

APP NOTE: Special Purpose Signal Processing

Product Overview.

Jupiter packages powerful DSP into a zero learning curve, turn-key audio processing solution drawing its inspiration from the 'apps' paradigm of smartphones like the iPhone. Users get significant DSP power in a package that eliminates the learning curve normally associated with high-end audio DSP.



In-Ear Monitoring.

In-Ear monitors have become the new standard by which most musical performers hear themselves onstage. While their benefits are widely recognized, their implementation must be approached carefully. As this kind of monitoring



is almost always done with close-fitting or custom-poured ear buds, the performers have no way of "escaping" sudden transient peaks by simply turning or backing away from a wedge monitor or side-fill

enclosure. Dynamics control is of supreme importance in this application in order to avoid damaging the hearing of the performers using the system. Jupiter's Line Processor app provides a complete chain of processing to control dynamics, equalization, and gating on mono or stereo mix channels before outputting to headphone or other distribution amplifiers

Jupiter Benefits.

Input Processing:

Jupiter has High Pass and Low Pass filters on each channel. By choosing curve, slope, cutoff, and resonance, an optimal frequency band for the desired audio program can be

established. The de-emphasis or elimination of non-essential frequencies helps reduce ear fatigue for the performer. Each channel also has a dual function De-Esser/Expander module. The first process reduces the sharpness of sibilant sounds, and the second acts like a noise gate to turn the input down or off as the signal approaches and falls below a specified level.

Dynamics Processing:

Each channel in this app contains 3 dynamics modules that include a total of 4 separate dynamics functions in series. Various combinations of these will yield perfectly tailored audio for listening that is consistent, punchy, and exciting, without exceeding comfortable listening levels for performers. Choices include Compression, Limiting, Automatic Gain Control (AGC), and Split-Compression where high and low frequencies can be split and treated independently

Equalization:

An 8-band Parametric Equalizer module completes this app and serves up just the right amount of control to gently or severely boost or cut frequencies to enhance, correct, or massage the audio. A wide range of adjustment is available in each of the 8 filters for precision control.

Jupiter at Work.

Jupiter is available in three hardware version to make finding the right solution easier: Jupiter 4 – four in and four out; Jupiter 8 – eight in and eight out; and Jupiter 12 – twelve in and four out. All inputs are software selectable for line or mic with phantom power. External controller support includes Symetrix ARC wall panels, binary or analog control voltage inputs and logic outputs, and control over IP of all app parameters. Software and DSP processes are identical across the three hardware platforms.



Additional Resources.

Installations:

- [Special Purpose Signal Processing](#)

Product Pages:

- [Jupiter 8](#)

Documentation:

- [Jupiter Brochure](#)
- [Jupiter Data Sheet](#)
- [Jupiter Quick Start Guide](#)
- [Jupiter External Control Protocol](#)

Software:

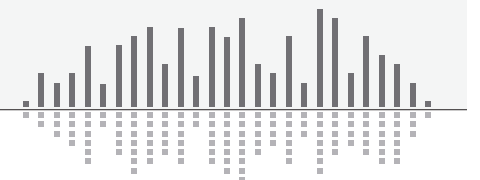
- [Jupiter Software](#)
- [Jupiter Apps](#)

How to Buy:

- [Contact Symetrix Sales](#)

Support:

- [Contact Symetrix Support](#)
- [Symetrix Knowledge Base](#)

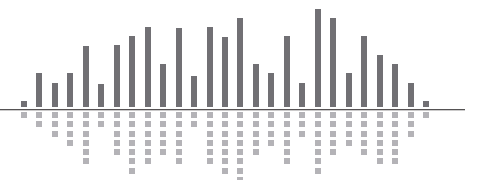
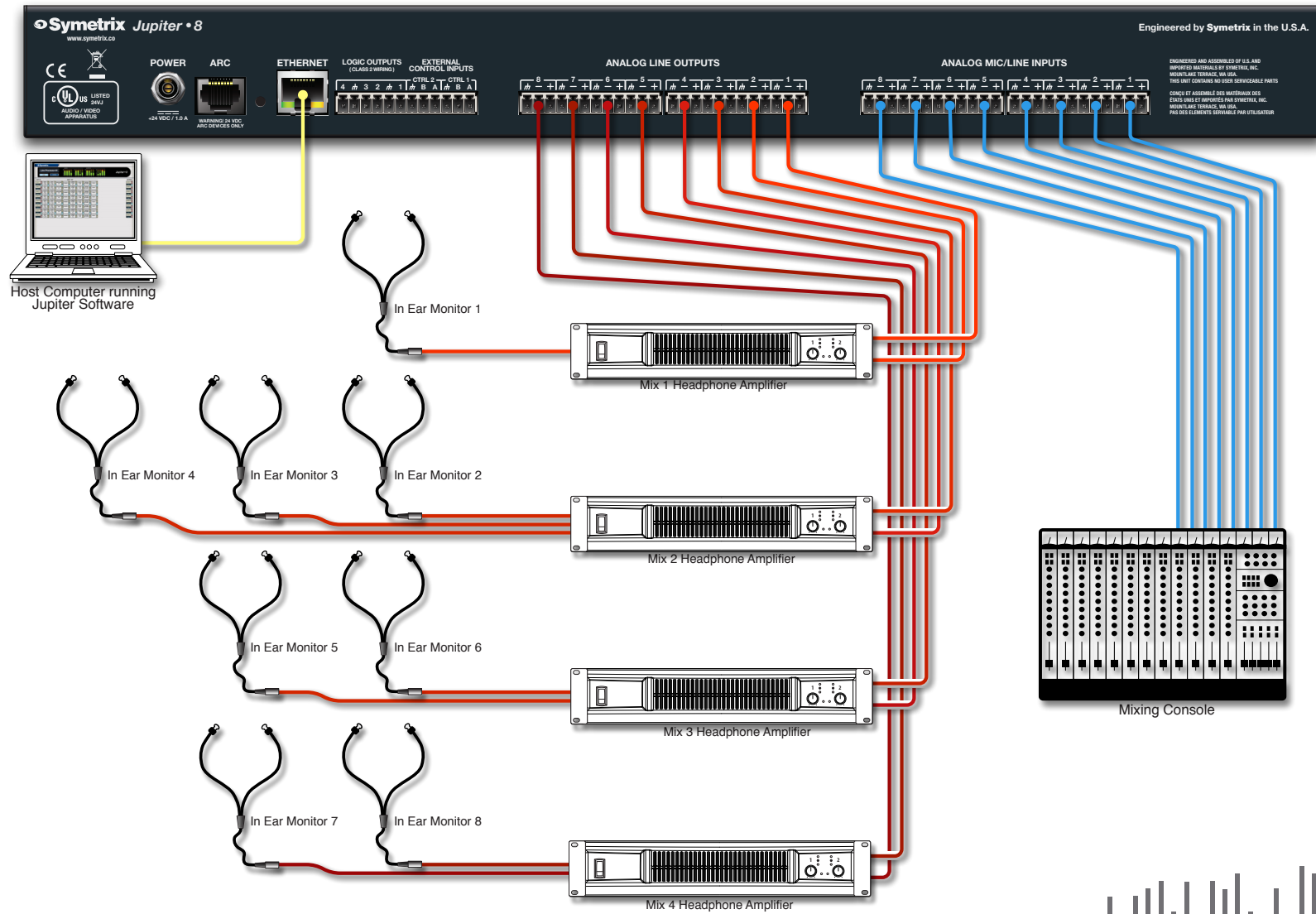


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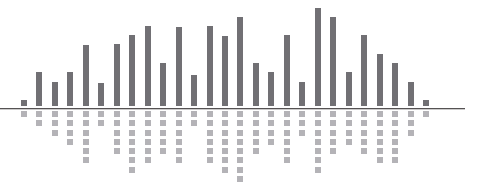
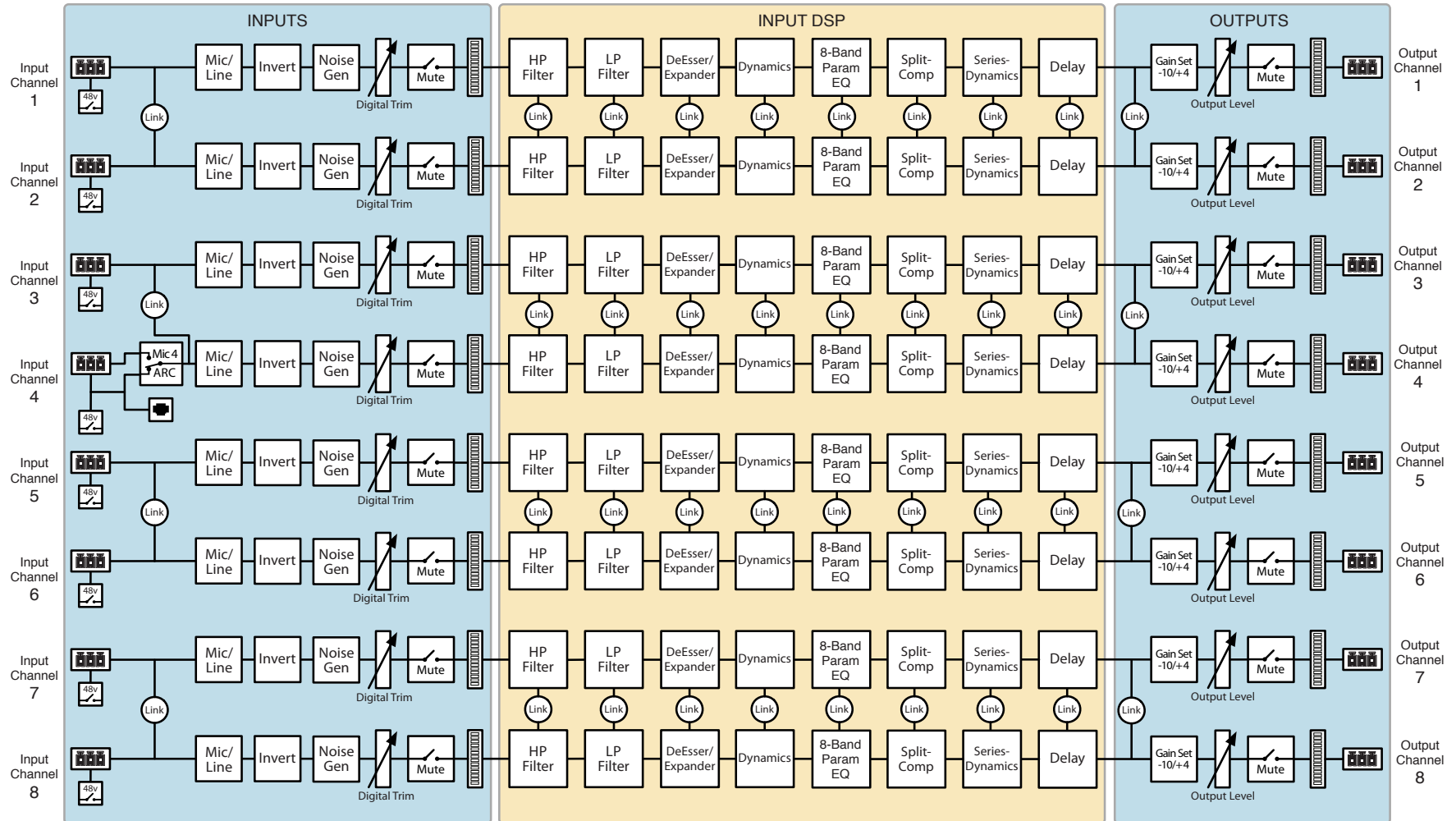
The Vision Behind the Sound

Special Purpose Signal Processing System Diagram: Jupiter 8



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Signal Flow Diagram: Jupiter 8, Line Processor #1 App





The Vision Behind the Sound

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