CRITICAL™ IMAGING LLC

2306 Bleecker Street
Utica, NY 13501

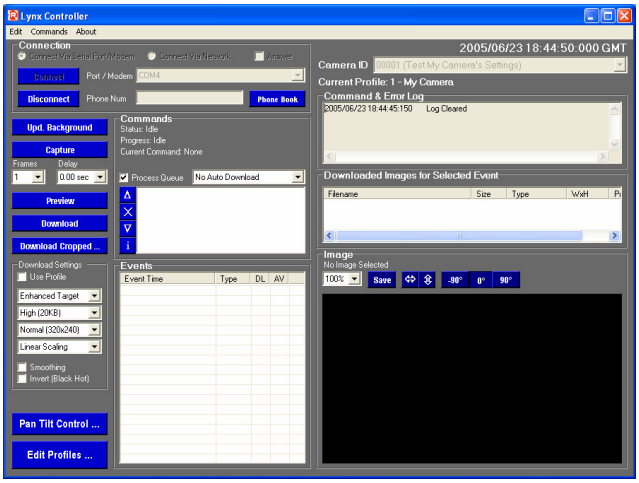
315.732.1544
FAX 315.732.5931

www.criticalimaging.net
info@criticalimaging.net

LYNX - Thermal Imaging Unattended Ground Sensor

A complete solution for Remote, over the Horizon Unattended Surveillance

The LYNX System represents a revolution in unattended sensing systems. The LYNX system is a complete, battery operated system capable of providing months of unattended surveillance virtually anywhere in the world. True Long Wave Infrared (LWIR) thermal imaging enables the system to see in complete darkness and through obscurants such as dust, smoke and light fog. The exclusive, high resolution instant-on technology ensures that events are captured the moment they occur. Advanced on-board image and signal processing provides a high level of analysis and image storage for up to 800 images and allows the user to analyze images in both real time and to post process data at future times.



Easy to use Windows® compatible software provides for rapid deployment and remote command and control over long-haul data communication networks. Standard COTS cueing sensors allow for mission flexibility and configurations to match nearly any requirement. Open system architecture allows for incorporation of additional sensors, off-board data collection devices and auxiliary hardware such as advanced cueing sensor networks. The LYNX system can be configured to call in periodically for health checks, or to re-configure the system. Designed to be powered from standard military BA/5590 batteries, many months of operation can be achieved from just 2 batteries. For example, 5 events per day result in operational lifetimes of over 120 days.

Features

- **Instant-on operation for target acquisition in less than 4 seconds from trigger event**
- **High resolution 320 x 240 Long Wave Infrared (LWIR) thermal images operating in 8 to 12 micron wavelength**
- **Up to 8 user definable in-system video event "tripwires" for maximum detection flexibility**
- **On-board archival storage for up to 2000 images, retrievable at any time**
- **Advanced wavelet compression with compression ratios over 256:1 for variable bandwidth conditions**
- **Can incorporate user definable algorithms and data encryption methods for high level security**
- **Family of environmentally sealed, athermalized lenses stay in focus with temperature changes**
  - **25mm (40° HFOV x 30° VFOV)**
  - **50mm (20° HFOV x 15° VFOV)**
  - **75mm (13.3° HFOV x 10° VFOV)**
  - **100mm (10° HFOV x 7.5° VFOV)**
  - **200mm (5° HFOV x 3.8° VFOV)**
- **Variety of communication hardware available**
  - **Cellular telephone**
  - **Globalstar® Satellite Telephone**
  - **Iridium® Satellite Telephone**
- **Can incorporate pan/tilt for remote movement**
- **Effective for targets from 5 to 1000+ meters**
- **Low power consumption for battery operation**

LYNX Specifications

Electrical

Input Voltage 8-15VDC
Nominal Power:
Camera Head .....<6 Watts
Globalstar Mission Box .....<7 Watts
Sleep Power .....60 mW

Mechanical - Camera Head

Diameter .....5.0 Inches
Length .....7.5 Inches
Weight .....4 ½ lbs
Mounting ..... Std ¼-20 Thread
Connectors ..... IAW MS3114

Mechanical – Globalstar Mission Box

Length .....9.8 Inches
Width .....5.3 Inches
Height (including antenna) .....5.5 Inches
Weight .....3 ½ lbs
Connectors ..... IAW MS3114

Mechanical – Cables

Connectors ..... IAW MS3116

Mechanical – Athermalized Lenses

25 mm Lens
- Diameter .....1.9 Inches
- Width .....2.9 Inches
- Weight.....1 lb
- Field Of View .....40° x 30°

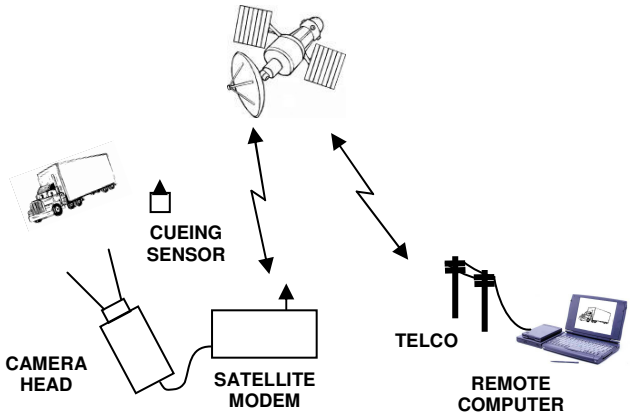
50 mm Lens
- Length .....2.4 Inches
- Width .....3.4 Inches
- Weight.....1.5 lbs
- Field Of View .....20° x 15°

75 mm Lens
- Length.....4.7 Inches
- Width .....5.1 Inches
- Weight.....3.5 lbs
- Field Of View .....13.3° x 10°

100 mm Lens
- Length .....4.5 Inches
- Width .....6.1 Inches
- Weight .....5.0 lbs
- Field Of View .....10° x 7.5°

200 mm Lens
- Length .....5.4 Inches
- Width .....6 ½ Inches
- Weight.....6.0 lbs
- Field Of View .....5° x 3.8°

SYSTEM FUNCTIONAL DIAGRAM



Communications – Globalstar

Nominal Transmission Speed..... 2400 Baud

Specifications – System

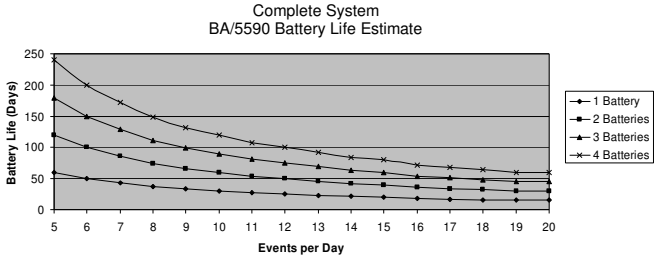
Sensor Resolution .....320 x 240
Nominal Sensitivity .....0.100℃
Frame Rate ..... 60 Hz
Output Video RS-170

Specifications – Image Processing

Maximum Images Stored.....800
Bit Depth – Stored Images .....13 Bits
Compression Mode .....Wavelet
Minimum Capture Interval .....0.0167 Seconds
Maximum Successive Frames Captured 14
Nominal Image Size – Uncompressed 76.8K
Nominal Image Size – Compressed 5.0K
Min Image Size – Compressed .....300 Bytes

Environmental

Operational Temperature ..... -20° to +60℃
Storage Temperature ..... -54℃ to +71℃
Operating Humidity ..... 95% Non-Condensing
Waterproof Specification..... IAW IP-67
Nominal Pressurization ..... 3 psi
Submersible Depth Limit..... available to 133 ft



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