



ACER TravelMate C102 Ti

The New  
Tablet PCs  
Break Free  
of the Desk

tools of the  
trade

## Tablet Computing

After a long beta period, a variety of Tablet PCs are now available. Most feature Windows XP Tablet Edition, which enables pen-based entries with its Windows Journal utility. There are two kinds of tablet. One is called a slate because it has no built-in keyboard, and there is the clamshell, which is also called the convertible—it resembles a conventional laptop with a keyboard, but, like the slate, you can take notes and sketch on its screen.

The **Fujitsu Stylistic ST4110 Tablet PC** is a slate model that is less than an inch thick, weighs only 3.2 pounds, and features a 10.4-inch screen (diagonal measurement). Input is pen-based using Windows XP digital ink and handwriting recognition. It has a soft back for more comfortable handling and converts to a desktop with Tablet Dock.



**Fujitsu Stylistic ST4110  
Tablet PC**

There is a built-in 56K V.90 modem along with 10/100 Ethernet for Internet connection. A wireless keyboard and USB CD-ROM drive are available. The Stylistic has a 20GB hard drive and 256MB memory. [www.fujitsupc.com](http://www.fujitsupc.com)

The **Compaq PC TC1000** is a lightweight (3 lbs.) hybrid tablet that has a detachable slim keyboard. It can be set up as a desktop with a connector for an additional VGA monitor, and it has a 10.4-inch screen (diagonal measurement). It runs Windows XP Tablet on a Transmeta Crusoe 5800 processor. The Crusoe runs cooler and improves battery life by combining software instructions with its hardwired components. The Compaq has 256MB memory, a 30GB user-removable hard drive, integrated wireless LAN, 56K modem, PC-card and Compact Flash slots, and programmable Command Control buttons (three side and three pen-activated buttons). [www.hp.com](http://www.hp.com)

The **Acer TravelMate C102Ti** looks like a conventional small notebook computer, but it is actually a convertible Tablet PC. Its LCD screen pivots to



**Compaq Tablet PC  
TC1000**

convert from a clamshell to a tablet configuration. The C102Ti has one Type II PC Card slot and a Smart Card slot for input and three ways to connect online (a 56K V.90 modem, 10/100 Ethernet, and optional wireless LAN). It has a 24X-speed USB CD-ROM external drive, 256MB SDRAM, and a 20GB hard drive. The screen size is 10.4 inches (diagonal), and it weighs 3.2 pounds. The operating system is Windows XP Tablet. In tablet mode, it is slightly thicker than the others listed here, but it has the advantages

of the clamshell notebook to compensate.

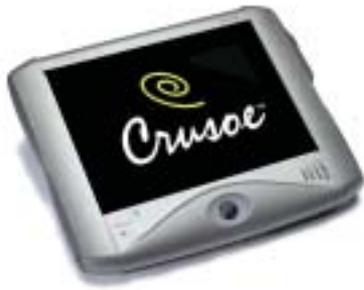
[www.acer.com](http://www.acer.com)

## The Internet Appliance

There is a type of specialized computer tablet that functions as a dedicated Web browser. The **Frontpath™ ProGear™ Web pad** is one of these Internet “laptops.” Like the PC tablets, the ProGear has a 10.4-inch screen (measured diagonally) that is touch-screen sensitive and that works with a handwriting recognition tool. You can also turn on an on-screen virtual keyboard for touch typing, or plug in an external keyboard or mouse through an integrated USB hub of four ports. The ProGear pad is powered by a Crusoe TM3200 processor with a speed of 400MHz and a Midori Linux operating system. The stan-



**ACER TravelMate C102 Ti**



Frontpath Web pad

standard three-cell lithium ion battery pack lasts up to three hours, and there is an optional six-cell battery pack that will run up to six hours. Two other characteristics that the Web pad shares with Tablet PCs is its light weight (3.2 pounds) and the ability to switch between landscape and portrait views. The browser included is Netscape complete with utilities and plug-ins. [www.transmeta.com](http://www.transmeta.com)

## Electronic Paper Documents

During tax season, a lot of attention is directed toward documents, and, once again, the “written in stone” inflexibility of hard copy can create pretty sizable scanned-image files to be e-mailed around. If you haven’t looked at OCR software in a while, **OmniPage Pro 12 Office** might offer some solutions you hadn’t thought of. The Pro 12 version converts paper documents and PDF files into electronic copy you can edit, search, and export in formats including Microsoft Word, Excel, and Power-

Point as well as HTML 4, PDF, PageMaker, and others. You have the choice of AutoOCR or manual modes, both with automatic proofing stages. Three redeveloped recognition engines have increased overall accuracy up to 35% for OCR and by more than 80% for PDF conversion. Other improvements include precise document layout retention for better document editing and recreation of electronic documents with formatted text, columns, graphics, tables, and spreadsheets. Paper documents such as letters, contracts, spreadsheets, magazine articles, and manuals can be converted to editable documents. You can create XML documents and have Omni-



Scansoft OmniPage Pro 12 Office

Page read your documents back to you (RealSpeak Voice Read-Back is part of the program), and the program recognizes more than 100 different languages. [www.scansoft.com](http://www.scansoft.com)

## Revolutionary? Not Really

Michael Castelluccio, Editor

■ THE IDEA OF TABLET PCS, like those in this month’s Tools section, has been around for a dozen years. It has taken advancements in processing power—passive digitizing requires a lot—and improvement in writing recognition for the Tablet to become practical. Tablet PCs began to appear at the end of last year, and some were featured at the Consumer Electronics Show in Las Vegas last month. Their design is different enough that some people have called them revolutionary, and Microsoft has written a version of its XP operating system for the Tablet. Computers that you hold and write on like paper tablets—they are definitely interesting, but are they really revolutionary?

By taking a step back to a technology that is far more elegant than keyboarding (handwriting), these digital tablets can be designed as little more than thin flat-screen displays with embedded processors—glass-faced clipboards. You can still dock most of them to conventional keyboards by way of USB connections and even to other monitors, so the step away doesn’t take you very far from your desktop or laptop. In fact, the convertible versions look just like conventional laptops—the basic PC design remains.

So when is the real revolution going to happen? We have been looking at the same configuration for computers (keyboard, mouse, monitor, and box) for about 25 years. The first highly successful mass-produced PC goes back to the Apple II in 1977. That model had a flattened wedge-shaped case, built-in, century-old Qwerty keyboard, and an amber or green monitor. Twenty-five years in computer time (according to the dog-years formula) makes that design about 175 years old. Now look at your desktop. The display may be a flat-panel trimmed in wood, the mouse may be wireless, and the keyboard may be twisted to do less damage to your wrists, but you’re still looking at the same basic Apple design. Is it possible that there is no way to improve on the basic design of PCs?

### Fictional Computers

A place where you are completely free to create is in the movies, and a recent film by Steven Spielberg pre-

sents what could be called a truly revolutionary computerized approach to crime prevention. In *Minority Report*, the networked capacity of three psychic forecasters provides law enforcement with a view of crimes about to happen so the perpetrator can be arrested before he or she actually commits the crime seen by the psychics. Besides the interesting legal and moral issues, there's the computer system at the Pre-crime Unit that is central to the film. Spielberg conferred with a group of futurists before "building" the computer used by the pre-crime investigators, and as you watch chief investigator John Anderton (Tom Cruise) use the computer, it's pretty impressive at first.

Anderton stands over a wide console with push-button controls that receives input from the networked

## Revolutionary computers will be less machine-like and more natural.

psychics (floating in a pool in another room) or from circular glass or Lucite clear disks inserted into its banks. The monitor is an array of clear panels panoramically arranged above the console. Cruise wears a haptic glove on his right hand with which he sends signals to the screens, grabbing, moving, resizing, opening and closing frames and windows with his hand movements.

But wait a minute. The computer is really just a larger, plexi-stretched Apple II. Much more powerful, but the essential design is there—console, monitor, mouse (glove), and disk and/or network input. The year is supposed to be 2054—that's 357 computer years from now—and still we're looking at the same old computer. So much for the futurists' version of the revolution.

### Two More Dimensions Needed

If there's to be a revolution in conventional computing, it will probably involve two rather long steps away from our desktop/laptop/PDA designs of today.

First, a truly new system will probably be less visible. Something like the nanotechnology machines the size of cells that one day will be injected into biological systems to do repairs or the motherboard circuitry that will be woven into fabrics so we can wear our computers in our shirts or jackets. Revolutionary computers will be less machine-like and more natural.

The more natural something is to us, the less attention we pay it, and the more invisible it becomes. For example, most of us don't even know what the rods and cones in our retinas look like but that they are very efficient processors of light make this page visible despite our ignorance. Though it's a fine technology, the telephone interrupts the conversations it enables, just as the computer makes us write to it using a keyboard in order to get it to do anything. Make the interface disappear, and that would truly be a radical change.

The second dimension needed to qualify a computer as revolutionary would be its ability to change us. That's what revolutionary things do to us whether they are cultural, biological, or intellectual. And actually there is a computer that has changed us. That computer is the vast network we call the Internet. It continues to change our economy, the way we communicate, even where we fit into the general scheme of things. The changes have been subtle, profound, and ongoing, and we now interface with the world in a different way from the time when our only window on the whole world was provided by that other glass monitor—the television. TV, however, is passive—the Internet is engaging.

When can we expect the revolution that will change our world anchored to the desktop? Who knows. But a more likely place to watch for the change to first appear would be medical research facilities rather than a venue like the Consumer Electronics Expo. There everyone seems to be satisfied with recycling and reassembling the old and calling it new. This year's hits include global-positioning PDAs and wristwatch walkie-talkies. Wasn't that Dick Tracy about 50 years ago? ■

*A member  
test drives Open  
Source Office Suite.*

## A Look at Linux

*By Mike Osheroff*

Linux, developed in 1991 by Linus Torvalds in Helsinki, Finland, is a computer operating system based on UNIX. Instead of running on a mainframe, however, it runs on a desktop personal computer or server. With proper technical assistance at the network level, the program rivals Windows in ability to distribute and store files to and from a network system of two to thousands of personal computers or workstations. The price of the program, free, and the stability of the network on which it is installed is enticing more and more large companies, especially in Europe, to base their networks on Linux.

While Linux is capable of running an entire network by itself, the operating system is fully



integratable with Windows and Novel in a network configuration, and when a firm needs an additional server due to growth in the number of workstations or an addition of application (such as a company website), Linux is a good alternative to expensive site-licensing of Microsoft technology.

Every employer I have ever worked for has furnished employees in the office with a personal computer loaded up with the latest software, usually Microsoft Office. It's commendable that management has standardized on a particular software package, but as an accountant I can quickly multiply a \$200 price tag (conservative, depending on the firm's buying power) per machine times 100 workstations to come up with a \$20,000 bill. Is there a cheaper alternative for desktop software?



I decided to try StarOffice 6.0 and its free download from [www.sun.com](http://www.sun.com), called [OpenOffice.org](http://OpenOffice.org), which runs on the Linux operating system. I already knew that Linux was capable of replacing Windows on a desktop, but I wanted to know if a top software suite for the operating system was up to replacing Microsoft

## I definitely feel that Linux is a viable replacement for Windows in network applications.

Office. I felt that if I could recommend installing Linux on servers as well as on workstations with the application suite OpenOffice for a total cost of zero, for the software at least, I would be well on the way to the cost accountants' hall of fame.

Although the suite was adequate for most tasks and has tools which users may wish that Microsoft offered, one big flaw I quickly discovered—one reason why I cut my exploration of the suite short—is its inability to flawlessly import Microsoft documents. I reasoned that most offices have a large directory of saved documents and templates in Microsoft format. OpenOffice would not directly import these files as Windows documents flawlessly, even though one can open them from the Linux operating system. Imported native Word documents were full of errors, and complicated formatting such as shading did not import at all. Word documents saved in RTF format imported correctly with simple formatting intact, although it did not appear correctly formatted on the screen. Straight ASCII documents (.txt) imported very well, but

these types of documents have no formatting to begin with. Excel macros did not import at all. (By the way, the spreadsheet program does not record macros, so the user must learn to write his/her own in a language called Universal Net Object, which is similar to Visual Basic).

I definitely feel that Linux is a viable replacement for Windows in network applications. Its attractive price and legendary stability are only going to become more appealing as networks expand and applications become more critical. Linux on the desktop, as represented by OpenOffice as being the best applications suite available for the operating system, has a way to go to replace Microsoft Office. But stay tuned: since Linux and OpenOffice are part of the open-source movement, there are programmers all over the world working on the programs. I feel it's just a matter of time before the suite can take over for most users everything that Microsoft Office now does. When this happens, we can dispense with Windows at the server and desktop levels as well as with Microsoft applications software. ■