

Seismic Water Detector

This seismic water detector is designed for geophysical surveys and hydrological studies. It accurately measures seismic signals to detect underground water sources using surface wave, high density seismic imaging and pulse measurement methods.



Overview

Advanced Seismic Solutions for Hydrology

The A-DSHQ12A is a high-precision seismic water detector designed for detailed geological and hydrogeological investigations. By utilizing vertical wave reflection and multi-wave imaging, it provides critical data on stratum partition, lithology, and bedrock fracture water yield. This versatile system supports 2D and 3D observation technologies, making it an essential tool for forecasting porosity in saturated sandstone and identifying underground water-containing layers.

Key Performance Metrics

Performance Highlights

24 bits

A/D Resolution

144 dB

Dynamic Range

4 KHz

Frequency Upper Limit

Technical Specifications

Simulation Channels

- 1
- 2
- 3
- 4
- 6
- 12
- 24
- 48

Sampling Rate Options	10%, 31.25%, 62.5%, 125%, 250%, 500%, 1ms, 2ms, 4ms, 8ms
Preamplifier Gains	1x (0dB), 4x (12dB), 16x (24dB), 64x (36dB)
Frequency Response Range	0.1 Hz to 4 KHz
System Noise	Less than 1 μ V (full frequency)

Applications

Primary Use Cases

- Refraction & reflection survey for bedrock layering
- Surface wave investigation for overburden stratification
- Multi-wave high density seismic imaging for karst survey
- Field aseismic design for high-rise building safety
- Civil engineering quality inspection for bridge piers
- City vibration and explosion safety estimation
- Shear wave measurement for rock mass elasticity

Computing & Interface

Internal Computing Unit

Component	Specification
Processor	Industrial PC104 (933MHz)
Memory	128MB
Storage	e40GB Hard-disk
Display	1024*768 TFT Color LCD
OS	Windows XP

Supported Data Formats

SEG-2 • SEG-Y • CSP

Connectivity Ports

Double USB, PS/2 Keyboard, Mouse Port, Parallel Port, Network Port

Physical & Environmental

Power Requirements	12V ± 20% Battery Supplied
Power Consumption	4 A
Operating Temperature	-10°C to +55°C
Storage Humidity	90% RH