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NETWORKING

The Humvee of Laptops

Panasonic's Toughbook has found fans among troops in Iraq. That should boost sales for the whole "ruggedized" laptop segment

Early in the war in Iraq, a firefight broke out in a neighborhood that had supposedly been secured by coalition forces. As bullets whizzed by, a U.S. soldier did what came naturally: He held up his laptop computer, a Toughbook 72 from Panasonic Computer Solutions Co. ([MC](#)) Unlike most plastic-covered laptops, this "semi-rugged" model has a hard magnesium shell and steel-reinforced innards. The improvised shield did the trick. "There's a bullet lodged in his hard drive," marvels Maria Leadingham, who manages technology for the Civil Affairs Psychological Operations Center at Fort Bragg, N.C.

No, Panasonic doesn't bill its Toughbooks as bulletproof. But its "fully ruggedized" models are all but impervious to sand and heat, and even the semi-rugged models can stand up to the daily jostling of war. As a result, more than 5,000 are in use in Iraq. Special Forces paratroopers pack a four-pound model in their backpacks. B-1 bomber crews use them for mission planning.

So far, the machines are proving their mettle. After sandstorms in late March, 6 of 32 standard notebooks used in Leadingham's group suffered technical glitches, compared with only 3 of 200 Toughbooks.

FALLING PRICES. Just as the first Gulf War fueled postwar popularity for Humvees, the Iraq War may well accelerate sales of Toughbooks and their ilk long after the war ends. Why? Portable computers take a beating, whether they're being tossed into the trunk of a car, splashed with coffee, or knocked off tables.

Fully rugged models are likely to remain niche items. They are completely sealed from the elements and hold up even when run over by a truck, but often cost \$3,000-plus. That's well above the current average notebook price tag of \$1,580. But some semi-rugged models, which come equipped with spill-resistant keyboards, hard casings, and gel-encased disk drives, cost just 10% more than garden-variety models.

And thanks to falling PC prices, the premium is not so onerous. Panasonic, for example, recently unveiled a "ruggedized" one-pound, ultralight PC for \$2,000 -- just \$300 more than a similar, nonrugged model from Dell Computer Corp. ([DELL](#)).

mainstream laptops fail in the first year, usually because of accidental damage. That rises to 35% once a notebook leaves its docking station and to more than 50% for machines that are used outdoors or on shop floors. But the failure rate of rugged or semi-rugged machines is just 5%.

With the notebook business growing at 14.2% a year, nearly twice the clip of the desktop sector, "a lot more PCs are going to get dropped," notes Panasonic Computer CEO Rance Poehler. He says that increased breakdowns should drive demand for rugged and semi-rugged models.

And Panasonic plans to cash in. While most PC makers do well to earn a 20% gross margin on notebook sales, Panasonic earns 25% or more. Panasonic's engineers work closely with customers to design products that meet specific needs -- and command premium pricing. Also, the company drives down costs by using low-cost components supplied by its parent, Matsushita Electric Industrial Co.

To be sure, the PC powers need not tremble yet. Market watcher Venture Development Corp. says the rugged notebook market was just \$600 million in 2002, less than 5% of the overall notebook PC market. Should demand for semi-rugged continue to grow, industry giants such as IBM ([IBM](#)) and Dell could add features such as cushioned disk drives or magnesium casings. For now, Panasonic has carved out a business that looks likely to withstand the jolts and splashes ahead.

By Peter Burrows in San Mateo, Calif.