EYELINK II TECHNICAL SPECIFICATIONS

Tracking Modes

Mode	Sample Rate	Average Delay (Filter Off/On)	Noise (RMS)	Stability
Pupil Only	250 or 500HZ	3 ms / 5 ms / 7 ms	< 0.01°	Affected by headband slip and vibration
Pupil—Corneal Reflection (Pupil-CR mode)	250Hz	6 ms / 10 ms / 14 ms	< 0.022°	Good rejection of slip and vibration

Operational and Functional Specifications

Image Processing	Fully Digital
Pupil Tracking	Hyper acuity
Corneal Reflection Tracking	Hyper acuity, ultra low noise
Resolution (Gaze)	<0.005° (pupil and CR)
Velocity Noise	<0.5° average
Pupil Size Resolution	0.1% of diameter
Eye-Tracking Range	±30° horizontal, ±20° vertical in pupil only mode
Gaze-Tracking Range	±20° horizontal, ± 18° vertical
Head Tracking Distance	40–140cm (standard), –300 cm (Special markers)
Head Rotation Compensation Range	±15° for best accuracy, ±30° conditional on gaze angle
Head Position Compensation Range	Horizontal and vertical movements less than the width and height of display, and ±30% of the display–to–head distance at calibration
Built-in calibration, validation	Calibration / Validation using Pupil or Pupil–Corneal Reflection (pupil–CR) mode
Operating Environment	Tolerates significant indirect IR, pupil–CR mode can tolerate more headband slippage than pupil only mode
Subject Compatibility	Most eyeglasses and contact lenses do not present a problem in pupil only mode; still highly compatible in pupil–CR mode
Data File	EDP
EDP File and Link Data Types	Eye position, HREF position, gaze position, pupil size, buttons, messages, digital inputs
On-Line Eye Movement Analysis	Saccades, fixations, blinks, fixation updates
Real-Time Operator Feedback	Eye position cursor during calibration, validation, and recording. Camera images and tracking status