

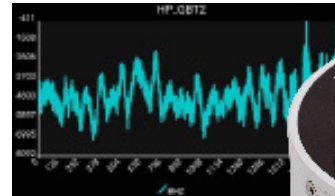


Monitoring the earth

# GEOtiny20

Digital Seismometer

- 3 components seismic sensor
- 3 components acceleration sensor
- Near broad band 20s to 50Hz
- Low power consumption
- Cost affordable design
- Only 130mm D/155mm H
- Integrated 24bit digitizer
- Embedded seedlink server
- Realtime telemetry and local storage
- MiniSeed data format
- Linux open source OS
- Web interface menu
- SSH, SFTP, Telnet
- Modular seismic sensor design
- High sensitivity 1500V/m/s
- Operation range: -20 +70°C
- Waterproof IP67 aluminum case



Pay Less   
Get more!

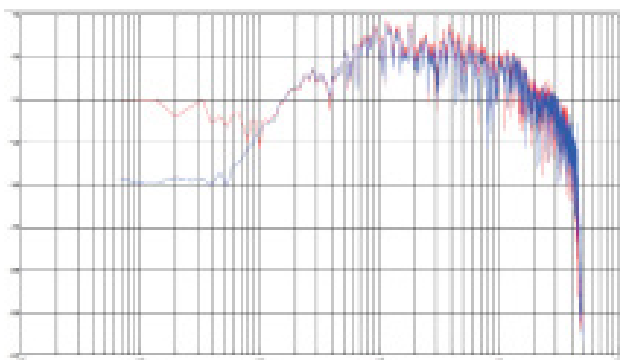
GEObit introduces world's lowest price, compact digital seismometer which integrates seismic and acceleration sensor, 24bit digitizer, local data storage and Seedlink Server for data telemetry. Now supports 20sec sensor!



## FEATURES

GEOtiny20 is a compact digital seismometer which integrates three seismic and three acceleration channels. It supports high resolution 24bit digitizer, embedded linux OS and GPS or NTP timing. Seedlink server ensures reliable real time data telemetry while large storage volume ensures long period local data recording. The instrument has very low power consumption so it can operate getting powered from a small 12Vdc battery. Due to its small size provides the ability to be buried underground. Modular sensor interface allows the user to select between a variety of sensor

types and frequency corners (20sec, 10sec, 5sec, 2sec, 1sec, 2Hz, 4,5Hz), thus covering the short period and wide band seismic range. Design simplicity is the great advantage and it is reflected to the price which is only fraction of the common commercial seismometers. The user is able to deploy even 100% more units than using common seismometers at same cost



- Aftershock monitoring
- Regional seismicity monitoring
- Seismic tomography acquisition
- Induced seismicity monitoring
- Volcano monitoring
- Structural monitoring
- HVSR, MASW surveys
- Educational seismograph
- Personal seismograph

Sensor PSD\* compared to a commercial 120Sec sensor  
RED- GEOtiny, BLUE - 120sec seismometer  
\*related to 10s-50Hz sensor module



## GEOtiny MINIATURE DIGITAL SEISMOMETER

### DIGITIZER

<b>Channels</b>	Three seismic and three acceleration channels
<b>A/D converter</b>	Fourth Generation, Delta-Sigma, 24bits
<b>Nonlinearity</b>	+/-0.001%
<b>Modulator</b>	Fourth Generation, 4th order Delta -Sigma Modulator
<b>Filter</b>	Programmable , FIR filtering
<b>Analog Input</b>	Modular sensor board
<b>Sampling Rate</b>	1, 50, 100, 200, 250, 500 samples per second
<b>Power</b>	9-16Vdc, 0.7W, 0.9 with integrated sensor board
<b>Autonomy</b>	One week powered from a 12V/16Ah battery, 28days powered from a 12V /65Ah car battery
<b>RMS noise</b>	134dB@50sps, 129dB@100sps, 124dB@200sps

### DATA RECORDING

<b>Media</b>	Internal flash card up to 64GBytes
<b>Data file type</b>	Miniseed
<b>Information file</b>	System log file
<b>Recording mode</b>	Continuous or Trigger mode

### TIME BASE

<b>Type</b>	GNSS receiver(GPS, GLONASS, WAAS, EGNOS, BeiDou, QZSS)/DPLL, GPS port
<b>Accuracy Time</b>	+/-1usec to UTC time pulse, +/-5 meters to position
<b>Timing Sources</b>	GPS, RTC, NTP*
<b>DPLL drift</b>	Less than 17usec between one hour GPS cycles

### COMMUNICATION

<b>Telemetry</b>	Ethernet port
<b>Connectivity</b>	SEEDlink
<b>LED</b>	5 high brightness LEDs monitoring system SOH
<b>Protocols</b>	SSH, FTP, SFTP, Web Interface, TCP/IP, HTTP, HTTPS, PPP, MQTT, CoAP/CoAPS, NTP

### INTEGRATED FORCE-BALANCE SENSOR ELECTONICS (modular)

<b>Bandwidth</b>	20se-50Hz, other low corner freq. available
<b>Technology</b>	Force -Balance technology/ Electrodynamic ic
<b>Sensitivity</b>	1500V/m/sec Acc: +/-2g, +/-4g, +/-8g
<b>Noise Floor</b>	>142dB

### PHYSICAL (SEISMIC SENSOR)

<b>Type</b>	Surface Type
<b>Dimensions</b>	130mm diameter x 165mm length
<b>Cable length</b>	Standard 5 meters, up to 50* meters
<b>Mounting</b>	Three adjustable legs
<b>Weight</b>	4.6kg
<b>Tilt</b>	+/-5 degrees -20s/+/-10 degrees-other ver

### ENVIRONMENT (DIGITIZER/RECORDER)

<b>Temperature</b>	-20 to +70°C
<b>Humidity</b>	100%, IP67 enclosure



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