MATRIX PROCESSOR

MATRIX PROCESSOR (vertical, left margin)

The E-coustic Systems Matrix Processor was designed from the ground up to meet or exceed the requirements of the largest and most critical acoustic enhancement applications. With over 8000 internal audio channels, and capacity to support 1024 simultaneous 24 bit digital audio I/O, its performance is unrivaled. The modular hardware integration allows it to be affordably scaled for smaller installations, with a virtually limitless upgrade path. The Matrix Processor can also act as an acoustics server - enabling multiple rooms within a venue to share acoustics processing.

The Matrix Processor incorporates a scalable 512 channel point to point matrix mixing system, with level control, delay adjustment and 7 bands of parametric equalization accessible at each input, each output and each matrix point. With such formidable signal processing power, the Matrix Processor accommodates the most complex electronic architecture requirements with ease. However, the Matrix Processor can also provide multiple dedicated channel assignments for film surround and sound effects with separate level control, delay and EQ - which can be independently combined with acoustic signals sent to each loudspeaker. It is even capable of storing recorded sound effects and playing them on cue via MIDI.

ELECTRONIC ARCHITECTURE

Specifications

DIGITAL INPUTS (per ECS-MADI)

MADI In
- Coaxial via BNC, 75 Ohm according to AES10-1991
- High-sensitivity input stage (< 0.2 Vpp)
- Optical via FDDI duplex SC connector
- 62.5/125 and 50/125 compatible
- Accepts 56 channel and 64 channel mode, and 96k frame
- Single Wire: up to 64 channels 24 bit 48 kHz
- Double Wire / 96k frame: up to 32 channels 24 bit 96 kHz
- Quad Wire: up to 16 channels 24 bit 192 kHz
- Lock range: 28 kHz - 54 kHz
- Jitter when synced to input signal: < 1 ns
- Jitter suppression: > 30 dB (2.4 kHz)

Word Clock In
- BNC, not terminated (10 kOhm)
- Switch for internal termination 75 Ohm
- Automatic Double/Quad Speed detection and internal conversion to Single Speed

DIGITAL OUTPUTS (per ECS-MADI)

MADI Out
- Coaxial via BNC, 75 Ohm according to AES10-1991
- Output voltage 600 mVpp
- Cable length coaxial: up to 100 m
- Optical via FDDI duplex SC connector
- 62.5/125 and 50/125 compatible
- Cable length optical up to 2000 m
- Generates 56 channel and 64 channel mode, and 96k frame
- Single Wire: up to 64 channels 24 bit 48 kHz
- Double Wire / 96k frame: up to 32 channels 24 bit 96 kHz
- Quad Wire: up to 16 channels 24 bit 192 kHz

Word Clock Out
- BNC
- Max. output voltage: 5 Vpp
- Output voltage @ 75 Ohm: 4.0 Vpp
- Impedance: 10 Ohm
- Frequency range: 27 kHz - 200 kHz

Digital (per ECS-MADI)
- Supports 8000 internal audio channels
- Supports 512 digital audio I/O @24 bits
- Internal clock: 800 ps Jitter, Random Spread Spectrum
- Jitter suppression of external clocks: > 30 dB (2.4 kHz)
- Effective clock jitter influence on DA-conversion: near zero
- PLL ensures zero dropout, even at more than 100 ns jitter
- Supported sample rates: 28 kHz up to 200 kHz

GENERAL

MIDI
- 16 channels MIDI
- 5-pin DIN jacks

Power
- Dual redundant 500W power supplies
- Input voltage: 88 - 263 V AC - 48Hz - 63Hz

Dimensions
- Dimensions including rack ears (WxHxD): 480 x 177 x 671 (19" x 7" x 26.4")
- Weight: 24.5 kg (53.9 lbs)