



## JL AUDIO® RD900/5+ 5-CHANNEL AMPLIFIER

### INSTALLATION INSTRUCTIONS

#### Important Safety Information

##### WARNING

See the *Important Safety and Product Information* guide in the product box for product warnings and other important information.

This device must be installed according to these instructions. Failure to install this device in accordance with these instructions could result in serious personal injury, damage to the device and/or vehicle, or poor product performance.

To avoid possible serious personal injury or damage to the device and vehicle, disconnect the power supply to the vehicle's audio system before beginning to install the device.

Continuous exposure to sound pressure levels over 100 dBA may cause permanent hearing loss. The volume is typically too loud if you cannot hear people speaking around you. Limit the amount of time you listen at high volume. If you experience ringing in your ears or muffled speech, stop listening and have your hearing checked.

##### CAUTION

To avoid possible personal injury, always wear safety goggles, ear protection, and a dust mask when drilling, cutting, or sanding.

##### NOTICE

Do not use copper-clad aluminum (CCA) wire for this installation. CCA wire is more prone to breaking in this environment, and its use could also result in poor product performance.

When drilling or cutting, always check what is on the opposite side of the surface to avoid damaging the vehicle.

It is strongly recommended that you have your audio system installed by a professional installer to ensure optimum performance.

You must read all installation instructions before beginning the installation. If you experience difficulty during the installation, go to [support.garmin.com](https://support.garmin.com) for product support.

#### Tools Needed

- 80 A inline fuse or circuit breaker
- Drill and drill bits
- Flat screwdriver
- Wire cutter
- Wire stripper
- Power cable ([Power Cable Gauge Guide, page 6](#))
- Speaker wire ([Speaker Wire Gauge Guide, page 8](#))
- 20 AWG (0.52 mm<sup>2</sup>) wire for the amplifier turn-on signal (optional)
- Dual RCA cable (1 per channel pair, for stereo speakers) ([Signal and Speaker Connection Considerations, page 7](#))
- Single RCA cable and RCA splitter (1 per channel pair, for mono output or bridged output for speakers) ([Signal and Speaker Connection Considerations, page 7](#))
- Mounting screws appropriate for the mounting surface (not included)
- Cable ties (optional)

## Mounting Considerations

### CAUTION

In high ambient temperatures and after extended use, the device enclosure may reach temperatures deemed dangerous to touch. Therefore, to avoid personal injury, you must install the device in a location where it will not be touched during operation.

### NOTICE

This device should be mounted in a location that is not exposed to extreme temperatures or conditions. The temperature range for this device is listed in the product specifications ([Specifications, page 16](#)). Extended exposure to temperatures exceeding the specified temperature range, in storage or operating conditions, may cause device failure. Extreme-temperature-induced damage and related consequences are not covered by the warranty.

This device is designed for installation only in a dry location. Installing this device in a location where it may come in contact with water or become submerged may result in damage. Water damage is not covered by the warranty.

- You must mount the device in a location that does not interfere with the fuel tank or electrical wiring.
- You must mount the device in a location where it is not exposed to water.
- You must mount the device in a location with adequate ventilation where it is not exposed to extreme temperatures.
- If you mount the device in an enclosed space, you should install a cooling fan with appropriate ducts to aid in airflow.
- You should mount the device so that the cables can be connected easily.

## Mounting the Amplifier

Before you mount the amplifier, you must select a mounting location and purchase screws or other hardware suitable for the mounting surface.

**NOTE:** Screws are not included with the amplifier.

- 1 Using the included 2.5 mm hex key, remove the amplifier's top cover panel.
- 2 Place the amplifier in the mounting location, and mark the location of the pilot holes.
- 3 Remove the amplifier, and drill the pilot holes.
- 4 Secure the amplifier to the mounting location using the purchased hardware.
- 5 Using the included 2.5 mm hex key, install the amplifier's top cover panel.
- 6 Remove the adhesive backing from the logo badge and attach it to the top cover panel.

## Connection Considerations

### WARNING

The wiring (not included) from the battery to the amplifier must run through an inline fuse or circuit breaker (not included) as close to the battery as possible. You must connect the positive wire to the fuse or circuit breaker. Connecting the amplifier to power without an inline fuse or circuit breaker may result in a fire, potentially causing serious personal injury or property damage.

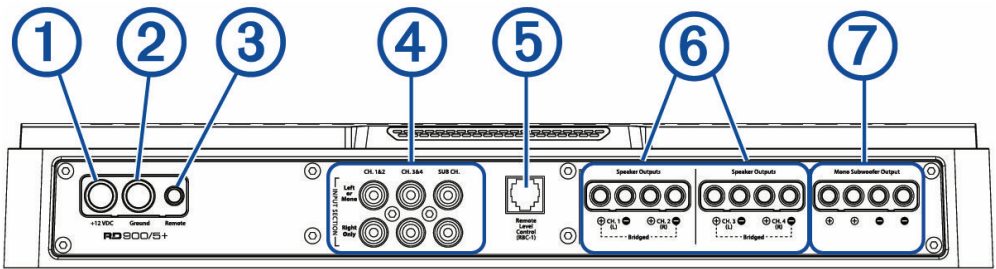
### NOTICE

You must turn off the audio system before making any connections to the amplifier. Failure to turn off the audio system may result in damage to the audio system.

All terminals and connections must be protected from contact with the vehicle chassis and with each other. Improper terminal or wire contact may result in damage to the audio system.

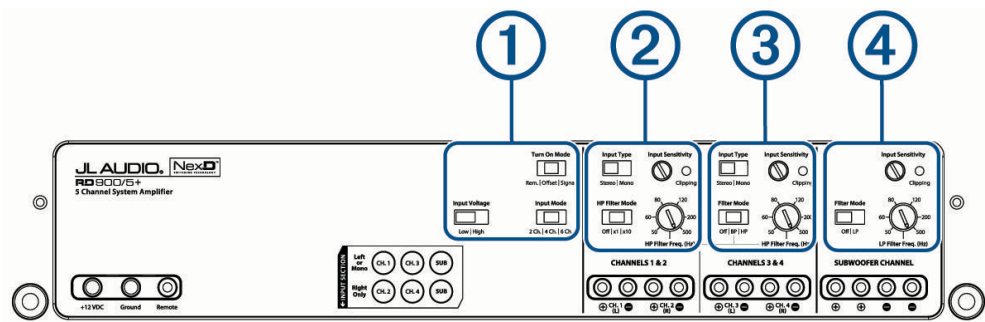
- You must first connect the amplifier to ground before making any other wiring connections ([Connecting to Power, page 5](#)).
- You must connect the positive wire to the battery only after you have completed all other wiring to the amplifier.

# Power, Inputs, and Speaker Port Identification



①	+12 VDC
②	Ground
③	Remote
④	RCA input ports
⑤	Remote Level Control (RBC-1) port
⑥	Speaker outputs
⑦	Mono subwoofer outputs

# Settings Panel Identification



<b>1</b> Setup switches	<ul style="list-style-type: none"><li>• Input Voltage: Sets the voltage range for the amplifier's inputs.</li><li>• Turn On Mode: Sets the method used to turn on the amplifier.</li><li>• Input Mode: Sets which input channels send signals to the amplifier channels.</li></ul>
<b>2</b> Channel 1 and 2 settings	<ul style="list-style-type: none"><li>• Input Type: Sets how the input signals are sent to the amplifier's outputs.</li><li>• Input Sensitivity: Sets the input sensitivity for the channel pair.</li><li>• HP Filter Mode: Sets the filter mode for the channel pair.</li><li>• HP Filter Freq. (Hz): Sets the filter frequency for the channel pair.</li></ul>
<b>3</b> Channel 3 and 4 settings	<ul style="list-style-type: none"><li>• Input Type: Sets how the input signals are sent to the amplifier's outputs.</li><li>• Input Sensitivity: Sets the input sensitivity for the channel pair.</li><li>• Filter Mode: Sets the filter mode for the channel pair.</li><li>• HP Filter Freq. (Hz): Sets the filter frequency for the channel pair.</li></ul>
<b>4</b> Subwoofer channel settings	<ul style="list-style-type: none"><li>• Input Sensitivity: Sets the input sensitivity for the channel.</li><li>• Filter Mode: Sets the filter mode for the channel.</li><li>• LP Filter Freq. (Hz): Sets the low pass filter frequency for the subwoofer channel.</li></ul>

## Connecting to Power

### NOTICE

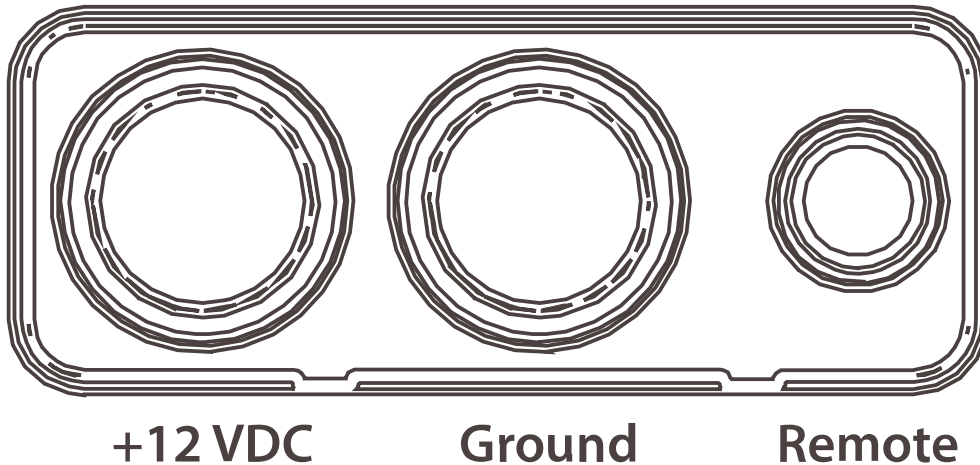
You must not connect the power wire to the amplifier and battery or circuit breaker before you complete all of the other connections. Connecting the amplifier to power before you complete all of the other connections may cause damage to your audio system.

Before connecting to power, you must complete all of the other connections to the stereo and speakers ([Completing the Connections, page 10](#)).

You must connect the power wire to the battery through an in-line fuse or a circuit breaker.

You must use the appropriate-gauge wire (not included) to connect the amplifier to power and ground, based on the total amperage and the length of the cable run ([Power Cable Gauge Guide, page 6](#)).

- 1 Route the appropriate-gauge wire to the amplifier and to a ground location.
- 2 Using the included 2.5 mm hex key, connect the ground wire to the **Ground** terminal on the amplifier.



- 3 Connect the other end of the ground wire to the ground location on the vehicle.
- 4 Route the appropriate-gauge wire to the amplifier and to the vehicle battery, and select an option:
  - Install a properly rated in-line fuse on the power wire as close to the battery as possible.
  - Identify or install a circuit breaker, as close to the battery as possible, for use with the amplifier power wire.

## Connecting the Turn-On Wire

### NOTICE

You should connect the turn-on wire only if you are using the Rem. method to turn the amplifier on and off ([Turn On Options, page 6](#)).

- 1 If your stereo has an amplifier turn-on wire, route a 20 AWG (0.52 mm<sup>2</sup>) wire from the amplifier turn-on wire on the stereo to the amplifier.
- 2 Using the included 2.5 mm hex key, connect the 20 AWG (0.52 mm<sup>2</sup>) wire to the **Remote** terminal on the amplifier.

## Turn On Options

You can switch the amplifier on and off using one of three methods, depending on the position of the Turn On Mode switch.

**Rem.:** This is the preferred method for controlling the amplifier. The amplifier turns on when +12 VDC is present at its Rem. input and turns off when +12 VDC is switched off ([Connecting the Turn-On Wire, page 5](#)).

**Offset:** The amplifier turns on by detecting the presence of small DC signal in OEM audio outputs and turns off after the signal is removed.

**NOTE:** This circuit is designed to detect high-level speaker signals from the CH. 1 (L) input only.

**Signal:** The amplifier turns on by detecting full range signals in OEM audio outputs and turns off after the signal is removed (within 30 seconds).

**NOTE:** This circuit is designed to detect high-level (speaker) signals from the CH. 1 (L) input only.

## Power Cable Gauge Guide

You should use 4 AWG (21.1 mm<sup>2</sup>) wire for most installations. If your total amperage is higher than 85 A, and your cable run is longer than 10 to 13 ft. (3 to 4 m), you can use these tables to determine if you need to use a larger gauge of wire. If your installation requires 2 AWG (33.6 mm<sup>2</sup>) or larger wire, you may need to use a distribution block (not included). This table accounts for terminal connection resistance.

### NOTICE

Only use oxygen-free copper (OFC) wire or tinned copper wire for the amplifier's power and ground connections. Do not use copper-clad aluminum (CCA) wire for this installation. CCA wire is more prone to breaking in this environment, and its use could also result in poor product performance.

Total Amperage	0 to 4 ft. (0 to 1.2 m)	4 to 7 ft. (1.2 to 2.1 m)	7 to 10 ft. (2.1 to 3 m)	10 to 13 ft. (3 to 4 m)
50 to 65 A	6 AWG (13.3 mm <sup>2</sup> )	6 AWG (13.3 mm <sup>2</sup> )	6 AWG (13.3 mm <sup>2</sup> )	6 AWG (13.3 mm <sup>2</sup> )
65 to 85 A	6 AWG (13.3 mm <sup>2</sup> )	6 AWG (13.3 mm <sup>2</sup> )	6 AWG (13.3 mm <sup>2</sup> )	4 AWG (21.1 mm <sup>2</sup> )
85 to 105 A	4 AWG (21.1 mm <sup>2</sup> )	4 AWG (21.1 mm <sup>2</sup> )	4 AWG (21.1 mm <sup>2</sup> )	2 AWG (33.6 mm <sup>2</sup> )
105 to 125 A	4 AWG (21.1 mm <sup>2</sup> )	4 AWG (21.1 mm <sup>2</sup> )	4 AWG (21.1 mm <sup>2</sup> )	2 AWG (33.6 mm <sup>2</sup> )
125 to 150 A	2 AWG (33.6 mm <sup>2</sup> )	2 AWG (33.6 mm <sup>2</sup> )	2 AWG (33.6 mm <sup>2</sup> )	0 AWG (53.5 mm <sup>2</sup> )

Total Amperage	13 to 16 ft. (4 to 4.9 m)	16 to 19 ft. (4.9 to 5.8 m)	19 to 22 ft. (5.8 to 6.7 m)	22 to 28 ft. (6.7 to 8.5 m)
50 to 65 A	4 AWG (21.1 mm <sup>2</sup> )	4 AWG (21.1 mm <sup>2</sup> )	4 AWG (21.1 mm <sup>2</sup> )	2 AWG (33.6 mm <sup>2</sup> )
65 to 85 A	2 AWG (33.6 mm <sup>2</sup> )	2 AWG (33.6 mm <sup>2</sup> )	2 AWG (33.6 mm <sup>2</sup> )	0 AWG (53.5 mm <sup>2</sup> )
85 to 105 A	2 AWG (33.6 mm <sup>2</sup> )	2 AWG (33.6 mm <sup>2</sup> )	2 AWG (33.6 mm <sup>2</sup> )	0 AWG (53.5 mm <sup>2</sup> )
105 to 125 A	0 AWG (53.5 mm <sup>2</sup> )	0 AWG (53.5 mm <sup>2</sup> )	0 AWG (53.5 mm <sup>2</sup> )	0 AWG (53.5 mm <sup>2</sup> )
125 to 150 A	0 AWG (53.5 mm <sup>2</sup> )	0 AWG (53.5 mm <sup>2</sup> )	0 AWG (53.5 mm <sup>2</sup> )	0 AWG (53.5 mm <sup>2</sup> )

## Signal and Speaker Connection Considerations

When connecting your stereo and speakers to the amplifier, observe these considerations.

- You can send signals to the amplifier using two, four, or six RCA inputs ([Amplifier Configuration Controls, page 11](#)).
- You can connect either line outputs or speaker outputs from the stereo to the RCA inputs on the amplifier.
- The amplifier's input section accommodates a wide range of signal input voltages (200 mV to 8 V), split into two ranges ([Amplifier Configuration Controls, page 11](#)).
- Each output channel supports a nominal 4 ohm speaker load impedance, and a 2 ohm minimum speaker load impedance.
- You can connect two speakers in parallel on a single channel, and the combined impedance must be greater than the 2 ohm minimum load impedance ([Connecting Multiple Speakers or Subwoofers in Parallel, page 8](#)).
- You should use the proper gauge speaker wire to connect speakers and subwoofers to the amplifier ([Speaker Wire Gauge Guide, page 8](#)).
- You should observe the polarity markings for each channel when connecting speakers to the amplifier.
- If you are connecting a subwoofer to the amplifier, you should connect it to Mono Subwoofer Output. This output can be operated with a dedicated low-pass filter and has an optional remote level control.
- If you are connecting a dedicated midrange or midbass speaker to the amplifier, you should connect it to the CH. 3 and CH. 4 outputs. These outputs can be operated with a dedicated high-pass or bandpass filter.

### Speaker Wire Gauge Guide

You should use 16 AWG (1.3 through 1.5 mm<sup>2</sup>) oxygen-free copper (OFC) speaker wire. You can use these tables to determine if you need to use a larger gauge of wire. These tables account for terminal connection resistance.

NOTICE

Do not use copper-clad aluminum (CCA) wire for this installation. CCA wire is more prone to breaking in this environment, and its use could also result in poor product performance.

#### 4 Ohm Load (1 Speaker)

Distance between the amplifier and speaker	Wire gauge
From 0 to 28 ft. (from 0 to 8.5 m)	16 AWG (1.3 through 1.5 mm <sup>2</sup> )
From 28 to 69 ft. (from 8.5 to 21 m)	12 AWG (3 through 4 mm <sup>2</sup> )

#### 2 Ohm Load (2 Speakers in Parallel)

Distance between the amplifier and speaker	Wire gauge
From 0 to 14 ft. (from 0 to 4 m)	16 AWG (1.3 through 1.5 mm <sup>2</sup> )
From 14 to 35 ft. (from 4 to 10.5 m)	12 AWG (3 through 4 mm <sup>2</sup> )

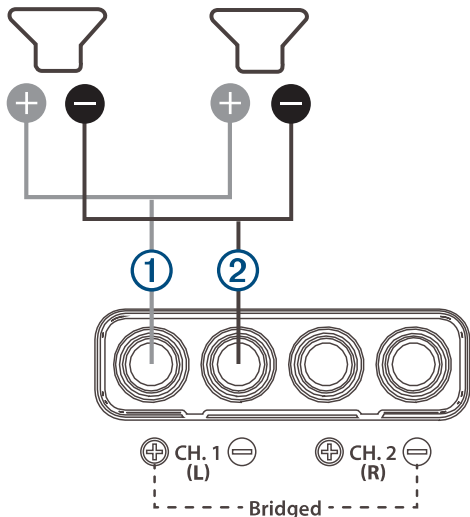
### Connecting Multiple Speakers or Subwoofers in Parallel

You can connect multiple speakers or subwoofers with the same impedance rating, model number, and type together in parallel. When connecting speakers of the same impedance rating in parallel, you must calculate the total impedance by dividing the common impedance rating by the total number of speakers connected in parallel. For example, if you connect two 4 ohm speakers in parallel, the resulting impedance is 2 ohms ( $4 \div 2 = 2$ ).

NOTICE

You must not connect multiple speakers with a combined impedance of less than 2 ohms to a single channel on the amplifier, because doing so could cause poor product performance or damage the amplifier.

- 1 Connect speaker wire ① to the positive terminal of an output channel on the amplifier.



- 2 Connect speaker wire to the positive terminal on each speaker.
- 3 Connect the wires from the positive terminals on both speakers in the channel to the wire connected to the positive terminal on the amplifier.
- 4 Repeat this procedure for the negative terminal on the amplifier ② and both speakers in the channel.



## Connecting a Speaker or Subwoofer in Bridged Mode

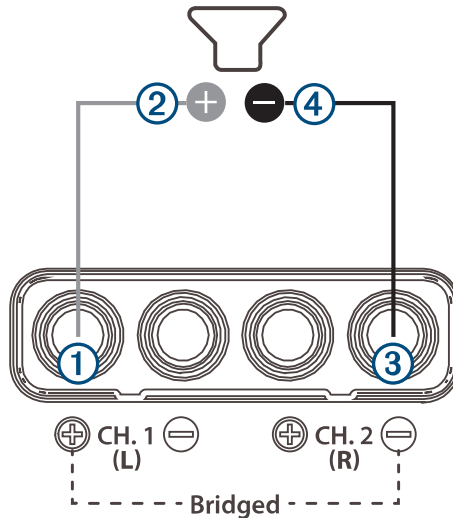
Connecting a speaker or subwoofer in bridged mode increases the amount of power that can be delivered by combining two output channels together. This is beneficial for large subwoofers that move large volumes of air and for playing speakers louder without experiencing clipping in the audio. When two output channels are in bridged mode, the output is in mono (only one channel).

### NOTICE

A speaker connected in bridged mode must be capable of handling the increased output power. Bridged mode can produce more than double the output power of a single channel.

You should connect only a 4 ohm load to the bridged terminals of a channel pair. Connecting a 2 ohm load to the bridged terminals may cause damage to the amplifier, speaker, or subwoofer.

- 1 Connect speaker wire to the amplifier's positive terminal of the channel 1 output ①.

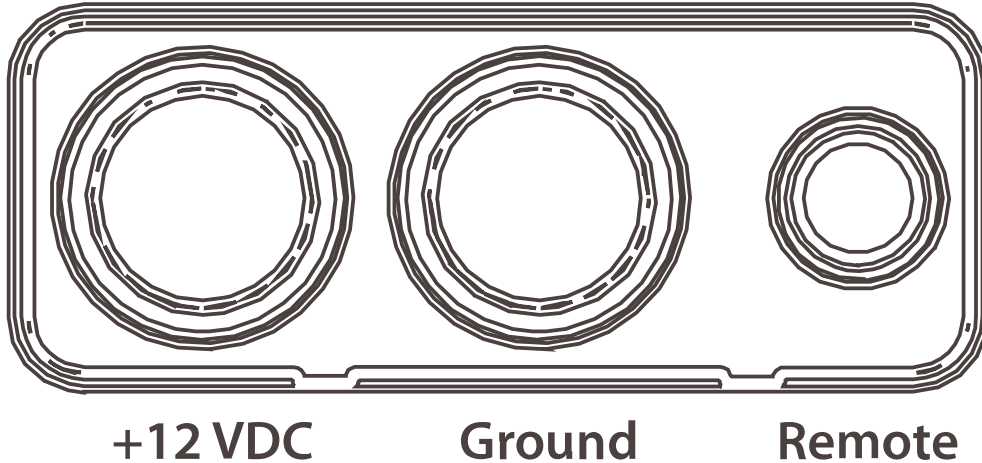


- 2 Connect the other end of the speaker wire to the positive terminal on the speaker or subwoofer ②.
- NOTE:** The bridged terminals for a channel pair are connected with a dashed line and labeled Bridged for easy identification.
- 3 Connect speaker wire to the negative terminal of the channel 2 output ③.
  - 4 Connect the other end of the speaker wire to the negative terminal on the speaker or subwoofer ④.

## Completing the Connections

Before you connect the amplifier to the power source, you must complete all other connections to the amplifier.

- 1 Verify all speaker wires are connected to the speakers and the amplifier.
- 2 Verify all RCA cables are connected to the amplifier and the stereo.
- 3 Verify the ground cable is connected to the amplifier and the battery ([Connecting to Power, page 5](#)).
- 4 If you are using an amplifier turn-on wire, verify the amplifier turn-on wire is connected to the amplifier and to the amplifier turn-on wire from the stereo or a dedicated switch ([Connecting the Turn-On Wire, page 5](#)).
- 5 Using the included 2.5 mm hex key, connect the power wire to the +12 VDC terminal on the amplifier.



- 6 Select an option:
  - Connect the other end of the power wire, through the in-line fuse, to the battery.
  - Connect the other end of the power wire to the appropriate circuit breaker.

## Configuring the Amplifier

Before you can configure the amplifier for any connected speakers and subwoofers, you must make all power, speaker, and stereo connections.

## Amplifier Configuration Controls

Each amplifier section has a set of controls you must use to configure the sound for the speakers connected to that section ([Settings Panel Identification, page 4](#)).

Dial or Switch	Function
Input Voltage	<p>Sets the voltage range for the amplifier's inputs.</p> <p><b>Low:</b> Sets the input sensitivity range from 200 mV to 2 V.</p> <ul style="list-style-type: none"> <li>For use with an aftermarket stereo, with conventional preamp level (RCA) outputs.</li> </ul> <p><b>High:</b> Sets the input sensitivity range from 800 mV to 8 V.</p> <ul style="list-style-type: none"> <li>For use with high-output, preamp level (RCA) signals, as well as high-level (speaker) signals from an OEM stereo system or a small amplifier.</li> <li>To use with speaker level signals, you must splice the speaker output wires onto a pair of RCA cables or plugs.</li> </ul>
Turn On Mode	<p>Sets the method used to turn on the amplifier.</p> <p><b>Rem.:</b> This is the preferred method for controlling the amplifier. The amplifier turns on when +12 VDC is present at its Remote terminal and turns off when the +12 VDC is switched off. (<a href="#">Connecting the Turn-On Wire, page 5</a>)</p> <p><b>Offset:</b> The amplifier turns on when it detects a small DC signal in OEM audio outputs and turns off after the signal is removed.</p> <ul style="list-style-type: none"> <li>This circuit is designed to detect high-level (speaker) signals from the CH. 1 input only.</li> </ul> <p><b>Signal:</b> The amplifier turns on when it detects a full-range signal in OEM audio outputs and turns off after the signal is removed (within 30 seconds).</p> <ul style="list-style-type: none"> <li>This circuit is designed to detect high-level (speaker) signals from the CH. 1 input only.</li> </ul>
Input Mode	<p>Sets which input channels send signals to the amplifier channels.</p> <p><b>2 Ch.:</b> Select when using the CHANNELS 1 &amp; 2 inputs only.</p> <ul style="list-style-type: none"> <li>The CH. 1 input signal feeds the CH. 3 output.</li> <li>The CH. 2 input signal feeds the CH. 4 output.</li> <li>The Mono Subwoofer Output is the sum of the CHANNELS 1 &amp; 2 input signals.</li> </ul> <p><b>4 Ch.:</b> Select when using the CHANNELS 1 &amp; 2 and CHANNELS 3 &amp; 4 inputs only.</p> <ul style="list-style-type: none"> <li>The Mono Subwoofer Output is the sum (non-fading) of the CHANNELS 1 &amp; 2 and CHANNELS 3 &amp; 4 input signals.</li> </ul> <p><b>6 Ch.:</b> Select when using all six inputs.</p> <ul style="list-style-type: none"> <li>The SUBWOOFER CHANNEL inputs accept stereo or mono signals.</li> <li>If only one subwoofer channel signal is available, an RCA splitter is recommended to feed both SUBWOOFER CHANNEL inputs.</li> </ul>
Input Type	<p>Sets how the input signals are sent to the amplifier's outputs.</p> <p><b>Stereo:</b> Select to send signals from both left and right inputs to their respective outputs.</p> <p><b>Mono:</b> Select to send a signal from only the left input to both outputs without using an RCA splitter.</p> <ul style="list-style-type: none"> <li>This is useful when sending a single mono signal to both outputs of a channel pair or to a bridged channel pair.</li> </ul>
Input Sensitivity	<p>Adjusts the input section of each channel pair to match the output voltage of the input signals (<a href="#">Setting the Input Sensitivity Level, page 14</a>).</p> <ul style="list-style-type: none"> <li>Rotate clockwise for higher sensitivity (louder) for a given input voltage.</li> <li>Rotate counter-clockwise for lower sensitivity (quieter) for a given input voltage.</li> </ul>
Clipping	<p>Each Input Sensitivity control is equipped with a Clipping LED to simplify the input sensitivity setting process (<a href="#">Setting the Input Sensitivity Level, page 14</a>).</p>
HP Filter Mode	<p>Sets the mode for the active filter.</p> <p><b>Off:</b> The filter is off and passes all frequencies present at the inputs.</p> <p><b>x1:</b> The high-pass filter attenuates frequencies below the HP Filter Freq. (Hz) dial, at a rate of 12 dB/octave.</p>

Dial or Switch	Function
	<b>x10:</b> The high-pass filter attenuates frequencies ten times higher than below the CHANNELS 1 & 2 HP Filter Freq. (Hz) dial, at a rate of 12 dB/octave.
Filter Mode	<p>Sets the mode for the active filter.</p> <p><b>Off:</b> The filter is off and passes all frequencies present at the inputs.</p> <p><b>HP:</b> The high-pass filter attenuates frequencies below the HP Filter Freq. (Hz) dial, at a rate of 12 dB/octave.</p> <p><b>BP:</b> The bandpass filter attenuates frequencies below the CHANNELS 3 &amp; 4 filter frequency dial and above the CHANNELS 1 &amp; 2 filter frequency setting, at a rate of 12 dB/octave.</p> <ul style="list-style-type: none"> <li>• The Input Mode switch must be set to 2 Ch.</li> </ul> <p><b>LP:</b> The low-pass filter attenuates frequencies above the LP Filter Freq. (Hz) dial, at a rate of 12 dB/octave.</p>
HP Filter Freq. (Hz)	<p>Adjusts the cutoff frequency of the active filters for CHANNELS 1 &amp; 2 and CHANNELS 3 &amp; 4.</p> <p><b>x1/HP/BP:</b> Adjustable from 50 Hz to 500 Hz.</p> <p><b>x10:</b> Adjustable from 500 Hz to 5,000 Hz.</p>
LP Filter Freq. (Hz)	Adjusts the cutoff frequency of the subwoofer channel's low-pass active filter from 50 Hz to 500 Hz, at a rate of 12 dB/octave.
Remote Level Control (RBC-1)	<p>Use with the optional RBC-1 remote bass controller to adjust the subwoofer channel's volume remotely.</p> <p>When connected to the amplifier, the RBC-1 operates strictly as a level attenuator:</p> <ul style="list-style-type: none"> <li>• At full counter-clockwise rotation, the subwoofer channel level mutes completely.</li> <li>• At full clockwise rotation, the subwoofer channel level is the same as if the RBC-1 was not connected at all.</li> </ul>

## Setting the Input Sensitivity Level

### NOTICE

Do not increase the Input Sensitivity settings in the system beyond the maximum level established during this procedure. Doing so will result in audible distortion and possible speaker damage.

#### Tools Needed

- Sine wave test tone recorded at 0 dBFS reference level in the frequency range to be amplified.  
Do not use attenuated test tones (such as -10 dB or -20 dB).

**Full range channel applications:** 1 kHz

**Subwoofer channel applications:** 50 Hz

- Depending on your source unit, the sine wave may be played from a CD, USB thumb drive, or a portable media player. You must disable all EQ/DSP modes on your portable media player during level setting.

You can adjust the input sensitivity of each amplifier channel or channel pair to achieve overall system balance.

- 1 Disconnect the speakers from the amplifier's speaker outputs.
- 2 Turn off all processing (such as bass/treble, loudness, or EQ) on the source unit, any processors used, and the amplifier.
- 3 Set the fader control to the center position, and set the subwoofer level control to  $\frac{3}{4}$  of maximum, if used.
- 4 Set the Input Voltage switch to **Low**.
- 5 Turn all three **Input Sensitivity** controls down completely (full counter-clockwise turn).
- 6 Set the source unit volume to  $\frac{3}{4}$  of full volume to allow for reasonable gain overlap with moderate clipping at full volume.
- 7 Verify that you have disconnected the speakers.
- 8 Play a track with an appropriate sine wave (within the frequency range to be amplified) at  $\frac{3}{4}$  of the source unit volume.
- 9 For the first **Input Sensitivity** control, complete an action:
  - If the **Clipping** LED is solidly illuminated while the **Input Sensitivity** control is turned down completely, move the Input Voltage switch to the **High** position. Slowly increase the control level until the **Clipping** LED is solidly illuminated, indicating maximum, unclipped output.
  - If the **Clipping** LED is not solidly illuminated while the **Input Sensitivity** control is turned down completely, slowly increase the control level until the **Clipping** LED is solidly illuminated, indicating maximum, unclipped output.
- 10 Repeat the previous step for the remaining two **Input Sensitivity** controls.
- 11 After you have adjusted each channel section to its maximum low-distortion output level, reconnect the speakers.

You can adjust the Input Sensitivity controls downward if the amplifier requires attenuation to achieve the desired system balance.

If any equalizer boost is activated after you set the Input Sensitivity level, you must readjust the Input Sensitivity settings. This applies to any EQ boost circuit, including source unit tone controls or EQ circuits. EQ cuts do not require readjustment.

## More Information

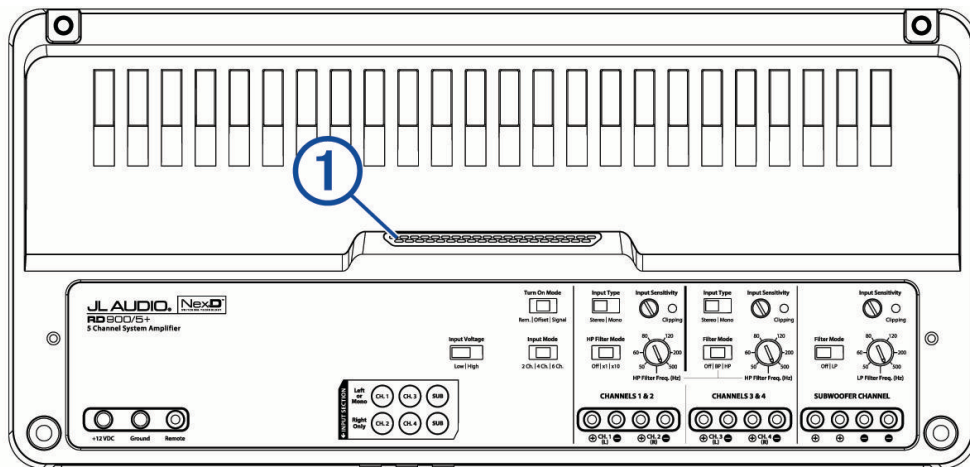
### Troubleshooting

Before you contact your JL Audio dealer or service center, you should refer to the LED information below to help diagnose the problem.

If the JL Audio amplifier has been installed by a professional installer, you should contact the installer so a technician can assess the problem and advise you about possible solutions.

## LED light strip

The bi-color LED light strip ① in the top surface of the amplifier reports the amplifier's operating condition.



The LED light strip is solid blue when the amplifier is on and functioning normally.

**NOTE:** When the amplifier is powering up, the outputs are muted and the LED light strip turns red for 3 seconds.

### The LED light strip is red

The amplifier enters self-protection mode and mutes all outputs when the safe operating temperature has been exceeded. The amplifier returns to normal operating mode when its temperature returns to a safe level.

### The LED light strip is flashing

The LED light strip turns red for  $1/2$  second when the amplifier experiences overcurrent conditions. The amplifier then attempts to restart, and the LED light strip turns blue. If the overcurrent condition continues, the LED strip turns red and the amplifier mutes the outputs again. Alternating red and blue flashes indicate a continuous overcurrent condition. Overcurrent conditions can be caused by speaker impedance that is lower than normal or a short circuit in the speaker wiring. During overcurrent conditions, the amplifier enters self-protection mode and mutes all outputs. The speakers may exhibit a repetitive ticking or thumping noise.

- Verify the speaker impedance for each output channel.
- Verify the positive and negative speaker wires are not in contact with each other.
- Verify the speaker wires are not in contact with the vehicle chassis.

### The LED light strip is off

An undamaged amplifier shuts down completely only when the battery voltage or remote turn-on voltage drops below +10 VDC. If this occurs in your system, you should have your vehicle's charging system and audio system power wiring inspected.

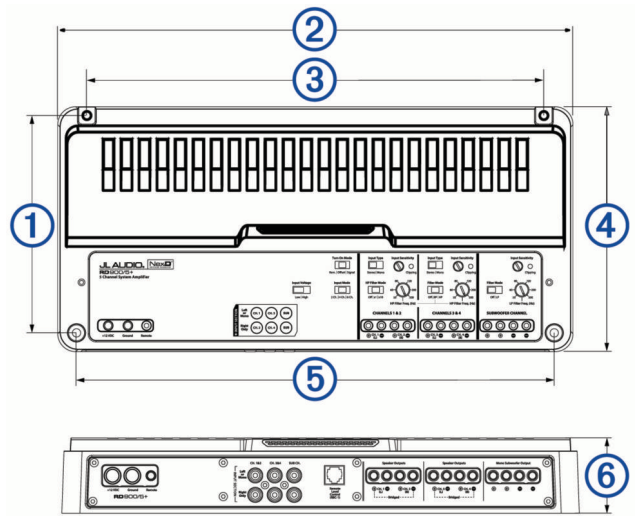
The amplifier turns on again when the voltage climbs above +11 VDC.

## Specifications

Operating voltage	From 10 to 16 VDC negative ground
Operating temperature	From -20 to 65°C (from -4 to 149°F)
Amplifier class	Class D
Frequency response	Main channels: 12 Hz to 22 kHz (+0, -1 dB) Subwoofer channel: 10 Hz to 500 Hz (+0, -1 dB)
Rated power output @ 14.4 VDC input < 1% THD+N	Main channels @ 4 ohms: 70 W RMS x 4 Subwoofer channel @ 4 ohms: 225 W RMS x 1 Main channels @ 2 ohms: 100 W RMS x 4 Subwoofer channel @ 2 ohms: 500 W RMS x 1 Main channels @ 4 ohms bridged: 200 W RMS x 2
Input sensitivity	200 mV to 8 V RMS, adjustable
Input type	Differential-balanced
Signal to noise ratio (A-weighted, 20 Hz to 20 kHz noise bandwidth)	Main channels: >104 dB (referred to rated power), >84 dB (referred to 1 W) Subwoofer channel: >103 dB (referred to rated power), >83 dB (referred to 1 W)
Damping factor	Main channels: >150 @ 4 ohms/50 Hz, >75 @ 2 ohms/50 Hz Subwoofer channel: >120 @ 4 ohms/50 Hz, >60 @ 2 ohms/50 Hz
Filter type	Channels 1 and 2: Active, 12 dB/octave, high-pass Channels 3 and 4: Active, 12 dB/octave, high-pass or bandpass Subwoofer channel: Active, 12 dB/octave, low-pass
Filter frequency	Channels 1 and 2: 50 Hz to 5 kHz, adjustable Channels 3 and 4: 50 Hz to 500 Hz, adjustable Subwoofer channel: 50 Hz to 500 Hz, adjustable
Recommended fuse	80 A
Protection circuits	Input under/over voltage Over temperature Output short circuit



Dimensions



①	157 mm (6.18 in.)
②	372 mm (14.66 in.)
③	330 mm (13.00 in.)
④	177 mm (6.96 in.)
⑤	345 mm (13.59 in.)
⑥	54 mm (2.13 in.)

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M/N: RD900/5+

