

Wärtsilä ELAC HUNTER

Hull mounted sonar



Wärtsilä ELAC HUNTER is a hull mounted sonar, carrying out anti-submarine warfare (ASW) in active and passive modes in shallow and deep waters for panoramic detection of submarines and other objects.

ELAC HUNTER is the best cost and performance solution for new construction or modernization programs for fitting onboard a destroyer, frigate, corvette or offshore patrol vessel (OPV).

ELAC HUNTER includes the following functions:

- Localization of underwater contacts for ensuring underwater situational awareness
- Localization of mines for mine avoidance
- Detection of AUVs and midget-submarines
- Sonar pulse intercept detection/ torpedo warning
- Automatic target detection, tracking and forwarding to combat management system (CMS) and fire control equipment
- Classification of underwater targets
- Audio channel
- Performance monitoring and false localization
- Sonar performance prediction of the day
- Onboard simulator
- Raw data recording

System overview

The ELAC HUNTER system consists of the following major elements:

- Different transducer array configurations, depending upon the vessel type
- Transmit Control Unit
- Receive Control Unit
- Signal Processing Unit
- Multi-Function Console
- Transmit/receive switch box
- Simulator (control unit)
- Possible auxiliary equipment (e.g. head set)

To complete the system, a heading sensor, a positioning system and a sound velocity profiler are necessary.

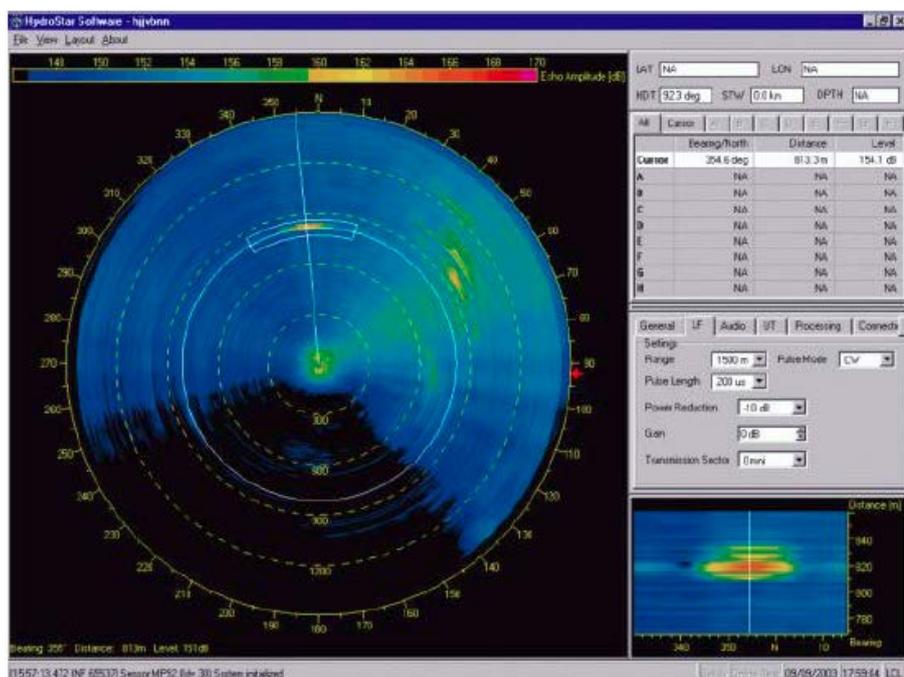
The Transmit Control Unit (TCU) includes the transmitter electronics of the ELAC HUNTER, which supplies the drive signals to the entire transducer array.

The Receive Control Unit (RCU) includes all necessary signal conditioning such as pre-amplifier, filter and analog-to-digital conversion for the transducer signals.

The Signal Processing Unit (SPU) is responsible for all kind of sonar processing. This includes the beam forming, detector, frequency domain processing, analysis, display processing, interfaces to the navigation system, combat system, and others.

The Multi-Function Console (MFC) hosts the HMI and is protected against power failures by an UPS. For training purposes a simulator is available.

The system supports a wide number of transducer arrays to allow an optimum adjustment to customers' needs. By the wide range of available transducers, ELAC HUNTER provides a solution to various space, range or functional requirements.



Plan Position Indicator (PPI) display of ELAC HUNTER, operated in active mode.

Specifications and technical data

Wärtsilä ELAC HUNTER at a glance

Active mode	
Detection range	Up to 48 kyd
Transmission sector	360° (ODT and RDT mode) 120° (forward-looking SDT mode)
Pulse lengths	Between 50 ms and 1 s
Pulse types	CW, FM or a combination of CW and FM
Receiving sector	360° (horizontal)
Number of ATT channels	30
Doppler resolution	< 1 kn
Own ship Doppler correction	≤ 32 kn

Passive mode	
Number of ATT channels	30
Receive sector(electronically)	360° (ODT and RDT mode) 120° (forward-looking SDT mode)
Bearing time record display	up to 60 min

ATT Automatic Target Tracking
 CW Continuous Wave
 FM Frequency Modulation
 ODT Omni-Directional Transmission
 RDT Rotating Directional Transmission
 SDT Steered Directional Transmission

