KNUDSEN ENGINEERING LIMITED

320C ECHOSOUNDER

The Digital Direction of Survey

- Embedded PC
- Windows Control
- Internal Logging of Digital Echogram
- Simple Touch Screen Control
- Network Ready
- Precision Bottom Tracking

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320C

The 320C Echosounder is a state-of-the-art system with a user friendly touchscreen interface. Its low maintenance modular construction, simple installation and easy configuration make the 320C the most flexible sounder available.

The 320C Echosounder is a paperless system with an active matrix LCD colour display with touchscreen interface for sounder control and real-time data display with internal data storage of full-resolution echogram image data for post-acquistion review and hardcopy output.

The 320C Echosounder's modular design and software-based configurability allows for long product life. Unit is designed to be field-upgradeable.

Connectability

The 320C Echosounder includes a network connection for integration into shipboard LANs for convenient remote control, data-sharing and archiving capability.

Three RS232 (or optional RS 422) serial ports are available on the connector panel for support of legacy or general purpose interfaces. Drivers for most standard accessories (ie, GPS receivers, heave sensors etc.) are provided. More specialized interfaces to legacy shipboard systems can be provided if required.

Digital Signal Processing (DSP)

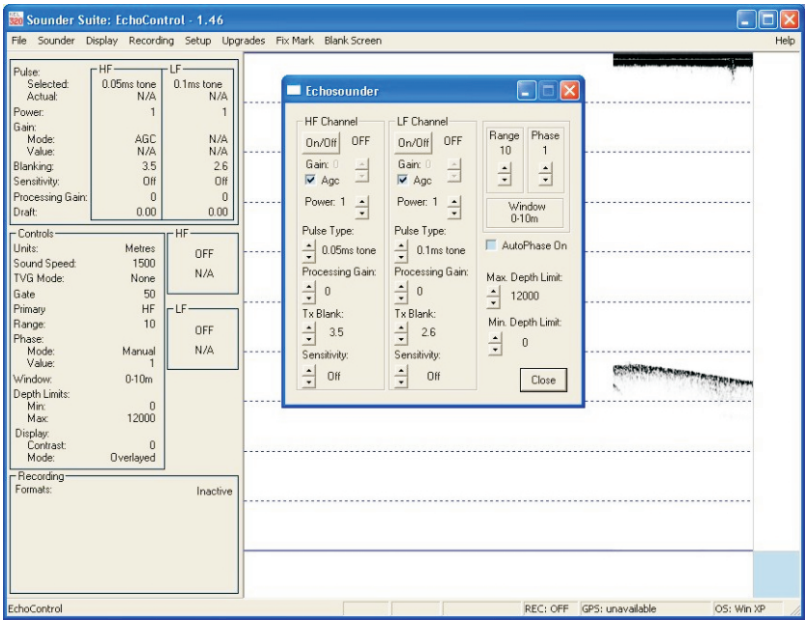
The 320 echosounders do all signal processing digitally. There are many advantages to an all-digital system, including the inherently higher performance and greater stability of digital filters. The processing is performed in software which can be programmed to accommodate any frequency, bandwidth, or pulse length, eliminating the need for multiple analogue hardware filters.

Correlation Processing (optional)

The 320C had the option to employ linear FM sweep (chirp) transmit pulses and correlation processing of the received signal to achieve up to 20dB signal to noise (SNR) gain over conventional CW echosounders, for improved depth capability and bottom detection reliability.

Transducer Interface

The 320C can be easily interfaced to most existing transducers, saving the expense of new transducers and dry dock installation.



Technical Specifications: *(subject to change without notice)*:

User Interface:

Display:	15" LCD, 1024 x 768 pixels
User Interface:	Touchscreen
Data Storage:	Internal Hard Disk, 20GB minimum Minimum 1 month continuous echogram record

Operational Parameters:

Frequency:	3.5 kHz to 250 kHz. Standard frequencies include - 3.5, 12, 24, 28, 30, 33, 38, 50, 100, 150, 200, 210
Transmit Power:	4 selectable levels, up to 2kW on a single frequency or 1kW per channel on dual frequency
Units:	Metres, Feet or Fathoms
Main Ranges:	10 20 50 100 200 500 1000 2000 5000
Phased Ranges:	Multiple 50% overlapped phases of each range, manual or automatic selection (20% overlap optional)
Depth Resolution:	1 cm (0-99.99), 1 dm (100-999.9), 1 m (>1000) 0.01 ft (0-99.99), 0.1 ft (100-999.9), 1 ft (>1000) 0.01 fm (0-99.99), 0.1 fm (100-999.9), 1 fm (>1000)
Pulse Length:	Automatically selected, with operator override
Receive Gain:	AGC, TVG and manual receive gain for each frequency
TX Blanking:	0 -300 m, Resolution: 0.1 m 0 -984.3 ft, Resolution: 0.1 ft 0 -164.0 fm, Resolution: 0.1 fm
Sound Velocity:	1300 - 1700 m/s, Resolution: 1 m/s 4265 - 5577 ft/s, Resolution: 1 ft/s 710 - 929 fm/s, Resolution: 1 fm/s
Draft:	0 - 100 m, Resolution: 1 cm 0 - 328.08 ft, Resolution: 0.01 ft 0 - 54.68 fm, Resolution: 0.01 fm

Network Interface: 100Base-TX/10Base-T PCI Fast Ethernet

Legacy Interfaces:

Communications:	Four RS-232 (optional RS-422) ports One USB port
Data Inputs:	Position: NMEA-0183 GLL & GGA Heave: TSS and Seatex compatible
Data Outputs:	Analog received signal Serial output: includes depth, time, date, heave NMEA-0183 DBT

Installation:

Power Supply:	Universal input, 85 to 240 VAC
Mounting hardware:	Bulkhead or 19" rack mountable
Dimensions:	W 16.5" x H 14" x D 9.5" (419 x 355 x 241 mm)
Weight:	37 lb (17 kg)
Shipping Container:	custom Hardigg case
Options:	Correlation Processing External keyboard, mouse, trackball, printer External USB CD-ROM, read/write Custom stand Rackmount brackets On-site training/installation

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