Subject: Re: Multisubs for pi7
Posted by Wayne Parham on Sat, 21 Jan 2023 22:34:41 GMT
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I love basshorns, but they're just so big. Their size often makes it inconvenient to use hornsubs for multisubs.

The main benefit that hornsubs offer is maximum acoustic energy. But we really don't need maximum acoustic energy to make it ear-shatteringly loud in a small room.

The most problematic thing in a small room is usually room modes. That is best solved using a multisub approach. So if you can't fit hornsubs where you need them, be happy with direct-radiating subs.

Direct-radiating subs will solve the modal problem just as well hornsubs, and they're usually easier to place. Having a large number of them helps with the acoustic energy on tap as well.

I've also heard the argument that it's a phase thing. Some say they like horns 'cause of their relatively flat phase. Of course, this is only true for an appropriately-size well-designed horn, which is necessarily large for a basshorn.

I love hornsubs, so I'm not trying to disparage them by any means, but I will say that the phase argument doesn't have merit here. Outdoors, sure. Or in a very large room, like a theater, auditorium or concert hall where there is no modal problem. But this makes no sense in a small room.

Indoors, in the modal region, phase is all over the place. Using multisubs is a way of creating dense interference, creating even more phase relationships. The goal is to make the modal region act like the reverberent field.

We're trying to increase the numbers of sources, reflections and phase relationships. So we're not looking for a single in-phase wavefront but rather a lot of sources and reflections with multiple phase relationships.