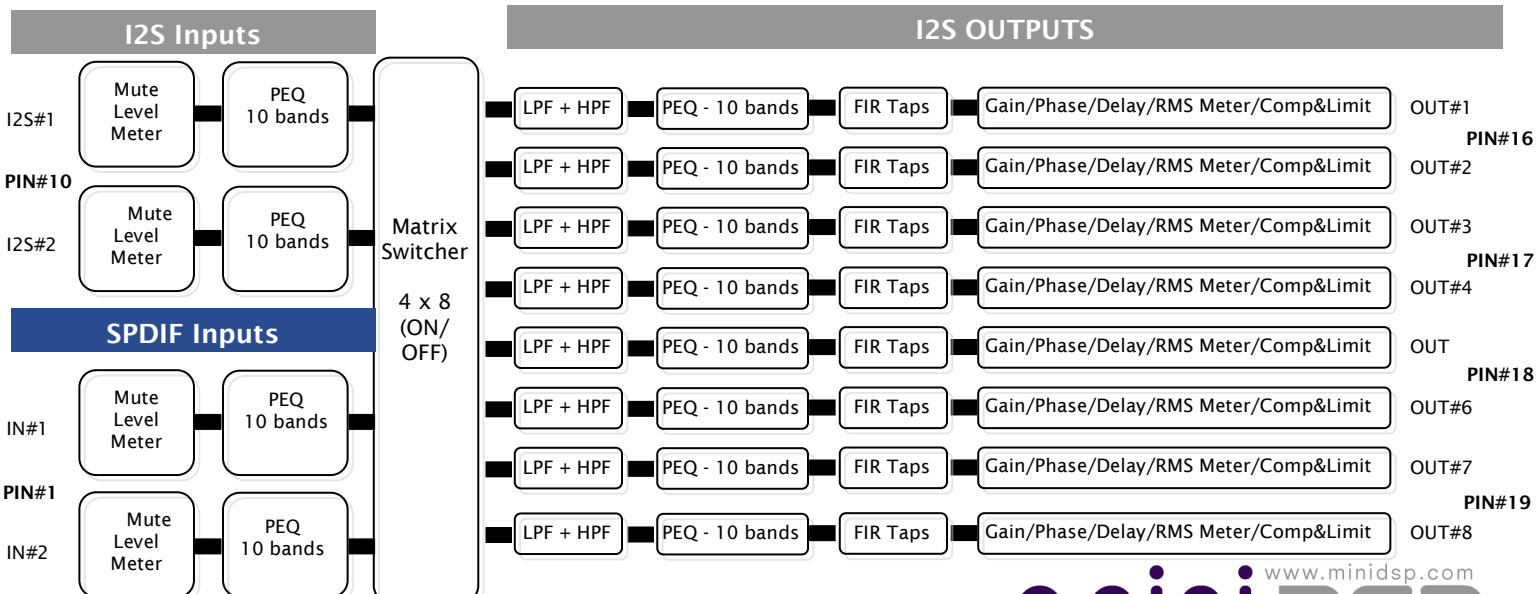


The miniSHARC 4x8 plug-in v1.0 is the a versatile plug-in for the miniSHARC product line. Providing FIR and IIR filtering in large banks of biquads (20/ch) and FIR taps (Up to 10240taps total), this plug-in is well fitted for no compromise multi-way crossover filter applications. Please consult the user manual of the miniSHARC for more info.

Algorithm and plug-in configuration

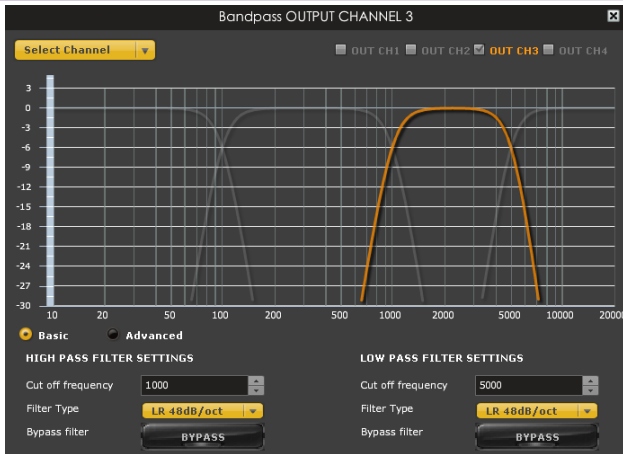
Item	Description
Sampling frequency / Resolution	48kHz or 96kHz sample rate depending on plug-in /32bit floating point
Inputs	2 input channels from I2S on pin 10 of the miniSHARC 2 input channels from SPDIF RX pins . Includes ASRC to match DSP sample rate (44.1 ~ 192kHz)
Outputs	8 output channels via I2S digital pin 16/17/18/19 of the miniSHARC Output 7&8 from the plug-in is duplicated to SPDIF TX pin 2 of the miniSHARC
Input mute/select	Click-less input mute per channel and input selection
Digital gain	Fader gain from +12dB to -72dB
Input/ Output meters	Real time monitoring of all channels with RMS meter.
FIR filter section	Up to 9600 @48kHz /3400 @ 96kHz total taps available for the whole platform. Freely available in 8 x FIR sections (1 on each output) with up to 2048 taps each Text input or file input (.bin in IEEE754 format)
Crossover Filters - Low/High Pass (IIR)	Butterworth up to 8th order (6 to 48dB/oct) / Linkwitz-Riley up to 8th order (12 to 48dB/oct) / Bessel Frequency: 10Hz to 20kHz in 1Hz increments
Parametric Equalizers (PEQ) (Peak/Low&High shelve / Custom)	10 PEQ bands per input, 10 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) & Per-band bypass feature
Advanced mode for custom biquad	Filter input via Text file for all biquad filters (PEQ or crossovers)
Matrix Mixer	Central mixer for 4 x 8 cross-point configuration (ON/OFF)
Delay (time alignment)	Up to 3000ms (3s) per channel (3m) in 0.02ms increments
Polarity	Invert polarity 180degree per channel
Compressor/Limiter	Per channel Comp/Lim on all outputs. Controls for Threshold/Ratio/Attack/Release & Bypass
Output mute	Individual output mute
Master output gain	Control master output digital gain fader from -80 to 0dB via VOL-FP accessory (Purchased separately)
IR Learning remote	Learn control commands from NEC/Philips/Sony remote/Apple remote

SYSTEM DIAGRAM



Features and specifications are subject to change without prior notice

CROSSOVER SECTION



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

Bypass filter: BYPASS

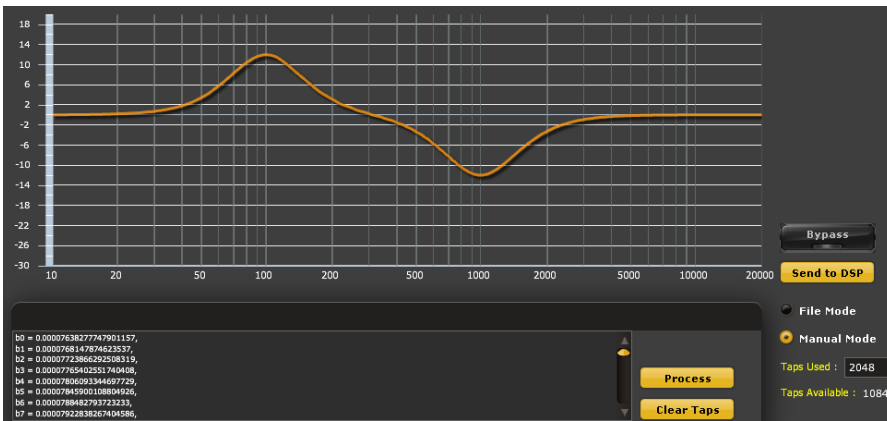
Wide range of filter choices Up to 8th order (48dB/oct)

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

Bypass feature to listen to the effect of filter settings

Advanced Biquad format to enter your own biquad format

FIR SECTION



Up to 9600 taps @ 48k / 3400 @96k freely assignable in 8 sections of up to 2048 taps

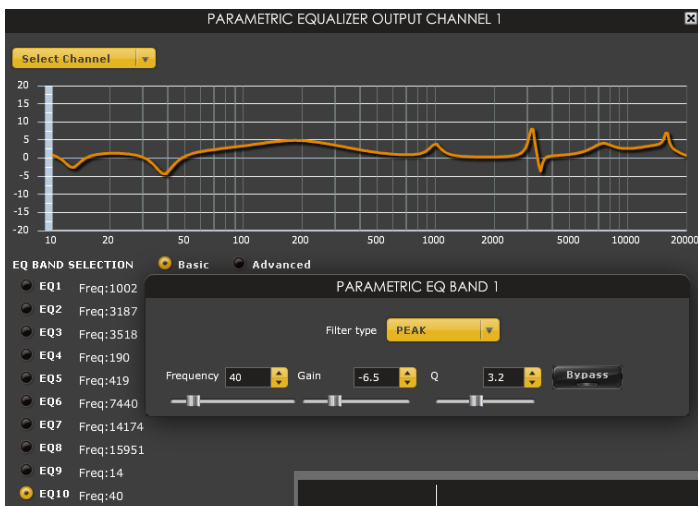
File Mode accepts binary file (.bin) as IEEE754 format

Manual Mode accepts manual input of taps

Advanced mode to input custom biquads per channel

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

PARAMETRIC EQUALIZER SECTION / MATRIX MIXER FOR ROUTING



PARAMETRIC EQ BAND 1

```

biquad1,
b0=1.0051408330060732,
b1=-1.9623383878204694,
b2=0.9741646222737144,
a1=1.9623383878204694,
a2=-0.9793054552797876
                    
```

Process

Bypass

Output Channel 1 Link Enabled

		I2S Out							
		Output1	Output2	Output3	Output4	Output5	Output6	Output7	Output8
I2S In	Input1	On	On	On	On	Off	Off	Off	Off
I2S In	Input2	Off	Off	Off	Off	On	On	On	On
SPDIF In	Input3	On	On	On	On	Off	Off	Off	Off
SPDIF In	Input4	Off	Off	Off	Off	On	On	On	On