Subject: Re: Flanking Subs vs Helper Woofers
Posted by Wayne Parham on Thu, 29 Nov 2012 20:39:52 GMT
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You're right that home theater sound processors don't have any provisions that make flanking subs or distributed multisubs any easier. Honestly, the underlying philosophies and technologies most home theater processors are based on was developed before multisubs and flanking subs became popular. This whole approach is less than a decade old, and its common acceptance is just a few years old. It's still in its infancy, relatively speaking.

The way to do a flanking/multisub approach is to set the mains to "large" or "full" so they aren't high-passed. We want the mains and subs blended, overlapping in the modal region. Use an external low-pass filter and amplifier for each flanking sub. The low-pass filter can be an inline crossover or it can be the built-in crossover of a plate amp. Distributed subs are a little easier, because they can just be driven by the sound processor's built-in summed subwoofer output.

Low-pass frequency for flanking subs should be between 80Hz and 150Hz, and use second-order or third-order for best results. Fourth-order can be used, but it doesn't sound as good to me - It doesn't blend as well. The higher the slope, the higher the the crossover frequency. So for example, second-order at 90Hz or 100Hz often works well, third-order is better around 125Hz and fourth-order usually has to be set higher still. Set the amplitude for SPL matching the mains in the overlap band.