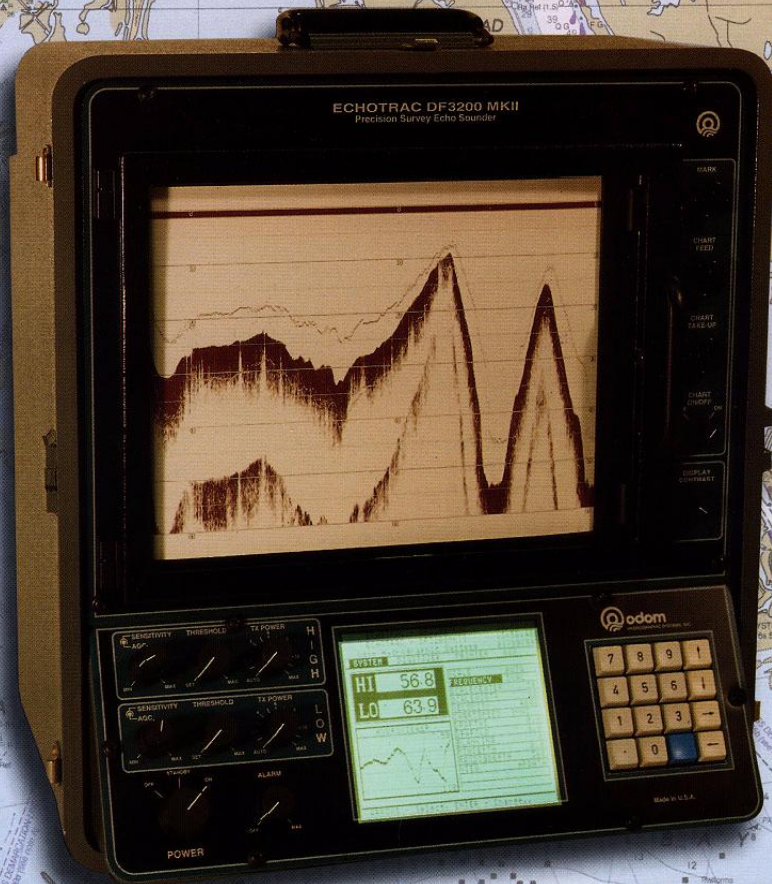


Echotrac DF 3200 MKII

Dual Frequency Precision Echo Sounder



- Suitable for shallow water hydrographic surveys and oceanographic applications
- High resolution, 8" thermal printer, 16 gray scales
- Advanced DSP technology
- Side scan option

Echotrac Model DF3200 MKII

GENERAL DESCRIPTION

This latest generation of the ECHOTRAC dual frequency survey echo sounder brings into use the best of available technologies in high-resolution thermal printing, microprocessor and DSP techniques, and flat screen graphic displays. The sonar transceiver, echo processor, graphical operator interface and hardcopy recorder are all housed in one portable, splash-proof case. The unit is suited to table top, bulkhead, or rack mounting and is equally at home on either small survey launches or large ships. Well suited for use in the shallows of rivers and harbors, the mission variable unit is also capable of working to depths of over 2,000 meters.

FEATURES

FREQUENCIES: Either single or dual frequency configurations of the unit are available: Standard frequencies are 200 and 24kHz or 210 and 33kHz.

Optional frequencies:

High - 100kHz to 1MHz

Low - 10kHz to 60kHz

Side Scan - Single channel 200kHz

PRINTER: The high-resolution thin-film thermal printhead measures 216mm. (8.5") wide. Resolution is 8 dots/mm. (203/in.) along the print axis and 8 lines/mm. along the paper axis. The unit is capable of printing up to 16 gray shades, the number of shades being selectable by the operator.

DISPLAY: The graphical LCD module (320 x 200 pixels) measures six inches diagonally (156.4mm). Fluorescent Back Lighting (CFL) of the paper white display provides excellent visibility in all light conditions. In dual frequency operation, both high and low frequency depth values are displayed continuously.

KEYPAD: A 16 key NEMA 12 sealed unit with tactile feedback is used by the operator for parameter selection and numerical value entry. Ten digits, Up, Down, Left and Right arrow keys, Decimal Point/HELP and Enter keys are provided.

DIGITIZER: The bottom tracking capabilities of the unit are enhanced by utilizing the DSP capabilities of the digitizer processor. These DSP algorithms yield reliable bottom detection even in the presence of high ambient noise and multiple returns.

COMMUNICATIONS

INTERFACING & ANNOTATION: Four bidirectional RS-232 serial ports are standard. Depth information is output after each sounding cycle with the standard string including values for both the high and low channels in dual frequency operation. Output strings conforming to other major echo sounder formats are available. In addition, system parameters can be configured via Comm 1. The Echotrac accepts annotation of up to 80 characters (printed on the Fix Mark Line). Standard NMEA formats from GPS receivers as well as proprietary strings from positioning and navigation systems can also be annotated on the chart. Interfacing to data acquisition systems is asynchronous and does not require handshaking.

HEAVE COMPENSATION: Interfacing to most available motion sensors is provided over a dedicated RS-232 serial port. In addition to the "Raw seabed", both Heave data (scaled values from the motion sensor) and a "corrected seabed" (heave data applied to the digital depth) are printed on the chart in real-time.

CONTROLS

ANALOG CONTROLS: Immediate access to critical analog controls is via front panel mounted potentiometers and switches. They include: Receive Sensitivity, AGC (Automatic Gain Control) Transmit Power, and Threshold (digitizer level). Also mounted on the front panel are controls for the printer including: Chart ON/OFF, Paper Advance, Paper Take-up, and Mark.

DIGITAL PARAMETERS: Listed below are some of the functions of the MKII which are controlled using the display (through its system of pull-down menus) and the keypad.

Frequency: High, Low, or Dual

Scale (Phasing): Manual or Auto bottom tracking

Scale Center: Determines where the center of the chart is placed (at what depth) in Manual Scale

Scale Width: Sets the width of the chart from 15 meters. (60 ft.) minimum to 150 meters. (360 ft.) maximum.

Chart Speed: Sync-for every sounding the printer advances the chart one dot row (varies with depth). In fixed speeds - from cm./min. (1in.) to 20cm./min. (8in.).

Print Parameters: Prints the values of all digital parameters on the chart.

Plot Signal: Plots a line on the chart scaled to equal the relative amplitude of each return pulse.

Annotation: Prints Fix No., Time, Depth, and Position on the chart.

Zoom: Changes the printer resolution so that the return is printed in 1/2 of the minimum scale width (7.5m or 30ft.).

Units: Meters (cm. resolution to 599.99m) or Feet.

Bar Check Mode (Fixed Gate): Forces the digitizer to lock to the calibration target and ignore the bottom.

Velocity: Variable from 1,370 to 1,700 m/sec. (4,500 to 5,600 ft./sec)

Draft: Can be set from 0 to 40m (0-50 ft.) independently in both High and Low frequencies.

Blanking: Masks the digitizer from seeing returns shallower than the selected value. The value can be set from 0 to 5,920m.

Slope: Controls the response rate of the digitizer (tracking gate).

Repetition Rate: Selectable from 1 to 20 "Pings"/sec. or automatic (based on end of scale value)

Pulse Width: The length of the transmit pulse is selectable based on the frequency installed. The number of cycles per "Ping" can be varied from a minimum of 2 to a maximum of 128.

Minimum Depth Alarm: 0-200m (0-700ft.)

Alerts the operator that the vessel has passed a depth shallower than the minimum selected.

Noise Filter: On - Off, the integrating filter eliminates high frequency noise in the return signal.

Gauge: Tide Gauge or River Stage correction.

HELP: A description of each parameter and its minimum and maximum value is available to the operator by pressing the HELP key.

DIAGNOSTICS: Communication to and from the MKII can be checked by turning the LCD display into a virtual computer terminal. This feature provides a positive check of all serial ports.

UNIT DIMENSIONS:

Height: 470mm. (18.5")

Width: 432mm (17")

Depth: 279mm. (11")

WEIGHT: 21.7kg. (48 lb.)

POWER REQUIREMENTS: 9 - 18VDC, 18 - 32VDC, 110/220 VAC (50/60 Hz.) < 100 watts average power. Specify one of above 3 voltage ranges at time of order.

OPERATING TEMPERATURE: 0° to 55° C in conditions of humidity up to 95% non-condensing.



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