ECONOMICAL VERSATILE MULTICHANNEL SEISMIC DATA ACQUISITION SYSTEM
DAS6102, SMR6102, SMR6102-4a

This extremely versatile seismic data acquisition system *can be configured from 4 to 32 channels*, all operating *synchronously up to 2,000 samples per second*. The system is available in a variety of configurations:

♦ A field version, **DAS6102**, with graphic VGA display and keypad, packaged in a portable, compact, rugged, weatherproof heavy duty plastic box;

♦ An industrial version, **SMR6102**, packaged in a weatherproof enclosure with or without display and keypad.

♦ A strong-motion accelerograph, **SMR6102-4a,** which includes internal or external EA-120 force-balanced accelerometers and an optional R-1 rotational seismometer to record all six degrees of freedom.

♦ A desktop PC plug-in version (**PC/DAS6102**) with software for central site or teaching applications.

The system has a unique time management circuit which maintains *accurate real time*, and keeps the programmable sampling rates *precisely synchronous* with the real time marks. Re-indexing of data is never required. The time system does not require *continuous or frequent references to GPS* to maintain accuracy. The typical GPS access interval is once every 12 - 24 hours.

The system has been significantly upgraded, including, among other features, increased noise-free resolution, addition of a 90dB analog antialiasing filter, and software-programmable gains.

6102 Specifications:

- Resolution   22-bit
- Conversion type: Δ - Σ modulation at 570 kHz
- Dynamic range: 112dB @ 200 sps sampling rate
- Sampling range: 1 – 2000 sps, precisely synchronous with time marks
- No. of Acquisition Channels: Standard 4; 8 to 32 optional; all fully synchronous
- Recording Formats: CSS or SEED with Steim-2 type compression
- Antialiasing Filter (analog):   90dB @ 256kHz (primary sampling rate)
- Antialiasing Filtering: Built-in DSP-based digital filter
- Analog Inputs: True differential or single-ended ±2.5V
- Analog Gain: Software-programmable 1, 2, 4, 8
- CMR Rejection: >90 dB @ gain = 1
- Integral Non-linearity: ≤0.003%
- Triggering   User defined, STA/LTA, and/or continuous (simultaneous)
- Trigger Bandpass   User defined, up to 5 separate trigger bandpass per event detector.
- Pre-event Data   Up to 90 Sec (100sps), user defined.
- Post-event Data   User configured – no limitations
- Timing Management System: Intelligent GPS reference access and two phase-locked loops
- Timing Accuracy   ±0.005 sec of UTC
- GPS Receiver :   Miniature, fully weatherized, integral with antenna; with std 5m, optional up to 25m long RS-232 cable; optional RS-485 with up to 500m long cable
- GPS Usage: Typical on time: 5 – 15 min/day
- Data Storage / Retrieval   Hot-swappable miniature 20 GB+ hard disk or flash card up to 1GB
- Data Formats   Mini-SEED w/Steim-2 compression up to x6 CSS 3.0: long integer; separate data description in ASCII
- User Interface (field system)   ¼ VGA LCD panel; 12-key keypad; optional compact full PC-KB
- I/O Protection   Over voltage, transient, EMI/RFI
- Connectors   Sensor input, RS-232, Keyboard, Power, GPS.
- Optional Remote Access: a. Telephone dial-up automatic data retrieval (periodically program-initiated or on request)
  b. Radio-Ethernet telemetry for up to 12 miles line-of-sight distance
  c. Direct recording to LAN (PC or SUN) *via* Ethernet card.
- Physical Parameters: Dimensions: ~320x250x150mm[1]; Weight: ~5 kg
- Operating Temperatures: -40 to + 60 C[2]
- Power Supply: External, Nominal: 12 Vdc; Range 7 - 16 Vdc; Power ~5 W[3].
- External Power Pack (opt)   Dual Gel Cell Batteries (specify capacity, 18Hr to 60Hr)

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[1] For systems with 4 to 24 channels; 32-channel system is placed in a larger box

[2] LCD display may not function at subzero temperatures; additional power may be needed to maintain hard drive at operating temperature in subzero conditions.

[3] With 4 acquisition channels and display normally off.

Specifications subject to change without notice   4/01