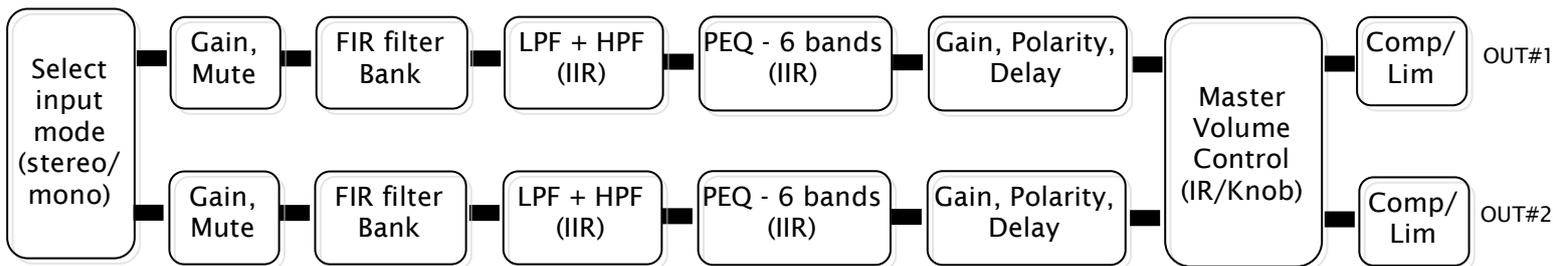The OpenDRC 2x2 plug-in is a DSP configuration for the OpenDRC-DI/AN/DA and miniSHARC platforms. Fitted with the ability to process large FIR filter banks, the plug-in packs the most important algorithms required for room or speaker correction. Thanks to its "open architecture", this plug-in is a perfect fit when combined with the wide range of compatible third party FIR filter software who partnered with miniDSP. Check out our website here for more info.

Algorithm and plug-in configuration

Item	Description
Sampling frequency	48kHz
Inputs/Outputs	Inputs: Up to 2 inputs with 3 modes of operation (Stereo, Mono left, mono right) Outputs: Up to 2 outputs
Algorithm resolution	32bit floating point coefficients
Input mute/select	Click-less input mute per channel and input selection
Input digital gain	Fader gain control from –72 to +12dB
Input/ Output meters	RMS monitoring of signal from –80dBFS to 0dBFS
FIR filter bank	Up to 6148 taps per FIR block = 6148 taps per channel Manual (txt copy) or File (.bin) input mode Plotting of response on graph
Low & High Pass filter (IIR)	Basic Mode: 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 Advanced mode: Up to 8 cascaded custom programmable biquads (IIR)
Parametric Equalizers (Peak/Low&High shelve)	6 PEQ bands per outputs Frequency: 10Hz to 20kHz, 1Hz increments Gain: 0 to 16dB, 0.1dB increments Q: 0.5 to 50, 0.1digit increment Type: Peak of Shelf (low/high) & Per-band bypass feature
Delay (time alignment)	Up to 1000ms (1s) per channel in 0.02ms increments
Compressor/Limiter	Compressor limiter with Threshold, ratio, attack/release time
Polarity	Invert polarity 180degree per channel
Output mute	Individual output mute
Master output gain	Master volume control from VOL-FP control
IR remote control	IR learning remote abilities for control of preset configuration, master volume, source selection

SYSTEM DIAGRAM

www.minidsp.com

miniDSP

CROSSOVER SECTION
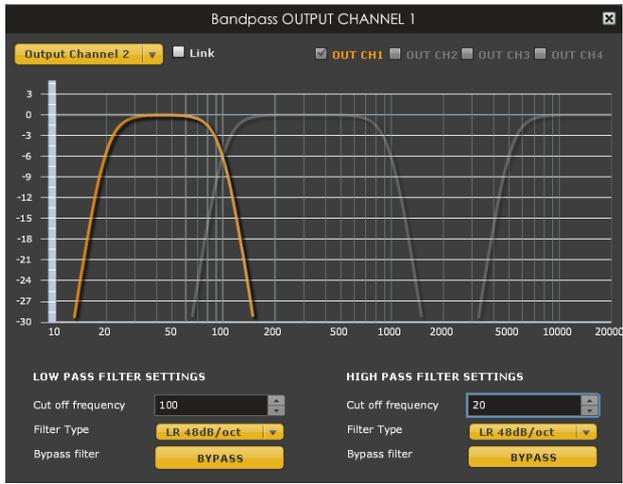
Bandpass OUTPUT CHANNEL 1

Output Channel 2 ▼   ☐ Link   ☑ OUT CH1 ☐ OUT CH2 ☐ OUT CH3 ☐ OUT CH4

LOW PASS FILTER SETTINGS
Cut off frequency   100
Filter Type   LR 48dB/oct ▼
Bypass filter   BYPASS

HIGH PASS FILTER SETTINGS
Cut off frequency   20
Filter Type   LR 48dB/oct ▼
Bypass filter   BYPASS

LOW PASS FILTER SETTINGS
Cut off frequency   100
Filter Type   LR 48dB/oct ▼
Bypass filter   BYPASS

HIGH PASS FILTER SETTINGS
Cut off frequency   10
Filter Type   LR 48dB/oct ▼
BW 48dB/oct
LR 12dB/oct
LR 24dB/oct
LR 48dB/oct
Bessel
Bypass filter   BYPASS

**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

FIR FILTER SECTION

FIR FILTER - CHANNEL 1

FIR filter is bypassed

Send to DSP

◉ File Mode
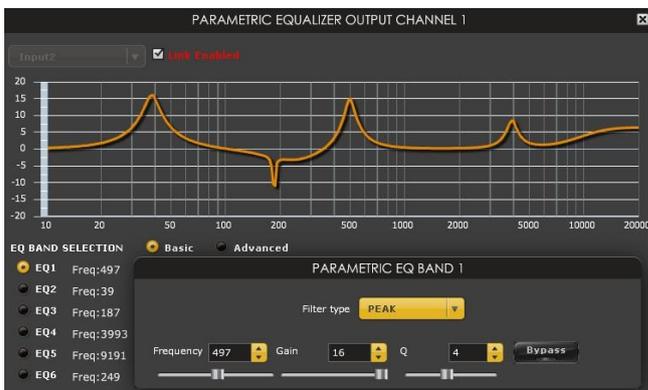○ Text Mode

Browse
Unload FIR
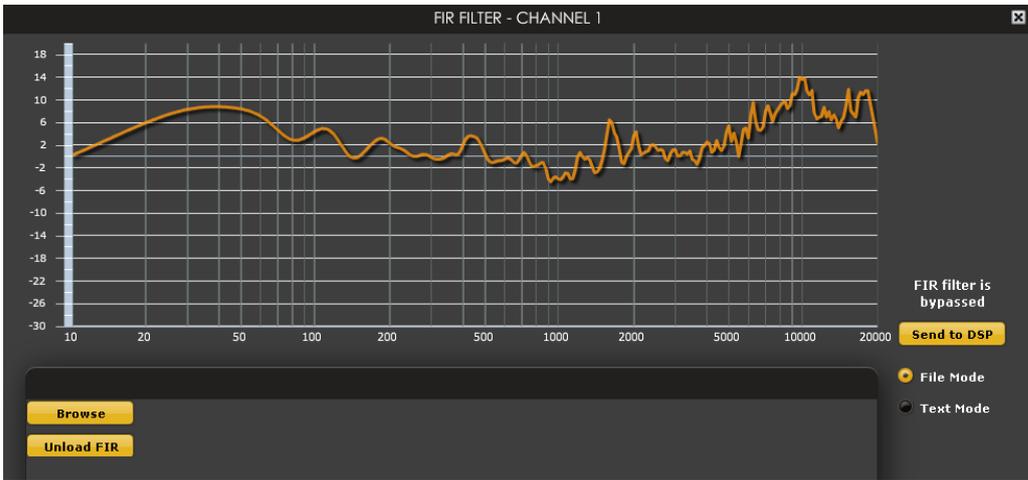
b0 = 0.0,
b1 = -4.0978237469957435e-10,
b2 = -1.5591260055992037e-9,
b3 = -3.5412630605691228e-9,
b4 = -6.1656773020501999e-9,
b5 = -9.8768344614086358e-9,
b6 = -1.4073473941778047e-8,
b7 = -1.9867272271767433e-8,

Floating point FIR taps can be entered from a file (.bin) or as a manual input (txt).

Plotting of final response allows a quick confirmation before sending the filter to the DSP

Master filter Bypass turns off the FIR filter either from the user interface or using the Remote.

PARAMETRIC EQUALIZER / COMPRESSOR LIMITER

PARAMETRIC EQUALIZER OUTPUT CHANNEL 1

Input2 ▼   ☑ Link Enabled

EQ BAND SELECTION   ◉ Basic   ○ Advanced

EQ1   Freq:497
EQ2   Freq:39
EQ3   Freq:187
EQ4   Freq:3993
EQ5   Freq:9191
EQ6   Freq:249

PARAMETRIC EQ BAND 1
Filter type   PEAK ▼
Frequency   497   Gain   16   Q   4   Bypass

Up to 6 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 in ms (0-1000ms)
1000
Dist.(cm): 34400

Delay
Control delay per output channel to better time align each channel. (up to 1000ms)

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

Impulse Settings
taps   6144   samples
FFT length   16384   samples
centering   energy ▼   float ▼
windowing   hamming ▼
optimization   moderate ▼   iterations
rate   48000   Hz
format   32 bits IEEE-754 mono (.bin) ▼
filename   rephase-example
directory   C:
generate

THIRD PARTY SOFTWARE FRENDLY

Check out compatible FIR software by our third party friends such as: rePhase / AcourateDRC / Filter Hose / Ultimate EQ…