

High Speed Chinrest Mounted Eye Tracking System

ASL's Model H-HS-CN6 High Speed on a chinrest is a complete eye tracking system for use in situations where the subject's head movement can be restricted. It includes all necessary equipment to begin work immediately. The system control unit is compact in size. The optics are mounted on an adjustable chinrest that can be easily clamped to any stable surface. The scene is recorded with a color camera that can be mounted on the headband or a scan converter that inputs the image from the stimulus computer. The images from the eye and scene cameras are displayed on two external monitors or on the computer screen displaying the eye tracking interface program using optional frame grabbers. ASL EYEPOS operating software and EYENAL off-line data analysis software programs are provided for installation on a PC or laptop computer.

©Data Output

The Model H-HS-CN6 is designed to measure a subject's eye line of gaze with respect to the head. Point of gaze is displayed as a cursor or set of cross hairs superimposed on the image from the scene camera or scan converter. A videotape or .avi of this image can be created as a permanent record and used for data analysis.

Recorded data include time, x and y eye position coordinates, and pupil diameter. External data events/marks can be recorded along with the eye tracker data.

Model H-HS-CN6 EYEPOS operating software provides the system operator with the ability to enter calibration and subject data, and specify the operating parameters of the Model H-HS-



High Speed Chinrest Mounted Optics

CN6. EYEPOS also converts the eye tracker data records into ASCII format for transmission to other computers or for off-line spreadsheet analysis. Data is available directly from the Model 6000 control unit through a serial port (RS232). The Model H-HS-CN6's interface PC can be connected to an Ethernet network, permitting data analysis from remote locations.

© Data Analysis Software

EYENAL data analysis software is a set of off-line analysis programs for displaying and processing eye position and pupil diameter data that have been recorded with the Model H-HS-CN6. EYENAL programs identify fixations, plot scan patterns, let the user define areas of interest on the stimulus scene, tabulate pupil diameter and compute various parameters.

◎ **Portable**

ASL's chinrest is durable and easily moved, making the system quite portable. The EYEPOS interface software and EYENAL analysis software can be run on a laptop, in addition to the eye and scene image.

◎ **Additional Features**

- Easily adjusts for different subjects
- Comfortable
- Boom arm and monacle assures no problem with spectacles and contacts
- Can set up to track either eye
- Can be upgraded to binocular
- Multispeed (120, 240 or 360 Hz)
- Integrates easily to stimulus presentation software (eg. Matlab, e-prime, eye view, etc.)
- No loss of resolution at any tracking speed
- No drift or need for recalibration
- Real-time analog and digital output
- Saccade software available (Matlab)

SPECIFICATIONS

- ◎ **Control Unit:** Dimensions (H/W/D): 3 in/9.75 in/10.25 in
Weight: 4.25 lbs
Power: 100-240 VAC
25 watts
Display: 9 inch b&w monitors for eye and scene cameras or dual frame grabbers in interface computer (optional)
- ◎ **Head mounted optics:** Sampling and Output Rates: 120, 240 or 360Hz w/no loss of resolution
Measurement principle: pupil-corneal reflection
System accuracy: 0.5 degree visual angle
Resolution: <0.1 degree visual angle
Head movement: restricted
Visual range: 50 degrees horizontally, 40 degrees vertically
- ◎ **Included equipment:** 1 Series 6000 Control Unit
Optics mounted on chinrest
Head Mounted Scene Camera (color) or scan converter
Display Monitors (x2), black & white or 2 frame grabbers (optional)
EYEPOS operating software
EYENAL data analysis software