The verification of the Electronic Counter-Measure effectiveness, in particular against anti-ship-missiles, also known as Sea-Skimmer, does not have an easy solution. Usually for this purpose, during EW trials, instrumented-seekers are commonly used. This method has some limitations; such systems only emulate their specific type of threat and sometimes only the transmission pulse is generated. So it is not possible to accurately evaluate the real effects of the counter measure on the receiving and processing chain of the real threat seeker. Therefore only the ESM part can be tested, while the ECM effectiveness will not be assessed. These limitations can be eliminated or at least considerably reduced by the E-PSS Poseidon, the Eldes Programmable Seeker Simulator.

**HARDWARE IN THE LOOP**
**PROGRAMMABLE SEEKER SIMULATOR**

The best solution for ESM/ECM effectiveness verification against Anti-Ship-Missiles (ASHM)

The E-PSS Poseidon is a mobile Hardware in the Loop system that includes an Antenna with its proper scanning control, a programmable waveform solid state Transmitter, the RF Front-End, a programmable digital Receiver and Radar Signal Processor and a versatile Display and Control Console. All the HW is contained in an easy transportable ruggedized rack for rapid deployment in operational scenarios to carry out specific and exhaustive trials in a relevant environment. The E-PSS Poseidon can be installed on a mobile platform, and positioned on the shore in the area where the trials will be carried out. The user can define the desired threat radar TX and RX parameters according to the ELINT information, by means of a friendly Graphic User Interface. Then Poseidon will be able to emulate in real time the radar model just created. The real skin echo of the target, received through a real antenna, is detected and then tracked in range and angle by Poseidon.

This approach allows ECM Equipment and Libraries verification in a realistic scenario against an accurate and realistic replica of the hostile seeker, thus allowing adjustments and verification of the EW equipment under test. Moreover Poseidon can replicate and test ECCM logics. Finally, the tests can be displayed in real time and all the data can be stored and replayed for analysis purposes.

The E-PSS Poseidon opens new perspectives to the Seeker Simulation world for EW-Navy Systems evaluation and other technical and operatives purposes, proposing itself as the best solution for the ECM effectiveness verification against Anti-Ship-Missiles.
TECHNICAL SPECIFICATIONS OF STANDARD VERSION
(customized versions available upon request)

GENERAL

Emulated Radar types: Active Seeker, Fire Control.

Control and Communications: FAST Ethernet (GB) on optic fibers and Reflective Memories (optional)

Recorded data: Radar received raw-data, Radar Detections, Radar tracking data, Radar received data spectrum

Dimensions and Installation:
- RF-Head: w 583 mm, h 506 mm, d 870 mm – typical weight: 63Kg
- RSP Rack: w 583 mm, h 506 mm, d 870 mm – typical weight: 73Kg

Power Consumption: 230Vac single phase ±10% 50÷60Hz ±10% <1Kw

TRANSMITTER

Frequency coverage: From X to Ka band by means of interchangeable RF-Heads and Antennae. Each RF-Head covers 1GHz. Standard X-Band RF-Head: 8.5-9.5GHz (Customizable).

Frequency Agility band: ≤ 1 GHz pseudo random, linear, sinusoidal, user defined groups.

Waveforms: Fully user-programmable; see Radar transmitter library.

Intra Pulse Bandwidth: ≥ 20 MHz (wider bandwidth available upon request).

Pulse Repetition Frequency (10Hz – 1 MHz): Fixed, pseudo random, agile, linear, sinusoidal, user defined groups.

RF Output Power: Typical ≥ +50 dBm (higher power available) with Solid State HPA and Power management.

RECEIVER

Type: Three Channels Microwave Front-End (frequency range from X-band to Ka band by means of replaceable RF-Heads). Noise Figure < 4dB (x-band). Digital Receiver with 16-bit A/D Converter (> 120 MHz sampling frequency) per channel.

Instantaneous Bandwidth: ≥ 20 MHz (optionally higher bandwidth).


Specifications subject to change without notice.

Key features
- Multi-environment ESM/ECM assessment
- Radar ECCM assessment
- Full programmability allows the simulation of any type of Seeker
- Real RF emission

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