REF TEK

Third Generation Broadband Seismic Recorder

Model 130-02

Seismic Applications

- *Local and Regional*
- *Broadband*
- *Aftershock*
- *Site Noise Survey*

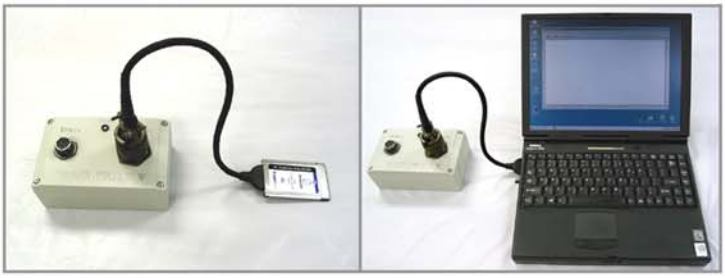
Features

- *State-of-the-Art ADC for BB / SP Seismometers*
- *Small Size and Light Weight*
- *Modular Hardware and Software*
- *IP Communications over Ethernet and Asynchronous Serial*
- *External / Swappable High-Capacity Disk Drive*

130-02 Specifications

The 130-02 Broadband Seismic Recorder is the same as the 130-01 except mass storage is provided by an external high-capacity disk drive, model 130-ED. A MS connector replaces the Compact Flash receptacle for connecting to the disk. The 130-ED is available with either rotating or flash media and capacity starting at 6 GB. A status LED indicates when the disk is busy or the disk is idle and can be swapped with another one. The 130-ED is connected to the PC for reading via a PCMCIA adaptor and cable as shown in the pictures below. The adaptor provides the required power for reading the disk.

For more information on the 130-02 see the 130-01 product brochure.



Mechanical

Size:	*5.3" high x 7.3" wide x 13.5" long*
Weight:	*4.5 lbs (2 kg)*
Watertight Integrity:	*IP 67*
Shock:	*Survives a 1 meter drop on any axis*
Operating Temperature:	*-20 ^{o} C to +60 ^{o} C*

Connectors

Channel Input:	*PTO7A14-19S*
Power:	*PTO7A12-4S*
NET:	*PTO7A14-19P*
Serial:	*PTO7A12-10P*
GPS:	*PTO7A12-8S*
External Disk:	*PT07A20-41S*

Power

Input Voltage:	*10 to 16 VDC*
Average Power:	*~ 1 W (3-ch., no communications)*
	~ 1.4 W (3-ch.,with communications)
	~ 1.7 W (6-ch., no communications)
	~ 2.1 W (6-ch.,with communications)

A/D Converter

Type:	*Δ-Σ modulation, 256 KHz base rate, 24-bit output resolution*
Channels:	*3 or 6 channels*
Input Impedance:	*2 Mohms, 0.002 μFd, differential @ x100; 25 Kohm, 0.002 μFd, differential @ x1*
Common Mode Rejection:	*Greater than 70 dB within +/-2.5 VDC*
Gain Selection:	*x1 and x100*
Input Full Scale:	*20 VPP @ x1 and 0.200 VPP @ x100*
Bit Weight:	*1.589 μvolts @ x1 & 15.89 nV @ x100*
Noise Level:	*~1 count RMS at 50 sps @ x1*
Sample Rates:	*1000, 500, 250, 200, 125, 100, 50, 40, 25, 20, 10, 5, 1 sps*

Time Base

Type:	*GPS Receiver/Clock plus a disciplined oscillator*
Accuracy with GPS:	*+/- 100 μsec after validated 3-D fix and locked*
Free-Running Accuracy:	*0.1 ppm over the temperature range of 0 ^{o} C to 40 ^{o} C, and 0.2 ppm from - 20 ^{o} C to 0 ^{o} C*

Auxiliary Channels

Inputs:	*3 Channels Available on each Sensor Connector*
	Supply Voltage
	Backup Battery Voltage
	Temperature

Communication

NET Connector:	
Ethernet:	*10-BaseT: TCP/IP, UDP/IP, FTP, RTP*
Serial:	*Asynchronous, RS-232: PPP, TCP/IP, UDP/IP, FTP, RTP*
Serial Connector:	
Terminal:	*Asynchronous, RS-232*

Recording Mode

Continuous:	*Record length*
Time Trigger:	*A list of record times and lengths*
Event Trigger:	*STA/LTA with advanced features including bandpass filter LTA hold, etc.*

Recording Capacity

Battery Backed SRAM:	*2 Mbytes*
Hard Disk:	*> 6 GB capacity (specify with order)*

Ordering Information

Part No.	Description
130-02/3	*Recorder, 3rd Generation, 3-channel*
130-02/6	*Recorder, 3rd Generation, 6-channel*
130-GPS	*GPS Receiver/Clock*
130-ED/6000	*Disk, IDE, External, >6 GB capacity*
130-FLASH/6000	*Disk, Flash, External, 6 GB capacity*
RT527-B01	*Sensor Control Board Assembly*
RT535-B01	*Mass Memory Board, 16 Mbytes*
130-8002	*Channel Input mating connector*
130-8004	*Cable, 130 Recorder to Serial (PPP) & Ethernet RJ45*
130-8015-33	*Cable, GPS, 130 to GPS, 33ft (10m) (other lengths available)*
130-8019	*Cable, Ethernet, External, to HUB*
130-8023	*Cable, Ethernet, External, Crossover*
130-8032	*Cable, Disk, 130 to 130-ED Data Port*
130-8037	*Cable w/ PCMCIA adapter for data download, 130-ED to PC*
130-8075	*Cable, Power, 130 to Battery, 6ft.(~2m)*
PALM	*PALM Kit w/ Ruggedized Case, Cable & PFC_130*
130-FIELDCASE	*Case, Transit (holds one 130, GPS, Cables)*
130-TRANSIT	*Case, Transit (holds six 130 ,GPS, Cables)*

Specifications subject to change without notice. Rev.3.2

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Related Sub-systems:

- Third Generation Broadband Seismic Recorder, Model 130-01
- 24-Bit Strong Motion Accelerographs, Models 130-ANSS/02, 130-SM
- Miniature Seismic Recorder, Model 125
- Force-balance Accelerometers, Series 131A
- Advanced Seismic Networks