

Signature Monitoring Systems

Drumgrange can provide a range of Signature Monitoring Systems (SMS) for organically monitoring the radiated acoustic emissions of Warships and Submarines.



Our SMS has been developed as a stand-alone system comprising transducer arrays, data acquisition and data distribution sub-systems and PC based operator work-stations. Alternatively, we can offer the transducers with network based telemetry and embed the software application within the platform's existing Sonar or Combat system.

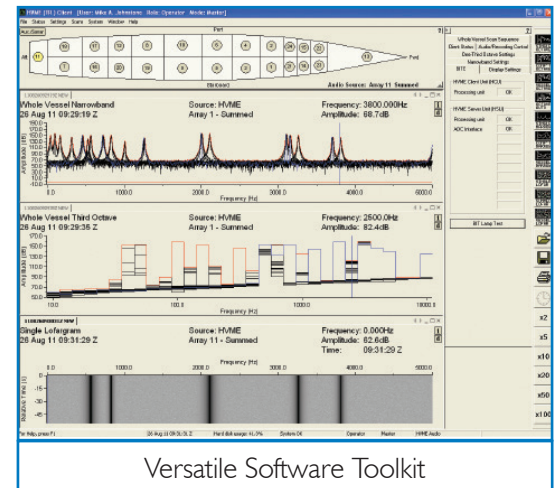
The transducers comprise arrays of hull internally mounted accelerometers and external hydrophones which can be populated throughout the platform or localised in particular compartments to provide real-time radiated noise estimates and to aid the localisation of noise sources.

The software provides a modular acoustic analysis toolkit and an equipment database which allows the operators to customise the system to suit the platform configuration.

Key features of the software include:

- Windows based application operated independently or within a networked combat system
- Single transducer, compartment or whole platform acoustic measurements
- Narrowband or third octave analysis
- Single or summed Lofargram displays
- Frequency coverage depending on transducers
- Raw data capture for post-processing

Drumgrange can also provide fully customised solutions to suit bespoke requirements.



Versatile Software Toolkit



Bulkhead Mountable Control Panel

Drumgrange's Signature Monitoring System Key Features

Monitoring and Analysis Displays	<p>Channel Analysis;</p> <ul style="list-style-type: none"> • 3rd Octave • Lofargram • Wideband <p>Compartment Scan Whole Vessel Scan User populated machinery database User populated calibration factors Narrowband zoom. Peak find function Saved and restore scan results data. Comparison function to overlay current scan results with previous scans User annotation of scan results.</p>
User Tools	<p>Line cursor identifying a single frequency and its associated amplitude. Sideband cursor identifying a frequency and selected sidebands. Harmonic cursor identifying a frequency and its harmonics. Crosshair cursor identifying a frequency, amplitude and time on a lofargram display. Machinery cursor identifying machinery frequencies from an operator entered database of known frequencies</p>
Aural Facilities	<p>Baseband operation Wideband and narrowband modes Can be slaved to analysis or scan channels</p>
Alarms	<p>Operator controlled alarms on exceeding configured noise level limits</p>
Data Logging	<p>Operator controlled signal, signature and screen data logged to encrypted removable media Readout of disk space used</p>
BITE Reporting	<p>BITE reporting to LRU BITE reports logged to removable media Serial PMS status reporting</p>

SMS Hardware

<p>Compact bulkhead mountable console Rack mounted processing enclosure COTS processing hardware Low noise signal conditioning and acquisition electronics</p>	<p>EMC: DEF STAN 59-411 for below decks Environmental: DEF STAN 00-35 CE Marking: LVD 2006/95/EC, EMC 2004/108/EC</p>
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