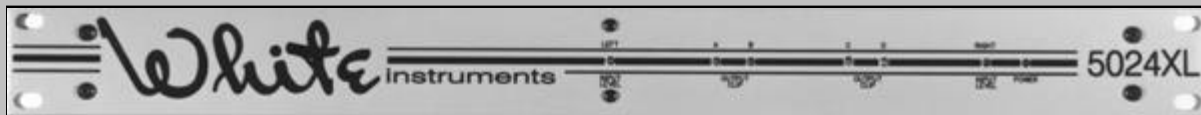


Parametric Equalizer
Crossover
Delay
High/Low -Pass Band Limiting
High/Low Shelving
Distribution
Limiters

DSP 5022XL DSP 5024XL

Multifunction Digital Signal Processors



Multifunction + Security + Economy:

The **DSP 5022XL** is a 2 x 2 multifunction digital signal processor and the **DSP 5024XL** is a 2 x 4 signal processor. Both models combine the functions of crossover, delay, parametric EQ, limiting, high/low-pass and high/low shelving filters. The absence of front panel controls provides a high degree of security and economy.

Either model is controlled via White Windows-1 software (included) through its built-in RS-232 port. Ten presets can be remotely recalled by making dry contact closures at the Contact Closure connector.

All settings are saved to **EEPROM** in case of power loss or shut down. This feature eliminates the need for a backup battery.

DSP Resource:

The total computing power of either model is 35 *filter units*. These units are expended as any filter or limiter is created. .

Filters - Parametric, Shelving and Band Limiting:

Up to 35 parametric filters (*if no other filter or limiter is created*) with center frequencies from 20Hz to 20kHz and adjustable in 1Hz increments are available on either model. Q and response are adjustable from 0.2 (*5 octaves*) to 100 (*1/70 octave*), between -60 and +12dB. Each filter can be assigned to any input or output channel. Adjustable high-pass, low-pass, shelving and *horn correction* filters can also be implemented.

Crossover Filters:

One 2-way Bessel, Butterworth or Linkwitz-Riley crossover with response characteristics of 6, 12, 18 or 24dB/octave can be created in the Model DSP 5022XL. One 3 or 4-way crossover or two 2-way crossovers can be implemented in the Model DSP 5024XL. In either case the band edge parameters are independently selectable.

Delay:

Use of delay does not deduct from either unit's computational resource. A maximum delay of 344 milliseconds (~335 feet) for each output channel can be adjusted in 20.8 microsecond (~0.28 in.) increments.

Limiting:

Limiting functions are available to be used on any or all outputs to prevent power amplifier clipping.



	<p>Specifications:</p> <p>DSP 5022XL</p> <p>DSP 5024XL</p>
<p>Safety Certification: UL, CE.</p> <p>Number of Memories: 10 (<i>ten</i>), non-volatile.</p> <p>Number of Presets: 10 (<i>ten</i>), non-volatile.</p> <p>Maximum Operating Level: +27dBu</p> <p>Dynamic Range: Greater than 107dB.</p> <p>Noise: -97dBv at Unity Gain.</p> <p>Distortion: Less than 0.05% THD at maximum operating level.</p> <p>Number of Inputs and Outputs: DSP 5022XL: 2 inputs by 2 outputs.</p>	<p>Available Computational Resource: 35 <i>Filter Units</i>.</p> <p>Parametric Equalizer: Maximum Quantity of Parametric Filters: 35. If no other filter, crossover or limiter is implemented. Each filter can be assigned to any input or output channel. Frequency Range: 20Hz - 20kHz. Resolution: 1Hz. Q: 0.2 (<i>5 octaves</i>) to 100 (<i>1/70 octave</i>).</p> <p>Shelving Filters: May also be used for <i>horn correction</i> in a crossover implementation. Selectable knee frequency and level. 6dB/octave transition response.</p> <p>High and Low-Pass Filters: 6, 12, 18 and 24dB/octave.</p> <p>Delay Circuits:</p>

DSP 5024XL: 2 inputs by 4 outputs.

Input and Output Circuits:

Active servo-balanced differential. Can operate unbalanced with no change in gain.

Input and Output Impedances:

Input:

60k ohms, balanced.

30k ohms, unbalanced.

Output:

102 ohms, balanced.

51 ohms, unbalanced.

Muting:

Outputs are muted during power up and down. Each output can be individually muted.

Anti-Aliasing/Image Filters:

Linear phase.

Crossover Filters:

DSP 5022XL:

One 2-way (*1 x 2 Mode*).

DSP 5024XL:

One or Two 2-way or One 3 or 4-way.

Selectable Responses:

6, 12, 18, 24dB/octave.

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Selectable Types:

Bessel, Butterworth, Linkwitz-Riley.

Control:

Either model is setup or dynamically controlled by a PC (*Win95*) running White Windows-1 software through its built-in RS-232 port. After setup the PC can be removed and the ten presets can be recalled using dry contact closures through the Contact Closure connector. After a power failure the DSP will re-boot to its pre-failure configuration.

344 milliseconds (*~335 feet*) maximum per output channel.

Resolution:

20.8 microsecond steps (*~0.28 inches*).

Input and Output Level Control:

Each channel is independently adjustable from -21dBu to +27dBu in 0.5dB steps.

Limiting Control:

A limiter can be implemented on any or all output channels.

Indicators:

Front panel LED for power and a clip LED for each input and each output channel.

Output Polarity Control:

Each output's polarity can be individually inverted.

Connectors:

Input/Output: XLR-3.

Contact Closure: 9-pin Sub-D.

RS-232 Interface: 9-pin Sub-D.

Power Requirements:

Factory set: 105-130 VAC or 210-260 VAC, 50/50Hz, 30 watts. Fixed mains cord. Internal fuse.

Dimensions and Weight:

1.75" (*IRU*) by 19" (*std. EIA*) by 12" - 8 lbs.

4.5cm by 48.3cm by 30.5cm - 3.6kg.

Finish:

Gray painted brushed aluminum with black nomenclature.