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A common computer input device, a  $^{\Box}$ 

keyboard. A user presses a key which

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Input device 双 44 languages

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In computing, an **input device** is a piece of equipment used to provide data and control signals to an information processing system, such as a computer or information appliance. Examples of input devices include keyboards, computer mice, scanners, cameras, joysticks,

and microphones. Input devices can be categorized based on: Modality of output (e.g., mechanical motion, audio, visual, etc.)

• Whether the output is discrete (e.g., pressing of key) or continuous (e.g., a mouse's

continuous)

position, though digitized into a discrete quantity, is fast enough to be considered

• The number of degrees of freedom involved (e.g., two-dimensional traditional mice, or three-dimensional navigators designed for CAD applications)

keypad. Keyboards on laptops and tablets typically compromise on comfort to achieve a thin figure.

transfers information to a computer. Keyboard [edit]

A **keyboard** is a human interface device which is represented as a matrix of buttons. Each button, or key, can be used to either input

(usually found on a laptop keyboard), or a membrane.

A keyboard used by pressing several keys together.

an alphanumeric character to a computer, or to call upon a particular function of the computer. It acts as the main text entry interface for most users.[1]

Main article: Computer keyboard See also: Keyboard technology

Keyboards are available in many form factors, depending on the use case. Standard keyboards can be categorized by its size and number of keys, and the type of switch it employs. Other keyboards cater to specific use cases, such as a numeric keypad or a keyer. Desktop keyboards are typically large, often have full key travel distance, and features such as multimedia keys and a numeric

Types [edit]

Other keyboards do not have physical keys, such as a virtual keyboard, or a projection keyboard. **Ergonomic keyboard** 

A keyboard placing design emphasis on ergonomics and comfort. **Chorded keyboard** 

Thumb keyboard A miniature keyboard found in PDAs and mobile phones.

Keyer A chorded keyboard without the board.

**Numeric keypad** 

While some keyboards include one (commonly found on the right side), numeric keypads can be found as independent devices.

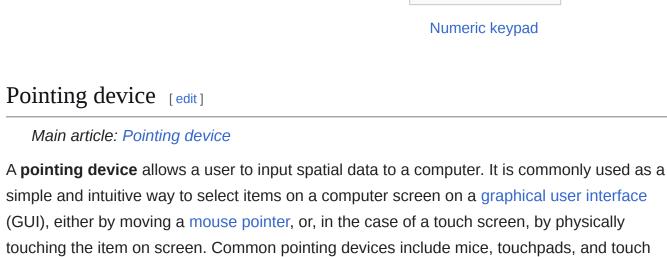
screens.[2]

Types [edit]

touch screen

trackball

Keyboard Ergonomic keyboard Chorded keyboard Thumb keyboard Keyer



Whereas mice operate by detecting their displacement on a surface, analog devices, such as

graphics tablets. They enable users to see the real-time positions via the screen while being used.

A layer placed over a computer screen, used by physically touching it with one's finger or a stylus.

A flat surface on which a stylus is used, often to draw images or capture signatures.

Digitizer mouse

3D mice, joysticks, or pointing sticks, function by reporting their angle of deflection.

repositioned)

graphics tablet, digitizer, or drawing tablet

mouse

Pointing devices can be classified on:

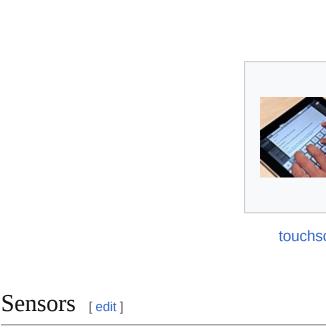
indirect input include the mouse and trackball.[3]

mouse A hand-held pointing device that is moved across a surface. touchpad or trackpad A flat surface operated by moving a finger across its surface.

Similar to a mouse, a trackball has a ball held by a socket. Instead of moving the mouse, the user rolls the ball with their finger.

A large-format

graphic tablet by manufacturer Summagraphics (OEM'd to Gerber): The puck's external copper coil can be clearly seen. Note using of a Digitizer mouse with a magnifying glass



Main article: Sensor

to monitor system temperature.

Detects acceleration.

Detects spatial orientation.

Detects whether an object is in proximity.

Detects the range of objects using laser.

Similar to a compass, a magnetometer senses magnetic heading.

Detects movement and range of objects using ultrasound.

Measures atmospheric pressure. May be used to determine elevation above sea level.

Some sensors can be built with MEMS, which allows them to be microscopic in size.

Some devices allow many continuous degrees of freedom as input. These can be used as pointing devices, but are generally used in ways that don't involve pointing to a location in

space, such as the control of a camera angle while in 3D applications. These kinds of devices are typically used in virtual reality systems (CAVEs), where input that registers six degrees of

High-degree of freedom input devices [edit]

Consists of a stick pivoting on a stationary base.

Hand held device often used to play modern video games.

An imitation steering wheel that can be used to play racing video games.

Types [edit]

**Accelerometer** 

Magnetometer

**Proximity sensor** 

**Ultrasonic transducer** 

Gyroscope

**Barometer** 

**LIDAR** 

**Thermometer** 

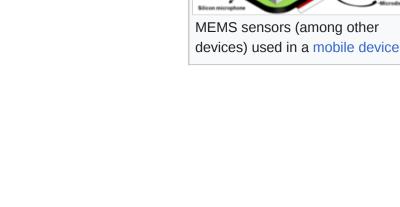
An infrared proximity

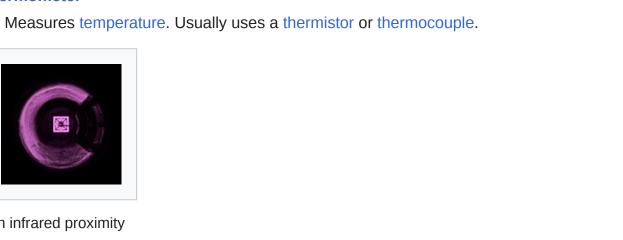
smartphone allows it to turn off its screen when held up to the

sensor used in a

user's ear.







Composite devices [edit] Input devices, such as buttons and joysticks, can be combined on a single physical device that could be thought of as a composite device. Many gaming devices have controllers like this. Technically mice are composite devices, as they both track movement and provide buttons for clicking, but composite devices are generally considered to have more than two different forms of input. Examples [edit]

Gamepad, or joypad

Microsoft Surface Dial. [6]

**Joystick** 

**Paddle** 

**Racing wheel** 

Wii Remote

requirement.

Types [edit]

Digital camera

3D scanner

Types [edit]

Microphones

Other types [edit]

Gesture recognition

Magnetic ink character recognition

3. ^ "Input device" ∠. CodeDocs.

Category: Computing input devices

10 December 2022.

Sip-and-puff#Computer input device

Digital pen

See also [edit]

Display device

Peripheral

Laser rangefinder

Eye gaze tracker

Voice recorder [edit]

Digital camcorder

• Portable media player

Many video input devices use a camera sensor.

freedom is required. [citation needed]

Joystick controller Gamepad (or joypad) Paddle (game Jog dial/shuttle (or controller) knob) Video input devices [edit]

Video input devices are used to digitize images or video from the outside world into the

computer. The information can be stored in a multitude of formats depending on the user's

A paddle could be a game controller consisting of a dial and a button, or an input device such as a Griffin PowerMate<sup>[5]</sup> or a

A remote control used with the Nintendo Wii video game console which integrates an accelerometer and pointing capabilities.

Voice input devices are used to capture sound. In some cases, an audio output device can be used as an input device, in order to

commands. Devices such as microphones allow users to speak to the computer in order to record a voice message or navigate

software. Aside from recording, audio input devices are also used with speech recognition software.

capture produced sound. Audio input devices allow a user to send audio info to a computer for processing, recording, or carrying out

 Webcam Microsoft Kinect Sensor Image scanner Fingerprint scanner Barcode reader

Punched paper [edit] Punched cards and punched tapes were used often in the 20th century. A punched hole represented a one; its absence represented a zero. A mechanical or optical reader was used to input a punched card or tape.

• MIDI keyboard or other digital musical instrument

References [edit] 1. ^ "What is Keyboard | Usage, Function and Types of Keyboard" ∠. 21 January 2022. 2. ^ "What is a Pointing Device?" \(\mathbb{Z}\). Computer Hope.

Further reading [edit] • N. P. Milner. 1988

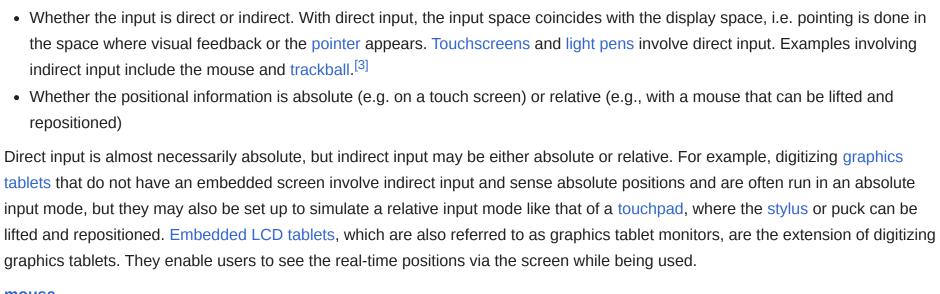
External links [edit] "What is an Input Device?" ☑. Computer Hope.

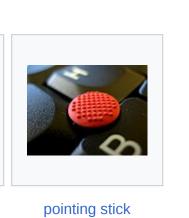
University Press, New York, NY, USA, 341–362. ISBN 0-521-36553-8

4. ^ "Are sensors input or output devices?" ☑. Electronic Guidebook. 16 May 2020.

There are various switch technologies used in modern keyboards, such as mechanical switches (which use springs), scissor switches

A computer mouse

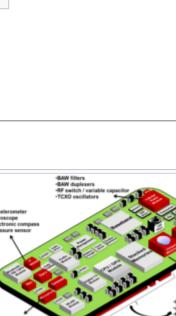




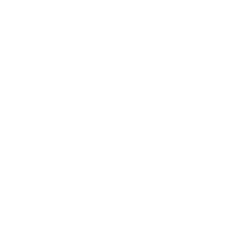
touchpad (or

trackpad)

graphics tablet



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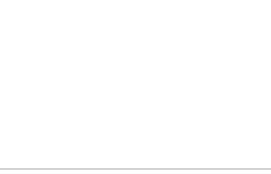


Controllers for use with the Oculus

Rift virtual reality system

Wii Remote

Microsoft Kinect sensor, works by detecting human motion visually



• A review of human performance and preferences with different input devices to computer systems . In Proceedings of the Fourth Conference of the British Computer Society on People and computers IV, D. M. Jones and R. Winder (Eds.). Cambridge

5. ^ Rick Sanchez (6 November 2002). "Griffin PowerMate Review" . IGN. Retrieved 10 December 2022. "a delightful little device from Griffin

6. ^ Mark Hachman (12 April 2017). "Griffin's PowerMate is the Surface Dial dead-ringer that's trapped in Mac land" 2. PC World. Retrieved

Technology that replicates the functionality of the paddle controller you used to have with your old Atari 2600"

**Basic computer components** Authority control databases \*

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