

Disk Drives

Imitators are flooding Quantum's Hardcard market

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In a few short months, the disk drive industry has taken one company's new idea — Quantum Corp.'s Hardcard — and transformed it into a new product category.

Competitors of all sizes are streaming into the market with offerings that imitate Milpitas-based Quantum's new device, which makes it more convenient than ever to add permanent memory to an IBM or IBM-compatible personal computer.

The imitators range from Japanese heavyweights to small Silicon Valley companies. Though their products were designed much more quickly than Hardcard, the competition threatens to steal Quantum's market if the company isn't careful, analysts say.

"Everyone in the industry said, 'Gee, this is a neat idea. Why didn't I think of it?'" said James N. Porter, who follows the disk drive industry for Disk/Trend Inc. of Mountain View. "It has attracted a whole lot of imitators very quickly."

The product allows PC owners to painlessly add 10 megabytes of storage — about 5,000 pages of text — to computers that typically can store data only on floppy disks holding less than one megabyte.

The Hardcard is a 3½-inch rigid disk drive mounted on a controller board. It's thin enough to slide into one of the expansion slots inside every PC.

The slots were included in the computers so users could add optional features, such as graphics capability. Putting Hardcard into one of the slots means the user doesn't have to rip out one of the PC's floppy disk drives from the front of the unit, which is where an add-on hard disk drive usually would go.

"It's a very well-thought-out product," Porter said. "It's very convenient. Any fool can install it."

In fact, Hardcard takes only

about 10 minutes to hook up, and most of the time is spent waiting for the computer to finish running through a program that integrates the disk into the computer's memory system. Once installed, users can take it out in a matter of seconds, if necessary.

Quantum's Plus Development Corp. subsidiary has been working on Hardcard for more than two years, and Hank Chesbrough, product manager for Hardcard, said the company has pumped \$15 million into the project. Plus engineers designed Hardcard, but the company contracted with Matsushita Kotobuki Electronics of Japan to build it.

Late last spring, word of the product started to filter out. Within weeks, JVC of Japan announced a competitive product.

Others heard the rumblings, too. On the same day in late September that Plus started shipping Hardcard, Mountain Computer Inc. of Scotts Valley announced its DriveCard, a 20-megabyte version — twice the capacity of Hardcard — selling for \$1,195, \$100 more than Hardcard. Mountain began shipping that product last month.

By the Comdex trade show in November, there were a handful of other competitors as well:

✓ Microscience International Corp. of Mountain View came forward with its version, dubbed EasyCard. It's got 20 megabytes of capacity and carries a suggested price of \$1,095. Microscience says it will begin shipping EasyCard in late January.

✓ Western Digital Corp. of Irvine showed off its FileCard, which includes 10 megabytes of disk memory and 512 kilobytes of random-access memory (which, unlike disk memory, is erased when the computer's power is shut off). It will sell for \$1,095, when it starts reaching dealers' shelves early next month.

✓ Tandon Corp. of Chatsworth checked in with DiskCard, packing more than 20 megabytes on a unit



Hank Chesbrough, left, product manager for Hardcard, and Stephen Berkley, president of Plus Development Corp., with the Hardcard. Plus Development has been working on Hardcard for more than two years, Chesbrough says, and \$15 million has been pumped into the project.

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that will retail for \$995. Shipments already have started.

Why the rush?

There are about 5 million IBM PCs and PC-compatibles in the world, according to InfoCorp, a Cupertino market research firm, and the vast majority don't have a hard disk drive.

Many users probably would have been content without a hard disk drive, but then IBM introduced its PC AT, which contains a built-in, 10-megabyte hard disk

drive. That whetted the appetite of PC owners who wanted more memory but didn't want to buy a new machine.

"The market is saying, 'We like it; we need it,'" said Enzo N. Torresi, senior vice president of Businessland Inc. of San Jose, a chain of business-oriented computer stores. "The demand is very high."

Quantum isn't saying how many Hardcards it has shipped since the September introduction. But Charles R. Wolf, a securities ana-

lyst with First Boston Corp., estimates that the company will sell 15,000 units before year-end and an additional 110,000 next year.

Even though Wolf believes that "the product has the potential to be a great seller," as a Quantum-watcher he's worried about the sudden burst of competition. Buyers may opt for cheaper or higher-capacity versions, he said.

"The company will have to project the fact that it's a superior product."

Wolf also thinks that Quantum should persuade personal computer makers to design Hardcard into their new computers. "That's a high-volume market, and it's more stable" than the frenzied world of computer retailing, he said.

So far, Quantum isn't saying what its plans are. The speculation is that the company's first move will be to match its competition by introducing a higher-capacity version of Hardcard.