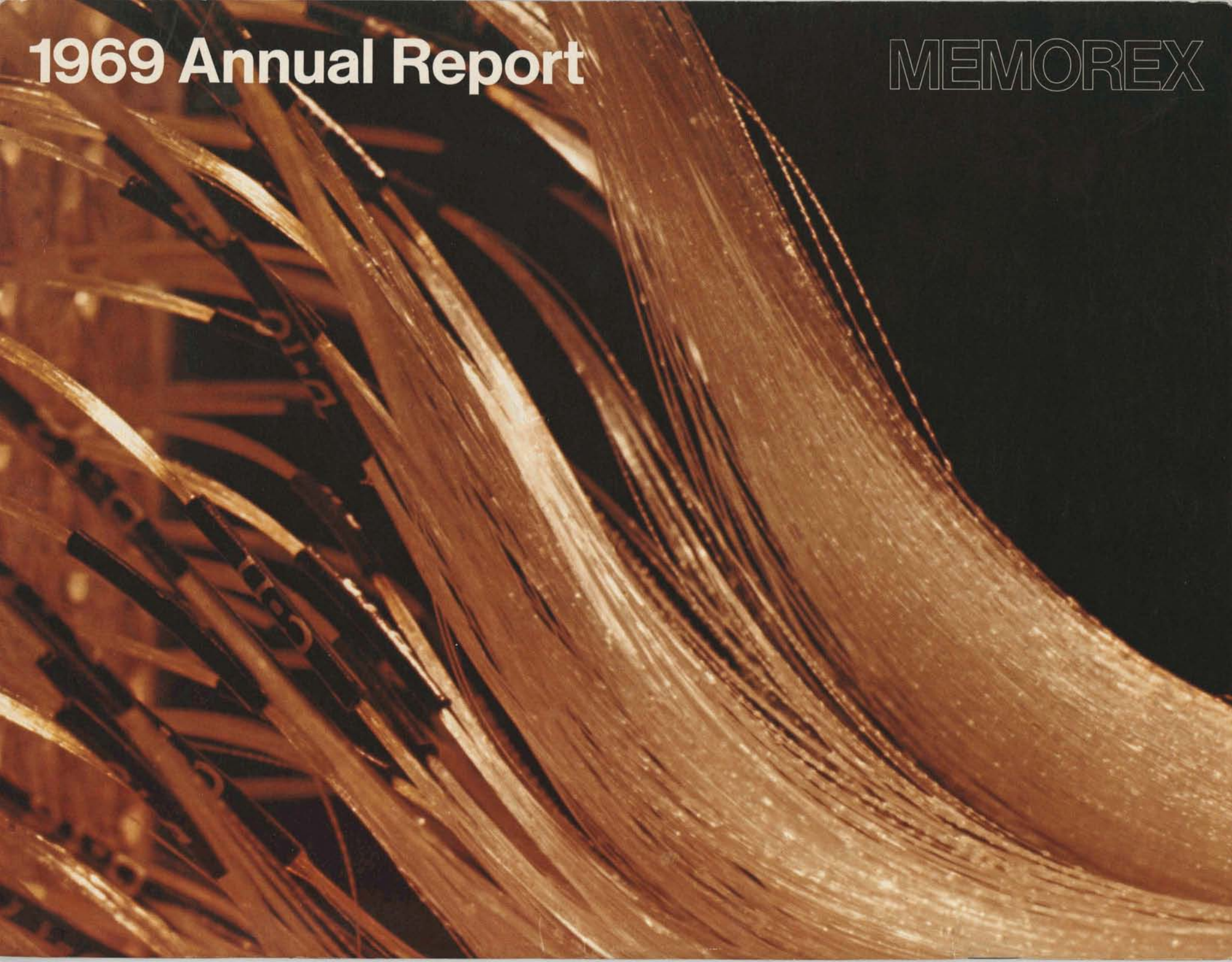
1969 Annual Report

MEMOREX



In the Memorex 1603 Microfilm Printer a matrix of 4,620 fiber optic strands transmits light signals to a location where the resultant character display is microphotographed at the rate of 10,000 lines per minute.

Memorex Corporation
1969 Annual Report

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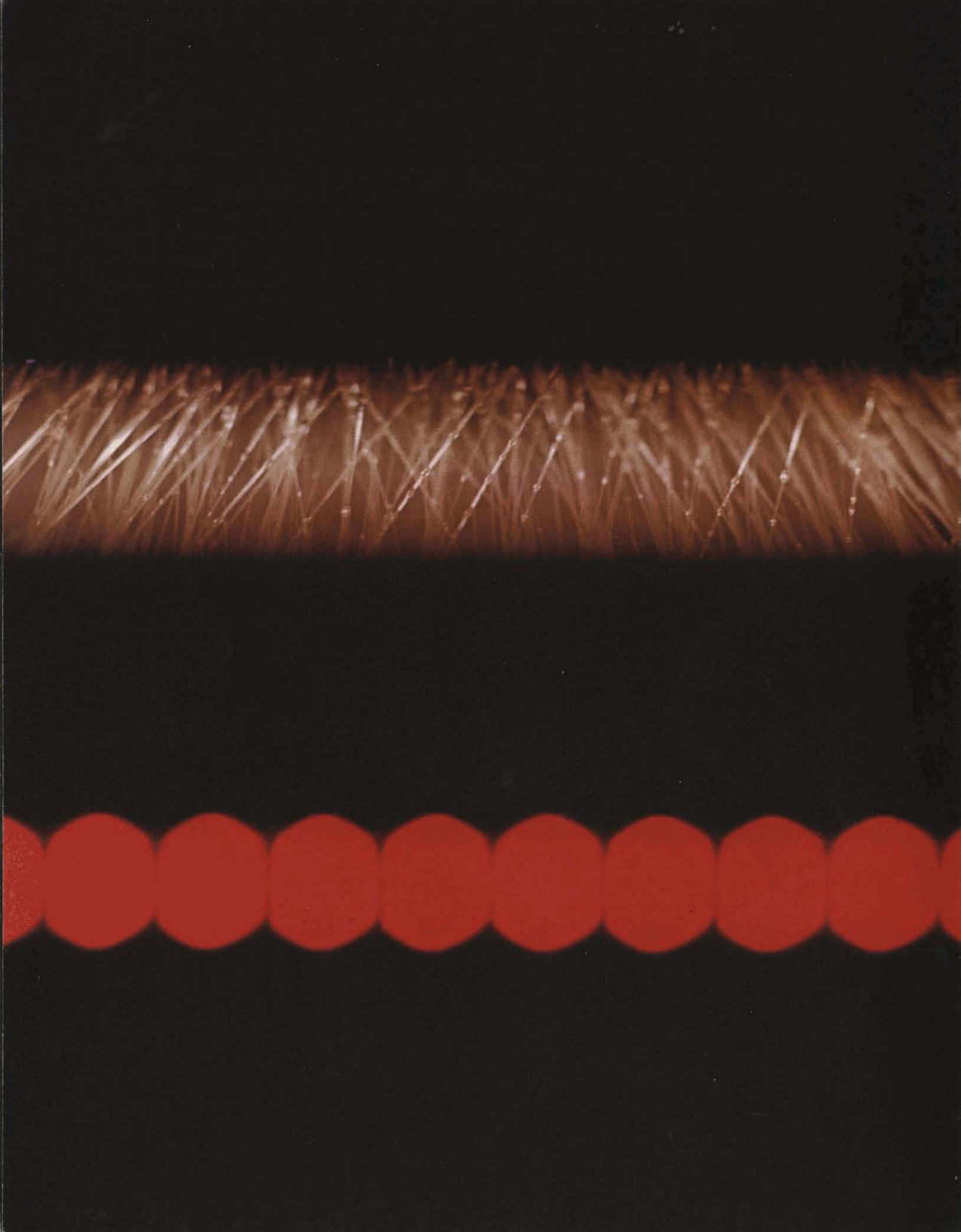
Santa Clara, California 95052



Financial Highlights
for the years ended December 31, 1969 and 1968

	1969	1968
Net sales	$77,692,000	$58,295,000
Income before provision for Federal and foreign income taxes	13,604,000	10,084,000
Net income after taxes	6,902,000	4,939,000
Net income per share*	1.87	1.35
Depreciation and amortization expense	2,888,000	2,651,000
Capital expenditures	11,901,000	8,363,000
Research and development:		
Capitalized	3,683,000	1,487,000
Expensed	5,477,000	3,798,000
Working capital	18,898,000	7,239,000
Long-term debt	21,959,000	4,289,000
Shareholders' equity	35,074,000	27,295,000
Total capitalization	57,033,000	31,584,000
Return on total capitalization (weighted monthly average during year)	20.4%	21.2%
Shares outstanding (average during year)	3,693,307	3,663,010
Number of employees at year's end	3,409	1,916
Number of shareholders at year's end	16,450	17,050

*Based on weighted average number of shares outstanding.

Fiber optic strands (mid-picture) transmit red light to form alphanumeric characters in the operation of the Memorex 1603 Computer Output Microfilm Printer. Ends of the fibers (lower picture) are photographed to provide the microfilm record.

To Shareholders:

The year 1969 was pivotal in Memorex's corporate development.

It began with our business comprised principally of magnetic media product lines. At year-end, Memorex was also engaged in large scale manufacturing and marketing of direct access disc memory equipment; a Computer Output Microfilm ("COM") Printer based upon technological innovation had been introduced to the computer market; and several other corporate development programs had been launched with objectives of still further diversification in information handling systems media and equipment.

Significantly, excellent growth of sales and profits paralleled corporate development achievements.

Consolidated sales for 1969 were $77,692,000, a 33% increase over 1968 sales. The major contribution to the sales gain resulted from shipments of computer peripheral equipment.

Net profit after taxes for 1969 amounted to $6,902,000, a 40% year-to-year growth. Earnings per share were $1.87, compared to $1.35 in 1968, both figures based upon approximately 3.7 million shares of common stock outstanding.

Four corporate development programs initiated during 1969 are expected to add new product lines to our business in 1970.

The Model 661 Disc Drive Control Unit, announced in December, is scheduled to be in production at mid-year. A keyboard terminal for communication-based and other time-shared computers, whose specifications have not yet been announced, is nearing completion and is planned for production early in the second half of the year. New media product lines which will begin production for sale during 1970 are microfilm supplies for computer output recording and Memorex's first consumer product line, magnetic tape cassettes.

Magnetic media products accounted for $62 million sales in 1969, a 12% increase over 1968's sales. The sales increase produced a less than commensurate increase in profit of media products because of a number of adverse business circumstances, which included a 15% lower average price for media products and limited production of broadcast video tape early in the year. Substantial reduction in costs of disc pack manufacturing and introductions of new computer tape and video tape products mitigated lower prices, but the primary offset was an approximate 30% increase in physical unit volume. This increase was achieved by major expansion of domestic and international media sales organizations.

Media markets continue to grow, especially the market for closed-circuit video tape which is burgeoning at an annual rate in excess of 30%. A firming of prices is also occurring, and there is other evidence that the industry's competitive shakeout is concluded. Hence, Memorex's media sales capacity, expanded during 1969, will be advantageous in 1970, and we are optimistic that media products will again enjoy a profit growth commensurate with sales growth.

Disc drive equipment sales rose to $15 million during 1969, the first full year of equipment manufacturing operations. At year-end, the scale of operations was at an annual rate of $30 million. This achievement resulted from success in meeting two major goals: the launching of production of the Model 660 Disc Drive and the expansion of manufacturing capacity at a maximal rate. At the close of 1969, shipments of the 660 Disc Drive exceeded those of the smaller capacity Model 630, which was introduced in 1968, and both the workforce and plant facilities for disc drive manufacturing tripled from the beginning-of-year levels. More than a thousand units of Memorex disc drives have now been shipped.

Memorex announced the Model 661 Storage Control Unit in December. This equipment interfaces with the IBM Series 360 computers and enables the Model 660 Disc Drive to attach to a computer as a substitute for the IBM counterpart disc storage file equipment. Initial deliveries will be made in mid-1970. The thrust of Memorex's disc drive business, as a result, will shift during the current year from the sale of drives to manufacturers of computers to the direct sale of Model 660/661 Systems to IBM computer users.

In spending for research and development, facilities acquisition, and development of Memorex's organization, the rates of increase substantially exceeded the rate of growth of sales in 1969.

Corporate development programs, which are the bases of future product lines, and on-going research and development activities relating to existing product lines involved spending of $9.2 million, a 70% increase over 1968. Of this amount, $5.5 million, or 7.1% of sales, represented on-going R&D and was charged against revenues as a current operating expense. In 1968, the comparable figures were $3.8 million and 6.5%.

Plant facilities amounted to 960,000 square feet at the end of 1969, a 70% expansion of space occupied a year earlier. Also, construction was undertaken of 590,000 square feet, and approval given to projects for an additional 90,000 square feet.

Employment increased to 3,409 at year-end 1969, an increase of almost 80%. The number of divisional and departmental managers exceeded 200, an increase of more than 100% during the year.

These increases relating to technology development, facilities, and most importantly, people, must anticipate our near-term business projections. Because these resources are well provided, Memorex should substantially exceed the $100 million sales goal in 1970 which we set three years ago. We have now raised our sights to a goal of $250 million sales in 1972.

The 1603 COM Printer which was announced in October is a fundamentally new peripheral product for the computer market, perhaps the most important to be introduced since the first replaceable disc storage file was announced. The 1603 meets a critical requirement of most computer users — the need for an archival record of output which, in microfilm form, can be more easily stored than paper records, and which can be more economically copied and distributed in large number throughout a user's organization.

Memorex's pricing strategy has placed the 1603 COM Printer within reach of the great mass of computer users, and with it has staked a claim upon the COM market potential, which some industry experts have estimated at $500 million.

Initial deliveries of the 1603 are scheduled for April 1970, with a rapid scaling up of production through the end of the year. We anticipate its production rate at year-end 1970 will be comparable to that of our disc drive equipment products.

In anticipation of the introduction of the Model 660/661 Disc Drive Storage System and the 1600 COM System and yet other peripheral products now under development, plans were prepared in 1969 and key men recruited for a worldwide equipment sales and service capability. The plans are now being implemented most aggressively. Our objectives are, at the end of 1970, to achieve a predominance of sales of our equipment products directly to computer users, and to have the capacity to solicit orders and provide service to customers at any location in the United States and in the principal markets of Canada, Europe, Latin America, and the Far East.

W. Noel Eldred resigned from the Board of Directors in December because of the press of his other business responsibilities. We are appreciative of the service which Mr. Eldred performed in his five years of Board membership.

In announcing the inauguration of Memorex's business in 1962, the motivation of Memorex employees was described by the idea that "a man's reach should exceed his grasp." That ambition has prevailed through all of Memorex's experience, in domestic and international operations, in established operations and in newly-formed subsidiary enterprises. Coupled with hard work, it produced the success of operations again in 1969. Employees of Memorex, at every level and location, take pride in building together a business which is as estimable for its quality as for its tangible growth. They invite, too, the challenges of a demanding future, confident that their past success is a signal of what they will yet accomplish.

Sincerely,

Laurence L. Spitters

Laurence L. Spitters
President

January 30, 1970

Memorex has defined its corporate interests to encompass media and equipment products for information handling systems.

The development of our business thus reflects our pursuit of opportunities in information and data acquisition, preparation, communication, conversion, reduction, storage, retrieval, reproduction, and display. These opportunities are manifold in the information explosion which is occurring throughout the world, and especially in data processing.

Memorex's policy is to pursue vigorously such opportunities in programs of corporate development which are distinct from and supplementary to on-going research and development activities related to current product lines. The objective of these programs is the development of *new* technology for the addition of *diversified* product lines, while the objective of on-going R&D is the extension and improvement of existing Memorex technology and products.

Measured by the number of programs and the scale of their operations, more was accomplished during 1969 than in any prior year to effect diversification of our business. In excess of $3 million was spent on development of new technology to supplement the more than $5 million expenses of on-going research and development activities related to existing technology and products.

Four corporate development programs of 1969 related to computer peripheral equipment products. The most important program, centering upon Memorex's 1603 Microfilm Printer, completed its product development and was transferred to the Equipment Group manufacturing division.

Light emitting diodes contained on four circuit cards inside the 1603 Microfilm Printer are switched on and off to form alphanumeric characters corresponding to the electronic output of a computer.

Three other equipment development programs were incorporated as "entrepreneurial subsidiaries" to carry on their operations:

- Information Printing Systems Corporation is developing a keyboard printer for use as a remote terminal for time-shared and other communication-based computer systems.
- Storage Products Corporation is in the final development of the Model 661 Disc Drive Control Unit which controls the flow of data between disc file memories and the central processor of IBM Series 360 computer systems.
- Midwest Systems Corporation is designing equipment for concentrating data and controlling its flow between remote terminals and a computer system.

IPSC and SPC products are scheduled to be transferred to Equipment Manufacturing during 1970. Midwest Systems Corporation, located in Minneapolis, is in the early stage of its program and a target date has not been set for completion of its product development.

Media products are also being pursued in corporate development programs launched in 1969. A Consumer Products Division was organized within the Information Media Group to integrate all activities relating to development of Memorex's first consumer product line: audio tape cassettes for magnetic tape recorders. Another new organization, the Micrographics Division, was given similar responsibility for microfilm supplies products to be sold to users of the 1600 Microfilm Printer system. Both divisions are scheduled to begin production in 1970.

Cumulative capitalized spending for Memorex's corporate development programs at year-end 1969 was $5,585,000. Memorex's accounting policy is to amortize separately each of the several amounts which make up this total figure against future revenues of the specific product line for which the funds were spent. When a new product's sales begin, the amortization rate is fixed so that each amount will be written off in a period during which the product is expected to be sold. This policy has been elected to avoid the gross distortion of current earnings which would otherwise result if corporate development spending was not capitalized but treated as an on-going business expense.

The effectiveness of Memorex's corporate development strategy is evident in the Company's projected sales for 1970, 85% of which are expected to be generated by products resulting from programs completed since 1967. More than one-half of 1970 sales are expected to be products other than magnetic tapes.

Key to this strategy has been the formation of "entrepreneurial subsidiaries," by which Memorex developed the disc pack, disc file equipment, and Microfilm Printer equipment product lines, and inaugurated three major equipment development programs in 1969. Each subsidiary is essentially a joint venture between Memorex and the technically skilled entrepreneurs who are capable of developing innovative products. No two subsidiaries are identical in their arrangements, each reflecting the uniqueness of the product development task, funding requirements, manpower needs, and market opportunity. But all have in common that financial resources, marketing and manufacturing capabilities are provided by Memorex. Memorex acquires the controlling equity in the subsidiary and an option to subsequently acquire the minority-interest equity. The variable exercise price of the option, payable in shares of Memorex Common Stock, is tied to the degree of success achieved by the subsidiary relative to the program's objectives.

Memorex's Mark VI Disc Packs are used in data processing operations to store and provide direct access to large volumes of information.

Media products used in information handling systems provide the means by which information is communicated and stored. They are generally classified as magnetic, film, and paper media.

Magnetic media products are tapes and discs whose "memory capacity" results from their magnetic coated surfaces. The surfaces are magnetized by recording equipments to correspond to electronic signals of computer data or television sound and picture. Because there is no physical change in the recording, the surfaces can be erased (demagnetized) and re-recorded indefinitely. This feature makes magnetic media uniquely satisfactory for records which must frequently be updated. Also because the record itself is in the electrical form in which it is processed by computers and information handling systems, magnetic media is the optimum media for system-to-system communication.

Film or image media products use photosensitive coatings to photograph and store images of alphanumeric, graphic, or pictorial information. Image media's advantage, in computer microfilm data storage, is its more than 20-to-1 size reduction of ordinary computer printed paper records. Like paper media and unlike magnetic media, its advantage is also that the stored microfilm image is man-readable with viewing equipment. Copies of imaged records are also reproduced very quickly and inexpensively relative to both magnetic and paper media. Its disadvantage is that, when a portion of the image record must be updated, it cannot be erased and reused. Hence, image media is optimum for voluminous archival records and for computer records which must be prepared in numerous copies.

Paper media products in electronic data processing are principally the continuous paper forms used by computer printing equipment. Paper media's use is reinforced by its familiarity and simplicity. Notwithstanding its high cost and its bulk, paper is, of course, the principal means of storing and communicating information which is intended to be directly man-readable. This is as true for computer generated data as for other kinds of information. Currently, Memorex has no development program or operations which are based upon paper media products.

Memorex is rooted in the magnetic media business. Its early success came with its ability to manufacture computer tapes of unsurpassed quality. In 1969, Memorex was the world's leader in the sale of computer tape to computer installations. Four years ago, the Company introduced its video recording tape products. In 1969, Memorex was the industry's leading producer of closed-circuit video tapes and the second leading producer of broadcast video tapes. Memorex developed its first disc pack product line in 1967. Share of market for disc packs, although a small fraction of IBM's, is now larger than that of any other manufacturer. In 1970, Memorex will launch another magnetic media product, cassettes for sound recording equipment, which will be the Company's first consumer product line.

Sales of magnetic media products were $62 million in 1969, a 12% increase over 1968's results. Prices, however, averaged 15% lower for all products. The physical volume of media products shipped increased somewhat more than 30%.

Profits of magnetic media products were impaired during 1969 by price degradation, especially acute in disc pack products. Manufacturing efficiency improved in computer tape and disc packs. New computer and video tape products offset somewhat the price degradation, but gross profit margin declined. As a consequence, operating profits failed to increase commensurately with the significant increase of media product sales during 1969. As discussed below, the 1970 outlook is for improvement in the annual rate of media profit growth.

New Tape Products

Memorex's competitive position was strengthened by the introductions of new tape products. Early in 1969, Memorex complemented its MRX III computer tape with a second product, designated Quantum computer tape. Experience had shown that magnetic coatings of many computer tapes tend to undergo decomposition when in long-term storage, with the result that errors are introduced into the recorded data. This problem is caused by the mechanical and thermal stress to which the concentric layers of a reel of tape are subjected.

To solve the problem, Memorex's research and development staff perfected a stress-resistant coating for Quantum which does not sacrifice magnetic characteristics or durability. Extensive tests show it to be 15 times more resistant to temporary errors and twice as resistant to permanent errors as the MRX III product and the best of competitive computer tapes. Because of this quality, Quantum is priced at a 20% premium, and yet affords better value when related to price/performance of long-term storage tapes.

Improved video tape products superseded existing products during 1969. In midyear, Memorex introduced a closed-circuit video tape product which has better durability and picture quality, and in the last half of the year, a new master broadcast video tape which, among other features, demonstrates improved color characteristics.

The importance of the new video products is that they assure Memorex's leadership position in video tape markets which are profitable and growing. Few manufacturers are capable of

reproducibly manufacturing these most exacting products, and severe price competition is exceptional. Video tape usage is climbing in excess of 30% annually with no slackening foreseen in this growth rate.

The most important factor in the growth of video tape markets is the radical decline in cost of video recording equipment. Closed-circuit recording equipment is now priced under $1,000, compared to the $10,000 price common five years ago. In consequence, video tape recording is being used as an audio-visual technique in education and in numerous other applications. Industry uses video tape for employee training and for new product demonstrations to customers. It is used in medicine as an instructional device and a diagnostic tool, and in hospitals and nursing homes for entertainment of patients. In law enforcement, video tape is used for identification of criminals and the recording of remote or transient evidence for submission in court.

Currently, manufacturers of video tape recording equipment are intensively developing even lower priced machines with the objective of exploiting the potential of the home market. This development is generally expected to occur before 1975. When it does materialize, the home market opportunity for Memorex's video tapes is expected to be many times larger than the combined size of the broadcast, educational, medical, and industrial markets.

The disc pack product line showed satisfactory growth in 1969, with rising sales of Mark VI packs compensating for slowed growth of Mark I packs. The Mark VI product was introduced in late 1968 and is equivalent to the IBM 2316 pack, which preceded the Mark VI by two years. These latter products have 20 recording surfaces, compared to 10 surfaces of the Mark I and its equivalent, the IBM 1316 pack, and they record at twice the data density. Because this fourfold increase in storage capacity is available to computer users at a fractional increase in costs of memory equipment and media, the market for higher density packs should continue to show satisfactory growth, as contrasted to declining sales for the Mark I pack in 1970.

The shift in the disc pack market to higher density packs is favorable to Memorex and other manufacturers of premium quality disc pack products. The higher density recording is less tolerant of microscopic peaks and imperfections of the recording surfaces which cause errors. The Mark VI enjoys an important quality differentiation from competitive products with respect to surface smoothness and other product characteristics.

Magnetic Media Outlook

Precision magnetic media — computer tapes, disc packs and video tapes — are technically complex products which are expensive to develop and difficult to produce. The technology required to formulate and process their low cost materials to produce high value finished products has escaped many giant technically-based companies. It has been mastered by less than a dozen competitors throughout the world.

Precision media markets are characterized by growth of demand and sensitivity to quality. Computer and video users store information of considerable value, and they require assurance against loss of data or inefficiency of their recording systems caused by poor quality media. No rival media perform so well or so economically the dual functions of storage and communication of information for computers and television.

These fundamental factors make the industry's outlook bright for Memorex and other leading precision magnetic media manufacturers. The industry's competitive circumstances in 1968 and 1969, however, prevented profit growth from matching sales growth. The cause of these results is the "shakeout" of competition, in which prices are lowered and profit margins are sacrificed by declining competitors in order to survive, and by market leaders to consolidate their shares of market.

There is good reason to believe the "shakeout" has reached a climax and that competitive conditions in 1970 are conducive to improvement of prices and profit margins. Inefficient and poor quality production no longer returns enough gross margin to sustain marginal competitors. Nor do their profit margins allow an increase in research and development activity to achieve better yields and quality, or more extensive marketing to achieve a more economical scale of operations. Hence, fewer marginal competitors are active in the marketplace; some have retrenched their activities and others have diverted their business to manufacture non-precision tapes.

Memorex maintained its profitability during the industry's 1968-1969 "shakeout" because its efficient manufacturing operations produce quality products in high yield at low cost; because its several computer and video product lines leverage the expense of research and development for processing and product improvements; and because its coverage of United States and international markets produces sales in high volume to allow a profitable scale of operations.

Memorex foresees a profit growth commensurate with sales growth in 1970, given a resolution of the industry's "shakeout," because of these demonstrated capabilities in manufacturing, R&D, and marketing, and because of its multiple product lines.

Newly developed Chroma Video Tape offers higher quality reproducibility of pictures and sound to industrial, commercial and educational users of closed-circuit video tape recorders.

Quantum computer tape is substantially more resistant than other tapes to errors resulting from storage because of its stress-resistant coating.

Loaded in the Memorex 1603 Microfilm Printer, the protective COM-S Microfilm Cartridge is ready to record information directly from a computer.

Memorex's product line of COM supplies and accessory equipments includes the developing chemicals and the 1610 Master Print Microfilm Developer.

Microfilm Supplies
In early 1970, Memorex will inaugurate the manufacturing and marketing of microfilm supplies to customers of its 1600 Series Microfilm Printer System. This product line has been under development since 1968 and is the basis of the Micrographics Division, formed in 1969. The principal supplies are master print film and developing chemicals, duplicating film, and form-flash slides.

Memorex's master print film, designated COM-S, is a 16mm silver halide emulsion film. It has been formulated, in combination with the developing chemicals, to achieve the maximum spectral response (clearest image) of the characters of information generated by the 1603 Microfilm Printer. COM-S film will be coated by a photographic film maker to Memorex's specifications. Film stock will be tested and assembled in durable, light-sealed cartridges, manufactured by the Micrographics Division, and designed for the film transport mechanism of the 1603.

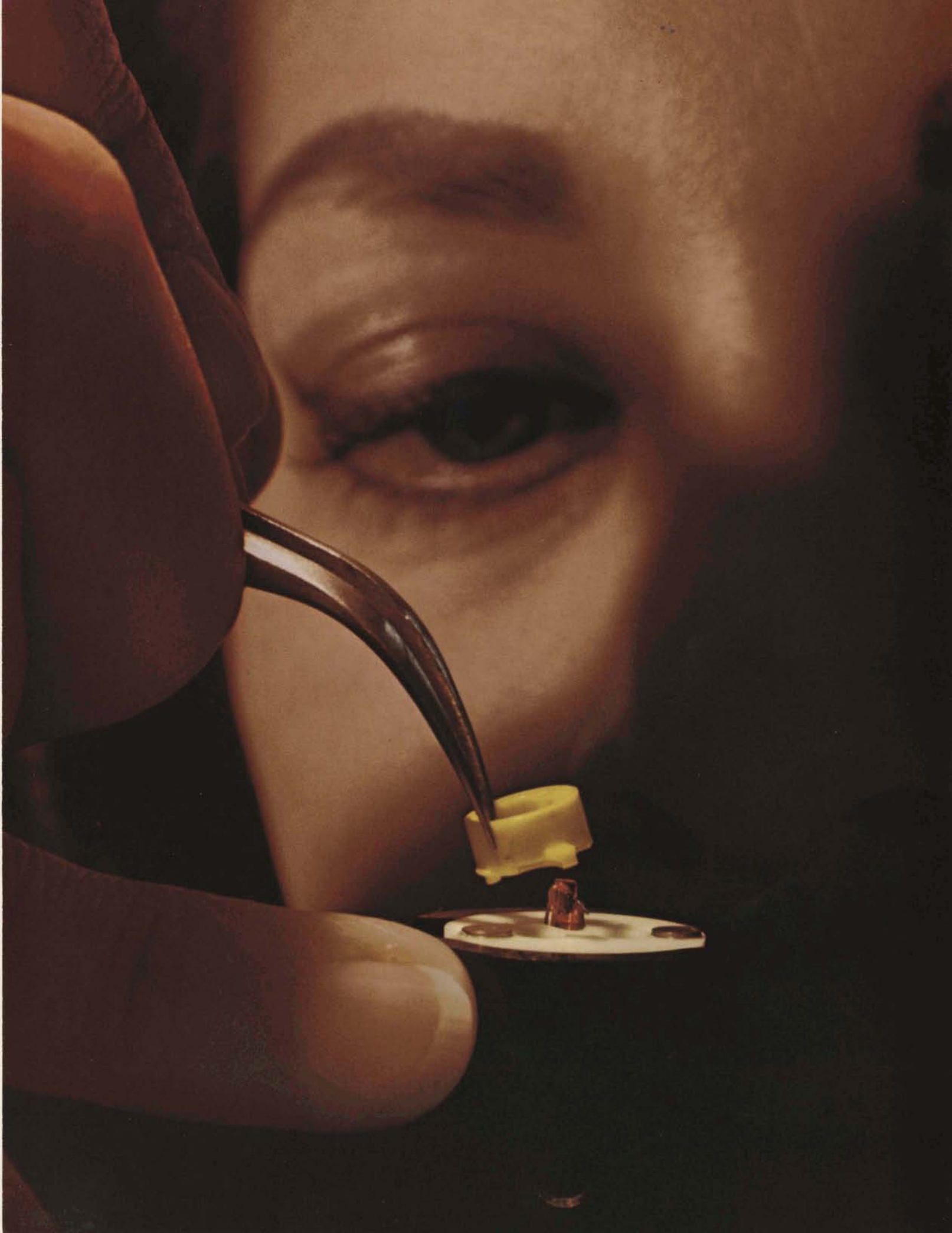
The Micrographics Division will manufacture the duplicating film from polyester base material. This product which is designated COM-T Microfilm, is a thermal film, i.e., its coated surface contains light sensitive chemicals which, after exposure, produce a visible image when exposed to heat. COM-T has been developed with a proprietary formulation which is optimized for the light source, film speed, and heating unit of the Memorex 1620 Duplicator, an accessory equipment to the 1603 Microfilm Printer. Sales of COM-T will depend upon the users' desires for copies of the master film recorded data, the number of which, because of the very small cost of microfilm copies, should grow rapidly.

Form-flash slides are glass photographs of the lines, columns, and headings of the formats in which users require the microfilm data. The slide is inserted into the 1603 Printer and is automatically projected onto the master print film such that the image of the slide is superimposed upon the image of the data.

Form-flash slides are custom made and will project any format or artwork which can be drafted and photographed. They enable the 1603 user to prepare microfilm data reports in any format for little more than the cost of the film itself. On a per page basis, this cost is less than 5/100ths of a cent, compared to paper form copies which cost several cents.

Media Marketing
Expansion of Memorex's direct sales organizations for media products was unabated during 1969, with more field sales representatives added than in any prior year. Media products are now marketed on a direct basis in the United States and Canada, Western Europe, Japan, and Latin America. The world-wide number of sales representatives at the close of 1969 exceeded 200, a more than 60% increase during the year.

Coverage of the computer and video markets is obtained from district offices in 42 principal cities of the United States and from Memorex subsidiaries in 19 countries. This coverage is the key to our marketing strength. It affords short lines of communication in responding to inquiries and negotiating with customers, rapid deliveries when required from local inventories, and expeditious technical assistance and troubleshooting for users' problems.



During the next five years, the growth of the computer industry is expected to double annual sales of computer hardware in the United States and to increase hardware sales in international markets at an even higher rate.

This projected growth will not be restricted to the computer market's traditional base in financial and technical operations of large corporations and government agencies. An extension of the computer market will be "forced draft." A modern generation of computer-trained technicians and computer-oriented managers will be a significant portion of our population, and they will insist upon the use of computers, whatever their work. Major strides in technology have improved the speed and capacity of computers to process information by an order of magnitude during the past five years. This progress is continuing and places the use of computers increasingly within the economic reach of small retailers and manufacturers and the professions of education, law, and medicine.

Growth and extension of the computer market, however, will be dependent upon the development of improved peripheral equipment, whose function is to get information into and out of the computer. Improvements in peripherals have lagged increases in the speed and capacity of computer central processing units, with the result that an information logistics problem now exists. Better means for data acquisition, preparation, communication, conversion, reduction, storage and retrieval, reproduction and display, are essential to the solution of this problem. Memorex's equipment development programs are aimed at products for these information handling functions.

Precise fabrication and intricate assembly of miniature parts of magnetic read/write heads are assurance of the Memorex 660 Disc Drive's quality and reliability.

Memorex's objective is to develop equipment products which can be sold directly to computer users. Increasingly, computer users are prepared to accept innovative concepts for information handling and improved operating performance of peripheral equipment supplied by manufacturers other than the computer systems maker. Memorex's objective also is to develop products especially for sale to computer manfuacturers (original equipment manufacturers or "OEMs"). Many OEMs are potential customers whose competitive position could be strengthened by incorporating Memorex peripherals into their systems and whose profitability could be advantaged by an economical external supply of peripherals.

To achieve these objectives, Memorex has set demanding criteria for equipment development. The equipment must be innovative and provide price/performance advantages relative to products which it proposes to supersede. The equipment must be plug-to-plug compatible with the computer system in which it will operate, and require no modification of other hardware in the system. Its operation must utilize existing software, so neither the customer nor Memorex will be required to invest heavily in software development. The equipment, ideally, will involve a complementary media product which Memorex can make and sell.

Computer Output Microfilm Equipment

The Memorex 1603 Computer Output Microfilm Printer, announced in October 1969 and scheduled for initial deliveries in April 1970, is an excellent innovation in peripheral equipment products.

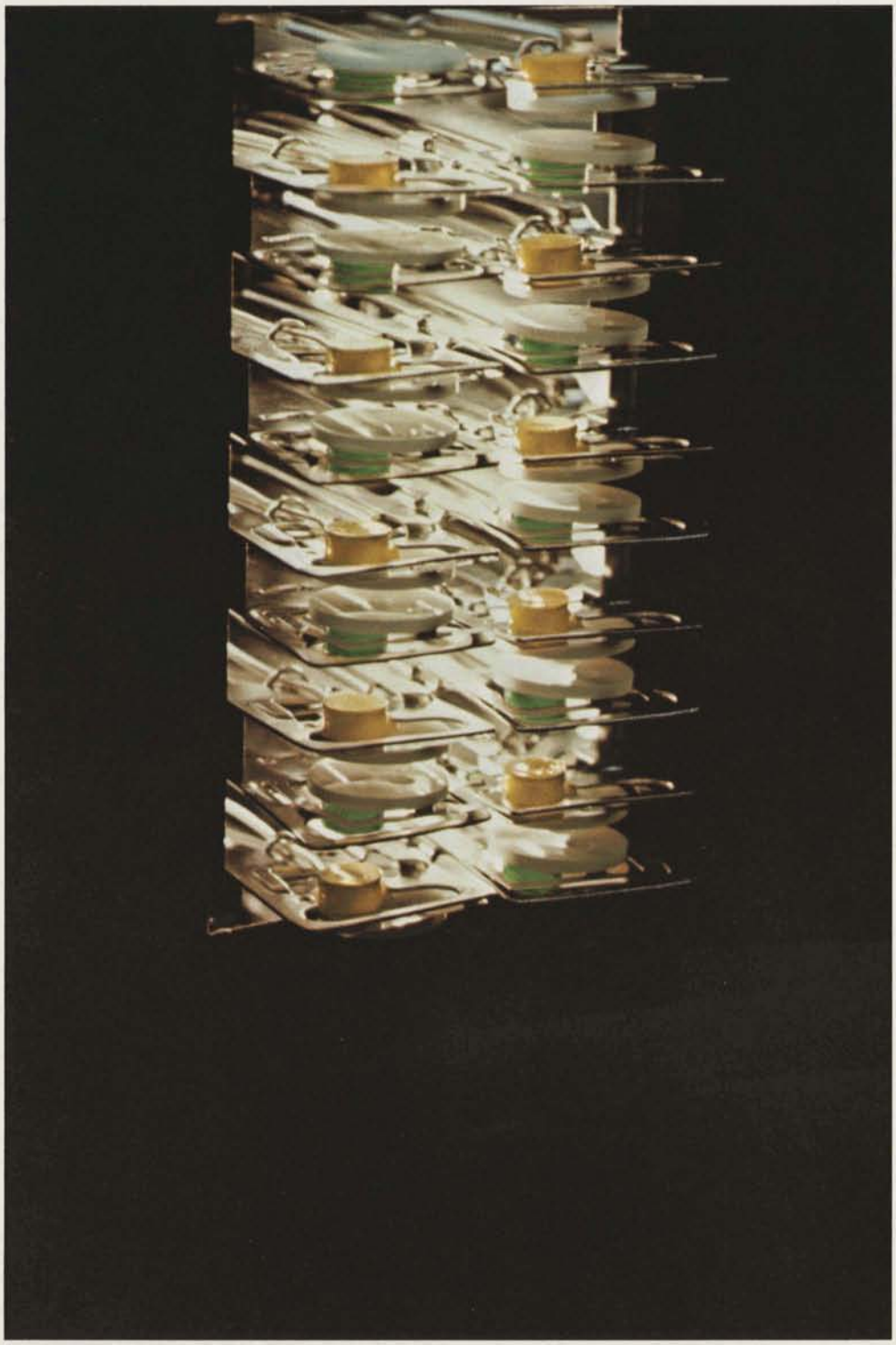
The 1603 provides users with microfilm records of computer output which correspond exactly to pages of paper records traditionally printed by the computer. Unlike the slow paper printer, the 1603 can record "on-line" at the high rate at which the computer is capable of generating data. The 1603 records 10,000 lines per minute or 10 times the speed of a paper printer. It is plug-to-plug compatible with IBM Series 360 computers which cannot distinguish between the Memorex 1603 COM Printer and the IBM 1400 Series Paper Printers. The 1603 is priced at $44,250, and leases for $895 per month. A number of the innovative design features of the 1603 Printer are covered by patents issued and patent applications.

For more than a decade, COM devices have been under development by a number of equipment makers intent upon replacing paper records by providing a means by which computer output could be recorded more rapidly, copied more cheaply, and distributed and stored more efficiently. The first generation COM devices were unreliable, which deterred computer users from operating them on-line with the computer, involved high maintenance costs, and were prohibitively expensive. Less than 400 first generation COM units have been installed.

The 1603 is a second generation COM equipment. It is extremely reliable. Its price is within economic reach of a great portion of tens of thousands of computer users. The 1603's advantages are that it improves a computer's operating efficiency, produces a man-readable record which reduces by 98% the bulk of the traditional paper record, and facilitates the making of microfilm copies at a small fraction of the cost of paper copies. Its potential is to obsolete much of the traditional paper printing by computer and to proliferate the use of microfilm copies of computer output throughout a customer's organization.

The reliability of the 1603 results from the development of a different type of light source for its camera, much superior to the cathode-ray tube or electron-beam sources employed by all first generation COM equipment. The 1603's light source

The 20 magnetic heads of the Memorex 660 Disc Drive "fly" about 90 millionths of an inch above the disc surfaces to record and search for information stored on Mark VI Disc Packs.



is a fiber optic system or "light pipes" (shown on the cover), which transmit light to form alphanumeric characters in a line or bank much as characters are formed by a bank of light bulbs in a theatre sign. The transmitted light comes from light-emitting diodes, turned on and off at computer speed, to form characters which correspond to the output data flowing from the computer. The characters formed by the bank of fibers are projected by a camera onto the microfilm, and after a line is printed (photographed), the microfilm is advanced, a new set of characters is displayed, and the new line printed.

Extreme reliability is inherent in the 1603 because its method of character generation (fiber optics) is an all digital system which requires no adjustment. The only moving parts of the system are the camera shutter and film advance apparatus. The latter is an outstanding invention: it advances the microfilm, line by line, a distance of 6/1000ths of an inch, stopping for precisely 3/1000ths of a second while the characters are photographed—and it performs this operation for every line of characters printed, or 10,000 times per minute.

Memorex will market a complete microfilm system which consists of the 1603 COM Printer and five accessory equipments, which comprise the 1600 COM System. The accessories are: 1610 Master Film Developer; 1620 Film Duplicator; 1630 Cassette Loader and Previewer; 1640 Viewer; and the 1650 Viewer/Printer. The last unit projects microfilm onto a viewing screen and produces an 8½" x 11" paper copy of the microfilm record. All accessory equipments are designed and manufactured by Memorex or by others pursuant to Memorex design and specifications. The Micrographics Division of Memorex will also manufacture microfilm and other supplies used by the 1600 COM System.

Fragile hair-like glass fiber strands with thicknesses of 3/1000ths of an inch are carefully positioned in the fiber optics matrix of the 1603 Microfilm Printer's character generator.

A technician tests the mechanism of the 1603 Microfilm Printer film transport which precisely advances the film 10,000 lines per minute.

Disc Storage Drive Equipment

Most current generation computer systems of IBM and other computer makers are configured to use disc storage drives for the files of data which are directly accessible to the computer. Media used by the disc drives are disc packs, a product line which the Company began to produce in 1967. A natural evolution of Memorex's corporate interest was a development program for disc drive equipment, which was launched early in 1967.

The first equipment product line introduced was the Memorex 630 Disc Drive, placed in production in mid-1968. It was followed by the complementary 660 Disc Drive, whose volume production began in the second quarter of 1969.

Sales of the disc drive product line totalled $15 million in 1969, the first full year of production. Throughout most of the year, sales were production limited and production was restricted by facilities. Manufacturing space tripled during the year, but it was not until October that the major expansion occurred which accommodated a sharp increase in production.

The 630 Drive is sold as a substitute for its counterpart, the IBM 2311 drive, and to other OEMs for its incorporation into their computer systems. The 660 Drive is an expanded version of the 630 which offers four times the data storage capacity, and its initial customers have been OEMs whose systems require large capacity disc storage. More than a thousand units of Memorex drives were in operation across the country at the end of 1969.

The Memorex product line incorporates sophisticated technology in two of its components: the flying magnetic recording heads and the apparatus which drives the heads across the surfaces of the disc pack media. The heads are recording devices which induce

Final assembly of the Memorex 660 Disc Drive is followed by a series of rigorous inspections and operating tests to assure its performance to specifications.

electromagnetic changes, corresponding to data, in the magnetic surfaces of the disc pack while moving across the rotating discs at high speed. Each flying head is separated from the surface by an air cushion, which has been analogized to a jet plane over a runway at a flying height of a few inches.

Manufacturing technology is required to fabricate recording heads which fly without "crashes" on the media surface, as well as perform their electromagnetic writing and reading functions. Precision manufacturing and quality control are also required for the actuator mechanism which moves the heads across the disc surfaces to selected positions of recorded data. The specification for the average of the access times to all recorded data is well under 50/1000ths of a second for Memorex's 630 and 660 Disc Drives. The operation of the Memorex-designed actuator is similar to that of a large loudspeaker coil and requires substantially less maintenance than the hydraulic actuator mechanism of competitive drives.

Equipment Group engineers anticipate the introduction of a next generation of disc storage systems to the computer market during the early 1970's. To achieve storage capacity, recording density, and shorter access time which will be specified for next generation products will require flying heads at less separation from the disc surface, more precise positioning of heads, and higher speed movement of the actuator mechanism. The technology which is embodied in Memorex's Model 630 and 660 Disc Drives, much of which is now being emulated by competitors, provides an excellent base from which this essential advanced technology will be developed.

In December 1969, Memorex announced the Model 661 Storage Control Unit, first deliveries of which are scheduled for mid-1970. The Model 661 is an electronic device whose circuitry controls the flow of data between Memorex's 660 Drives, and the central processor of IBM Series 360 computers. It will control up to nine 660 Drives, which is the storage capacity of the multiple units of the IBM 2314 disc storage product. The plug-to-plug compatibility design of the Model 661 makes it impossible for the central processor to distinguish between a Memorex 661/660 Disc Drive System and the IBM 2314 with its controller. Its relative price/performance advantages can be demonstrated on a parity of prices; however, rental prices for the 661/660 System have been set 15% below IBM prices.

Equipment Marketing

During the second half of 1969, in anticipation of product announcements of the 1600 COM System and 661/660 Disc Drive System, Memorex began building sales and service organizations to sell equipment products directly to computer users. Prior thereto direct selling was not economically feasible, and marketing was largely restricted to negotiation of disc drive supply contracts with OEM customers.

By year-end 1969, national and regional sales managers had been recruited, equipment sales offices located in principal marketing areas (New York, Boston, Washington, D. C., Detroit, Chicago, Dallas, Los Angeles, and San Francisco), and other salesmen located in six satellite offices. Thirty sales personnel were soliciting customers, and an equal number of field engineering and sales administration people were supporting this sales activity. International managers for equipment sales and service were recruited and plans made for the 1970 sales program.

By year-end 1970, Memorex's goal in this direct-to-user marketing build-up is to position field sales and service people so that an order can be solicited and the customer provided support anywhere in the United States, Canada, and in the major cities of Europe, the Far East and Latin America. Plans for 1970 call for the opening of approximately two dozen additional offices in metropolitan areas and the locating of other sales and service personnel in remote market areas. When feasible, equipment marketing offices are consolidated with Memorex's existing sales offices for media products.

More than 200 salesmen and field service engineers, who have experience in computers and peripheral equipment products of other manufacturers, are being recruited in this build-up. They are being attracted to Memorex by a strong incentive compensation program based upon aggressive sales quotas, by Memorex's interesting products and established goodwill among computer users, and by the opportunity to advance into management in a dynamic marketing organization.

In the inauguration of direct selling, significant sales activity began during the last three months of 1969, after the introduction of the COM Printer. Results were excellent. Orders received from computer users for equipment products nearly matched the run-off of the backlog of OEM orders by shipments during the year. So, at year-end 1969, Memorex's firm backlog of purchase orders from all equipment customers amounted to $21 million, and additional commitments under supply contracts with OEMs, for which purchase orders were not yet received, totalled $7 million.

Manufacturing operations in Belgium, sales activities of Memorex subsidiaries in 19 countries, and the supervision of distributors in 21 other countries are the responsibility of the Company's International Group management.

Since 1964, when Memorex's first overseas sales office opened in Maidenhead, England, international operations have expanded to include over 500 employees, 19 sales subsidiaries, five technical service centers, and a media products manufacturing plant in Belgium. Today, an administrative structure and operating base is firmly established in every European market, in Canada, Latin America, and Japan. The character of Memorex is clearly multi-national.

In the development and expansion of its international business, Memorex's objective is to establish itself as an integral and permanent participant in the local and national business communities and to be regarded for outstanding quality products and service. Memorex has been successful in attaining this objective through the creation of country organizations. These are wholly-owned companies which Memorex has staffed with nationals who exercise a high degree of independence in the local business environment. Their managers are ambitious and attuned to Memorex's performance-oriented management. They are challenged to pursue high goals in the varied and changing markets of their countries.

Sales in international markets were $25 million in 1969, a 25% increase over 1968 sales of $20 million. For the third consecutive year, international sales generated over 30% of total corporate volume.

The sales increase was achieved, notwithstanding a general reduction in prices for all products, by a major expansion of sales capacity. International sales forces nearly doubled during the year. To accelerate expansion of European sales, sales training facilities and a computerized marketing information system were inaugurated at European headquarters in Maidenhead, England.

New foreign city names — like Liege and Osaka — were added to the Company's daily work vocabulary during 1969. A milestone in international operations was the mid-year dedication of the manufacturing plant in Liege, Belgium. This facility represents an investment of over $5 million and is designed to supply most of the media product needs of sales organizations which operate throughout the European markets, the Near East and Africa.

Seven months after its start-up, the Liege plant achieved operating efficiencies which permitted it to produce precision magnetic tape products at production costs comparable to those of domestic manufacturing. By year end the plant's operations had been expanded to include the assembly of Memorex disc packs. As Memorex's equipment business grows in Europe, further expansion is anticipated to accommodate production of peripheral equipment products.

Memorex's early international efforts were concentrated in Europe. More recently, and especially in 1969, new emphasis was given to the Far East and Latin America.

Memorex Japan Ltd., a 50%-owned sales and service subsidiary in Japan, completed its first full year of operations in 1969, adding to its established offices the new branches in Osaka, Nagoya, and Kita-Kyushu. At the Tokyo headquarters, a technical service center was established to provide tape rehabilitation and customer support. With Japan as the hub, significant future growth in media and equipment sales is anticipated in the Far East.

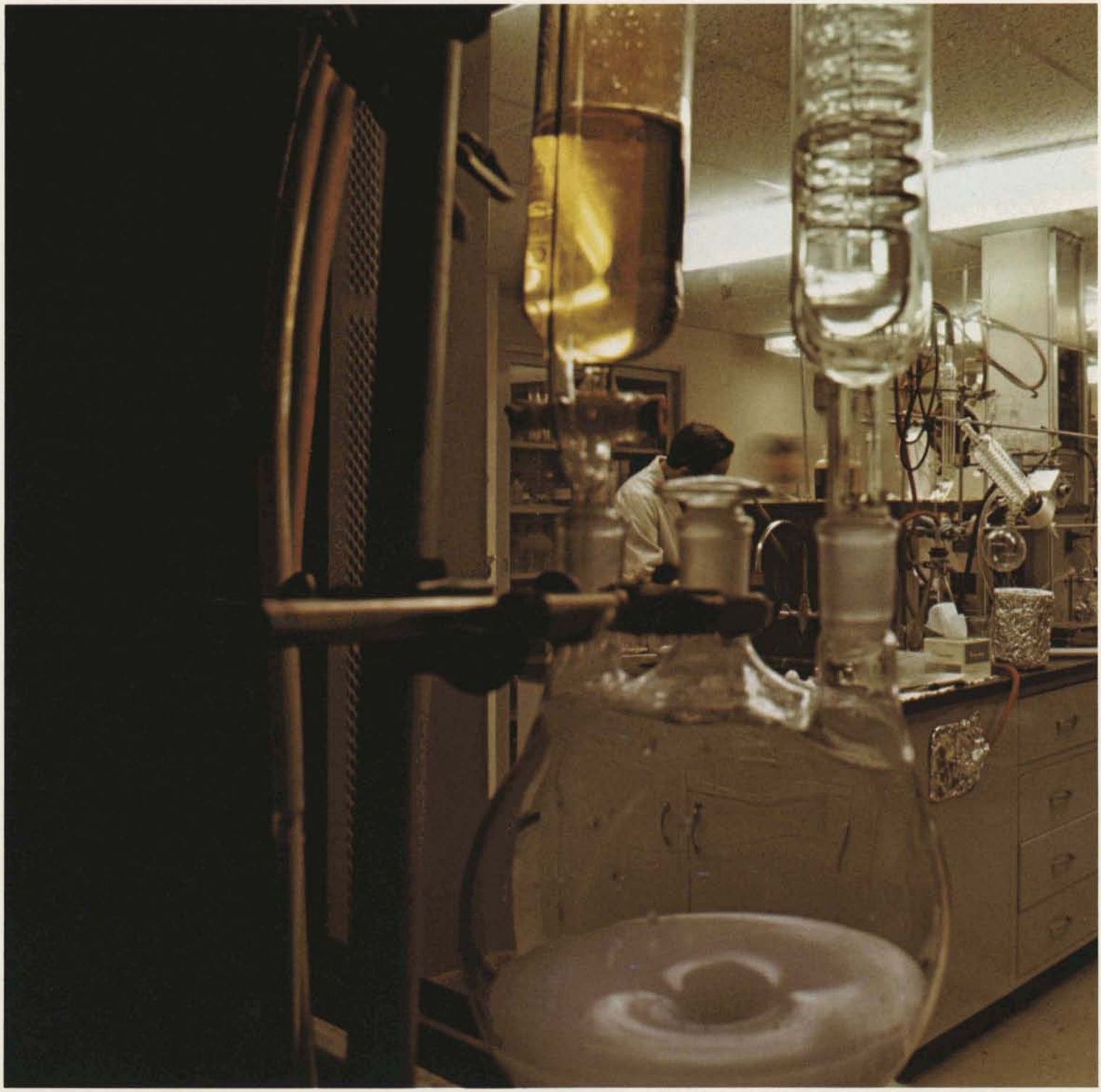
In 1969, Memorex's international business was benefitted by entry into the Latin America market with a direct sales organization. New sales subsidiaries were staffed in Argentina, Brazil, Peru, and Venezuela. An existing sales subsidiary in Mexico was expanded. In Canada, a national sales manager was appointed and, to supplement the Toronto headquarters, a second sales office was opened in Montreal.

Marketing Build-up

Major steps were taken during the fourth quarter of 1969 in the international program for marketing equipment products. A nucleus of experienced computer equipment sales and service personnel were hired in Europe, Japan and Latin America in preparation for launching sales of disc drives and the COM Printer systems in early 1970. Initial customer contacts were made which provided convincing evidence that sales of these products will be no less successful overseas than in the United States.

In the decade of the 1970's, computer systems and video tape recording will be important contributors to the economic development of new and emerging nations. As opportunities invite Memorex's participation in these markets, the Company's experienced international organization will move aggressively. In many instances, the growth of opportunities in such new markets will surpass that of the more mature markets in the United States and Europe.

In the Information Media Group laboratories, synthesis of organic compounds is repeated in thousands of experiments to perfect a single formulation of a magnetic tape product.



Technology undergirds the competitive strength and future growth of Memorex. To acquire it, substantial financial commitments must be made in a diversity of activities. To translate technology into growth, experienced and creative scientists and engineers must be integrated in their work by effective product planning and R&D management.

The success of planning and managing technology at Memorex is evident in the Company's product lines at year-end 1969: three-quarters of all products sold in December were new or improved products introduced during the last two years, and no product antedated 1967.

Ample financial support for technical activities during 1969 was manifest in R&D and engineering expenses of $9.2 million and employment of more than 400 technologists in R&D projects. This level of spending was 70% greater than in 1968, and represented a sixfold increase during the past four years.

Expenses of R&D and engineering devoted to superseding and improving product lines currently manufactured and marketed are charged against current sales revenues. In 1969, approximately $5.5 million expenses were so incurred, a ratio to sales of 7.1%. Comparable figures in 1968 were $3.8 million and 6.5% The balance of 1969 R&D expenses, $3.7 million, spent in corporate development programs for establishing future product lines, were capitalized as intangible assets.

Research, development and engineering activities are diverse. They involve work in the physics and chemistry of materials used in our products; formulation of materials into coatings; conversion of materials by chemical and mechanical processing to finished products; design and fabrication of electronic, mechanical, and optical devices and systems; magnetic recording, photography, and television; and operation of computer systems and programming.

In this spectrum of R&D activities, Memorex emphasizes application and integration of state of the art technology. Research of long-term significance is limited and confined to investigations of advanced magnetic materials for future magnetic recording systems.

In media product development, improvements are sought in the constituents of magnetic and photographic coatings and in the chemical processes of manufacturing which will increase the signal strength and frequency response of tapes and discs and the sharpness and contrast of microfilm. Longer useful life and reduced wear and abrasivity are developed. Other work relates to better utilization of materials and improved process yields and product quality. Considerable engineering work is devoted to automation of manufacturing and increasing throughput of equipment.

A significant event in 1969, relating to magnetic materials research, was a non-exclusive licensing agreement between Memorex and E. I. duPont de Nemours & Company, Inc., covering the manufacture and use of chromium dioxide in recording products. This material is one of the most promising of many high-energy materials which are viewed as a substitute for iron oxide in magnetic recording products. They are superior in their ability to record and reproduce signals, but they are highly abrasive and difficult to process. Memorex will produce some chromium dioxide video tape in 1970, but its impact will be negligible because the complementary recording equipments are yet few in number.

Product development of peripheral equipments requires the merging of many technical disciplines, including techniques of data handling which are compatible with computer systems.

Disc drive development demands capability in mechanism and logic design, digital and analog circuit design, servo control and magnetic recording. So complex is the mathematical model of the recording process that a computer program used to analyze the interrelation of the characteristics of the "flying" heads, the disc surface, and the space which separates them, requires over one billion iterations to determine the effect of varying a single parameter.

The design of the control unit, which operates the disc drives compatibly with data flowing to and from an IBM 360 computer, must incorporate machine intelligence to interpret commands from the computer and to issue instructions to the disc drives. The control unit must also receive signals from the disc drives and convert these into meaningful data for the computer, a significant technology itself in logic and circuit design.

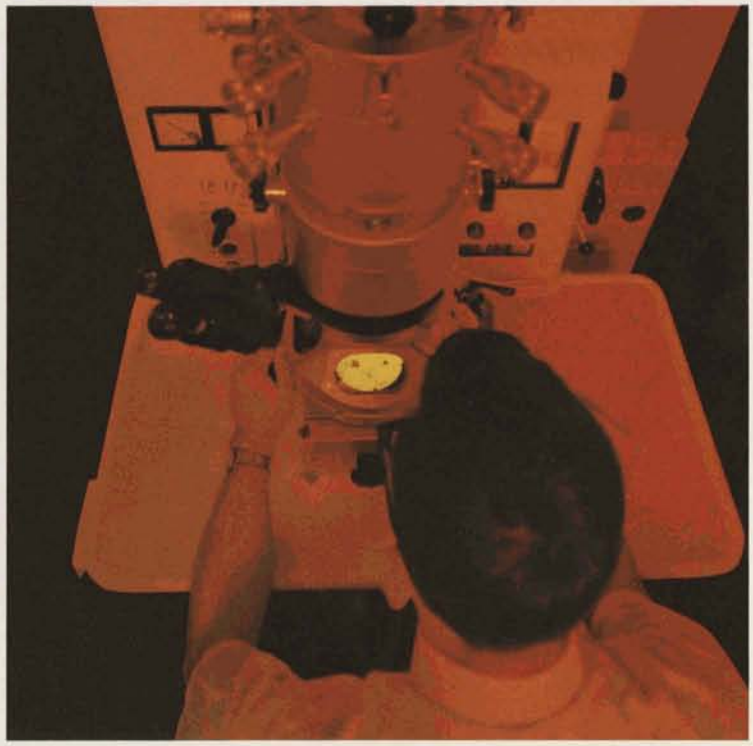
Microfilm recording equipment development involves similar techniques of data handling which are merged with optics and photographic technology. A control unit is designed as an integral part of the 1603 COM Printer itself to enable it to operate "on-line" to an IBM 360 computer. The character generator of the 1603 employs technology in light sources, capable of being turned off and on with the output flow of computer data, and techniques for transmitting light to the microfilm. The 1603's use of light-emitting diodes and fiber optics represents a radical departure from the technology of the character generators of all other COM systems. The process of imaging or photographing characters on the microfilm also requires considerable know-how in optical technology, photography, and the design of high speed, precise film transport mechanisms for advancing the film one line at a time.

Measuring sensitometric density response of COM-T Duplicating Microfilm is an important control aspect in meeting performance standards.

The Memorex 1620 Duplicator produces multiple copies of computer data output on COM-T microfilm, which is developed by heat, eliminating the need for liquid processing.

Recording performances of developmental audio tapes are measured at a laboratory of the Consumer Products Division.

The 125,000 volt electron microscope allows examination of various details of recording media properties at magnifications up to 1,000,000 times the actual size.



Facilities

At the end of 1969, four construction projects aggregating 590,000 square feet in Santa Clara and Los Angeles were in various stages of completion.

Expansion of facilities paced the growth of Memorex in 1969. Total space occupied increased by 70%.

At year-end, all operations of the Company occupied approximately 960,000 square feet of space. Owned premises amounted to about 510,000 square feet, and space under lease amounted to 450,000 square feet. A year earlier, total space amounted to 560,000 square feet, of which 350,000 was owned. Land, buildings and improvements at December 31, 1969, were carried on the Statement of Financial Position at an original cost of over $12 million.

New investment in equipment, principally for laboratories and production plant use, amounted during the year to slightly less than $8 million. This represented a 60% increase in the equipment assets account, which amounted to $20.5 million, at cost, at December 31, 1969.

Two major expansion programs, which accounted for almost all the 1969 space increase were the magnetic tape and disc pack manufacturing plant in Liege, Belgium, and the tripling of leased facilities for the Equipment Group operations in Sunnyvale, California.

The 110,000 square foot Liege plant was constructed on schedule early in 1969, and start-up operations were completed in mid-year. The plant is now fully operational and the source of tape and disc pack products for markets in Europe, Africa, and the Near East.

Facilities for the Equipment Group were expanded from approximately 60,000 to 220,000 square feet by leases at a number of locations in proximity to the original plant in Sunnyvale, a city adjacent to Santa Clara. Leases were negotiated for two year terms, in anticipation of construction of permanent facilities.

No less significant than the 1969 expansion were additional construction projects set in action during the year. Plans were approved for 680,000 square feet, of which 590,000 was under construction at year-end. The cost of these additional projects will be in excess of $17 million.

In March 1969, Memorex purchased a 54-acre site in Santa Clara, near the Sunnyvale operations of the Equipment Group and one-half mile from the 38-acre site of corporate offices and operations of the Information Media Group. At year-end the new site had under construction 460,000 square feet of plant, laboratories and offices for the Equipment Group scheduled for completion by the end of 1970. As the project's phases are completed, some of the less desirable leased space will be vacated.

A second project at the new site, which will begin in early 1970, will be the construction of a 50,000 square-foot office building, to which corporate headquarters and certain staff operations will be relocated.

Construction projects for the Information Media Group underway at year-end 1969 were 20,000 square feet of laboratories and offices in Santa Clara and a 70,000 square-foot manufacturing plant in Los Angeles. Production of plastic and metal components for tape and disc pack products, now carried on in leased buildings in Los Angeles, will be consolidated at the new plant. Additional construction to be undertaken in early 1970 include manufacturing plants for cassette and microfilm products.

Management

Alger Chaney*
Fred M. Van Eck*
T. Robert Sandberg*
Dr. Theodore Vermeulen*
Laurence M. Wilson

Gordon O. Sheppard
David H. Elliott
Carl A. Anderson
Gordon E. Pilcher

*Director

Management depth and its organization are as determinative of growth and profitability as are technology and facilities. In 1969, Memorex expanded this resource.

At the year's close, the Company corps of officers, directors, and department managers totalled more than 200. This was more than twice the total of a year earlier, a rate of increase which exceeded the 78% increase of all employment.

Memorex was also strengthened by an infusion of executive talent in 1969. Three senior managers were promoted and elected Vice Presidents, and five executives joined Memorex as Vice Presidents. Among the latter, four were experienced managers with leading computer manufacturers.

Memorex organizational philosophy throughout its corporate history has been to organize operations relative to market opportunities and the nature of the work to be done.

A restructuring of management in 1969 implemented this philosophy. Launching of new product development programs, accelerated growth of equipment manufacturing, and the readying of the COM Printer for production and marketing compelled an integration of these diverse activities. In May, the Equipment Group was formed, and a general manager, D. James Guzy, and three Vice Presidents were made responsible for development, manufacturing, and domestic marketing of all equipment products. This organization parallels that of the Information Media Group, directed by John P. Del Favero and five subordinate Vice Presidents. International operations, involving all media and equipment products, were strengthened by an expanded home office organization. Area general managers were appointed in Europe, the Far East and Latin America, under the direction of John J. Kramer, International Group Vice President.

Prentis C. Hale*
Dr. Alejandro Zaffaroni*

John P. Del Favero
D. James Guzy
John J. Kramer

James J. McNabb
Dr. Gordon MacBeth
Stanley W. Meyer
Richard D. Boucher

J. Garrett Fitzgibbons
Hillard P. Tavrow
Alan F. Shugart

Memorex Corporation

Consolidated Statement of Income
for the years ended December 31, 1969 and 1968

	1969	1968
Net Sales	$77,691,880	$58,295,091
Operating Costs and Expenses (including depreciation and amortization of $2,888,036 in 1969 and $2,650,964 in 1968):		
Cost of goods sold	41,548,763	33,580,994
Research and development expense	5,476,685	3,798,384
Selling, general and administrative expenses	13,860,599	9,249,476
Employee profit sharing expense	1,252,639	1,120,427
	62,138,686	47,749,281
Operating Income	15,553,194	10,545,810
Interest expense, net	1,949,033	461,972
Income before Federal and Foreign Income Taxes	13,604,161	10,083,838
Provision for Federal and foreign income taxes (Note 5)	6,702,000	5,145,000
Net Income	$ 6,902,161	$ 4,938,838
Net Income per Share (Note 9)	$1.87	$1.35

The accompanying notes are an integral part of this statement.

Auditors' Report

To the Shareholders and Board of Directors of Memorex Corporation

We have examined the consolidated statement of financial position of Memorex Corporation (a California corporation) and subsidiaries as of December 31, 1969 and 1968, and the related consolidated statements of income, shareholders' equity, and source and use of funds for the years then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the consolidated financial statements referred to above present fairly the financial position of Memorex Corporation and subsidiaries as of December 31, 1969 and 1968, and the results of their operations and the source and use of funds for the years then ended, in conformity with generally accepted accounting principles applied on a consistent basis during the periods.

Arthur Andersen & Co.

San Jose, California,
January 23, 1970.

Memorex Corporation

Consolidated Statement of Financial Position
December 31, 1969 and 1968

	1969	1968
Current Assets:		
Cash	$ 3,585,300	$ 843,426
Accounts receivable, net	22,677,886	16,273,756
Inventories, at the lower of cost (first-in, first-out) or market	16,049,995	6,513,515
Prepayments	1,946,790	995,889
	44,259,971	24,626,586
Current Liabilities:		
Notes payable to bank	10,274,900	10,850,000
Accounts payable and accrued liabilities	11,847,572	6,538,082
Federal and foreign income taxes	3,239,554	—
	25,362,026	17,388,082
Working Capital	18,897,945	7,238,504
Property, Plant and Equipment, at cost:		
Land	2,585,965	758,208
Plant and equipment (Note 2)	34,905,636	24,674,609
	37,491,601	25,432,817
Less accumulated depreciation	7,829,708	5,136,548
	29,661,893	20,296,269
Deferred Research and Development Costs (Note 3)	5,585,409	2,289,082
Other Assets:		
Equity in leasing operations (Note 4)	5,322,595	3,987,645
Other assets and deferred charges	3,343,262	1,762,160
	8,665,857	5,749,805
Deduct Other Liabilities:		
Deferred Federal income taxes (Note 5)	5,317,766	3,989,742
Long-term debt (Note 6)	21,959,406	4,288,529
Other non-current liabilities	460,000	—
	27,737,172	8,278,271
Shareholders' Equity (Notes 7, 8 and 9)	$35,073,932	$27,295,389
Shareholders' Equity Represented by:		
Common stock	$ 3,721,715	$ 3,688,661
Paid-in surplus	11,154,121	10,310,793
Retained earnings	20,198,096	13,295,935
	$35,073,932	$27,295,389

The accompanying notes are an integral part of this statement.

Memorex Corporation

Consolidated Statement of Shareholders' Equity
for the years ended December 31, 1968 and 1969

	Total Shareholders Equity	Common Stock	Paid-in Surplus	Retained Earnings
Balance December 31, 1967	$15,484,900	$ 1,123,929	$ 6,003,874	$ 8,357,097
Net income for the year	4,938,838	—	—	4,938,838
Sale of common stock to employees under stock option plan	295,859	24,910	270,949	—
Conversion of subordinated debentures, due 1986	6,525,792	93,938	6,431,854	—
Stock split-up February 2, 1968	—	2,415,884	(2,415,884)	—
Acquisition of minority interest in subsidiary company (Note 1)	50,000	30,000	20,000	—
Balance December 31, 1968	27,295,389	3,688,661	10,310,793	13,295,935
Net income for the year	6,902,161	—	—	6,902,161
Sale of common stock to employees under stock option plan	904,651	26,163	878,488	—
Conversion of subordinated debentures, due 1972	(28,269)	4,819	(33,088)	—
Shares issued to former shareholders of subsidiary company under performance agreement	—	2,072	(2,072)	—
Balance December 31, 1969	$35,073,932	$ 3,721,715	$11,154,121	$20,198,096

The accompanying notes are an integral part of this statement.

Memorex Corporation

Consolidated Statement of Source and Use of Funds
for the years ended December 31, 1969 and 1968

	1969	1968
Funds Were Obtained From:		
Net income	$ 6,902,161	$ 4,938,838
Depreciation and amortization	2,888,036	2,650,964
Increase in deferred Federal income taxes	1,328,024	2,774,478
Total funds from operations	11,118,221	10,364,280
Net increase in long-term debt	17,670,877	4,284,529
Increase in other non-current liabilities	460,000	—
Proceeds from sale of common stock	907,135	295,859
Decrease in working capital	—	269,820
Total funds obtained	$30,156,233	$15,214,488
Funds Were Used For:		
Net additions to property, plant and equipment	$11,901,185	$ 8,363,136
Increase in equity in leasing operations	1,334,950	3,987,645
Deferred research and development costs	3,683,038	1,486,804
Net increase in other assets	1,549,350	1,261,516
Costs incident to conversions of debentures	28,269	115,387
Increase in working capital	11,659,441	—
Total funds used	$30,156,233	$15,214,488

The accompanying notes are an integral part of this statement.

1. Principles of Consolidation

The consolidated financial statements include the accounts of Memorex Corporation and all subsidiaries (except Memorex Leasing Corporation) after elimination of intercompany accounts and transactions.

Memorex Leasing Corporation's financial statements for the year ended December 31, 1969 include the cost of equipment leased and the related obligation to Memorex Corporation. Memorex Leasing Corporation's net income is included in the accompanying statement of income in the manner described in note 4.

All consolidated subsidiaries are wholly owned as of December 31, 1969, except for Image Products Corporation (IPC), in which the Company owns an 80% interest. The Company has entered into an agreement with the individual shareholders of IPC providing that the Company shall have the option to acquire, on or before June 30, 1973, all shares held by them in exchange for the Company's common stock on a share for share basis. The minority stockholders' interest in IPC, which is insignificant, is included in accrued liabilities at December 31, 1969 and December 31, 1968.

In August 1968 the Company exercised its option to acquire the remaining 50% interest in Peripheral Systems Corporation by issuing Memorex common stock. Acquisition of the 50% interest has been accounted for as a "pooling of interests."

2. Plant and Equipment

Plant and equipment consist of the following:

December 31	1969	1968
Buildings and improvements	$10,073,237	$ 9,700,127
Equipment, furniture and fixtures	20,468,925	12,712,051
Construction in progress	4,363,474	2,262,431
	34,905,636	24,674,609
Less accumulated depreciation	7,829,708	5,136,548
Net depreciable assets	$27,075,928	$19,538,061

Depreciation, for financial statement purposes, is computed on the straight-line method, based on the following estimated useful lives:

Buildings and improvements	15-33 years
Equipment, furniture and fixtures	3-10 years

3. Deferred Research and Development Costs

Research, development and start-up costs related to major new product developments are deferred in order to match properly costs and revenues. When commercial production commences, costs are no longer deferred and amortization begins. Changes in deferred research and development costs were:

	1969	1968
Balance, beginning of year	$2,289,082	$ 936,055
Costs deferred	3,683,038	1,486,804
Costs amortized	(386,711)	(133,777)
Balance, end of year	$5,585,409	$2,289,082

4. Accounting for Equipment Leased to Customers

The Company leases disc pack equipment to customers for periods of one to five years with month-to-month renewals thereafter subject to cancellation upon 90 days' notice. A portion of the rentals may be applied to purchase of the equipment by the customers under a purchase option. Upon initial lease the Company reflects a sale to its subsidiaries and limits profits recorded during the operating period to the selling price of the equipment less the sum of (1) an amount calculated to reduce the profit on such transactions to the rental earned under the lease, (2) financing charges earned by the subsidiary and (3) the amount by which total costs incurred on manufacturing and leasing equipment exceed the estimated residual value thereof at the end of the period. Rentals earned in subsequent periods are included in consolidated "Net Sales" after deducting the excess of unamortized cost over residual value. The residual values used for this purpose are less than the purchase option and contemplate recovery of the equipment and lease acquisition costs over approximately three years or upon exercise of the purchase option.

Consolidated "Net Sales" include $4,855,000 for 1969 and $5,184,000 for 1968 which represents sales to Memorex Leasing Corporation before adjustment to report leasing income as explained above. Net income of Memorex Leasing Corporation of $150,000 for 1969 and $79,000 for 1968 is included in consolidated "Net Sales" for the respective years. "Equity in leasing operations" shown in the accompanying statement of financial position is net of rental receivables of $2,274,000 for 1969 and $1,287,000 for 1968 due from Memorex Leasing Corporation customers under the portion of leases due within one year. Such amounts are included in accounts receivable.

5. Federal Income Taxes

The Company's Federal income tax returns for 1961 through 1965 have been examined by the Internal Revenue Service without significant adjustments to net income. As a result of this examination, estimated useful lives of certain assets were extended for computing book depreciation beginning January 1, 1969, the net effect of which was not material to 1969 operating results.

Deferred Federal income taxes have been provided to recognize timing differences in reporting certain income and expenses in the tax returns from those recorded in the books, including

differences in depreciation resulting from using an accelerated method for tax purposes and the straight-line method for book purposes. As a result, $5,317,766 of income taxes otherwise payable have been deferred as of December 31, 1969. However, such amount has been charged to income and credited to deferred Federal income taxes in the consolidated financial statements. The deferred credit will be reflected in income in future years when income taxes payable increase as a result of using these tax deductions currently.

The provision for income taxes in the accompanying consolidated statements of income consists of the following:

	1969	1968
Payable for the period	$4,293,000	$2,371,000
Deferred	2,409,000	2,774,000
Total provision	$6,702,000	$5,145,000

6. Long-Term Debt

Long-term debt consisted of the following:

December 31	1969	1968
Term loans	$21,894,406	$ 4,284,529
5% convertible subordinated debentures, due January 15, 1972	—	4,000
5% convertible subordinated promissory notes, due June 15, 1973	35,000	—
5% convertible subordinated promissory notes, due January 15, 1974	30,000	—
	$21,959,406	$ 4,288,529

Term loans for 1969 include domestic bank loans totaling $17,900,000 payable in thirteen equal quarterly instalments commencing April 1, 1971, with interest rates tied to the bank prime rate. Term loans also include European bank loans of $3,994,406 payable in eight quarterly instalments commencing October 1, 1972, with interest rates tied to the prevailing rates for the currencies borrowed. Under the term loan agreement, the Company has agreed not to pay cash dividends.

The 5% debentures due January 15, 1972 were converted during 1969 for 4,819 shares of the Company's common stock and $31,875.

The 5% promissory notes due June 15, 1973 may be converted after June 15, 1970, or earlier upon occurrence of certain events, into 35,000 shares of the Company's common stock.

The 5% promissory notes due January 15, 1974 may be converted after January 15, 1971, or earlier upon occurrence of certain events, into 30,000 shares of the Company's common stock.

7. Preferred and Common Stock

Authorized and outstanding shares of $100 par value preferred stock and $1 par value common stock were as follows:

December 31	1969	1968
Authorized preferred stock	1,000,000	1,000,000
Outstanding preferred stock	—	—
Authorized common stock	10,000,000	10,000,000
Outstanding common stock (excluding 10,000 shares held in treasury)	3,711,715	3,678,661

The Company has entered into agreements with key employees of several of its subsidiaries which call for the potential issuance of up to 243,000 shares of Memorex common stock upon the occurrence of certain events. The issuance of such common stock would not result in a dilution of net income per share because of the profit levels that must be attained by these subsidiaries.

8. Stock Options (Parent Company)

Changes during 1969 in the status of options granted under the Stock Option Plan were:

		Shares Under Option — Changes During Year				
Year Granted	Option Price	Jan. 1, 1969	Granted	Exercised	Terminated	Dec. 31, 1969
1966	$10.96 to $21.71	35,083		13,906	5,213	15,964
1967	34.79 to 63.92	94,512		11,407	6,713	76,392
1968	59.75 to 66.63	9,550		850	4,350	4,350
1969	71.25 to 163.50	—	109,850	—	4,100	105,750
		139,145	109,850	26,163	20,376	202,456

Options were granted under a Qualified Stock Option Plan adopted in 1965. Under this plan, options may be issued to key employees to purchase common stock at 100% of market value of the shares at the dates the options are granted. The plan provides that options may be exercised at one-fourth the total shares each year on a cumulative basis, beginning one year after date of grant, with options to expire five years after date of grant. As of December 31, 1969 the Company has reserved 282,583 shares of its common stock for issuance under this plan.

9. Net Income Per Share

Net income per share has been computed on the basis of the weighted average number of common shares outstanding during the year, excluding 10,000 shares held in treasury, after giving retroactive effect to (1) the 3-for-1 common stock split-up February 2, 1968, and (2) the conversion February 1, 1968 of 5% convertible subordinated debentures, due August 1, 1986. Common stock equivalents (stock options) do not result in a significant dilution of net income per share.

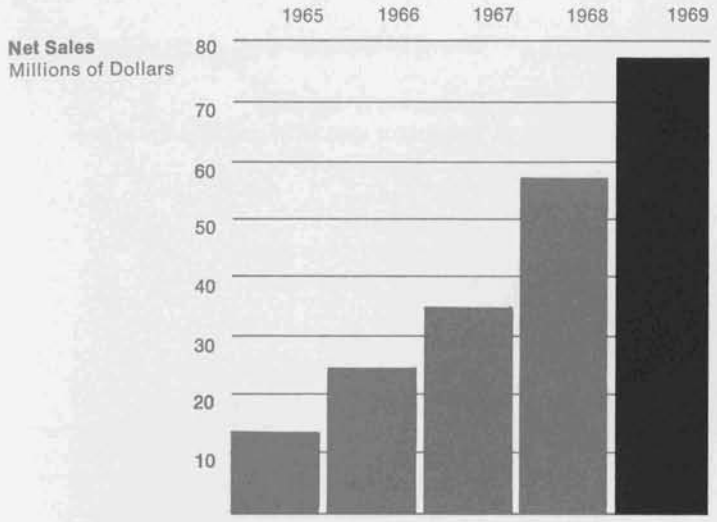
Memorex Corporation

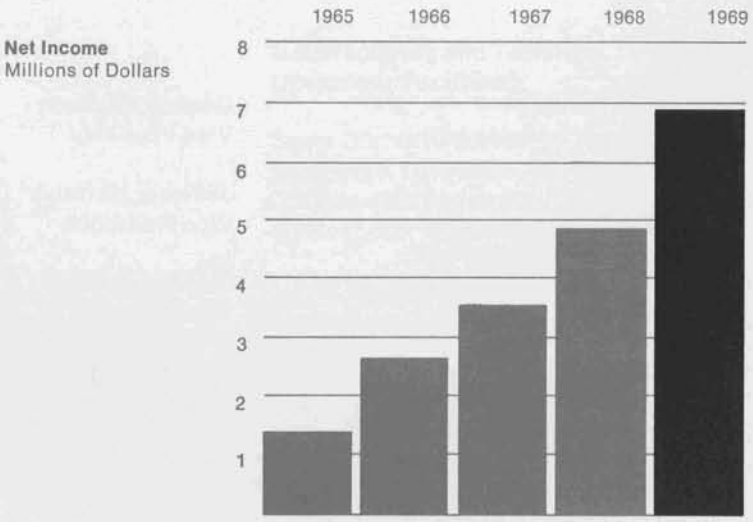
Five-Year Summary
for the years ended December 31

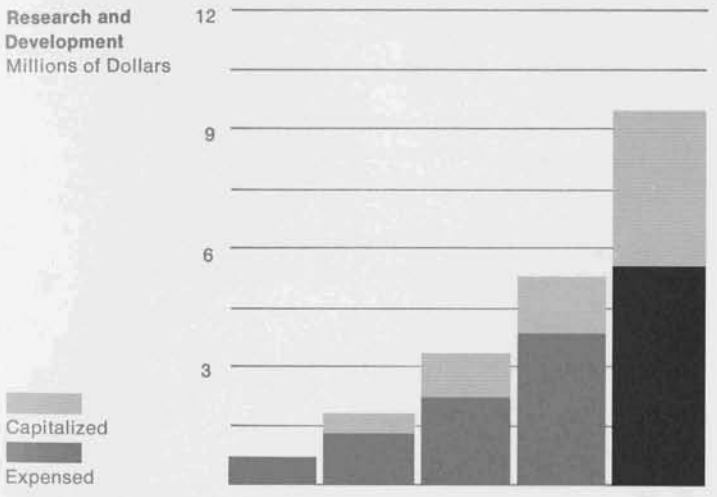
(Dollar amounts in thousands except per share earnings)

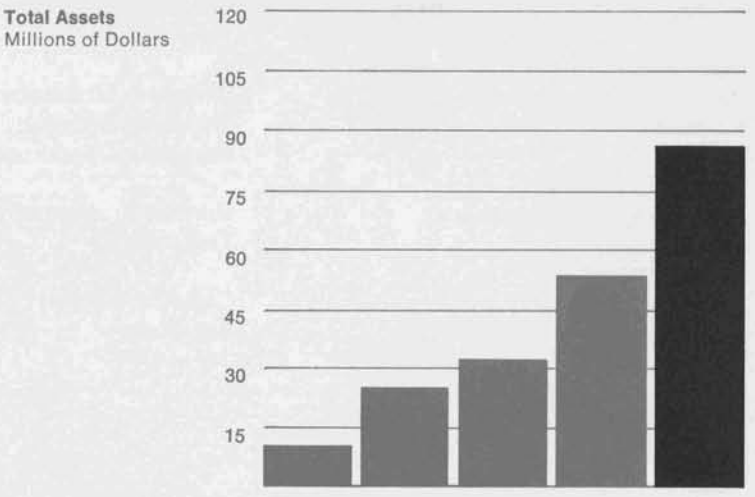
	1969	1968	1967	1966	1965
Operating Data					
Net sales	$ 77,692	$ 58,295	$ 34,232	$ 24,417	$ 13,099
Net income:					
Before taxes	13,604	10,084	6,765	5,181	2,481
After taxes	6,902	4,939	3,576	2,724	1,331
Per common share*	1.87	1.35	1.06	.89	.45
Depreciation and amortization expense	2,888	2,651	1,681	828	423
Research and development expenditures:					
Capitalized	3,683	1,487	758	178	—
Expensed	5,477	3,798	2,377	1,454	747
Financial Data					
Capital expenditures	11,901	8,363	6,484	6,261	2,185
Working capital	18,898	7,239	7,508	8,738	1,977
Total assets	88,173	52,962	30,980	24,156	9,600
Long-term debt	21,959	4,289	6,816	12,055	2,352
Shareholders' equity	35,074	27,295	15,485	6,673	3,909
Average number of common shares outstanding*	3,693,307	3,663,010	3,120,120	3,062,235	2,962,770
Number of employees at year's end	3,409	1,916	1,304	918	442

*Retroactively adjusted for 3-for-1 split-up and conversion of debentures.

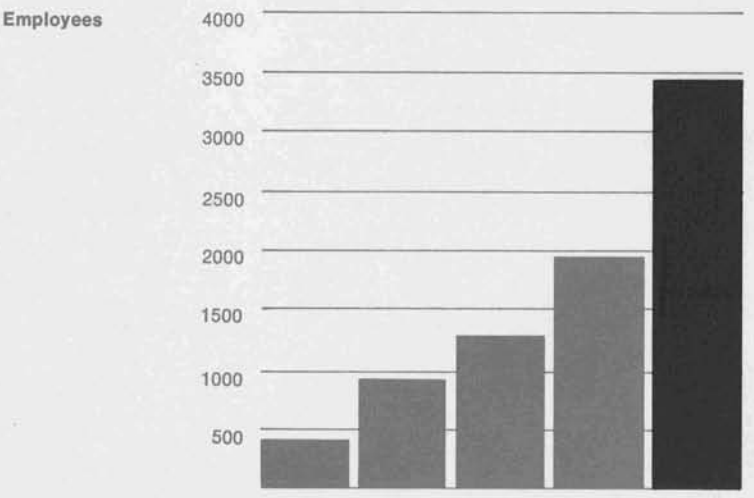

1965
1966
1967
1968
1969
Net Sales
Millions of Dollars
80
70
60
50
40
30
20
10


1965
1966
1967
1968
1969
Net Income
Millions of Dollars
8
7
6
5
4
3
2
1


Research and
Development
Millions of Dollars
12
9
6
3
Capitalized
Expensed


Total Assets
Millions of Dollars
120
105
90
75
60
45
30
15


Shareholders'
Equity
Millions of Dollars
40
35
30
25
20
15
10
5


Employees
4000
3500
3000
2500
2000
1500
1000
500

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1969 Annual Report

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