

BUCK UP BASS RESPONSE WITH A SUPER WOOFER

BY ERIC PAVLAK

ONE OF THE BEST methods of getting good bass response from your stereo system is to use a super-powerful woofer in addition to your regular speaker systems. Since the very lowest bass notes, those under 100 Hz, are non-directional, a single super woofer setup will serve both stereo channels. Consequently, your regular speaker systems can have less than full bass response and still be quite satisfactory.

A super woofer, for best results, should be powered by a separate amplifier. This provides several distinct advantages over systems connected by an LC crossover network. For one thing, the independent bass amplifier (actually, it can be any amplifier with very good bass response) can be adjusted without interfering with the main amplifier. So, the volume level of the super woofer can be set in relationship to the rest of the system without introducing resistance in series with any of the speakers—a resistance that would prevent good speaker damping.

Also, a separate amplifier allows the lowest bass to be increased without upsetting the balance of the rest of the system. And it permits the use of steep-sloped filters of 18-dB/octave that would

otherwise be impractical. One further advantage of using a single super woofer is that no phasing problems exist.

The amplifier for the super woofer should be coupled to both the right and left channel outputs of your regular amplifier. For this, you will need a circuit like that shown in the schematic diagram. This circuit is simpler than an electronic crossover network with active elements and it introduces less distortion than a passive filter which uses both capacitive and inductive elements.

Crosstalk introduced by this adapter circuit is minimal. Signal level is adjusted by control R6. When assembling the circuit, mount it inside a shielded box. Parts placement is not critical, but be sure to use shielded cable between the circuit output and the input of your super woofer amplifier.

The super woofer itself can be as big as your listening room will allow and as expensive as your budget can take. Several 12" or 15" woofers can also be used; or, better yet, you can use one of the horn-type woofers available from Altec or Klipsch.

The best place in a room to set the super woofer is in a corner. And since only the lowest frequency sounds are to be radiated, it matters little if furniture or thin draperies are located between the super woofer and listener. But be wary of standing waves which can result when large, flat surfaces are directly opposite the speaker.

A super woofer is just the thing to improve weak bass systems. Adding one is relatively simple and inexpensive yet it can provide really thunderous lows without mid-bass thumping or booming. —30—

