Common sense…uncommon innovation

GEOTECH INSTRUMENTS, LLC

FEATURES

- **24-bit delta sigma ADC**
- **1, 3, 4, 6 channels**
- **Two PCMCIA Card slots for up to 8 GB and one SCSI slot 4 GB of storage**

The DL-24 is a low-power portable 24-bit data recorder, ideally suited for temporary deployment and for observatory conditions.

The unit auto-detects installed hardware at power up. A GPS receiver can be used to synchronize data samples to UTC.

Two PCMCIA PC card slots and one SCSI slot allow the use of a variety of standard PC Cards or SCSI discs for data storage, data retrieval and communications. Two serial ports can be used simultaneously for data transfer. Utility software is provided for system setup, communications, data retrieval and real-time display, either locally or remotely.

FLASH and FPGA technology is used for easy field upgrades to the operating firmware.

PORTABLE DATA RECORDER

MODEL DL-24

10755 SANDEN DRIVE, DALLAS, TEXAS 75238-1336
Phone: 214-221-0000 Fax: 214-343-4400
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MODEL DL-24 SPECIFICATIONS

DATA ACQUISITION

Number of inputs	1, 3, 4 or 6 channels
Input type	Balanced differential with transient protection suitable for both passive and active sensors
Input range	40 volts p-p bipolar differential
Gain	User selectable 1 to 256
Common mode rejection	Greater than 80 dB
Digitizer	Over sampled 24-bit Delta Sigma ADC with digital signal processing, 1 per channel
Anti-alias filter	Brickwall digital FIR filter, cutoff at 80% of and 130 dB down at output Nyquist frequency
Dynamic range	130 dB at 100 sps
Intermodulation distortion	Less than -100 dB
Sample rates	10, 20, 40, 50, 60, 80, 100, 120, 125, 200, 250, 500, 1000 sps primary recording sample rates
Noise	4.75 microvolts RMS typical at 100 sps, X1 gain
Calibration	Pulse, sine wave, pseudo-random wide band noise, and step functions

ACQUISITION MODES

Continuous	User selected start time, ring buffer or until storage full
Timed	16 user programmable recording windows
Triggered	Threshold, STA/LTA (updating or non-updating), and external
Pre-event length	Up to 32,768 data samples
Post-event length	Up to remaining data storage

DATA STORAGE

Type	PCMCIA: Two PC Card slots for memory cards or ATA type hard drives (up to 2 x 4 GB = 8 GB), both FLASH memory type and rotating media SCSI: Removable 4 GB hard drive
Recording format	DOS compatible file format, drives readable directly on a PC, format converters available for SUDS, ASCII, and DADiSP (For other formats, contact factory.)

TIMING

	Voltage controlled TCXO with optional external GPS synch.
Accuracy	±5 microseconds of UTC with GPS lock
Stability	0.5 PPM (when unlocked)
GPS duty cycle	User programmable GPS power on/off cycle times

INTERFACE

Indicators	4 LEDs for power, memory, timing, and status information
Communications	One RS-232 serial port up to 115 kbaud for ext. modem, one RS-232 serial port for local user interface or real-time data output (up to 115 kbaud) and PCMCIA PC Card modem or cell modem
GPS	Dedicated RS-232 serial port
Power	Main power and external battery inputs
Other I/O	Analog input, external trigger in/out, 1 PPS in/out
Data retrieval	PCMCIA PC Card or SCSI hard disk exchange, hot pluggable with power on Serial port file transfer via direct or remote (via modem, radio, etc.) connections Real-time continuous data output stream in USGS or ICP formats

POWER

Input	10 to 15 Vdc
Power consumption	5.75 watts average (1 channel) 6.25 watts average (3 channels)

PHYSICAL

Construction	Portable rugged polyethylene rotationally molded case
Size	9.5 in (241 mm) w x 16.75 in (425 mm) l x 18.25 in (464 mm)
Weight	25 lbs (11.3 kg)
Operating temperature	-20°C to +65°C; PCMCIA PC Card and SCSI hard disk options may limit this range
Humidity	0 to 100%