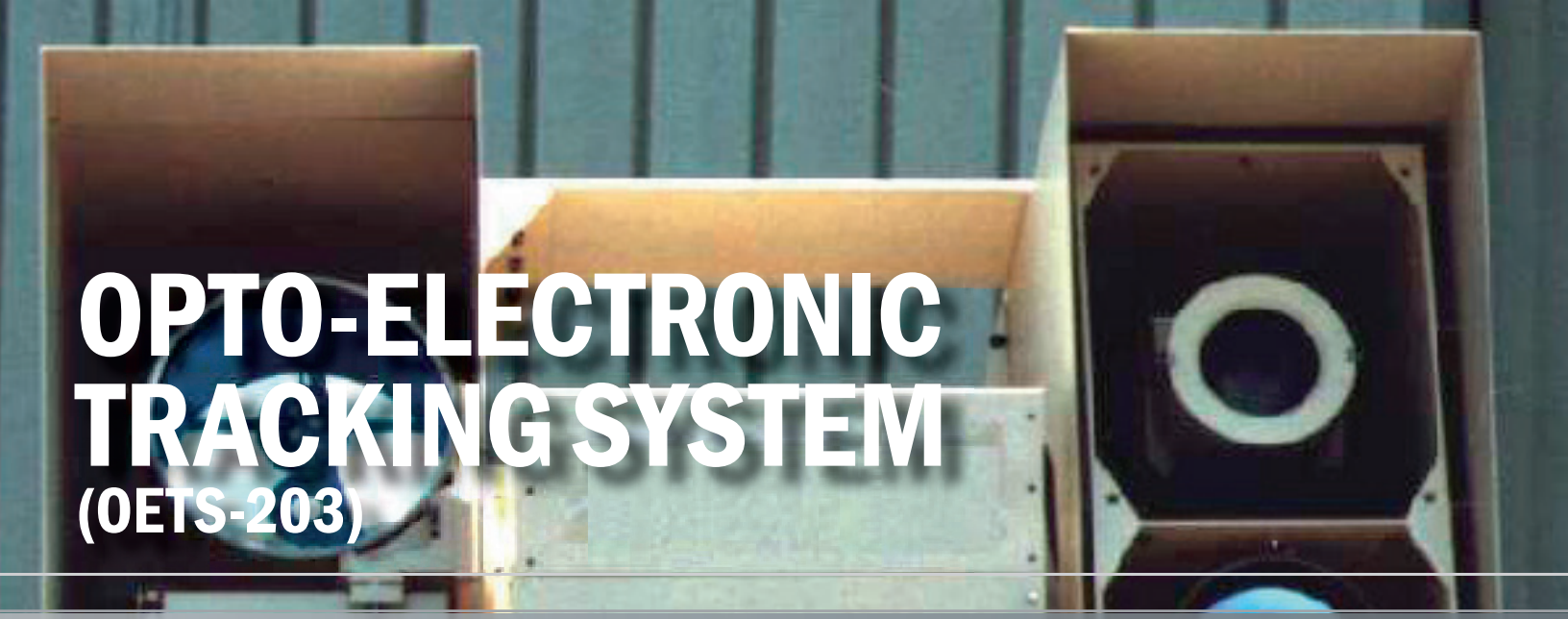


# OPTO-ELECTRONIC TRACKING SYSTEM (OETS-203)

**The Opto-Electronic Tracking System Model 203 (OETS-203) provides the capability to locate and track targets day or night that would normally be hidden in low contrast backgrounds or lost in darkness.**

## OETS-203

The OETS-203 combines the passive target detection capability of a long range infrared camera and a video camera with automatic video tracking and laser ranging.

- The infrared camera system includes an internal dual field of view telescope with built-in electronic zoom. The camera creates a high fidelity thermal video image for display on standard video monitors.
- The OETS-203 can be delivered with a variety of broadcast quality video cameras and zoom lens combinations. Passive automatic angle tracking capabilities are available using either the video camera or infrared camera.
- The Video Tracker electronics and software process digitized video to provide target location information. The tracker processor generates an internal track loop for OETS-203 pedestal control as well as positioning data for remote (slaved) pedestal systems.
- The laser rangefinder operates at 1.574 microns and is eye-safe at the aperture.

The high-power laser transmitter combined with a 300 millimeter receiver aperture provides a range capability of 20 kilometers on a four square meter non-cooperative target under normal atmospheric conditions.

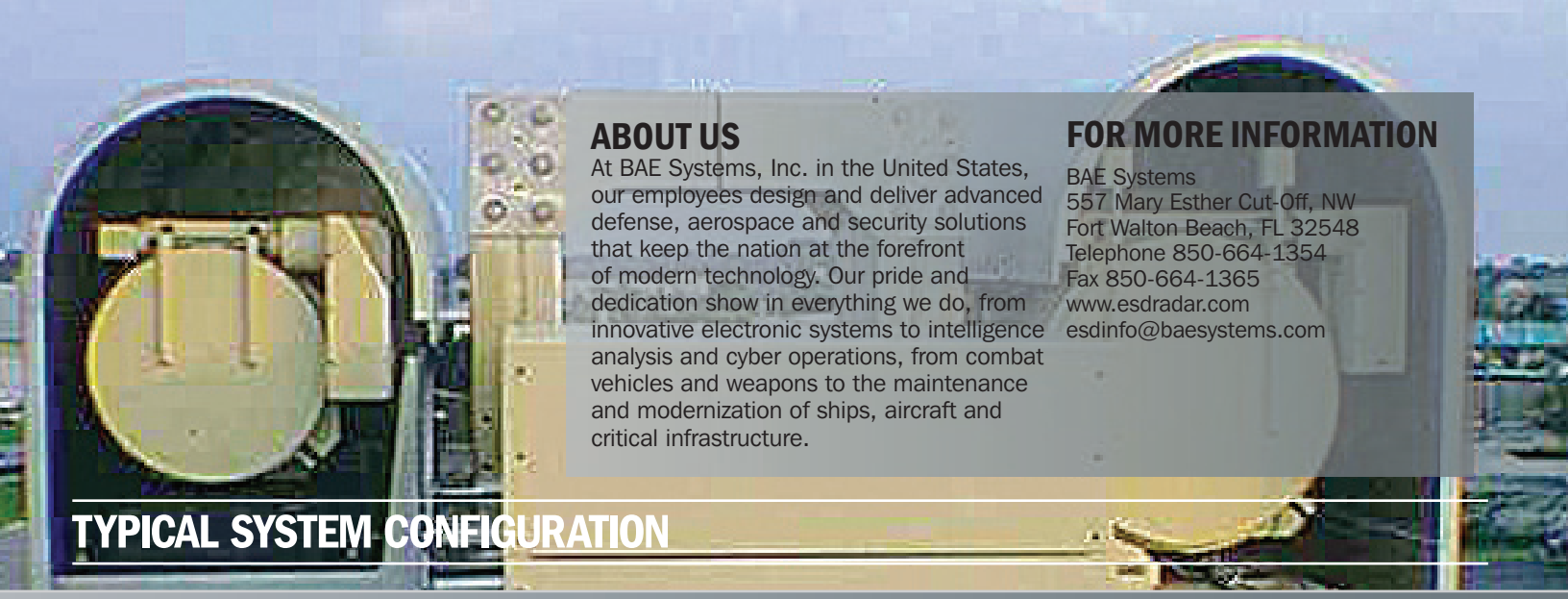
**Operational Modes**

- Remote pedestal(s) slaved to OETS pedestal. Manual control of OETS pedestal with joystick(s) or handwheels. Autotrack when initiated by operator.
- OETS pedestal slaved to remote pedestal. Enables monitoring of infrared or video camera targets while tracking with a remote pedestal.
- Independent operation of the OETS and remote pedestals. Permits operation of each pedestal for maintenance and calibration or to track separate targets.

## KEY FEATURES

- Day and Night Long-Range Surveillance and Tracking
- Infrared Camera with Internal Telescope and Electronic Zoom
- Eye-safe Laser Rangefinder
- Video Camera and Zoom Lens
- Automatic Video Tracker
- Two-Axis Pedestal
- VMEbus Architecture
- High Accuracy Data Output
- Remote Control and Displays

BAE SYSTEMS
INSPIRED WORK



## ABOUT US

At BAE Systems, Inc. in the United States, our employees design and deliver advanced defense, aerospace and security solutions that keep the nation at the forefront of modern technology. Our pride and dedication show in everything we do, from innovative electronic systems to intelligence analysis and cyber operations, from combat vehicles and weapons to the maintenance and modernization of ships, aircraft and critical infrastructure.

## FOR MORE INFORMATION

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# TYPICAL SYSTEM CONFIGURATION

## INFRARED CAMERA*

- Optical FOV
  - Wide (4X): 5.25” V x 7.00” H
  - Narrow (15X): 1.40” V x 1.87” H
- Instantaneous FOV
  - 4X: 0.50 mrad
  - 15X: 0.13 mrad
- Electronic Zoom 1:1, 2:1, 4:1
- F-Number: 1.0@WFOV
- Minimum Detectable Temperature 0.06°C (Typical)
- Minimum Resolvable Temperature
  - 4X: 0.5°C
  - 15X: 0.3°C
- Detector
  - Type: 4 element HgCdTe
  - Spectral Range: 8-12 microns
  - Cooling: Closed Cycle

## VIDEO CAMERA/LENS (TYPICAL)*

- Interline transfer 1/2 inch CCD
- 70-700 mm zoom lens with auto iris
- Environmental protective enclosure
- Remote zoom and focus controls

## LASER RANGEFINDER

- Pulse Energy: 30 mjoule @ 40°C
- Pulse Width: 10 ns (nominal)
- PRF: 20 PPS
- Rise Time: 10 ns (nominal)
- Beam Divergence: 0.5 mrad/4.0 mrad
- Receiver FOV: 4.0 mrad (typical)
- Receiver Aperture: 300 mm
- SNR (25% good returns): 3.1:1
- Wavelength: 1.57 microns (Eye-safe class 1M)
- Tracks 4SQM Target@20KM

## AUTOMATIC VIDEO TRACKING SYSTEM (AZ & EL)

- VME Microprocessor Based Automatic Video Tracker
- High Precision Single Gate Tracker
- RS170A and CCIR-I (50 Hz/60 Hz) auto operation
- Centroid Tracking Algorithms
- Manual Window Sizing (2% to 50% FOV)
- Selectable Polarity Independent, Positive Contrast or Negative Contrast Tracking
- Flexible Interfaces
- Video Output with Symbology Overlay of Track Windows, Boresight Marker, Status, etc.

## PEDESTAL

- Travel: Azimuth 360° continuous, Elevation -5° to +95°
- Velocity: 60°/second (both axes)
- Acceleration: 30°/second/second
- Accuracy: 0.266 mrad 1 SIGMA


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