

Model R-LRO6

Eye Tracking System For fMRI Applications

⦿ Need

A complete eye tracking system specifically designed for research studies with functional MRI. The system must work with a variety of MRI equipment, include a visual display system and optics for use outside of the magnet for training and testing. The system must also be reliable and easy to use and maintain.

⦿ Solution

The ASL model R-LRO6 is the first video based eye tracking system designed to meet these specific needs. Our long range optics module can be placed up to 16 feet from the subject, avoiding interference with the fMRI system. A small relay mirror is the only piece installed within the magnet. A second set of remote optics can be attached to the modular eyetracking control unit and used for training and testing outside the magnet. Compatibility with a variety of stimulus generation software products, including MatLab, E-Prime and Presentation allows to create and perform gaze contingent timed events. This system meets the needs of minimal intrusion, ease of use and easy maintenance.

⦿ Optics

fMRI Optics are mounted in/or out of the magnet room (through a wave guide), up to 16 feet away.



Pan/Tilt Camera

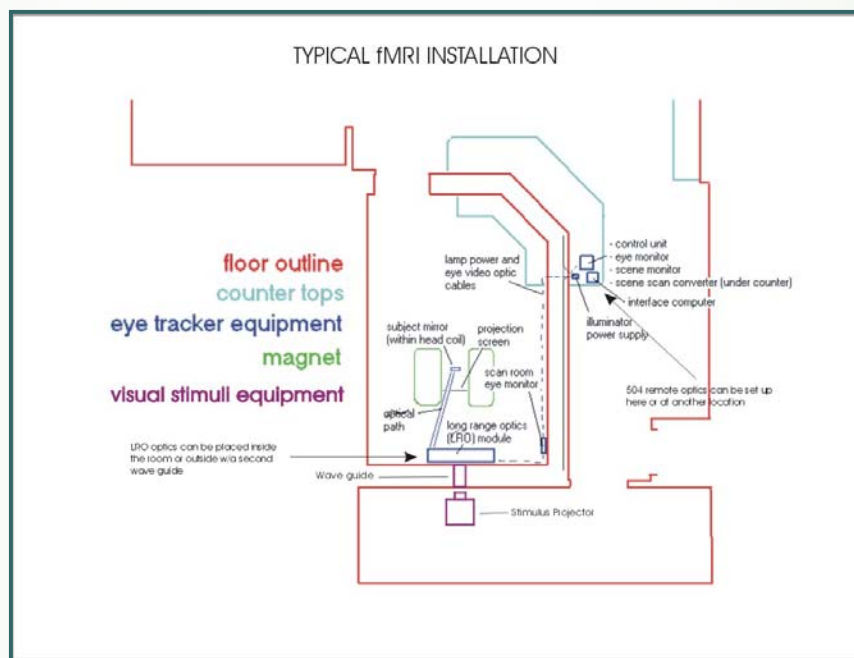
Remote Pan/Tilt Optics attach to the same system, can be used outside the magnet room.



R-LRO Optics

© Control Unit

6000 modular eyetracking control unit that will connect to either set of optics and will export X, Y coordinates and pupil size, realtime, analog or digital. Also will export and import event flags.



ADVANTAGES

- ASL can supply a complete solution
- Proven results – successfully installed at multiple sites over 7 years
- ASL has extensive experience custom designing and installing in fMRI environment
- Only system using “bright pupil” technology, allowing optics to be placed up to 16’ from the patient
- Only system that adjusts between 50/60Hz or 120 and 240 Hz with no loss of resolution
- Only system designed to be either permanently mounted or moveable
- Only system where all components (except the mirror) can be outside the magnet room
- Minimal adjustments between subjects
- Modular system allowing the eye tracker to be used with remote optics when not being used in the fMRI
- Compatible with Matlab, Presentation, E-Prime, Cortex and Tempo.