

**ECONOMICAL VERSATILE
MULTICHANNEL STRONG
MOTION DATA ACQUISITION
SYSTEM**
SMR-6102



This flexible strong motion data acquisition system **can be configured from 4 to 32 channels**, all operating **synchronously up to 2,000 samples per second**. The DAS6102 is designed for multiple external accelerometers. It is configured with in a weatherproof hinged steel enclosure.

Each physical data channel can be split into 5 virtual channels each having their own event detectors, trigger bandpass, and sampling rates.

The system has an 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, reduced noise-free resolution, addition of an analog antialiasing filter, and software-programmable gains.

Specifications subject to change without notice

6102 Specifications:

Resolution	22-bit
Conversion type:	? - ? modulation at 570 kHz
Dynamic range:	115dB @ 100 sps sampling rate, 120dB at 40 sps
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 ?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 (40V), transient, EMI/RFI
Connectors	Sensor input, RS-232, Keyboard, Power, GPS.
Optional Remote Access:	Telephone dial-up automatic data retrieval (periodically program-initiated or on request) Radio-Ethernet telemetry for up to 12 miles line-of-sight distance Direct recording to LAN (PC or SUN) <i>via</i> 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) with AC battery charger.

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.

³ With 4 acquisition channels.

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