Subject: Extended High End on Compression Drivers
Posted by alfredo on Sun, 16 Dec 2001 16:36:02 GMT
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Hello. I thought I would post this here since it has to do with Waynes Compensation filter/network. The question is about the filter that you recommend adding to compression drivers to extend the top end (I hope this is right). I planning on bi-amping with a Behringer crossover. The crossover has a built in horn equalization button. Does this do the same thing as your circuit? What would you recommend? Using your circuit or the Behringer or both? I am going to be using the JBL 2427H with 2380 horns. Here is the description from the Behringer manual of what this button does:"When a driver radiates into open space via a horn, its efficiency increases. Over the past few years, so called constant-directivity horns have gained widespread popularity, as they offer the advantage of producing a very regular dispersion pattern over their frequency range; however, the higher the frequency, the lower their efficiency. To make up for this drawback, the SUPER-X PRO includes a switchable pre-EQ for CD horns that ensures a flat frequency response even before equalization is applied. This pre-EQ raises the signal gain by 3 dB at 3.5 kHz, which then increases by 6 dB/oct. up to 22.5 kHz."Thanks!Alfredo Abate

Subject: Re: Extended High End on Compression Drivers
Posted by Wayne Parham on Sun, 16 Dec 2001 17:09:07 GMT
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The built-in CD equalization in the Behringer crossover (and other active crossovers) is intended to do the same thing as the top-octave compensation in my passive crossovers. So just switch it in when using a horn that needs it.The horn isn't actually what causes rolloff at high frequencies, it is the driver. Some horns provide acoustic EQ from collapsing directivity. Naturally, if directivity is constant, no acoustic EQ is provided so electrical EQ is desired. Some horns provide constant directivity in the horizontal plane but collapsing directivity in the vertical plane, so they'll need less EQ.Another thing to consider is the shape of the response curve. Most 1" compression drivers have pretty flat response up to about 3kHz - 5kHz. Above that, response falls off at a 6dB/octave slope for an octave or a little more, to the upper cutoff point, where response drops rapidly. The conjugate curve for power response isn't a diagonal line, rather, it starts off with flat response up to 3kHz - 5kHz and then starts to rise.