Features

- Cost-effective solution for precise positioning for up to 400 lbs. payloads
- T-bar, yoke or 3-axis configurations
- Easily setup and optimized for varying payloads
- Angular resolution of 24 bits (0.4 µradians with Inductosyns)
- Brushless, direct-drive, permanent-magnet motors for high reliability, and high performance with zero backlash
- High-speed microprocessor control
- C-based firmware for fast response, ease of use and flexibility
- Controlled by analog joystick or digitally via PC
- Positioner weighs 160-180 lbs.
- Suitable for military land, sea and airborne environments

Cobham’s standardized, commercial off-the-shelf (COTS) SPS Series of Precision Positioners are based on a scalable design resulting from over 25 years of satisfying demanding customer requirements. Precise positioning, high reliability, high payload to weight ratios, low maintenance and cost effective solutions are hallmarks of Cobham’s SPS Series of Precision Positioners. As our customer, you will benefit from Cobham’s proven experience in electronic imaging, signal processing, control systems and system integration.
SPS-2000 Precision Positioner
High-Performance Positioning System

**SPS-2000 Performance Specifications***

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resolution</td>
<td>24 bits (0.4 µradians with Inductosyns)</td>
</tr>
<tr>
<td>Accuracy</td>
<td>±0.0007° (±12 µradians)</td>
</tr>
<tr>
<td>Repeatability</td>
<td>±0.0003° (±6 µradians)</td>
</tr>
<tr>
<td>Velocity</td>
<td>0.01° to 90°/sec (nominal)</td>
</tr>
<tr>
<td>Acceleration</td>
<td>90°/sec² (nominal)</td>
</tr>
<tr>
<td>Base Motion Stabilization with high performance-FOG</td>
<td>25 µradians (depends on PSD)</td>
</tr>
<tr>
<td>Motor Torque, Peak (nominal)</td>
<td>47 ft-lb AZ 25 ft-lb EL</td>
</tr>
<tr>
<td>Travel</td>
<td>+/- 180° AZ -15° to +95° EL (Std)</td>
</tr>
<tr>
<td>Resonant Frequency (payload dependent)</td>
<td>Azimuth 30 Hz Elevation 40 Hz</td>
</tr>
</tbody>
</table>

**Features**

The pedestal is pre-treated with chemical conversion coating and finished by powder-coating. Alternately, it can be painted according to customer specifications. It uses all-stainless-steel hardware and is supplied with stow locks for safe transportation. A pedestal-safe switch is included to allow maintenance personnel to immobilize the pedestal during maintenance. Mechanical stops and a payload-specific electrical interface are also standard items.

**Configuration**

Pedestal Type: Elevation over Azimuth T-Bar, Yoke, 3-Axis  
Drive Motors: Brushless DC  
Weight, Positioner: 150-180 lb (nominal)  
Payload: Up to 400 lb  

**Mechanical**

Mechanical: 16.5” dia. bolt circle, with 6 equally spaced 0.600” dia. holes  
LOS: 29” above the pedestal base (Nominal)  
Payload: As per customer specification

**Environmental**

Temperature  
Operating: 30°C to +50°C  
Storage: -40°C to +70°C  
Relative Humidity: 98%

**Options**

Inductosyn  
Sensors: Joystick  
Slip rings: Risers  
Leveling: LOS Stabilization  
Rotary joints: Autotracker  
Drift control: Video tracker  
Transportable base  
Payload/system integration  
Remote stow pins  
Optical encoders  
Turnkey systems  
Image stabilization

**Power**

The Positioner derives its power from the servo control unit. The servo control unit operates from:

- 115/240 VAC, single-phase, 50/60 Hz power;  
- 208 VAC (optional), three-phase, 50/60 Hz power;  
- 24/28 VDC (optional).  

* Specifications subject to change without notice