# iView X™ MEG

## Eye Tracking Solution for MEG Applications Compatible with Projector-Based Stimulation

SMI SensoMotoric Instruments

### The Challenge

Eye movement control and analysis during visual stimulation is vitally important for the exciting new areas of research conducted using MEG. This requires

- Easy and reliable measurement of eye movements
- Efficient operation with minimal setup time
- Seamless integration with existing stimulus setup
- Full compatibility with existing MEG system
- Easy integration with other research equipment

### The Solution

The **iView X™ MEG** system brings SMI's leading eye tracking technology into the demanding MEG environment.

iView X™ MEG is a system that

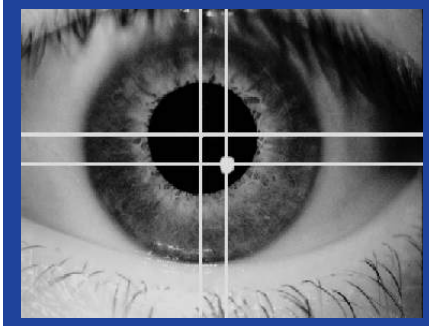
- Provides real-time eye movement monitoring, recording and transmission functions
- Works well with MEG systems without measurable interference due to magnetically inert system design
- Perfectly integrates with most projector and screen setups with sitting and laying subjects
- Can be set up for new subjects in seconds thanks to the unique super-fast fine adjustment mechanism and the integrated TFT control screen
- Comes with customized extra-robust aluminum rig which holds all system components in the MSR
- Utilizes multi-LED infrared light source with passive cooling for failsafe operation
- Provides digital and analog interfaces for easy integration with stimulus software and MEG system

- **Efficient**
- **Easy to use**
- **Accurate**
- **Reliable**

### The Results

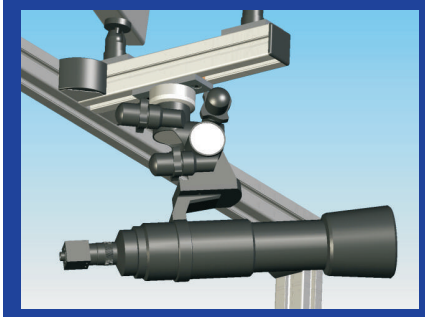
The **iView X™ MEG** collects all relevant eye movement data and allows for fast and accurate control and analysis:

- Reliable measurement of horizontal and vertical gaze position and pupil size
- Real-time data streaming, trigger and remote control functions for synchronization with stimulus software
- Analysis functions such as scan path, area of interest statistics, and attention map using SMI's BeGaze™
- All recorded data and results are available for further post-processing in Matlab®, SPSS®, Excel™ etc.

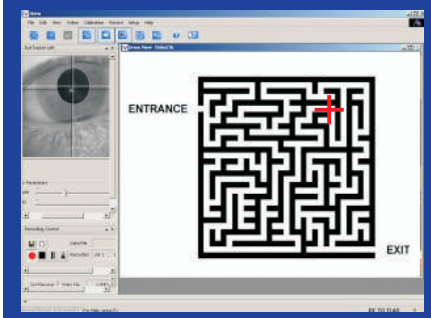


Eye image with pupil and corneal reflex centers identified

Camera, illumination, and control screen attached to customized aluminum rig



Setting up subjects in seconds thanks to super-fine adjustment mechanism

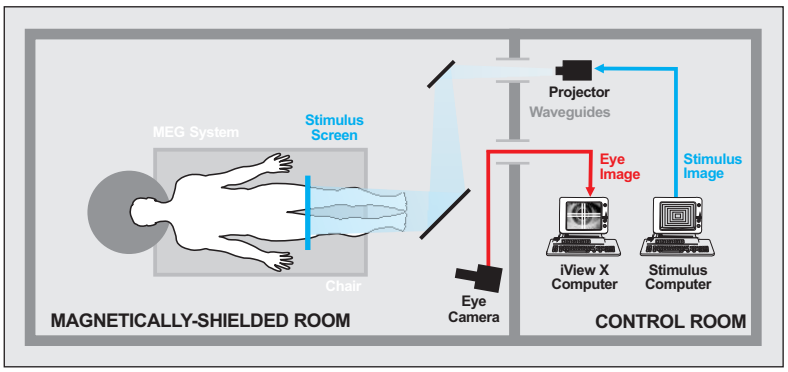



On-line feedback for eye movement and gaze position during experiments

**Contact SMI for global distribution network information**

## System Setup

Each iView X™ MEG system is customized to perfectly fit the customer's magnetically shielded room (MSR). Power and video signal are fed through a wave guide. The eye tracker components are permanently installed in the MSR and don't interfere with the MEG system.




### Specifications – iView X™ MEG

**Technology**

- Non-invasive, video-based eye tracking
- Monocular dark-pupil tracking, pupil/pupil-CR method

**Performance**

| | |
|---|---|
| • Sampling rate | 50Hz / 60Hz |
| • Tracking resolution | 0.1° (typ.) |
| • Gaze position accuracy | 0.5° - 1° (typ.) |
| • Tracking range (hor./vert.) | ± 25° / ± 15° (typ.) |

**Operating System**

- Windows XP
- Dedicated workstation

**Interface**

- Customized aluminum rig holds eye camera, infrared illumination, and control screen
- Fine-adjustment mechanism for eye camera and control screen increase overall system efficiency

**Auxiliary Devices / Communiction**

- Audio channel recording
- Open communication interface via Ethernet (UDP)
- Easy integration with third-party stimulus and analysis packages such as Presentation®, E-Prime®, Superlab™, MATLAB®, SPSS®, Excel™ and others

**System Options**

- SMI Experiment Suite 360° (incl. BeGaze™ & Experiment Center™)
- Application Programming Interface (API)

**Approvals**

- CE, EMC, Eye Safety

**PLEASE ASK FOR AN UP-TO-DATE REFERENCE LIST !**

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