MAINFRAME III

ELECTRONIC ARCHITECTURE

MAINFRAME III

The E-coustic Systems Mainframe III acoustics processor represents a significant advancement in electronic architecture. It is a new, ground-up development in both hardware and software that doubles the power of our previous generation system, delivering unrivaled performance and flexibility.

The Mainframe III features four independent acoustics processors called "machines". The machines run new advanced acoustics algorithms derived from our most recent research in physical acoustics and human neurology. Each machine provides independent control of direct, reflected and reverberant sound energy, as well as the ability to adjust all critical acoustic parameters. The ECS-MADI digital audio interface provides 64 channel 24-bit AES/EBU compliant audio transport to and from the Matrix Processor.

In addition, the Mainframe III incorporates advancements that are a class above processing found in typical professional audio systems that include: dual hot swappable, redundant, server grade power supplies to ensure long term power stability; dual hot swappable static hard drive RAID memory; dedicated copper heat sinks with independent forced air cooling for signal processing; and independent TCP/IP communication for each machine. All of this enhances the trouble free operation that E-coustic Systems are renown for.

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)