

BUYER'S **guide**

With features such as language translation, calculators, games, and MP3 players, pen computers are sketching out a place of their own in the world of multi-function portable devices.

Leapfrog's Fly Fusion Pentop Computer, for example, can be customized with more than 38 software titles, including algebra, writing, and language translators, just to name a few. Livescribe's Pulse Pen features audio recording and a built-in speaker, while Nokia's Digital Pen harnesses Bluetooth technology to transfer data to mobile phones.

Not all pen computers use the same technology. Most will only work when writing on Anoto digital paper, which is covered in an array of nearly invisible black dots. The patented Anoto pattern acts as a dot positioning system that can be read by a high-speed camera at the tip of the pen. The dots tell the pen exactly where the user is writing or tapping the pen on the page.

When you write on digital paper, everything is automatically captured and digitized. That information can then be uploaded to your PC and converted to text. PaperIQ's Blackberry Digital Pen claims to recognize the handwriting of 10 languages.

Notebooks of digital paper, at around \$6 to \$12 each, are a bit more expensive than plain paper. There are also ink cartridges to consider. Some pens

use standard replacements and others use proprietary cartridges.

While all the pens listed here require ink cartridges, there are pen computers that don't require digital paper. The IOgear Mobile Digital Pen uses an ultrasonic transmitter and infrared sensor to capture hand movements while a receiver attached to any notepad stores your memos and images. Pegasus Technologies' Mobile PC Notetaker works in a similar way, transmitting its tip location in real-time to a receiver located at the top of the page. The tip location is drawn on the base unit LCD, and saved into memory. After loading the saved notes to the PC, a software application translates the tip's XY location to digital format and displays your handwriting on the screen.

Storage capacity for pen computers varies widely, with units offering upwards of 2GB onboard. Some come with much less installed, but are expandable. Leapfrog, for example, offers an expansion cartridge for its Fly Fusion for about \$30, which doubles the pen's memory to 128MB. Many manufacturers equate their storage capacity to pages of text. PaperIQ, for instance, claims their 1MB of storage stores about 20 pages of notes on A4-size paper.

Most of the pens connect to USB ports for charging and downloading. The exceptions are Nokia's digital pen, which can also use Bluetooth technology to transmit information to a cell phone, and PaperIQ's offering, which transmits to a Blackberry.

Pen Computers

Brand	Model	Price
 <p>IOgear http://www.iogear.com</p>	Mobile Digital Scribe	\$129.95
 <p>Leapfrog http://www.flyworld.com</p>	Fly Fusion	\$79.99
 <p>Livescribe http://www.livescribe.com</p>	Pulse Pens	\$149 \$199
 <p>Nokia http://www.nokiausa.com</p>	Nokia Digital Pen SU-27W	\$219.99
 <p>PaperIQ http://www.paperiq.com</p>	PaperIQ Blackberry Digital Pen	\$294.95
 <p>Pegasus Technologies Ltd. http://www.pc-notetaker.com</p>	Mobile PC Notetaker	\$169.99

** Information not available at press time.

Memory	Size/Weight	Batteries	System Requirements	Writing Surface	Connectivity	Notes
Up to 25 pages of notes	.5" × .5" × 5.5" 13mm × 13mm × 140mm/ **	(2) SR41	Windows 2000, XP, Vista	Any paper	USB	OCR support for 12 languages
64MB, expandable to 128MB	**	Rechargeable by USB or AC adaptor	Windows XP, Vista, Pentium III 500 MHz	Fly Paper (Anoto)	USB	Spanish translator, calculator, MP3 player, games, trivia, puzzles
1GB 2GB	.63" × 6.1" × .55" 16mm × 155mm × 14mm/ 1.3oz, 36g	Lithium	Windows XP, Vista, 600 MHz	Anoto digital paper	USB	Audio recording, built-in speaker
1.3MB	6.2" × .9" × .8" 157mm × 24mm × 21mm/ 1.3 oz, 37.5g	Lithium-polymer	Select Nokia mobile phones	Anoto digital paper	Bluetooth, USB	Transfers data to cell phones, 3-hour operation, 20 hours on standby
1MB or 20 pages	6.2" × .83" × .71" 157mm × 21mm × 18mm/ 1oz, 30g	Lithium-ion	Blackberry	Easybook M3 digital stationery (Anoto)	Bluetooth	Handwriting recognition for 10 languages
Up to 50 pages	5.35" × .54" × .54" 136mm × 14mm × 14mm/ .56 oz., 16g	(2) AAA and (3) SR41	Windows 2000, XP	Any paper	USB	Writes directly to MS Word, Excel, Outlook