

Quantum Corporation, 2150 Bering Drive, San Jose, CA. 95131, (408) 262-1100

NEWS RELEASE

QUANTUM CORPORATION
COMPANY BACKGROUNDER

Quantum Corp. And The Disk Drive Marketplace

Quantum Corporation was founded in March, 1980 in order to address a major opportunity in the low cost disk drive market: the explosive growth in the low cost portion of the information processing industry--small business systems, word processing products, personal computers, intelligent terminals and general purpose mini and micro computer products, all of which are experiencing annual growth rates of from 35 to over 50 percent.

Data storage devices such as disk drives are an essential element of these low cost systems. Market demand trends are toward lowest cost fixed disk drives as end-use demand for computers is growing most rapidly in lowest cost segments. The high demand for such systems has drawn a number of companies into the development of eight inch fixed disk drives. These products are based on IBM "Winchester" head and media technology. Key attributes of fixed disk drives as viewed by purchasers are cost per function, cost per byte stored, reliability, and storage capacity. Form factor, or size

compatibility with floppy disk drives is a key benefit in many applications.

Most entrants in this field have elected to develop high performance products aimed at providing a reduced size product alternative for those systems currently using high performance 14 inch disk drives. Two large companies--Shugart Associates and Memorex and now Quantum--have taken a different direction. They have developed products which provide a low cost, readily integrated upgrade for OEM customers of eight inch floppy disk drives. These products result from a focus on the lowest possible cost and greatest possible compatibility with floppy disks. The result is products which leverage the capacity and performance advantage of Winchester technology with the enormous acceptance of eight inch floppy disk drives as a key small system building block and near universal medium of data interchange and backup.

Key technical differences between low cost and high performance eight inch Winchester products are in spindle drive, head actuator and track positioning technologies utilized and optional features offered.

Multiple Sourcing Trend in Low Cost Peripherals

Security of supply and multiple sourcing are becoming increasingly important criteria in low cost peripherals

selection. OEM customer awareness and concern have grown significantly in these areas in recent years as demand for low cost computing systems and peripherals has exploded. Alternate sourcing has become a major parameter in procurement decisions along with requirements for product quality, reliability, support and low cost.

Quantum Establishes SA1000 as Industry Standard

Quantum is the third company to introduce a low cost floppy-like fixed disk Winchester product. Sales of Quantum products (see Product Release) will be made primarily to OEM customers who are today using eight inch floppy disk drives. The company's products are completely compatible with Shugart Associates SA1000 products. Shugart today dominates both the floppy and 8-inch Winchester disk drive OEM markets with over 60 percent marketshare.

By second sourcing Shugart Associates, Quantum projects its products will receive broad exposure and rapid acceptance in the market, leading to the capture of a significant share of the low cost eight inch fixed disk market. Several other factors which will assure Quantum of a leading position over the long term in this market include:

- o an undiluted single product focus;

- o a product family based on innovative combinations of mature technologies rather than unproven pioneering technologies;

- o a broadly balanced and experienced management team;

- o a focus on low cost, high volume manufacturing, based on a modular assembly line concept to permit smooth, incremental expansion of production capacity;

- o commitment to a corporate strategy that is market responsive, rather than technology driven;

- o sound financial resources to support rapid growth in a highly competitive market.

Innovative Product Technology

Quantum's first products will be 10, 20, and 30 megabyte disk drives compatible with Shugart Associates 5 and 10 megabyte SA1000 drives (see Product Release). A generation ahead of the other entrants in the low cost eight inch disk market, the unique design of Quantum's Q2000 (see Technical Backgrounder) results in a doubling of the data recording area density while retaining compatibility with the SA1000. It reduces by one half the recording media and read/write heads required for a given storage capacity. Additionally, the Q2000 utilizes up to three disks to provide three times the drive capacity of the largest capacity (two disk) SA1000.

Quantum's strategy is to apply low cost, well proven design and manufacturing technologies to provide OEM customers with a logical and evolutionary step in memory products without the risks and supply uncertainties inherent in products using untried, pioneering technologies.

Powerful Management Team

The founders (see Management Backgrounder) and key executives who make up the top management of Quantum have backgrounds in all aspects of the low cost computer peripheral business, including general management, marketing, engineering and manufacturing. Most of Quantum's management has had recent experience with the industry leader in low cost disk drives-- Shugart Associates. Quantum's management team has played a major role in product development, manufacturing and marketing of products that have created the present exploding OEM market for low cost memory products.

High Volume Manufacturing Commitment

Central to Quantum's strategy is a commitment to high volume production. Quantum's engineers have designed the Q2000 to be manufacturable in high volume at low cost right from initial concept. Cost-effective manufacturing process, tooling and test equipment have been made an integral part of drive

development. The Q2000 has been developed from a base of direct experience in the design and manufacture of the industry's most successful floppy and fixed disk products.

An innovative modular clean tunnel assembly line approach is used to allow rapid growth of production capacity. Gravity flow racks and conveyor systems are used to kit parts for production. Subassembly and final assembly lines are located for minimum material movement between lines. Each line module contains its own clean area air system to provide a contamination free environment for assembly. Final test operations are designed to handle the output from several lines. As production demands increase, assembly line modules can be added to increase capacity smoothly without impacting product quality or productivity of other line modules.

Market Driven Product Strategy.

Quantum's initial strategy will be to service the OEM market by making maximum use of its position as the first-- and only to date--independent, single product focused supplier of industry standard Shugart Associates compatible low cost fixed disk drives.

Long term, of course, success depends on the ability of Quantum management to stay abreast of on-going trends in market needs. Fundamental in future product plans is Quantum's commitment to low cost, high volume memory products.

Quantum is well positioned to make use of evolving disk drive technology. Magnetic media and head technologies will allow at least an order of magnitude increase in recording density in less than a decade. Thin film recording heads using semiconductor fabrication techniques will soon be applied to low cost OEM products. Higher performance magnetic media, including higher coercivity particles and sputtered or plated thin film disks will also eventually be applied to low cost disk drives. New, exotic technologies will only be applied when they mature to where OEM customers can be assured of high reliability, delivery security, and maximum cost effectiveness.

Increasing OEM customer demands for compatible multiple sources of new disk drives figure prominently in Quantum's product growth plans.

Resources For Growth

An initial round of venture capital financing was completed in June, 1980, resulting in investment of over \$3 million from Bank of America Venture Capital Corp.; Mayfield Fund III; Sutter Hill Ventures; Kleiner, Perkins, Caufield & Byers; and Continental Illinois Venture Capital Corp.

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Nov 1980

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NEWS RELEASE

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FOR IMMEDIATE RELEASE

QUANTUM ANNOUNCES 10, 20, & 30 MBYTE Q2000

8-INCH WINCHESTER DISK DRIVES COMPATIBLE

WITH SHUGART SA1000

SAN JOSE, Calif. -- Using an innovative combination of proven design and manufacturing technologies, Quantum Corp. has developed a family of low cost eight inch fixed disk drives that are compatible with Shugart Associates SA1000 disk drives yet offer two to three times the capacity.

Designated the Q2000 series, the new family includes drives with 10, 20 and 30 megabyte capacity, compared with the current 5 and 10 megabyte Shugart SA1000 products now on the market. The new family features include:

- o Full SA1000 interface, mounting, and power supply capability
- o Reliable Winchester head/media technology
- o A proprietary moving coil rotary head actuator
- o A unique temperature compensation servo track positioning system
- o Improved access time
- o Microprocessor control of drive functions.

"Quantum's fundamental approach," says James McCoy, Vice President of Marketing, "is to innovatively apply and integrate proven, mature design and manufacturing technologies rather than to pioneer new exotic technologies. Key is the creation of reliable, low cost, manufacturable products in response to clear market needs. The SA1000 has clearly become the de-facto standard of the low cost 8-inch Winchester marketplace. Quantum is providing both competitive, compatible alternate sourcing and a logical, evolutionary growth path to higher drive capacities."

Included in the Q2000 family are the 10.67 MByte (unformatted) single disk Q2010; the 21.33 MByte two disk Q2020; and the 32.00 MByte three disk Q2030. The Q2000 family features a 4.34 Mbits/second transfer rate, an average latency of 10 milliseconds (Msec), and improved access times of 15 Msec track to track, 100 Msec maximum and 50 Msec average (Q2010) to 60 Msec average (Q2030).

While rotational speed, flux and track densities differ from SA1000 values to accommodate the Q2000 family's track position servo and higher per disk capacity, the Quantum disk drives retain Shugart Associates SA1000 format and interface compatibility. Maximum recording density is 6600 BPI, maximum flux density is 6600 fci and track density is 345 tpi. Rotational speed is 3000 rpm.

Soft sectoring is offered, allowing full user flexibility in disk formatting. Using recommended 256 byte 32 sector format, formatted capacities are 8.4 MBytes (Q2010), 16.8 MBytes (Q2020) and 25.2 MBytes (Q2030).

In order to achieve the low cost, compatibility and higher capacity objectives, says McCoy, Quantum has designed an innovative head positioning system. This proprietary head actuator combines the design simplicity and cost advantages of stepper motor designs with the infinite positioning range and performance of a rotary actuator. "This allows higher track densities without increasing cost," he says. "Our actuator provides its own basic position reference for track locations as do stepper motor designs. Additionally in order to provide double the per disk capacity of stepper designs, direct track position feedback is provided from the disk surface for temperature compensation." This allows higher track densities than stepper motor actuator drives without limiting recording formats as in embedded servo designs. It also eliminates the need to sacrifice a full disk surface, head, and read channel for track locating as in higher cost track following systems. A unique feature of the family is the use of a dedicated microprocessor to control drive logic functions and to provide transparent emulation of SA1000 functions.

Quantum additionally offers compatible controllers, exercisers, data separator, and data separator design for OEM use in evaluating and integrating Q2000 products.

The overlapping offering of the Q2000 drive family with that of Shugart Associates SA1000 provides a compatible alternate source opportunity for OEM users of the Quantum and

Shugart drives. In addition to the one for one capacity overlap between the 10 MByte Q2010 and SA1004, Quantum offers a clear growth path to two and three times larger capacity at nominal increases in cost.

In OEM quantities of 500 per year, pricing is \$1,200 for the 10 MByte Q2010, \$1500 for the 20 MByte Q2020, and \$1800 for the 30 MByte Q2030. Evaluation units are available 30-60 days ARO.

Quantum has been shipping evaluation units since September of this year and will begin tooled production in January 1981. Production capacity for over 200 drives per day is planned by the end of 1981.

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NEWS RELEASE

Quantum Corporation MANAGEMENT BACKGROUNDER

Quantum And Its Management Team

Assuring the success of Quantum in the marketplace is a top management team that is among the most experienced in the industry. Quantum's executives are a team of experienced engineering, manufacturing and marketing managers from the leading computer memory and peripherals manufacturers. Five of the six founders and many key members of Quantum's team were recent employees of Shugart Associates where they directly contributed to many of that company's successes. Specifically, the engineering project managers for both of Shugart's successful low cost fixed disk drives, the SA4000 and SA1000, are Quantum founders. Many of the founders and key employees have patents relating to fundamental disk drive technology. With from 6 to over 30 years of experience in the computer memory business, key executives of Quantum include:

- o James L. Patterson, president of Quantum and former vice president of engineering at System Industries;

- o David A. Brown, Quantum's vice president of engineering, formerly director of floppy disk drive engineering at Shugart;

o Harold C. Medley, vice president of manufacturing at Quantum, formerly director of engineering and manufacturing engineering at Shugart;

o James M. McCoy, vice president of marketing, formerly manager of product marketing at Shugart;

o Donald V. Daniels, manager of electrical engineering, formerly the SA4000 engineering project manager at Shugart;

o Joel N. Harrison, manager of mechanical engineering, formerly the SA1000 engineering manager at Shugart;

o Robert G. Teal, director of sales, formerly western and eastern regional sales manager for Shugart.

James L. Patterson

At 42 years of age, Patterson has had over 20 years of experience in the computer peripherals industry. A BSEE graduate of the University of Colorado, he first spent 11 years at IBM where he held various engineering and general management positions. Following this was three years at Memorex, where he was first director of product development for communications products and then director of business planning for disk drive and microfilm products.

Patterson spent six years as vice president of engineering in the development and support of System Industries'

computer memory subsystems product line. During this period, sales for this product rose from \$2.5 million to \$24 million a year.

David A. Brown

Thirty-five years old and the holder of four patents relating to rotating memories, Brown received his BSME from San Jose State and an MSME from the University of Santa Clara. Prior to his seven years with Shugart, he spent three years at Memorex as a mechanical engineer with various rigid and flexible disk products. Earlier professional experience includes positions at Peripheral Data Machines and Pratt & Whitney Aircraft.

At Shugart, Brown was responsible for the development and manufacturing start-up of the highly successful mini-floppy disk drive product line, and most recently, for the redesign of Shugart's SA-850 double sided eight inch floppy disk drive. He was also largely responsible for the design and manufacturing start-up of Shugart's in-house magnetic head operation.

Harold C. Medley

Holder of ten patents covering a wide range of product technologies, the 56-year-old Medley has 30 years of experience in various development and manufacturing engineering functions at Shugart Associates, Memorex, IBM, Strombert Datagraphix, Battelle Institute and Phillips Petroleum.

In his seven years at Shugart he was directly responsible for the development of that company's floppy disk drive manufacturing line concept, a major contributor to Shugart's success.

Earlier experience, including 13 years at IBM, includes development engineering responsibility for such products as microfilm processing equipment, xerographic copiers and printers and optical computer memory devices. He has a BME degree from Ohio State University.

James M. McCoy

At 34, McCoy has 13 years of experience in various engineering, manufacturing and marketing roles relating to magnetic memory devices.

As manager of product marketing at Shugart Associates, he was responsible for product management and technical support for all of Shugart's product lines. Earlier as product line manager for floppy disk drives, he coordinated

corporate programs to strengthen the production volume and quality of Shugart's eight inch double sided floppy disk drives.

Prior to two years at Shugart, he spent three years at Verbatim as manufacturing and marketing product manager for data cartridge products. He has also held positions at Infomag and AVCO/Cartridge Television and spent three years at IBM as a manufacturing engineer. Holder of a patent in magnetic head technology, McCoy has a BS degree in industrial engineering and management from San Jose State.

Donald V. Daniels

With 15 years of experience in computer peripheral products, the 41-year-old Daniels holds three patents. During his six years at Shugart he was the engineering project manager for the SA4000, the first successful truly low cost 14 inch fixed disk drive.

Previously he was an engineering manager at Memorex for five years, where he was responsible for the development of several microfilm, terminal and printer products. In his three years at IBM, he was a development engineer on the electronics design of 2311 to 3330 disk drive products. He has a BSEE degree from San Jose State.

Joel N. Harrison

In his two years at Shugart Associates, the 32-year-old Harrison was responsible from design concept to manufacturing release for development of the SA1000 line of low cost eight inch fixed disk drives, which have become the most successful product in this marketplace. He also spent four years at Hewlett-Packard as development engineer on various 14 inch disk cartridge and fixed disk drives and on the 8450 spectrophotometer. He holds a BSME from Cal Poly and an MSEE from the California Institute of Technology.

Robert G. Teal

Teal, 37, has 16 years of sales and engineering experience in the computer industry. In two years with Shugart Associates, he held positions of eastern and western regional sales manager. Earlier he spent eight years at Control Data Corporation in various sales management positions for computer and peripheral products. He is an electrical engineer with a bachelor's degree from Upper Iowa University and holds two patents in electromagnetic technology.

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QUANTUM CORPORATION
TECHNICAL BACKGROUNDER

Quantum's Jump Forward

In 8" Fixed Disk Drives

Quantum's initial family of low cost eight inch fixed disk drives are based on an innovative combination of mature, reliable technologies, rather than any radical leaps in unproven technology. The result is a capacity per disk that is more than double that of competitive products at costs competitive with older technology drives. Moreover these advantages are achieved with a product configuration that is totally compatible with the SA1000 of Shugart Associates, the industry leader.

Cost objectives have been met by rigorous attention to both drive architecture and individual functional elements to assure the lowest cost while still meeting or exceeding basic SA1000 performance and reliability standards.

To achieve the cost, compatibility and capacity objectives, Quantum's Q2000 family incorporates a number of innovative design features including:

- o a proprietary rotary moving coil head actuator,
- o a unique track positioning system,
- o microprocessor control of drive functions.

Improved Actuator Design

To achieve double the track density of competing eight inch fixed disk drives, Q2000 drives incorporate a rotary moving coil torque motor head actuator and temperature compensation servo. Competing devices use open loop stepper motor actuators.

While adequate for low track density applications, steppers are inherently unsuited for higher capacity or performance products. Increasingly costly mechanical, magnetic, and electronic requirements cause steppers to be non-competitive at higher track densities.

For higher track densities, one alternative is the use of a linear voice coil actuator. The limitations of this approach are that it requires a very expensive magnetic structure, and additional expensive bearings to support the structure and keep it in a very precise and accurate plane of motion.

Another alternative is the rotary voice coil actuator, which eliminates some of the bearings necessary in the linear motor approach. While it can be made more accurate than a stepper, it is still expensive in comparison to a stepper motor. The magnetic structure of a rotary voice coil is complex and costly. Also, the bearings must be capable of withstanding considerable sideways stress, more so than the linear motor approach. So while the bearing structure is simpler and

somewhat less costly, it requires a much more sophisticated-- and expensive--structure to withstand those sideways stresses if reliability is to be assured.

The Quantum solution combines attractive aspects of all these previous approaches in an innovative rotary moving coil actuator (patent pending). A very simple mechanism, it creates pure torque with no sideways stress on actuator bearings. It is balanced statically so that the drive can be rotated in any direction without head or arm movement. Without sideways stress, the bearing structure used can be significantly lower cost yet more reliable than those used in alternate designs.

Its construction is simple and straight-forward, requiring only a ring magnet, two flat plate magnetic circuit elements, a single plane moving coil, and a two bearing structure. It is driven by a simple two phase electronics system. A high efficiency design, it incorporates a low inductance coil resulting in low power consumption.

With an average access time of 50 milliseconds for the 10 MByte Q2010 and 60 milliseconds for the 30 MByte Q2030, it is faster than stepper systems and approaches performance of the more expensive voice coil systems.

Imaginative Positioning Technology

Quantum's disk drive products incorporate a unique

combination of techniques to significantly enhance positioning accuracy and timing.

Optical Encoder. For referencing track locations, an optical position encoder is located on the actuator. In keeping with Quantum's product design philosophy the optical encoder is fabricated using mature and reliable glass reticle/LED/photodiode technology historically used in low cost precision positioning systems.

The result is an encoder system that is accurate to over ten times the track density of present Quantum products, leaving considerable room for growth of the family to higher track densities.

Temperature Compensation. Higher track density disk drives require temperature compensation to assure accurate track location and reliable operation. In the past this need has been widely dealt with by specifying one disk surface as a dedicated track position reference surface. This surface contains a series of continuous servo tracks to which the drive logic references read/write head location. When the location of these reference tracks vary with temperature, the system senses this and adjusts head position accordingly. Drawbacks to this approach are that it reduces the amount of disk area actually available to the user in a system and significantly increases drive cost.

The requirement for this "track following" reference surface is eliminated in the Q2000 family by providing direct track position feedback from the disk surface itself in a manner that is transparent to both the controller and the host system.

Capable of updating track position 50 times a second, this temperature compensation servo technique takes advantage of "index" timing space at the end of each disk track to encode track location information between the last inter-record gap and the index pulse.

On initial drive power-up, and continuously thereafter, an on-board microprocessor reads actual track and head location coding once each disk revolution and compares it with actuator position information from the optical encoder. Any head position error sensed is then used to offset the actuator position to precisely center the head on any intended track.

The microprocessor is the industry standard 8048. In addition to track positioning, all drive logic functions are under control of the on-board microprocessor.

Shugart Associates SA1000 Compatibility

Low cost eight inch fixed drives today are targeted for application in system architectures previously based on floppy disk drives. Ease of integration into floppy disk based systems is a key benefit to system designers.

For this reason Quantum has designed its family of fixed disk drives for compatibility with Shugart Associates industry standard 8-inch floppy and fixed disk drives. Shugart today leads both these product areas with over 60 percent marketshare.

Quantum's disk drives use low mass, low load force IBM Winchester type, contact start/stop head technology and 200 mm OD, Winchester type media.

Physical, interface, and power supply characteristics are aimed to closely match those of floppy disk drives. Packaging is carefully constrained to allow drive mounting in the exact physical envelope using the same attachment hardware as eight inch floppies. This allows assorted mixes of floppy and fixed disk drives to be used in the same system and eliminates the need to alter cabinetry, cabling and power supplies.

Quantum provides OEM users the option to build their own data separators and controllers or to purchase them through Quantum or various industry sources. Controllers compatible with SA1000 and Q2000 disk drives are available today or being developed at major controller houses. Quantum offers a line of controllers and data separators to aid customers in drive evaluation and system development. Also Quantum provides its customers with recommended data separator designs for integration into custom controller designs.

Quantum believes its Q2000 product offering provides a uniquely competitive combination of:

- o cost advantages,
- o compatibility with industry standard SA1000 products,
- o capacity growth advantages,
- o performance improvements,
- o corporate focus.

These benefits, responding to OEM market needs for low cost memory products, are keys to Quantum's anticipated success.

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MDS MOHAWK
DATA
SCIENCES
CHECK NUMBER 669786

PALISADE STREET HERKIMER, N.Y. 13350

DATE 12/19/80

ACCOUNTS PAYABLE NUMBER 26631

	INVOICE NUMBER	DISCOUNT PERCENTAGE	PURCHASE ORDER NUMBER OR OUR REFERENCE NO.	GROSS AMOUNT	DISCOUNT AMOUNT	NET AMOUNT
669786	0000110		533715	2,800.00 2,800.00		2,800.00 2,800.00

MDS MOHAWK
DATA
SCIENCES

8-26
430

669786

PALISADE STREET HERKIMER, N.Y. 13350

DATE 12/19/80

CHECK NO. 669786

PAY TO THE ORDER OF QUANTUM CORP
2150 BERING DRIVE
SAN JOSE CA 95131

AMOUNT OF CHECK
\$*****2,800.00*

Mellon Bank N.A.
PITTSBURGH, PENNSYLVANIA

AUTHORIZED SIGNATURE

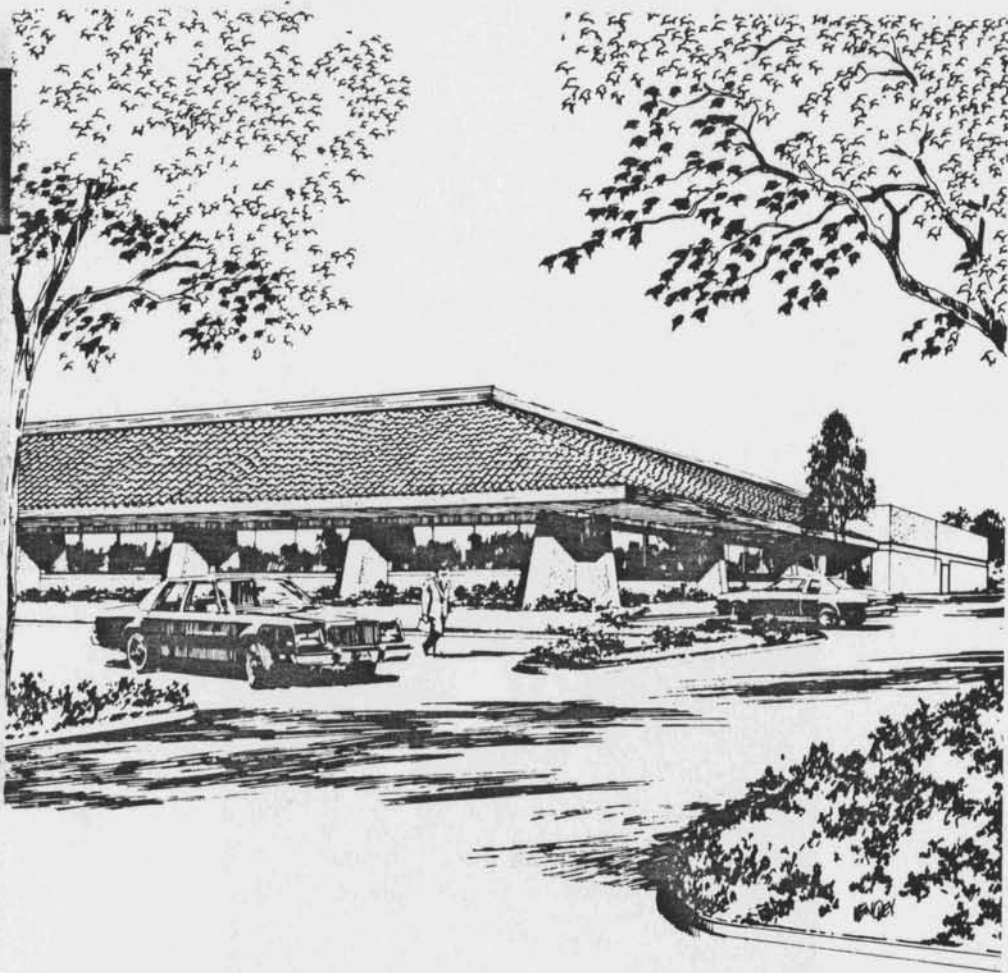
Sheld R. P...
AUTHORIZED SIGNATORY

⑈669786⑈ ⑆043000261⑆ 190⑈6381⑈

Quantum's First Check

1981

1982



EMPLOYEE HANDBOOK of Personnel Policies and Procedures

Effective January 1, 1981

QUANTUM
CORPORATION

JANUARY, 1981

JOEL HARRISON IS PRESENTED WITH
THE "ASSEMBLER-OF-THE-MONTH" AWARD



ISABEL B. CASSIN
26108 ALTADENA DRIVE 941-1839
LOS ALTOS HILLS, CA 94022

Feb 27 1981

11-35
1210

PAY TO THE
ORDER OF

Quantum Corporation \$47,812.50

Forty seven thousand eight hundred twelve and 50/100

BANK OF AMERICA

SUNNYVALE MAIN OFFICE
444 SOUTH MATHILDA AVENUE
SUNNYVALE, CALIF. 94086

MEMO

3825 Shores Series B Refund

[Signature]

⑆ 121000358 ⑆ 5476 ⑆ 00412 ⑆ 04622 ⑆

CONTINENTAL ILLINOIS VENTURE CORPORATION
231 S. LA SALLE ST.
CHICAGO, ILL. 60604



CONTINENTAL BANK
Continental Illinois National Bank
and Trust Company of Chicago

4731

2-3
710

February 27, 1981 \$127,437.50

PAY - ONE HUNDRED TWENTY SEVEN THOUSAND FOUR HUNDRED THIRTY SEVEN AND 50/100 -

DATE AMOUNT

TO THE
ORDER
OF

QUANTUM CORPORATION

CONTINENTAL ILLINOIS VENTURE CORPORATION

[Signature]

⑆ 00473 ⑆ ⑆ 071000039 ⑆ 72 ⑆ 54733 ⑆

KLEINER, PERKINS, CAUFIELD & BYERS II
2 Embarcadero Center
San Francisco, CA 94111

No. 136

5-20
110

February 27, 1981

PAY TO THE ORDER OF QUANTUM CORPORATION

\$493,937.50

Four hundred ninety-three thousand nine hundred thirty-seven and 50/100 DOLLARS

FIDELITY DAILY INCOME TRUST
Shawmut Bank of Boston, N.A.
Boston, Massachusetts
Present at Mutual Funds Department

Frank J. Caufield
(Not valid for under \$500)

[Signature]

⑆ 0110 ⑆ 0020 ⑆ ⑆ 5002904597 ⑆ 700

MAYFIELD III

2200 SAND HILL RD.

MENLO PARK, CALIF. 94025

0788

2/27

1981

11-35
1210

QUANTUM CORPORATION

\$ 308,687.50

PAY TO THE ORDER OF

Three hundred eight thousand six hundred eighty-seven and 50/100 DOLLARS

BANK OF AMERICA

STANFORD BRANCH
383 STANFORD SHOPPING CENTER
STANFORD, CALIF. 94305

[Signature]
James J. Davis, Jr.

FOR

⑈000788⑈ ⑆121000358⑆ 05206⑈06881⑈

MERRILL, PICKARD I

650 CALIFORNIA STREET

SAN FRANCISCO, CA 94108

124

February 25 1981

11-35
1210

PAY TO THE ORDER OF

Quantum Corporation

\$ 446,125.00

446125dolls00cts

DOLLARS

BANK OF AMERICA

SAN FRANCISCO MAIN OFFICE
345 MONTGOMERY STREET
SAN FRANCISCO, CALIF. 94104

[Signature]
S. L. Merrill
[Signature]
N. J. Sakaf

⑈000124⑈ ⑆121000358⑆ 00337⑈06189⑈

SUTTER HILL VENTURES

3000 EL CAMINO REAL

PALO ALTO, CALIFORNIA 94306

BANK OF AMERICA
STANFORD FINANCIAL SQUARE OFFICE
PALO ALTO, CALIFORNIA

4442

11-35/1210

February 25, 1981

REGISTERED 382375dolls00cts
RD-25868

\$ 382,375.00

PAY TO THE ORDER OF

QUANTUM CORPORATION

[Signature]
Bill A. Duff

⑆121000358⑆ 01188⑈06155⑈



SECURITY PACIFIC NATIONAL BANK

SAN FRANCISCO MAIN OFFICE
ONE EMBARCADERO CENTER, SAN FRANCISCO, CA 94111

No 15609840

DATE 11-4/1210

February 26, 1981

PAY TO THE ORDER OF

***** Quantum Corporation ***** \$ ***9,562.50*****

SPN BE 9562 AND 50 CTS

Postoffice Check

Alice S. How

AUTHORIZED SIGNATURE

⑈15609840⑈ ⑆121000044⑆512⑈560242⑈

NO 102

GREENWOOD INVESTORS
16101 GREENWOOD ROAD
MONTE SERENO CA 95030

Feb 20 19 81 55-33
270

PAY TO THE ORDER OF

Quantum Corporation

\$10,000⁰⁰

Ten thousand and 00/100

DOLLARS

NOT VALID FOR LESS THAN \$500.00

FIRST JERSEY
NATIONAL BANK

1 Exchange Place
Jersey City, N.J. 07303
Present at InterCapital Liquid Asset Fund Inc.
Mutual Funds Division

[Signature]

⑈08860190⑈ ⑆027000339⑆010036137⑈

TECHNOLOGY VENTURE INVESTORS

3000 SANDHILL ROAD
MENLO PARK, CALIF. 94025

Purchase 39,215 shares Quantum

stock

1021

February 27 19 81 11-24/285
1210(B)

PAY TO THE ORDER OF

Quantum Corporation

\$ 490,187.50

Four Hundred Ninety Thousand One Hundred Eighty-Seven and 50/100--DOLLARS



STANFORD INDUSTRIAL PARK OFFICE
WELLS FARGO BANK
NATIONAL ASSOCIATION
805 CALIFORNIA AVENUE
PALO ALTO, CALIFORNIA 94308

[Signature]
[Signature]

⑈001021⑈ ⑆121000248⑆0285051470⑈

Purchase 785 shares of Quantum stock

11-24/285
1210 (8)

1304

TVI MANAGEMENT
3000 SAND HILL ROAD, BLDG. 2
MENLO PARK, CALIFORNIA 94025

Nine Thousand Eight Hundred Twelve and 50/100----- DOLLAR:

DATE	TO THE ORDER OF	EXPLANATION	CHECK NO.	NET AMOUNT
2/27/81	Quantum Corporation	See above	1304	9,812

WELLS FARGO BANK
Stanford Industrial Park Office Palo Alto, CA 94306

J. Schuowski
Stanford Community

⑈001304⑈ ⑆121000248⑆0285 051462⑈

NO. 7

JOSEPH T RODGERS JR &
JOANNE RODGERS
276 KAREN CT
LOS GATOS CA 95030

2/27 1981 55-33
270

PAY TO THE ORDER OF QUANTUM CORPORATION \$ 3,125⁰⁰

Three thousand one hundred twenty five DOLLARS

NOT VALID FOR LESS THAN \$500.00

FIRST JERSEY
NATIONAL BANK
1 Exchange Place Jersey City, N.J. 07303
Present at InterCapital Liquid Asset Fund Inc.
Mutual Funds Division

Joseph T. Rodgers, Jr.
Joanne C. Rodgers

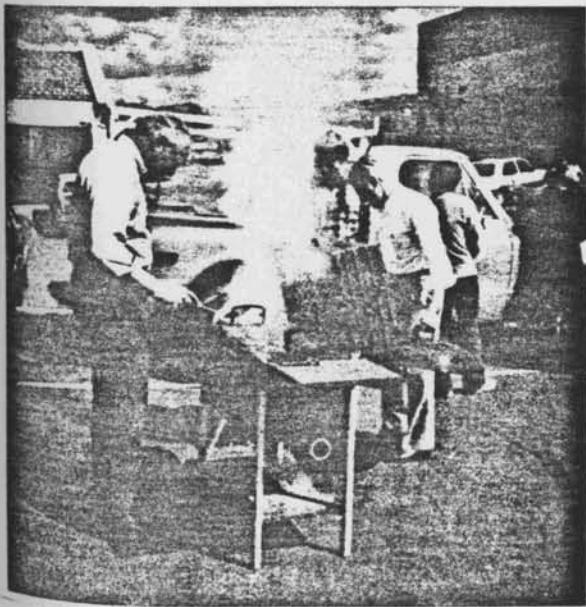
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FACTORY SECURITY PRINTERS

FEBRUARY, 1981

QUANTUM'S FIRST BIRTHDAY PARTY

- CUTTING THE BIRTHDAY CAKE -



"Quantum 8-inch Winchester drives are setting a new industry standard."

—Jim McCoy, VP-Marketing, Quantum Corporation

Lowest cost-per-megabyte.

Quantum Q2000 disk drives are your most affordable way to upgrade from floppy disk to Winchester reliability. Because we designed every part, every function to give you highest quality at the lowest cost-per-megabyte in the industry.

Four times the capacity.

Choose from our 10, 20, 30 and 40 megabyte versions. That's up

to four times the capacity of leading 5 and 10 megabyte 8-inch Winchester drives.

Full compatibility.

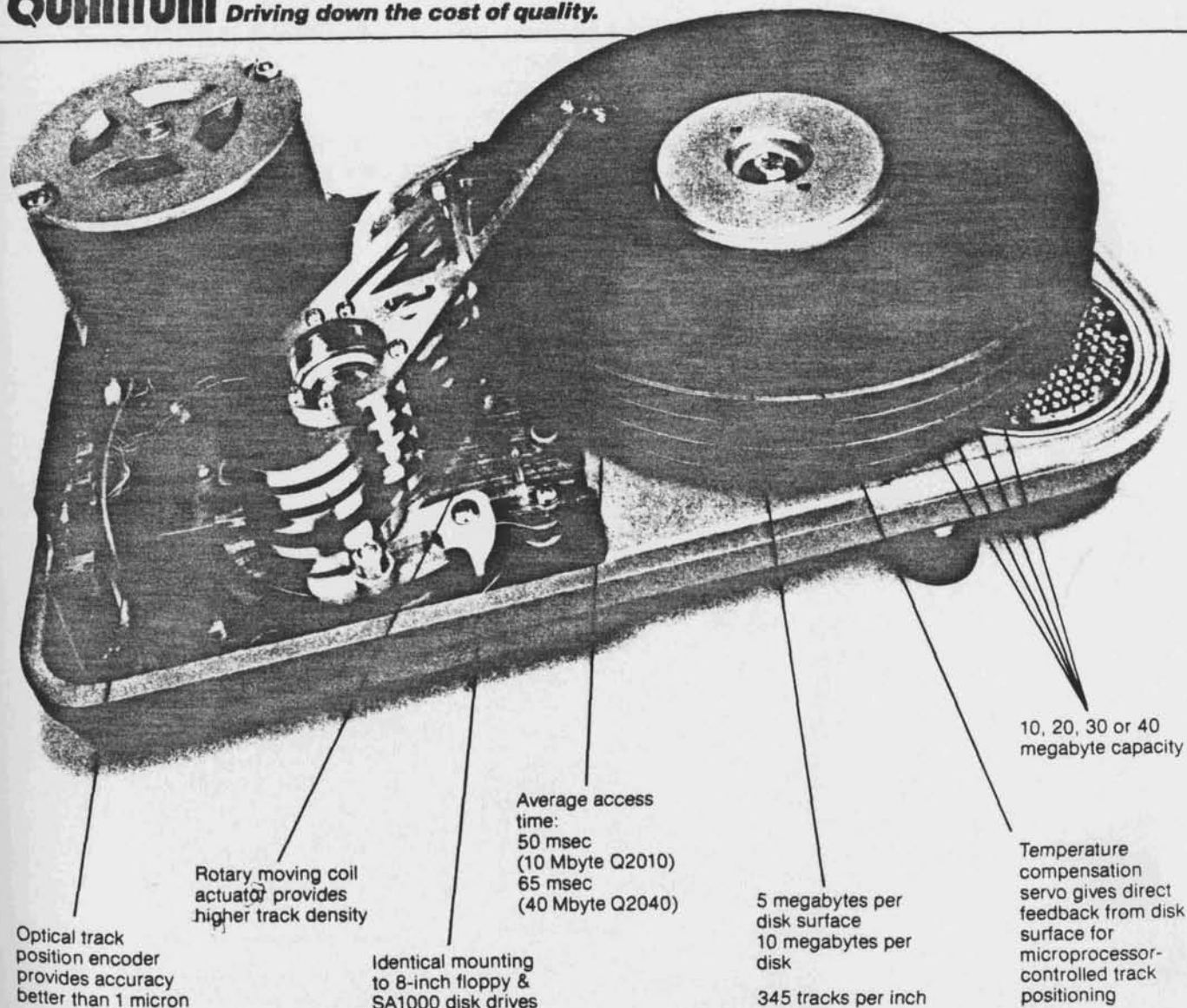
Interface, power supply and mounting requirements are fully compatible with industry-standard Shugart SA1000 fixed disk drives. There's no need to alter your basic system design when you upgrade to the Q2000.

Higher performance.

Average access time is up to 28% faster than the Shugart SA1000.

To stay competitive in today's exploding market for low-cost computer systems, you need to know about Quantum 8-inch Winchester drives now. For details, call Bob Teal, Quantum Corporation, 2150 Bering Drive, San Jose, CA 95131, phone (408) 262-1100.

QUANTUM *Driving down the cost of quality.*



"As OEMs discover the advantages of Quantum 8-inch Winchester drives, the demand grows daily. In Manufacturing, we're prepared to meet high-volume OEM commitments."

A very manufacturable disk drive.

Quantum's 10, 20, 30 and 40-megabyte Q2000 disk drives were designed to be built in high volume at low cost.

Working as a team, Quantum design and manufacturing engineers created a drive that gives you better performance than the industry-standard 8-inch Winchester, yet can be manufactured with simple, low-cost parts and fast, efficient production methods.

Low-cost, high-volume production.

To meet your low-cost, high-volume delivery requirements, we designed our manufacturing process as carefully as we designed the drive itself.

Our unique conveyorized "clean-air tunnel" combines the best of proven techniques for Winchester drive assembly. The drive is assembled on a conveyor line, so production is more efficient than with independent assembly stations. And the laminar-flow clean-air tunnel completely eliminates the need for a large, expensive "clean room," cutting production costs and increasing worker efficiency.

Specially-designed automated testing equipment thoroughly exercises each drive through all its functions, to assure highest quality while keeping labor costs down.

Every manufacturing operation is planned for easy, smooth expansion to meet growing OEM requirements.

In short, we're geared for low-cost, high-volume production of quality disk drives that we're proud to deliver to you.

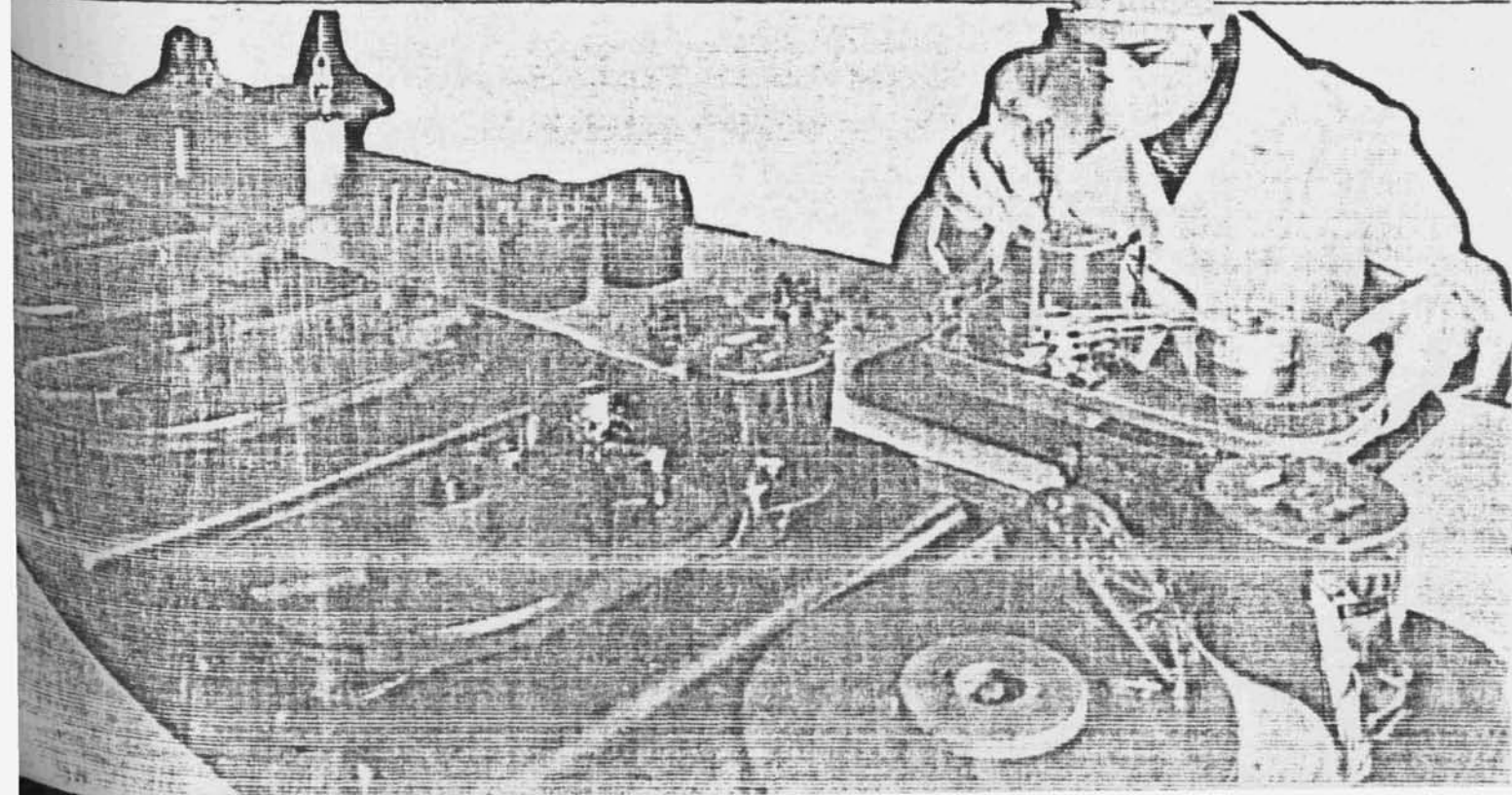
Get to know Quantum now.

From manufacturing and engineering to marketing and customer service, Quantum has the very best people in the disk drive industry today. People who can help you plan an affordable growth path for your small computer systems.

For details on Quantum's low-cost 8-inch Winchester drives, call our Western Region Sales Office at (408) 262-1100, or our Eastern Region Sales Office at (603) 893-2672. Quantum Corporation, 1804 McCarthy Blvd., Milpitas, CA 95035.

See us at COMDEX, Booth 191.

QUANTUM *Driving down the cost of quality.*



“Quantum fully intends to be the leader in 8-inch Winchester drives by 1982.”

—Jim Patterson, President, Quantum Corporation

We have the very best people.

People whose impressive credentials inspired a level of financial backing seldom seen in a company so young. A management team with 110 years' experience and 20 patents in computer peripherals. The same people who developed the first generation of low-cost Winchester drives. And the second. People who have demonstrated the ability not only to design a superior drive, but to produce it. In high volume.

At low-cost. So you can count on reliable delivery of high-quality drives . . . always at a competitive price!

The very best drives.

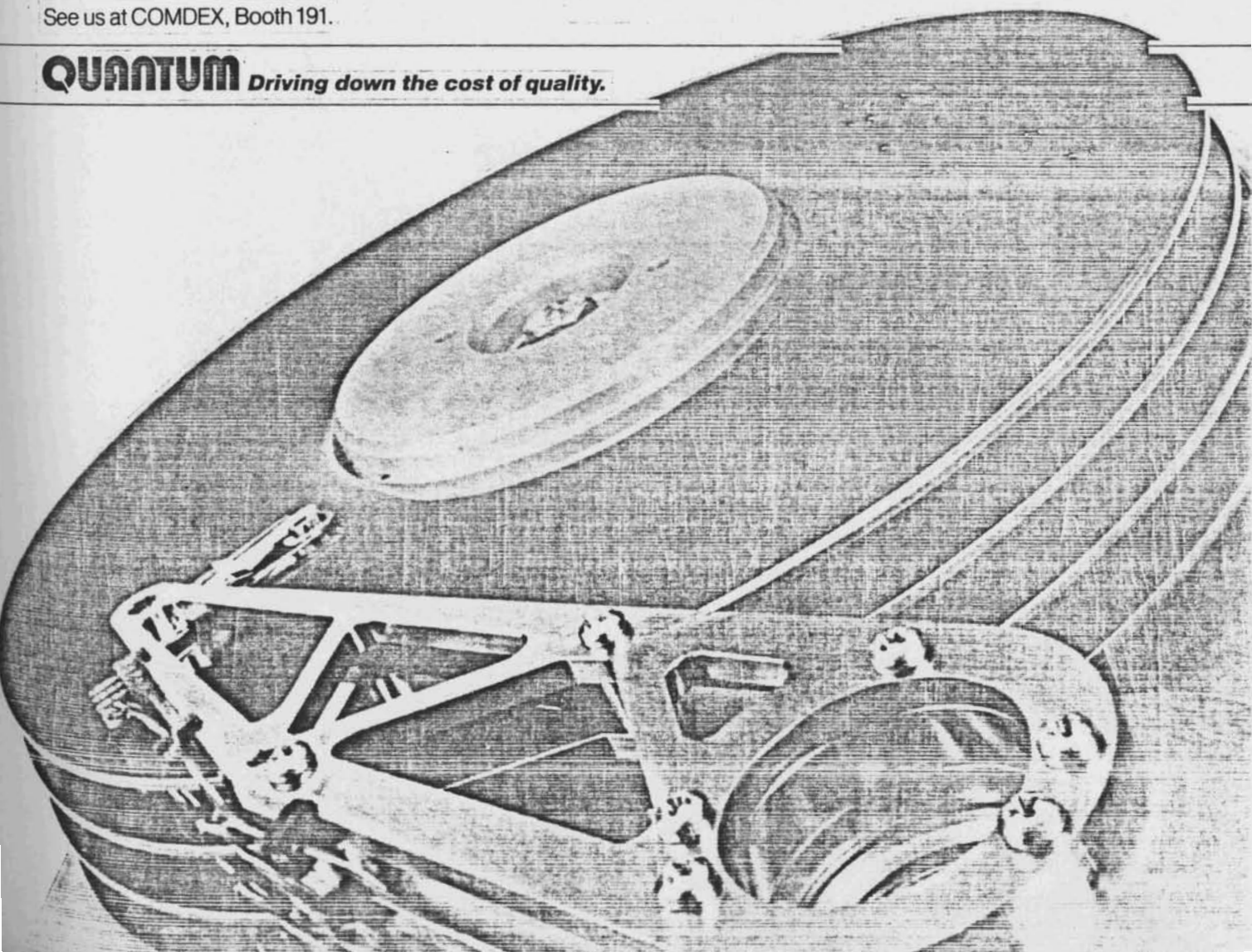
Our Q2000 series of 10, 20, 30 and 40-megabyte drives gives you up to four times the capacity of the current industry standard, at a lower cost-per-megabyte. And all four are compatible with standard 8-inch floppy disk drive form factor and power supplies.

Major OEMs have already given the Q2000 series their highest vote of confidence: orders. To stay competitive in today's exploding market for high-quality, low-cost computer systems, you need to know about Quantum's 8-inch Winchester drives now.

For details, call our Western Region Sales Office at (408) 262-1100, or our Eastern Region Sales Office at (603) 893-2672. Quantum Corporation, 1804 McCarthy Blvd., Milpitas, CA 95035.

See us at COMDEX, Booth 191.

QUANTUM *Driving down the cost of quality.*



"Engineering for low-cost, high-volume production is even more challenging than engineering for higher capacity and better performance. We did both with the Q2000."

—David A. Brown, VP-Engineering, Quantum Corporation

Low-cost 8-inch Winchester drives designed to be built in volume.

All too often in the disk drive industry, the procedure has been for Engineering to design the drive, then turn it over to Manufacturing and wish them luck. That's why a lot of designs that looked great on paper fell short when they got into production. And why you had to wait for volume deliveries.

And that's why Quantum made low-cost, high-volume production a priority, right from the beginning.

Our engineering group was committed not only to designing for higher capacity and better performance than the industry-standard Shugart SA1000, but to designing for low-cost, high-volume production as well.

Four times the capacity of the Shugart SA1000.

The new Q2000 series gives you a choice of 10, 20, 30 or 40 megabytes of data storage, as compared with the 5 and 10 megabytes of the SA1000. Access time is up to 28% faster. And the Q2000 series is compatible with

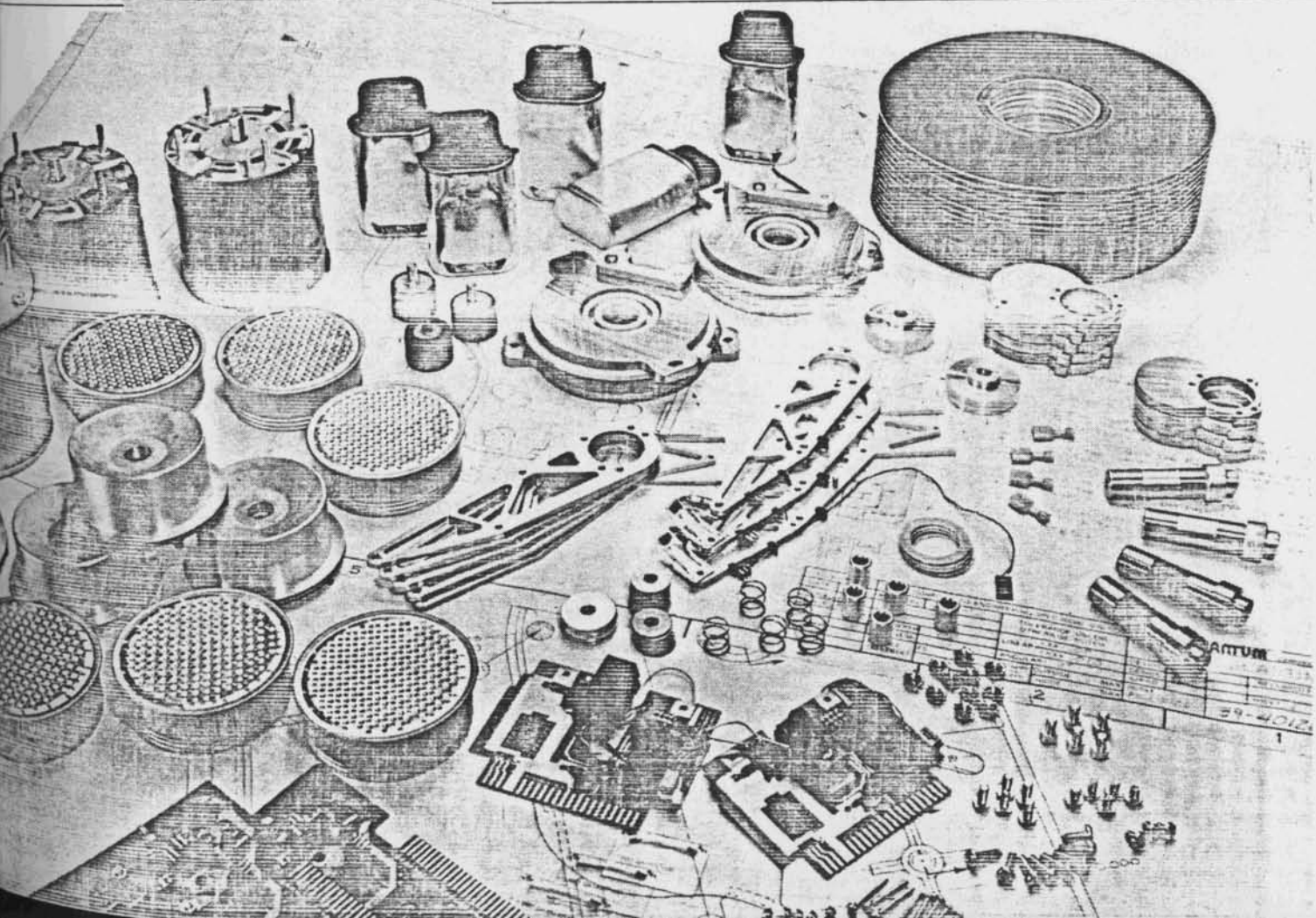
the SA1000 and with standard 8-inch floppy disk drives.

Available today in large OEM quantities.

Quantum's emphasis on manufacturability means you can get to market on schedule, with an affordable system that outperforms your competition.

Find out more about the engineering and cost advantages of Quantum low-cost 8-inch Winchester drives now. Call Bob Teal at (408) 262-1100. Or write Quantum Corporation, 2150 Bering Drive, San Jose, CA 95131.

QUANTUM *Driving down the cost of quality.*

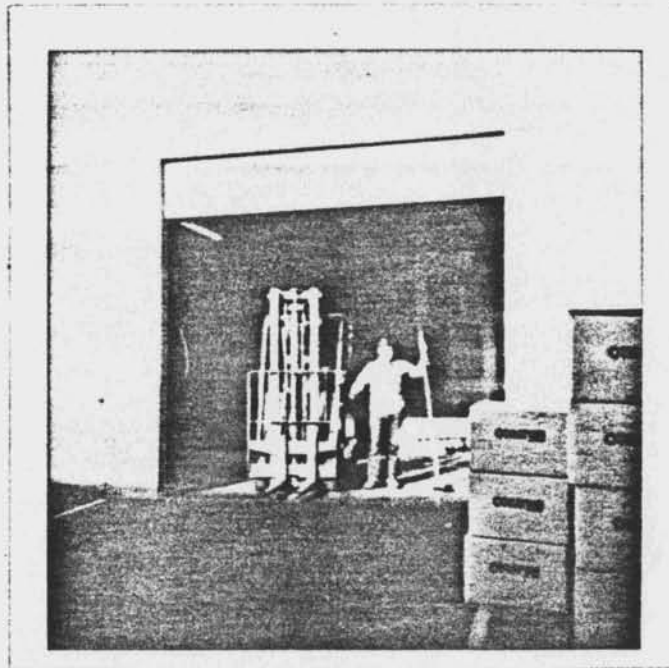
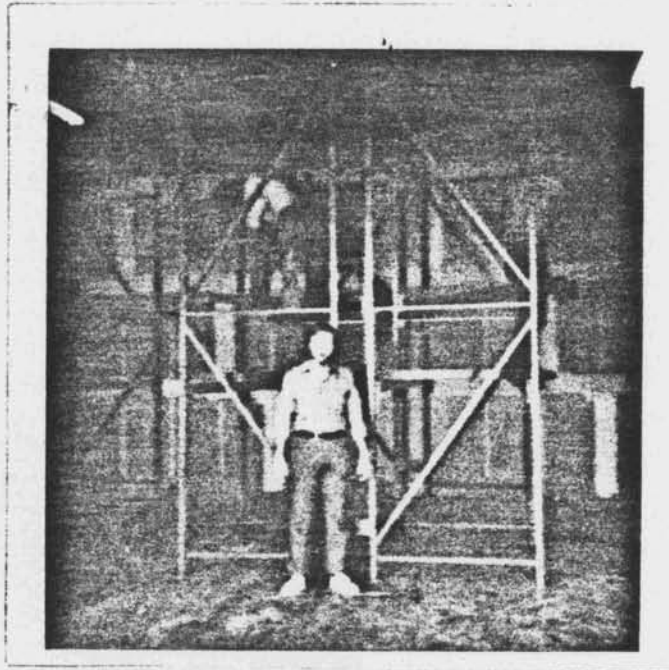


BERING DRIVE

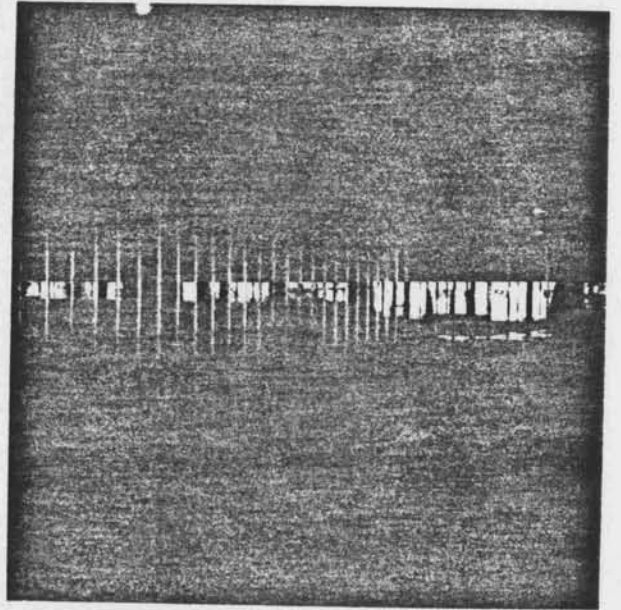
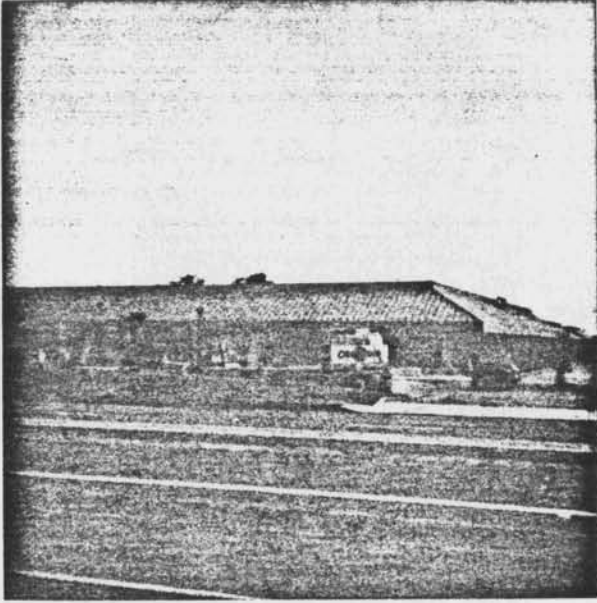
APRIL, 1981 MEETING IN BUILDING 3



QUANTUM'S FIRST STOCKROOM TAKES SHAPE



NEW BUILDING TAKES SHAPE FOR
A JUNE, 1981 OCCUPATION



QUANTUM'S OPEN HOUSE

AUGUST, 1981



1ST QUANTUM PICNIC

SEPTEMBER, 1981



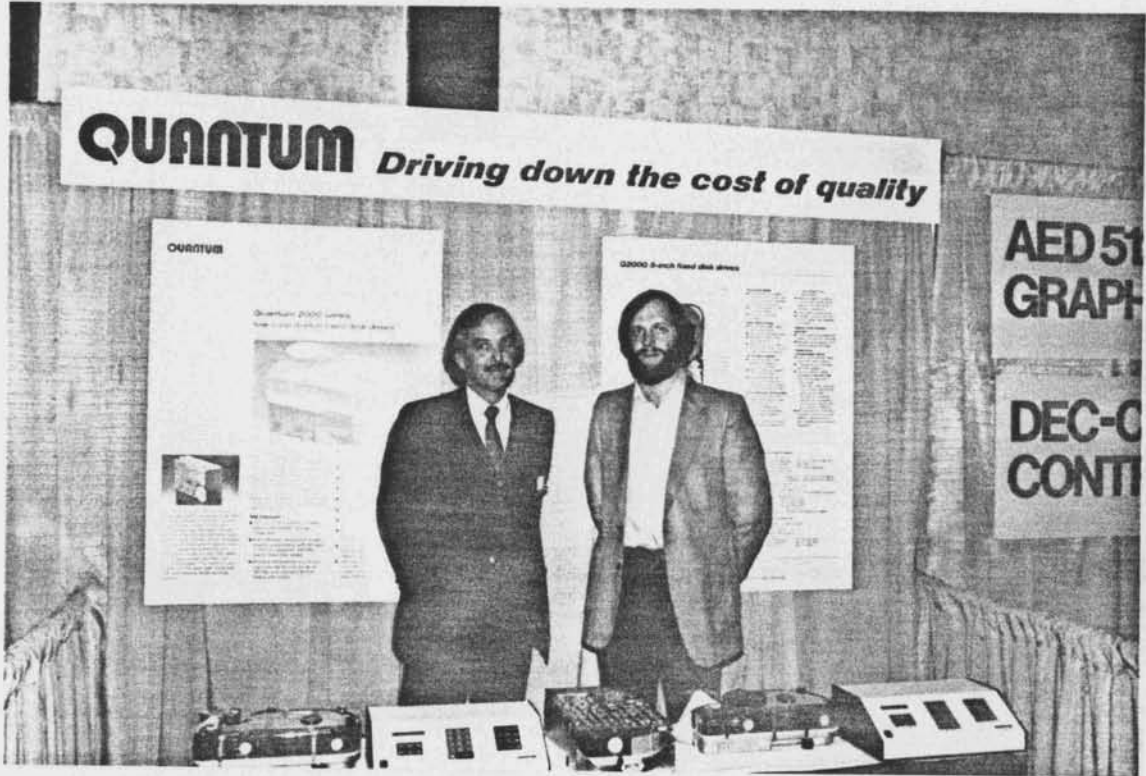
1ST QUANTUM PICNIC

SEPTEMBER, 1981



TRADE SHOW

NORM De NARDI
1981
PALO ALTO, CALIFORNIA





CORPORATE PLANNING MEETING

Quail Lodge

December 4 & 5, 1981

CORPORATE PLANNING MEETING

Friday, December 4, 1981

AGENDA

- | | | |
|-------------------------------------------------------------------------------------------------------------------|-------------------------------|-----------------|
| I. Introduction | Patterson | 9:00 - 9:15a.m. |
| <ul style="list-style-type: none">• Meeting Objective / Agenda• Administration of Meeting | | |
| II. Corporate Vision 1983 | Patterson | 9:15 - 9:30 |
| <ul style="list-style-type: none">• Corporate Goals• Corporate Vision | | |
| III. Marketing | Berkley | 9:30 - 10:45 |
| <ul style="list-style-type: none">• Sales• Product Marketing• Technical Support | Teal
Kilsdonk
Zimmerman | |
| | BREAK | 10:45 - 11:15 |
| IV. Quality | Patterson | 11:15 - 11:45 |
| | LUNCH | 12:00 - 1:30 |
| V. Manufacturing | Lukens | 1:30 - 2:15 |
| <ul style="list-style-type: none">• Production• Materials• Industrial Engineering | Lukens
Tomlin
Medley | |

AGENDA (Continued.....)

VI.	Engineering	Brown	2:15 - 3:15
	<ul style="list-style-type: none">• Product Engineering• Testing Engineering• Recording Engineering	Harrison Peterson Geffon	
		BREAK	3:15 - 3:45
VII.	Finance & Administration	Rodgers	3:45 - 4:30
	<ul style="list-style-type: none">• Employee Relations• Accounting	Rosheim Pun	
VIII.	Group Discussion (See attached)	Wheelwright Leader	4:30 - 6:30
	<ul style="list-style-type: none">• What are the issues across functional areas• Ranking issues by significance• Group assignments		
		DINNER	7:00p.m.

Starting on a Fast Track



As Appeared in November 1981
Edition of Venture

QUANTUM

1804 McCarthy Blvd.
Milpitas, CA 95035

Venture

Special Report

Starting On A Fast Track

Without planning, rapid growth can become the road to chaos for a startup company

By Jon Levine

Jim Patterson is a driven man. He has to be. His Quantum Corp. in Milpitas, Calif., has grown from six people and an idea 20 months ago to 140 employees and sales of \$15 million this year. Before they have time to digest what that means, Patterson and crew are gearing up to produce \$40 million in sales of their computer peripheral products in 1982 and \$100 million a year later.

Like entrepreneurs at the head of all fast-growth companies, Patterson seems to be standing in the eye of a centrifuge; the difference between maintaining balance and being flung to the outer edges of chaos is planning. The obvious elements to prepare for—people, facilities, and materials—are the same as those any company must consider. But the speed of rapid growth when a company's sales are doubling or tripling annually can make planning a nightmare.

How do you train 20, 40, sometimes hundreds of new workers, managers, and engineers a month, and still maintain the distinct identity and personal touch the company used to have? How do you afford the space to house them and the capital equipment to keep them working while gross margins are still too low to comfortably accommodate them? Where

do you find the capacity to efficiently process the flood of orders, to control growing inventories, and to collect mounting receivables? And how do you keep the momentum going after the life-cycle and excitement of the first product starts downward?

And how do you do all that at the same time?

The answer, in a word, is planning. Many of the nation's fastest-growing companies—with household names such as Apple Computer, Tandem Computers, and Federal Express—were able to expand as quickly as they did by carefully managing their growth and planning for it many months, sometimes years, in advance. That means acquiring the elements that are required to build a business—people, plant, capital, and a capacity to manage all three—long before they are fully needed. Fast growth is an expensive proposition, one that may cost an entrepreneur major chunks of equity. But, as is often noted, 10% of a \$100 million company is worth more than 100% of a \$5 million company.

To the uninitiated, sophisticated planning brought down to the ground floor of a startup can appear pretentious. But for entrepreneurs who are carefully plotting the courses of their new enterprises, planning is no pretense. When Gene Am-

dahl's Trilogy Systems Corp., Santa Clara, Calif., which does not plan to introduce its high-performance mainframe computers until 1984, advertises for engineers, billing itself as "a major corporation in its formative stages," the company means it.

To avoid crises, most young, fast-growth companies recognize the need to be well financed far in advance of production. Synapse Computer Corp. in San Jose, Calif., for example, won't even go into production of its transaction processing computer systems (such as automatic tellers) until the end of next year. But as early as a year ago, Synapse obtained \$1.6 million of venture capital, and secured another \$6.2 million by May.

Just as Synapse has planned its financing, all successful fast growers provide for other operating elements far in advance. Many of the senior managers at NBI Inc., a manufacturer of word processing systems in Boulder, Colo., for instance, are "hopelessly overqualified" for their current positions, says Thomas S. Kavanagh, president. That's NBI's way of making sure it has enough management expertise on board when it is actually needed. Likewise, Chicago's Midway Airlines plans maintenance facilities for its growing jet fleet at least one year ahead of time, just as the fleet itself is secured long before customers begin clamoring for seats.

Until Archive Corp., a cartridge tape drive manufacturer in Costa Mesa, Calif., can afford to buy its own computer system, it is leasing a manufacturing software package and time at a terminal.

No company is risk-free, particularly emerging growth companies. The risk is that growth will not come as quickly as planned and the company will be left with too much capital sitting idle in underutilized equipment, people, or space (see box, p. 96). What can be even more challenging, however, is managing skyrocketing growth that outstrips all the entrepreneur's expectations.

A good growth manager identifies his strengths and weaknesses and delegates