

CMG PEPP-V

Manufacturer: Güralp Systems Ltd.

Description: The CMG-PEPPV portable broadband seismometer is a single-component vertical seismometer with a direct RS-232 digital output. Rugged design allows rapid installation, minimum setting up, high sensitivity and wide dynamic range. The system comprises of two modules, the sensor and a processor unit.

Applications: Suitable for recording a broad range of earthquakes with high signal quality and timing precision. It is capable of transmitting data in real time via intranet (for multiple recording sites) and internet (for network communication). Single-component sensor provides useful seismic recordings of a wide variety of wave phenomena, but insufficient for complete description of wave propagation in three dimensions.

Frequency Response: 0.033Hz (30 seconds) to 10Hz

Sensor Size: Base diameter: 95mm; Height: 132mm
PEPP Processor box: 57mm x 151mm x 200mm

Sensor weight: 1.6 Kg

Digitizing: 24bit digitizer with 21 bits noise-free, linear resolution

Timing system: 1 μ s accuracy using GPS option, WWVB, MSF and DCF77 receiver option also available. With time code synchronization .

Data format: Writes to native GCF format. Companion software *GCFInfo* can convert to SAC or PEPP format.

Sampling rate: 20 sps

Power: Standard power supply +12 Vdc, with internal DC/DC converter
(Can operate over 10 to 36 Volts); AC converter available

Recording Software: Güralp *SCREAM*, provided at no cost with sensor

Price Range: \$2600-\$2800, includes sensor, digitizer, GPS clock, and cables

Sales Information: Digital Technology Associates
1330-A Galaxy Way
Concord, CA 94520
(925) 682 2508 fax: (925) 682 2072
Contact: Mr B. Pauly
Email: dta_pauly@compuserve.com

Website: <http://www.guralp.com/>



CMG PEPP-T

Manufacturer: Güralp Systems Ltd.

Description: The CMG-PEPP-T portable broadband seismometer is a three-component seismometer with a direct RS-232 digital output. Rugged design allows rapid installation, minimum setting up, high sensitivity and wide dynamic range. The system includes the sensor and a built-in processor unit.

Applications: Suitable for recording a broad range of earthquakes with high signal quality and timing precision. It is capable of transmitting data in real time via intranet (for multiple recording sites) and internet (for network communication). Three-component sensor offers useful seismic recordings of a wide variety of wave phenomena, providing complete description of wave propagation in three dimensions.

Frequency Response: 0.033Hz (30 seconds) to 20 Hz

Sensor Size: Diameter 168mm, Height 203mm

Sensor weight: 9 Kg

Digitizing: 24bit digitizer with 21 bits noise-free, linear resolution

Timing system: 1 μ s accuracy using GPS option, WWVB, MSF and DCF77 receiver option also available. With time code synchronization .

Data format: Writes to native GCF format. Companion software *GCFInfo* can convert to SAC or PEPP format.

Sampling rate: 40 sps

Power: Standard power supply; +12 Vdc, with internal DC/DC converter
(Can operate over 10 to 36 Volts): AC converter available

Recording Software: Güralp *SCREAM*, provided at no cost with sensor

Price Range: \$6500-6800, includes sensor, digitizer, GPS clock, and cables

Sales Information: Digital Technology Associates
1330-A Galaxy Way
Concord, CA 94520
(925) 682 2508 fax: (925) 682 2072
Contact: Mr B. Pauly
Email: dta_pauly@compuserve.com

Website: <http://www.guralp.com/>

AS1- Vertical Seismometer

Manufacturer: The Amateur Seismologist

Description: The AS1 seismometer is designed to be a high-quality educational display seismometer, as well as providing high-quality signals for seismological analysis. The Goal: Make the science of seismology accessible to individuals and schools at a reasonable cost. Sensor mechanism is visible through Plexiglas display case, making it useful for explaining seismometer design and mechanics.

Applications: Suitable for recording a broad range of earthquakes with moderate signal quality and low timing precision. Single-component sensor provides useful seismic recordings of a wide variety of wave phenomena, but insufficient for complete description of wave propagation in three dimensions. Low sampling rate limits useful information on local earthquakes.

Frequency Response: ~ .1 Hz (10 sec) – 3 Hz

Sensor Size: 425 mm x 150mm x 275 mm
 Plexiglas cover: 375 mm x 475mm x 163 mm
 Digitizer: 150mm x 80mm x 60 mm
 Power Pack: 115mm x 75mm x 60mm

Sensor weight: ~10 lbs.

Digitizing: 12 bit A/D converter

Timing system: Uses computer internal clock, may be augmented by external radio or GPS clock

Data format: Native digital format

Sampling rate: 6 Hz

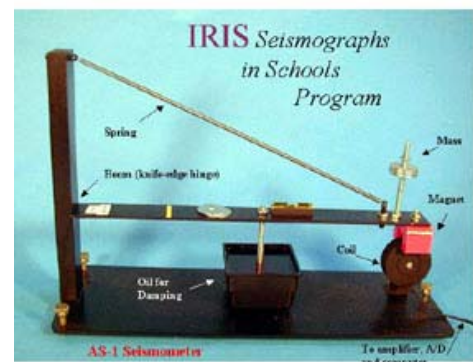
Power: 12 V DC (AC/DC converter provided)

Recording Software: AmaSeis, public domain software from Alan Jones, SUNY Binghamton (public domain)

Price Range: \$500, includes sensor + A/D converter

Sales Information: THE AMATEUR SEISMOLOGIST
 2155 Verdugo Blvd. #528
 Montrose, CA 91020
 818-249-1759

Website: <http://www.amateurseismologist.com/>



S102 SEISMOMETER

Manufacturer: Engineering Acoustics, Inc

Description: The S102 is an inertial seismometer that measures ground motion with respect to an elastically suspended mass. Precision agate bearings and a hardened knife-edge pivot ensure long life. A linear, low noise RF displacement detector is used to sense the position of the reference mass with respect to the instrument housing. The reference mass is controlled in an electronic feedback loop by means of a moving magnet transducer. This feedback loop provides near critical damping of the system, resulting in an extended frequency response, and eliminating thermal noise, hysteresis and friction normally associated with conventional mechanical systems. The transfer function of the S102 has nearly constant sensitivity to the vertical component of ground motion, and is similar to that of the moving coil sensors used in the World-Wide Standard Seismic Network.

Applications: Suitable for recording a broad range of earthquakes with high signal quality and timing precision. Single-component sensor provides useful seismic recordings of a wide variety of wave phenomena, but insufficient for complete description of wave propagation in three dimensions.

Frequency Response: 0.05 Hz (20 s) to 1.5 Hz.

Sensor Size: Sensor Housing: 175mm x 300mm x 190mm

Sensor weight: ~10 lbs.

Digitizing: A 30 foot interface cable is provided with the S102 to connect to a data acquisition card. Both single ended and balanced outputs are available. The S102 output voltage is compatible with most 12 or 16 bit digitizing/data acquisition cards (+/- V full scale) for PC and Macintosh computers. EAI can supply suitable data acquisition cards, or will advise the user of suitable units.

Timing system: external GPS timing unit (Garmin)

Data format: native SeismoView binary format or ASCII format for spreadsheets and graphics

Sampling rate: 10 sps (varies depending on digitizer used)

Power: UL approved wall plug-in unit requiring 115 VAC, single phase 50 to 60 Hz.

Recording Software: Macintosh SeismoGraf software, University of Michigan (public domain)

Price Range: \$1800, comes with 10 m cable + power pack

Sales Information: Engineering Acoustics, Inc.
933 Lewis Dr., Suite C
Winter Park, FL 32789
Phone: (407) 645-5444 ext. 103
Fax: (407) 645-4910
e-mail: ensign@eaiinfo.com

Website: <http://www.eaiinfo.com>



EpiSensor ES-U

Manufacturer: Kinemetrics Inc.

Description: EpiSensor force balance accelerometers. Model FBA ES-T is a uniaxial surface package useful for many types of earthquake recording applications. The unit consists of a single EpiSensor force balance accelerometer module. With full-scale recording ranges of ± 0.25 to $\pm 4g$ (user selectable). EpiSensor provides on-scale recording of earthquake motions even at near-fault locations and in a wide variety of structure types.

Applications: Primarily designed as a strong-motion seismograph, but suitable for recording local earthquakes with high signal quality and timing precision. Single-component sensor provides useful seismic recordings of a wide variety of wave phenomena, but insufficient for complete description of wave propagation in three dimensions.

Frequency Response: DC to 200 Hz (in acceleration)

Sensor Size: 55 x 65 x 97mm

Sensor weight: 0.35 kg (0.77 pounds)

Digitizing: Kinemetrics Q730 digitizer

Timing system: external GPS clock

Data format: Depends on A/D converter & recording software

Sampling rate: User selected: up to 250 sps

Power: 12 mA from +/- 12V (Standard Amp), 35 mA from +/- 12 V (Low Noise Amp),
Single supply option available

Recording Software:

Price Range: \$1030

Sales Information: Corporate Headquarters
Kinemetrics Inc.
222 Vista Avenue
Pasadena, CA 91107
Tel: (626) 795-2220
Fax: (626) 795-0868
Email: sales@kmi.com

Website: <http://www.kinemetrics.com>



EpiSensor ES-T

Manufacturer: Kinemetrics Inc.

Description: EpiSensor force balance accelerometers. Model FBA ES-T is a triaxial surface package useful for many types of earthquake recording applications. The unit consists of three EpiSensor force balance accelerometer modules mounted orthogonally in one small convenient package. With full-scale recording ranges of ± 0.25 to $\pm 4g$ (user selectable). EpiSensor provides on-scale recording of earthquake motions even at near-fault locations and in a wide variety of structure types.

Applications: Primarily designed as a strong-motion seismograph, but suitable for recording local earthquakes with high signal quality and timing precision. Three-component sensor provides complete description of wave propagation in three dimensions.

Frequency Response: DC to 200 Hz (in acceleration)

Sensor Size: 13.3 cm diameter (cylinder), 6.2 cm high

Sensor weight:

Digitizing: Kinemetrics Q730 digitizer

Timing system: external GPS clock

Data format: Depends on A/D converter & recording software

Sampling rate: User selected: up to 250 sps

Power: 12 mA from $\pm 12V$ (Standard Amp), 35 mA from $\pm 12 V$ (Low Noise Amp),
Single supply option available

Recording Software:

Price Range: \$2900 – 3100

Sales Information: Corporate Headquarters
Kinemetrics Inc.
222 Vista Avenue
Pasadena, CA 91107
Tel: (626) 795-2220
Fax: (626) 795-0868
Email: sales@kmi.com

Website: <http://www.kinemetrics.com>



EarthScope

Manufacturer: Kinemetrics Inc.

Description: The Earthscope is a PC-based seismograph. This low-cost device is perfect for seismic applications where precise timing is not required..

Applications: Primarily designed as an educational seismograph, but suitable for recording local earthquakes with good signal quality but low timing precision. Single-component sensor provides useful seismic recordings of a wide variety of wave phenomena, but insufficient for complete description of wave propagation in three dimensions.

Frequency Response: 1 -30 Hz

Sensor Size:

Sensor weight: ~2 lbs.

Digitizing: Internal A/D converter

Timing system: computer clock

Data format:

Sampling rate: 128 sps

Power:

Recording Software:

Price Range: ~\$500

Sales Information: Corporate Headquarters
Kinemetrics Inc.
222 Vista Avenue
Pasadena, CA 91107
Tel: (626) 795-2220
Fax: (626) 795-0868
Email: sales@kmi.com

Website: <http://www.kinemetrics.com>



WARD's Horizontal Seismograph

Manufacturer: Ward's Natural Science

Description: The Ward's Horizontal Seismograph is a PC-based horizontal seismic sensor that comes with digitizer, cable, and recording software. This low-cost device is perfect for seismic applications where precise timing is not required.

Applications: Suitable for recording a broad range of earthquakes with moderate signal quality and low timing precision. Single-component sensor provides useful seismic recordings of a wide variety of wave phenomena, but insufficient for complete description of wave propagation in three dimensions. Low sampling rate limits useful information on local earthquakes.

Frequency Response:

Sensor Size: 40" x 18" x 22"

Sensor weight: ~15 lbs.

Digitizing: External A/D converter

Timing system: computer clock

Data format:

Sampling rate:

Power: 120 V AC

Recording Software: EQuake recording package

Price Range: ~\$2000 (\$3000 for strip-chart model)

Sales Information: Ward's Natural Science
5100 W. Henrietta Rd.
Rochester, NY 14692-9012
Tel: (800) 962-2660
Fax: (800) 635-8439
Email: customer_service@wardsci.com

Website: <http://www.wardsci.com>

