PST **Iris**

Plug and Play, 3D optical motion tracking

- Set up in seconds and easy to use

- Tracking up to 7 meters per unit

- Stand alone and scalable

- 120 Hz (adjustable)

- External synchronization via trigger IO

- VRPN, trackd, and direct interfacing

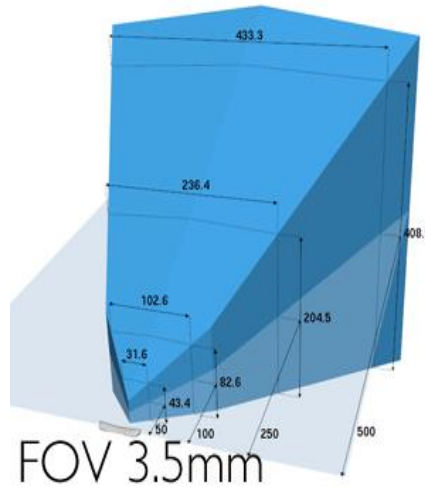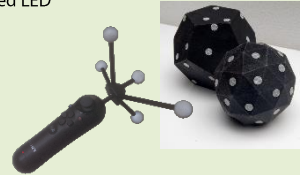- Simultanious multi object tracking

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Summary PST Iris Specifications[1]

- Minimum tracking distance: 50 cm
- Maximum tracking distance: at least 5 m (up to 7 m)
- Fanless and noiseless
- Calibration-free bar-tracker
- Adjustable infrared flash
- Synchronize with external systems
- Adjustable frame rate up to 120 Hz

<table>
<tr><td colspan="2" style="text-align:center">

PST Iris: wide field tracking

Ideal for powerwall and room tracking

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Measurement Technology

- 6 degrees of freedom (6 DoF) optical tracking system using built-in infrared LED illumination to track passive or active markers
- There is no requirement for all markers to be visible to the tracking system. Occlusion of a significant number of markers is handled without loss of tracking
- A complete tracking system consists of one or more tracking units (Iris and/or Base), marked targets and the PSTracking 4.0 application

Performance

Refresh rate	120 Hz, adjustable to 30, 60, 120 Hz
Working distance	Minimum: starting at 50 cm Maximum: at least 5 m (up to 7 m)
Available lenses	3.5 mm (standard) 4.5 mm 5.5 mm
Accuracy[2]	Position: < 0.5 mm RMSE Orientation: < 1 deg RMSE

Tracking cone PST Iris (3.5 mm lenses)

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 Iris is a full 6DoF motion tracker
Expandable tracking area	Expandable, multiple trackers can be connected to expand the tracking area
Aligning units	Easy routine, within seconds
Ambient conditions	Normal indoor lighting conditions
Illumination	Integrated IR LED illumination (wavelength 850 nm) Flash illumination fully adjustable in PSTracking 4.0
Operating temperature	15 – 35 °C

Devices and Markers

Number of targets	At least 15 independent 6DoF bodies e.g: 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 A PST Cortex is recommended for a multi PST setup or networked access
Tracking Application	PSTracking 4.0 (license included with each PST Iris and PST Base)
Client operating system	Windows (Vista, Windows 7, Windows 8), 32 and 64 bit Via the PST Cortex also to other OS
Software interface	VRPN, trackd, Dtrack emulation, data export to .CSV and the tracker comes with an easy to use C SDK with bindings for C# and Python
Hardware interface	USB 2.0 However, PST Iris results can also be shared fully transparently over Ethernet. Simply install the PSTracking 4.0 software on a second computer and connect
Output	Positional coordinates (x, y, z), orientation angles, Euclidean transformation matrices
Synchronization	Hardware trigger in and out

Other

Weight	Approx. 1.2 kg
Size	51 x 6 x 9.5 cm (W x H x D)
Mounting	1/4 "-20 UNC tripod mounting point
Power supply	Output 5 V, 40 W Input 100-240 V, 50-60 Hz
Power consumption	Max. 12 W

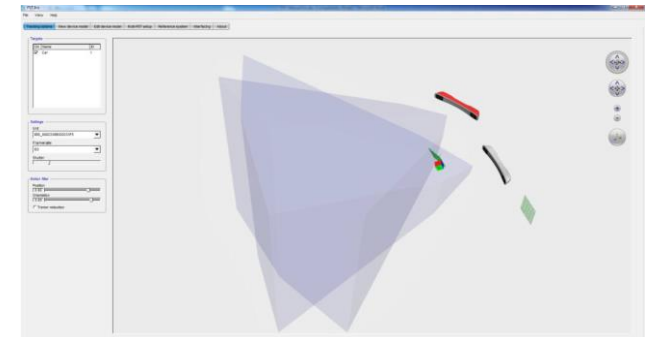## PSTracking 4.0 application (*License Included with any PST Iris or PST Base tracker*)

PS-Tech's application PSTracking 4.0 is the control center for your PST Base and PST Iris tracking systems.

The PSTracking 4.0 application is installed on a PC to connect to a tracker. Direct connection is via USB. However, PST Iris results can also be shared fully transparently over Ethernet. Simply install the PSTracking 4.0 software on a second computer and connect.

The PSTracking 4.0 application gives users access to one or multiple trackers.

Summary of the functionally available in the PSTracking 4.0 application:

- Easy access to PST trackers by any PC on which PSTracking 4.0 has been installed
- There is no requirement for all markers to be visible by the tracking system
- Optimization parameters of the tracking environment (e.g. filters illumination settings, frame rates)
- Remote control of the tracker connected to a PC or PST Cortex via Ethernet
- Easy create, modify and manage targets
- Import export target configurations
- Fast calibration of multi PST setups (single PST setups do not need calibration)
- One click origin definition

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