



ECONOMICAL VERSATILE HI-RESOLUTION MULTICHANNEL DATA LOGGER FOR SEISMIC NETWORKS **DAS6102C**



This extremely versatile high-resolution seismic data acquisition system can be configured from 4 to 32 channels, all operating synchronously up to 2,000 samples per second.

The '6102c' recorder is an economical version of the **DAS6102** data logger. While it shares all major characteristics with the full system, it has neither an LCD display nor a keypad. Such recorders are well suited for an autonomous work in seismic networks. PMD offers its portable Display-Keyboard Unit (**DKU6000**) for use by service personnel. **DKU6000** connects directly to **DAS6102c** taking power from the latter and providing full PC-type user interface. Therefore just one or two **DKU6000** are necessary per many local many stations that allows for a significant cost reduction. The large size LCD display in the **DKU6000** provides additional convenience for the service

personnel.

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.

The presence of a powerful PC (a single board PC/104 format) opens a wide range of options to the user. While the basic **DAS6102c** application uses DOS, the PC/104 can be configured with more advanced operating systems, such as WINDOWS. Also, the industry standard PC/104 allows the use of many peripherals in a modular, stackable format, e.g.: Ethernet cards, wireless LAN cards, satellite communication hardware, etc.

DAS6102c Specifications:

- ◆ Resolution 22-bit
- ◆ Conversion type: $\Delta - \Sigma$ 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 48 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 $\pm 5V$
- ◆ Analog Gain: Software-programmable 1, 2, 4, 8
- ◆ CMR Rejection: >90 dB @ gain = 1
- ◆ Integral Non-linearity: $\leq 0.003\%$
- ◆ 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
- ◆ GPS Receiver : Miniature, fully weatherized, integral with antenna; std 5m, optional (RS232) up to 25m cable; optional (RS485) – up to 500m long cable
- ◆ Data Storage / Retrieval Hot-swappable 30 GB hard disk or compact flash card up to 8 GB
- ◆ 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) External PS/2 keyboard and SVGA monitor or a **DKU6000**
- ◆ I/O Protection Overvoltage, transient, EMI/RFI
- ◆ Connectors Sensors inputs, RS-232, Keyboard, Power, GPS, optional Ethernet, **DKU6000**
- ◆ 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. Cable or wireless options offered
 - d. Satellite communication
- ◆ Physical Parameters: Dimensions: $\sim 310 \times 250 \times 160 \text{mm}^1$; Weight: ~ 5 kg
- ◆ Operating Temperatures: Standard: $+5$ to $+60$ C²; -40 to 60 C with optional HDD heaters³ or Industrial grade Flash Cards
- ◆ Power Supply: External, Nominal: 12 Vdc; Range 7 - 16 Vdc; Power ~ 5 W⁴.
- ◆ External Power Pack (opt) Dual Gel Cell Batteries (specify capacity, 18Hr to 60Hr)

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

² Additional power is needed to maintain hard drive at operating temperature in subzero conditions.

³ Not required if an industrial-qualified CFC card is used as mass-medium

⁴ With 4 acquisition channels @ 100sps.

Specifications subject to change without notice

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