

# tools of the trade



Tungsten T5

## Computers for Pockets and the Coffee Table

**PalmOne's Tungsten™ T5** offers several memory options along with three ways to connect to the world outside its bright 320 × 480 display. It has 256MB onboard storage that includes 55MB program memory for applications and data. There's also an expansion card slot that accepts SD, SDIO, and MultiMedia-Card formats. This feature lets you use your T5 as a PDA and as an external USB drive. Plug it into your computer with a USB cord and you can save or retrieve work from its memory and cards. Edit and create Word, Excel, and PowerPoint files with the DocumentsToGo software. You can connect to other devices with the USB connection and two kinds of wireless ports—infrared and Bluetooth.

The T5 is also an MP3 player with a speaker and

stereo headphone jack, and it will create digital media albums for photos and video clips. A tap will rotate the screen from portrait to landscape for improved viewing of images or spreadsheets. Buttons at the base give you instant access to home/favorites, calendar, contacts, and files, and the central navigator button has five-way access with one-hand operation. [www.palmone.com](http://www.palmone.com)

The **Delphi MyFi™** is the first portable XM Satellite Radio. With it, you can listen to XM Satellite broadcasts at home, in the car, or on the go. XM's Ultimate Playlist offers more than 130 digital XM channels available either in a live listening mode or a time-shifting "memory mode." There are 68 commercial-free music channels plus premier news, sports, talk, traffic, and weather channels. The "memory mode" lets users store five hours

or more of XM content with the press of a button, even when the radio isn't in use. The Delphi handheld receiver weighs 7.3 ounces and has a rechargeable lithium battery that provides power for up to five hours of playing time. The large, illuminated six-line LCD display provides a personal stock ticker, sports score ticker, clock, alarm, and more. You can program up to 30 channel presets. There's a built-in wireless FM transmitter that makes any FM radio an XM radio, and MyFi comes with a complete home and



Delphi XM MyFi Satellite Radio

vehicle accessory kit. Requires a contract with XM Satellite Radio service. [www.xmradio.com](http://www.xmradio.com)

The **Epson® P-2000 Multimedia Storage Viewer** combines large storage and a bright 3.8-inch screen in a pocket-size player. Designed by Seiko Epson, the new device offers portability for a variety of users including digital photographers, families, and small businesses. The P-2000 lets you view, store, and play back photos, videos, and music. You can zoom in and rotate images and create slideshows with music. The high-resolution liquid crystal display screen can display up to 262,144 colors on its 680 × 480 pixels. The storage capacity is an impressive 40GB—space enough for thousands of images as large as 8.9 megapixels transferred over a high-speed USB 2.0 interface. There are built-in memory card slots for CompactFlash Type I/

## The Sound of One Hand Typing ◆

Michael Castelluccio, Editor

■ FOR THE USER, THE INTERFACE IS EVERYTHING. Whether it's a pen, mouse, or keyboard, the connection works or fails at the point where our consciousness meets the computer. The best interface is invisible, giving us access to what's on the machine without bothering us about itself. The worst is difficult, constantly interrupting with demands on our attention (Right click or left click? Where's the backwards slash key?).

The universal computer interface, the keyboard, is actually an anachronism that dates back to 1866—about the time that Prussian troops were invading Saxony and

Hanover. So while computer scientists are thinking about molecular storage for data and accelerating machines with parallel processing, we continue to tap away on a device left over from the Napoleonic Era. How can that be?

We call the typewriter we have plugged into our computers a keyboard, but, effectively, it's a typewriter. The keys are laid out on the board in a pattern that prevents the typebars that fly up to meet the ribbon from getting caught up with nearby keys. But wait a minute. There are no typebars. So why do we keep a layout that is slower, more uncomfortable, and more damaging (ask a hand sur-

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Epson P2000 Multimedia Storage Viewer

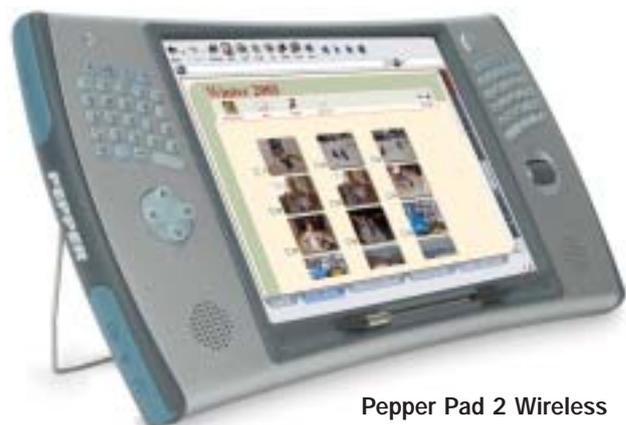
Type II and IBM Micro-drive, Secure Digital, and MultiMedia cards. Memory Sticks, xD Picture Card, and SmartMedia can be supported with an optional third-party CF adapter. There's direct print support for the following printers: Epson Stylus Photo R200, R300, R320, RX600, and PictureMate. A video interface connects directly to a television, monitor, or projector with an optional third-party video cable. The file formats supported include JPEG, RAW, Motion JPG, MPEG-4, and MP3.

There's a rechargeable Lithium Ion battery and AC adapter/charger, stereo headphone jack, internal speaker, and carrying case included. [www.epson.com](http://www.epson.com)

One of the most unusual computers recently released is the **Pepper Pad™ 2** from **Pepper Computer, Inc.** of Lexington, Mass. It's perfect for the coffee table, backpack, or car because it's compact, light, and wireless. A home computer, you can use it to browse the Web; instant message; send e-mail; play music, videos, and games; and edit and share photos as well as run other collaborative applications. Approximately the size of a thin loose-leaf pad (6.6 × 12.1 × 0.8 inches), the Pepper Pad weighs 2.3 pounds. It has an Intel XScale 624 MHz processor, 20 GB

disk drive, 256 MB SDRAM, and 32 MB Intel StrataFlash ROM, so it isn't just an oversized PDA. It has a Wi-Fi Wireless LAN connection, and it's also Bluetooth enabled and has dual infrared emitters and receiver. Input is managed with a stylus and resistive touch screen, a scroll wheel, eight-way game direction pad, or a full, split QWERTY keypad with lighted buttons on either side of the screen. The

screen is an 8.4-inch Super VGA LCD with a resolution of 800 × 600. Stereo speakers are included along with microphone and phone jacks. The operating system is Linux, and its collaborative software package, called Pepper Keeper, can be sampled by downloading from the site at [www.pepper.com](http://www.pepper.com). A limited number of Pepper Pads have been released this year with more to come in 2005.



Pepper Pad 2 Wireless Computer

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geon) on our electronic keyboards? Actually, you can change the layout to what I consider the much more intelligent Dvorak layout by just accessing your Control Panel, clicking on Regional and Language Options, clicking the Language tab, then Details, Add, and select United States-Dvorak. You'll have to cover your keys with new labels (or pop them off and rearrange them), but you can then set about learning the cure for your carpal tunnel problems.

### **Excessive Inertia**

Of course, very few of us will do that. That's because we all suffer from another syndrome—something economists call the "QWERTY effect." For the economists, that means there's more profit in conforming to an established standard than inventing a new, more efficient standard. They say it's the result of "excessive inertia." Analyzed more closely, the effect resembles stubbornness bordering on pathological habit.

The Dvorak redesign hasn't been the only attempt to eliminate this adherence to an outdated and damaging design. But the fact that most computer users don't even know they have the Dvorak keyboard hidden somewhere deep within the Windows control panel says all you need to know about how far we have come in the last century and a quarter.

### **Evolving**

Now there's an ingenious little amphibian device that could help drag a number of us out of the QWERTY swamp. It's called FrogPad™, and it's a one-handed keyboard that either plugs into (USB) your desktop or notebook or wirelessly (Bluetooth) talks to your tablet, PDA, or wearable computer. It's



**Wireless FrogPad sitting on its cover.**

smaller than a postcard and only one-half inch thick, but the keys are full-size and fit under one hand. Best of all, the key layout makes eminent sense. Each key has multiple functions that work in combination with other keys. For example: The ring finger alone strikes a T; struck simultaneously with the thumb/space key, it becomes a C. And the combinations aren't that difficult to learn. There's also a left-handed version for southpaws and those who'd like to work a tablet or mouse input with the other hand, say for CAD or graphical applications.

But what about the "inertia factor," and what about unlearning a lifetime of QWERTY? For those so settled in the mud that overcoming gravity has become impossible, I guess they're there for good (Hello, 1866). But you really don't have to unlearn the other carpal-two-hand system. Certainly a guitar player can learn piano or a clarinetist the flute without forgetting the original instrument's fingerings. How hard could it be to become bi-typal?

In fact, if you approach the FrogPad as though you were going to learn a musical instrument, you would be giving yourself a head start. All instruments that have keys require combination moves, and,

with practice, these placements become automatic as you see the notes. So don't worry about mastering the combinations. Set aside a specific time, and practice on a regular schedule. After just a couple of days of daily half-hour sessions, there will be keys and combinations that you won't have to stop and think about.

But the process is something you have to stick with. Print out a practice schedule just like the one you had for instrumental music back in grade school. Commit to five out of the seven days, and write in the boxes the times spent practicing. At first, use the tutorial on the CD that comes with FrogPad, and then move on to copying text and spreadsheets. If it all sounds a little retro, just remember how far back in time "excessive inertia" has kept you.

The FrogPad will probably be a success. Two markets immediately come to mind—PDA and cell phone users tired of thumb-typing and those who have only one hand to type. And maybe its wireless Bluetooth connection will take it even further. But the real contest will be between its superior logic and our mid-19th century habit that rests like an anvil on our desks. ([www.frogpad.com](http://www.frogpad.com)) ■