

---

Subject: Re: Electronic crossover's any thoughts?

Posted by [Wayne Parham](#) on Thu, 01 Nov 2001 21:51:25 GMT

[View Forum Message](#) <> [Reply to Message](#)

---

The biggest advantage to multi-amping is the bandwidth reduction you get. When you don't have HF riding on top of LF, you gain some dynamic range in the amps. As an example, if you have 40v peak bass content and 15v peak treble, then the amplifier must be capable of 65v output. That's because the LF modulates the HF, literally having HF signals riding on top of LF signals. If you separate the two, then you could only need a bass amp capable of handling 40 volts and a treble amp capable of doing 15 volts to reproduce the same signal. If you have a digital crossover, you can easily modify crossover characteristics with a simple programming change. That's nice for hobbyists that modify speakers a lot. Analog crossovers can be changed too, but that requires a component change, or sometimes a jumper change. Analog crossovers aren't usually as versatile because changing filter characteristics requires component changes. But in either case, don't underestimate the value of a good crossover. Designing proper filter characteristics for matching loudspeaker subsystems is not a trivial matter. Summing through the overlapping band is affected by electrical, mechanical and acoustic properties and getting it all correct takes a lot of work, particularly when considering directivity for best on and off axis response. That's important because the total reverberent field is what you hear, and that includes off-axis energy as well as on axis response.

---