



MISTRAS' Acoustic Emission data acquisition board and system live up to their name. The EXPRESS-8 is a faster, more powerful AE system than its predecessors, fusing a PCI-Express bus with higher channel density and capabilities.

## EXPRESS-8 | An Eight-Channel Acoustic Emission Board & System

### PCI-EXPRESS BUS BASED, AE BOARD

EXPRESS-8 represents an advanced update of our well-known DiSP and PCI-8 boards. The addition of the PCI-Express bus results in an increase in maximum sustained processing speed over its predecessors and ensures the maintaining of performance levels with potential system expansion. That adds up to better system performance and reliability.

### KEY FEATURES

- High-performance PCI-Express bus allows for greater data streaming speed
- Half the size of previous models, allowing for greater channel density in chassis
- High channel density (8 channels)
- Waveforms and Waveform Streaming included
- More than 500 selectable digital filters for sharp cutoffs and lower noise
- Compatible with all MISTRAS preamplifiers
- EXPRESS-8 chassis - Micro-II-Express (32 channels) and Benchtop (96 channels)
- Optional chassis expansion interface
- Improved digital filters, larger hit buffer, larger waveform FIFO buffer
- Sensor input: PK sensor, low power phantom power +5V, or RXXI and preamplifier, traditional phantom power (+28V) or 24v ICP Sensor

### THE SYSTEM CHASSIS

The use of the PCI-Express bus with the EXPRESS-8 card can use one of two PCI-Express AE system chassis. The board also works in a standard PC with PCIe slots.

The Micro-II-Express chassis is the same size as MISTRAS' ultra-portable Micro-II SAMOS chassis. This chassis can hold up four EXPRESS-8's, which translates into 32 AE channels in a rugged, mobile case. The Benchtop system's channel density extends to 96 (12 EXPRESS-8 boards). Customers can even connect two or more chassis with optional system synchronization interface.

The EXPRESS-8 system and its corresponding chassis (Micro-II-Express and Benchtop) represent the pinnacle in MISTRAS' high-speed, high-channel density multichannel AE systems, while also offering the best value. The EXPRESS-8 is ideal for large-structure monitoring and field testing where portability, high-channel density, and fast performance are required.

### SPECIFICATIONS:

#### Physical/Environmental

Size ..... 6.5" x 4.2 x 0.70 (16.5 cm x 10.7 x 1.8)  
Weight ..... 0.2 lbs. (0.1 kg)  
Operating temp. .... 32° - 120°F (0° - 50°C)

#### Electrical operation

Voltage Required ..... 3.3V, 3.3V aux,  
..... 12V from connector  
Current consumption ..... 3.3V<1A  
Total consumption ..... <10W without sensors

#### Analog signal processing

AE Input Connector ..... 8 SMB connectors  
Bandwidth ..... 1 kHz to 1.2 MHz

#### Digital signal processing

A/D conversion rate ..... 16 bit, 10 MSPS  
Digital processing .... 18 bit 256 tap digital FIR filter  
Waveform storage ... 15,000 samples each channel  
Data streaming ..... Continuous waveform to disk

#### Parametrics

Analog inputs ..... 8 channels  
Input range ..... ±10V channels on all channels  
Resolution ..... 16 bits  
Maximum sample rate .... 10 kSPS (all 8 channels)  
Digital IO ..... 8 digital inputs, 8 digital outputs  
Analog output ..... Four 0-10v outputs

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