

## H6 Optics

## Head Mounted Eye Tracking System

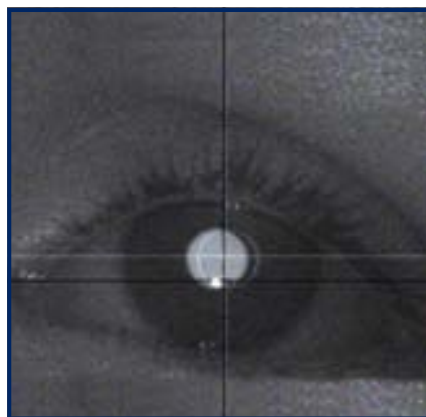


The H6 module connects to the EYE-TRAC®6 Control unit for a lightweight head mounted eye tracker. It is designed to quickly and accurately track gaze position of all participants, including young children. Head mounted optics are recommended in situations where it is important for participants to have freedom of movement and/or where gaze must be measured over an unrestricted field of view.

### The many advantages of the H6 head mounted solution are :

- A comfortable but secure adjustable headband.
- A flexible choice of methods for capturing the scene image including a head mounted scene camera, scan converter (from computer image) or a remote (room fixed) scene camera if EYEHEAD™ Integration option is used.
- Constant visual feedback throughout entire tracking sessions.
- Automated features with manual overrides for challenging participants.

- A method for directing the eye image to the camera with a small monocular beam splitter mounted to a flexible boom arm, providing the adjustability needed to capture a wide variety of participants over multiple viewing areas and conditions.
- A software Development Kit (SDK), which provides access to the eye tracker controller port, serial out port and to data files recorded by the ASL interface program.



- A standard 15 foot cable connecting the optics to the control unit, with custom configuration available up to 50 feet.

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

When combined H6 optics with an optional head tracking device and ASL's EYEHEAD™ software package, participant's gaze with respect to stationary surfaces in the environment is provided. Recorded EYEHEAD™ data files report the identification number of the surface being viewed, point-of-



H6 EYEHEAD™ package data

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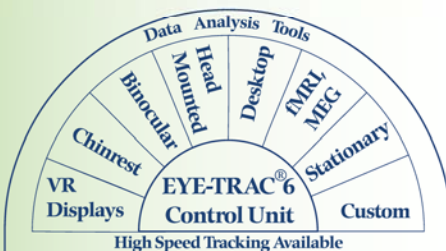


gaze coordinates on the surface, distance from the eye to the surface being viewed, and pupil measurement. A maximum of 20 surfaces can be defined. If desired, other data can be included as well, such as position of the eye in space, and the direction of gaze with respect to room coordinates. Data is also available to external devices from the real time digital output port.

The six degrees of freedom head tracking information needed for EYEHEAD™ integration can be captured by many commercially available tracking devices.

### Optional Equipment

The H6 Optics is part of the ASL EYE-TRAC®6 Series. The ASL



\*All eye camera optics are configurable with control unit

EYE-TRAC®6 Series offers the most eye tracking configuration options. This provides the greatest flexibility for your research requirements today and tomorrow.

- The H6 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.
- New optics can be added at any time.
- System components and software can be shared among collaborators for greater allocation of time, funding, and resources.

H6 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 and free access to updates on the interface software are available at all times. Multiple licenses of the interface program are available at no additional charge.

We offer free scheduled training at our Bedford, MA (Boston) location for the life of the equipment. On site training is also available. Please check out our website for upcoming training sessions.

## 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

### Gaze Tracker

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

Sampling rate:	60Hz
Measurement Method:	Pupil-cornea reflection
Accuracy:	0.5° Visual Angle
Resolution:	.0.10° Visual Angle
Visual Range:	50° horizontal 40° vertical
Real Time	
Data Outputs:	X and Y gaze coordinates Horizontal and vertical pupil measurements Two analog outputs One video output
Distance from participant to control unit:	Standard 15 foot cable from control unit to head mounted optics. Custom lengths are available