µLAD CAMERA CORE

Single-And Dual-Band Micro Low-Cost Advanced Dewar:
1280 X 1024 Pixel, 8µm, 60 Hz

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µLAD CAMERA CORE

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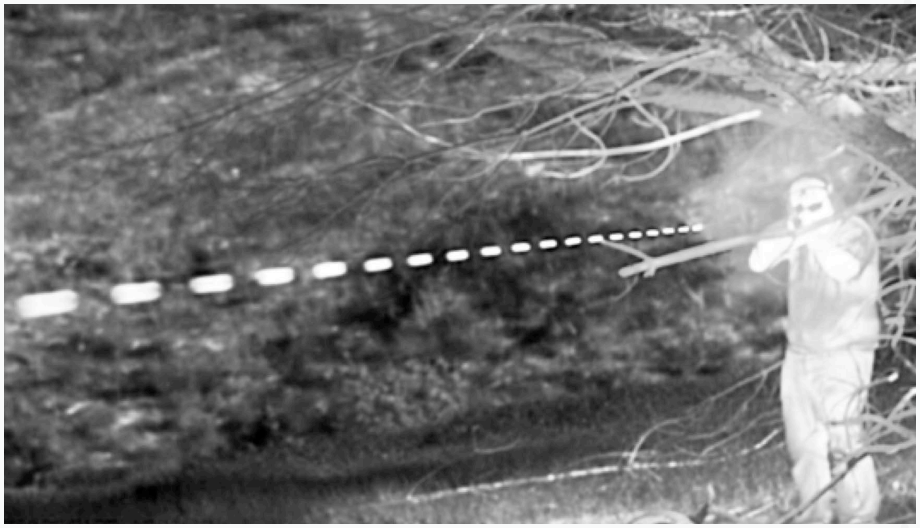
Lockheed Martin's 1.3 megapixel µLAD camera core delivers the performance of a cooled mid-wave infrared (MWIR) camera with the broad band and multi-color versatility of HgCdTe in a low-cost package that is small, light, and low-power. Powered by Santa Barbara Focalplane's large format, small pixel nBn detector technology, it offers proven performance that is superior to current thermal imagers.

VERSATILE CORE FOR SWAP APPLICATIONS

The compact µLAD is designed to easily integrate with a multitude of systems and platforms. It is ideally suited for applications that demand high performance in a low size, weight and power (SWAP) configuration. These range from missile seekers, weapon sights and remote weapon stations to small gimbal or gimbal-less (e-stab) platforms and tactical air and land sensor systems for OEM and military unmanned aerial vehicles (UAVs). Other applications include hand-held, man-portable missions, missile warning/threat detection systems and electro-optical payloads.



PD152-0002

µLAD high-speed real-time image bullet tracking projector.

Contact Information
Lockheed Martin Corporation
Missiles and Fire Control
Business Development
Phone: (805) 571-2300
www.lockheedmartin.com

FEATURES

- Dual-band, short-or mid-wave IR versatility
- Highest-performance MWIR nBn in industry
- Digital read out integrated circuits (ROIC) offer low-noise, low-power, high-speed performance
- High dynamic range and sensitivity through frame rate stacking
- Innovative design for low-cost production
- Onboard non-uniformity correction (NUC) and processing for image enhancement

SPECIFICATIONS

Camera System

- ROIC: 13-bit digital high speed up to 10 Gbps
- Detector: High operating temperature, full MWIR nBn, high MTF, 100% fill factor
- Resolution: 1280 × 1024 pixels (1.3 megapixels); can window to smaller regions
- Pixel pitch: 8 µm
- Integration time: <0.1 µs to 200s
- F#: 2.3
- Video: Base camera link standard, with optional external sync
- Command and control: RS-422 serial interface over camera link
- Cooler: Stirling split linear closed-cycle
- Input voltage: 5V and 12V, 12W steady state

Mechanical

- Size: 3.75 W × 3.7 H × 3.4 L inches
- Weight: 1.5 lb
- Lens mount: Twist-lock bayonet or per customer specification

Camera Performance

- Operability: >99.9%
- Frame rate: 60 Hz (180 Hz FPA output stacked 3×)
- Well capacity: 4.8 million electrons
- 26 mK noise equivalent differential temperature (NEDT) at 300K

Options

- High-speed data capabilities include gimbal-less (e-stab), hostile fire detection and scene-based NUC
- High-speed camera performance:
  - Frame rate option: 60 Hz (360 Hz FPA output stacked 6×)
  - Well capacity: 9.6 million electrons
  - 18 mK NEDT at 300K

PD152-0007

The compact µLAD readily integrates with low SWAP platforms.

SANTA BARBARA Focalplane

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