SECTION AV

AUDIO, VISUAL & TELEPHONE SYSTEM

CONTENTS

PRECAUTIONS

PFP:00001

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

EKS002KN

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

WARNING:

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

Wiring Diagrams and Trouble Diagnosis

EKS002KO

When you read wiring diagrams, refer to the following:

- Refer to GI-12, "How to Read Wiring Diagrams" .
  Refer to PG-3, "POWER SUPPLY ROUTING CIRCUIT" .

When you perform trouble diagnosis, refer to the following:

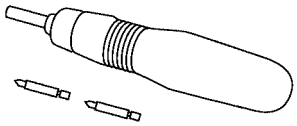
- Refer to GI-10, "HOW TO FOLLOW TEST GROUPS IN TROUBLE DIAGNOSES" .
  Refer to GI-25, "How to Perform Efficient Diagnosis for an Electrical Incident" .

PREPARATION

PFP:00002

Commercial Service Tools

EKS002KP

Tool name	Description
Power tool  PBIC0191E	Loosening bolts and nuts

AUDIO

PFP:28111

System Description

EKS002KQ

BASE AND MIDLINE SYSTEM

Refer to Owner's Manual for audio system operating instructions.
Power is supplied at all times

- through 15A fuse [No. 31, located in the fuse and fusible link box]
- to audio unit terminal 6.

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

- through 10A fuse [No. 6, located in the fuse block (J/B)]
- to audio unit terminal 10.

Ground is supplied through the case of the audio unit.
Audio signals are supplied

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

BOSE® SYSTEM

Refer to Owner's Manual for audio system operating instructions.
Power is supplied at all times

- through 15A fuse [No. 31, located in the fuse and fusible link box]
- to audio unit terminal 6, and
- to Bose speaker amp. terminal 1.

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

- through 10A fuse [No. 6, located in the fuse block (J/B)]
- to audio unit terminal 10.

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

- to speaker amp. terminal 17
- through body ground B117.

Audio signals are supplied

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

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

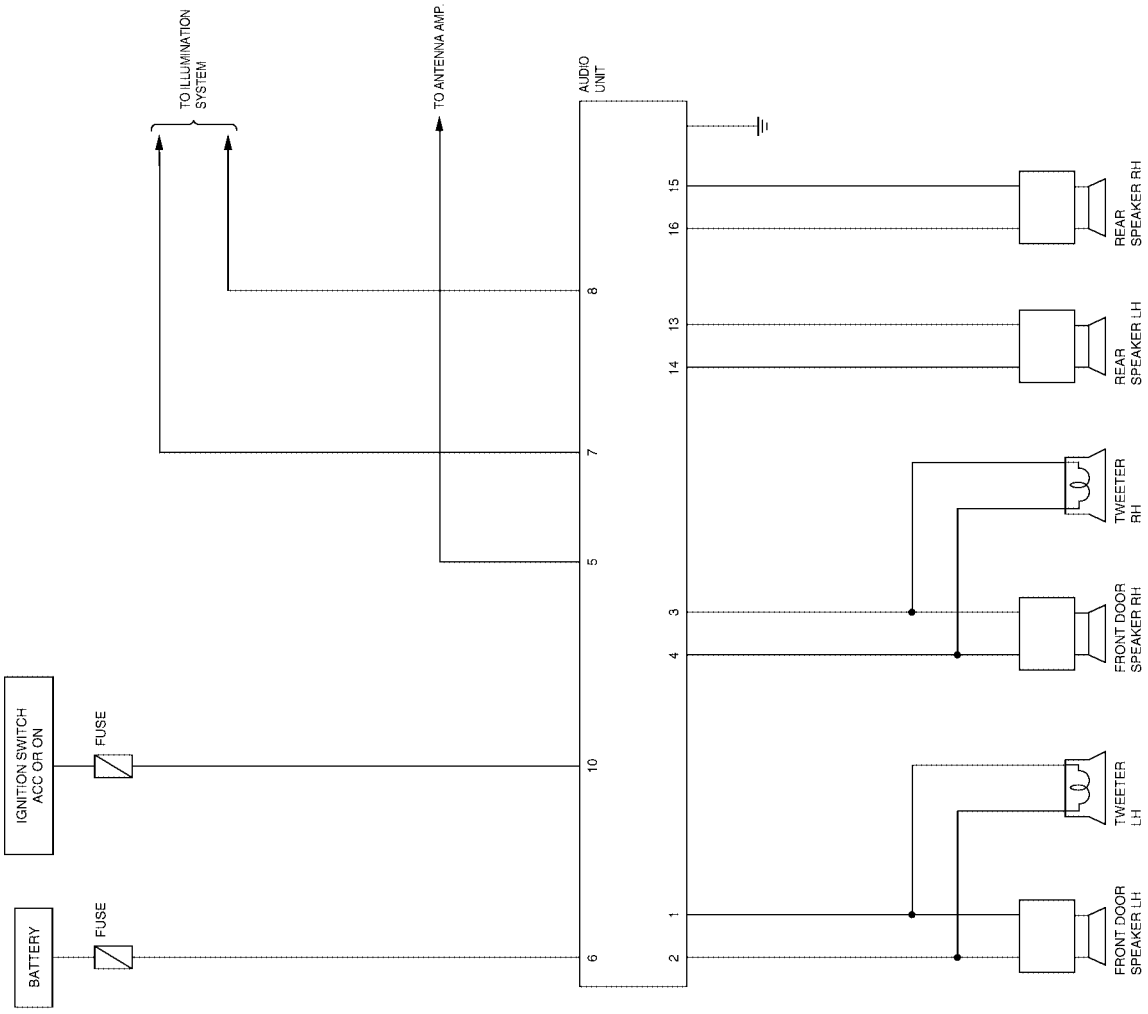
- through speaker amp. terminals 2, 3, 9, 10, 11, 12, 13, 14, 15, 16, 18, and 19
- to terminals + and - of front door speaker LH and RH
- to terminals + and - of rear door speaker LH and RH
- to terminals + and - of tweeter LH and RH
- to terminals + and - of subwoofer LH and RH.

SPEED DEPENDENT VOLUME CONTROL (MIDLINE SYSTEM AND BOSE SYSTEM)

If activated, the radio output volume will be automatically adjusted to compensate for increased driving noises at higher driving speeds.
The radio receives a vehicle speed signal from the combination meter, and selects the output volume.

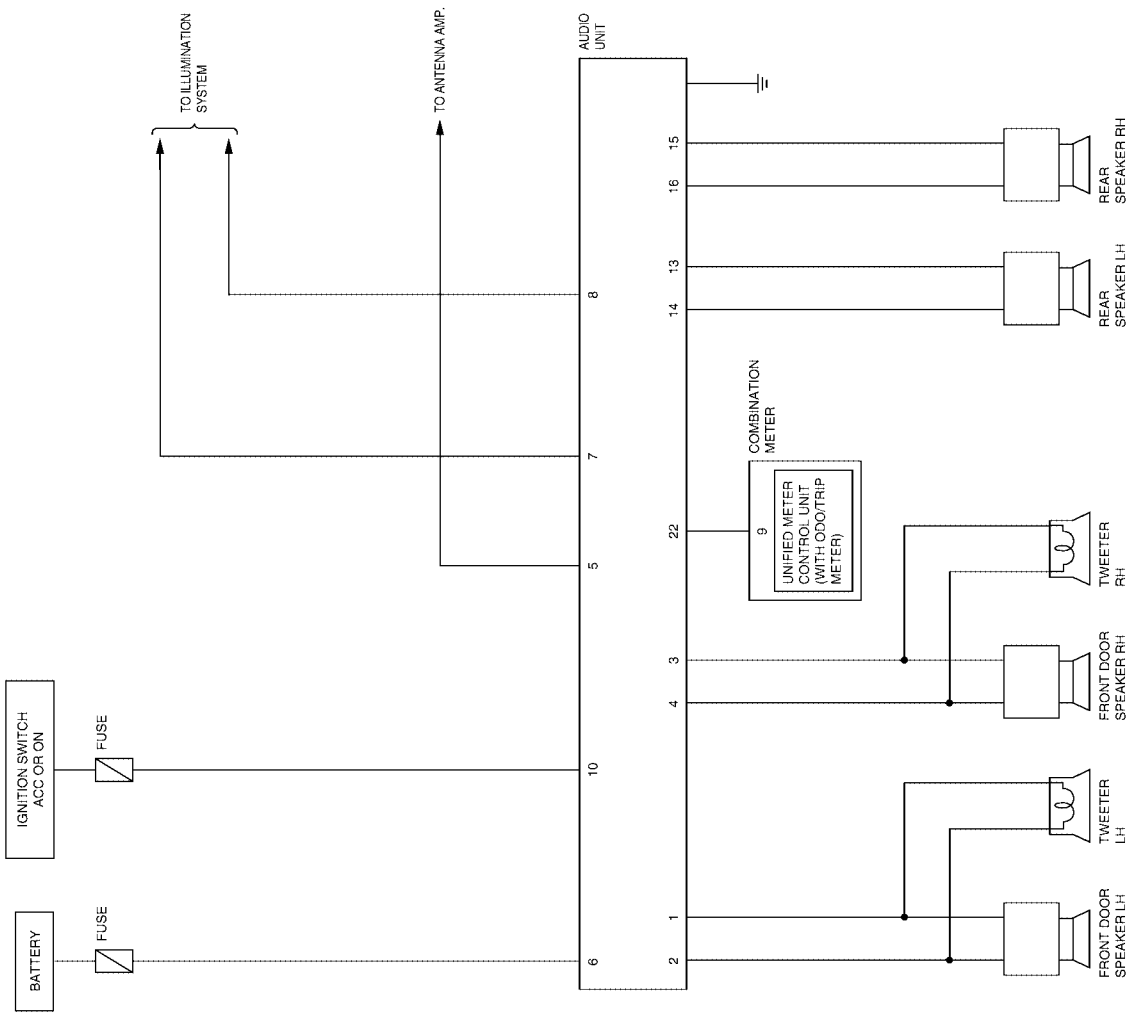
Circuit Diagram
BASE SYSTEM

EKS002KR



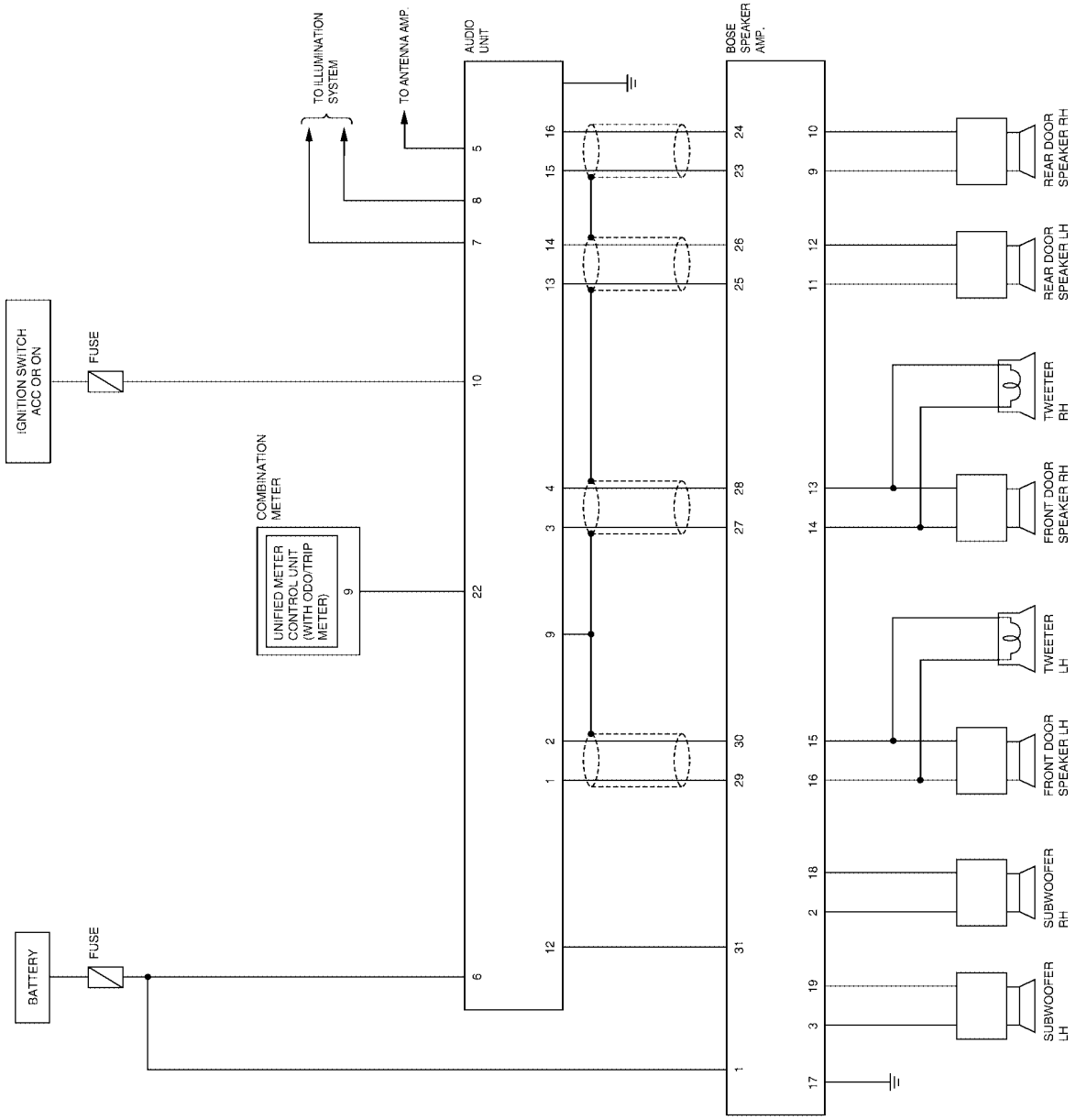
LKWA0001E

MIDLINE SYSTEM



LKWA0002E

BOSE SYSTEM



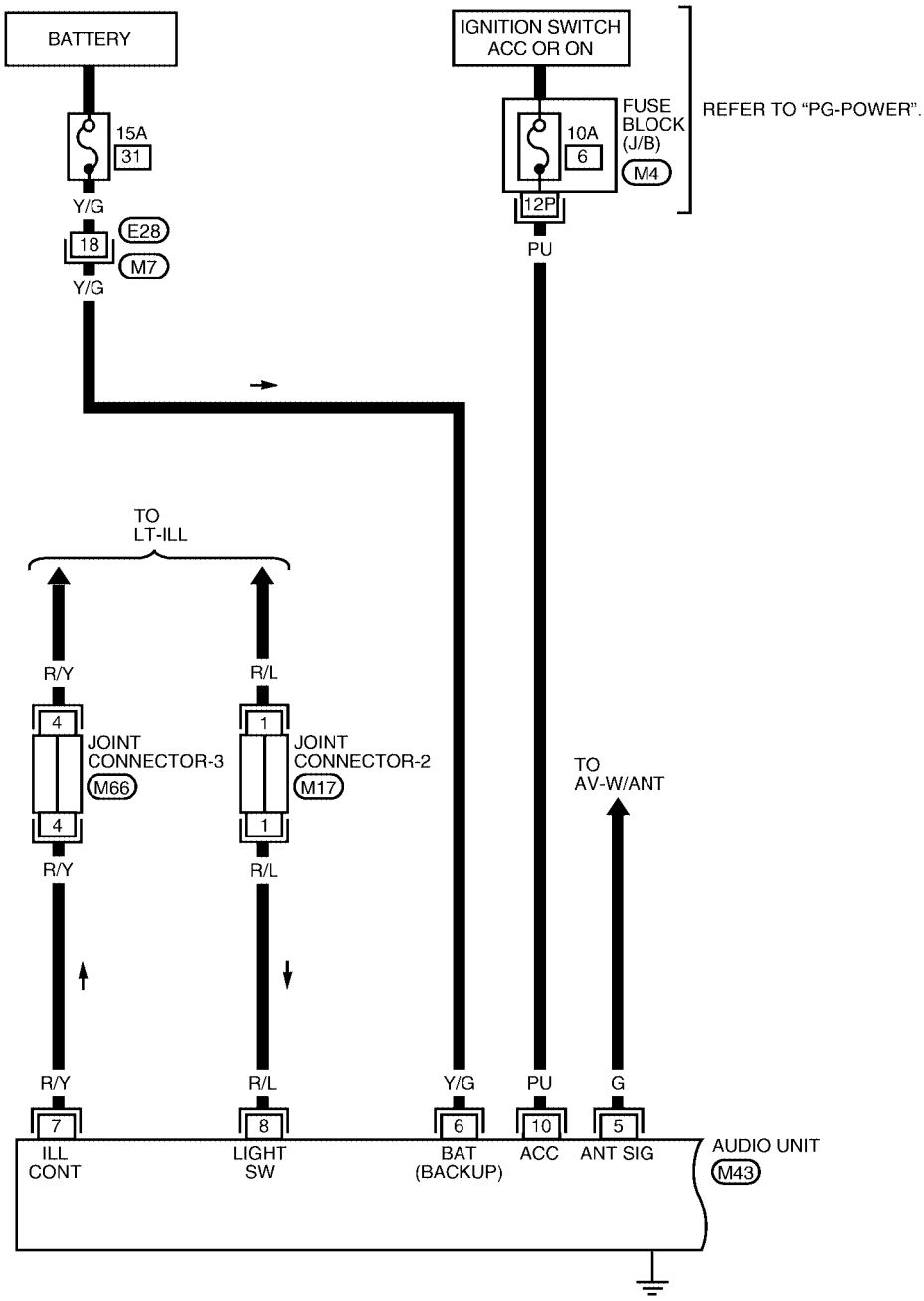
LKWA0003E

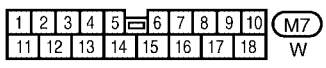
Wiring Diagram — AUDIO —

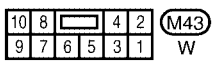
EKS002TT

BASE SYSTEM

AV-AUDIO-01



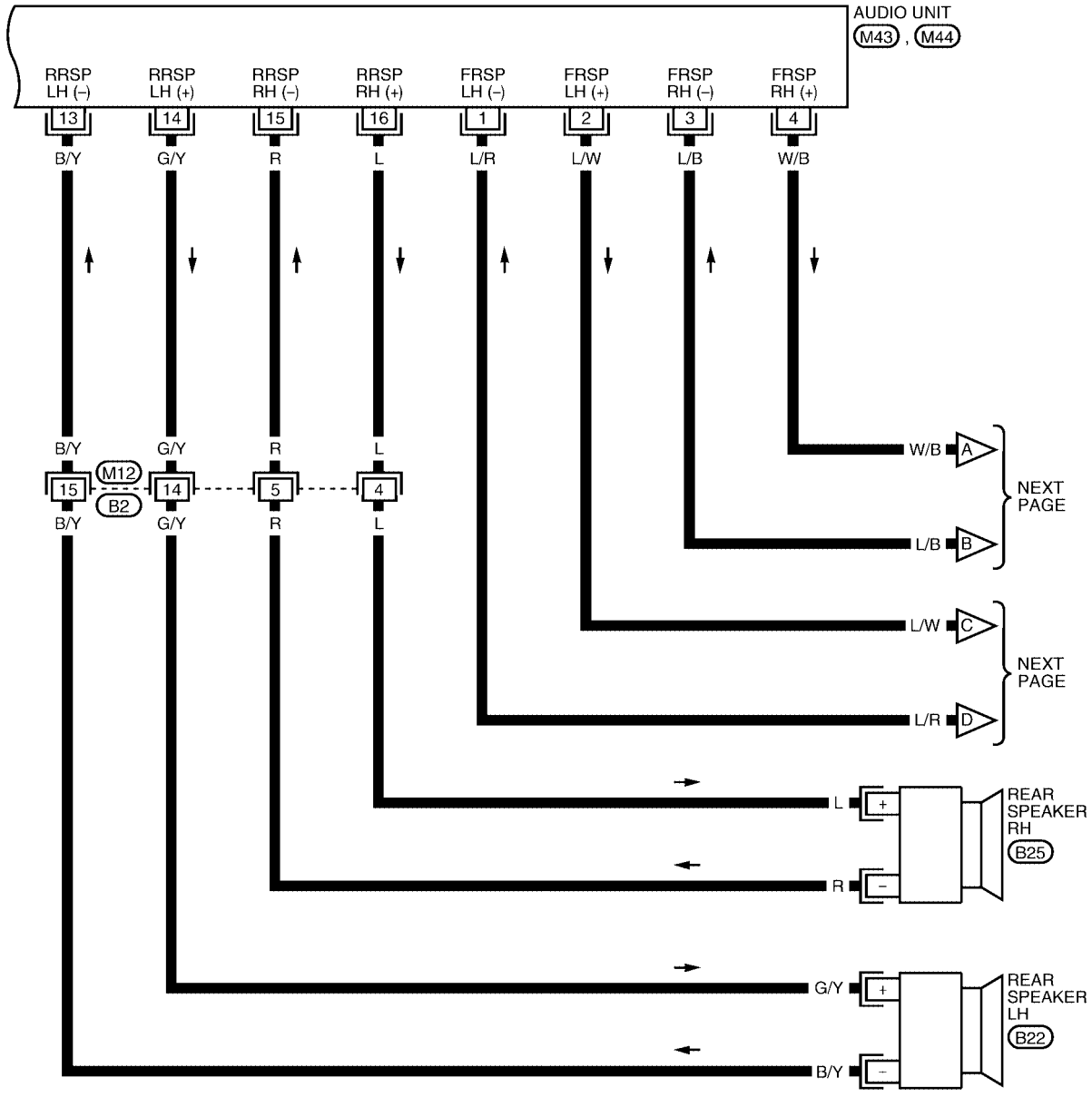


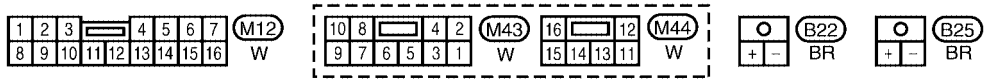


REFER TO THE FOLLOWING.
M17 , M66 - JOINT CONNECTOR (J/C)

LKWA0004E

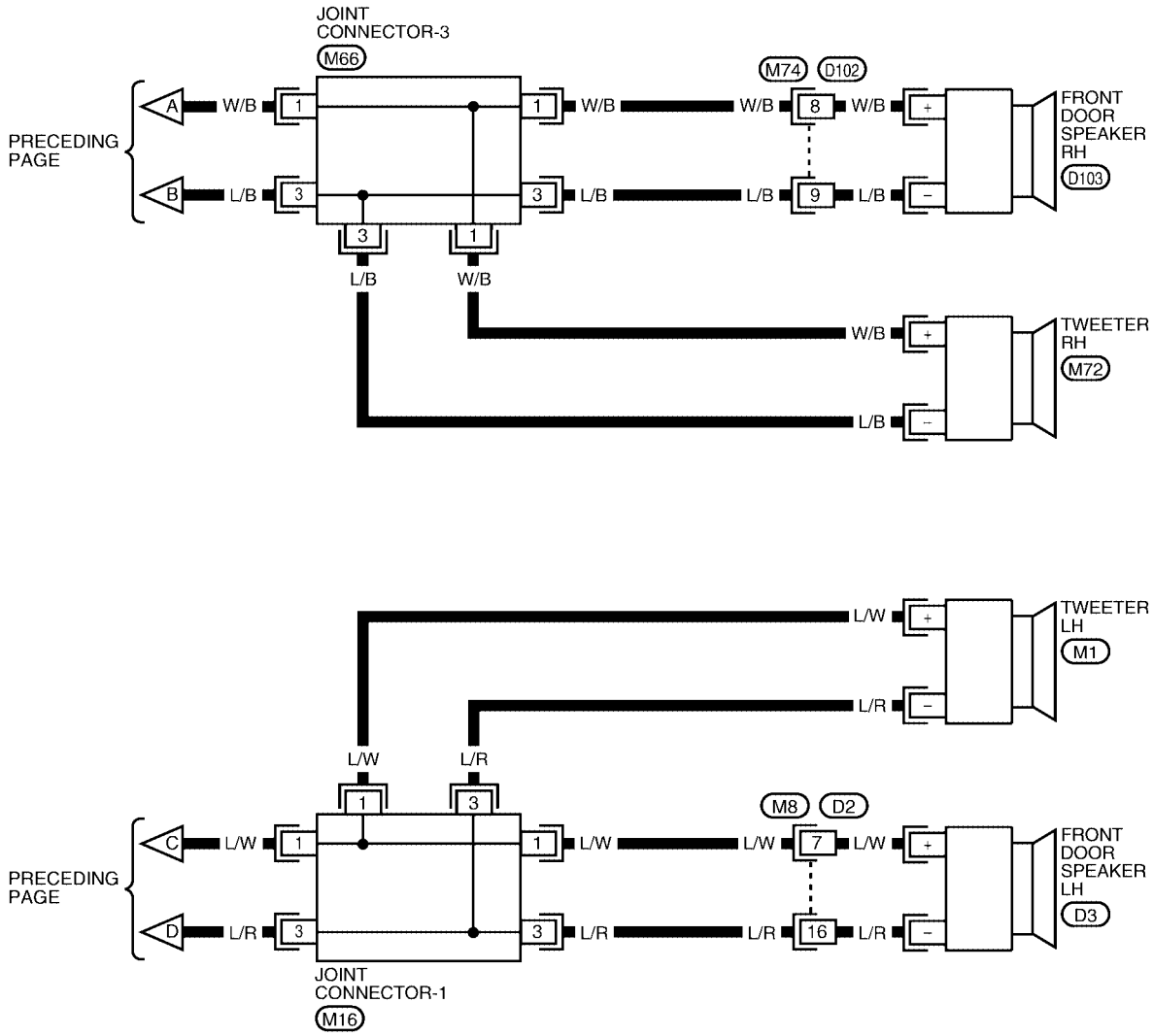
AV-AUDIO-02





LKWA0005E

AV-AUDIO-03



M1, M72, D3, D103

+	-
BR	BR
W	W

M8

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

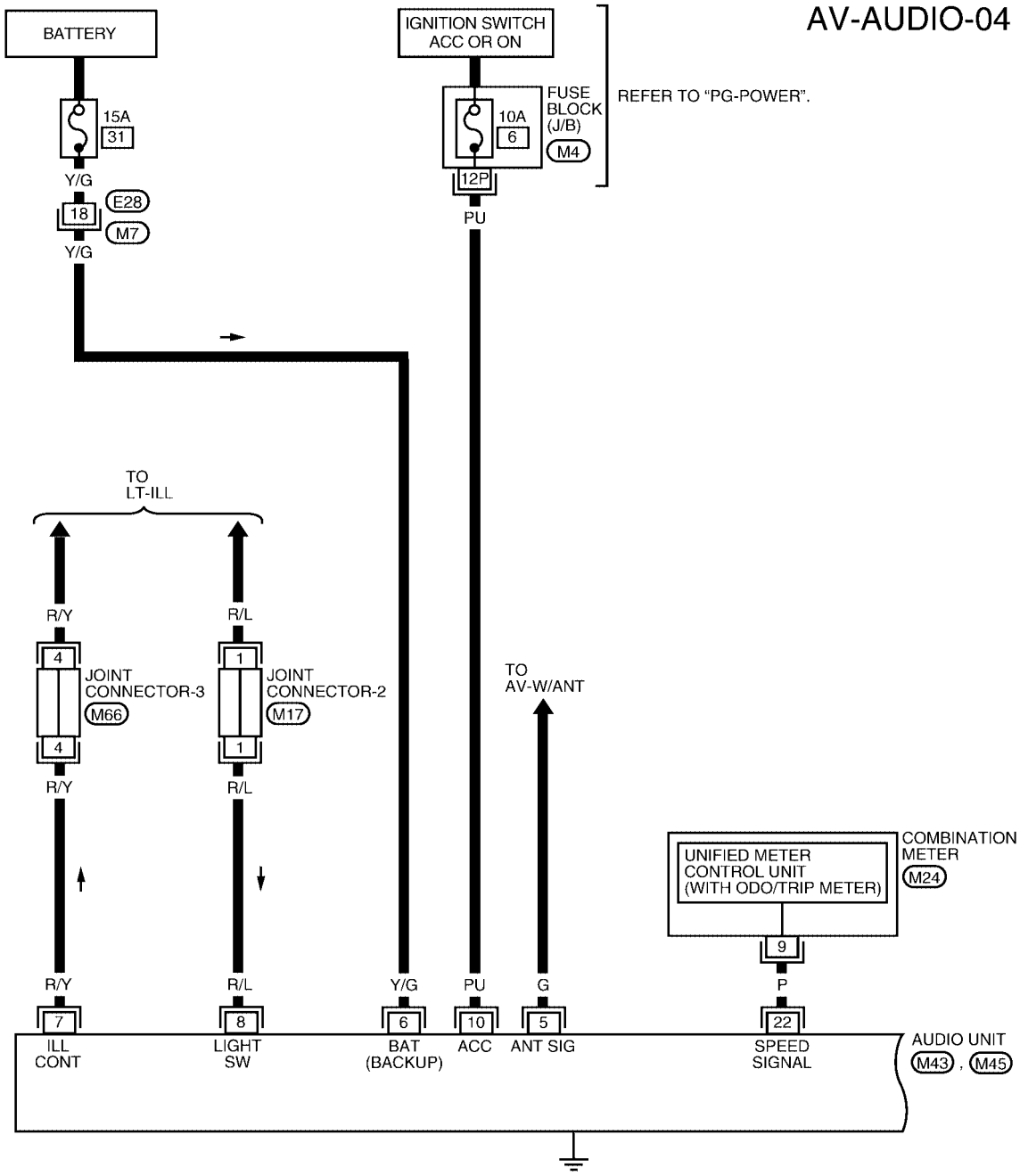
M74

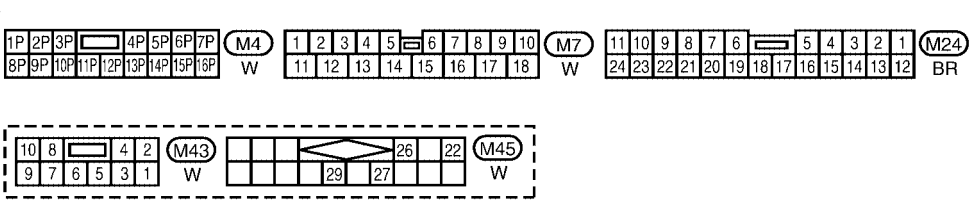
1	2	3	4
5	6	7	8	9	10
W					

REFER TO THE FOLLOWING.
M16, M66 - JOINT CONNECTOR (J/C)

LKWA0094E

MIDLINE SYSTEM

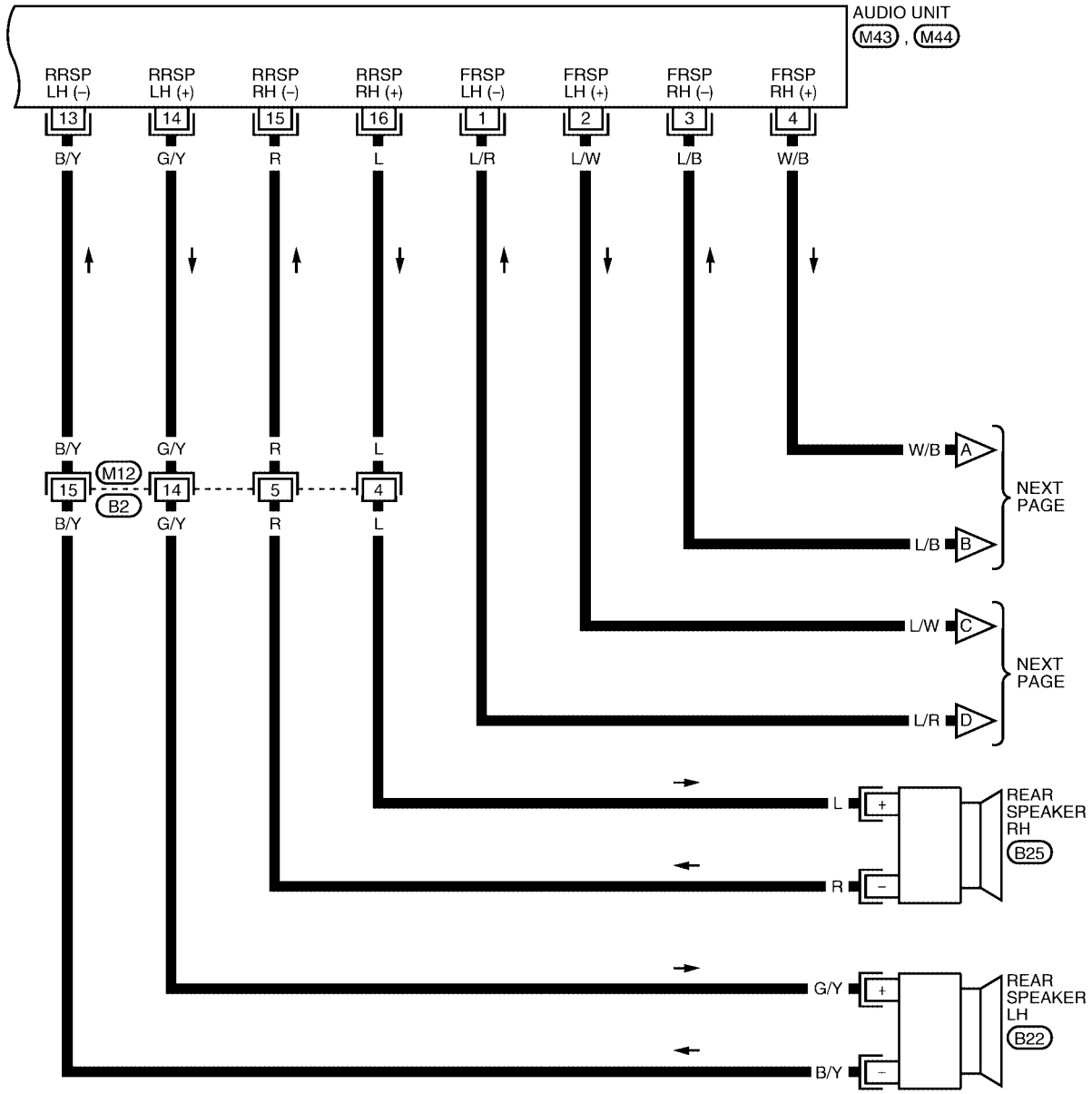


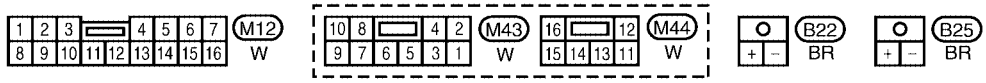


REFER TO THE FOLLOWING.
M17 , M66 - JOINT CONNECTOR (J/C)

LKWA0007E

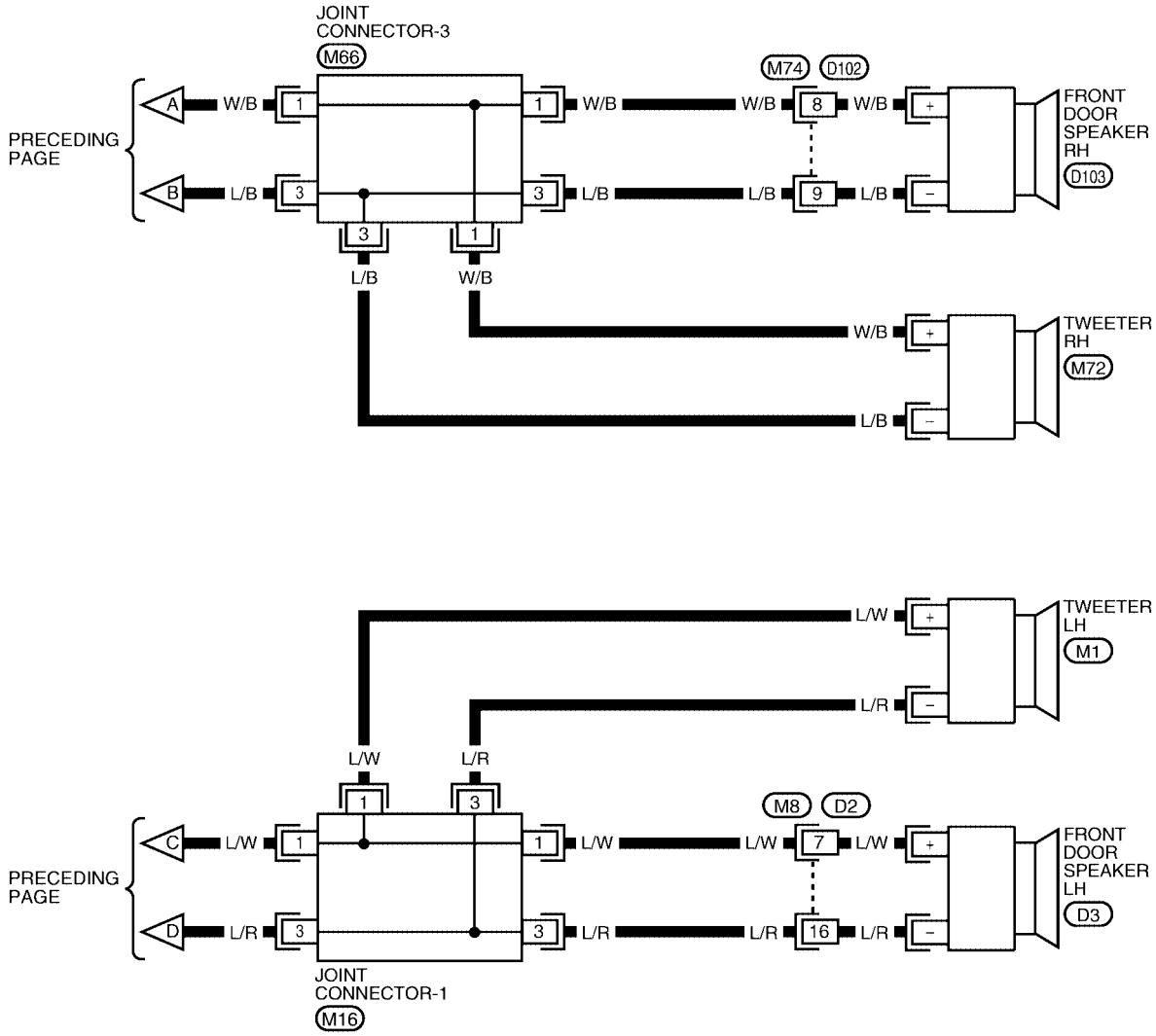
AV-AUDIO-05





LKWA0009E

AV-AUDIO-06



M1, M72, D3, D103
BR BR W W

M8
W

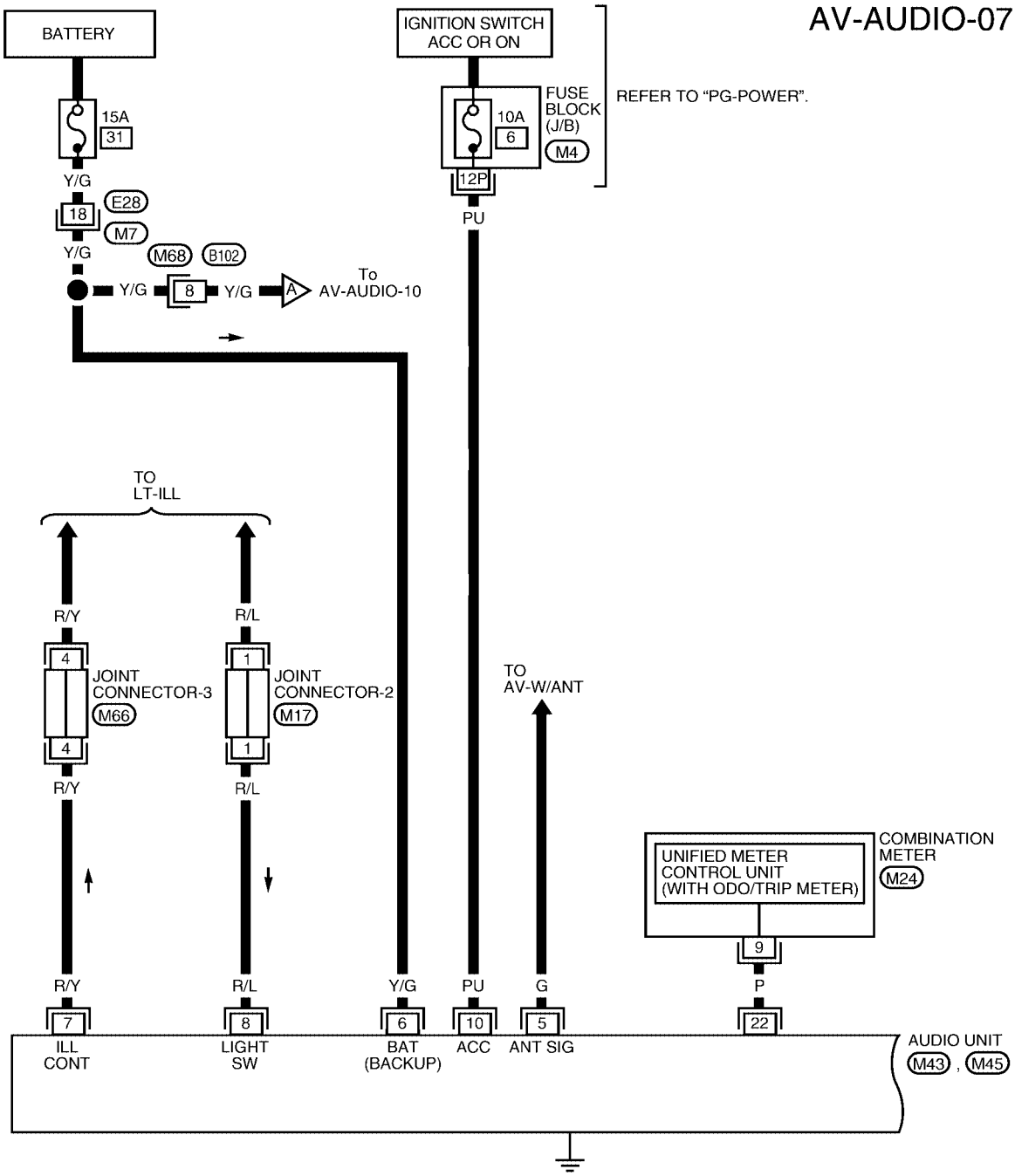
M74
W

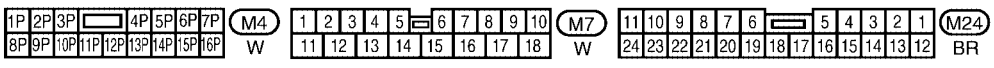
REFER TO THE FOLLOWING.
M16, M66 - JOINT CONNECTOR (J/C)

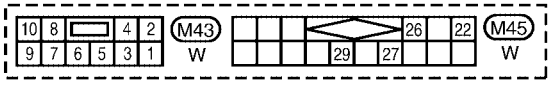
LKWA0096E

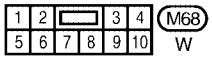
BOSE SYSTEM

AV-AUDIO-07





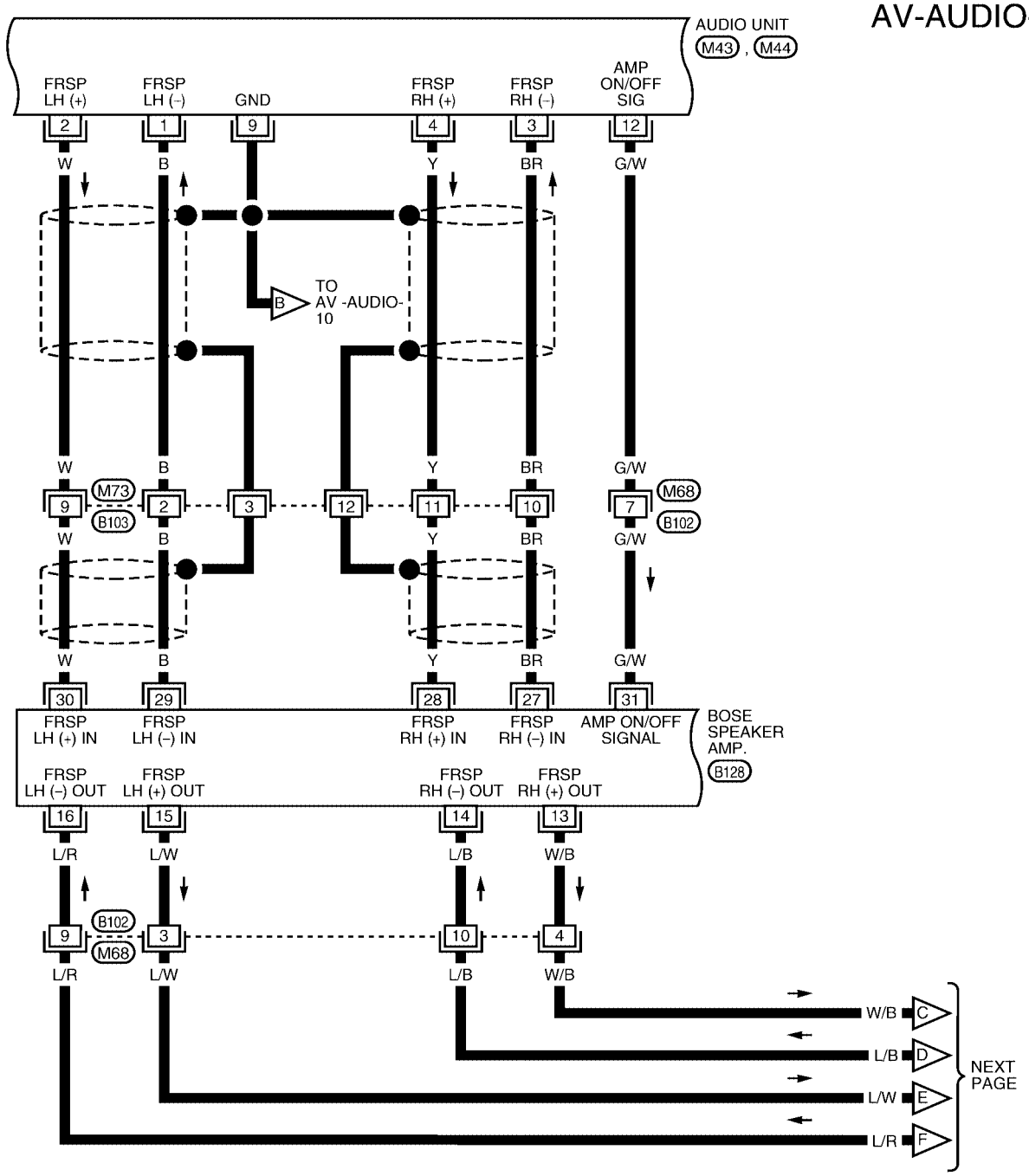


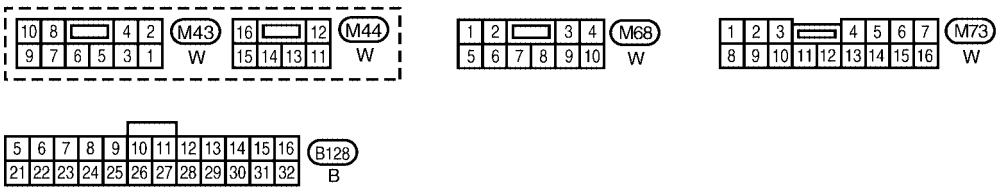


REFER TO THE FOLLOWING.
M17 , M66 - JOINT CONNECTOR (J/C)

LKWA0011E

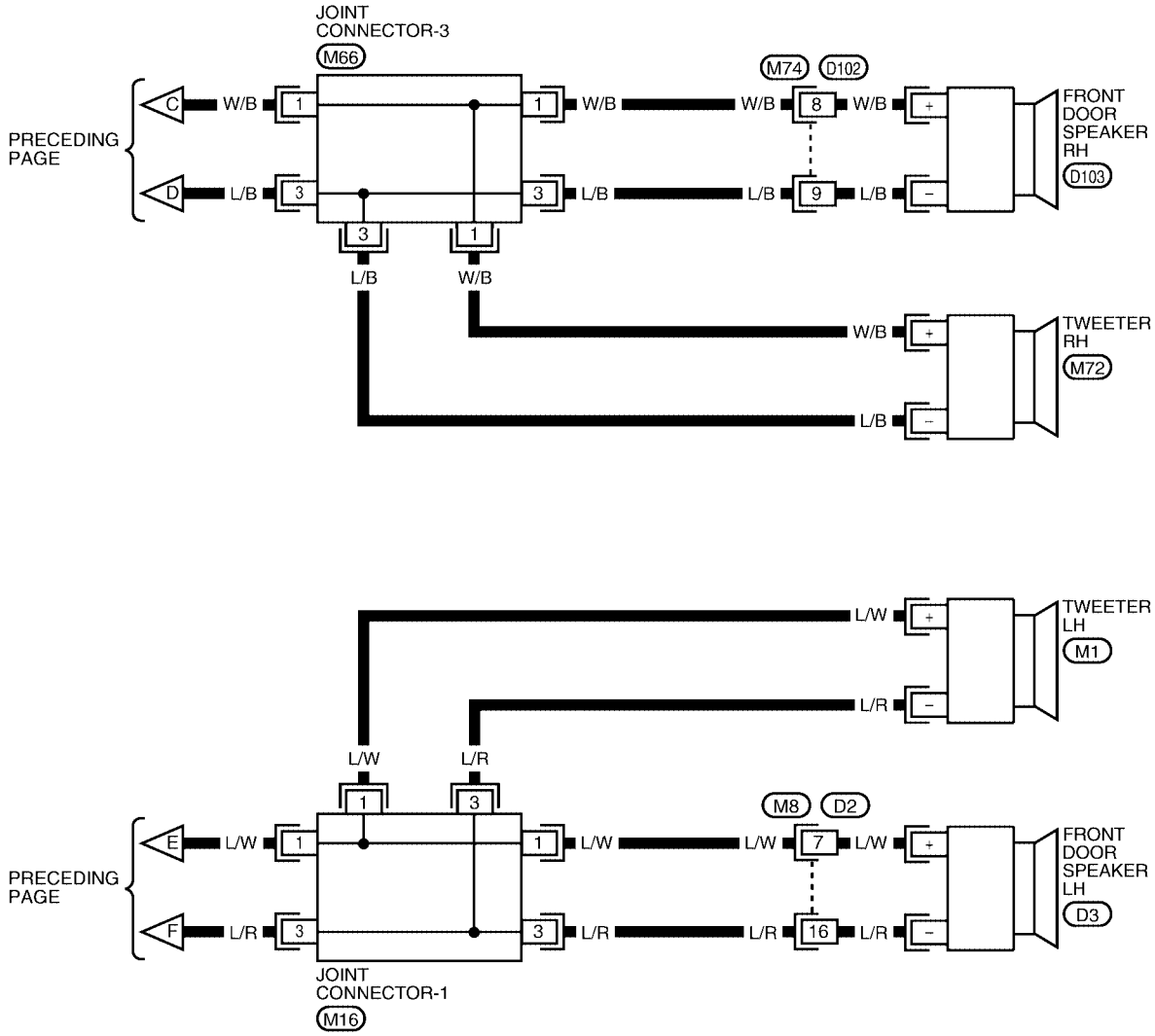
AV-AUDIO-08





LKWA0013E

AV-AUDIO-09



M1, M72, D3, D103 (+ -) BR BR W W

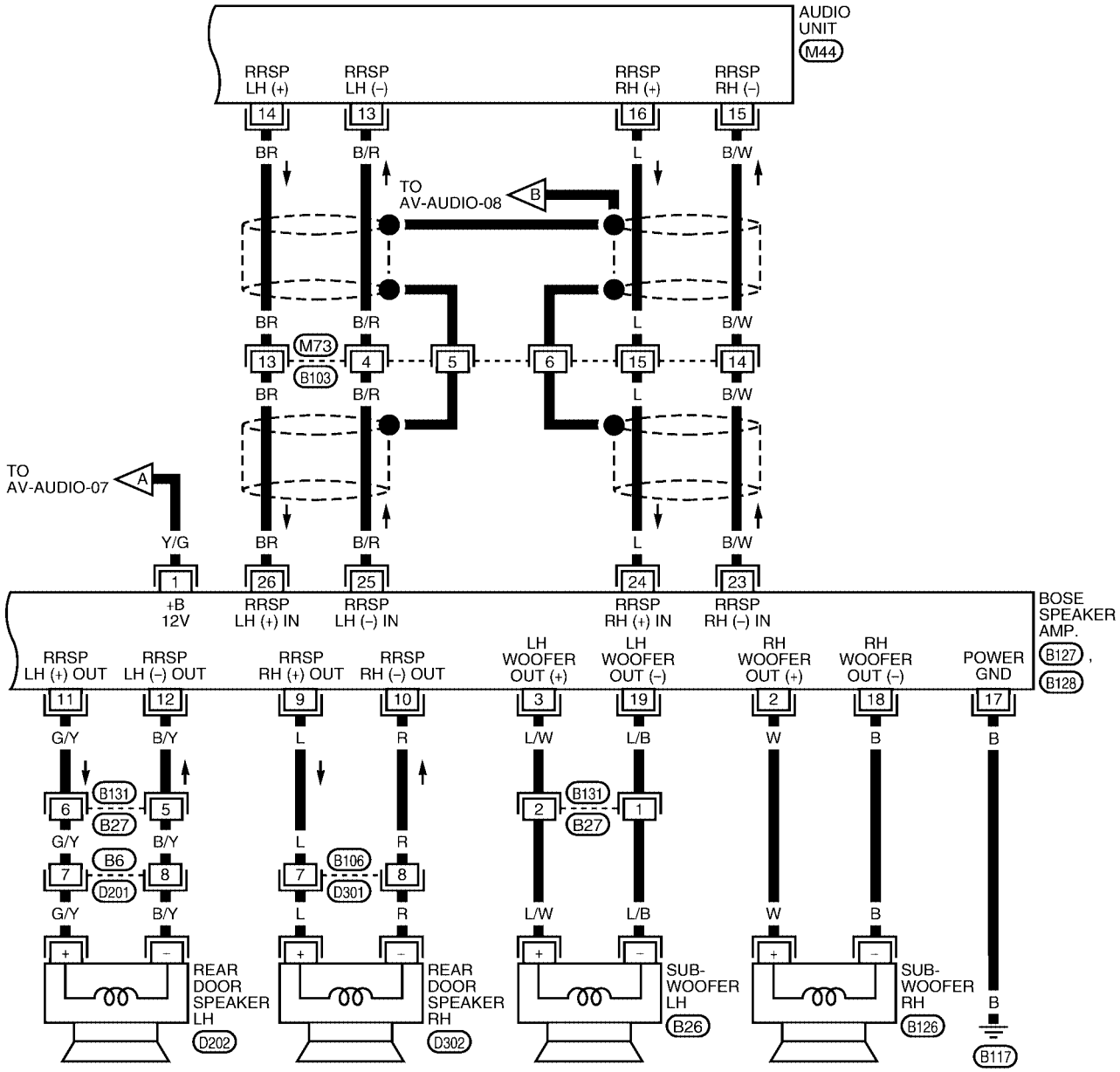
M8 W

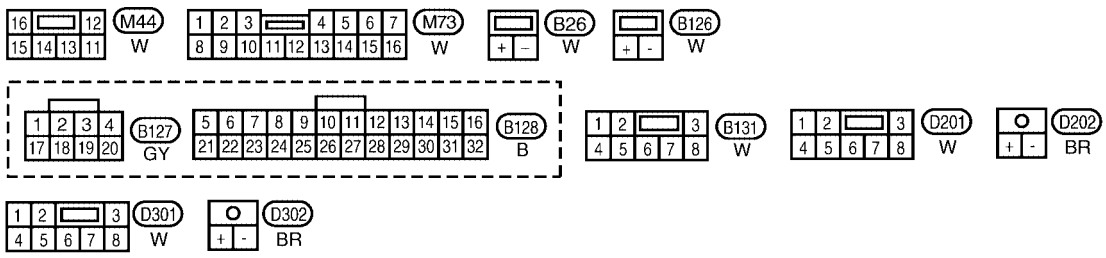
M74 W

REFER TO THE FOLLOWING.
M16, M66 - JOINT CONNECTOR (J/C)

LKWA0098E

AV-AUDIO-10



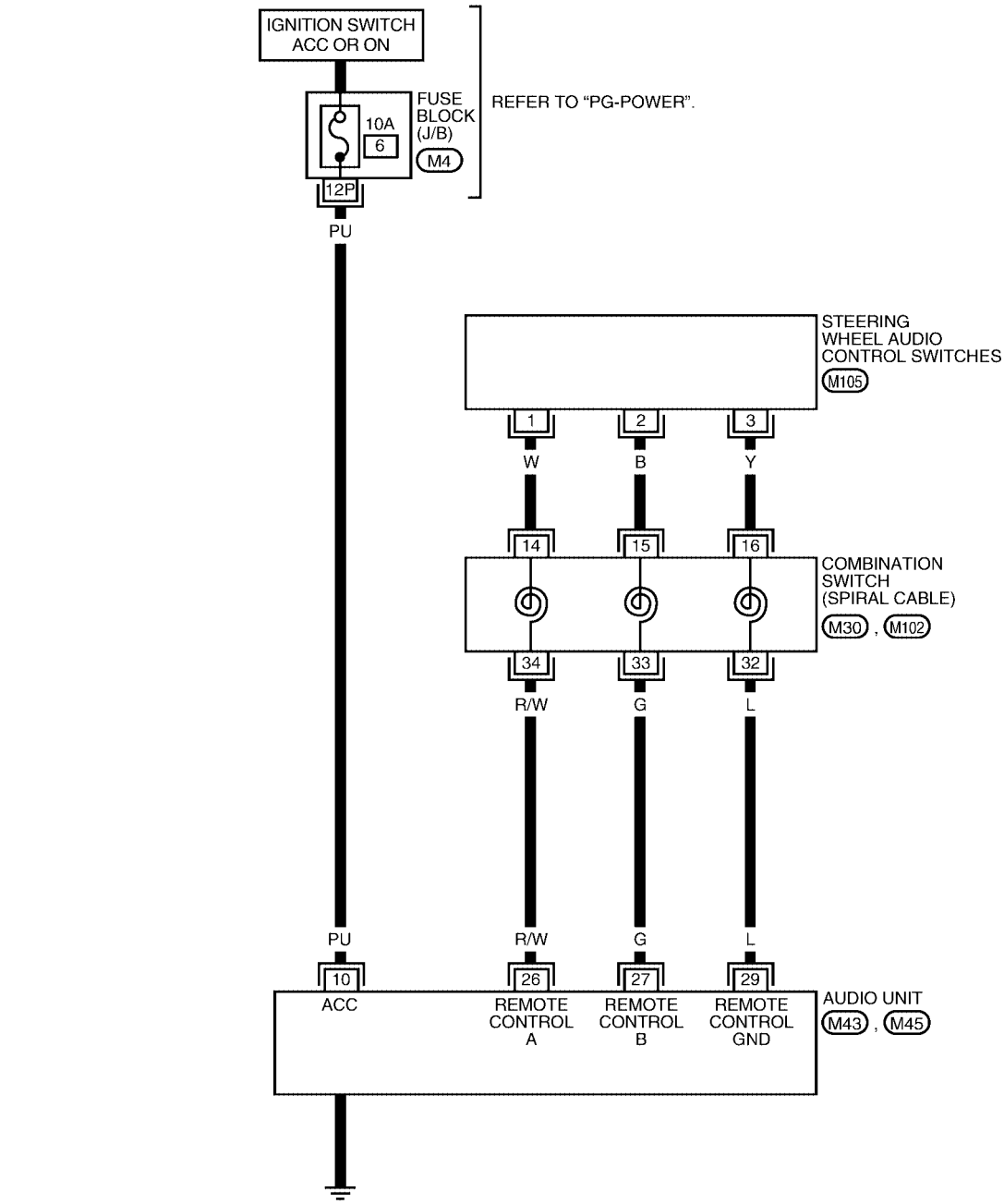


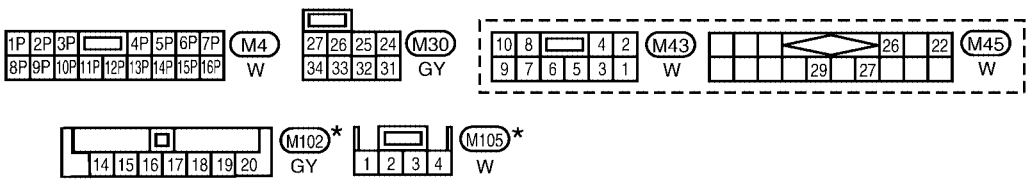
LKWA0015E

Wiring Diagram - REMOTE -

EKS003JT

AV-REMOTE-01





*: This connector is not shown in "HARNESS LAYOUT" of PG section.

LKWA0100E

Terminals and Reference Value for Audio Unit (Except Bose)

EKS003OJ

Terminal No.		Item	Signal input/ output	Condition		Voltage (V) (Approx.)	Example of symptom
+	-			Ignition switch	Operation		
1 (L/R)	Ground	Audio sound signal front LH (-)	Output	ON	Receive audio signal	5.5V	No sound from front door speaker LH or tweeter LH.
2 (L/W)	Ground	Audio sound signal front LH (+)	Output	ON	Receive audio signal	5.5V	No sound from front door speaker LH or tweeter LH.
3 (L/B)	Ground	Audio sound signal front RH (-)	Output	ON	Receive audio signal	5.5V	No sound from front door speaker RH or tweeter RH.
4 (W/B)	Ground	Audio sound signal front RH (+)	Output	ON	Receive audio signal	5.5V	No sound from front door speaker RH or tweeter RH.
5 (G)	Ground	Antenna signal	Input	ON	–	Battery voltage	System does not work properly.
6 (Y/G)	Ground	Battery	Input	–	–	Battery voltage	System does not work properly.
7 (R/Y)	Ground	Illumination control	Input	ON	Lighting switch ON (1st position)	1V → 5V	Audio unit illumination does not function when lighting switch is ON (position 1).
8 (R/L)	Ground	Light switch	Input	ON	Lighting switch ON (1st position)	5.5V	Audio unit illumination does not function when lighting switch is ON (position 1).
10 (PU)	Ground	ACC	Input	ON	Ignition switch ACC or ON	Battery voltage	System does not work properly.
13 (B/Y)	Ground	Audio sound signal rear LH (-)	Output	ON	Receive audio signal	5.5V	No sound from rear speaker LH.
14 (G/Y)	Ground	Audio sound signal rear LH (+)	Output	ON	Receive audio signal	5.5V	No sound from rear speaker LH.
15 (R)	Ground	Audio sound signal rear RH (-)	Output	ON	Receive audio signal	5.5V	No sound from rear speaker RH.
16 (L)	Ground	Audio sound signal rear RH (+)	Output	ON	Receive audio signal	5.5V	No sound from rear speaker RH.
*22 (P)	Ground	Speed signal	Input	ON	Vehicle speed sensor rotating	Voltage increases as vehicle speed sensor rotates faster	Speed dependent volume control does not function.
*26 (R/W)	–	Remote control A	–	–	–	Refer to AV-22, "Steering Wheel Audio Control Switch Resistance Check" .	Steering wheel audio controls do not function.
*27 (G)	–	Remote control B	–	–	–	Refer to AV-22, "Steering Wheel Audio Control Switch Resistance Check" .	Steering wheel audio controls do not function.
*29 (L)	–	Remote control ground	–	–	–	Refer to AV-22, "Steering Wheel Audio Control Switch Resistance Check" .	Steering wheel audio controls do not function.

*: With midline system

Terminals and Reference Value for Audio Unit (Bose)

EKS003OK

Terminal No.		Item	Signal input/ output	Condition		Voltage (V) (Approx.)	Example of symptom
+	-			Ignition switch	Operation		
1 (B)	Ground	Audio sound signal front LH (-)	Output	ON	Receive audio signal	5.5V	No sound from front door speaker LH or tweeter LH.
2 (W)	Ground	Audio sound signal front LH (+)	Output	ON	Receive audio signal	5.5V	No sound from front door speaker LH or tweeter LH.
3 (BR)	Ground	Audio sound signal front RH (-)	Output	ON	Receive audio signal	5.5V	No sound from front door speaker RH or tweeter RH.
4 (Y)	Ground	Audio sound signal front RH (+)	Output	ON	Receive audio signal	5.5V	No sound from front door speaker RH or tweeter RH.
5 (G)	Ground	Antenna signal	Input	ON	–	Battery voltage	System does not work properly.
6 (Y/G)	Ground	Battery	Input	–	–	Battery voltage	System does not work properly.
7 (R/Y)	Ground	Illumination control	Input	ON	Lighting switch ON (1st position)	1V → 5V	Audio unit illumination does not function when lighting switch is ON (position 1).
8 (R/L)	Ground	Light switch	Input	ON	Lighting switch ON (1st position)	5.5V	Audio unit illumination does not function when lighting switch is ON (position 1).
9	–	Ground (Shield drain)	–	–	–	0V	Interference and distortion heard from speakers.
10 (PU)	Ground	ACC	Input	ON	Ignition switch ACC or ON	Battery voltage	System does not work properly.
12 (G/W)	Ground	Amp. ON/OFF signal	Output	ON	Ignition switch ACC or ON	Battery voltage	Amp. does not work properly.
13 (B/R)	Ground	Audio sound signal rear LH (-)	Output	ON	Receive audio signal	5.5V	No sound from rear speaker LH.
14 (BR)	Ground	Audio sound signal rear LH (+)	Output	ON	Receive audio signal	5.5V	No sound from rear speaker LH.
15 (B/W)	Ground	Audio sound signal rear RH (-)	Output	ON	Receive audio signal	5.5V	No sound from rear speaker RH.
16 (L)	Ground	Audio sound signal rear RH (+)	Output	ON	Receive audio signal	5.5V	No sound from rear speaker RH.
22 (P)	Ground	Speed signal	Input	ON	Vehicle speed sensor rotating	Voltage increases as vehicle speed sensor rotates faster	Speed dependent volume control does not function.
26 (R/W)	–	Remote control A	–	–	–	Refer to AV-22, "Steering Wheel Audio Control Switch Resistance Check" .	Steering wheel audio controls do not function.

Terminal No.		Item	Signal input/ output	Condition		Voltage (V) (Approx.)	Example of symptom
+	-			Ignition switch	Operation		
27 (G)	–	Remote control B	–	–	–	Refer to AV-22, "Steering Wheel Audio Control Switch Resistance Check" .	Steering wheel audio controls do not function.
29 (L)	–	Remote control ground	–	–	–	Refer to AV-22, "Steering Wheel Audio Control Switch Resistance Check" .	Steering wheel audio controls do not function.

Terminals and Reference Value for Bose Speaker Amp.

EKS003OL

Terminal No.		Item	Signal input/ output	Condition		Voltage (V) (Approx.)	Example of symptom
+	-			Ignition switch	Operation		
1 (Y/G)	Ground	Battery	Input	–	–	Battery voltage	System does not work properly.
2 (W)	Ground	Subwoofer RH (+)	Output	ON	Receive audio signal	5 - 7.5V	No sound from subwoofer RH.
3 (L/W)	Ground	Subwoofer LH (+)	Output	ON	Receive audio signal	5 - 7.5V	No sound from subwoofer LH.
9 (L)	Ground	Rear door speaker RH (+)	Output	ON	Receive audio signal	5 - 7.5V	No sound from rear door speaker RH.
10 (R)	Ground	Rear door speaker RH (-)	Output	ON	Receive audio signal	5 - 7.5V	No sound from rear door speaker RH.
11 (G/Y)	Ground	Rear door speaker LH (+)	Output	ON	Receive audio signal	5 - 7.5V	No sound from rear door speaker LH.
12 (B/Y)	Ground	Rear door speaker LH (-)	Output	ON	Receive audio signal	5 - 7.5V	No sound from rear door speaker LH.
13 (W/B)	Ground	Front door speaker RH and tweeter RH (+)	Output	ON	Receive audio signal	5 - 7.5V	No sound from front door speaker RH or tweeter RH.
14 (L/B)	Ground	Front door speaker RH and tweeter RH (-)	Output	ON	Receive audio signal	5 - 7.5V	No sound from front door speaker RH or tweeter RH.
15 (L/W)	Ground	Front door speaker LH and tweeter LH (+)	Output	ON	Receive audio signal	5 - 7.5V	No sound from front door speaker LH or tweeter LH.
16 (L/R)	Ground	Front door speaker LH and tweeter LH (-)	Output	ON	Receive audio signal	5 - 7.5V	No sound from front door speaker LH or tweeter LH.
17 (B)	Ground	Ground	–	–	–	–	–
18 (B)	Ground	Subwoofer RH (-)	Output	ON	Receive audio signal	5 - 7.5V	No sound from subwoofer RH.
19 (L/B)	Ground	Subwoofer LH (-)	Output	ON	Receive audio signal	5 - 7.5V	No sound from subwoofer LH.
23 (B/W)	Ground	Rear speaker RH (-)	Input	ON	Receive audio signal	5 - 7.5V	No sound from RH rear speakers.
24 (L)	Ground	Rear speaker RH (+)	Input	ON	Receive audio signal	5 - 7.5V	No sound from RH rear speakers.
25 (B/R)	Ground	Rear speaker LH (-)	Input	ON	Receive audio signal	5 - 7.5V	No sound from LH rear speakers.

Terminal No.		Item	Signal input/ output	Condition		Voltage (V) (Approx.)	Example of symptom
+	-			Ignition switch	Operation		
26 (BR)	Ground	Rear speaker LH (+)	Input	ON	Receive audio signal	5 - 7.5V	No sound from LH rear speakers.
27 (BR)	Ground	Front speaker RH (-)	Input	ON	Receive audio signal	5 - 7.5V	No sound from RH front speakers.
28 (Y)	Ground	Front speaker RH (+)	Input	ON	Receive audio signal	5 - 7.5V	No sound from RH front speakers.
29 (B)	Ground	Front speaker LH (-)	Input	ON	Receive audio signal	5 - 7.5V	No sound from LH front speakers.
30 (W)	Ground	Front speaker LH (+)	Input	ON	Receive audio signal	5 - 7.5V	No sound from LH front speakers.
31 (G/W)	Ground	Amp. ON/OFF signal	Input	ON	–	10V	System does not work properly.

Steering Wheel Audio Control Switch Resistance Check

EKS003OM

*Terminal No. (wire color)		Signal name	Condition	Resistance (Ω) (Approx.)
+	-			
27 (G)	29 (L)	Volume (down)	Depress volume down switch	652Ω
26 (R/W)	29 (L)	Volume (up)	Depress volume up switch	652Ω
27 (G)	29 (L)	Mode	Depress (station) down switch	165Ω
26 (R/W)	29 (L)	Up (next)	Depress (station) up switch	165Ω
26 (R/W)	29 (L)	Down (previous)	Depress mode switch	1Ω

*: Audio unit terminals.

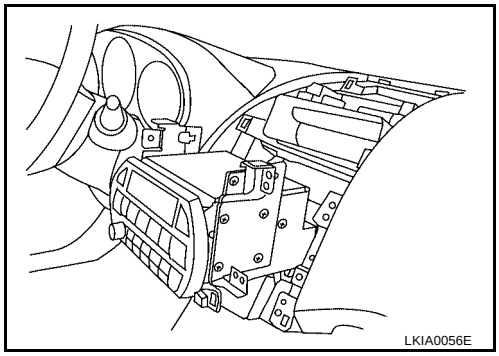
Removal and Installation

EKS003ON

AUDIO UNIT

1. Remove cluster lid C. Refer to IP-12, "Cluster Lid C" .
2. Remove cluster lid D. Refer to IP-13, "Cluster Lid D" .
3. Remove audio unit screws using power tool and slide audio unit forward.
4. Disconnect connectors and antenna cable and then remove audio unit.

Install in the reverse order of removal.

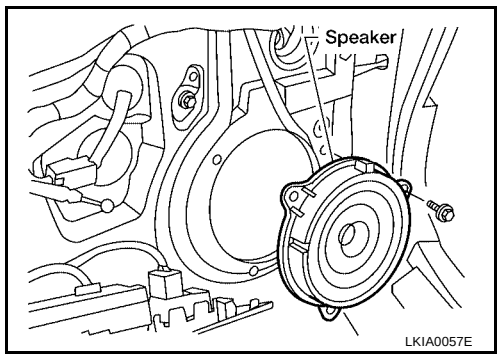


DOOR SPEAKER

1. Remove door finisher. Refer to EI-27, "Removal and Installation" .

2. Remove screws and speaker.
3. Disconnect speaker connector.

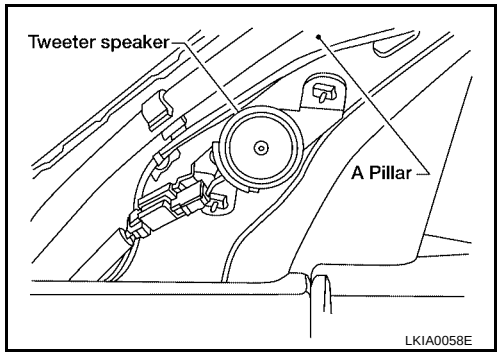
Install in the reverse order of removal.



TWEETER SPEAKER

1. Remove windshield garnish molding. Refer to EI-29, "Removal and Installation" .
2. Remove tweeter speaker by gently prying away from A pillar.
3. Disconnect tweeter speaker connector.

Install in the reverse order of removal.



REAR SPEAKER

1. Remove rear parcel shelf finisher. Refer to EI-31, "Removal and Installation" .
2. Remove screws and rear speaker.
3. Disconnect speaker connector.

Install in the reverse order of removal, noting the following:

Rear speaker mounting screws:

: 2.7 - 3.7 N·m (0.28 - 0.38 kg-m, 24 - 33 in-lb)

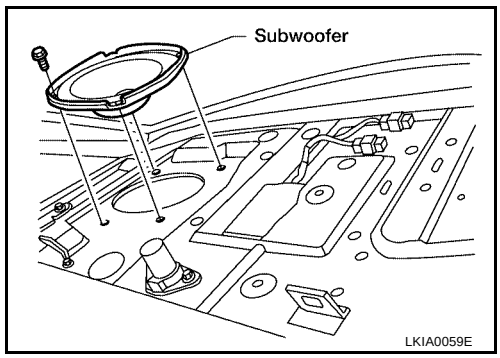
SUBWOOFER SPEAKER

1. Remove rear parcel shelf finisher. Refer to EI-31, "Removal and Installation" .
2. Remove screws and subwoofer.
3. Disconnect subwoofer connector.

Install in the reverse order of removal, noting the following:

Subwoofer mounting screws:

: 2.7 - 3.7 N·m (0.28 - 0.38 kg-m, 24 - 33 in-lb)



BOSE SPEAKER AMP.

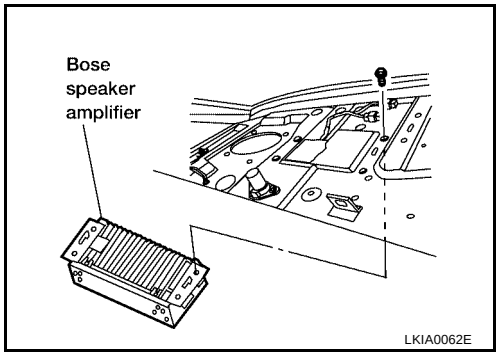
1. Remove rear parcel shelf finisher. Refer to EI-31, "Removal and Installation" .
2. Remove trunk trim and trunk lid finisher. Refer to EI-35, "Removal and Installation" .

3. Remove screws and amp.
4. Disconnect amp. connectors.

Install in the reverse order of removal, noting the following:

Bose speaker amp. mounting screws:

: 2.7 - 3.7 N·m (0.28 - 0.38 kg-m, 24 - 33 in-lb)



STEERING WHEEL AUDIO CONTROL SWITCHES

1. Remove driver air bag module. Refer to SRS-39, "REMOVAL" .
2. Remove screws and disconnect connector and then remove steering wheel audio control switches.

Install in the reverse order of removal.

Trouble Diagnoses

EKS003OO

AUDIO UNIT

Symptom	Possible causes	Repair order
Audio unit inoperative (no digital display and no sound from speakers).	1. 10A fuse 2. Poor audio unit case ground 3. Audio unit	1. Check 10A fuse [No. 6, located in fuse block (J/B)]. Turn ignition switch ON and verify that battery positive voltage is present at terminal 10 of audio unit. 2. Check audio unit case ground. 3. Remove audio unit for repair.
Audio unit presets are lost when ignition switch is turned OFF.	1. 15A fuse 2. Audio unit	1. Check 15A fuse (No. 31, located in fuse and fusible link box) and verify that battery positive voltage is present at terminal 6 of audio unit. 2. Remove audio unit for repair.
AM/FM stations are weak or noisy.	1. Window antenna or antenna amp. 2. Poor audio unit case ground 3. Audio unit	1. Check window antenna. 2. Check audio unit case ground. 3. Remove audio unit for repair.
Audio unit generates noise in AM and FM modes with engine running.	1. Poor audio unit case ground 2. Loose or missing ground bonding straps 3. Ignition condenser or rear window defogger noise suppressor condenser 4. Generator 5. Ignition coil(s) 6. Audio unit	1. Check audio unit case ground. 2. Check ground bonding straps. 3. Replace ignition condenser or rear window defogger noise suppressor condenser. 4. Check generator. 5. Check ignition coil(s). 6. Remove audio unit for repair.
Audio unit generates noise in AM and FM modes with accessories on (switch pops and motor noise).	1. Poor audio unit case ground 2. Antenna 3. Accessory ground 4. Faulty accessory	1. Check audio unit case ground. 2. Check antenna. 3. Check accessory ground. 4. Replace accessory.

BASE AND MIDLINE SYSTEM

Symptom	Possible causes	Repair order
Individual speaker is noisy or inoperative.	1. Speaker 2. Audio unit output 3. Speaker circuit 4. Audio unit	1. Check speaker. 2. Check audio unit output voltages. 3. Check wires for open or short between audio unit and speaker. 4. Remove audio unit for repair.

BOSE SYSTEM

Symptom	Possible causes	Repair order
Audio unit controls are operational, but no sound is heard from any speaker.	1. 15A fuse 2. Amp. ON/OFF signal circuit 3. Speaker amp. ground	1. Check 15A fuse [No. 31, located in the fuse block (J/B)]. Verify battery positive voltage is present at terminal 1 of the speaker amp. 2. Check harness continuity between audio unit terminal 12 and speaker amp. terminal 31. 3. Check harness continuity between speaker amp. terminal 17 and ground.
Individual speaker is noisy or inoperative.	1. Speaker 2. Output circuits to speaker 3. Speaker amp. power supply and ground	1. Check speaker. 2. Check the output circuits to speaker: – between audio unit and speaker amp. – between speaker amp. and speaker 3. Check speaker amp. power supply and ground condition.

AUDIO ANTENNA

PFP:28200

System Description

EKS002L0

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

- through 10A fuse [No. 6, located in the fuse block (J/B)]
- to audio unit terminal 10.

Ground is supplied through the case of the antenna amp.
When the radio switch is turned ON, antenna signal is supplied

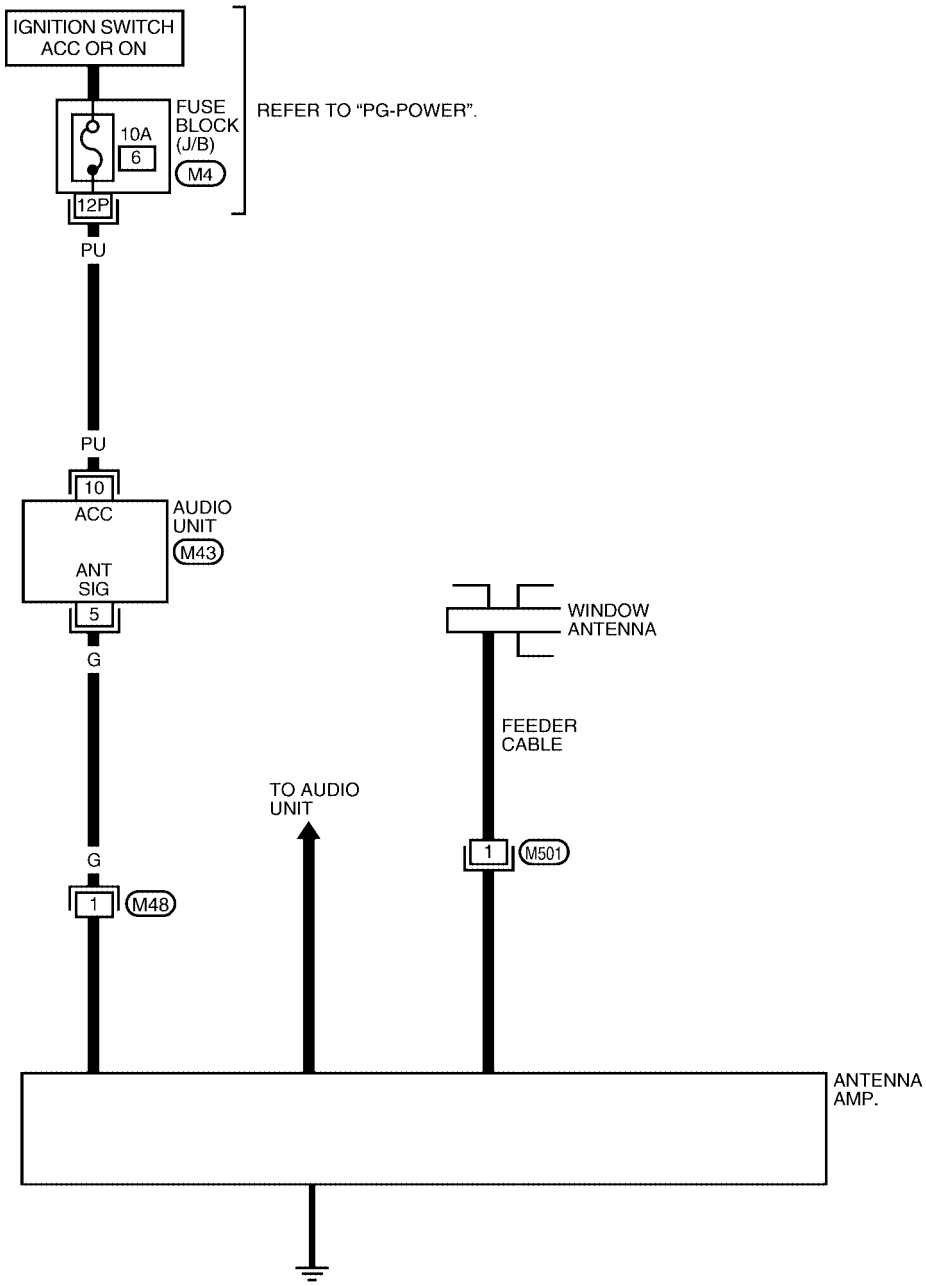
- through audio unit terminal 5
- to the antenna amp. terminal 1.

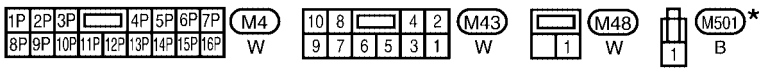
Then the antenna amp. is activated.
The amplified radio signals are supplied to the audio unit through the antenna amp.

Wiring Diagram -W/ANT-

EKS002L1

AV-W/ANT-01



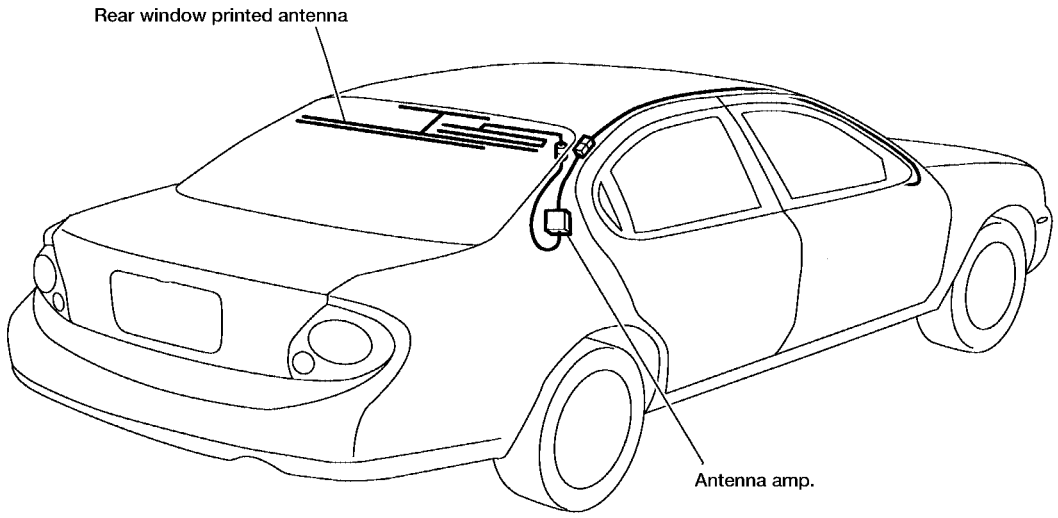


★: This connector is not shown in "HARNESS LAYOUT" of PG section.

LKWA0017E

Location of Antenna

EKS002L2



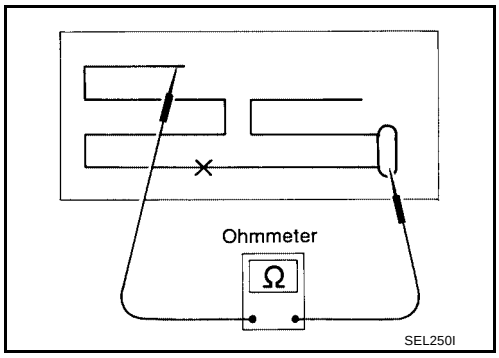
LKIA0012E

Window Antenna Repair

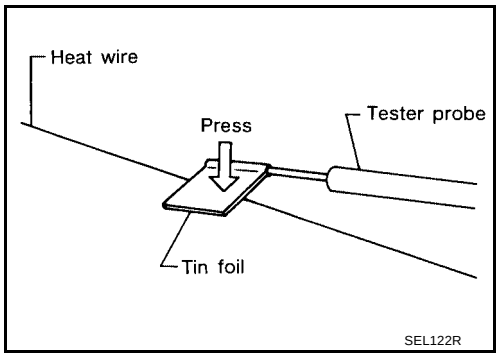
EKS002L3

ELEMENT CHECK

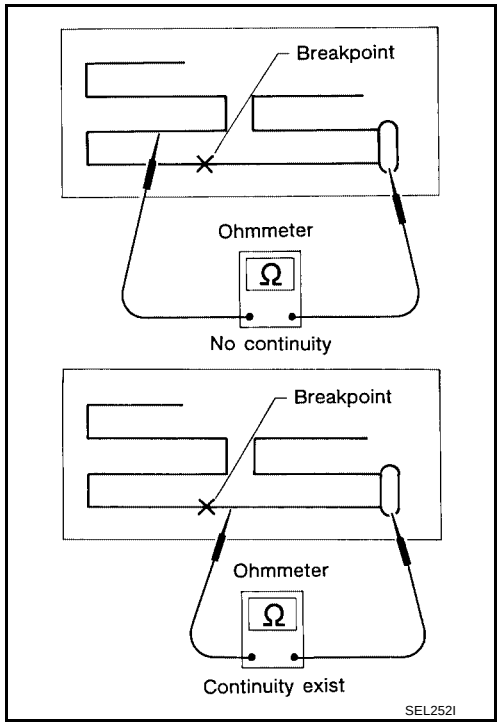
1. Attach probe circuit tester (ohm setting) to antenna terminal on each side.



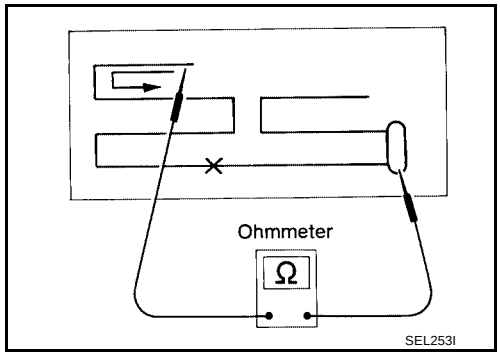
- **When measuring continuity, wrap tin foil around the top of probe. Then, press the foil against the wire with your finger.**



2. If an element is broken, no continuity will exist.



3. To locate a break, move probe along element. Tester indication will change abruptly when probe passes the broken point.



ELEMENT REPAIR

Refer to GW-58, "Filament Repair" .