

# Digital pen

A **digital pen** or **smart pen**, is an input device which captures the handwriting or brush strokes of a user and converts handwritten analog information created using "pen and paper" into digital data, enabling the data to be utilized in various applications. This type of pen is usually used in conjunction with a digital notebook, although the data can also be used for different applications or simply as a graphic.

A digital pen is generally larger and has more features than an active pen. Digital pens typically contain internal electronics and have features such as touch sensitivity, input buttons, memory for storing handwriting data and transmission capabilities.<sup>[1]</sup>



Microsoft Surface Pen is a Digital Pen.

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## Characteristics

The input device captures the handwriting data, that, once digitized, can be uploaded to a computer and displayed on its monitor.

Some pens are equipped with a digital recording device that allows to use them as intelligent Dictaphone. They can be used, for example for students to record the voice of the master while taking notes.

## Technology groups

### Accelerometer



Smart Pen writes on ordinary paper or other surface, like a regular pen

Accelerometer-based digital pens contain components that detect movement of the pen and contact with the writing surface.

## Active

Active pens, such as N-trig's DuoSense Pen™, include electronic components whose signals are picked up by a mobile device's built-in digitizer and transmitted to its controller, providing data on pen location, pressure, button presses and other functionality.



Interior view of a Wacom tablet

## Positional

Position-based digital pens use a facility to detect the location of the tip during writing. Some models can be found on graphics tablets made popular by Wacom, and on tablet computers using Wacom's Penabled™ technology.

## Camera

Camera-based pens use special digital paper to detect where the stylus contacts the writing surface, such as those using Anoto technology.

## Trackball pen

Trackball pens use a sensor that is located on the pen to detect the motion of the trackball.

## Products List

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Using a Smart pen as if it was a digitizing tablet

Manufacturer	Product	Uses Anoto pattern	Remarks
<a href="#">PolyVision</a>	Eno	y	
<a href="#">Canon</a>	IRISNotes	n	Smart Pen from Canon
<a href="#">Apple</a>	<a href="#">Apple Pencil</a>	n	a digital pen for the <a href="#">iPad Pro</a>
<a href="#">Atary</a>	<a href="#">Atary digital pen</a>	n	Using a Smart pen as if it was a digitizing tablet
<a href="#">Samsung</a>	S Pen	n	
<a href="#">Wacom</a>	Bambo	y	
<a href="#">Livescribe</a>	<a href="#">Livescribe</a>	y	
<a href="#">Logitech</a>	Digital Pen	y	
<a href="#">Luidia</a>	Smartpen2	n	
<a href="#">Maxell</a>	Penit	y	
<a href="#">Nokia</a>	Digital Pen SU-1B	y	
<a href="#">IOGear</a>	GPen300	n	
<a href="#">Staedtler</a>	Digital Pen	n	
<a href="#">Oxford Papershow</a>	Trackball pen	y	The technology involves a USB key to synchronise with the digital pen enabling instant connectivity between pen and PC.

## See also

- [Active pen](#)
- [Apple Pencil](#)
- [Digital paper](#)
- [Bluetooth](#)
- [List of pen types, brands and companies](#)
- [Live Ink Character Recognition Solution](#)
- [Pen computing](#)
- [Surface Pen](#)
- [USB](#)
- [Voice recorder](#)

## References

- Shelly, Gary B.; Misty E. Vermaat (2009). *Discovering Computers: Fundamentals* (<https://books.google.com/books?id=RT2nDtioi3sC&lpg=PT218&ots=XcwPsljdBw&dq=%22a%20stylus%20is%20a%22&pg=PT218#v=onepage&q=stylus&f=false>). Cengage Learning. ISBN 978-0-495-80638-7. Retrieved 3 November 2009.

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