COMPUTER CONTROLLED PAN-TILT UNIT
Models PTU-46-17.5 & PTU-46-70

- Simple control from host computer via RS-232/485
- Speeds to 300°/second
- Resolution to 0.012857°
- Load capacity to 6 lbs (2.72kg)
- Precise control of position, speed & acceleration
- On-the-fly position and speed changes
- Small form factor
- Low cost
- Applications:
  - Robotics & computer vision
  - Webcams
  - Security & surveillance
  - Industrial automation
  - Tracking
  - Laser ranging
  - Teleconferencing/distance learning
  - Photography, video & special effects

Actual size. Camera not included.

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Technical Specifications

General Features
- Simple to use from any RS-232 terminal or computer
- Fast and accurate camera positioning at low cost
- Precise control of position, speed & acceleration
- Small form factor
- Allows on-the-fly position and speed changes
- Self calibration upon reset
- Power consumption can be controlled from host
- ASCII command mode for simplicity, binary commands available for efficient program control
- DC power input from an unregulated source
- Radiation hardened
- CE Mark certified for Europe

Pan-Tilt Performance

<table>
<thead>
<tr>
<th></th>
<th>PTU-46-17.5</th>
<th>PTU-46-70</th>
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</thead>
<tbody>
<tr>
<td>Rated payload</td>
<td>4 lbs (1.81kg)</td>
<td>6 lbs (2.72kg)</td>
</tr>
<tr>
<td>Max. unloaded speed (@36VDC)</td>
<td>300°/second</td>
<td>60°/second</td>
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<tr>
<td>Resolution</td>
<td>3.086 arc minutes (0.051428°)</td>
<td>0.771 arc minutes (0.012857°)</td>
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Tilt Range (approx): minimum 31° up and 47° down (78° range) with option of 80° down (111° range)

Pan Range (approx): ±159° (318° range) with option of ±180° (360° range)

Power Requirements

Input Voltage: 11-37VDC unregulated

Power Consumption:
- 16W continuous peak (full-power mode)
- 7.5W continuous peak (low-power mode)
- 1W continuous peak (holding power off mode)

Mechanical

Pan-Tilt Unit:
- Weight: 3 lb.
- Dimensions: 3” wide x 5.13” high x 4.25” deep
- Camera mounting: Hole for 1/4-20 screw standard.
- Pan-tilt unit mounting: Bottom or front 1/4-20 mounting

Controller:
- Weight: 12 oz.
- Dimensions: 3.4” wide x 5.5” long x 2.5” high

Built-In Connectivity Capabilities

Basic Mode: Host RS-232 port controls single pan-tilt unit
Extended Mode: Control of multiple pan-tilt units from one or more host computers. Multidrop RS-485 network using RJ-11.

Host Control

Host: RS-232 (default is 9600 baud, 1 start bit, 8 data bits, 1 stop bit, no parity, no handshaking). DB-9 female connector.
Host modes: Interactive Mode (ASCII command set) and Encoded Mode (binary format for higher bandwidth computer control)

Commands include:

<axis> is T for the tilt axis or P for the pan axis.

Axis Control Commands:

General form: <axis><command><value><delim> [ <status> ]

Go to position: <axis>P<position><delim> [ <status> ]

Go to offset position: <axis>O<relative position><delim> [ <status> ]

Set target speed: <axis>S<positions/sec><delim> [ <status> ]

Set acceleration: <axis>A<positions/sec²><delim> [ <status> ]

Set speed bounds: <axis>[U | L]<positions/sec><delim> [ <status> ]

Move power mode:
<axis>M[hi power] | [reg power] | [lo power]<delim> [ <status> ]

Hold (stationary) power mode:
<axis>H[reg power] | [lo power] | [power off]<delim> [ <status> ]

Axis Queries:

General form: <axis><command><delim> <query answer>

(Axis Control Commands become queries when the <value> argument is omitted.)

Resolution: <axis>R<delim> <arc seconds per position>

Position bounds: <axis>[N | X]<delim> <boundary position>

Unit Commands:

Command menu: ?<delim> <menu>

Await completion: A<delim> [ <status> ]

Reset unit: R<delim> [ <status> ]

Immediate mode: I<delim> [ <status> ]

(Saves and restores unit defaults at power up)

Slaved mode: S<delim> [ <status> ]

Available Options

- International AC/DC Power Supply (model PT-PS-IHPS)
- Weatherized option provides outdoor use (add “W” to PTU model)
- Nodal (gimbal) pan-tilt adaptor
- Payload can mount at the intersection of the pan and tilt axes
- Uses include rotating camera at focal point & mirror positioning
- C Programmer’s Interface (model PTU-CPI)
- PTU network cabling kits (PTU-NET-SK and PTU-NET-AU)
- Analog joystick interface

Specifications subject to change without notice.