



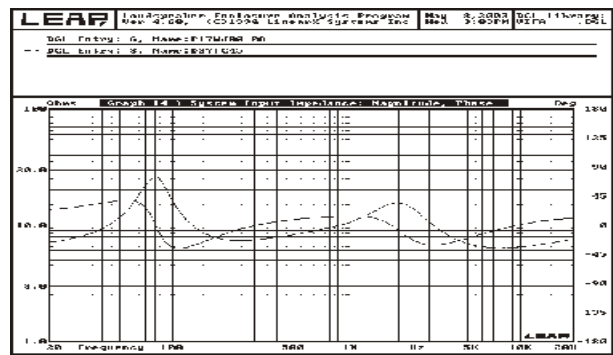
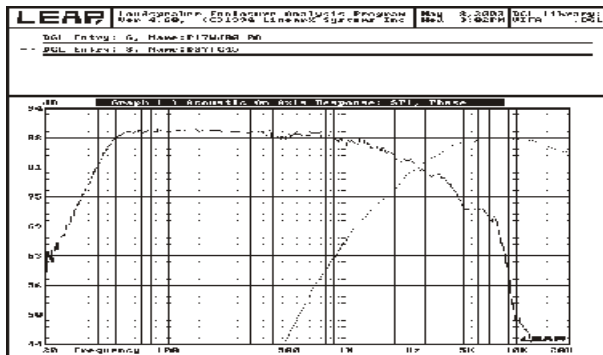
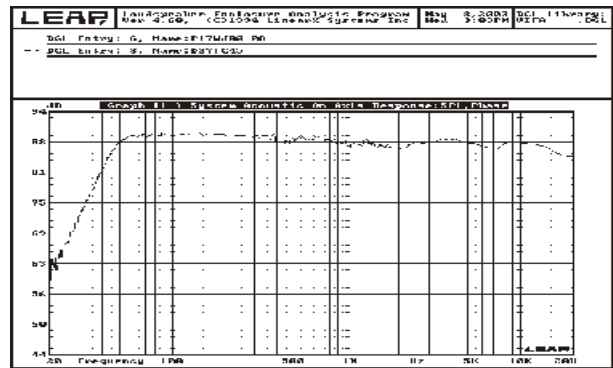
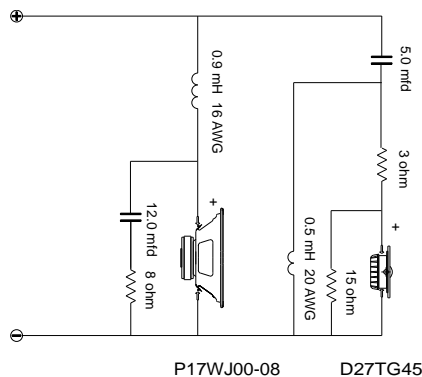
Computer Aided Crossover Design

Crossover design has significantly evolved in the last decade. In the past you had to start with a theoretical design and then spend weeks tweaking until you came up with a crossover that sounded pretty good, but probably was not as good as it could be. Madisound has now developed the art of crossover design, providing the customer with a fully developed filter system in a fraction of the time necessary using older methods.

Madisound begins by taking all driver response and impedance measurements in our anechoic chamber using the Audio Precision measurement system. We then export this data into the Leap filter analysis program by Linearx. With the Leap program we can plot what would be an ideal curve for each driver, and then use Leap to try different filter values against the actual driver response curves, continually selecting those parts that bring the actual curve to that of the ideal curve. We then look at the total system response curve and select parts to match the ideal system response. The result is a flat response curve, to the limits of the selected driver responses. This method can be repeated for impedance correction to create an ideal impedance magnitude response. The finished design is excellent, and a good value!

We are designing with Leap version 4.6.

The following curves are provided with each Leap design order:



To place an order for a Leap design, Madisound we need to know the following:

- › What drivers are you using? They must be Madisound stock items. (In the case of 3 or 4 way systems, we could just use the woofers technical parameters.)
- › What are your box volumes, or do you wish us to determine them for you?
- › Are the drivers surface mounted, or routed into the cabinet for a flush mount? (Flush recommended)
- › What slopes (6dB, 12dB, 18dB, 24dB) would you like us to design for, or would you prefer we choose?
- › Do you prefer a flat response, tapered response or relaxed midrange response?
- › What quality of inductors will you use? We will model using the DCR of the coils.

Leap Design Pricing (Design only, not an assembled crossover)

2-Way Design	\$30.00	Sub /Sat Design	\$35.00	Special requests or projects?
3-Way Design	\$40.00	MTM 2-Way	\$30.00	Ask about pricing.
4-Way Design	\$60.00			