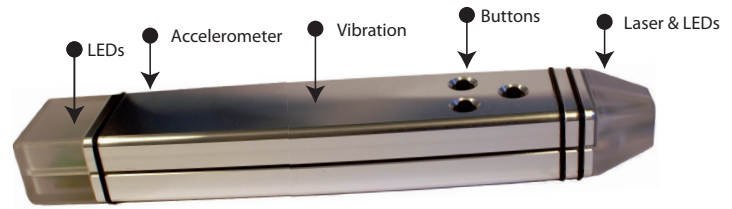


Laser Pointer System

Intuitive Interaction for Large High-Res Displays

Unlike conventional input devices like mouse and keyboard, laser pointers do not limit users' freedom of movement and are therefore superior when interacting with applications that are displayed on large high-resolution screens. The laser pointer technology was developed in cooperation with the Human-Computer Interaction Group at the University of Konstanz and integrates seamlessly into eyevis large screen systems.



Application Areas

The system is in use in various scientific visualization projects and artistic installations. It was used as an intuitive interface for the „Globorama“ installation at the Panorama Festival of the Center for Art and Media Karlsruhe, Germany, with approximately 5000 visitors. The installation featured a geographic visualization which was displayed on a large 360° panoramic screen. Visitors controlled the visualization using the laser pointer while moving around freely inside the screen. Furthermore, the largest interactive installation at the ThyssenKrupp „Ideenpark“ exhibition in Stuttgart, Germany, with about 290.000 visitors also employed the laser pointer system. At the Powerwall of the University of Konstanz, scientists from diverse fields use the laser pointer to interactively explore and analyze their information space e.g. for visual analytics or information visualization.

Core Features

Jitter Compensation

A mathematical filtering system is used to compensate natural hand tremor and allow for precise and smooth pointing movements.

Nonhazardous Low-Energy Laser

The pointer is equipped with a 0.5 mW class I laser diode whose beam cannot harm the human eye. This makes it possible to use the pointer in public area.

Visual and Tactile Feedback

Color-LEDs at the tail and tip of the pointer provide visual feedback on the spot. Additionally, an integrated vibration unit delivers tactile feedback.

Integrated Mouse-like Buttons

Integrated buttons allow for well-known mouse-like interaction techniques to support standard applications.

Wireless Operation

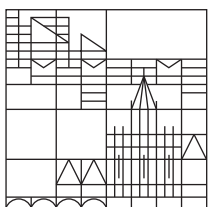
For maximum freedom of movement, a wireless module is built into the laser pointer.

Optimized No-Lag Interaction

The average tracking latency of the system is below the perceptible threshold and thus enables immediate and performant interaction.

Easy Setup and Calibration

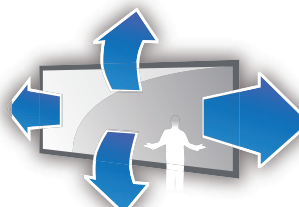
The system works with any standard application and can be easily configured for special applications and scenarios. Calibration of the system is required only once and can be carried out within minutes.



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Interaction Techniques
for High Resolution Displays