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Subject: Re: 4PI Plans Request  
Posted by [mathiasb](#) on Mon, 16 Dec 2019 16:07:57 GMT  
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Wayne Parham wrote on Mon, 16 December 2019 09:48

mathiasb wrote on Sun, 15 December 2019 22:12 I'm having difficulty finding a good high pass for the mains. Considering they'll be getting a full range signal I want to protect them. The tuning is around 50Hz. With a sub LPF of BU2 100Hz, is BU4/BU3 HPF at 50-60Hz a good start for the mains? After that - there's the playing around with the delays to get the sub and speaker to integrate, before even looking at EQ.

High-pass at 50Hz fourth-order is fine.

As for the delay, please remember that what we're doing with flanking subs actually requires some delay. The modal range is caused by a multitude of phase interactions from reflected signals. There are multiple reflectors and therefore multiple delays. Each wall, the floor and the ceiling is a different distance and creates a signal with a different delay. So the application of multisubs - flanking subs and distributed subs alike - is to create dense interference, not to create in-phase summing. The purpose is to make the modal field act more like the statistical field, having dense interference to smooth the region.

Thanks, I'll try that.

To paraphrase - we don't want to add to the speaker's existing response (say, by adjusting delay so the impulse response is matched), but rather complement it where there might be nulls/dips (room) or a natural roll off (below tuning / HPF).