

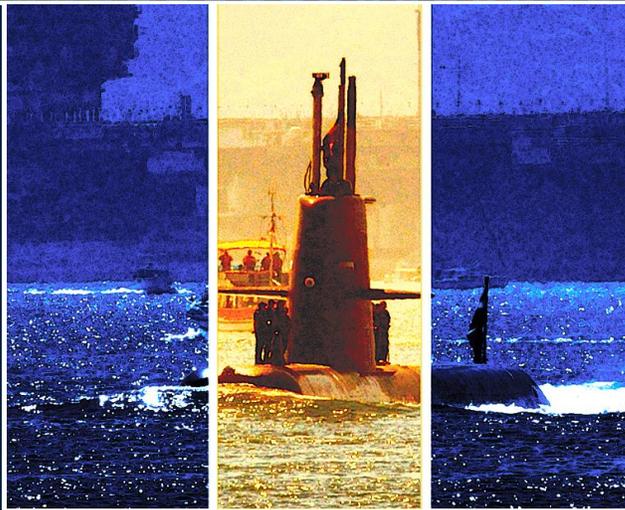
Key Features

Ability to perform rapid incremental searching of LOFAR, DEMON, Transient, intercept, and physical ship data.

The ASCS easily incorporates and stores new acoustic and other salient target related information. This may be done at sea or in port.

The ASCS easily operates on a standalone laptop pc or can be included as an integral part of the Array's acoustic display processing software.

The ASCS stores images and sound files together with the same acoustic signatures.



Tap into Array's World - Class Sonar Expertise

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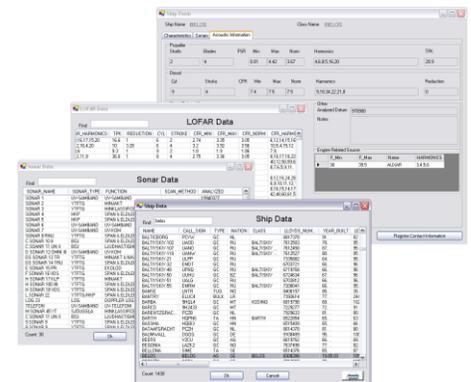
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Acoustics Signature Classification Software

Array's Acoustic Signal Classification Software (ASCS) was developed to aid the sonar operator to quickly search through a database of known acoustic signatures to arrive at a correct classification.

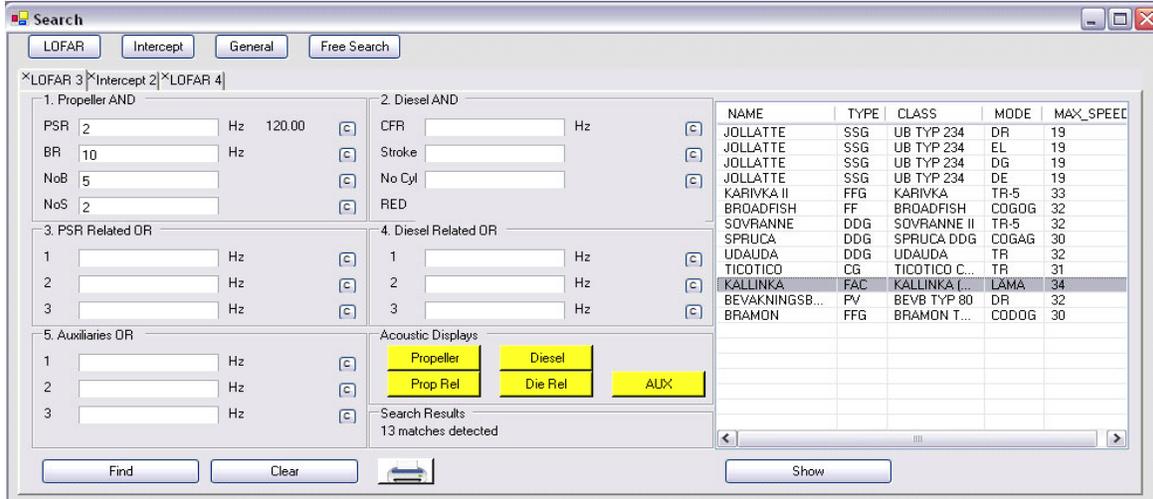
The software is derived from the HYDAB classification software that has been in use in Swedish Royal Navy's submarines and surface ships for over 17 years. It is a very effective classification tool that has been continually refined and updated through years of 'at sea training' and operational missions.

The role of a sonar operator is to act as the eyes and ears of the ship by detecting and classifying unknown surface or submerged contacts. In order to maintain situational awareness unknown targets must be classified quickly. Unfortunately performing accurate classification based on



Acoustic Signature Classification Software Screens

acoustical analysis is time consuming and difficult. In addition to the identification of a previously unknown target, often the problem presented to the operator is of a surveillance nature. In high traffic areas, it is often desirable to quickly classify a large number of targets along a coast line or entering or leaving a port. Attempting to accurately classify many targets quickly will rapidly overload the sonar operator.



Narrowband Search Screen

Supporting Sonar Operators

The Acoustic Signature Classification Software is designed to support sonar operators in quickly classifying unknown targets currently being tracked. The operator can search the database using any available information from the target in order to compare the received signals with the signatures in the database. A list of possible matches will be produced and presented which allows the operator to further refine his search until a positive identification is made.

Searching the Classification Database

The classification database allows an operator to perform manual match-comparisons using the values automatically retrieved from cursors on Array's sonar processing software and values entered by the operator to search for a contact. The operator can perform multiple searches simultaneously. For each search, a list of possible hits is presented. The operator can remove hits from the result and continue refining the search. It is possible to save searches and analyze several targets in parallel without having to re-enter new values when returning to a search later. ASCS supports incremental search and tolerance on search parameters. It is also possible to undo search steps incrementally. Targets in the search results are displayed by priority based on interest/threat in decremting order.

Software Interfaces

While the ASCS can operate as a standalone component, it can also interface to Array's *Sonar Acoustic Processing Software*. For Narrowband, Intercept, DEMON and Transient Analysis, it is possible to export cursor readouts and segments of the plots automatically to ASCS with a single mouse click. The ASCS supports storing harmonics information and exporting it to the Sonar Displays to be displayed on a plot.

Key Benefits

The ASCS has been in use and continuously updated by the Swedish Royal Navy for over 17yrs. It is a proven technology.

The ASCS saves the operator critical time in quickly classifying unknown targets currently being tracked.

While at sea the ASCS easily incorporates and stores new acoustic, physical and other salient target related information.

The ASCS can operate as a stand-alone application, or can be included as an integral part of Array's acoustic display processing.

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