

# Programmable Sonar Altimeters

## Model PSA-916 Low Cost Programmable Sonar Altimeter

The PSA-916 is a low cost, lightweight altimeter designed for diverse applications in the marine environment. It provides the user with high resolution altitude/range data while simultaneously outputting data through a digital serial port. A wide beam angle provides for reliable and accurate range measurements under the most severe operational conditions.

### Features:

- Compact size and weight allows for integration with the smallest ROVs or marine sensors
- Simultaneous analog and digital outputs provide altitude/range data
- Electronically isolated to eliminate any potential signal interference with host instrument sensors
- 6000 meter depth
- Low cost

### Applications

- ROV/instrument altitude measurement
- Bridge scour studies
- Obstacle avoidance
- Sediment transfer studies
- Docking assistance for ships



## Model PSA-900 Programmable Sonar Altimeter

Benthos altimeters are precision instruments used for diverse applications in the marine environment. The PSA-900 is microprocessor controlled with a range resolution of 1 cm. It is completely self-contained and requires only external DC power for operation.

### Features:

- Analog and digital outputs. Data includes range, temperature and (optional) pressure
- Outputs include range, temperature and pressure in analog, RS-232, RS-422 (optional) or voltage to frequency format
- Time varied gain
- External key
- 2000 meter depth standard (6000 meter depth optional)

### Applications

- Sediment transfer studies
- ROV/instrument altitude/depth measurement
- Bridge scour studies
- Obstacle avoidance
- Acoustic wave height measurement
- Dry docking assistance



ACOUSTICS

FLOTATION

GEOPHYSICAL

HYDROPHONES

MODEMS

LOCATOR

ROBOTICS



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# Programmable Sonar Altimeters

## SPECIFICATIONS

### PSA-916 Programmable Sonar Altimeter

Operating Frequency:	200 kHz (nominal)
Beam Width:	14° conical typical
Pulse Length:	250 ms standard
Repetition Rates:	5 pps or external
Range:	100 meters full scale
Resolution:	RS-232: 1cm Analog: 2.5 cm
Range Output:	Analog: 0-5 VDC Digital: RS-232
Operating Depth:	6000 meters
Power Required:	7 to 24 VDC
Power Consumption:	60 ma @ 15 VDC
Size:	2.25 in. diameter x 9.75 in. long
Weight:	1.4 lbs. in air; 0.8 lbs. in water

### PSA-900 Programmable Sonar Altimeter

Operating Frequency:	200 kHz (nominal)
Beam Width:	8° conical typical
Pulse Length:	350 ms standard
Repetition Rates:	10 pps, 1pps, .1pps, or external user selectable
Range*:	.75-30 meters with 1 cm resolution or .75-100 meters with 10 cm resolution (user selectable)
Range Output:	0-5, 0-10 volts DC or 1-11 kHz 50% duty cycle square wave proportional to full scale range selected
Depth Pressure Output:	0-5 volts DC or 1-11 kHz represents zero to full scale
RS-232 Output:	2400 Baud ASCII output of temperature, depth, range and error signal in engineering units. Can be interfaced directly to a PC computer or printer.
Temperature Sensing Range:	-4° to +47°
Temperature Output:	0-5 VDC
Temperature Resolution:	±0.2° C
TVG Control:	60 db compensation to 20 LOG 2 R + 2 oc R
Error Flag:	0-5 volts TTL error signal on missed echo or over range
Operating Depth:	2000 meters (standard) or 6000 meters (optional)
Power Required:	15-28 volts at 100 ma DC
Dimensions	
PSA 900:	11.5" height; 4" diameter tube
PSA 900D:	12 .125" height; 5" diameter tube
Weight	
PSA 900:	In air: 7 lbs.; in water: 2.5 lbs.
PSA 900D:	In air: 13 lbs.; in water: 6 lbs.

\*Special configuration for 30cm min. range.



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