

# NERIO-ULR

## ULTRA-LONG RANGE SURVEILLANCE AND TARGET ACQUISITION SYSTEM



NERIO-ULR is a state of the art modular Electro-Optical (EO) Surveillance, Target Acquisition (STA) and Reconnaissance system designed to satisfy a broad range of current and emerging customer requirements.

These include:

- Border security and Critical National Infra-Structure protection
- Mobile STA and Reconnaissance
- Coastal surveillance
- Air Defence and Counter-UAS

NERIO-ULR integrates world-class EO sensors as part of a fully flexible payload configuration together with a gyro-stabilised director mechanism enabling capability, cost and performance to be optimised according to specific customer needs. Utilising the Horizon Thermal Imaging (TI) camera for provision of a 24hr operational capability, NERIO-ULR combines an 11° to 0.9° zoom field-of-view high definition (HD) TI with a 360° x ±50° system field of regard.

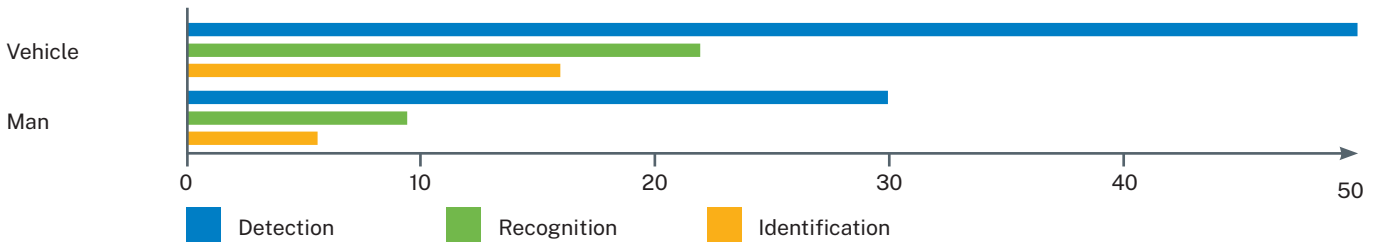
In addition to the Horizon camera, the standard NERIO-ULR sensor payload configuration includes a high-definition colour day TV camera with a compatible zoom field of view and optional, eye-safe Laser Rangefinder (LRF) to supplement the surveillance capability and enable target identification and geospatial location.

The combination of high definition imaging performance, sightline stability and field coverage enables customers to conduct surveillance acquisition operations from short to very long-range with a single EO system asset.

The modular payload and communication architecture of NERIO-ULR enables the Day TV Camera and LRF solutions to be tailored to meet specific customer performance, cost and capability needs. Additional special to role modules, e.g. illuminators, dazzle sources and GPS receiver, can also be offered to meet specific operational needs.

Performance of the Horizon TI camera enables the identification of targets at ranges typically beyond the effective range of the target, enabling early counteraction to be initiated.

## RANGE PERFORMANCE (KM)



NERIO-ULR is designed to facilitate use in direct mounting to platforms, masts or static tower mounted applications. The Horizon TI incorporates a long-life cooling engine enabling extended maintenance free operation whilst the design of NERIO-ULR enables ready access to the cameras for ease of removal and re-installation when required.

## KEY FEATURES AND BENEFITS

### GYRO-STABILISED EO PAYLOAD

Enables operation on fixed installation and optimised performance in mast/tower mounted applications.

### CONTINUOUS 360° X ±50° COVERAGE

Provides a solution for ultra-long-range surveillance and target identification and geolocation.

### HORIZON THERMAL IMAGER

World-Class true HDTI performance coupled with a full range continuous 11° to 0.9° zoom lens enabling high-performance, 24hr operation.

### MODULAR PAYLOAD ARCHITECTURE

Enables the NERIO-ULR system level capability to be optimised for customer specific cost, capability & performance needs and accommodate special to role payloads for specific operational applications.

### OPEN-STANDARDS, IP BASED CONTROL INTERFACES

Enables NERIO-ULR to be easily interfaced with customer specific security or mission system solutions, including the network enabled operation.

### RUGGED DESIGN

Enables NERIO-ULR to be utilised against a broad range of operational requirements across a global environment, including static or mobile and land or coastal environment.

## HIGH AVAILABILITY

50,000 hour long life cooling engine of the HDTI enables extended maintenance free operation with high reliability.

## OPTIONAL CAPABILITIES

- Gyro-stabilised or unstabilised NERIO-ULR variants
- Integrated GPS
- Automatic Target Detection and Tracking Modular system control and display solutions.
- Operational deployment solutions
- Special-to-role EO modules, e.g. illuminator and dazzle sources

## TECHNICAL SPECIFICATION

### Gyra stabilised head

<b>Field of regard:</b>	Continuous 360° x ±50°
<b>Angular speed:</b>	60°/s (max)
<b>Pointing accuracy:</b>	0.056° 1σ in both axis
<b>Stabilisation performance:</b>	200 μrad (1σ)

### Horizon

<b>Resolution:</b>	1280 x 720 (720p)
<b>Operating waveband:</b>	3μm to 5μm
<b>Sensitivity:</b>	23mK NETD (Typical)
<b>Optical field of view:</b>	Continuous zoom: 11° x 6.2° to 0.9° x 0.5°
<b>Autofocus:</b>	On demand

### Colour day TV camera

<b>Resolution:</b>	1280 x 720
<b>Optical field of view:</b>	Continuous zoom: 9.3° to 0.28° (horizontal)
<b>Auto focus:</b>	On demand and zoom triggered

### Eyesafe LRF

<b>Laser type:</b>	Er Glass
<b>Laser safety:</b>	Class 1
<b>Wavelength:</b>	1540nm
<b>Range:</b>	80m to 20km
<b>Accuracy:</b>	±5m (1σ)

### System and environmental

<b>Power supply:</b>	18v – 32v DC
<b>Operating temperature range:</b>	-32°C to +71°C

For more information:  
infomarketing@leonardo.com

Leonardo Electronics  
Sigma House-Christopher Martin Road-Basildon-Essex SS14 3EL-United Kingdom  
T +44 (0) 1268 522822

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