

A Change of
guards

And the
BEAT
Goes On.....

April
1987

THE BACK

Computer Industry Potpourri

LISTS

Nice Guys

Industry executives you'd introduce to your mother.

1. John Imlay, Management Science America: A real Southern gentleman who even answers his own phone. Be alert: He may end up in politics someday.

2. David Brown, Quantum Corp.: His recent appointment as chief operating officer is proof positive that you can be brilliant and ambitious without being nasty.

3. Doug Chance, Hewlett-Packard: In a company of polite, courteous executives, this executive vice president stands out. Will he be HP's next president?

4. George Morrow: A free spirit who knows better than to take him-

self too seriously.

5. Jugi Tandon, Tandon Corp.: Although Jugi has a reputation for being a ruthless price-cutter, insiders and competitors alike claim he has more sensitivity than your typical chief executive.

6. Jim Treybig, Tandem: Some people used to worry that he was too easygoing to run a big company effectively.

7. Hunt Payne, Komag: He seems to be always smiling. Is the thin-film media business that good?

8. Bill Campbell, Apple: Will Apple's entire marketing staff want to work for him in the new software company he's heading for Apple?

TimesTribune

PENINSULA INC.

Monday, March 21, 1988

Quantum leap?



Times Tribune photo by Vern Fisher

Quantum President David Brown (right) displays the company's new 3½-inch disk drive for Chairman and Chief Executive Officer Stephen Berkley

Disk-drive maker's novel approach

By Sean Silverthorne
Times Tribune staff

From the table in front of him, Quantum Corp. President David Brown picks up the company's future, a 3½-inch hard-disk drive about the size of a Harold Robbins paperback.

Also on the table lies the company's recent past, a 5¼-inch drive that, compared with the model in Brown's hand, sizes up as a clunky Model T next to a blazing red Ferrari.

Like much of the high-tech industry, hard-disk drive maker Quantum sees its future in the smaller drives. They are quicker and more durable and use less energy than previous versions. Hard disks store mass amounts of information in computers.

In just nine months, the Milpitas company has revamped top management, product lines and marketing strategy to set the new course.

"We've turned the Titanic around," exclaims Brown.

Now the question is, can Quantum sell the new disk drives as well as it makes them?

"They're making people stand up and take notice," says Alexa McCloughan, an analyst for New York securities firm Goldman Sachs & Co. "But I think their biggest challenge at this point is to sell the product."

"We've put a lot on our plate this year," says Brown. "It's a matter of executing."

Milpitas company unveils compact, quicker products

Beginning this month, Quantum will roll out two of its first products in the 3½-inch drive family: 40-megabyte and 80-megabyte hard disks. Forty megabytes is equivalent to 20,000 pages of typed text.

The smaller disk-drive format is the emerging standard for next-generation computers that will probably hit the market in 1989 and 1990. Los Altos market researcher Disk/Trend estimates unit sales of 3½-inch drives this year of 8.4 million.

Quantum analysts were surprised not only with the high performance of the new products but with their number. Not known previously for a broad product line, the company this year intends to unveil 10 hard-disk drives.

"Quantum in all its parts will be introducing more products this year than we have as a company in eight years," says Chairman and Chief Executive Officer Stephen Berkley.

Its target: makers of high-end personal computers, such as Apple Computer and Tandy Corp., and low-end work-station manufacturers such as Sun Microsystems Inc. and Hewlett-Packard Co.

"The product announcement was stronger than expected, particularly the breadth of the product family," says McCloughan. "I think . . . the drives surpass existing products on the market and surpass what was planned by (competitors)."

"Up until the introduction two weeks ago," adds John Rossi, an analyst with Alex Brown & Sons, "the stock market was looking at Quantum and saying, 'No, it couldn't possibly compete in 3½. How do they even have such pretensions?'"

Now, Quantum is clearly a serious player in 3½. "I just spoke with one of the significant-size PC companies in the U.S., which I don't want to name," Rossi says. "They're leaning heavily toward the Quantum Pro series."

If not quite Brown's Titanic, Quantum certainly had been dead in the water for the last several years following a blazing start in the first half of the decade.

Between 1982 and 1985, sales bounded from \$13.6 million to \$120 million, an annual growth rate of 60 percent. And profit during that time ballooned from \$186,000 to \$20.9 million.

Please see QUAN:UM, D-3

PROFILE

Continued from D-1

But with the industry shakeout in 1985 and 1986, computer sales plummeted and suppliers like Quantum got hurt. More damaging, say analysts, the company shot itself in the foot by delaying several products needed to replace aging 8-inch and 5 1/4-inch drives.

"They were discovering that they were behind the industry rather significantly in terms of introducing new drives with features and capacities that the rest of the world was already getting from other players," says Hambrecht & Quist analyst David Claridge.

Quantum's fiscal 1986 and 1987 were almost mirror images of 1985, with no appreciable growth. Sales flattened at about \$120 million both those years while profit fell from \$22.2 million in 1986 to \$8.8 million last year, including a \$3 million write-off for a plant closure in Puerto Rico.

Its new Q200 series of products, a family of half-height, 5 1/4-inch disk drives, were late getting out the door, as was a full-height product, the Q160.

"Quantum did not do very well in the 5 1/4 area and they lost customers because of it," says McCloughan. "Wang had been a great customer for its products for years, but they said, 'We'll go buy elsewhere.'"

"The critical thing was when they lost DEC (Digital Equipment Corp.)," says Rossi. Quantum was a dominant supplier of 40-megabyte drives to DEC, but when the company decided to forgo development on an 80-megabyte product, "up stepped Micropolis with a good 80-megabyte design and it became DEC's next main supplier."

Quantum in the last three or 4

years did not grow," concedes Berkley.

Fiscal 1987 results were released on May 5 of last year. Two days later, co-founder and president James Patterson announced his retirement, although the company denies a link between the two events.

"I don't think he was forced out as much as he just tired of the job," says a former employee. "In Berkley, he saw a capable manager to take his place."

Stephen Berkley, a company co-founder, was named CEO. He had headed Quantum's money-making subsidiary, Plus Development

Quantum engineers and technicians, Brown's advancement helped stem a tide of engineers to other companies, says another former employee.

Within a month, Quantum was a new company. Berkley announced the disk-drive maker was exiting the 5 1/4-inch drive business and killing a full-height 5 1/4-inch product just a month before introduction.

That decision caused Quantum to take a \$3.5 million write-off. It also caused a brief morale problem and put 29 employees out of work.

"It turns out that it was a good decision for the company," says

next generation. It's a good strategy."

Shakeups were not confined to the assembly line. In the executive suite, Berkley and Brown replaced five vice presidents.

Still, Quantum appeared to be turning around even before the moves. It will finish fiscal 1988 March 31 with record sales of \$190 million, a 57 percent increase, and profit of about \$8.1 million. Next year, sales should increase to about \$220 million and profit to \$11 million, led by the new product line, analysts say.

"What we're doing this year is putting in place the products and delivery systems that will lead to much higher growth in the future," Berkley says.

But several significant challenges lie ahead. First will be to convince its biggest customer, Apple Computer Inc., which accounts for 40 percent of sales, to buy the new line of smaller drives.

"Apple is critical," says Rossi. If Quantum wins the Apple contract for 3 1/2-inch Macintosh drives, its other big customers such as Tandy Corp. Olivetti Corp. and Convergent Inc. are likely to follow.

In its selling job Quantum will have to justify its unique strategy of subcontracting the manufacture of some of its 3 1/2-inch products. The company's 40-megabyte and 80-megabyte products are made overseas by Matsushita Kotobuki Electronics Ltd. of Japan, which also makes Hardcard.

Hambrecht & Quist's Claridge says new management was "saddled" with the MKE agreement, which will hurt the company in the long run.

"I don't think you can be a long-term player in this business if you don't design and manufacture your own product," Claridge said. "You don't have control in terms of where costs are going, you're not learning all the lessons to be learn-

BOTTOM LINE

Quantum Corp.

Key product: hard-disk drive
Employees: 550
Location: Milpitas

1st qtr. 1988
2nd qtr. 1988
3rd qtr. 1988
4th qtr. (est) 1988

Sales *	Profits *
\$40.1	\$3.5 (loss)
\$49.4	\$4.0
\$33.9	\$0.69
\$45.0	\$2.9

* sales/profits/in millions of dollars

Quantum's fiscal year 1988 ends March 31.

Corp., producer of Hardcard, a wildly profitable 3 1/2-inch hard-disk drive set on a plug-in computer card.

Hardcard is Quantum's only family of products sold retail, and its \$65 million in sales during fiscal 1987, a 70 percent market share, kept the parent company healthy.

Brown, also a co-founder, had headed Quantum's engineering efforts and directed its drive into the 3 1/2-inch market. A favorite of

Brown. "Some of our competitors delivered 5 1/4 half-height drives" that would have swamped Quantum's product.

"They had really fallen behind in terms of the necessary development schedule for the 5 1/4-inch," says Robert Katzive, vice president at Disk/Trend. "Rather than devote more time and money on a program that was never going to catch up, they might as well take the leap and spend money on products which will be on time for the

ed.
But there are advantages, says analyst Rossi, such as an instant entry into the emerging Japanese personal-computer market and a reduction in risk that comes with heavy investing in additional production capacity.
"To make this product a success, we'll have to see if customers accept this new supply relationship," Rossi concludes. "However, the merits of the design might help a lot of customers make that decision to use Quantum because it's clearly the highest-performance 3 1/2-inch drive yet introduced for the PC market."
Quantum is close to achieving a much stronger position in the industry, he says.
"They have a not-so-secret desire to re-emerge as a high-end drive supplier... to again be the darling of the minicomputer and the high-end microcomputer world. I think it's conceivable that they can do that."

Quantum Corp. Aims For Turnaround After Shakeup

By Sean Silverthorne,
Special To Investor's Daily

In the hard disk drive business, Quantum Corp. is playing hardball.

Recovering from two years of declining sales and stagnant profits, the Milpitas, Calif.-based company has replaced much of its top management and changed its marketing strategy. Quantum is also rolling out a new family of hard drives that's surprising the industry with both its number and quality.

Not bad for nine months' work.

"We've turned the Titanic around," said Quantum President David Brown.

But analysts said the remaining question is whether Quantum can sell the new drives as well as it makes them.

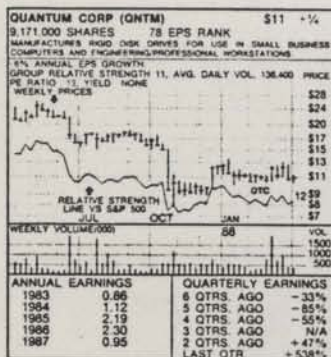
"They're making people stand up and take notice," said Alexa McCloughan with Goldman, Sachs & Co. "Their biggest challenge at this point is to sell the product."

Hard disk drives store massive amounts of information on computers.

This month, Quantum rolled out two of its first drives for computer makers in the 3½-inch format: 40-megabit and 80-megabit hard disks. A 40-megabit disk stores the equivalent of 20,000 pages of typed text.

The 3½-inch hard-disk format is the emerging standard for next-generation computers, replacing the still dominant 5¼-inch drives.

Analysts who follow Quantum were surprised not only with the high perfor-



mance of the new products, but their number. Not known for having a broad product line, the company this year intends to unveil 10 hard disk drives.

"Quantum will be introducing more products this year than we have as a company in eight years," said Chairman and Chief Executive Stephen Berkley.

Its target: makers of high-end personal computers such as Apple Computer Inc. and Tandy Corp., and low-end workstation manufacturers such as Sun Microsystems Inc. and Hewlett-Packard Co.

"Until the introduction two weeks ago," said John Rossi, an analyst with Alex. Brown & Sons Inc., "the stock market was looking at Quantum and saying that it couldn't possibly compete in 3½ inch, and how could it even have

such pretensions?"

Quantum enjoyed blazing growth in the first half of this decade. Between 1982 and 1985, sales bounded from \$13.6 million to \$120 million, an annual growth rate of 60%. Profit during that time ballooned from \$186,000 to \$20.9 million.

But with the industry shakeout in 1985 and 1986, computer sales plummeted and suppliers like Quantum got hurt. In addition, analysts said the company shot itself in the foot by being late to market with products needed to replace aging eight- and 5¼-inch products.

"Quantum discovered that they were behind the industry rather significantly in terms of introducing new drives with features and capacities that the rest of the world was already getting from other players," said Hambrecht & Quist Inc. analyst David Claridge.

Quantum's financial reports for the past two fiscal years were almost mirror images of the fiscal year ended March 31, 1985, with no appreciable growth. Sales remained flat at about \$120 million, while profits dropped to \$8.8 million in the latest year from \$22.2 million the previous year.

"Quantum did not do very well in the 5¼-inch area, and they lost customers because of it," said McCloughan. Defectors included Digital Equipment Corp., which began buying drives from Quantum competitor Micropolis Corp.

Last May, Quantum released disappointing results for the year ended

March 31, 1987. Earnings were 95 cents a share, compared with \$2.30 a year earlier. Two days after those numbers were reported, president and co-founder James Patterson retired.

Berkley, another co-founder who had headed Quantum's money-making Plus Development Corp. subsidiary, was named chief executive.

(Plus Development manufactures the HardCard, a hard disk drive on a card that plugs into a computer. The product garnered \$65 million in retail sales during the latest fiscal year and kept the parent company healthy.)

Within a month after Berkley's promotion, Quantum began growing into a new company. He steered the firm out of the 5¼-inch drive business and killed a key 5¼-inch product a month before its introduction — a move applauded by analysts.

Quantum's shakeups were not confined to the assembly line, however. In the executive suite, Berkley and new president Brown replaced five vice presidents.

Analysts estimate Quantum is starting on the comeback trail and will finish the current fiscal year with record sales of \$190 million, a 57% increase. However, profits are expected to decrease 7.9% to \$8.1 million from \$8.8 million.

Analysts said that in the next fiscal year, however, sales should reach \$220 million and profit about \$11 million, led by Quantum's new product line.

Several significant challenges still lie ahead. First will be convincing Apple,



Stephen Berkley



David Brown

Quantum's biggest customer at 40% of sales, to buy the new line of smaller drives.

"Apple is critical," said analyst Rossi. If Quantum wins the Apple contract for 3½-inch Macintosh drives, Quantum's other big customers, such as Tandy Corp., Olivetti Corp. and Convergent Inc. are likely to follow, he said.

In its sales pitch, Quantum will have to convince buyers that its unique strategy of subcontracting some of its products is a plus. The company's 40- and 80-megabit 3½-inch drives are made in Japan.

Hambrecht & Quist's Claridge said this will hurt the company in the long run.

"If you don't design and manufacture

your own product, you don't have control of where costs are going, and you're not learning all the lessons to be learned," he said.

However, Rossi countered that Quantum's overseas manufacturing strategy has two advantages: It keeps costs down and it provides instant entry into the burgeoning Japanese personal computer market.

Quantum is close to achieving a much stronger position in the industry, he said.

"They have a not-so-secret desire to re-emerge as a high-end drive supplier... to again be the darling of the mini- and high-end microcomputer world," he said. "I think it's conceivable that they can do that."



May
1988

Z-GRAM

Dave Brown, Zonta board member, successful computer exec.

One of Zonta's board members and its treasurer is a well known executive with Quantum Corporation, a Silicon Valley company that specializes in rigid disk drives for computers. He is David A. Brown, Quantum's president and a resident of Saratoga.

Dave graduated from San Jose State University with a bachelor's degree in mechanical engineering and later received a master's degree in that field from the University of Santa Clara.

His professional career has included engineering and management positions at Memorex and Shugart Associates. His work has been primarily with rigid disk drives, and he holds several patents.

In 1980, together with several professional colleagues, he founded Quantum, and he was vice president of engineering for three years. In 1983 he became executive vice president for operations and a co-founder of a subsidiary, Plus Development Corporation. He directed the new unit's engineering, manufacturing and quality activities during the development of Plus'

Hardcard hard disk drive expansion board products.

In 1986 Dave took over direction of Quantum's thrust into the 3½-inch disk drive market, and this past September he became Quantum's president.

As a top executive of his firm he has been deeply involved in a highly competitive market, one that has had its ups and downs.

At the same time he has been highly active on Zonta's board of directors.

He attributes much of that to another board member and a close friend, Carol Pliner. Her husband, Michael, is the chairman of another high technology firm, Sytek, Inc., and both families live in Saratoga.

Carol convinced Dave to join the Zonta board because, as Dave tells it, "It is hard to say no to Carol."

This year as the treasurer, he has obtained a good insight into Zonta's financial position.

Asked what he would like to see the agency do in the future, he responded, "I think we need to do some real corporate-style, long-range planning. We need to make a thorough appraisal of where we are what we do well, and then we need to set some realistic, long-term goals. Our children are growing up. How can we best serve them five and ten years from today?"



—Dave Brown—

Board TRIVIA

Reader	Statement	Answer
DAB	You want to go up and look like Cary Grant and down to look like Godzilla	RS
JTR	I believe thats " <u>to whom</u> ", not "to who".	RS
SMB	Have you considered developing a 5 1/4" drive lately?	FC
JTR	Don't re-schedule the dinner. I'll just fly in from Lake Tahoe for a couple of hours.	GM
SMB	A "cult product" should sell for more than \$995.	RS
DAB	Did you here Nixon is having an asshole transplant?	RS
SMB	The only motivations for going public are fear or greed.	FC
JTR	What Director has 5 boats, 2 houses, and underground parking for 50 cars?	GM
DAB	Are you trying to trade two \$5K cats for one \$10K dog?	RS
SMB	Upon returning from Hawaii he said, "It's a real jungle out there but someone has to do it".	FC
DAB	I would like to understand where Quantum is going in the long term?	GM
JTR	In reference to disk drive industry: If you want to be in the Kitchen, you better expect to be hot!	RS
SMB	The only thing we should give the Japanese is shrapnel.	FC

Quantum ~

Thank you for making my service on Quantum's Board of Directors by giving me an ancient slate slab with fossilized fish. I have never ^{before} seen one as beautiful or with as many fossils.

Dave Brown said he found it especially symbolic that I received an old fossil. What did he mean by that?

Quantum is a special place, with fine people, rock solid values and a no-nonsense approach to products, markets and customers. I am proud to have been part of the Quantum legend.

Thank you again for everything.

Bob Schroeder
25 August 88

JIM ADKISSON OF INSITE PERIPHERALS



but basically it came from a customer who complained about his disk drives being too large.

There was an engineer at Shugart named Dave Brown who's now the president of Quantum. David is really the hero of this because we weren't out looking for technology. We just were looking for a low-cost smaller form factor. Dave used junk parts to make this thing work. For example, he used motors that were used in canteen machines instead of expensive motors. Initially, we used rejected heads from our standard product line. So it was the genius of David going after a configuration that would be low cost using low-cost components. That was the magic behind it, even though the concept came from my trying to satisfy a customer.

What's special about this country compared with the Japanese

*Short design
cycle!*

system is that Dave and the engineers at Shugart, within twelve weeks, went from a concept to a working prototype. Right after that, we took the working prototype to the National Computer Conference in New York and introduced it. That's the power of innovation we have in this country that gives us the advantage.



Quantum Corporation

Spring Sales Meeting

May 1-7, 1989

Maui, Hawaii

Schedule of Events

TUESDAY, MAY 2

7:00 am-6:00 pm Hospitality Desk Open

The Quantum Hospitality Desk will be open in the Grand Promenade for your convenience.

7:30 am-5:15 pm Business Session Maui 2, Casual Attire

Continental breakfast will be served at 7:30 am in the Maui 2 room for Business Session participants. The Business Session will begin at 8:00 am. Lunch will be served in the Maui 2 room during the meeting.

Spouses and guests may enjoy a continental breakfast at their leisure in the Regency Club. Then it's a free morning to lounge by the pool or dip in the surf.

1:00-2:30 pm Spouse Luncheon and Tour Casual Attire

Spouses/Guests are invited to be Quantum's guests for lunch in the Lahaina Provision Company, just off the hotel front lobby. A chance to make new friends and plans for the afternoon. Following lunch, a Hyatt Regency docent will be available to take you on a tour of the hotel grounds. You'll learn about the hotel facilities, meet the resident wildlife and birds and view the priceless art collection.

7:00-10:00 pm Dinner at the Morrow Estate "Island Chic" Attire

Tonight you will enjoy a very special evening at the Morrow Estate in Lahaina. Bill Morrow, Dave Brown's old ZBT fraternity brother from San Jose State University, and his wife Carol, have graciously invited Quantum's finest to their home for cocktails and dinner. Please meet your transportation at 7:00 pm at the side entrance of the hotel.

WEDNESDAY, MAY 3

7:00 am-6:30 pm Hospitality Desk Open

The Quantum Hospitality Desk will be open in the Grand Promenade.

7:30-10:00 pm Business Session Maui 2, Casual Attire

Again this morning, breakfast will be served prior to the Business Session. Please be punctual.

Spouses' breakfast at leisure in the Regency Club. Make sure to be on time for the Road Rally Briefing!

10:00-10:15 am Road Rally Briefing Maui 2

Meet your fellow teammates in Maui 2 to review the rules and pick up your keys.

10:30 am-2:30 pm Quantum Road Rally Spectacular

Today's road rally clues include Maui's colorful history, points of interest, a little intrigue and a few Maui myths. You'll explore front-roads and backroads with spectacular views guaranteed. Keen observation is a must! Meet your team at the side entrance of the hotel. Remember your sunscreen. Start your motors and you're off!

Enjoy lunch at Mama's Fish House, one of the locals' favorite Maui restaurants. Directions are included in your Road Rally clue packet.

3:45-6:00 pm Business Session Regency A

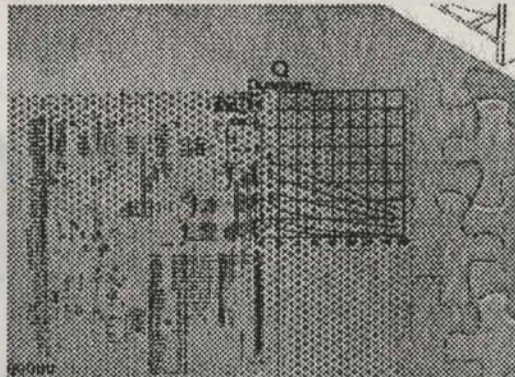
Reconvene for afternoon breakout business meetings.



Hawaii
May 1989



Why is Scott Kapulua Hula dead?



MURDER MYSTERY

Maui, May 2, 1989



Q U A N T U M



DAVE BROWN, President of Quantum.

Dave is a long time friend of Bill Morrow. Both men attended Berkeley together in the mid-60's, were members of ZETA BETA TAU and shared a passion for motorcycles. Dave fancied himself a Marlon Brando type of engineer, subscribing to the "wild slide rule." Bill Morrow was his "right angle" man. Each was known for sharing everything with the other.

BILL MORROW

arrived in Hawaii in 1970 after putting together one of the first hand-held calculator knock-off deals. Bill made some very successful property investments. These enabled him to retire and enjoy his pursuit of wine, womanizing, song and POWER. Bill is an astute, politically influential man-behind-the-scenes.



CAROL MORROW first met Bill in 1976 at Salvador Dali's when sitting for a portrait. They met again later



at Jack Nicholson's house. Bill was going to invest in a movie deal with Nicholson and some associates. Carol would lose substantial dramatic and economic career interest because of Nicholson's premature withdrawal. Bill knew how to fill the void and they fell in love. The Morrows were married in 1976.

FRANK MORROW, Bill's brother, is a failed concert pianist. He now manages his brother's several commercial properties from his home in the servant's quarters of Bill's house.

ANNUAL ENGINEERING ALUMNI AWARDS BANQUET

SAN JOSE STATE
UNIVERSITY



Friday, May 12, 1989
Student Union - Ballroom

1989 ENGINEERING AWARD OF DISTINCTION RECIPIENTS

DAVID A. BROWN received his Bachelor of Science in Mechanical Engineering in 1968 from San Jose State University, and subsequently earned a Master of Science in Mechanical Engineering. After graduating from San Jose State University, Mr. Brown served in engineering and management positions at Memorex Corporation and Shugart Associates. As Director of Engineering at Shugart, he was responsible for the first "Mini Floppy" disk drive. Mr. Brown holds a number of patents relating to mass storage devices and manufacturing techniques; specifically: Flexible Disk Drive, Data Transducer Position Control System for Rotating Disk Data Storage Equipment, Pure Torque-Limited Displacement Transducer, Magnetic Transducer with Trim Erase and Housing, and Apparatus for Polishing a Spherical Surface on a Magnetic Recording Transducer. In 1980 he co-founded Quantum Corporation where he served as Vice President of Engineering. In 1983, as founder and Executive Vice President of Operations of Plus Development Corporation, a wholly owned subsidiary of Quantum Corporation; he directed engineering, manufacturing and quality activities of Hardcard disk expansion board products. In 1986 Mr. Brown returned to Quantum Corporation to direct the company's thrust into the 3 1/2 inch disk drive market, and in 1987 was named President of Quantum Corporation. Mr. Brown is active in civic affairs, serving on the board of Zonta Children's Center, a non-profit organization addressing the needs of autistic, learning disabled and troubled children, and is a founding member of the Saratoga Education Foundation. David Brown's technical achievements and leadership abilities in the engineering and entrepreneurial fields coupled with his many community activities make him most deserving of San Jose State University's Engineering Award of Distinction.

JAMES W. ADKISSON received his Bachelor of Science Degree in Electrical Engineering with Great Distinction from San Jose State University in 1969. He subsequently obtained an MBA Degree from the University of Santa Clara. Mr. Adkisson became interested in marketing and product development while working for Memorex, General Electric and IBM. In 1973 he joined Shugart Associates and became Director of North American sales. While with Shugart, he conceived the idea and specifications for the well known industry standard, the five and one-quarter inch floppy disk which became one of not only Shugart's successful products, but revolutionized the micro-computer industry. During his five years with Shugart Associates, sales grew from zero to eighty million dollars annually. Mr. Adkisson left Shugart to become the President and CEO of Florida Data Corporation, manufacturer of high performance dot-matrix printers. After several years with Florida Data, he left to become co-founder and Executive Vice President of Vertex Peripherals, a manufacturer of Winchester disk drives. In 1986, he again moved on to become Executive Vice President of Priam Corporation. In 1987 he teamed up with Jim Burke and Roger Williams to start Insite Peripherals to develop and manufacture optical disk drives, or as he calls them, "Floppy Disk Drives." He is President and CEO or operating manager of successful venture capital firms and is very active with the IEEE and is the author of "The Future of Floppy Technology" for the computer Systems, Peripherals and more to others, James Adkisson is most deserving of the Engineering Award of Distinction.





Quantum Corp. Emerges As The Leader In 3 1/2-Inch Disk-Drive Niche

By Kathleen Burton, *Investor's Daily*

A decision several years ago to enter the next-generation 3 1/2-inch disk-drive market is paying off in spades for Quantum Corp., a once-struggling firm that analysts expect to maintain its newfound leadership position in the drive industry.

The decision has given Quantum a big head start over its rivals, many of whom are still shifting to the 3 1/2-inch technology, experts say.

The Milpitas, Calif., company earlier this week posted fiscal first-quarter earnings of 87 cents a share, shattering Wall Street estimates that were running about 25 cents lower and dwarfing the four cents netted a year earlier.

Revised Projections

The results prompted Hambrecht & Quist Inc. analyst David Claridge to raise his estimate for fiscal 1990 ending next March to \$3.60 a share in earnings and \$440 million in revenue.

In fiscal 1989 ended in March, Quantum earned 90 cents a share and generated \$208 million in sales. The year before, it lost money. For 1991, Claridge is now looking for \$4.25 a share on sales of \$600 million.

While the stocks of other disk-drive companies have lagged, Quantum's has

been a market leader, having tripled over the last 12 months. The company yesterday declared a 2-for-1 stock split, to be issued on Aug. 15. After the split, it will have 24.1 million shares outstanding.

One key to Quantum's success is its decision several years ago to develop the then-futuristic 3 1/2-inch disk-drive technology.

"Since then," said Claridge, "they've done everything right — from making low-cost, high-performance drives to keeping manufacturing costs down."

Quantum's fortunes had sagged in earlier years as the company struggled to master next-generation products.

In the mid-1980s, for example, Quantum tried making a specialized 5 1/4-inch disk drive with a built-in controlling device. The product was delayed, and the competition grabbed away its major original equipment manufacturing customers.

But Quantum saw midrange 3 1/2-inch drive products as the wave of the future for next-generation personal computers and workstations. It hasn't looked back since.

Now it's got the fastest and highest-performance products in the 3 1/2-inch business, analysts say. It also has the lowest cost base in the industry due to

proprietary design features.

Now embroiled in a bitter patent infringement battle with Japan's Sony Corp., Quantum recently won an \$8 million award from Computer Memories Inc. and a \$3 million award from Japan's NEC Corp.

Also bolstering Quantum is its blue-chip client list, analysts say. That list includes Apple Computer Inc., Tandy Corp., Commodore International Ltd. and Sun Microsystems Inc.

Apple represents about 50% of Quantum's business, much of it for its new high-margin ProDrive products. Apple uses Quantum drives in its hot-selling SE-30 and Macintosh 2CX computers. And Sun, another big customer, reportedly uses Quantum's drives in its popular new workstation, SpareStation I.

"I've got a buy (recommendation) on Quantum (stock) because their products are used by key customers in high-growth products," said Scott Rowe, an analyst with Robertson, Stephens & Co. "That's a really important positive."

Orders From Apple

Apple in recent months has said it will buy \$100 million in drives from Quantum. But Apple, which traditionally uses multiple sources, also will buy a similar number of drives from Sony.

An important new customer for

Quantum is Intel Corp. Analysts speculate that Intel is likely to replace Italy's Olivetti Corp. as an OEM supplier of computers to American Telephone & Telegraph Co. — which would boost Intel's demand for drives.

"These new blue-chip customers are really good for Quantum's business," said Alexa McCloughan, an analyst with Goldman, Sachs & Co. "Customer breadth is a very good sign, because one problem in this industry is that firms often get locked into a limited number of customers."

Another plus, said analyst Claridge, is that Quantum has contracted with a division of Japan's Matsushita Electrical Industrial Co. to make most of its disk drives overseas, keeping plant and equipment outlays down.

Other drive makers manufacture their own drives. Matsushita makes the drives at low margins, said Claridge, so the move should continue to boost Quantum's profits.

Claridge said he is also bullish on Quantum because it has little debt and carries a whopping \$81.5 million in cash, with no acquisitions planned.

While the outlook for Quantum is rosy, many rivals — plagued by product transitions to 3 1/2-inch drives and involved in expanding their manufactur-

ing capacities — are faring less well.

McCloughan thinks Quantum's recent performance should help the entire disk-drive group on Wall Street.

"It's good for the group to have one company earning so well," he said. "It restores investor loyalties, hurt by recent tough times in the industry based on product transitions to higher-performance and smaller-form factor drives," she said.

But the entire group should rebound, she forecast. "Almost all the stocks have bounced off their lows. I'm recommending Maxtor Corp. and Quantum and feel good about the group overall," she said.

But competitive dangers may lie ahead.

"The plus for Quantum," said McCloughan, "is that they (and Conner Peripherals Inc., the only other company that is strong at the high end of the 3 1/2-inch product line) got to the 3 1/2 media first."

Shifting Scenario

But the scenario is shifting, Claridge cautioned. "Today, many companies are making some type of low-end 3 1/2-inch drive, and soon they'll all be making a wide range of products, ranging from 20 to 200 megabytes,



which will put pressure on prices. The whole world will be converting over the next two years," he said.

Players will include Seagate Technology Inc., Rodime Corp., Maxtor, Imprimis Technology Inc., Western Digital Corp. and Miniscribe Corp.

As a result, Quantum must keep pushing its technology to maintain its lead, adding higher storage capacities while at the same time keeping manufacturing costs under control, said McCloughan.

Another uncertainty facing Quantum, he said, is its own internal transition to making high-capacity 120- and 170-megabyte drives from midrange models. Some observers say it may even manufacture at the very high end, producing 200-megabyte drives shortly.

*We have had a tremendous year!
Your hard work and personal sacrifices were no
small part of this success. Now it's time for some
relaxation and fun!*

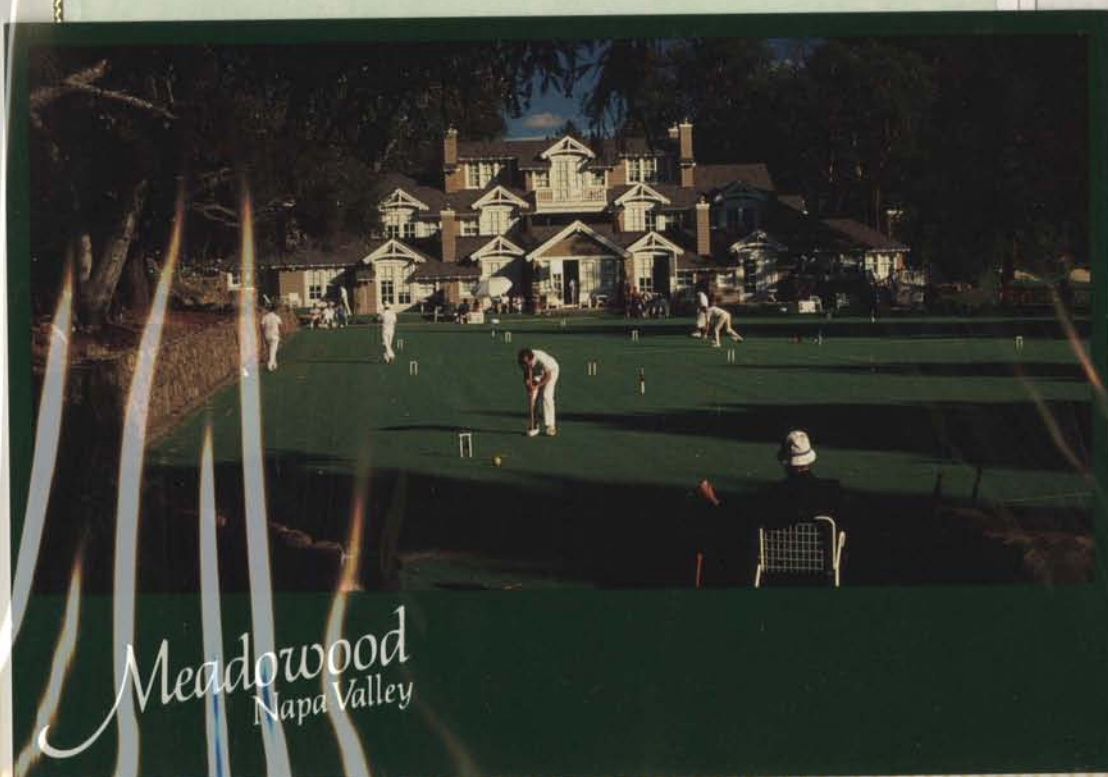
*Sheila and I would like you to escape with us for a
few days to the wine country of Napa Valley.*

*Please mark your calendars for
Sunday, October 1 through Wednesday, October 4.*

*We'll taste fine wines, play a game or two of
croquet, and also include some team building. It will
be our pleasure to spend this time getting to know
you better as we all treat ourselves to the peaceful,
natural beauty of Meadowood Resort in St. Helena.*

We look forward to seeing you.

David A. Brown



Croquet Anyone?

Please be sure to wear your new "proper croquet gear" for our busy schedule on Monday. (Don't forget to bring your helmets.)

NAPA VALLEY WINERIES-MINI GUIDE



Executive Staff Getaway

**Napa, California
October 1 - 4, 1989**

Program:

October 1, 1989, Sunday:

3:00 - 5:00 pm	Arrival - Check-in
6:30 - 10:00 pm	Cocktail Reception/Buffer and Group Activity

October 2, 1989, Monday:

8:00 - 8:30am	Continental Breakfast
8:30 - 11:30am	Guest Speaker
12:00 - 1:00pm	Picnic Lunch
1:15 - 3:15pm	Croquet Tournament
3:30 - 6:30pm	Winery Tour
7:00 - 9:00pm	Dinner (on-site)

October 3, 1989, Tuesday:

7:15 - 8:00am	Continental Breakfast (Executive Staff Only)
8:00 - 10:00am	Business Session (Executive Staff Only)
10:00am	Break (Executive Staff Only)
10:15am	Business Sessions (Executive Staff Only)
12:00pm	Working Lunch (Executive Staff Only)
1:00pm	Business Session ends
8:30am	Spouse/guest Continental Breakfast (on-site)
10:00am - 1:00pm	Spouse/guest activity (off-site)
1:30pm	Group Activity
3:30pm	Time out (wined down) activity - massage, swim,
7:30pm	Dinner (off-site)

October 4, 1989, Wednesday:

9:00 - 10:00am	Breakfast (sit-down) (on-site)
Checkout (By noon)	

Objective: Provide an offsite retreat for executive staff and their spouses/guests, to include meetings for executives and team building activities for the entire group.

People:

Dave Brown
Sheila Brown

Joe Shepela
Karen Shepela

Ivan Nazario
Meryl Lee Nazario

Mark Wilson
Catherine DuBridge

Al Pun

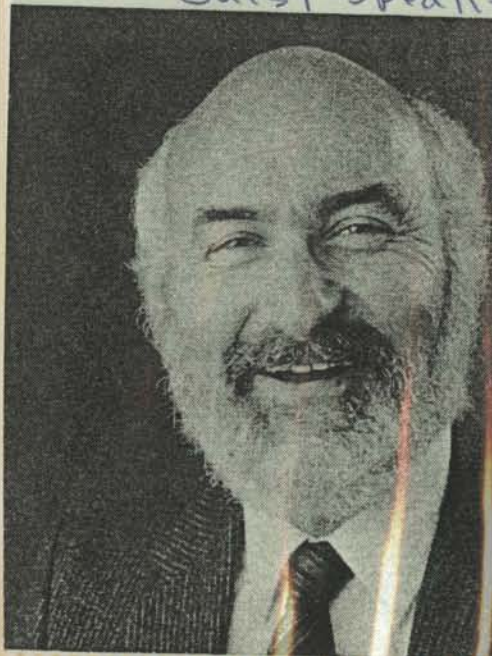
Carl Shelton
Kathleen Shelton

Ray Miller
Teresa Miller

Bill Roach

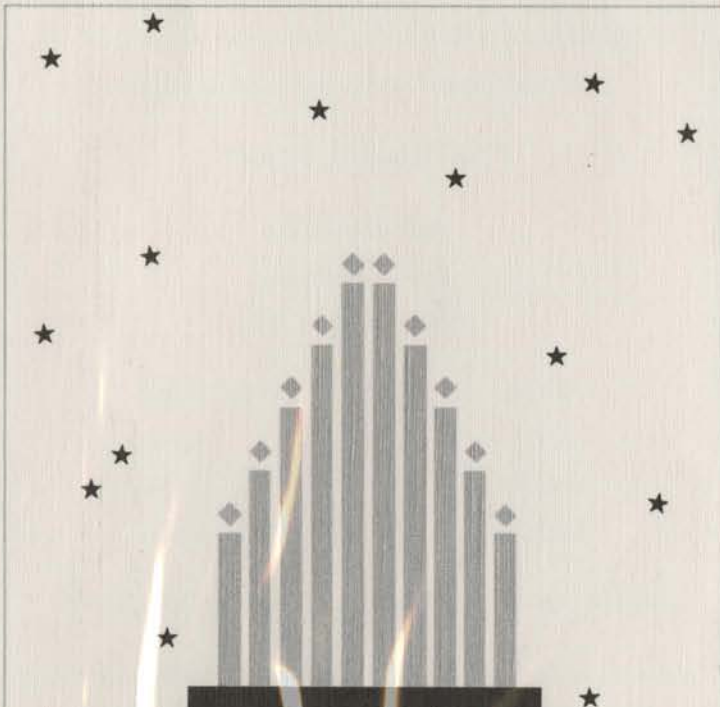
Resort Location: Meadowood, Napa Valley
Phone: 707/963-3646
Fax: 707/963-3532
(See attached information/map)

Introducing Abe Wagner
Guest Speaker





ON STAGE



A TRIBUTE TO
THE QUANTUM TEAM
AND OUR TEN-YEAR DRIVE



PROGRAM

Upon your arrival at the Giftcenter Pavilion, you will be greeted in "Oscar Night" fashion. Don't be surprised if a celebrity reporter interviews you about the evening's celebration.

The Quantum Stars have arrived!

☆ ACT I ☆

Join your friends and associates as libations are poured and luscious hors d'oeuvres are passed. Mingle with other "celebrities" attending the event and enjoy a silky stringed accompaniment. Pause on the first level, at two lovely sets where your special photos may be taken.

☆ ACT II ☆

Our Master of Ceremonies for the evening - San Francisco 49er, Steve Young - will welcome everyone to dinner. While you dine on elegant fare, contemporary music will be performed by The Crest Orchestra. And as the last plates are cleared, let the show begin!

☆ ACT III ☆

The house lights dim, for a laser tribute to Quantum.

Then, a memorable presentation to the Quantum Team by our executives Steve Berkley and Dave Brown:

HAPPY BIRTHDAY QUANTUM!



☆ ACT IV ☆

Next follows an exciting, energetic presentation by the Benny Smith Dancers.

And on center stage, our main headliner this evening:

Harry Anderson
Television's favorite "Night Court" judge!

Sit back and enjoy as Harry entertains you with his special brand of comedy and magic.

☆ FINALE ☆

It's your turn to kick up your heels and dance to the music of "Big Bang Beat!" You may still have your photos taken and dessert buffets will be open with a variety of special desserts.

Your gala evening comes to an end when Big Bang Beat plays their last song at 1 a.m. Shuttle buses will be available beginning at 10 p.m., departing as each vehicle fills. [If you're driving home, please do so safely!]

We hope this evening will be a memorable event for all The Quantum Stars who helped mark this very special milestone in Quantum's history!



Steve: Good Evening, and thank you for coming tonight to share in this festive occasion! . . .

And I expect the next decade will hold even more challenges for us all.

Dave: But for tonight, we're here to celebrate. We want to celebrate the growth we've seen. We want to celebrate our many accomplishments and even the hardships we've overcome, because in the long run, they've made us stronger. But most of all, this evening is a celebration of you, the people of Quantum, who have brought us so far, and who will take us even further.

Steve: As we pay tribute to your collective contributions and successes, . . . startup company, Mr. Harold Medley. (Medley stands, applause).

Dave: Every start-up company needs a technical wizard -- and that's what Joel Harrison was to Quantum. Joel, stand and take a bow! (Harrison stands, applause).

Steve: And last, but far from least, is a man who . . . highlight a few of Quantum's most notable accomplishments to date.....

Dave: You mean, "There's no such thing as a 'free dinner'?".....

Steve: You got it!! Seriously, though, by the end of this year, Quantum will . . . reach it in three years.

Dave - Thanks for having me!
Joel Harrison

Dave Quantum!
Steve Form
4902











March 6, 1990

Dave,

Thanks so much for putting on the spectacular ten year anniversary party for Quantum employees + guests. It was truly a fantastic event! The food, entertainment + music were great. And the video was a smash! It was one of the best parties we have ever attended.

We really appreciate all you've done for us over the years. Thanks again!

Bill & Annette Moon



THE CREST ORGANIZATION

CREST MARKETING
Specialty Advertising Items

CREST INTERNATIONAL
Incentive • Conventions • Trade Shows

CREST PRODUCTIONS
Events • Entertainment • Audio Visual

March 14, 1990

Mr. David A. Brown
Vice Chairman/COO
QUANTUM CORPORATION
1804 McCarthy Blvd
Milpitas, CA 95035

Dear Dave:

It was a privilege to be a part of "A Tribute to the Quantum Team and Our Ten-Year Drive" and particularly to have the opportunity to work with Karen DeBolt, Jan Nuestel, and Patty Parsell, who made our job as event coordinators, to quote one of your own, "a piece of cake."

Over the past 34 years we have produced hundreds of events and they all take on their own definable corporate style. This event had a special magic about it because the employees obviously hold senior management in the highest regard. This is a tribute to you and your style, your spirit and it was a pleasure being a part of this experience.

We hope that you enjoy the event video. We tried to include as many faces of your "family" as possible and what they are saying about QUANTUM is a definite tribute to both you and Steve.

Congratulations on your accomplishments and what do you say we repeat this event when you hit One Billion!!!

Yours sincerely,
THE CREST ORGANIZATION

Robin Crest
President







**QUANTUM
SIZZLIN' HOT SALES MEETING**


**Caneel Bay, St. John
U.S. Virgin Islands
May 1 - 6, 1990**

*Get ready for a
truly sizzlin'
hot sales meeting
at Caneel Bay!*



Quantum is Hot-Hot-Hot

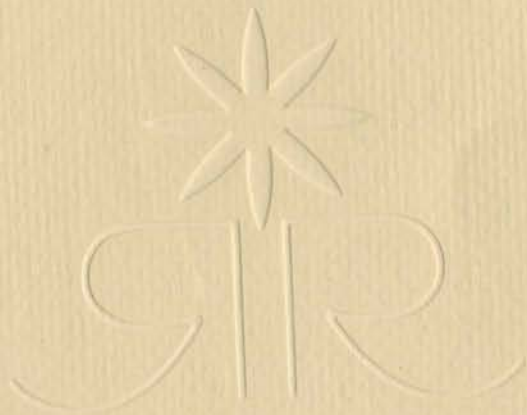
Welcome to the ultimate paradise. The U.S. Virgin Islands are known for their pristine beauty and Caneel Bay, on the island of St. John, truly captures the peaceful elegance of the islands. You may be shocked by the absence of televisions, radios and telephones - but it will not take long to get used to the soothing silence enhanced only by the sound of ocean waves. Caneel Bay is the perfect place to enjoy the rewards of the past year's hard work.

The  symbol located next to various activities indicates that reservations are required twenty-four hours in advance. Reservations can be made between the hours of 8:00 a.m. and 4:30 p.m. at the Resort Activities desk in the front lobby of Caneel Bay. There will be Quantum Travel Staff as well as hotel staff there to assist you.



CANEEL BAY

VIRGIN ISLANDS NATIONAL PARK, ST. JOHN, U.S. VIRGIN ISLANDS







Ahoy there mates!

Be sure to eat a hearty breakfast

in either The Turtle Bay or

Beach Terrace restaurants

before joining your crew mates

in the Caneel Bar

at 9 a.m.



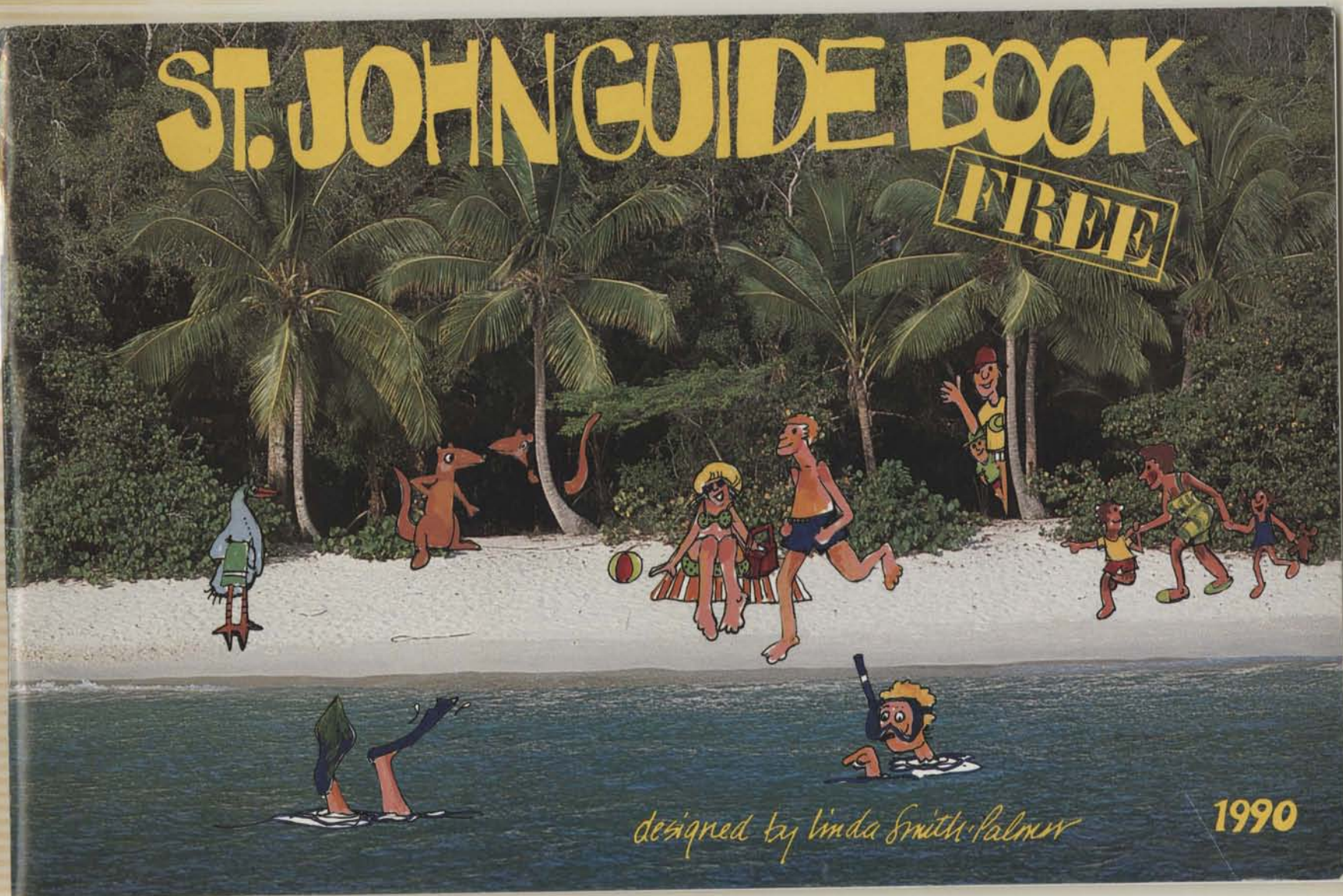






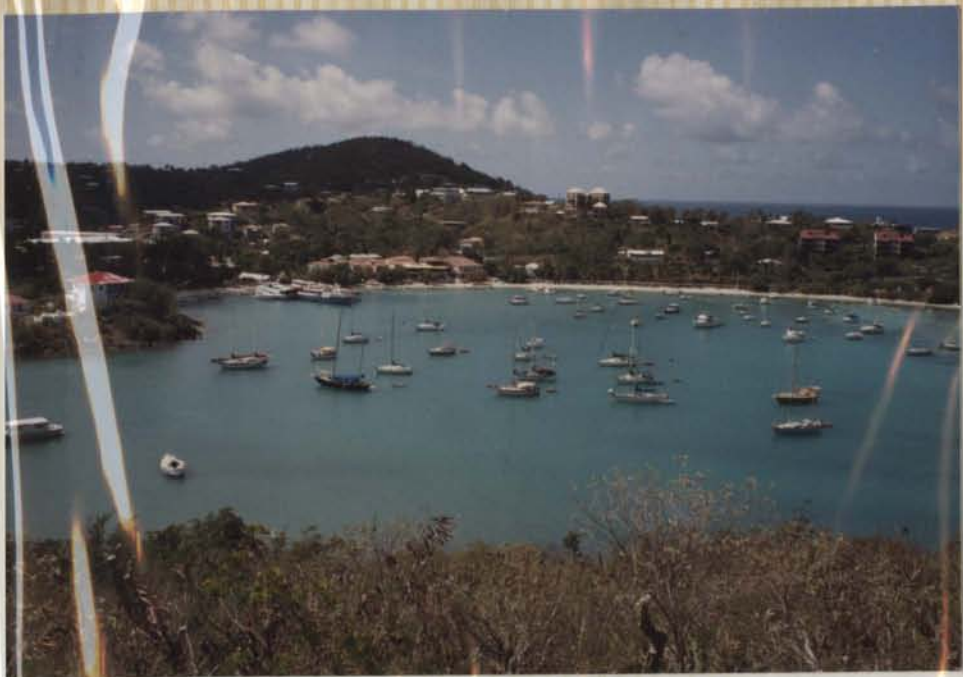
ST. JOHN GUIDE BOOK

FREE



designed by Linda Smith-Palmer

1990







Quantum is Hot-Ho





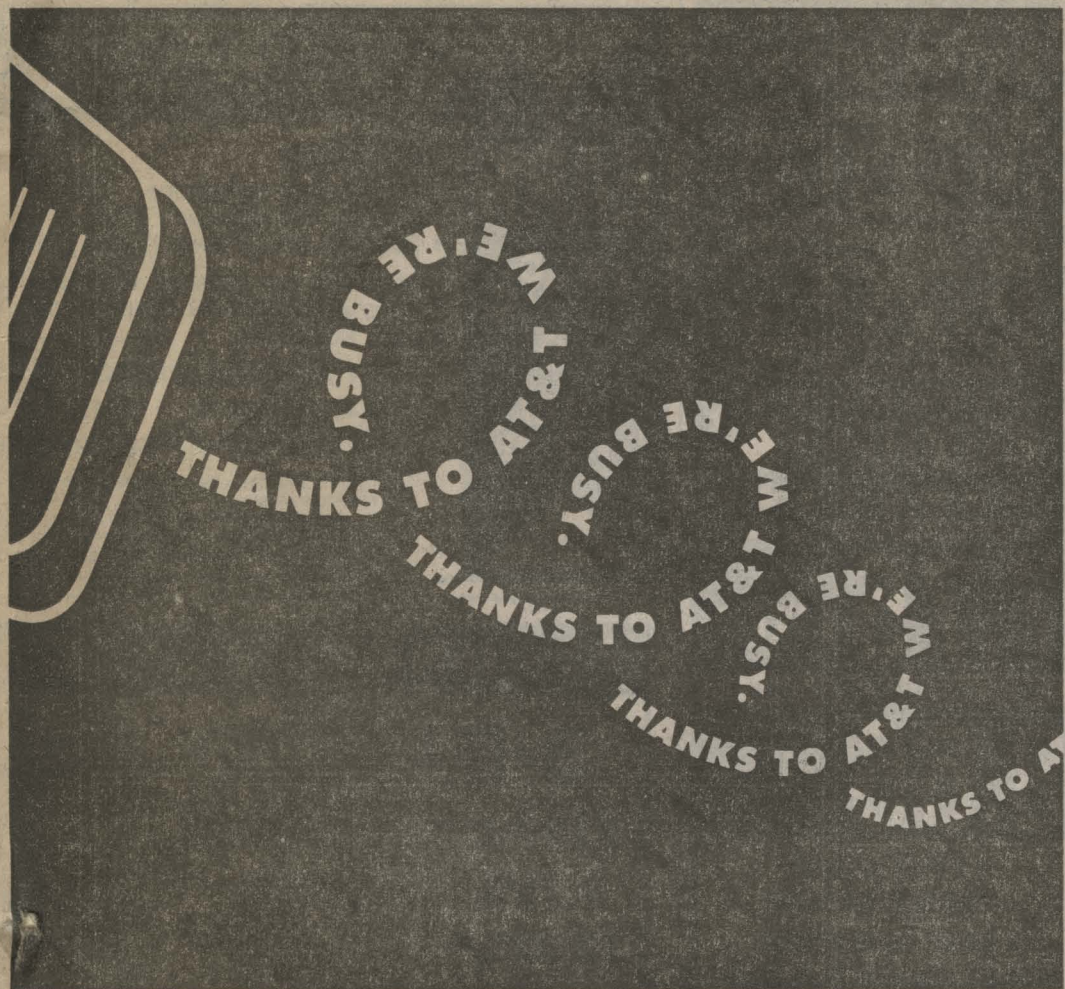
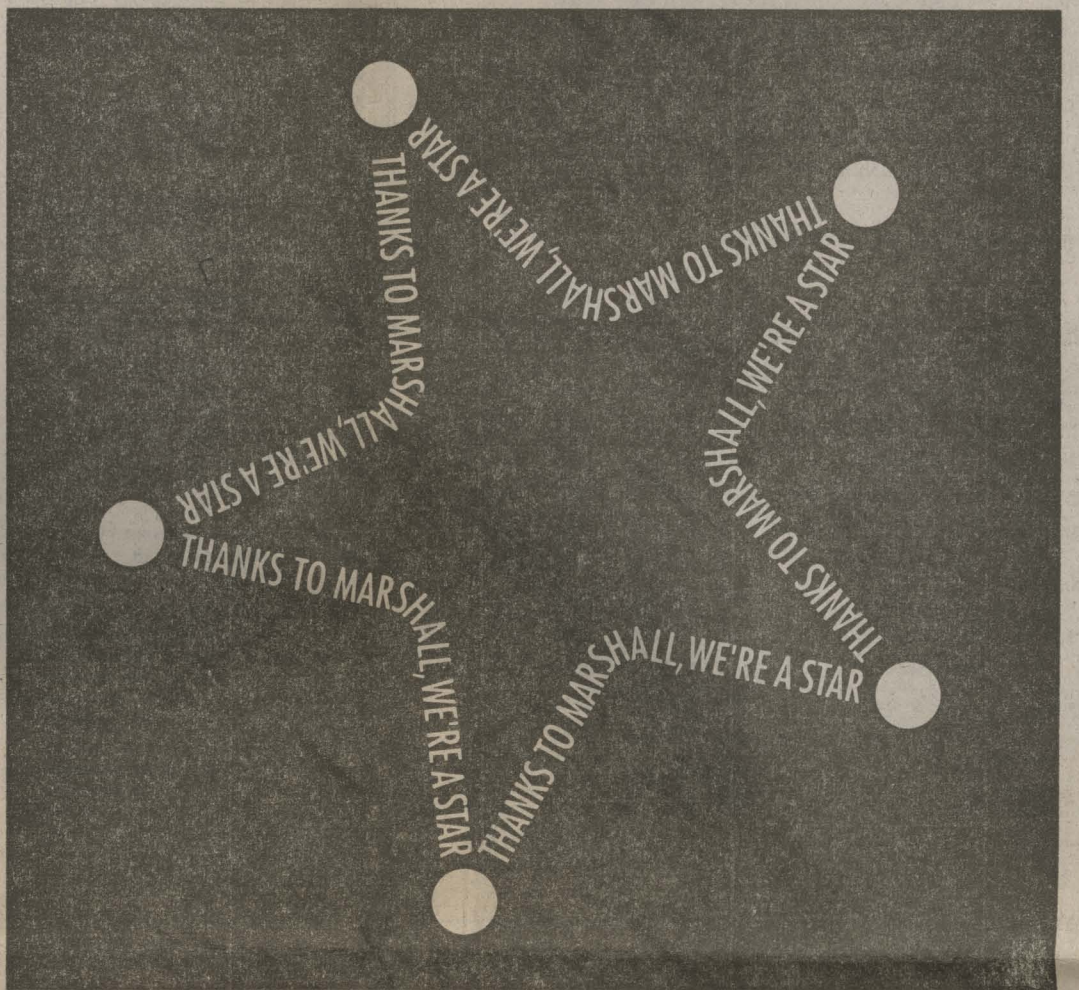
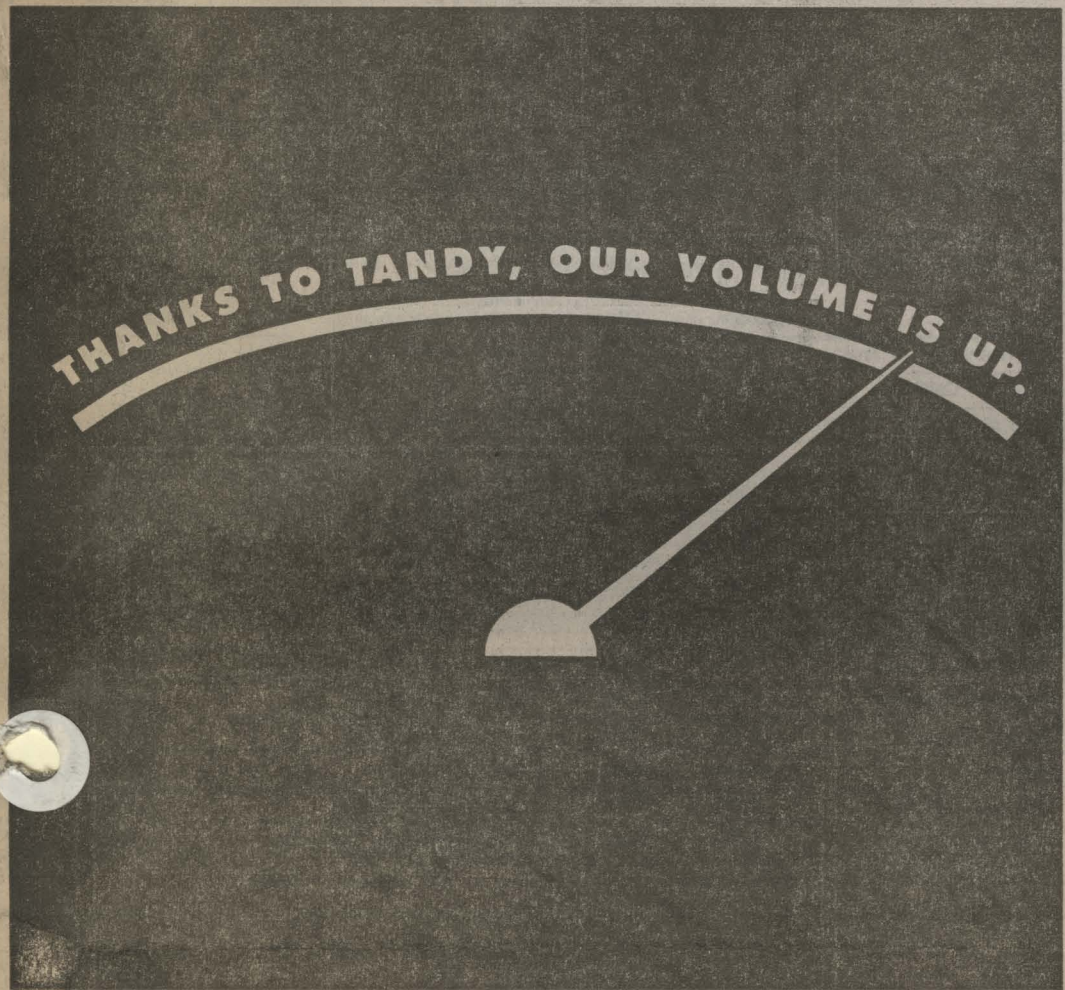


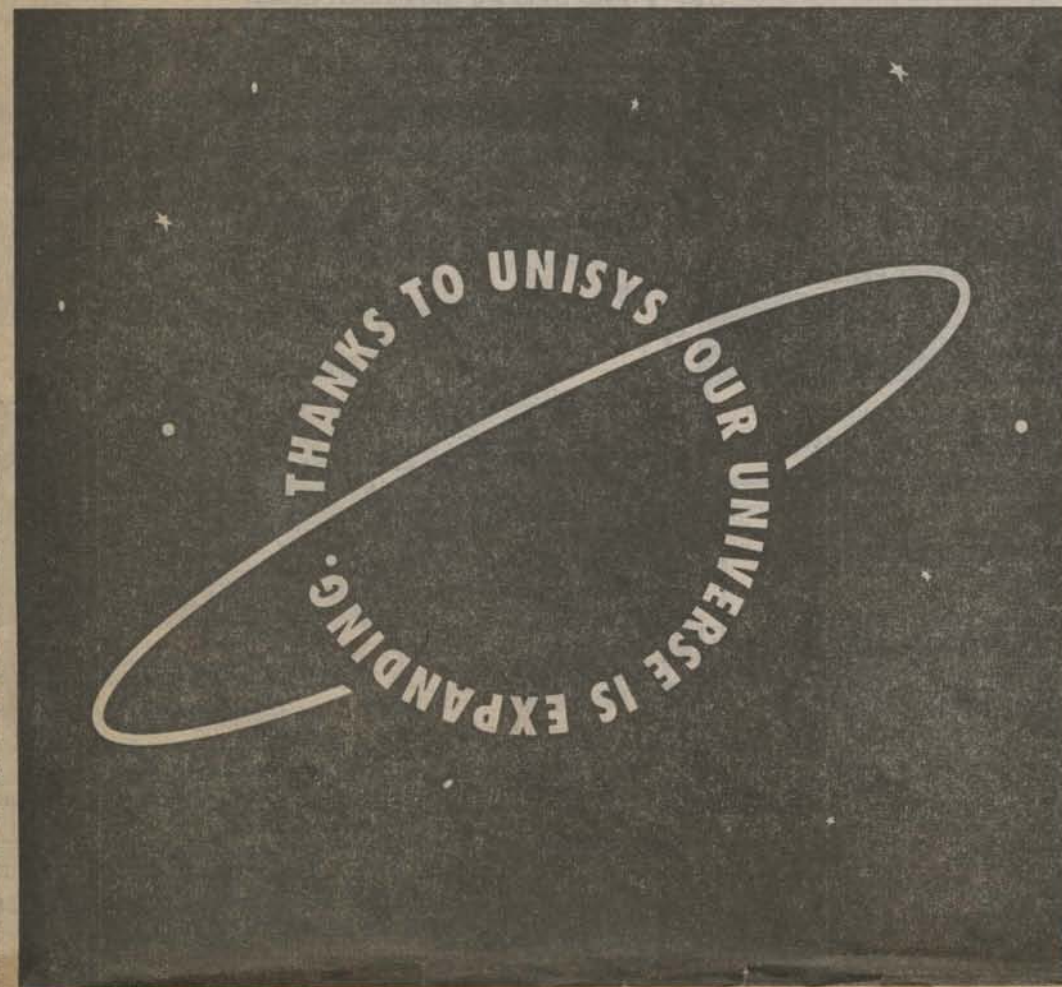
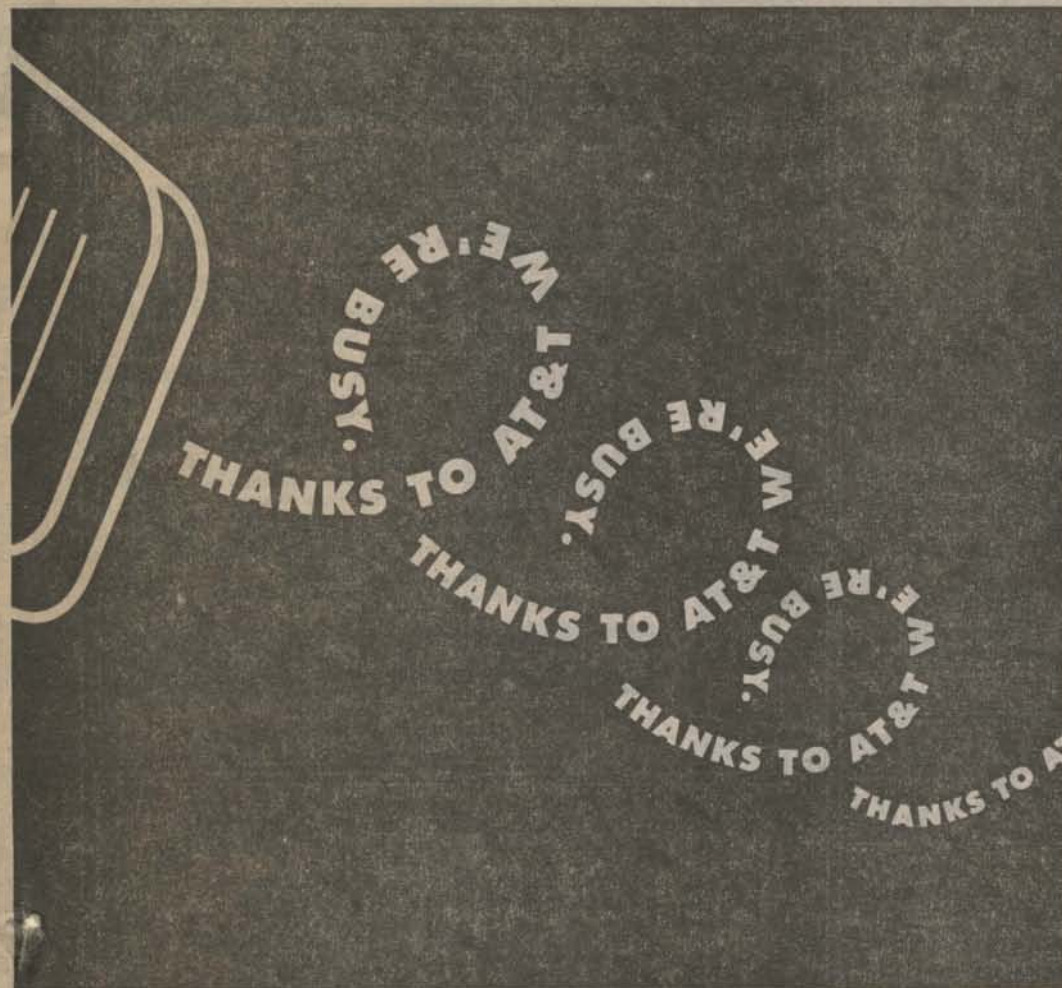












AND THANKS TO SO MANY OTHER MAJOR COMPANIES
WE CAN'T LIST HERE FOR MAKING QUANTUM ProDrive SERIES®
DISK DRIVES AN IMPORTANT PART OF YOUR COMPUTER SYSTEMS.
YOU'VE ALL PLAYED AN IMPORTANT ROLE IN OUR FIRST
DECADE'S SUCCESS. YOU'RE THE REASON QUANTUM'S
BECOME THE BIG NAME IN SMALL DRIVES.

Quantum

THE FIRST TEN YEARS

BODEGA BAY TIMES

Volume 1, Number 1

Tuesday, September 4, 1990

50 cents

Quantum Executives to Visit Bodega Bay

Dave Brown, president of Quantum Corporation, along with his executive staff and their spouses will be visiting the Bodega Bay area for an executive getaway October 11 - 13.

After managing Quantum's explosive growth the first half of FY91 the executive group will spend a well deserved break in the serene setting of Bodega Bay Lodge. The Lodge is a peaceful resort nestled in the wild-flower-covered dunes that overlook the sandy beaches and bird-filled marshes of Bodega Bay. Accommodations at the Lodge include rooms with private balconies, fireplace and wet bar — plus a fieldstone, glass-walled whirlpool spa, swimming pool, sauna, and exercise room.

During their three day visit, members of the Quantum group may be seen browsing in area antique shops and art galleries, golfing at Bodega Harbour Golf Links or meeting to discuss the status of FY91 goals and objectives. The highlight of their week may very well be the seminar entitled, "Lifeplanning: His, Hers, Our Plan", a high energy, high trust, high hope workshop

presented by Dr. Frederick Hudson, President of the Leadership Institute of Santa Barbara. Rumor has it the group may also be participating in a stunt-kite flying contest.

Quantum's coordinator of the Bodega Bay visit, Lori Holcomb Larson says the events planned will combine relaxation and team building activities to recharge the group both personally and professionally.

Further details of the agenda will be sent to each participant. Immediate questions regarding the trip can be answered by calling Ms. Holcomb Larson at (408) 432-1100 x4220.



BODEGA BAY PROGRAM DESCRIPTION

Thursday, Oct. 11

- 10:00 - 10:30am **Leave for Bodega Bay Lodge.** Plan for a 3 hour drive including a short stop for lunch. (See map.) Please arrive by 1:30pm for the seminar.
- 1:30 - 5:30pm **The Life Design Program** - Captain's Quarters. Dr. Frederic Hudson from the Midcareer Development Institute in Santa Barbara will facilitate the seminar on managing adult change and professional development. Captain's Quarters (Room #28 above lobby at the Lodge.)
- 5:30pm Check-in to Lodge.
- 7:00pm **Dinner - Ocean Club Dining Room**
Dress is "California Casual". (Shirt and slacks, no jacket or tie.)

Friday, Oct. 12

- 8:00am Continental Breakfast - Ocean Club
- 8:30 - 1:00pm **Executive Staff Meeting** - Captain's Quarters, includes lunch.
- 9:00 - 1:30pm **Spouse Shopping Excursion & Lunch**
Meet in the lobby for a tour of area speciality shops with lunch at Lucas Wharf.
- 2:00 - 4:30pm **Stunt Kite Flying Contest - Doran Park Beach**
Get ready to challenge your fellow colleagues to a kite flying contest. You'll be given a stunt kite and demonstration before the contest begins! Meet in lobby. Bring a jacket.
- 6:30pm **Dinner - Dinuccis**
Italian Restaurant.
Meet in lobby.
Attire: Very casual (jeans).



Saturday, Oct. 13

8:00am

Continental Breakfast - Ocean Club

9:00 - 2:00pm

Canoeing on the Russian River

Meet in the lobby for a leisurely 3-3 1/2 hour canoe trip on the beautiful Russian River. The trip is on a gentle stretch of river, floating through redwood forests; spotting blue heron, otters and turtles along the way. **What to wear:** Pack both warm and cool weather clothes, (sweatshirt, windbreaker, jeans, shorts, t-shirt.) Updated weather information will be available the day before so you can plan accordingly.

5:00pm



Champagne cruise on the Bay Dinner - River's End

Attire: Casual - nice sweater and slacks. Bring a jacket for the cruise. Meet in lobby.

Sunday, Oct. 14

Check out by 11:30am

THINGS TO KNOW:

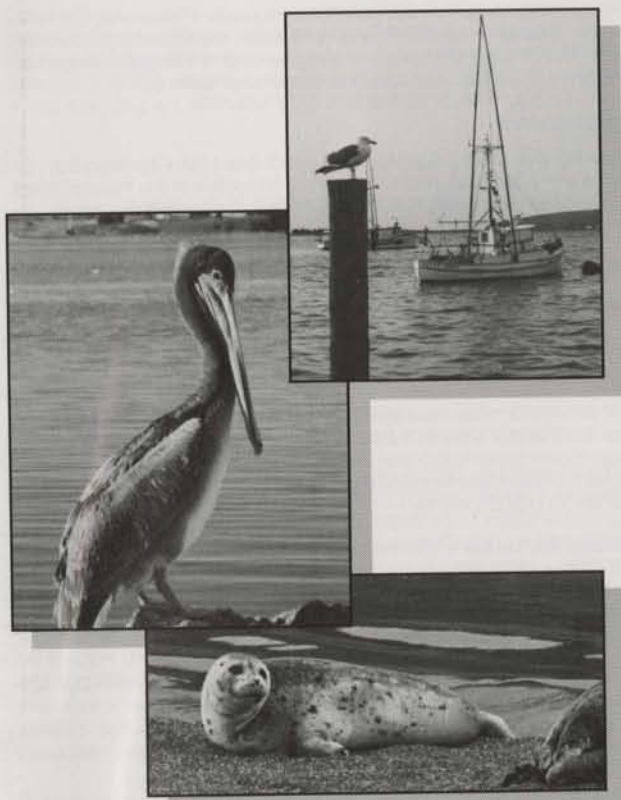
- The days may be warm (70s) or windy and cool. Dress is casual (no jackets or ties). Bring your cotton sweaters, casual slacks, windbreaker, sweatshirts, shorts, polo shirts, jeans, sunglasses, sunscreen, camera, etc.
- All meals, group activities, lodging, and transportation will be covered by Quantum, excluding personal incidentals.
- Transportation to group activities will be by mini-bus.
- For more information or questions, call Lori x4220.

Chamber of Commerce

Map of

Bodega Bay

and Vicinity

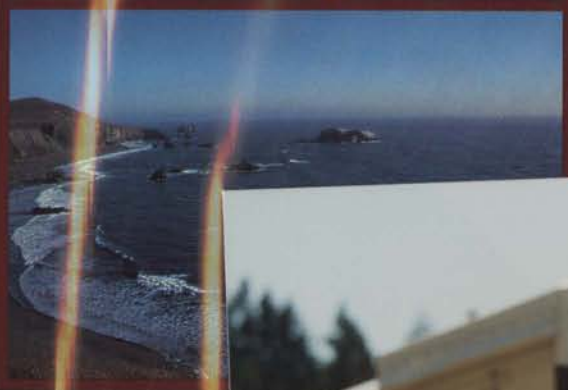


Bodega Bay Area Chamber of Commerce
P.O. Box 146 • 555 Highway One
Bodega Bay, CA 94923 (707) 875-3422





RUSSIAN R I V E R SONOMA C O A S T



SONOMA CO





MONDAY, APRIL 15, 1991

SPECIAL SECTION

San Francisco Chronicle

☆☆☆

C1

BUSINESSE

BUSINESS CALENDAR PAGE C27
DATABANK PAGE C18

1990
AWARD WINNERS

COMPANIES OF THE YEAR



**QUANTUM
& CONNER
PERIPHERALS**

The two Silicon Valley computer disk-drive rivals tie for top spot this year with stellar profits, sales growth and stock-market performance.

The Chronicle

Conner, Quantum Tie for 1st

BY KEN SIEGMANN

Chronicle Staff Writer

Computer disk-drive maker Quantum Corp. of Milpitas claims to be the fastest-growing turnaround company in the country. Its closest competitor, Conner Peripherals Inc. of San Jose, is the fastest-growing manufacturing company ever.

The two share the spotlight as The Chronicle's Companies of the Year. In a point system that measures return on equity, income gains, return to shareholders and sales growth over two years, the two competitors tied.

It's significant that a disk-drive duo emerge as the best-performing companies in the Bay Area for 1990. Just five years ago, the Silicon Valley disk-drive industry was a wasteland of bankrupt startup companies, and many of the healthiest players were only marginally profitable.

Conner, which hit the billion-dollar sales mark faster than any company in history, also was Chronicle Company of the Year last year.

"It's a very strong statement that the disk-drive business is no longer a schlock business," said Conner Chairman and Chief Executive Officer Finis Conner, in a phone interview from his boat off the coast of Cabo San Lucas on the Baja peninsula. "It means the disk-drive business is real and it's strong."

So-called Winchester disk drives — the specialty of both companies — are like small record players that store computerized information on rigid magnetic disks that spin at a constant speed. Magnetic heads, like those used in tape recorders, are placed on a tiny arm, called an actuator, that moves back and forth across the disks to record and retrieve information.

Conner's innovative design of 3½-inch-diameter drives vaulted it into the forefront of the disk-drive business in 1987, while most other disk-drive makers, including Quantum, were primarily producing bulkier 5¼-inch models.

Today the market for 3½-inch and smaller disk drives is worth \$5.8 billion, according to Dataquest Inc., a San Jose market researcher.

Last year Conner's sales grew 90 percent to \$1.3 billion as profits soared 213 percent to \$130.1 million. In the 12 months ended March 31, Conner's stock rose 33 percent to 25 from 18¾, ranking it No. 45 on the list of best-performing Bay Area stocks.

While 4-year-old Conner has received more kudos for its blazing growth, Quantum's performance over the past three years has been no less impressive.

While its sales were flat at about \$120 million through 1986 and 1987, and it lost money in its March 31, 1988, fiscal year after restructuring to bring out its own 3½-inch drives, Quantum has posted 10 quarters of strong sales and earnings growth.

In calendar 1990, Quantum's sales grew 82 percent to \$716.2 million and profits

See Page C13, Col. 3

Quantum,

From Page C1

jumped 61 percent to \$66.7 million. In the 12 months ended March 31, Quantum's stock appreciated 83 percent to 24½ from 13%, making it the 17th best-performing stock ranked by The Chronicle.

"We've been in the shadow of Conner because they did it from a standing start, and it's much sexier to be the fastest-growing startup than it is to be the fastest-growing turnaround," said Stephen Berkley, Quantum chairman and chief executive. "But we're closing the gap."

Indeed, Quantum appears to be catching up to Conner, according to market-share figures from Dataquest.

Conner became the leading independent supplier of 3½-inch disk drives last year, more than doubling its production to 4.5 million units and passing Seagate Technology of Scotts Valley in the process. But Quantum more than tripled production to 2.5 million drives, capturing 11 percent of the market.

"I expect Quantum to be the most-successful disk-drive company of the decade," said Dataquest analyst Phil Devin.

Both companies hit the big time when a pair of computer makers specified their products for next-generation machines.

Compaq Computer Corp., one of the leading personal computer suppliers, was so impressed with Conner in 1987 that it bought 90 percent of its disk drives and a piece of the company. Now Compaq accounts for 21 percent of Conner's sales and owns 19 percent of the company.

That same year Apple Computer Inc. picked Quantum's drives for its new Macintosh II computers. Apple accounted for 70 per-



BY THE CHRONICLE

Quantum Chairman Stephen Berkley held a 3½-inch disk drive

100

Conner Tie for 1st Place

cent of Quantum's sales in 1987, now about 40 percent.

"They had good products, a good attitude and good manufacturing," said Jean-Louis Gasse, the former Apple executive who was in charge of product design when the company started buying Quantum drives.

Manufacturing is one of the keys to Quantum's success, and most of the drives are actually produced by Matsushita Kotobuki Electronics of Japan.

MKE's highly automated manufacturing, which has allowed rapid acceleration in production while keeping labor costs down, also has helped Quantum produce some of the most reliable drives in the business.

"MKE is the hidden strength of the company," said analyst John Rossi of Robertson, Stephens & Co.

Last year MKE helped Quantum design and open a new manufacturing plant near its headquarters in Milpitas. Quantum will produce its most advanced products in Milpitas, close to the company's design and engineering staff, and transfer those products to MKE's Japanese plants when they become more mainstream items. Quantum also plans to open another plant with MKE in Europe in the next year, Berkley said.

Both Berkley and Finis Conner say that getting to market with new innovations is crucial to their success. Technological leads, even ones that may last only a few months, are key to landing contracts for next-generation computers.



BY THE CHRONICLE

Conner Peripherals CEO Finis Conner at San Jose headquarters

How Conner and Quantum Won

Conner Peripherals and Quantum tied for Company-of-the-Year honors with dazzling showings in return on equity, return to shareholders and sales growth.

For the fourth year, The Chronicle used a weighted formula to determine the winner. Thirty-eight public companies with annual sales of at least \$500 million were ranked in four key categories: return on shareholders' equity, improvement in income measured in absolute dollars, total return to stock-market investors and the rate of sales growth over two years.

The best performer in each category was awarded 10 points; second place, six points; third place, four; fourth place, two; and fifth place, one.

Conner, which placed first last year, won again by ranking No. 1 in the sales-growth category and No. 2 in return on equity for a total of 16 points. Co-winner and disk-drive-industry rival Quantum achieved the same score by placing second in both the sales-growth and return-to-shareholders columns and third in return on equity.

Syntex earned 13 points for placing No. 1 in return on equity, No. 5 in income gains and No. 4 in return to shareholders.

Chevron and Varian tied with 10 points each — the former for achieving the largest income gain, the latter for providing the greatest return to shareholders of \$500 million-plus companies during the 12 months ending March 28.

Intel earned six points for placing No. 2 in income improvement.

Apple scored five points for placing No. 5 in return on equity and No. 3 in return to shareholders.

Two other high-tech companies came in with four points each: Oracle for placing No. 3 in sales growth and Sun Microsystems for placing No. 3 in income gains. Sun also placed No. 6 in sales-growth and return-to-shareholder categories. The Gap earned three points, Wells Fargo and Maxtor two points each, and Seagate one point.

Upstarts could topple weaker in the top tier

THE PROSPECTS are good for some of the titans of Silicon Valley, but others better be looking over their shoulders.

Some good bets to eventually overtake the weakest of the top tier are Quantum Corp. and Silicon Graphics Inc., and a dark-horse candidate is Cypress Semiconductor Corp..

Quantum, a Milpitas disk-drive maker, has been overshadowed by competitor Conner Peripherals Inc., which has earned bragging rights as the United States' fastest-growing company.

Some suspect that Conner is

nearing its peak — the company, for example, soon may suffer from its relative lack of automation — but Quantum's prospects appear brighter than ever. It recently completed its best quarter, racking up sales at an annual rate of more than \$900 million, and observers see the company reaching \$3 billion by middecade.

"In terms of getting cutting-edge products to market quickly, Quantum is almost as good as Conner," says Jim Porter, president of Disk/Trend, a Mountain View market research firm specializing in the disk-drive industry.

A knack for speedy introduction

age 9F

THE SILICON VALLEY 100

Upstarts gaining on titans

UPSTARTS, from Page 1F

of leading-edge products, such as the company's high-capacity 3½-inch disk drives for high-end Apple Macintoshes and work stations, is only one of a number of positive factors at Quantum. The company also found a creative way to expand at low cost by striking a manufacturing accord with Matsushita Kotobuki Electronics, one of Japan's largest and best contract electronics manufacturing firms.

AND UNLIKE most of its competitors, Quantum has found a way to protect itself from the sharp swings that chronically plague the disk-drive industry. The answer may be an unusually strong commitment to long-term strategic planning, concentrating on delivering good products quickly and not being sidetracked by short-term price or demand fluctuations.

"Walk up and down the halls of Quantum, and you'll notice a difference," says Philip Devin, a computer storage industry analyst at Dataquest. "People there are more quiet and more focused."

Another impressive up-and-comer is Silicon Graphics, the Mountain View maker of 3-D work stations, which is likely to approach \$600 million in sales this year and which recently signed a big accord with Compaq Computer Corp. Compaq of Houston bought 13 percent of the company for \$135 million and gave Silicon Graphics an additional \$50 million for product development.

Both companies are key players in a new industry consortium that seeks to establish a new standard in so-called reduced instruction-set computing, or RISC, to compete with Intel Corp. and Sun Microsystems Inc., but this represents only a small piece of the promise at Silicon Graphics.

BY CONTINUALLY chopping the prices of its products, Silicon Graphics is making its machines increasingly competitive with standard, 2-D work stations. This opens a whole new market and may help make Silicon Graphics a key player in multimedia computing.

Meanwhile, the company remains the market leader in the high end of the work-station market, which is expected to keep growing at roughly 35 percent a year and become a \$5 billion market by 1994.

"Just staying the course as a dominant supplier of high-end work stations will easily push Silicon Graphics over the \$1 billion mark," says David Burdick, an analyst at Dataquest.

Silicon Graphics has yet another ace in its deck. It's also a key player in low-end, minisupercomputers — a market that is growing 40 per-

Steve Kaufman



cent a year as scientists find that these machines can perform much of the work of far-costlier computers.

Another promising company, Cypress Semiconductor, might seem too small to have a crack at the Top 10. Based on its last reported quarter, sales are running at an annual rate of about \$250 million. But revenues could soar on the strength of acquisitions. President T.J. Rodgers' ego has always matched his business savvy, and he would like to make Cypress the

next great semiconductor manufacturer.

The company has a shot at the big leagues because Rodgers is a strategist. Rodgers recently bought half the chip-making operations of Control Data Corp. for a token \$14.7 million, a move that gives him the capacity to increase the sales of Cypress an extra \$125 million within two years. The company also has a history of spinning off small start-ups, such as Ross Systems, a microprocessor maker, that do well and contribute to Cypress' revenues.

"Here is a guy who is willing to make corporate strategic moves to 'grow' his company," says Michael Murphy, editor of the California Technology Stock Letter. "If a good opportunity comes along, he'll step up and take advantage of it in an era in which it is cheaper to buy than to build."

Acquisition candidates down the road might include Motorola's semiconductor operations or Harris Semiconductor. Because of a heavy diversification drive into voice and data communications equipment, chip revenues have shrunk to only about a third of Motorola's business.

In Silicon Valley, of course, the future is always murky. Not even Quantum or Silicon Graphics will crack the Top 10 unless players now there falter, and that isn't a sure bet. And deeply troubled companies just below the Top 10, such as Businessland, the personal computer distributor, could still surprise skeptics and stage turn-arounds.

Write Steve Kaufman at 750 Ridder Park Drive, San Jose 95190, or call (408) 920-5021, or fax (408) 920-5917.

San Jose Mercury News, Thursday, April 25, 1991

Getting down to business

Companies need to make a long-term commitment to help struggling schools

DAVE Brown probably thought it was a challenge founding Quantum Corp. in Milpitas. But wait until he sees what's in store for him Tuesday.

Brown will be principal for the day at Laneview School in San Jose, experiencing the challenges that educators face and figuring out ways to help.

He won't be alone. William Krause from 3Com Corp., Jack Lewis from Amdahl Corp., Debi Coleman from Apple and about 85 other executives will spend Tuesday shadowing the principals of Santa Clara County schools.

It's part of Educational Partnership Week, a statewide program coordinated here by the San Jose Metropolitan Chamber of Commerce, and it's a terrific idea.

"The main thing is to get business people talking to the schools," says Steve Tedesco, who heads the chamber and will spend Tuesday at Los Arboles School in San Jose.

The next thing is to decide what companies can do to help the schools, and that will be the subject of a follow-up meeting. So next week, which includes many activities besides the principal-for-a-day program, is supposed to lead to a long-term commitment to help the schools. Some companies already have made that commitment, but not enough of them.

The interest so far is encouraging. More executives are visiting schools in Santa Clara County than in Los Angeles County next week.

President Bush is groping for ways to help schools from Washington, but the best hope for improving local schools remains local people. Industry has a huge stake in improving education here: Today's students are tomorrow's workers. Skilled or unskilled? That depends on the schools, and on the help they get from the rest of the community.

Features • Advice • The Lively Arts • Comics • TV



Leigh Weimers

Long hours, no pay? Where do they sign up?

TAKE ONE STEP FORWARD

— Lots of glory for voluntarism last week. The best volunteers got individual honors (J. C. Penney's Golden Rule Awards for one, Junior League of San Jose's annual Volunteer Recognition Luncheon for another) and the rest got group visibility as part of National Volunteer Week (even little kids such as those in Sunnyvale's Cub Scout Pack 462 got into the act, throwing a party for homeless counterparts at the Family Living Center). Today? Back at the task, no trophies, no spotlights. Just people volunteering their time and talent to help others because the work needs to be done. And because, as government's debts and the clumsiness of our elected leaders make so painfully clear, nobody else is going to do it. Volunteer Week? We'd better start getting used to Volunteer Year. Grab something and get to work.

ODD COUPLINGS — It's not all glitter-giving at the Silicon Valley Charity Ball for our high-tech honchos. Some,



Brown

like Octel's Peter Olson, Quantum's David Brown, Verity's Mike Pliner and Dataquest's Frank Florence, hit the alleys as well. Bowling for bucks for the Zonta Children's Shelter, that is. Racked up about \$10,000. . . . Will

wonders never cease? Members of the Santa

Clara County Bar Association will offer free legal advice — no charge, zip,



SOARING TO NEW HEIGHTS



QUANTUM



PROGRAM

Quantum Winner's Circle
The Phoenician Resort
Scottsdale, Arizona
May 2-7, 1991



Welcome to the Quantum Winner's Circle!

We've planned an exciting program full of fun and camaraderie. Your Quantum Travel Staff is eager to assist in any way to make your stay truly enjoyable.

I look forward to seeing you this evening at the Fiesta Welcome Party.



Bill Roach

Dave & Sheila
Welcome to Scottsdale
and the beautiful Phoenician
Resort.

May this be a most
Successful program as Quantum
"Soars to New Heights!"

Let us know if you need
anything at all.

Warmest Regards,
Melissa, Elaine and
the Incentive Dimensions
Staff

Batter up! It's time for the Quantum Field of Dreams Softball Series! We'll see you, suited up, at 5:00 p.m. tomorrow (Friday) for some traditional ballpark franks, a beer or two, and some good old-fashioned softball!





The Winds have welcomed you with softness. The Sun has blessed you with his warm hands. You have flown so high and so well, that God has joined you in your laughter, and has set you gently back again into the loving arms of Mother Earth.

Let it be known from this day forth that

Dave Brown

has ascended into the sky in a

HOT AIR BALLOON

This extraordinary flight took place in

Phoenix, Arizona

on the

4th day of May, 1991
in

Aerostat What the Heck N— 9767C

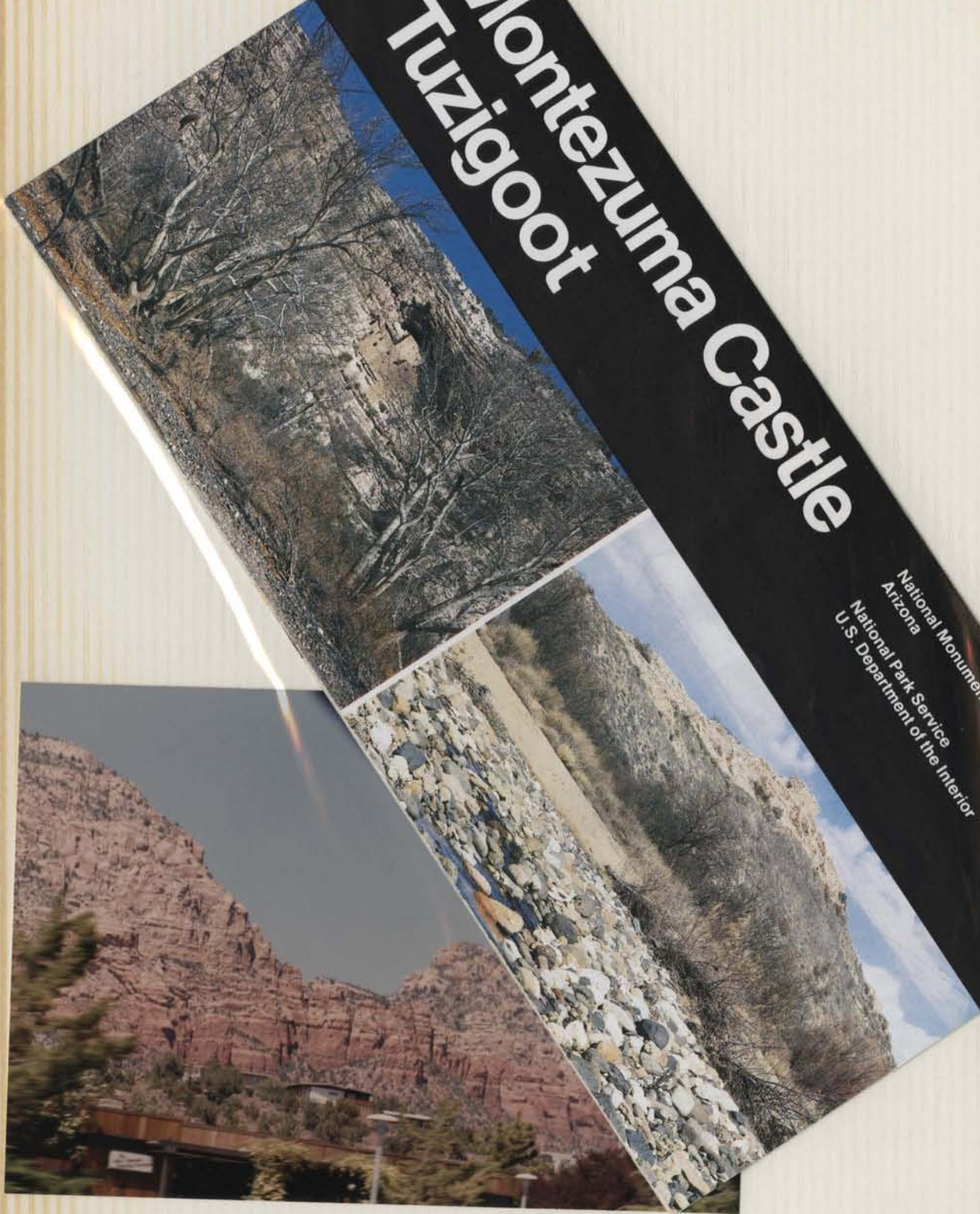
The above certified by

Bill Heck



Montezuma Castle Tuzigoot

National Monuments
Arizona
National Park Service
U.S. Department of the Interior







Please join your colleagues for an evening
of fine cuisine, hot jazz tunes
and an elegant ambiance in the desert.

Your "Evening Under the Stars" experience
will begin at 6:00 p.m. from the Porte Cochere
in the East Foyer of the Phoenician.

Elegant casual dress





Fiscal 1991 was a year to remember for all Quantum Winner's Circle members. Congratulations once again. We look forward to seeing you next year as Quantum continues to soar to new heights.





SOARING
TO NEW HEIGHTS



QUANTUM

PROGRAM PARTICIPANTS

Winner's Circle

May 2-7, 1991

goods manufacturer Goody Products Inc. or its 5% of glassware maker Lancaster Colony Corp.

Stanley would be a big gulp for Newell. Although debt stood at just 16% of Newell's total capital at the end of 1990, the company had only \$20 million in cash at the end of the first quarter. A deal for Stanley could top \$1.5 billion, and loans for highly leveraged deals aren't exactly easy to come by right now. Ferguson says he would consider swapping 20% of Newell for 20% of Stanley, but a Stanley spokesman says the company wants to remain independent.

Fortunately, dealmaking is only half the Newell story. The company owes part of its success to Ferguson's decision in the late 1970s to focus on selling to mass-market retailers such as Wal-Mart Stores, K mart, and Home Depot. As those companies experienced explosive growth during the 1980s, Newell grew with them.

LITTLE TOUCHES. Distribution and service became Newell hallmarks. In the late 1970s, the company was among the first in its industry to establish electronic links with its customers. That enabled retailers such as Wal-Mart to order goods via computer instead of through the mail or by telephone. And the company doesn't forget the little touches. Its employees often restock shelves for retailers, freeing up store personnel for other tasks, says K mart Corp. Division Sales Manager Wayne Sales.

Newell has proved adept at integrating new companies into its system. After buying Anchor Hocking, Ferguson split the company into units centered on product lines, closed a money-losing glassware factory in West Virginia, and lopped \$60 million off overhead. Anchor's consumer glass business was losing \$10 million on revenues of \$200 million when Newell bought it, says Ferguson. Last year, it posted a 15% net operating margin.

Newell's steady stream of acquisitions has paid off for shareholders, too. Since 1983, there have been three 2-for-1 stock splits. Newell was trading at 35 recently, up from about 6 shortly after the October, 1987, stock market crash. Since insiders own roughly 15% of the company, management has profited nicely from its rapid growth.

Ferguson insists that Newell can thrive without making another big acquisition. "We'll grow with our customers and rely on new products," he insists. In the works, for example, is a tamper-proof seal for baby-food containers that could generate annual sales of up to \$30 million. But unless Ferguson lands Stanley or one of his other targets, the Newell earnings machine may be stuck in lower gear for a while.

By Kevin Kelly in Chicago

Information Processing

INSPECTING NEW DRIVES IN QUANTUM'S MILPITAS PLANT



PERIPHERALS

QUANTUM HAS ONE TOUGH HURDLE TO LEAP

Shrinking PC sales may slow the disk-drive maker's rebound

When Stephen M. Berkley took over as chairman of computer hard disk-drive maker Quantum Corp. in 1987, he knew he was in for a tough slog. For three years, sales had been mired at about \$120 million. And because it was late with its new generation of drives—ones with 3½-inch platters instead of 5¼-inch—Quantum had lost all but two of its customers. When the drives finally came out in 1988, the market was glutted and prices were crashing. "We had to do something pretty dramatic," Berkley recalls.

He did, and it worked. Thanks to unique development and manufacturing strategies—and the coattails of its biggest customer, Apple Computer Inc.—the Milpitas (Calif.) company is now the fastest-growing drive maker. In fiscal 1991, ended Mar. 31, sales hit \$878 million, making it No. 3 behind Seagate Technology Inc. and Conner Inc. Says Dataquest Inc. analyst J. Philip Devin: "Quantum is the company to watch."

Actually, that's not hard, since most of its competitors are fal-

tering. Because of slow personal-computer sales, the market for hard-disk drives is growing by just 8%, to \$18.5 billion—one-third of the 1990 rate. Maxtor Corp. lost \$50 million in its most recent quarter, as prices for some drives plunged 50%. Conner Inc., a superstar startup, last quarter saw sales drop 10% from the preceding one, to \$382 million. PrairieTek, based in Longmont, Colo., just laid off 210 of 325 employees.

STOCK DROP. So far, Quantum has fared better. But Berkley says revenues will decline quarter-to-quarter into the fall. And Apple, which accounts for 41% of Quantum's sales, recently signed IBM to supply some drives. Meanwhile, Quantum plans to launch five new products this year, twice the usual number. All this has pushed Quantum's stock down to 11, from nearly 18 in April.

This difficult season should show whether Quantum's success resulted from Berkley's strategies or simply from being on Apple's team when it was on a tear. Since Berkley and David A. Brown, Quantum's



president, took charge, Quantum has plotted an unusual course. In manufacturing, for instance, it follows neither Seagate nor Conner. Conner buys rather than builds most of its components, thereby avoiding high fixed costs. But when demand jumps, as recently happened in its 2½-inch line, it can run short of parts. Seagate, by contrast, makes many components so it can gear up production quickly to earn high profits when demand is strong. But when demand slows, its large fixed costs hurt.

Quantum used to be like Seagate. But in 1983, Berkley and Brown launched a new subsidiary to build the Hardcard, a 3½-inch disk drive on a circuit card that snaps into an IBM PC. To build it quickly, they enlisted Japan's Matsushita Koto-buki Electronics Industries Ltd. MKE had never made a disk drive, but as the world's largest maker of videocassette recorders, it had proven skills in making electromechanical gear. It was a risky move because it could produce a strong Japanese competitor in hard disks. But so far, the gamble has paid off. By 1987, Hardcards were contributing 54% of Quantum's sales and all of its profits.

With development of Quantum's other

products bogged down, Berkley and Brown took the reins of the whole company. They hired MKE to speed Quantum's push into 3½-inch drives. MKE made Quantum revamp the way it develops drives, insisting they be designed with robotic assembly in mind. Some drives had to be redesigned 30 times. "After four months, our engineers were ready to quit," Berkley recalls.

But Quantum got the benefits of building in-house—without the cost. MKE plowed about \$150 million into automated plants. So, 97% of the drives leaving MKE's assembly lines need no reworking, compared with 90% or less for most competitors. That gives Quantum among the highest gross margins in the industry, even after MKE's cut.

NEW TEAMS. Lately, Berkley and Brown have focused on development. Disk-drive product generations had shrunk to less than two years, but development was still taking up to three. They set up teams for each product line, which were free to draft needed talent from engineering, sales, marketing, finance, and other departments. For Quantum's 2½-inch drives, due out this summer, designers came up with final specifications in

just 30 days, rather than months. Prototypes arrived in two months, not four. The result: The new drives will be ready just 15 months after conception.

Still, Berkley concedes that he needs to do better. Despite the new teams, Quantum's 2½-inch drives are three months behind the original plan, partly because MKE had trouble making a new component. That, says Conner Vice-Chairman William J. Schroeder, underscores the weakness of relying on MKE. Indeed, one major Quantum customer worries that if sales continue to slow, MKE may not invest in new diskmaking technology, perhaps leaving Quantum drives less competitive.

But Berkley isn't placing all his bets on his Japanese partner. Quantum has just opened a new plant in Milpitas with some of MKE's technology. Back in the 1970s, Berkley learned the hard way how quickly Japanese suppliers can become rivals. As an executive at printer maker Qume Corp., he "watched a business disappear in two or three years" to Japan. So far, he has managed a neat trick in disk drives: using Japanese knowhow to help keep the U.S. on top.

By Robert D. Hof in Milpitas, Calif.

A WILD CARD IN THE DATA STORAGE GAME

In the 18 years since IBM created the Winchester hard disk—a sealed disk drive that stores data on metal platters—engineers at companies such as Quantum Corp. have made astounding strides. The first drives stored 35 megabytes of data on 14-inch platters. Today, disk makers cram 85 megabytes on 2½-in. platters. By next year, 1.8-in. drives will be available.

But there are limits in creating the tiny motors, platters, and recording heads to build ever-smaller drives. So a new technology is emerging that goes where "rotating memory," such as hard disks, can't. It's called the memory card—a bunch of memory chips crammed into a plastic cartridge about the size of a credit card.

NEW SPIN. NEC Corp. was the first to use the technology. Now, Hewlett-Packard Co. and Poquet Computer Corp. have it in their tiny "palmtop" PCs. The cards are smaller and lighter than disk drives, and retrieve data faster. With no moving parts, they can survive harsh environments such as factories. And they use little power, so a palmtop can run off two AA batteries.

As the market for palmtops and other tiny PCs grows, so will sales of memory cards. One researcher, SRI International Inc. in Menlo Park, Calif., says the market could swell from 4 million units this year to 52 million in 1993. The business got a big boost last year when two major groups of computer and electronics makers agreed on a standard for card size and software. IBM, Compaq, and Fujitsu are among the dozens who back it.



AN HP PALMTOP: DATA WITHOUT A DISK

But disk-drive makers aren't about to lose sleep over memory cards. One reason is price. A 4-megabyte card now costs \$720, compared with as little as \$150 for a 40-megabyte hard disk drive. And in memory cards, 4 megabytes is maximum capacity now. But 16-megabyte cards are expected by 1993, and 40-megabyte cards are likely by 1996.

FLASH CARDS. That has chipmakers diving into the memory-card business. Intel Corp. is leading the way with cards that use so-called flash memory. Unlike other chips used in memory cards, flash chips don't need a battery to keep them from losing their memory. And flash promises to be cheaper: By 1996, claims Richard D. Pashley, general manager of Intel's Memory Components Div., a 40-megabyte flash card will cost about the same as a 40-megabyte disk. Intel's Japanese rivals, including Fujitsu, Mitsubishi Electric, NEC, and Toshiba, are ramping up production of flash memories.

Still, hard disks aren't about to disappear, particularly when buyers of desktop PCs are asking for greater disk capacities. But in portables—where space comes at a premium—and in rugged systems, memory cards may knock disk drives out. Unless, of course, those disk engineers perfect the half-inch Winchester.

By Sunita Wadekar Bhargava in New York, with bureau reports









Gubby-Chic
Dinner at
The Browns

9/91















Mr. Dave Brown

3-19-1, Edanishi

Aoba-ku, Yokohama

225 Japan

June 15, 1995

Dear Mr. and Mrs. Brown,

I and my wife spent busy days from coming back to Japan, because we had to finish works of house move. After that we get daily life now and are talking about wonderful travel Quantum presented for us.

At the dinner party with Quantum people we were very impressed with your goodwill for us and felt of happiness sincerely. The gifted flute is the highest grade instrument I have ever had . When I played a music by the flute in my new house the sound was so beautiful that I was amazed.

We enjoyed Caribbean cruse very much, especially beautiful color of sea and sky, ingeniously planned dinner party, various shows, auction of paintings and shopping. These wonderful experiences will be great memories for our future life.

After retirement, I sometims think about my past activities in the business , I realize that I was lucky to have business with Quantum.

Thank you very much for your cooperation on the buisness and favorable presents for my retirement.

Sincerely yours,

S. Amano Mitsue
Shigeru and Mitsue Amano





Dave -

Remember this?

Bernie took this at a 1990
price negotiation - Okudogo!

Mike