# SECTION AVDIO, VISUAL & TELEPHONE SYSTEM

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# PRECAUTIONS

# PRECAUTIONS

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

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.

### Wiring Diagrams and Trouble Diagnosis

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When you read wiring diagrams, refer to the following:

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

When you perform trouble diagnosis, refer to the following:

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

# PREPARATION

PREPARATION			PFP:00002	
Commercial Servi	ice Tool		EKS003K4	А
Tool name		Description		
		Loosening bolts and nuts		В
Power tool				С
	PBIC0191E			D

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### System Description 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.

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### Circuit Diagram BASE SYSTEM



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### MIDLINE SYSTEM



LKWA0002E

### **BOSE SYSTEM**



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### Wiring Diagram — AUDIO — BASE SYSTEM

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1 2 3 4 5 6 7 M12 8 9 10 11 12 13 14 15 16 W	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$

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AV-AUDIO-03







LKWA0007E

AV-AUDIO-05



1 2 3 - 4 5 6 7 M12 8 9 10 11 12 13 14 15 16 W	10 8 4 2 M43 16 12 M44 B22 , B25 W W

LKWA0095E

AV-AUDIO-06





WKWA0497E





WKWA0498E

AV-AUDIO-09



AV-AUDIO-10



LKWA0099E

# Wiring Diagram - REMOTE -





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

LKWA0100E

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Termir	al No.		Signal	С	ondition		
+	-	Item	input/ output	Ignition switch	Operation	(Approx.)	Example of symptom
1 (L/R)	Ground	Audio sound sig- nal 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 sig- nal 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 sig- nal 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 sig- nal 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	_	5.5V	System does not work prop- erly.
6 (Y/G)	Ground	Battery	Input	-	-	Battery voltage	System does not work prop- erly.
7 (R/Y)	Ground	Illumination con- trol	Input	ON	Lighting switch ON (1st position)	$1V \rightarrow 5V$	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 prop- erly.
13 (B/Y)	Ground	Audio sound sig- nal rear LH (-)	Output	ON	Receive audio signal	5.5V	No sound from rear speaker LH.
14 (G/Y)	Ground	Audio sound sig- nal rear LH (+)	Output	ON	Receive audio signal	5.5V	No sound from rear speaker LH.
15 (R)	Ground	Audio sound sig- nal rear RH (-)	Output	ON	Receive audio signal	5.5V	No sound from rear speaker RH.
16 (L)	Ground	Audio sound sig- nal rear RH (+)	Output	ON	Receive audio signal	5.5V	No sound from rear speaker RH.
*22 (P)	Ground	Speed signal	Input	ON	Vehicle speed sen- sor rotating	Voltage increases as vehicle speed sensor rotates faster	Speed dependent volume control does not function.
26 (R/W)	_	Remote control A	-	-	_	Refer to <u>AV-22</u> , "Steering Wheel <u>Audio Control</u> <u>Switch Resis-</u> tance Check".	Steering wheel audio controls do not function.
*27 (G)	_	Remote control B	-	_	_	Refer to <u>AV-22.</u> <u>"Steering Wheel</u> <u>Audio Control</u> <u>Switch Resis-</u> <u>tance Check</u> ".	Steering wheel audio controls do not function.
*29 (L)	_	Remote control ground	-	_	_	Refer to <u>AV-22</u> . <u>"Steering Wheel</u> <u>Audio Control</u> <u>Switch Resis-</u> <u>tance</u> Check".	Steering wheel audio controls do not function.

\*: With midline system

Termir	nal No.		Signal	С	ondition		
+	-	Item	input/ output	Ignition switch	Operation	(Approx.)	Example of symptom
1 (B)	Ground	Audio sound sig- nal front LH (-)	Output	ON	Receive audio signal	5.5V	No sound from front door speaker LH or tweeter LH.
2 (W)	Ground	Audio sound sig- nal front LH (+)	Output	ON	Receive audio signal	5.5V	No sound from front door speaker LH or tweeter LH.
3 (BR)	Ground	Audio sound sig- nal front RH (-)	Output	ON	Receive audio signal	5.5V	No sound from front door speaker RH or tweeter RH.
4 (Y)	Ground	Audio sound sig- nal 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	_	5.5V	System does not work prop- erly.
6 (Y/G)	Ground	Battery	Input	_	_	Battery voltage	System does not work prop- erly.
7 (R/Y)	Ground	Illumination con- trol	Input	ON	Lighting switch ON (1st position)	$1V \rightarrow 5V$	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 prop- erly.
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 sig- nal rear LH (-)	Output	ON	Receive audio signal	5.5V	No sound from rear speaker LH.
14 (BR)	Ground	Audio sound sig- nal rear LH (+)	Output	ON	Receive audio signal	5.5V	No sound from rear speaker LH.
15 (B/W)	Ground	Audio sound sig- nal rear RH (-)	Output	ON	Receive audio signal	5.5V	No sound from rear speaker RH.
16 (L)	Ground	Audio sound sig- nal rear RH (+)	Output	ON	Receive audio signal	5.5V	No sound from rear speaker RH.
22 (P)	Ground	Speed signal	Input	ON	Vehicle speed sen- sor rotating	Voltage increases as vehicle speed sensor rotates faster	Speed dependent volume control does not function.
26 (R/W)	_	Remote control A	_	_	_	Refer to <u>AV-22</u> , <u>"Steering Wheel</u> <u>Audio Control</u> <u>Switch Resis-</u> tance Check".	Steering wheel audio controls do not function.

# Terminals and Reference Value for Audio Unit (Rose)

Termir	nal No.		Signal	Condition		Voltago (V/)		,
+	-	Item	input/ output	Ignition switch	Operation	(Approx.)	Example of symptom	ŀ
27 (G)	_	Remote control B	_	_	_	Refer to <u>AV-22</u> , <u>"Steering Wheel</u> <u>Audio Control</u> <u>Switch Resis-</u> <u>tance Check</u> ".	Steering wheel audio controls do not function.	E
29 (L)	_	Remote control ground	_	_	_	Refer to <u>AV-22</u> , <u>"Steering Wheel</u> <u>Audio Control</u> <u>Switch Resis-</u> <u>tance Check</u> ".	Steering wheel audio controls do not function.	

# Terminals and Reference Value for Bose Speaker Amp.

Termir	Terminal No.		Signal	Condition			
+	-	Item	input/ output	Ignition switch	Operation	(Approx.)	Example of symptom
1 (Y/G)	Ground	Battery	Input	_	_	Battery voltage	System does not work prop- erly.
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.

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Termin	nal No.	Signal		Signal Condition		Voltage (V)		
+	-	ltem	input/ output	Ignition switch	Operation	(Approx.)	Example of symptom	
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 prop- erly.	

### **Steering Wheel Audio Control Switch Resistance Check**

\*Terminal No. Resistance  $(\Omega)$ (wire color) Signal name Condition (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) 165Ω 29 (L) Up (next) Depress (station) up switch 26 (R/W) 29 (L) Down (previous) Depress mode switch 1Ω

\*: Audio unit terminals.

# Removal and Installation AUDIO UNIT

- 1. Remove cluster lid C. Refer to IP-12, "Cluster Lid C" .
- 2. Remove cluster lid D. Refer to IP-12, "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" .

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- 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" .

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

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

### Bose speaker amp. mounting screws:

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P : 2.7 - 3.7 N·m (0.28 - 0.38 kg-m, 24 - 33 in-lb)
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### STEERING WHEEL AUDIO CONTROL SWITCHES

1. Remove driver air bag module. Refer to <u>SRS-39, "REMOVAL"</u>.

2. Remove screws and disconnect connector and then remove steering wheel audio control switches. Install in the reverse order of removal.

### Trouble Diagnoses AUDIO UNIT

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Symptom	Possible causes	Repair order	
Audio unit inoperative (no digital display and no sound from speakers).	<ol> <li>1. 10A fuse</li> <li>2. Poor audio unit case ground</li> <li>3. Audio unit</li> </ol>	<ol> <li>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.</li> <li>Check audio unit case ground.</li> </ol>	
		3. Remove audio unit for repair.	
Audio unit presets are lost when ignition switch is turned OFF.	1. 15A fuse 2. Audio unit	<ol> <li>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.</li> <li>Remove queie unit for repair.</li> </ol>	
AM/FM stations are weak	1. Window antenna or antenna amp.	1. Check window antenna.	
or noisy.	2. Poor audio unit case ground	2. Check audio unit case ground.	
	3. Audio unit	3. Remove audio unit for repair.	
Audio unit generates noise	1. Poor audio unit case ground	1. Check audio unit case ground.	
in AM and FM modes with	2. Loose or missing ground bonding straps	2. Check ground bonding straps.	
engine running.	3. Ignition condenser or rear window defog- ger noise suppressor condenser	<ol> <li>Replace ignition condenser or rear window defogger noise suppressor condenser.</li> </ol>	
	4. Generator	4. Check generator.	
	5. Ignition coil(s)	5. Check ignition coil(s).	
	6. Audio unit	6. Remove audio unit for repair.	
Audio unit generates noise	1. Poor audio unit case ground	1. Check audio unit case ground.	
in AM and FM modes with accessories on (switch	2. Antenna	2. Check antenna.	
	3. Accessory ground	3. Check accessory ground.	
	4. Faulty accessory	4. Replace accessory.	

### **BASE AND MIDLINE SYSTEM**

Symptom	Possible causes	Repair order
Individual speaker is noisy	1. Speaker	1. Check speaker.
or inoperative.	2. Audio unit output	2. Check audio unit output voltages.
	3. Speaker circuit	3. Check wires for open or short between audio unit and
	4. Audio unit	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.	<ol> <li>1. 15A fuse</li> <li>2. Amp. ON/OFF signal circuit</li> <li>3. Speaker amp. ground</li> </ol>	<ol> <li>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.</li> </ol>	А
		<ol> <li>Check harness continuity between audio unit terminal 12 and speaker amp. terminal 31.</li> </ol>	В
		<ol> <li>Check harness continuity between speaker amp. ter- minal 17 and ground.</li> </ol>	С
Individual speaker is noisy or inoperative.	1. Speaker	1. Check speaker.	
	2. Output circuits to speaker	2. Check the output circuits to speaker:	
	3. Speaker amp. power supply and ground	<ul> <li>between audio unit and speaker amp.</li> </ul>	D
		<ul> <li>between speaker amp. and speaker</li> </ul>	
		3. Check speaker amp. power supply and ground condi- tion.	Е

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# AUDIO ANTENNA

### **System Description**

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.

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# Wiring Diagram -W/ANT-





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

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### **AUDIO ANTENNA**

## Location of Antenna

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LKIA0012E

EKS003J4

### Window Antenna Repair 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.



# **AUDIO ANTENNA**

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



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



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### **ELEMENT REPAIR**

Refer to GW-58, "Filament Repair" .

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