

320N Navigation Echosounder

The Modern Solution



Plug-In Replacement for AN/UQN-4

NOW AVAILABLE ON GSA



- Currently installed on U.S. Navy & U.S. Coast Guard Vessels
- No Drydock - Easy Interface to Existing Ship Transducers
- Remote Displays Available (Up to 4 per system)
- 1 Month Internal Logging of Echogram Record
- Network Ready



KNUDSEN
ENGINEERING LIMITED

www.knudsenengineering.com

E-mail: info@knudsenengineering.com Phone 613-267-1165 Fax 613-267-7085
U.S. Sales & GSA Orders: Knudsen Systems Inc. 315-393-8861

320N NAVIGATION ECHOSOUNDER

KNUDSEN ENGINEERING LIMITED

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

The 320N 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-acquisition review and hardcopy output.

The Echosounder control software employs smart algorithms to allow hands-free operation with manual override capability for performance optimization in extreme conditions.

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

Connectability

The 320N 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

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

Remote Displays

The 320N Echosounder includes an option for remote digital depth displays with audible alarms.

Printed in Canada
D131-03053-Rev4.1

The screenshot shows the 'Sunder Suite: EchoControl - 1.17' software window. It features a top menu bar with 'File' and 'Help'. Below the menu is a toolbar with buttons for 'Start', 'Feet', 'Min Adjust', 'Mark', 'Display', 'Override', 'Setup', and 'Search'. The main display area is split into two sections. On the left, a control panel shows 'Tx OFF' and various parameters: Units (Feet), Range (0-100 [Auto]), Pulse (3 ms [Man]), Selected (3 ms [Man]), Actual (N/A), Power (1 [Man]), Actual Gain (N/A), Blanking (3.1 [Auto]), Sensitivity (Off), Draft (0.00), Sound Speed (4800), Min. Depth (0), Gate Width (50), Keel Offset (0.0 [ft]), Serial Logging (Enabled), Recording (Active), and a file path (C:\Data\11032002-151057.keb). On the right, a depth echogram displays a seabed profile with depth markers from 0.0ft to 300.0ft. At the bottom of the screenshot, a physical unit of the echosounder is shown, featuring a control panel with several buttons and a display.

Technical Specifications: (subject to change without notice):

User Interface:

Display:	15" LCD, 1024x768
User Interface:	Touchscreen
Data Storage:	Internal 20GB Hard Disk, min Minimum 1 month continuous echogram record

Operational Parameters:

Frequency:	Standard: 12 kHz, Optional - any frequency 3.5 - 210kHz All with "chirp" and correlation processing
Transmit Power:	Automatically controlled, with operator override Max. 2 kW rms
Units:	Feet or Fathoms
Depth Ranges:	50 100 200 500 1000 2000 5000
Depth Resolution:	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:	Automatically controlled, with operator override
TX Blanking:	Automatically controlled, with operator override 0 -984.3 ft 0 -164.0 fm
Sound Velocity:	4800 ft/s 800 fm/s
Draft:	0 - 328.08 ft 0 - 54.68 fm
Alarms:	Audible alarm on unit & optional remote displays Shallow water or lost bottom triggers

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

Legacy Interfaces:

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

Installation:

Power Supply:	Universal input, 95 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:	External keyboard, mouse, trackball, printer Custom stand Rackmount brackets Remote Displays On-site training/installation