



FINE DSP™

Digital X-Over and DSP simulation

“DSP X-Over Simulation incl. Hybrid (DSP + passive components)”

Features:

- Intuitive “drag and drop”-interface
- Up to 7 on/off-axis responses can be optimized in real time with acoustical phase
- Parametric EQ, Bandpass and Shelving filters with mouse adjustable Q and gain
- High order crossovers with mouse wheel up/down X-over frequency in real time
- Actual Power / Excursion limits SOA (Safe Operating Area) for loudspeaker drivers.
- Driver Digital Delay as Time / Distance or Digital samples
- Digital x-over and EQ can be simulated together with passive components
- Hybrid: One amplifier with DSP + passive X-over components for sections
- Real power sent to each driver is calculated and power/excursion limits are displayed
- No. of Digital Biquad's and Biquad Coefficients b_0 , b_1 , b_2 , a_1 , a_2 export to amps.
- All values can be changed using mouse wheel for real time fine tuning

The screenshot displays the Loudsoft software interface for DSP simulation. The main window shows a frequency response plot with multiple curves representing different drivers and a green shaded area labeled 'SOA Safe Operating Area for driver unit(s)'. A 'DSP' logo is overlaid on the plot. To the right, a 'Drag DSP elements as required' panel shows various filter icons. Below the main plot, two 'Tweak X-Over Element' windows are open, showing crossover frequency settings (F(Hz) = 2857) for LF and HF sections. A green double-headed arrow indicates simultaneous dragging of the LP/HP X-over frequency. To the right, a 'Tweak Peak/Dip Element' window shows a peak/dip filter with parameters: Peak/Dip(dB) = -5.500, F(Hz) = 952.4, and Q = 1.000. Below this, a circuit diagram shows an amplifier (AMP) connected to a speaker with a 10,000 F capacitor and a 360 H (500 mH) inductor, with a 2.150V output.

Simultaneous dragging of LP/HP X-over frequency