

financial highlights

1969

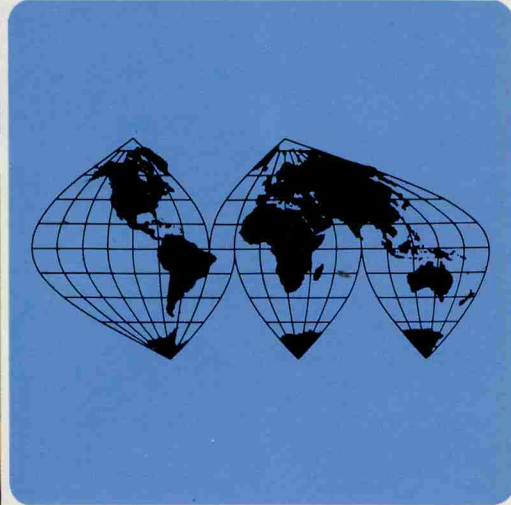
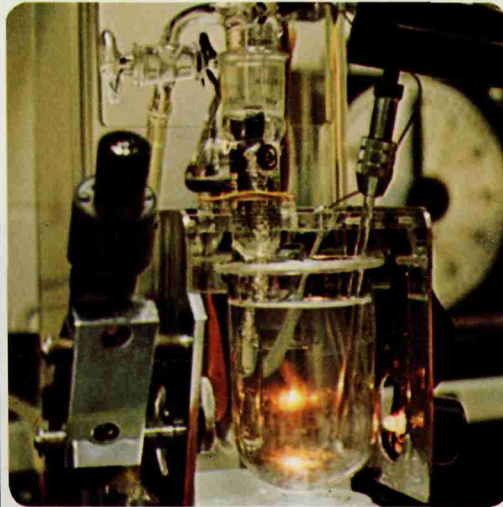
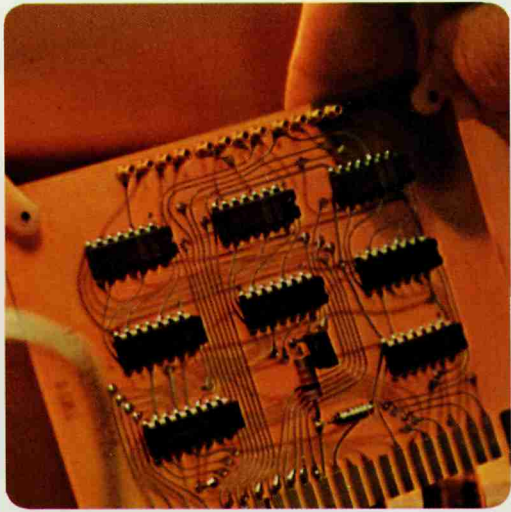
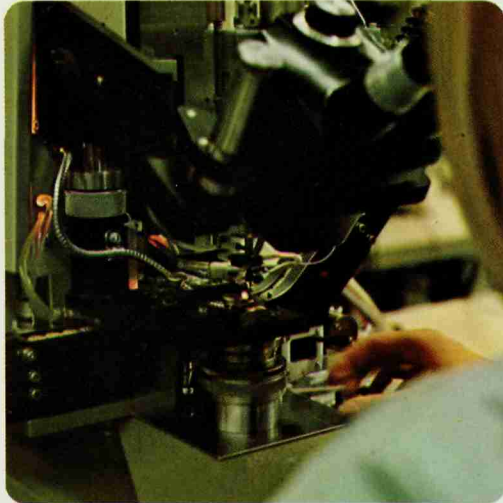
1968

(dollar amounts in thousands except per share data)

| | | |
|----------------------------|-------------------|------------|
| Sales and other revenues | \$ 873,224 | \$ 775,124 |
| Income before taxes | 71,843 | 57,376 |
| % to Sales | 8.23% | 7.40% |
| Federal income taxes | 38,050 | 29,115 |
| Earnings | 33,793 | 28,261 |
| Per share of capital stock | 5.48 | 4.61 |
| Capital expenditures | 43,294 | 32,009 |
| Depreciation | 22,531 | 20,071 |
| Working capital | 235,377 | 176,315 |
| Current ratio | 2.47 | 2.08 |
| Shareholders' equity | 326,134 | 238,778 |
| Average shares outstanding | 6,164,084 | 6,133,470 |
| Book value per share | 49.03 | 38.84 |
| Yearend employment | 45,000 | 41,000 |

Cover: The newest approach to computer memory storage is exemplified by the 8192 bit memory array. These modules are made possible by combining metal oxide semiconductors, beam lead bonding and computer-aided design and testing.

Creativity
and Diversification
in Electronics



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**to our
shareholders
and friends**

Sales and earnings reached new records in 1969. Total revenues increased almost \$100 million or 13% to \$873,224,220, while earnings increased 19% to \$33,792,573 or \$5.48 per share, compared to \$4.61 per share in 1968. These earnings remained after provision for over \$58 million for federal, state and local taxes on income, property and payrolls.

Our improving diversification in the growing electronics industry is benefitting us. Among the notable operating achievements of our various businesses in 1969 are the following:

The semiconductor division emerged for the first time as the largest single segment of our business in terms of sales volume and earnings. Sales of this division increased in excess of 35%, and earnings by an even higher rate over 1968.

The communications division continued as our second largest business, posting a sales increase of about 13%.

The consumer products division increased its share of market in every product line in the face of softening market conditions throughout the industry.

The government electronics division improved earnings and margins despite slightly reduced billings and major reorganization of its plant facilities.

The automotive products division established its first wholly owned overseas manufacturing operation—in England.

The control systems division achieved another substantial increase in sales and obtained a contract for the country's largest installation of intrinsically safe

electronic process control instrumentation.

Research and Development

A wide variety of research and product engineering and development programs was actively pursued in 1969. Total expenditures for these purposes increased 24% in 1969 and are planned for another increase of about 20% in 1970.

Corporate Marketing Units

To further strengthen the company's position in several growth fields, three corporate marketing units were formed in 1969. One group will seek to identify electronic systems opportunities which will use existing products and capabilities of any and all of our divisions. Another group will be responsible for marketing of electronic video recording (EVR) players. The third group will market products and systems for administration, operational control, communications and entertainment directly to institutional customers, such as hospitals, hotels and schools.

Capital Expenditures

Capital expenditures in 1969 totaled \$43 million, more than half of which was incurred by the semiconductor division in expanding and further equipping the integrated circuits facility at Mesa, Arizona and the Toulouse plant in France. A major portion was also incurred by the communications division in expanding plants in Schaumburg, Illinois and Fort Lauderdale, Florida. Capital expenditures for 1970 may exceed \$55 million. Depreciation in 1969 was \$23 million and will approximate \$25 million in 1970.

Financing

In November, rights were issued to shareholders to purchase 1 additional share of common stock of the company for each 13 shares held at a price about 19% below the market price at that time. Since all of the proceeds were used to repay high-cost debt obligations, earnings of the company were not diluted because of the additional 474,952 shares issued. At the same time, the net worth of the company was increased by the proceeds of approximately \$58 million which, together with earnings retained, resulted in an improvement in the company's yearend ratio of debt (short and long term) to equity to 30% from 56% at the end of 1968, thus providing a strong foundation for continued growth. The only remaining current bank debt is attributable to our foreign operations.

Share Distribution and Dividends

In February 1970, the board of directors adopted a proposal to be made to shareholders at the May 4 annual meeting calling for an increase of authorized shares from 10,000,000 to 20,000,000. Subject to shareholders' approval, the company plans to make a share-for-share distribution on May 25 to shareholders of record May 11.

Also, the directors expressed the intention of raising the quarterly dividend to 15 cents per share in June for shares then outstanding. This would be equivalent to a 20% increase in the present annual dividend rate.

Management Changes

Arthur L. Reese, director and formerly executive vice president, became a staff executive and continues as a director. He has long

served the company importantly as general manager of the communications division and most recently as general manager of the consumer products division. He is succeeded in the latter capacity by Edward P. Reavey, Jr., formerly vice president for marketing of that division.

At the corporate level, William J. Weisz, was elected executive vice president and assistant chief operating officer. He had been general manager of the communications division. Thomas J. Connors, formerly vice president and director of marketing for the semiconductor division, was named vice president of marketing for the corporation and later given the additional assignment as general manager of the control systems division.

In the communications division, Homer L. Marrs was designated vice president and general manager. He had been vice president and director of distribution. John F. Mitchell, vice president, was named assistant general manager. Martin Cooper and Carl E. Lindholm were each elected vice presidents and directors of product operations.

In the semiconductor division, John R. Welty, vice president, was designated assistant general manager and Christian G. Goodman was elected vice president and director of marketing for the division; John C. Haenichen and Patrick J. Lynch were elected vice presidents and directors of operations.

Outlook

As 1969 ended, the concerted efforts of federal authorities to suppress inflation were adversely affecting certain parts of our business and


resulting in a moderation of the growth rate in others. A cost/price squeeze is a natural concomitant. Our assumptions for planning purposes regarding the general economy include the probability that monetary policy will be eased gradually during this year and that a more normal growth rate will thereafter resume.

It is well known that softness has developed in the automotive and consumer hardgoods markets and there is a slowdown in certain federal government funding. These factors are, of course, having impact on the related segments of our business, particularly in the first and second quarters. However, the communications equipment and semiconductor markets have not been affected in the same degree.

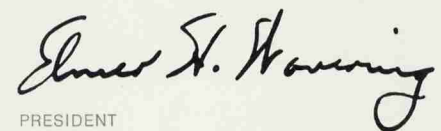
We are concentrating on improving productivity to offset the cost/price squeeze.

On balance within this mixed environment, we currently can see the possibility of further increases in total revenues and earnings for 1970 as a whole but this will depend on reduced pressure on the economy during the last half of the year.

For the Board of Directors,



CHAIRMAN OF THE BOARD



PRESIDENT

March 26, 1970

semiconductor products division

While the semiconductor industry grew by approximately 16 per cent during 1969, Motorola's semiconductor products division sales again grew by more than 35 per cent. Earnings increased over 1968 at a substantially greater rate.

In the international marketplace, the gap between Motorola and the industry was even wider. While the industry grew by about 20 per cent in both Europe and the Far East, the division scored a sales increase of more than 60 per cent.

During 1969, as in the past, the division continued to place heavy emphasis on both increasing worldwide production capacity, and developing advanced, highly complex products for the next generation of electronic equipment.

Early in the year, a small semiconductor operation was established in Tucson, Arizona, where production began early in 1970. At the integrated circuits center in Mesa, Arizona, 134,600 square feet of production area was added during 1969, and another 82,200 square feet is still under construction at the site.

Foreign production capacity was greatly increased during 1969. Semiconductor production facilities, totaling 71,000 square feet, were completed in Nogales and Guadalajara, Mexico, and East Kilbride, Scotland. The Nogales plant was brought into full production during the year. The Guadalajara and East Kilbride plants, presently in limited production, will be in full production early in 1970. In addition, the Seoul, Korea facility was expanded by 5,000 square feet, and material processing capability was added to the Toulouse, France complex. A 30,000 square foot expansion was also begun at the Toulouse plant.

While the market for discrete semiconductors maintained its healthy growth pattern during the year, emphasis in the marketplace continued to shift toward the more complex integrated circuit devices. During the year,

the division again supplied the broadest line of integrated circuits in the industry, including not only the standard, high volume families, but also the even more sophisticated devices made possible by research and development in metal oxide semiconductors (MOS), computer-aided design (CAD), multi-layer metallization, dielectric isolation and beam lead bonding.

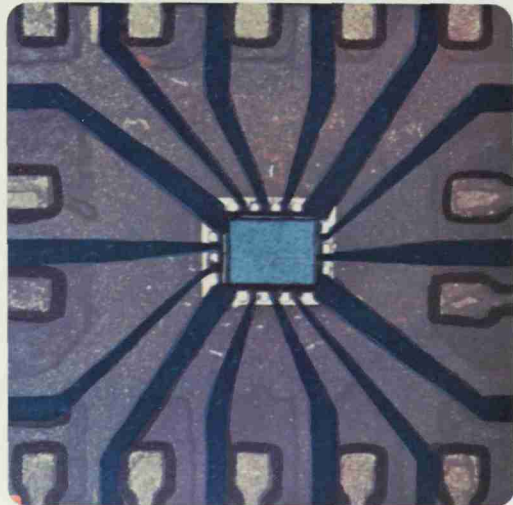
In the digital integrated circuit market, significantly increased sales resulted from broadening product lines and utilizing advanced production techniques. Ninety-eight completely new digital integrated circuits were introduced, forty per cent more than in the previous year. A third of these introductions were in the increasingly popular transistor-transistor logic (TTL) family. As a result, Motorola has become a major supplier of both industry-wide TTL circuit types and complex TTL functions. In addition, a third generation of emitter-coupled logic (ECL) circuits was introduced, establishing a new order of ultra-high speed performance for large computer systems, instrumentation and frequency synthesizers, areas which promise significant growth during the 1970s. The MECL-III family is the first digital integrated circuit series that provides subnanosecond (less than a billionth of a second) speeds.

In linear integrated circuits, sales grew at twice the rate of the industry. Twenty-five devices were introduced, representing new "building blocks" for the systems designer and enabling manufacturers to produce better, less expensive and more efficient designs for instrumentation, computers, communications and entertainment products. By yearend, the division became one of the largest suppliers of linear integrated circuits in the industry.

With linear circuits on the threshold of a dramatic growth period, plans are being readied to introduce more than 40 new linear devices during the coming

year. Many of these products will feature new capabilities, such as high current, high voltage, thin-film compatibility, and radiation resistance.

Semiconductor memories will play an important role in the next generation of computers. Along with individual monolithic integrated circuit memories containing smaller storage capacity, a series of highly complex, sub-system memory modules is also being developed. These new modules are being made possible through an advanced product manufacturing system which combines the MOS and beam lead technologies with computer-aided design and testing techniques. The first of these announced for introduction is an 8,192 bit random access read-write memory (shown on front cover), larger and faster than any memory module presently available. Five more complex modules



1. Computer-aided design of integrated circuits reduces design and production time for custom and LSI circuits.
- 2, 4. Beam lead bonding solves many critical and time consuming bonding operations.
3. Functional circuits (small scale integration) and advanced plastic encapsulated devices open large segments of consumer market by lowering production costs.
5. Computer-operated step and repeat camera, with precision of 0.0001 inch, photographically reduces integrated circuit designs for mask production.

will be introduced during the first quarter of 1970.

The coupling of advanced product technologies with well-known volume production flexibility is resulting in the development of a variety of state-of-the-art devices.

Multilayer metallization, which increases yields by reducing the die size on the wafer, made possible a 14-bit time division demultiplexer built on a single chip. This circuit is being used in the Boeing 747. In addition to a number of standard circuits, 25-gate and 112-gate TTL arrays were also produced with this technique.

The latest beam lead bonding methods, which increase reliability and performance, are being used to mass produce TTL circuits and linear circuit chips. This technique produces circuits of an extremely high order of reliability, as required by the government and aerospace markets.

Dielectric isolation processes are being used in devices requiring radiation resistance. Beside their superior performance in radiation environments, these devices will find broader applications in other new markets which require high voltage and high current capability. The division has already achieved a leadership role in this young but promising technology.

The computer is being used as a vital tool in the design of complex circuits. Computer-aided design (CAD) helps the designer in specifying product and analyzing proposed circuits through logic simulation, circuit analysis and the determination of component and interconnect placement. After the design is complete, the computer controls the drafting function, and generates test programs. CAD is playing an important role in the development of MOS capability, since most MOS devices require custom design. Using this advanced design technique, the division

expects further penetration in this expanding market during the coming year.

Discrete devices during 1969 accounted for more than 65 per cent of the dollar volume of the total semiconductor industry. In this high volume market, divisional sales continued to strengthen. Motorola's leadership in the discrete field results in part from continuing research, production refinements, and the introduction of a constant stream of new products. The development of new markets in the appliance field for zener diodes, silicon signal transistors and silicon power transistors is also adding impetus to this growth, as is the rapidly growing demand for plastic encapsulated devices in the entertainment market.

Optoelectronics is an example of the division's continuing investment in discrete devices. A major industry breakthrough in materials processing during 1969 permitted the introduction of visible red light emitting devices which can be used as indicator lights, in numeric readouts and card readers, opening a potentially huge market. Next year will see the introduction of a number of additional optoelectronic components and a complete alpha-numeric readout using light emitters.

In 1969 Motorola also introduced discrete "functional circuits," which, in complexity, lie between discrete devices and integrated circuits. Containing a limited number of transistors and passive components, these devices create a variety of inexpensive partial circuits for the mammoth consumer products industry. These circuits cost less than the equivalent discrete components, and are built, packaged and tested as easily as a single component. Seven "functional circuits" were introduced during the year and ten more are scheduled for 1970.

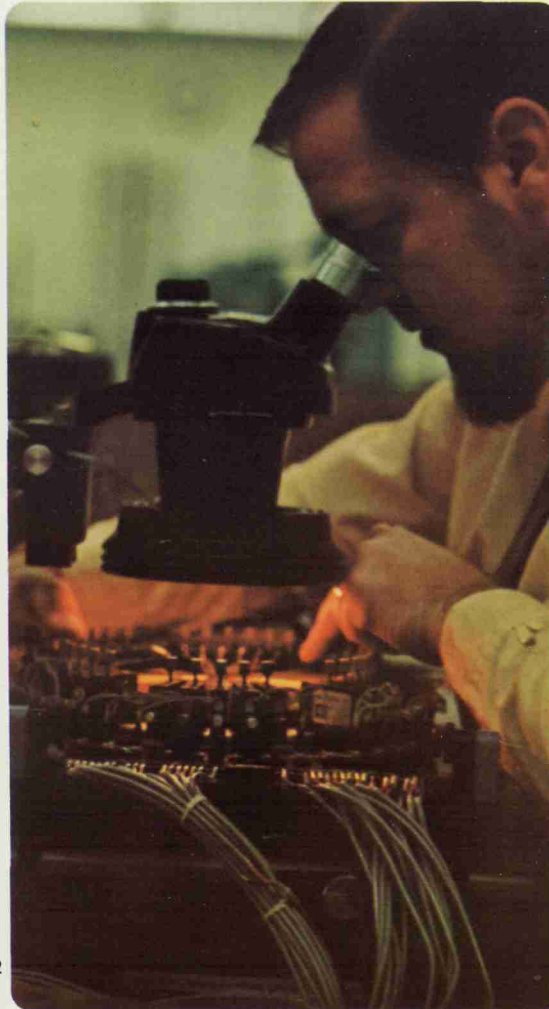
The continual probing at the limits of the semiconductor art, and the steady introduction of new and improved devices are helping to insure a major

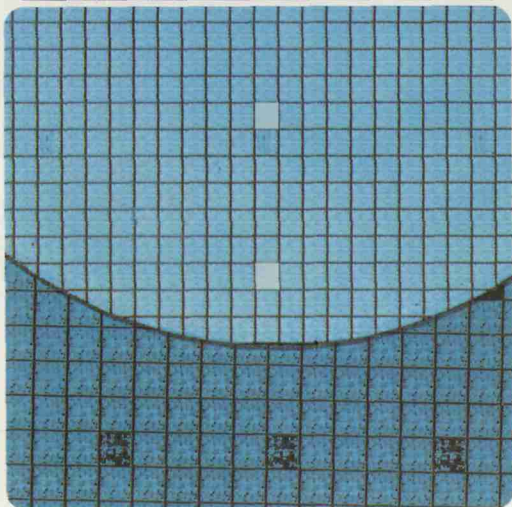
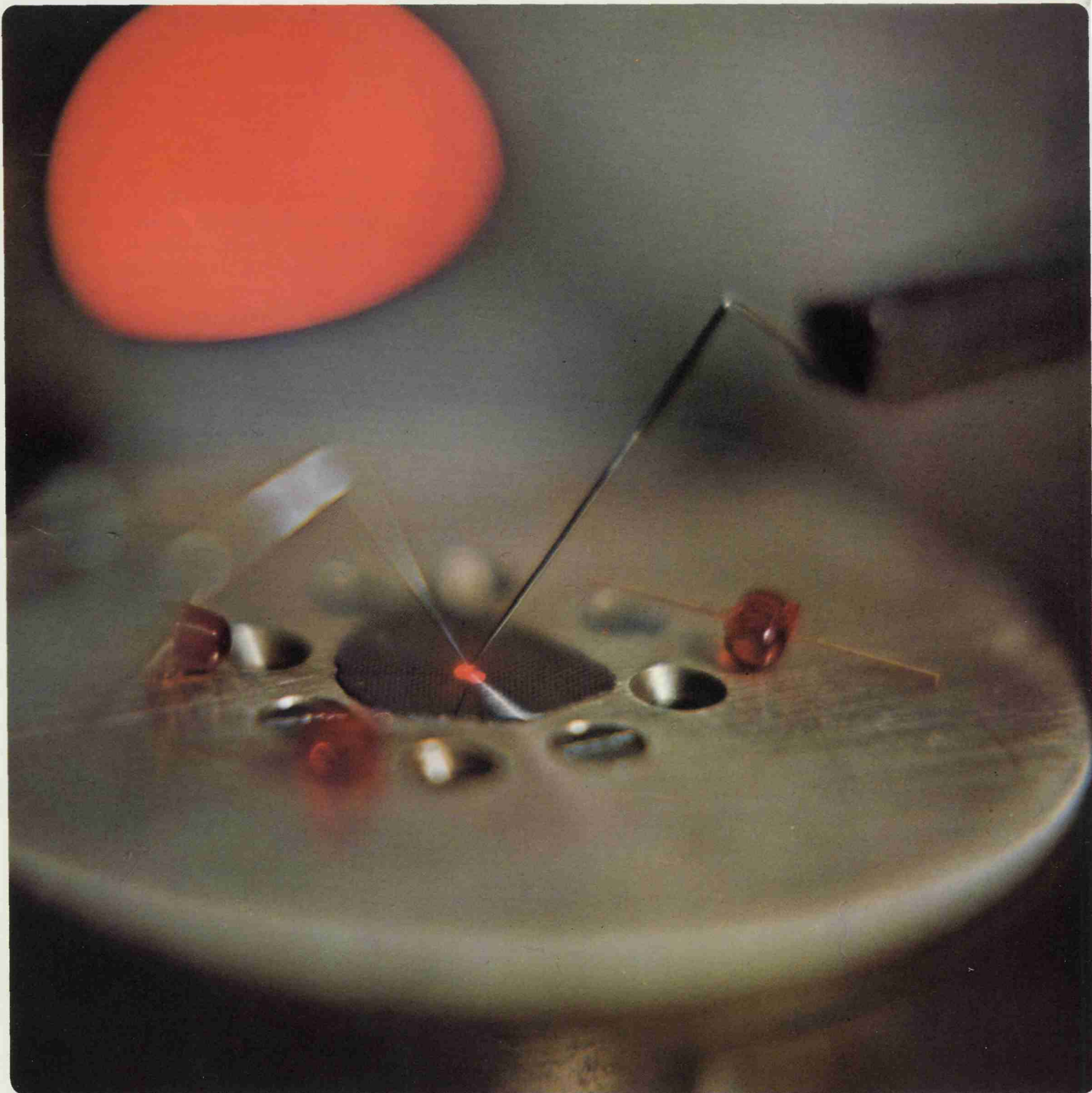
role for Motorola in tomorrow's semiconductor market, which promises a steady growth in size, complexity and competitiveness.

The semiconductor market will continue to grow during 1970 although at a slower rate than in 1969. While discrete component sales for the industry are expected to level during the year, the division again anticipates both increased sales and share of market.

Integrated circuits will continue to account for a greater share of the total semiconductor business, increasing by about 25 per cent over 1969 in total factory sales. It is expected that Motorola's growth in this market will outpace the industry.

In spite of the cooling economy, several semiconductor markets have the potential for significant growth this year through increased penetration. These include the military-aerospace, consumer, computer and industrial markets.





1. Electrical probes test individual light emitting diode on wafer.

2. Computer controlled probes perform electrical inspections of individual, dielectrically isolated integrated circuits while still on silicon wafer.

3. Multi-layer metallization process increases yield by reducing die size, thus aiding custom circuit design and production of LSI circuits.

communications division

The year 1969 completed a decade of steady growth for the division's communications systems, which include mobile, portable, industrial systems and component product groupings. Technological advances, market expansion and customer confidence in Motorola products has kept the division in its leading position.

Sales volume during the year reached a new high with increases in all product activities. New order input ran well ahead of plan and resulted in a substantial increase in open order backlog compared to the same time last year.

Earnings also set new highs and out-paced sales growth during the year. Improved profits, despite continued increases in costs, resulted from the increased volume and significant improvements in operating efficiencies.

Domestically, the division carried on an extensive expansion program during the year. A new manufacturing facility was opened in Fort Lauderdale, Florida. To accommodate the rapid growth of operations there, a 250,000 square foot facility is now being planned to replace the leased site. At the Schaumburg, Illinois headquarters site, a 317,000 square foot addition is being added to the present 750,000 square foot facility.

A reorganization of international operations during 1969 placed new emphasis on the division's plans to broaden these operations dramatically during the 1970's. Majority control of Canadian Motorola Electronics Ltd. was acquired, and a new wholly owned subsidiary became operational in Wiesbaden, Germany.

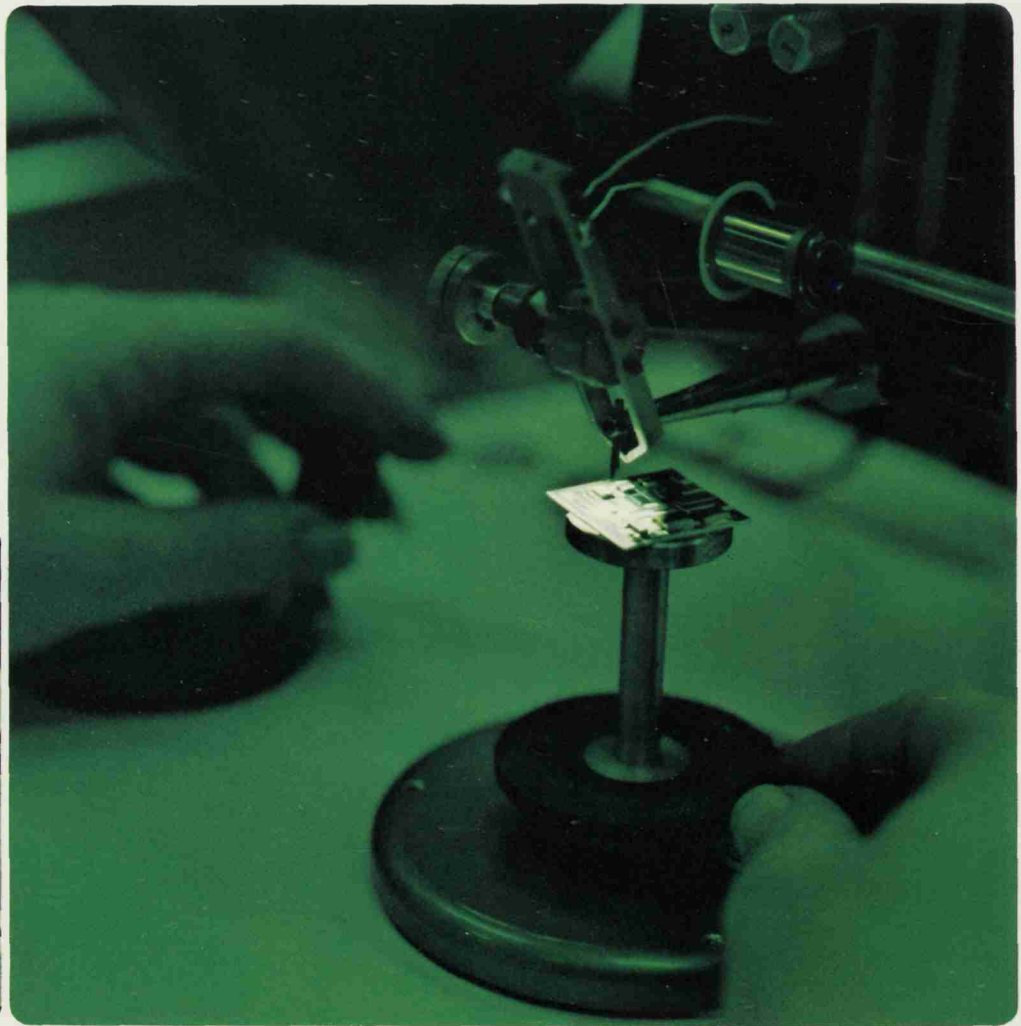
The division now has worldwide distribution of products and services in 91 countries. Included are seven subsidiaries or joint ventures in Brazil, Argentina, Mexico, Canada, Israel, South Africa and Germany. These seven manufacturing operations provide direct distribution in those countries.

Research and development remains the foundation upon which the division retains its position in the industry. The development and manufacture of many component products for internal use has led to a natural progression into the business of supplying original equipment manufacturers. For example, a distinct line of crystal products has been developed. This family of components includes a series of precision quartz crystals, precision oscillators, temperature-controlled crystal oscillators, precision crystal filters and monolithic crystal filters. Extensive research is being conducted into the processing of synthetic quartz, from growing to final packaging. Also being supplied to customers are a series of reed devices, plug-in tone modules and printed circuit boards.

Technical advances through fabrication of other components and the use of modern computer-aided design techniques allowed the division to develop many exceptionally improved product lines during 1969. The quality, reliability and simplified maintenance designed into these new products have received acclaim from our customers.

Foremost in design achievement was the development of a new line of hand-held, two-way portable radios with a size reduction of 50 per cent and weight reduction of 40 per cent over the previous model line. A significant 250 per cent increase in rf power output distinguishes the HT-220 "Handie-Talkie" portable radio as the smallest and lightest 5-watt unit in the industry.

Division engineers designed two monolithic integrated circuits to replace 51 previously used components to achieve the dramatic 50 per cent size reduction. The development of a smaller, lighter, rechargeable nickel-cadmium energy cell, in addition to the fewer component parts, enabled the 40 per cent weight reduction.



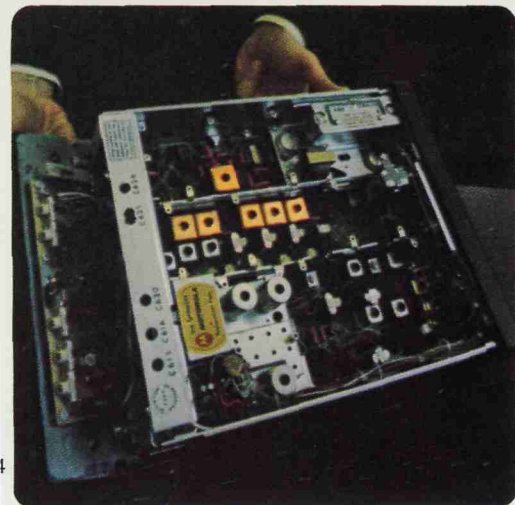
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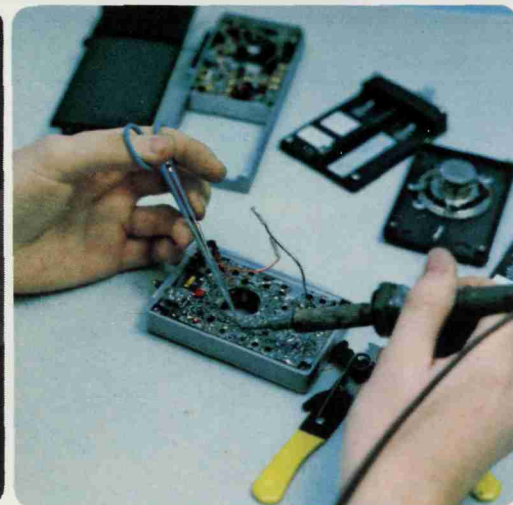
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1. Advanced design products and systems result from continuous research and development of microelectronic devices.

2. Computer-aided design techniques allow simplification of design to achieve better reliability, easier maintenance and greater cost savings.

3. Sales and market specialists provide technical expertise in the development of customized communication systems to solve customer problems.

4. Simplified flow-type design reduces costs and makes solid state two-way radio economically feasible for all users.

5. Portable two-way radio exemplifies monolithic integrated circuit developments and high density packaging techniques.

Reaching further still into high density component design, the division developed a short range mini-unit that is 23 per cent smaller and 28 per cent lighter than the previously described model line. Weighing only 15 ounces, the 17 cubic inch HT-100 "Handie-Talkie" portable radio utilizes the latest in integrated circuitry. A single, double-sided circuit board was designed to fit around the speaker and holds all components of the separate transmitter and receiver sections.

The second major design achievement was the development of a top performance, all solid state, mobile radio manufactured at a significant cost savings. Designated the "MOCOM 70" radio, the new unit features a simplified design for better reliability and easier maintenance. Using computer-aided design techniques, the receiver and transmitter circuitry was laid out in a flow type of design on a single layer circuit board. The elimination of other circuit boards and the resultant decrease of materials reduced costs and made solid state radio economically feasible for every type of two-way mobile radio user.

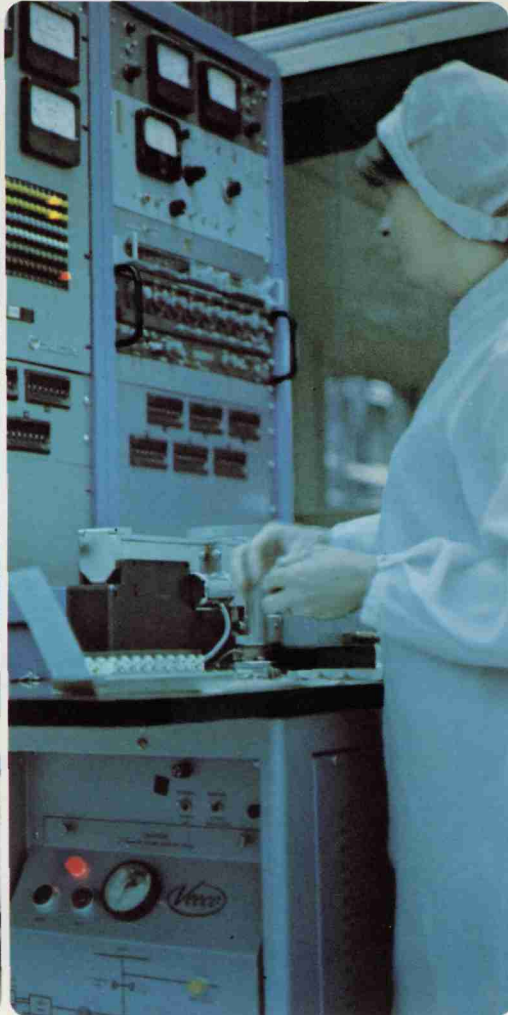
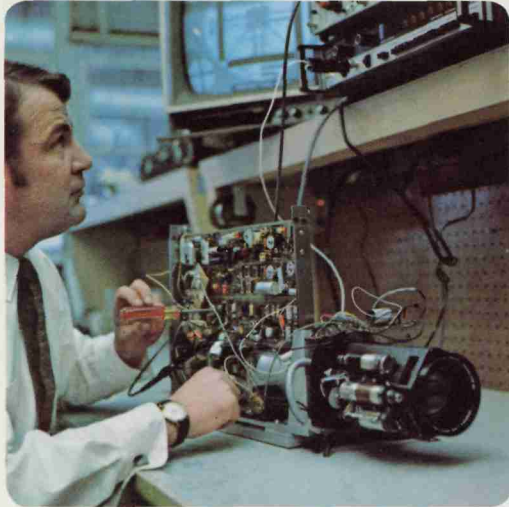
Due to the increasing variety and number of customers, the division is placing greater emphasis on organizing specialized market/sales teams to better service customer groups. With over 400 types of customers, it becomes essential to have specialists who are familiar with specific businesses and related operational problems, and who are capable of developing solutions to these problems. These market teams, in alliance with their customers, provide the division with the technical expertise necessary to design new and better uses of communication systems.

In 1969 over 50 new communication systems were introduced in response to the needs of the market. Some of these were: a disaster radio network for area hospitals; a 12-channel improved mobile telephone system with automatic channel selection and dial operation; base station control units and repeaters in the 450 MHz and 960 MHz bands; an all solid state 6 GHz rf microwave with full 600-channel capability and a 2 GHz version with 300-channel capability; a high capacity paging encoder expandable to 870 calls; an alarm reporting system for monitoring remote functions; radio switches capable of controlling up to 16 different remote functions; several closed circuit television accessories for automatic lens adjustment, high-temperature camera protection and automatic video sequential scanning of up to 10 cameras from a single monitor; and several special precision instruments such as the television frequency stabilizer system.

Two-way radio is playing an increasingly large part in our everyday life. Today, many mobile radio users are faced with severe overcrowding due to the limited number of radio frequencies allocated. For many years, Motorola has led an aggressive technological effort to derive more use out of the available spectrum. This effort has increased the number of channels in the frequency spectrum by four to one. Now, the Federal Communications Commission is considering proposals to allocate more frequencies to two-way radio users and to permit them to share or use exclusively frequencies currently allocated to TV broadcasting. None of these proposals will significantly affect the television viewing public but will permit continued growth in the two-way radio, public-service oriented market area.

In the 1970's, the division will continue to develop its technical capabilities and looks forward to even greater gains in strengthening its domestic and inter-

national position. The forecast for 1970 is for continued increase in both sales and earnings. The current open order backlog and new market and product programs hold promise for new sales growth. Continued improvements in operating efficiencies coupled with the additional volume should again generate improved earnings.



1. An additional 317,000 square feet under construction at the Schaumburg, Illinois headquarters.

2. Technological advances in visual communication products keep the division ahead of market needs.

3. Motorola-trained technicians perform system maintenance on-site or at service centers throughout the country.

4. Extensive research is being conducted in the processing of synthetic quartz for frequency oscillators and filters.

consumer products division

With a severe fall-off in consumer buying, particularly during the critical fourth quarter affecting the entire industry, forecasted sales and profit goals of the division were not achieved. However, division performance during 1969 resulted in market penetration gains in every product category as measured by Electronic Industries Association data. This gain in the face of a general industry decline reaffirms the validity of the division's broadened marketing philosophy and lays the foundation for improved performance in 1970.

Quasar Color TV best exemplifies the division's strategy of concentrating marketing effort behind products with unique and demonstrable advantages. Supported by increased investment in research and development and greater utilization of the technical capabilities of other divisions, this strategy is being expanded into other product lines. Such products are introduced first into the upper price ranges. Once consumer demand has forged a solid sales base, models with similar advantages but at lower price points will be introduced, contributing to a growing market share.

Exemplifying this "layering-on" concept of product introduction was the announcement of Quasar II — a second generation "works in a drawer" line. These lower priced consoles and table models were designed to compete in the color market's fastest growing segment. Development of Quasar portables advanced during the year to open additional 1970 marketing opportunities. The decision to eliminate the manufacture of tube type color TV in favor of a virtually all Quasar color TV line confirms Motorola's substantial competitive lead in the application of solid state technology.

Advertising concentrated on translating Quasar TV benefits into language that creates consumer buying. The phrase "works in a drawer" is now the best known feature in color TV according to

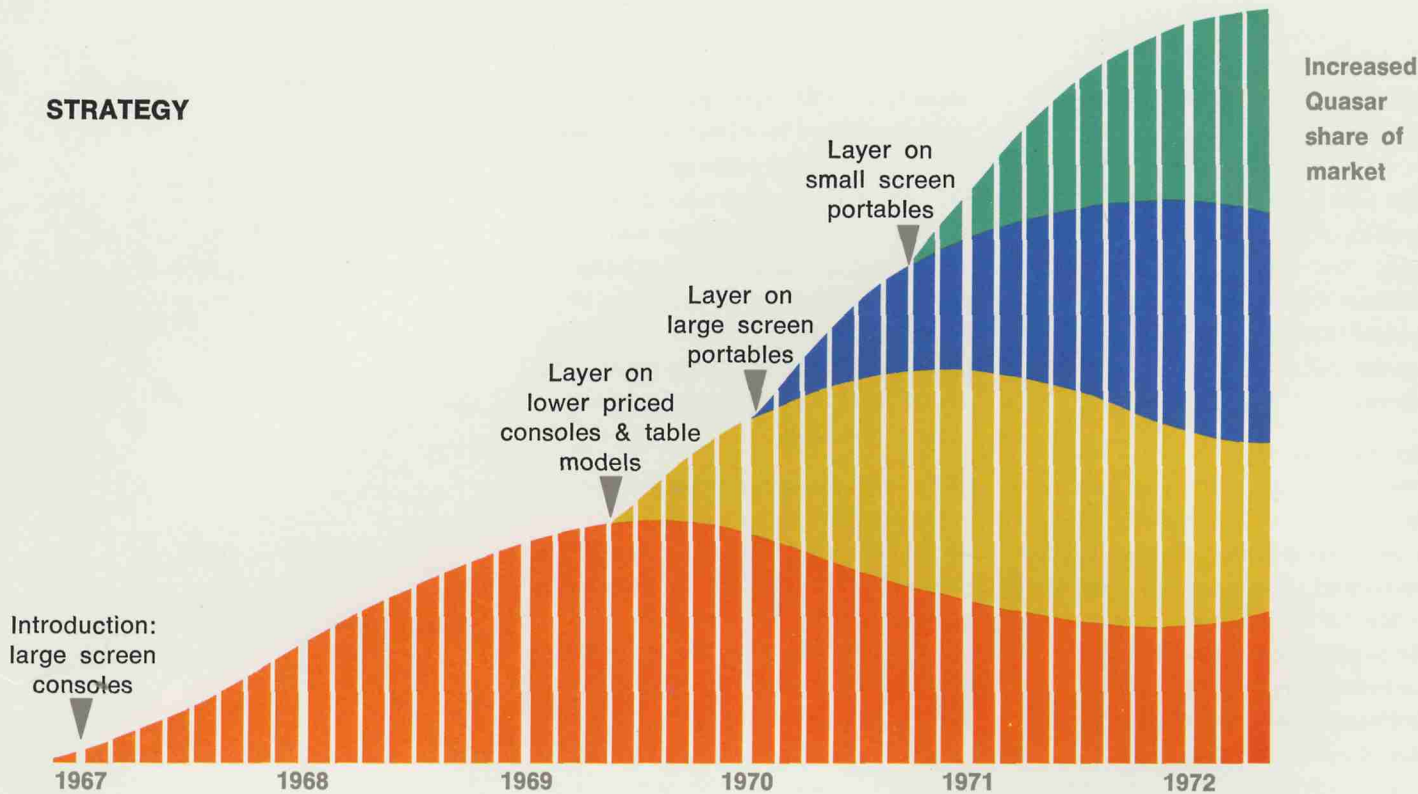
independent research. The Quasar TV campaign was chosen by retailers as the year's best in a major trade magazine survey. Coordinated use of the "works in a drawer" concept in advertising, display, training and selling resulted in a substantial increase in the division's share of retail color TV sales over \$600.

In other product lines, technical development was aimed at new or growing markets. The division's first cassette tape players were introduced in midyear with successful results and further additions are planned. In December, the forerunner of a complete line of stereo components was announced to compete profitably in the fastest growing segment of stereo sales.

The reliability and serviceability concept of Quasar color TV was brought into two important screen sizes of black and white TV through the application of replaceable solid state mini-circuits.

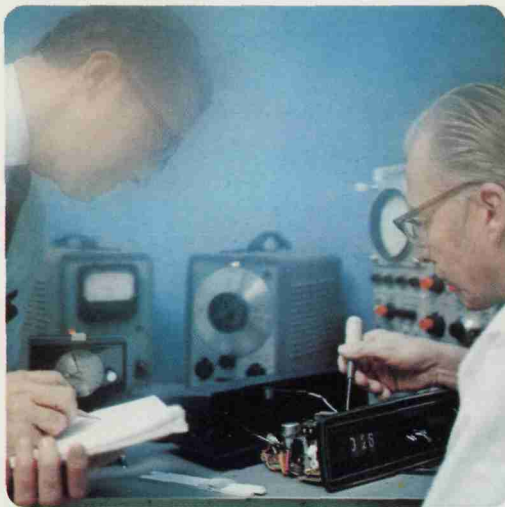
Division efforts in automotive sound products were directed to the car tape player line and to FM/AM auto radios. The personal electronic product group neared completion of development work for a new and specialized series of radios and portable phonographs which will take maximum advantage of the semiconductor division's integrated circuit capability. This use of the latest state-of-the-art technology will help combat growing foreign product strength.

STRATEGY



Phase I — introduce and develop market for product with demonstrable difference in upper price range

Phase II — add products with similar differences, at lower price points to compete in growing segments of market



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1. Strategy of "layering on" concept as applied to Quasar color TV.
2. Future "Concept 90" digital clock radio undergoes audio frequency response check.
3. Audio component undergoes rigid test and analysis before unit is mass produced.
4. Computers assist in circuit design and analysis, as well as in operations.

In 1969 research was launched into every possible home use of an electronic video recording player. The division also began a significant exploration of a video display product program. This involved closed-circuit TV monitors and chassis used for computer input/output devices, a market with an estimated 30 per cent annual growth rate.

Recognizing the need for lower costs and improved flexibility to compete in the face of a declining economy, major steps were taken toward standardization of chassis and parts and their assembly techniques. A new vendor shipping release system was established to reduce both material costs and the procurement time cycle. To further improve direct and indirect cost/productivity relationships, a management consulting firm, working with internal departments, has launched a division-wide program to increase employee efficiency.

Better inventory control was another primary cost reduction goal. Coupled with increased market penetration, the result shows the division's factory plus distributor inventory of major product categories declining steadily as a share of the industry total. This trend has continued over several months, including the period of greatest sales decline.

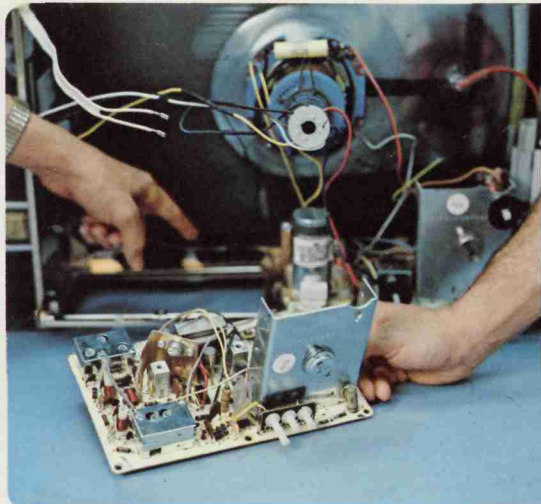
To meet growing foreign competition, construction started during the year on an efficient, cost oriented manufacturing facility in Taiwan. A study to better utilize existing production facilities made possible consolidation opportunities that will result in the phasing out of the Elgin, Illinois plant during 1970. Elgin personnel will be given an opportunity to indicate preferences for accepting employment at other Motorola plants.

In 1969, the division continued its dedication to marketing through independent distributors and it strengthened their market potential by expanding some sales territories. The division's own

sales force was regrouped under three zone managers for better field supervision. High priority was given to strengthening and increasing dealer outlets primarily in metropolitan areas. The resulting improvement in better and broader consumer exposure of color TV is reflected in the significant gain in urban market share realized by the division. Further improvement is expected in 1970.

Effort to improve consumer satisfaction centered on safety, reliability and serviceability of products, on more comprehensive warranties encompassing labor costs and on improved product use literature. The program of post-sale phone calls to Quasar TV purchasers was continued in 1969. An expanded field training program was designed to keep service technicians abreast of advancing technology. A consulting firm was engaged to find additional ways for Motorola to better serve the consumer and to improve communications between the company and its customers.

For 1970 the plans and budgets recognize the possibility of declining consumer demand for some products but are capable of rapid adjustment should the market climate improve. With a solid foundation, based on gains in every product category, management regards the coming year as an opportunity to register further important improvements in the performance of this division.





1. Quasar has the "works in a drawer" for greater reliability and ease of service.

2. The application of replaceable solid state mini-circuits was extended to the black and white television line.

3. The character generator and video monitor fit into a number of total systems, such as flight information, inventory control, computer shopping and push-button banking.

government electronics division

Consolidation of the division's operations in Scottsdale, Arizona was completed in 1969 with the closing of the Chicago Center. Earnings and margins were up in 1969 over 1968. Total sales, however, were down, primarily due to the transfer of commercial microwave product lines to the communications division and the completion of a number of high volume production contracts at the Chicago Center.

The outlook for the government's military and space budgets, over the near term, is for reduced funding. In preparing to meet our growth objectives in this more highly competitive business environment, significant organizational changes were decided upon near year's end.

The division's 1970 structure will be comprised of three operations: communications, radar, and tactical electronics. Each of these operations will include its own engineering, marketing and program management departments with an operations support group to provide the broader services required. Shorter communication lines between operations groups and top management are essential for quick, effective response to the accelerated forces of change in the government marketplace and on technological fronts.

In response to anticipated shifts in government spending from Vietnam related programs to strategic programs, the division emphasized technology developments in the electronic countermeasure and missile guidance areas. Efforts resulted in contracts for equipment to protect strategic aircraft by generating "smart noise" to deceive enemy missiles. Development of all solid state, phased array, dual frequency antenna techniques has put the division in a prime position for several new missile guidance programs.

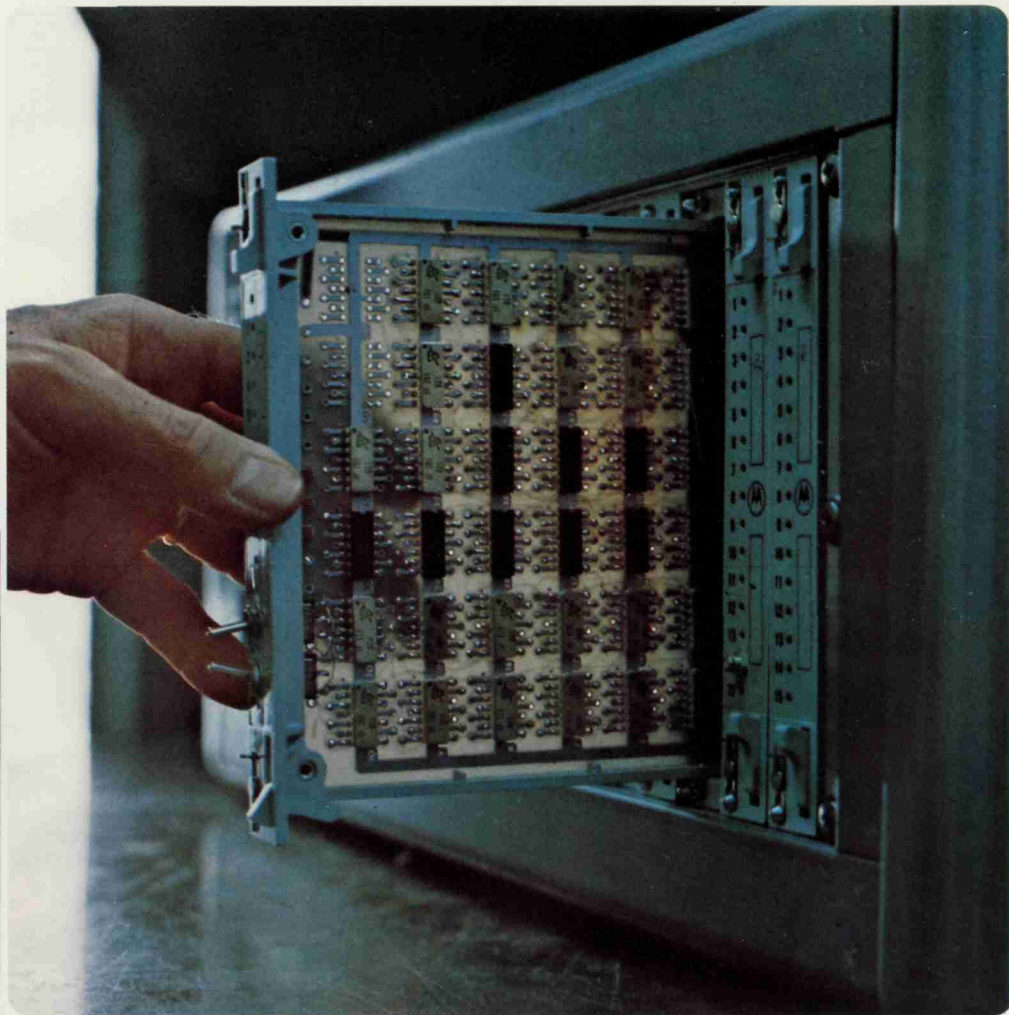
Continuing the division's strategy to be at the forefront of the state-of-the-art in

a diversity of business areas, the division's experience on both manned and unmanned space programs coupled with in-house advanced techniques developments resulted in the award of four subsystems for the Mariner/Mars 71 program.

The division sales of "keep the peace" type products which should receive continued funding following a cease fire in Vietnam, were considerably enhanced through development of both advanced display and range gated filter techniques for applications to moving target indication radars.

The trend toward digital communications is expected to accelerate at an unprecedented rate in the next few years. Motorola is already well on its way toward establishing itself as one of the leaders in the design of state-of-the-art digital communications systems requiring extremely high data rate technology.

These and other programs are expected to form a base for the division's continued technological leadership.



1

1. Electronic countermeasures equipment, designed to extend the useful life of B-52 bombers by protecting them from enemy missiles, was produced in only three months from concept to test program.

2. Radio assembly and support equipment for Mariner/Mars 71 mission. Radio will provide four communication links to the spacecraft for command, control, ranging, and telemetry.

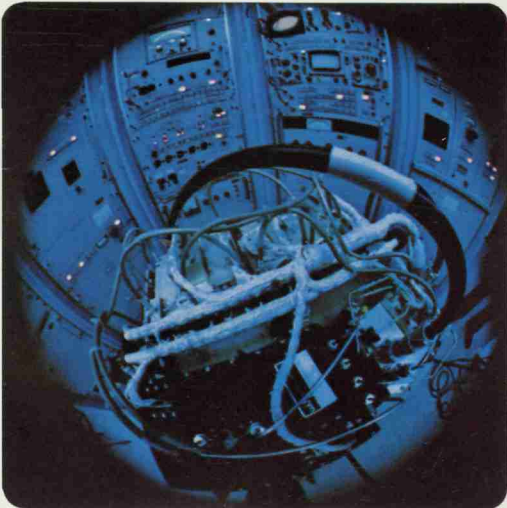
3. Developmental model of advanced missile guidance system features a single circular phased-array antenna operating two radars simultaneously. The system successfully implements advanced solid state techniques at super high frequency (30 GHz) in both transmitter and receiver.

4. A new range positioning system, with ranges up to 50 miles, is ideally suited for geophysical exploration, hydrographic projects, and other activities.

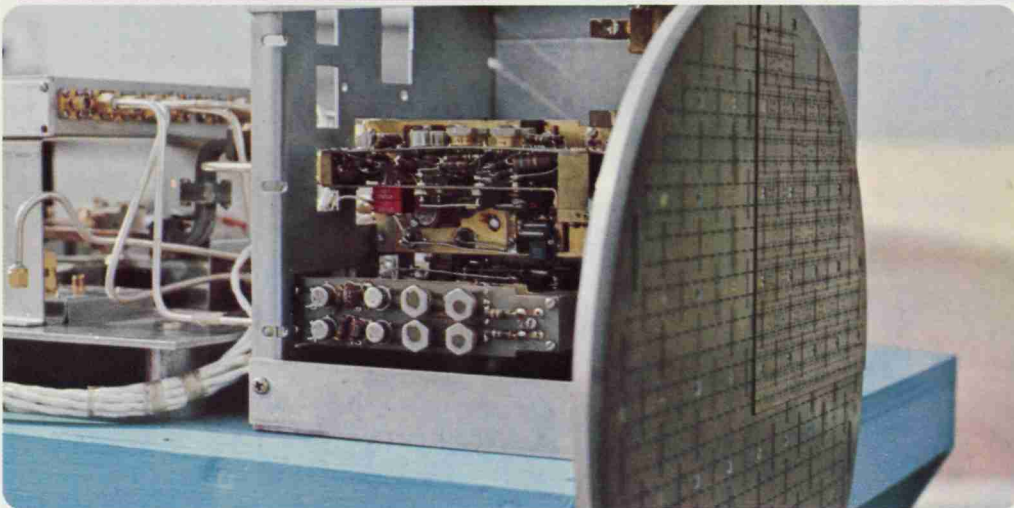
5. The flight command subsystem for Mariner/Mars 71 mission will receive commands from the Motorola on-board radio, then process and relay them to other subsystems to operate various equipment.

3

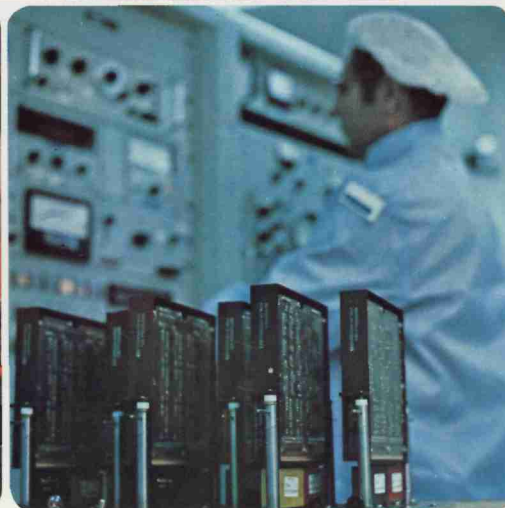
5



2



4



automotive products division

The division achieved the second highest sales in history, only slightly lower than the record breaking year of 1968. The dock strike which affected Volkswagen shipments, the American Motors strike, and the Chrysler shut-down particularly affected our volume. Earnings were adversely affected by this reduced volume and by international startup costs.

Industry estimates for 1970 car sales are cautiously estimated at a level slightly lower than 1969. However, there are several offsetting factors. First, imports should increase to over one million units in 1970. This is significant to Motorola since many of the car importers buy radios and other equipment from independent suppliers. Volkswagen, for instance, currently sells over 50 per cent of all imported cars and Motorola is the sole supplier of AM and AM/FM radios and tape players for the Volkswagen Distributors of America and Canada through 1970. Motorola has also been awarded 100 per cent of the radio requirements for the Capri which Ford intends to import beginning in 1970.

Second, the division's diversification into other product categories, particularly the growing tape player market, has added stability to its operations. The division produces tape decks for home units as well as automobiles. While the car radio continues as the division's major product line, its relative share of total dollar sales is declining as tape players, alternators, ignition systems, tachometers and hour meters have expanded and increased the division's product lines.

Third, the original equipment manufacturer customer list now exceeds 400. This adds to stability in that growing sales in some areas will offset declining sales in others.

Increasing competition from major Japanese manufacturers is anticipated and we have accelerated our offshore manufacturing activities to counteract this competition. The division's joint venture company in Japan, Alps-Motorola, manufactures car radios and tape players for sale in the United States, Japan, and other world markets. A new manufacturing facility will be in operation in early 1970. This is the third major expansion of Alps-Motorola in less than three years. Sales and profits are expected to increase in 1970.

The division is making strides toward tuner and circuit component miniaturization and other design improvements to make products smaller and more economical. Safety standards increasingly require that all instrument panel components be minimum in size. We have demonstrated a pushbutton AM/FM/multiplex car radio which is almost two-thirds smaller than contemporary equivalent designs. We are researching completely electronic tuning techniques which will allow further size reduction.

The trend toward FM multiplex continues as the consumer demands stereo sound in radio as well as tapes. The division currently supplies FM and FM multiplex radios to Chrysler, American Motors, Volkswagen, and others.

The tape market continues to grow at a phenomenal rate. Stereo tape in 1970 is expected to account for 35 per cent of all U.S. recorded music sales. Industry estimates indicate retail sales of pre-recorded 8-track cartridges at about \$300 million in 1969 and sales in 1970 are expected to exceed \$425 million. Factory installation rates for the 8-track tape player in 1970 cars are expected to rise somewhat over the 1969 rate of approximately 5 per cent as consumer awareness increases. Industry-wide auto installa-

tions for 1969, including aftermarket sales, are estimated at about 3,000,000 8-track units. New product innovations such as smaller cartridges and players, fast forward, automatic track and individual song selection techniques and more sophisticated, easier to operate home recorders, are under development.

The division will continue as sole supplier of 8-track tape players to Ford and American Motors through 1971 and currently is a source to other car manufacturers, including Chrysler, Volkswagen and Volvo. In addition to the auto market, the division is active in the growing recreational vehicle and truck markets. Private label sales to national retail accounts are expanding.

The division has demonstrated a Quad-8 sound system which is *tully compatible* with existing 8-track cartridges. The technique provides the ability to reproduce sound from four independent sound sources. This system adds a new dimension in sound reproduction — spatial presence — the sensation of total presence and the re-creation of live artistry.

We are continually adding new alternators to our product line to meet higher output demands as well as meet special environmental operating conditions such as high humidity, dust, temperature, etc. The Arcade, New York, plant which manufactures our alternator products is being expanded by one third to accommodate increased sales.

The international automotive market is vast and relatively untapped. More than one half of the world's 200 million cars, trucks, and buses are outside North America. A high percentage of these vehicles do not have radios or tape players. The evolution from generators to alternators is in its early stages in many areas of the world. Much of the market is non-captive. Many of our U.S. customers have foreign affiliates and are anxious for support from Motorola. This market is ideally suited to our capabilities.

Our joint venture company in France,



3

S.E.V. Motorola, is one of the largest alternator producers in the Common Market. The division has substantially increased its equity in the company in order to provide capitalization in anticipation of significantly expanding volume. Sales are rapidly increasing accompanied by continuing improvement in profit margins.

We are refining, miniaturizing, and expanding innovative features in our existing stable of products. New product ideas are under development, such as brushless alternators which will have a much greater life and reliability than conventional alternators. The division is also working on new product concepts related to solving the problems of pollution, safety, and serviceability.

1. Motorola developed and produced the original 8-track tape player introduced by Ford in 1965 and continues as its sole supplier.

2. Motorola-developed mini-8-track cartridge, and private-label player manufactured by Alps-Motorola.

3. Major product lines are car radios and tape players and combination units, electronic instrumentation, solid state ignition systems and alternator charging systems.

4. Developmental pushbutton AM/FM/multiplex car radio is one-third the size of contemporary units, yet incorporates more features.

control systems division

The division's established line of Veritrac process control instrumentation continued to penetrate the process controls industry in 1969. Major new contracts included a multimillion dollar installation at Humble Oil Company's Bayway, New Jersey refinery, the country's largest installation of intrinsically safe electronic process control equipment. It was selected to replace earlier pneumatic type instrumentation.

Also during 1969, the division moved further into the field of information

processing. While the total U.S. market for information systems continues to grow, the market for data communications terminals will expand at a substantially higher rate presenting increased opportunities for the division's data reader and data processor products.

Overseas, the wholly owned subsidiary based in the United Kingdom registered notable progress in foreign markets highlighted with a million dollar order from British Petroleum-Chemical Ltd. for a new ethylene plant installation of Veritrac equipment.

corporate marketing units

Education and Training Products This organization will market electronic video recording (EVR) players and programs. The primary emphasis will be in the industrial training, education, health care and hotel/motel (travel) markets.

In addition to players and television receivers, the unit will distribute program material in the EVR cartridge format for the various markets, thus providing a complete package.

EVR, a development of the Columbia Broadcasting System, is a unique method of viewing film-in-a-cartridge through a standard home television receiver. Motorola is the exclusive manufacturer and marketer of EVR and will manufacture the players at its Quincy, Illinois facility.

Institutional Electronics This unit will market products and systems for administration, operational control, communications and entertainment directly to institutional customers. Motorola's electronic management and entertainment systems capabilities are extensive and include systems planning, equipment, installation, maintenance and financing.

The unit will provide a significant distribution capability to institutional

markets for standard products of all Motorola divisions as well as maintain a specialized line of products for its selected markets. These markets include hotel, motel, hospital, nursing home, educational and multiple dwelling fields.

Applied Systems Unit This marketing unit was formed to seek out and pursue potential business opportunities which will use the technological capabilities and off-the-shelf products available from the company's six operating divisions and the other marketing units.

The unit, with representation in each division, will apply the advanced systems approach to solving problems. For example the Motorola Environmental Telemetry System, installed for the Army Corps of Engineers to provide early flood and hurricane warning in five New England states, uses products from four divisions. The same system, by changing the sensor, could be used for many other uses, such as air or water pollution monitoring, radiation monitoring, water resources management, oil field monitoring and meteorological applications.

consolidated balance sheet

as of December 31
Motorola, Inc. and Subsidiaries

| ASSETS | 1969 | 1968 |
|---|-----------------------|---------------|
| Current Assets | | |
| Cash | \$ 20,847,431 | \$ 23,369,706 |
| Short-term investments, at cost (approximating market) | 19,704,128 | 26,254,590 |
| Accounts receivable | | |
| United States government | 12,622,759 | 17,006,595 |
| Other | 154,776,917 | 124,218,265 |
| Allowance for doubtful accounts | (4,400,000) | (3,512,000) |
| Costs recoverable under United States government contracts, less progress billings | 7,304,837 | 11,377,685 |
| Inventories, at the lower of cost (first-in, first-out) or market | 154,104,247 | 121,063,571 |
| Future income tax benefits (note 2) | 18,666,697 | 10,894,516 |
| Other current assets | 11,818,896 | 8,612,627 |
| TOTAL CURRENT ASSETS | 395,445,912 | 339,285,555 |
| Plant and Equipment, at Cost | | |
| Land | 10,707,899 | 8,437,157 |
| Buildings | 125,275,424 | 111,993,701 |
| Machinery and equipment | 131,707,531 | 107,455,665 |
| Accumulated depreciation (note 3) | (100,191,330) | (82,304,817) |
| NET PLANT AND EQUIPMENT | 167,499,524 | 145,581,706 |
| Sundry assets, net | 13,563,935 | 13,482,988 |
| | \$ 576,509,371 | \$498,350,249 |

SEE ACCOMPANYING NOTES TO FINANCIAL STATEMENTS

| LIABILITIES AND SHAREHOLDERS' EQUITY | 1969 | 1968 |
|---|---------------------------|--------------------------|
| Current Liabilities | | |
| Notes payable | \$ 6,336,816 | \$ 35,575,139 |
| Current maturities of long-term debt | 1,411,950 | 1,039,421 |
| Accounts payable | 62,181,753 | 54,304,795 |
| Accrued compensation | 19,352,735 | 13,637,898 |
| Federal income taxes | 14,819,039 | 12,206,674 |
| Other (including withheld) taxes | 8,146,323 | 6,955,838 |
| Contribution to employees' profit sharing funds | 14,149,215 | 9,884,454 |
| Product and service warranties | 6,611,075 | 7,533,464 |
| Accrued expenses and other | 27,059,905 | 21,833,201 |
| TOTAL CURRENT LIABILITIES | 160,068,811 | 162,970,884 |
| | | |
| Long-Term Debt (note 4)..... | 90,306,090 | 96,601,294 |
| | | |
| Shareholders' Equity | | |
| Capital stock, \$3.00 par value (notes 5 and 7) | | |
| Authorized: 10,000,000 shares | | |
| Outstanding: 1969, 6,651,953 shares; 1968, 6,148,371 shares | 19,955,859 | 18,445,113 |
| Additional paid-in capital | 86,336,418 | 28,002,604 |
| Retained earnings (notes 1 and 4) | 219,842,193 | 192,330,354 |
| TOTAL SHAREHOLDERS' EQUITY | 326,134,470 | 238,778,071 |
| | \$ 576,509,371 | \$498,350,249 |

consolidated earnings and retained earnings

Motorola, Inc. and Subsidiaries

Years Ended December 31

| | 1969 | 1968 |
|--|-----------------------|---------------|
| Sales and other revenues | \$ 873,224,220 | \$775,124,336 |
| Manufacturing and other costs of sales | 591,598,814 | 542,172,890 |
| Selling, service and administrative expenses | 161,887,398 | 137,754,304 |
| Depreciation of plant and equipment (note 3) | 22,530,618 | 20,071,002 |
| Contribution to employees' profit sharing funds | 14,149,215 | 9,884,454 |
| Interest and amortization of debenture expense | 11,215,602 | 7,865,490 |
| TOTAL COSTS AND OTHER EXPENSES | 801,381,647 | 717,748,140 |
| Income before federal income taxes | 71,842,573 | 57,376,196 |
| Federal income taxes, net of investment credit of \$1,065,000 in 1969; \$1,157,000 in 1968 | 38,050,000 | 29,115,000 |
| Earnings (per share (average) outstanding during the year: 1969, \$5.48; 1968, \$4.61) | 33,792,573 | 28,261,196 |
| Retained earnings at beginning of year | 192,330,354 | 170,205,973 |
| | 226,122,927 | 198,467,169 |
| Less cash dividends declared—\$1.00 per share | 6,280,734 | 6,136,815 |
| Retained earnings at end of year (notes 1 and 4) | \$ 219,842,193 | \$192,330,354 |

consolidated additional paid-in capital

| | 1969 | 1968 |
|--|----------------------|--------------|
| Balance at beginning of year | \$ 28,002,604 | \$17,712,959 |
| Excess of proceeds over the par value of shares issued under share option plans (note 5) | 2,048,679 | 1,185,765 |
| Excess of net proceeds over the par value of 474, 952 shares issued under rights offering | 56,285,135 | — |
| Excess of market value over the par value of shares issued in acquisition of a subsidiary's stock | — | 553,880 |
| Proceeds from sale of convertible debentures attributable to conversion feature | — | 8,550,000 |
| Balance at end of year | \$ 86,336,418 | \$28,002,604 |

SEE ACCOMPANYING NOTES TO FINANCIAL STATEMENTS

consolidated source and use of funds

Motorola, Inc. and Subsidiaries

| Years Ended December 31 | 1969 | 1968 |
|---|------------------------------|-----------------------------|
| Source of Funds | | |
| Earnings | \$ 33,792,573 | \$ 28,261,196 |
| Depreciation | 22,530,618 | 20,071,002 |
| Increase in long-term debt | — | 31,521,814 |
| Additional capital | 59,844,560 | 10,367,309 |
| TOTAL | <u>116,167,751</u> | <u>90,221,321</u> |
| Use of Funds | | |
| Additions to plant and equipment (and tooling), net | 44,448,436 | 28,689,921 |
| Cash dividends | 6,280,734 | 6,136,815 |
| Decrease in long-term debt | 6,295,204 | — |
| Increase in sundry assets | 80,947 | 10,288,141 |
| Increase in working capital | 59,062,430 | 45,106,444 |
| TOTAL | <u>\$ 116,167,751</u> | <u>\$ 90,221,321</u> |

Peat, Marwick, Mitchell & Co.
Certified Public Accountants
 111 West Monroe Street
 Chicago, Illinois 60603

The Board of Directors and Shareholders of Motorola, Inc.:

We have examined the consolidated balance sheet of Motorola, Inc. and subsidiaries as of December 31, 1969 and the related statements of earnings and retained earnings and additional paid-in capital and the statement of 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. It was not practicable to confirm accounts receivable from United States government departments or agencies by communication with them but we

satisfied ourselves as to such accounts by means of other auditing procedures.

In our opinion, the accompanying consolidated balance sheet and statements of consolidated earnings and retained earnings and additional paid-in capital present fairly the financial position of Motorola, Inc. and subsidiaries at December 31, 1969 and the results of their operations for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year. Also, in our opinion, the accompanying statement of consolidated source and use of funds for the year ended December 31, 1969 presents fairly the information shown therein.

PEAT, MARWICK, MITCHELL & CO.

February 17, 1970

notes to financial statements

as of December 31
Motorola, Inc. and Subsidiaries

1 The consolidated financial statements include the accounts of the Company and all majority owned subsidiaries. All significant inter-company accounts and transactions have been eliminated in consolidation. The accounts of foreign operations have been translated at appropriate rates of exchange. At December 31, 1969 net assets outside of the United States and Canada aggregated \$43,000,000 (including \$26,300,000 net current assets) before deducting \$30,000,000 of 4½% convertible debentures guaranteed by Motorola, Inc. and included in consolidated long-term debt (see note 4).

2 Future income tax benefits should result from the deduction from taxable income of reserves which have been provided on the books of the companies but are not yet allowable as deductions in determining income taxes currently payable.

3 Depreciation of plant and equipment is provided on the basis of the estimated useful lives generally by the declining balance method for items acquired subsequent to December 31, 1953 and by the straight-line method for items acquired prior to that date.

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

| | 1969 | 1968 |
|---|---------------------|---------------------|
| 4½% convertible guaranteed debentures due July 1, 1983..... | \$30,000,000 | \$30,000,000 |
| 4¾% debentures due April 1, 1986 (less \$500,000 debentures held in treasury for sinking fund payment) .. | 28,000,000 | 28,500,000 |
| Revolving credit notes (prevailing prime rate plus ¼%)..... | 22,500,000 | 30,000,000 |
| ¾% and 4¾% notes due in annual installments to 1976..... | 5,000,000 | 6,000,000 |
| Notes payable (foreign, generally at prevailing prime rates) due in installments to 1974..... | 6,177,970 | 3,061,224 |
| Other | 40,070 | 79,491 |
| | <u>91,718,040</u> | <u>97,640,715</u> |
| Less current maturities, included in current liabilities | 1,411,950 | 1,039,421 |
| Net long-term debt..... | <u>\$90,306,090</u> | <u>\$96,601,294</u> |

In July, 1968, a subsidiary formed for the purpose of financing foreign operations of Motorola, Inc. and its subsidiaries issued \$30,000,000 of 4½% convertible guaranteed debentures due in 1983. The debentures are convertible into common stock of Motorola, Inc. at the rate of 6.25 shares of common stock for each \$1,000 principal amount, subject to adjustment in certain events (see note 7), and are guar-

anteed as to the payment of principal and interest by Motorola, Inc. The debentures are redeemable at various dates at redemption prices reducing from 104½% to 100% of the principal amount thereof.

Under the terms of the revolving credit, the Company has the option of converting the notes to a five year term loan on or prior to February 1, 1971 at the then prevailing prime commercial rates of interest plus ¼%; it is the Company's intention to maintain the availability of the revolving credit during 1970.

Various loan agreements contain covenants in respect of cash dividends and working capital. Under the most restrictive of these the Company must maintain consolidated working capital of \$75,000,000; at December 31, 1969, \$113,000,000 of retained earnings was not restricted as to dividend payments.

5 At December 31, 1969, there were 43,850 shares of capital stock reserved for granting of employee stock options. An additional 300,000 shares have been authorized by the Board of Directors for grants beginning February 1, 1970 subject to shareholders' approval.

Options may be granted at not less than market value, are exercisable one year from date of grant, and expire at the end of five years.

During 1969 options to purchase 94,950 shares were granted, options on 7,250 shares were terminated, and options on 28,630 shares were exercised. The excess (\$2,048,679) of the option price over the par value of shares issued was credited to additional paid-in capital. At year end 282,045 shares were under option at an aggregate price of \$30,794,092, of which 187,995 shares were currently exercisable in the amount of \$20,142,929.

See note 7.

6 An Executive Incentive Plan provides that certain of the companies may reserve up to 4% of their annual consolidated net earnings (as defined) for the payment of cash incentive awards. Awards are payable generally in equal annual installments over a period of five years and are generally subject to the recipients' continued employment. Reserves of \$2,375,738 (3.33% of defined earnings) were provided in 1969 for such awards. Awards of \$1,079,900 (\$264,920 paid in cash) were made during 1969.

7 On February 4, 1970 the Board of Directors, subject to shareholders' approval, proposed an amendment to the Articles of Incorporation to increase the authorized shares of the Company from 10,000,000 shares to 20,000,000 shares. If approved, the Board intends to authorize a share for share distribution in May, 1970.

References to the number of shares in notes 4 and 5 are based on shares authorized and outstanding at December 31, 1969.

8 The companies are obligated under repurchase and other agreements principally in connection with the financing of sales of products to consumers, and are defendants in suits and claims, which it is believed will have no material effect on the business of the companies.

ten year financial summary

Motorola, Inc. and Subsidiaries

| | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 |
|--|---------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------------|
| Sales and Other Revenues | \$301,049,185 | 298,219,845 | 346,881,779 | 377,852,809 | 419,066,694 | 516,973,065 | 682,374,719 | 629,975,344 | 775,124,336 | 873,224,220 |
| Income Before Income Taxes | \$ 26,548,813 | 19,900,308 | 26,514,514 | 27,126,526 | 38,926,724 | 57,838,678 | 60,012,843 | 34,571,147 | 57,376,196 | 71,842,573 |
| Earnings | \$ 12,633,813 | 9,517,308 | 13,206,514 | 12,926,526 | 20,666,724 | 31,838,678 | 32,952,843 | 18,816,147 | 28,261,196 | 33,792,573 |
| Earnings Per Share* | \$ 2.09 | 1.57 | 2.02 | 2.14 | 3.41 | 5.23 | 5.40 | 3.08 | 4.61 | 5.48 |
| Working Capital | \$ 73,790,019 | 95,078,616 | 96,804,189 | 92,358,852 | 107,625,939 | 118,014,680 | 128,158,542 | 131,208,227 | 176,314,671 | 235,377,101 |
| Net Investment in Plant & Equipment | \$ 44,594,599 | 48,427,446 | 54,783,818 | 67,283,543 | 67,836,835 | 81,082,588 | 127,219,219 | 136,962,787 | 145,581,706 | 167,499,524 |
| Shareholder Equity | \$ 97,166,850 | 102,655,506 | 111,835,713 | 120,735,367 | 137,533,422 | 165,002,282 | 192,598,273 | 206,286,381 | 238,778,071 | 326,134,470 |

* Earnings per share are based on average shares outstanding during the respective years, adjusted for share distributions.

The conversion of 4½% debentures and the exercise of outstanding stock options would not result

in a significant dilution of earnings per share.

Earnings per share shown above for 1962 do not include 17¢ of non-recurring capital gain from sale of finance subsidiary.



major facilities

Chicago, Franklin Park, Quincy, Elk Grove, Stotfold, England
Pontiac, and Schaumburg, Illinois Toulouse, France
Phoenix, Scottsdale, Mesa, Tempe, and Wiesbaden, Germany
Tucson, Arizona Seoul, Korea
Fort Lauderdale, Florida Guadalajara and Nogales, Mexico
Arcade, New York East Kilbride, Scotland
Midland and Toronto, Canada

major product lines

Semiconductor Products Division

Digital and linear integrated circuits
Silicon and germanium power transistors
Plastic encapsulated transistors
Silicon annular transistors
Field effect transistors
RF small signal and power transistors
Thyristors
Silicon rectifiers
Zener and tuning diodes
Varactors
Optoelectronic devices
Multiple and special devices

Communications Division

Mobile and portable FM two-way radio communications systems
Radio paging systems
Communications control centers
Visual communications systems
Signaling and remote control systems
Car telephone systems
Microwave communications systems
Precision instruments
Component products

Consumer Products Division

Quasar color television
Monochrome television
Home and portable radios
Portable tape players

Auto sound products
Stereophonic high fidelity phonographs

Government Electronics Division

Aerospace communications systems
Range instrumentation equipment
Missile guidance systems
Electronic ordnance devices
Tactical radar and communications systems
Spacecraft tracking systems
Undersea electronic systems

Automotive Products Division

Car radios
Tape players
Alternator charging systems
Electronic instrumentation
Solid state ignition systems

Control Systems Division

Information systems
Process control systems and instrumentation
Supervisory control systems
Industrial automation systems

Corporate Marketing Units

Electronic video recording (EVR) players and systems
Institutional electronic management and entertainment systems
Environmental telemetry systems

Annual Meeting

The annual meeting will be held on Monday, May 4, 1970. A notice of the meeting, together with a form of proxy and a proxy statement, will be mailed to shareholders on or about April 6, 1970, at which time proxies will be solicited by management.

Transfer Agents

Harris Trust and Savings Bank,
111 W. Monroe St., Chicago, Illinois 60690
Chemical Bank, 20 Pine Street,
New York, New York 10015

Registrars

Continental Illinois National Bank and
Trust Company of Chicago,
231 S. LaSalle St.,
Chicago, Illinois 60690
Irving Trust Company, 1 Wall St.,
New York, New York 10015

directors and officers

BOARD OF DIRECTORS

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OSCAR P. KUSISTO
STEPHEN L. LEVY
ARTHUR C. NIELSEN, JR.
DANIEL E. NOBLE
ARTHUR L. REESE
ELMER H. SCHULZ
WALTER B. SCOTT
EDWIN P. VANDERWICKEN
ELMER H. WAVERING
WILLIAM J. WEISZ
KENNETH V. ZWIENER

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Chairman of the Board and
Chief Executive Officer

ELMER H. WAVERING
President and Chief
Operating Officer

DANIEL E. NOBLE
Vice Chairman of the Board
and Chief Technical Officer

WILLIAM J. WEISZ
Executive Vice President and
Assistant Chief Operating Officer

EDWIN P. VANDERWICKEN
Executive Vice President, Finance
and Secretary

Semiconductor Products Division
STEPHEN L. LEVY
Vice President and General Manager

JOHN R. WELTY
Vice President and Assistant
General Manager

CHRISTIAN J. GOODMAN, JR.
Vice President and Director
of Marketing

JACK C. HAENICHEN
Vice President and Director
of Operations, Services and Engineering

PATRICK D. LYNCH
Vice President and Director
of Discrete Products Operations

Communications Division
HOMER L. MARRS
Vice President and General Manager

JOHN F. MITCHELL
Vice President and Assistant
General Manager

MARTIN COOPER
Vice President and Director
of Product Operations

CARL E. LINDHOLM
Vice President and Director
of Product Operations

ROBERT N. SWIFT
Vice President and Director
of Distribution

Consumer Products Division

EDWARD P. REAVEY, JR.
Vice President and General Manager

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