

# MEDUSA MK4/B

EO/IR GUN FIRE  
CONTROL SYSTEM



MEDUSA MK4/B is a lightweight Electro-Optical and Infra Red Gun Fire Control System (EOIR GFCS). Medusa can be used as stand alone GFCS for remote control of small/medium calibre guns, as well as an additional line of sight and, in general, for maritime operations where a passive capability is required.

Medusa Mk4/B belongs to the last generation of Gun Fire Control Systems and is based upon state-of-the-art processing unit and last generation EO/IR sensors. The GFCS is designed for maritime operations during day and night, and to minimize outdoor and indoor space and weight. Medusa is ease of operation and can be controlled by an operator at the Control Desk (provided with HD display, keyboard and joystick), which can be located in a sheltered area.

MEDUSA MK4/B can be fitted with up to four sensors including B/W or Colour TV, Laser, IR. Full situational awareness is provided through the man machine interface, which displays the TV/IR images and presents the target data (including bearing and range) in addition to the navigation data.

The man machine interface can be integrated within any combat management system. The system also provides a panoramic view to improve situational awareness at sea. Open to get target designations from external sources as Target Designation Sights, radars and combat management system. The high reliability of the system promotes low maintenance costs.

## ARCHITECTURE

The system is composed of the following units:

- An unmanned self-stabilized pedestal integrating the optronic sensor suite (TV, Laser and IR sensors) for automatic target tracking
- A Power Distribution and Computer Unit including a state-of-the-art tracking and ballistic computer
- A Control Desk (for the basic configuration) provided with monitor, keyboard and joystick or an operator console.

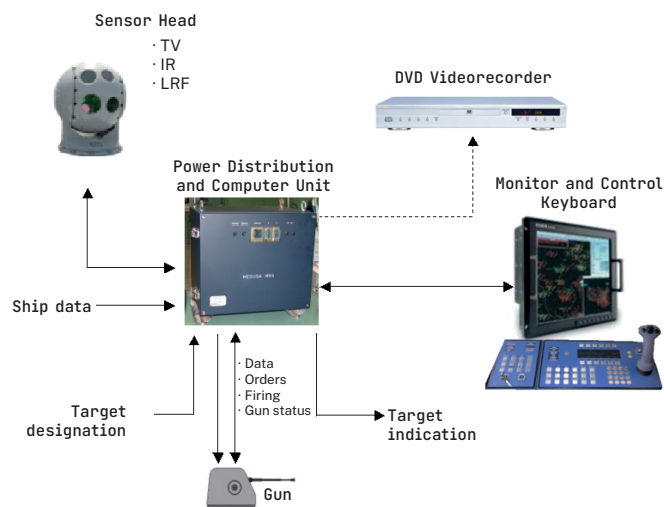
## MAIN OPERATIONAL FUNCTIONS

MEDUSA MK4/B performs the main following tasks:

- EO/IR surveillance and search
- Target detection, recognition and identification
- Target tracking by means of the Automatic Video Tracker
- Gun fire control
- Panoramic search
- Video recording/play-back.

## STATUS

The MEDUSA MK4/B System is a fully developed item. It belongs to the MEDUSA EO System family, that is operational on board many international navies. MK4/B is designed following international regulations and using COTS components. The system can be installed on board small fast boats (both patrol and attack ones).



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## TECHNICAL CHARACTERISTICS

### SELF-STABILIZED SENSOR HEAD

- |                        |                        |
|------------------------|------------------------|
| • Training limit       | Unlimited (slip ring)  |
| • Training max speed   | 2 rad/s                |
| • Acceleration         | 6 rad/sec <sup>2</sup> |
| • Elevation limits     | Unlimited (slip ring)  |
| • Elevation max speed  | 2 rad/s                |
| • Acceleration         | 6 rad/sec <sup>2</sup> |
| • Elevation useful arc | -30° to +210°          |

### TV CAMERA

- |               |                   |
|---------------|-------------------|
| • Target      | CCD               |
| • Sensitivity | 10 to 200,000 lux |
| • Lens        | Continuous zoom   |

### IR CAMERA

- |                    |                             |
|--------------------|-----------------------------|
| • Detector         | FPA                         |
| • Spectral band    | 3-5µm                       |
| • Two optical FoVs | Wide<br>Narrow              |
| • Cooling          | Closed cycle cooling system |

### LASER RANGE FINDER

- |                            |                |
|----------------------------|----------------|
| • Type                     | Eyesafe        |
| • Range accuracy           | 1m (RMS error) |
| • Instrumental range       | 300 to 20,000m |
| • High frequency data rate |                |

## INSTALLATION DATA

### DIRECTOR (SENSORS INCLUDED)

- |                 |                    |
|-----------------|--------------------|
| • Dimension (h) | 650mm (above deck) |
|                 | 330mm (below deck) |
| • Diameter      | 550mm              |
| • Weight        | 95kg               |

### CONTROL KEYBOARD

- |                     |               |
|---------------------|---------------|
| • Dimension (h w d) | 117x635x264mm |
| • Weight            | 6.5kg         |

### DISPLAY

- |                     |               |
|---------------------|---------------|
| • Dimension (h w d) | 520x380x180mm |
| • Weight            | 15kg          |

### POWER DISTRIBUTION AND COMPUTER UNIT

- |                     |               |
|---------------------|---------------|
| • Dimension (h w d) | 575x473x600mm |
| • Weight            | 40kg          |

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