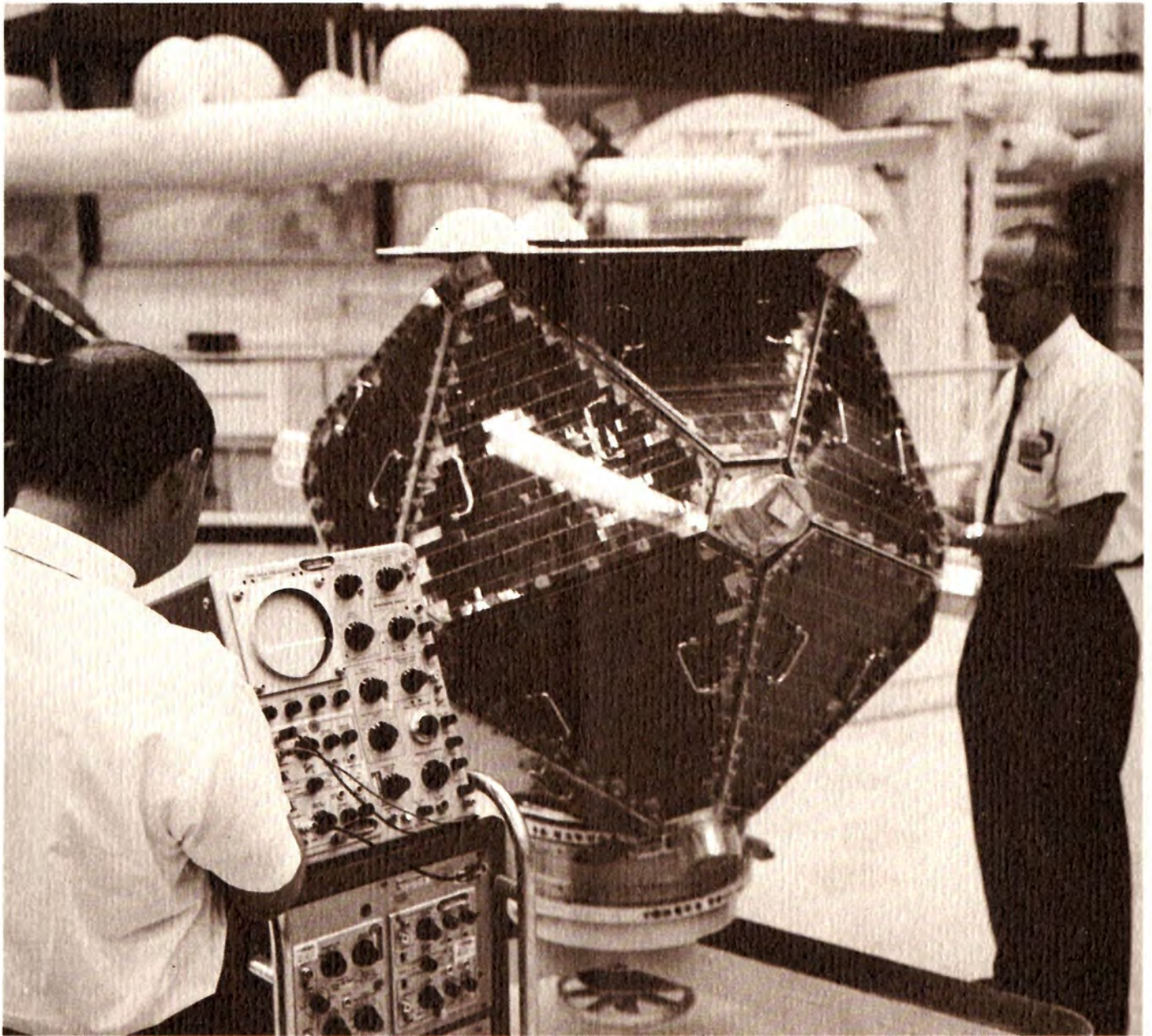


ANNUAL REPORT OF TEKTRONIX, INC. 1964

TEKTRONIX, INC. ANNUAL REPORT



TEKTRONIX, INC. ANNUAL REPORT

ANNUAL REPORT OF TEKTRONIX, INC. 1964

TO OUR SHAREHOLDERS AND EMPLOYEES:

On the occasion of this, the first Tektronix annual report since the public offering of our stock, I appreciate very much the opportunity to welcome new shareholders and to make available to all shareholders and employees a review of the operations for the last fiscal year.

Since detailed information concerning the company has previously not been very widespread, we have included in this report, not only the normal yearly review of operations and relevant statistics, but also financial statistics going back to 1948; a brief history of the company; descriptions of its markets, facilities, customer relations and manufacturing philosophies, and a short discussion of profit sharing. The true significance of this last item to the investor, I feel, is frequently not correctly evaluated.

As you can see in detail on pages 24 and 25, working capital increased to \$24,095,277 from \$19,179,522, shareholders equity to \$38,258,036 from \$30,463,121. Sales increased to \$75,502,573 from \$70,450,810 and earnings to \$6,308,451 from \$5,770,537, giving per-share earnings of 78¢, up from 72¢.

While our principal product today is the cathode-ray oscilloscope, our market area is not confined to this item. More correctly stated, our market area is that for instruments which facilitate the observation and measurement of electrical waveforms. This market is as basic and continuing as that for energy, transportation, communication, etc. It is very broad, spanning all of science and technology, biological and mechanical as well as electrical or electronics.

The size, at any given time, of the market for waveform observing and measuring instruments, like most other markets, is not a fixed quantity but most significantly affected by the availability of new and improved products which perform existing tasks better and more economically or, perhaps, tasks not previously possible.

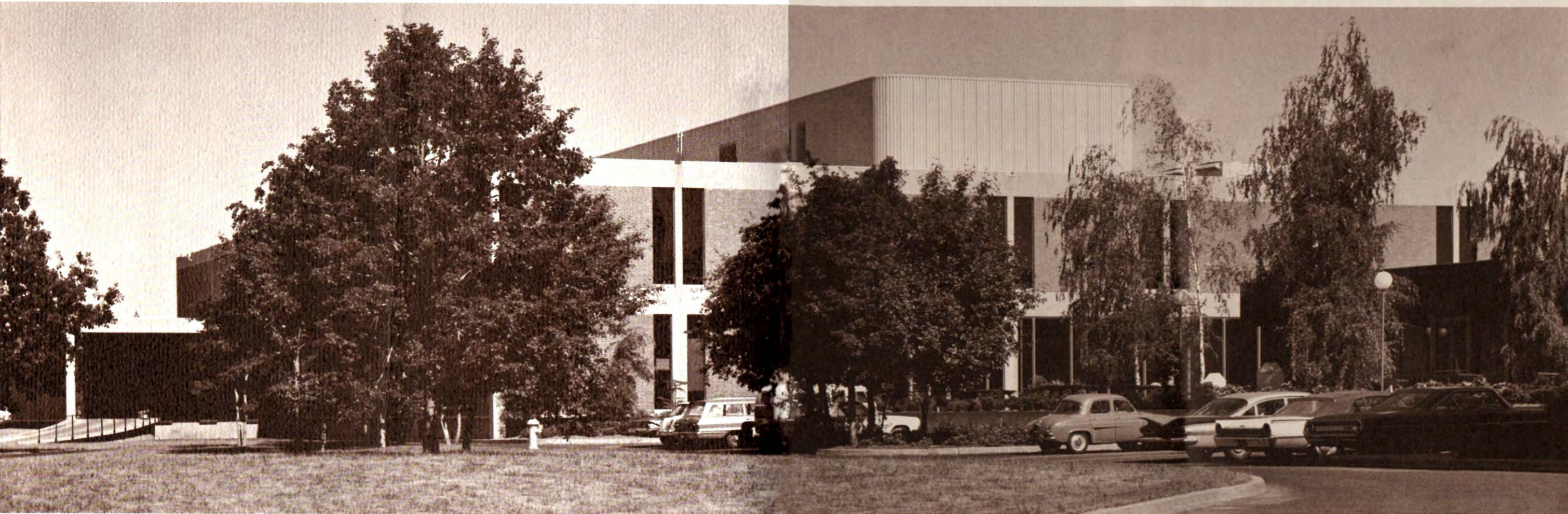
By concentrating more effort and resources than any other company in the world on this broad and basic field, we expect to continue to develop and expand the market by bringing out new instruments, both evolutionary and radically new types—perhaps very different from oscilloscopes as we know them today but, in any case, meeting the needs of science and industry and expanding the areas of use for observation and measurement of waveforms.

In a continuing effort to maintain an efficient, productive organization, many changes took place last year. Some of the more important of these are mentioned on pages 15, 18 and 19. While not every year sees as many changes as the one here reviewed, we at Tektronix realize that in a dynamic economy not only growth but stability and security come from continuing changes, large and small. Not change just for its own sake, but to meet new conditions both internal and external so as to maintain a course toward our goal of satisfying the needs of customers, employees, shareholders and the society in which we are all privileged to live.

If you are in our vicinity, please feel free to visit Tektronix. We are very proud of our people and facilities. I am sure you as a shareholder would be, too.

Howard Vollum

President



◀ IN PRE-FLIGHT testing under simulated space conditions at TRW Space Technology Laboratories, engineers use a Tektronix oscilloscope to check the performance characteristics of a nuclear-explosion-detection satellite.

INSTRUMENT ASSEMBLY and Test operations are housed in twin two-story manufacturing buildings, pictured with employee cafeteria.

FINANCIAL HIGHLIGHTS

The annual accounting period is the 52 or 53 weeks ending the last Saturday in May.

	53 Weeks Ended May 30, 1964		52 Weeks Ended May 25, 1963	
THE COMPANY RECEIVED	\$75,503,000	100%	\$70,451,000	100%
Most of this amount came directly from the sale of oscilloscopes and related instruments.				

RELATED COMPANY OPERATING COSTS ...	69,195,000	92%	64,680,000	92%
To Outside Sources	25,499,000	34%	21,384,000	30%
To pay for the purchase of raw materials and purchased parts; for advertising space and services; for interest paid for money we borrowed; for insurance, for rent, for utilities and other expenses of doing business.				
For Employees	34,790,000	46%	34,816,000	50%
Pay and profit share to the men and women who make, sell and maintain our products. Included is the money used to pay for group insurance, social security costs and other employee benefits.				
Provision for Use of Facilities	2,301,000	3%	2,194,000	3%
Depreciation of buildings, machinery and equipment for wear and age.				
Taxes	6,605,000	9%	6,286,000	9%
Money spent for U. S., foreign, state and local taxes and licenses.				

RESULTING IN EARNINGS	6,308,000	8%	5,771,000	8%
Profits used for debt retirement and expansion of our business.				

Earnings Per Common Share	78¢	72¢
--	------------	------------

	May 30, 1964	May 25, 1963
Current Assets	\$36,857,000	\$33,318,000
Current Liabilities	12,762,000	14,138,000
Working Capital	24,095,000	19,180,000
Facilities—Net	18,092,000	17,614,000
Long-Term Borrowings	4,728,000	7,128,000
Shareholders' Equity	38,258,000	30,463,000
Number of Employees	4,910	5,430

THE STORY OF TEKTRONIX

Tektronix was incorporated in January 1946 when President Howard Vollum; M. J. Murdock, now chairman of the board; and three associates decided to build oscilloscopes to fill a need which they perceived in the new electronics industry: For an instrument of greater reliability and higher performance than those then available.

The market for oscilloscopes in the intervening years has expanded from strictly the electronics field into almost every technology and every area of man's endeavor. Tektronix' leading position in its field today continues to result from an emphasis on the same factors that were stressed from the start:

Technical superiority; reasonable cost; and comprehensive, competent and prompt after-sale service and assistance.

The small firm spent its first year developing the oscilloscope and constructing an 11,000-square-foot building in Portland, into which they moved in January 1947. In June of that year they delivered the first type 511 oscilloscope.

Its superior performance, reliability, light weight and low price offered a value that attracted wide attention, foreshadowing the later

prominence of that product and the leadership of the company in the field of electronic measuring instrumentation.

So rapidly did the reputation of the company and its instruments spread that the principal problem soon became producing enough oscilloscopes to meet the demand. A broadening of the product line brought still more orders; two more shifts were added; and the company moved again, in August 1951, to its 20,000-square-foot Sunset plant west of Portland in the Tualatin valley, not far from its present 300-acre industrial tract.

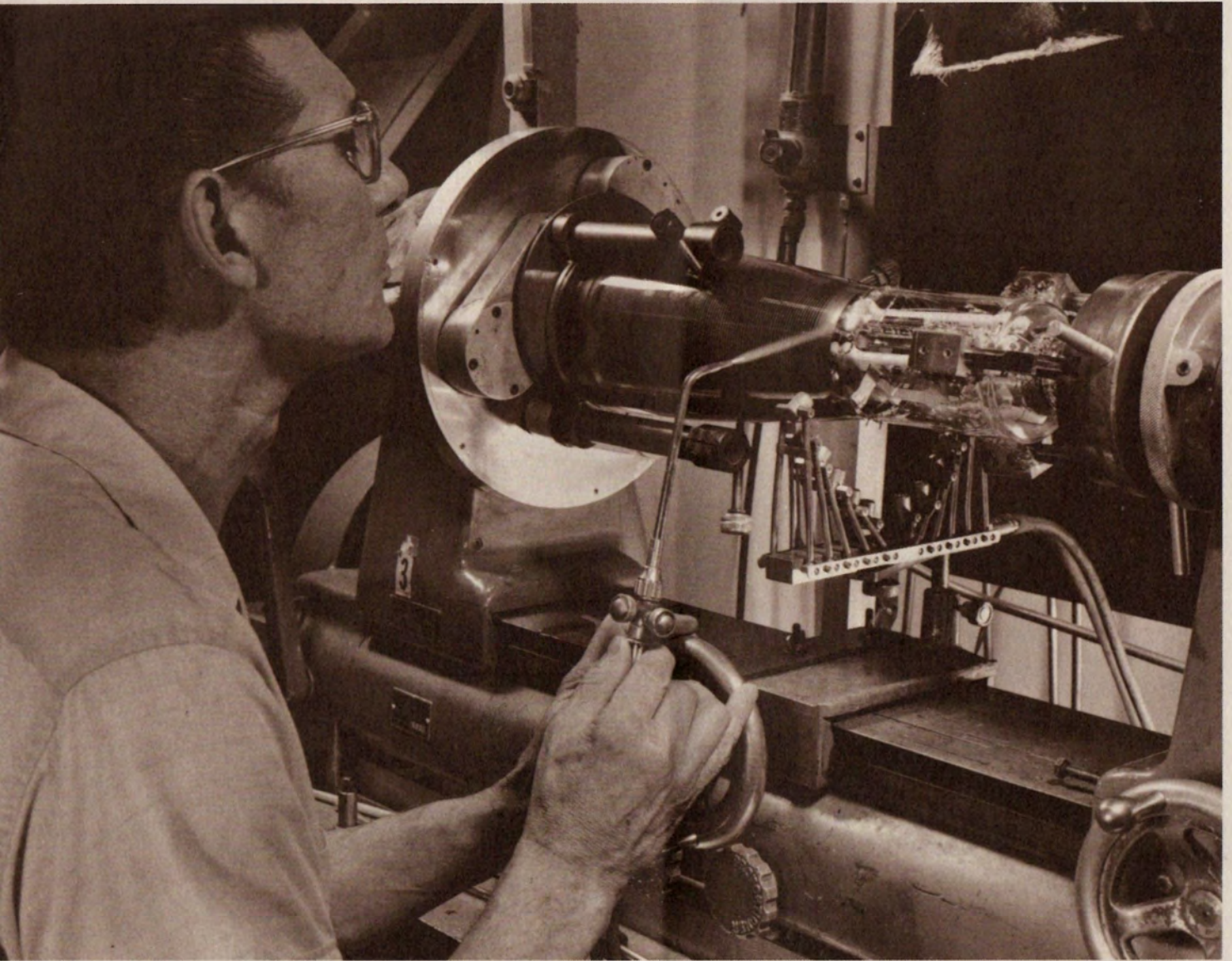
Addition after addition to the Sunset plant followed. When it became obvious that this procedure could no longer accommodate the company's increasing population, Tektronix bought a 300-acre farm adjoining the Beaverton city limits—the site of its present industrial park.

To meet the accelerating product demand, buildings have been added as company population has grown rapidly. Present employment is 4900 persons, of whom 4000 are in Beaverton, 300 in our U. S. field offices and 600 in manufacturing or marketing activities in other countries.

Often when the high requirements of Tek-



IN THE VERY EARLY days, this was the entire Tektronix assembly line, situated upstairs in a building in southeast Portland.



ONE OF THE MOST intricate component parts Tektronix manufactures is the cathode-ray tube, shown in a final stage of production.

tronix instruments demanded component performance exceeding that of commercially available supplies, the company undertook to be its own supplier. Believing the biggest hurdle in the way of developing higher-performance instruments was the limitations imposed by existing cathode-ray tubes (CRTs), the company decided to design and produce its own. The first building devoted to CRT manufacture was built at the Sunset location in 1953. (A larger, more highly specialized structure in the industrial park was completed in early 1962.)

The first building on the industrial tract was a 33,000-square-foot warehouse, completed in 1957. Other buildings, all air-conditioned, followed:

The Metals building (130,000 square feet) in 1958;

Graphics (32,000 square feet) in 1959;

Administration (34,000 square feet), Ceramics (41,000 square feet), warehouse addition (70,000 square feet) and Utilities (22,000 square feet) in 1960;

Twin Assembly buildings (126,000 square feet each) and cafeteria in 1961;

CRT (136,000 square feet) in 1962;

Electrochemistry (35,000 square feet) in 1963;

And Chemical Storage (4000 square feet) in 1964.

Now under construction are the Maintenance building (18,000 square feet) and the four-story Technical Center (220,000 square feet).

Buildings have been financed largely through company earnings.

At first Tektronix marketed its instruments through existing distributors and commission agents. It soon became apparent that, however competent these independent representatives were, a closer and better relationship with the customer could be obtained by Tektronix developing its own sales organization. So it was that the first field office was established in February 1951, in New York City. The present U. S. marketing organization includes 35 field offices in 30 major metropolitan areas. These offices are manned by a staff of technically competent, salaried employees. Twenty offices are also repair centers to serve customers in their geographical area.

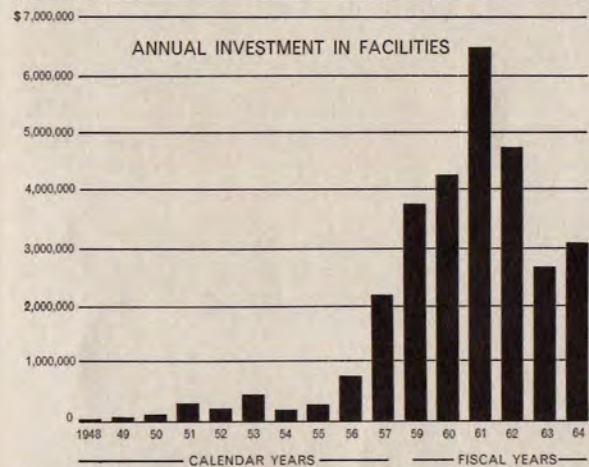
Tektronix was among the first specialized electronic instrument manufacturers to develop its

own factory-trained technical field organization—a move which competitors have followed.

Our marketing organization remains a model for the industry, and we believe the closeness of our customer-company relationship is second to none.

Tektronix' first representation for overseas sales of its products was in Sweden in 1948. We now have distributors and representatives covering 36 countries of the Free World, working closely with and technically assisted by our international field force.

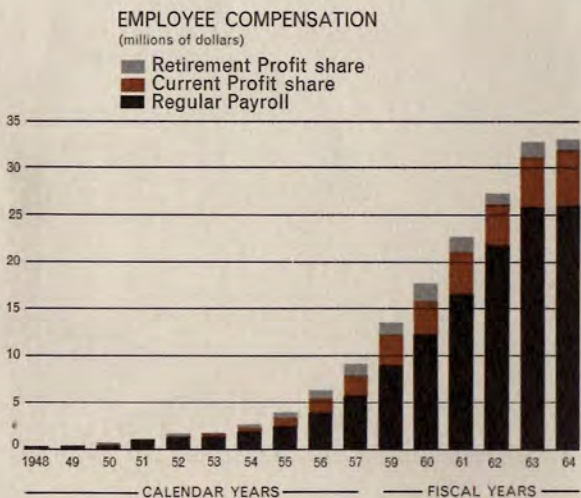
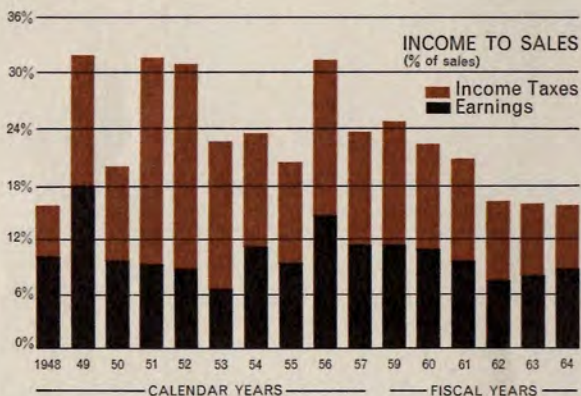
The trend to direct selling from field offices expanded to Canada in 1956. Tektronix Canada Ltd. was incorporated in 1961. During the past year the trend expanded further—to wholly-owned marketing subsidiaries in Australia (Tektronix Australia Pty. Ltd.), The United Kingdom



TEKTRONIX Guernsey Limited occupied a new plant last fall.

(Tektronix U. K. Ltd.) and Switzerland (Tektronix International A. G.). European marketing is coordinated from Tektronix Ltd., a subsidiary on the English Channel Isle of Guernsey.

Foreign manufacturing to provide customers (particularly in the European Free Trade Association) with a better value, by avoiding restrictive trade barriers, began with establishment of assembly operations on Guernsey, in 1959. A manufacturing plant at Heerenveen, The Netherlands, serving the European Economic Community (The "Common Market") followed in 1962. Both these operations—Tektronix Guernsey Limited and Tektronix Holland N. V.—now manufacture an ever-widening number of high-quality oscilloscopes and components to take advantage of the growing European and neighboring markets.



PROFIT SHARING

The success of any company depends on the productivity of its employees. Tektronix believes the productivity of its employees results from their attitudes as much as from their skills.

To encourage productive attitudes, Tektronix has tried conscientiously to make the well-being of the company a rewarding interest of the employee. Employee ownership and profit sharing have closely linked the reward for personal accomplishment with the profitability of the company.

Is this mutual interest effective? As one measure, Tektronix has achieved the highest ratio of earnings to sales of any comparable company we know of. As another, return of 16.5 per cent on invested capital (shareholders' equity) would rank us within the top 55 firms in Fortune magazine's list of the 500 largest manufacturing companies.

Tektronix has shared profits with employees since 1949—as part of their compensation. In the resulting pattern, pay (including current profit share) for most employees has exceeded pay for similar jobs in the community. In most years, earnings have been high, and pay has been rewarding.

Profit sharing has many benefits: High profits are shared by all; low profits are a quick signal of the need to improve. Profit sharing means flexible operating costs, a competitive advantage. And this flexibility lets us maintain a stable rather than a fluctuating work force.

For the past several years, profit sharing has been set at 35 per cent of consolidated profit (before income taxes and charitable contributions), approximately the same percentage as in previous years. Employees outside the U. S. receive profit share and "social" benefits that together total about the same proportion of base pay as they do in the U. S.

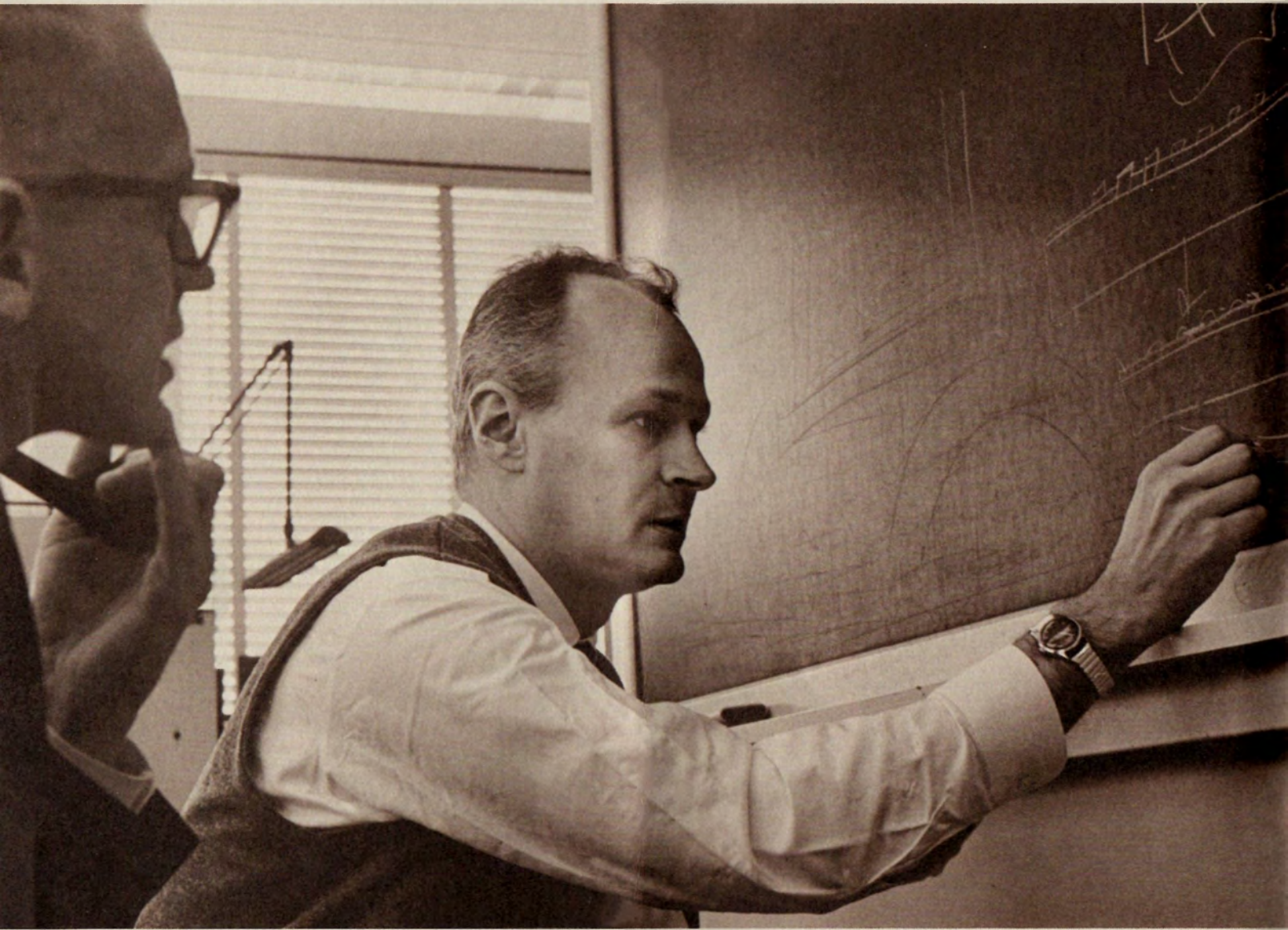
In most countries, somewhat more than one-fifth of the profit share is set aside to provide a retirement program. (In others, profit-share allocation is tailored to the customs of the country.) The balance of the profit share is distributed to employees in proportion to their base pay.

For several years before public trading of Tektronix common shares September 11, 1963, part of the profit share was distributed in the form of ownership in the company. At the time of the offering this ownership exceeded 12 per cent. A study is under way to consider means of resuming an employee-ownership program.



TEKTRONIX' INCENTIVE program backs up its belief that its employees' productivity results from their attitudes as well as from their skills.





TEKTRONIX' ENGINEERING operation is built around project groups headed by creative technical leaders, backed by skilled support.

REVIEW OF OPERATIONS

In retrospect, the largest influence on the U. S. electronics market in fiscal 1964 was the changed defense-spending pattern, which reduced the demand for many companies' products and, in some cases, forced severe curtailments and lowered earnings.

From this year, one of considerable turmoil for the industry, Tektronix emerged stronger than it went in.

It would be useful if each one of its strengths could be easily shown in numbers and dollars, but that is seldom the case. However, a summary tabulation reveals many of them:

Earnings increased, to \$6,308,000 from \$5,771,000 the previous year, for a gain of 9.3 per cent.

Per-share earnings were up six cents, to 78 cents from 72 cents.

Net sales were up, to \$75,503,000 from \$70,451,000, an increase of 7.2 per cent. A healthy portion of this figure is attributable to new instruments introduced this year.

Customer orders were up by 11 per cent, to \$76,908,000 from \$69,214,000.

Shareholders' equity climbed to a new high of \$38,258,000.

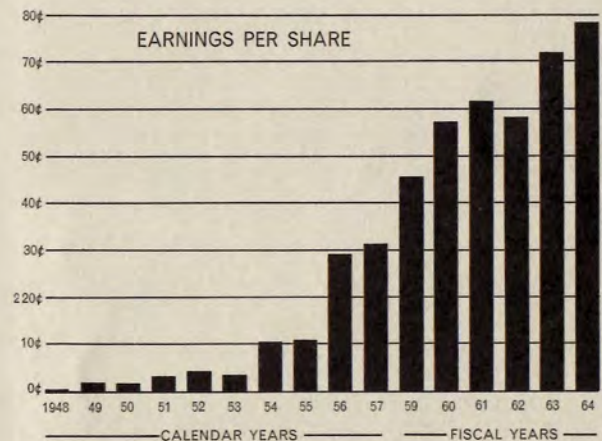
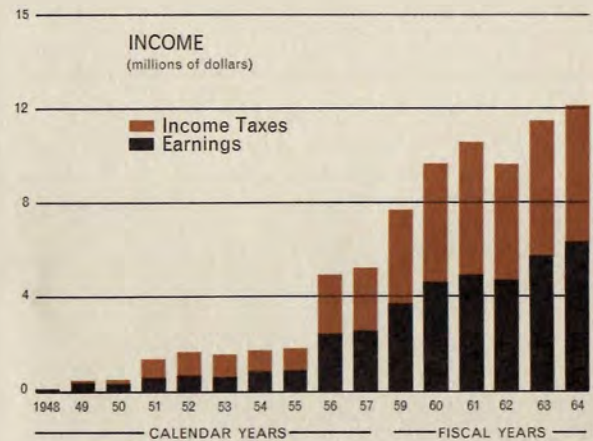
Common share capital increased from \$3,990,000 to \$5,844,000.

Our long-term debt was decreased by a voluntary \$2,000,000 prepayment. Another prepayment of \$3,800,000 in July 1964 virtually eradicated the company's long-term obligation. It's significant that this move is possible despite our financial commitments for construction of the \$4.8 million Technical Center now rising on our industrial tract.

International sales increased at a very good rate, to \$22,263,000 from \$17,856,000. Although most of the increase was in the bustling European economy, growth was even faster in India, in Japan and in South America, as industrialization continued apace.

And, despite the full impact of reduced U. S. defense spending, the wide diversification in the oscilloscope market brought offsetting gains that *increased domestic sales* to \$53,240,000 from \$52,595,000.

Worth underlining is the substantial increase in output per production employee. This gain, coupled with other operational efficiencies, is reflected in the fact that earnings increased at an even greater rate than sales.



THE MARKET: 1964

Although during the past year many electronics manufacturers were severely hit by decreased defense spending for their products, there is a counterbalancing factor, not for one year but for the foreseeable future. And it is this:

The world is in a technological explosion, the sound of which is bound to outlast the one-shot noises caused by bumps and dips in any one market segment. Expanding technology not only calls for, but could not occur without, advanced measuring and testing devices.

One of the most important electronic instruments is the laboratory oscilloscope. It has been called "as basic as the yardstick." It is the principal device for measuring changes. And tech-

nology can advance only as it understands changing phenomena and puts them to use.

The oscilloscope—which electronically draws a graph of some electrical “event,” or any phenomenon that can be converted to voltage—is an instrument highly specialized in function, but widely diversified in application. Its uses range from the technically simple—monitoring a heart-beat, measuring a mechanical reaction, analyzing a musical tone—to extremes of measurement sophistication that are unintelligible to the layman. Some standard Tektronix models can measure events that take place in less than a billionth of a second.

DIVERSIFICATION IN USE

In a sense, there is no “oscilloscope market.” There are, rather, many oscilloscope *markets*. The ability, through the use of transducers, to convert pressure, gravity, heat, acceleration, sound, light and chemical phenomena into measurable electrical signals has extended the use of this instrument far beyond the electronics industry. The only real limit on its use is the limit of man’s ability to find things he needs to measure.

The very wide range of oscilloscope uses, encompassing virtually every economic activity, has a stabilizing effect against sudden dips in any one market segment. So it was this year that Tektronix countered the curtailment in U. S. defense-related hardware spending with increased sales to the computer, industrial, educational, and non-military electronics markets, and even for defense-related R & D uses.

In our exploding technology, there is *no possibility* that the need to measure electrical wave forms will ever cease to exist. The chief instrument for making these measurements is the oscilloscope.

It may be that, at some future date, another device will be developed which will do the job better. We like to think that, when it happens, Tektronix will have developed it.

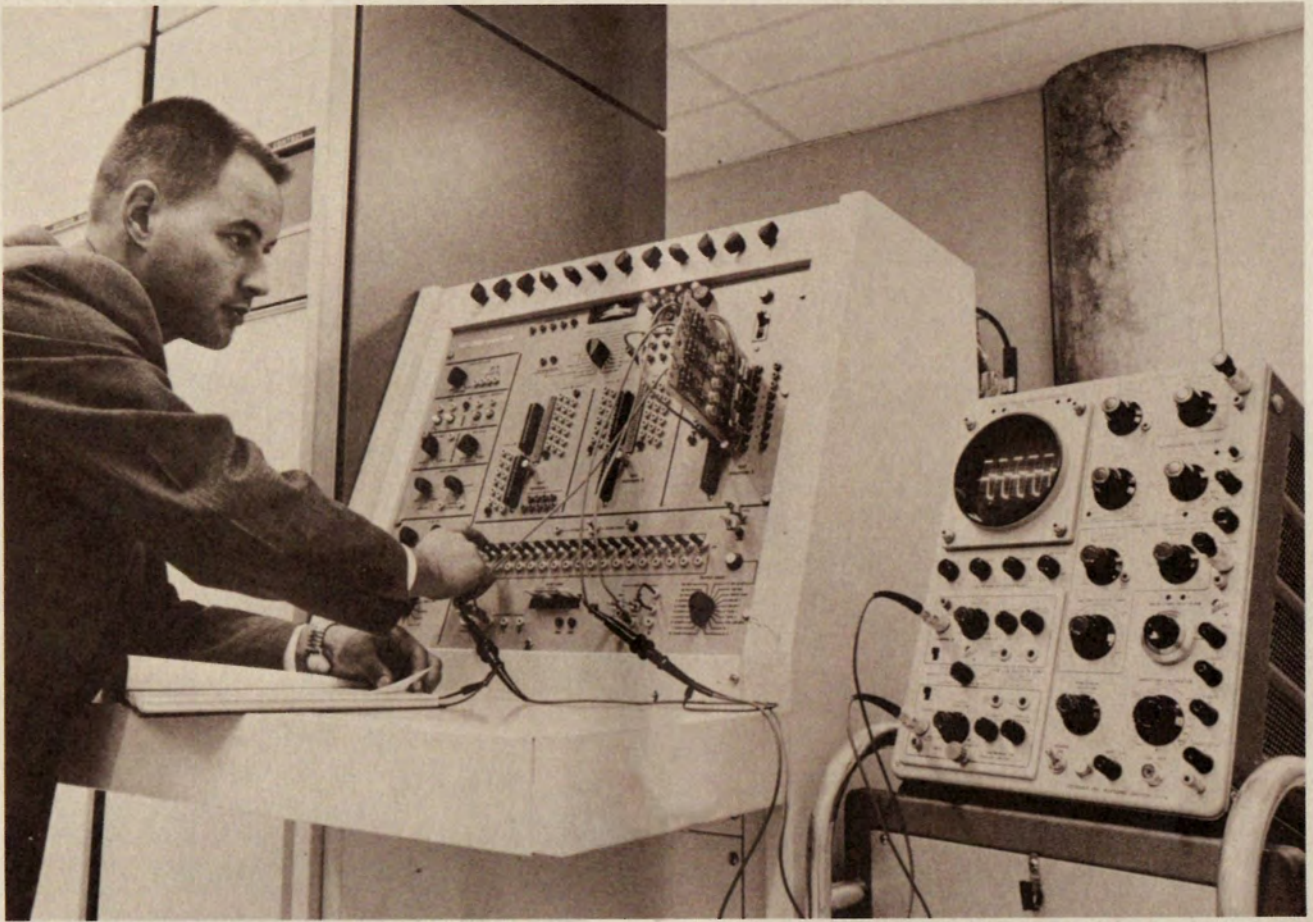
A WORLDWIDE BASE

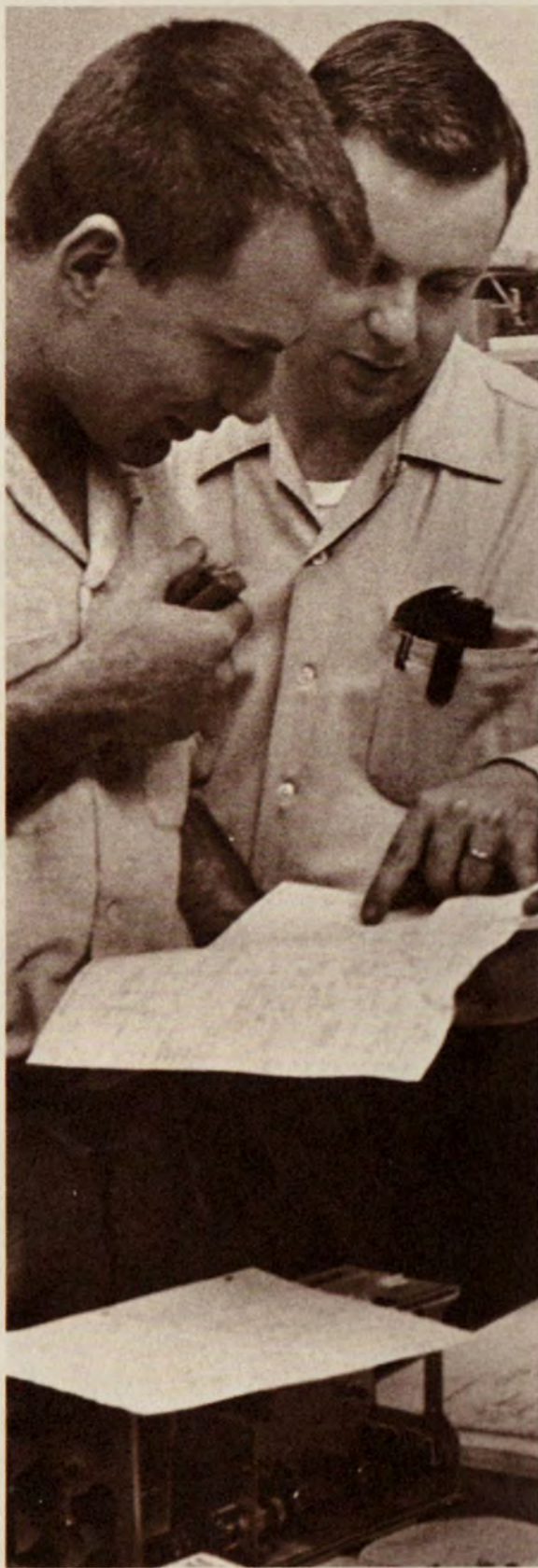
To the market protection offered by diversified uses, Tektronix also has added the cushioning effect of *geographical* dispersion. Although our U. S. sales grew only slightly as the country moved toward a “peacetime” economy, overseas sales increased more substantially. Our manufacturing facilities on Guernsey and in The Netherlands increased their share of Tektronix product output to the developing nations abroad.



WHERE ARE oscilloscopes used? In almost any economic endeavor. Above, through use of a NASA-designed transducer, an oscilloscope is used to measure the heartbeat of an egg embryo. Below, a Tektronix instrument is used in a heart diagnostic operation. At right, top, the Toronto, Ont., traffic control center uses 'scope waveforms to evaluate a printed circuit card. At right, circuit boards at Bell Telephone Laboratories are tested with Tektronix equipment. At far right, an electron probe micro-analyzer system, using a Tektronix scope, measures steel impurities. (Photos courtesy NASA's Ames Research Center, Bell Labs., Sperry Rand.)







Manufacturing within the major European trading areas lets us provide customers there with our instruments at lower prices (by avoiding restrictive trade barriers).

It does another important thing: It acts to guard our U. S. market against foreign manufacturers who, protected by trade barriers from vigorous competition in their own market or trade areas, could grow strong enough there to make inroads here also.

A SELF-GENERATED MARKET

If technological progress results in a need for measuring and testing instruments, then the oscilloscope manufacturer is in an enviable position. For, before the "state of the art" may expand, it is necessary that adequate measuring instruments first be available. Thus, electronics today owes a great part of its very existence to the presence of reliable oscilloscopes:

The massive computer industry, space research, satellite communication, color television—all are major users of our products.

Thus the oscilloscope has helped create whole new areas of technical achievement, which themselves have become major purchasers of more oscilloscopes. It is highly probable that this compounding aspect of the oscilloscope market, so evident in today's electronics industry, will be repeated in other—perhaps unguessed—areas of man's endeavor.

In a sense, the main limitation has been the "language barrier"—the lack of technical understanding, in fields other than electronics, of this instrument's capability to graphically measure changing phenomena. But signs continue to appear that this cross-disciplinary knowledge is increasing. And with increased understanding will come the day when the frontiers of many *other* "arts" will be pushed back, as they have been in electronics, through the use of the versatile oscilloscope.

Among the manufacturers of this instrument, Tektronix' name is foremost. In *Electronic Design* magazine's annual reader survey this year, the question was asked, "What manufacturer would you consider in planning the purchase of an oscilloscope?"

The response from 94.8 per cent was: "Tektronix."

A YEAR OF GROWTH AND CHANGE

The tiger's spring is no more spectacular than the tiger's crouch is sure-footed.

So with a company. It can respond to market demand only to the extent that its base for growth is solid and well-planned. Yet, the internal adjustments that a company continually makes—improving its ability to adapt readily to changing situations—are often forgotten in the excitement of a profitable year.

But a company's internal posture to grow is as much a part of the profit-making process as are the external factors that comprise the market. And so a brief summary of our company's changes is to the point:

During the year Tektronix made several internal realignments aimed at long-term benefit. (They produced some *short-term* gains also—for one, earnings increased faster than sales.)

Each of the adjustments served to strengthen one or more of the company's chief advantages over its competitors. These advantages are:

The breadth of the product line, reflecting the diversification in oscilloscope use; the number and technical competence of our factory-trained sales and service personnel; the vertical integration of our manufacturing organization, and our large expenditure and concentrated effort in research and development of measuring instruments.

Following are some of the more significant changes that we believe will improve our growth posture and profitability in coming years:

- One of the most extensive influences on the company resulted from public ownership. In a registered offering of common shares September 11, 1963, 490,000 shares were sold to the public and 50,000 to employees. The offering was an immediate success; all shares were sold promptly.

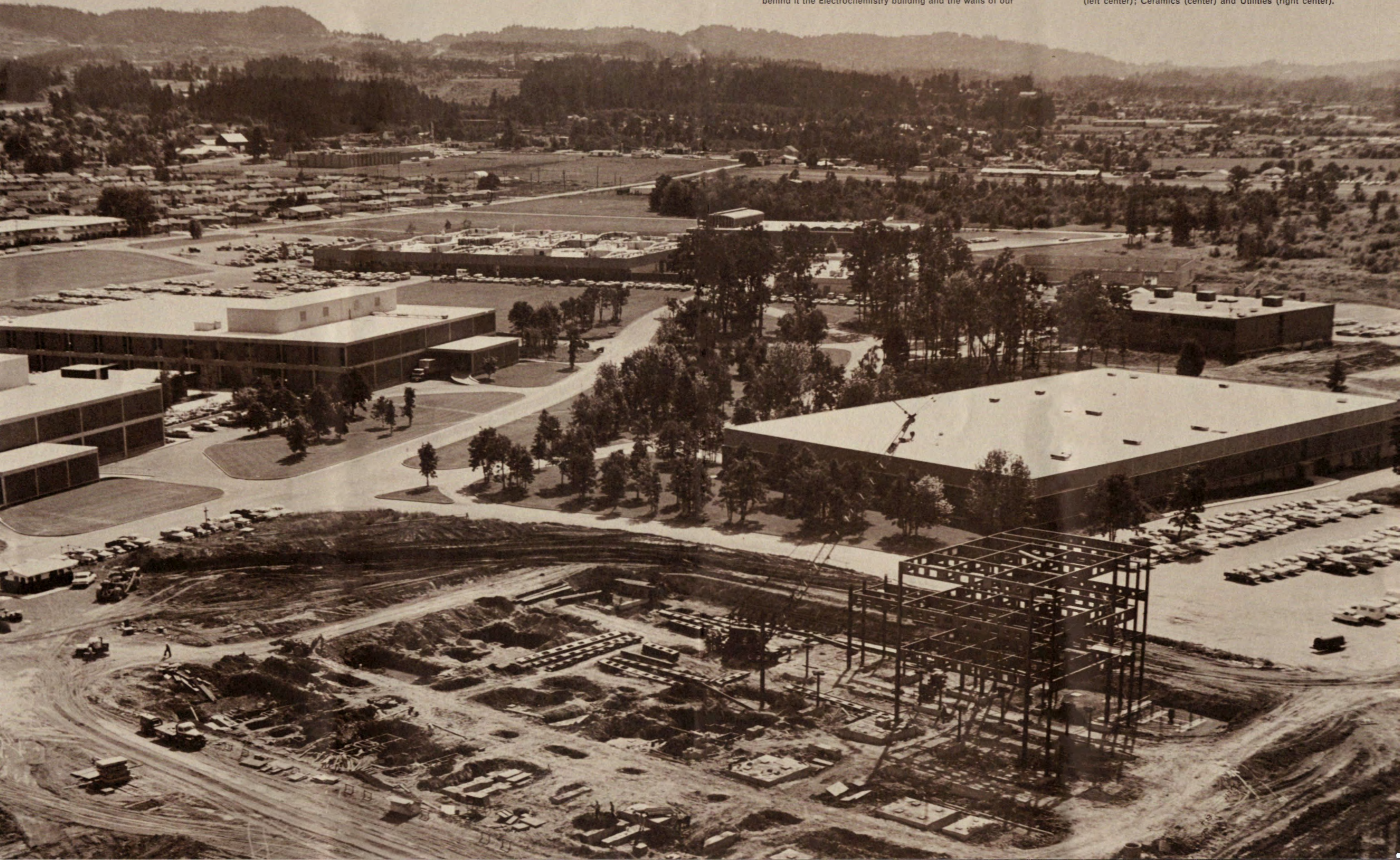
Company officers were both surprised and pleased to be invited to appear before the New York Society of Security Analysts in November, only a short time after initial public trading, and before our listing on the New York and Pacific Coast Stock Exchanges on January 10.

Many aspects of public ownership—visits from financial analysts and correspondence with shareholders (as well as the preparation of this annual report)—have caused us to look at ourselves from a different viewpoint. Such a changed perspective is almost always helpful, and we hope it will be



RISING IN THE FOREGROUND is the skeleton of Tektronix' four-story Technical Center, to be completed in fall of 1965. Immediately behind it is the Cathode-Ray Tube building, and behind it the Electrochemistry building and the walls of our

Maintenance building, now being constructed. Other major structures in this portion of the industrial park are the twin Assembly buildings and employee cafeteria (left); Metals (left center); Ceramics (center) and Utilities (right center).



an increasing influence toward maintaining a healthy company.

- All research, development and design engineering activities were placed under a single direction—allowing better coordination, and more intense concentration on products and projects.

- Our large manufacturing organization was restructured into more natural groupings: A Product Manufacturing division and a Component division, both under single direction. The latter encompasses those activities which emphasize processes rather than purely assembly operations: Electrochemistry; transformers; capacitors; cathode-ray tubes; plastic, ceramic and metal components.

- Overseas manufacturing was fully integrated under the direction of domestic manufacturing, allowing improved worldwide coordination of our product effort.

- Increased direct assistance by Tektronix people to our foreign distributors and representatives resulted in a more effective selling effort. This, in turn, showed up in the healthy growth in overseas sales.

- We established our own marketing subsidiaries in the United Kingdom, in Switzerland and in Australia, each by year's end a proficient operating organization.

- Formation of Tektronix Ltd. on Guernsey was followed by a shift to that marketing subsidiary of all European and Near East marketing direction, coordination and support. That move put in a single location our European training center, replacement parts stocks, a finished goods inventory of Beaverton-made instruments and the

administrative process for coordinating these. Marketing was formerly conducted from Zug, Switzerland and warehousing was in The Netherlands.

- In the field, one level of sales supervision was eliminated, by increasing the number of marketing regions from three to eight, resulting in closer customer-factory contact.

- Six new technical representatives and three commercial agents were established in newly emerging markets in overseas countries.

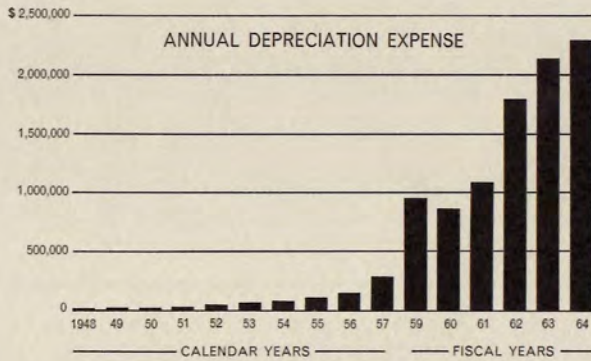
- Scheduling of improved instruments to supersede existing models greatly increased in efficiency. As an example, replacement late in the fiscal year of an important segment of our instrument line with upgraded models was accomplished with no overrun or excessive inventories.

- A close look at manpower utilization resulted in eliminating those activities that appeared least likely to offer current or future returns, and a transfer, where feasible, of nonproduction employees to direct production activities. Through natural attrition, our direct labor force decreased by 324 persons during the year. At the same time, output per production employee increased.

- Tektronix' first acquisition of another company, in spring of this year, was that of Pentrix Corporation, a small Brooklyn manufacturer of spectrum analyzers which were designed to operate as plugins in several Tektronix oscilloscopes. We feel sure this move will offer us new markets, both for our existing instruments and for new products which will result from the acquisition. The spectrum analyzer market, which we now will share, has been estimated at 8 to 10 million dollars a year.



TEKTRONIX' LARGEST operation is Instrument Assembly. Here, skilled employees assemble and wire the intricate oscilloscope chassis.



BUILDING CONSTRUCTION

The year saw the completion of much-needed physical facilities, both here in Beaverton and overseas, providing space and specialized equipment for our manufacturing operations, and letting us group related functions that have been scattered throughout the Beaverton and Portland area.

The efficiencies made possible by improved facilities should reflect in both the quality and quantity of our product output.

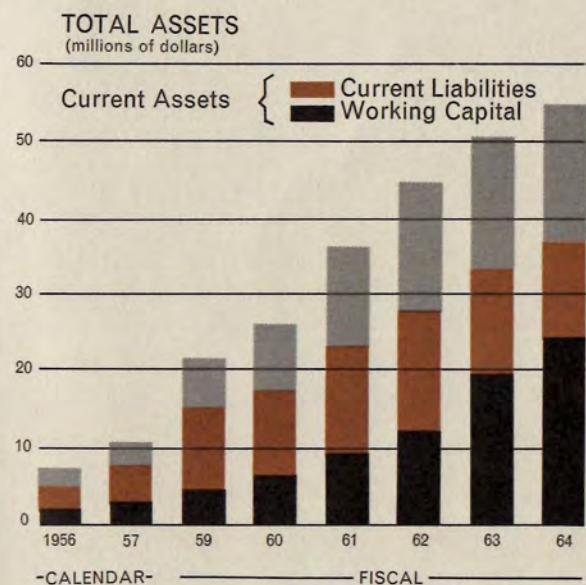
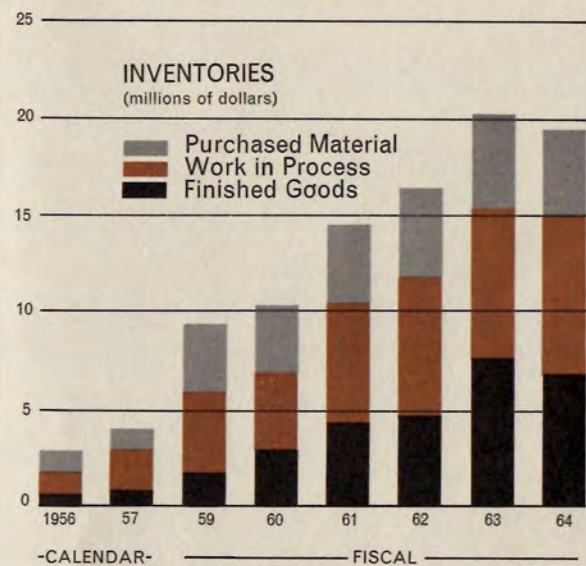
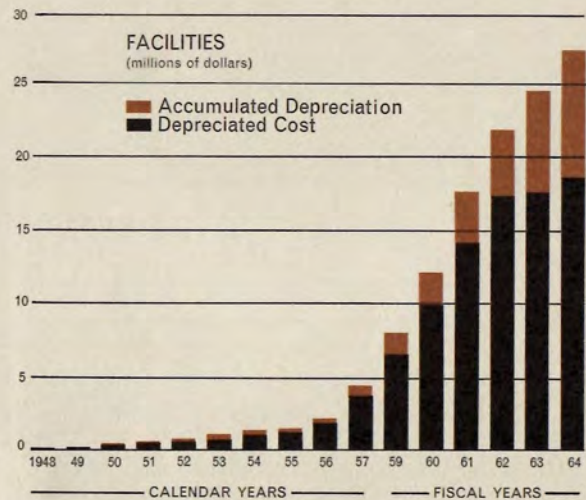
In Beaverton, our new 35,000-square-foot Electrochemistry plant was put into operation in November. The two-story building, the largest specialized electrochemical unit in the western U. S., includes facilities for electroplating, photo and electrochemical etching, photo anodizing and photo lithography, and the production of etched circuit boards. Cost was \$1,300,000.

A building for chemical storage was completed and a sewage disposal plant, serving the entire industrial park, was put into operation.

In Europe, Tektronix Guernsey Ltd., our manufacturing subsidiary, moved into its new \$825,000 plant near the Guernsey airport in September. The 34,000-square-foot structure houses assembly and administrative operations.

In April of this year, construction began on our largest building, a four-story 220,000-square-foot Technical Center, which will be completed in fall of 1965. That month, construction also got under way on our 18,000-square-foot, \$230,000 Maintenance building. It will be ready for occupancy this fall.

We believe that completion of the Technical Center will be one of the most important steps in maintaining and improving the company's position in the field of electronic instrumentation. The \$4,800,000 center will bring together all our engineering and research and an appropriate part of our production engineering activities. The upper floor will be occupied by Tektronix administrative functions. It will be the fourteenth building on our industrial tract.



CUSTOMER SUPPORT

Early in its history, Tektronix recognized the vital role of customer support: Providing competent instruction and demonstration in the use, application and maintenance of its complex electronic products.

From our belief that continuing customer satisfaction is enhanced by a close factory-customer relationship has grown our emphasis on intensive training, both for our own field engineers and, increasingly, for customers' engineers as well.

We believe strongly that the sale is more nearly the *beginning* than it is the *end* of the transaction. Our oscilloscopes are versatile, and they are long-lived. Tektronix exerts every effort to make it possible for the customer to get every bit of the performance and value that's built into his instrument.

The field engineer, chosen from candidates with outstanding backgrounds in electronics, must complete a rigorous nine months of thorough formal training in our instruments, in company policies and philosophies, in electronic theory, in manufacturing and engineering problems. . . . Then he spends several months in one of our U. S. field offices before his permanent assignment in the field.

To the customer, the factory-trained, technically competent field engineer *is* Tektronix. His is the large responsibility for maintenance, repair, service and technical assistance to customers in his geographical area. His emphasis is on technical knowledge, instruction, service and "applications engineering"—applying Tektronix instrument capabilities to the specific problem of the user.

The other side of his job is to maintain and strengthen the contact between the user of Tektronix products and the company's instrument-design activity. Through his close contact with the user come valuable suggestions for technical improvements to meet needs expressed by customers—or for entirely *new* instrument concepts.

TECHNICAL TRAINING

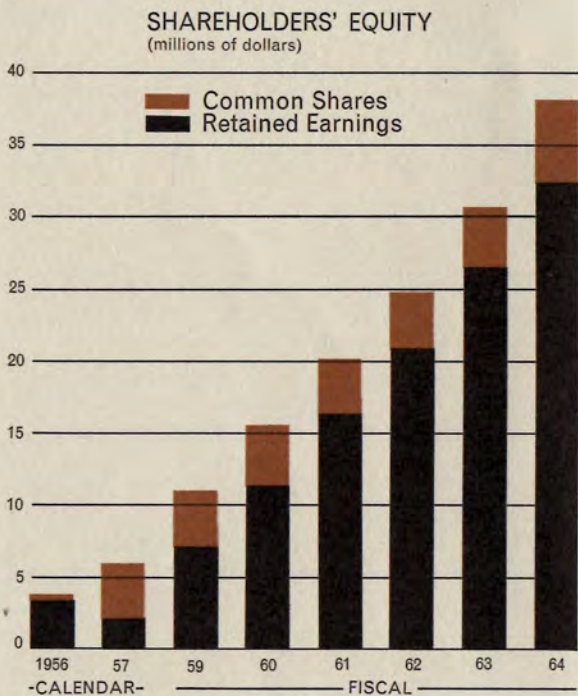
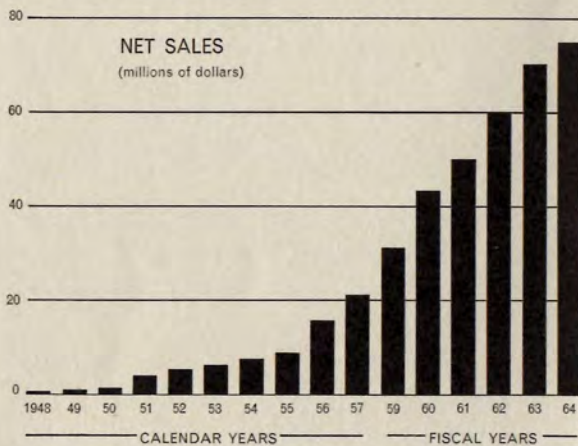
In our Customer Training center at Beaverton, customers' technical personnel may undergo a 120-hour course of fulltime classroom and laboratory instruction—a specialized training in oscilloscope use and maintenance, second only to that offered our own field engineers. (Other, more



highly specialized courses also are available to meet a customer's particular requirements.) Tektronix makes no charge for this instruction.

A similar program is conducted overseas in our customer-training center on Guernsey, tailored to the slightly different needs of customers abroad.

Customer training also is provided in field offices as well as on the customer's own premises.



TEKTRONIX TODAY

Tektronix now manufactures over 40 models of high-quality laboratory and industrial cathode-ray oscilloscopes. Many of them are convertible to a wide variety of performance characteristics by using one or more of approximately 50 interchangeable Tektronix plugin units.

The company also produces over 30 other instruments, such as pulse generators, amplifiers and other auxiliary equipment intended primarily for use in connection with its oscilloscopes; and a variety of optional accessories, including probes; attenuators; and special cameras to record waveforms displayed on the cathode-ray tube screen.

Our manufacturing operations stress quality and technical excellence. It can no longer be said that volume production techniques are incompatible with the manufacture of advanced measuring instruments.

Often our need for components whose performance exceeds that of commercially available supplies, or whose capabilities will meet a specific Tektronix need, has led us to manufacture our own. The ability to design the components as well as the circuitry can lead to many advantages, among them:

Achievement of special performance characteristics; lower cost; easier servicing; or, sometimes, flexibility and efficiency of production.

Thus has arisen our highly vertically integrated operations: We manufacture cathode-ray tubes, transformers and coils, super-speed gallium arsenide diodes, precision resistors and capacitors, plastics, photoengraved panels, dials, special-purpose cable, etched circuit boards, ceramic strips, ceramic CRT envelopes and screw-machine parts.

Such is the variety of skills and technical competence we have thus developed that Tektronix has great flexibility in the changing field of electronic measurement. A change in objective can bring many diverse skills to bear on a particular problem without the need to build up a costly specialized activity to explore it.

Our developmental activity has many avenues: *Designing new instruments* to meet needs not met by existing instruments; continually *improving the performance of existing instruments*, even though they might already be more than "acceptable" by industry standards; *adding entirely new features* to existing instruments, and extending their performance characteristics by *producing*



WEEKLY MEETINGS of Tektronix manufacturing managers include discussions of problems ranging from inventories to new products.

auxiliary products which make them more versatile and useful.

Our continued leadership in instrument manufacture has required continued emphasis on research, engineering and design of products and techniques. About 1/10 of our sales revenue is plowed back into these activities.

Domestic manufacturing, engineering and marketing operations (other than field engineering activities) are concentrated in and around a 300-acre industrial park near Beaverton. There are currently 12 major buildings in the park—comprising 790,000 square feet—for assembly, component manufacture, fabrication, research, warehousing, administrative and support activities.

The company also owns two buildings totaling about 100,000 square feet on a 14-acre tract three miles northwest of the park, used for research and light manufacturing; two plants on 11 acres on the Isle of Guernsey, comprising 61,000 square feet, and a 40,000-square-foot manufacturing plant on 23 acres in Heerenveen, The Netherlands.

Sales in the United States are made through 36 company field engineering offices in principal market areas. In Canada, The United Kingdom, Australia and Switzerland, marketing is carried on through wholly-owned Tektronix subsidiaries.

Sales of instruments in other countries are made by independent engineering representatives and distributors, to whom the company provides direct technical and administrative assistance.

Principal customers for our instruments are private industrial concerns engaged in commercial or governmental projects; military and non-military agencies of the United States and foreign governments; educational institutions; computer manufacturers; and, to a lesser extent, radio and television stations.

TEKTRONIX TOMORROW

What of the coming year?

Indications are for a better year than the one past. Recently introduced instruments, although at a very early stage in the market, have gained encouraging acceptance. Reports from major electronics shows reflect our continued strong position in introduction of significant new products.

Other Tektronix instruments are nearing reality, and concentrated planning now well along will result in new products as well as substantially improve the usefulness of our present line.

We plan to explore the possibility of providing more extensive customer-training classes within sales regions, increasing the customers' technical competence and thus their overall acceptance of our products.

Nor do we anticipate we will expend the same amount of energy on improving our organizational posture, or on matters relating to public trading of our stock, that we spent this past year.

The business outlook is good. The U. S. economic climate is generally healthy. International prospects, overall, continue to look very favorable.

TEKTRONIX SUBSIDIARIES

MANUFACTURING

Tektronix Guernsey Limited, Guernsey.
Tektronix Holland N.V., Heerenveen,
The Netherlands.

MARKETING

Tektronix Limited, Guernsey.
Tektronix International A.G., Zug, Switzerland.
Tektronix U. K. Ltd., London.
Tektronix Australia, Pty Ltd., Sydney.
Tektronix Canada, Ltd., Montreal.

U.S. FIELD ENGINEERING OFFICES

- | | |
|------------------------|------------------------|
| ★ Albuquerque, N. M. | ● ★ Minneapolis, Minn. |
| ● ★ Atlanta, Ga. | ● ★ Orange, Cal. |
| ★ Baltimore, Md. | ★ Orlando, Fla. |
| ★ Boston, Mass. | ● ★ Palo Alto, Cal. |
| Buffalo, N. Y. | Pasadena, Cal. |
| ● ★ Chicago, Ill. | ● ★ Philadelphia, Pa. |
| Cleveland, Ohio | Phoenix, Ariz. |
| ● ★ Dallas, Texas | Pittsburgh, Pa. |
| Dayton, Ohio | ★ Poughkeepsie, N. Y. |
| Denver, Colo. | San Diego, Cal. |
| ★ Detroit, Mich. | Seattle, Wash. |
| ★ Endicott, N. Y. | Stamford, Conn. |
| ★ Greensboro, N. C. | ● ★ Syracuse, N. Y. |
| Houston, Texas | ★ Union, N. J. |
| Huntsville, Ala. | ★ Van Nuys, Cal. |
| Indianapolis, Ind. | Walnut Creek, Cal. |
| Kansas City, Kan. | ★ Washington, D. C. |
| ● ★ Long Island, N. Y. | |

- ★ Indicates field repair center.
● Indicates region sales office.

OVERSEAS DISTRIBUTORS

Angola, Equipamentos Tecnicos, Lda., Luanda;
Argentina, Coasin S.A., Buenos Aires, Cordoba;
Austria, Inglomark Markowitsch & Co., Vienna;
Belgium, Regulation Mesure, SPRL, Brussels;
Brazil, Importacao Industria E. Comercio Ambriex, S.A., Rio de Janeiro, Sao Paulo; Chile, Carlos Pentz Rettig, Santiago; Colombia, Manuel Trujillo Venegas & Cia., Ltda., Bogota; Denmark, Tage Olsen, A.S., Copenhagen; Federation of Malaysia, Mechanical & Combustion Engineering Co., Ltd., Singapore; Finland, Into O/Y, Helsinki; France, Relations Techniques Intercontinentales, S.A., Paris; Greece, Marios Dalleggio Representations, Athens; Hong Kong & Macau, International Service Corporation Ltd., Hong Kong; India, Electronic Enterprises, Bombay; Israel, Eastronics Limited, Tel Aviv; Italy, Silverstar Ltd., Milan, Rome, Turin; Japan, Midoriya Electric Co., Ltd., Tokyo; Lebanon, Projects Consulting Engineers, Beirut; Mexico, Fredin S.A., Mexico City; New Zealand, W & K McLean, Ltd., Auckland, Wellington; Norway, Morganstjerne & Company, Oslo; Pakistan, Pak-Land Corporation, Karachi; Portugal, Equipamentos de Laboratorio Lda., Lisbon; Republic of South Africa, Protea Physical & Nuclear Instrumentation (Pty) Ltd., Johannesburg; Spain, Carlos Rafael Mares, S.L., Barcelona; Sweden, Erik Ferner, A.B., Stockholm; The Netherlands, C. N. Rood, N.V., Rijswijk; Turkey, M. Suhyl Erkman, Istanbul; Uruguay, Compania Uruguay de Rayos X y Electromedicina S.A., Montevideo; Venezuela, Tecnica Nuclear de Venezuela, C.A., Caracas, Maracaibo; West Germany, Rohde & Schwarz Vertriebs-GmbH, Cologne, Hamburg, Munich, Berlin, Karlsruhe.

COMMERCIAL REPRESENTATIVES

Indonesia, Radio Corporation of Indonesia, Djakarta; Iraq, Iraq Scientific Company W.L.L., Baghdad; Morocco, Materiel Radio en Gros, Casablanca; Philippines, Alpha Engineering Enterprise, Manila; Taiwan, Heighten Scientific Co., Ltd., Taipei; Tunisia, Selection Internationale, Tunis.

BOARD OF DIRECTORS

M. J. MURDOCK

Chairman of the Board

JAMES CASTLES

Secretary & General Counsel, Tektronix, Inc.

WALTER P. DYKE

President, Field Emission Corporation

ROBERT G. FITZGERALD

Vice-President, Operations, Tektronix, Inc.

HOWARD VOLLUM

President, Tektronix, Inc.

FRANK M. WARREN

President, Portland General Electric Company

OFFICERS AND MANAGEMENT

HOWARD VOLLUM, President

ROBERT G. FITZGERALD, Vice-President,
Operations

WILLIAM B. WEBBER, Vice-President

JAMES CASTLES, Secretary and General
Counsel

DON A. ELLIS, Treasurer

E. E. SWANSON, Controller

ENGINEERING

WILLIAM J. POLITTS, Engineering Manager

JEAN DELORD, Electron Physics Research

LANGDON HEDRICK, Instrument
Engineering

JOHN R. KOBBE, Project Planning and
Advanced Circuitry

WILLIAM D. WALKER, Pre-Production
Engineering

C. NORMAN WINNINGSTAD, Display
Devices Development

MARKETING

BYRON H. BROMS, Marketing Manager

DONALD ALVEY, International Marketing

FRANK DOYLE, Tektronix Ltd., (Guernsey)

ALBERT W. HANNMANN, JR., Tektronix
Australia Pty Ltd.

S. H. PYLE, Export Marketing

HARRY SELLERS, Tektronix U. K. Ltd.

EBERHARD vonCLEMM, Tektronix
Canada, Ltd.

KEITH S. WILLIAMS, U. S. Marketing



BOARD CHAIRMAN M. J. Murdock (left) and President Howard Vollum are pictured with the old and the new in Tektronix instrumentation. At right is the now-historic type 511 oscilloscope, built in 1947. New instrument, on Tektronix-built 'scope cart, is the type 547, introduced this year.

MANUFACTURING

MICHAEL J. PARK, Manufacturing Manager

NORMAN T. GWYNN, Tektronix
Guernsey Ltd.

RUSSELL K. HANDLEY, Materials
Management

THOMAS W. MacLEAN JR., Tektronix
Holland N.V.

DERROL PENNINGTON, Component
Manufacturing

KENNETH F. SPOONER, Product
Manufacturing

DELBERT E. WANTLAND, International
Manufacturing.

SUPPORTING ACTIVITIES

F. W. BEICHLEY, Facilities

FRANK CONSALVO, Data Systems and
Planning

GUYOT FRAZIER, Personnel

HERMANN HARRI, International Finance

THE HOPE OF MAN IS TO CONTROL HIS ENVIRONMENT. RESEARCH BECKONS THAT HIS GOAL CAN BE REACHED: HE HAS LEASHED DREAD DISEASE; HE HAS LEAPED INTO SPACE. IN A SLIVER OF TIME, INCREDIBLY SMALL EVENTS OCCUR, BILLIONS UPON BILLIONS. ANY ONE OF THEM MAY CHANGE YOUR TOMORROW. TO MEASURE THEM EXACTLY DEMANDS INSTRUMENTS OF PERFORMANCE NEVER BEFORE CALLED FORTH. SUCH AN INSTRUMENT IS THE TEKTRONIX OSCILLOSCOPE.



TEKTRONIX, INC.
13955 S.W. Millikan Way
Beaverton, Oregon

Return Requested

BULK RATE
U.S. POSTAGE
PAID
BEAVERTON,
OREGON
PERMIT NO. 1