

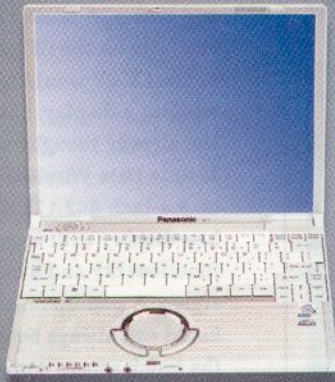


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# hardware

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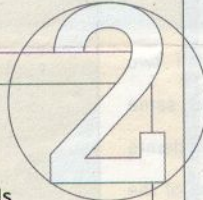


## tough and rugged

A VIEW OF PANASONIC'S TOUGHBOOK NOTEBOOKS



**MODEL/PRICE:** CF-T1 (above)/\$2,235  
**NOTEWORTHY:** Built to be more lightweight than rugged



**MODEL/PRICE:** CF-M34/\$2,500  
**NOTEWORTHY:** The CF-28's little brother; rugged and heavy at 4 pounds



**MODEL/PRICE:** CF-28/\$2,900  
**NOTEWORTHY:** Suited well for harsh working environments



**MODEL/PRICE:** CF-07 (below right, in docking station)/\$2,200; with Mobile Data Wireless Display (below left)/\$3,600  
**NOTEWORTHY:** Measures about the size of a red masonry brick



# PANASONIC NOTEBOOKS 'TOUGH' IT OUT

Vendor updates ruggedized product line with four new offerings

By Marc Spiwak—New York



Panasonic set the standard with its line of Toughbook ruggedized notebooks, and its newest offerings live up to the name.

The latest Panasonic ruggedized notebook offering is the Toughbook CF-T1. Based on an 866MHz Pentium III processor, this full-blown notebook weighs only 2.4 pounds yet sports a 12.1-inch XGA screen, a 40-Gbyte hard drive and 256 Mbytes of memory.

Also included is a PC Card slot, a secure digital (SD) memory slot, integrated 802.11b and 10/100 wired LAN capabilities, a V.90 modem and two USB ports. The CF-T1 comes with Microsoft Windows XP preloaded, and while it has no built-in drive bays, external floppy and DVD/CD-RW drives are available as add-ons.

Built to be more lightweight than absolutely rugged, the CF-T1 nonetheless features a shock-dampened hard drive and display panel. Its magnesium-alloy case features reinforced screen edges, a convex lid for increased rigidity, stainless steel hinges and a scratch-resistant outer coating.

Another offering in Panasonic's Toughbook line is the Toughbook CF-28 rugged full-size notebook. The CF-28 is designed

using MIL-STD-810F test procedures, which include drop-shock; exposure to temperature extremes; and resistance to moisture, dust and vibration.

The CF-28 features a reinforced magnesium-alloy case with shock-absorbing rubber corner caps and a carry handle. It has a moisture- and dust-resistant display, keyboard and touch pad, and all port and connector covers are sealed. The hard drive and display are shock-mounted, and the display hinges are reinforced as well. The CF-28 features a 1GHz Pentium III processor, a 30-Gbyte hard drive and 256 Mbytes of memory. Its sealed drive bay will accept a floppy drive, CD-ROM, DVD-ROM, CD-RW or combo DVD/CD-RW drive. Screen sizes of 13.3 inches and 12.1 inches are available, with or without touch-screen functionality.

Unusual options also available for the CF-28 include an integrated GPS receiver, telephone line-tester modules and a vehicle-mount port replicator. While the CF-28 isn't really larger than a typical notebook, it is much heavier, weighing in at 9 pounds. This is not the ideal notebook to travel with, but it's definitely the one to take into battle. If you have customers working in harsh environments such as the military, law enforcement, fire departments, construction and

environmental field testing, Panasonic's CF-28 is the perfect notebook for them.

Panasonic's Toughbook CF-M34—the CF-28's little brother—is much smaller, lighter and a lot more portable. The mini notebook features an 8.4-inch touch screen, as well as a touch pad. It contains a 700MHz Pentium III processor, a 20-Gbyte hard drive and 256 Mbytes of memory. It includes both wired and wireless LAN, a modem and one PC Card slot. The CF-M34 measures 7.4 inches deep x 9 inches wide x 1.7 inches high. Because of its ruggedness, however, it weighs 4 pounds.

Another unique product in the Toughbook lineup is the CF-07 mini PC. About the size of a red masonry brick, the CF-07 is basically a complete PC without a display and keyboard. The CF-07 is 7.9 inches long x 3.6 inches wide x 2.1 inches high and weighs 2.1 pounds. It features a full magnesium-alloy case with sealed port and connector covers.

CRN Test Center engineers tested the units and found that the CF-07's 300MHz Pentium III processor, while somewhat slow, is nonetheless adequate. The CF-07 also features 128 Mbytes of memory, a 5-Gbyte hard drive, one PC Card slot, a mini USB port, a nine-pin serial port and a port-replicator connector for docking applications. The CF-07 is intended >>

for mobile applications where weight and size are key—such as police on motorcycles, bicycles and horses. A holster is also available for the CF-07.

The CF-07 would be useless without a display, but Panasonic has already thought of that. The Mobile Data Wireless Display is an 8.4-inch 802.11b SVGA wireless display with touch-screen functionality and a built-in stylus. A pop-up on-screen keyboard can always be used when the touch screen cannot. The wireless display also features dedicated buttons for power, menu, right mouse click and screen capture commands.

The wireless display, which measures 1.5 inches deep x 8.7 inches wide x 6.4 inches high and weighs only 1.5 pounds, works with many of the Tough-

**The U.S. military, various police departments are big customers of the Toughbook notebooks.**

book models, and it's the only thing a user needs to carry to operate the computer from up to 300 feet away.

The U.S. military is a big customer of Toughbook notebooks, and the New York City Police Department recently purchased many to use in patrol cars.

Other police departments have followed New York's lead. Using the Toughbook notebooks, the Haledon, N.J., Police Department recently set up an automated field operations system that can gather data and allow reports to be filed immediately from police cars. The system communicates over a CDPD wireless network, providing instant access to the National Crime Information Center, the National Law Enforcement Telecommunications System, the New Jersey Bureau of Motor Vehicles, the Missing Children Clearinghouse and numerous other databases.