



SMART EYE PRO

3D EYE TRACKING



SMART EYE PRO – Remote 3D Eye Tracking for Research

ROBUST TRACKING

- Up to 8 cameras in one system
- Instant tracking recovery
- Up to 360° field of view - Largest on the market
- Big head box for natural head motion
- Insensitive to ambient light - works in sunlight as well as in darkness

FLEXIBLE

- Free camera placement - installation possible even in the most complex environments
- Easy to add or subtract cameras for rapid change between test set-ups

EASY TO USE

- Fast calibration routine
- Very fast profile generation - participants set-up within seconds
- Automatic initialization

ACCURATE

- 6DOF Head Tracking. Accuracy: Rotation 0.5 degrees (typ.), translation <1 mm
- 3D Gaze Tracking. Accuracy of gaze vector: 0.5 degrees (typ.)
- Precise time stamps

3D WORLD MODEL

- Define and name your own gaze zones/objects in your world model and get named data in your output for an easier analysis

OUTPUT

- Data available in real time via TCP/UDP or as a log-file
- Blinks, fixations and saccades automatically logged in the output
- All data for each eye individually or combined
- Select between raw or user definable filtered data
- Multiple data streams simultaneously
- User time stamped data and NTP synchronization



Contact Info:

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SUITABLE APPLICATIONS:

Instrumented vehicle

Take advantage of the largest continuous field of view on the market and track human gaze during natural head movements. Due to Smart Eye's big head box, you won't lose tracking data. System configurable with the numbers of cameras required in your project. Works in bright sunlight and during total darkness.



Simulators

Don't lose important data! Smart Eye Pro allows totally free head movements and fast participant set-up time. Easily add, subtract or reposition cameras to create the desired head box or visual field needed in your project. Smart Eye Pro is used in all kinds of simulators and integrated with many leading simulator manufacturers.



Single Screen

Easy to use, yet flexible enough to meet special customer needs. Can be equipped with 2-3 cameras for screens up to 42". Create heat maps, dynamic ROI's, gaze trails etc. with Smart Eye's or our partner's analysis software.



MultiScreen and Control Room

Why limit yourself to measuring on one screen at a time? Smart Eye Pro allows you to measure on up to 7-8 screens and a large projection surface in front of the screens. Get information about time spent on each screen, ROIs, heat maps etc.



Long Range

Allows studies in naturalistic environments on for example big screens, video games, displays walls, movies etc. By upgrading optics and the IR system it is possible to place the system up to 2,5 meters from the subject.



TECHNICAL SPECIFICATIONS

Sampling Rate	60 Hz (with up to 8 cameras)	120 Hz (with up to 4 cameras)
Field of View	90° - 360° (depending on number of cameras)	
Head Box (freedom of head movement)	For a typical 2-camera screen measurement set-up (8mm lenses): 40x40x30 (typ.) Adjustable with lenses and positioning of cameras	
Tracking Accuracy	Head: Rotation 0.5 degrees (typ.)	Gaze: 0.5 degrees (typ.)
Output	TCP / UDP / CAN (optional)	
Delivered data (true 3D values)	Head orientation 6DOF, Eye positions, Eye gaze, Pupil diameter, Saccades, Fixations, Blinks, Eyelid opening etc.	
Recovery Time (Blink / Tracking Lost)	Immediate	
Optimal Camera – Eye Distance	30-300 cm - Adjustable with lenses and positioning of cameras	
Eyewear Compatibility	Glasses, Sunglasses and Contact Lenses	
Calibration Mode	Any number of calibration points	
Eye Tracking Principle	Pupil and Iris / Corneal Reflexion and Head Model	



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