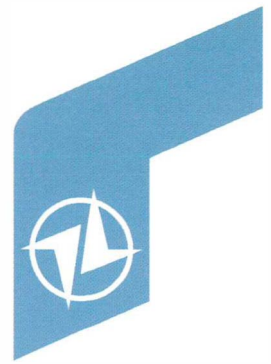


# Optronic Modular Sensor Platform MSP



STN ATLAS  
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## Stabilized Platform with Thermal Imager, Daylight Camera, Laser Range Finder and Video Tracker

### Task

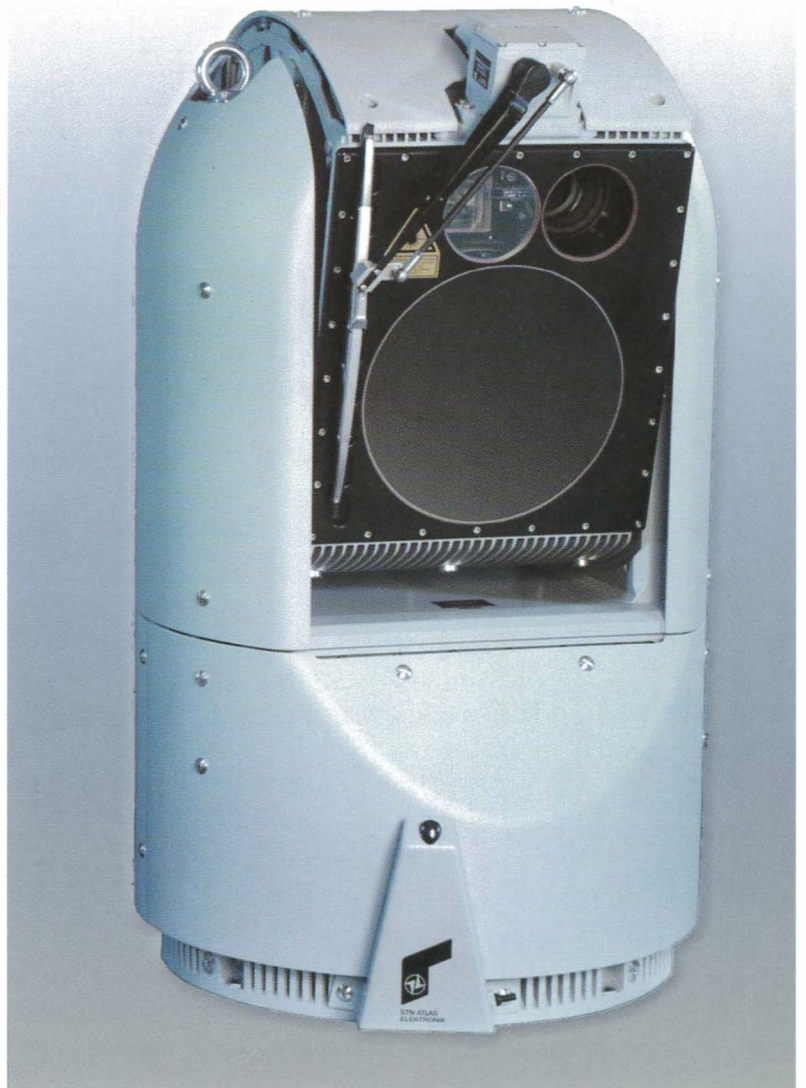
Military and paramilitary forces must be able to recognize and counteract hostile activities, which can be initiated by regular forces, guerilla forces and terrorists, effectively during day and night under adverse weather conditions and independent of illumination.

For naval forces, safe navigation and precise identification of potential threats in the surroundings of a ship in a crisis situation is mandatory for survival.

### Requirements

Detection, observation and identification of objects at sea, ground-based or airborne, independent of illumination in darkness and under limited visibility conditions.

Tracking of potential targets and providing the respective azimuth, elevation and range data to weapon or fire control systems in order to neutralize the threats.



## MSP – at night and poor visibility

### Solution

The Modular Sensor Platform (MSP) is a light-weight two-axis stabilized electro-optical system, which can be used in land-based applications (e.g. border or coastal surveillance), airborne (e.g. helicopters) and shipborne as a stand-alone sensor or as part of a command and fire control system.

Always operating in passive mode, the MSP is virtually undetectable and thus complements, or is a substitute for, radar.

The MSP comprises a thermal imager, a daylight camera, a laser range finder and a dual mode tracker. To achieve excellent stabilization values of the line of sight, the sensor package is controlled by a coarse/fine system and is thus independent of environmental influences.

The MSP is an excellent data source for tactical and/or nautical navigation as well as for fire control.



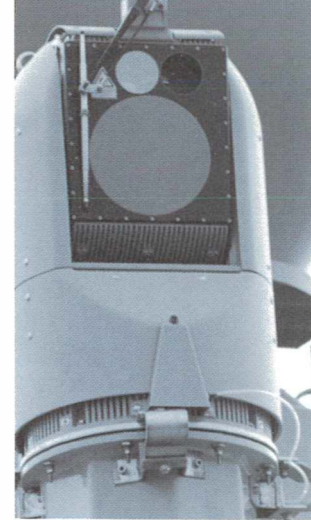
# MSP – modular design

## Features – standard configuration

- thermal imager with 2 fields of view and high resolution (CCIR format)
- highly sensitive CCD camera with zoom optics
- eyesafe laserrange finder (1 Hz/6Hz)
- integrated sensors for roll, pitch and heading data
- video tracker for centroid, correlation or combined tracking modes
- integrated processing electronics with high growth potential
- 2 axis coarse/fine stabilization for excellent stabilization values
- manual or automatic control modes (e.g. preprogrammed search pattern)
- automatic “hot-spot-detection”
- accepts target indication from external sources such as radars
- easy mechanical integration because of light-weight sensor head
- standard electrical interfaces for flexible adaptation to external systems
- modular design with high growth potential

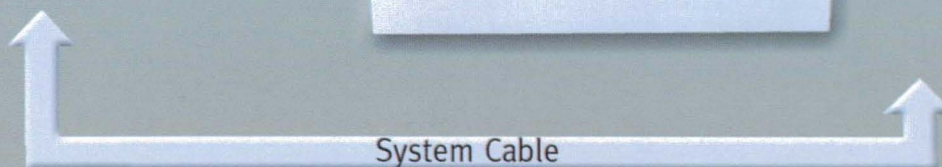
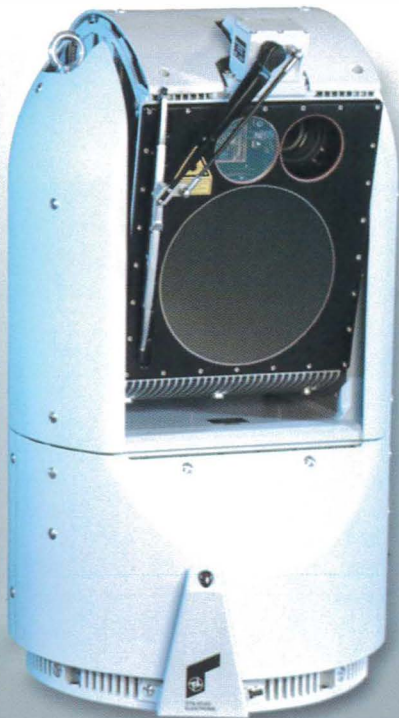
## Options

- zoom or alternative fields of view for thermal imager
- fire control module for direct fire control of guns
- colour TV sensor
- thermal imager 3 - 5  $\mu\text{m}$  (3rd generation)
- LLTV Sensor
- MFC remote control interface



MSP Sensor Head

Control Units (master/slave function)



# Specification and Performance

## Modularity

Due to the modular design of the MSP, three types are available:

- MSP 200
- MSP 300
- MSP 500

**The concept of operation either as a stand alone solution or as part of a ship's system is common to all three types of MSP**

## Performances

	MSP200	MSP300	MSP500
Stabilization accuracy	< 50 µrad	< 20 µrad	< 20 µrad
Elevation	-40° to +70°	-40° to +85°	-40° to +85°
Azimuth	± 180°	n x 360°	n x 360°
Weight	< 65 kg	< 90 kg	< 150 kg
CCD Camera	Yes	Yes	Yes
Thermal Imager	8-12 µm	8-12 µm or 3-5 µm	8-12 µm or 3-5 µm
Eyesafe Laser Range Finder	1 Hz	1 Hz	1 Hz/6 Hz
Dual Mode Tracker	Yes	Yes	Yes
Vertical reference sensor	No	No	Yes
North reference sensor	No	No	Yes

## Typical Detection/Recognition Ranges (calculated)

	Detection	Recognition
Small Boat Δt 6K	26,000 m	16,000 m
Ship Δt 10K	32,000 m	21,000 m
Small Aircraft Δt 20K	21,000 m	9,000 m



**STN ATLAS  
ELEKTRONIK**

STN ATLAS Elektronik GmbH  
Land and Airborne Systems  
Sebaldsbruecker Heerstrasse 235  
28305 Bremen  
GERMANY  
Phone +49 (4 21) 4 57-0  
Fax +49 (4 21) 4 57-29 00  
land-and-airborne-systems  
@stn-atlas.de  
<http://www.stn-atlas.de>