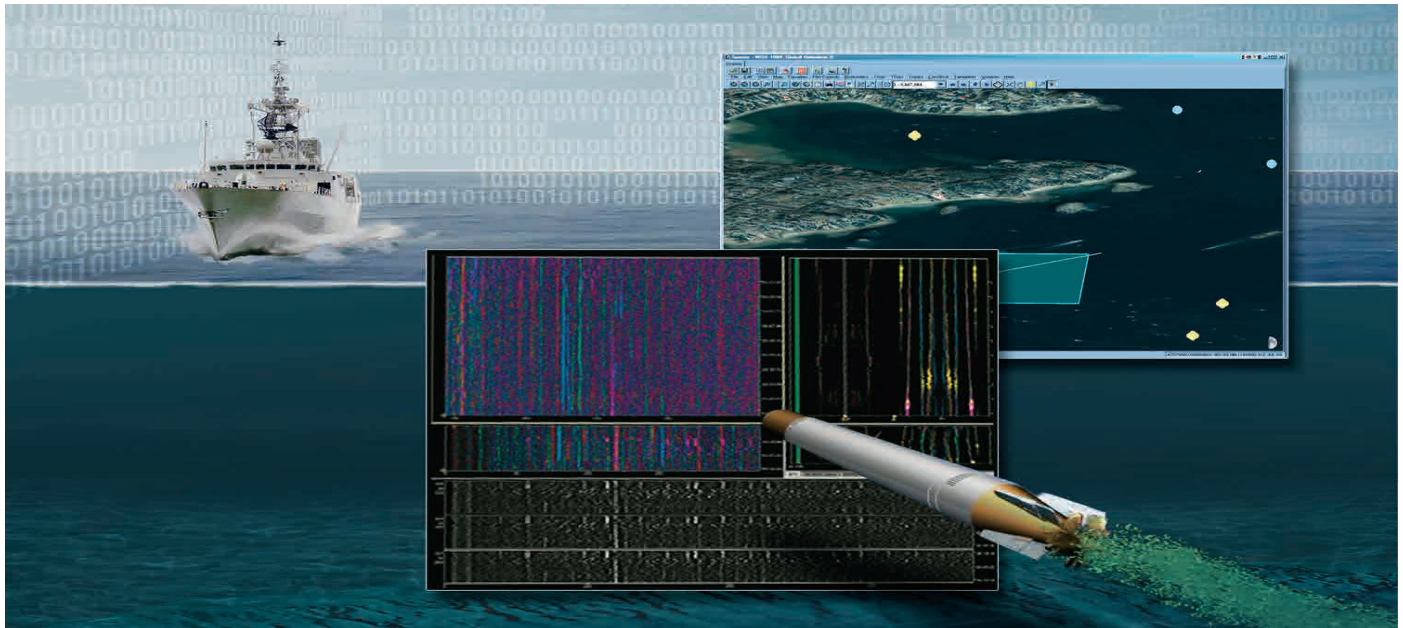


## Matador

### Torpedo Detection System



### *Superior Protection.*

#### Features

- Provides superior protection against any torpedo threat in both littoral and blue water environments
- Advanced software features allows automatic or operator in the loop for torpedo cuing and countermeasures
- Open Architecture technology enables regular hardware and software refresh throughout the product life cycle
- Utilizes specialized acoustic signal processing suite optimized for torpedo detection, tracking and classification
- Utilizes COTs processing and display for embedded training and post data reconstruction
- Can be easily integrated with any shipboard Combat Management System
- Flexible signal processing architecture that can be easily adapted to work with any sonar sensor

#### Features

The Matador Torpedo Detection System has been developed by General Dynamics to provide unprecedented coverage against any torpedo threat. Littoral waters provide a complex environment for planning and detection. Bottom/surface reflections and high levels of ambient noise increase false alarm probabilities. Deep Ocean environments provide their own acoustic complexities as low frequency sound can propagate long distances and have adverse affects on the detecting sensor. Matador provides unparalleled threat detection capability in all of these challenging environments.

Matador is designed to interface to any underwater warfare sensor and provide superior performance in a torpedo detection, tracking and classification role. Multiple Integration Periods and Resolutions, as well as new Normalization schemes, work together to offer an optimized sensor detection configuration in any environment against any threat.

In addition, an improved Open Architecture Operator Machine Interface ensures that an efficient situational awareness picture is offered to maximize evasion time against the threat.

# Matador - Torpedo Detection

## SYSTEM PERFORMANCE DATA

### Signal Processing Characteristics

- Sensor Integration Periods concurrently processed and stored
- Sensor Frequency Resolutions concurrently processed and stored
- Sensor Normalization schemes concurrently processed and stored
- Configurable acoustic history recall
- Audio Processing allows recall of historical data in real time mode
- Sensor Beamformed Data provides individual beam or colourized



### Operator Tools

The Matador Software Suite provides tools that consider the requirements of mission Planning, Execution, and Post Data Analysis. Real Time Frequency Measurement Tools provide the user with quick action functions for target signature analysis. Data replay in either 1:1 or slower/faster than real time provides the user with the ability to replay data and conduct thorough post mission analysis.

### Situational Awareness

- A high resolution 3 D Chart provides overlays to support symbology and tools enabling superior situational awareness
- An interface to the Combat Management System allows acoustic and non-acoustic data to be sent and received improving tactical awareness
- High resolution bathymetry data provides a layer for acoustic propagation modelling
- Acoustic track/object interface allows detected acoustic features to be layered on chart and also sent to external interfaces

### Proven Performance

- The Matador application software has been deployed at-sea onboard Navy frigates, including more than one hundred unscripted, real torpedo firings
- In live side-by-side comparison tests, Matador has been proven to far outperform legacy sonar systems in performance and usability

### System Reliability and Maintainability

- Matador utilizes rugged COTs hardware. This provides customers with a cost effective reliable solution for hardware procurement and sparing
- Matador provides an online and offline diagnostics capability which continuously reports system health status
- Matador allows for continuous technical refresh of both hardware and software components thus mitigating the risk of obsolescence

Designed to Military standards. Specifications may be configurable for specific customer requirements. For specifics on interfaces, bezel buttons, casings, connectors and other configurable items, please contact your General Dynamics representative.

**GENERAL DYNAMICS**

Mission Systems

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