





Universal Seismic Recording System - Continuous Recording Nodes



Excellent Data Quality

- Best 32 bit A/D
- High Resolution Clock

Superior Production

- Download Data While Recording
- No Lost Data (Internal Storage)
- Real-Time Spread Noise

Operating Mode	Status	Control	Data
Autonomous			
MRN	×	>	
AP/Station WiFi	×	<	<
MESH WiFi	 Image: A set of the set of the	 	~
Cellular	×	<	<
Cabled	 Image: A set of the set of the	 	 Image: A second s





Autonomous

- Shoot Blind
- Self-Test on Start-up for independent deployment
- Simple: Plug it in and Record Data

MRN (Mesh Radio Network)

- Low Power, Easy to Deploy & License Free Frequency
- Status & Control for All Nodes
- Sleep/Wake-up on Demand Saves Battery
- Real Time RMS Spread Noise for Quick Decisions

AP/Station Mode WiFi

- Real-Time Seismic Data
- Status & Control for All Nodes
- Good for Dense to Sparse Arrays
- Ideal for Permanent or Long-Term Deployment

MESH WiFi

- Real-Time Seismic Data
- Status & Control for All Nodes
- Good for Medium & High Density Arrays
- Easy to Deploy / Hops from Station to Station

Cellular

- Real-Time Seismic Data
- Status & Control for All Nodes
- Use Any Cellular Vendor.
- Connects Sigma to Server over the Internet from anywhere to anywhere in the world

Cabled

- Real-Time Seismic Data
- Status & Control for All Nodes
- Cable Connections includes Network and Geophones
- Useful where Vegetation or Culture affects WiFi signals















Data Download



Superior Design

- Download Current or Historical Data
- Does Not Interrupt Data Acquisition

USB Data Offload

- Duplicates Data While Recording
- Promotes Faster Station Visits

Network Data Offload

- Cable, WiFi, Cellular, Satellite, etc.
- Uses Standard Off-the-shelf Components.

Sigma Works in All Environments



Sigma	Spec	cifica	tion
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Electrical	
A/D	32 bit sigma delta converter
Anti-Alias Filters	85% of Nyquist frequency
Low Cut Filter	User Selectable – DC, 0.1 Hz, 2 Hz
Filter Type	User Selectable – Linear, Minimum
	Phase
Sample Rates	1⁄4, 1⁄2, 1, 2, 4, 8 ms
Max Input @	0.31 Volts peak to peak
High Gain	
Max Input @	5.00 Volts peak to peak
Low Gain	
Power	0.48/0.01 watts per channel
Wake/Sleep	
Input Impedance	20k Ohms
Clock Sync	GPS or VHF/Wire
Sensor Types	Passive & Active
Performance	
Trigger Accuracy	± 1 µs at all sample rates
Dynamic Range	126 dB
% THD	0.0012 %
Crosstalk	Better than -125 dB
Common Mode	> 100 dB
Rejection	
Noise Floor	< 0.09 µV RMS @ 2ms

Physical	
# Channels	3
Temperature	-40°C to +85°C
Humidity	0 to 100%
Size	11½" x 13¼" x 4″
	(292 x 337 x 102 mm)
Weight	5 lbs (2.3 kg)
Data Storage	480 hours (3 channels @ 2ms)
(Internal 8GB CF)	
Data Storage	960 hours (3 channels @ 2ms)
(External 16GB USB)	
Data Format	32-bit float IEEE SEG-Y/SEG-D
LEDs	GPS/Recording LED, Battery
	LED

