



## PHOTO-SONICS MOBILE COMPACT OPTICAL TRACKING SYSTEM



- Computer Based Precision Tracking System
- Highly Mobile
- Full Computer Integration of all Sensors and Controls
- Manned or Unmanned Operation
- Multiple Sensors
  - Film Cameras
  - Digital Cameras
  - Video Cameras
  - Video Acquisition and Tracking
  - Radar
  - IR
  - Laser Range Finder
  - GPS
- Complete Control Software
  - Standby Mode
  - Tracking Mode
  - System Preparation Mode
  - Star Calibration
  - Simulation Mode
  - Fault Status Mode
  - Maintenance Mode

- 4 Primary Payloads + 2 Auxiliary
- Remote Control Console with Fiber-Optic Communication:
  - Touch Screen Monitor
  - Local Sensor Control
  - Video Switcher
  - Video Recorder (2)
  - UPS
- Protective Shelter



### Photo-Sonics, Inc.

LEADERS IN HIGH-SPEED PHOTOGRAPHIC MOTION ANALYSIS SYSTEMS

820 South Mariposa Street Burbank CA 91506 U.S.A.

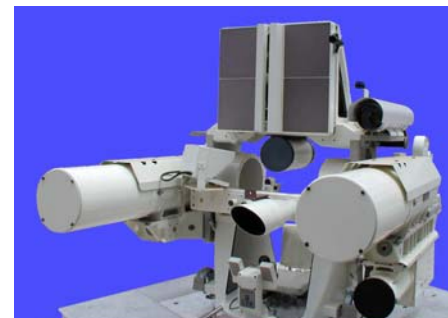
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Request Information: mail@photosonics.com

## GENERAL SPECIFICATIONS:

**Size:** 92"L x 82"W x 85.62"H plus 18" trailer tongue  
**Weight:** MCOTS - 6240 lbs. (no payload)  
Tongue weight - 1260 lbs.  
**Payload:** 600 lbs. total  
**Power Requirements:** 208 VAC, 60 Hz, 3 phase  
380VAC, 50 Hz, 3-phase (optional)  
Total peak power 7.5 KVA providing 1500 ft. lbs.  
Azimuth torque and 750 ft. lbs. elevation torque  
**Road Clearance:** 12 inches  
**Roadability:** Highway 55 mph  
Unimproved roads 35 mph



## DYNAMIC PERFORMANCE:

The following apply to a payload of 600 lbs:

**Travel:** Azimuth 600 degrees total  
Elevation 100 degrees (-10 to +95)  
**Torque:** Azimuth 1 x 1500 ft. lbs. permanent magnet motor  
Elevation 2 x 375 ft. lbs. permanent magnet motors  
**Acceleration** Azimuth Greater than 2.5 radians per second per second  
Elevation Greater than 3.5 radians per second per second  
**Velocity:** Azimuth Configurations available from sidereal to 1.75 radians/sec  
Elevation Configurations available from sidereal to 1.75 radians/sec

**Dynamic Range:** 1000:1

**Bandwidth** Azimuth 12 Hz  
Elevation 15 Hz

**Non-Orthogonality:** Less than 15 arc seconds

**Bearing Wobble:** Less than 5 arc seconds

**Drive System** Direct drive DC motors and servo amplifier



## Control Electronics

- Dual Gate Video Tracker
- Global Positioning System (or IRIG-B) for timing
- Global Positioning System for position
- Photo-Sonics Film Data Recording System
- Video Data Recording System
- Optical Encoders, 20 bit
- On-Board Computer systems (3): 15 slot VME in trailer, 5 slot VME in trunion and 19-inch rack-mounted PC in the Remote Control Console
- Dual Bay Remote Control Console

## Software Components

- Extensive pre-flight preparation, calibration and built-in tests
- Real time TSP input and output
- Nominal Trajectories
- Target Simulation
- Celestial Calibration designed specifically for an off-axis tracking system with sensors mounted on either side of the rotational axis for better than 5 arc-second accuracies
- Remote control capabilities from the Remote Control Console
- Extensive Fault Detection
- Comprehensive Man-Machine Interface

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