Subject: MiniDSP
Posted by leonski on Wed, 27 Nov 2019 20:15:03 GMT
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I'm curious about others success or problems using MiniDSP crossovers. I am Particularly Interested in the use

of FIR filters. I was reading around here....and can't FIND it again, that steep slope analogue filters induce lots of phase

shift. This is a known issue with all filters which 'precess' at 90degrees per 'order'.

FIR filters have NO phase shift thru the passband. But they do require a bit of computing power, which is part of even the

MiniDSP 2x4HD. The HD part is important. Software also includes several parametric adjustments per INPUT and

OUTPUT. Shelving is possible and room modes can be 'dialed in'.

If anyone has gone this route, I'd sure be curious as to results and difficulty. I'd personally start with the points and slopes

of the 'stock' crossover and go from there. But the FIR filter would be nearly a whole new ball-game.

Subject: Re: MiniDSP
Posted by Wayne Parham on Wed, 27 Nov 2019 21:33:10 GMT
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Digital filters are awesome because of their flexibility.

In the case of loudspeakers - and particularly controlled directivity loudspeakers - you have to be careful with your choice of filters because they affect summing through the crossover region. So steep slope filters aren't necessarily your best bet. Nor are first-order filters necessarily your best bet.

In my experience, the best filter is found using a process like I describe in the link below:
Crossover optimization for DI-matched two-way speakers
And for room modes, no electrical filter is sufficient because the most sophisticated filter can only have a two-dimensional effect, whereas room modes are a three-dimensional phenomenon. The solution for room modes is flanking subs and multisubs.
Flanking subs and multisubs