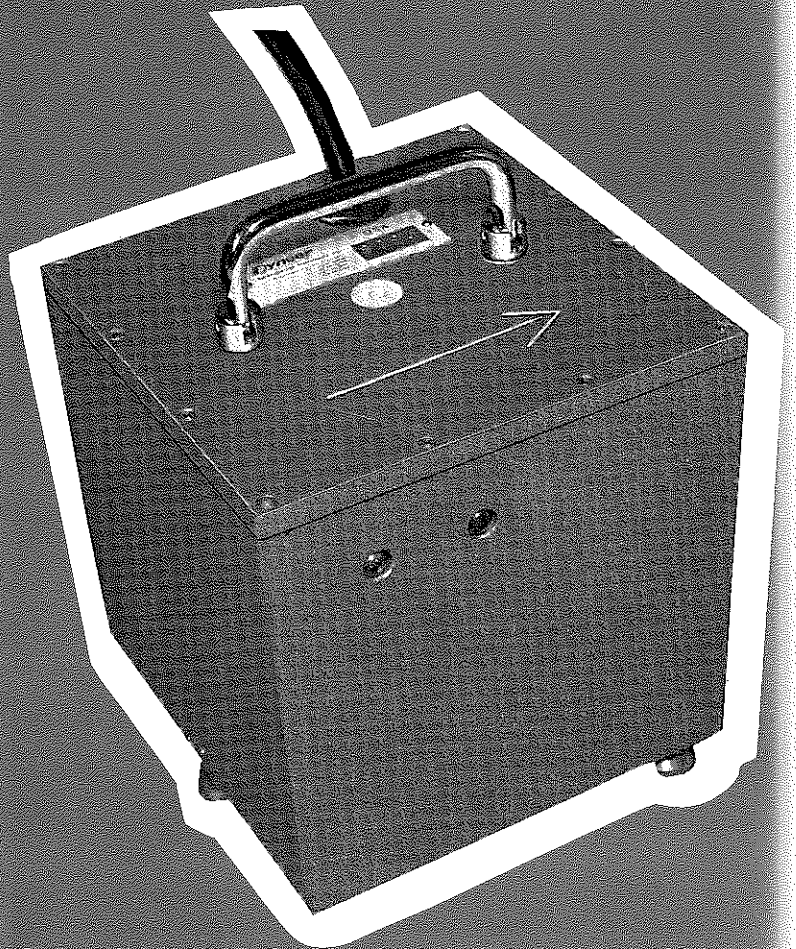


*Sprengnether Instruments, Inc.*

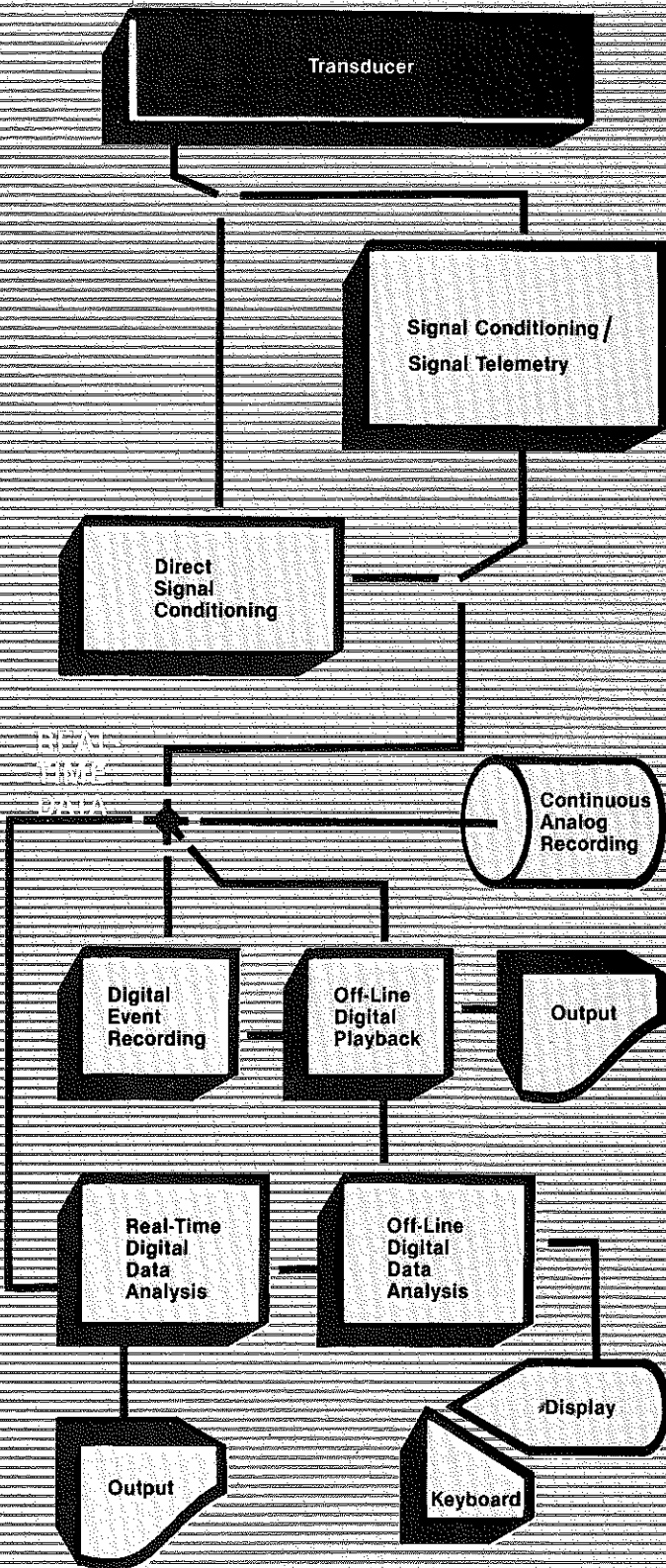
# S-6000

## Benefits

- Simple Deployment
- Reliable, Accurate Resolution
- Compact, Rugged, Waterproof
- Economical



*Sprengnether Instruments, Inc.*  
**3-Component Short  
Period Seismometer**



Data acquisition systems, for seismic or other event-oriented, time varying signals, are built from a number of specific sub-systems, or tasks. Each task must be optimized to a specific function, yet interface smoothly into the overall system for precise, predictable results. The highlighted boxes above illustrate the functions covered by instrumentation in this data sheet.

## Features

- **Simple deployment**—no mass position adjustments or clamping devices needed.
- **Three accurately oriented** high output detectors housed in rugged, compact, waterproof cube.
- **Moving coil (stationary magnet)** transducers eliminate magnetic interaction between components.
- **High inertial mass** — .5 kg at 2 Hz.
- **Three components** equipped with 20-turn calibration coils.
- **Minimal ringing** due to improper ground coupling.
- **Precise orthogonal geometry** design eliminates orientation problems and assures accurate resolution.
- **Wide range** of applications.

## High Performance

The Sprengner S-6000 3-Component Short Period Seismometer is ideally suited as the sensor in portable systems. No mass position adjustments or clamping devices are necessary. Only very coarse leveling with a circular level on the case is required for operation.

The S-6000's high inertial mass provides low inherent noise. All three components are equipped with 20-turn calibration coils. The density of the unit is 1.6 gm/cc, giving a good impedance match when buried in average soil, thus minimizing ringing due to improper ground coupling.

Sensitivities to 470 volts per meter per second are available.

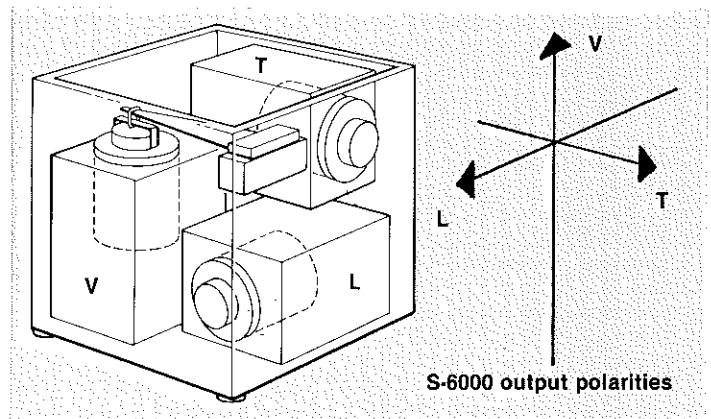


Fig. 1

## Mechanically Sound Construction

The S-6000 is a compact, rugged instrument providing three accurately oriented, high output detectors in a waterproof 18cm (7 in) cast aluminum housing. The moving coil-stationary magnet transducer design eliminates magnetic interaction between components and with ambient fields. Years of experience in demanding industrial and scientific research applications have made the S-6000 the sensor of choice worldwide.

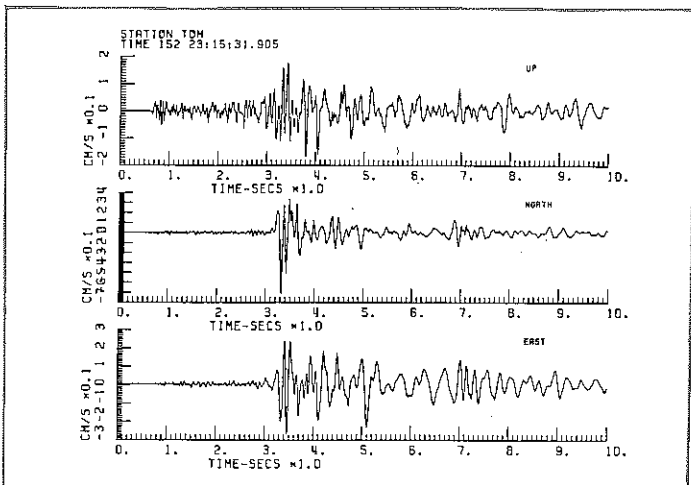
## Variety of Applications

The versatile characteristics of the S-6000 portable module make it the ideal sensor in many applications, including:

- Blast Vibration Monitoring
- Refraction or Reflection Studies
- Microearthquake Studies

The S-6000 is an ideal transducer for use with the following Sprengnether systems:

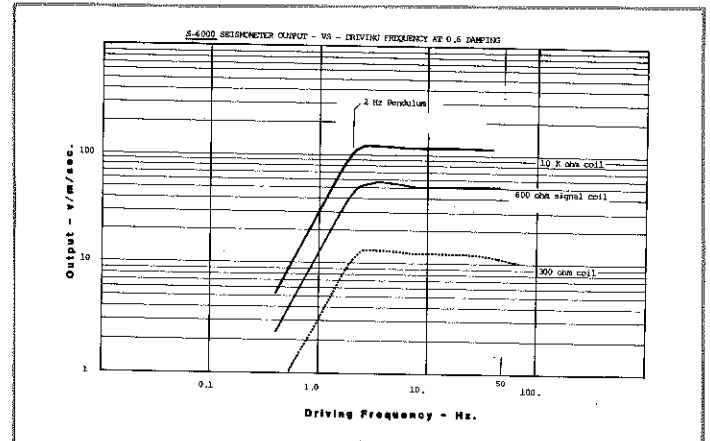
- DR-100 and DR-200 Portable Digital Event Recorders.
- VS-1600 Engineering Seismograph.
- Sprengnether network systems with PTS Series telemetry.
- VR-60 Recorders.
- MDR-300 and Q-Log Data Acquisition Systems.



courtesy U.S.G.S.

**Fig. 2**

**Local microearthquake recorded with S-6000 and Sprengnether digital recorder.**



**Fig. 3**

**Response Characteristics**

## Specifications:

<b>Natural frequency</b>	2 Hz
<b>Inertial Mass</b>	0.5 Kg @ 2 Hz
<b>Mass Excursion</b>	± 2 mm
<b>Signal Coils</b>	
• Signal	10K ohms
Transduction constant	
—open	280 v/m/s
—effective	110 v/m/s (.64 damping)
• Signal	640 ohms
Transduction constant	
—open	50 v/m/s
—effective	12.5 v/m/s (.64 damping)
<b>Calibrate Coil</b>	
Motor constant	0.5 Newton/amperes
Number of turns	20
Resistance	Cal coils series connected; 3.7 ohms per coil
Maximum Continuous Current	100 MA
<b>Temperature range</b>	-30 to +55°C
<b>Thermal response</b>	-0.18% /°C
<b>Leveling limit</b>	± 2 of vertical
<b>Weight</b>	9.0 Kg (19.5 lbs.)
<b>Density</b>	1.6 g/cc
<b>Dimensions</b>	18 x 18 x 18 cm (7 x 7 x 7 inches)
Supplied with 11 foot cable.	
Standard cable connector . . . PT06A-12-10S(SR)	

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## How to Order:

- (1) S-6000 short period seismometer with
- a) 10 K ohms signal coil
  - b) 640 ohms signal coil
  - c) 300 ohms signal coil

Specify a, b or c.

The 10 K ohms coil is standard for use with Sprengnether systems.

- (1) 11 foot connection cable included at no extra charge.

Signal cable extensions optional.

Recording, signal conditioning, and signal analysis equipment for all applications can be provided by Sprengnether.

Please contact us for complete systemization service.

**SPRENGNETHER**

**INSTRUMENTS, INC.**

4150 Laclede Avenue

St. Louis, MO 63108

314/535-1682

TLX 44-2399/Cable: SPRENCO

FAX No. 314/535-1252

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