

# Specifications for BSS+5 Sediment Mapping System



SDI's BSS+ is ideal for surveying in shallow water, harbors, and waterways and pre- and post-dredge applications. It is a simple-to-operate, complete hydrographic survey and sub-bottom profiling system contained in a single portable splashproof unit. The system includes an Intelligent Depth Sounder (IDS), a true digital sub-bottom profiling capability, a differential GPS receiver (DGPS), a reference receiver, a navigation computer, a TFT color display, survey software and rapid data playback and review software. IDS is a full survey grade depth sounder that digitizes the echo to 16-bit resolution and stores the full digital record on hard disk. IDS provides playback with high resolution and detail.

65,536 shades of gray are digitized versus a maximum of 16 shades typical of paper records. The depth resolution is maintained regardless of the depth range.

DEPTHPIC and SDIDEPTH software provides convenient replay and reprocessing of hydrographic data without hand digitizing or scaling of position. Navigation data and all other collection parameters are saved with all depth soundings. Positions, events and operator annotations are exchanged between HYPACK and SDIDEPTH programs. DEPTHPIC and SDIDEPTH software provide convenient replay and reprocessing of hydrographic data without hand digitizing or scaling of position. Navigation data and all other collection parameters are saved with all depth soundings. Post-processing with DEPTHPIC saves XYZ data in ASCII text format compatible with HYPACK, SURFER, AutoCAD, ArcView and GIS programs for contouring and TIN mapping.

The portable waterproof case and operation from a 12-volt car battery makes the BSS+ ideal for small boat operations. With the BSS+, a battery and a boat, you are ready to begin surveying. All survey and post-processing software is included. The 200 kHz Intelligent Depth Sounder provides the latest technology in high resolution and accuracy with the added convenience of "paperless" electronic recording. The sub-bottom profiling capability adds up to 4 additional operating frequencies to the 200 kHz IDS depth sounder.

## DEPTH SOUNDER SPECIFICATIONS

Software	SDIDEPTH data acquisition and in-the-field data analysis and replay
# of Ranges	6
Ranges	0 to 7.5 m through 0 to 300 m (0 to 30 foot through 0 to 1000 foot)
Minimum Depth	1.2 feet (0.3 meter) standard, 8" (0.2 m) optional dual transducer
Transmit Power range	2 watts to 1,200 watts settable (auto set for depth range)
Depth Sounder Frequency	200 kHz (operator settable +/- 10%)
Beam Pattern	9-degree standard, 3-degree optional (200 kHz)
Resolution	0.75 cm irrespective of range
Sampling rate	100 kHz
Data Recording	100% of digitized echo stored i.e. "Paperless" recording
Depth Units	Meters, Feet, Fathoms
Speed of Sound	Fresh, Salt, or settable 1400 TO 1600 m/s
Operator Settable Inputs	Tide, Draft, heave, blanking, keel alarm, NMEA standard DGPS data format
Zoom	Operator continuously selectable
Tracking	Automatic, settable and fixed with re-digitizing in playback
Tracking gates	0.1, 0.2, 0.5, 1, 2, 5, 10 (m, ft., fth.)
Data Format	ASCII and binary files compatible with HYPACK, SURFER, AutoCAD and GIS
Navigational data	Stored with every depth sounding
Acquisition Parameters	Stored with every depth sounding

## MULTI-FREQUENCY SUB-BOTTOM PROFILER SPECIFICATIONS

Acquisition Software	SDDEPTH data acquisition and in-the-field data analysis and replay
Processing Software	DEPTHPIC allows processing of multiple sub-bottom layers into GIS, HYPACK, AutoCAD and Surfer compatible ASCII text formats
# frequencies	4 plus depth sounder
Available Frequencies	3.5kHz, 4kHz, 12 kHz, 24 kHz, 48 kHz, 50 kHz , 100 kHz
# of Ranges	6
Ranges	0 to 7.5 m through 0 to 300 m (0 to30 foot through 0 to 1000 foot)
Minimum Depth	1.2 feet (0.3 meter)
Transmit Power range	6 watts to 1,500 watts settable (auto set for depth range)
Receiver Gain settings	1, 2, 4, 8, 16, 32, 64, 128x
Digitizer ranges (volts)	+/- 1.25, 2.5, 5.0, 10.0
Beam Pattern 48 kHz	20 (degrees)
Beam Pattern 24 kHz	30 (degrees)
Beam pattern 12 kHz	60 (degrees)
Beam Pattern 4 kHz	90 (degrees)
Resolution	0.75 cm ( 100 kHz digitization rate) or 1 wavelength (before De-convolution)
transmit Wavelength	1 through 128 (cycles)
Depth Units	Meters, Feet, Fathoms
Speed of Sound	Fresh, Salt, or settable 1400 TO 1600 m/s
Operator Settable Inputs	Tide, Draft, heave, blanking, keel alarm, NMEA standard DGPS data format
Zoom	Operator continuously selectable
Primary Depth Digitizing Frequency	Any of Depth or Sub-bottom Frequencies
Tracking	Automatic, settable and fixed with re-digitizing in playback
Tracking gates	0.1, 0.2, 0.5, 1, 2, 5, 10 (m, ft., ftm.)
Data Format	ASCI or binary compatible with HYPACK, SURFER, AUTOCAD and GIS

## NAVIGATION DGPS SPECIFICATIONS

Receiver	Internal Novatel OEM4 12 channel L1 DGPS Standard Upgradeable 24 Channel
GPS Antenna	Active patch integral DGPS L1 (optional L1/L2 upgrade)
Beacon Antenna	Active patch AM LF
Accuracy	sub-meter standard (Upgradeable to 1-2 cm Kinematic )
Beacon receiver	integral 2 channel auto tracking (USCG compatible)
Alternate Diff. Inputs	Optional Omnistar, Omnistar HD, WAAS, WASS2 or RDBS Base Station

## COMPUTER SPECIFICATIONS

Operating System	Windows ME or XP running at 1.2 GHz or higher
Ports	2 serial, 1 parallel, 2-USB2 (optional Gbyte LAN, IEEE1394 Firewire)
Memory	512MB
Keyboard/Mouse	Waterproof backlit tactile keyboard, waterproof joystick/ button
Data Storage	60GB Hi-G shock standard (80 or 120GB optional)
Data Transfer	USB flash drive or USB external CDRW (both included with system)
Environmental	Watertight splashproof, marine aluminum and plastic with stainless steel hardware
Display	Daylight visible, NVIS compatible, waterproof, armored window, o-ring sealed
Future upgrades	<b>Replaceable computer board, memory and Hard drive</b>
Case Dimensions	53 L 43 W 22 H cm ( 21"L 17" W 9" H )
Case Weight	30 lbs.



Made in USA



Listed



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