LEONARDO ELECTRONICS

HORIZON

THERMAL IMAGING CAMERA



The Horizon Medium Wave Infra-Red (MWIR) thermal imaging camera employs the latest focal plane array technology to meet long-range surveillance and target identification for early warning of threats and detection of illegal activities to satisfy border control, coastal security Counter UAS and surveillance requirements. The camera is fitted with a high definition detector array and is qualified to operate in the most stringent land and maritime environments.

The system is able to detect vehicles at up to 50km and personnel at ranges of up to 30km. One camera can therefore monitor hundreds of square kilometres of terrain. The crisp imagery allows rapid identification and detailed investigation of suspicious movements and activity.

The latest generation of algorithms provide additional image enhancements for harsh environments, these include turbulence mitigation, Local Area Contrast enhancement (LACE), edge enhancement and image stabilisation. Horizon provides a wider Field of View (FoV) for greater Situational Awareness, whilst delivering a narrower IFoV for longer range target identification and engagement.

Horizon cameras have been specifically designed with very long life cooling engines of 50,000 hours. This increases reliability and reduces through-life costs.

KEY BENEFITS

- Designed, developed and manufactured in the UK
- 'Dual Use' rated
- Very low through-life cost - 50,000 hours cooling engine life
- Suitable for Land and Maritime environments
- Fibre-Optic video output for long range HD video distribution
- Ease of integration – video and communication over Ethernet
- Multiple digital and analogue video outputs
- Latest image processing
  - Turbulence mitigation
  - Image stabilisation
  - Local area contrast enhancement
- Ultra narrow field of view: 0.9°
- Qualified to operate from -32°C to +55°C

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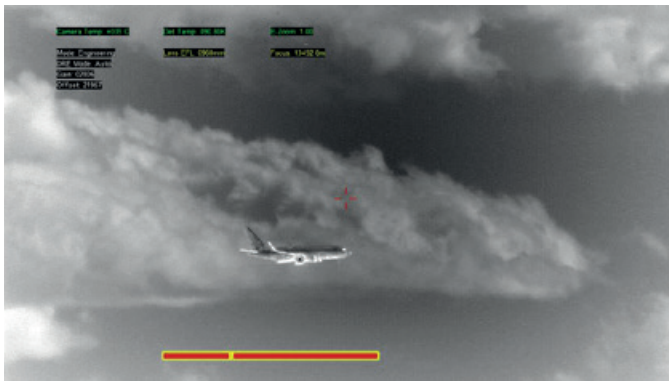
TECHNICAL SPECIFICATION

Detector array resolution	1280 x 720
Detector pitch	12 µm
FOV	11.0 x 6.2 degrees to 0.9 x 0.5 degrees
Detector technology	MCT
Band	3.7µm - 4.95µm
F/Number	F/4
Focal length of continuous optical zoom	80-960mm
Comms	RS-422, Ethernet
Analogue video output	NTSC, PAL (CCIR), HDTV 720p
Digital video output	HD-SDI, Ethernet (H264)
Operating temperature	-32°C to 55°C
Weight	23kg
Size (L x W x H)	596.5mm x 299mm x 299mm
Power source	28VDC (18-32V)
Nominal power at steady state	<25W
Dynamic range enhancement	LACE, Linear, Edge enhancement
Image stabilisation	Yes
Turbulence mitigation	Yes
Auto focus	Yes
Cooling engine	Long life linear (50,000hrs)
Camera MTBF	35,000 hours
Non-uniformity corrector	Built-in reference and quadratic NUC
E-Zoom	Interpolated (up to 8x)

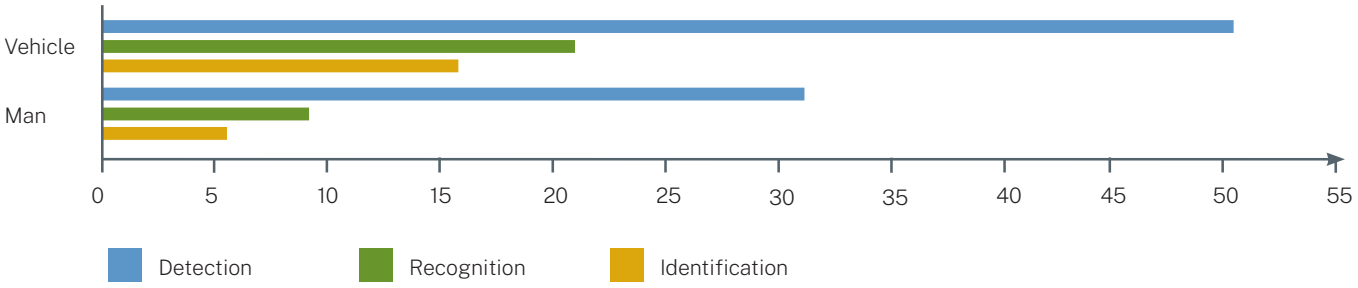


Aircraft, 14.8km range (Wide FOV)



Aircraft, 14.8km range (Narrow FOV)

HORIZON RANGE PERFORMANCE (KM)



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