

PortLight™

Long-Range, All Weather Day & Night Observation and Identification System

Technical Specifications

General Guidelines to Long Range Imaging:
Defining visibility in bad weather is subjective and inexact; however, demonstrated experience for “Expectations” and “Comparisons” are below:
At sea during the night, recognize...

- Man’s head: 2,000m
- Man’s head in heavy rain: 1,500m
- RHIB, RIB, IB: 5,000m
- RHIB, RIB, IB in heavy rain: 4,000m
- Flashing lights
- Foot tall letters on ship’s hull: 10,000m
- Foot tall letters on ship’s hull in heavy rain: 7,000m
- Ship: 16,000m
- Ship in heavy rain: 10,000m
- All objects through fire or extreme heat

General Characteristics

- Sensor head dimensions: W = 280mm, D=420 mm, H=200 mm (approx)
- Control serial link: EIA-RS-422
- Power supply: 220V/110
- Power consumption: 500 watts in night mode

Environmental

- Designed and tested for harsh north sea weather conditions
- Designed to IP67 level

LGI Night Camera

Sensor Type	LGI 2/3" B&W Coupled CCD to a gated Image Intensifier		
Spectral Range	808 ±15 nm		
Resolution (HxV):	640 X 480		
Angle of View (H x V):	Narrow	0.32° X 0.24°	Conti. Zoom
	Wide	18.75° X 14.12°	
Laser Illuminator Field of View	0.34°		

Color CCD Day Camera

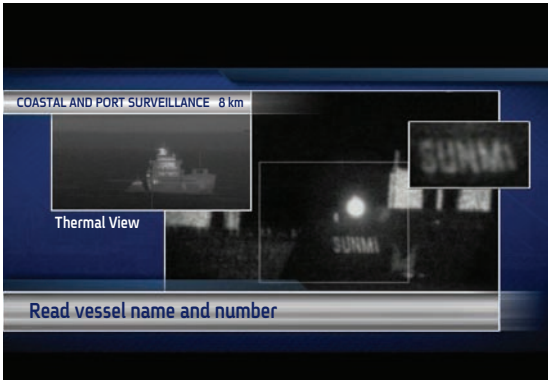
Sensor	2/3” color CCD		
Resolution (H x V)	640 x 480		
Angle of View (H x V):	Narrow	0.32° X 0.24°	Cont. Zoom
	Wide	18.75° X 14.12°	
Angel of View with Extender X2 (H x V):	Narrow	0.16° X 0.12°	Cont. Zoom
	Wide	9.44° X 7.09°	

Both Day and Night Cameras share the same single lens:

Zoom Lens	D60x12.5R2DE-ZP1	
Focal Length (mm)	Extender 1x	Extender 2x
	12.5 – 750 (60x)	25-1500 (60X)
Aperture Range	F3.8 – F7.1	F7.6 – 14.2



PortLight™ ship at night with birds: 6km



PortLight™ thermal and LGI name: 6km



PortLight™ man transfer to ship with birds: 6km

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All Weather, Day & Night Observation and Identification System

Long Range Active Gated Imaging

PortLight™ is a unique **long range** all weather day & night vision system based on Gated Imaging technology. Designed for long range observation and identification, PortLight™ allows you to clearly distinguish objects and details even at distances of around 16 Km or 10 miles at night or day.

- *Identify targets at night in their natural contrast like daytime and in adverse weather conditions without moon, starlight or night glow*
- *Classify targets typically indistinguishable shadows compared to other technologies*
- *Present clear images in complete darkness: objects, signs, ship names, fishing lines and human activity easily identified and understood*
- *Slave to Radar, sensor triggers, or other alarm inputs for fastest identification and classification*

PortLight™ is designed to answer stringent customs, coastal and port surveillance application demands. The need to read and identify vessel names at great distances during the day and night and in any weather condition is a major requirement. PortLight™ allows monitoring and surveillance crews to perform daytime tactics at night, providing image quality as clear as day.

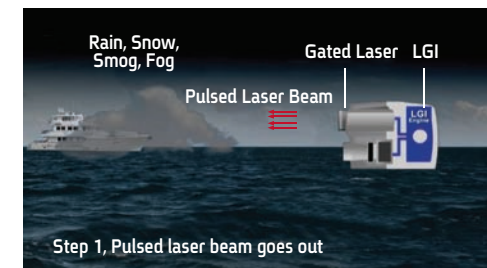


PortLight™ pilot boat in heavy weather: 6Km

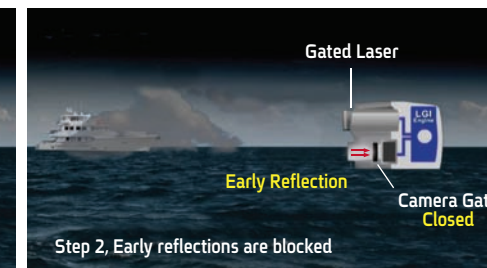
See better in the night, than at day
in all weather

The next evolutionary
visual extension of the eye

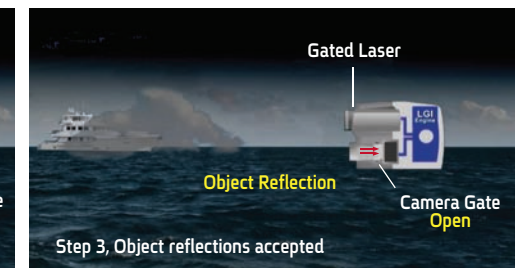
How it works:



Step 1, Pulsed laser beam goes out



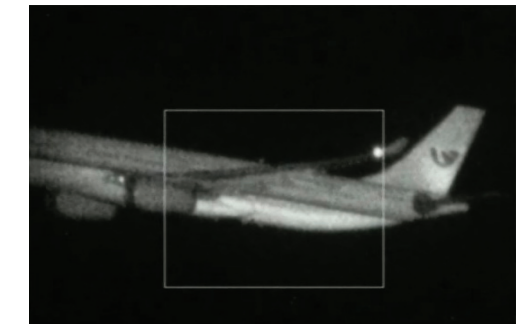
Step 2, Early reflections are blocked



Step 3, Object reflections accepted

Major Advantages

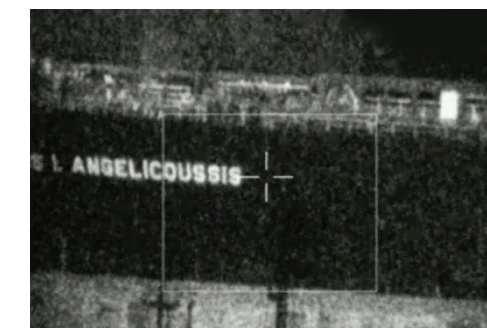
- Night recognition and identification for quick target classification and identification
- No “blooming” from any light source
- Night time nameplate reading (letters and numbers)
- Human facial ID for identification at night
- Penetrates rain, snow, dust, windows and flames
- Modular, open system architecture adapts to E/O and radar solutions
- Easily integrates with existing surveillance systems as upgrade program
- Real-time image stabilization & image enhancement
- Advanced automation operating modes – auto target finding, scanning, object tracking, etc.



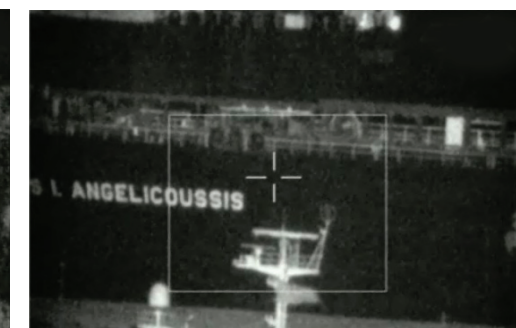
PortLight™ plane tail ID: 9km

Market Applications

- Coastal security
- Port security
- Critical infrastructure security
- Border security
- Maritime navigational aid
- Ship security
- Safety



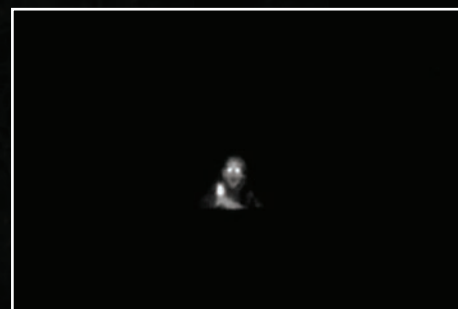
PortLight™ example gating range 1: 6km
Mast not observed



PortLight™ example gating range 2: 6km
Mast observed

Images shown were taken from actual raw data video shot of scene with PortLight™

Pirates in RHIB in dead of night range: 1500 metres or 1640 yards, 0.9 mile



Man in water in dead of night:
1,500 metres or 1640 yards, 0.9 mile