



pst *base* HD

High precision near field optical tracker

The PST Base HD is the premium version of the PST Base near field optical tracker. It is designed for tracking with high precision in desktop or simulator setups.

The wide field of view makes it especially suitable for tracking in situations where the PST needs to be close to the target while retaining motion range.

- Calibration-free bar-tracker
- Tracking distance 20 cm - 3 m
- Field of view 75° (Horizontal), 70° (Vertical)
- Fanless and noiseless
- Adjustable infrared flash
- Adjustable frame rate up to 200 Hz



Technical data

Performance

| | |
|-------------------|--|
| Accuracy Position | Position: < 0.5 mm RMSE / Orientation: < 1 deg RMSE |
| Latency | 15-25 ms (depending on shutter time and filter settings) |
| Tracking distance | 20 cm up to 3 m |
| Field of view | 75° (Horizontal), 70° (Vertical) |
| Refresh rate | Up to 200 Hz |
| Intended use | Tracking in small, compact spaces (e.g. simulators, desktop) |

Usability

| | |
|---------------------------------|--|
| Set up | Plug and play |
| Calibration | Pre-calibrated unit |
| Origin definition | One click process – dedicated tool included |
| Units needed for 6 DoF tracking | One, each PST Base HD is a full 6 DoF motion tracker |
| Expandable tracking area | n/a |
| Aligning units | n/a |
| Ambient Conditions | Normal indoor lighting conditions |
| Illumination | Integrated IR LED illumination (wavelength 850 nm). Flash illumination fully adjustable in PST Software Suite 5 |
| Operating Temperature | 15 - 35 deg. C |

Devices and Markers

| | |
|-------------------|---|
| Number of targets | At least 15 independent 6DoF bodies. For instance: simultaneous head and object tracking |
| Markers | Passive (retro-reflective flat and spherical) - Active (LED) |
| Device creation | Simple procedure: mark, train and use new device in seconds |

Interfaces

| | |
|-------------------------|--|
| Processing | n/a |
| Tracking Application | PST Software Suite 5 (license incl. with each PST tracker) |
| Client operating system | Windows 7, 8 and 10 (32 and 64 bit) and Linux (64 bit) |
| Software interface | The tracker comes with an easy to use native C/C++ SDK and bindings for C# and Python. Interfacing is also supported via VRPN, trackd ¹ , Dtrack emulation, data export to .CSV |
| Hardware interface | Requires two USB 3 ports each with full bandwidth and capable of providing 2.7 Watts min. and 5 Watts max. (ethernet connection to the PST available through the PST Software Suite 5) |
| Output | Positional coordinates (x, y, z), orientation angles, Euclidean transformation matrix |
| Synchronization | n/a |

Hardware

| | |
|-------------------|---|
| Weight | Approx. 1 kg |
| Size | 31 x 6 x 14 cm (W x H x D) |
| Mounting | 1/4"-20 UNC tripod mounting point |
| Power supply | Output 9 V, 40 W. Input 100-240 V, 50-60 Hz |
| Power consumption | Max. 12 W |

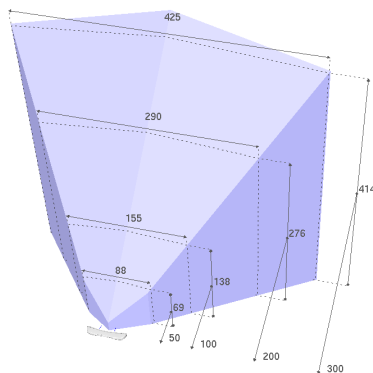
pst base^{HD}

Specifications



Measurement Area Configurations

The measurement volume is the area in which marked devices can be tracked. The distances in the images below are expressed in centimetres.



ps-tech

1. trackd is a trademark of Mechdyne, Marshalltown, IA, USA.