

ASL Applied Science Laboratories

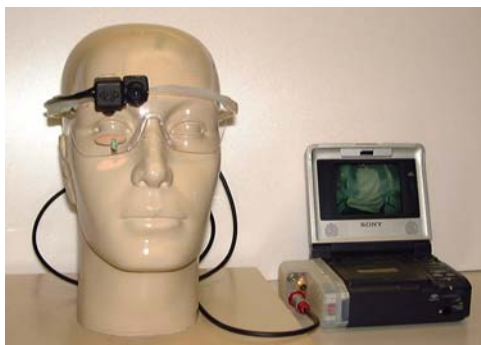
Mobile Eye

The Mobile Eye is a truly tetherless eye tracking system for use when total freedom of movement is required and video with overlaid cursor is the desired output. This system is designed to be easily worn by an active subject. The eye tracking optics are extremely lightweight and unobtrusive and the recording device is small enough to be worn on a belt.

The eye image and scene image are interleaved and saved on a DVCR tape. This method insures no loss of resolution. Tape duration is 75 minutes, battery operation, at full charge, is 130 minutes. This tape is then transferred to an included PC that separates the images, does the analysis and creates a scene video with cursor overlay. Sample rate is 25/30Hz.

This system is designed for indoor or outdoor use and is compact and rugged enough to be used in many sports applications.

The Mobile Eye comes as a complete system with all necessary hardware and software. The portable DVCR can be connected directly to the PC for real time tracking in a laboratory setting. Additional optics and DVCR recorders can be purchased for use with the system allowing for multiple recordings to be made at the same time.

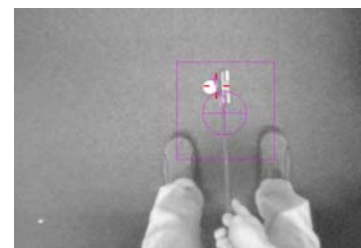


System Components

- Head mounted optics (76g)
- Color scene camera
- Modified DVCR recorder
- Eye Vision Software
- PC Pentium 4, 2.8GHz processor

SYSTEM OUTPUTS

- Video with moving cursor
- Data log file (ASCII data file)
 - x and y coordinates
 - pupil radius, in eye image pixels
 - eye direction with respect to the scene image
 - mouse cursor position with respect to the scene image



SPECIFICATIONS

Control Computer Pentium 4, 2.8 GHz Desktop PC
EyeVision software
Internal framegrabber

RMU:



Modified DVCR

Head mounted optics:



Sampling and Output Rates: 25Hz or 30Hz
Measurement principle: pupil-corneal reflection w/custom outdoor enhancements
System accuracy: 0.5 degree visual angle
Resolution: 0.10 degree visual angle
Head movement: unlimited
Visual range: 50 degrees horizontally, 40 degrees vertically
Weight (includes glasses, optics module, monacle and scene camera assembly): 76g

Included equipment:



Pentium 4 Desktop Computer
Glasses Mounted Optics w/Head Mounted Scene Camera (color)
Modified Portable DVCR
EyeVision Software



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