Earth Science Systems

ESSENTIAL UNDERGROUND INFORMATION

Cube Seismic System

Wireless – Auto Location

The most versatile and easy-to-use small scale seismic system available. Conduct several types of surveys including MASW, Vs30, refraction, and reflection surveys.

The **ESS Seismic Cube System** makes near surface seismic surveys fast and easy. Wireless telemetry eliminates all cables and a precision GPS eliminates time consuming layout with tape measures. Each cube contains a geophone and a thee-component accelerometer so that seismic energy can be recorded from 4.5 Hz to 1000 Hz for investigating depths from 30 cm (1 ft) to 30 m (100 ft). Survey data are collected and analyzed with a tablet computer which allows users to quickly acquire data, process data, and generate reports while on site.

This flexible system can be used for near surface investigations such as road subgrade stiffness measurements, Vs30 surveys, and geotechnical site characterization. Several surveys types can be performed such as MASW, refraction, and reflection surveys.

Traditional seismic sources such as hammer strikes and weight drops can be used. An optional computer controlled active source is also available that can drive stepped frequency tones for MASW surveys.

Earth Science Systems, LLC – 11485 W. I-70 Frontage Rd. – Wheat Ridge, CO – USA
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Cube Seismic System

Wireless Telemetry and Automatic RTK GPS Positioning

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Site Characterization
Measure shear velocity, stiffness, rippability, depth to bedrock or water table.

Advanced MASW Software
Use tablet software to acquire seismic data and conduct MASW analysis. Export SEG-Y data files for refraction and reflection analysis with third party software.

Scalable Receiver Array
Base system contains 8 cube seimometers. Add more sets for up to 24 total.

No Cables in Operation
No cables to get frayed, and no damaged or dirty connectors to replace. Eliminates intermittent connections.

Multiple Sources
Base system includes a hammer and strike plate. Optional computer controlled active source for stepped frequency MASW surveys.

Flexible Deployment Configurations
Seismometers can be deployed using spikes or affixed to a land streamer.

Easy Charging
The shipping case's integrated charging system charges the tablet and all cube seismometers. simultaneously.

Specifications

- 4.5 Hz vertical geophone
- Three component accelerometer
- Bandwidth > 1 kHz
- 24 bit digitizers
- Rugged Dell tablet computer
- WiFi-interfaced, fully cable-less operation
- Durable construction
- IP65 ingress protection
- Rechargeable 2600mAh Lithium-ion battery with up to 5 hours continuous operation
- Cube dimensions:
  3.23 x 3.23 x 3.86 inches (8.2 x 8.2 x 9.8 cm)
  1.2 lbs. (0.54 kg)

- Shipping case dimensions:
  12.32 x 19.5 x 24.25 inches (31.3 x 49.5 x 61.6 cm)
  53.4 lbs. (24.2 kg)
- Optional computer controlled active source:
  Weight: 28.6 lbs (13 kg)
- Source shipping case dimensions: 20 x 26 x 15.38 inches (38.1 x 66 x 39 cm) 56.2 lbs (25.5 kg)

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