Subject: Re: Mono "flanking sub"
Posted by Wayne Parham on Mon, 09 Nov 2015 18:57:28 GMT
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We can see that the flanking sub approach is smoothing the mains through reduction of the notch around 95Hz - 100Hz. This is largely because of the sub's physical relationship to the mains - Even though there's just one helper woofer, it's still a couple feet away in each plane. So we can see your mono flanking subwoofer approach works pretty well for smoothing.

From your measurement data, I'd say this is a workable solution provided the single summed subwoofer doesn't throw off the image. That was my biggest concern really - The flanking sub approach requires moderately high-frequencies blended in the subwoofer and the main it is flanking.

Lower midrange can be localized, giving perceptional cues of the position of the source. Having a shared flanking subwoofer between the mains can smooth the self-interference notches - as your measurements have shown - but I was concerned it might mess up the stereo image. I suppose that's a subjective thing, and might be content sensitive. Some (nearly mono) material might sound very good in a single flanking sub setup, while others (with highly panned content) might not work as well.

As for the comments/questions about "time alignment", remember that is impossible to align in three dimensions. You can synchronize in one position, but not all. That's what the multi-sub and flanking-sub approaches are all about. They mitigate anomalies that are created specifically because sound sources and their reflections cannot possibly be time aligned.

Thanks for your feedback on this single summed flanking sub approach. It is very useful and interesting to see.