

# What is the difference between an input and output device?

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An input device sends information to a computer system for processing, and an output device reproduces or displays the results of that processing. Input devices *only* allow for input of data to a computer and output devices *only* receive the output of data from another device.

Most devices are only input devices or output devices, as they can only accept data input from a user or output data generated by a computer. However, some devices can accept input and display output, and they are referred to as I/O devices (input/output devices).

For example, as you can see in the top half of the image, a keyboard sends electrical signals, which are received by the computer as **input**. Those signals are then interpreted by the computer and displayed, or **output**, on the monitor as text or images. In the lower half of the image, the computer sends, or **outputs**, data to a printer, which will print the data onto a piece of paper, also considered **output**.

# Input devices

An **input** device can send data to another device, but it cannot receive data from another device. Examples of input devices include the following.

- **Keyboard** and **Mouse** - Accepts input from a user and sends that data (input) to the computer. They cannot accept or reproduce information (output) from the computer.
- **Microphone** - Receives sound generated by an input source, and sends that sound to a computer.
- **Webcam** - Receives images generated by whatever it is pointed at (input) and sends those images to a computer.

# Output devices

An **output** device can receive data from another device and generate output with that data, but it cannot send data to another device. Examples of output devices include the following.

- **Monitor** - Receives data from a computer (output) and displays that information as text and images for users to view. It cannot accept

data from a user and send that data to another device.

- **Projector** - Receives data from a computer (output) and displays, or projects, that information as text and images onto a surface, like a wall or a screen. It cannot accept data from a user and send that data to another device.
- **Speakers** - Receives sound data from a computer and plays the sounds for users to hear. It cannot accept sound generated by users and send that sound to another device.

## Input/output devices

An **input/output** device can *receive* data from users, or another device (input), and *send* data to another device (output). Examples of input/output devices include the following.

- **CD-RW drive** and **DVD-RW drive** - Receives data from a computer (input), to copy onto a writable CD or DVD. Also, the drive sends data contained on a CD or DVD (output) to a computer.

- **USB flash drive** - Receives, or saves, data from a computer (input). Also, the drive sends data to a computer or another device (output).