

# OE13-124/125



KONGSBERG



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## NEXT GENERATION LOW LIGHT UNDERWATER NAVIGATION CAMERA

- **Better imaging performance in low-light and turbid water conditions**
- **Longer range viewing**
- **Improved reliability, maintainability and through-life savings**

The OE13-124 (625 Line/50Hz) and OE13-125 (525 Line/60Hz) BIT camera is Kongsberg's latest generation of low-light underwater camera, and delivers unprecedented light sensitivity, image quality and viewing-range performance.

Robustly designed to perform in the harshest underwater environments, the wide-angle OE13-124 incorporates an advanced back-illuminated and thinned (BIT) CCD light sensor and integral image-processing technology, delivering up to six times the light efficiency in water as previous EMCCD based camera technology. This performance advantage, combined with a host of other best-in-class features, results in significantly improved image definition, contrast and low-noise levels across a wide dynamic brightness range.

This enhanced viewing capability enables users to undertake more accurate long-range vehicle navigation and surveillance in low light and in turbid water conditions. Furthermore the OE13-124 has a reduced lag characteristic, immunity to imageburn and offers

improved reliability, maintainability and through-life cost savings over other image-intensifier technologies.

The OE13-124 camera provides significantly improved light sensitivity in real underwater operating conditions over both first generation EMCCD technology (at all viewing ranges) and also over the renowned SIT technology (at underwater viewing ranges up to 25 metres). This light sensitivity performance advantage is even greater in turbid water conditions (eg estuarial and coastal waters).

### Applications

- **Vehicle Navigation and Surveillance in low-light and turbid water conditions**

## TECHNICAL SPECIFICATIONS

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### Performance

Horizontal Resolution	576 TVL/PH
Light Sensitivity	300TVL video at $5 \times 10^{-6}$ lux faceplate
Minimum Scene Illumination	$1 \times 10^{-6}$ lux
Signal to Noise Ratio	70 dB (weighted)

### Electrical

Scan Standard	625 lines 50Hz CCIR (OE13-124) 525 lines 60Hz EIA RS-170A (OE13-125)
Video Output	1V pk-pk composite video, into $75\Omega$
Power Input	16 - 24V dc, 1.5A (max)

### Optical

Lens	4.8 mm, F1.8
AOV in water	Horizontal: $74^\circ$ Vertical: $58^\circ$ Diagonal $86^\circ$
Iris Control	Automatic
Focus Range	300mm to infinity (in water)

### Mechanical

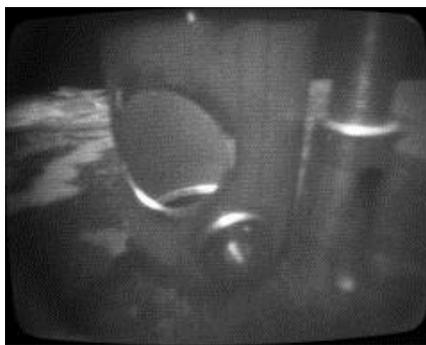
Dimensions	Diameter: 110mm (main body) Length: 209mm (excl. connector)
Weight	In air 4.5Kg, in water 2.5Kg
Housing Material	Titanium alloy, 6AL/4V ASTM B3 48
Connector	8 Pin Burton 5506-1508, other connector options available

### Environmental

Operating Depth	4,500 msw (other depth rated housing options are available)
Temperature	Operating: $-5$ to $40^\circ\text{C}$ , Storage: $-20$ to $60^\circ\text{C}$
Shock	30G peak acceleration, 25ms half sine duration, on all three axes
Vibration	10G, from 20 to 150Hz on all three axes
Electromagnetic Compatibility	BS EN 61000-6-3: 2001 Emission and BS EN 61000-6-1: 2001 Immunity



Kongsberg Maritime OE13-124



Kongsberg Maritime OE1324

### Low Light Underwater Test Tank Performance Comparison

Images show unedited screen grabs taken from the Kongsberg Maritime OE13-124 and OE1324 (SIT) cameras under identical lighting.

Specifications subject to change without any further notice

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