4x10 Xover v1 is a plug-in for the miniDSP 2x8 platforms. It is designed to be used for flexible configurations ranging from a multi-zone audio processor to multi-way crossover. Operating at 96kHz, both analog and digital input (I2S) are being mixed to the matrix mixer for complete freedom of audio routing.

### Software features
- Extensive set of audio algorithms
- Live tuning, “hear changes real time”
- Channel linking to synchronize settings of two channels (PEQ/Crossovers)
- Save/Load configurations
- Up to four preset configurations stored
- Extensive plotting capabilities
- Plug & Play setup requires no driver
- Custom Input/Output labels
- Free Un-limited Upgrades

### Applications
- Active loudspeaker processor
- Custom amplifiers
- Car audio processor
- Small PA processor
- Custom Pro Audio boards

### Algorithm and plug-in configuration

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sampling frequency</td>
<td>96kHz</td>
</tr>
<tr>
<td>Inputs/Outputs</td>
<td>Inputs: Up to 2 analog inputs, up to 2 digital inputs (I2S) Outputs: Up to 8 analog outputs, up to 2 digital outputs</td>
</tr>
<tr>
<td>Algorithm resolution</td>
<td>Double precision filters (56bits resolution)</td>
</tr>
<tr>
<td>Input mute/select</td>
<td>Click-less input mute per channel and input selection</td>
</tr>
<tr>
<td>Digital gain</td>
<td>Fader gain control from ~80 to 0dB</td>
</tr>
<tr>
<td>Input/Output meters</td>
<td>Monitoring signal from ~80dBFS to 0dBFS - High refresh rate</td>
</tr>
<tr>
<td>Low &amp; High Pass filter types</td>
<td>Butterworth up to 8th order (6 to 48dB/oct) Linkwitz-Riley up to 8th order (12 to 48dB/oct) Bessel - 2nd order - Bypass per filter Frequency: 10Hz to 20kHz in 1Hz increments</td>
</tr>
<tr>
<td>Parametric Equalizers</td>
<td>5 PEQ bands per input, 5 PEQ bands per output Frequency: 10Hz to 20kHz, 1Hz increments Gain: 0 to 16dB, 0.1dB increments Q: 0.5 to 50, 0.1 digit increment Type: Peak of Shelf (low/high) &amp; Per-band bypass feature</td>
</tr>
<tr>
<td>Mixer</td>
<td>Central mixer for 4 x 10 cross-point configuration (ON/OFF)</td>
</tr>
<tr>
<td>Delay (time alignment)</td>
<td>Up to 9ms per channel (3m) in 0.02ms increments Analog Outputs only</td>
</tr>
<tr>
<td>Polarity</td>
<td>Invert polarity 180degree per channel</td>
</tr>
<tr>
<td>Output mute</td>
<td>Individual output mute</td>
</tr>
<tr>
<td>Master output gain</td>
<td>Analog potentiometer control master output digital gain fader from ~80 to 0dB. Disabled if no pot connected.</td>
</tr>
</tbody>
</table>

### DSP Audio flow chart diagram

**Analog Audio Inputs**

- IN#1
  - Mute Level Meter
  - PEQ 5 bands

- IN#2
  - Mute Level Meter
  - PEQ 5 bands

**Digital Audio Inputs**

- IN#1
  - Mute Level Meter
  - PEQ 5 bands

- IN#2
  - Mute Level Meter
  - PEQ 5 bands

**Matrix Switcher**

4 x 10 (ON/OFF)

**Analog Audio Outputs**

- OUT#1
  - LPF + HPF
  - PEQ - 5 bands
  - Gain/Phase/Delay/RMS

- OUT#2
  - LPF + HPF
  - PEQ - 5 bands
  - Gain/Phase/Delay/RMS

- OUT#3
  - LPF + HPF
  - PEQ - 5 bands
  - Gain/Phase/Delay/RMS

- OUT#4
  - LPF + HPF
  - PEQ - 5 bands
  - Gain/Phase/Delay/RMS

- OUT#5
  - LPF + HPF
  - PEQ - 5 bands
  - Gain/Phase/Delay/RMS

- OUT#6
  - LPF + HPF
  - PEQ - 5 bands
  - Gain/Phase/Delay/RMS

- OUT#7
  - LPF + HPF
  - PEQ - 5 bands
  - Gain/Phase/Delay/RMS

- OUT#8
  - LPF + HPF
  - PEQ - 5 bands
  - Gain/Phase/Delay/RMS

**Digital Audio Outputs**

- OUT#1
  - LPF + HPF
  - PEQ - 5 bands
  - Gain/Phase/RMS

- OUT#2
  - LPF + HPF
  - PEQ - 5 bands
  - Gain/Phase/RMS
Low Pass and High Pass filter per output channel

Double precision algorithms (56bits) for greater resolution

Wide range of filter choices Up to 8th order (48dB/oct) with

Channel linking feature to link up settings to Left & Right channels

Complex plotting displays the combined effect of low/High pass

Bypass feature to listen to the effect of filter settings

Parametric Equalizer (Peak/Shelf)

Double precision algorithms (56bits) for greater resolution in low frequency range.

Up to 5 Bands of parametric equalization with complete freedom on Frequency, Gain and Q settings

Peak/Low Shelf/High Shelf selectable per band

Per Band Bypass allows to quickly listen to the effect of your equalizer settings.

Real time channel linking to keep PEQ settings of two channels synchronized

Delay, Polarity, Input/output metering

Output Delay per channel to better time align each channel.

To simplify your calculations, the equivalent distance is also provided.

RMS meter displays for input and output channels. Resolution from –80 to 0dBs (Full scale)

Software & Hardware requirements

PC Hardware requirements
- 1GHz CPU
- 512MB RAM
- USB V2.0
Software requirements
- Windows XP/Vista/7
- Adobe Air environment
- Net 3.5 environment

Mac Hardware requirements
- Intel Core Duo or faster
- 512MB RAM
- USB V2.0
Software requirements
- Mac OS X v10.4, 10.5, 10.6
- Adobe Air environment

Central Matrix Switcher toggles ON/OFF routing