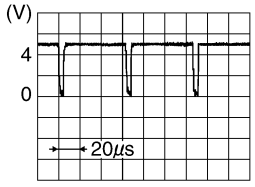
Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
5 (R)	8 (W/L)	RGB signal (B: blue)	Input	ON	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2237J
6 (O/L)	Ground	Vertical synchronizing (VP) signal	Output	ON	–	 SKIB0823E
7 (L/Y)	Ground	RGB synchronizing signal	Output	ON	–	 SKIB0826E
8 (W/L)	Ground	RGB ground	–	ON	–	Approx. 0 V
10	–	Shield	–	–	–	–
11 (Y)	Ground	Camera image signal	Input	ON	Set the selector in R position, and then display the rear view image.	 SKIB0827E
12	–	Shield	–	–	–	–
13 (B/R)	Ground	Composite synchronizing signal	Input	ON	–	 SKIA0187E
14	–	Shield	–	–	–	–
15 (BR)	Ground	Composite image signal	Input	ON	DVD image	 SKIB2251J

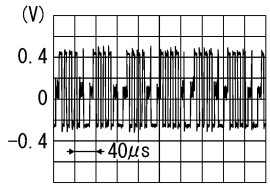
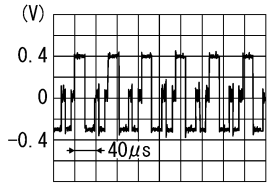
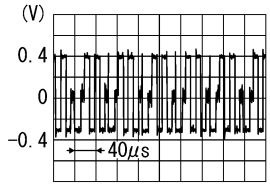
Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
17 (W/L)	Ground	Communication signal (DISP-CONT)	Output	ON	When adjusting display brightness.	 PKIB5039J
18	–	Shield	–	–	–	–
19 (O/L)	Ground	Communication signal (CONT-DISP)	Input	ON	When adjusting display brightness.	 PKIB5039J
20 (V)	Ground	ACC power supply	Input	ACC	–	Battery voltage
21 (L)	Ground	Battery power supply	Input	OFF	–	Battery voltage
23 (B)	Ground	Ground	–	ON	–	Approx. 0 V

Rear Display Unit

NKS004AR

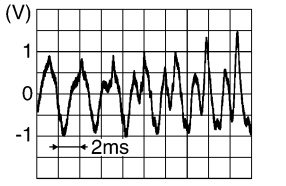
Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
1 (B/Y)	Ground	Ground	–	ON	–	Approx. 0 V
2 (B/Y)	Ground	Ground	–	ON	–	Approx. 0 V
3 (L/O)	Ground	Battery power supply	Input	OFF	–	Battery voltage
4 (L/Y)	Ground	Battery power supply	Input	OFF	–	Battery voltage
6 (W/L)	Ground	ACC power supply	Input	ACC	–	Battery voltage
8	–	Shield	–	–	–	–
9 (L)	Ground	Communication signal (DISP-DIST)	Output	ON	When adjusting display brightness.	 PKIB5039J

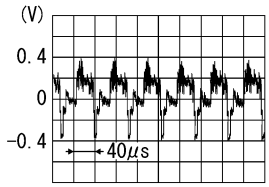
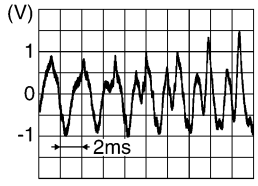
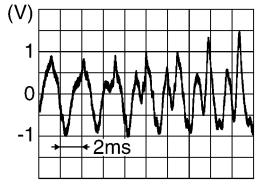
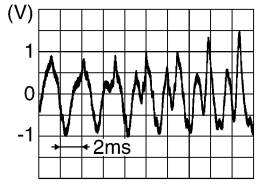
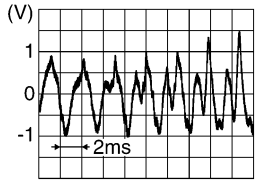
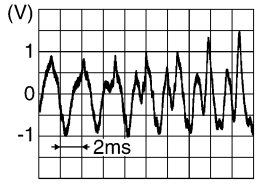
Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
10 (B/W)	Ground	Communication signal (DIST-DISP)	Input	ON	When adjusting display brightness.	 PKIB5039J
12 (L/W)	Ground	Ignition signal	Input	ON	–	Approx. 0 V
				ACC	–	Approx. 5 V
14	–	Shield	–	–	–	–
15 (LG)	Ground	Image synchronizing signal	Input	ON	Rear display DVD image	 SKIA0187E
16 (V)	Ground	Composite image signal	Input	ON	Rear display DVD image	 SKIB2251J
17 (W/L)	Ground	RGB area (YS) signal	Input	ON	When inputting RGB image.	Approx. 5 V
					Rear display DVD image	 PKIB4949J
18	–	Shield	–	–	–	–
19 (L/O)	Ground	Vertical synchronizing (VP) signal	Output	ON	–	 SKIB0823E
20 (L/Y)	Ground	Horizontal synchronizing (HP) signal	Output	ON	–	 SKIB0825E
21 (G)	Ground	RGB ground	–	ON	–	Approx. 0 V

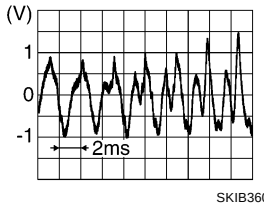
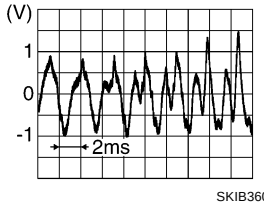
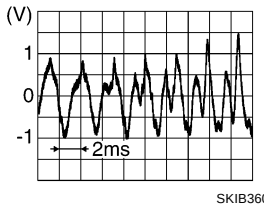
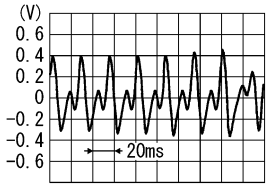
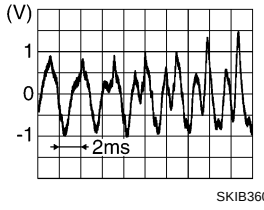
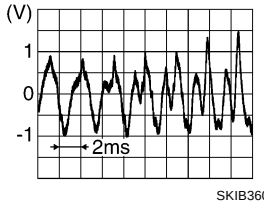
Terminal (Wire color) +	Terminal (Wire color) –	Item	Signal input/ output	Condition: Ignition switch	Condition: Operation	Reference value
22 (G)	21 (G)	RGB signal (B: blue)	Input	ON	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2237J
23 (R)	21 (G)	RGB signal (G: green)	Input	ON	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2236J
24 (W)	21 (G)	RGB signal (R: red)	Input	ON	Start confirmation/adjustment mode, and then display color bar by selecting “Color Spectrum Bar” on DISPLAY DIAGNOSIS screen.	 SKIB2238J

DVD Player

NKS004AS

Terminal +	Terminal –	Item	Signal input/ output	Condition: Ignition switch	Condition: Operation	Reference value
1 (Y)	Ground	Battery power supply	Input	OFF	–	Battery voltage
2 (V)	Ground	ACC power supply	Input	ACC	–	Battery voltage
7 (W)	6 (B)	AUX sound signal RH	Input	ON	AUX sound input	 SKIB3609E
8 (R/W)	–	Shield	–	–	–	–
14 (L/W)	–	Shield	–	–	–	–
15 (Y)	–	Communication signal (H)	Input/ Output	–	–	–
16 (W)	–	Communication signal (H)	Input/ Output	–	–	–
17 (B)	Ground	Ground	–	ON	–	Approx. 0 V
18 (R/L)	Ground	Illumination signal	Input	OFF	Lighting switch is OFF.	Approx. 0 V
					Lighting switch is ON.	Approx. 12 V

Terminal		Item	Signal input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
19 (G/Y)	–	Shield	–	–	–	–
20 (G)	Ground	DVD image signal	Output	ON	DVD image	 SKIB2251J
23 (R)	22 (B)	AUX sound signal LH	Input	ON	AUX sound input	 SKIB3609E
24 (L/R)	–	Shield	–	–	–	–
25 (W)	9 (B)	Headphone signal LH	Output	ON	Sound output	 SKIB3609E
26 (L)	10 (G)	Headphone signal RH	Output	ON	Sound output	 SKIB3609E
27 (B/R)	11 (BR)	Sound signal LH	Output	ON	Sound output	 SKIB3609E
28 (B/W)	12 (L)	Sound signal RH	Output	ON	Sound output	 SKIB3609E
30 (G/R)	–	Shield	–	–	–	–
31 (O)	–	Communication signal (L)	Input/ Output	–	–	–
32 (R)	–	Communication signal (L)	Input/ Output	–	–	–

Terminal		Item	Signal input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
33* (R/Y)	–	Shield	–	–	–	–
34* (B/Y)	42* (LG)	DVD sound signal front RH	Output	ON	When playing DVD CAUTION	 SKIB3609E
35* (L/R)	43* (L/G)	DVD sound signal front LH	Output	ON	When playing DVD CAUTION	 SKIB3609E
36* (R/B)	44* (R)	DVD sound signal center	Output	ON	When playing DVD CAUTION	 SKIB3609E
37* (Y/B)	45* (Y)	DVD sound signal woofer	Output	ON	When playing DVD CAUTION	 PKIB6116J
38* (G/R)	–	Shield	–	–	–	–
39* (Y/L)	47* (W/L)	DVD sound signal rear RH	Output	ON	When playing DVD CAUTION	 SKIB3609E
40* (O/L)	48* (O)	DVD sound signal rear LH	Output	ON	When playing DVD CAUTION	 SKIB3609E
46* (G/W)	–	Shield	–	–	–	–
49 (B)	Ground	Ground	–	ON	–	Approx. 0V

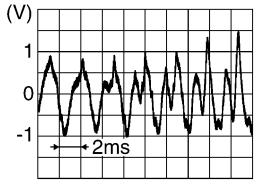
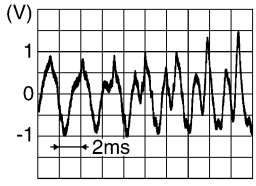
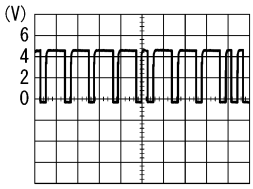
*: BOSE surround 5.1ch system

CAUTION:

When the stereo sound is played, only front RH and LH are output. When the monaural sound is played, only center is output. All surround sounds are input only when the 5.1 channel surround sound is played.

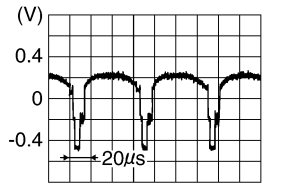
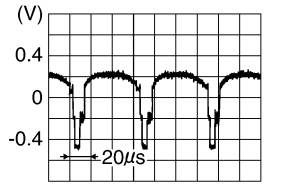
Headphone Amp

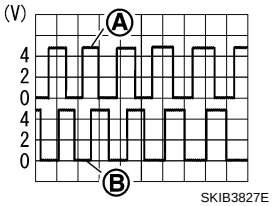
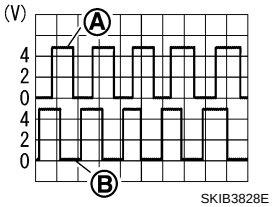
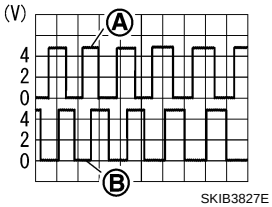
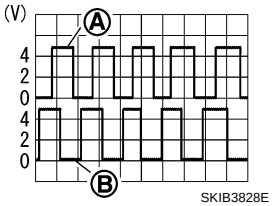
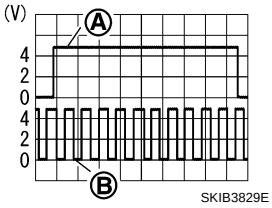
NKS004AT

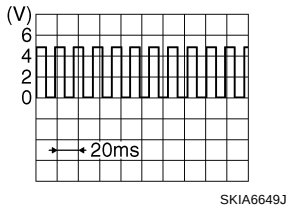
Terminal (Wire color)		Item	Signal input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
1 (W)	2 (B)	Headphone signal LH	Input	ON	When playing DVD	 SKIB3609E
3	–	Shield	–	–	–	–
4	–	Shield	–	–	–	–
5 (L)	6 (G)	Headphone signal RH	Input	ON	When playing DVD	 SKIB3609E
10 (L/W)	Ground	Headphone ON signal	Input	ON	Headphone mode is ON.	Approx. 4 V
					Headphone mode is OFF.	Approx. 0 V
11 (B/W)	Ground	Ground	–	ON	–	Approx. 0 V
12 (Y)	Ground	Battery power supply	Input	OFF	–	Approx. 12 V
14 (W/L)	Ground	Remote control receiver VCC	Input	ON	–	Approx. 5 V
15 (L/O)	Ground	Remote control signal	Output	ON	Rear seat remote controller operation	 PKIB6988J
16	–	Shield	–	–	–	–

Camera Control Unit

NKS004AU

Terminal (wire color)		Item	Signal input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
5	–	Shield	–	–	–	–
6 (P/L)	Ground	Camera image signal	Input	ON	Set selector lever in R position, and then display the rear view image.	 SKIB0827E
7 (G/B)	Ground	Camera ground	–	ON	–	Approx. 0 V
8 (GR)	Ground	Camera ON signal	Output	ON	Set selector lever in R position, and then display the rear view image.	Approx. 6 V
11	–	Shield	–	–	–	–
12 (Y)	Ground	Camera image signal	Output	ON	Set selector lever in R position, and then display the rear view image.	 SKIB0827E
14 (V)	Ground	Camera-connection recognition signal	Output	ON	–	Approx. 0 V
17 (G)	–	Communication signal (L)	Input/ Output	–	–	–
18 (R)	–	Communication signal (H)	Input/ Output	–	–	–
19 (B)	–	Communication signal (L)	Input/ Output	–	–	–
20 (W)	–	Communication signal (H)	Input/ Output	–	–	–
22 (LG)	Ground	Reverse signal	Input/ Output	ON	Select lever in R position.	Approx. 12 V
					Other than selector lever in R position.	Approx. 0 V

Terminal (wire color)		Item	Signal input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
23 (L/Y)	Ground	Sensor signal 1	Input	ON	Turn the steering to the right	 SKIB3827E A: Sensor signal 1 B: Sensor signal 2
					Turn the steering to the left	 SKIB3828E A: Sensor signal 1 B: Sensor signal 2
24 (B/R)	Ground	Sensor signal 2	Input	ON	Turn the steering to the right	 SKIB3827E A: Sensor signal 1 B: Sensor signal 2
					Turn the steering to the left	 SKIB3828E A: Sensor signal 1 B: Sensor signal 2
25 (O)	Ground	Sensor signal 3	Input	ON	Turn the steering around the neutral position	 SKIB3829E A: Sensor signal 3 B: Sensor signal 1

Terminal (wire color)		Item	Signal input/ output	Condition		Reference value
+	–			Ignition switch	Operation	
26 (V/W)	Ground	Vehicle speed signal (8-pulse)	Input	ON	When vehicle speed is approx. 40 km/h (25 MPH).	 SKIA6649J
29 (G/R)	Ground	Ignition signal	Input	ON	–	Battery voltage
30 (BR)	Ground	ACC power supply	Input	ACC	–	Battery voltage
31 (B)	Ground	Ground	–	ON	–	Approx. 0 V
32 (BR/Y)	Ground	Battery power supply	Input	OFF	–	Battery voltage

DIAGNOSIS SYSTEM

PFP:00000

Multifunction Switch Self-Diagnosis Function

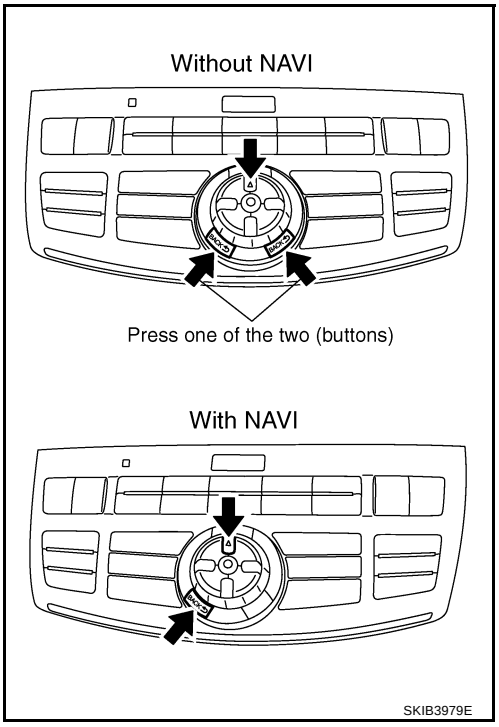
NKS004AV

It can check each switch ON/OFF (continuity) operation of multifunction switch.

SELF-DIAGNOSIS MODE

- Turn the ignition switch from OFF position to ACC position. Within 10 seconds, press and hold BACK switch and ▲ switch for 3 seconds or more. Then, when these switches are released, the buzzer sounds, all indicators of multifunction switch turned on, and self-diagnosis mode is started.
- When each switch is pressed, the switch continuity can be checked by sounding the buzzer.

  CAUTION:
  The hazard switch cannot be checked.



FINISHING SELF-DIAGNOSIS MODE

- When the ignition switch is turned ON, self-diagnosis mode is canceled.

Multi AV System Diagnosis Functions

NKS004AW

- There are 2 diagnosis functions (On board diagnosis and Diagnosis using CONSULT-II). It is necessary to use them properly according to the condition. If the on board diagnosis starts, perform diagnosis with on board diagnosis. If the on board diagnosis does not start (because the display is not displayed, the multifunction switch operation is not activated, etc.), perform diagnosis using CONSULT-II.
- At on board diagnosis, the AV (NAVI) control unit diagnosis function starts when multifunction switch operation and the AV (NAVI) control unit performs the diagnosis for each unit of system. Then, it displays the results on the display.
- At diagnosis using CONSULT-II, the AV (NAVI) control unit diagnosis function starts when the CAN communication and the AV (NAVI) control unit performs the diagnosis for each unit of system.

On Board Diagnosis

NKS004AX

DESCRIPTION

- It has Self-Diagnosis mode for conducting trouble diagnosis automatically and a Confirmation/Adjustment mode for operating manually.
- Self-diagnosis mode diagnoses AV (NAVI) control unit and communication of each unit composing system, and displays self-diagnosis results. NAVI control unit diagnoses communication with GPS antenna simultaneously.
- Confirmation/Adjustment mode is used to monitor the vehicle signals requiring operation and judgement by a technician (malfunctions that cannot be automatically judged by the system), the confirmation/change/adjustment of setting value, the error history of system, and the communication condition of system.

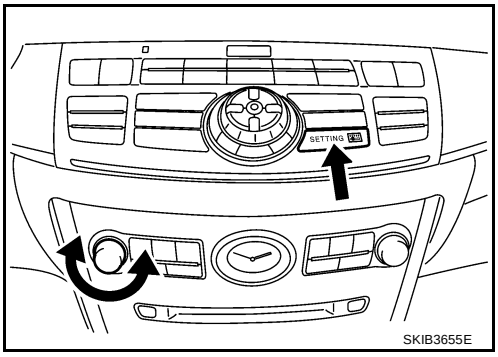
On Board Diagnosis Item

Mode			Description
Self Diagnosis			● AV (NAVI) control unit diagnosis and connection diagnosis between AV (NAVI) control unit and each unit ● The DVD-ROM drive diagnosis of NAVI control unit and the connection diagnosis between NAVI control unit and GPS antenna can be performed (DVD-ROM drive will not be diagnosed when no map DVD-ROM is in it.)
Confirmation/ Adjustment	Display Diagnosis		The tint can be confirmed by the color spectrum bar display. The shading of color can be confirmed by the gradation bar display.
	Vehicle Signals		Diagnosis of signals can be performed for vehicle speed, parking brake, lights, ignition switch, and reverse.
	Speaker Test		The connection of a speaker can be confirmed by test tone.
	Climate Control		Start auto air conditioner system self-diagnosis.
	Navigation*	Steering Angle Adjustment	When there is a difference between the actual turning angle and the vehicle mark turning angle, it can be adjusted.
		Speed Calibration	When there is a difference between the current location mark and the actual location, it can be adjusted.
	Error History		The system malfunction and the frequency when occurred in the past are displayed. When the malfunctioning item is selected, the time and place that the selected malfunction last occurred are displayed.
	Synchronizer FES clock		–
	Vehicle CAN Diagnosis		The transmitting/receiving of CAN communication can be monitored.
	AV COMM Diagnosis		The communication condition of each unit of Multi AV system can be monitored.
	Handsfree Phone		The received volume adjustment of hands-free phone, microphone speaker check, and erase memory can be performed.
	Rear Display		Tilt angle adjustment range and automatic retraction ON/OFF when ignition switch is turned OFF can be selected
	Camera Cont.		The signal connected to camera control unit can be checked and the guiding line position that overlaps rear view camera image can be adjusted.
	Bluetooth		The passkey and the name of device can be checked and changed
	Delete Unit Connection Log		Erase the connection history of unit and error history

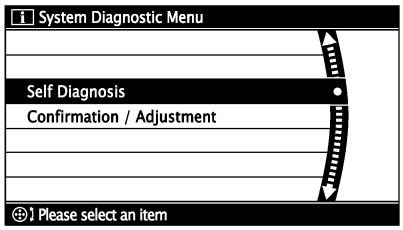
*: With navigation system

STARTING PROCEDURE

1. Start the engine.
2. Turn the audio system OFF.
3. While pushing the “SETTING” button, turn the volume control dial clockwise or counterclockwise for 40 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 pushing “BACK” button.



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



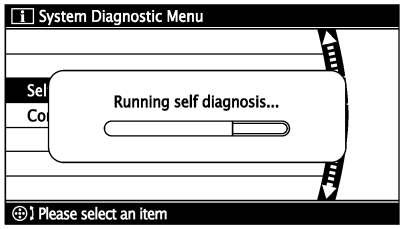
SKIB3656E

Self Diagnosis

NKS004AY

1. Start the diagnosis function, and then select “Self Diagnosis”.

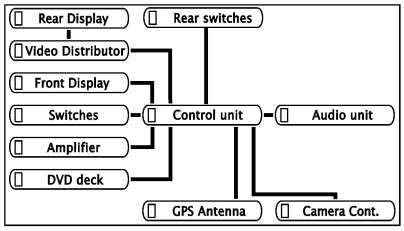
– Self-diagnosis subdivision screen will be shown and the operation will enter the self-diagnosis mode.
– The bar graph visible on self-diagnosis screen displays progress of the diagnosis.



SKIB3657E

2. Diagnostic results are displayed when the self-diagnosis is complete. Each unit name and connection lines between each unit will be colored according to the diagnostic results, as follows.

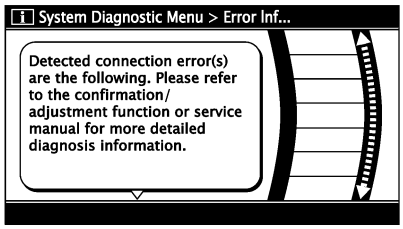
Diagnosis results	Unit	Connection line
Normal	Green	Green
Connection malfunction	Gray	Yellow
DVD-ROM drive undiagnosed	Gray	Green
DVD-ROM, DVD-ROM drive malfunction	Yellow	Green
Unit returned an error[Note]	Red	Green



SKIB3692E

Note: Only control unit (AV control unit, NAVI control unit) is displayed in red.

– If multiple errors occur at the same time for a single unit, the screen switch colors are determined according to the following order of priority: red > yellow > gray.
– Select a switch on the “Diagnosis results” screen and comments for the trouble diagnosis results will be shown.



SKIB3659E

DIAGNOSIS RESULTS

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

Control Unit Is Red, Gray, or Yellow

Switch color	Description	Possible malfunction/Action to take
Red	AV (NAVI) control unit malfunction is detected	Replace AV (NAVI) control unit Refer to AV-290, "AV (NAVI) Control Unit"
Yellow (With NAVI)	● Malfunction is detected on DVD-ROM drive pickup lens in NAVI control unit ● There is dirt and damage on the map disc	● Map disc ● NAVI control unit
Gray (With NAVI)	DVD-ROM not inserted is detected	Insert map disc

Connection Line Between Units Is Yellow (Only 1 Line)

Applicable parts	Description	Probable malfunction location
Control unit to Camera Cont.	Camera-connection recognition signal malfunction is detected	● Camera control unit power supply and ground circuit ● Camera-connection recognition signal circuit ● AV (NAVI) Control unit ● Camera control unit
Control unit to GPS Antenna	GPS antenna connection malfunction is detected	● GPS antenna feeder ● GPS antenna ● NAVI control unit
Control unit to DVD deck	● DVD player power supply and ground circuit malfunction is detected ● Malfunction is detected on communication signal between DVD player and AV (NAVI) control unit	● DVD player power supply and ground circuit ● DVD player ● AV (NAVI) control unit
Control unit to Amplifier	● BOSE amp power supply and ground circuit malfunction is detected ● Malfunction is detected on communication signal between BOSE amp and AV (NAVI) control unit	● BOSE amp power supply and ground circuit ● BOSE amp ● AV (NAVI) control unit
Control unit to Video Distributor	● Video distributor power supply and ground circuit malfunction is detected ● Malfunction is detected on communication signal between video distributor and AV (NAVI) control unit	● Video distributor power supply and ground circuit ● Video distributor ● AV (NAVI) control unit
Control unit to Front Display	● Front display unit power supply and ground circuit malfunction is detected (The diagnosis screen can be checked at rear display) ● Malfunction is detected on communication circuit between front display unit and AV (NAVI) control unit ● Malfunction is detected on communication signal between front display unit and AV (NAVI) control unit	● Front display unit power supply and ground circuit ● Front display unit ● AV (NAVI) control unit
Control unit to Rear Switches	● Rear control switch power supply and ground circuit malfunction is detected ● Malfunction is detected on communication signal between rear control switch and AV (NAVI) control unit	● Rear control switch power supply and ground circuit ● Rear control switch ● AV (NAVI) control unit

Applicable parts	Description	Probable malfunction location
Control unit to Audio unit	● Audio unit power supply and ground circuit malfunction is detected ● Malfunction is detected on communication circuit between audio unit and rear control unit (Models with rear control switch) ● Malfunction is detected on communication circuit between audio unit and BOSE amp (Models without rear control switch) ● Malfunction is detected on communication signal between audio unit and AV (NAVI) control unit	● Audio unit power supply and ground circuit ● Communication circuit between rear control switch and audio unit ● Audio unit ● Rear control switch (with rear control switch) ● BOSE amp (without rear control switch) ● AV (NAVI) Control unit
Video distributor to Rear Display	● Rear display unit power supply and ground circuit malfunction is detected ● Malfunction is detected on communication circuit between video distributor and rear display unit ● Malfunction is detected on communication signal between video distributor and rear display unit	● Rear display unit power supply and ground circuit ● Rear display unit ● Video distributor

Connection Line Between Units Is Yellow (2 or More Lines)

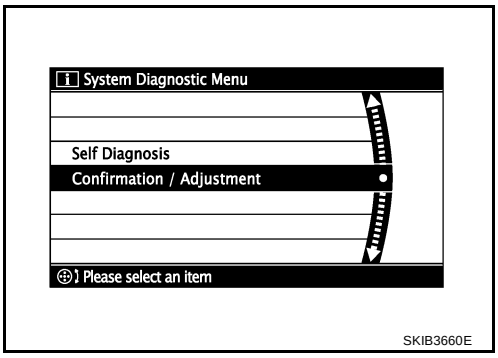
When 2 or more connection lines between control unit (AV control unit, NAVI control) and each unit are displayed in yellow, these communication system lines may be open or shorted. The malfunctioning parts can be detected by the combination of the connection lines displayed in yellow.

Applicable parts	Description	Probable malfunction location
Control unit to ● Amplifier ● Rear Switches ● Audio unit	● Malfunction is detected on communication circuit between multifunction switch and camera control unit ● Malfunction is detected on communication circuit between camera control unit and BOSE amp	● Communication circuit between multifunction switch and camera control unit ● Communication circuit between camera control unit and BOSE amp ● Multifunction switch ● Camera control unit ● BOSE amp
Control unit to ● Amplifier ● Audio unit	● Malfunction is detected on communication circuit between multifunction switch and camera control unit ● Malfunction is detected on communication circuit between camera control unit and BOSE amp	● Communication circuit between multifunction switch and camera control unit ● Communication circuit between camera control unit and BOSE amp ● Multifunction switch ● Camera control unit ● BOSE amp
Control unit to ● Rear Switches ● Audio unit	Malfunction is detected on communication circuit between BOSE amp and rear control switch	● Communication circuit between BOSE amp and rear control switch ● BOSE amp ● Rear control switch

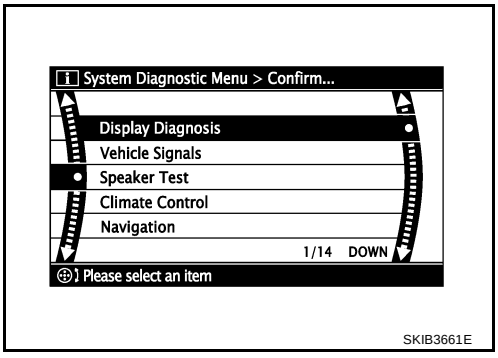
Confirmation/Adjustment Mode

NKS004AZ

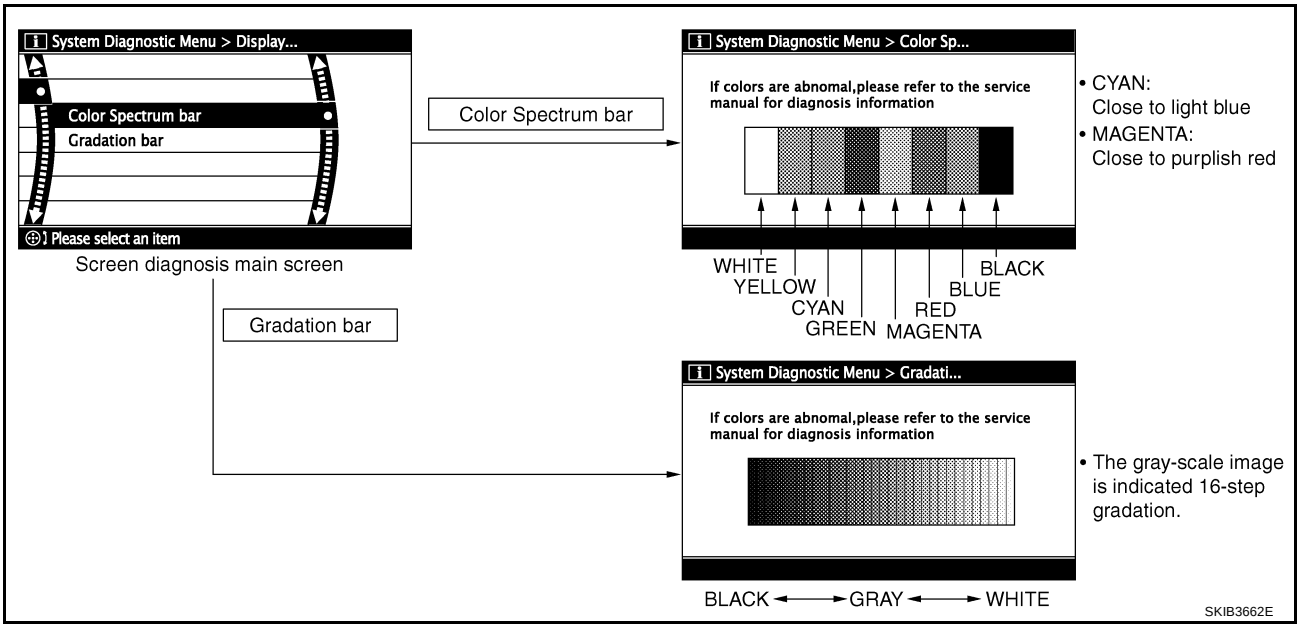
1. Confirmation/Adjustment mode can be selected by starting the diagnosis function and selecting “Confirmation/Adjustment”. The confirmation/adjustment of each item can be performed.



2. Select each screen switch of Confirmation/Adjustment screen to display the relevant diagnosis screen. Press the “BACK” switch to return to the initial screen of Confirmation/Adjustment.



DISPLAY DIAGNOSIS

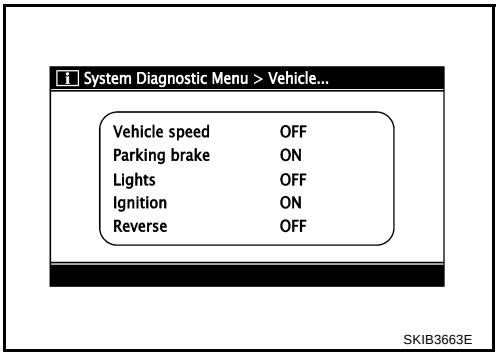


If RGB signal is malfunctioning, the tint of the color bar display is as follows.

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

VEHICLE SIGNALS

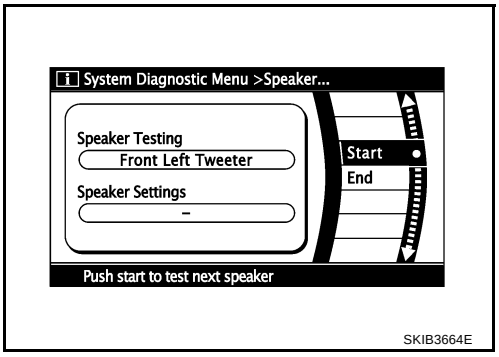
A comparison check can be made of each actual vehicle signal and the signals recognized by the system.



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

SPEAKER TEST

When selecting “Speaker Test”, speaker diagnosis screen is displayed. When pressing “START”, test tone emits from the speaker. At that time, when pressing “Start”, test tone emits from next speaker. Then, when pressing the “End”, test tone stops.



NOTE:

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

Tweeter	**: 3 kHz**
Front door speaker	**: 300 Hz**
Rear door speaker	**: 1 kHz**
Rear surround speaker	**: 1 kHz**
Center speaker	**: 1 kHz**
Woofer	**: 100 Hz**
Seat speaker	**: 1 kHz**

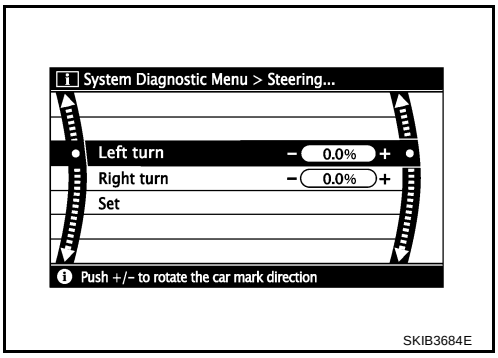
CLIMATE CONTROL

For details, refer to ATC-55, "Self-diagnosis Function" .

NAVIGATION

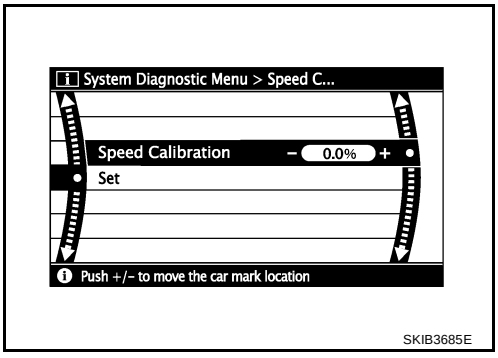
Steering Angle Adjustment

The steering angle output value detected with the gyroscope can be adjusted.



Speed Calibration

Usually the automatic distance correction function adjusts the malfunction in distance caused by the tires wearing down or the tire pressure change. If prompt adjustment is necessary when the tire chains are installed etc., perform this procedure.



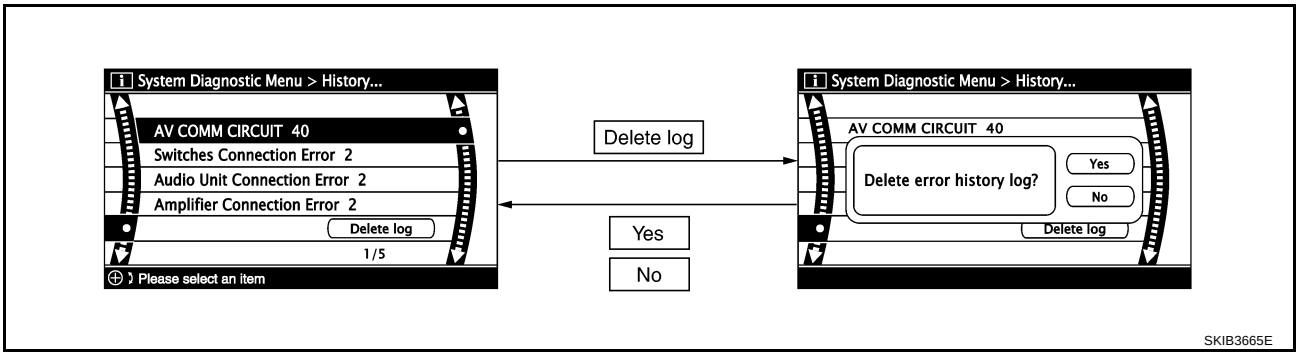
ERROR HISTORY

The diagnostic results of “Self-diagnosis” determine if any malfunction occurred between selecting “Self-diagnosis” and displaying “Self-diagnostic Results”.
If an error occurred before the ignition switch was turned ON and does not occur again until “Self-diagnosis” is completed, the trouble diagnosis result will be judged normal. Therefore, errors in the past which cannot be found by “Self-diagnosis”, must be found by checking the “Error record”.
The error history shows the error occurrence frequency in past. The frequency of occurrence is displayed by 2 types: the count down type and the count up type. Select either type according to the error item.
In “Error History” of models with NAVI, time and place that the selected error last occurred are displayed. Be careful about the following.

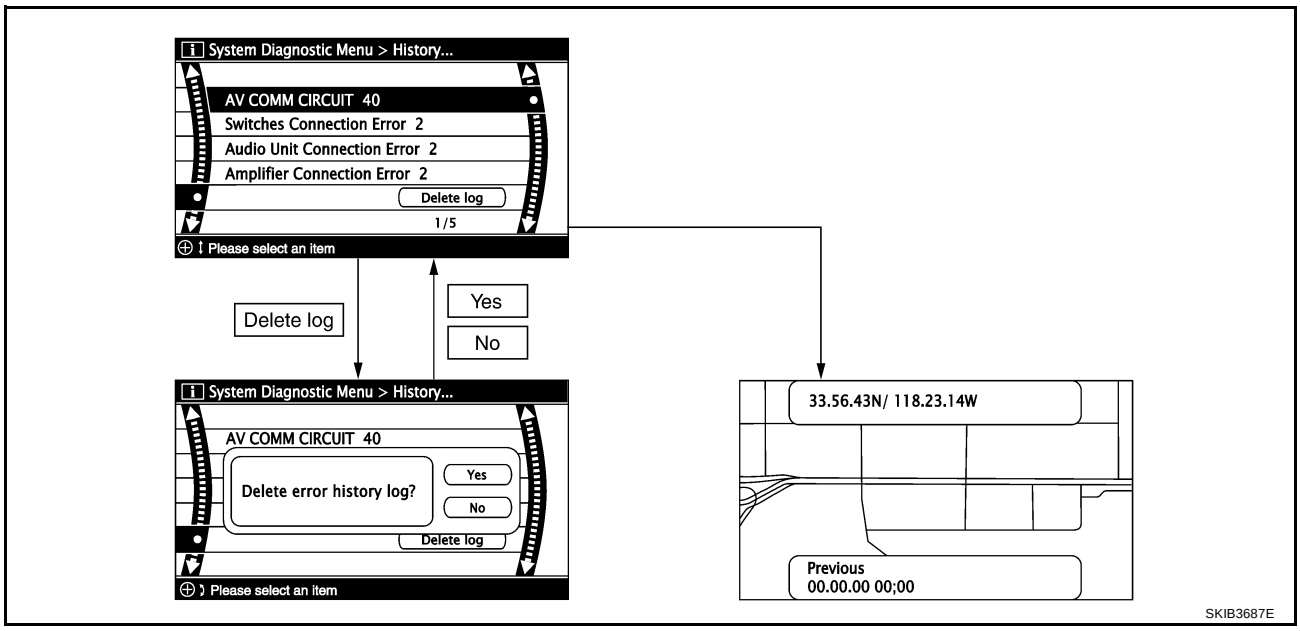
- If there is a malfunction with the GPS antenna circuit board in the NAVI control unit, the correct date of occurrence may not be able to be displayed.
- Place of the error occurrence is represented by the position of the current location mark at the time an error occurred. If current location mark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

Transition Screen

Without NAVI



With NAVI



Count Down Type

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

Count Up Type

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

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

Error Item

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

Error item	Description	Possible cause/Action to take
CAN_COMM_CIRCUIT	CAN communication malfunction is detected	Perform the diagnosis using CONSULT-II, and then repair the malfunctioning parts based on diagnostic results. Refer to AV-247, "SELF-DIAG RESULTS" .
CONTROL UNIT (CAN)	CAN initial diagnosis malfunction is detected	Replace AV (NAVI) control unit Refer to AV-290, "AV (NAVI) Control Unit"
CONTROL UNIT (AV)	AV communication circuit initial diagnosis malfunction is detected	Replace AV (NAVI) control unit Refer to AV-290, "AV (NAVI) Control Unit"
● AV COMM CIRCUIT ● Switches Connection Error ● Video Distributor Connection Error ● DVD Deck Connection Error ● Audio Unit Connection Error ● Amplifier Connection Error ● Rearview Camera Connection Error	Malfunction is detected on communication circuit between AV (NAVI) control unit and video distributor	● Communication circuit between AV (NAVI) control unit and video distributor ● AV (NAVI) control unit ● Video distributor

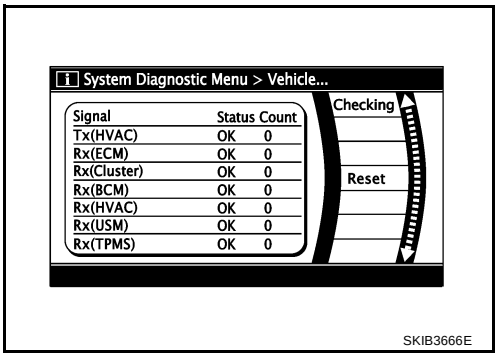
Error item	Description	Possible cause/Action to take
● AV COMM CIRCUIT ● Switches Connection Error ● DVD Deck Connection Error ● Audio Unit Connection Error ● Amplifier Connection Error ● Rearview Camera Connection Error	Malfunction is detected on communication circuit between video distributor and DVD player	● Communication circuit between video distributor and DVD player ● Video distributor ● DVD player
● AV COMM CIRCUIT ● Switches Connection Error ● Audio Unit Connection Error ● Amplifier Connection Error ● Rearview Camera Connection Error	● Malfunction is detected on communication circuit between DVD player and multifunction switch	● Communication circuit between DVD player and multifunction switch ● DVD player ● Multifunction switch
● AV COMM CIRCUIT ● Audio Unit Connection Error ● Amplifier Connection Error ● Rearview Camera Connection Error	Malfunction is detected on communication circuit between multifunction switch and camera control unit	● Communication circuit between multifunction switch and camera control unit ● Multifunction switch ● Camera control unit
● AV COMM CIRCUIT ● Audio Unit Connection Error ● Amplifier Connection Error	● Malfunction is detected on communication circuit between camera control unit and BOSE amp	● Communication circuit between camera control unit and BOSE amp ● Camera control unit ● BOSE amp
● AV COMM CIRCUIT ● Audio Unit Connection Error	With rear control switch ● Audio unit power supply and ground circuit malfunction is detected ● Malfunction is detected on communication circuit between BOSE amp and rear control switch ● Malfunction is detected on communication circuit between rear control switch and audio unit ● Malfunction is detected on communication signal between audio unit and AV (NAVI) control unit	● Communication circuit between BOSE amp and rear control switch ● Communication circuit between rear control switch and audio unit ● BOSE amp ● Rear control switch ● Audio unit ● AV (NAVI) control unit
	Without rear control switch ● Audio unit power supply and ground circuit malfunction is detected ● Malfunction is detected on communication circuit between BOSE amp and audio unit ● Malfunction is detected on communication signal between audio unit and AV (NAVI) control unit	● Audio unit power supply and ground circuit ● Communication circuit between BOSE amp and audio unit ● Audio unit ● AV (NAVI) control unit
● AV COMM CIRCUIT ● Video Distributor Connection Error	● Video distributor power supply and ground circuit malfunction is detected ● Malfunction is detected on communication signal between video distributor and AV (NAVI) control unit	● Video distributor power supply and ground circuit ● Video distributor ● AV (NAVI) control unit
● AV COMM CIRCUIT ● Rearview Camera Connection Error	● Camera control unit power supply and ground circuit malfunction is detected ● Malfunction is detected on communication signal between camera control unit and AV (NAVI) control unit	● Camera control unit power supply and ground circuit ● Camera control unit ● AV (NAVI) control unit

Error item	Description	Possible cause/Action to take
● AV COMM CIRCUIT ● Switches Connection Error	● Multifunction switch power supply and ground circuit malfunction is detected ● Malfunction is detected on communication signal between multifunction switch and AV (NAVI) control unit	● Multifunction switch power supply and ground circuit ● Multifunction switch ● AV (NAVI) control unit
● AV COMM CIRCUIT ● DVD Deck Connection Error	● DVD player power supply and ground circuit malfunction is detected ● Malfunction is detected on communication signal between DVD player and AV (NAVI) control unit	● DVD player power supply and ground circuit ● DVD player ● AV (NAVI) control unit
● AV COMM CIRCUIT ● Amplifier Connection Error	● BOSE amp power supply and ground circuit malfunction is detected ● Malfunction is detected on communication signal between BOSE amp and AV (NAVI) control unit	● BOSE amp power supply and ground circuit ● BOSE amp ● AV (NAVI) control unit
Front Display Connection Error	● Front display unit power supply and ground circuit malfunction is detected ● Malfunction is detected on communication circuit between front display unit and AV (NAVI) control unit ● Malfunction is detected on communication signal between front display unit and AV (NAVI) control unit	● Front display unit power supply and ground circuit ● Communication circuit between front display unit and AV (NAVI) control unit ● Front display unit ● AV (NAVI) control unit
Rear Display Connection Error	● Rear display unit power supply and ground circuit malfunction is detected ● Malfunction is detected on communication circuit between rear display unit and video distributor ● Malfunction is detected on communication signal between rear display unit and video distributor	● Rear display unit power supply and ground circuit ● Rear display unit ● Video distributor
GPS Antenna Error	GPS antenna connection malfunction is detected	● GPS antenna feeder ● GPS antenna ● NAVI control unit
Camera Control Unit Connection Error	Camera and connection recognition signal circuit malfunction is detected	● Camera-connection recognition signal circuit ● Camera control unit ● AV (NAVI) control unit
FLASH-ROM Error Of Control Unit	AV (NAVI) control unit malfunction is detected	Replace AV (NAVI) control unit Refer to AV-290, "AV (NAVI) Control Unit"
Connection Of Gyro	NAVI control unit malfunction is detected	Replace NAVI control unit Refer to AV-290, "AV (NAVI) Control Unit"
GPS Communication Error	GPS malfunction is detected	If the symptoms such as the GPS receipt malfunction occur, intermittent malfunction caused by strong radio interference may be detected. If the malfunction always occurs, replace NAVI control unit.
GPS ROM Error		
GPS RAM Error		
GPS RTC Error		

Error item	Description	Possible cause/Action to take
DVD-ROM Communication Error	● Malfunction is detected on DVD-ROM drive pickup lens in NAVI control unit ● There is dirt and damage on the map disc	● Map disc ● NAVI control unit Refer to AV-290, "AV (NAVI) Control Unit"
DVD-ROM Read Error		
DVD-ROM Disc Error		
DVD-ROM Mechanism not Detected		
DVD-ROM Mechanism Error		
DVD-ROM Focus Error		
DVD-ROM TOC Error		
DVD-ROM Seek Error		
DVD-ROM Error Correction Error		
DVD-ROM Data Transfer Error		
DVD-ROM Data Error		
DVD-ROM Time-out		
DVD-ROM Loading / Eject Error		
CAN Controller Memory Error	AV (NAVI) control unit malfunction is detected	Replace AV (NAVI) control unit Refer to AV-290, "AV (NAVI) Control Unit"
Bluetooth Module Connection Error		

VEHICLE CAN DIAGNOSIS

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

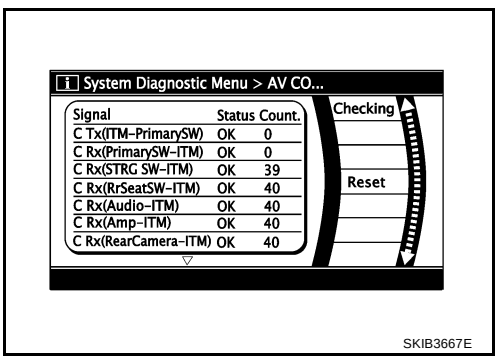


Items	Display (Current)	Error counter (Past)
Tx (HVAC)	OK /???	0 - 40
Rx (ECM)	OK /???	0 - 40
Rx (Cluster)	OK /???	0 - 40
Rx (BCM)	OK /???	0 - 40
Rx (HVAC)	OK /???	0 - 40
Rx (USM)	OK /???	0 - 40
Rx (TPMS)	OK /???	0 - 40

NOTE:
??? indicates “UNKWN”.

AV COMM DIAGNOSIS

- Displays the communication condition between AV (NAVI) control unit (master unit) and each unit and between audio unit (sub-master unit) and each unit.
- Error counter displays 0 if any malfunction is not detected in the past. If the malfunction is detected, it displays 40. When turning the ignition switch ON, if it is normal, it displays 39. The lower limit of the counter is 1.
- If it is reset, the error counter is deleted.



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

Items	Status (Current)	Counter (Past)
C Rx (RrSeatSW-ITM)	OK /???	0 - 40
C Rx (Audio-ITM)	OK /???	0 - 40
C Rx (Amp-ITM)	OK /???	0 - 40
C Rx (RearCamera-ITM)	OK /???	0 - 40
C Rx (DVD-ITM)	OK /???	0 - 40
C Rx (Video DIST-ITM)	OK /???	0 - 40
C Rx (Remote Cont-ITM)	OK /???	0 - 40
C Rx (Amp-Audio)	OK /???	0 - 40
C Rx (DVD-Audio)	OK /???	0 - 40

ITM: AV (NAVI) control unit

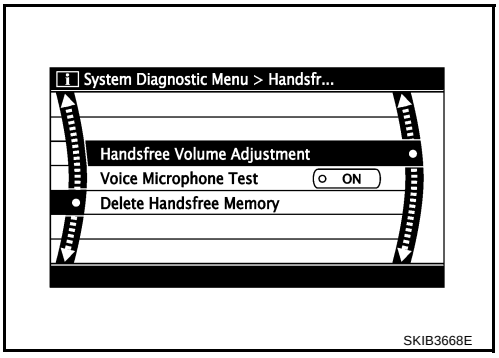
NOTE:

??? indicates “UNKWN”.

HANDSFREE PHONE

Handsfree Volume Adjustment

The received volume adjustment of hands-free phone can be adjusted to Low, Medium, and High settings.



Voice Microphone Test

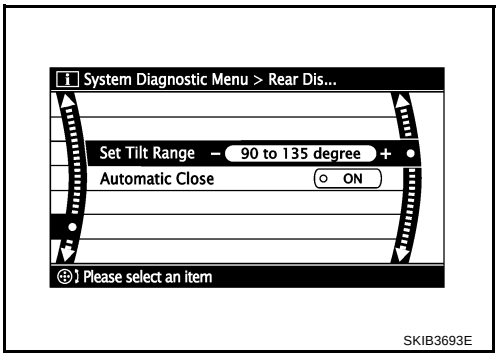
When this function is turned ON, the voice that is input to microphone is output to front speaker via TEL voice signal line. The microphone and TEL voice signal line can be checked.

Delete Handsfree Memory

Erase the memory related to the hands-free phone.

REAR DISPLAY

- Tilt angle (90 to 135 degrees, 105 to 135 degrees) of rear seat display can be set.
- The automatic retraction of rear seat display can be set.

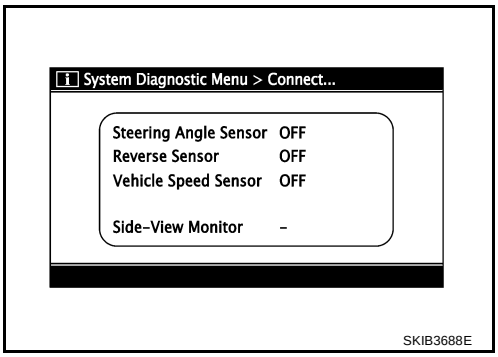


CAMERA CONT.

There are 2 functions: “Connection Confirmation”, “Adjust offset of rear view camera”.

Connection Confirmation

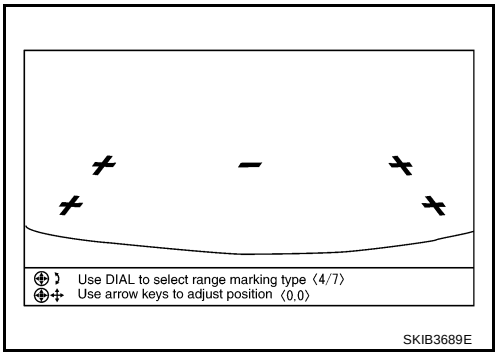
The input signals of steering angle sensor signal, reverse signal, and vehicle speed signal can be checked.



Diagnosis item	Display	Vehicle status
Steering Angle Sensor	ON	It turns ON when the steering is turning with the ignition switch ON (Once it turns ON, it does not change during Connection Confirmation mode)
	OFF	Turn ignition switch ACC It turns OFF when the steering is not turning with the ignition switch ON
	—	Rear view monitor connection confirmation signal malfunction
Reverse Sensor	ON	Selector lever in R position with ignition switch ON
	OFF	Turn ignition switch ACC Selector lever in any position other than R with ignition switch ON
	—	Rear view monitor connection confirmation signal malfunction
Vehicle Speed Sensor	ON	When vehicle speed is 0 km/h or more with ignition switch ON
	OFF	Turn ignition switch ACC When vehicle speed is 0 km/h with ignition switch ON
	—	Camera-connection recognition signal malfunction

Adjust Offset of Rear View Camera

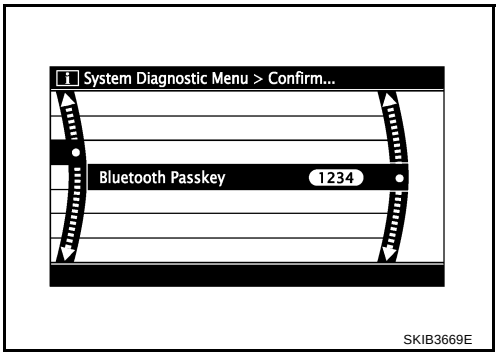
If the adjustment of rear view monitor guiding line display position is necessary when rear view camera is removed, use this mode to adjust it.



BLUETOOTH

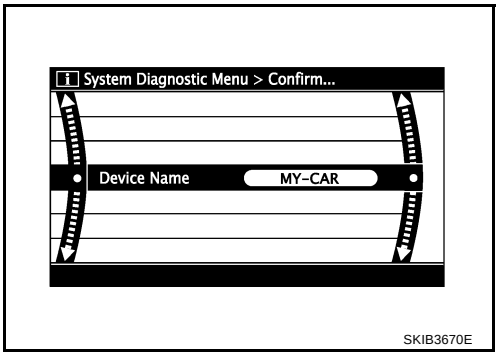
Confirm/Change Passkey

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



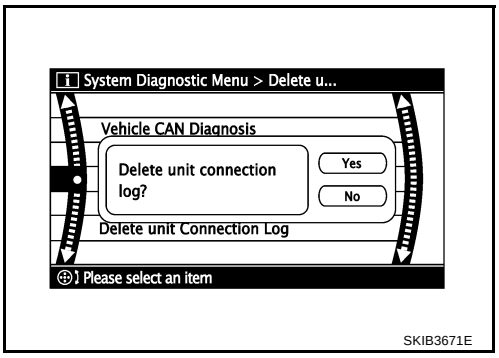
Confirm/Change Device Name

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



DELETE UNIT CONNECTION LOG

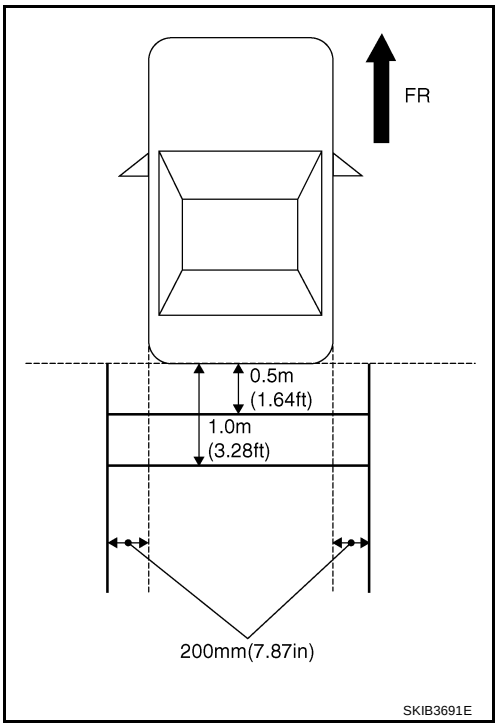
Erase the connection history of unit and error history that is recorded in AV (NAVI) control unit (clear the connection history of the removed unit).



Rear View Monitor Guiding Line Adjustment

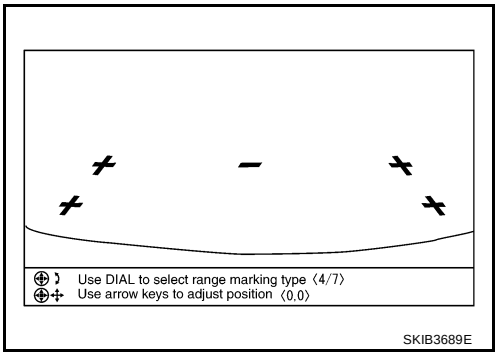
NKS004B0

1. Draw lines on rearward area of the vehicle passing through the following points: 20 cm (7.87 in) from both sides of the vehicle, and 0.5 m (1.64 ft), 1.0 m (3.28 ft) from the rear end of the bumper.
2. Set into “Adjust offset of rear view camera” mode of Confirmation/Adjustment mode.



3. Rotate the center dial, and then select the guiding line pattern so that its angle is aligned with the correction line of the rear of the vehicle.

Selected pattern : 7



4. Make fine adjustment to the correction line of the rear of the vehicle with up/down/left/right switches so that its position is aligned with the guiding line. Press “OK” switch and record the adjusted guiding line position to the camera control unit.

Up/Down adjustment range : –20 - 20
Left/Right adjustment range : –20 - 20

CAUTION:
Never operate other function such as pressing BACK while writing index data.
If Confirmation/Adjustment mode does not function in the above procedure, perform one of the following service to adjust the index again.

- **Remove battery for five min. Then reconnect battery.**
- **Remove camera control unit connector for five min. Then reconnect camera control unit connector.**

CONSULT-II Functions (Multi AV)

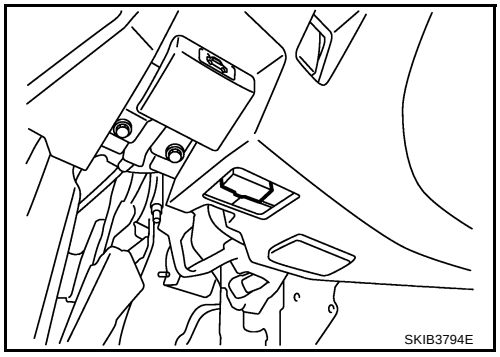
NKS004B1

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

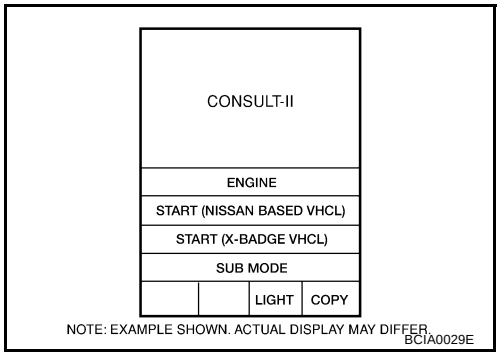
Diagnosis mode	Description
SELF DIAG RESULTS	● Performs the connection diagnosis of communication circuit between AV (NAVI) control unit and system and displays the current and past malfunctions collectively. ● The DVD-ROM drive diagnosis of NAVI control unit and the connection diagnosis between NAVI control unit and GPS antenna can be performed (DVD-ROM drive will not be diagnosed when no map DVD-ROM is in it)
DATA MONITOR	The diagnosis of vehicle signal that input to the AV (NAVI) control unit can be performed
CAN DIAG SUPPORT MNTR	The transmitting/receiving of CAN communication can be monitored. Refer to LAN-20, "CAN Diagnostic Support Monitor" .
AV COMM MONITOR	The transmitting/receiving of a system can be monitored
ECU PART NUMBER	The part number of AV (NAVI) control unit can be checked

OPERATION PROCEDURE

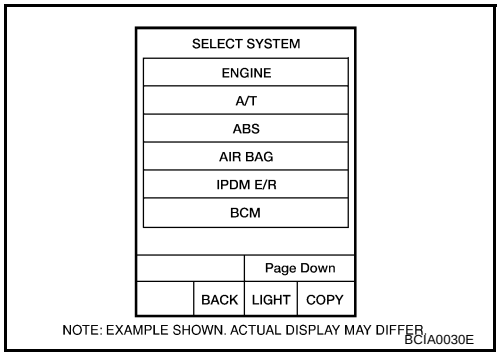
1. Turn ignition switch OFF.
2. Connect CONSULT-II and CONSULT-II CONVERTER to data link connector, and turn ignition switch ON.



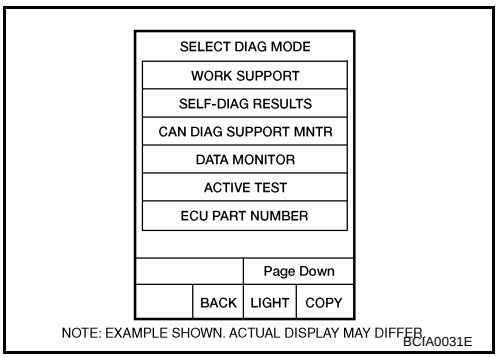
3. Touch “START (NISSAN BASED VHCL)”.



4. Touch “MULTI AV”
   If “MULTI AV” is not indicated, check the following item.
   - AV (NAVI) control unit power supply and ground circuit.
   - CONSULT-II data link connector (DLC) circuit
     Refer to LAN-7, "Precautions When Using CONSULT-II" .



5. Select diagnosis item on “SELECT DIAG MODE” screen.

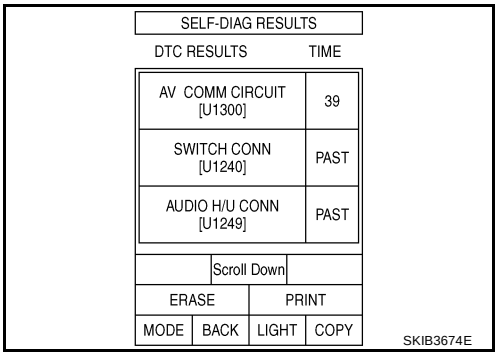


NOTE: EXAMPLE SHOWN. ACTUAL DISPLAY MAY DIFFER.
BCIA0031E

SELF-DIAG RESULTS

The self-diagnosis is started and self-diagnostic results are displayed by touching “START” after selecting “SELF-DIAG RESULTS”.

- In CONSULT-II self-diagnosis, self-diagnostic results and error history are displayed collectively.
- The current malfunction indicates “CRNT”. The past malfunction indicates “PAST”.
- If DTC [U1000], [U1300] are detected, “0” is displayed at TIME. If it is normal the next time ignition switch is ON of next time, add 1 to the TIME.



SKIB3674E

Display Item of Self-Diagnostic Results

Self-diagnostic results may be displayed simultaneously according to the cause. If some error items are displayed simultaneously, the detection of the cause can be performed by the combination of display items

Error item	Description	Possible cause/Action to take
CAN_COMM_CIRCUIT [U1000]	CAN communication malfunction is detected	Print out the self-diagnostic results and go to LAN-7, "Precautions When Using CONSULT-II" .
CONTROL UNIT (CAN) [U1010]	CAN initial diagnosis malfunction is detected	Replace AV (NAVI) control unit Refer to AV-290, "AV (NAVI) Control Unit"
CONTROL UNIT (AV) [U1310]	AV communication circuit initial diagnosis malfunction is detected	Replace AV (NAVI) control unit Refer to AV-290, "AV (NAVI) Control Unit"
● AV COMM CIRCUIT [U1300] ● SWITCH CONN [U1240] ● VIDEO DIST CONN [U1246] ● DVD DECK CONN [U1248] ● AUDIO H/U CONN [U1249] ● AMP CONN [U124E] ● REAR CAMERA CONN [U1252]	Malfunction is detected on communication circuit between AV (NAVI) control unit and video distributor	● Communication circuit between AV (NAVI) control unit and video distributor ● AV (NAVI) control unit ● Video distributor
● AV COMM CIRCUIT [U1300] ● SWITCH CONN [U1240] ● DVD DECK CONN [U1248] ● AUDIO H/U CONN [U1249] ● AMP CONN [U124E] ● REAR CAMERA CONN [U1252]	Malfunction is detected on communication circuit between video distributor and DVD player	● Communication circuit between video distributor and DVD player ● Video distributor ● DVD player
● AV COMM CIRCUIT [U1300] ● SWITCH CONN [U1240] ● AUDIO H/U CONN [U1249] ● AMP CONN [U124E] ● REAR CAMERA CONN [U1252]	● Malfunction is detected on communication circuit between DVD player and multifunction switch	● Communication circuit between DVD player and multifunction switch ● DVD player ● Multifunction switch

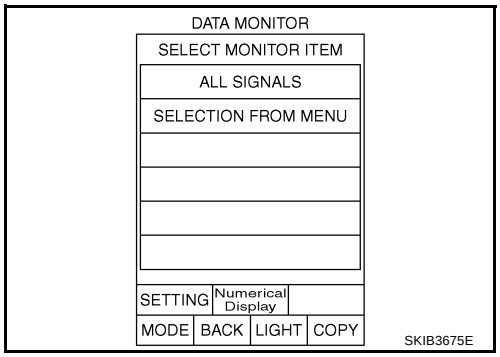
Error item	Description	Possible cause/Action to take
● AV COMM CIRCUIT [U1300] ● AUDIO H/U CONN [U1249] ● AMP CONN [U124E] ● REAR CAMERA CONN [U1252]	Malfunction is detected on communication circuit between multifunction switch and camera control unit	● Communication circuit between multifunction switch and camera control unit ● Multifunction switch ● Camera control unit
● AV COMM CIRCUIT [U1300] ● AUDIO H/U CONN [U1249] ● AMP CONN [U124E]	● Malfunction is detected on communication circuit between camera control unit and BOSE amp	● Communication circuit between camera control unit and BOSE amp ● Camera control unit ● BOSE amp
● AV COMM CIRCUIT [U1300] ● AUDIO H/U CONN [U1249]	With rear control switch ● Audio unit power supply and ground circuit malfunction is detected ● Malfunction is detected on communication circuit between BOSE amp and rear control switch ● Malfunction is detected on communication circuit between rear control switch and audio unit ● Malfunction is detected on communication signal between audio unit and AV (NAVI) control unit	● Communication circuit between BOSE amp and rear control switch ● Communication circuit between rear control switch and audio unit ● BOSE amp ● Rear control switch ● Audio unit ● AV (NAVI) control unit
	Without rear control switch ● Audio unit power supply and ground circuit malfunction is detected ● Malfunction is detected on communication circuit between BOSE amp and audio unit ● Malfunction is detected on communication signal between audio unit and AV (NAVI) control unit	● Audio unit power supply and ground circuit ● Communication circuit between BOSE amp and audio unit ● Audio unit ● AV (NAVI) control unit
● AV COMM CIRCUIT [U1300] ● VIDEO DIST CONN [U1246]	● Video distributor power supply and ground circuit malfunction is detected ● Malfunction is detected on communication signal between video distributor and AV (NAVI) control unit	● Video distributor power supply and ground circuit ● Video distributor ● AV (NAVI) control unit
● AV COMM CIRCUIT [U1300] ● REAR CAMERA CONN [U1252]	● Camera control unit power supply and ground circuit malfunction is detected ● Malfunction is detected on communication signal between camera control unit and AV (NAVI) control unit	● Camera control unit power supply and ground circuit ● Camera control unit ● AV (NAVI) control unit
● AV COMM CIRCUIT [U1300] ● SWITCH CONN [U1240]	● Multifunction switch power supply and ground circuit malfunction is detected ● Malfunction is detected on communication signal between multifunction switch and AV (NAVI) control unit	● Multifunction switch power supply and ground circuit ● Multifunction switch ● AV (NAVI) control unit
● AV COMM CIRCUIT [U1300] ● DVD DECK CONN [U1248]	● DVD player power supply and ground circuit malfunction is detected ● Malfunction is detected on communication signal between DVD player and AV (NAVI) control unit	● DVD player power supply and ground circuit ● DVD player ● AV (NAVI) control unit

Error item	Description	Possible cause/Action to take
● AV COMM CIRCUIT [U1300] ● AMP CONN [U124E]	● BOSE amp power supply and ground circuit malfunction is detected ● Malfunction is detected on communication signal between BOSE amp and AV (NAVI) control unit	● BOSE amp power supply and ground circuit ● BOSE amp ● AV (NAVI) control unit
FRONT DISP CONN [U1243]	● Front display unit power supply and ground circuit malfunction is detected ● Malfunction is detected on communication circuit between front display unit and AV (NAVI) control unit ● Malfunction is detected on communication signal between front display unit and AV (NAVI) control unit	● Front display unit power supply and ground circuit ● Communication circuit between front display unit and AV (NAVI) control unit ● Front display unit ● AV (NAVI) control unit
REAR DISP CONN [U1247]	● Rear display unit power supply and ground circuit malfunction is detected ● Malfunction is detected on communication circuit between rear display unit and video distributor ● Malfunction is detected on communication signal between rear display unit and video distributor	● Rear display unit power supply and ground circuit ● Rear display unit ● Video distributor
GPS ANTENNA CONN [U1244]	GPS antenna connection malfunction is detected	● GPS antenna feeder ● GPS antenna ● NAVI control unit
CAMERA CONT CONN [U1250]	Camera and connection recognition signal circuit malfunction is detected	● Camera-connection recognition signal circuit ● Camera control unit ● AV (NAVI) control unit
Count Unit FLASH-ROM [U1200]	AV (NAVI) control unit malfunction is detected	Replace AV (NAVI) control unit Refer to AV-290, "AV (NAVI) Control Unit"
Gyro NO CONN [U1201]	NAVI control unit malfunction is detected	Replace NAVI control unit Refer to AV-290, "AV (NAVI) Control Unit"
GPS COMM [U1204]	GPS malfunction is detected	If the symptoms such as the GPS receipt malfunction occur, intermittent malfunction caused by strong radio interference may be detected. If the malfunction always occurs, replace NAVI control unit.
GPS ROM [U1205]		
GPS RAM [U1206]		
GPS RTC [U1207]		

Error item	Description	Possible cause/Action to take
DVD-ROM COMM [U1208]	● Malfunction is detected on DVD-ROM drive pickup lens in NAVI control unit ● There is dirt and damage on the map disc	● Map disc ● NAVI control unit Refer to AV-290, "AV (NAVI) Control Unit"
DVD-ROM READ [U1209]		
DVD-ROM DISC [U120A]		
DVD-ROM MECHA DETECT [U120C]		
DVD-ROM DRIVE MECHA [U120D]		
DVD-ROM FOCUS [U120E]		
DVD-ROM TOC [U120F]		
DVD-ROM SEEK [U1210]		
DVD-ROM ERR CORRECTION [U1211]		
DVD-ROM DATA FORWARD [U1212]		
DVD-ROM DATA [U1213]		
DVD-ROM TIMEOUT [U1214]		
DVD-ROM LOAD [U1215]		
CAN CONT [U1216]	AV (NAVI) control unit malfunction is detected	Replace AV (NAVI) control unit Refer to AV-290, "AV (NAVI) Control Unit"
BLUETOOTH CONN [U1217]		

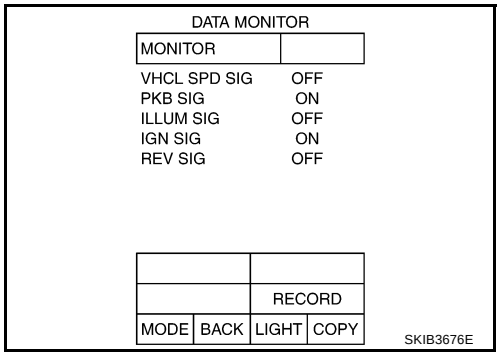
DATA MONITOR

When “DATA MONITOR” is selected, “ALL SIGNALS” and “SELECTION FROM MENU” are displayed.



ALL SIGNALS

- When “ALL SIGNALS” is selected and “START” is touched, the following vehicle signal condition that is input to AV (NAVI) control unit is displayed.
- For each signal, a comparison of actual operating status and the status recognized by the system can be checked.



Display Condition

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

SELECTION FROM MENU

When “SELECTION FROM MENU” is selected, the vehicle signal display can be selected. After that, the selected vehicle signal condition is displayed when “START” is touched.

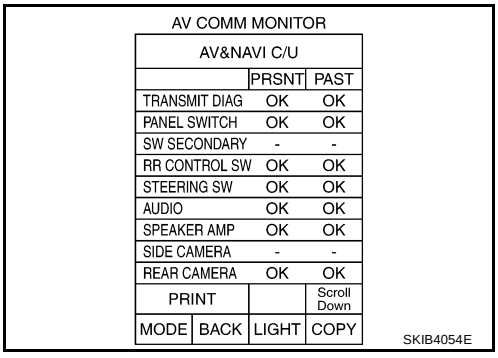
Item to be selected	Description
VHCL SPD SIG	As well as selecting “ALL SIGNALS”
PKB SIG	
ILLUM SIG	
IGN SIG	
REV SIG	

AV COMM MONITOR

When “AV COMM MONITOR” is selected, “AV&NAVI C/U” and “AUDIO” are displayed.

AV&NAVI C/U

- When “AV&NAVI C/U” is selected, the communication condition from AV (NAVI) control unit to each unit and malfunction counter are displayed.
- Error counter displays OK if any malfunction is not detected in the past. If the malfunction is detected, it displays 0. When turning the ignition switch ON, if it is normal, it displays 1. The upper limit of the counter is 39.

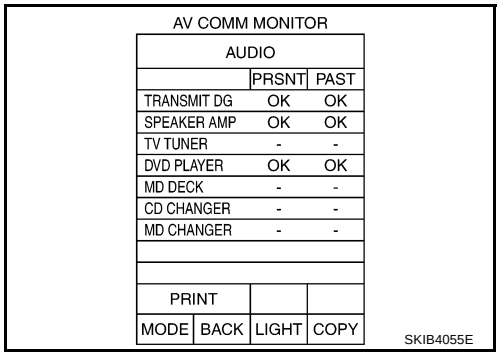


Items	Display (PRSNT)	Error counter (PAST)
TRANSMIT DIAG	OK / UNKWN	OK / 0 - 39
PANEL SWITCH	OK / UNKWN	OK / 0 - 39
SW SECONDARY	-	-
RR CONTROL SW	OK / UNKWN	OK / 0 - 39
STEERING SW	OK / UNKWN	OK / 0 - 39
AUDIO	OK / UNKWN	OK / 0 - 39
SPEAKER AMP	OK / UNKWN	OK / 0 - 39
SIDE CAMERA	-	-
REAR CAMERA	OK / UNKWN	OK / 0 - 39
TV TUNER	-	-
DVD PLAYER	OK / UNKWN	OK / 0 - 39
VIDEO DIST	OK / UNKWN	OK / 0 - 39
ETC	-	-

Items	Display (PRSNT)	Error counter (PAST)
FM MULTI	-	-
REMOTE CONT	OK / UNKWN	OK / 0 - 39

AUDIO

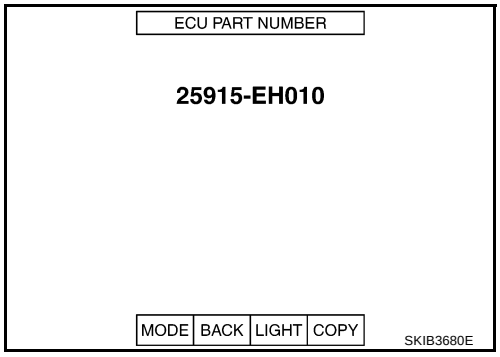
- When “AUDIO” is selected, the communication condition from audio unit to each unit and malfunction counter are displayed.
- Error counter displays OK if any malfunction is not detected in the past. If the malfunction is detected, it displays 0. When turning the ignition switch ON, if it is normal, it displays 1. The upper limit of the counter is 39.



Items	Display (Current)	Error counter (Past)
TRANSMIT DG	OK / UNKWN	OK / 0 - 39
SPEAKER AMP	OK/ UNKWN	OK / 0 - 39
TV TUNER	-	-
DVD PLAYER	OK / UNKWN	OK / 0 - 39
MD DECK	-	-
CD CHANGER	-	-
MD CHANGER	-	-

ECU PART NUMBER

The part number of AV (NAVI) control unit is displayed.



TROUBLE DIAGNOSIS

PFP:00004

Multifunction Switch Cannot Be Operated

NKS004B2

1. PERFORM CONSULT-II SELF-DIAGNOSIS

Perform CONSULT-II self-diagnosis and check the malfunction. Refer to AV-103, "SELF-DIAG RESULTS" .

Is there a malfunction?

YES >> Refer to AV-103, "Display Item of SELF-DIAG RESULTS" .
NO >> Replace multifunction switch

RGB Image Is Not Displayed

NKS004B3

RGB IMAGE IS NOT DISPLAYED ON FRONT AND REAR DISPLAYS

1. DIAGNOSIS USING CONSULT-II

Start CONSULT-II, and make sure that “MULTI AV” is displayed on SELECT SYSTEM screen. Refer to AV-102, "OPERATION PROCEDURE" .

OK or NG

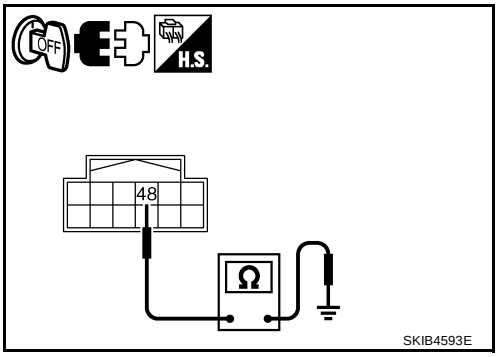
OK >> Refer to AV-103, "SELF-DIAG RESULTS" .
NG >> Check AV (NAVI) control unit power supply and ground circuit.

ONLY FRONT DISPLAY

1. CHECK HARNESS BETWEEN AV (NAVI) CONTROL UNIT AND VIDEO DISTRIBUTOR

1. Disconnect AV (NAVI) control unit connector and video distributor connector.
2. Check continuity between video distributor harness connector M207 terminal 48 and ground.

48 – Ground : Continuity should not exist.



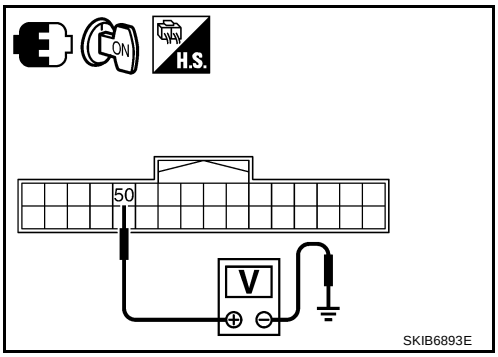
OK or NG

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

2. CHECK RGB AREA SIGNAL FOR AV (NAVI) CONTROL UNIT

1. Connect AV (NAVI) control unit connector.
2. Turn ignition switch ON.
3. Check voltage between AV (NAVI) control unit harness connector M210 terminal 50 and ground.

50 – Ground : Approx. 5 V



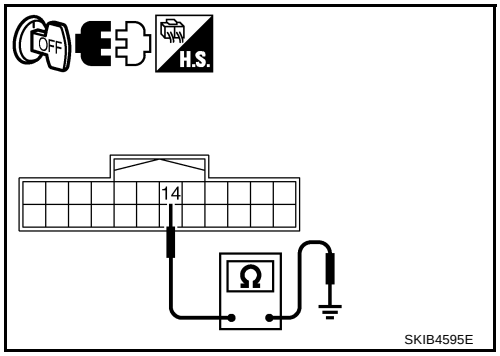
OK or NG

OK >> GO TO 3.
NG >> Replace AV (NAVI) control unit.

3. CHECK HARNESS BETWEEN VIDEO DISTRIBUTOR AND FRONT DISPLAY UNIT

1. Turn ignition switch OFF.
2. Disconnect front display unit connector.
3. Check continuity between video distributor harness connector M205 terminal 14 and ground.

14 – Ground : Continuity should not exist.



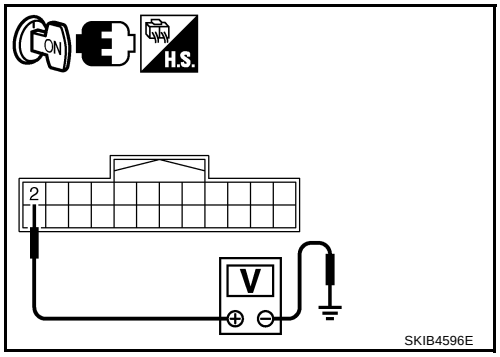
OK or NG

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

4. CHECK FRONT DISPLAY UNIT

1. Connect front display unit connector.
2. Turn ignition switch ON.
3. Check voltage between front display unit harness connector M203 terminal 2 and ground.

2 – Ground : Approx. 5 V



OK or NG

OK >> Replace video distributor.
NG >> Replace front display unit.

ONLY REAR DISPLAY

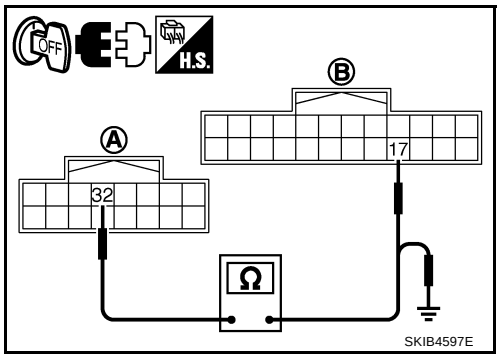
1. CHECK HARNESS BETWEEN VIDEO DISTRIBUTOR AND REAR DISPLAY UNIT

1. Disconnect video distributor connector and rear display unit connector.
2. Check continuity between video distributor harness connector (A) M206 terminal 32 and rear display unit harness connector (B) R102 terminal 17.

32 – 17 : Continuity should exist.

3. Check continuity between video distributor harness connector (A) M206 terminal 32 and ground.

32 – Ground : Continuity should not exist.



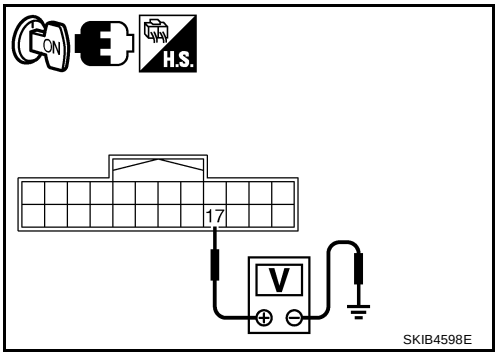
OK or NG

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

2. CHECK RGB AREA SIGNAL

1. Connect video distributor connector.
2. Turn ignition switch ON.
3. Check voltage between rear display unit harness connector R102 terminal 17 and ground.

17 – Ground : Approx. 5 V



OK or NG

OK >> Replace rear display unit.
NG >> Replace video distributor.

RGB Screen Is Rolling.

NKS004B4

ONLY FRONT DISPLAY

1. CHECK REAR DISPLAY IMAGE

Make sure that the rear display image is purple (magenta) tint.

Is it purple (magenta) tint?

YES >> GO TO 2.
NO >> GO TO 4.

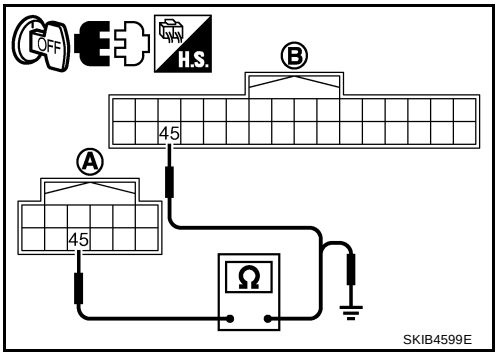
2. CHECK HARNESS BETWEEN VIDEO DISTRIBUTOR AND AV (NAVI) CONTROL UNIT

1. Turn ignition switch OFF.
2. Disconnect video distributor connector and AV (NAVI) control unit connector.
3. Check continuity between video distributor harness connector (A) M207 terminal 45 and AV (NAVI) control unit harness connector (B) M210 terminal 45.

45 – 45 : Continuity should exist.

4. Check continuity between video distributor harness connector (A) M207 terminal 45 and ground.

45 – Ground : Continuity should not exist.

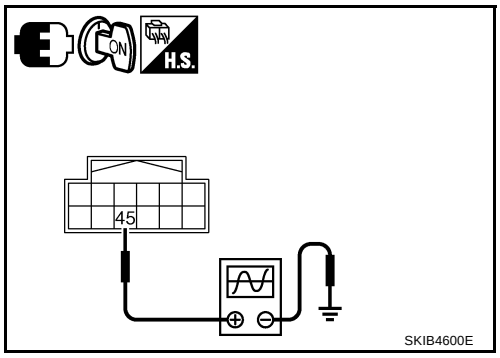


OK or NG

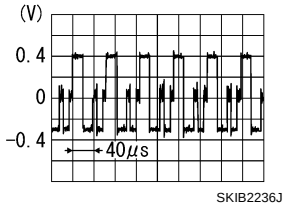
OK >> GO TO 3.
NG >> Repair harness or connector.

3. CHECK RGB SIGNAL (G: GREEN)

1. Connect video distributor connector and AV (NAVI) control unit connector.
2. Turn ignition switch ON.
3. Start Confirmation/Adjustment mode. Refer to AV-235, "Confirmation/Adjustment Mode" .
4. Display color bar by selecting “Display Color Spectrum Bar” on DISPLAY DIAGNOSIS screen. Refer to AV-235, "DISPLAY DIAGNOSIS" .
5. Check signal between video distributor harness connector M207 terminal 45 and ground.



45 – Ground:



OK or NG

OK >> Replace video distributor.
NG >> Replace AV (NAVI) control unit.

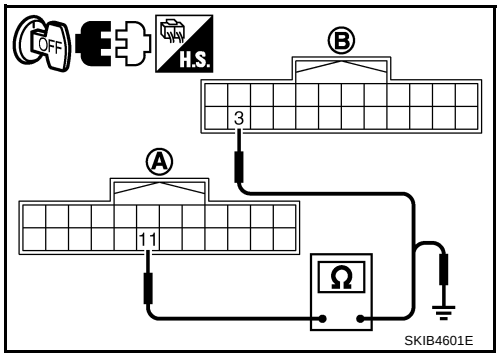
4. CHECK HARNESS BETWEEN VIDEO DISTRIBUTOR AND FRONT DISPLAY UNIT

1. Turn ignition switch OFF.
2. Disconnect video distributor connector and front display unit connector.
3. Check continuity between video distributor harness connector (A) M205 terminal 11 and front display unit harness connector (B) M203 terminal 3.

11 – 3 : Continuity should exist.

4. Check continuity between video distributor harness connector (A) M205 terminal 11 and ground.

11 – Ground : Continuity should not exist.



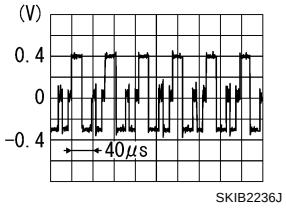
OK or NG

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

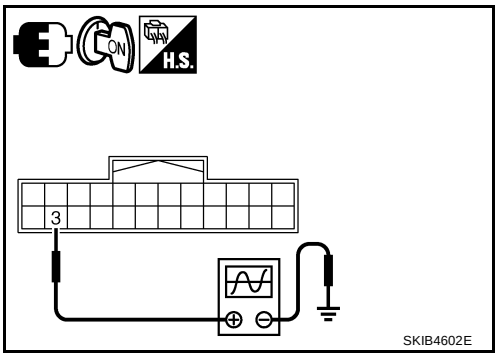
5. CHECK RGB SIGNAL (G: GREEN)

1. Connect video distributor connector and front display unit connector.
2. Turn ignition switch ON.
3. Start Confirmation/Adjustment mode. Refer to AV-235, "Confirmation/Adjustment Mode" .
4. Display color bar by selecting “Display Color Spectrum Bar” on DISPLAY DIAGNOSIS screen. Refer to AV-235, "DISPLAY DIAGNOSIS" .
5. Check signal between front display unit harness connector M203 terminal 3 and ground.

3 – Ground:



SKIB2236J



SKIB4602E

OK or NG

OK >> Replace front display unit.
NG >> Replace video distributor.

ONLY REAR DISPLAY

1. CHECK DVD IMAGE

Make sure that the DVD image of rear display is rolling.

Is DVD image rolling?

YES >> GO TO 2.
NO >> GO TO 4.

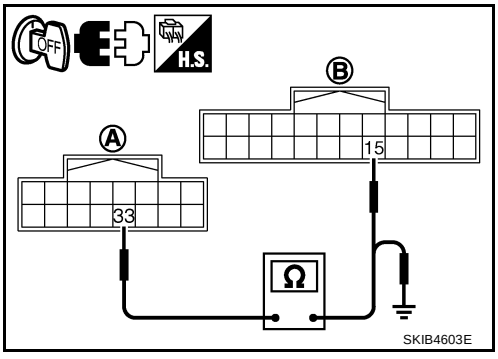
2. CHECK HARNESS BETWEEN VIDEO DISTRIBUTOR AND REAR DISPLAY UNIT

1. Turn ignition switch OFF.
2. Disconnect video distributor connector and rear display unit connector.
3. Check continuity between video distributor harness connector (A) M206 terminal 33 and rear display unit harness connector (B) R102 terminal 15.

33 – 15 : Continuity should exist.

4. Check continuity between video distributor harness connector (A) M206 terminal 33 and ground.

33 – Ground : Continuity should not exist.



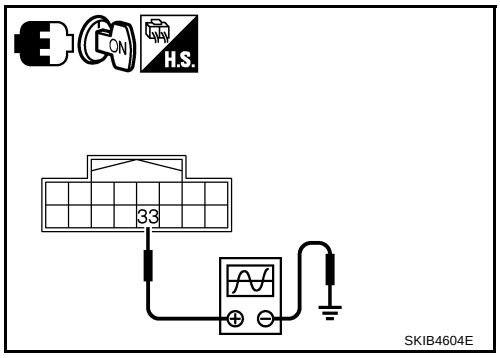
SKIB4603E

OK or NG

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

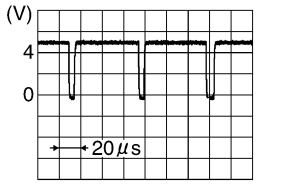
3. CHECK RGB SYNCHRONIZING SIGNAL

1. Connect video distributor connector and rear display unit connector.
2. Turn ignition switch ON.
3. Displaying RGB image.
4. Check signal between video distributor harness connector M206 terminal 33 and ground.



SKIB4604E

33 – Ground:



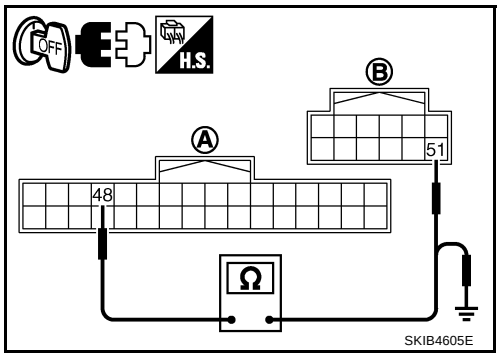
SKIB3603E

OK or NG

OK >> Replace rear display unit.
NG >> Replace video distributor.

4. CHECK HARNESS BETWEEN AV (NAVI) CONTROL UNIT AND VIDEO DISTRIBUTOR

1. Turn ignition switch OFF.
2. Disconnect AV (NAVI) control unit connector and video distributor connector.
3. Check continuity between AV (NAVI) control unit harness connector (A) M210 terminal 48 and video distributor harness connector (B) M207 terminal 51.



SKIB4605E

48 – 51 : Continuity should exist.

4. Check continuity between AV (NAVI) control unit harness connector (A) M210 terminal 48 and ground.

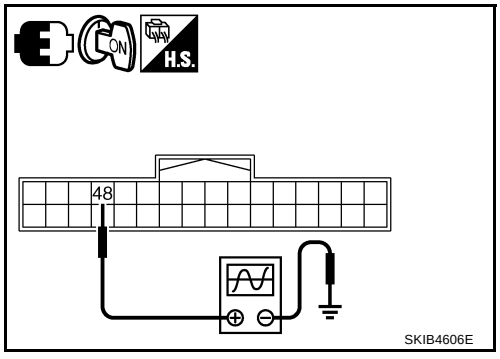
48 – Ground : Continuity should not exist.

OK or NG

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

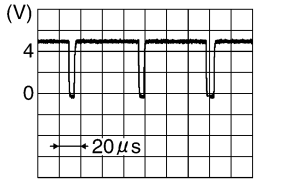
5. CHECK RGB SYNCHRONIZING SIGNAL FOR AV (NAVI) CONTROL UNIT

1. Connect AV (NAVI) control unit connector and video distributor connector.
2. Turn ignition switch ON.
3. Displaying RGB image.
4. Check signal between AV (NAVI) control unit harness connector M210 terminal 48 and ground.



SKIB4606E

48 – Ground:



SKIB3603E

OK or NG

OK >> Replace video distributor.
NG >> Replace AV (NAVI) control unit.

Rear View Monitor Image Is Not Displayed

NKS004B5

DVD IMAGE IS DISPLAYED

1. CONSULT-II DIAGNOSIS

Perform CONSULT-II self-diagnosis and check the malfunction. Refer to AV-247, "SELF-DIAG RESULTS" .

Is there a malfunction?

YES >> Refer to AV-247, "Display Item of Self-Diagnostic Results" .
NO >> GO TO 2.

2. REVERSE SIGNAL INSPECTION

1. Turn the ignition switch ON, and then select “Connection Confirmation” of “Camera Controller” on Confirmation/Adjustment mode.
2. Make sure that “Reverse Sensor” is turned ON when shifting the selector lever in R position.

Is it OK?

YES >> GO TO 3.
NO >> Check reverse signal circuit, and then repair the malfunctioning parts.

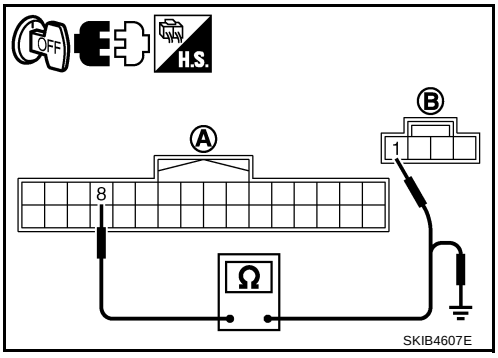
3. CHECK HARNESS BETWEEN CAMERA CONTROL UNIT AND REAR VIEW CAMERA

1. Turn ignition switch OFF.
2. Disconnect camera control unit connector and rear view camera connector.
3. Check continuity between camera control unit harness connector (A) B128 terminal 8 and rear view camera harness connector (B) T109 terminal 1.

8 – 1 : Continuity should exist.

4. Check continuity between camera control unit harness connector (A) B128 terminal 8 and ground.

8 – Ground : Continuity should not exist.



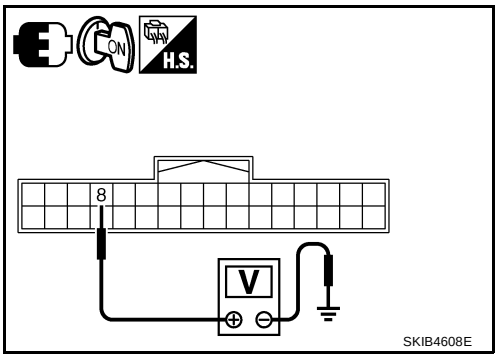
OK or NG

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

4. CHECK REAR VIEW CAMERA POWER SUPPLY

1. Connect camera control unit connector and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever in R position.
4. Check voltage between camera control unit harness connector B128 terminal 8 and ground.

8 – Ground : Approx. 6 V



OK or NG

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

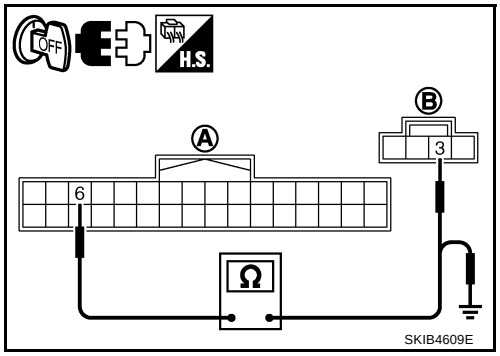
5. CHECK HARNESS BETWEEN CAMERA CONTROL UNIT AND REAR VIEW CAMERA

1. Turn ignition switch OFF.
2. Disconnect camera control unit connector and rear view camera connector.
3. Check continuity between camera control unit harness connector (A) B128 terminal 6 and rear view camera harness connector (B) T109 terminal 3.

6 – 3 : Continuity should exist.

4. Check continuity between camera control unit harness connector (A) B128 terminal 6 and ground.

6 – Ground : Continuity should not exist.



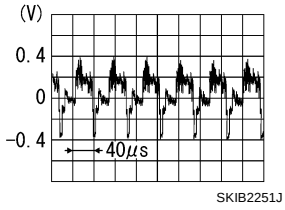
OK or NG

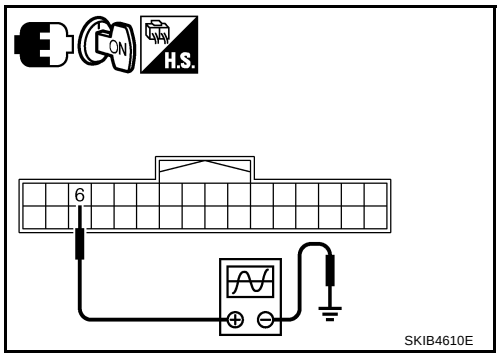
OK >> GO TO 6.
NG >> Repair harness or connector.

6. CHECK REAR VIEW CAMERA IMAGE SIGNAL

1. Connect camera control unit connector and rear view camera connector.
2. Turn ignition switch ON.
3. Shift the selector lever in R position.
4. Check signal between camera control unit harness connector B128 terminal 6 and ground.

6 – Ground:





OK or NG

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

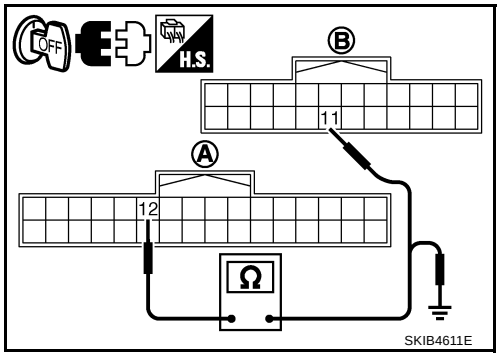
7. HARNESS CHECK BETWEEN CAMERA CONTROL UNIT AND FRONT DISPLAY UNIT

1. Turn ignition switch OFF.
2. Disconnect camera control unit connector and front display unit connector.
3. Check continuity between camera control unit harness connector (A) B128 terminal 12 and front display unit harness connector (B) M203 terminal 11.

12 - 11 : Continuity should exist.

4. Check continuity between camera control unit harness connector (A) B128 terminal 12 and ground.

12 - Ground : Continuity should not exist.

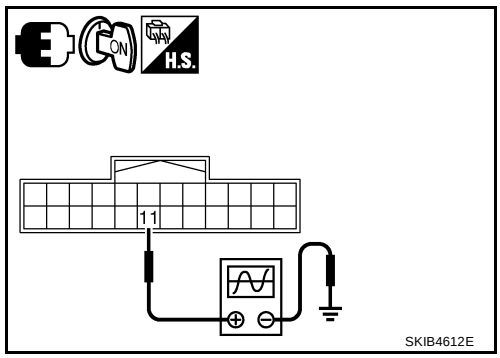


OK or NG

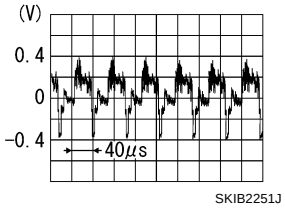
OK >> GO TO 8.
NG >> Repair harness or connector.

8. CHECK REAR VIEW IMAGE SIGNAL

Check signal between front display unit harness connector M203 terminal 11 and ground.



11 – Ground:



OK or NG

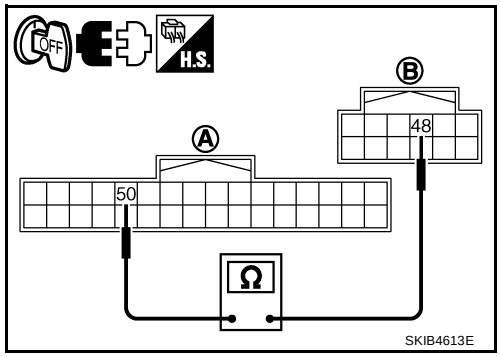
OK >> Replace front display unit.
NG >> Replace camera control unit.

DVD IMAGE IS NOT DISPLAYED

1. CHECK HARNESS BETWEEN AV (NAVI) CONTROL UNIT AND VIDEO DISTRIBUTOR

1. Disconnect AV (NAVI) control unit connector and video distributor connector.
2. Check continuity between AV (NAVI) control unit harness connector (A) M210 terminal 50 and video distributor harness connector (B) M207 terminal 48.

50 – 48 : Continuity should exist.

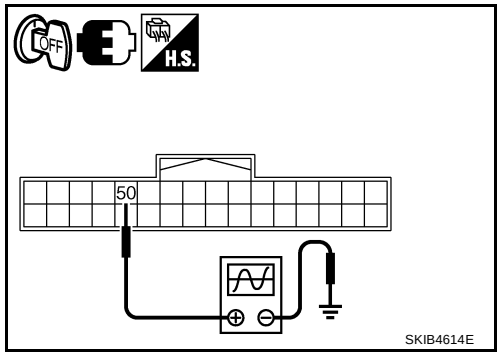


OK or NG

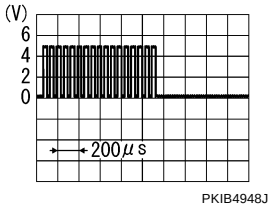
OK >> GO TO 2.
NG >> Repair harness or connector.

2. CHECK RGB AREA SIGNAL FOR AV (NAVI) CONTROL UNIT

1. Connect AV (NAVI) control unit connector and video distributor connector.
2. Turn ignition switch ON.
3. Shift the selector lever in R position.
4. Check signal between AV (NAVI) control unit harness connector M210 terminal 50 and ground.



50 – Ground:



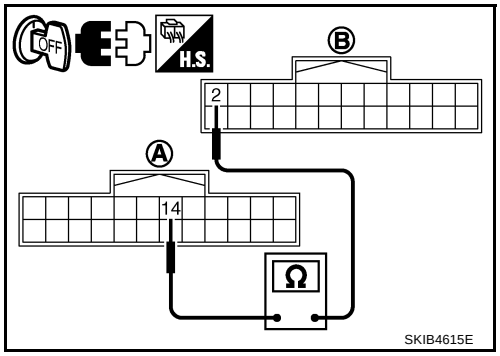
OK or NG

OK >> GO TO 3.
NG >> Replace AV (NAVI) control unit.

3. CHECK HARNESS BETWEEN VIDEO DISTRIBUTOR AND FRONT DISPLAY UNIT

1. Turn ignition switch OFF.
2. Disconnect video distributor connector and front display unit connector.
3. Check continuity between video distributor harness connector (A) M205 terminal 14 and front display unit harness connector (B) M203 terminal 2.

14 – 2 : Continuity should exist.



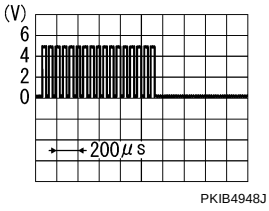
OK or NG

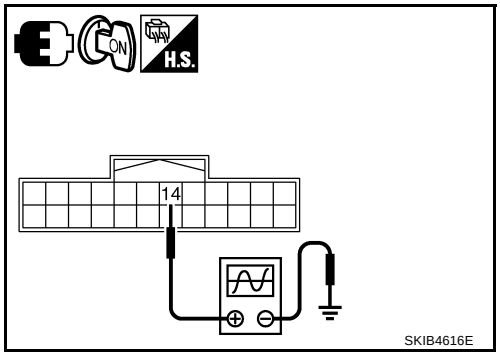
OK >> GO TO 4.
NG >> Repair harness or connector.

4. CHECK RGB AREA SIGNAL FOR VIDEO DISTRIBUTOR

1. Connect video distributor connector and front display unit connector.
2. Turn ignition switch ON.
3. Shift the selector lever in R position.
4. Check signal between video distributor harness connector M205 terminal 14 and ground.

14 – Ground:





OK or NG

OK >> Replace front display unit.
NG >> Replace video distributor.

IT CANNOT BE SWITCHED TO REAR VIEW MONITOR IMAGE

1. CHECK REVERSE SIGNAL

Select “Vehicle Signals” on Confirmation/Adjustment mode, and make sure that the reverse signal is input normally. Refer to AV-236, "VEHICLE SIGNALS" .

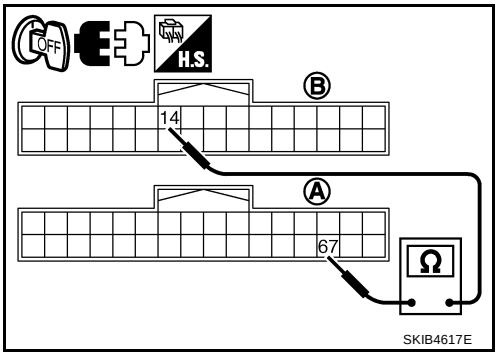
OK or NG

OK >> GO TO 2.
NG >> Check reverse signal circuit, and then repair the malfunctioning parts.

2. CHECK HARNESS BETWEEN AV (NAVI) CONTROL UNIT AND CAMERA CONTROL UNIT

1. Turn ignition switch OFF.
2. Disconnect AV (NAVI) control unit connector and camera control unit connector.
3. Check continuity between AV (NAVI) control unit harness connector (A) M210 terminal 67 and camera control unit harness connector (B) B128 terminal 14.

67 – 14 : Continuity should exist.



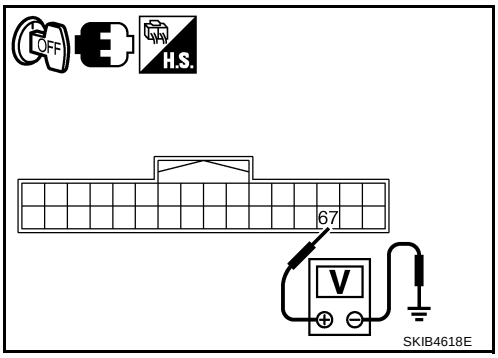
OK or NG

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

3. CHECK CAMERA-CONNECTION RECOGNITION SIGNAL

1. Connect AV (NAVI) control unit connector.
2. Turn ignition switch ON.
3. Check voltage between AV (NAVI) control unit harness connector M210 terminal 67 and ground.

67 – Ground: : Approx. 5 V



OK or NG

OK >> Replace camera control unit.
NG >> Replace AV (NAVI) control unit.

DVD Image Is Not Displayed

NKS004B6

ONLY FRONT DISPLAY

1. REAR VIEW MONITOR IMAGE CONFIRMATION

Make sure that rear view monitor image is displayed when setting the selector lever in R position.

Is it displayed?

YES >> GO TO 2.
NO >> GO TO 4.

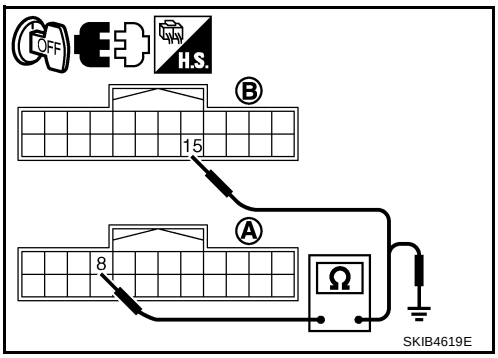
2. CHECK HARNESS BETWEEN VIDEO DISTRIBUTOR AND FRONT DISPLAY UNIT

1. Turn ignition switch OFF.
2. Disconnect video distributor connector and front display unit connector.
3. Check continuity between video distributor harness connector (A) M205 terminal 8 and front display unit harness connector (B) M203 terminal 15.

8 – 15 : Continuity should exist.

4. Check continuity between video distributor harness connector (A) M205 terminal 8 and ground.

8 – Ground : Continuity should not exist.

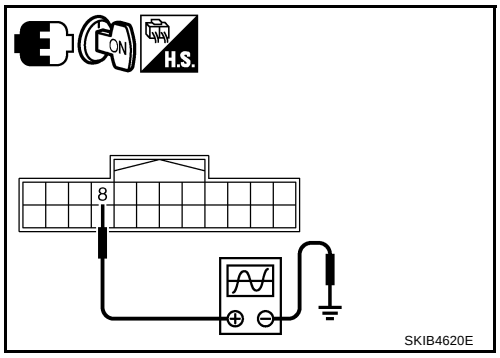


OK or NG

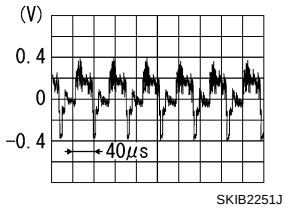
OK >> GO TO 3.
NG >> Repair harness or connector.

3. CHECK IMAGE SIGNAL

1. Connect video distributor connector and front display unit connector.
2. Turn ignition switch ON.
3. Display DVD image.
4. Check signal between video distributor harness connector M205 terminal 8 and ground.



8 – Ground:

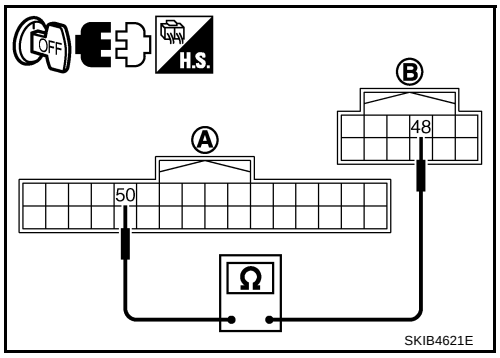


OK or NG

OK >> Replace front display unit.
NG >> Replace video distributor.

4. CHECK HARNESS BETWEEN AV (NAVI) CONTROL UNIT AND VIDEO DISTRIBUTOR

1. Turn ignition switch OFF.
2. Disconnect AV (NAVI) control unit connector and video distributor connector.
3. Check continuity between and AV (NAVI) control unit harness connector (A) M210 terminal 50 and video distributor harness connector (B) M207 terminal 48.



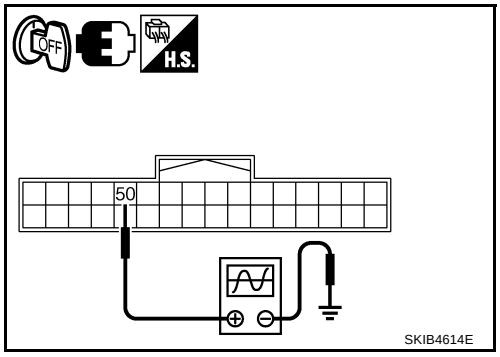
50 – 48 : Continuity should exist.

OK or NG

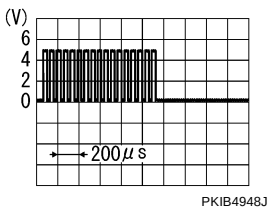
OK >> GO TO 5.
NG >> Repair harness or connector.

5. CHECK RGB AREA SIGNAL FOR AV (NAVI) CONTROL UNIT

1. Connect AV (NAVI) control unit connector and video distributor connector.
2. Turn ignition switch ON.
3. Shift the selector lever in R position.
4. Check signal between AV (NAVI) control unit harness connector M210 terminal 50 and ground.



50 – Ground:



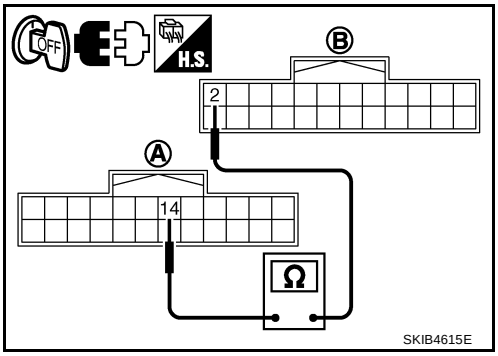
OK or NG

OK >> GO TO 6.
NG >> Replace AV (NAVI) control unit.

6. CHECK HARNESS BETWEEN VIDEO DISTRIBUTOR AND FRONT DISPLAY UNIT

1. Turn ignition switch OFF.
2. Disconnect video distributor connector and front display unit connector.
3. Check continuity between video distributor harness connector (A) M205 terminal 14 and front display unit harness connector (B) M203 terminal 2.

14 – 2 : Continuity should exist.



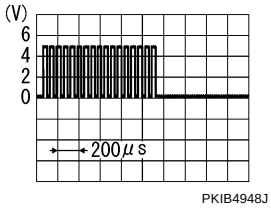
OK or NG

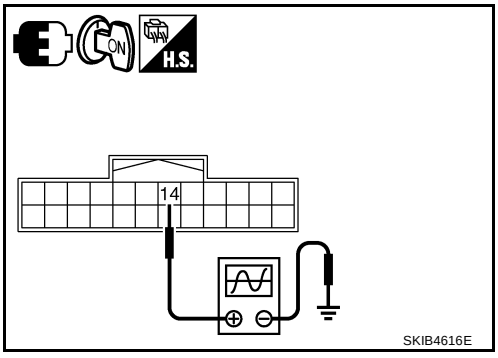
OK >> GO TO 7.
NG >> Repair harness or connector.

7. CHECK RGB AREA SIGNAL FOR VIDEO DISTRIBUTOR

1. Connect video distributor connector and front display unit connector.
2. Turn ignition switch ON.
3. Shift the selector lever in R position.
4. Check signal between video distributor harness connector M205 terminal 14 and ground.

14 – Ground:





OK or NG

OK >> Replace front display unit.
NG >> Replace video distributor.

ONLY REAR DISPLAY

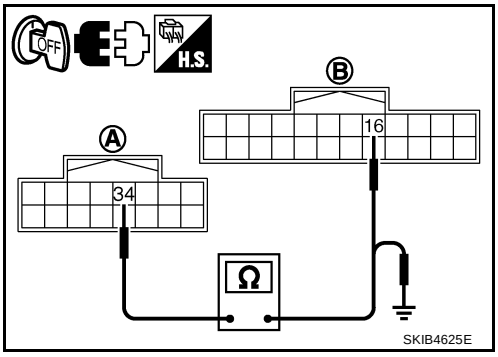
1. CHECK HARNESS BETWEEN VIDEO DISTRIBUTOR AND REAR DISPLAY UNIT

1. Disconnect video distributor connector and rear display unit connector.
2. Check continuity between video distributor harness connector (A) M206 terminal 34 and rear display unit harness connector (B) R102 terminal 16.

34 – 16 : Continuity should exist.

3. Check continuity between video distributor harness connector (A) M206 terminal 34 and ground.

34 – Ground : Continuity should not exist.

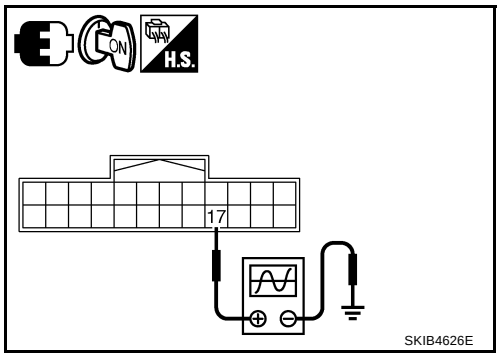


OK or NG

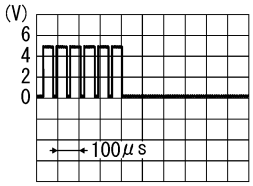
OK >> GO TO 2.
NG >> Repair harness or connector.

2. CHECK RGB AREA SIGNAL

1. Connect video distributor connector and rear display unit connector.
2. Turn ignition switch ON.
3. Select DVD mode on rear display.
4. Check signal between rear display unit harness connector R102 terminal 17 and ground.



17 – Ground:

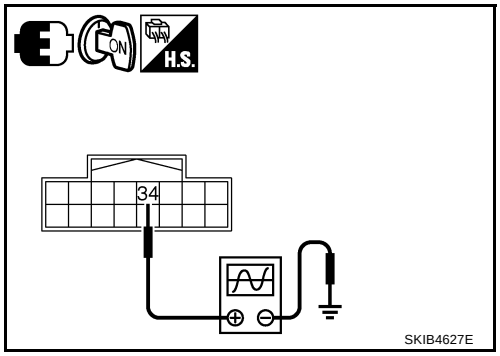


OK or NG

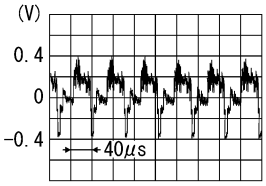
OK >> GO TO 3.
NG >> Replace video distributor.

3. CHECK IMAGE SIGNAL

1. Connect video distributor connector and rear display unit connector.
2. Turn ignition switch ON.
3. Display DVD image.
4. Check signal between video distributor harness connector M206 terminal 34 and ground.



34 – Ground:



OK or NG

OK >> Replace rear display unit.
NG >> Replace video distributor.

BOTH FRONT DISPLAY AND REAR DISPLAY

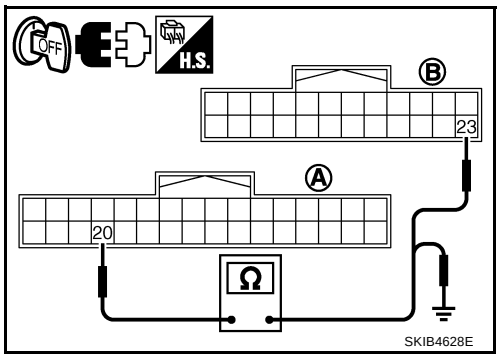
1. CHECK HARNESS BETWEEN DVD PLAYER AND VIDEO DISTRIBUTOR

1. Disconnect DVD player connector and video distributor connector.
2. Check continuity between DVD player harness connector (A) M272 terminal 20 and video distributor harness connector (B) M205 terminal 23.

20 – 23 : Continuity should exist.

3. Check continuity between DVD player harness connector (A) M272 terminal 20 and ground.

20 – Ground : Continuity should not exist.

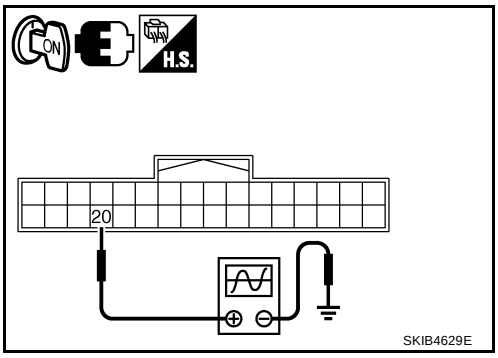


OK or NG

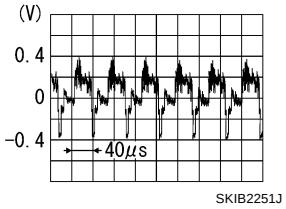
OK >> GO TO 2.
NG >> Repair harness or connector.

2. CHECK IMAGE SIGNAL

1. Connect DVD player and video distributor connector.
2. Turn ignition switch ON.
3. Display DVD image.
4. Check signal between DVD player harness connector M272 terminal 20 and ground.



20 – Ground:



OK or NG

OK >> Replace video distributor.
NG >> Replace DVD player.

Warning Message of Whether Rear View Image Is Rolling or Not Displayed

NKS004B7

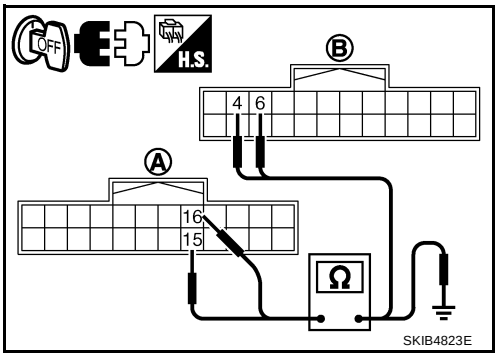
1. CHECK HARNESS BETWEEN VIDEO DISTRIBUTOR AND FRONT DISPLAY UNIT

1. Disconnect video distributor connector and front display unit connector.
2. Check continuity between video distributor harness connector (A) M205 terminals 15, 16 and front display unit harness connector (B) M203 terminals 4, 6.

15 – 4 : Continuity should exist.
16 – 6 : Continuity should exist.

3. Check continuity between video distributor harness connector (A) M205 terminals 15, 16 and ground.

15, 16 – Ground : Continuity should not exist.

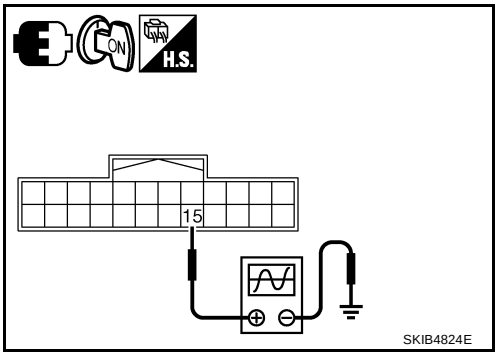


OK or NG

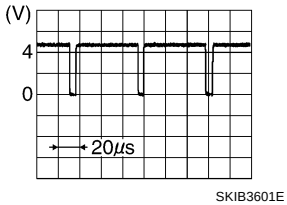
OK >> GO TO 2.
NG >> Repair harness or connector.

2. CHECK HORIZONTAL SYNCHRONIZING SIGNAL

1. Connect AV (NAVI) control unit connector and display unit connector.
2. Turn ignition switch ON.
3. Check signal between video distributor harness connector M205 terminal 15 and ground.



15 – Ground:

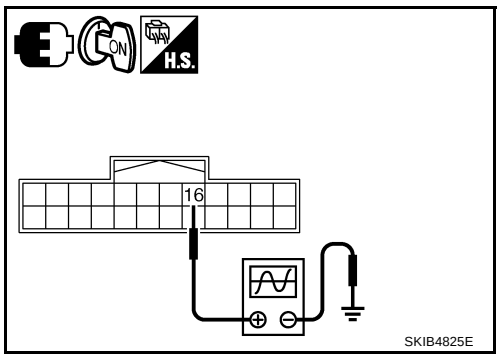


OK or NG

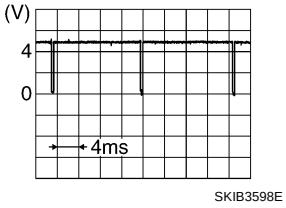
OK >> GO TO 3.
NG >> Replace front display unit.

3. CHECK VERTICAL SYNCHRONIZING SIGNAL

Check signal between video distributor harness connector M205 terminals 16 and ground.



16 – Ground:



OK or NG

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

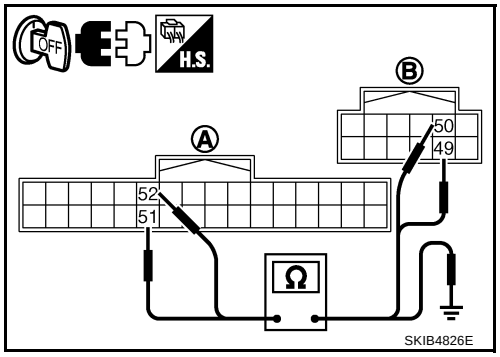
4. CHECK HARNESS BETWEEN AV (NAVI) CONTROL UNIT AND VIDEO DISTRIBUTOR

1. Disconnect AV (NAVI) control unit connector and video distributor connector.
2. Check continuity between AV (NAVI) control unit harness connector (A) M210 terminals 51, 52 and video distributor harness connector (B) M207 terminals 49, 50.

51 – 49 : Continuity should exist.
52 – 50 : Continuity should exist.

3. Check continuity between AV (NAVI) control unit harness connector (A) M210 terminals 51, 52 and ground.

51, 52 – Ground : Continuity should not exist.

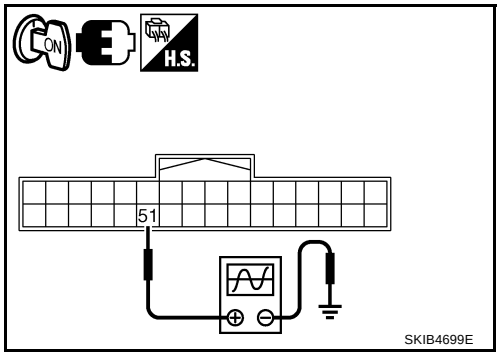


OK or NG

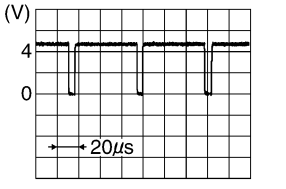
OK >> GO TO 5.
NG >> Repair harness or connector.

5. CHECK HORIZONTAL SYNCHRONIZING SIGNAL

1. Connect AV (NAVI) control unit connector and display unit connector.
2. Turn ignition switch ON.
3. Check signal between AV (NAVI) control unit harness connector M210 terminal 51 and ground.



51 – Ground:

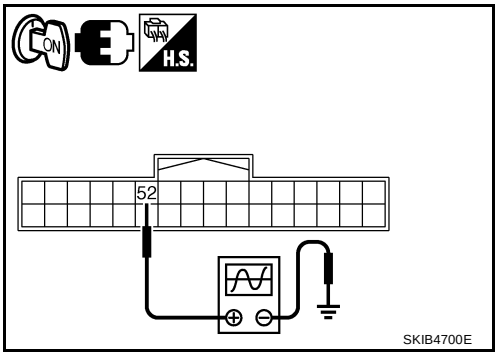


OK or NG

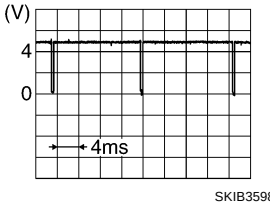
OK >> GO TO 6.
NG >> Replace video distributor.

6. CHECK VERTICAL SYNCHRONIZING SIGNAL

Check signal between AV (NAVI) control unit harness connector M210 terminal 52 and ground.



52 – Ground:



OK or NG

OK >> Replace AV (NAVI) control unit.
NG >> Replace video distributor.

DVD Operation Screen Is Not Displayed

NKS004B8

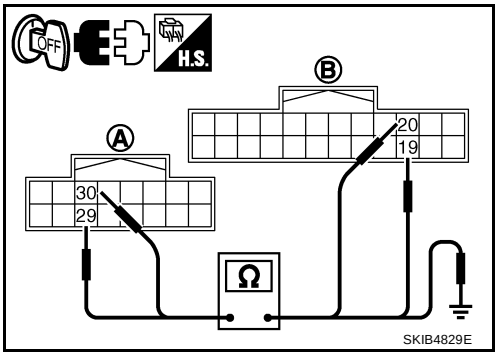
ONLY FRONT DISPLAY

Refer to AV-267, "Warning Message of Whether Rear View Image Is Rolling or Not Displayed" .

ONLY REAR DISPLAY

1. CHECK HARNESS BETWEEN VIDEO DISTRIBUTOR AND REAR DISPLAY UNIT

1. Disconnect video distributor connector and rear display unit connector.
2. Check continuity between video distributor harness connector (A) M206 terminals 29, 30 and rear display unit harness connector (B) R102 terminals 19, 20.



29 – 19 : Continuity should exist.
30 – 20 : Continuity should exist.

3. Check continuity between AV (NAVI) control unit harness connector (A) M206 terminals 29, 30 and ground.

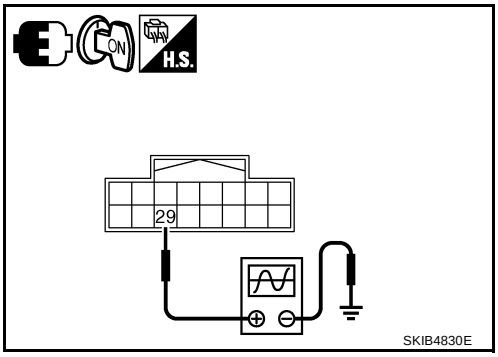
29, 30 – Ground : Continuity should not exist.

OK or NG

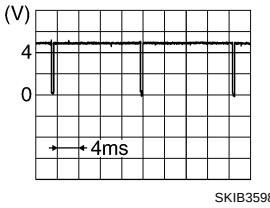
OK >> GO TO 2.
NG >> Repair harness or connector.

2. CHECK VERTICAL SYNCHRONIZING SIGNAL

1. Connect video distributor connector and rear display unit connector.
2. Turn ignition switch ON.
3. Check signal between video distributor harness connector M206 terminal 29 and ground.



29 – Ground:

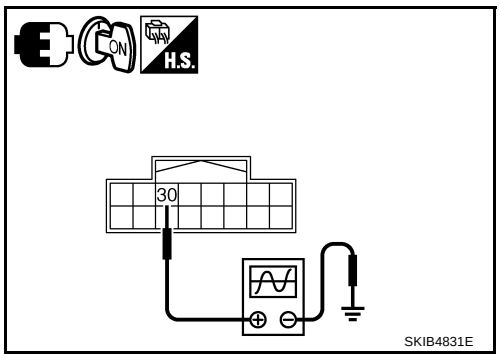


OK or NG

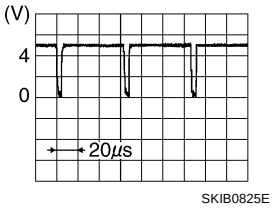
OK >> GO TO 3.
NG >> Replace rear display unit.

3. CHECK HORIZONTAL SYNCHRONIZING SIGNAL

Check signal between video distributor harness connector M206 terminal 30 and ground.



30 – Ground:



OK or NG

OK >> Replace video distributor.
NG >> Replace rear display unit.

It Cannot Be Switched to DVD Mode

NKS004B9

Refer to AV-270, "DVD SOUND IS NOT OUTPUT" .

Sound Is Not Output (Voice Guidance and TEL Voice Are Normal)

NKS004BA

DVD AND AUDIO SOUND ARE NOT OUTPUT

1. CONSULT-II SELF-DIAGNOSIS

Perform “SELF-DIAG RESULT” of CONSULT-II and check the malfunction. Refer to AV-247, "SELF-DIAG RESULTS" .

OK or NG

OK >> GO TO 2.
NG >> Refer to AV-247, "Display Item of Self-Diagnostic Results" .

2. CHECK AV COMM MONITOR

Select “AUDIO” of “AV COMM MONITOR”, and then check the displays of “TRANSMIT DG” and “SPEAKER AMP”.

A
TRANSMIT DG : OK
SPEAKER AMP : UNKWN

B
TRANSMIT DG : UNKWN
SPEAKER AMP : OK

A or B

A >> Replace BOSE amp.
B >> Replace audio unit.

DVD SOUND IS NOT OUTPUT

1. CONSULT-II SELF-DIAGNOSIS

Perform “SELF-DIAG RESULT” of CONSULT-II and check the malfunction. Refer to AV-247, "SELF-DIAG RESULTS" .

OK or NG

OK >> GO TO 2.
NG >> Refer to AV-247, "Display Item of Self-Diagnostic Results" .

2. CHECK AV COMM MONITOR

Select “AUDIO” of “AV COMM MONITOR”, and then check the displays of “TRANSMIT DG” and “DVD player”.

A
TRANSMIT DG : OK
DVD PLAYER : UNKWN

B
TRANSMIT DG : UNKWN
DVD PLAYER : OK

A or B

A >> Replace DVD player
B >> Replace audio unit.

HEADPHONE SOUND IS NOT OUTPUT (BOTH SIDES)

1. CHECK HEADPHONE AMP POWER SUPPLY AND GROUND CIRCUIT

Check headphone amp power supply and ground circuit.

OK or NG

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

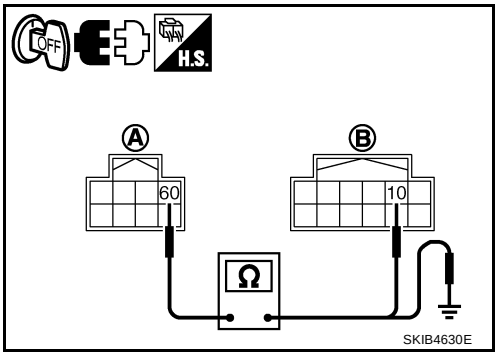
2. CHECK HARNESS BETWEEN VIDEO DISTRIBUTOR AND HEADPHONE AMP

1. Disconnect video distributor connector and headphone amp connector.
2. Check continuity between video distributor harness connector (A) M208 terminal 60 and headphone amp harness connector (B) R103 terminal 10.

60 – 10 : Continuity should exist.

3. Check continuity video distributor harness connector (A) M208 terminal 60 and ground.

60 – Ground : Continuity should not exist.



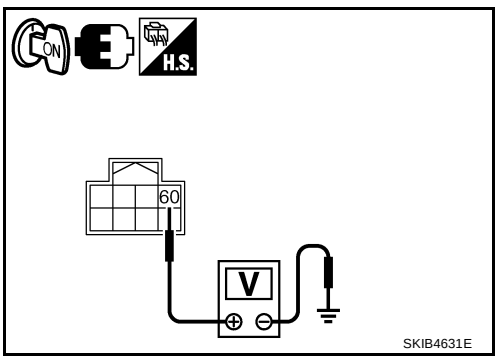
OK or NG

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

3. CHECK HEADPHONE AMP ON SIGNAL

1. Connect video distributor connector and headphone amp connector.
2. Turn ignition switch ON.
3. Turn the headphone mode ON.
4. Check voltage between video distributor harness connector M208 terminal 60 and ground.

60 – Ground : Approx. 4 V



OK or NG

OK >> Replace headphone amp.
NG >> Replace video distributor.

Voice Activated Control System Is Not Activated

NKS004BB

THE SCREEN IS SWITCHED BY PRESSING THE STEERING SWITCH

1. VOICE MICROPHONE TEST

Turn “Voice Microphone Test” ON at Confirmation/Adjustment mode, and then check the sounds emitted from the speaker. Refer to AV-242, "Voice Microphone Test" .

Is the sound output?

YES >> Replace AV (NAVI) control unit.
NO >> GO TO 2.

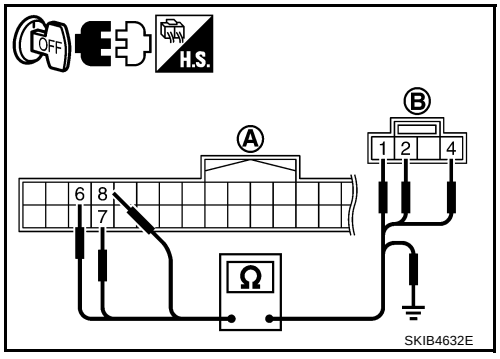
2. CHECK HARNESS BETWEEN AV (NAVI) CONTROL UNIT AND MIC.

1. Turn ignition switch OFF.
2. Disconnect AV (NAVI) control unit connector and MIC. connector.
3. Check continuity between AV (NAVI) control unit harness connector (A) M78 terminals 6, 7, 8 and MIC. harness connector (B) R52 terminals 4, 2, 1.

   6 – 4 : Continuity should exist.
   7 – 2 : Continuity should exist.
   8 – 1 : Continuity should exist.

4. Check continuity between AV (NAVI) control unit harness connector (A) M78 terminals 6, 7, 8 and ground.

   6, 7, 8 – Ground : Continuity should not exist.



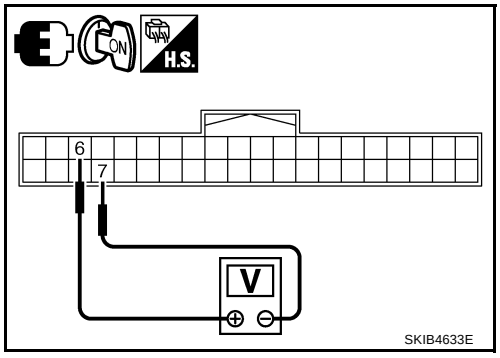
OK or NG

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

3. CHECK MIC. POWER SUPPLY

1. Connect AV (NAVI) control unit and MIC. connector.
2. Turn ignition switch ON.
3. Check voltage between AV (NAVI) control unit harness connector M78 terminals 6 and 7.

   6 – 7 : Approx. 5 V



OK or NG

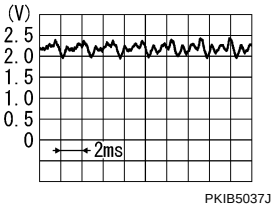
OK >> GO TO 4.
NG >> Replace AV (NAVI) control unit.

4. CHECK MIC. SIGNAL

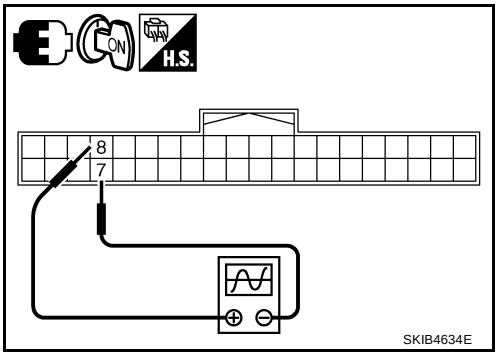
1. Check signal between AV (NAVI) control unit harness connector M78 terminals 8 and 7.

Give a voice

8 – 7:



PKIB5037J



SKIB4634E

OK or NG

OK >> Replace AV (NAVI) control unit.
NG >> Replace MIC.

THE SCREEN IS NOT SWITCHED BY PRESSING THE STEERING SWITCH

Refer to AV-273, "Steering Switch Cannot Be Operated" .

Steering Switch Cannot Be Operated

NKS004BC

NONE OF THE OPERATIONS WORK.

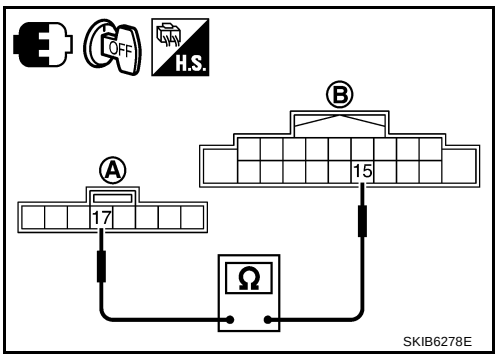
1. CHECK HARNESS

1. Check continuity between spiral cable harness connector (A) M303 terminal 17 and audio unit harness connector (B) M76 terminal 15.

17 – 15 : Continuity should exist.

OK or NG

OK >> Replace steering switch.
NG >> Check spiral cable. If the malfunction is detected, repair the harness and connector.



SKIB6278E

"ENTER", "MENU UP-DOWN", AND "SOURCE" SWITCHES ARE NOT OPERATED

1. CHECK HARNESS

1. Check continuity between spiral cable harness connector (A) M303 terminal 20 and audio unit harness connector (B) M76 terminal 6.

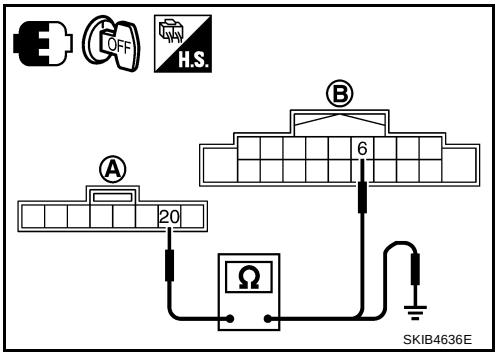
20 – 6 : Continuity should exist.

2. Check continuity between steering switch harness connector (A) M303 terminal 20 and ground.

20 – Ground : Continuity should not exist.

OK or NG

OK >> GO TO 2.
NG >> Check spiral cable. If the malfunction is detected, repair the harness and connector.

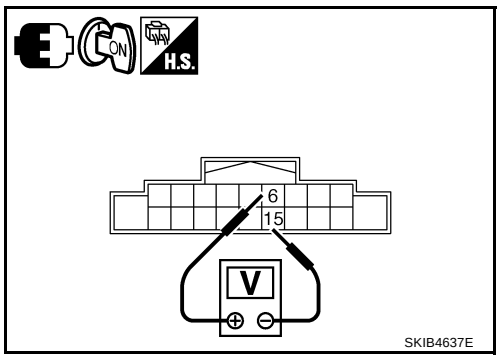


SKIB4636E

2. CHECK STEERING SWITCH SIGNAL A

1. Turn ignition switch ON.
2. Check voltage between audio unit harness connector M76 terminals 6 and 15

6 – 15 : Approx. 5 V



OK or NG

OK >> Replace steering switch.
NG >> Replace audio unit.

"PTT/TEL", "BACK", AND "VOLUME CONTROL" SWITCHES ARE NOT OPERATED

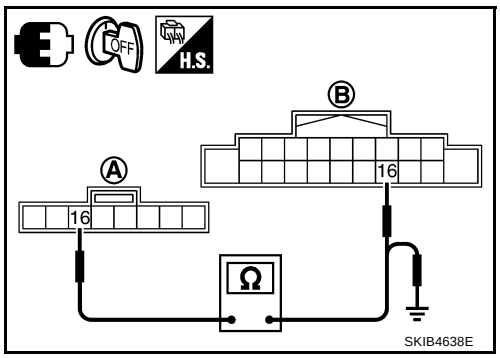
1. CHECK HARNESS

1. Check continuity between spiral cable harness connector (A) M303 terminal 16 and audio unit harness connector (B) M76 terminal 16.

16 – 16 : Continuity should exist.

2. Check continuity between steering switch harness connector (A) M303 terminal 16 and ground.

16 – Ground : Continuity should not exist.



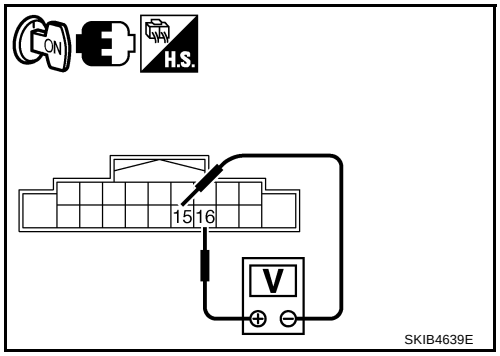
OK or NG

OK >> GO TO 2.
NG >> Check spiral cable. If the malfunction is detected, repair the harness and connector.

2. CHECK STEERING SWITCH SIGNAL B

1. Turn ignition switch ON.
2. Check voltage between audio unit harness connector M76 terminals 16 and 15

16 – 15 : Approx. 5 V



OK or NG

OK >> Replace steering switch.
NG >> Replace audio unit.

The Hands-Free Phone Cannot Be Used

NKS004BD

THE VOICE CANNOT BE HEARD

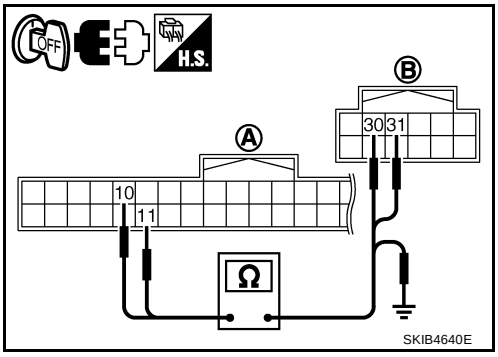
1. CHECK HARNESS AV (NAVI) CONTROL UNIT AND AUDIO UNIT

1. Disconnect AV (NAVI) control unit connector and audio unit connector.
2. Check continuity between AV (NAVI) control unit harness connector (A) M78 terminals 10, 11 and audio unit harness connector (B) M77 terminals 30, 31.

10 – 30 : Continuity should exist.
11 – 31 : Continuity should exist.

3. Check continuity between AV (NAVI) control unit harness connector (A) M78 terminals 10, 11 and ground.

10, 11 – Ground : Continuity should not exist.



SKIB4640E

OK or NG

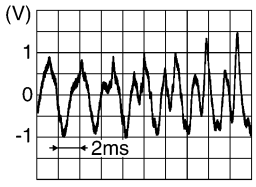
OK >> GO TO 2.
NG >> Repair harness or connector.

2. CHECK TEL VOICE SIGNAL

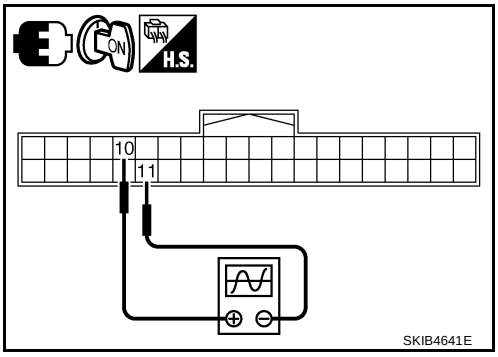
1. Connect AV (NAVI) control unit connector and audio unit connector.
2. Turn ignition switch ON.
3. Check signal between AV (NAVI) control unit harness connector M78 terminals 10 and 11.

When inputting TEL voice

10 – 11:



SKIB3609E



SKIB4641E

OK or NG

OK >> Replace audio unit.
NG >> Replace AV (NAVI) control unit.

THE VOICE CANNOT BE TRANSMITTED

Refer to AV-272, "THE SCREEN IS SWITCHED BY PRESSING THE STEERING SWITCH" .

Voice Guidance Is Not Heard

NKS004BE

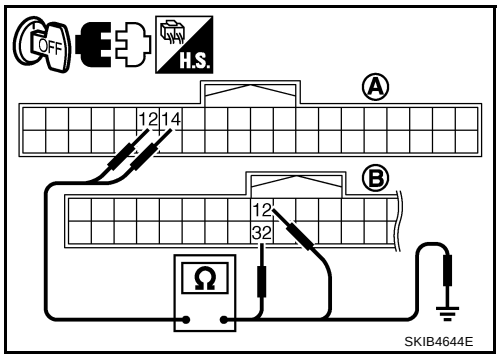
1. CHECK HARNESS BETWEEN AV (NAVI) CONTROL UNIT AND BOSE AMP

1. Disconnect AV (NAVI) control unit connector and BOSE amp connector.
2. Check continuity between AV (NAVI) control unit harness connector (A) M78 terminals 12, 14 and BOSE amp harness connector (B) B107 terminals 32, 12.

   12 – 32 : Continuity should exist.
   14 – 12 : Continuity should exist.

3. Check continuity between AV (NAVI) control unit harness connector (A) M78 terminals 12, 14 and ground.

   12, 14 – Ground : Continuity should not exist.



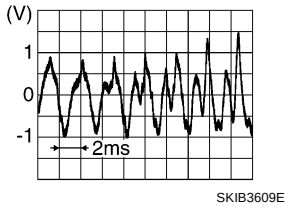
OK or NG

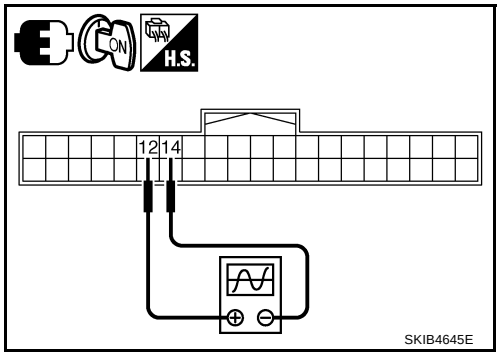
OK >> GO TO 2.
NG >> Repair harness or connector.

2. CHECK VOICE GUIDANCE SIGNAL

1. Connect AV (NAVI) control unit connector and BOSE amp connector.
2. Turn ignition switch ON.
3. Push the voice button.
4. Check signal between AV (NAVI) control unit harness connector M78 terminals 12 and 14.

12 – 14:





OK or NG

OK >> Replace AV (NAVI) control unit.
NG >> Replace BOSE amp.

Example of Symptoms Judged Not Malfunction

NKS004BF

BASIC OPERATION

Symptom	Possible cause	Possible solution
No image is displayed.	The brightness is at the lowest setting.	Adjust the brightness of the display.
	The display is turns off.	Push and hold ☀/☽ to turn on the display.
No voice guidance is available. The volume is too high or too low.	The volume is not set correctly, or it is turned off.	Adjust the volume of voice guidance.
	Volume guidance is not provided for narrow streets (roads displayed in gray).	This is not a malfunction.
No map is displayed on the screen.	The map DVD-ROM is not inserted, or it is inserted upside down.	Insert the map DVD-ROM correctly.
	A screen other than map screen is displayed.	Push “MAP”.
The screen is too dim. The movement is slow.	The temperature in the interior of the vehicle is low.	Wait until the interior of the vehicle has warmed up.
Some pixels in the display are darker or brighter than others.	This condition is an inherent characteristic of liquid crystal displays.	This is not a malfunction.
Some menu items cannot be selected.	Some menu items become unavailable while the vehicle is driven.	Park the vehicle in a safe location, and then operate the navigation system.

NOTE:
Locations stored in the Address Book and other memory functions may be lost if the vehicle's battery is disconnected or becomes discharged. If this occurs, service the vehicle's battery as necessary and re-enter the information in the Address Book.

VEHICLE ICON

Symptom	Possible cause	Possible solution
Names of roads and locations differ between Plan view and Bird-view™.	This is because the quantity of the displayed information is reduced so that the screen does not become too crowded. There is also a chance that names of the roads or locations may be displayed multiple times, and the names appearing on the screen may be different because of a processing procedure.	This is not a malfunction.
The vehicle icon is not displayed in the correct position.	The vehicle was transported after the ignition switch was turned off, for example, by a ferry or car transporter.	Drive the vehicle for a while on a road where GPS can be received.
	The position and direction of the vehicle may be incorrect depending on the driving environments and the levels of positioning accuracy of the navigation system.	This is not a malfunction. Drive the vehicle for a while to automatically correct the position and direction of the vehicle icon.
When the vehicle is travelling on a new road, the vehicle icon is located on another road nearby.	Because the new road is not stored in the map data, the system automatically places the vehicle ion on the nearest road available.	Updated road information will be included in the next version of the map DVD-ROM.
The screen does not switch to the night screen even after turning on the headlights.	The daytime screen was set the last time the headlights were turned on.	Set the screen to the night screen mode using when turning on the headlights.
The map does not scroll even when the vehicle is moving.	The current location map screen is not displayed.	Push “MAP”.
The vehicle icon is not displayed.	The current location map screen is not displayed.	Push “MAP”.
The GPS indicator on the screen remains gray.	GPS signals cannot be received depending on the vehicle location, such as in a parking garage, on a road that has numerous tall buildings, etc.	Drive on an open, straight road for a while.
	GPS signals cannot be received because objects are placed on the rear parcel shelf.	Remove the objects from the rear parcel shelf.
	A sufficient amount of GPS satellites are not available.	Wait for the satellites to move locations available for navigation system.

Symptom	Possible cause	Possible solution
The location of vehicle icon is misaligned from the actual position.	When using tire chains or replacing the tires, speed calculations based on the speed sensor may be incorrect.	Drive the vehicle for a while [at approximately 30km/h (19 MPH) for about 30 minutes] to automatically correct the vehicle icon position. If this does not correct the vehicle icon position, contact an INFINITI dealer.
	The map data has mistake or is incomplete (the vehicle icon position is always misaligned in the same area).	Updated road information will be included in the next version of the map DVD-ROM.

MAP DVD-ROM

Symptom	Possible cause	Possible solution
The message “Error” appears.	Map DVD-ROM is dirty or partially damaged.	Check the DVD-ROM and wipe it clean with a soft cloth.
		If there is any damage, replace the DVD-ROM.

ROUTE CALCULATION AND VISUAL GUIDANCE

Symptom	Possible cause	Possible solution
In the auto reroute calculation, waypoints are not included.	Waypoints already passed are not included in the auto reroute calculation.	In case of going to that waypoints again, edit the route.
Route information is not displayed.	Route calculation has not yet been performed.	Set the destination and perform route calculation.
	The vehicle is not driven on the suggested route.	Drive on the suggested route.
	Route guidance is set to off.	Turn on route guidance.
	Route information is not provided for narrow streets (roads displayed in gray).	This is not a malfunction.
The auto reroute calculation (or detour calculation) suggests the same route as the one previously suggested.	Route calculation took priority conditions into consideration, but the same route was calculated.	This is not a malfunction.
A waypoint cannot be added.	Five waypoints are already set on the route, including ones that already passed.	A maximum of 5 waypoints can be set on the route. In case of going to 6 or more waypoints, perform route calculations multiple times as necessary.
The suggested route is not displayed.	Roads near the destination cannot be calculated.	Reset the destination to a main or ordinary road, and recalculate the route.
	The starting point and destination are too close.	Set a more distant destination.
	The starting point and destination are too far away.	Divide the way by selecting one or two intermediate destinations, and perform route calculations multiple times.
	There are time restricted roads (by day of week, by time) near the current vehicle location or destination.	Set “Use Time Restricted Roads” to off.
A part of the route is not displayed.	The suggested route includes narrow streets (roads displayed in gray).	This is not a malfunction.
The part of the route already passed is deleted.	A route is managed by sections between waypoints. If you passed the first waypoint, the section between the starting point and the waypoint is deleted. (It may not be deleted depending on the area.)	This is not a malfunction.

Symptom	Possible cause	Possible solution
An indirect route is suggested.	If there are restrictions (such as one way streets) on roads close to the starting point or destination, the system may suggest an indirect route.	Adjust the location of the starting point or destination.
	The system may suggest an indirect route because route calculation does not take into consideration some areas such as narrow streets (gray roads).	Reset the destination to a main or ordinary road, and recalculate the route.
The landmark information does not correspond to the actual information.	This may caused by insufficient or incorrect data on the DVD-ROM.	This is not a malfunction.
The suggested route does not exactly connect to the starting point, waypoints, or destination.	There is no data for route calculation closer to these locations.	Set the starting point, waypoints and destination on main road, and perform route calculation.

VOICE GUIDANCE

Symptom	Possible cause	Possible solution
The voice guidance is not available.	Voice guidance is only available at certain intersections. In some cases, voice guidance is not available even when the vehicle should make a turn.	This is not a malfunction.
	The vehicle has deviated from the suggested route.	Go back to the suggested route or request route calculation again.
	Voice guidance is set to off.	Turn on the voice guidance.
	Route guidance is set to off.	Turn on the voice guidance.
The guidance content does not correspond to the actual condition.	The content of the voice guidance may vary, depending on the types of intersections at which turns are made.	Follow all traffic rules and regulations.

VOICE RECOGNITION

Symptom	Possible cause	Possible solution
The system does not recognize the command. The system recognizes the command incorrectly.	The interior of the vehicle is too noisy.	Close the windows or have other occupants be quiet.
	The volume of the voice is too low.	Speak louder.
	Pronunciation is unclear.	Speak clearly.
	Voice recognition mode is not yet ready to speak.	Push the release “PTT” on the steering switch, and speak a command after the tone sounds.
	5 seconds or more have passed after pushed and released “PTT” on the steering switch.	Make sure to speak a command within 5seconds after push and release “PTT” on the steering switch.
	Only a limited range of voice commands is usable for each screen.	Use a correct voice command appropriate for the current screen.

REAR VIEW MONITOR

Symptom	Possible cause	Possible solution
Rear view monitor image is not displayed	The selector lever is not shifted in R position.	Shift the selector lever in R position.

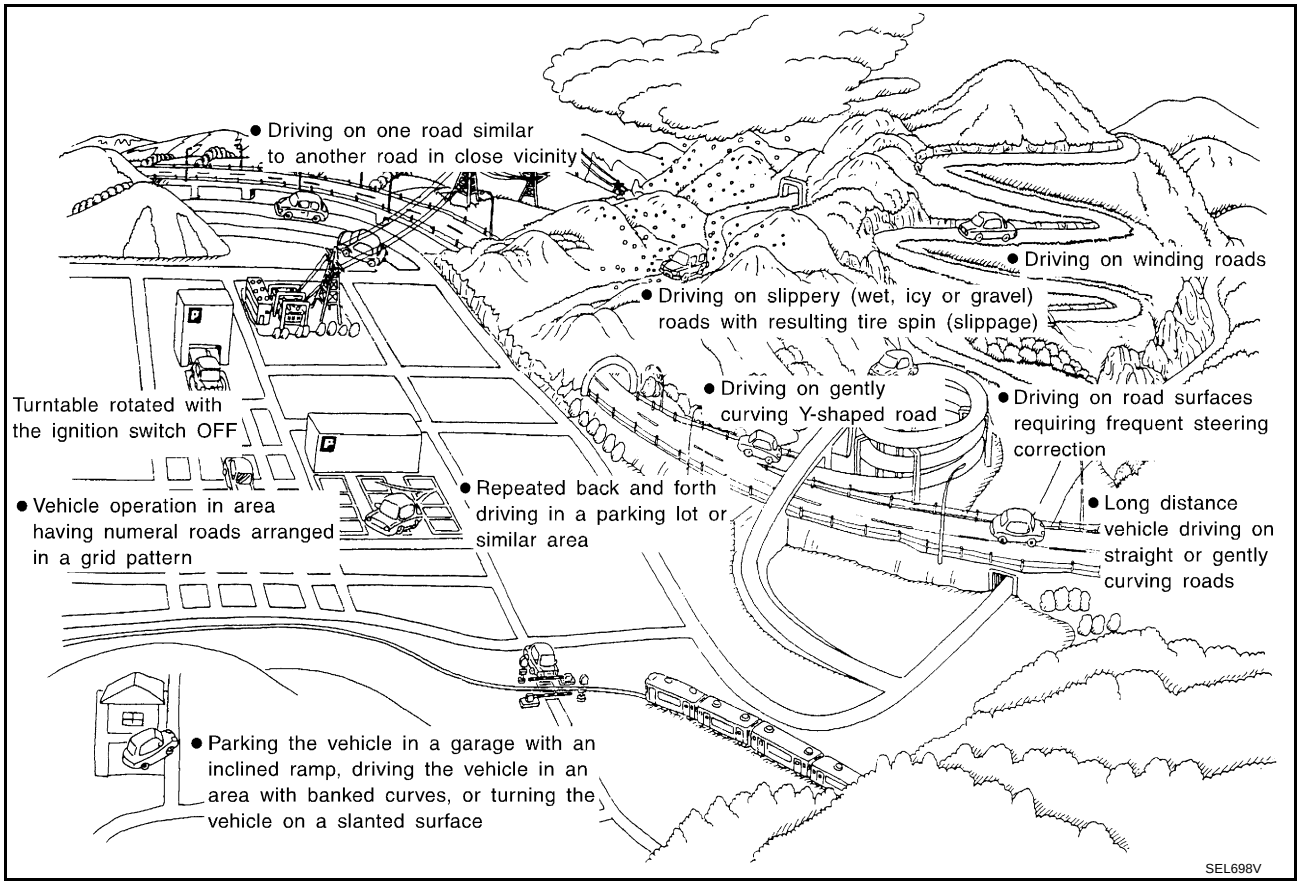
Symptom	Possible cause	Possible solution
Rear view monitor image is not clear	Front glass of camera lens is dirty	Dip a soft cloth into water and wipe the glass softly.
	There are raindrops, snow, etc.	Wipe it with a soft cloth softly.
	The sunlight or the headlight of following vehicle is shining directly to the camera lens.	It returns to the original condition if the light applied to the lens disappears
The center position of possible route line is not in the correct position	● Remove or replace the battery. ● Replace steering angle sensor or camera control unit. ● Turn steering wheel when turning ignition switch OFF.	Perform the neutral position correction as follows. ● Fully turn the steering wheel to left/right. ● Drive 100 m or more at vehicle speed 30 km/h or more.

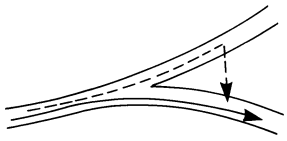
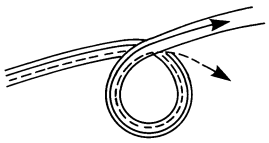
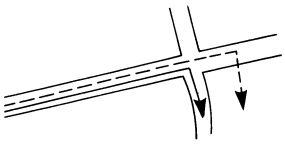
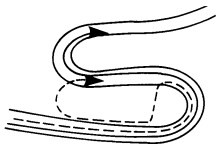
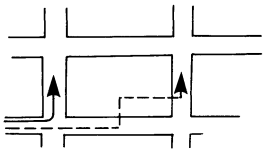
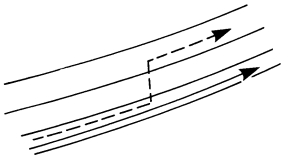
REMOTE CONTROLLER

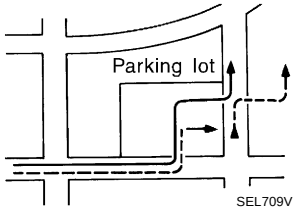
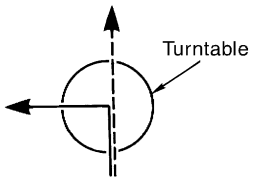
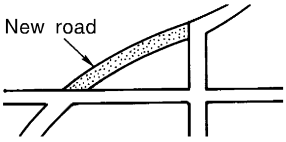
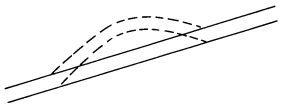
Symptom	Possible cause	Possible solution
The remote controller does not respond.	The remote controller is not pointing at the receiver.	Point the remote controller at the receiver.
	The battery in the remote controller is not set correctly.	Set the battery correctly.
	The battery in the remote controller is discharged.	Replace the battery.
	The transmitter of the remote controller or the receiver is dirty.	Clean the transmitter of the remote controller and the receiver.
	The electrodes of the battery in the remote controller are not contacting correctly.	Take out the battery and clean the s\electrodes.

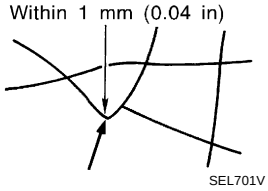
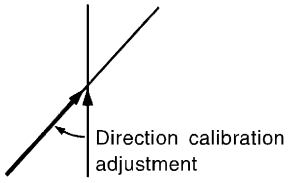
EXAMPLES OF VEHICLE MARK DISPLACEMENT

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 pattern	Y–intersections  ELK0192D	At a Y intersection or similar gradual division of roads, mistakes in the direction of travel deduced by the sensor may result in the vehicle 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 gentle curve road 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.	
	Switchback turn  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 10 km (6 miles) the correct location has not been restored, perform location correction and, if necessary, direction correction.
	Turntable  SEL710V	When the ignition switch is off, the navigation system cannot get the signal from the gyroscope (angular speed sensor). Therefore, the displayed direction may be wrong and the correct road may not be easily returned to after rotating the vehicle on a turntable with the ignition off.	
	Slippery roads	On snow, wet roads, gravel, or other roads where tires may slip easily, accumulated mileage errors may cause the vehicle mark to deviate from the correct road.	
	Slopes	When parking in sloped garages, when 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 vehicle 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. 1 mm (0.04 in). 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.

VEHICLE MARK SHOWS A POSITION WHICH IS COMPLETELY WRONG

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

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

VEHICLE MARK JUMPS

In the following cases, the vehicle mark may appear to jump as a result of automatic correction of the current location.

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

VEHICLE MARK IS IN A RIVER OR SEA

The navigation system moves the vehicle mark with no distinction between land and rivers or sea. If the vehicle mark is somehow out of place, it may appear that the vehicle is driving in a river or the sea.

VEHICLE MARK AUTOMATICALLY ROTATES

The system wrongly memorizes the rotating status as stopping when the ignition switch is turned ON with the turntable rotating. That causes the vehicle mark to rotate when the vehicle is stopped.

WHEN DRIVING ON SAME ROAD, SOMETIMES VEHICLE MARK IS IN RIGHT PLACE AND SOMETIMES IT IS 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 vehicle 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.

REMOVAL AND INSTALLATION

PFP:00000

Removal and Installation/Precautions for Replacement

NKS004BG

REMOVAL OF BATTERY

When the battery is removed, the possible route line center position of rear view monitor may not be in the correct position. Perform the center position correction with the following procedure.

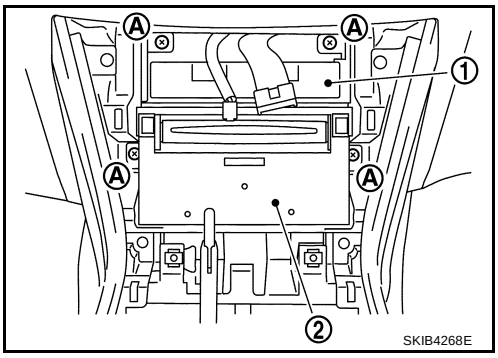
1. Fully turn the steering wheel to left/right.
2. Drive 100m (328.1 ft) or more at vehicle speed 30 km/h (18.6 MPH) or more.

Audio Unit

NKS004BH

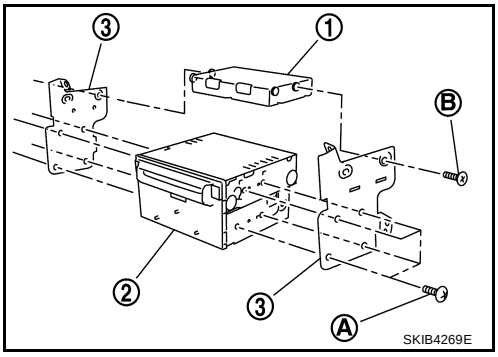
REMOVAL

1. Remove cluster lid C. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY" .
2. Remove screws (A) and remove audio unit (2) in conjunction with unified meter and A/C amp (1).



3. Remove screws (A) and (B)
4. Remove meter and A/C amp (1), audio unit (2) and bracket (3).

CAUTION:
Be careful not to allow foreign material to enter from CD slot.



INSTALLATION

Installation is the reverse order of removal.

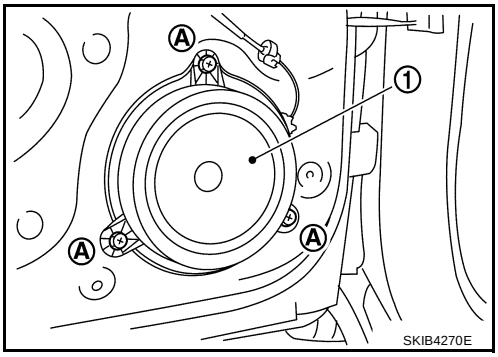
CAUTION:
Unified meter and A/C amp screws are different from other securing screws. Never confuse them when installing.

Front Door Speaker

NKS004BI

REMOVAL

1. Remove front door finisher. Refer to EI-34, "DOOR FINISHER" .
2. Remove screws (A) and remove front door speaker (1).



INSTALLATION

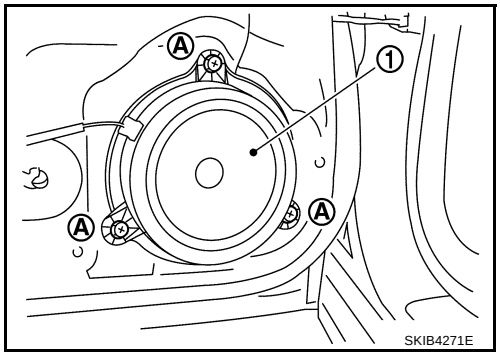
Installation is the reverse order of removal.

Rear Door Speaker

NKS004BJ

REMOVAL

1. Remove rear door finisher. Refer to EI-34, "DOOR FINISHER" .
2. Remove screws (A) and remove rear door speaker (1).



INSTALLATION

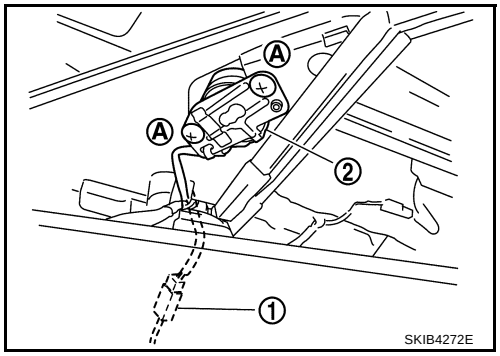
Installation is the reverse order of removal.

Tweeter

NKS004BK

REMOVAL

1. Remove front door finisher. Refer to EI-34, "DOOR FINISHER" .
2. Remove door sash inner cover (front). Refer to EI-34, "DOOR FINISHER" .
3. Remove screws (A), and disconnect connector (1).
4. Remove tweeter (2).



INSTALLATION

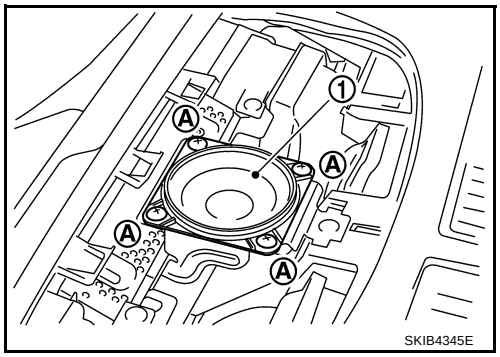
Installation is the reverse order of removal.

Center Speaker

NKS004BL

REMOVAL

1. Remove upper ventilator grill. Refer to ATC-146, "REMOVAL" .
2. Remove screws (A) and disconnect connector.
3. Remove center speaker (1).



INSTALLATION

Installation is the reverse order of removal.

Seat Speaker

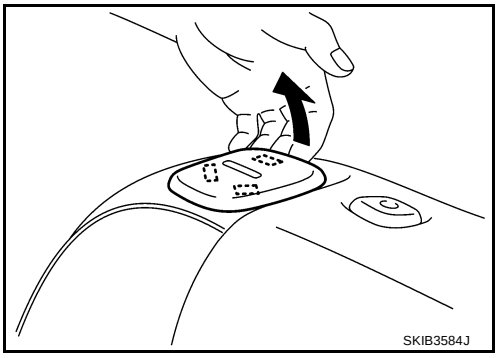
NKS004BM

REMOVAL

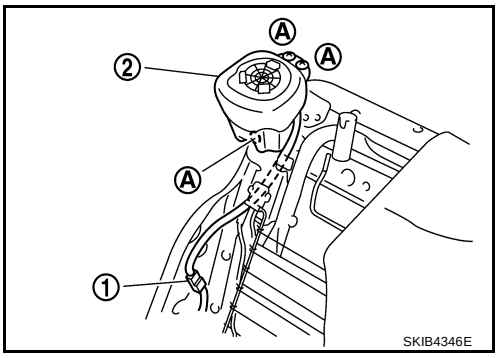
1. Remove seat speaker grill as shown in the figure.

   CAUTION:
   Never reuse seat speaker grill. The pawl is broken when removing.

2. Remove front seat back trim and pad. Refer to SE-167, "Removal and Installation" .



3. Remove screws (A) and disconnect connector (1).
4. Remove seat speaker (2).



INSTALLATION

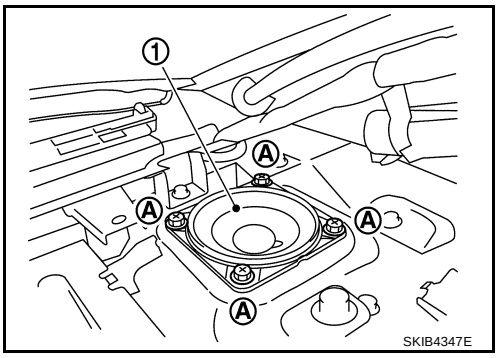
Installation is the reverse order of removal.

Rear Surround Speaker

NKS004BN

REMOVAL

1. Remove rear parcel shelf finisher. Refer to EI-42, "Removal and Installation" .
2. Remove screws (A) and disconnect connector.
3. Remove rear surround speaker (1).



INSTALLATION

Installation is the reverse order of removal.

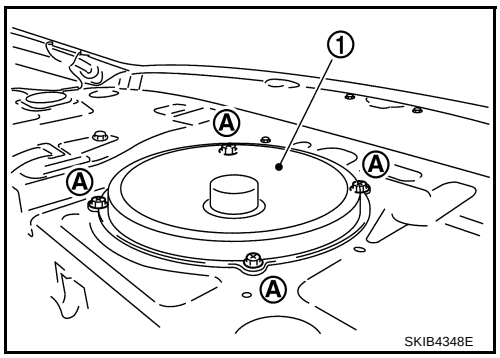
Woofer

NKS004BO

REMOVAL

1. Remove rear parcel shelf finisher. Refer to EI-42, "Removal and Installation" .

2. Remove screws (A) and disconnect connector.
3. Remove woofer (1).



INSTALLATION

Installation is the reverse order of removal.

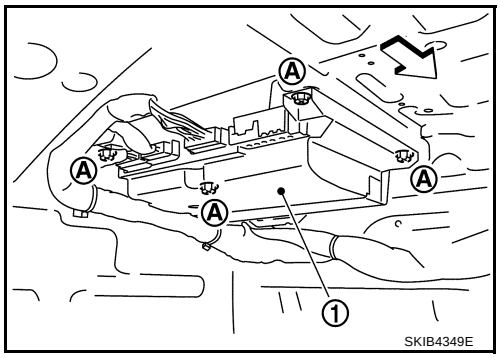
BOSE Amp

NKS004BP

⇦: Vehicle front

REMOVAL

1. Remove trunk front finisher. Refer to EI-56, "Removal and Installation for Trunk Room Trim" .
2. Remove screws (A), and disconnect connector.
3. Remove BOSE amp (1).



INSTALLATION

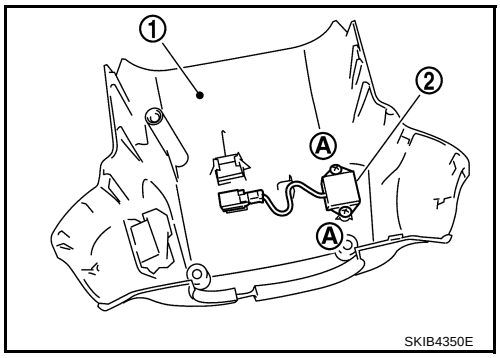
Installation is the reverse order of removal.

AudioPilot® Microphone

NKS004BQ

REMOVAL

1. Remove steering column lower cover. Refer to IP-11, "Removal and Installation of Instrument Panel & Pad" .
2. Remove screws (A) and disconnect connector.
3. Remove Microphone (2) from steering column lower cover (1).



INSTALLATION

Installation is the reverse order of removal.

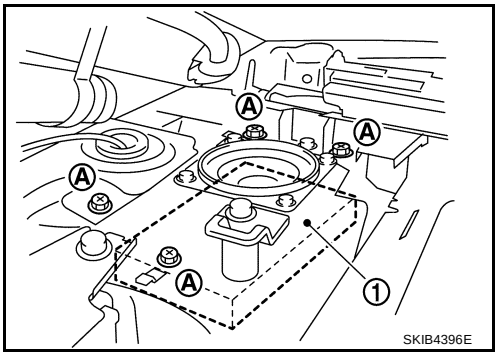
Satellite Radio Tuner

NKS004BR

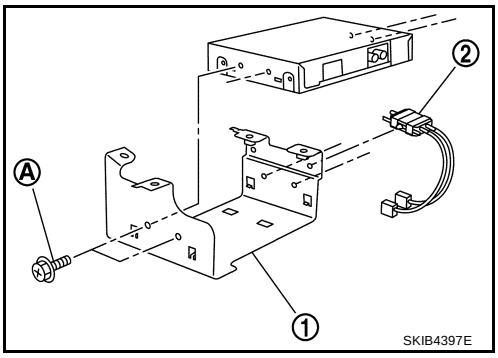
REMOVAL

1. Remove trunk front finisher. Refer to EI-56, "Removal and Installation for Trunk Room Trim" .
2. Remove rear parcel shelf finisher. Refer to EI-42, "Removal and Installation" .

3. Remove screws (A).
4. Disconnect connector and remove satellite radio tuner (1) from trunk room side.



5. Disconnect screws (A), and remove bracket (1) and splitter (2).



INSTALLATION

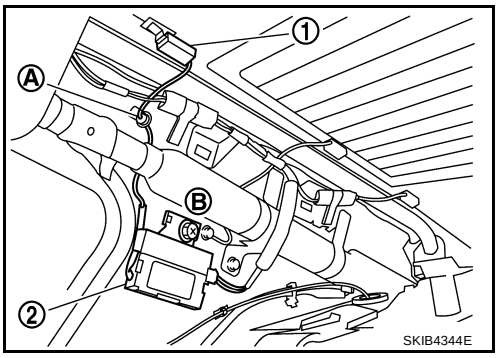
Installation is the reverse order of removal.

Antenna Amp

NKS004BS

REMOVAL

1. Remove rear pillar finisher (RH). Refer to EI-37, "Removal and Installation" .
2. Disengaged the clip (A) to separate glass terminal (1).
3. Remove screw (B) and remove antenna amp (2) from vehicle.



INSTALLATION

Installation is the reverse order of removal.

Satellite Radio Antenna

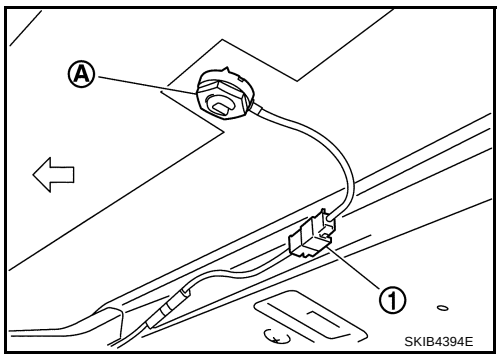
NKS004BT

⇦: Vehicle front

REMOVAL

1. Remove rear pillar finisher. Refer to EI-37, "Removal and Installation" .
2. Remove personal lamp. Refer to LT-291, "REMOVAL AND INSTALLATION" .
3. Remove assist grip (rear). Refer to EI-52, "Removal and Installation" .
4. Remove rear display cover. Refer to AV-292, "Rear Display Unit" .
5. Remove head lining assembly (rear) to obtain work space between the head lining assembly and vehicle.

6. Remove nut (A), and then disconnect connector (1).
7. Remove satellite radio antenna.



INSTALLATION

Installation is the reverse order of removal.

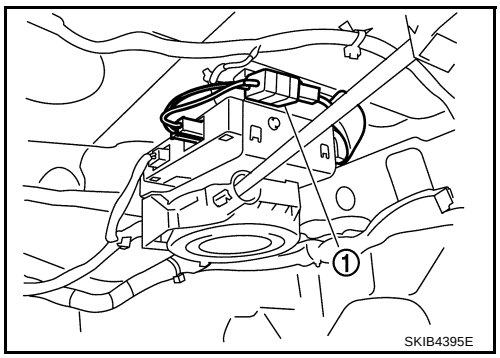
Roof antenna mounting nut : 6.0 N·m (0.61 kg-m, 53 in-lb)

Splitter

NKS004BU

REMOVAL

1. Remove trunk front finisher. Refer to EI-56, "Removal and Installation for Trunk Room Trim" .
2. Disconnect connector and remove splitter (1).



INSTALLATION

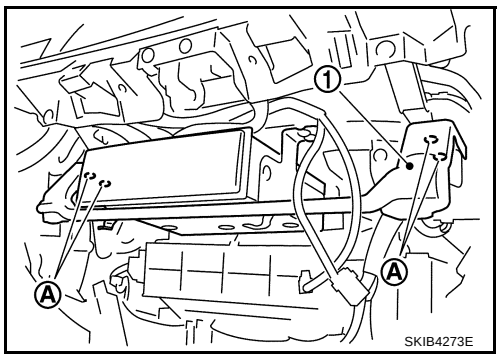
Installation is the reverse order of removal.

AV (NAVI) Control Unit

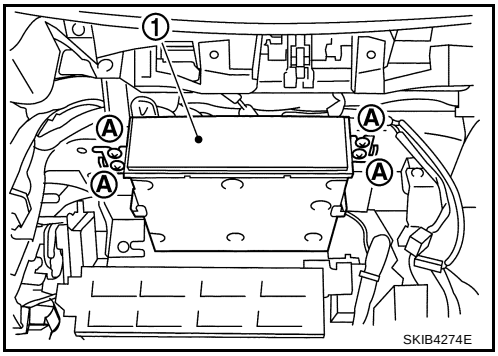
NKS004BV

REMOVAL

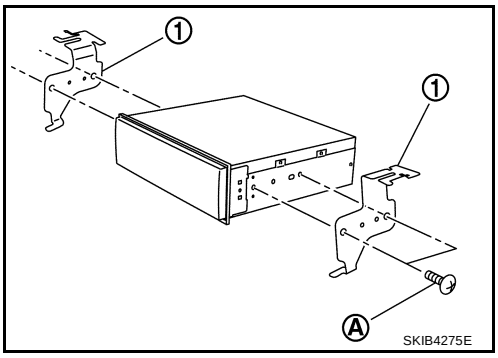
1. Remove glove box cover. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY" .
2. Remove screws (A), and remove knee assist protector assembly (1).



3. Remove screws (A), and disconnect connector.
4. Remove AV (NAVI) control unit (1).



5. Remove screws (A) and remove bracket (1).



INSTALLATION

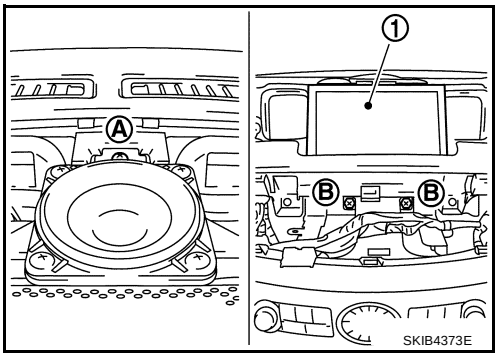
Installation is the reverse order of removal.

Front Display Unit

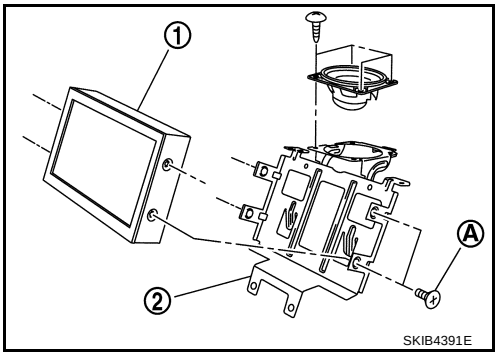
NKS004BW

REMOVAL

1. Remove upper ventilator grille. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY" .
2. Remove multifunction switch. Refer to ATC-124, "Removal and Installation of Multifunction Switch" .
3. Remove screw (A).
4. Remove screws (B) and disconnect connector, and remove display (1).



5. Remove screws (A) separate front display (1) unit from bracket (2).



INSTALLATION

Installation is the reverse order of removal.

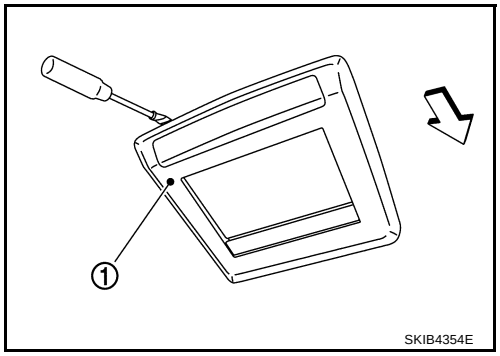
Rear Display Unit

NKS004BX

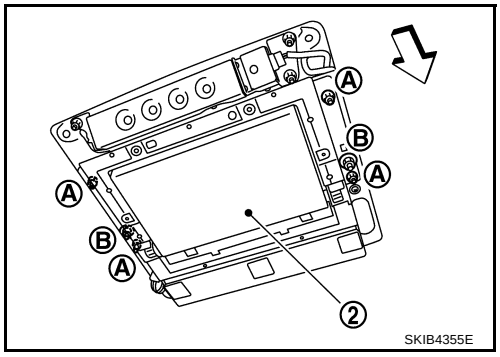
⇦: Vehicle front

REMOVAL

1. Insert cloth-covered driver into gaps between rear display cover (1) and headlining, and remove rear display cover (1).



2. Remove nuts (A) and plastic nuts (B).
3. Disconnect connector, and remove rear display unit (2).



INSTALLATION

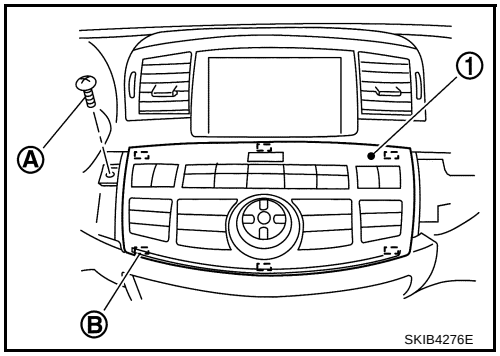
Installation is the reverse order if removal.

Multifunction Switch

NKS004BY

REMOVAL

1. Remove instrument panel finisher B and C. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY" .
2. Remove screw (A).
3. Disengage tabs (B) and connector to separate multifunction switch (1) from instrument panel.



INSTALLATION

Installation is the reverse order of removal.

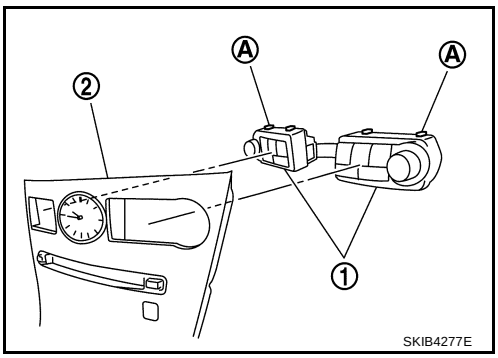
Preset Switch

NKS004BZ

REMOVAL

1. Remove cluster lid C. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY" .

2. Disengage tabs (A) to separate preset switch (1) from cluster lid C (2).



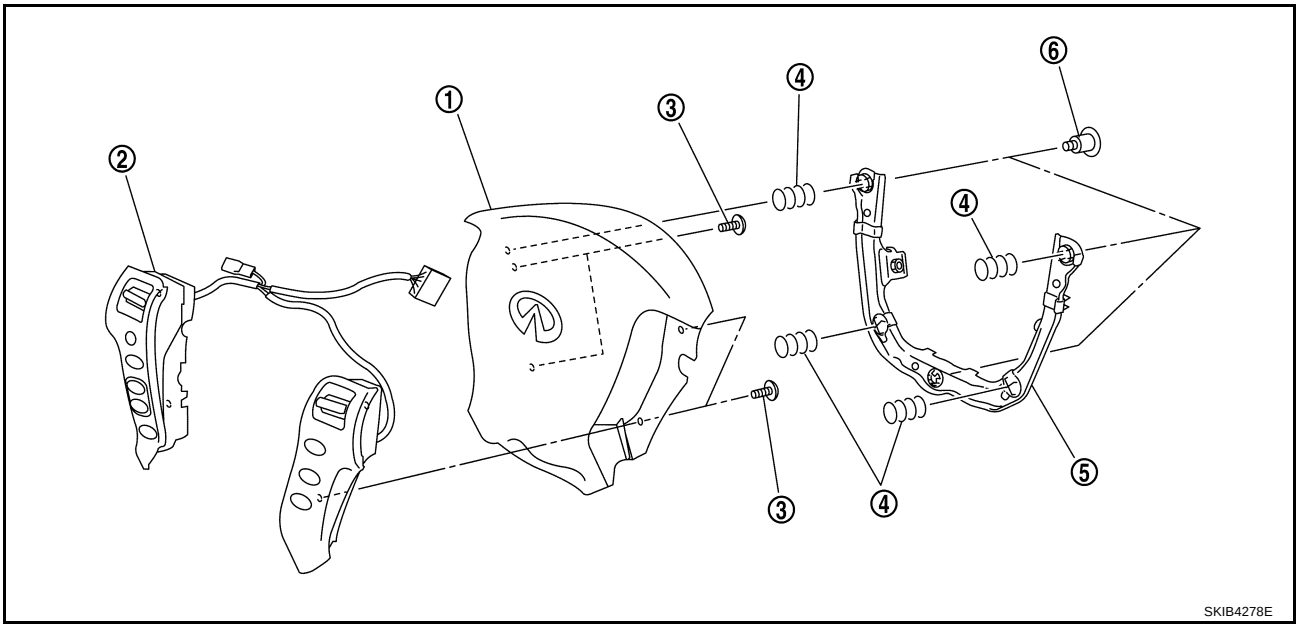
INSTALLATION

Installation is the reverse order of removal.

Steering Switch

NKS004C0

REMOVAL



1.	Air bag	2.	Steering switch	3.	Screw
4.	Spring	5.	Bracket	6.	Screw

1. Refer to SRS-38, "DRIVER AIR BAG MODULE" .

INSTALLATION

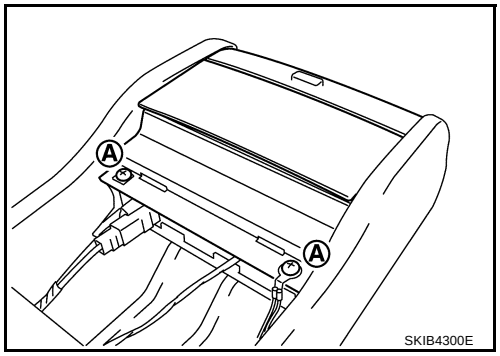
Installation is the reverse order of removal.

Rear Control Switch

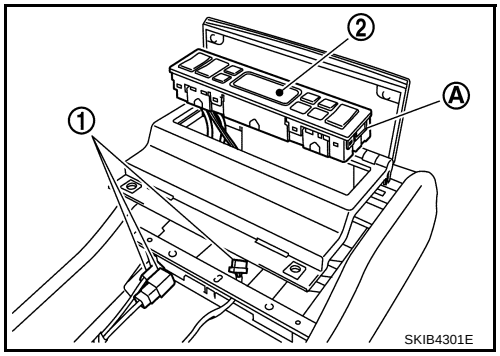
NKS004C1

REMOVAL

1. Remove tray box from armrest. Refer to SE-167, "Removal and Installation" .
2. Remove screws (A).



3. Disconnect connector (1) and disengage tabs (A) to separate rear control switch (2).



INSTALLATION

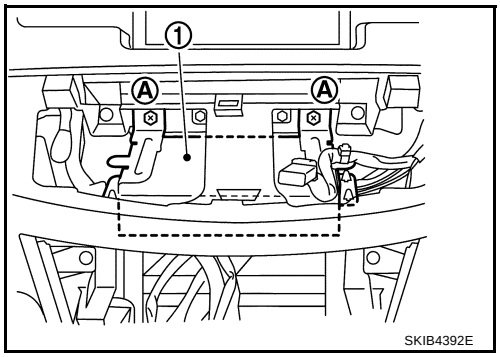
Installation is the reverse order of removal.

Video Distributor

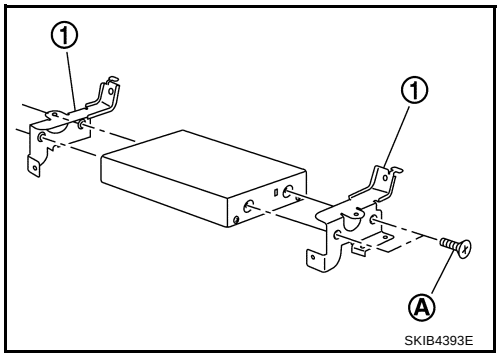
NKS004C2

REMOVAL

1. Remove multifunction switch. Refer to AV-292, "Multifunction Switch" .
2. Remove audio unit assembly. Refer to AV-285, "Audio Unit" .
3. Remove screws (A).
4. Disconnect connector and remove video distributor (1).



5. Remove screws (A) and remove bracket (1).



INSTALLATION

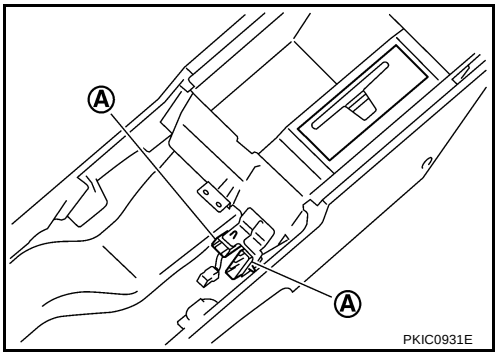
Installation is the reverse order of removal.

DVD Player

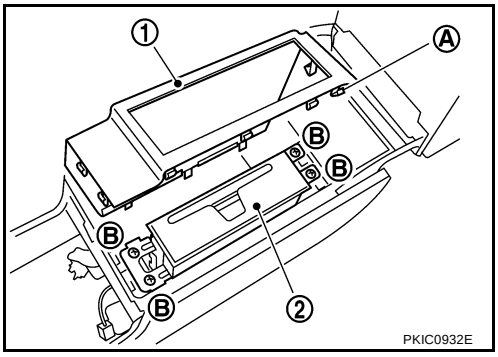
NKS004C3

REMOVAL

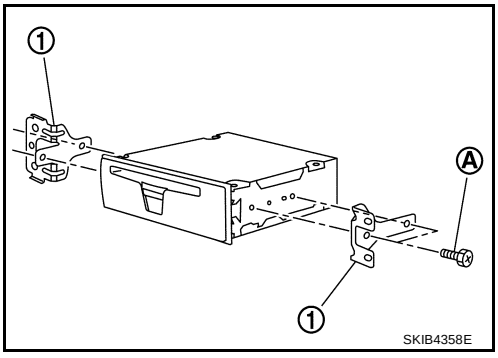
1. Remove cup holder. Refer to IP-11, "Removal and Installation of Instrument Panel & Pad" .
2. Disconnect sub harness connector.
3. Remove sub harness connectors (A) from bracket.



4. Remove metal clips (A) and 8 pawls. Then remove DVD player cover (1).
5. Remove screws (B) and remove DVD player (2).



6. Remove screws (A) and remove brackets (1).



INSTALLATION

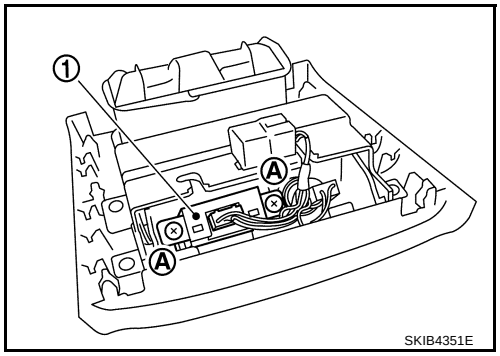
Installation is the reverse order of removal.

Auxiliary Input Jacks

NKS004C4

REMOVAL

1. Remove center console rear finisher. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY" .
2. Remove screws (A) and disconnect connector. Remove auxiliary input jacks (1) from center console rear finisher.



INSTALLATION

Installation is the reverse order of removal.

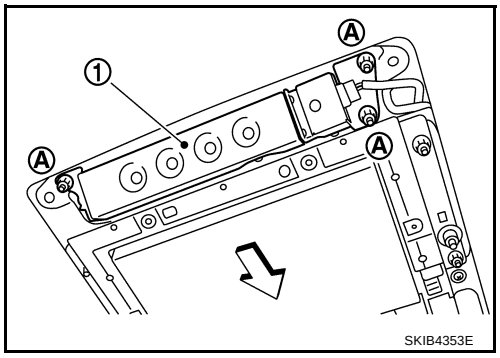
Headphone Amp

NKS004C5

⇦: Vehicle front

REMOVAL

1. Remove rear display cover. Refer to IP-19, "Disassembly and Assembly" .
2. Remove nuts (A) and disconnect connector. Remove headphone amp (1).



INSTALLATION

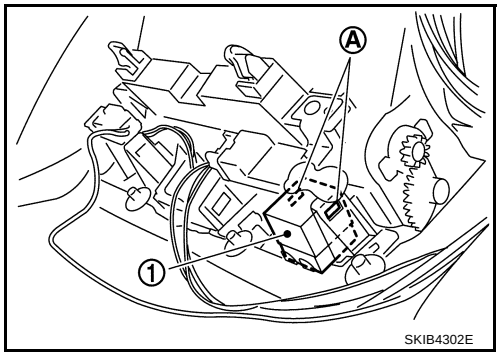
Installation is the reverse order of removal.

Microphone

NKS004C6

REMOVAL

1. Remove front pillar garnish. Refer to EI-37, "BODY SIDE TRIM" .
2. Remove sun-visor and sun-visor holder. Refer to EI-52, "HEADLINING" .
3. Remove dual-sunvisor. Refer to EI-52, "HEADLINING" .
4. Remove assistance grip (front). Refer to EI-52, "HEADLINING" .
5. Bear down headlining assembly (front) to obtain work space between headlining assembly and vehicle.
6. Disengage tabs (A) and connector to separate microphone unit (1).



INSTALLATION

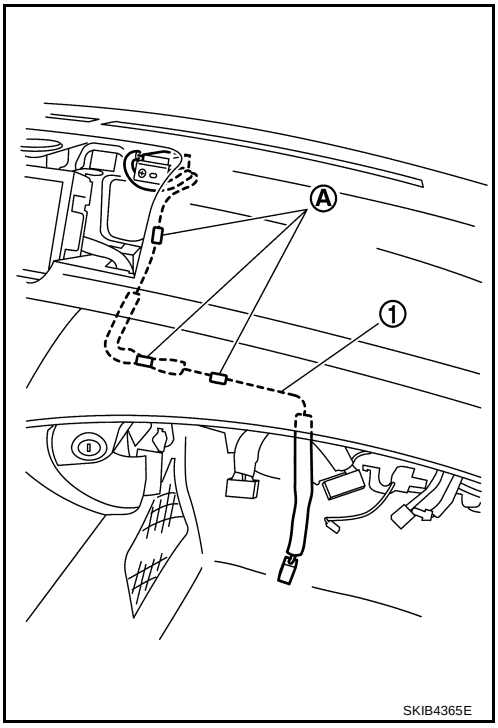
Installation is the reverse order of removal.

GPS Antenna

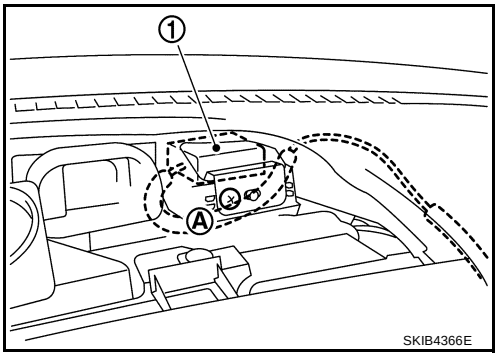
NKS004C7

REMOVAL

1. Remove NAVI control unit. Refer to AV-290, "AV (NAVI) Control Unit" .
2. Remove upper ventilator grille. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY" .
3. Remove clips (A) and remove antenna feeder (1) from instrument panel and pad.



4. Remove screw (A) and remove GPS antenna (1).



INSTALLATION

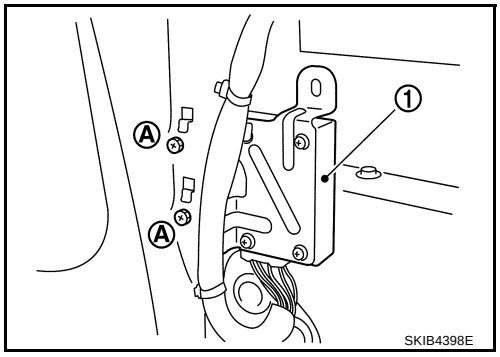
Installation is the reverse order of removal.

Camera Control Unit

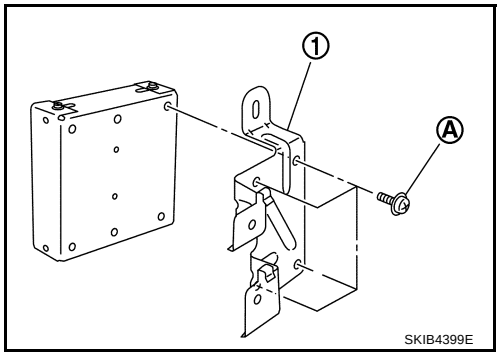
NKS004C8

REMOVAL

1. Remove trunk side finisher (RH). Refer to EI-56, "Removal and Installation for Trunk Room Trim" .
2. Remove screws (A) and disconnect connector, and remove rear view camera control unit (1).



3. Remove screws (A) and remove bracket (1).



INSTALLATION

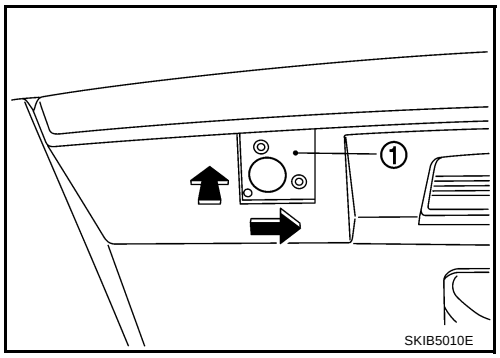
Installation is the reverse order of removal.

Rear View Camera

NKS004C9

REMOVAL

1. Remove trunk lid finisher inner. Refer to EI-56, "TRUNK ROOM TRIM & TRUNK LID FINISHER" .
2. Remove screws attaching camera and camera bracket.
3. Remove connector and connector clip.
4. Remove camera bracket (1) while pushing right direction of vehicle.



INSTALLATION

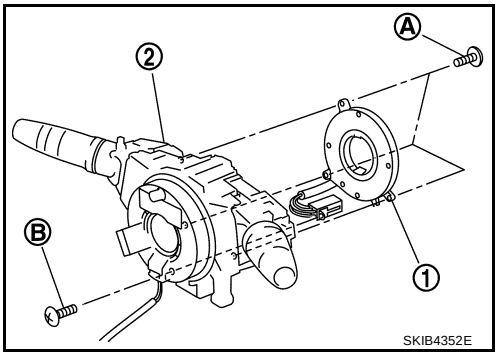
1. Install rear view camera and camera bracket while pressing to trunk room side.
2. Install connector and connector clip.
3. Install trunk lid finisher inner.

Steering Angle Sensor

NKS004CA

REMOVAL

1. Remove combination switch. Refer to SRS-40, "SPIRAL CABLE" .
2. Remove screws (A) and remove connector mount screw (B).
3. Remove steering angle sensor (1) from combination switch (2).



INSTALLATION

Installation is the reverse order of removal.

CAUTION:

Insert the projection area, and install steering wheel angle sensor while fitting adjusting the triangle marks (Larger mark should be upward.).