# ROSS LABS LLC

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MODEL 835C
DESKTOP SURVEY RECORDER

The Technology of 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 package, for interior installation (desktop or under a counter).

- **Simple Remote Key Pad control panel.**

- **Digital storage of sounding chart.**

- **USB memory stick data download.**

- **VGA Output. (Monitor optional)**

- **Data logging software. (optional)**

- **12v DC or 115v AC.**

- **Interior use**

- **NMEA-0183 output.**

- **Ethernet Echogram output to HyPack.**
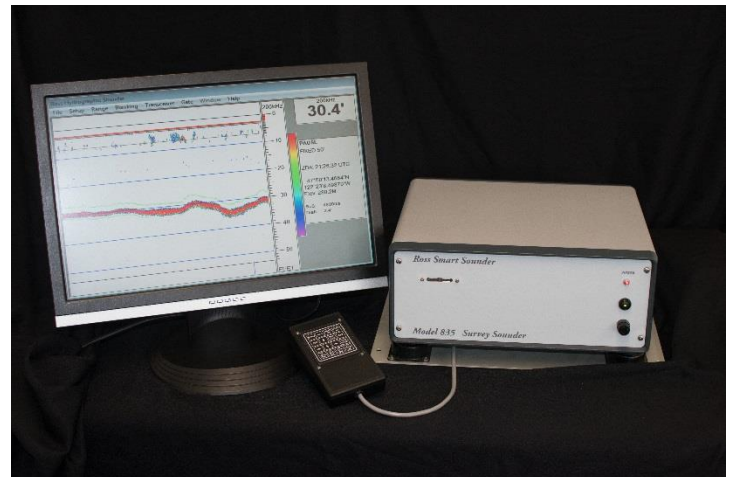
200 kHz High Frequency Transceiver Standard	
Additional Frequency choices:	
100 kHz	50 Khz
28 kHz	12 kHz

Custom frequencies are also available.

MODEL 835C DESKTOP SURVEY RECORDER

The Model 835C Desktop 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 835C is the easy-to-use key pad operation. A simple, user friendly menu system has been developed from Ross Labs 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 835C sounder is a leading edge 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 the display. The sounding chart or "sonogram" can be recorded on the internal solid state hard drive and transferred to an office computer for display 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).

Operators' 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. 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.

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Standard System Specifications:

Physical

Size	W 14.3"(36.3cm) x H 5.8"(14.7cm) x D 14.0"(35.6cm)
Weight	17 lbs
Case	Epoxy coated aluminum
Power Supply	10-18vDC, 24 Watts, 2.0 Amps @ 12v
Display	External LCD flat panel (not included)
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

Display Type	External LCD Flat Panel (not included)
Size	Standard commercially available sizes
Resolution	VGA
Functions	Operator key pad control panel, Sounding chart and digital depth readout.

Transceiver

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

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Data Recording

Standard	Records "Sonogram" to internal solid drive for later playback using the 835C 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 835C depth.

Controls

Sound Velocity	4800 ft/sec ±25% (1463 m/sec ±25%)
Draft	1' (0.30m) to 100' (30m)
Gauge / Tide	±100' (±30m)
Operating Range	15', 25', 50', 100', 250' and 500' 4.5, 7.5, 15, 30, 75 and 150 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

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

Sounding Rate

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 contract 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