FIELDWORKS FW7600

FieldWorks FW7600

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Features and Architecture

The FW7600 really is a workstation in the field, right down to the expansion slots in the back. The machine will hold up to three full-length or six half-length ISA cards, or a combination of PCI and ISA cards, depending on which model you get.

The standard processor that ships with the system is a 100-MHz 80486/DX4. But you can order units with high-speed Pentium CPUs that come with a standard PCI bus. Memory is not as expandable as on a standard desktop computer, but the FW7600 can support more than most portables, with up to 64MB using standard SIMMs.

Storage options on the FW7600 are numerous, including a ruggedized 2X CD-ROM drive that sits under the system's flip-up keyboard. You can order up to a 1GB internal IDE hard drive that will withstand the same pounding as the rest of the machine. The drive has its own specialized housing for shock and weather protection. Dual removable hard disks are another option. And of course, you get a standard high-density floppy drive.

FieldWorks also ruggedizes input devices. The keyboard is a solid, self-contained unit. The pointing device is a Field MousePad with integrated buttons and can double as a signature and drawing tablet. Both the keyboard and the mouse pad are sealed against dust and moisture.

The FW7600 can support a variety of video modes, and you have options for the kind of display that will ship with the unit. Externally, it can support the full range of 640*480 pixels at 16 million colors to 1280*1024 at 256 colors (using 1MB of DRAM). For the unit's own display, you can choose among a standard 10.4" dual-scan LCD (256 colors), a TFT active-matrix LCD (262,000 colors), a sunlight-readable transflective monochrome LCD, or a sunlight-readable active-matrix LCD. All these units have 640*480 pixels. The display is in a rubber-coated ruggedized housing that nestles down into the chassis of the machine when

it is closed. The only feature that would make the display better is some kind of brace (like on the legs of a folding table) when the machine is open, so that the display doesn't wobble when vibrated or bumped.

In addition to the full-size expansion slots, the FW7600 has a single PC Card (formerly PCMCIA) slot that will hold Type I, II, III, and IV devices (such as network cards or removable hard disks). All connectors are gold-plated for anti-corrosion, and they provide all connectivity options: an SVGA port, one enhanced parallel and two 9-pin serial ports, and PS/2-style keyboard and mouse ports.

The power supply and battery are not what you expect for a portable, though. The FW7600 can run on anything from a vehicle's cigarette lighter plug to standard American AC line input to global power sources (90 to 264 VAC, 50 or 60 Hz). You can get options for DC input and internal (1.65 hours at full power) and external battery packs.

Ruggedization Features

So, how much can this box handle? The FW7600's chassis is one-piece magnesium alloy construction (so it won't burst into flame), with specialized floating polymer/aluminum suspension mounts for all internal components. It's not terribly light or small (15.1" wide * 16.5" deep * 3.75" high, 14.7 pounds) compared to ordinary notebook computers, but then you can't drop an ordinary notebook off a desk and be sure it will still be running and in one piece.

TABLE 1: Here you can see the environmental hazard chart for the FW7600.

Environmental

	-4° F to 122° F (-20° C to 50° C)
Temperature (operating):	-4° F to 140° F (-20° C to 60° C)
Temperature (storage):	10% to 80%, relative
Humidity (operating):	humidity, non-
Humidity (storage):	condensing
	5% to 95%, relative
	humidity, non-
	condensing

Shock (Mil-Std-810C 516.2)

High intensity:	100G, 6msec,

FieldWorks tests the system to ensure it will operate in a variety of environmental conditions. Also, options are available for further enhancing its hazard-handling capabilities with electromagnetic interference and environmental hardening. A stock unit can operate in a temperature range of -4 to 122 degrees Fahrenheit (-20 to 50 degrees Celsius) and in relative humidity between 10% to 80% (non-condensing). Its design meets military specifications for shock and vibration. So, the FW7600 can handle high-intensity shocks and constant vibration while it's running, as you can see in table 1.

Crash safety:	operating, Procedure IV
Basic design:	60G, 6msec, operating, Procedure III
With CD-ROM:	30G, 11msec, operating, Procedure I
	30G, 11msec, non-operating, Procedure III

Vibration (Mil-Std-810C 514.2 Procedure X)

5Hz-200Hz-5Hz at 12 minutes, 84 minutes per axis
5Hz-7Hz at 1.0" displacement
7Hz-92Hz at 2.5G
92Hz-110Hz at 0.0058" displacement
110Hz-200Hz at 3.5G

The FW7600 motherboard's design is also different from that of other computers: The expansion slots are isolated so that stress on the cards will not affect the rest of the electronics. The motherboard is actually a compact "pod" that you can easily replace in the field if it fails.

Ideal in the Field
The FW7600 is ideal for field applications, even if you aren't in the military. By the time you read this, Field-Works will have introduced the FW5000 series of smaller rugged notebooks based on the same technology as the FW7000 series.

Please see the article "NT in the Field"

FieldWorks FW7600

Configuration: 100-MHz 80486/DX4, 32MB of RAM, 520MB IDE hard drive
FieldWorks * 612-947-0856
Price: $10,130 (as configured)

http://www.windowsitpro.com/article/product-review/fieldworks-fw7600