

# OS-PT-200

## GPS Automatic Tracking Pedestal

The OS-PT-200 Automatic tracking system has been designed to provide GPS based positioning of high-gain antenna systems to support realtime airborne video and telemetry transmission requirements.



The OS-PT-200 pan and tilt tracker is air-filled and completely sealed. Heavy-duty ball bearings supporting both output shaft allow it to accommodate heavy antenna arrays. Each axis includes a DC brushless stepper motor coupled with zero backlash rigid worm. The unit has been designed to operate under harsh environment where rain, humidity, and dust are issues. It features continuous rotation of the pan axis and a self-locking mechanism, so when power loss occurs it stays in position.

The OS-PT-200 utilizes Ethernet 10/100 Base-T communication protocol which provides several advantages over serial. Multiple slip-ring options are available, including a 2x5 A or 2x10 A power lines, Ethernet 10/100 Base-T and one or two RF ports, 1.7-5.5 Ghz for payload.

The OS-PT-200 may be fitted with a variety of antennas depending on the frequency of operation, polarity, and gain requirements of the system. Large RHCP dishes, high-gain omni for diversity receive, and up two Yagi antennas for data comms, can easily be mounted.

O P T I M U M S O L U T I O N S

ENGINEERING CONSULTING FIRM

USA Phone: 858-735-2197 Fax: 760-480-5562

[www.optimumsolution.com](http://www.optimumsolution.com)

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### PERFORMANCE

- Operating Range: 24 - 48 VDC
- Maximum power :160 W
- Pan axis speed :0.001°/s - up to 45 °/s
- Tilt axis speed : 0.001°/s - up to 45 °/s
- Scan Range (Azimuth): n x 360 degrees (Continuous)
- Scan Range (Elevation): 0 to 130 degrees
- Resolution: 0.02°
- Control protocol: Ethernet 10/100 Base-T
- Encoder resolution: 0.00036°
- Backlash: None
- Brake: Self-Locking
- Standard slip-ring options:
  - 10 A , Ethernet 10/100 Base-T (payload) \*
  - One or Two RF ports, 1.6-5.5 Ghz\*

\* More options upon request

### MECHANICAL

#### Housing:

- Material: Aluminum
- Height: 323 mm (12.72 in)
- Width: 220 mm (8.66in)
- Length : 336 mm (13.22in)

#### Weight :

- Air-filled: 16.5 kg (36.37 lbs)
- Standard Connectors: D38999/20WG39PN

#### Tripod:

- QuickSet Hercules model 4-53021-8 QHT-1 with elevator

### ENVIRONMENTAL

- Operating Temperature: -32°C to +55°C(-26°F to +131°F)

### STANDARD FREQUENCY BAND OPTIONS\*

#### -L/S Band:

- 30" Dish: 1.7 Ghz to 2.5 Ghz -24 dB V/H 11° HPBW
- 48" Dish: 1.7 Ghz to 2.5 Ghz -26 dB V/H 7.5° HPBW

#### -C Band:

- 30" Dish:4 Ghz to 6 Ghz -31 dB V/H 4.7° HPBW
- 48" Dish:4 Ghz to 6 Ghz -33 dB V/H 3.5 HPBW

\* More options upon request



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## SOFTWARE

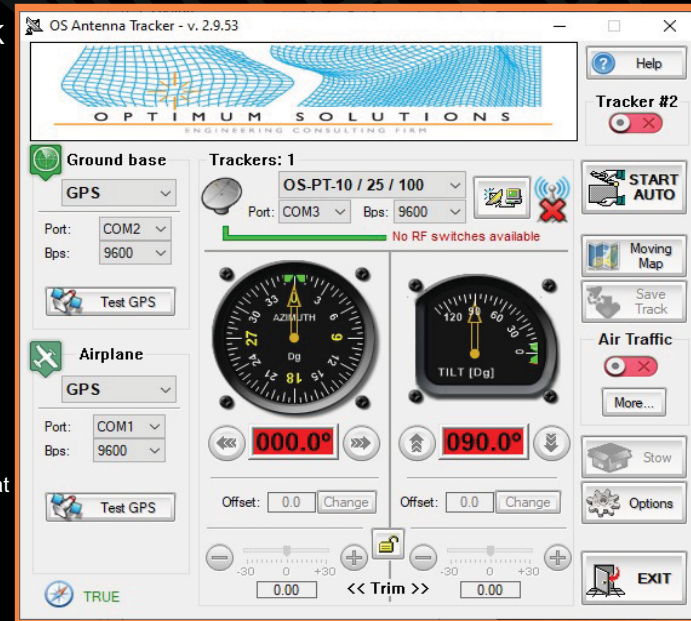
- Compatible with Cloud Cap Technology Antenna Plugin software
- Fully integrated with L3 communication Geneva Aerospace MissionTEK software and Mavlink communication protocol
- Standalone Antenna Tracker software:

The positioner GPS coordinates on the ground can be provided by:

- Any GPS receiver that delivers the positioner position on the ground using NMEA 0183 format through a serial port.
- A GPS coordinates distributed through Cloud Cap Technology' Piccolo Command Center or Operator Interface (OI) IP server.
- Fixed values of latitude, longitude and altitude MSL entered by the operator
- A net process or device that send GPS NMEA 0183 to a UDP port opened by OST.
- A net server to which OST connects as client to receive GPS NMEA 0183.

The Aircraft GPS coordinate can be provided by:

- Any GPS receiver that delivers the aircraft position on the ground using NMEA 0183 format through a serial port.
- The aircraft' GPS coordinates distributed through Cloud Cap Technology' Piccolo Command Center or Operator Interface IP server.
- The aircraft' GPS coordinates using NMEA 0183 (sentences GGA y VTG), CoT (Cursor on Target) or KLV (Key-length value, standard MISB 0601-2) protocols packets distributed through UDP ports socket
- The aircraft' GPS coordinates using NMEA 0183 format provided by a net GPS server through a TCP client's connection



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