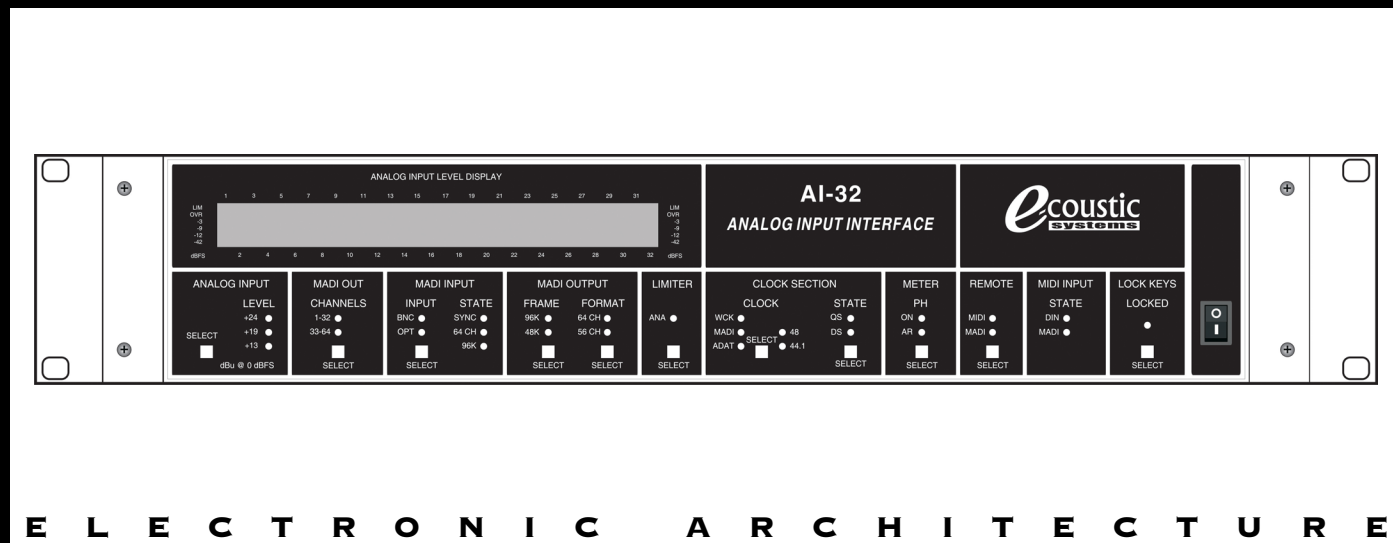**A N A L O G   I N P U T   I N T E R F A C E**

The E-coustic Systems AI-16 and AI-32 Analog Input Interface enables analog audio signals from external sources to be integrated into E-coustic Systems architecture. Each provides reference quality 24 bit analog conversion to MADI digital audio format. The AI-16 provides sixteen channels analog to MADI conversion, and the AI-32 provides thirty-two channels analog to MADI conversion. Both utilize supe-rior analog circuit designs that deliver dynamic range in excess of 112dB (unweighted).

Selectable input sensitivity allows for input sig-nals up to +24dBu, with font panel metering provided for each channel Rear panel mounted sub-D connectors conforming to TASCAM wiring standard provide 8 channels of audio that connect directly to the E-coustic Systems AT-32 Analog Signal Terminator. The AT-32 incorporates front panel listen points for each channel, and parallel ELCO E-3 connections Both theAI-16 and AI-32 feature zero latency MADI pass through, and selectable channel assignments, which provides "stacked" signal routing from one unit to the next. They also provide twice the channel capacity in half of the space of our previous generation hardware.

E L E C T R O N I C   A R C H I T E C T U R E

Specifications

ANALOG CONVERSION

- Resolution 24 bits
- Signal to Noise Ratio > 112 dB (unweighted)
- Frequency Response
  0.5 dB 5Hz - 21.5kHz
- THD <110dB 0.00032%
- Channel Separation >110dB

Analog Limiter

- Maximum analog signal level unclipped +30dB
- Threshold ON -3dBFS
- THD +N 0.03% -52dB
- Attack Time 5ms
- Release Time - digitally controlled

DIGITAL INPUTS

ADAT Optical
- 4 x TOSLINK, according to Alesis specification
- Standard: 32 channels 24 bits, up to 48 kHz
- S/MUX: 16 channels 24 bits 96 kHz
- S/MUX4: 8 channels 24 bits 192 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

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
- 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
- Lock Range 28 kHz - 54kHz
- Jitter when synced to input signal <1ns
- Jitter Suppression >30dB (2.4 kHz)

DIGITAL OUTPUTS

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
- Clocks: Internal:
  ADAT In, MADI In, Word Clock In
- Low Jitter Design: < 1 ns in PLL mode, all inputs
- 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
- Power supply: Internal switching PSU,
  100 - 240 V AC, 40 Watt

Dimensions
- Dimensions including rack ears
  (WxHxD): 19" x 3.46" x 9.5") (483 x 88 x 242 mm)
- Weight: 3 kg (6.6 lbs)