ADVANCED COUNTERMEASURE TEST-BED SYSTEM

E-O Imaging has developed a high performance test-bed for the evaluation of countermeasures against a wide variety of airborne targets. The Advanced Countermeasure Test-Bed System (ACTS) design allows easy interchangeability of both the countermeasure and sensor systems based on mission needs.

ACTS is configurable for operation from remote locations at maximum distances greater than 4km using either RF or fiber optic links. The ACTS is capable of handling payloads up to 400 lbs. at angular velocities up to 100 degrees/sec and angular accelerations up to 100 degrees/sec/sec, providing pointing accuracies satisfying the requirement for precision tracking of airborne targets. The system has successfully demonstrated its capabilities with Directed Energy countermeasures against both supersonic and "slow mover" airborne targets.

- **Payload**
  - Electro-Optic Sensors (MWIR, LWIR, Visible, UV)
    MWIR Camera 1K x 1K @ 120 Hz
- **Pedestal Subsystem**
  - Azimuth Drive Assembly
  - Elevation Drive Assembly
  - AZ/EL Position Sensors
  - Servo Control Unit
- **Control Subsystem**
  - Position Controller Dell Server
  - Model 7005 Video Tracker
  - Model 702 Control Unit
  - Remote Designate
  - Video Tape Recorder (5)
  - Video RAIDS (3)
  - GPS/IRIG-B Data
  - 19-inch LCD Display
  - Data Logging
  - Fiber Optic Links

Figure 1. ACTS Pedestal

- **Performance**
  - Velocity >100° sec-1 (nominal)
  - Acceleration >100° sec-2 (nominal)
  - Encoder 19 bits (0.003 deg)
  - Backlash 00.0° both axis (direct drive)
  - Travel ±180° AZ, -30° to +90° EL
  - Limits Electrical Limit, Soft Limits, Hard Limits

- **Configuration**
  - Pedestal Type — EL over AZ yoke, 2 axis
  - Drive Motors — Brushless DC
  - Payload — Up to 400 lbs.

- **Environmental Conditions**
  - Operating Temp — -20° C to +60° C
  - Operating Humidity — 0% to 100% relative
  - Operating Wind — 0 - 40 knots
  - Operating Rain — Up to 3" per hour
  - Operating Sand/Dust — Particle size 10 - 20 microns

Figure 2. Operator's Station

Figure 3. Remote Site

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