

## AN/USM-632(V)4 Electro-Optics Test Station

### System Solution for the Field, Depot and Factory



Northrop Grumman's Electro-Optics Test Station (EOTS) tests an extensive range of Army electro-optic systems. It is part of the Integrated Family of Test

Equipment (IFTE), a proven series of systems used for testing electronic and electro-optic weapons devices such as missile systems, vehicles and aircraft.

EOTS tests and fault-isolates electro-optical and electronic line replaceable units (LRUs) in a full range of weapon systems. EOTS tests laser transmitters, receivers, spot trackers, forward looking infrared systems (FLIRs) and TVs.

The station can be housed in a standard Army shelter, forming the EOTF. It can also be floor-mounted in a free-standing version.

The EO system uses the Navy-developed Electro-Optical Subsystem (EOSS+) to conform to all Department of Defense standardization objectives.

#### Features

- VXI instrumentation for flexibility and easy modification for future technologies
- Touch-screen, color graphics display with menu-driven instructions
- "Pinless" interface with the unit under test
- State of the art radiometric thermal source
- Extremely accurate high-output visual source
- Highly accurate polarization-insensitive laser source/detector
- High resolution camera with anti-blooming capability
- All-reflective optical collimator



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### Wizard Smart Probe

- ATG Compatible
- Dynamic Range to 50 MHz
- Short-Circuit Isolation
- Pulse Detection
- Current Detection
- Auto-Detection of Circuit Contact or Loss of Contact

### Digital Testing

- Dynamic Testing
  - Pattern Interval Rate: 20 MHz
  - Programmable Stimulus Data Formatting
- Digital I/O: 192 Pins
  - Expandable to 318
  - RT Bidirectional
- Memory Depth per Pin
  - 16 kBits to 20 MHz (64 kBits Optional)
  - 64 kBits to 50 MHz
- Logic Levels
  - +30 to -30 V up to 10 MHz
  - +10 to -10 V up to 50 MHz
- Test Rates: Static to 50 MBits/sec
- Dual Threshold Receivers
- Tristate Detect
- RT Hardware Compare
- Pattern Match
- Programmable Terminators
- Int/Ext Synchronization

### Bus Testing

- Two Channels
- Manchester 1553 A/B Protocol
- Frequency 1 MHz Data Rate
- Prog Amplitude up to 12 Vpp
- Int/Ext Synchronization

For more information, please contact:

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### DC Loads

- Eight Channels
- Max Voltage: 250 V
- Max Power: 750 W

### Analog Stimuli

- Four Signal Sources
- Functions: DC, Sine, Triangular, Square, Pulse, Arbitrary
- Frequency: Up to 25 MHz  
Amplitude: Up to 20 Vpp
- Offset: -5 to +5 V
- Video Generation
- Raster, Stroke, Composite Color

### Analog Measurement

- AC Volts: 0 to 200 V
- DC Volts: 0 to 200 V
- Resistance: 0 to 20 M $\Omega$
- Frequency: DC to 100 MHz
- Period: 100 nsec to 10<sup>4</sup> sec
- Time Interval: 100 nsec to 10<sup>4</sup> sec
- Rise Time: 100 nsec to 7.5 msec
- Fall Time: 100 nsec to 7.5 msec
- Pulse Width: 100 nsec to 33 msec
- Two-Channel Digitizer
  - 1001 Samples
  - 10 nsec Sampling
- Video Analysis
  - Raster, Stroke, Composite Color, Rectilinear, Polar Scans

### UUT Interface

- 3200 I/O Pins
- 200 V/Pin
- 10 A Power Paths
- 1 A Signal Pins

### Synchro/Resolver Simulation/Measurement

- Angle: 359.98°
- Frequency: 360 to 1000 Hz
- Line to Line Voltage: 11.8, 26, 90 VAC
- Ref: 26 or 115 VAC

### Electrical Power Requirements

- Three-Phase, 115 VAC, 60 Hz

### DC Power

- 8 Programmable Supplies
  - 150 W per Supply
  - Max Voltage: 100 V
  - Max Current: 20 A
- Fixed 28 VDC, 22 A
- 8 DC References: -10 to +10 V at 100 mA (-16 to +16 V Optional)

### AC Power

- Single-, Two- and Three-Phase Programmable Source
- 45 to 5000 Hz
- 0 to 270 V up to 10 A

### Software/Programming

- Test Language: 716 ATLAS
- Incremental Compiler
- UNIX Operating System

### Optical Testing

- Laser
  - Pulse Power, PRF and Beam Divergence
  - Range: 0.1 to 20 km with 5 m Resolution
  - Measurement: 30 to 300 mJ
  - Stimulus: 10<sup>-18</sup> to 10<sup>-14</sup> J/cm<sup>2</sup>
- Infrared
  - 27 Targets
  - Range: +40° to -10°C
  - Resolution: 0.01°C
  - Sensitivity: Resolution and Boresight Algorithms
- Visual
  - 28 Targets
  - 20 to 20,000  $\mu$ W/cm<sup>2</sup>-Sr
  - Sensitivity: Resolution and Boresight Algorithms

### Maintenance Software

- Self-Test: BIT, Confidence, Fault Isolation
- Self-Alignment