



# C-FIRE

FIRE CONTROL SOLUTIONS



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ALLIES IN INNOVATION



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# Flexible Fire Control Solutions for Naval Platforms

The C-Fire fire control series offers flexible solutions to control naval gun systems with calibers ranging from 30 mm to 127 mm. The system is affordable, ruggedized, and lightweight and can be adapted for installation on most types of naval platforms from small patrol craft up to destroyers and large auxiliary vessels.

C-Fire is part of the C-Series family of maritime equipment and is fully integrated with the C-Flex Combat Management System as well as C-Flex Patrol.

The C-Fire fire control series offers tracking, and engagement capability against the full range of naval targets covering requirements from low-scale policing and anti-piracy operations to full-scale naval operations.

## Operational Capabilities

### **C-Fire EO – Electro Optical Fire Control System**

The C-Fire EO is an electro optical fire control system equipped with a long-range thermal imager, color TV-camera, and a high performance laser rangefinder.

#### **Detection and Target Acquisition**

The C-Fire EO sensors have been carefully selected to provide effective target detection, acquisition, and accurate tracking day and night. The system will enable the operator to visually identify and classify the targets. C-Fire supports the capture of EO images for intelligence purposes and correlation with radar and/or AIS tracks. In addition, the C-Fire EO sensors can be used for passive surveillance operations, e.g. for Search & Rescue operations.

### **Tracking and Gun Control**

The C-Fire EO system is designed to provide a high level of automated operation. In this respect, it will automatically detect, acquire, and track static and moving surface and air targets. Once a target is acquired, the C-Fire EO will use its ballistic prediction functionality to support high-accuracy firing of the ships guns systems, ranging from 30 mm to 127 mm. In addition, the C-Fire EO will be able to support indirect naval gunfire.

### **C-Fire REO – Radar & Electro Optical Fire Control System**

The C-Fire REO is a radar and electro-optical fire control system equipped with a solid state Frequency-Modulated Continuous Wave (FMCW) Doppler radar combined with a long-range thermal imager, color TV camera, and a high-performance laser rangefinder.

#### **Detection and Target Acquisition**

The combination of an FMCW Doppler radar, long-range electro optical sensors, and a high-performance laser range finder provides the optimum sensor suite for all weather target detection, acquisition, and accurate tracking.

The C-Fire REO has all the capabilities of the C-Fire EO plus the added benefits from the FMCW Doppler radar. These benefits include a true all-weather capability plus extended detection and acquisition ranges, giving improved response time to the operator.

The FMCW Doppler radar uses low transmit power and frequency agility and offers low probability of intercept and resistance to electronic counter measures.



C-Fire REO



C-Fire EO



### Tracking and Gun Control

The C-Fire REO is capable of tracking multiple targets within its beam. The high Doppler discrimination enables the C-Fire to rapidly detect weapons release from aircraft.

When tracking small surface targets, the C-Fire automatically senses multipath effects and then adjusts itself to an optimum tracking solution involving the EO sensor.

The C-Fire REO will support high-accuracy firing of the ship's gun systems, ranging from 30 mm to 127 mm. In addition, the C-Fire REO will be able to support indirect naval gunfire.

The C-Fire REO offers capabilities comparable to much larger traditional radar fire control directors, but with a much smaller footprint above and below deck.

## Product Characteristics

### Operation

The C-Fire Fire Control Series has been designed to be controlled from the C-Flex multifunction console. The system uses sophisticated processing techniques to enhance target tracking and ballistic predictions, which increases overall gun system accuracy and effectiveness.

C-Fire is capable of controlling up to 3 separate gun mounts simultaneously, providing independent ballistic predictions for each gun.

### Reduced Life Cycle Costs

The C-Fire systems are affordable compared to other Fire Control Systems.

- The components are ruggedized and lightweight to minimize impact on the ship.
- The systems have been designed for minimum maintenance requirements without need for specialized tools and test equipment.
- A high degree of automated functions have been implemented, reducing the need for specialized training.

### Key Benefits:

- Adaptable to a wide span of specific fire control requirements
- Lightweight and ruggedized with minimum impact on ship design
- Full integration into C-Flex Combat Management Systems
- Reduced initial acquisition cost and reduced life cycle costs
- Reduced need for logistics support.



Operating in the aerospace, defense, and security sector, Terma supports customers and partners all over the world. Our dedicated and talented global workforce develops and manufactures mission-critical products and solutions that meet rigorous customer requirements.

At Terma, we believe in the premise that creating customer value is not just about strong engineering and manufacturing skills. It is also about being able to apply these skills in the context of our customers' specific needs. Only through close collaboration and dialog can we deliver a level of partnership and integration unmatched in the industry.

Our business activities, products, and systems include: command and control systems; radar systems; self-protection systems for ships and aircraft; space technology; and advanced aerostructures for the aircraft industry.

Terma has decades of hands-on know-how in supporting and maintaining mission-critical systems in some of the world's most hostile areas. Terma Support & Services offers through-life support of all our products to maximize operational availability, enhance platform lifetime, and ensure the best possible cost of ownership.

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