



pst *base*

Ideal optical tracker for simulator solutions

With a base line of just 20 cm the PST Base series is designed for those users that need to start tracking between 20 cm and 3 m.

The PST Base is the ideal solution for tracking on a desktop or in simulators (e.g. car, flight and surgical simulators / navigators).

- Calibration-free bar-tracker
- Tracking distance 20 cm - 3 m
- Field of view 60° (horizontal), 45°(vertical)
- Fanless and noiseless
- Adjustable infrared flash
- External Synchronization via trigger IO
- Adjustable frame rate up to 120 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	60° (horizontal), 45° (vertical)
Refresh rate	120 Hz, adjustable to 30, 60, 120 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 is a full 6 DoF motion tracker
Expandable tracking area	Expandable, multiple trackers can be connected to expand the tracking area
Aligning units	Easy routine in seconds
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	An additional processing unit is in most cases not needed. Extra processing power (e.g. with a NUC) is recommended for a multi PST setup or networked access
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)
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	USB 2.0 (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	Hardware trigger in and out

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

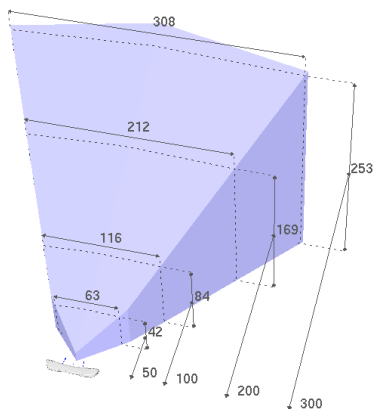
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Specifications



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.



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