Sonix

Anti Submarine Systems

Sonix - Anti-Submarine Systems

The cost-effective, flexible ASW solution for airborne platforms and surface forces

- Tactical Situation Display
- Passive Processing
- Mono Static Active
- Multi Static Active
- Record and Replay
- Training Simulator
- HMI integration with existing tactical systems

Overview

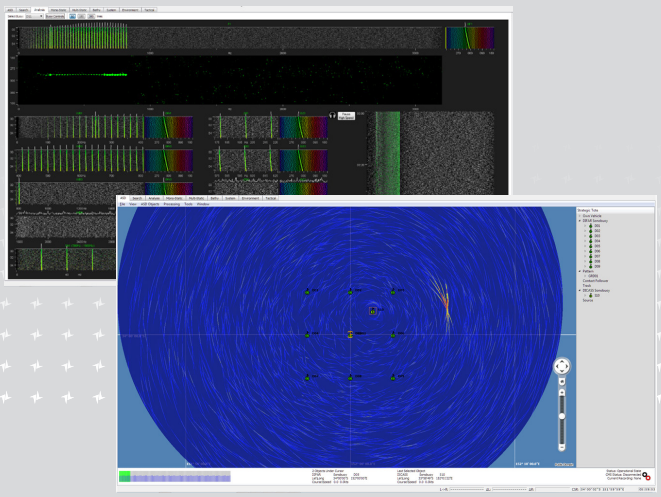
The Sonix sonobuoy processor is a multifunction system that uses the latest techniques in signal processing to provide the customer with a comprehensive ASW sonobuoy processing capability. In an ASW environment modern forces require access to a full range of sensor systems to have the greatest chance of success.

Installation of the Sonix-M (maritime) sonobuoy processor provides surface forces the tactical advantage they need. The addition of a Sonix-M to the traditional underwater suite provides a multi-static active capability and an enhanced surface ship torpedo defence capability.

The Sonix-A (airborne) provides a light weight and flexible ASW capability. Not only does the system receive, process and display the passive and active acoustic data from sonobuoys, but also provides the ability to conduct multi-static active search operations.

In support of the ASW capability, Sonix records both the acoustic and platform tactical data to support both secondary and tertiary analysis. The system also has an inbuilt simulation function that supports operator training.

Sonix is a complete system and as such can be operated in a standalone configuration or integrated with a current sonar or combat management system, dependent on the customer requirements.



... a sound decision

SONARTECH ATLAS

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Sonix - Anti-Submarine Systems

Multi-Platform Sonobuoy Processor

Sonobuoy Processing

Sonix-M can receive and process up to 64 channels of either analogue or digital sonobuoy data, from a range of buoy types. Processed data displays include LOFAR, DEMON, Bearing Time History (BTH) and Frequency Azimuth (FRAZ). These are arranged to provide a multi-buoy passive search capability or management of active detection methods.

The current tactical situation including own platform location, sonobuoy positions, system contacts and bathymetric seafloor data is provided in a geographic display providing multiple acoustic overlays.

The torpedo defence capability uses advanced signal processing techniques to detect and track torpedoes, whilst providing an uncluttered and easy to use torpedo defence display.

The multi static active capability has been developed to make use of both coherent and incoherent sound sources.

Sonix has a comprehensive recording and immediate replay capability with removable media for easy data transfer to an analysis station or land-based centre. It records the raw sonobuoy acoustic data, own platform data and mission tactical data to support post-mission secondary and tertiary analysis.

Sonix supports multiple hardware form factors and a COTS PC-based training system can also be provided for use as a land-based training system.

Sonobuoy Reception and Command

The Advanced Digital Receiver System (ADRS) can be supplied to support both the reception of sonobuoy data and the command of sonobuoys (CSG and CFS). Sonix provides an seamless status and command interface to the ADRS receive and transmit functions.

The Software Defined Radio (SDR) supports simultaneous channel extraction and demodulation of VHF radio transmissions from multiple analogue and/or digital sonobuoys. Specifically designed for ship-borne application as a cost effective digital receiver for sonobuoys, the ADRS software-based design means that as new sonobuoys are developed, ADRS can be easily evolved to receive and command additional buoy types.

The ADRS is supported by a Masthead Unit which can be located near the RF antenna to provide improved SNR and filtering. The ADRS also supports a dual-antenna configuration to negate “wooding” effects on surface ship installations.

Functional

Sonobuoy Types	SSQ36B, SSQ 53F, SSQ 57, SSQ 62 E/F, SSQ 565, SSQ 573, SSQ 906, SSQ 908, SSQ 955
DIFAR Barra	Passive and Multi-Static Active Modes
DICASS	Mono Static Active
LOFAR (ANM) Bathythermograph	Environmental measurement

Sonix-A Processor

Form Factor/Mounting	½ ATR
Weight (kg)	<10
Enclosure Depth (mm)	422
Width (mm)	130
Height (mm)	276

Sonix-M Processor

Form Factor/Mounting	Rack-mount
Weight (kg)	<10
Enclosure Depth (mm)	385
Width (mm)	483
Height (mm)	89

ADRS Receiver and Transmitter

Parameter	Receiver	Masthead Unit	Transmitter
Form Factor/Mounting	Rack-mount	Rack-mount	Rack-mount
Weight (kg)	<12	<10	<10
Enclosure Depth (mm)	536	116	372
Width (mm)	482	268	482
Height (mm)	88	42	88

SONARTECH ATLAS Pty Ltd
16 Giffnock Avenue
Macquarie Park NSW 2113
Australia

Phone: +61 2 8484 7400
Fax: +61 2 9888 6144
www.sonartech.atlas-elektronik.com

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