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Subject: Re: Mid horn driver options

Posted by [Wayne Parham](#) on Wed, 26 Apr 2017 17:30:16 GMT

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I tested the midhorn with a variety of drivers during development. By "variety" I actually mean "several" - even some that weren't 10" diameter. In fact, I first wanted to use 8" drivers but found none that were satisfactory. None went low enough. So that made me settle on 10" drivers, which provided the passband I wanted.

When choosing drivers for the midhorn, what I watch for is response at the edges of the passband, particularly above 1kHz. This is largely determined by cone shape (including the cap). And even more importantly, this aspect affects the blend with the tweeter waveguide. I am looking for a seamless transition in response and directivity.

Long story short is the two midrange drivers that are tested and approved for use in the constant directivity cornerhorn are the Eminence Delta 10 and the JBL 2012. We're juggling a lot of things here, so it isn't that other drivers aren't very good, just that the "stars don't line up" for use in the system. We are melding the bass bin, midhorn and tweeter not just in response but also directivity.

We want a seamless transition in response as well as uniform directivity without ripple on-axis or off-axis. So while I can nudge some characteristics with the crossover, the midhorn/driver subsystem still has to blend with the other horn/driver subsystems to create a seamless point source. It is not a trivial task. But with the drivers and the corresponding crossover components shown in the plans, the response is nice and flat at all radiating angles, providing uniform response throughout the room.