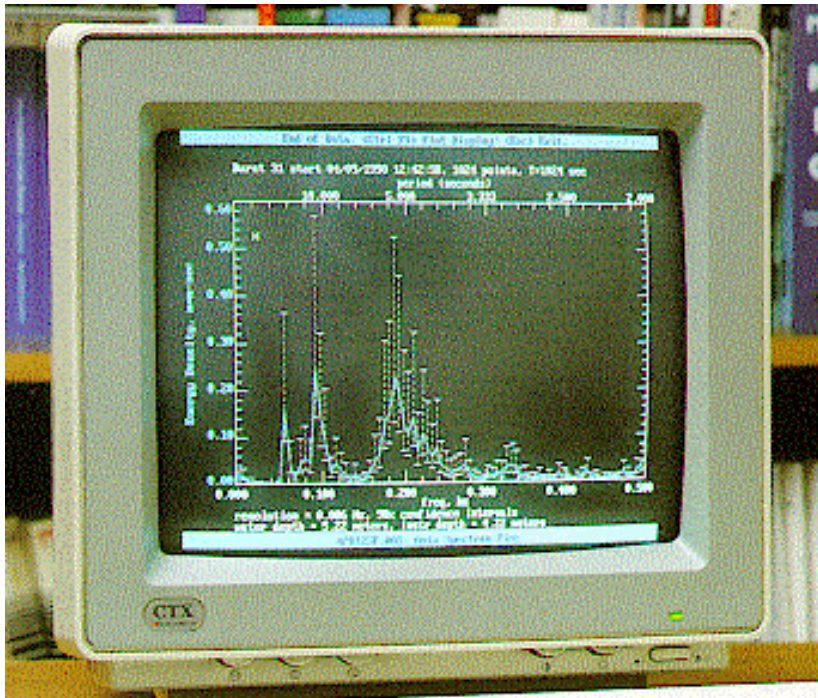


- Standard Quartzonix pressure sensor
- Optional Digiquartz® pressure sensor
- Up to 8 Mb solid-state memory
- RS-232 direct data upload
- Accurate temperature sensor
- Optional conductivity sensor
- Powerful software included
- All plastic/titanium construction
- Operates with alkaline 'D' batteries

SEAGAUGE Wave & Tide Recorder combines Sea-Bird's reliable semiconductor-memory electronics, stable time base, precision thermometer, and quartz crystal pressure sensor to provide wave and tide recording of unprecedented resolution and accuracy, along with high-quality temperature information. A second input connector for a conductivity sensor is also standard.



The SBE 26 above is being secured in its optional mounting fixture. After installation at a mooring site, the fixture allows removal and precise repositioning by a diver. Tools are not required, and there are no loose parts to misplace.



The data example shown above is an auto-spectrum plot of surface wind waves obtained from one burst sample of 1024 pressure measurements. The error bars correspond to 90% confidence intervals.

The SBE 26 SEAGAUGE continuously integrates pressure samples to obtain water level measurements unaffected by wave action, and also independently burst-samples pressure at rates up to 4 Hz for wave amplitude calculation. Water level integration and wave burst sampling intervals and durations are programmable. The large memory permits frequent water level recording and highly detailed wave characterization. For example, with an 8 Mbyte memory, a 120-day deployment could include water level measurements every 15 minutes and 20-minute 2 Hz wave-burst samples 8 times a day.

The SBE 26 SEAGAUGE includes SEASOFT® for Waves, a comprehensive package of DOS programs including deployment planning, instrument setup and data retrieval, plotting, auto-spectrum and time series analysis, and statistics reporting.

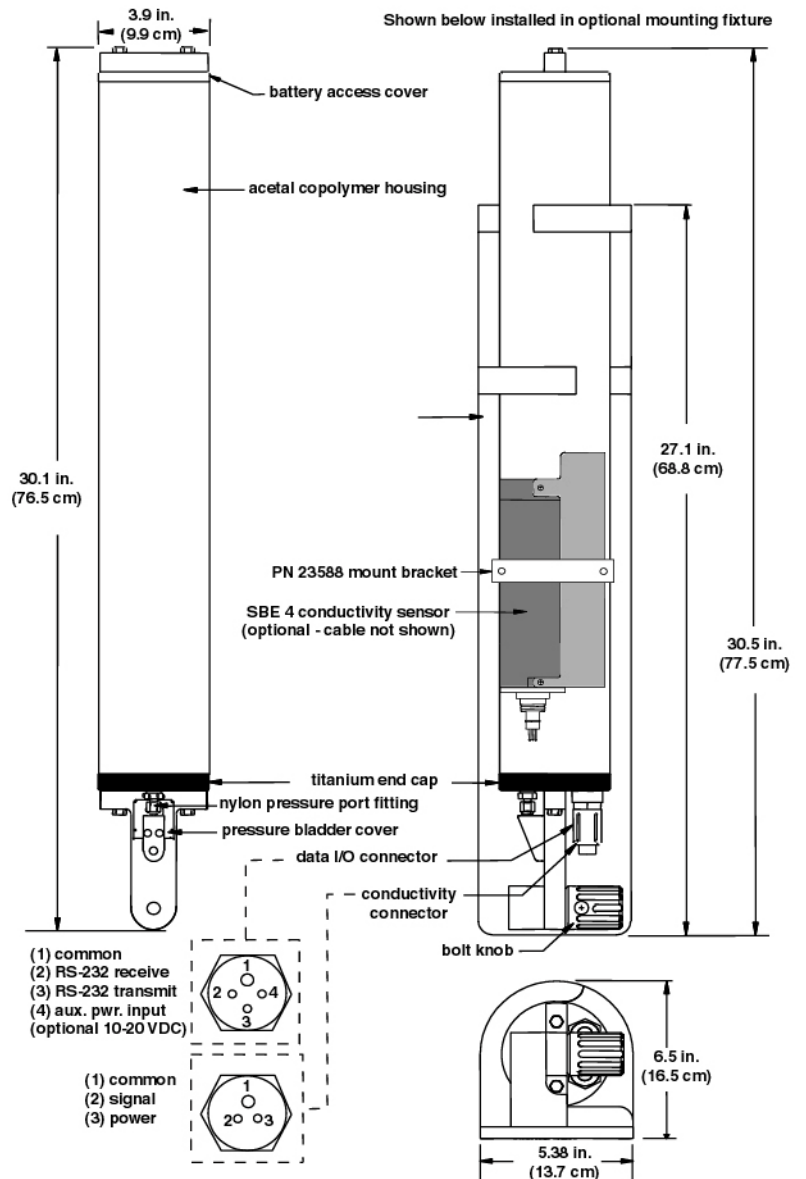
Using SEASOFT for Waves and an IBM PC-compatible computer, the recorded data (wave, tide, temperature, and optional conductivity) is uploaded after recovery via an RS-232 interface, without opening the housing. The battery compartment is separated from the electronics by a moisture-proof seal, and contains 9 standard alkaline D-cells, providing approximately 6 months of operation, or less with frequent wave bursts. Longer deployments are possible using lithium batteries.

## SENSORS

The standard pressure sensor is a 45 psia Quartzonix temperature-compensated transducer (other ranges, using a Digiquartz sensor, are optional). Temperature is measured with an aged thermistor imbedded in the SEAGAUGE end cap. An SBE 4 conductivity sensor (optional) may be interfaced via the second bulkhead connector and clamped to the SEAGAUGE housing.

## PROGRAMMING & RECORDING

The tide integration time is user-programmable in minute increments over a range of 1 to 30,000 minutes. Temperature data is recorded with each tide integration. Waves are characterized by burst sampling with the number of samples per burst, burst interval, and burst integration time programmed by the user. A tide and temperature measurement consists of 4 bytes (6 bytes with optional conductivity); each sample in a wave burst uses 3 bytes.



## SPECIFICATIONS

### Pressure

Measurement range: 0 to 21 meters (45 psia full scale)  
 Accuracy: 0.01% FS (3 mm for 45 psia range)  
 Repeatability: 0.005% FS (1.5 mm)  
 Hysteresis: 0.005% FS (1.5 mm)  
 Calibration: 0 psia to full scale pressure  
 Tide Resolution: 0.2 mm with 1 minute integration  
 0.01 mm with 15 minute integration  
 Wave Resolution: 0.4 mm with 0.25 sec integration  
 0.1 mm with 1 second integration  
 Counter time-base:  $\pm 2$  ppm stability vs. temperature (-5 to 35 °C);  $\pm 2$  ppm per year aging  
 Memory (static RAM): 1024K (standard), 2, 4, or 8Mb (optional); back-up battery gives 2 years data retention after main battery is exhausted.  
 Real-time clock: 15 seconds per month stability; battery-backed  
 Weight, air: 6.4 kg (14 lbs) with alkaline batteries, mounting fixture weighs 3.6 kg (8 lbs)

### Temperature [°C]

Measurement Range: -5 to +35<sup>1</sup>  
 Accuracy: 0.02  
 Resolution: 0.01  
 Calibration: -1 to +31

<sup>1</sup>measurements outside the specified calibration ranges will be at reduced accuracy due to extrapolation errors.

### Conductivity [S/m] (optional)

Measurement Range: 0 to 7<sup>1</sup>  
 Accuracy: 0.001  
 Resolution: 0.0001  
 Calibration: 1.5 - 6

