



## RSX1600 CLASS-D MONOBLOCK AMPLIFIER



## INSTALLATION & OPERATION MANUAL

**A MESSAGE FROM TREO ENGINEERING**

Thank you for purchasing this TREO Engineering RSX1600 Class-D Monoblock Amplifier. This amplifier is designed to deliver excellent value, audiophile-level sound quality, years of reliable service.

TREO Engineering RSX Amplifiers are manufactured with high quality component parts using the most advanced technologies available. To ensure maximum sound quality and reliability please have your amplifier installed by your authorized TREO Engineering dealer. Professional installation and tuning by an authorized TREO dealer will extend the warranty on your amplifier from ninety days to one full year.

Please read the entire contents of this manual thoroughly before attempting to install, tune, or use this amplifier. Knowledge and preparation will help the most experienced car audio technician or the newcomer make the most of any car audio system.

This amplifier is designed for use powering mono subwoofer configurations with a minimum impedance of ONE OHM. If you have any questions as to the meaning of the preceding information please consult your authorized TREO dealer.

**ABOUT THIS MANUAL**

Congratulations on your purchase of this TREO Engineering RSX1600 Class-D Monoblock Amplifier. TREO Engineering has been committed to high fidelity audio playback for ten years, and this amplifier represents the culmination of a decade of research and development. We know that you will enjoy the output of this amplifier for years to come.

For maximum performance and reliability TREO Engineering recommends professional installation and tuning by your authorized TREO dealer.

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**SPECIFICATIONS**

**RSX1600**

Power Output @ 4 Ohms .....	200W RMS
Power Output @ 2 Ohms .....	312W RMS
Power Output @ 1 Ohm .....	460W RMS
Input Level.....	200mV – 5V
Frequency Response.....	8 – 180Hz
Low Pass Frequency.....	40 – 180Hz
SUBSONIC Filter .....	5 - 50Hz
Signal:Noise Ratio.....	>70dB
Peak Efficiency.....	>83%
Minimum Load.....	1 Ohm
Bridgeable with Like Amplifier.....	Yes
Overload Protect System.....	Yes
Short Circuit Test.....	Pass
Temperature Protection Circuit Threshold Temperature.....	80 °C (117 °F)
Components & PCB.....	SMT & Double Sided Board
Transparent Isolation Connector.....	Yes

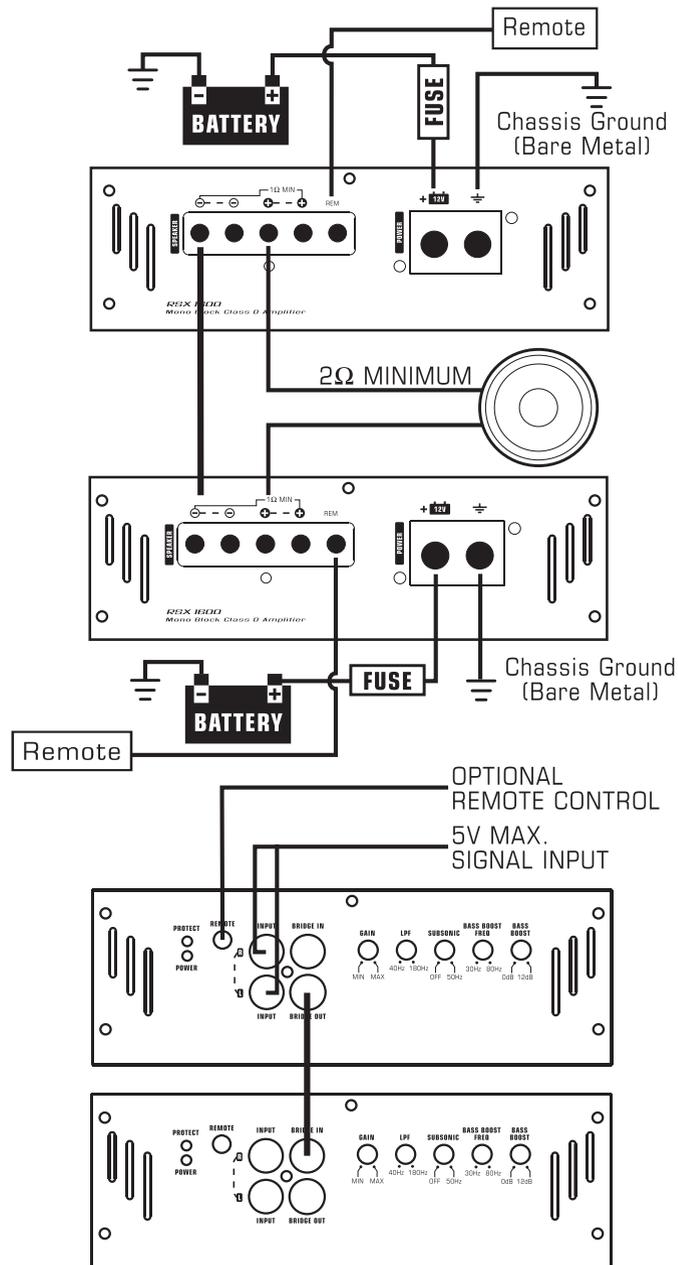
**WARRANTY**

TREO Engineering RSX Amplifiers are guaranteed to be free from defects in workmanship and materials for ninety days. If they are installed by an authorized TREO Engineering dealer the warranty is extended to one year from the date on the performance verification certification. This warranty is valid only to the original purchaser. Proof of purchase must be available and serial number must be intact for warranty to be honored.

Abuse (including, but not limited to overvoltage or overcurrent), misuse, accident, neglect, modification of the amplifier, shipment of amplifier in carton/container other than the original packaging, missing serial number, use of the amplifier for any purpose other than its original intent, and damage from nature, its elements, or act of God void this warranty. TREO Engineering shall not be held accountable for damage caused by this amplifier to its listeners, environment, related components, or any other damage directly or indirectly related to this amplifier. Except for those set out in this statement of limited warranty, all warranties expressed or implied for this amplifier, including all expressed or implied warranties of merchantability and fitness for a particular purpose, are specifically disclaimed by TREO Engineering. Some states do not allow exclusion or limitations or implied warranties so these may not apply. This warranty gives you specific legal rights and you may have other rights which vary from state to state.

TREO Engineering shall replace or repair this amplifier and pay for its return ground freight. The owner of the amplifier is responsible for providing the proper packing and freight for this amplifier to be returned to TREO Engineering or its authorized service center. Please contact TREO Engineering at 1-800-530-5925 to obtain an RA# for the product's return.

**BRIDGED CONFIGURATION**



**AMPLIFIER FUNCTIONS**

① **Speaker connection**

This should be connected to the subwoofer(s). Please use speaker cables with a minimum thickness of 12 AWG. Do not short the speaker wires to each other or to the chassis as this may damage the amplifier. Ensure that the minimum impedance is ONE OHM. The amplifier has only one channel. Both positive terminals and both negative terminals are connected to the same channel.

② **BATT+**

This should be connected directly to the battery. Please use power wiring with a minimum thickness of 4 AWG. Be sure to install an in-line fuse within twelve inches of the battery.

③ **REM**

This should be connected to the remote lead of your source unit. Please use primary wire with a minimum thickness of 22 AWG. If your application uses two or more amplifiers it may be necessary to use a relay for the remote lead.

④ **GND**

This should be connected to an unpainted metal part of the vehicle chassis. Please use wiring with a minimum thickness of 4 AWG. The ground wire should be as short as possible and should be at least as thick as the power wiring.

⑤ **Gain**

The gain knob is NOT a volume control. The gain is adjustable to allow connection of this amplifier to source units with output levels from 200mV to 5V.

⑥ **Remote Bass Control Level**

This control overrides the gain knob on the amplifier chassis.

⑦ **RCA input**

This should be connected to the RCA audio output from your source unit. Please use high quality twisted-pair RCA cables. Keep RCA cables away from power cables to prevent noise.

**⑧ Bridge in**

This RCA jack is used only when two RSX1600 amplifiers are used together in Master/Servant configuration. The servant amplifier will receive signal input from the master amplifier on this RCA jack. The controls on the servant amplifier will be overridden by the controls on the master amplifier. The RCA input on the servant amplifier should not be connected to anything.

**⑨ Bridge out**

This RCA jack is used only when two RSX1600 amplifiers are used together in Master/Servant configuration. The master amplifier will output signal to the servant amplifier on this RCA jack.

**⑩ Low Pass Filter**

The low-pass filter allows bass frequencies to be amplified while blocking high frequencies. The LPF should be set to around 80 Hz in most applications.

**⑪ SUBSONIC**

The subsonic filter blocks sub-bass frequencies that can damage subwoofers and cannot be heard by the human ear. The subsonic filter should be set around 20 Hz in most applications.

**⑫ Bass boost Level**

This knob dials in a bass boost of 0 to 12dB at a selectable frequency.

**⑬ Bass boost Frequency**

This knob dials in the center frequency of the Bass Boost circuit from 30 to 80 Hz.

**⑭ Protect LED**

The protect LED will illuminate briefly when the amplifier initiates its power on self test. The protect LED will remain on solid if there is a malfunction such as a short circuit. If the amplifier detects a fault carefully inspect for problems before using the amplifier any further.

**⑮ Power LED**

The power LED will illuminate when the amplifier is powered up and working normally. The power LED will flash when in power on self test or in the event of a malfunction.

**TROUBLESHOOTING****Problem**

Power LED does not illuminate.

**Solutions**

- Check fuses on the amplifier and in-line with the battery.
- Check power and ground power cables.
- Check remote voltage.

**Problem**

Power LED is illuminated but there is no sound.

**Solutions**

- Check volume control on source unit.
- Check gain on the amplifier.
- Check RCA cables and connections on the amplifier and source unit.
- Check speaker cables and connection. Be sure to check connections inside the subwoofer enclosure.

**Problem**

Bass response is low.

**Solutions**

- Check volume control on the source unit. If applicable check the level of the subwoofer output from the source unit.
- Check the gain setting on the amplifier.
- Check RCA cables and connections on amplifier and the source unit.
- Check speaker cables and connections. Be sure to check the connections inside the subwoofer enclosure.
- Check the polarity of subwoofer connections.

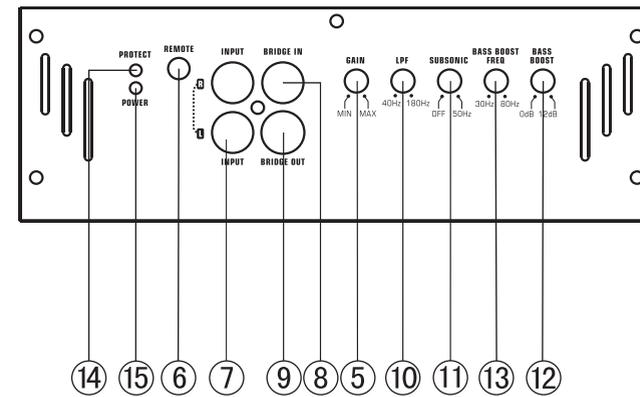
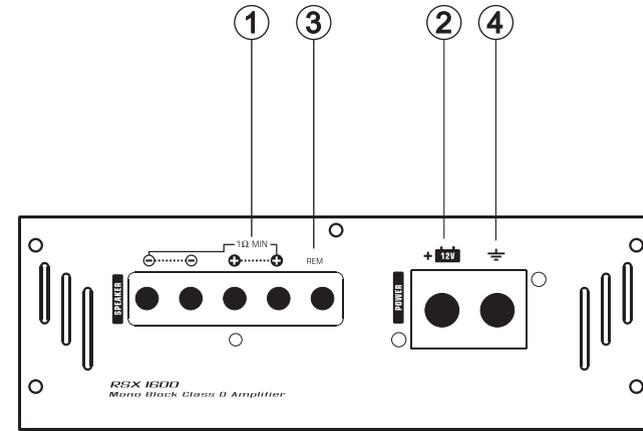
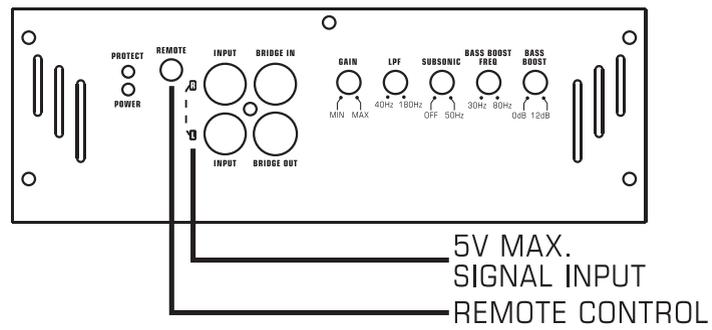
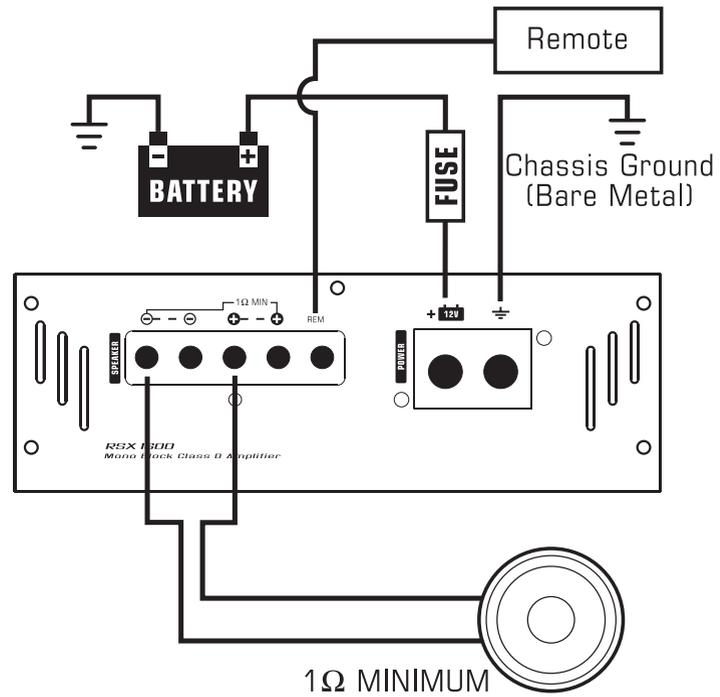
**Problem**

The amplifier turns on and off.

**Solutions**

- Check the positive battery terminal connection.
- Check the connection between the battery ground terminal and the chassis.
- Check the connection between the amplifier and the chassis ground.

### ONE SPEAKER MONO



**INSTALLATION**

We recommend professional installation by an authorized TREO Engineering dealer.

An in-line fuse should be installed no more than twelve inches away from the battery. An in-line fuse will help protect against short circuit and fire in your vehicle.

This amplifier should be installed using power and ground cables that are at least 4 AWG wire. This amplifier should NOT be installed using 8 AWG power wire. Please ensure the ground wire is at least as thick as the power wire and that the length of the ground wire is kept as short as possible. The ground wire should be connected to unpainted metal on a solid part of the vehicle chassis.

The amplifier must be mounted securely to a solid location in the trunk or passenger area that will remain dry and subject to as little vibration as possible. Do not install the amplifier in the engine compartment.

Use high quality twisted-pair RCA cables whenever possible. Keep low-level signal cabling as far as possible from power wiring.

**WIRING CONFIGURATION**

**TWO SPEAKER MONO**

