

H6-VR Optics

Head Mounted Eye Tracking System



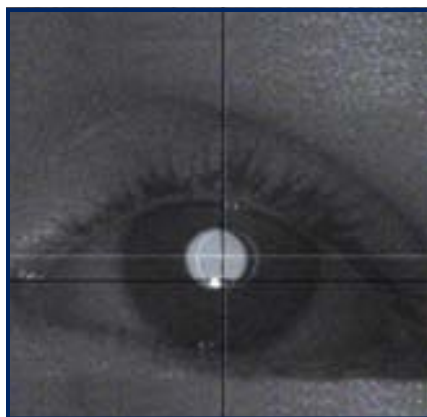
The H6-VR module connects to the EYE-TRAC®6 Control unit for an integrated eye tracking solution in a variety of HMD (Head Mounted Displays). It is designed to quickly and accurately track gaze position on the HMD surface.

The advantages of the H6-VR head mounted solution are many:

- Small mirror is attached inside the optics.
- Camera electronics are outside of the head mounted display
- Constant visual feedback throughout entire tracking sessions.
- Automated features with manual overrides for challenging participants.
- A software Development Kit (SDK), which provides access to the eye tracker controller port, serial out port, and to data files recorded by ASL interface program.
- A standard 15 foot cable connecting the optics to the control unit, with custom configuration available up to 50 feet.

We offer a complete fabrication shop and would be delighted to discuss specific integrations.

The eye tracker provides constant feedback indicators superimposed on both the eye and scene images, allowing the operator to monitor the status and quality of the measurement.



The gaze point can be displayed as a cursor or a cross hairs on the scene image.

A videotape or digital recording of the scene image can be created as a permanent record.

Recorded data include time, horizontal and vertical eye position in relation to the head, and pupil diameter. External events-marks can be recorded along with eye tracking data.

Data recorded with the EYE-TRAC®6 operating software automatically includes participant calibration data as well as all eye tracker set-up, parameter, and configuration information.

Descriptive user information can also be entered.

EYEHEAD™ integration

The H6-VR gaze data can be integrated with head tracking information. The six degrees of freedom head tracking information needed for EYEHEAD™ integration can be captured by many commercially available tracking devices including Intersense, Ascension, Polhemus, NDI (Northern Digital Inc, Advanced Real time Technology, Phoenix Technologies and the list is always growing.

We have proven integration with Virtual Reality—V4, V8, VR1280 nVis—nvisor ST or SX Nvision Sensics Crystal Eye Glasses i-o glasses

The H6-VR can be configured with either our standard 50/60 Hz camera or our high speed optics which track at 120/240 Hz.



H6-VR Optics



Data is also available to external devices from the real time digital output port.

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Optional Equipment

The H6-VR Optics is part of the ASL EYE-TRAC®6 Series. The ASL H6-VR Optics can be configured with a multi-speed high speed camera; with two optics modules for binocular tracking; and can also be mounted to a chinrest head restraint.



*All eye camera optics are configurable with control unit

- H6-VR Optics can be upgraded to incorporate remote optics, long range optics for fMRI, optics for virtual reality HMD's, etc
- System components and software can be shared among collaborators for greater allocation of time, funding, and resources.

H6-VR optics can be configured with a laptop or desktop PC.

Training & Technical Support

ASL is committed to assisting researchers before, during and after the eye tracking data acquisition.

Unlimited technical support, free access to updates on ASL interface and analysis software available at all times. Multiple copies of the interface program and the ASL Results analysis software are available at no additional charge.

Free scheduled training at our Bedford, MA (Boston) location for the life of the equipment. On site training is also available.



Data Analysis Tools

ASL Results

A comprehensive eye tracking data analysis package is available with each EYE-TRAC®6 series. ASL Results quickly reduces raw data to user definable fixations and matches those fixations with Areas of Interest (AOI). Includes several statistical parameters as well as creative meaningful visualization of data including heatmaps

Gazetracker

Gazetracker 8.0's user interface includes:

- Time line view– Superimposes a variety of information, including Look Zones, website entrance and exit, input events and pupil data onto a single graph
- Spotlight– The inverse of a heat map bringing increased clarity where users focus the most attention

Interact

INTERACT 8-ASL Edition streamlines frame by frame video analysis providing meaningful eye tracking data. This software solution is consistent with ASL's commitment to expand and enhance the use of eye tracking.

Technical Specs

Head Tracker	6 DOF Head Tracking
Sampling Rate:	120/240/360Hz
Gaze Position Accuracy:	0.5° to 1°
Tracking Range:	50° Horizontal, 45° Vertical or more
System Accuracy:	0.5° visual angle or less
Resolution:	0.1° of visual angle
Technology:	Video based Eye Tracking with Bright Pupil illumination
Operating System:	Windows XP or later version
System Calibration:	Automatic and with 5 to 9 points
Transport Delay:	
60 Hz	~50 msec
120 HZ	2~25 msec
240 Hz	~12.5 msec