



### Cable-free, Radio-free, Autonomous Data Recorder

- Scalability greater than 50,000 channels
- Delivers high-resolution with a 24-bit delta-sigma ADC
- Built-in GPS receiver and disciplined clock
- Greater than 30 days of continuous recording
- Compatible with explosive, vibratory, and impulsive energy sources
- Accepts standard analog sensor inputs
- Has a built-in full-resolution test generator
- Available as 1, 2, 3, or 4 channel versions
- Has an LED Status/Deployment state indicator





## Cable-free, Radio-free Autonomous Data Recording

The GSX is designed for cable-free/radio-free seismic data recording. The self-contained unit includes 1 to 4 channels of 24-bit digitization, an integrated high sensitivity GPS receiver, built-in test signal generator, up to 32 GB per channel of non-volatile solid-state data storage, and a high-speed data port. The unit is housed in a sealed case, with an input connector and an extended life battery/data port connector.



#### **GSX System Tests**

The seismic channel performance and sensor tests can be performed by the GSX System. The user can choose a partial or complete set of tests that can be run in sequence. The user can also choose to display all of the results or only the failures. In the tests described below, the system software automatically controls the Channel Input Switch Positions and Test Oscillator Settings during the tests. All tests can be run at all sample intervals and preamp gains of the GSX.

- Harmonic Distortion
- Impulse Response
- Equivalent Input Noise
- Instantaneous System Dynamic Range
- Gain Accuracy
- Common Mode Rejection
- Geophone Impedance and THD
- Crossfeed (multi-channel)

### and Based Recorder.

#### FEATURES AND SPECIFICATIONS

- 24-bit digital recorder
- Built-in GPS and disciplined clock
- Built-in full resolution test signal generator
- Solid-state flash memory
- Scalability greater than 50,000 channels
- Greater than 30 days of continuous recording
- Compatible with vibratory, explosive, and impulsive energy sources
- LED Status/Deployment State Indicator
- Accepts standard analog sensor input
- Available as 1,2,3, or 4 channel versions

- 24-bit delta-sigma ADC
- 1 Hz to 1600 Hz freq. response
- <20 µsec. of UTC (GPS clock)
- Up to 32 GBytes per channel flash memory storage
- External extended life battery
- Operating Temperature: -40° C to +85° C
- Humidity: 0 to 100%
- Selectable Gains:
  X1, X2, X4, X8, X16, X32, X64
  0, 6, 12, 18, 24, 30, 36 dB
- Sample Intervals: — .25, .5, 1, 2, 4 milliseconds

Max Input Signal:	1.80 Vrms @ 0 Gain		System Dynamic Ra	ange @ 2 ms	ec SI:
Total Dynamic Range:	140 dB			124 dB	@ Gain 0 dB
System Dynamic Range @ 0dB Gain:			123 dB @ Gain 6 dB		
126 dB @ 4 ms			122 dB @ Gain 12 dB		
	124 dB @ 2 msec SI			120 dB @ Gain 18 dB	
	120 dB @ 1 msec SI	120 dB @ 1 msec SI 115 0 17 dB @ .5 msec SI 110 0			🦻 Gain 24 dB
	117 dB @ .5 msec SI				🦻 Gain 30 dB
	106 dB @ .25 msec SI			105 dB (	Gain 36 dB
Equivalent Input Noise @ 2 msec SI:			<b>Total Harmonic Dis</b>	tortion:	0.0005%
-4	1.13 μV @ Gain 0 dB		Common Mode Rej	ection:	0.001%
	0.58 µV @ Gain 6 dB		Gain Accuracy:		1%
(	0.33 μV @ Gain 12 dB		Anti-Alias Filter:		
0.22 μV @ Gain 18 dB			Rejection @ Nyquist: 13		
(	0.19 μV @ Gain 24 dB		Frequency @ –3 dB: 0.83 Nyquist Linear or Minimum Phase		
(	0.18 μV @ Gain 30 dB				
	0.17 μV @ Gain 36 dB		GPS Time Standard	•	<1 ppm
Input Impedance:			Weight:		2 lbs.
20 kΩ/0.00 20	6 μf Difference Mode 5 kΩ Common Mode		Max Dimensions:	3.5″W x 3.	0″H x 6.67″L



# **Big Advances in Small Packages**



GSX1 with a BN6 battery and a GS-ONE geophone in a Land Case.



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