

Sonar Systems



Drumgrange has long been associated with the design, development and implementation of sonar systems and offers a complete design and through-life support capability. Drumgrange's sonar solutions are in-service with the UK's Royal Navy either as stand-alone systems or as integrated sub-systems using the latest open systems architecture software and COTS hardware.

ACTIVE INTERCEPT SONAR

Drumgrange has particular expertise in Intercept Sonar with a series of high performance wideband Intercept Sonar processors. HIDRA, for example, features high levels of hardware integration to allow multiple frequency bands to be simultaneously processed within a compact processing unit. Drumgrange also has fully digital intercept systems that can be embedded within an integrated sonar suite. The intercept sonars can be configured to operate with a wide range of array configurations providing great flexibility for the system integrator.

HIGH FREQUENCY PASSIVE SONAR - LEOPARD

A high sensitivity, high frequency passive sonar which can be interfaced with existing sonar arrays or new be-spoke array configurations. The sonar uses a narrow-band technique that responds to the spatial structure of received sonar wavefronts. The signal processing algorithm gives full 360 degree azimuth cover, and practically eliminates the side-lobe 'spokes' that are traditionally associated with this class of sonar.

S2054(IR)

Drumgrange has supplied various sonar processing sub-systems for the new open architecture Sonar 2054 Inboard Replacement (IR) programme being fitted to the Vanguard Class submarines by Lockheed Martin.

HULL VIBRATION MONITORING EQUIPMENT (HVME)

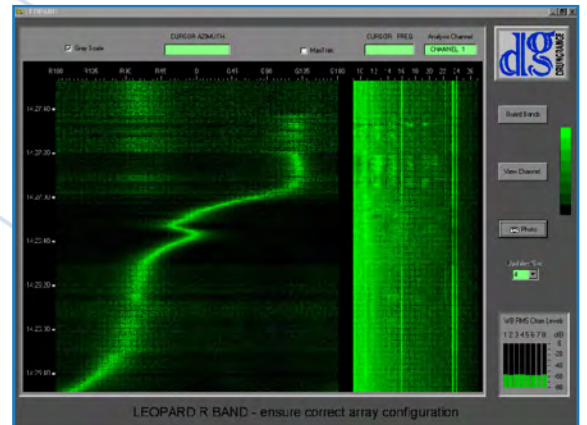
Drumgrange has been contracted to manufacture and install a Technical Refresh (TR) to the HVME systems on the Royal Navy's existing Type 23 Frigates, submarines and mine counter measures vessels. HVME(TR) provides a comprehensive vibration monitoring and investigation capability using COTS hardware and arrays of transducers mounted on the hull throughout the platform.

SONAR RESEARCH AND DEVELOPMENT

Drumgrange undertakes sonar algorithm design to develop solutions from initial research, modelling using be-spoke Drumgrange simulation tools such as MaxSIM, through to user demonstration and implementation. Drumgrange is a member of the Osprey Consortium supporting the UK MoD's Underwater Sensing Research Programme.

IN-SERVICE SUPPORT

Drumgrange has extensive experience of providing in-service support including platform installation and setting to work, service and repair, contractor logistics support (CLS), post-design services, documentation and safety management coupled with specialist facilities to support sonar trials, static/underway calibration and sonar recording for data analysis.



Drumgrange's HVME(TR) provides a comprehensive vibration investigation and monitoring capability



The in-house Acoustic Test Tank hosts a computer-controlled transducer test and calibration facility

HIDRA - Intercept Sonar

Key Features

Surveillance Display

- Vertically scrolling history presentation
- Bearing, frequency and amplitude displays vs. time
- Fast and slow update areas (operator configurable)
- Optional frequency filters (display in different colours)
- Cursor readout of all parameters
- Tote presentation of contact parameters

Classification Display

- A-scan presentation
- Amplitude and frequency vs. time
- Operator selectable update rates
- Cursor, pause and zoom controls
- Comb cursor for repetition rate readout

Replay Facility

- Real-time random access and fast replay

Aural Facilities

- Baseband and heterodyned operation
- Wideband and narrowband modes
- Can be slaved to classification display

Warner Alarms

- Alarms on selected frequency filters
- Operator controlled

Data Logging

- All contacts can be logged to magnetic media
- Operator controlled
- Readout of disk space used

BITE Reporting

- BITE reporting to LRU
- BITE reports logged to magnetic media

HF Passive Sonar

Key Features

- Interfaces to existing sonar arrays
- Suitable for use with towed arrays
- Responds to short duration events
- High sidelobe suppression
- Provided with Graphic User Interface
- Working in bands above normal passive sonar

“We design, develop and manufacture innovative products and are also experts at integrating existing technology to create successful, cost effective solutions.”



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