



High Speed Data Logger

Overview

Enclosed in a rugged yellow case the size of a lunchbox, the High Speed Data Logger with precision time-stamping, provides precise synchronization of data at remote locations. Sampling rates as high as 10,000 samples per second, provide researchers with a precise GPS timestamp for every measurement taken, and it records information conveniently to a USB jump drive. The device is affordable enough that if lava consumed it, a scientist's entire project budget wouldn't go with it.

“They don't use a lot of battery power, and they've got them set up where I can use a cheap memory stick (for recording data),”... “And there's so much memory, I can take measurements 100 times a second if I wanted.”

Geophysical Institute Assistant Research Professor Chris Larsen, has purchased five Chaparral Field Data Loggers and will use them to gather seismic data on glaciers to see what sort of signals the glaciers make as they grind away bedrock. Larsen will also use one of the data loggers to gather wave-pressure information that will tell him how frequently icebergs calve from certain glaciers. “They don't use a lot of battery power, and they've got them set up where I can use a cheap memory stick (for recording data)”, says Larsen. “And there's so much memory, I can take measurements 100 times a second if I wanted.”

Feature rich and elegant in operation, the all-weather High Speed Data Logger from Chaparral will get the job done for you. Order yours today!

Main Features

- Precise time-stamping at high sampling rates;
- GPS time stamping (100 μ sec accuracy);
- Records 4 Gbytes of data directly to a USB flash drive;
- Cold weather operation;
- 10,000 samples per second maximum sampling rate;
- 16 bit resolution;
- 8 channel single ended / 4 channel differential;
- Very easy to use PC GUI interface;
- Weather tight;
- Ideal for any application requiring large amounts of data to be recorded in the field;
- Light-weight, compact, and portable;
- External GPS antenna with 4 ft. cable;
- Includes free 2 GB Crucial USB flash drive;
- Made in the U.S.A.

Specifications

Sample rate:

- 10,000 samples per second aggregate rate. (i.e. 1ch @ 10k, 2ch @ 5k, 4ch @ 2.5k)
- Minimum sample rate is 1 sample per second.
- Sampling rates from 1 to 10,000 samples per second are supported.

Time stamping resolution

- 100 μ s at 10,000 samples per second

Input impedance: 42k Ω single ended and 31k Ω in differential.

- Drive with a low impedance source for best performance.

Input voltage range:

- ± 10 v, 0-10v, ± 5 v, 0-5v software selectable.
- ± 25 v input protection



Number of Channels:

- 8 single ended or 4 differential. Differential pairs are 1-2, 3-4, 5-6, 7-8.

Resolution: 16 bit

- Noise 120 μ V RMS typ.
- Crosstalk -78dB typ. @ 100Hz. All channels driven with opamp buffers.

Power:

- < 2 Watts. This will vary depending on the USB drive.
- Input voltage range: 9-16v. Logger is reverse voltage protected, but not over voltage protected.
- Low voltage shutdown activates at 9 volts. The logger powers back up when the voltage rises above 11 volts. Current draw in shutdown is $\sim 170\mu$ A

Environmental:

- Watertight enclosure suitable for harsh environments
- Operating temperature -55 $^{\circ}$ C to +60 $^{\circ}$ C
- 2.2 lbs including GPS antenna and flash drive.
- 8.75 x 7.5 x 3.75" box with carry handle.



Connectors:

- Std. DB9 female for serial data.
- SMA for GPS antenna.
- SwitchCraft EN3 panel 2pin male for power. (EN3P2M)
Mate is EN3 cord 2 pin female (EN3C2F).
- SwitchCraft EN3 panel 10pin female for A/D. (EN3P10F26S)
Mate is EN3 cord 10 pin male (EN3C10M26S)



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