GTX500

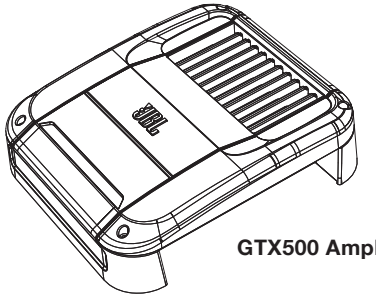
subwoofer power amplifier

OWNER'S MANUAL

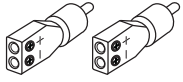
INTRODUCTION

THANK YOU for purchasing the JBL® GTX500 amplifier. So we can better serve you should you require warranty service, please retain your original sales receipt and register your amplifier online at www.jbl.com.

INCLUDED ITEMS



GTX500 Amplifier (x 1)



Bare wire-to-RCA adapters (x 2)

LOCATION AND MOUNTING

Although these instructions explain how to install the GTX500 in a general sense, they do not show specific installation methods that may be required for your particular vehicle. If you do not have the necessary tools or experience, do not attempt the installation yourself. Instead, please ask your authorized JBL car audio dealer about professional installation.

INSTALLATION WARNINGS AND TIPS

IMPORTANT: Disconnect the vehicle's negative (–) battery terminal before beginning the installation.

- Always wear protective eyewear when using tools.
- Check clearances on both sides of a planned mounting surface. Be sure that screws or wires will not puncture brake lines, fuel lines or wiring harnesses, and that wire routing will not interfere with the safe operation of the vehicle.
- When making electrical connections, make sure they are secure and properly insulated.
- If you must replace any of the amplifier's fuses, be sure to use the same type of fuse and current rating as that of the original.

INSTALLATION LOCATION

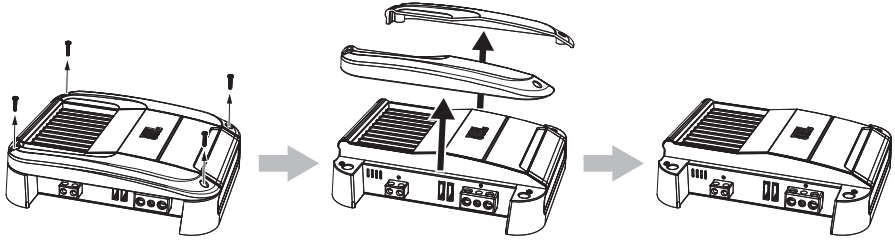
Amplifiers need air circulation to stay cool. Select a location that provides enough air for the amp to cool itself.

- Suitable locations are under a seat (provided the amplifier doesn't interfere with the seat adjustment mechanism), in the trunk, or in any other location that provides enough cooling air.
- Do not mount the amplifier with the heatsink facing downward, as this interferes with the amplifier's convection cooling.
- Mount the amplifier so that it will not be damaged by the feet of backseat passengers or shifting cargo in the trunk.
- Mount the amplifier so that it remains dry – never mount an amplifier outside the car or in the engine compartment.

MOUNTING THE AMPLIFIER

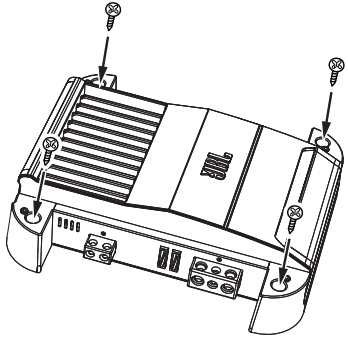
NOTE : You may find it more convenient to make all of the connections to the amplifier before you permanently mount it to the vehicle.

Before mounting the amplifier you must remove the two end caps to expose the mounting holes and the connections. Using a Phillips screwdriver, remove the attachment screws and then the end caps, as shown in the illustration. Put the screws in a safe place, so you can use them to reattach the end caps after you have made all the connections to the amplifier.



NOTE: Before you permanently mount the amplifier, read *Auto Turn-On Switch,* on page 4, to determine the setting of the switch, which is located on the amplifier's bottom panel.

1. Select a suitable mounting location as described above.
2. Using the amplifier as a template, mark the locations of the mounting holes on the mounting surface.
3. Drill pilot holes in the mounting surface.
4. Attach the amplifier to the mounting surface with four appropriate mounting screws of your own choice. We suggest using #8 Phillips-head sheet metal screws. Make sure the amplifier is mounted securely.



CONNECTIONS

IMPORTANT: Disconnect the vehicle's negative (–) battery terminal before beginning the installation.

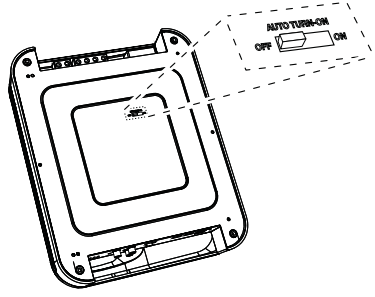
The GTX500 amplifier is capable of delivering high power levels, and requires a heavy-duty and reliable connection to the vehicle's electrical system to achieve optimal performance. Please adhere to the following instructions carefully.

If you have not already done so, remove the two end caps that cover the amplifier's connectors as explained in *Mounting the Amplifier,* on page 3. This will provide easier access to all of the amplifier's connectors.

AUTO TURN-ON SWITCH

No remote turn-on connection is necessary because the GTX500 includes signal-sensing turn-on, which will turn the amplifier on when it receives an audio signal at any of its input connectors. The amplifier will automatically turn off approximately five minutes after the input signal ceases.

If your audio system's source unit includes a remote turn-on wire and you would prefer to use it, the amplifier will sense that you've used a remote turn-on wire and that connection will override the signal-sensing turn-on. If necessary, you can defeat the signal-sensing turn-on circuit by moving the amplifier's Auto Turn-On switch to the "Off" position.

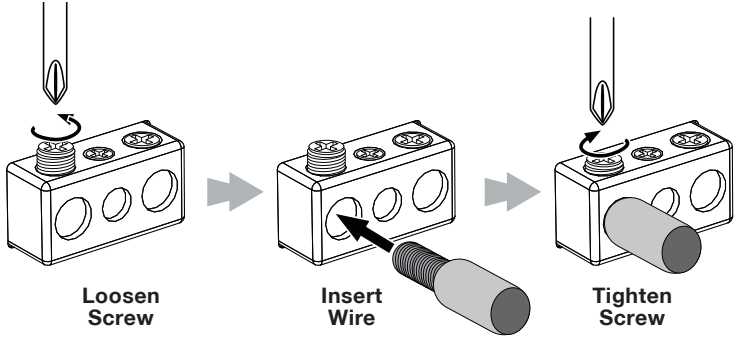


USING THE CONNECTORS

The GTX500 uses the same type of screw terminals for power and speaker connections. This type of terminal is easy to use and allows the easy connection of large-gauge wire.

To use the connectors, use a Phillips screwdriver to loosen the connector's set screw, insert the bare wire and tighten the set screw to secure the wire in the connector, as shown in the illustration to the right.

IMPORTANT: Make sure the (+) and (–) speaker bare wires do not touch each other or the other terminal at both the amplifier terminals and speaker terminals. Touching wires can cause a short circuit that can damage the amplifier.



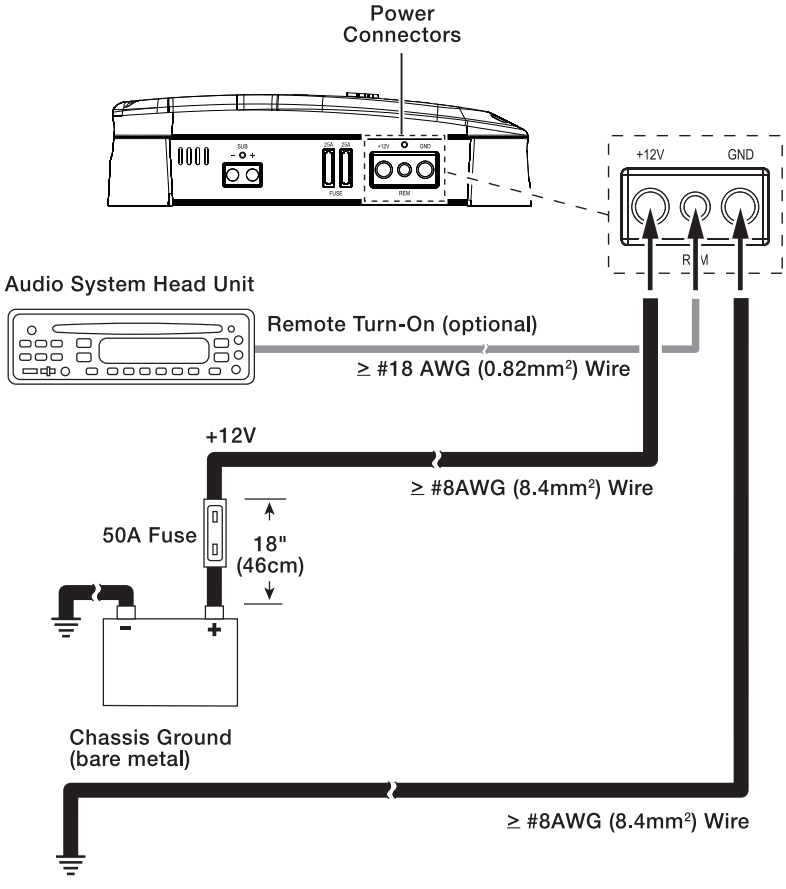
GROUND (GND) CONNECTION

Connect a wire (minimum 8AWG – 8.4mm^2) from the amplifier's GND terminal directly to a solid point on the vehicle's chassis.

- For a good connection, use sandpaper to clear the paint from the metal surface at this chassis location. Use a star-type lock washer to secure the wire's connection.

POWER (12V) CONNECTION

1. Connect a wire (minimum 8AWG – 8.4mm^2) directly to the battery's positive (+) terminal.
2. Install a fuse holder for a 50A fuse on this wire within 18" (46cm) of the battery's (+) terminal. ***Do not install the fuse in the holder at this time***.
3. Route this wire to the amplifier's location and connect it to the amplifier's +12V terminal. Be sure to use appropriate grommets whenever routing wires through the firewall or other sheet metal. **IMPORTANT:** Failure to adequately protect the positive wire from potential damage may result in a vehicle fire.
4. When you are finished routing and connecting this wire, install the 50A fuse in the holder you installed near the battery.



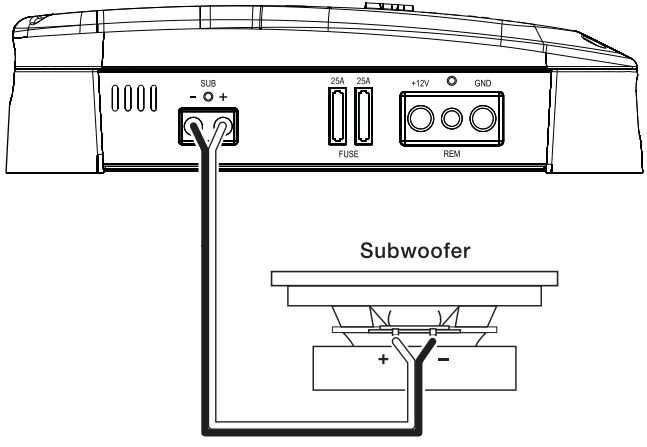
SPEAKER AND INPUT CONNECTIONS

Always connect the (+) speaker terminal on the amplifier to the (+) terminal on the speaker and the (–) speaker terminal on the amplifier to the (–) terminal on the speaker.

IMPORTANT: Make sure the (+) and (–) bare wires do not touch each other or the other terminal at both the amplifier terminals and speaker terminals. Touching wires can cause a short circuit that can damage the amplifier.

SPEAKER CONNECTIONS

Connect the subwoofer to the amplifier's Sub (+) and (–) terminals.

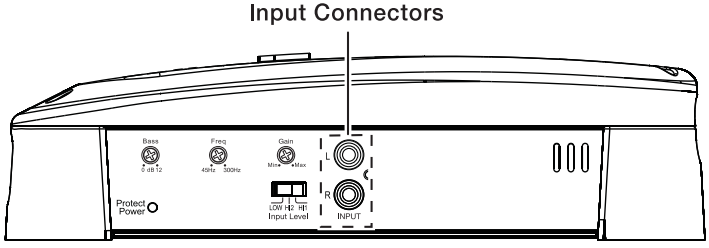


Always connect the (+) terminal on the amplifier to the (+) terminal on the subwoofer and the (–) terminal on the amplifier to the (–) terminal on the subwoofer.

IMPORTANT: Make sure the (+) and (–) bare wires do not touch each other or the other terminal at both the amplifier terminals and subwoofer terminals. Touching wires can cause a short circuit that can damage the amplifier.

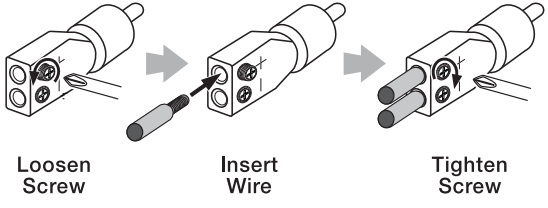
NOTE: Minimum speaker impedance is 2 ohms.

INPUT CONNECTIONS



Use RCA audio cables to connect source units with preamp-level outputs to the amplifier; use the supplied bare wire-to-RCA adapters to connect to source units that don't have RCA output connectors.

Use a small Phillips screwdriver to loosen the adapter's set screws and insert the speaker wires into the holes on the back of the adapter. Tighten the set screws to secure the wires.



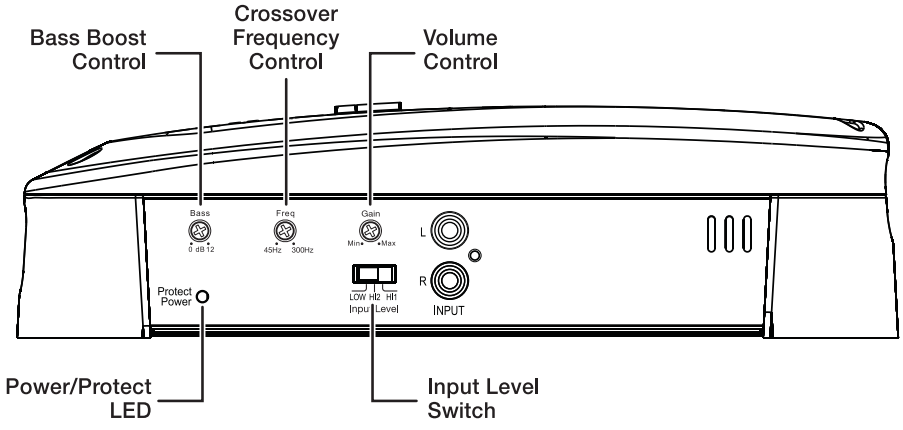
Always connect the (+) speaker wire to the (+) terminal on the adapter and the (–) speaker wire to the (–) terminal on the speaker.

IMPORTANT: Make sure the (+) and (–) bare wires do not touch each other. Touching wires can cause a short circuit that can damage the source unit or the amplifier.

When you're finished, plug the adapters into the input connectors on the amplifier.

- You can use either input connector to connect a source component with a single mono subwoofer output.

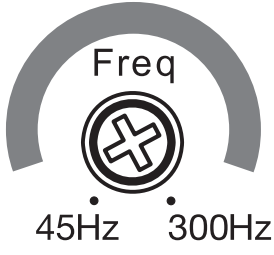
CONTROLS AND INDICATORS



SET THE GTX500'S CROSSOVER FREQUENCY CONTROL

NOTE: The GTX500's internal crossover is permanently set for low-pass operation.

The Crossover Frequency control limits the amount of high-frequency energy sent to the subwoofer. The setting you use will depend on the type and location of your system's subwoofer, and on the performance of your system's full-range speakers. If you used a high-pass crossover on your system's other speakers, start by setting the GTX500's Crossover Frequency control to a frequency somewhat lower than the high-pass crossover setting you used for the system's other speakers. After listening to music on the system for a time, fine-tune the Crossover Frequency control setting to achieve a smooth transition from the subwoofer to the rest of the system's speakers while avoiding a "hole," where the sounds that occur between the subwoofer and other speakers seem to drop out. The illustration to the right shows the recommended Crossover Frequency control frequency range for subwoofers.



SET THE GTX500'S VOLUME

1. Initially set the GTX500's Input Level switch to the “Hi1” position.

   NOTE: If you have connected the GTX500 amplifier to your factory audio system’s speaker outputs, the audio system may show a “speaker disconnected” message, or may fail to play with an amplifier connected to its output. If this happens, set the GTX500’s Input Level switch to the “Hi2” position. The “Hi2” position includes a circuit designed to fool this type of factory system into “seeing” a speaker connected to its output.

2. Turn the Volume control on the GTX500 fully counter-clockwise.
3. Play some dynamic music through your source unit and turn its volume up so the music is at a farily loud volume.
4. Slowly turn the Volume control on the GTX500 clockwise until the subwoofer sounds balanced with the rest of the music.

   NOTE: If you turn the GTX500's volume control all the way up and the subwoofer still is not loud enough, turn the volume control down all the way, switch the GTX500's Input Level switch to the "Low" position and repeat Step 4.

5. Check the balance between the subwoofer and the rest of the music at higher listening levels to make sure there is no audible distortion in the subwoofer. If there is, turn the GTX500's volume control counter-clockwise until the distortion disappears.

SET THE GTX500'S BASS BOOST

The Bass Boost control can provide up to 12dB of bass boost at 45Hz. Set this control according to your personal taste, but be careful not to set the control at a high enough level to cause audible distortion or bottoming of your subwoofer.

PROTECT/POWER LED

- LED Illuminates green: Normal operation (power is on).
- LED is off: Amplifier is in standby mode.
- LED is red (no sound from amplifier): Amplifier is in protection mode. See *Troubleshooting,* on page 10.

TROUBLESHOOTING

If your amplifier isn't performing the way you think is should, check to see if the problem is covered in this section before calling your dealer or contacting JBL customer service.

PROBLEM	CAUSES AND SOLUTIONS
No sound (the amplifier's Power LED is off)	• Check that the amplifier's +12V and GND connections have been properly made. • Check if the fuse on the +12V wire located near the battery is blown: If so, replace it with an identical fuse. • Check all amplifier fuses; if any are blown, replace them with identical fuses. • If you are using the amplifier's REM connection for turn-on, check that the wire is properly connected to the audio system's remote turn-on wire or to the vehicle's ACC power terminal.
No sound (the amplifier's Power LED is green)	• Check that all amplifier input and speaker connections have been properly made. • Check that the amplifier's Volume control is not turned all the way down (counter-clockwise). • Check that the vehicle audio system's source unit's volume control is not turned all the way down.
No sound (the amplifier's Protection LED is red)	• Confirm that the vehicle's electrical system is supplying between 9V and 16V DC to the amplifier. If the supply voltage is outside of this range, correct the condition before attempting to use the amplifier. • If the amplifier has overheated, wait until it has cooled down before attempting to use it again. • Disconnect all speakers from the amplifier and attempt to turn it on again: – If the amplifier turns on (the Power LED is orange), there is a short circuit in one or more of the speaker wires. Correct all short circuits before reconnecting the speakers to the amplifier. – If the amplifier does not turn on (the Protection LED is still red and the Power LED is off), contact your authorized JBL dealer for assistance.

PROBLEM	CAUSES AND SOLUTIONS
Subwoofer is too quiet, even with the vehicle audio system's source unit volume all the way up.	• Check that the GTX500's Volume control is not turned too low. See *Set The GTX500's Volume,* on page 9, for more information.
Sound in the subwoofer is distorted	• While listening to bass-heavy music, turn the Bass Boost control all the way down (counter-clockwise), and then gradually increase it until the distortion begins to return. Reduce the Bass Boost control setting slightly to eliminate the distortion and leave it set there. • Check that the distortion is not originating from the vehicle audio system's source unit.

SPECIFICATIONS

	GTX500
Max power (15.5V, 50Hz, 10%THD, 2 ohms)	770W x 1
Rated power output	350W RMS x 1 @ 4 ohms, 14.4V DC, <1.0% THD 500W RMS x 1 @ 2 ohms, 14.4V DC, <1.0% THD
Signal-to-noise	>80dB ref. 1W
Frequency response	20Hz – 200Hz (±0.5dB); 10Hz – 300Hz (±3dB)
Input sensitivity/impedance (low-level input)	100mV – 2V/>7k ohms
Input sensitivity/impedance (speaker-level input)	2V – 15V/120 ohms
Fuse replacement	25A x 2
Dimensions (H x W x D)	2-9/16" x 9-11/16" x 8-3/8" (66mm x 246mm x 213mm)
Weight	6.4 lb (2.9kg)

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Part No. 080-3238 Rev: A

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