AQUA MARINE™
Integrated Naval RESM, CESM, LWS & ECM Suite

Seamless Integration
Smooth and easy integration with all types of on-board combat systems:
- Command and Control Systems (C2)
- Combat Management Systems (CMS)
- Decoys (Chaff, Flare, Active RF)
- Control & Launching Systems
- Radar Blanking signals
- Hard Kill Defense Systems
- Surveillance and Navigation Radar Systems, Fire Control Radars, etc.

Personalized Customer Support
Complete, customized ILS package:
- Installation Support
- Setting to Work
- Harbor and sea trials
- Training
- Operation and technical manuals
- Spare parts
- Test equipment
- 0 to D maintenance levels
- Various types of after-sale support and services

EW Suites – Technical Specifications

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<tr>
<th>Subsystem</th>
<th>Basic Configuration</th>
<th>Extension A</th>
<th>Extension B</th>
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<tr>
<td>Radar ESM/ELINT</td>
<td>Frequency Range 2-18 GHz</td>
<td>Extended Frequency (0.5-2, 18-40 GHz)</td>
<td>Enhanced DF Accuracy implemented by the appropriate technique</td>
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<tr>
<td>Radar ECM</td>
<td>Frequency Range I-J band, 75 dBm ERP, MBAT, SSA</td>
<td>Multi-Band</td>
<td>Millimeter Wave Transmitters</td>
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<tr>
<td>Laser Warning System (LWS)</td>
<td>Sensor Laser Multi-Band</td>
<td>Additional Spectral Bands</td>
<td>Additional Sensors</td>
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<tr>
<td>COMINT ESM &amp; DF (CESM)</td>
<td>Frequency Range HF, VHF, UHF Bands up to 6 ghz</td>
<td>Dual-Operator Console</td>
<td>Hosted on customer’s Multi-Function Console (MFC)</td>
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<tr>
<td>Human Machine Interface (HMI)</td>
<td>Single-Operator Console</td>
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Elbit Systems
EW and SIGINT - Elisra Ltd.
4B Mifratz Kadish St., Be’er-Be’er 54470, Israel
www.elbitsystems.com/elisra
Elbit Systems EW & SIGINT-Elisra’s Aqua Marine™ is a digital, modular, and combat-proven family of advanced naval EW suites. These systems are based on Elisra’s extensive field experience of over four decades of success with customers around the globe, and as the preferred and prime supplier to the Israeli Navy.

Fully integrable and interoperable, these 5th generation lightweight and small-footprint systems provide today’s most critical capabilities - situation awareness, electronic attack, ship self-defense, and electronic intelligence. The Aqua Marine suite is designed to operate in littoral and blue waters environments, can handle very high pulse rates including POP (Pulse on Pulse), and is able to deal simultaneously with today’s - and tomorrow’s - most advanced threats. Exceptionally sensitive, maintaining a frequency wide open mode with fast reaction time and 100% POI (Probability Of Intercept), Aqua Marine detects radar threats in advance, including over-the-horizon threats. Sophisticated software analyzes threats based on statistical models and machine learning - thus ensuring recognition of both known and new threats.

Main Features
- ESM or Integrated ESM/ECM suite
- Long range including over-the-horizon radar detection
- Instantaneous 360° coverage
- “Exotic” signal sorting
- Dense electromagnetic environment handling
- Fast threat warning
- Automatic emitter identification
- Identification Library generation and editing tool
- Simultaneous engagement of multiple threats
- Sophisticated power management and ECM techniques
- Technique generator tool
- Multi Beam Array Transmitter (MBAT or SSA)
- Integrable with on-board combat systems
- Extensive BIT and diagnostic capabilities
- Full compliance with MIL-STD-16640, MIL-STD-2036
- ISO AS9100 certified Quality Assurance system

360° Instantaneous Direction Finding (DF)
- Compact Spiral Antenna Array for better than 5º RMS DF Accuracy
- Monopulse Multi Beam Amplitude Array for better than 2º RMS DF Accuracy
- Linear Interferometer for Enhanced DF Accuracy
- Radar ESM (RESM) Circular Interferometer & COMINT ESM (CESM) DF
- Band I, II, III Laser Sensor

Digital Receiver
- Instantaneous frequency range: 2-18 GHz
- Frequency accuracy: <1 MHz
- Frequency resolution: 0.1 MHz
- Sensitivity: -65 dBm to -75 dBm PW dependent
- Dynamic range: >60 dB
- PW: 0.05 usec to CW
- Detection probability (POD): 100%
- Pulse density: 2 MPPS
- Extended frequency range: 0.5-40 GHz
- Sensitivity: better than -80 dBm with additional integrated Narrow Band Receiver

Emitter Parameter Analysis
- Full parameter measurement, pulse & CW signals
- Capable of analyzing and presenting modern radars
- Designed to operate in littoral and open sea environments
- Simultaneous scan rate analysis of all emitters
- 500 tracked emitters
- Identification Library: over 10,000 sets of emitter parameters

ECM
- Wide selection of ECM and EA, modern techniques based on multibit DRFM technology
- User-defined ECM technique file generator
- MBAT or SSA 6 – 18 GHz, ERP: >75 dbm, higher ERP optional