

AED-2010



Features

- Battery (single 9V) or AC operation
- Low power consumption, auto turn off
- Keypad operator controls
- Microprocessor controlled
- 4-line x 16 character LCD display (backlit)
- Thresholded signal processing (counts, events)
- RMS signal processing (0-5 V DC)
- Wide bandwidth—1 kHz to 2 MHz
- Switched bandpass filter (optional ranges)
- Flexible gain adjustment (0-60 dB)
- +24V DC power out for preamps
- Demodulated audio output
- Buffered AC signal output
- Store 4 setups for different applications
- Store 4000 data points (single or continuous)
- USB output for data logging to computer or uploading stored data
- Windows-based datalogging software

Introducing the **AED-2010**, our 2nd generation handheld instrument incorporating signal processing for both pulsed and continuous acoustic emission (AE). This rugged unit was designed to go anywhere and handle a great variety of demonstrated industrial uses.

Applications

- Leak detection (contact and airborne)
- Valve leak monitoring
- Machinery health monitoring
- Cavitation detection in pumps and piping
- Transformer partial discharge detection
- Insect pest detection (wood & food products)
- Acoustic emission testing of
 - CNG cylinders
 - Metals
 - Composites
 - Rock & soil
 - Wood products
- Sensor and cable check for AE field test crews

Who are we?

AEC has been in business since 1991, primarily as an AE service testing company. Our current organization has over 70 man-years of experience in AE instrumentation design and applications. That considerable background led us to design an instrument that filled a critical need in the industrial marketplace, the AED-2000, which we introduced in 2001. Our successor handheld instrument, the AED-2010, was introduced in July 2009, and continues with the tradition of excellence established in the previous design. We also provide a complete set of sensors and probes to handle a diverse set of applications. Our goal is complete customer satisfaction!

Acoustic Emission Consulting, Inc.
5000 San Juan Ave, Ste D, Fair Oaks, CA 95628
Office/Fax (916) 965-4827
Website: www.aeconsulting.com

Specifications

Physical

- Max dimensions 8.5"L x 4.3"W x 1.5"H (215 x 108 x 38 mm)
- Weight 14 oz (0.4 kg)
- Splash-proof, injection molded plastic "T" case, electrostatic shielded

Display

- 4 line x 16-character LCD (Backlit)
- Threshold mode display shows Events, Counts, Test Time (countdown), Preamp Current (mA), Avg RMS (DC volts), Test Mode, Battery Status & Filter In/Out
- RMS mode display shows Max, Min, and Avg RMS per second (DC volts), Test Time (countdown), Preamp Current (mA), Test Mode, Filter In/Out and bar graph of instantaneous RMS.

Indicators

- Activity LED (red) flashes on threshold exceed

Connectors

- Sensor input, coax BNC
- Signal out, coax BNC
- Audio output, minijack (8 ohm)
- USB minijack, 5-pin connector
- DC power in

Electrical

- Bandwidth (unfiltered) 1 kHz—2+MHz (-3 dB)
- Filter optional 25-500 kHz (AED-2010L), 100-500 kHz (AED-2010H), or specials (specify). 24 dB/Octave, 4-pole
- Gain 60 dB (1 dB steps)
- Threshold, 1.0 V fixed
- Signal in 50 ohm, +/- 2V
- 24 V DC out preamp power (limit 50 mA)
- AC buffered signal output, +/- 4V
- Power in 9V DC, 500 mA
- Battery single 9 V (typical 800 mA-hr)
- Current draw, sleep ~20 uamps, Idle (on) ~10 mA; operating ~100 mA; w/backlight +50 mA; w/audio +25 mA

Measurements

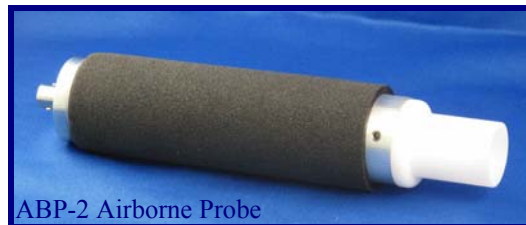
- Preamp current, 0-50 mA
- RMS, 0-5 V (10 mV resolution)

- RMS bar graph, 0-3 V (60 mV resolution)
- Event counter, 0-65535
- Event determination time, 3 msec
- Threshold (ringdown) counter, 0-65535
- Countdown time 0-255 secs, or continuous
- Test modes
 - RMS
 - Threshold (rate/sec)
 - Threshold (cumulative)

Sensors, Probes



Integral preamp sensors (60, 150, 400 kHz) and differential sensors (375 kHz), miniature sensors.



ABP-2 Airborne Probe



SP-1L Contact Probe

Contact probes for leak detection and machinery health monitoring (110 kHz, 40 dB preamp), airborne probe (40 kHz), flexible PVDF sensors (low frequency); line drive preamp (20 dB) and switchable 20/40/60 dB preamp.

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