



## Cine-Sextant Mobile Tracking System

The Photo-Sonics Cine-Sextant Tracking system provides a high performance, TSPI data gathering system in a rugged, mobile configuration.

The Cine-Sextant utilizes three custom, direct-drive torque motors: one 1800 foot-pound torque motor in the azimuth axis and two 550 foot-pound motors providing 1100 foot pounds of torque in the elevation axis. This high level of torque is provided to maintain maximum dynamic tracking accuracy and performance with heavy or unbalanced payloads. Four motorized jacks provide a wide footprint for a stable tracking base.

All major structural members including the base casting, azimuth carriage, and instrumentation platforms are cast of high strength aluminum alloy. The attachment hardware on the trailer is provided for lifting the system by crane or helicopter.

The Cine-Sextant is offered in both a man-in-the-mount and/or an unmanned configuration with complete remote control operation. In the unmanned configuration the customer has the option of configuring a center platform for mounting additional payload such as a 34" aperture telescope and sensor suite.



### Features

Mobile / High Degree of Accuracy / High Dynamics / Versatile Payload / Sidereal Rate Tracking / Star Calibration / Manned or Unmanned Operation / Remote Control Capability / Target Simulation / Diagnostic Software / Motorized or Manual Leveling Jacks / Top and Bottom Instrumentation Mounting Platforms (4) / Camera Boresighting, Alignment, and Loading from a Standing Position on the Ground / Adjustable Platform Height Provides for Balancing Equipment Load / Unique Direct AZ-EL Torque Motor Design / Optical Encoders Up to 23 Bit / Parallax and Elevation Adjustments / Load / Unique Direct AZ-EL Torque Motor Design / Optical Encoders Up to 23 Bit / Parallax and Elevation Adjustments / Acquisition Aid with Lighted Reticule

For additional information contact:

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## Sensors

Digital and Film Cameras / IR Cameras / Tracking Video / Acquisition Video / Radar: Tracking - Range / Laser: Ranging

## Argus Control Software Components

- Comprehensive pre-flight preparation and calibration. Includes built-in tests.
- Real time TSPI 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

## Radar

Continuous Wave Doppler Tracking/Range Radar • 80 Watts • Range 65 KM Maximum • Radial Velocity based on CW

<b>Specifications:</b>	
Size	218"L x 96"W x 95.5"H (plus 18" trailer tongue)
Weight	Mount - 12,540 lbs. (no payload) Tongue Weight - 1,000 lbs.
Payload	1,000 lbs. total
Travel	Azimuth - 600° total Elevation - 180° total
Torque	Azimuth - 1x1800 ft. lbs. permanent magnet motor Elevation - 2x550 ft. lbs. permanent magnet motors
Acceleration (with 600- pound payload)	Azimuth - >2.5 radians per second per second Elevation - >3.5 radians per second per second
Velocity	Azimuth and Elevation - configurations available from sidereal to 1.75 radian per second
Dynamic Range	1000:1
Bandwidth (with 600-pound payload)	Azimuth - 12 Hz Elevation - 15 Hz
Non-orthogonality	<15 arc seconds
Bearing Wobble	< 6 arc seconds
Power Requirements	208VAC, 60 Hz, 3 phase Total peak power 7.5 KVA providing 1,800 ft. lbs. azimuth torque and 750 ft. pounds elevation torque 380 VAC, 50Hz, 3-phase (optional)
Road Clearance	12 inches
Roadability	Highway - 55 mph Unimproved Roads - 35 mph