

MODEL 825C PORTABLE SURVEY RECORDER

The Technology of a Ross Smart Sounder outputs reliable depth data for data acquisition systems.

All of the quality and performance that you expect from a Ross sounder in a small easy to operate splash proof package.

- **Simple Key Pad control panel.**
- **Digital storage of sounding chart.**
- **Optional Data logging software.**
- **Single or Dual Frequency**
- **6.4 inch Color Display**
- **NMEA-0183 output**
- **USB data Port**
- **Position data input ports with logging software option.**
- **Ethernet Echogram output to HyPack**



200 kHz High Frequency Transceiver Standard

Additional Frequency choices:

| | |
|---------|--------|
| 100 kHz | 50 Khz |
| 28 kHz | 12 kHz |

Custom frequencies are also available.

MODEL 825C PORTABLE SURVEY RECORDER

The Model 825C Portable Survey Sounder is a high performance instrument designed to meet the needs of surveyors who require a source of clean reliable depth data for hydrographic survey systems.

One feature of the 825C is the easy-to-use key pad operation. Another is the bright 6.4" screen for the sounding chart display. The bright display provides for easy operation in bright summer sunlight or dark night operation. A simple, user friendly, menu system, has been developed from Ross Laboratories many years of experience in the field.

Depth soundings are displayed on the screen and sent to a data collection system via a standard serial port. GPS position information (Lat, Long. and time) can be connected to the sounder and recorded along with the corresponding depth providing a simple but complete data logging system when using the optional data logging software.

General

The Ross 825C sounder is a leading edge portable hydrographic survey sounder that uses Ross Smart Sounder technology to provide a source of reliable depth data for data collection systems. A key pad operated menu system and sounding chart are both shown on a high visibility 6.4 inch 700nit TFT display. The sounding chart or "sonogram" can be recorded on the internal Solid State hard drive and transferred to an office computer for display and editing using optional software. The Sonogram or Echogram can also be outputted to HyPack using an updated HyPack driver.

Serial Output

Custom NMEA-0183 output string in feet or meters (interfaces with Hypack™ software). Standard NMEA-0183 data string. SDDBT or SDDPT (user selectable).

LCD Display

Displays the actual chart recording or sonogram. The sonogram represents the bottom echo trace by digitizing the analog echo signal levels.

Data Storage and Playback

The entire sonogram (received echo) can be stored on the sounder's Solid State hard drive for future playback and printing. The playback of the data can be done on the sounder. Optional playback software is available for display and editing of the soundings on a personal computer. The transfer of data to the second computer is done using a USB JUMP DRIVE or Memory Stick.

New for 2018 is the addition of the Echogram output to HyPack. This enables the intergration of the Echogram in the HyPack Single Beam editing program.

Standard System Specifications:

Physical

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|-----------------------|---|
| Size | W 9.5"(24.1cm) x H 13.0"(33.0cm) x D 7.5"(19.1cm) |
| Weight | 13 lbs |
| Case | High impact fiberglass |
| Power Supply | 10-18vDC, 24 Watts, 2.0 Amps @ 12v |
| Display | 6.5 inch 700 nit color TFT-LCD |
| Operating Temperature | 32°F to 122°F (0°C to 50°C) |
| Storage Temperature | -13°F to 167°F (-25°C to 75°C) |
| Humidity | 0% to 95% RH |

Sounder

| | | |
|-----------------------|-------------------------|--------------------------|
| Units | Feet or Meter | |
| Ranges & Fixed Scales | 0' – 15' (0 m – 4.5 m) | 0' – 25' (0 m – 7.5 m) |
| | 0' – 50' (0 m – 15 m) | 0' – 100' (0 m – 30 m) |
| | 0' – 250' (0 m – 75 m) | 0' – 500' (0 m – 150 m) |
| Auto Scale Phases | 15, 30, 45 and 60 feet | 5, 10, 15 and 20 meters |

Display

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|--------------|---|
| Display Type | 700 nit color TFT-LCD |
| Size | 6.5" diagonal |
| Pixels | 640 x 480 |
| Luminance | 700 nit High-Bright LED backlight |
| Functions | Operator key pad control panel, Sounding chart and digital depth readout. |

Transceiver

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|--------------------------|--|
| Frequencies | 12 kHz, 28 kHz, 50 kHz, 100 kHz and 200 kHz |
| Transmitter Output Power | 100 watts rms |
| Pulse Length | 0.1 msec or 0.5 msec |
| Minimum Depth | 200 kHz – 1.0' (30cm) below the transducer (add draft) |

Interfacing and Annotation

| | |
|----------------------------|--|
| Serial Ports | Two ports, Data output and GPS input (4800 to 115,200 baud) |
| USB Ports | Two external |
| Digital Depth Output | Continuous or external request NMEA-0183 SDDBT and SDDPT Ross Single Sentence and Ross Sweep Sentence |
| Data Logging Compatibility | HyPack™ and any other software that can decode NMEA sentences. |
| Annotation | External from data logging software Internally generated Draft, Speed of Sound and Position at 10 second to 20 minute intervals |

Data Recording

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|---------------------|--|
| Standard | Records "Sonogram" to internal solid state hard driver for later playback using the 825C or optional Ross Playback Software. |
| Echogram | Echogram output to HyPack via Ethernet UDP protocol. |
| Data logging option | Records a text file containing the interfaced GPS time and position and the 825C depth. |

Controls

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|-----------------|--|
| Sound Velocity | 4800 ft/sec $\pm 25\%$ (1463 m/sec $\pm 25\%$) |
| Draft | 1' (0.30m) to 100' (30m) |
| Gauge / Tide | $\pm 100'$ ($\pm 30m$) |
| Operating Range | 15', 25', 50', 100', 250', 500', 1000' and 2000' 4.5, 7.5, 15, 30, 75, 150 and 300 meters |
| Auto Range | Bottom following: 15', 30', 45' and 60' range window 5, 10, 15 and 20 meter range window |
| Annotation | On / Off, selected items for annotation |

Additional Features

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|--------------------------------------|
| Adjustable Blanking |
| Adjustable Bottom Following Gate |
| Bar check wizard with bar depth gate |
| AGC and TVG |

Sounding Rate

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|----------------------------|-------------------------|
| 0' – 15' (0 – 4.5 meters) | 16.6 soundings / second |
| 0' – 25' (0 – 7.5 meters) | 14.3 soundings / second |
| 0' – 50' (0 – 15 meters) | 10.0 soundings / second |
| 0' – 100' (0 – 30 meters) | 6.6 soundings / second |
| 0' – 250' (0 – 75 meters) | 3.3 soundings / second |
| 0' – 500' (0 – 150 meters) | 1.6 soundings / second |

For additional information, email contact info@ROSSLabsLLC.com or phone (425) 771-0665.

Ross Laboratories Inc. of Seattle Washington joined with Teknologic Engineering Services of Edmonds Washington in July 2014 becoming Ross Labs LLC. Ross products continue to be supported by Jim Ross and his engineering team. For more information on Teknologic, visit us at www.teknologic.net