



System incorporates an advanced FMCW Doppler radar from Weibel



Thermal imager and daylight TV camera provide high resolution long-range video

Sea Eagle FCRO

Radar & Electro Optical Fire Control System

Sea Eagle FCRO (Fire Control Radar Optical) is an advanced radar and electro optical fire control system that provides precision long range tracking of surface and air targets and accurate gunfire control in surface (ASuW), air (AAW) and shore (NGS) engagements. The combination of Weibel's advanced FMCW (Frequency Modulation Continuous Wave) Doppler radar with long-range IR, TV and laser sensors provides 24-hour all-weather operation.

The system can be operated in radar tracking mode with target identification provided by the thermal imager and daylight TV camera or, in areas of high surface clutter or when passive operation is required, in EO tracking mode with range provided by a high performance laser rangefinder.

Part of the Chess Dynamics Sea Eagle family of systems, FCRO utilises service-proven common module sensors and processor units. Chess Dynamic's modular approach to system design provides increased flexibility of configuration with reduced integration costs while increasing supportability and reducing spares holdings.

- FMCW Doppler radar provides long range acquisition and precision tracking of multiple targets
- Long range thermal imager and daylight TV cameras provide 24-hour passive surveillance, tracking and target classification / identification
- High performance laser rangefinder (option) for passive EO fire control
- Automatic target acquisition and tracking
- Anti-air, anti-surface, naval gunfire support and indirect engagements
- Programmable, horizon and sector scanning with automatic target detection
- Automated capture of target 'snap-shot' images
- Designed as a stand-alone system or for integration into a Combat Management System
- Can be controlled from a multi-function console or dedicated system control console.

System Outline

Sea Eagle FCRO combines the latest solid state FMCW Doppler radar with a high performance electro-optical sensor suite to provide target acquisition, tracking and gun engagement 24 hours a day. The system uses sophisticated processing techniques to enhance target tracking and ballistic prediction, which increases overall gun system accuracy and effectiveness.

Doppler Radar

The FMCW radar is capable of tracking multiple targets within its beam. The multiple target capability, when employed with its precise Doppler discrimination, makes the radar extremely powerful in detecting airborne weapon release from an attacking aircraft. When engaging small, slow speed targets in surface clutter, the radar automatically senses multipath effects and switches the system to EO sensor tracking as the primary source of angular control.

EO Sensors

The electro-optical sensors comprise a high resolution mid-wave thermal imager, colour TV camera and laser rangefinder (option). This offers complementary performance to that of the radar, thereby providing effective target detection and classification within the engagement envelope of the system.

REO Director

The performance of the Sea Eagle director has been optimised to meet the requirements for rapid acquisition and precision tracking of dynamic air and surface targets. The director provides high acceleration and slewing rates to reduce acquisition times which, coupled with smooth tracking under both auto tracker and line of sight gyro control, ensures engagement accuracy.

Gun Control

Sea Eagle FCRO is designed with performance parameters to match the engagement ranges of current and future naval guns. The system employs ballistics predictors and processors with a range of operational modes that ensure control of any calibre gun mounting in surface, air and naval gunfire support engagements, with compensation for meteorological effects.

Operation

Sea Eagle systems have been designed to be controlled from either a dedicated operator's console or from a combat management system multifunction console. For dedicated applications, a range of console configurations are available to suit different vessel layout arrangements and space limitations.

