MEMOREX ANNUAL REPORT 1967

MEMOREX CORPORATION FINANCIAL HIGHLIGHTS

	Year ended December 31
	1967 (Pro Forma)*
Net sales	$34,232,000
Income before provision for Federal and foreign income taxes	7,205,000
Net income after taxes	3,805,000
Net income per share (based upon average number of shares oustanding during year and the 3-for-1 stock split-up)	1.06
Depreciation expense	1,681,000
Research and development expense	2,377,000
Working capital	7,653,000
Long-term debt	4,000
Shareholders' equity	22,271,000
Total capitalization	22,275,000
Return on total capitalization (average during year)	18.7%
Shares outstanding at year's end**	3,625,620
Employees at year's end	1,304
Shareholders at year's end	6,850

*See Notes to Financial Statements.
**Adjusted for 3-for-1 stock split-up.

Memorex Corporation manufactures magnetic tapes and disc packs used in computers for mass data storage media and direct access memory media, respectively. Other magnetic media products include precision magnetic tapes for the recording and reproduction of scientific data and television pictures and sound. In 1968, Memorex has also inaugurated the manufacture of the magnetic disc recording equipment which utilizes disc packs for its media.

This Annual Report discusses primarily the results of the Company's operations for the year 1967. Readers interested in a full description of the Company's capabilities and operations will find it in the brochure enclosed by the back cover of this Report.

COVER: The new Memorex Mark I Disc Pack (shown 1.5 times actual size) illustrates the Company's 1967 diversifications within the field of magnetic recording media and equipment.

TO SHAREHOLDERS AND FRIENDS

Three significant successes were achieved by hardworking and resourceful Memorex employees in 1967: growth of sales and earnings of our precision magnetic tape operations; the broadening of the Company's business by diversifications of product lines; and the strengthening of management.

The effect has been a significant change in Memorex's character and outlook.

In consequence of 1967's successes, the Board of Directors took action at year-end to convert the Company's previously outstanding Convertible Subordinated Debentures due 1986 into shareholders' equity and a simultaneous 3-for-1 stock split-up. This action, which more than tripled the number of Memorex common shares outstanding and strengthened our capitalization, is reflected in the pro forma financial data for 1967 shown opposite.

GROWTH

Growth achieved in 1967, shown by the figures opposite, was substantial. With it, Memorex firmed its position as the precision tape industry's second largest volume producer by gaining relatively on the largest volume tape maker, and also widened the gap between itself and the third largest competitor.

Sales increased 40% to $34-million. Research and development expenses were $2.4-million, a 63% increase over 1966's R&D spending. Net profit after taxes rose 31% to $3.6-million and $1.15 per share. Comparable pro forma net profit was $3.8-million and $1.06 per share, giving retroactive effect to the reduction of interest expense and the increase in number of shares outstanding which resulted from conversion of the debentures.

Growth of operations in 1967 is shown by the approximate 50% increases in the size of the Company's facilities to 410,000 square feet and in the number of employees to more than 1,300. The size of these 1967 increases was greater than Memorex's total facilities and manpower at the end of 1964.

This growth was achieved despite the most intensive competition in the precision tape industry in recent years. Foremost factor in this competition was the apparent change of strategy of the industry's largest volume producer. In earlier years, this competitor had largely restricted its sales of computer tape to manufacturers of computers for their resale to end-users; in 1967 it sought to capture a greater segment of the end-user market by aggressive pricing and promotion. Other tape producers, intent upon maintaining their positions, heightened the price competition.

The financial results of 1967 were a convincing demonstration of Memorex's ability to meet this competition while maintaining a satisfactory ratio of net profit to sales. Moreover, the Company achieved this record while increasing its share of the markets for computer and video tape products. This record supports the conclusion that Memorex is better able than at any prior time in its history to contend with competition, despite its intensity—and this ability becomes even stronger with the diversifications of our product lines, discussed later.

Memorex was successful in competition during 1967 while maintaining good profitability because of a variety of successful programs. Computer and video tape products were improved to justify premium prices to quality-oriented users. Service to customers was improved by enlarging our marketing organization and increasing the number of sales offices in the United States and in Europe and Japan. Manufacturing costs were lowered by programs which improved production yields, mechanized the handling of materials, reduced raw material costs and raised their utilization, and increased the in-house production of tape reels and cases. The product-mix of sales was improved by concentrating our marketing efforts upon our computer and video tape products and by expanding our international sales to approximately 25% of total volume.

Yet, the year 1967 was not without its disappointments. Earnings during the first and third quarters were adversely affected when the planned levels of sales did not materialize and operating expenses were not in proper balance with volume. Construction of the European manufacturing plant at Liege, Belgium, was temporarily postponed when its originally planned scale could not be economically justified. Necessary modifications were made to our plans, and the project is now being prepared for competitive bid by construction contractors whose work is scheduled to begin in April, 1968. Introduction of the new disc pack product line was delayed several months to the fall of 1967, and an improved broadband instrumentation tape introduction suffered a six-month delay to January, 1968. That Memorex experienced these disappointments and still reported substantial sales and earnings gains for the year is

Belgian officials confer with Memorex representatives concerning construction of the European manufacturing plant. Engineering for the project was substantially completed in 1967.

Memorex technical managers at the Color Video Tape Evaluation Laboratory (left to right): John Mandle, Manager of Quality Control; Roland Jang, Director of Engineering; Eric Daniel, Director of Research; and Dr. Gordon MacBeth, Director of Chemical Development.

significant of the competitive strength, diversity, and balance of operations which the Company has attained.

DIVERSIFICATION

A broader base of business was established by Memorex during 1967 by two diversifications within the field of magnetic recording media and equipment. Their effect has been to change materially the charter and course of Memorex's future development. No longer is Memorex characterized simply as a tape company.

A new product line of disc packs was mass produced and marketed to computer users in September, 1967, culminating nearly two years of research and development. This event was several months later than planned, with consequent penalty to earnings, but when the Memorex Mark I Disc Pack was released for sale, the market's response exceeded our expectations. By year-end 1967, thousands of Memorex packs were in use in computer installations in the United States and Europe. Their quality is excellent. This excellence is assured by the IBM System 360 computer which the Company uses to test each pack before delivery. It is confirmed in customers' use—the Mark I Disc Pack has enjoyed the lowest incidence of problems of all products ever introduced by Memorex.

The extent of diversification achieved by Memorex's disc pack product line is not obvious because of the apparent similarity of computer tape and disc pack coatings. The chemistry problems of the two products differ, however, because the disc drive's recording heads move upon an air film and are not in direct contact with the coated surface as in tape recording. Thus, requirements for surface durability and smoothness are different. Preparation of substrate materials before coating differs because the disc pack uses finely polished aluminum discs and tape uses a plastic film base. Coating, curing, and surface-finishing processes and equipment differ because discs must necessarily be processed individually while tape is produced in long and wide rolls. Product testing also differs in equipment and techniques. The best evidence of the extent of diversification is the fact that to date, apart from Memorex, no other magnetic tape producer has demonstrated the capacity to reproducibly manufacture high-quality disc packs in commercial quantities in competition with IBM.

To make this diversification more understandable to readers unfamiliar with computer devices, the nature and use of disc packs and drives can be explained quite simply. A disc pack is an array of six magnetic-coated discs (shown on the cover photograph at 1.5 times actual size) which are

mounted on a common spindle. Ten surfaces of the six discs in each array are used as data storage media by the disc drive machine to provide a memory for IBM System 360 and other computers. The drive rotates the discs at high speed (2400 rpm) while simultaneously moving read/write magnetic heads across the radius of each of the ten surfaces. Computer data is thereby stored in 203 tracks in a circumferential pattern upon each surface. The rotation of the discs and the simultaneous movement of the read/write head along each radius result in making every recorded spot directly accessible to the computer in an essentially random mode and in an average time of less than 100 milliseconds. Hence, the combination of disc pack and drive is commonly referred to as a direct or random access memory.*

**By comparison, computer magnetic tape devices store data sequentially along the length of tape, typically 2500 feet, and the data cannot be randomly accessed. The period of time required to seek specific data depends upon its location and ranges from a fraction of a second to more than two minutes in the worst case. Offsetting this disadvantage of inaccessibility and relative slowness, computer tape possesses a cost advantage of approximately 1/10 the cost of data storage by disc which makes its use especially feasible for archival or mass data storage. For this reason, computer tapes and disc packs will continue to coexist in the computer industry and both media should enjoy growth in demand with the increase of computer population. A pictorial and narrative description of Memorex's tape business is contained in the brochure enclosed herewith.*

Construction of a second production plant for disc packs begun in June, 1967 is now in the final stages. This 40,000 square-foot facility will be in full production by mid-1968.

A System 360 computer user may typically require several disc packs for each of one or more drives, depending upon the variety of data processing performed by the computer. Thus, the size of the market for disc packs is related to the population of disc memory-based computers and the nature and growth of their applications. The disc pack market in 1967, supplied only by IBM until Memorex's entry, was generally estimated at $70 million, based upon 150,000 packs and a current price of $490 per pack. This dollar volume rivals the size of the computer tape market, while the rate of growth of disc pack sales is more than twice that of tape.

With Memorex's advantages of an experienced, technically supported, world-wide marketing organization and an unsurpassed reputation for quality, sales of the new disc pack have enjoyed the sharpest increase of any product introduction in our history. Based upon this success and the large market opportunity, we are confident that our disc pack sales volume will continue to expand at the highest rate of all Memorex's magnetic media products during the coming year.

The facilities requirements of the disc pack diversification have been provided for. Production in 1967 and to date in 1968 has been carried on in Los Angeles, where much of the development work was also performed. The Los Angeles facilities are not easily expandable, and, while they have attained a high rate of production and excellent quality, they will not suffice to meet the volume requirements of our 1968 sales forecast. In anticipation of a production-limited condition, we began construction in mid-year 1967 of a second production plant for disc packs at our Santa Clara headquarters site. The latter facility of more than 40,000 square feet is expected to enter production in mid-1968 and should amply provide for volume increases through 1970. By operating the Santa Clara plant in parallel with the Los Angeles facilities, we shall also accomplish a desired geographical dispersion of our operations.

Robert M. Brumbaugh (left), President of Peripheral Systems Corporation, and Joseph D. Koenig, Manager of Engineering, inspect the new Memorex 630 Series Disc Drive.

Demonstration of the Memorex 630 Series Disc Drive by D. James Guzy (right), Vice President of Peripheral Systems Corporation, met with enthusiastic response at the Fall Joint Computer Conference in November, 1967.

Memorex's second diversification in disc pack technology materialized in November, 1967, when a prototype of the Memorex 630 Series Disc Drive was demonstrated at the national trade show of the computer industry. The engineering design of the machine offers important advantages over comparable IBM equipment—faster access to data, fewer moving parts and less maintenance requirements. Orders were received for the initial production units to be delivered for evaluation and testing by customers during the first quarter of 1968. We have high confidence that these evaluations will lead to large volume production contracts for the equipment, and that Memorex's first hardware product line will be an outstanding commercial as well as technical success in 1968. When volume production commences in the first half of 1968, the Company plans to introduce other equipment which is based upon the 630 Series Disc Drive technology.

The principal customers for the Memorex 630 Series Disc Drive equipment will be the computer makers who have incorporated disc memory components into their systems to compete with the disc capabilities of the IBM systems. Many such prospective customers do not now possess disc drive equipment and have been dependent upon IBM and one other existing source to meet their requirements externally. This condition has created an outstanding opportunity, an annual demand measured in the tens of millions of dollars, for sales of the Memorex drive and for the building of the Company's engineering and manufacturing capabilities relating to equipment. Eventually, most computer makers can be counted on to design and manufacture their requirements internally, so that our longer term objective in the equipment field is to develop product lines which are not components of others' systems, but which will be marketed directly to computer users for off-line data processing.

All operations related to the Memorex 630 Series Disc Drive program are housed in leased facilities in Sunnyvale, five miles from Santa Clara. The facilities will adequately accommodate the expected buildup of equipment production during 1968.

The impact of Memorex's two diversifications upon its future sales is expected to be so significant that we have revised upward our corporate growth objective. Our established product lines of computer tape, video tape, and instrumentation tape should enjoy high rates of growth in the immediate future years, although some diminution from their historical rates is expected. On the other hand, sales of the disc pack product line should continue to rise at an accelerated rate, and we should develop

sizable long-term business for the 630 Series Disc Drive and related equipment product line. By 1970 the sales of disc technology-related products should be comparable to sales of our magnetic tape products. Based upon these expectations, we have set as our growth objective an annual rate of corporate sales by mid-1970 of $100 million.

MANAGEMENT

Strengthening of management was the third principal accomplishment during 1967. Many management changes were made in a year-long program, whose purpose was to restructure the management organization in terms of Memorex's changed character, its objectives and performance goals, and the nature of the work to be done. The changes were not to cure illness, but to assure the future health of a dynamic business which might otherwise grow to be unmanageable.

The new management structure was designed to be expansible and adaptive, because we expect that in 1970 only half of Memorex's business will derive from manufacturing facilities which existed in 1967, and world-wide professional and management personnel will be triple the number employed in 1967. The new structure is based upon a framework of three operating divisions and three planning

The Company's officers at one of Memorex's computer installations (standing, left to right): Richard D. Boucher, Gordon O. Sheppard, Stanley W. Meyer, John P. Del Favero, Gordon E. Pilcher, Eugene L. Rogers, Carl A. Anderson, Laurence L. Spitters, Edward S. Seaman.

and control functions whose responsibilities are company-wide.

Two of the operating divisions are defined by products, the third by geography. The Supplies Division is responsible for the technical, manufacturing, and marketing operations relating to all magnetic media products. The Equipment Division, designated Peripheral Systems Corporation, is similarly an integrated operating unit relating to our disc drive product line. The third operating division, the International Division, has responsibility for manufacturing, sales, and service of all products outside the United States and Canada.

The three corporate planning and control functions are financial management, corporate development, and manpower planning and management development. These corporate functions were established to set objectives for the operating divisions, to measure their performance, to coordinate their activities and assure adequate communications networks and to allocate manpower resources to the Company's best market opportunities.

Two executives were employed from outside the Company and two other managers were promoted to top management positions in the strengthening of our management during 1967. John P. Del Favero, formerly with IBM, joined Memorex as Executive Vice President and General Manager of the Supplies Division, and Gordon E. Pilcher, formerly with AMFAC, Inc., was elected Vice President, Finance. The promoted managers of the Supplies Division were Richard D. Boucher, elected Vice President, Manufacturing, and Stanley W. Meyer, Vice President, Technical Staff.

The decision was also taken in 1967 to reconstitute the Board of Directors by increasing the number of non-management members to bring to corporate policy decisions a wider perspective. To implement this decision, two outstanding businessmen were elected to the Board: Prentis Cobb Hale, Chairman of Broadway-Hale Stores, Inc., and Director of the Bank of America, Union Oil Company, and other corporations, and Dr. Alejandro Zaffaroni, Executive Vice President, Syntex Corporation.

The Board of Directors (clockwise from the left): Fred M. van Eck, Dr. Theodore Vermeulen, Prentis Cobb Hale, W. L. Noon; (on page opposite): Laurence L. Spitters, Carl A. Anderson, W. Noel Eldred, Alger Chaney, T. Robert Sandberg. Not shown, Dr. Alejandro Zaffaroni.

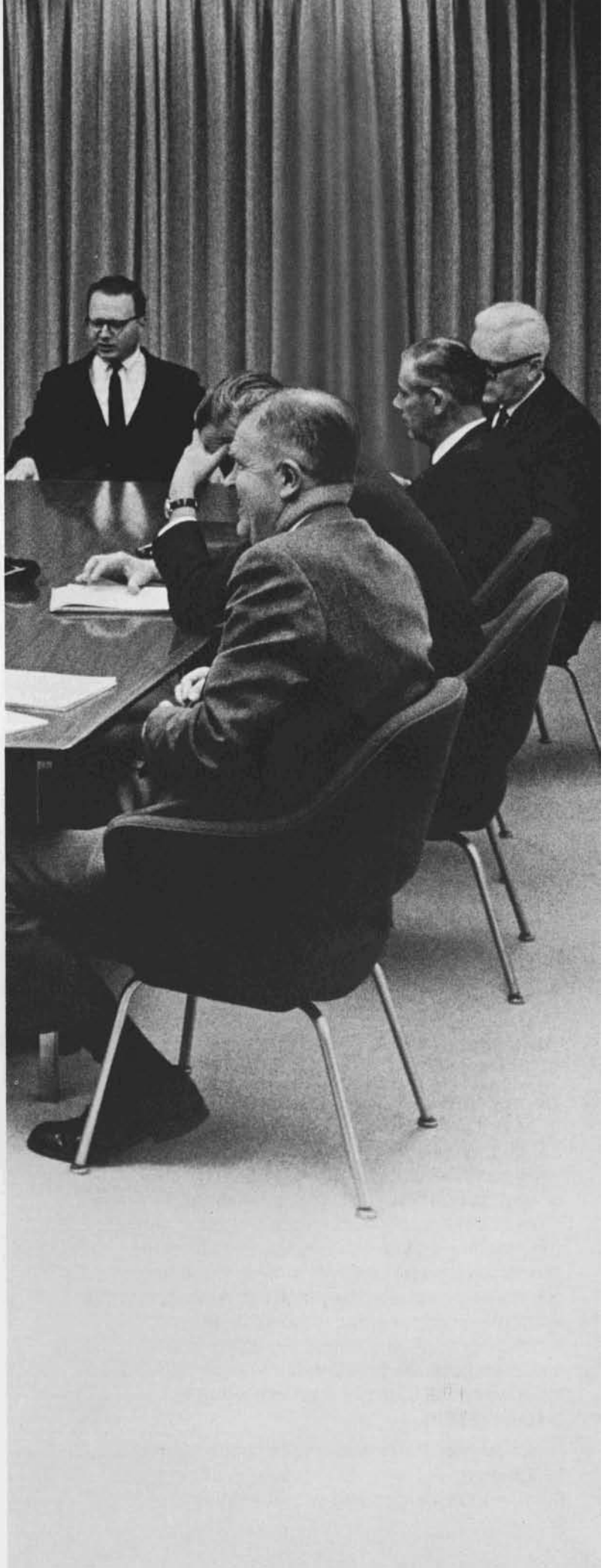
My report began by crediting Memorex's successes in 1967 to the hard work and resourcefulness of Memorex's employees. They vigorously met the challenges of 1967's growth objectives and demanding competitive environment. Again, in 1968, their skills, esprit de corps, and dedication are the principal assets which justify our ambitious plans for further growth and profitability.

Sincerely,

Laurence L. Spitters

Laurence L. Spitters
President

February 1, 1968



MEMOREX CORPORATION AND SUBSIDIARIES CONSOLIDATED STATEMENT OF INCOME

	For the Years Ended December 31	
	1967	*1966*
Net Sales	$34,232,372	$24,417,253
Operating Costs and Expenses (including depreciation of $1,681,320 in 1967 and $828,085 in 1966):		
Cost of manufacture	18,597,634	13,506,697
Research and development expense	2,376,958	1,454,351
Selling, general and administrative expenses	5,233,764	3,330,142
Employee profit sharing expense	751,717	575,479
	26,960,073	18,866,669
Operating Income	7,272,299	5,550,584
Interest Expense	506,848	369,488
Income before Federal and Foreign Income Taxes	6,765,451	5,181,096
Provision for Federal and Foreign Income Taxes	3,189,000	2,457,000
Net Income	$ 3,576,451	$ 2,724,096
Net Income per Share (Note 8)*	$1.15	$ .89
Pro Forma Net Income per Share (Note 8)*	$1.06	$ .89

**Adjusted for 3-for-1 stock split-up.*

The accompanying notes are an integral part of this statement.

AUDITORS' REPORT TO THE BOARD OF DIRECTORS AND SHAREHOLDERS, MEMOREX CORPORATION

We have examined the consolidated statement of historical financial position of Memorex Corporation (a California corporation) and subsidiaries as of December 31, 1967, and the related consolidated historical statements of income, shareholders' equity, and source and use of funds for the year 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. We have previously examined and reported on the financial statements for the preceding year.

In our opinion, the financial statements referred to above present fairly the financial position of Memorex Corporation and subsidiaries as of December 31, 1967, and the results of their operations and the sources and uses of funds for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

We have also reviewed the entries giving effect to the transactions described in Note 2 of the Notes to Financial Statements and, in our opinion, subject to the consummation of those transactions, such entries have been properly applied to the historical financial statements of Memorex Corporation as of December 31, 1967 to reflect those transactions.

ARTHUR ANDERSEN & CO.

San Jose, California
January 20, 1968.

MEMOREX CORPORATION AND SUBSIDIARIES **CONSOLIDATED STATEMENT OF FINANCIAL POSITION**

	December 31		
	1967 (Pro Forma) (Note 2)	*1967*	*1966*
Current Assets:			
Cash	$ 689,394	$ 689,394	$ 577,334
Temporary investments in government obligations, at cost	—	—	4,079,234
Accounts receivable	8,250,998	8,250,998	5,653,595
Inventories, at the lower of cost (first-in, first-out) or market	5,381,946	5,381,946	3,067,455
Prepayments	649,837	649,837	172,515
	14,972,175	14,972,175	13,550,133
Current Liabilities:			
Unsecured notes payable to bank	2,400,000	2,400,000	—
Note payable	55,085	55,085	55,085
Accounts payable	2,298,088	2,298,088	2,005,398
Accrued liabilities—			
Salaries, wages and commissions	263,524	263,524	273,450
Profit sharing	751,717	751,717	575,479
Federal and foreign income taxes	630,620	630,620	1,133,287
Other	619,671	764,817	469,120
Product warranty reserve	300,000	300,000	300,000
	7,318,705	7,463,851	4,811,819
Working Capital	7,653,470	7,508,324	8,738,314
Property, Plant and Equipment, at cost:			
Land	597,441	597,441	478,256
Buildings and improvements	7,310,556	7,310,556	4,925,355
Machinery and equipment	9,081,635	9,081,635	5,686,098
Furniture and fixtures	642,136	642,136	407,236
	17,631,768	17,631,768	11,496,945
Less accumulated depreciation	3,181,448	3,181,448	1,637,272
	14,450,320	14,450,320	9,859,673
Deferred Research and Development Costs (Note 3)	936,055	936,055	178,166
Other Assets	450,195	621,465	568,060
Deduct Other Liabilities:			
Deferred Federal income taxes (Note 4)	1,215,264	1,215,264	616,344
Long-term debt (Note 5)	4,000	6,816,000	12,055,085
	1,219,264	8,031,264	12,671,429
Shareholders' Equity	$22,270,776	$15,484,900	$ 6,672,784
Represented by (Notes 2, 5, 6, and 7):			
Common stock	$ 3,635,620	$ 1,123,929	$ 1,036,891
Paid-in surplus	10,278,059	6,003,874	855,247
Retained earnings	8,357,097	8,357,097	4,780,646
	$22,270,776	$15,484,900	$ 6,672,784

The accompanying notes are an integral part of this statement.

MEMOREX CORPORATION AND SUBSIDIARIES CONSOLIDATED STATEMENT OF SHAREHOLDERS' EQUITY

For the Year Ended December 31, 1967

	Total	*Common Stock*	*Paid-in Surplus*	*Retained Earnings*
Balance December 31, 1966	$ 6,672,784	$1,036,891	$ 855,247	$4,780,646
Net income for the year	3,576,451	—	—	3,576,451
Proceeds from sale of common stock to employees under stock option plan	208,783	15,023	193,760	—
Conversion of 5% convertible subordinated debentures	5,026,882	72,015	4,954,867	—
Balance December 31, 1967	$15,484,900	$1,123,929	$ 6,003,874	$8,357,097
Pro forma entries (Note 2):				
Conversion of 5% subordinated debentures February 1, 1968	6,785,876	94,611	6,691,265	—
Stock split-up February 2, 1968	—	2,417,080	(2,417,080)	—
Pro forma Balance December 31, 1967	$22,270,776	$3,635,620	$10,278,059	$8,357,097

The accompanying notes are an integral part of this statement.

CONSOLIDATED STATEMENT OF SOURCE AND USE OF FUNDS

	For the Years Ended December 31	
	1967	*1966*
Funds Were Obtained From:		
Net income	$3,576,451	$ 2,724,096
Depreciation	1,681,320	828,085
Increase in deferred Federal income taxes	598,920	384,294
Total funds from operations	5,856,691	3,936,475
Net increase in long-term debt	—	9,703,078
Proceeds from issuance of common stock	208,783	39,562
Decrease in working capital	1,229,990	—
Total funds obtained	$7,295,464	$13,679,115
Funds Were Used For:		
Additions to property, plant, and equipment, net	$6,484,170	$ 6,260,546
Deferred research and development costs	757,889	178,166
Increase in other assets	53,405	479,346
Increase in working capital	—	6,761,057
Total funds used	$7,295,464	$13,679,115

The accompanying notes are an integral part of this statement.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

December 31, 1967

1. PRINCIPLES OF CONSOLIDATION

The consolidated financial statements include the accounts of the parent company and all subsidiaries (except Memorex Leasing Corporation, which is not significant) after elimination of intercompany accounts and transactions. All subsidiaries are wholly-owned except Peripheral Systems Corporation (PSC). The minority stockholders' interest in PSC, which amounts to $50,000, is included in other accrued liabilities. The company has entered into an agreement with the individual shareholders of PSC providing that the company shall have an option to acquire, on or before June 30, 1970, all shares of PSC not now held by it in exchange for not less than 30,000 nor more than 75,000 shares (after 3-for-1 stock split) of the company's common stock. The exact number of shares to be transferred are to be determined by a formula based upon the profitability of PSC's operations.

2. SIGNIFICANT EVENTS AFTER DECEMBER 31, 1967

Two significant events occurred after December 31, 1967, which materially affect the company's statements of financial position and shareholders' equity. The results of these events are reflected in the pro forma amounts shown as of December 31, 1967 in those statements.

On December 22, 1967, the company called for redemption of its 5% convertible subordinated debentures due August 1, 1986. The redemption date is February 1, 1968. The debentures are convertible into shares of the company's common stock at the rate of $72 per share. For this purpose, 94,611 shares are reserved. The redemption price is 104.7% of the principal amount plus accrued interest, or $1,072 per $1,000 principal amount. The pro forma amounts reflect this call as if all debentures will be converted into common stock. Management expects that all or substantially all debentures will be so converted.

On January 19, 1968, the Board of Directors authorized the distribution of two additional shares of $1.00 par value common stock for each share outstanding (exclusive of treasury shares) to shareholders of record on February 2, 1968. As a result of this authorization, 2,417,080 additional shares of common stock will be issued and $2,417,080 of paid-in surplus will be transferred to the common stock account. Pro-forma amounts are stated after giving effect to this action.

3. DEFERRED RESEARCH AND DEVELOPMENT COSTS

Research, development and start-up costs of Peripheral Systems Corporation have been deferred since that company's inception in order to properly match costs and revenues. These costs will continue to be deferred until Peripheral Systems Corporation reaches full production capability, which management expects to occur by mid-1968. It is management's intention to amortize these costs at a rate which will result in full amortization within the next three years.

4. DEFERRED FEDERAL INCOME TAXES

Deferred Federal income taxes have been provided to recognize differences in reporting certain expenses (principally depreciation) in the tax returns from those recorded in the books. As a result, $1,215,264 of income taxes otherwise payable have been deferred. 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.

5. LONG-TERM DEBT

Long-term debt at December 31, 1967, consisted of the following:

	Pro Forma (Note 2)	*Historical*
5% convertible subordinated debentures, due August 1, 1986	$ —	$6,812,000
5% convertible subordinated debentures, due January 15, 1972	4,000	4,000
	$ 4,000	$6,816,000

The company has called for the redemption of all of its debentures due August 1, 1986 (see Note 2).

The debentures due January 15, 1972, are convertible after January 15, 1970, or earlier upon occurrence of certain events, into shares of Substrate Corporation on the basis of one share for each $2 principal amount. The indenture under which the debentures are issued also provides that in the event the company shall elect to merge Substrate into the company, the holders of the debentures shall be entitled to receive an aggregate of 6,000 shares (after 3-for-1 stock split-up) of the company's common stock and $150,000.

6. 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		
	1967		*1966*
	Pro Forma (Note 2)	*Historical*	
Authorized preferred stock	200,000	200,000	—
Outstanding preferred stock	—	—	—
Authorized common stock	5,000,000	5,000,000	5,000,000
Outstanding common stock (excluding 10,000 shares held in treasury)	3,625,620	1,113,929	1,026,891

7. STOCK OPTIONS (PARENT COMPANY)

Changes during 1967 in the status of options granted under the Stock Option Plans after giving effect to the 3-for-1 stock split-up authorized January 19, 1968 (see Note 2) were:

		Shares Under Option—Changes During Year				
Year Granted	*Option Price*	*Jan. 1 1967*	*Granted*	*Exercised*	*Terminated*	*Dec. 31 1967*
1962(1)	$ .07	5,625	—	5,625	—	—
1963(1)	.17 to 1.11	24,750	—	21,375	—	3,375
1964(1)	1.22 to 2.22	13,500	—	6,750	—	6,750
1966(2)	10.96 to 21.71	66,600	—	11,319	6,225	49,056
1967(2)	34.79 to 63.92	—	99,150	—	750	98,400
		110,475	99,150	45,069	6,975	157,581

(1) Options were granted under a Restricted Stock Option Plan adopted in 1961. No additional shares will be issued under this plan.

(2) 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 company has reserved 210,000 shares of its common stock for issuance under this plan.

Both plans provide, among other things, that the options may be exercised at one-fourth the total shares each year on a cumulative basis, beginning one year after date of grant. Options granted before 1964 expire eight years after date of grant and those granted in 1964 and subsequent years expire five years after date of grant.

8. NET INCOME PER SHARE

Historical net income per share amounts are based on the average number of shares outstanding during the year, excluding 10,000 shares held in treasury, after giving retroactive effect to the 3-for-1 common stock split-up mentioned above.

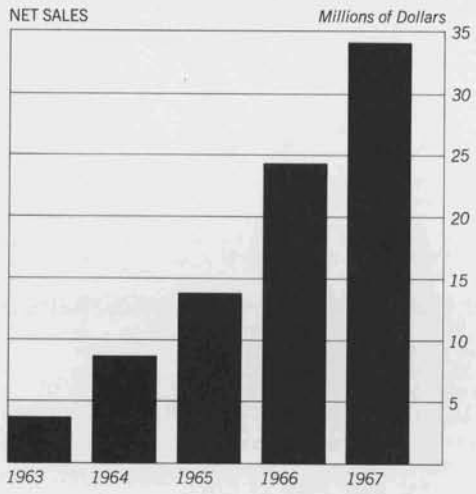
Pro forma net income per share has been computed by: (1) adjusting historical net income to reflect a reduction of $228,300 in 1967 and $112,000 in 1966 representing interest and amortization of deferred debt expense (net of applicable Federal income taxes) on the convertible subordinated debentures (conversion of which is discussed in Note 2); these adjustments represent the increase in net income which would have resulted had the debentures been originally issued as common stock; and (2) giving retroactive effect on the average number of shares outstanding for the conversion of the debentures and the 3-for-1 stock split-up.

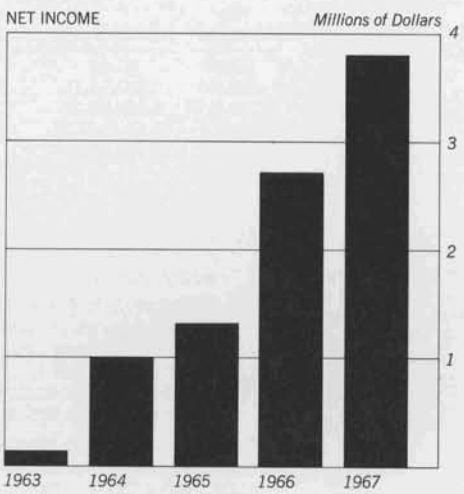
MEMOREX CORPORATION FIVE-YEAR SUMMARY

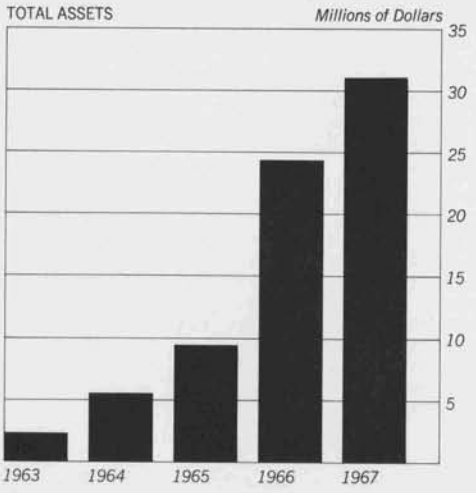
(Dollar amounts in thousands except per share earnings) — *Years Ended December 31*

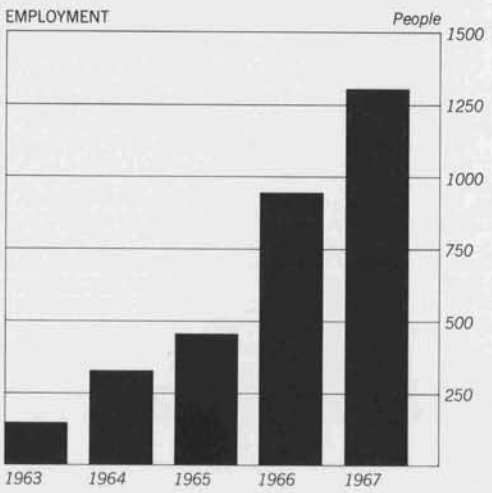
	1967 (Pro Forma*)	1967	1966	1965	1964	1963
OPERATING DATA						
Net Sales	$ 34,232	$ 34,232	$ 24,417	$ 13,099	$ 8,042	$ 3,486
Net Income:						
Before Taxes	7,205	6,765	5,181	2,481	1,962	454
After Taxes	3,805	3,576	2,724	1,331	1,002	218
Per Common Share**	1.06	1.15	.89	.45	.35	.08
Depreciation	1,681	1,681	828	423	252	141
Research and Development	2,377	2,377	1,454	747	452	288
FINANCIAL DATA						
Capital Expenditures	6,484	6,484	6,261	2,185	2,225	294
Working Capital	7,653	7,508	8,738	1,977	994	642
Total Assets	30,809	30,980	24,156	9,600	5,377	2,089
Long-term Debt	4	6,816	12,055	2,352	1,037	—
Shareholders' Equity	22,271	15,485	6,673	3,909	2,565	1,594
Average Number of Common Shares Outstanding**	3,594,486	3,120,120	3,062,235	2,962,770	2,892,150	2,866,950
Number of Employees at Year's End	1,304	1,304	918	442	306	146

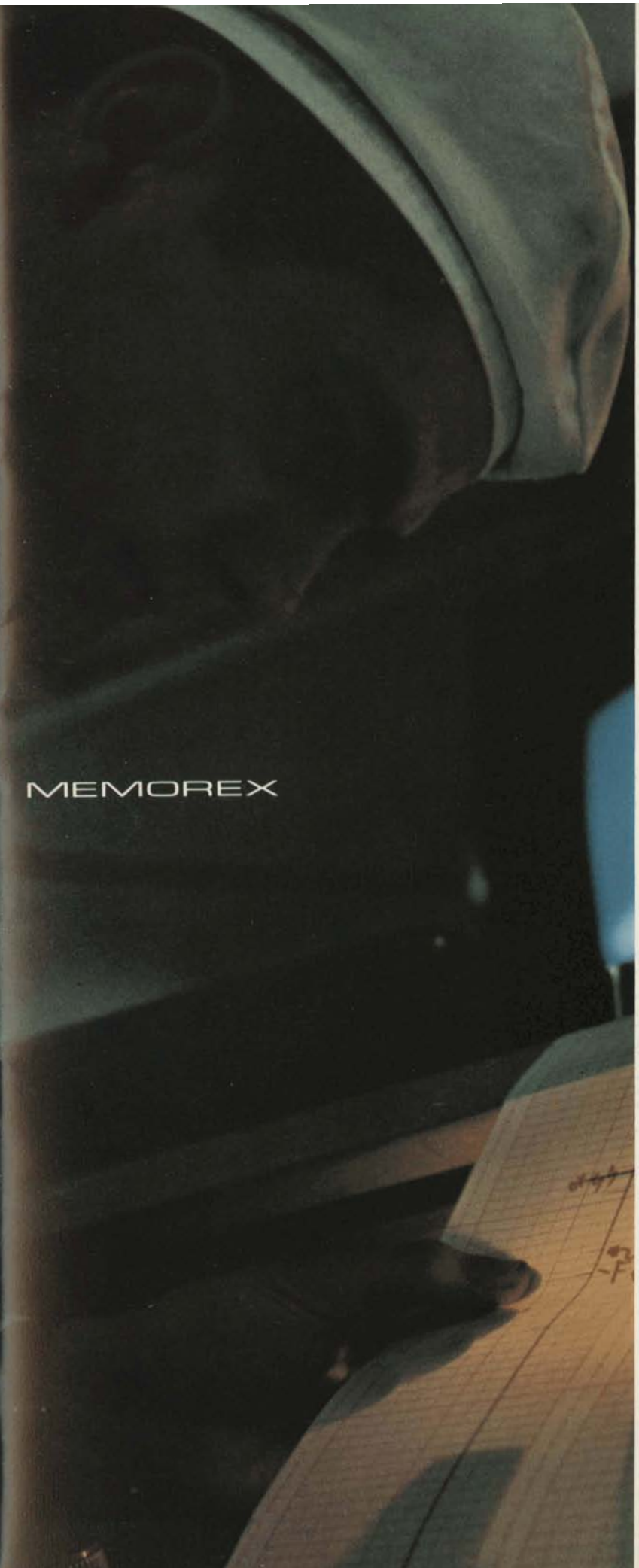
*See Notes to Financial Statements.
**Adjusted for 3-for-1 stock split-up.







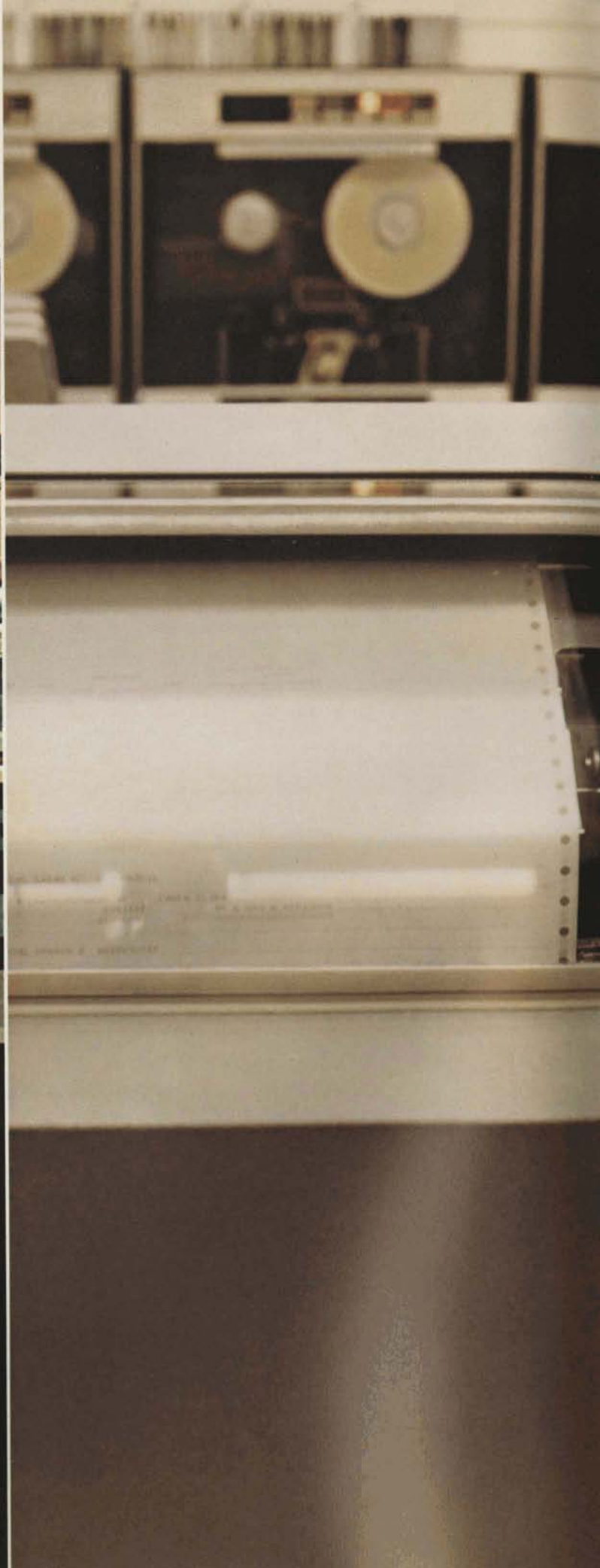




SUPPLEMENT

A sales aid has been prepared to inform prospective customers regarding the strength of our technology, facilities, and personnel resources. Shareholders not acquainted in detail with Memorex will find in it a comprehensive description of our business.


MEMOREX



AT MEMOREX,
OUR SPECIALTY IS QUALITY.

In Brussels, an electronics engineer utilizes a tape-stored computer program in the design of a new microelectronics circuit.

In San Francisco, a student watches a biophysics experiment six weeks after it was performed 900 miles away in Denver.

On a research vessel, a scientist compiles data from the floor of the mid-Pacific.

These widely separated occurrences have one thing in common: They all benefit from highly precise magnetic recording media made by Memorex. Despite diverse objectives, the engineer, the student, the scientist have a common need: the accurate recording and reproduction of information.

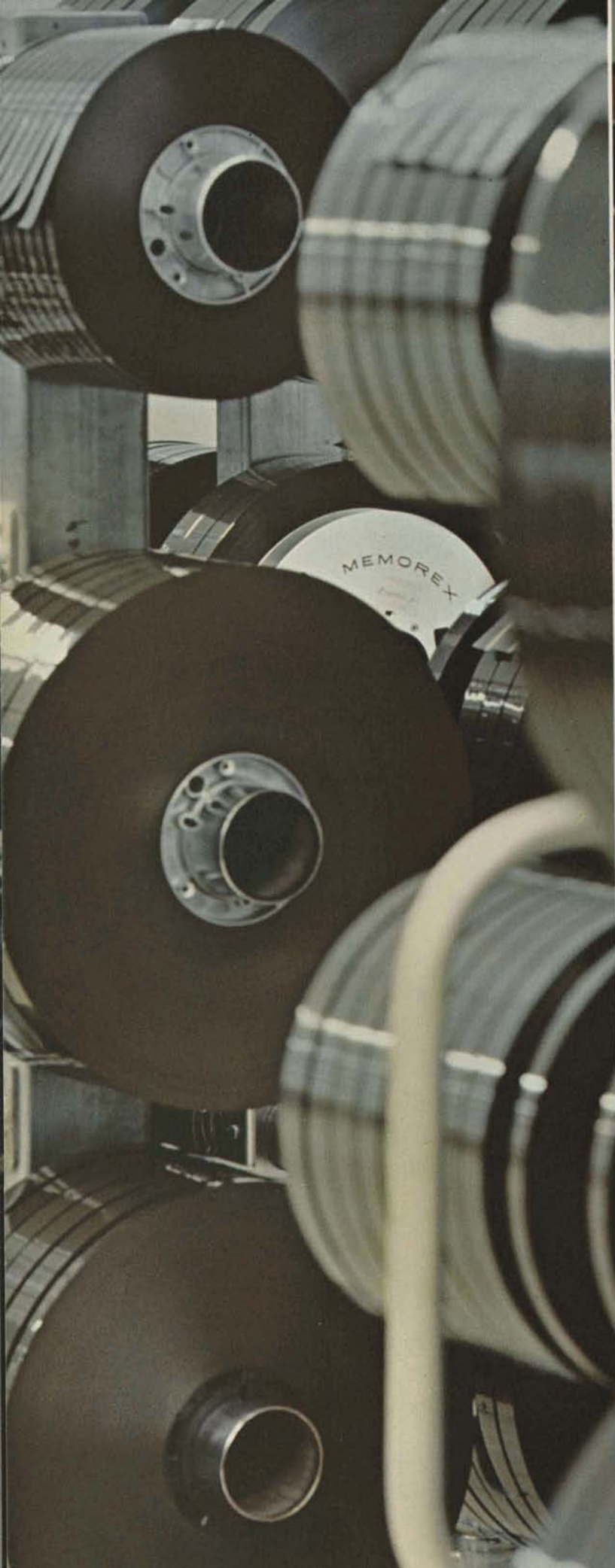
At Memorex, we devote ourselves exclusively to the research, development, and manufacture of highly precise magnetic recording media and related products. Our entire operation has only one purpose: to provide our customers with products they can rely on for error-free performance.

Making quality products requires high standards in all facets of our business. First, we employ the tape industry's most prominent and forward-thinking technical people. Second, we design proprietary production methods, processes, and equipment for our operations—all with a common, single, and mutually supporting objective: unexcelled quality of output. Third, we maintain the uncompromisingly high quality of our products through intensive and continuing research and developmental programs.

Memorex has manufacturing facilities both in the United States and in Europe. Our branch sales and service offices are located all over the world. We are thus able to supply our customers immediately with the products they need, and to give them technical assistance in solving their problems.

As memory devices become more sophisticated, the user's needs for even more critical precision magnetic recording media grow rapidly. We have the capability to meet those needs.

From science through entertainment, Memorex magnetic recording media serve Man. Here, instrumentation tape monitors a patient, isolating electrical impulses the instant they leave his neurons—and before they reach his brain. Computer tape quickly and accurately bills millions of telephone calls each day. And video tape opens new doors to the performing arts.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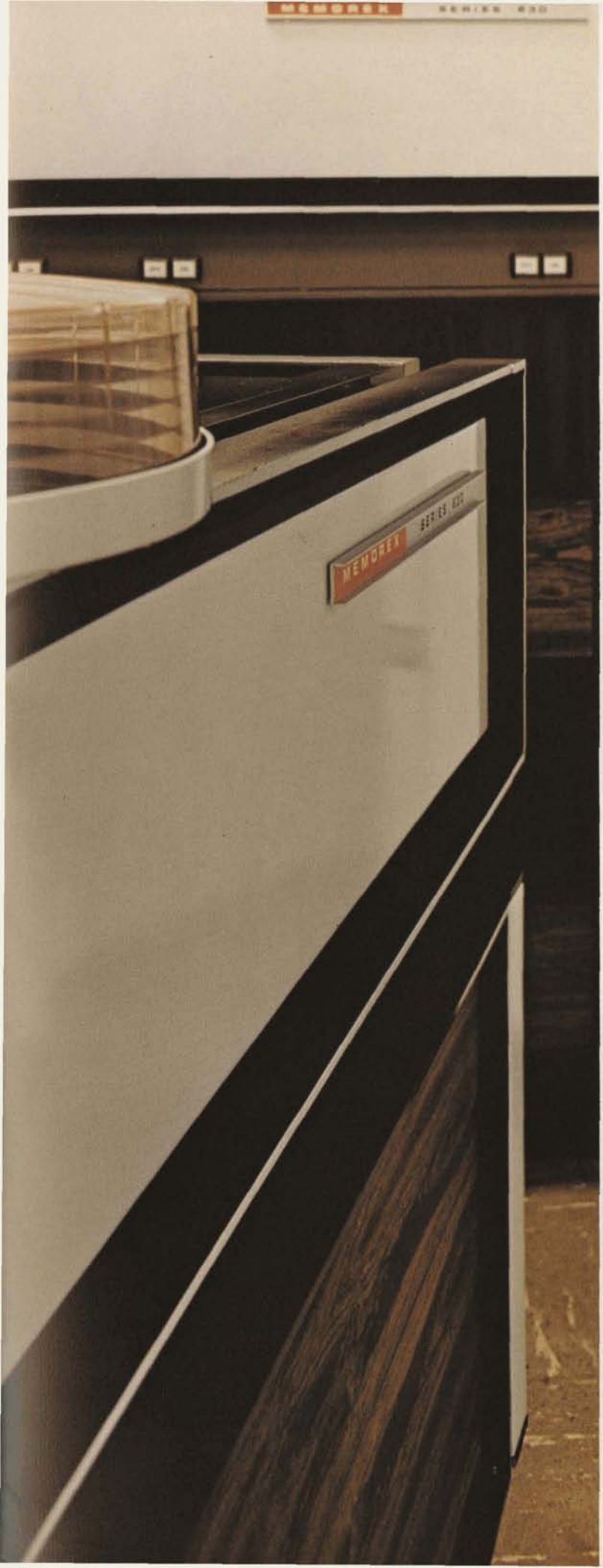


BROAD INTERESTS
AND A BROAD CAPABILITY.

We manufacture and market the widest range of precision magnetic recording media in the world. No other company produces product lines that include computer tapes, broadcast video tapes, helical scan video tapes, instrumentation tapes, and computer disc packs. In addition to these, we also produce disc memory equipment.

Our major plant and home office is in Santa Clara, California. We have five additional manufacturing plants and more than thirty other service and sales offices located in the United States and Europe.

We also use our research and technical capabilities to develop and manufacture quality products in related fields. Our Comdata facility, in Los Angeles, makes precision metal and plastic reels and containers to the highest industry standards. In Hawthorne, California, and in Santa Clara, our Disc Pack facilities manufacture another type of coated precision magnetic recording media: rapid access storage devices. And our Peripheral Systems facility, in Sunnyvale, California, invents, designs, and manufactures hardware (such as disc drives) that are closely allied to the memory business.

Rolls of video, instrumentation, and computer tapes, cut into specific lengths and widths by precision slitters, stand ready for our final production stages. They will be wound on precision reels, certified, and packaged.

A Memorex employee carefully assembles discs into a pack. The completed disc pack will undergo thorough QC tests before it is released.

Through disc drives, we demonstrate our capability to develop quality hardware closely allied to the memory business.

MEMOREX:
A COMPANY OF SPECIALISTS.

Memorex people represent the best creative, technical, and research talent in the memory business. Their backgrounds include experience with essentially every major computer and magnetic recording firm in the United States and abroad.

Through these people we offer our customers a thorough knowledge of every phase of the magnetic recording phenomena, from research through application. And whether they are in the developmental, production, or service end of the business, they are user-oriented—and, therefore, customer-oriented. Fully aware of our customers' needs, they strive to meet these needs with superior products, and to back these products with superior service.

Many Memorex engineers are equally familiar with hardware, and could just as well design the equipment our media go on. Our customers find this dual ability invaluable. Not only can we design the best media for their hardware, but we can help them quickly solve their interface problems.

Much of our equipment is specialized, designed and built by Memorex engineers. Here, an electronics technician works on a circuit for a unique quality control device . . .

. . . and, in our model shop, a master machinist makes a vacuum capstan for a research testing device.


LT 8

PRECISION MANUFACTURING:
OUR REPUTATION DEPENDS ON IT.

Making precision magnetic recording media is an exacting science. The slightest deviation from product specifications will result in a defective product.

Our customers expect our computer tape to be error-free. This means we must hold its mechanical properties to extremely close tolerances. Its coating must be absolutely smooth, the thickness uniform from edge to edge and end to end. Its edges must be cleanly and exactly cut; its surface completely free of foreign particles; its entire width unvaryingly parallel. And this precision must be maintained reel after reel, month after month.

To make our tape we use special technical processes and equipment that we design ourselves. (In fact, we develop special methods and machinery for each of the products we make.) And, of course, we develop our own highly proprietary formulations.

Our manufacturing operations are conducted under clean-room conditions. Employees entering the manufacturing rooms first don lint-free caps and outer garments (cleaned at the plant in one of the world's most exacting industrial laundries), and then pass through air showers that vacuum away any dust they may be carrying.

The entire area is filtered by powerful air-conditioning systems, and a particle counter keeps track of its purity down to 2 microns. Built-in safeguards keep one room from contaminating another.

From the time the raw material enters our plant until it is in the hands of our customers as the final product, we keep it in a controlled environment. In fact, each step of our manufacturing process is inherently controllable. We took the principles of automation, production line monitoring, and process control from the chemical and pharmaceutical industries, and refined them to meet the rigid requirements of making magnetic recording media at Memorex.

This is where the production of our tapes begins. This jumbo roll of polyester film, specially cleaned, is about to be coated with one of our proprietary formulations.

Proprietary slitters cut this one-inch instrumentation tape to a tolerance of ±0.001 inch.

All our plants function as huge, specialized machines, carefully designed for the controlled and automated production of magnetic recording media.

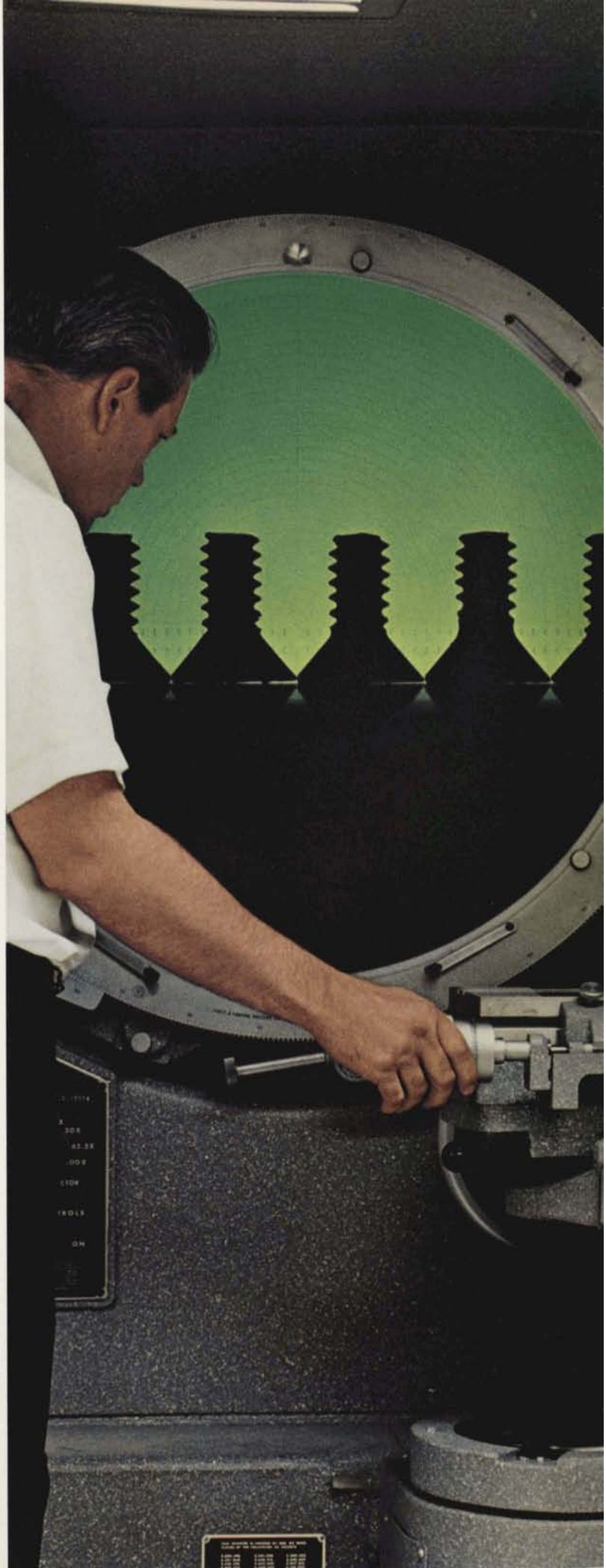
RIGID QUALITY CONTROL:
ONLY THE BEST SURVIVE.

Quality control at Memorex begins in the development of our products. It monitors each of our manufacturing steps, and it follows our products into the field. By maintaining an uncompromising QC policy, we assure our customers of the quality of our products, and free them from the bother and expense of pretesting.

Quality control extends even beyond our plant: Our inspectors verify production standards of raw materials at the plants of our suppliers. Then the raw materials are tested again in our laboratories before we accept them for processing.

Nearly half our manufacturing employees are QC people. They conduct quality control tests throughout the developmental stages and all along the production line, from mix, coating—and in the case of tape—through slitting, certification, and packaging. *If a product fails a test anywhere along the way, we destroy it.*

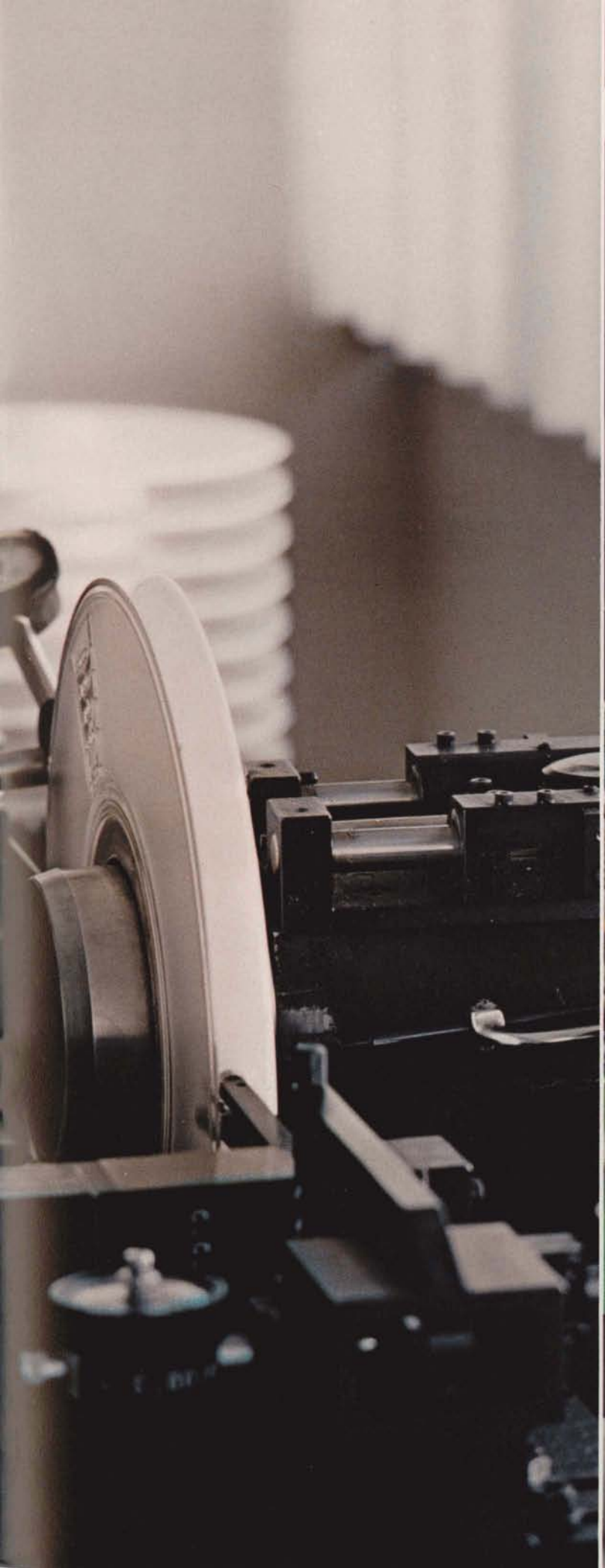
Equally important to us is what happens to our products in the field. To help our customers make the best use of our products, our QC Department offers a unique service: Staff members of our Product Technical Service will go anywhere in the world, at a moment's notice, to service an installation. They provide our customers with the authoritative know-how needed to solve interface and applications problems.

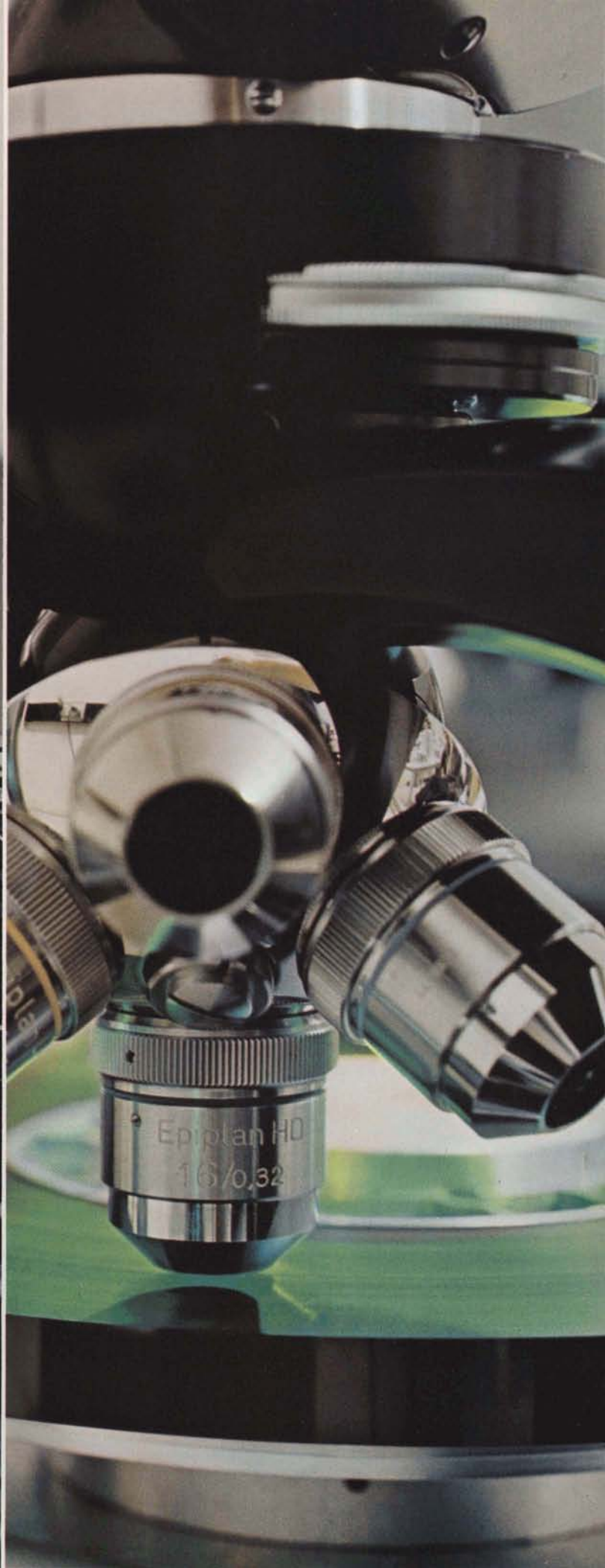


The products of our suppliers must pass a thorough examination before we use them. Here, we conduct a visual check on 5/16-inch hub screws for precision instrumentation and video reels.

Testing the flanges of a computer reel, this unique Memorex QC device makes four critical measurements simultaneously.

Another QC check makes sure the tape is wound properly, with its edges perfectly smooth.

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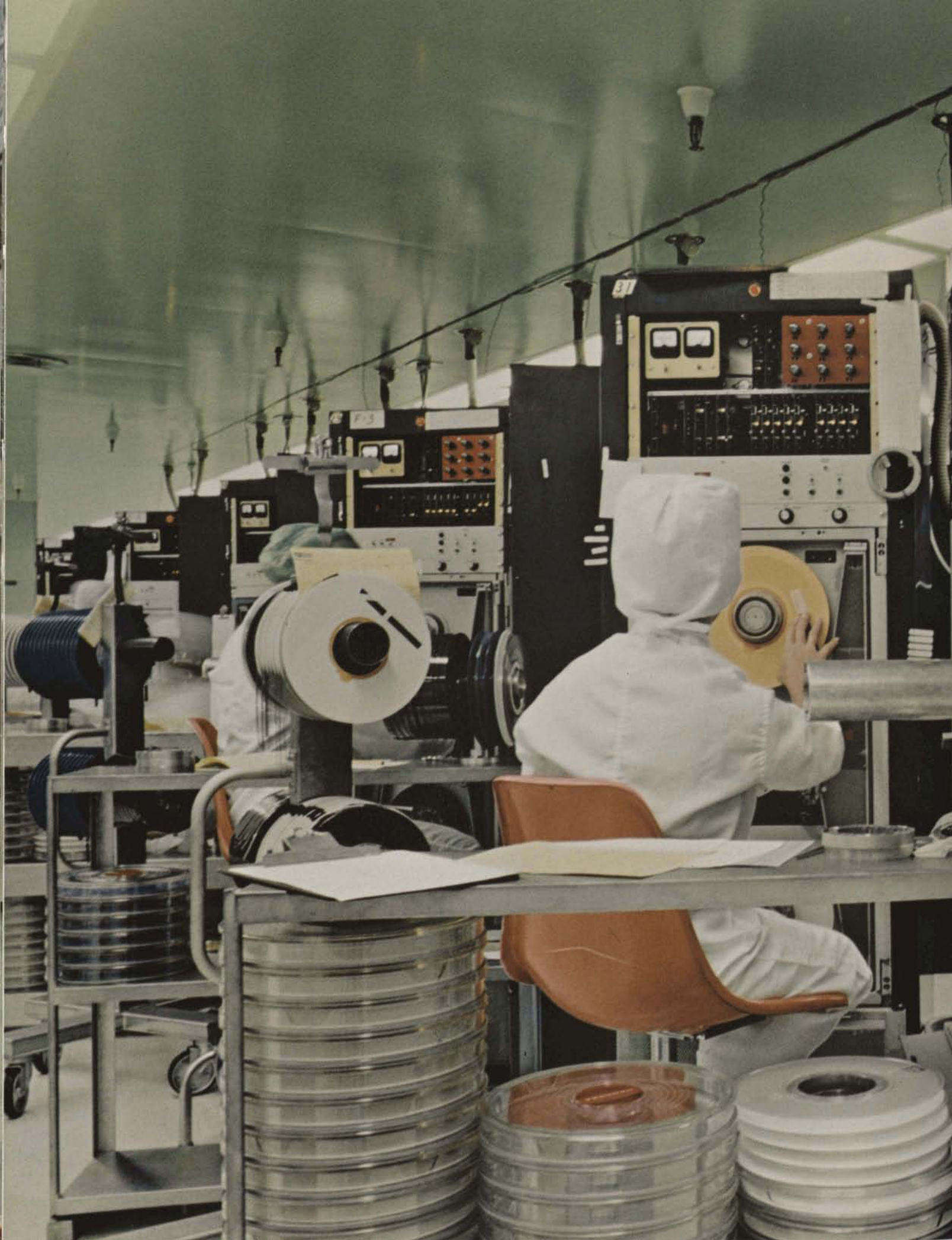
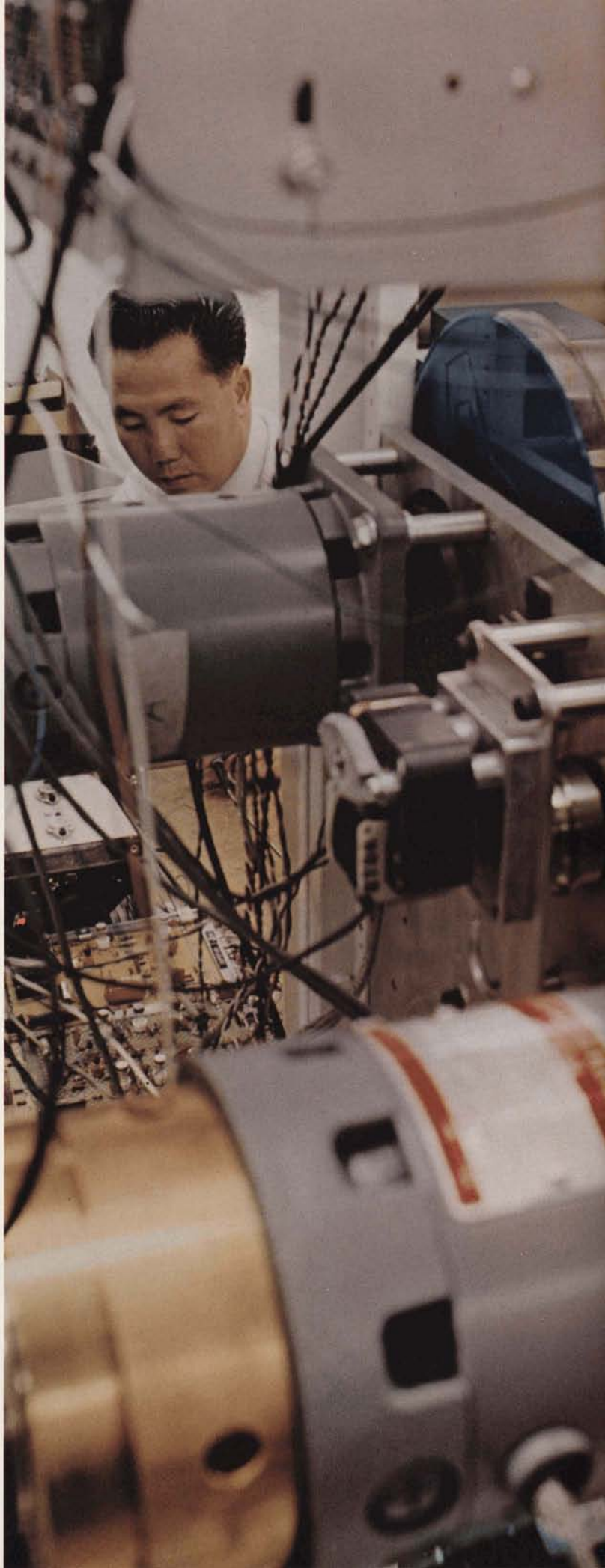


At special certifiers designed by Memorex engineers, inspectors insure our computer tapes are 100 per cent error-free.

PROPRIETARY QC EQUIPMENT:
OUR ASSURANCE OF QUALITY.

Memorex certification standards are the highest in the industry. Very often, equipment that is exact enough to test what we want to measure simply does not exist. So we design it. This involves pure invention as well as the redesign of existing measuring devices to test video, computer, and broad-band tapes.

One example of the thoroughness of our QC checks is the way we test our broadcast video tape. We run at least 37 QC tests on the tape while it is being manufactured, from start to finish. We test its backing, oxide, binder, surface, uniformity, dimensions, abrasivity, magnetic properties, and response. The entire procedure involves 52 different pieces of equipment, of which 31 were developed or redesigned by our engineers.



By constantly improving our equipment, we maintain the quality control needed for consistent high quality production. This engineer is evaluating a new concept for tape certification.

Proprietary equipment checks the surface of broadcast video tape for uniform head-to-surface contact, thus assuring finest picture quality.

RESEARCH AND DEVELOPMENT:
THE SEARCH FOR BETTER PRODUCTS.

Memorex operates on the principle of continuous product innovation.

Our Research and Development Departments are made up of a balanced team of chemists, chemical engineers, process engineers, electrical engineers, mechanical engineers, physicists, and tape recording specialists. They work closely to improve existing Memorex products and develop new ones.

Their investigations involve:

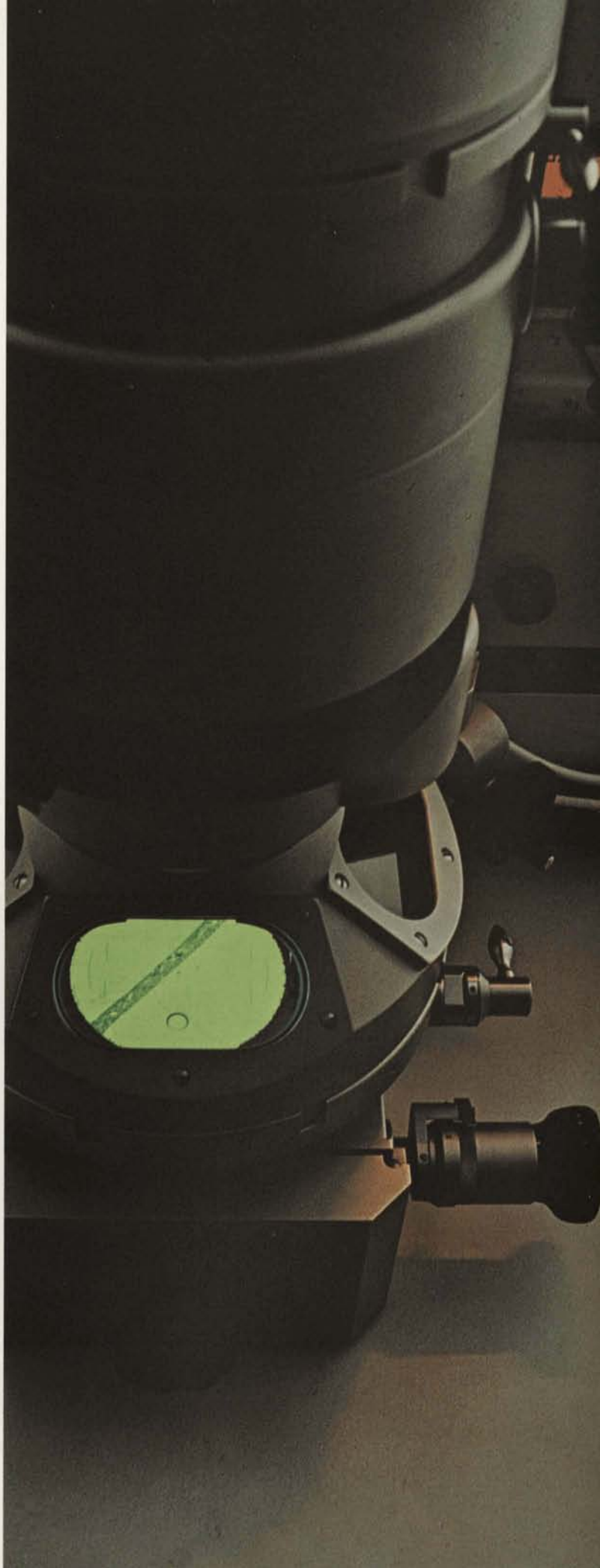
The in-depth study of the nature of magnetic recording techniques.

The search for raw materials and new combinations of materials to provide better product formulations.

Developing more efficient manufacturing processes and equipment.

Developing more critical testing techniques and equipment.

The advanced research and development of materials and processes for new memory products.



In the research and development of quality magnetic recording media, precision instruments, such as this electron microscope, are essential. These are also used in routine QC tests to obtain a finer degree of analysis.

Chemists constantly test new raw materials in their search for better formulations.

Using a high temperature oven, an R&D engineer tests an instrumentation tape designed for applications involving extreme environments, such as deep space probes.

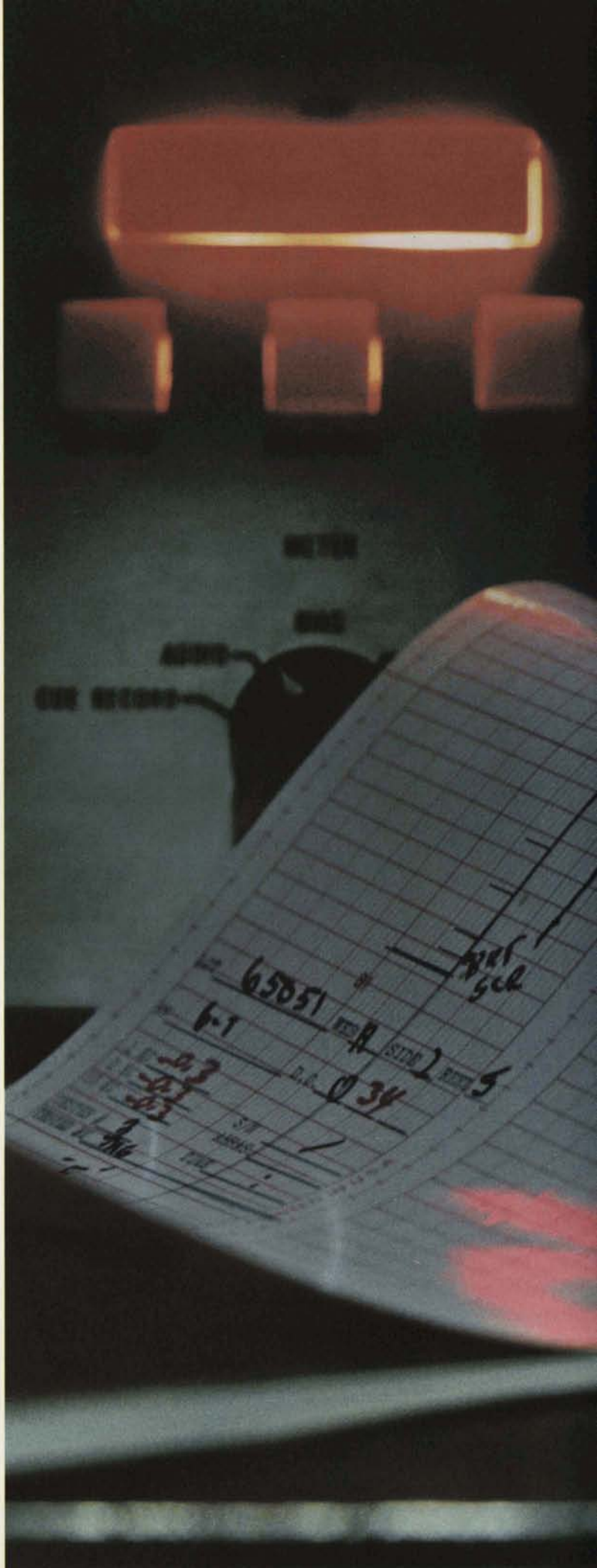

1000 ml
PYREX
No. 1000


TYPE 551 DUAL-BEAM OSCILLO
UPPER BEAM

FROM MEMOREX PILOT LINES
COME NEW QUALITY PRODUCTS.

Essential to our R&D are our pilot line operations. We formulate and produce experimental products by the hundreds, and test each one exhaustively. Those which show desirable characteristics are reproduced over and over again under typical production conditions and in scaled-up processing. If a product indicates it can be mass-produced and still maintain our highest specifications, we give it extensive use-tests both in our laboratories and in the field.

Years of developmental and pre-production activity precede each new and improved Memorex product. We market it only after it has proved that it can give our customers durable, reliable, trouble-free performance.



This recorder graphically displays the electrical qualities important for high resolution video magnetic tape.

Improving the physical and electrical properties of magnetic recording media is a continuous concern at Memorex. Here, a scientist evaluates a test run of an experimental coating formulation.

QUALITY IS ALSO
A WAY OF SERVING CUSTOMERS.

To make sure our products get to our customers in perfect condition, we ship them in specially designed containers, and use special handling techniques. We routinely airship our products, and all our field offices and distributors, both in the U.S. and abroad, maintain inventories. In this way we can give our customers immediate delivery of most orders.

As another means of serving our customers, we are constantly expanding our staff of technically trained sales and applications engineers. These men—usually natives of the part of the country or world they work in—keep close contact with the customer. Their job is to get our products to him on time, find answers to his questions, keep abreast of his needs, and help solve his problems.

Each man is a specialist. He is expert in product applications and hardware. Backed by our QC Product Technical Service staff, he troubleshoots any recording problems our customers may have.

He also functions as a vital link between our customer and Memorex. He brings back, to each of our product groups, important information on the changing nature of the user's problems. For to us, service is more than selling products to our customer. It is being constantly aware of his problems, offering him our technical knowledge, and constantly developing superior products that best fit his needs.

Even the packaging of Memorex precision magnetic tape is performed in a clean-room environment . . .

. . . and it never leaves that environment until it is opened.

Memorex products are airshipped daily from our plants to maintain inventories in all our branch offices.

THE GROWING NEED
FOR QUALITY PRECISION MAGNETIC PRODUCTS.

Memorex customers are all over the world: in industry and government, in finance and mercantile, space and defense, science and education, entertainment.

Our customer diversity reflects our deep involvement in the widening uses of complex memory devices — computer, video, and instrumentation systems — at almost every level of human activity.

Computers alone have done more than their share to change our patterns of living, and new jobs are found for them daily. Sooner than we think, computers will translate foreign languages with lightning speed. Travellers who fall ill will simply dial a record storage center for their medical histories. All hospitals will be equipped with systems that monitor patients, meter out proper medication, prepare a varied and balanced diet. Researchers will find answers to man's incurable diseases. And private homes will have their own computer and information systems. Equally dramatic are the ways video and instrumentation memory devices will help society.

Sophisticated memory devices have become an indispensable fact of modern life, the key to new accomplishments. The tasks they are yet to perform promise an exciting future.

Memorex is helping bring that future closer.

Whether our customers are in the United States or abroad, our sales and service engineers work closely with them to solve their problems. Memorex offices are located all over the world to back each of our products with full service. *Memorex Corporation, 1180 Shulman Avenue, Santa Clara, California. United States: Atlanta; Birmingham; Boston (Lowell); Chicago (Elmhurst); Cleveland; Dallas; Dayton; Denver; Detroit (Southfield); Hartford (Vernon); Honolulu; Houston; Los Angeles; New York (Totowa, New Jersey); Orlando; Philadelphia (Pennsauken, New Jersey); Pittsburgh; St. Louis; San Francisco (Belmont); Seattle (Bellevue); Syracuse (Baldwinsville); Washington (Bethesda, Maryland). International: Brussels, Belgium; Cologne, West Germany; Enebyberg, Sweden; Maidenhead, England; Milan, Italy; Oslo, Norway; Paris, France; Tokyo, Japan; Vienna, Austria; Vlaardingen, Netherlands; Zurich, Switzerland.*

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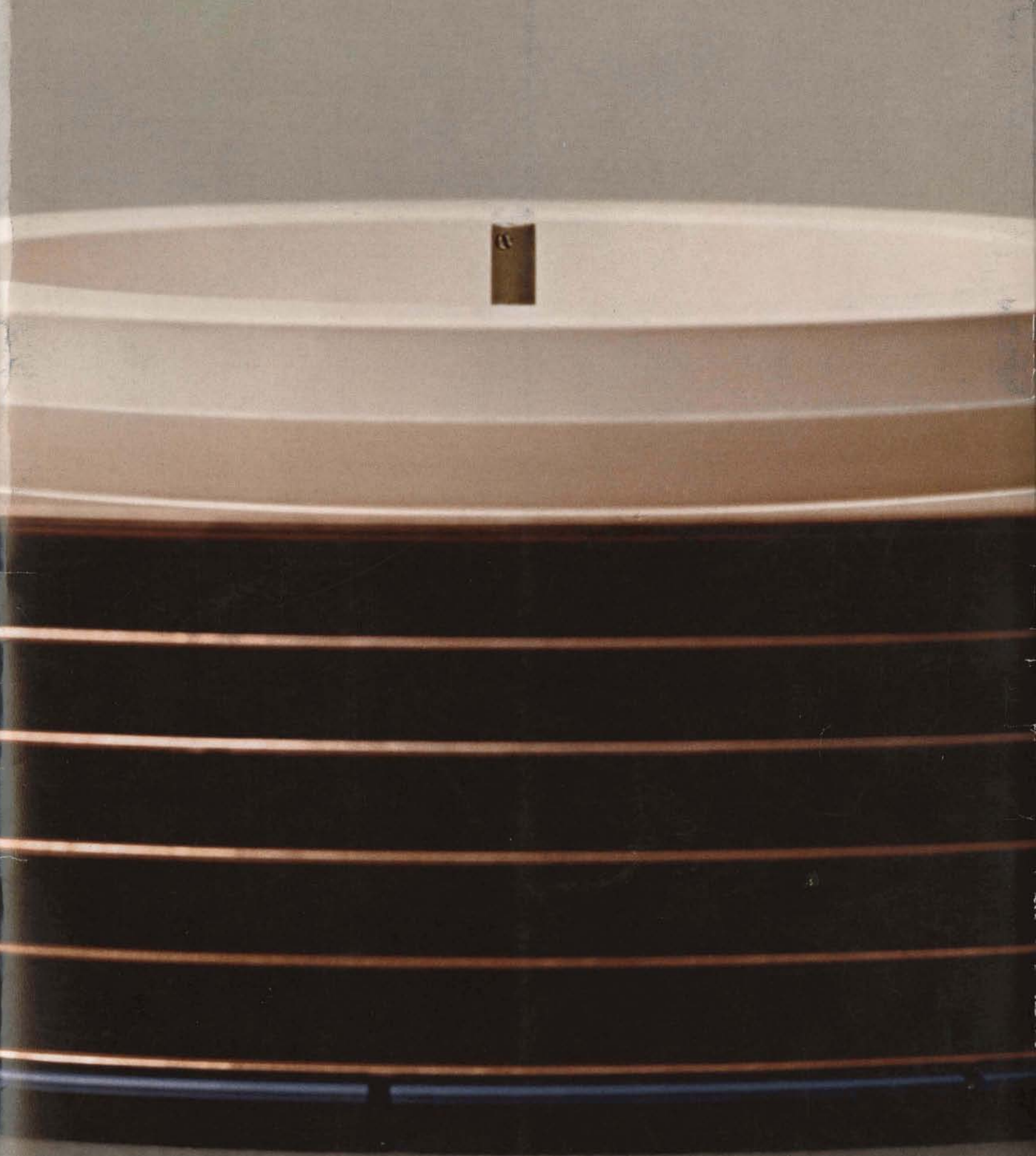

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