



PMD 6502 is a *compact, ultralow power, high-performance, very versatile 24-bit marine seismic recorder*, a member of our new family of *Specialized Seismic Data Acquisition Systems*, which also includes a robust sensor digitizer **PMD6503**.

The secret of the **PMD 6502** is combination of state-of-the art components in a unique configuration.

- A powerful, fully featured single-board PC that controls the data transfer to disk and communication functions and is active only a few minutes a day when the SRAM is full.
- A very low-power, high-performance DSP that controls the data acquisition, real-time digitization and filtration, and stores the data temporarily in
- A micro-power, large capacity CMOS static RAM buffer.
- PMD's proprietary True Real Time™ system, controlled by the DSP that maintains extremely accurate time.

In such a configuration, the more power hungry components (PC, disk) operate on an extremely low duty cycle (when recording 3 channels at 10 samples per second the 16MB RAM buffer takes ~7 hours to fill), allowing the system to use *less than 600 milliwatt* of power.

PMD 6502 SPECIFICATIONS:

INPUT CHANNELS

Type:	Differential <i>or</i> Single-Ended
Data Channels:	3 (4) ¹ ; optional up to 16
Gain:	Software programmable: 1,2,4,8,16,32,64
Differential Input Signal Range:	Software programmable: ± 2.5 or ± 20 V
Total Programmable Gain/Range Combinations	14
Overvoltage Protection	± 40 V
Input Impedance	Data inputs: ± 2.5 V – 1M Ω ; ± 20 V – 300k Ω State-of-health input: 1M Ω
Analog Anti-Aliasing Filter:	>100 dB @ primary sampling rate 320 kHz
Dynamic Range: (rms noise to full scale)	>132 dB @ 100 sps

DIGITIZER

Type:	24-bit delta-sigma converter in each channel
Sampling Rates:	0.1, 1, 10, 20, 40, 80, 100, 200, 500, 1000, 2000 4000 sps
Digital Filter (@ output Nyquist):	>130 dB @ 200 sps (FIR or optional IIR)
Phase	Linear within the passband
Static RAM Buffer:	16MB

TIMING SYSTEM

Type:	True Real Time™ PLL controlled, GPS-referenced
Crystal Oscillator	64MHz TCXO; ≤ 1 ppm
Crystal Frequency Correction Resolution	0.016 ppm
GPS Receiver (for pre-launch calibration):	Miniature; external

EVENT DETECTORS

Type:	STA/LTA, up to 6 independent detectors in frequency domain
Pre-filter	Up to 6 passbands
Pre-event data buffer	up to 90 seconds (@ 100 sps)
Post-event buffer	User configured – no limitations
Trigger channels	May be controlled by one, several or all 6 detectors associated with any physical or virtual acquisition channel

¹ Fourth channel may be used as state-of-health channel or function as fully featured data channel



PMD 6502 SPECIFICATIONS (Con't):

POWER

Voltage:	6 – 16 Vdc
Overvoltage protection:	±60 V
Power consumption (3 channels, 100sps):	max. 600 mW

USER INTERFACE

Remote PC:	RS232, RS485 Ethernet optional
User Control:	Menu-driven; state-of-health messaging via Remote PC
Master Computer	Fully PC Compatible, single-board, PC/104 (586 CPU)

MASS STORAGE

Miniature Hard Disk	Removable disk cartridge up to 30 GB; EIDE interface
Disk Compatibility:	Any PC
Disk cartridge size and weight	80x140x22mm; 190g
Temperature Range:	0 to +50°C
Data Formats:	Mini-SEED w/Steim-2 compression up to x6 CSS 3.0: long integer; separate data description in ASCII

COMMUNICATION

Standard Data Retrieval:	Removable EIDE disk cartridge
Continuous Data Transmission:	RS232 optional RS485
Ethernet	Optional LAN card

ENVIRONMENTAL PARAMETERS

Housing	Aluminum extrusion
Operating Temperature Range	0 to +50°C
Humidity	100%
Storage Temperature Range	-40 to +60°C
Size	265x127x76mm*
Weight	~2.2 kg

CONNECTORS

Power	Miniature PICO Series Lumber Connector
Data Channels (4) and sensor power	Subminiature DB15
RS232 port	Subminiature DB9
GPS	Subminiature DB9

* For a standard 4-channel system