

Bathy-500DF Dual Frequency Survey Echo Sounder

Typical Transducer Depth Performance

Frequency	Beam	Depth
33 kHz	21°	640m
40 kHz	20°	640m
50 kHz	9°	400m
*200 kHz	3°	300m

Ocean Data offers a wide variety of transducers. Please contact the factory for information relating to your specific application, and the transducer or model most effective for you.

Bathy-500DF Survey Echo Sounder

Standard Configuration

- Bathy-500DF Echo Sounder
- AC Power Cable
- DC Power Cable
- Data I/O Plug Kit
- Chart Roll Kit
- Spare Fuse Kit
- Operation Manual

Optional Accessories

- Remote Fix Mark Switch
- Chart Roll Kit
- Internal DGPS

Optional Transducers

- Single Frequency:
33kHz; 40kHz; 50kHz;
200kHz; 210kHz
- Dual Frequency:
33/210kHz; 50/210 kHz
(contact ODEC for more)

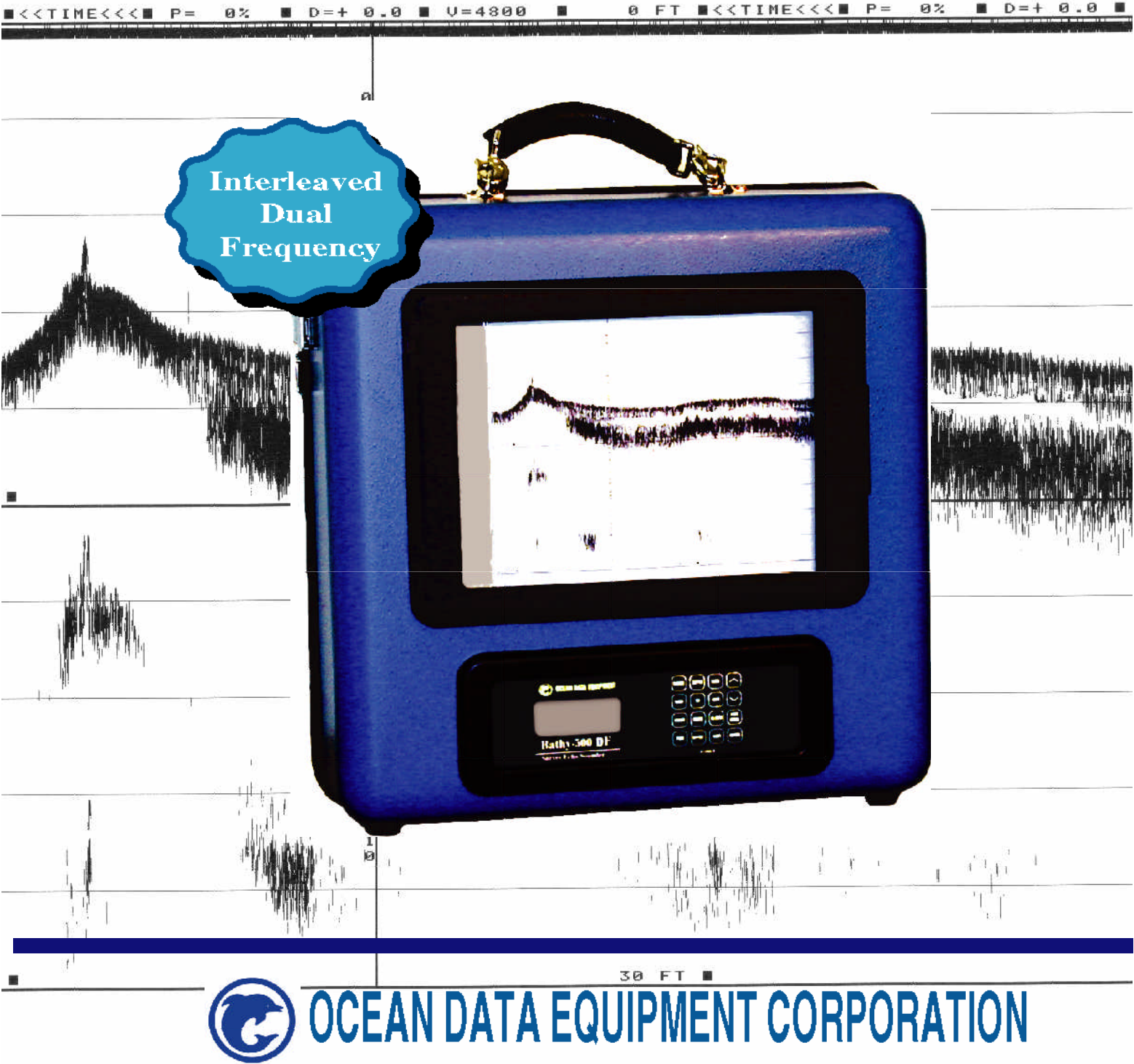
Specifications – Main Unit

Depth Ranges (feet or meters)	0-15, 0-30, 0-60, 0-120, 0-240, 0-480, 0-960, 0-1920 Feet. 0-5, 0-10, 0-20, 0-40, 0-80, 0-160, 0-320, 0-640 Meters.
Phasing (feet or meters)	0-120, 60-180, 120-240, 180-300, 240-360, 300-420, 360- 480 through 1800-1920 Feet, Auto 0-40, 20-60, 40-80, 60-100, 80-120, 100-140, 120-160 through 600-640 Meters, Auto
Chart Record	8.5 inch X 90 Feet High-Contrast Thermal Paper user selectable gridlines.
Gates	Individual Gates for both High and Low frequencies.
Frequencies	Dual or single frequency (user selectable via keypad) 33Khz, 40Khz, 50Khz, 200Khz, 210kHz, 33/210kHz, 50/210kHz (Acoustic output=600watts)
Resolution	0.01 units for depths less than 100 meters; 0.1 for depths greater than 100 meters; 0.1 feet on all ranges
Accuracy	± 0.5%
Sound Velocity	4600 - 5250 feet/second (1401 - 1600 meters/second) (user selected via keypad)
Graphic Display	LCD (4 lines X 16 characters) 0.25 inch characters (Depth Display: 0.75 inch characters) (Back-lighting: Electro-luminescent)
Depth Alarms	Shallow and Deep (selected by keypad)
Offset	0 to +30 feet or 0 to +10 meters (allows the user, via keypad, to adjust for the net sum of transducer depth and tide)
Data Inputs	Accepts either NMEA-0183 GGA/GLL Format from GPS/DGPS (internal DGPS optional) or external annotation from external source, such as a hydrographic software package or terminal emulation program.
Data Outputs	ODEC dt (True Depth & Status) PMC dt (True Depth & Status) Atlas DESO-25 - compatible Odom Digitrace - compatible Odom Echotrac - compatible NMEA 0183 DBT / NMEA DBS Hypack & HydroPro - compatible
Input Power	11 - 30 volts D.C. (1.5 amps @ 12v. 0.5 amp @ 30v.) or 115/230 volts A.C. 50/60 hertz (20 watts)
Dimensions	Height (including handle) 19 inches (48 cm) Width 17.5 inches (44.5 cm) --- Depth 9 inches (23 cm)
Weight	35 lbs. (16 kg) (Recorder with P01540 200kHz Transducer)
Operating Temperature	-10°C to +55°C / Humidity 95% Non-Condensing



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Bathy-500DF Dual Frequency Survey Echo Sounder



OCEAN DATA EQUIPMENT CORPORATION

Bathy-500 DF

Dual Frequency Survey Echo Sounder

Underwater Topography Recordings from Compact Survey Instrument

The *Bathy-500DF* is a state-of-the-art electronic survey instrument used to generate precision chart recordings and digital data output.

Low power consumption, portability, ease of use, rugged construction, and built-in communication interfaces for navigation/data logging devices make the ***Bathy-500DF*** ideal for shipboard use. The instrument is housed within a splash-proof, aluminum enclosure.

- Interleaved Dual Frequency Operation 33/210kHz or 50/210kHz
- Single Frequencies: 33,40,50,200,210kHz
- Built-In Digitizer with RS232 and RS422 Data Output Interface Ports
- Advanced, Microprocessor Based Electronics
- Thermal Recorder
- NMEA 0183 Navigation Input Interface
- User-Selectable DC or AC Input Power
- Automatic Chart Annotation for Date, Time, Depth, and Position Data
- Non-Volatile Internal Clock and Parameter Setup Memory
- Built-In Self Test
- ExternalMark / Annotation
- 1 cm Resolution
- 640m Maximum Depth
- Rugged, Splash-Proof

The **Bathy-500DF** is technologically sophisticated, utilizing modern, micro-processor-based electronics and a thermal chart recorder mechanism.

Digital processing enables the instrument to offer fully automatic bottom digitizing capabilities. When interfaced to a NMEA 0183-compatible position sensor, the **Bathy-500DF** provides the user with a complete, integrated hydrographic survey environment.

Front Panel Interface

The instrument front panel consists of a high contrast, backlit four-line (16 characters per line) LCD display, and a fully-sealed input keypad.

All operating parameters are at the user's fingertips, with immediate selection feedback provided via the LCD display.

LCD display menu pages encompassing system data, status, and setup parameters are provided for each of the following:

- * *Time and Date*
- * *Position*
- * *Digitized Depth*
- * *Alarm Status*
- * *Receiver Gain*
- * *Sound Velocity*
- * *Display Range*
- * *Units*
- * *Tide / Draft Adjustment*
- * *Chart Speed and Annotation*
- * *Paper Save Mode / Paper Gauge*
- * *Frequency*
- * *Communication Interfaces*

Operating Characteristics

All operating functions are set via the front panel interface. Important setup selections are stored within internal, non-volatile memory for instant availability upon power-up.

Time and Date

Depth records can be date/time tagged using manual input via the key panel.

Position - GPS / DGPS

The instrument decodes and processes the NMEA 0183-formatted sentence GGA or GLL from GPS/DGPS *variable 4800/9600 Baud.*

The **Bathy-500DF** can be purchased with an internal DGPS receiver built in. Simply attach the antenna and the Bathy-500DF will annotate depth sounding with GPS Position.

Digitized Depth

Digitized depth is displayed on the backlit LCD display in large, boldfaced digits that are easy to read.

Alarm Status

The **Bathy-500DF** includes programmable shallow and deep water alarms with visual and audio indications, as well as a *lost bottom* warning.

Receiver Gain / TVG Control

The user controls receiver & TVG gain manually or selects automatic receiver gain control for each channel.

Sound Velocity

For maximum depth measurement accuracy the sound velocity adjustment allows the user to compensate for water salinity and temperature variations.

Bathy-500DF is from a family of echo sounders available from ODEC. Call or write for information concerning other echo sounder models or configurations.

Units

The instrument operates in units of feet or meters. Resolution to .01 units*

Display Range

The user sets display range and phase manually, or operates the instrument in an automatic display mode. Eight range selections, along with 120ft of 40m phasing (see **Phasing** on back page for more details) are included to produce printouts of the desired sector within the water column.

Tide / Draft Adjustment

Compensation for the effects of tide and draft are included for depth measurement to surface. This adjustment is applied to processed output data.

Chart Speed and Annotation

The chart recorder mechanism operates in multiple chart speed modes. The user activates chart annotation for Hi/Lo time, date, and position via the front panel keypad, or remote mark switch.

Paper Save Mode

The thermal recorder can be deactivated for *paperless digital output only* operation.

Paper Gauge

The unit annotates the top of the thermal chart record with a gauge of paper remaining on the roll. This eliminates the need for *striping* the chart record near the end of the roll – the user obtains a *clean* data presentation to the very end of the chart paper.

Communication Interfaces

The user configures receive and transmit data to both RS232 and RS422 specifications via connector wiring options. The baud rate and output formats are selected as follows:

- * *Baud Rate* – 9600 or 4800
- * *Hypack & HydroPro compatible.*
- * *Output Format Types:* NMEA 0183 DBT;
ODEC dt (true lat, long, depth-hi, depth-lo);
PMC dt (true lat, long, depth);
ODOM Echotrac and Digitrace-compatible;
Atlas DESO-25 compatible.

