Subject: Re: Optimum range JBL 2226
Posted by Wayne Parham on Thu, 28 Jan 2010 02:02:22 GMT
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As you know, I have a lot of experience with the JBL 2226 woofer. I've used 'em new, old, run with only flea power, beat to snot with arc welders, reconed, re-dust-capped, etc. So I think I have a pretty good handle on these woofers.

To use them just to 600Hz is a waste, in my opinion. Any old woofer will reach that high. The real strength of the 2226 is how well it behaves up high, not down low. It truly is a midwoofer.

That said, in my cornerhorns, they're only used up to about 300Hz, but it's with a first order slope so there's a pretty fair amount of overlap. Still, I think the main thing that sets the 2226 apart from most other woofers is its ability to play clean through the midrange.

So the range is definitely 40Hz to 1.6kHz. Now, mind you, at the top end, the beamwidth is definitely narrowing. That is a good thing when used properly, matched to the next adjacent subsystem. These things can easily be crossed anywhere between 800Hz and 1.6kHz. Response up there is very smooth, cone motion is well damped and it sounds nice. Beamwidth is just where you would expect for a round direct radiator, about 90° around 1kHz to 1.2kHz or so.

As for power, I think they sound just fine with flea power, even down to those little 2 or 3 watt 45 and 2A3 amps. But to me, that's just not enough power for a 97dB speaker. It's just a simple matter of headroom to me, you just don't have enough oomph. But for low volumes, it sounds fine. Give 'em 10 or 20 watts and they're getting enough power to play quite loud.

One thing I do see, on a similar note, is these woofers really have stiff suspensions when new, straight out of the box. I generally make speakers that are slightly overdamped, a conservative alignment with gradual rolloff slope. This allows for electro-mechanical shifts from (high power) heat and other conditions. But the 2226 is so stiff when new that they measure slightly underdamped. In a more traditional cabinet tuned closer to max-flat alignment, they can sound really thumpy at first, with too much 80Hz midbass from the excessively stiff suspension shifting the system towards being pretty heavily underdamped. So if you're using a low-power amp, give 'em some juice for a while first. They won't sound all that great until you do.