PHOBOS R-ESM

TELEDYNE DEFENCE & SPACE
Everywhereyoulook™

The Phobos Radar-ESM system provides enhanced situational awareness by capturing and fingerprinting every radar transmission in the area. Operating from military vehicles, patrol vessels and aircraft, Phobos identifies emitters and highlights changes in operating patterns, delivering vital real-time intelligence. Rugged, compact, and simple to operate the Phobos R-ESM is currently in service with many NATO and Allied countries.

FEATURES

- 2-18GHz Instantaneous Frequency Range
- Full 360º Azimuth Coverage
- Bearing Accuracy up to 3º rms (TX antenna V/H)
- Very Low Power Consumption (80 Watts)
- Rapid Threat Warning (Emitter ID < 1sec)
- Fully Passive Operation Mode
- Capable of detecting Pulse, CW, FMCW
- Open System Architecture
- Continuous and Interruptive passive BIT
- Network enabled connectivity

APPLICATIONS

- Offshore Patrol Vessels
- Support and Fleet Auxiliary Vessels
- Fast Patrol Boats – Littoral / EEZ Operations
- Low Cost Combined Sensor Suites
- Land Vehicle Mounted
- Man Portable Mast Mounted
- Forward operations

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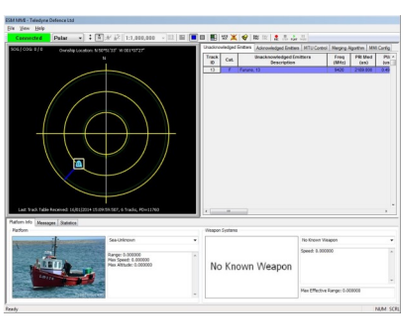
Performance Data

Parameter	Data	Notes
Frequency range	2.0 to 18 GHz Instantaneous Coverage	Options to 0.5 GHz and 40GHz
Frequency measurement	<1MHz resolution	Accuracy < 4.5MHz rms
Azimuth coverage	360 degrees instantaneous	Switched LHCP/RHCP arrays
Bearing measurement	Up to 3° rms (Tx Antenna V or H pol)	Performance measured in an anechoic chamber
Amplitude measurement	0.1 dB	Resolution of the measurement process
System sensitivity	-60dBmi	System sensitivity performance at antenna boresight. Reduced if optional protection elements or filters are installed.
Instantaneous dynamic range	60dB	
Minimum pulse width	70ns (50ns at reduced POI)	Max Pulse Width is 650 µs / CW
Time of arrival	5ns	Measurement Resolution
Recovery time	300ns typical	
Environment pulse density	Up to 1 million pulses per sec	Peak Density
Emitter library capacity	5,000 emitter mode lines	Capable of expansion
Track table	500 simultaneous tracks	Capable of expansion
Track display	500 simultaneously displayed	
Full ESM MMI display modes	Map, polar, graph display showing emitter LOB Track table, platform data, weapon data	
System response time	< 1 second	Antenna to display
Operating voltage range	9 VDC to 36 VDC 95 VAC to 265 VAC (Optional EZ020 PSU)	24 VDC optimal
Power consumption	120 W 80 W	Max typical at start up Max typical in operation
Size	Diameter 362 mm, Height 172.5 mm Standard filter bypass modules add 40mm	MTU
Weight	12 kg (MTU) / 3kg (Laptop)	
Operating temperature range	-40°C to + 55°C	
Operating altitude	60,000 feet max	Option available

System Options

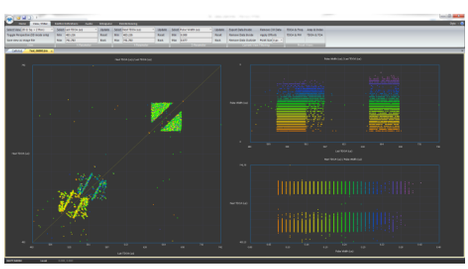
Option	Description
EZ020 Smart PSU	AC operation + 4 platform blanking inputs
RF front-end interface rejection	Custom filtering solutions available to suit requirement.
End-to-End RF Interruptive BIT	Active RF BIT source for RF Front End

Product Images



Tactical ES MMI

EZ020 Smart PSU (Option)



Callisto - Pulse Analysis