

**500 Hz  
also available**

PERFORMANCE MEETS EASE OF USE

# RED250

All-In-One High-Speed Remote Eye Tracking Solution

- ➔ High sampling rate - Precise measurement of saccades
- ➔ Unprecedented ease of use - No operator experience needed
- ➔ Minimal latency - Faster lock-on and reaction
- ➔ Complete software solution - Ready to go!
- ➔ Award winning design - All-In-One system concept for your mobile eye tracking lab



[www.smivision.com](http://www.smivision.com)

<b>MONITOR</b> 	+	<b>TV</b> 	+	<b>PROJECTION</b> 	<b>DATA RATE</b> <b>250Hz</b>	<b>BINOCULAR</b> 	<b>ACCURACY</b> <b>0.4°</b>	<b>HEADBOX</b> 40 x 40 x 20 cm 	<b>PORTABLE</b> 	<b>CALIBRATION</b> <3s (2point)	<b>CHILD CALIBRATION</b> 
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### Flexible and easy setup

The RED250 includes a modular design that allows for several different configurations with the same system – from an integrated 22" monitor, to television screens, to projectors. Integrated with the 22" monitor, the system is ready to use out-of-the-box. A user-friendly wizard simplifies standalone setup with other displays.

### Accurate binocular gaze & pupil data

The RED250 uses automatic eye tracking and head movement compensation, utilizing a large working area, with high quality gaze and pupil data to ensure accurate and reliable results.

### Robust tracking for all populations

SMI's 20 years of computer vision experience in high-performance research and medical applications has resulted in the most robust remote eye tracking system available. The system is robust regardless of eye color, age, glasses or contacts, etc, and gives immediate feedback of robustness and tracking quality.

### Fast, reliable & automatic operation

The fully automatic calibration takes only seconds and maintains drift-free accuracy throughout the experiment. Flexible calibration options address experiment requirements, including 2-point, child-friendly versions.

### Wide range of application areas

The RED systems are used e.g. in the field of neuroscience to analyze how we process visual information in different situations, in psychology, psychiatry & psycholinguistics to study human behavior, in usability, human factors and ergonomics to optimize the interaction, in market research to understand consumer behavior and in gaze based interaction for human communication with machines.

### All results easy to get

The RED250 system collects all relevant eye data and allows for fast and accurate control and analysis:

- Measures gaze position on surfaces (e.g. screen, TV, projector) in screen pixels or millimeters
- Measures pupil size (relative and absolute dimensions) in pixels or millimeters
- Exports recorded data to ASCII for post-processing using statistics software (e.g. MATLAB®, SPSS®, Excel™)
- Perfectly integrated into SMI Experiment Suite 360°™ for experimental design, presentation and data analysis

### Integration with EEG, other sensors and devices

The RED systems have proven to be easily integrated with other devices like EEG or bio sensors, as well as with camera observation systems.

## Specifications RED250

#### Technology

- Fully automated image processing based contact free eye tracking and head movement compensation

#### Performance

- Sampling rate 250Hz
- Tracking resolution 0.03°
- Gaze position accuracy 0.4°
- Operating distance subject - camera 60 - 80cm
- Head tracking range 40 x 20cm at 70cm distance
- Latency (end to end) <6ms

#### System

- Workstation Desktop or Notebook
- Monitor 22" widescreen  
19" (optional)

#### Interface

- Modular design that allows different setups with the same system – from an integrated 22" monitor to TV screens up to projections of any size

#### Auxiliary devices / communication

- User video and audio recording
- Free SDK/API
- Easy integration with third-party stimulus and analysis packages such as MATLAB®, Presentation®, E-Prime®, Superlab™ and others
- Compatible with EEG and other sensors

#### Software options

- SMI Experiment Suite™ 360° (incl. SMI BeGaze™ & SMI Experiment Center™)

#### System options

- RED500 upgrade (500Hz eye tracking)
- Flightcase
- Combosystem with iView X HED, Hi-Speed etc.

#### Norm compliance

- CE, EMC, Eye Safety

SensoMotoric Instruments GmbH  
Wartheinstr. 21  
14513 Teltow  
Germany  
Phone: +49 (0) 3328 - 39 55 - 10  
Fax: +49 (0) 3328 - 39 55 - 99

SensoMotoric Instruments, Inc.  
28 Atlantic Avenue  
236 Lewis Wharf  
Boston, MA 02110 USA  
Phone: +1 - 617 - 557 - 00 10  
Fax: +1 - 617 - 507 - 83 19



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