



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. A green shaded area labeled 'SOA' (Safe Operating Area) is visible, indicating the power and excursion limits for the driver units. The plot also shows 'SPL' (Sound Pressure Level) and 'Digital delay' curves. A 'Tweak X-Over Element' dialog box is open, showing the crossover frequency (F(Hz)) set to 2857 Hz. A 'Tweak Peak/Dip Element' dialog box is also open, showing a peak/dip of -5.500 dB at 952.4 Hz with a Q of 1.000. A 'Drag DSP elements as required' toolbar is visible at the top right, containing icons for various filter types. A circuit diagram of an amplifier (AMP) and passive components (10,000 F capacitor, 360 H inductor, 500 m F capacitor, and 2.50 W resistor) is shown at the bottom right. The text 'Simultaneous dragging of LP/HP X-over frequency' is displayed at the bottom of the screenshot.