

## MSP-Marine

*Miniature Sensor Platform, Day & Night Multi Sensor Observation Head Especially Developed for Naval & Marine Applications*

MSP is a day and night multi sensor observation head, especially developed for naval and marine applications.

The system provides 360° horizontal and  $\pm 45^\circ$  vertically camera orientation capability with high level of stabilisation.

Using thermal imaging and Sony CCD technology, MSP includes an uncooled dual field of view (45mm\135mm) thermal imaging camera for day and night operation. MSP is ruggedised to withstand the harshest weather and environmental conditions, including rain, direct sunlight, high humidity and salt fog.

### Main Advantages & Features

- Cost effective day night system on a gyro stabilised PTZ
- Digital image stabilisation as standard
- Thermal camera with resolution of 640X480 (17 $\mu$ m)
- Auto focus thermal imaging Dual FOV 45/135mm
- Automatic focus CCD 26x optical zoom (42°-1.7°) with continuous digital zoom 4x
- Environmentally sealed housing
- Easy installation and maintenance
- Threat identification capability
- Light weight, rugged and robust



### Applications

- Marine police
- Coastal surveillance
- Port and shipping control
- Search and rescue
- Environmental policing
- Hovercraft
- Coastguard
- Customs and excise

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### Outline Specification

#### Night Camera:

Dual FOV Thermal Camera, Spectral Band 8 – 12  $\mu$ m  
FPA Image Sensor 640x480  
NETD < 50°mK (with F#1 optics)  
Video Output \Signal CCIR or RS-170  
Control Operation Polarity, NUC, Image Flip, Manual Gain/Level, e-Zoom, Focus Corrections  
Field Of View Dual wide (45mm) narrow (135mm)  
384x228 WFOV 12.2° X 9.2° NFOV 4.1° X 3.1°  
640x480 WFOV 20.2° X 15.1° NFOV 6.8° X 5.1°  
Auto Focus corrections

#### Pan & Tilt:

Pan: 360° (slipping), Tilt:  $\pm$ 45°  
Axis speed: 0.0056°/sec to 50°/sec

#### Stabilisation performance

Pan & tilt stabilisation to  $\pm$ 0.056° 1 $\sigma$   
Digital stabilisation to  $\pm$ 2 pixels

#### Power:

Operating voltage: 24Vdc  
Consumption: 50W nominal (During power mode)  
100W max (heaters)

#### Physical Characteristics:

System Weight <12kg  
Camera Size 45.0cm diameter x 36.6cm height-swept volume

#### Day Camera:

CCD Sony Camera  
FCB-EX1000\P  
1/4-type EX-view HAD CCD  
NTSC (380k pixel) PAL (440k pixel)  
Auto, Manual, Priority mode, Bright, EV compensation, Backlight, compensation, Slow AE  
Auto Focus corrections  
26x optical zoom, 42° - 1.7°  
Continuous digital zoom 4x  
Auto (Sensitivity: normal, low), One push AF, Manual, Infinity, Interval AF, Zoom trigger AF

#### Communication:

RS422 or RS232 with the PTZ and cameras

#### Environmental:

Operating temperature range -30°C to +55°C  
Storage temperature range -40°C to +70°C  
Humidity Rain +40°C 93% RH  
Sand/dust Mil-Std-810E  
Encapsulation IP66  
Shock & Vibration Mil-Std-810E

#### Standard Package:

Standard Package  
Pan/Tilt or fixed mounted head with integrated thermal imagers and CCD camera  
Break-out cable with standard mating connectors  
Operator manual

#### Thermal Imager Range performance:

##### Range Performance Wide FOV 45 mm



Man (1.7mX0.5m)  
Detection: 830m  
Recognition: 280m



Object (2.3mX2.3m)  
Detection: 2000m  
Recognition: 690m

##### Range Performance Narrow FOV 135 mm



Man (1.7mX0.5m)  
Detection: 2500m  
Recognition: 830m



Object (2.3mX2.3m)  
Detection: 6200m  
Recognition: 2000m



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