
Subject: Re: Building a Pro Sound Speaker Pair
Posted by [AudioFred](#) on Mon, 13 Sep 2010 13:07:57 GMT
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Wayne Parham wrote on Sun, 12 September 2010 21:38
...I'd probably opt for the former - trading off extension - and employ subs.

The smaller cabinet is a requirement because these things need to be portable, and fortunately deep bass isn't needed in this application. These speakers will reproduce voice and acoustic guitar only - if a performer is playing an electric guitar or a bass I'll borrow a separate combo amp. So the problems are 1) to select a 12" driver that will work in a 1.4 cu ft ported enclosure, and 2) build a crossover that will work with that woofer plus the Eminence PSD2002 compression tweeter and H290 horn.

The two best candidates for the woofer seem to be the new Dayton 12" pro woofer and the Selenium 12WS600 woofer. The Selenium is twice the price of the Dayton, but with its cast frame, larger voice coil dia, heavier magnet weight, greater power handling capacity, etc, it appears to be a much higher quality driver than the Parts Express. For the tweeter the Eminence 2002 with the 290 horn is a no-brainer for me because I used to own a three Pi and remember how good that tweeter sounded using good quality crossover parts and wiring. The 2002 costs a bit more than some others but it seems to have better high frequency extension.

If I can trust my Xover three pro software, a woofer crossover that's much like the three Pi should work, with some different values for the woofer shunt cap and compensation network resistor and cap. I believe I'll go with that, and I expect to end up with a pair of speakers that are comparable in sound quality to the JBL MRX512M, and maybe even better since JBL uses iron core inductors and cheap caps even in their premium speakers. A musician friend owns the JBL's, so we'll be able to do a side-by-side comparison.