



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



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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 5.0
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 5.0 (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 5.0)
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

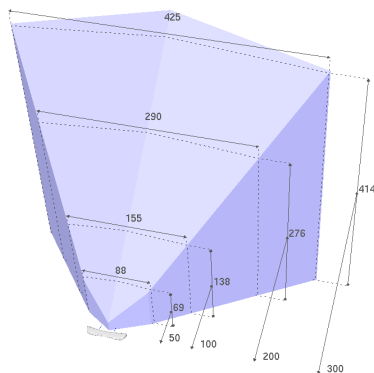
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Specifications



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.



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



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