



# OPTO-ELECTRONIC TRACKING SYSTEM (OETS-204)

**A typical OETS-204 consists of a local system and one remote console.**

## OETS-204

The local system consists of a truck-mounted operations shelter and one trailer-mounted pedestal. The post-type pedestal has four stations for mounting a suite of optical sensors that can be configured to support different mission requirements. The local operator's console contains the controls, indicators and video recorders necessary for a single operator to control the system. The local OETS can operate completely independently of other range instrumentation or it may be unmanned and remotely controlled from the remote console. A warning light and GPS time receiver assembly is also part of each local subsystem. The local subsystem console is composed of a two-bay equipment rack with:

- VME based, computer system for data acquisition and control of the pedestal, cameras, video recording equipment and other peripherals
- Local console connected to the pedestal via a fiber optic link
- Software for target acquisition, automatic target tracking, calibration, data processing and diagnostics
- Video autotracker
- Real-time controls and video displays.
- Intelligent interface to remote console data link system
- Video routing switcher
- Video recorder

The pedestal may be operated mounted on the trailer or mounted on a prepared surface.

The typical local system is provided with a high resolution video camera attached to a zoom lens, a high-speed digital camera with selectable frame rates up to 1000 fps attached to a zoom lens and an IR camera attached to a dual FOV

lens. An option offered with the OETS is a post-mission triangulation software module to provide target Azimuth, Elevation, and Range positional data relative to a designated point upon playback from two different local units. The remote console is designed to be installed in a permanent facility. It provides the controls, indicators and recording devices required for one operator to remotely control or override two local units.

The remote console may also be configured to interconnect with range instrumentation radar systems, optical directors or other devices that may provide slaving control to the local system.

The local and remote units are designed to be interconnected by fiber optic cable, hardwire or by multi-channel microwave. Data links are provided between the remote console and the two local consoles to provide data, video and voice transmissions. The typical OETS is supplied with 2 km fiber optic cables for data links.

## KEY FEATURES

- Portable
- Local and Remote Control
- High Speed Optics
- VME bus Architecture
- Slaveable
- Video Recorder
- Auto Angle Tracker
- Dual FOV IR Camera
- Quick Setup/Tear Down

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## TYPICAL SYSTEM CONFIGURATION

### INFRARED CAMERA\*

- Optical FOV, frost switching lense, no data loss during FOV change
- Wide: 5.5 deg.
- Narrow: 1.1 deg.
- Focal Length: 100mm, 500mm
- 2x Digital Zoom
- F-Number: 4.1
- Wavelengths: Different Wavelengths can be supplied depending on customer requirements. Typical: 3-5 Microns Environmental Closure

### COLOR VIDEO CAMERA/LENS (TYPICAL)

- 70-700 mm zoom lens with auto iris
- Environmental protective enclosure
- Remote zoom and focus controls

### HIGH SPEED DIGITAL CAMERA/LENS (TYPICAL)

- Variable frame rate 30-1000 fps
- High resolution
- IRIG Time stamp recorded on each frame
- Removable Hard Drive
- 27-1480 mm zoom lens with auto iris
- Environmental Protective Cover
- Remote Zoom/Focus Control

### AUTOMATIC VIDEO TRACKING SYSTEM (AZ & EL)

- High Precision Single Gate Tracker
- RS170A and CCIR-I (50 Hz/60 Hz) auto operation

- Centroid and EDGE Tracking Algorithms
- Manual and Auto Window Sizing
- Selectable Polarity Independent, Black or White Mixed Tracking
- Video Output with Symbology Overlay of Track Windows, Boresight Mark, Status, etc.

### PEDESTAL

- Travel
- Azimuth: 360° continuous
- Elevation: -5° to +85° Operational
- -5° to +185° Calibration/Plunge
- Velocity: 60°/second (both axes)
- Acceleration: 60°/second/second

NOTE: A variety of other sensors can be provided to meet specific customer requirements.

### OETS-204 CHARACTERISTICS:

- Min. Target Range: >15 km in standard clear atmosphere (Typical 2 meters long x 30 cm diameter)
- High Speed Camera Detection Range: 5 km (6 inch sphere, frame rate 500fps, clear atmosphere)
- Digital Data Output: Corrected AZ & EL
- Operation Modes: TV, Auto-Track, Manual and Designate
- Acquisition Aids: Remote Designate via Data Link
- Calibration Equipment: Precision Level Meter, Star Calibration and Calibration Targets
- Power Requirements: 120V AC +/- 10%, 60 +/- 3 Hz, Single Phase, 3-wire, Grounded neutral (230 AC/50Hz systems also available)