



STARLIGHT
ITALIA

EO/ULL/IR/NV CAMERA PAYLOAD

FEATURES

- Light weight
- Multiple choice of sensor
- Ruggedized for maritime application
- Operator interface unit
- Multi-format video outputs
- Ultra fast gyro stabilization
- Radar & compass slaving
- Video & AIS tracking



X SERIES

FOR YACHTS AND
WORKBOATS

PRODUCT OVERVIEW

Starlight Italia's **X SERIES** payload are designed for situational awareness, surveillance, navigation and security for extreme low light conditions, offering users confidence to navigate safely in complete darkness and in poor visibility conditions, or on some models, embedded light intensifier cameras to view in completely darkness.

X SERIES systems assist yachts cruising at high speeds at night by providing the captain with a visual of potential obstacles in the navigation path.

Controlled from the bridge or through an IP network in a control room or remote location, it provides a high-resolution IR thermal camera, a day color camera with the best low light sensitivity in a gyro-stabilized sensor platform and video stabilization. A mast-mounted payload platform, this wide spectrum imaging system offers unsurpassed performance.

The integrated software *Caldera™* offers a user friendly graphic interface through simple touch screen commands and a telemetry section to check and set all functions and perform immediate system diagnosis.

MAIN APPLICATIONS

SAR (Search and Rescue) operations:

Quick and easy search for anomalies even on rough sea conditions.

Safe and exact navigation during the SAR operation. Recording SAR or MOB operations.

X SERIES system create new opportunities for SAR operations and makes them more safe and effective.

NIGHT NAVIGATION

X SERIES systems assist yachts cruising at high speeds at night by providing the captain with a visual of potential obstacles in the navigation path.

Controlled from the bridge or through an IP network in a control room or remote location, it provides a high-resolution IR thermal imager, a day camera with the best low light sensitivity in a gyro-stabilized sensor platform and video stabilisation.

Navigation:

The **X SERIES** multi sensor payload boast ultra high sensitive Starlight uncooled thermal camera (< 30 mK), night vision based on SuperGen. light intensifier tube and HD ultra low lux daylight color camera to provide unparalleled, hazard detection, threat assessment and situational awareness 24/7.

Operator Interface:

A new range of operator control panels (joystick console or touch screen) enables X SERIES systems to be integrated both in new and existing ship configurations.

Gyrostabilization

The **X SERIES** is equipped with state of the art multi-axis gyro stabilization, works by mounting MEMS integrated into a sophisticated micro-mechanical balanced system. This provides an extraordinary stability and keeps the image fixed on target, even with massive and very fast shifts in movement.

Every situation is unique, and we excel at designing and configuration of gyro stabilisation systems, each one customized depending by field of application.

A mast-mounted payload platform, this wide spectrum imaging system offers unsurpassed performance.

ANTIPIRACY

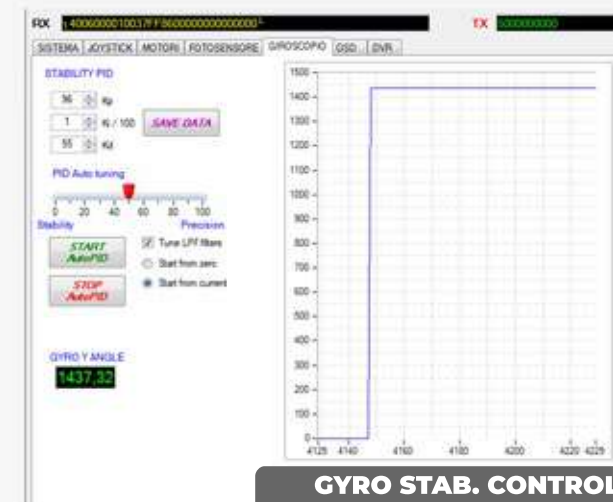
Starlight Italia offers military-grade surveillance systems for yachts, including a product with long-range sensors and tracking system, which combines radar and infrared/thermal imagery cameras to detect incoming threats as far as 5 kilometres away or more, even at night or during foggy or rainy weather conditions.

Whether moored at anchor, alongside or underway, the **X SERIES** cameras will capture everything in all directions around a yacht.

This data capture can be used live or remote transmitted to support proactive security initiatives or as a vital archive capable of recreating the context of an incident.



JOYSTICK TELEMETRY



GYRO STAB. CONTROL



ULL THRESHOLD SETTINGS



	NIGHTHAWK	NIGHTHAWK PRO	PL 640	IR FORCE	ONE FB DESIGN
360° Continuous Pan	•	•	•	•	•
360° Continuous Tilt				•	•
3 Axis Joystick				•	•
Proportional Touch Joystick	•	•	•	•	•
Embedded DVR		•		•	•
Ultra Low Lux Day Color Camera	•	•	•	•	•
Light Intensifier Electron Tube	•	•			•
Athermalized Diamond Surface Coated Lens			•	•	•
Ultra-Sensitivity Shutterless Thermal Camera			•	•	•
Ultra Low Lux Camera Optical Zoom (SZS™)				•	
Ultra Low Lux Camera Continuous Zoom					•
Thermal Camera Digital Zoom			•	•	•
Auto Image Reversal Function				•	•
OSD Multi-touch Function				•	•
ISP Multi-touch Display				•	•
Parallel View Function				•	•
Pip View Function				•	•
Image Computing Software				•	•
Radar slaving				•	•
Ultra Fast Gyro Stabilization	•	•	•	•	•
Multi Input Platform				•	•
Embedded UPS Aided				•	•
Compass Slaving				•	•
AIS Tracking				•	•

X SERIES SENSORS

THERMAL CAMERA (PL 640/IR FORCE/ONE FB DESIGN MODELS)

SENSOR	Silicon CMOS Uncooled Chip
FIELD OF VIEW	HorizFov=25°. VertFov=19°. (@ Wide Zoom)
RESOLUTION	640x512 – 327680 pixel -17µm pitch.
NETD	NETD < 30 mk @ Whole Band
SPECTRAL RANGE	Longwave Broadband >7µm
FOCAL LENGTH	25 mm (35 – 40 – 100 mm Optional)
LENS TYPE	Athermalized Diamond Surface Coating Treatment
ZOOM	Ultra Digital Up To 4X
FRAME TECHNOLOGY	Shutterless Technology
FRAME RATE	Full Frame Rate 50-60 Hz (Thermal Up To 120 Hz)
DETECTION RANGE	2Km – man; 3.5Km – boat @ 25mm Focal Length
DIGITAL SIGNAL PROCESSING	Starlight DSP CALDERA™
IMAGE PROCESSING (IR FORCE/ONE FB DESIGN)	Video Grabbing, Recording, Multiview Real Time

ULTRA LOW LUX COLOR CAMERA (NIGHTHAWK/PL640/IR FORCE)

TYPE	Optical Zoom Ultra Low Lux Color Camera
SENSITIVITY	0,0005 lux @ Color
NUMBER OF CAMERAS	1
FIELD OF VIEW	HorizFov=30°. VertFov=30°. (@ Wide Zoom)
SENSOR	2 Megapixel
SENSOR RESOLUTION	1000 lines
WINDOW TYPE	Self-Cleaning Photocatalytic Glass

ULTRA LOW LUX COLOR CAMERA ZOOM (ONE FB DESIGN)

OPTICAL ZOOM	32X
DIGITAL ZOOM	10X - Combined 320X
ZOOM RANGE HORIZONTAL	65° to 0.20°
WINDOW TYPE	Self-Cleaning Photocatalytic Glass



X SERIES SENSORS

LIGHT INTENSIFIER CAMERA (NIGHTHAWK/IR FORCE/ONE FB DESIGN)

SENSOR	SuperGen Intensifier Starlight Electron Tube
SENSOR DEFINITION	> 60 plmm
SENSITIVITY	< 0,000001 LUX
WINDOW TYPE	Electron Beam Treated Sapphire Autocleaning Glass

GYRO STABILIZATION (ALL MODELS)

GYRO STABILIZATION TYPE	6 Axis Electro-Mechanical Ultra-Fast Gyro
ACCURACY	< 1mRad – Pitch. (Pan Gyrocomp Slaved - Optional)

INTERFACES (IR FORCE/ONE FB DESIGN)

RADAR	Radar Slaving
GYRO COMPASS	Gyro Compass Slaving
AIS	AIS Targeting - Tracking
GENERIC	Nmea 0183, Nmea 2000 (Others on demand)

OTHERS

PAN TILT RANGE	360° Continuous PAN; 360° TILT
PAN/TILT SPEED	0°- 100°/S
VIDEO OUTPUT	DVI / VGA / HDMI / (IP H264 - Optional)
DISPLAY	19" ISP Led Touch Monitor (Optional)
JOYSTICK	Propotional 3 Axis Joystick
VOLTAGE	9-36 V DC
CONSUMPTION	50W
IP GRADE	IP 68 External Unit
EXT. ENCLOSURE MATERIAL	Metallic - High Strenght Aluminium Alloy
ANTI CORROSION TREATMENT	Ultra High Deep Anodization Treatment 30 µm
ANTI CORROSION COATING	Strontium Cromate Polymeric Coating
EXTERNAL UNIT DIMENSION	180X180X310 mm
EXTERNAL UNIT WEIGHT	5,9 kg
INTERNAL UNIT DIMENSION	362X210X70 mm max
THERMAL DISSIPATION	Fanless





Starlight Italia is a private company, based in Italy.

Since its establishment, in 2005, Starlight Italia has become leader in night vision systems for night navigation, by producing the first MED / IMO approved system, ND 1200 PREDATOR.

Starlight Italia is specialist cooled and uncooled thermal cameras, for maritime and land applications, manufacturing multi sensor platforms.

The flexible structure and in-house software development and R&D, allow us to work with our customers on a branded or OEM basis as well as bespoke/non-standard requirements.

With a team of dedicated service engineers and an international partner network, Starlight Italia, supports all supplied products and offers worldwide service coordination for on-board services (equipment installation, repair, maintenance, annual surveys), remote troubleshooting and operator training.

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