

ROCKVILLE



RVA600.1
4 OHM MONOBLOCK

Introduction

Thank you for purchasing this Rockville RVA600.1 amplifier. Over the years, the technology used to create audio amplifiers has grown by leaps and bounds. Our competition is satisfied with just continuing to build the same units year after year without thought for improvement, but not Rockville. We consider it our mission to use our expertise in developing the latest technologies and to bring you the absolute best sounding amplifiers on the market and of course at a reasonable price. You will be amazed at the quality and power that these new amps offer.

We have spared no expense in designing these amplifiers, creating the most rugged, reliable, powerful and best performing amplifiers. In fact we are so sure of the quality we backup every RVA600.1 amplifier with one year warranty which exemplifies our commitment to the end user. (See enclosed warranty card for details.)

Please read this installation guide carefully for proper use of your RVA600.1 amplifier. Read this entire guide fully before attempting your installation.

WARNING: BE AWARE! Use of this amplifier at extreme high volumes for extended periods of time may cause hearing loss and or hearing damage. During periods of prolonged high volume levels it is recommended that you use ear safety devices. Your ability to hear necessary traffic sounds will be impaired. While driving always keep your sound volume at reasonable levels. We at Rockville want you listening for many years to come.

When installing the amplifier, secure it tightly. An unmounted amplifier in your car can cause serious injury to passengers and damage to your vehicle if it is set in motion by an abrupt driving maneuver or short stop.

Features

POWER AND PROTECTION CIRCUITRY:

The RVA600.1 features our unique IC controlled protection circuitry. This sophisticated circuit constantly monitors the heat sink internal temperature and various voltages, adjusting the amp automatically and protecting it from dangerous conditions. The 2 LED's located on the side of the amplifier provide indication of the amplifier status, the Power LED will light when the amplifier is receiving proper power, ground and remote voltages and the IC monitoring sequence indicates the amp is functional. In case the amplifier encounters a diagnostic condition as listed below, the second LED will light indicating a Diagnostic condition. When a diagnostic condition is sensed the amplifier will then turn into a self preservation mode and if the cause of the diagnostic condition is not corrected will eventually shut down. There are certain critical diagnostic conditions which will turn the amplifier off immediately.

1. **Speaker short circuit.**
2. **Input Overload.**
3. **Thermal overload.**
4. **Reverse Polarity.**

This amplifier features Auto Thermal Control Circuitry - At cool down amplifier will restart with no user intervention necessary.

MUTE CIRCUIT:

The RVA600.1 amplifier features an anti-thump, mute and delay circuit. This eliminates irritating speaker damaging turn-on and turn-off transients normally experienced with less expensive amplifiers.

BASS EQUALIZATION CIRCUITRY:

A narrow "Q" shelving equalization circuit is included in the amplifier. The equalization system is preset at 45Hz. The boost control allows you to add up to +12dB of Bass EQ effect. Utilize the Bass EQ to tailor your bass response to your systems needs. Please keep in mind that by adding Bass EQ you are adding stress on your speakers. Make sure your speakers can handle the extra power output! It would be foolish to add 12dB of gain to low excursion 8" and 10" Sub woofers or mid ranges and tweeters. It's a sure way to blow your speakers.

HIGH LEVEL INPUT:

If your head unit does not have RCA outputs, use the speaker outputs for the audio source.

RCA INPUT / OUTPUT:

This amplifier features RCA line input as well as full range RCA line output. RCA line inputs are the recommended way to introduce the audio signal to your amplifier. The RCA line output allows you to send full range signal to another amplifier.

SUBSONIC ADJUSTABLE FILTER:

This control will allow you to filter out low frequency noise and rumble. This is especially useful for vented enclosures where the port tuning frequency falls below the sub woofer

Features

tuning frequency to protect against sub woofer unloading.

LOGIC-START TURN ON CIRCUITRY:

The amplifier will turn on automatically as soon as it senses a signal from your headunit.

BASS KNOB:

Included with this amplifier is a dashboard bass remote control.

PROTECTION CIRCUITRY:

Rockville amplifiers incorporate many outstanding protection circuits to help protect the amplifier from being damaged during operating conditions.

Thermal Protection: When the amplifier reaches an unsafe operating temperature of 80 degrees celsius the amplifier will turn off.

If you live in a hot climate we suggest installing additional cooling fans in your trunk to exhaust the hot air which can build up in the trunk. This will help keep the ambient temperature in the trunk as low as possible so that your amps work flawlessly and without any musical interruption.

Speaker Short Circuit Protection: Should your speakers short circuit due to voice coil burn out, or should the amplifier sense an impedance too low to handle, the Protection LED will light, indicating a diagnostic condition. Turn off your system, disconnect one speaker at a time and try to determine which speaker might be faulty. Correct the condition and restart the amplifier. You must reset the amplifier by turning it OFF and then ON again by the Remote power connection after correcting a diagnostic condition. (Turn your radio off and then on again.)

Clipping or total shutdown may also be a result of a bad ground connection or loose ground. If you find that your speakers and speaker wires are not shorted, please check your ground connection.

Input Overload Protection: This circuit will either shutdown the amplifier completely or make the amplifier spurt on and off indicating that it is in a diagnostic condition. Turn the system off and reduce the gain on the amplifier or volume from your head unit, this should result in a corrected condition.

DC Offset Protection: Should any DC voltage try to enter the amplifier via the speaker terminals it will cause the amplifier to shut down and not operate until this condition is remedied. This circuit will also protect damaging high DC voltages from reaching your speakers should your amplifier ever malfunction.

Installation Basics

REMOTE TURN ON CONNECTION:

The remote turn on connection is located on the barrier strip next to the power and ground connections. This connection is responsible for turning the amplifier on and off with the rest of the system. A smaller gauge wire can be used to make this connection to your radio's power antenna lead. Should your system not have any turn on leads, you can wire the remote terminal to an accessory lead, which turns on, with your cars ignition. When using the headunit's remote turn on the amplifier's Logic circuit must be switched to the Radio Remote position.

INSTALLATION BASICS:

Before you begin with your installation, disconnect the NEGATIVE (-) terminal from your car's battery. This safety precaution will avoid possible short circuits while wiring your amplifier. Rockville amplifiers operate on 12-volt negative ground systems only.

It is recommend that you layout your sound system design on paper first. This will help you during the installation so that you will have a wiring flow chart and not miss-wire any of your components.

Mount the amplifier in the trunk or hatch area of your vehicle. Never install an amplifier in the engine compartment or on the fire wall. Please be sure to leave breathing room around the amplifier heat sink so that it can dissipate the heat it produces efficiently. When mounting the amplifier on the trunk floor, be sure to watch for your gas tank, gas lines and electrical lines. Do not drill or mount any screws where they might penetrate the gas tank of your car.

SETTING THE CONTROLS:

AUDIO PREAMP INPUT

The RVA600.1 features RCA pre amp inputs. Run RCA cables from your sound source to the inputs of the amplifier. We suggest the use of high quality shielded RCA patch cords to help reduce and eliminate unwanted electrical noise to your system. Be sure to run the RCA cables on the opposite side of the vehicle that you used to carry the power and ground leads of the amplifier.

SUBSONIC FILTERING

This unit comes with a built in subsonic filter that ranges from 10Hz to 50Hz. For sub woofer installations with a passive LP crossover you can set the amplifier's CROSSOVER MODE selector to Full Range while setting the SUBSONIC KNOB to 30Hz, this will filter all signals below 30Hz.

Installation Basics

ADJUSTING THE SYSTEM

Once the system is operational, the first thing to do, is set all crossover points to approximate settings. In the case of the basic sub woofer system Low Pass filter crossover at 100 Hz or so. Set the Bass Equalizer controls to 0 dB (Flat Switch Position.) Now you should set the amplifiers input sensitivity adjustment. The knob accessible on the side of the amplifier marked GAIN adjusts the input sensitivity from 6 Volts to 0.2 Volts. To adjust the input sensitivity, turn the control using a small flat head screwdriver fully counter clock wise to the minimum position. Do not apply any pressure while turning as this might break the control unit. Adjust your radio volume level to maximum volume. Now turn the level control on the amplifier clockwise towards the Maximum marking until audible distortion occurs. When you begin to hear any distortion in the sound, back down one notch and your amp is set. It is helpful to have a second person to help you set the gain.

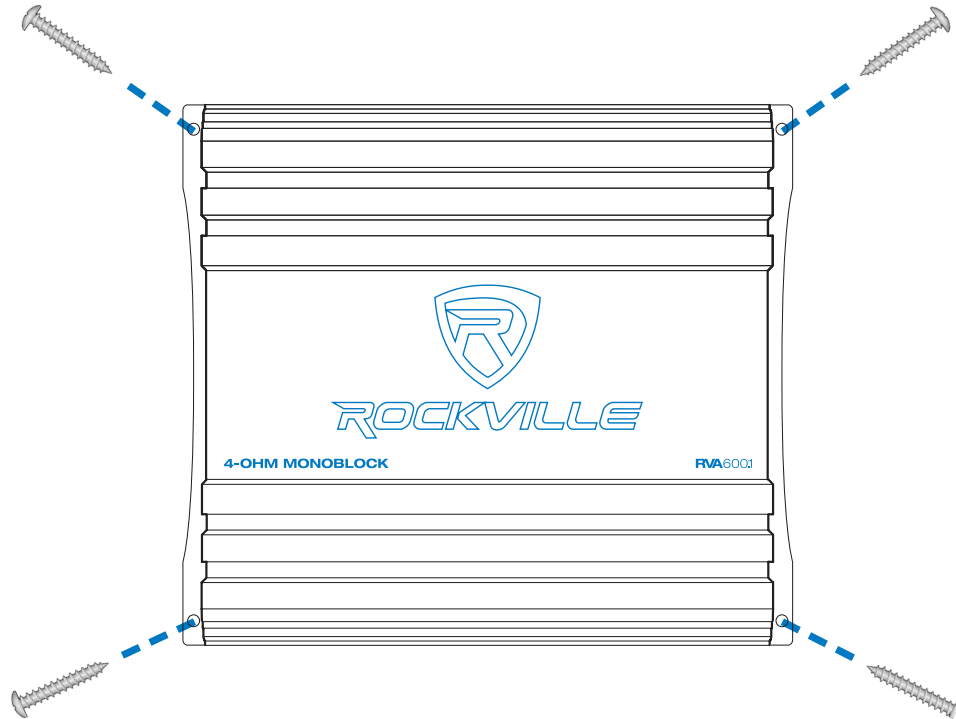
If your unit has been professionally installed please do not change the gain settings set by the installer, he is the professional!

Mounting and Wiring

MOUNTING THE AMPLIFIERS:

Choose a convenient mounting location with unobstructed airflow. The RVA600.1 features four mounting tabs located at the amplifiers four corners. Using the supplied screws and grommets, gently mount the amplifier into position.

Do not over tighten the screws.



Mounting and Wiring

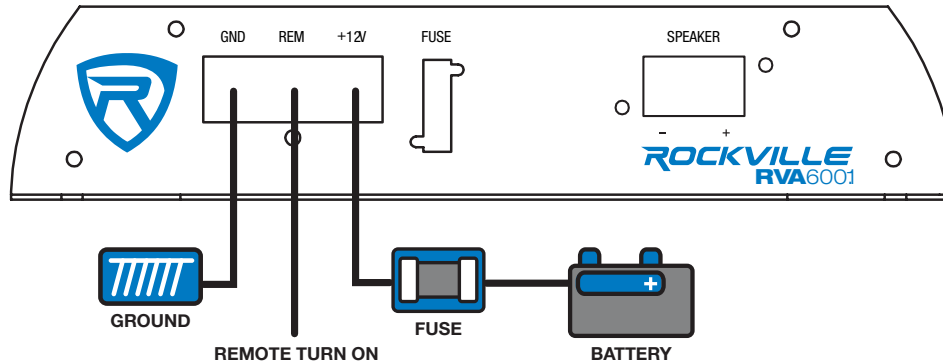
The RVA600.1 amplifier is supplied with a built-in fuse, never replace the fuse that the amp came with, with one of a larger value.

We suggest you construct a Red wiring harness with 2 additional fuses. One fuse should be located near the car battery. This fuse near the battery offers protection against damage from short circuits to the car chassis between the battery and the amplifier. A second fuse closer to the amplifier offers additional safety to the amplifier itself. This fused red power wire should be attached to the amplifier power terminal marked **12V+**.

The wire harness should be made of red primary cable of at least 4 gauge. The harness should terminate in a large ring terminal for connection directly to the positive terminal of the car battery. Use a spade plug to attach the wire, which connects to the amplifier location marked **12V+**.

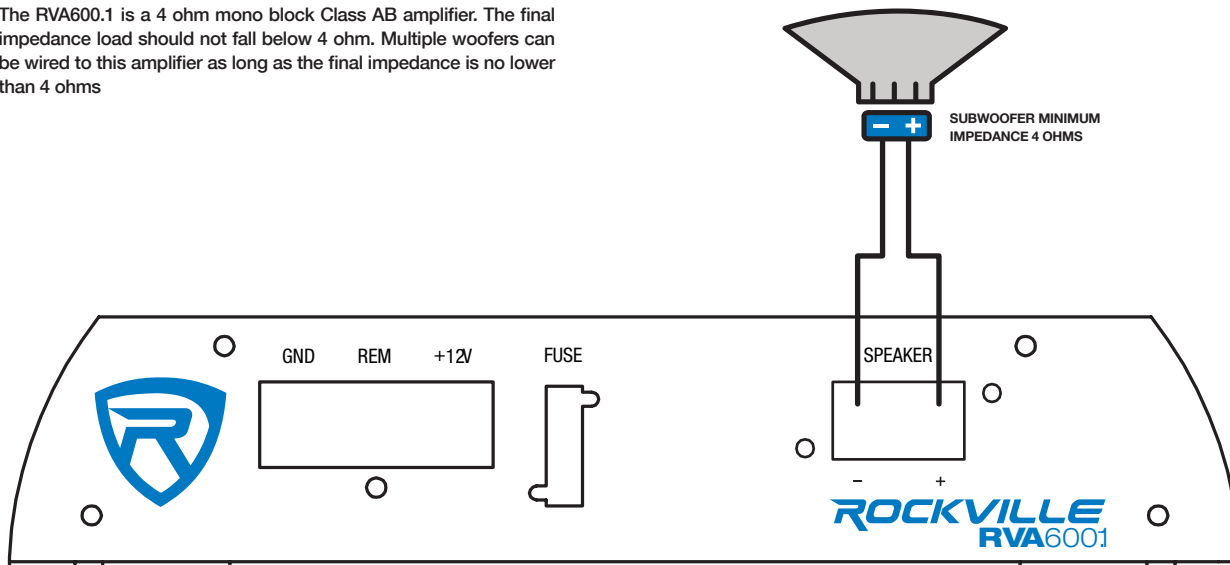
A second black color wire of equal gauge should be used as a ground connection to a welded chassis member. When connecting the ground wire make sure that there is no paint or other insulator blocking a good ground connection. When installing multiple amplifiers, mount them in close proximity so that they can all share the same ground point. Attach the black ground wire to the amplifier screw terminal marked **Ground**.

Over the years we have received amplifiers back to our service department with melted power/ground terminals. The cause of this is a bad ground connection. When there is a lack of good ground, heat builds up at the weakest point which happens to be the contact screw of the amplifier terminal. Over time the heat generated will begin to melt the terminal. It is a good practice to feel the power and ground wires with your hands, near their amplifier connection after having played the amp for a while. If the wires feel hot to the touch you probably have a bad or loose connection. If you are sure of your connections and the wires still feel hot to the touch, you should upgrade the gauge of wire to next heaviest gauge.



Woofers Configuration

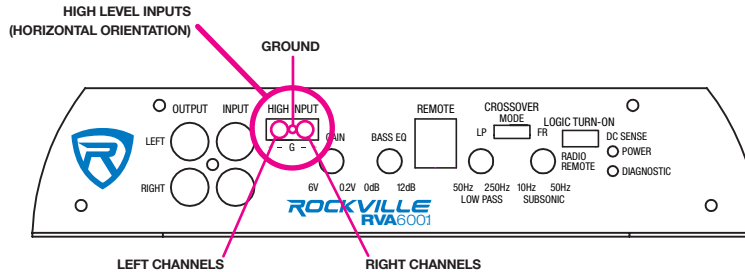
The RVA600.1 is a 4 ohm mono block Class AB amplifier. The final impedance load should not fall below 4 ohm. Multiple woofers can be wired to this amplifier as long as the final impedance is no lower than 4 ohms



High Level Input / Smart Turn On

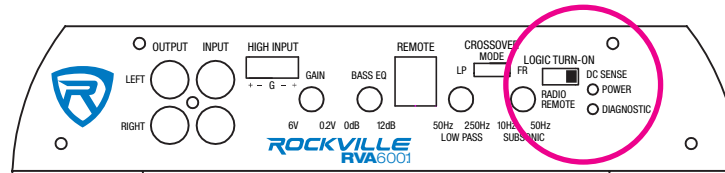
High Level Input

Many factory radios do not have preamp RCA outputs thus the RVA600.1 features High Level inputs. High Level inputs, also referred to as speaker level inputs, allow you to connect to the factory speaker wires. They are called High Level inputs because they convert the high voltage running through factory speaker wires to one the amplifier can handle. These inputs will provide the end user with clean, well defined sound for optimal musical enjoyment.



Logic-Smart Turn On Circuitry

The Logic-Smart Turn On feature allows the amplifier to automatically start when ever it sense current or sound signal. Use the DC sense settings when using the High Level input. The DC setting will power up the amplifier when high current signal is sensed. It is intended for **high powered** after market / stock head units. Use the Radio Remote Line In setting when using the RCA inputs.



Specifications

- 4-Ohm Mono-Block Class A/B
- High Speed MosFET Power Supply with 50V Rail
- BiPolar Audio Transistor Output Section
- RCA Line Input
- RCA Line Output - Full Range
- High Level Speaker Line Input
- OEM Integration Logic-Start Turn On Circuitry
- Fully Adjustable Low Pass Crossover: 20Hz - 250Hz
- Fully Adjustable Subsonic Filter: 10Hz - 50Hz
- Fully Adjustable +/- 12dB Narrow Q Bass Equalizer @ 45Hz
- Subwoofer ON / Full Range Control Switch
- Damping Factor > 200 @ 100Hz
- Input Gain Control: 6V - 0.2 Volt
- Power and Diagnostic LED Indicators
- Computerized IC Control, Thermal, Speaker Short, Overload and DC Protection Circuitry
- Mute & Delay Turn On Circuit
- Auto Thermal Control Circuitry - At cool down amplifier restarts with no user intervention necessary
- Dashboard Bass Remote Control with Cable
- Power Output: 200 Watts RMS Monoblock at 4 Ohms and 1% THD+N
- Signal to Noise Ratio: 97 dB
- Dynamic Power: 400 Watts @ 2 Ohms
- Real Power: 1200 Watts
- Dimensions: 10.8 x 9 x 1.8 Inches (L x W X H)
- Frequency Response: 15Hz - 20KHz
- Sensitivity: 103dB @ 1w / 1m





ROCKVILLE

Features and specifications subject to change and or improvement without notice.

Though we tried our best to ensure that this manual is free and clear of errors please don't hold us responsible for printing errors.

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