Congratulations &

HOW TO Jim Patterson

Quantum leapsbut not too quickly

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While falling revenue and profits were the norm in the disk drive industry last year, Quantum Corp. of Milpitas has enjoyed steady growth-although it brought its products to market later than competitors and did no business with IBM.

Surviving 1984 in the disk drive business was an accomplishment, but succeeding without being first in technology or selling to Big Blue is amazing, say industry

Quantum just announced its third quarter results-sales up 82 percent to \$31.8 million, net income up 106 percent to \$5.9 million or 62 cents a share.

It's not that Quantum doesn't want 1BM's business, says President James Patterson, but Quantum's "rather long-range view" has led it to ask for terms that so far haven't sat well with IBM.

What Quantum officials say they don't want are the ups and downs that IBM suppliers such as Seagate Technology, Tandon and Computer Memories have experienced.

Disk drive analyst Jack Clements of Winchester Storage calls IBM "both the best and worst thing that can happen to a company . . . I don't understand their rather careless treatment of (disk drive vendors)."

(IBM) as customers, but they probably consider Quantum to be inflexible. We're very concerned about what percentage of business (IBM) would represent."

"If it's going to be a partnership, it's got to work both ways," he says.

Quantum's largest customer, Nixdorf Corp. of West Germany, accounted for 15 percent of its sales, according to a Quantum official.

Other disk drive makers have depended on a single customer-IBM-for as much as 40 percent to 60 percent of their business, analysts say.

Patterson says he isn't interested in rapid growth so much as deliberately building a "healthy" company.

Clements, who says he thinks "very highly" of Quantum, adds that it is "headed for survivorship, which is a real mark of excellence in this business."

Patterson says Quantum doesn't consider fast expansion necessary to survival.

"The fact that we've not grown as fast as others has meant that we can attract the right people and get them to work together as a team," he says.

It all began five years ago this month. Five of its six founders, including Patterson, came from Shugart Associates of Sunnyvale. Quantum's first product was an 8-inch drive, which Patterson says "was aimed at being compatible with and Quantum's marketing director, Rolf take some of the market from Shugart Brauchler: "We've attempted to get Associates."



Rolf Brauchler says any partnership with IBM has to work both ways.

Since then, Quantum's drives have become physically smaller but higher in capacity

In an industry in which being first is generally considered critical to gaining market share, Quantum again has been an exception. Patterson says execution is more important than speed at Quantum. Indeed, other drive makers have been unable to combine high quality and high volume production, he adds.

The difference, he says, is people. At Quantum, all engineers are called manufacturing engineers, says Patterson.

"We've turned down a lot of engineers who only wanted to work on new product development," he says. "We believe manufacturing is the key.'

Nearly all of Quantum's sales are to equipment manufacturers (OEMs), such as Convergent Technologies of Santa Clara, which builds devices that are marketed under other brand

To pursue the low-end personal computer market, Quantum a year and a half ago launched plans for Qew, a separate company located next door. Quantum holds a majority equity interest in Qew. Two of Quantum's founders and several of its engineers have moved there, which officials say shows the depth of its personnel resources.

Analyst Blake Downing of the Robertson Colman & Stephens brokerage in San Francisco says Qew is risky, but "not essential to Quantum's success.

Qew, like Quantum, will not follow industry trends by cloning already existing products, says Brauchler.

It will sell an add-on 3.5-inch highcapacity disk drive through retail channels, hoping to find shelf space in larger chains such as Sears, Businessland, and Entre. Brauchler says the product will be introduced mid-year and will be "unique in terms of functionality and price."

It will be an "intelligent drive," meaning its controller-generally a separate device-will be built in. Other drive makers have announced plans to make such drives this year. The Qew drive will include "other, more exciting" features, says Brauchler.

Like Quantum's products, the Qew drive will eventually be manufactured in Puerto Rico, where Quantum established a plant last year to take advantage of tax benefits.

Manufacturing could be shifted to California with some form of automation, says Brauchler. Although labor is a small part of the cost of a drive, automation saves money with higher quality, he

Despite its focus on quality, Quantum also wants to have one of the lowest cost products, in anticipation of tough competition from Japan, says Brauchler.

"A key part of our strategy is to make manufacturing costs and overall costs very competitive, assuming Japan will be there," he says.

Winchester Storage's Clements says he is surprised that Quantum aspires to be a price leader in view of its commitment to quality. Other drive makers are willing "to cut prices below where you can maintain product quality," he notes.

Qew plans to work with a Japanese company, Matsushita, which will make its

"One of the first things we concluded was that to be successful, we would need a way to build a tremendous number of drives," Brauchler explains. "That didn't exist in Quantum."

The drives will be built by the MKE division of Mashushita, which he says is the largest maker of videocassette recorders in the world.

Although Quantum is turning to Japan, Brauchler says he believes that in the long run, "There is no reason the United States cannot be the center of high-volume production in quality.'

It won't happen soon, though, because this country will first have to build experience in automation and tying closer relationships between manufacturers and suppliers, such as "just-in-time" inventory systems, he says.

"We've been short-term, sloppy, not thorough in this country," says Brauch-

Quantum tries to act in its more longterm interests, he says. It isn't as concerned with profit margins as it is with the development of a strong management team and employees, he explains.

And the company is pretty picky when it comes to people, says Patterson.

"For every 100 resumes we get, we interview about 10 people," he says. "For every 10 interviews, we make about one



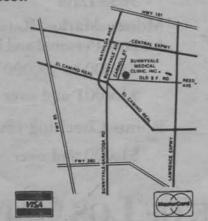


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