

A Guide for Amplifier Installation and Adjustment

Installation and the tweaking of an amplifier - tips and tricks.

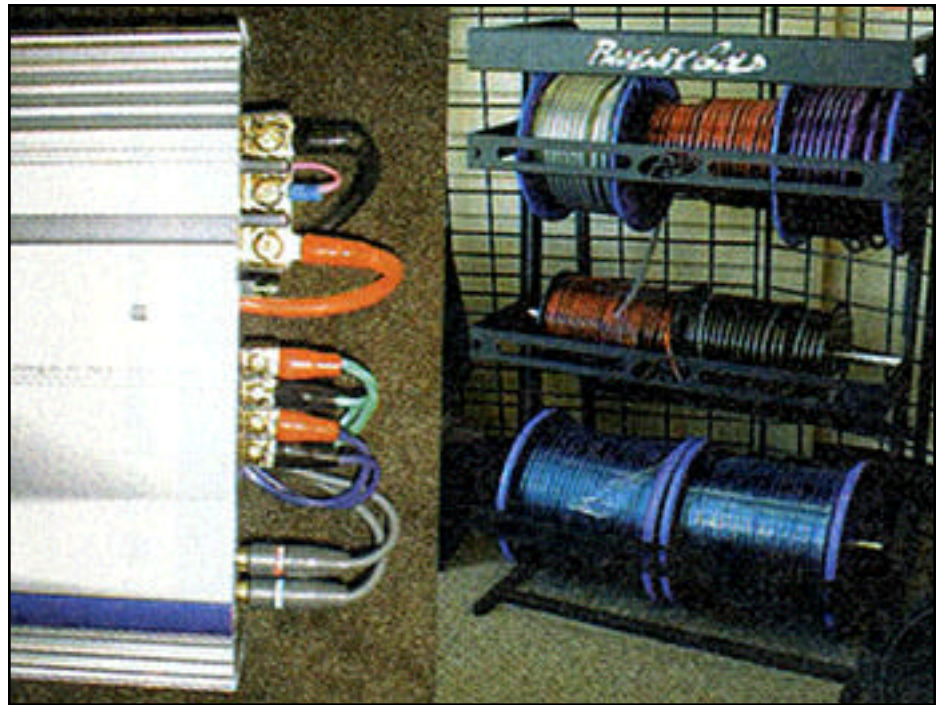
By Al Patel

Photograph Adapted From CAE

What exactly do you do when it comes to installing and tweaking an amplifier? Every person who purchases one probably asks this question, but if you plan to "do it yourself," some retailers won't offer many suggestions because they're not doing the work. In any event, there are many factors to consider when installing an amp, some of which we'll cover in this issue.

One of the most important factors is the gauge size (AWG) of the wire for your positive (+) and negative (-) terminations: The positive and negative wires should be of the same gauge (AWG). As a veteran would say, you can't fill with a fire hose and empty with a straw!

The first thing you must do is calculate the total current draw of all your amplifiers, which is done by adding the recommended fuse sizes for each amp that are provided by the manufacturer. For example, if you have two amplifiers, one drawing 30 amps and the other drawing 40 amps for a total draw of 70 amps, the recommended wire size would be a minimum of 4AWG wire. The higher the total amperage of your amplifiers, the thicker the wire gauge should be. Always use an inline fuse or a circuit breaker within 18 inches from the battery on the positive wire, and never replace the amplifier's recommended fuse size with a higher rated fuse.



Any amplifier rated less than 50 amps should have a minimum of an 8 AWG wire from the battery to the amplifier. If you are using multiple amplifiers, always use the next larger of gauge wire from the battery to the back of the car. It is then recommended a fused distribution block be used to route the power to each of the multiple amplifiers. The negative wire does not have to be connected to the battery. In fact, it is better to use a ground distribution block if you have multiple amplifiers.

In general, keep the negative wires as short as possible and connect them to a solid part of your car's body. Don't forget to remove the paint and use a star washer when grounding to the body of

your vehicle. Many wire companies sell amplifier kits that include everything you need to do your installation, usually starting at around \$40.

Stiffening capacitors will generally improve the performance of your amplifier. There is a rule to follow in regard to what size stiffening capacitor you need for the total wattage of your amplifiers combined: a minimum of 1/2 farad for every 500 watts. Of course you can always go with a higher value or multiple capacitors in your audio system. More capacitance won't hurt. They are available in 1/2, 1, 2 and 15 farad for the serious car audio enthusiast, with the cost of a single 1-farad capacitor averaging \$180.

The type of RCA cables you use to connect your car audio equipment will greatly affect the sound quality of the audio system, so always use good quality RCA cables. Poor quality RCA cables can reduce the output voltage coming from your radio by half a volt. This leads to a lower input signal to amplifier that can then prompt you to turn the gains up, and, in turn, raises the noise floor from the amplifier. When tweaking the gain adjustments on your amplifier, please remember that it is not a volume control! Always read your owner's manual on how to set the gain adjustments in the amplifiers.



If your amplifier has a built-in electronic crossover, set it accordingly. This will greatly affect not only the sound quality but also the life of your speakers. Always use the high-pass (HP) setting for your mids and tweeters, and the low-pass (LP) settings for your subwoofers.



If you have trouble installing have your amplifier, most manufacturers have technical support departments that are happy to help you. Check your owner's manual for their phone number.