Subject: Re: Three Pi and Three Pi Sub Plans
Posted by Wayne Parham on Mon, 17 Feb 2020 17:19:50 GMT
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I've always loved ribbon tweeters too. Back in the 1970s, the EMIT tweeters in Infinity speakers were oh-so sweet to me. They offered much greater extension than compression drivers of that era. But they lacked dynamic range. They were relatively fragile, and couldn't handle a lot of power. So that was the trade-off.

Most compression drivers don't have the above-20kHz output that ribbon tweeters do. Most don't even hit 20kHz. There was a time when I wouldn't have used compression drivers for hifi because they didn't even hit 10kHz. But since the late 1990s, you could expect to reach nearly 20kHz with a relatively inexpensive titanium or polyimide 1" exit compression driver. That combined with their superior dynamic range and their ability to be used on a waveguide to set directivity are the advantages of a compression driver tweeter.

I wanted to mention a few thoughts about your subs too. I neglected to say this on my last post, so I thought I would add it here.

Subs should always be set at an amplitude that almost makes them invisible. When a subwoofer is set right, you shouldn't even know it is on. About the only thing that should be noticeable is the deepest bass, and that shouldn't be glaring. There should only be a very subtle difference in the sound when you switch the subs on and off when they're setup right.

If you can hear noticeably louder bass or midbass with the subs on, then they're set too loud. Thus is true no matter if they're set as multisubs, flanking subs or traditional subs.

Since flanking subs are run to relatively high frequency, the system will sound throaty if they're set too loud. That's an obvious sign that the subwoofer SPL is set too high. If you can measure a hump in the 80Hz to 120Hz region, then the flanking sub volume is set too high. That's the region where we expect the mains and the subs to blend transparently. There should be virtually no SPL increase in this region. It should be the same SPL level as the 200-300Hz region. If it's too loud around 100Hz, then the SPL of the flanking subs needs to be reduced.

So if you ever feel like experimenting, please keep these thoughts in mind. If you can dial it in with a traditional sub setup, that's awesome. I would expect a little bit of a dip below baffle step and I would expect some SBIR. But if those aren't troublesome - excellent - enjoy the system. On the other hand, if you notice something lacking in the upper midbass and lower midrange, you might try a flanking sub setup again, but reduce the SPL of the subs to the point where you almost can't even tell they're tuned on.