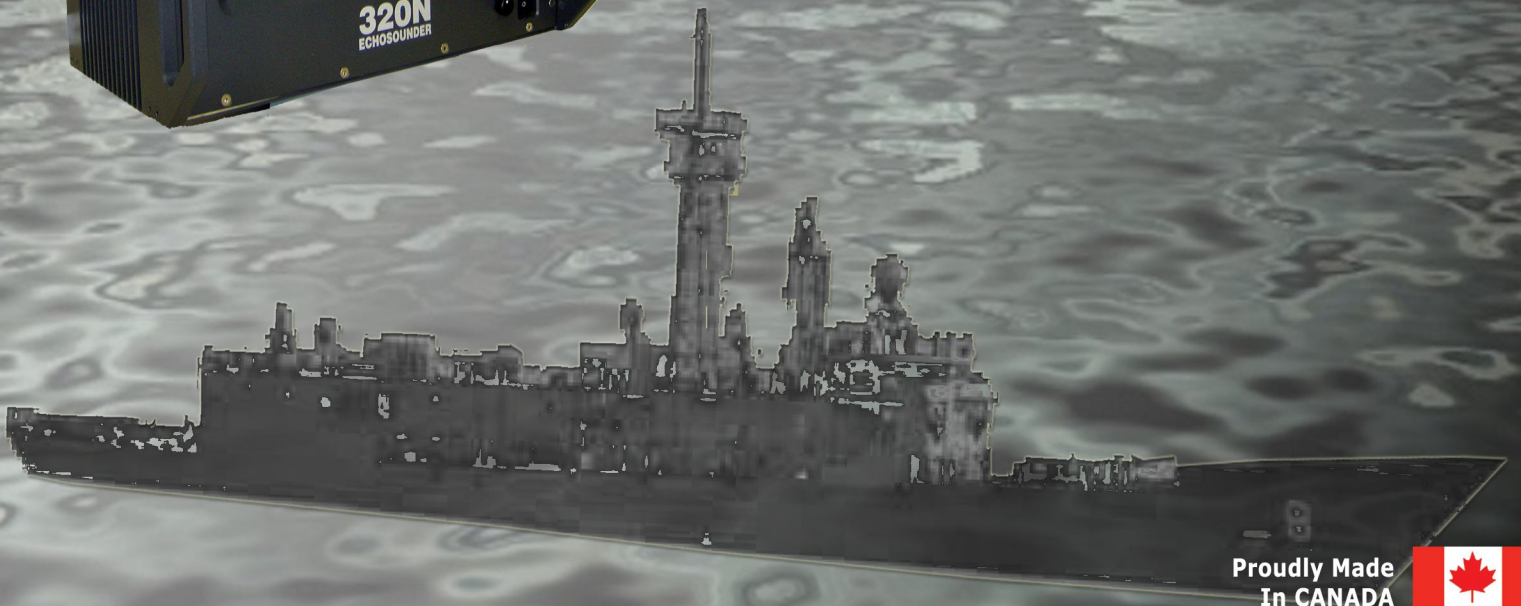


# FLEET NAVIGATION

## 320N Navigation Echounder

320N



Proudly Made  
In CANADA



# 320N NAVIGATION ECHOSOUNDER



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.

The 320N Echosounder has been designed to be a plug-in replacement for the AN/UQN-4 with the appropriate connectors available on the connector panel for the various interfaces such as the transducer, power, and RS-422 serial output. 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.

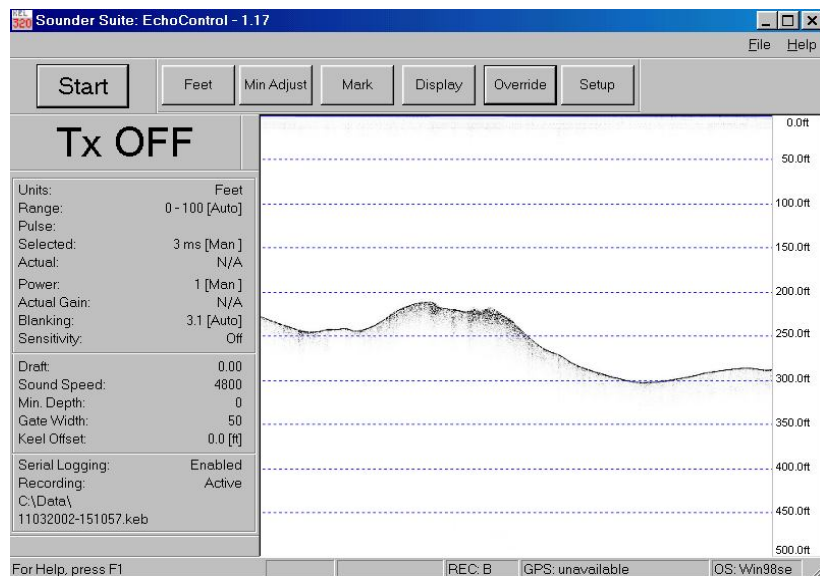
## Correlation Processing

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.

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

### User Interface:

**Display:** 15" LCD, 1024x768  
**User Interface:** Touchscreen  
**Data Storage:** Internal Solid State Disk, 16GB 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:** 4 user selectable power levels  
Max. 2 kW rms  
**Units:** Feet, Fathoms, or Meters  
**Depth Ranges:** 50, 100, 200, 500, 1000, 2000, 5000, 10000  
**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)  
0.01 m (0-99.99), 0.1 m (100-999.9), 1 m (>1000)  
**Pulse Length:** Up to 64 ms, operator selectable  
**Gain Controls:** AGC and manual receive gain for each frequency  
**Sound Velocity:** 4800 ft/s  
800 fm/s  
1500 m/s  
**Draft:** 0 - 328.08 ft  
0 - 54.68 fm  
0 - 100.00 m  
**Alarms:** Visual alarms on unit & optional remote displays

**Network Interface:** 10/100Base-T

### I/O Interfaces:

**Communications:** USB 2.0 full-speed (12 Mbps)  
**Data Inputs:** Transmit Inhibit (Mute)  
**Data Outputs:** Two serial ports (RS-232/RS-422, factory configured)  
Analog Output

### Installation:

**Power Supply:** Universal input, 90 to 264 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  
Simulator  
On-site training/installation

