



*The mind to imagine...the skill to do*

*Motorola Annual Report 1975*



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# Financial Highlights

(Dollars in thousands, except per share data)

	1975	1974
Sales and Other Revenues .....	\$1,311,771	\$1,367,171
Earnings from Continuing Operations before United States (Federal and State) and Other Nations' Income Taxes .....	78,470	133,598
% to Sales .....	6.0%	9.8%
United States (Federal and State) and Other Nations' Income Taxes .....	37,343	60,686
Earnings from Continuing Operations .....	41,127	72,912
% to Sales .....	3.1%	5.3%
Per Share of Common Stock .....	1.46	2.60
Research and Development .....	98,479	100,264
Fixed Asset Expenditures .....	70,100	131,201
Depreciation .....	50,546	43,456
Working Capital .....	395,493	412,335
Current Ratio .....	2.60	2.31
% of Total Debt (short and long term) to Total Debt plus Equity .....	22.1%	28.9%
Book Value Per Common Share .....	21.59	20.78
Yearend Employment (approx.) .....	47,000	51,000

(Dollars in thousands, except per share data) **Quarterly Summary of Sales and Earnings**

	Sales and Other Revenues		Earnings from Continuing Operations		Earnings Per Share from Continuing Operations	
	1975	1974	1975	1974	1975	1974
1st Quarter	\$ 303,881	\$ 328,766	\$ 7,630	\$19,378	\$ .27	\$ .69
2nd Quarter	344,844	364,615	11,730	25,282	.42	.90
3rd Quarter	307,040	348,580	9,627	24,053	.34	.86
4th Quarter	356,006	325,210	12,140	4,199	.43	.15
Total Year	\$1,311,771	\$1,367,171	\$41,127	\$72,912	\$1.46	\$2.60

## Stock Price and Dividend Data

The table to the right sets forth the high and low sales price per share for Motorola Common Stock on the New York Stock Exchange and the dividends declared and paid for the periods indicated:

1974	Stock Prices		Dividends	
	High	Low	Declared	Paid
1st Quarter	\$61.88	\$40.50	\$.125	\$.125
2nd Quarter	60.38	51.00	.125	.125
3rd Quarter	54.25	35.12	.175	.125
4th Quarter	51.00	31.62	.175	.175
			\$ .60	\$ .55

1975	Stock Prices		Dividends	
	High	Low	Declared	Paid
1st Quarter	\$53.88	\$33.75	\$.175	\$.175
2nd Quarter	57.88	44.62	.175	.175
3rd Quarter	54.25	40.75	.175	.175
4th Quarter	48.50	38.00	.175	.175
			\$ .70	\$ .70



# To Our Stockholders and Friends:

**1975 RESULTS.** Motorola's 1975 results were unsatisfactory. Sales and earnings comparisons in the previous table show 4 per cent lower sales and 44 per cent lower earnings than in 1974.

These overall results occurred in spite of excellent management, operations, sales and earnings from the Communications Group, the Government Electronics Division, Motorola Israel and the comparatively new Data Products Unit. Their fine performances were offset by the results of the Semiconductor Group and the Automotive Products Division. Both of these businesses were more adversely affected by general economic conditions in the U.S. and other parts of the world than our other businesses. But the degree of poor performance in these two businesses is also a function of our failure as managers to adequately anticipate, prepare for and respond effectively to the special influence of the recent recession.

We have devoted ourselves to identifying the reasons for this and vigorously set about the personal and institutional improvements required, starting with our office. These have included establishing higher standards of performance on judgments, forecasts, yields, quality, budgets, controls, inventory and receivable levels and the management of other assets.

Some upper management personnel have been changed; organizations have been trimmed and restructured; new controls, disciplines and procedures have

been introduced—each where appropriate. Also, while recognizing that current earnings would suffer, key strategic programs have been maintained and those deemed to be most vital to long-term success have been intensified.

Many of these actions were usefully effective as of yearend. Economic prospects in the U.S. and, to some degree, in other areas of the world were also improved at yearend. As a result, fourth quarter earnings were up over the same quarter of 1974, which was the first seriously depressed quarter of the recession. Net margin on sales in 1975's fourth quarter recovered to 3.4 per cent from 1.3 per cent in 1974's final quarter. Because of the depressed earnings in the 1974 period, the favorable percentage improvement comparison with the 1975 period could be misleading. The fourth quarter 1975 margin, while improved, is unsatisfactory, and strong, continued effort is being made to improve it.

**BOARD OF DIRECTORS.** James W. Birkenstock, a retired IBM executive and currently a management consultant, was elected to the board in May 1975.

In other board matters, Kenneth V. Zwiener, now retired and formerly chairman and chief executive officer of the Harris Trust and Savings Bank, will not stand for re-election to the board, pursuant to our policy on age and tenure of directors.

He has served the corporation with dedication and distinction since 1968 and we acknowledge, with appreciation, his many contributions to Motorola.

Vice Presidents J. Paul Jones and Oscar P. Kusisto, Assistant Group Executive and Corporate Director of Marketing, respectively, have determined not to stand for re-election to the board because each of these gentlemen is preparing to assume separate and private business activities of his own. We salute the Motorola careers of these two executives which have spanned an aggregate of 50 years of dedicated service, and we wish them success in their new endeavors.

**OUTLOOK.** The economy continues to show signs of recovery—in the U.S. to a greater degree than in Europe. Demand for Motorola products from automotive and semiconductor customers improved during the final months of 1975 and the early months of 1976, indicating that the serious inventory excesses in these industries are being corrected. The backlog of customer orders in the Communications Group and the Government Electronics Division continues strong.

We are encouraged by evidence that the economic recovery will be gradual, which supports the hope that a recurrence of severe inflation, shortages and other economic and monetary strains which accompanied the recovery of 1972-73 can be avoided.





William J. Weisz (left), President and Chief Operating Officer; Robert W. Galvin (center), Chairman and Chief Executive Officer; John F. Mitchell, Executive Vice President and Assistant Chief Operating Officer.

Although 1976 should be a year of generally healthy economic growth, we have budgeted each operating unit on the basis of only modest recovery in demand. Based on these budgets, we expect increased sales and earnings for the full year, and quarter by quarter, compared with 1975.

We acknowledge with gratitude the efforts of the members of the Motorola family

whose support has been vital during the past two difficult years.

For the convenience of the reader, the following sections of this year's report utilize a question and answer format with senior managers responding to some of the questions most frequently asked by stockholders, financial analysts and others.

For the Board of Directors,

WILLIAM J. WEISZ  
President

ROBERT W. GALVIN  
Chairman of the Board

March 11, 1976

## What senior level management changes took place in the past year?

In April 1975, Vice President John R. Welty, previously Assistant General Manager of the Semiconductor Products Division, was named General Manager succeeding Thomas J. Connors, who resigned. Dr. Robert R. Heikes, who had been serving as Managing Director of European semiconductor operations, was named Assistant General Manager. Carl E. Lindholm, Senior Vice President and Director of Corporate Staff, was named General Manager of the Automotive Products Division succeeding Vice President Oscar P. Kusisto, who was appointed Corporate Director of Marketing. Stephen L. Levy, Senior Vice President, became Chief Corporate Staff Officer and Homer L. Marrs, Senior Vice President and Group Executive, assumed additional responsibility for directing the company's business units not having divisional status.

Other senior management changes are detailed in the answer to the following question.

## Why were the two largest divisions, Communications and Semiconductor Products, divided into five divisions?

For many years Motorola has had a policy of dividing growing operations into smaller, more manageable business units. This has been done to encourage further concentration on the special requirements of each product and market. In addition, it furthers development and recognition of management competence and fosters performance measurement that will enhance future growth. In this manner we believe we can better serve our customers and better develop our managers while maintaining needed senior management overview.

In line with this policy, the Communications Division was split into three new



divisions which, together with the Communications Systems Operation and certain staff functions, comprise the Communications Group under Vice Presidents Joseph F. Miller and Jack Germain, Group Executive and Assistant Group Executive, respectively. The new divisions and the vice president-general manager of each are: the Communications Distribution Division, directed by Arthur P. Sundry, serving the U.S. market; the Communications International Division, headed by Rhesa S. Farmer, Jr., responsible for non-U.S. activities; and the Communications Products Division, led by Claude Davis, responsible for product research, design and manufacturing.

The Semiconductor Products Division was divided into two new divisions: the Discrete Semiconductor Division, headed by Gary L. Tooker; and the Integrated Circuit Division, made up of bipolar and MOS operations, acting manager of which is Robert R. Heikes. The two new divisions, together with European and Asia-Pacific operations, the Marketing Americas organization and certain staff activities, now comprise the Semiconductor Group, managed by Vice Presidents John R. Welty and Robert R. Heikes as Group Executive and Assistant Group Executive, respectively. On March 1, 1976 Vice President Earl R. Gomersall, formerly Corporate Director of Information Systems, joined the group as Director of Manufacturing and Production Technologies.

### **How many employees are still on layoff status and when do you think these people will be called back?**

Early in 1975, approximately 13,000 employees were on layoff status. Since that time a large number have been offered re-employment opportunities due to both normal attrition and particular increased needs. As a result, at the end of 1975, there were about 7,500 still on layoff. It is our hope that as the economy and our businesses continue to improve, most of these people will be offered employment during 1976.

### **How have the company's international businesses fared during this past year of economic sluggishness throughout the world?**

In general, our international business reflected a situation similar to our U.S. experience with the Communications Group and Government Electronics Division showing increases, while the Semiconductor Group and Automotive Products Division experienced declines.

Due to new business start-up expenses and the worldwide recession, which caused significant under capacity utilization of some facilities and operating difficulties in certain areas of the world, Motorola's total international operations had substantially reduced profits in 1975 compared to 1974, and operating losses in several subsidiaries. Because of separate tax-paying requirements in each country, the loss operations in this mix had, in reality, a doubly adverse effect on the overall result. Some of the more adversely impacted operations were the automotive facility in France, the semiconductor operation in the United Kingdom and Autovox, our majority-owned subsidiary in Italy. In particular, Autovox's performance was severely affected. Because of its unique problems, Autovox's organizational relationship was changed during the year and Motorola's role in its management is now assigned to the corporate office of Multinational Operations instead of the Automotive Products Division, as in the past.

### **How does management see Motorola continuing to grow and change over the next five years?**

Our business mix has changed considerably over the past five years, mainly through capitalizing on growth opportunities in Motorola's principal areas of strength. Some examples of these are: large capacity metropolitan paging systems, radio communications systems for the health care and petroleum markets, growth of international operations, electronic ignition systems, watch crystals and

a wide range of semiconductor devices. Also, we have disposed of other businesses, such as consumer products and control systems, which did not meet our strategic and financial criteria.

We are confident that more growth opportunities are available to us and we expect our mix of businesses will continue to change. As in the past, most of this change will be internally generated, primarily because we see so many potentially attractive growth opportunities in, or related to our present businesses.

In addition, we will continue to study a variety of acquisition opportunities that either complement or supplement existing operations and that would beneficially utilize our management expertise or technology. We will also continue to challenge each existing activity relative to our long-term growth and profitability goals which, in the broadest sense, are a doubling of sales in the next five-to-seven-year period with an even greater increase in profitability.

### **What product or market categories interest you most for Motorola's future growth?**

We are, of course, actively interested in many categories including radio communications, data communications, the high technology portion of government electronics, electronic engine management and the potential for greatly increased semiconductor content in many new applications.

These, plus opportunities in existing businesses such as two-way radio applications in the 900 MHz band, increased emphasis on lighter, more fuel-efficient automobiles, continued government application of high technology electronic systems and subsystems, and the broad acceptance of semiconductor technology in memory and microprocessor applications, are the type of opportunities which make us confident that Motorola has attractive growth potential both short and long term.



# Communications Group

**COMMUNICATIONS  
DISTRIBUTION DIVISION**

**COMMUNICATIONS  
INTERNATIONAL DIVISION**

**COMMUNICATIONS  
PRODUCTS DIVISION**

The Communications Group manufactures a variety of two-way radio communications equipment and support products. That equipment is primarily FM and includes mobile and portable radios, paging receivers, fixed station products, point-to-point systems, control centers, computer-aided dispatch systems and component products. As a total systems supplier, the group serves a broad range of customers worldwide; from government to industry, and from transportation to agriculture. This breadth of product offering and variety of customers has been an important factor in the group's continued growth, especially during 1975's depressed economic conditions.



Joseph F. Miller, Jr. (left), Vice President and Communications Group Executive; and Jack Germain, Vice President and Assistant Communications Group Executive.

## **How did the Communications Group perform in 1975?**

Overall our performance was excellent, although the rate of growth during 1975 was more modest than in recent years as is typical in recession years. Worldwide orders for the full year rose about eight per cent over 1974 levels. Shipments during the year increased six per cent, while profitability increased at a greater rate.

## **How was this growth accomplished in light of poor worldwide economic conditions?**

Generally, it was our international market performance that was the major factor in posting another consecutive growth year. International shipments grew more than 24 per cent for the year. U.S. sales, on the other hand, remained roughly at 1974 levels.

Some markets, however, were more affected by the worldwide recession than

others. Generally, growth in the developing countries surpassed the developed areas of the world. For example, shipments in Canada were about equal to 1974 levels, while shipments in Mexico were 70 per cent higher.

In the U.S., orders from the public safety sectors showed slight improvement over 1974. On the other hand there was strong performance in the health care and mass transit marketplaces. Orders from utility, transportation and industrial customers were particularly depressed. However, the geographic market areas, which serve such diverse activities as small businesses, farming operations and construction, improved late in the year. Improvement in this sector is important and usually signals economic recovery since, traditionally, the geographic market areas are the most sensitive to economic fluctuations.

Overall market activity demonstrated our ability to match product capability with user need. Two-way radio has long been regarded as a primary tool in controlling

business costs, and current communications equipment products coupled with significant new product introductions this year did much to intensify user interest.

## **In a year of slower growth, how did the group improve its profit margin?**

We essentially anticipated the economic cycle through timely flow of information from distribution and marketing. This enabled our managers to properly adjust their plans early in the year. Consequently, we were able to maintain a profit margin more typical of high growth years. Revised operational plans included cost reductions wherever feasible and emphasis on improved productivity.

## **What are some of the factors affecting the Communications Group and what role will they play in the group's future growth?**

Radio spectrum and systems development to meet customer needs are two of the





The MX-300 portable radio is one of the most significant product additions to the communications line.

major factors that we currently see influencing our growth opportunities. The FCC action on Docket 18262 concerning the 900 MHz band will have a positive impact on the Communications Group. Basically, the allocation provides relief for users in congested metropolitan areas where frequencies are currently overused or unavailable. With this new allocation, the land mobile communications industry now has almost three times the total spectrum previously available in the older bands. The FCC's report and order allocated 30 MHz to private dispatch systems, 40 MHz to high

capacity mobile telephone systems utilizing cellular concepts, with 45 MHz reserved for future needs. We have already taken steps to utilize this new resource, and were the only supplier to introduce an FCC type-accepted 900 MHz mobile radio in 1975.

In addition to a 900 MHz product offering, the group continued to introduce many other technologically advanced products and at the same time broadened its base of lower-priced products.

Another key factor affecting future growth is the continuing development of

more sophisticated system concepts, such as computer-aided dispatch. Several new products introduced this year were specifically designed to be compatible with this concept. For example, our new MX-300 HANDIE-TALKIE portable product lines include status, identification and emergency alert features of the MODAT computer-aided dispatch system.

#### **What factors will contribute to a successful growth plan in Europe? What are the prospects for Europe?**

Market prospects in Europe are good. The key to market growth there, as elsewhere, is a combination of more and better products and aggressive market development. In 1976 the impact of the new MX-300 portable radio, for example, should enable us to participate more fully in the European portable market. We are also beginning to reap the benefits of a comprehensive market development activity in the form of sizeable product and system orders. For example, the Dutch Post Telegraph and Telephone has ordered over 15,000 PAGEBOY II radio pagers which is the largest single paging order Motorola has ever received.

Paging has been employed by many European fire brigades which now use them as their primary alerting devices. Major successes in the transit markets were highlighted by a \$1.5 million CD-100 order from the Greater Manchester Transit System in England. These systems are important in influencing future business opportunities and have also provided a large backlog going into 1976.

#### **What new products or product families were introduced this past year?**

Although we introduce new products and product refinements on a continuing basis, 1975 was a vintage year with important introductions in most product groups. The most significant was a new portable line, the MX-300 series HANDIE-TALKIE two-way portable radio. This modular radio has the capability and options to satisfy portable radio needs in most areas of the world. Advanced hybrid circuitry and new battery technology give the MX-300 capability of operation on eight frequencies in one radio and a wide variety of other features. This versatile line has three power levels and also can operate as a mobile radio when mounted in a vehicle. With this new line and the existing HT-220 HANDIE-TALKIE and HANDI-COM portable radios, we now offer



three distinct portable lines.

The MAXAR mobile radio was added to our mobile line, bringing our current offerings to five families of mobiles. With either 10 or 25 watts power output, the MAXAR was designed to satisfy communication needs of price conscious customers as well as more sophisticated radio users. Agricultural and educational customers are anticipated to be major MAXAR users. It was also designed to provide cost effective communications for portions of other marketplaces—police, fire, petroleum, taxi, wherever a basic low-power communications mobile radio will meet the need.

We also added a complete line of single side band radios designated the MICOM line. Single side band provides users long range, over-the-horizon, communications capability especially valuable in underdeveloped areas. The product line includes mobiles, base stations and accessories. The MICOM radio also has a sister marine unit for fishing fleets and oceangoing craft needing communications beyond the range of the usual FM radio.

MICOM two-way radio wasn't the only addition to our marine line. We expanded our TRITON marine radio line by adding a portable unit and a mobile unit with synthesized channel capability. This radio can

transmit and receive on all international frequencies, a total of 55 transmit channels and 75 receive channels.

A new family of control centers called CENTRACOM was also introduced in 1975. It uses individual modules as building blocks in a control center. Each bay accommodates a variety of equipment and their smaller size means that a control center can be expanded, modified or rearranged as specific needs change. The CENTRACOM line is the most flexible we have ever produced.

To fill a need for a truly portable alert monitor, especially in the fire service, we introduced the pocket-sized MINITOR which has greater capability than the briefcase-sized alert monitor it replaced. In addition to serving as an alerting device, the MINITOR can also function as a communications receiver at the fire site. It represents an industry first and fills a long standing need.

**In addition to new product lines, were there any other technological innovations in 1975 that will contribute to future growth?**

One of the technological breakthroughs of 1975 was a new coded squelch system



Claude G. Davis (seated), Vice President and General Manager, Communications Products Division; Rhesa S. Farmer, Jr. (standing, left), Vice President and General Manager, Communications International Division; Arthur P. Sundry, Vice President and General Manager, Communications Distribution Division; and Martin Cooper, Vice President and Director of Systems Operations, Communications Group.



This computer-aided dispatch system at Virginia Beach, Virginia typifies the importance that law enforcement agencies place on "rapid response time" and maximum utilization of all resources in the fight against crime.



Modern farmers have found the MAXAR mobile radio to be an effective and efficient agricultural tool.



called DIGITAL PRIVATE LINE. A coded squelch system enables communications users in the same geographic area to share the same frequency with each user hearing only his own calls. Until now there were only 20 PRIVATE-LINE codes, but DIGITAL PRIVATE LINE has created 80 more, so up to five times as many users can share a given frequency without hearing other messages. Available in all FM products, the DPL system, as it is known, will be especially valuable in congested areas.

**What new business opportunities are being pursued?**

Many of our new product introductions this past year were designed to create new business opportunities. Just prior to publication of this report, the Communications Products Division announced that it has engineered and, in the second quarter, will manufacture a complete line of citizens band mobile radios, base stations and accessories. This product line will be distributed by the Automotive Products Division. We also continue to make conscientious efforts to develop added business opportunities within our current product categories. The TRITON single side band

unit gives us the capability to develop our marine radio business to include long range ship-to-ship, and ship-to-shore systems. The pocket-sized MINITOR alert monitor provides a new business opportunity by allowing an alerting and monitoring device to be carried on the person.

We continue to develop our component business in watch crystals, computer clock oscillators and high frequency speakers. By year's end, we were a leading supplier of crystals to watch manufacturers, and we continued as the largest supplier of clock oscillators for microprocessor and modem manufacturers.

**What new markets has the group been developing for its existing products?**

We are continually looking for new market opportunities for existing product lines. Balanced with new product introductions, this market development activity has been a primary reason for the group's acknowledged industry leadership. The health care, public safety, transit and agri-business sectors of our market represent current development efforts. To better serve health care users, we organized a

nationwide dedicated sales team and are in the process of repackaging our existing product lines for improved market application. In public safety we continue to emphasize our computer-aided dispatch concept and these efforts have been particularly successful. New Orleans, Louisiana; Hamilton County, Ohio; and Virginia Beach, Virginia are a few of the communities that have turned to the automated dispatch technique to improve efficiency in many of their emergency services. 1975 saw small- and medium-sized communities join larger cities in streamlining their transit systems. Our two-way radio METROCOM communications packages played an important role in this effort. Kansas City, Missouri; Denver, Colorado; Phoenix, Arizona; Washington, D.C.; and Cincinnati, Ohio are only a few of the cities using METROCOM voice and data equipment in their transit systems. Even smaller cities like Racine and Kenosha, Wisconsin turned to two-way radio to improve operational efficiency. And as for agri-business users, with their growing worldwide importance, we are currently examining the entire farm-to-market chain to determine our best opportunities. Our MAXAR mobile radio will be particularly valuable here.



900 MHz radios in production at the Schauburg facility.



The new European headquarters for the Communications International Division at Taunusstein was formally dedicated in 1975.



**What are the group's plans for facility expansion?**

Our expansion philosophy has always been based on strong customer service. With that in mind, 1975 was an active growth year, especially in the U.S. We selected sites for two area office expansions, one in Dorsey, Maryland serving the middle Atlantic states and the other in San Diego, California serving customers in the Pacific southwest area. We opened a new area office in Decatur, Georgia. Our plans for a major manufacturing facility in Ft. Worth, Texas are progressing with groundbreaking scheduled for the middle of 1976.

**The land mobile radio industry has always been extremely competitive. Do you expect competition to increase in the new 900 MHz band, and if so, how will you meet it?**

Yes, our industry has been, and is very competitive and we do expect this competitive atmosphere to extend into the 900 MHz business. While we feel that growth at 900 MHz will be slow at first, we expect that

as new concepts evolve, our technological and engineering capabilities will help us to successfully compete.

As products and markets proliferate worldwide, increased competition is a continuing concern. Many active competitors already in the land mobile business, and some new ones, have indicated their intention to market 900 MHz products. Traditionally, success has been based on the ability to satisfy specific user needs. We have traditionally invested our resources accordingly and will continue to do so.

**Do you believe the Communications Group can maintain its traditional annual growth rate of approximately 15 per cent in the future?**

We believe we can, over the longer term, maintain and possibly even surpass our historic growth rate. One reason is the growing international market. International activity represents an ever larger portion of our business and the communications business in these markets tends to be less sensitive to economic fluctuations than their U.S. counterparts. Also the U.S. market is showing gradual but steady recovery. Availability of additional spectrum in

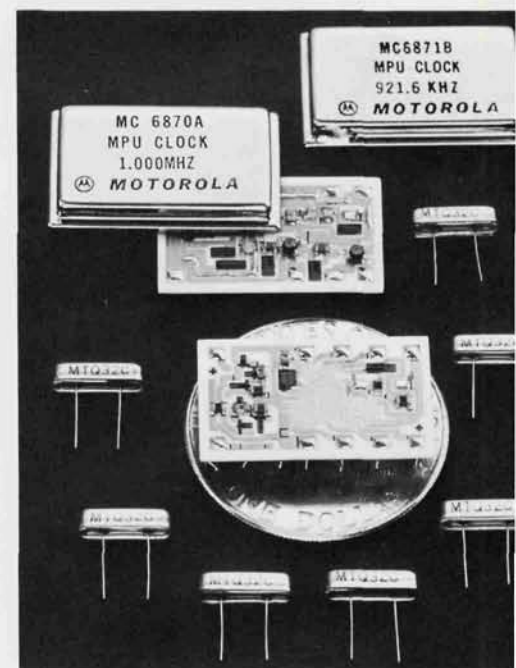
the U.S. will also help us maintain our historic growth rate. The final factor is really the most important. We believe the Communications Group has the product and marketing strength to develop new business by solving new and changing communications problems.



Ira Walker, Assistant General Manager, Communications Distribution Division, introducing the new MX-300 portable radio to the sales force at "Spectrum '75."



The Mexican National Railroad placed a new order with the Communications International Division for portables and mobile radios.



Motorola is a leading supplier of crystals to watch manufacturers and of clock oscillators for microprocessor and modem manufacturers.



# Semiconductor Group

## DISCRETE SEMICONDUCTOR DIVISION

## INTEGRATED CIRCUIT DIVISION

The Semiconductor Group manufactures one of the industry's broadest ranges of solid-state components. There are two major semiconductor product categories: (1) discrete devices, which are the transistors, rectifiers, diodes and other semiconductor products which began supplanting vacuum tube functions in the 1950s, and (2) integrated circuits, each of which may include hundreds or even thousands of discrete components combined in a single electronic device to perform a complete circuit function.

With increased miniaturization, semiconductors make possible an ever-widening array of electronic controls for almost every facet of modern life, including such applications as television sets and tape decks, solid-state ignition and automotive antiskid systems, variable speed drills, kitchen stoves with continuous heat control, communications systems, computers and countless other products in homes, offices and factories.



John R. Welty (left), Vice President and Semiconductor Group Executive; and Robert R. Heikes, Vice President and Assistant Semiconductor Group Executive, and Acting General Manager, Integrated Circuit Division.

### How did the group perform in 1975?

Total sales for the group were down approximately 23 per cent from 1974, both in the U.S. and internationally. New order bookings were down about 14 per cent.

There was, however, a strengthening in our bookings trend during the fourth quarter. Net U.S. bookings were about double what they were in the first quarter, while international bookings were up about 30 per cent.

For the fourth quarter and the full year, the group did not earn a profit. However, as the year ended the group did operate profitably, and we expect better profit performance in 1976.

### How did the group's sales compare to the industry's?

We believe that the worldwide semiconductor market was also down approxi-

mately 23 per cent, perhaps a shade less, so we think we essentially kept pace with the industry.

### Why did the group operate unprofitably?

First, in 1974 we neither forecasted nor saw the seriousness of the problems in our markets and in the general economy and we entered 1975 with seriously excessive overhead, inventories and receivables. As a result, fixed costs were much higher than they should have been for the reduced sales volume.

Other major factors were start-up costs resulting from moving the MOS operation from Phoenix, Arizona to Austin, Texas and the additional investments required to solve NMOS yield problems. Even in light of the bad economy, we elected to make these investments to improve our NMOS position. These decisions negatively im-

pacted short-term performance but should improve longer-term profitability.

### What remedial actions have been taken?

Along with top level management and organization changes, we faced up to the overhead problem and made major reductions in our worldwide work force. Second, we accomplished sizeable reductions in inventories and receivables and are expecting still further improvement in asset management. And third, we implemented several new and basic factory management programs which are improving our quality, yield, delivery and efficiency. Additionally, we have accentuated mechanization and automation programs in several key product areas to make production costs even more competitive. All of these actions are expected to cause significant profitability in 1976.



**What is being done differently now to better anticipate future downturns?**

We have recognized that our organization had evolved into a structure which was too heavily staff oriented, and that it was becoming increasingly difficult for our line managers to adequately monitor and control their own segments of the business. Consequently, we have accomplished a major internal reorganization which certainly should improve our visibility of future changes or problems in key market areas.

We have, for example, eliminated an entire level of upper management, including the posts of general manager and assistant general manager for the U.S.; the director of operations for the U.S.; and the director of international operations, as well as the staff structure which supported these positions.

We have also reorganized our marketing effort. In addition to a geographic marketing organization, we have established four industry marketing groups to provide specific focal points in working with customers in the consumer, computer, industrial and federal markets. We think this has increased our sensitivity to customer needs, shortened our response time and has given us better market visibility.

**What is the worldwide outlook for the semiconductor industry in 1976?**

While industry sales were down about 23 per cent in 1975, we believe that the industry will grow by slightly more than 20 per cent in 1976, and that U.S. industry sales will grow by about 25 per cent, Europe by 10 per cent, and by more than 20 per cent in the Asia-Pacific area.

**How do you expect the Semiconductor Group to perform in 1976?**

We anticipate an increase in sales and profitable operation during 1976.

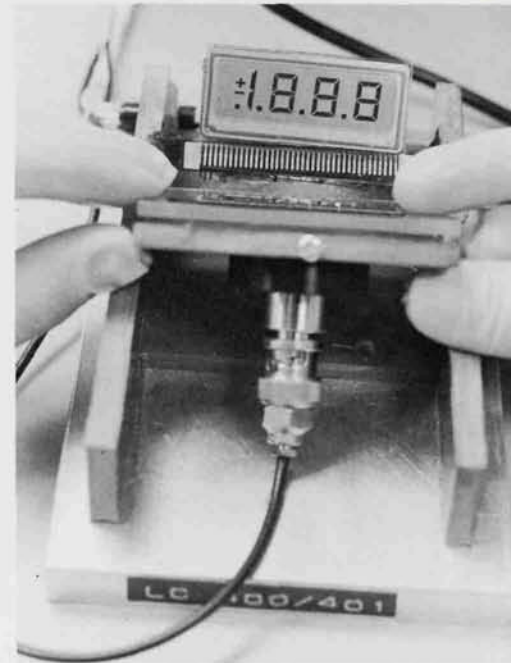
**How does the group's worldwide market divide between U.S. and international sales?**

Over the past several years, international sales have accounted for an increasing percentage of our total sales, growing from 22 per cent of our sales in 1971 to about 35 per cent in both 1974 and 1975.

**What has been the effect of the economic slowdown on each of the five major U.S. market segments?**

Our sales were down in the computer, consumer, industrial and distributor markets, and in the federal market dollar sales were about the same as in 1974. As a result, the federal market was a larger than usual portion of our U.S. sales in 1975.

During the fourth quarter, however, the



The Discrete Semiconductor Division is continuing to invest in the development of new products, such as liquid crystal display modules, to help assure future growth.

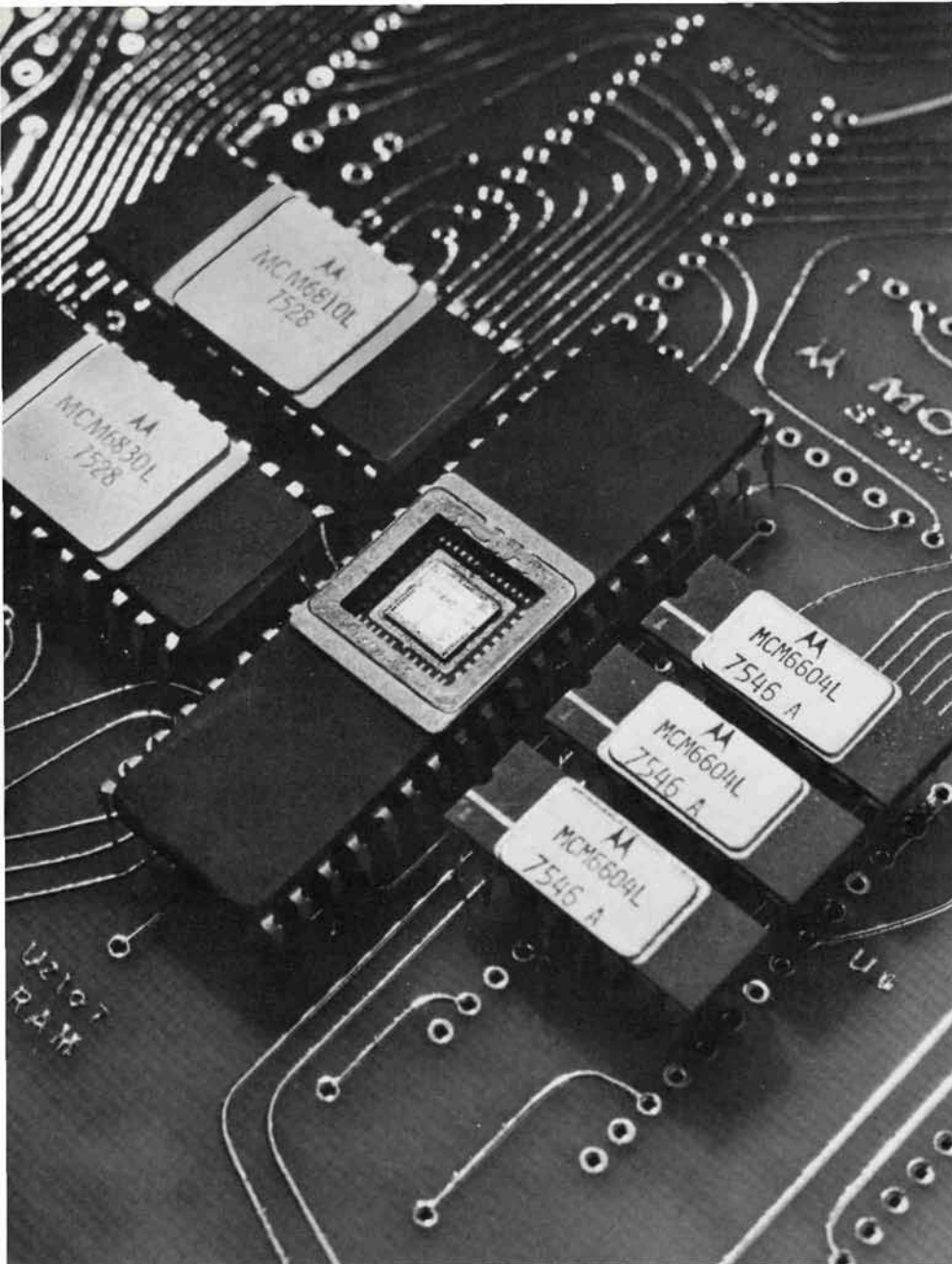


The Semiconductor Group's plant in East Kilbride, Scotland produces a variety of CMOS integrated circuits for the growing European market.



Production of MOS memory devices was accelerated during the year at the new Austin, Texas facility.





Motorola's M6800 family of microprocessors achieved wide industry acceptance in 1975.

consumer, industrial and distributor markets strengthened.

**How did you do in the discrete business?**

We have traditionally been one of the largest and most profitable producers of discrete devices in the industry and that continued to be true in 1975.

**Can discretes continue to be a growth area for Motorola?**

Yes, they can, and we expect that they will. The real key to growth is unchanged;

namely, to develop new products for new markets, while at the same time improving process and assembly techniques for mature product lines to keep costs moving down and yields moving up. This requires selective automation and improved wafer and chip processing. We are continuing to make strategic investments in these areas.

We are also continuing to develop new discrete devices promising significant and profitable future growth. In 1975, for example, we introduced Schottky rectifiers for use in military and industrial power applications; Duowatt plastic packaged transistors for medium power application; Switchmode power transistors for computer and industrial power supplies; and

UHF MOSFET transistors for TV tuner and communications applications. In addition, we entered the alpha-numeric display business and began development of a line of new transistors for use in 900 MHz mobile radios. We believe the markets for all of these products will show good growth.

**On what major bipolar IC products is Motorola concentrating?**

We are primarily emphasizing linear, emitter-coupled logic (ECL) and memory products, all in the bipolar category.

We are industry leaders in both linear circuits, where our major strength is in voltage regulators, and in ECL, where our MECL 10,000 product line has no peer. We will continue concentrating on both of these product families.

While we now have only a small share of the bipolar memory market, we have mounted an effort to improve this position. Through the use of advanced ion implantation and self-aligning photoresist techniques, we introduced a broad line of MECL 10,000-compatible memories in 1975 and we will begin to ship these products in 1976. We also believe that our strength in standard ECL circuits will give us improved penetration of the computer memory market.

**What are your current activities and plans for MOS integrated circuits?**

We have made a major commitment to MOS, and are beginning to succeed. We presently have the broadest CMOS line in the industry, and have second place in the world market. CMOS circuits are used in large quantities in portable communications equipment, computer terminals, instrumentation and many other products, because of their extremely low power requirements.

In MOS memories, our 4K Random Access Memory (RAM) in both 22-pin and 16-pin packages is presently in production. We are also developing a compatible 16K RAM in a 16-pin package, and intend to sample customers in the first half of 1976. Because of their small size, low cost and low power consumption, MOS memories are quickly replacing core memories in mainframe computers.

Without a doubt, the most closely contested product race in MOS is the microprocessor (MPU). We believe that the MPU will soon rank with the transistor and the IC



in terms of impact on the electronics industry, so success here is very important to us.

### Has the development of the MPU market met with your expectations?

We introduced our M6800 microprocessor system late in 1974 and it gained broad industry acceptance in 1975. Data communications was a key application we had in mind in designing our system and this has turned out to be one of the fastest growing, early markets for MPUs. Our customer list is continuing to grow rapidly and it includes such companies as Hewlett-Packard, Tektronix, 3-M, Burroughs, Chrysler, Codex and Fujitsu.

The microprocessor will soon bring computer technology down to the "man on the street" level and that's why it will have a major impact on the industry. When coupled with memory circuits, a readout module and a power supply, an MPU forms a microcomputer which can easily fit into a standard size cigar box. Because of this small size and relatively low cost, microcomputers over the next several years will appear in hundreds of monitor, control and decision-making products for use in homes, autos, offices and factories. We anticipate that the MPU market will grow to

perhaps \$800 million a year by 1980 and we certainly intend to be a major factor in the business.

We are now developing both simpler and more complex versions of the M6800 series in order to serve an even broader range of customer needs. We have to have a simpler version, for example, to be more cost competitive for certain consumer and large volume applications.

Hitachi, the largest producer of semiconductors in Japan, has announced plans to second-source our M6800 MPU. AMI in the U.S. has also announced that they will second-source the Motorola M6800 MPU and both of these arrangements should increase the market for the M6800 and, therefore, our own opportunity.

### Are you overcoming your MOS yield problems?

Yes, we are. During 1975, we centered MOS activity in our new facility in Austin, Texas. Presently we are producing CMOS products both in Austin and East Kilbride, Scotland. We're also producing about half of our NMOS products in Austin. The balance is now being produced in Mesa, Arizona, but will eventually also move to Austin.

Moving many key research and produc-

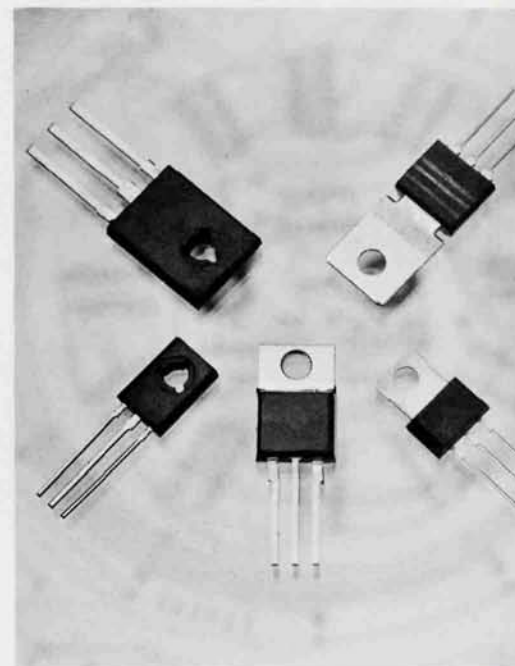
tion people to Austin, and our major investment in state-of-the-art automated process and production equipment, are helping our MOS yields and shipments rapidly improve. The rate of 4K RAM shipments, for example, was dramatically higher in the fourth quarter and we believe the rate will continue to increase through 1976.



Gary L. Tooker, General Manager, Discrete Semiconductor Division, confers with staff members.



Motorola maintains its industry leadership position in discrete semiconductors through continuous investments in cost-saving process and assembly equipment, such as this computer-controlled wafer processing system.



The new TO-220 (lower center) gives Motorola the broadest line of plastic packaged power transistors.



# Automotive Products Division



The division serves the automotive market through design, manufacture and sale of car radios, stereo tape players, alternator charging systems, electronic ignition systems and automotive instruments. The division sells to original equipment customers such as Ford, Chrysler, American Motors and Volkswagen and in the aftermarket through distributors and dealers. Truck, off-the-road equipment and other "non-passenger car" manufacturers are other customers. The division is active internationally with facilities in Canada, England, France and South Africa, and with joint venture, licensee and affiliated companies in other free world markets.

(Right photo) Carl E. Lindholm, Senior Vice President and General Manager. (Top) A new family of Motorola-branded autosound products was introduced in the first quarter. (Bottom) This Motorola-branded breakerless electronic ignition system is designed for retrofitting on many domestic and foreign-made cars.

## How did the division perform in 1975?

Sales were off 12 per cent from 1974's record level primarily due to decreased automobile production, particularly in the first half. Although profitable for the second half, the division had a loss for the year largely due to reduced sales and significant start-up costs in Seguin, Texas and Angers, France facilities.

## What is the outlook for the worldwide automotive industry in 1976?

Industry sources estimate sales of passenger cars in the U.S. at about 9.9 million units. Compared to 1975, this estimate assumes an increase of approximately 20 per cent in domestic manufactured cars and a slight reduction in imports. If this sales level is achieved, 1976 will be the third highest year on record. Canadian car sales are expected to increase to about 900,000 units from 850,000 sold in 1975.

In Europe we expect car sales to trail this pattern with an increase of three to five per

cent and production should be roughly equal that of the U.S. in 1976.

## How do you expect the division to perform in this environment?

We expect to increase worldwide sales in 1976 and to substantially improve the profitability levels achieved during the second half of 1975.

## What is the potential market in Europe for the division's products?

There is good potential for our products in Europe. The European car market currently has a much lower radio installation rate than in the U.S. The trend, however, has been steadily increasing. Also, the automotive tape player market is expanding rapidly. Our Stotfold, England facility is positioned to serve these markets.

Our Angers, France factory is projecting greatly increased alternator sales for 1976, as this operation moves to a higher level of production. Angers is currently shipping to

Volkswagen, Chrysler-France, Jaguar and Citroen and we expect to secure additional customers during 1976.

## What new entertainment products is your division developing?

We are currently developing the next generation of entertainment products with advanced solid-state applications. Also, we are following closely AM stereo and 4-channel discrete radio developments. These broadcast media are now being reviewed by the Federal Communications Commission and FCC approval is required before either can be implemented. If approved, each of these features could support major sales increases for entertainment products.

Furthermore, we are entering the booming citizens band radio market. Our first products include a full line of under-dash units as well as base stations, antennas and mobile accessories. In-dash models will be available later in the year. This first offering represents a joint effort of two



Motorola divisions; engineering and manufacturing by the Communications Products Division, and marketing and distribution by our division. We expect CB soon to assume a position among our important businesses.

**What are the potential long-term effects of the energy problem and emission control standards on the auto industry and your division?**

Consumers will demand smaller, lighter-weight cars which are more fuel efficient and operate with lower noxious emissions. To achieve these results, there will be requirements for more electronic control of automobile performance such as micro-processor-controlled engine management systems. Basically, these systems will monitor operating characteristics of the car such as engine speed, manifold vacuum, air temperature, coolant temperature, transmission temperature, throttle position, exhaust gas composition and others. These parameters will be electronically analyzed and appropriate adjustments made to assure optimum performance under continuously changing conditions. In essence, the car will continue to become relatively more electronic and less mechanical to achieve fuel economy, reliability, emission control and optimum operating performance. We now have programs underway in several phases of engine management.

**Does vertical integration by car manufacturers still represent a major competitive threat to you?**

Although there is a movement by some of our customers to produce more of their own requirements, particularly entertainment products, we continue to be a major supplier to the automotive industry. For example, we have a contract which runs through 1980 to supply Ford with 2- and 4-channel stereo entertainment systems. We also have a multimillion dollar order from Ford for ignition systems to be delivered through 1979.

**What is the division doing to minimize the effect of vertical integration?**

We expect to continue providing our customers with superior technological innovation, attractive prices, manufacturing expertise and the security of having a backup source of supply.

**Where do you see the division's best opportunities for growth?**

We see growth opportunities in all of our lines but the best are in engine management electronics, citizens band and international sales. Also we expect a greater increase in the aftermarket business versus original equipment and we also intend to shift more emphasis to proprietary products.



An employee in the division's Seguin, Texas facility aligns a radio panel using sophisticated automatic test equipment installed during 1975.



Alternators produced in Arcade, New York are shipped to Germany for use on 1976 Volkswagen Rabbits and Sciroccos sold in the United States.



The division's new Seguin, Texas facility, recently expanded to 300,000 square feet, provides opportunities for innovation in manufacturing and test techniques aimed at improved quality and lower costs of entertainment products.



Motorola 4-channel/8-track entertainment centers are being offered by Ford Motor Company on selected 1976 models.



# Government Electronics Division



Ralph W. Elsner (left), Vice President and General Manager; and James R. Lincicome, Vice President and Assistant General Manager.

## How did the division perform in 1975?

The division increased its sales and earnings by more than 15 per cent over the very good performance of 1974.

Bookings, while somewhat soft during the first part of the year, were up sharply in the second half, causing the division's backlog at yearend to exceed the previous record high established a year earlier.

## What were the most important reasons for the division's strong performance?

First, our backlog going into 1975 was dramatically up over prior years and this allowed significant volume growth. Second, as we entered 1975 our order mix included an unusually high proportion of production contracts. These production contracts, which were based on equipment we had developed in prior years, are characteristically more profitable than R & D programs. Third, an exceptional job was accomplished in managing each of our more than two hundred different programs during 1975. The application and management of advanced technologies are perhaps our greatest strengths.

## What is your outlook for the military and space markets?

We don't see any significant change in the market trend for military and space funding for the next few years.

With the majority of our first line military fighter and bomber aircraft being more than 20 years old, we believe that some increases in the U.S. defense budget are inevitable as we move toward required gradual replacement. New aircraft will most likely include the F-series 14, 15, 16 and 18 fighters and the B-1 Bomber, each of which have major electronic content.

The space market should also increase and remain an important segment of our business.

## How do you think the division will perform in a market where only modest growth is expected?

We see no reason why we can't continue to grow and to perform well, although we don't expect to match 1975's extraordinary growth rate in 1976. It is true that our backlog is up slightly over the record high established last year; however, the book-

The division specializes in research, development and production of advanced electronic systems and equipment for the U.S. Department of Defense, NASA and other government agencies. We also have some sales internationally and to commercial markets in the United States.

ings which comprise this backlog are made up of a different mix of contract types than our 1975 business. The present backlog contains relatively more research and development work, less production and a higher mix of long-term contracts. Although this pattern substantially improves our outlook for 1977 and '78, it indicates that we can expect only modest growth in 1976.

## What type of systems or equipment contracts do you pursue?

The tough ones. We seek out jobs where the application of advanced technology is essential, jobs with critical reliability requirements, and those where our other distinctive competences can be used. In this difficult arena only a few select companies have the technical competence to compete, the atmosphere in which we have consistently performed best.

## What significant new contracts were you awarded in 1975?

Some of the major contracts awarded in 1975 were a \$6.7 million contract from the



Royal Norwegian Air Force for ultra-high frequency communications equipment and a \$10.5 million contract for integrated target control systems for use at the Navy's Pacific Missile Test Center.

Also received during 1975 was a \$1.8 million contract from the Jet Propulsion Laboratory for NASA standard transponders which are responsible for vital communications between tracking stations on earth and spacecraft in orbit or on interplanetary journeys. Others included a \$13.1 million contract for the production of electronic countermeasures systems to protect the Strategic Air Command's B-52 against enemy missiles and \$9.3 million for target detecting devices for the Navy's Standard Missile.

#### **What factors might affect the division's opportunities for further growth?**

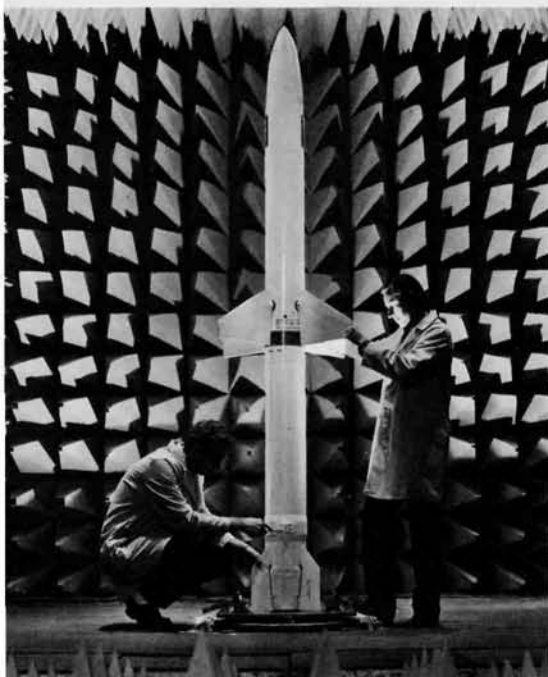
The division's long-term growth plans are based on continuing our successful record of increasing penetration in a market which is projected to grow only modestly. To grow faster than the market we must continue to do a better job than our competitors. This means a better job of managing our contracts, maintaining our ultra-high reliability and quality standards, meeting or exceed-

ing stringent specifications and consistent on-time delivery. We currently see no change in our primary concentration on Department of Defense and NASA's requirements.

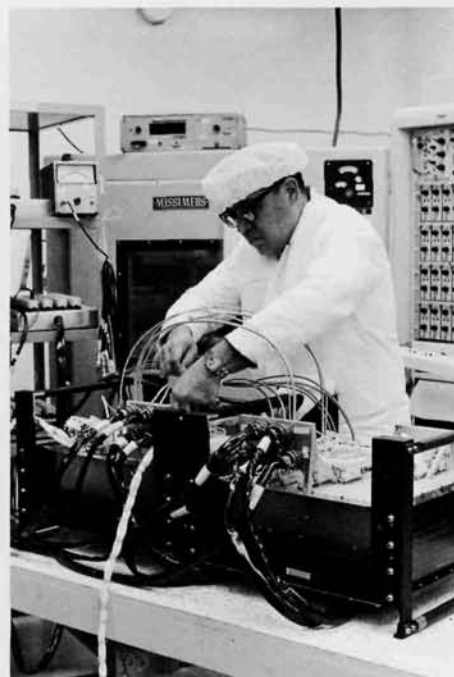
#### **So far your division's commercial spin-offs have been quite limited; do you intend to increase emphasis in the area of commercial applications?**

We see no short-term change in our approach to commercial spin-offs of equipments developed for defense requirements. One reason why we have accomplished little commercial equipment fallout is that the types of equipments we develop for the government are very complex and have little near-term commercial application. One example of a commercial spin-off that has occurred, however, is a small new venture company called Motorola Aerial Remote Sensing (MARS). Operated under direction of our division, the company specializes in aerial mapping using Motorola-developed and built side-looking airborne radar and other sensors to search for earth fault structures to identify potential mineral and petroleum sources and suitable construction sites for major installations.

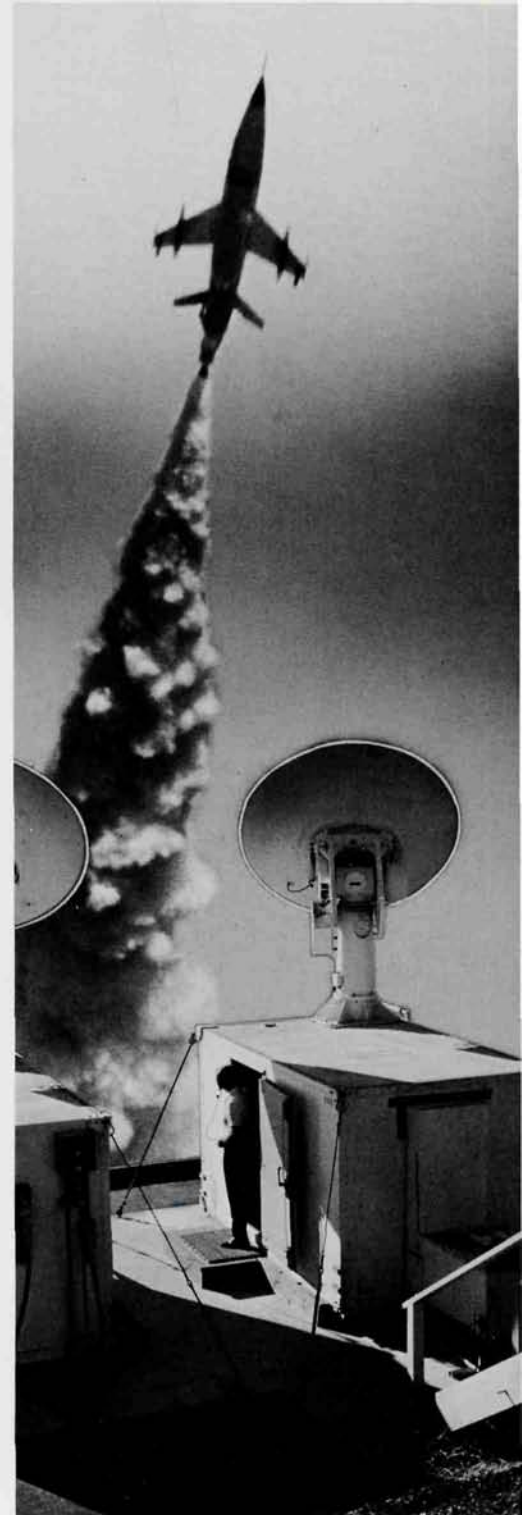
As to technology fallout, which is possibly more important although not as tangible as equipment, our close relationship with Motorola divisions has significantly helped them use the latest state of the electronics art to satisfy their customer needs.



A U.S. Navy Shrike Missile antenna system being tested in the division's anechoic (echo-free) chamber.



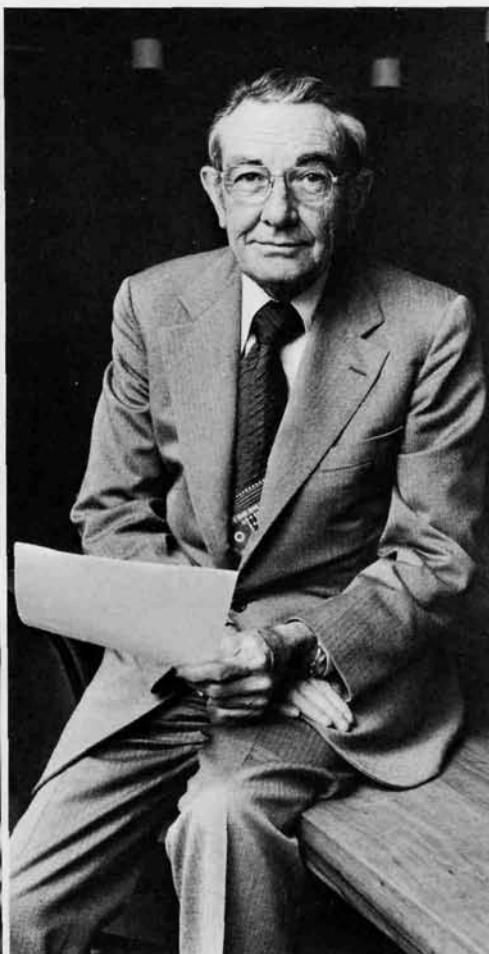
Prototype of the radio frequency subsystem to be used on the Mariner Jupiter/Saturn 1977 space mission being evaluated.



Integrated Target Control System (ITCS) stations are now operational at the Navy's Pacific Missile Test Center.



# Other Businesses



Motorola Data Products is a leading supplier of cathode ray tube (CRT) displays to the computer, computer peripheral and coin-operated video games industries.

Homer L. Marrs, Senior Vice President and Group Executive.

## What are Motorola's other businesses?

The largest of these is Data Products. It was formed in 1975 by merging the Business Systems Unit, Motorola Scalatron and the Visual Communications Systems business (formerly attached to the Communications Group) with Motorola Display Products.

Motorola Data Products manufactures cathode ray tube (CRT) display modules for computer terminals and video games applications, and closed circuit television cameras, monitors and camera control equipment for security and surveillance usage. The unit also manufactures computerized management systems for the lodging industry and group medical practices; industrial process controls; and microtonal musical keyboard instruments and tuners. In addition, Data Products has

developed several computer-related display systems based on microprocessor technology.

Motorola Teleprograms Inc., a new venture company, produces and distributes films for law enforcement and social agency personnel training and general education.

## How did these businesses perform in 1975?

They performed well. Data Products' sales nearly doubled while earnings grew even faster. Teleprograms reported the best sales and earnings results in its three-year history.

## What product lines are providing the most growth at present, and why?

CRT display modules, which are used in computer terminals, and visual communications systems. Sales of terminals to the computer industry increased last year by 30 per cent because additional applications for remote terminals, which enhance the effectiveness of computers, have been identified. We expect the growth of this market to be greater than the growth of the overall computer industry. Another major market for CRT displays is the electronic video games industry which has enjoyed substantial growth as increasingly sophisticated games have been developed and introduced.

The general surveillance market for CCTV also continues to grow as national concern for more security increases. A significant new market for CCTV is the monitoring of combustion in furnaces burning recycled waste materials.

## Where do you see the best growth opportunities for the Data Products Unit in the next two years?

All of the Data Products businesses represent growth opportunities for 1976 and 1977. We think sales of CRT displays should grow 20 to 40 per cent annually, due mainly to continued development and application of CRT terminals both domestically and internationally. We also expect closed circuit TV sales to grow substantially. Several of the unit's new microprocessor-based products are being well received in their respective markets: a logic analyzer used for design and testing of microprocessor hardware and software; a computerized bowling scoring system developed exclusively for AMF's Bowling Products Division; and an information display system consisting of a central processing unit and peripheral equipment used to enter, sort, maintain and display information such as airline flight arrivals and departures. These applications of microprocessor technology are expected to play an important role in the future growth and profitability of the Data Products Unit.





Donald R. Jones (left), Vice President and Assistant Chief Financial Officer, and John T. Hickey, Senior Vice President and Chief Financial Officer.

## How do you view Motorola's current financial condition?

With a current ratio of 2.60:1 (up from 2.31 a year earlier), a quick ratio of 1.28:1 (up from 1.02) and borrowings (short and long term) of 22.1 per cent of borrowings plus stockholders' equity (down from 28.9 per cent), we believe that Motorola's financial condition not only remains strong but significantly improved through the past year. Total borrowings are down to \$173.5 million from \$238.0 million, with the current portion thereof dropping from \$90.2 million to \$54.3 million, essentially all of which is now outside the U.S. and is primarily caused by exchange controls and the need to neutralize foreign exchange exposure risk. Yearend 1975 borrowings would have been materially lower were it not for \$22.0 million of short-term investments, largely

the result of accumulated profits in Puerto Rican subsidiaries which, for tax reasons, are not applied against borrowings.

## Motorola ended 1974 with excessive receivables and inventories. How did this happen and what has been done about the problem?

Yes, inventories and receivables were far too high as 1974 ended. Turnover of receivables had decreased modestly from earlier years because of economic strains on certain semiconductor and automotive customers. Inventories, also related to sales, were severely out of balance, again particularly in semiconductor and automotive operations, primarily because of the unprecedentedly sharp decline in demand in these industries in late 1974. Although to a lesser extent, receivables and inven-

tories were also excessive in our other operations, particularly overseas. Fortunately, and because of the major corporate and divisional attention mentioned in last year's report, turnover ratios for both receivables and inventories have steadily improved through 1975.

Receivables are down from \$269.8 million at yearend 1974 to \$252.1 million, and inventories from \$336.8 million to \$282.1 million. These reductions are a major cause of our reduced borrowings.

We are not yet satisfied with receivable and inventory turnover. Each operating group and division has tight goals for 1976 which, along with their detailed plans for accomplishment, should cause further improvement in turnover. Dollar amounts will depend on both the degree of actual improvement and sales and production levels at yearend.



**Please discuss your 1975 fixed asset expenditures.**

Fixed asset expenditures in 1975 were slightly under budget, totalling \$70 million. While this is a sharp decline from 1974's \$131 million, it was the third highest level in Motorola's history and represents continued confidence in our business opportunities.

The more important programs include construction or expansion of major facilities in Austin and Seguin, Texas; Angers, France; and Tausnusstein, West Germany; along with Motorola's new headquarters building in Schaumburg, Illinois. As usual, substantial expenditures were made for the replacement and modernization of office, lab and production equipment and automobiles. In addition, key expenditures were made for automated test and production equipment as well as equipment necessary for new product manufacturing.

**What fixed asset expenditures are being planned for 1976?**

Currently, fixed asset expenditures are estimated to be in the range of \$75-90 million for 1976. These plans, however, will be reviewed and more sharply defined through the year depending upon the shape of the economic recovery and its impact on our businesses.

**What was depreciation expense in 1975 and what do you anticipate for 1976?**

Depreciation was \$50.5 million in 1975 and

is expected to approximate \$54.5 million in 1976.

**How much did you spend on research and development in 1975?**

A recently issued standard of the Financial Accounting Standards Board defines R & D costs slightly differently than has been our past practice. According to the new standard, our 1974 Motorola-funded R & D was \$100 million versus \$112 million, previously reported. Per the new standard, 1975 R & D was \$98 million.

**Do you contemplate additional financing in 1976?**

We do not have specific plans for new financing in 1976. However, we do realize that, even with further improvement in asset turnover, increasing sales levels may require external funding. Also, \$52.9 million of long-term debt is accounted for by a revolving credit agreement which Motorola has the option to convert to a four-year installment loan under the terms of which 25 per cent of the amount converted would mature annually from 1977-1980. We are, therefore, closely watching market conditions and our anticipated need for funds, and may move to lengthen the maturity pattern of our debt. At yearend 1975, approximately \$100 million of unused short-term lines of credit were available to us.

**Have you reconsidered the accounting method used for valuing inventories?**

Yes, in January 1976 we reviewed the FIFO/LIFO decision we made a year ago and confirmed the previous finding that, except in times of very severe (double-digit) inflation, Motorola's inventory values generally follow a level or declining trend. This was the case for 1975. Accordingly, we are remaining with FIFO (first-in, first-out) in determining cost and thus inventory value.

**Why did your tax rate increase in 1975?**

Tax rates for 1974 and 1975 are detailed in Note No. 4 in the financial section. As shown therein, the major causes of the rate increase were losses incurred in certain non-U.S. subsidiaries and the inability to offset these losses against profits in the U.S. or other countries for tax purposes. These negative factors more than offset the increased benefits from Puerto Rican tax holidays and from consolidation of certain Mexican corporations.

**It is now almost two years since you announced the sale of the television business and yet the transaction has not been finalized. Please explain the delay.**

The major cause of the delay is the arbitration, now in process, of Motorola's obligations for Product and Service Warranty for goods sold prior to May 28, 1974. We now expect that the arbitration proceedings will be concluded and a decision reached in the second or third quarter of 1976.



# Consolidated Balance Sheets

(Dollars in Thousands)

Motorola, Inc. and Subsidiaries as of December 31

1975

1974

## ASSETS

### CURRENT ASSETS

Cash .....	\$ 26,230	\$ 29,118
Short-term investments, at cost (approximating market) .....	37,544	23,336
Accounts receivable, less provision for doubtful accounts (1975 - \$8,380; 1974 - \$8,454) .....	252,098	269,845
Inventories, at the lower of average cost or market		
Finished goods .....	85,122	108,333
Work in process and production materials .....	196,974	228,422
Future income tax benefits .....	16,732	19,221
Other current assets .....	28,302	49,062
<b>TOTAL CURRENT ASSETS</b>	<b>643,002</b>	<b>727,337</b>

### PLANT AND EQUIPMENT, AT COST

Land .....	17,925	15,979
Buildings .....	232,492	205,657
Machinery and equipment .....	288,483	271,276
Accumulated depreciation .....	(198,056)	(167,984)
<b>NET PLANT AND EQUIPMENT</b>	<b>340,844</b>	<b>324,928</b>
<b>SUNDRY ASSETS, NET</b>	<b>17,614</b>	<b>20,724</b>
<b>TOTAL ASSETS</b>	<b>\$1,001,460</b>	<b>\$1,072,989</b>

## LIABILITIES AND STOCKHOLDERS' EQUITY

### CURRENT LIABILITIES

Notes payable - banks and other .....	\$ 53,024	\$ 87,585
Current maturities of long-term debt .....	1,324	2,606
Accounts payable .....	91,020	103,032
Accrued expenses .....	88,444	106,611
United States (Federal and State) and other nations' income taxes .....	13,697	15,168
<b>TOTAL CURRENT LIABILITIES</b>	<b>247,509</b>	<b>315,002</b>

<b>LONG-TERM DEBT</b> .....	<b>119,184</b>	<b>147,810</b>
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<b>OTHER NON-CURRENT LIABILITIES</b> .....	<b>23,776</b>	<b>24,466</b>
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### STOCKHOLDERS' EQUITY

Common stock, \$3.00 par value		
Authorized: 40,000,000 shares		
Outstanding: 1975 - 28,295,460 shares; 1974 - 28,188,185 shares .....	84,886	84,565
Preferred stock, \$100 par value issuable in series		
Authorized: 500,000 shares (none issued) .....	—	—
Additional paid-in capital .....	139,504	135,898
Retained earnings .....	386,601	365,248
<b>TOTAL STOCKHOLDERS' EQUITY</b>	<b>610,991</b>	<b>585,711</b>
<b>TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY</b>	<b>\$1,001,460</b>	<b>\$1,072,989</b>

See accompanying notes to consolidated financial statements.



# Statements of Consolidated Earnings and Retained Earnings

(Dollars in thousands, except per share data)

Motorola, Inc. and Subsidiaries, Years Ended December 31	1975	1974
SALES AND OTHER REVENUES	\$1,311,771	\$1,367,171
Manufacturing and other costs of sales	850,370	878,675
Selling, service and administrative expense	311,998	284,241
Depreciation of plant and equipment	50,546	43,456
Interest and amortization of debenture discount, expense and premium, net	20,387	27,201
Total costs and other expenses	1,233,301	1,233,573
Earnings from continuing operations before income taxes	78,470	133,598
United States and other nations' income taxes net of investment credit of \$2,671 in 1975; \$4,639 in 1974	33,951	55,082
State income taxes (U.S.)	3,392	5,604
Total income taxes	37,343	60,686
EARNINGS FROM CONTINUING OPERATIONS	41,127	72,912
Loss from operations of discontinued businesses (reduced by related tax benefits of \$2,227)	—	(2,184)
Net earnings	41,127	70,728
Retained earnings at beginning of year	365,248	311,393
Cash dividends declared (per common share: 1975, \$.70; 1974, \$.60)	(19,774)	(16,873)
Retained earnings at end of year	\$ 386,601	\$ 365,248
EARNINGS PER SHARE FROM CONTINUING OPERATIONS	\$ 1.46	\$ 2.60
Net earnings per share	1.46	2.52

# Statements of Consolidated Additional Paid-in Capital

(Dollars in Thousands)

Motorola, Inc. and Subsidiaries, Years Ended December 31	1975	1974
Balance at beginning of year	\$ 135,898	\$ 128,210
Share option plans	1,032	5,048
Conversion of 4½% convertible guaranteed debentures, (principal amount: 1975, \$3,226; 1974, \$3,579)	2,444	2,640
Equity change in affiliate	130	—
Balance at end of year	\$ 139,504	\$ 135,898

See accompanying notes to consolidated financial statements.



# Statements of Consolidated Changes in Financial Position

(Dollars in Thousands)

Motorola, Inc. and Subsidiaries, Years Ended December 31	1975	1974
<b>SOURCES OF FUNDS:</b>		
Net earnings from continuing operations .....	\$ 41,127	\$ 72,912
Add non-cash charges:		
Depreciation .....	50,546	43,456
Amortization of deferred debenture discount, expense and premium, net .....	285	362
Funds provided from continuing operations .....	91,958	116,730
Net losses of discontinued operations .....	—	(2,184)
Add non-cash charge—depreciation .....	—	502
Funds used by discontinued operations .....	—	(1,682)
Funds provided from operations .....	91,958	115,048
Increase in notes payable and current maturities of long-term debt .....	—	23,814
Decrease in receivables .....	17,747	16,911
Decrease in inventories .....	54,659	9,422
Disposals and other changes of plant and equipment (and tooling), net .....	7,709	18,908
Issuance of common stock .....	3,927	8,375
Total sources of funds .....	176,000	192,478
<b>USES OF FUNDS:</b>		
Decrease in notes payable and current maturities of long-term debt .....	35,843	—
Fixed assets expenditures (includes subsidiaries acquired 1975, \$1,153; 1974, \$3,817) .....	71,253	135,018
Decrease in long-term debt .....	28,626	2,528
Dividends .....	19,774	16,873
Other uses, net .....	9,184	32,849
Total uses of funds .....	164,680	187,268
NET INCREASE IN FUNDS .....	11,320	5,210
Cash and short-term investments		
Beginning of year .....	52,454	47,244
End of year .....	\$ 63,774	\$ 52,454

See accompanying notes to consolidated financial statements.

## Accountants' Report

PEAT, MARWICK, MITCHELL & CO.  
 Certified Public Accountants  
 222 South Riverside Plaza  
 Chicago, Illinois 60606

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

We have examined the consolidated balance sheets of Motorola, Inc. and Subsidiaries as of December 31, 1975 and 1974, and the related statements of consolidated earnings and retained earnings, additional paid-in capital and changes in financial position for the years then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the aforementioned consolidated financial statements present fairly the financial position of Motorola, Inc. and Subsidiaries at December 31, 1975 and 1974, and the results of their operations and changes in their financial position for the years then ended, in conformity with generally accepted accounting principles applied on a consistent basis.

PEAT, MARWICK, MITCHELL & CO.

February 12, 1976



# Notes to Consolidated Financial Statements

**1. ACCOUNTING POLICIES:** Following is a summary of significant accounting policies used in the preparation of these consolidated financial statements, which policies are in accordance with generally accepted accounting principles.

**CONSOLIDATION:** The consolidated financial statements include the accounts of the company and all majority-owned subsidiaries. All significant intercompany accounts and transactions have been eliminated in consolidation.

**INTERNATIONAL:** The accounts of the company's operations outside the United States have been translated as follows: plant and equipment at currency rates prevailing when acquired; other assets and liabilities at year-end rates; and operating accounts at rates prevailing during the year except depreciation charges which are translated at the historic rates of the related assets. The net currency translation gain for 1975 was \$1,119,000 (\$339,000 in 1974). The translation gains credited to earnings in 1975 and 1974 were \$2,369,000 and \$89,000, respectively, including net changes in deferred translation gains. There were no deferred translation gains at December 31, 1975, (\$1,250,000 in 1974). The company expects no significant impact on earnings when it adopts (in 1976) the new foreign currency translation procedures issued by the Financial Accounting Standards Board.

The company's equity in undistributed earnings of non-U.S. subsidiaries and affiliates included in consolidated retained earnings at December 31, 1975 amounted to \$39,600,000 (\$39,400,000 in 1974). Certain of these earnings may be taxable in the United States upon distribution; however, it is intended that these earnings be permanently invested in operations outside the United States and accordingly, no provision has been made for United States taxes.

**INVENTORIES:** Inventories are valued at the lower of average cost (which approximates computation on a first-in, first-out basis) or market. Market value of work in process and production materials is represented by replacement cost and for finished goods by net realizable value.

**INCOME TAX:** The company provides for income taxes based on income reported for financial statement purposes. Certain charges to earnings differ as to timing from those deducted for tax purposes. The tax effects of these differences are reflected in the consolidated balance sheets as Future Income Tax Benefits. Investment tax credits are recorded as a reduction of income tax expense in the year that the related assets are placed in service.

**PLANT AND EQUIPMENT:** Plant and equipment is stated at cost. The related cost and accumulated depreciation on property sold, retired or fully depreciated are cleared from the accounts with the net difference, less any amount realized from disposals, reflected in current operations. Depreciation 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. For income tax purposes, the company has elected the provisions of the Class Life Asset Depreciation Range System (ADR) permitting accelerated depreciation. The tax effect of the difference between book and tax depreciation has been provided as deferred income taxes in the accompanying consolidated financial statements.

**DEBENTURE DISCOUNT, EXPENSE AND PREMIUM:** Deferred debenture discount, expense and premium are included in Sundry Assets at unamortized cost. Amortization is being charged to expense over the terms of the debentures by the straight-line method.

**SHARE OPTIONS:** When share options are exercised, the proceeds received are credited to the common stock account to the extent of the par value of shares issued, and the excess is credited to Additional Paid-In Capital. The tax benefit the company receives from disqualifying dispositions by optionees of exercised qualified share options is credited to Additional Paid-In Capital.

**PRODUCT AND SERVICE WARRANTIES:** Anticipated costs related to product and service warranties are recorded at the time of the sale of the products.

**EARNINGS PER SHARE:** Earnings per share are calculated on the average daily shares outstanding.

**2. INTERNATIONAL OPERATIONS:** At December 31, 1975, and 1974, net assets of consolidated operations outside the United States aggregated \$131,200,000 and \$134,900,000 respectively.

Export sales of U.S. companies, and sales and other revenues of continuing operations outside the United States, were 29% and 28% respectively, of 1975 and 1974 consolidated amounts.

**3. LONG-TERM DEBT:** Long-term debt at December 31 consisted of the following:

	1975	1974
	(Dollars in Thousands)	
Debt outside the United States:		
4½% convertible guaranteed debentures due July 1, 1983 .....	\$ 9,261	\$ 12,487
8% guaranteed sinking fund debentures due March 1, 1987 .....	25,000	25,000
Notes payable (generally at prevailing prime rates) due in installments to 1985 .....	9,788	12,929
Debt in the United States:		
Commercial paper supported by revolving credit commitments from banks (1974 revolving credit notes) .....	52,890	75,000
4¾% debentures due April 1, 1986 (net of debentures held by the company for sinking fund payments, \$931,000 in 1975, \$1,000,000 in 1974) .....	23,069	24,000
4% notes due in annual installments to 1976 .....	500	1,000
	<b>\$120,508</b>	<b>\$150,416</b>
Less current maturities, included in current liabilities .....	1,324	2,606
Net long-term debt .....	<b>\$119,184</b>	<b>\$147,810</b>

The 4½% convertible guaranteed debentures (issued by Motorola International Development Corporation) are convertible into common stock of Motorola, Inc., at the rate of 25.2 shares for each \$1,000 principal amount, subject to adjustment in certain events, and are guaranteed as to the payment of principal and interest by Motorola, Inc. The debentures are redeemable at various dates at redemption prices reducing from 102.5% to 100% of the principal amount thereof. In 1975, \$3,226,000 in debentures



(\$3,579,000 in 1974) were converted into 81,285 shares (90,176 in 1974). At December 31, 1975, there were 233,444 shares (314,729 shares in 1974) of Motorola, Inc. common stock reserved for issuance upon the conversion of these debentures.

The 8% guaranteed sinking fund debentures (issued by Motorola International Capital Corporation) are redeemable at various dates beginning after March 1, 1977, at redemption prices reducing from 102% to 100% of the principal amount thereof. Annual sinking fund payments are required beginning March 1, 1977, in progressive amounts sufficient to retire 76% of the issue prior to maturity. The issue is guaranteed as to payment of principal and interest by Motorola, Inc.

Under the terms of the revolving credit agreement, the company has the option of converting the commercial paper to a four-year installment loan on, or prior to, December 31, 1976, at the then prevailing prime commercial rate of interest plus ¼% for the first two years and ½% for the last two years. It is the intention of the company to maintain the availability of the revolving credit during 1976 and, therefore, the debt is classified as long-term debt.

The revolving credit agreement restricts the payment of cash dividends. At December 31, 1975, \$111,286,000 of retained earnings was not restricted as to dividend payments. It also requires the company to maintain consolidated working capital (as defined) of not less than \$275,000,000.

**4. INCOME TAXES:** Income taxes provided for the years ended December 31, 1975, and 1974, are as follows:

	1975	1974
	(Dollars in Thousands)	
Current:		
United States .....	<b>\$23,704</b>	\$36,179
Other Nations .....	<b>6,503</b>	12,898
State income taxes (U.S.) .....	<b>3,393</b>	5,604
Total current .....	<b>33,600</b>	54,681
Deferred .....	<b>3,743</b>	6,005
Total income taxes .....	<b>\$37,343</b>	\$60,686

Total income taxes differ from the statutory U.S. Federal income tax rate of 48%. The principal reasons for this difference are reflected below:

	1975	1974
Statutory U.S. Federal rate .....	<b>48.0%</b>	48.0%
Increase/(decrease) in tax rate resulting from:		
Taxes on earnings in other nations, net of loss operations with no tax benefits and tax holidays .....	<b>10.5</b>	2.7
Tax benefits arising from tax holiday in Puerto Rico .....	<b>(7.8)</b>	(3.8)
Investment credits .....	<b>(3.4)</b>	(3.5)
State income taxes .....	<b>2.2</b>	2.2
Tax benefits derived from consolidation of certain Mexican corporations .....	<b>(1.4)</b>	(.7)
Other .....	<b>(.5)</b>	.5
Effective tax rate .....	<b>47.6%</b>	45.4%

Income taxes have been provided in the accounts based upon income recorded therein. Certain timing differences exist which

cause the current income taxes actually payable to differ from the amount provided. The principal items are as follows:

	1975	1974
	(Dollars in Thousands)	
Difference between depreciation recorded for income tax purposes and financial statement purposes .....	<b>\$1,440</b>	\$ 960
(Increase)/decrease in:		
Warranty reserves .....	<b>(207)</b>	1,962
Vacation reserves .....	<b>(155)</b>	1,220
Inventory reserves .....	<b>861</b>	883
Incentive bonus plan .....	<b>406</b>	423
IRS audit timing reversals .....	<b>660</b>	—
Other—net .....	<b>738</b>	557
Total .....	<b>\$3,743</b>	\$6,005

The company's Federal Income Tax Returns have been examined by the Internal Revenue Service through December 31, 1973.

**5. SHARE OPTION PLAN:** Under the company's Employee Share Option Plans, shares of common stock have been made available for qualified or non-qualified option to employees of the company and certain subsidiaries. Options may be granted at not less than fair market value on the dates of grants, and become exercisable one year from the dates of original grants. Qualified options expire at the end of five years and non-qualified options expire at the end of ten years. During 1974, pursuant to written offers from optionees, existing options under the 1972 plan were cancelled, and replacement, non-qualified options (expiring November 11, 1984) were granted for the same numbers of shares which were subject to the cancelled options.

The exercise prices of the replacement options were not less than the fair market value of the shares on the dates of grants. Data on share options are summarized below:

	1975	1974
Options outstanding beginning of year .....	<b>791,703</b>	968,698
Additional options granted .....	<b>307,335</b>	6,850
Options exercised .....	<b>(25,990)</b>	(138,585)
Options terminated for discontinued employment .....	<b>(42,555)</b>	(45,180)
Options terminated for cancellation and regrant .....	—	(611,575)
Options regranted .....	—	611,575
Options expired .....	—	(80)
Options outstanding end of year .....	<b>1,030,493</b>	791,703
Shares reserved for possible future option grants .....	<b>299,995</b>	564,775
Total shares reserved .....	<b>1,330,488</b>	1,356,478
Aggregate exercise price of outstanding options .....	<b>\$49,027,000</b>	\$36,053,000
Aggregate exercise price of exercisable options .....	<b>\$33,177,000</b>	\$35,754,000

Options exercised during 1975 were at per share prices of \$31.95 to \$46.25 (\$28.313 to \$42.720 in 1974).



**6. CONTINGENCIES:** The company is one of 21 defendants named in a lawsuit commenced on September 20, 1974 by Zenith Radio Corporation ("Zenith") in the United States District Court for the Eastern District of Pennsylvania. All other defendants are either Japanese television manufacturers or United States subsidiaries of such Japanese corporations. Zenith's complaint alleges conspiracies and other violations of the U.S. antitrust and antidumping laws.

The complaint also challenges, under the U.S. antitrust laws, the purchase by subsidiaries of Matsushita Electric Industrial Co., Ltd. of Japan (collectively with such subsidiaries, "MEI") of certain of the assets and business of Motorola's Consumer Products Division home television receiver business. (See note 7 relating to discontinued operations). Prior to the consummation of such purchase, the U.S. Department of Justice, at the request of Motorola and MEI, investigated the antitrust implications of the transaction. During such investigations, the Department of Justice was advised by Zenith of Zenith's objections to the sale. The Department of Justice took no legal action to prevent the sale.

For all such alleged violations Zenith claims monetary damages in the aggregate of more than \$300 million (and the trebling of that amount). It seeks judgment against the defendants jointly and individually in that amount plus costs and plaintiff's attorney's fees. It also seeks divestiture by MEI of the assets purchased from Motorola.

In the event a divestiture is ordered or litigation damages are assessed against MEI arising out of such purchase, Motorola has agreed to share to a limited extent certain of the dollar loss, if any, incurred by MEI. The maximum loss for which Motorola could be responsible to MEI under this agreement is \$20 million. Management believes that the company has acted properly throughout and will deny any conspiracy or other violation of law alleged by Zenith.

The company is a defendant in various other suits and claims which arise in the normal course of business and is obligated under repurchase and other agreements principally in connection with the financing of sales.

In the opinion of management, the ultimate disposition of these matters will not have a material adverse effect on the business or financial position of the company.

**7. DISCONTINUED OPERATIONS:** On May 28, 1974, Motorola sold to certain subsidiaries of Matsushita Electric Industrial Co., Ltd. a Japanese corporation, certain of the assets of Motorola's Consumer Products Division home television receiver business. The sales price of the business has not been finally determined because of a disagreement between the parties with respect to the amount applicable to the Product and Service Warranty obligations, which disagreement is currently the subject of an arbitration proceeding. The company expects that after the sales price is so determined, the net proceeds from the disposition (including the net proceeds from the disposition of certain assets not sold to Matsushita) less operating losses and expenses incurred subsequent to March 12, 1974 in winding up the discontinued businesses, will result in a net loss (not deemed to be significant in amount) which will be recorded as a non-recurring loss when determined.

The loss from operations of the discontinued businesses includes

all of the Consumer Products Division except for certain specialized products which are being continued. The loss of \$2,184,000 in 1974 covers the period through March 12, 1974. Sales of the discontinued businesses were \$37,861,000 for the same period.

**8. EMPLOYEE BENEFIT PLANS:** An Executive Incentive Plan specifies that the company and certain subsidiaries may provide up to 4% of their annual consolidated pre-tax earnings (as defined) for the payment of cash incentive awards. Such awards are payable, except for awards of \$1,000 or less, generally in equal annual installments over a period of five years and are generally subject to the recipient's continued employment. Amounts of \$1,408,000 and \$1,000,000 were provided in 1975 and 1974 for such awards, representing 4% and 1.3% respectively, of defined earnings. In 1975, awards of \$2,083,000 were made for 1974 performance (\$3,176,000 in 1974 for 1973 performance). Awards for 1975 performance have not yet been determined. At December 31, 1975, \$2,532,000 was reserved and available for such awards (\$3,207,000 in 1974).

The company and certain subsidiaries have contributory profit sharing plans in which all eligible employees participate. The contributions to profit sharing funds in the United States and other nations, based upon percentages of pre-tax earnings, as defined, were \$9,098,000 in 1975, and \$18,060,000 (including \$1,215,000 applicable to discontinued operations) in 1974.

The company and certain subsidiaries have a voluntary, contributory pension plan and the company's policy is to fund pension costs as accrued: \$4,705,000 in 1975, and \$3,300,000 (including \$54,000 applicable to discontinued operations) in 1974. At December 31, 1974, date of the latest actuarial determination, vested benefits were fully funded. It appears that no significant increase in pension costs will result from the Employee Retirement Income Security Act of 1975.

In the event that the amount actually payable annually under the plan does not amount to 40% or more of an officer's rate of salary at retirement, it is the intention of the company (subject to certain qualifications and conditions) to make supplementary payments so that the total annual payments will aggregate 40% (or 30% in the case of payments to widows) of the officer's rate of salary at retirement. The company also provides for annual payments in the amount of 30% of the officer's salary rate to widows of officers who die while in active employment. The company is providing a reserve for these supplementary payments on a current basis.

**9. SUPPLEMENTARY DATA:** Rental expense of continuing operations under all lease commitments (including non-cancellable leases) totaled \$20,273,000 in 1975, and \$17,826,000 in 1974. If all financing leases (which are principally for computers) were capitalized, the impact on net earnings would be insignificant. Commitments related to non-cancellable leases expire as follows: 1976—\$12,123,000; 1977—\$8,046,000; 1978—\$5,095,000; 1979—\$2,477,000; 1980—\$1,054,000; 1981-1985—\$2,211,000; 1986-1990—\$157,000; 1991-1995—\$150,000; and 1996 and later \$2,250,000.

Research and Development expenditures, which are charged against operations as incurred, were \$98,479,000 in 1975 and \$100,264,000 in 1974.



# Directors

ROBERT W. GALVIN  
 WILLIAM J. WEISZ  
 JOHN F. MITCHELL  
 JAMES W. BIRKENSTOCK  
 President, Intercal Inc.  
 JOHN T. HICKEY  
 J. PAUL JONES  
 OSCAR P. KUSISTO  
 STEPHEN L. LEVY  
 HOMER L. MARRS  
 ARTHUR C. NIELSEN, JR.  
 Chairman and President,  
 A. C. Nielsen Company  
 ARTHUR L. REESE  
 Retired, formerly Executive  
 Vice President, Motorola Inc.  
 ELMER H. SCHULZ  
 Director, I.I.T. Research Institute  
 WALTER B. SCOTT  
 EDWIN P. VANDERWICKEN  
 Chairman, Finance and Audit  
 Committees, Motorola Inc.  
 ELMER H. WAVERING  
 Retired, formerly Vice Chairman  
 and Chief Operating Officer,  
 Motorola Inc.  
 KENNETH V. ZWIENER  
 Retired, formerly Chairman and  
 Chief Executive Officer,  
 Harris Trust and Savings Bank

Director Emeritus:  
 DANIEL E. NOBLE  
 Chairman,  
 Science Advisory Board,  
 Motorola Inc.

# Officers

## CORPORATE

		Age	Years of Service
Robert W. Galvin	Chairman of the Board and Chief Executive Officer	53	35
William J. Weisz	President and Chief Operating Officer	49	28
John F. Mitchell	Executive Vice President and Assistant Chief Operating Officer	48	23

## FINANCE

John T. Hickey	Senior Vice President and Chief Financial Officer	50	28
Donald R. Jones	Vice President and Assistant Chief Financial Officer	46	25
Edward J. Harty	Vice President and Controller	60	24
Vincent J. Rauner	Vice President for Patents, Trademarks and Licensing	48	6
Lewis D. Spencer	Vice President, General Counsel and Secretary	59	25
William P. Meehan	Treasurer	40	6

## STAFF

Stephen L. Levy	Senior Vice President and Chief Corporate Staff Officer	54	12
L. Curtis Foster	Vice President and Corporate Director of Engineering	50	2
Oscar P. Kusisto	Vice President and Corporate Director of Marketing	62	27
R. James Harring	Vice President and Corporate Director of Planning	51	24
C. Travis Marshall	Vice President and Corporate Director of Government Relations	50	5
Walter B. Scott	Vice President and Corporate Director of Manufacturing and Facilities	60	30

## HUMAN RELATIONS

Benjamin W. Borne	Vice President and Corporate Director of Human Relations	51	4
Robert N. Swift	Vice President and Assistant Corporate Director of Human Relations	52	24

## MULTINATIONAL

Levy Katzir	Vice President and Corporate Director of Multinational Operations	43	20
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## DATA PRODUCTS AND NEW VENTURES GROUP

Homer L. Marrs	Senior Vice President and Group Executive	59	38
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## AUTOMOTIVE PRODUCTS DIVISION

Carl E. Lindholm	Senior Vice President and General Manager	47	9
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## COMMUNICATIONS GROUP

Joseph F. Miller, Jr.	Vice President and Communications Group Executive	51	24
Jack Germain	Vice President and Assistant Communications Group Executive	49	26
Arthur P. Sundry	Vice President and General Manager, Communications Distribution Division	47	19
Rhesa S. Farmer, Jr.	Vice President and General Manager, Communications International Division	49	18
Claude G. Davis	Vice President and General Manager, Communications Products Division	48	4
Martin Cooper	Vice President and Director of Systems Operations	47	22

## GOVERNMENT ELECTRONICS DIVISION

Ralph W. Elsner	Vice President and General Manager	55	27
James R. Lincicome	Vice President and Assistant General Manager	50	25

## SEMICONDUCTOR GROUP

John R. Welty	Vice President and Semiconductor Group Executive	53	18
Robert R. Heikes	Vice President and Assistant Semiconductor Group Executive	50	6
Earl R. Gomersall	Vice President and Director, Manufacturing and Production Technologies	44	4



# Ten-Year Financial Summary

(Dollars in thousands, except per share data)

## OPERATING RESULTS FROM CONTINUING OPERATIONS

	1975	1974
SALES AND OTHER REVENUES .....	<b>\$1,311,771</b>	1,367,171
Manufacturing and other costs of sales .....	<b>850,370</b>	878,675
Selling, service and administrative expenses .....	<b>311,998</b>	284,241
Depreciation of plant and equipment .....	<b>50,546</b>	43,456
Interest and amortization of debenture discount, expense and premium, net .....	<b>20,387</b>	27,201
Total costs & other expenses .....	<b>1,233,301</b>	1,233,573
Earnings before taxes on income .....	<b>78,470</b>	133,598
Total income taxes .....	<b>37,343</b>	60,686
EARNINGS FROM CONTINUING OPERATIONS .....	<b>41,127</b>	72,912
PER CENT TO SALES .....	<b>3.1</b>	5.3
Discontinued operations—profit/(loss) .....	—	(2,184)
Net earnings .....	<b>\$ 41,127</b>	70,728

## PER SHARE DATA

Earnings from continuing operations .....	<b>\$ 1.46</b>	2.60
Net earnings .....	<b>\$ 1.46</b>	2.52
Dividends declared .....	<b>\$ .70</b>	.60

## BALANCE SHEET DATA

Working capital* .....	<b>\$ 395,493</b>	412,335
Property, plant and equipment* .....	<b>\$ 340,844</b>	324,928
Long-term debt* .....	<b>\$ 119,184</b>	147,810
Stockholders' equity* .....	<b>\$ 610,991</b>	585,711

## RATIOS AND OTHER DATA

Current ratio* .....	<b>2.60</b>	2.31
Return on average equity (%) .....	<b>6.9</b>	13.1
Return on average invested capital (Short- and long-term debt plus equity) (%) .....	<b>5.1</b>	9.3
Employees (yearend)* .....	<b>47,000</b>	51,000
Shares outstanding (avg. in thousands) .....	<b>28,243</b>	28,085

\*1966-1973 data has not been restated to exclude discontinued operations.

## MANAGEMENT DISCUSSION AND ANALYSIS OF STATEMENTS OF CONSOLIDATED EARNINGS

Sales and other revenues from continuing operations decreased 4.1% in 1975, while 1974 sales were up 13.6% from the previous year. As stated in other parts of this report, sales declines in both the Semiconductor Group (down 23%) and Automotive Products Division (down 12%) were due principally to depressed economic conditions throughout the world. Sales increases in our other operations only partially offset these reductions. The 1974 sales increase of 13.6% was due to increases in unit volume in each of the major operations of the company as only modest price increases were implemented during that period.

Manufacturing and other costs of sales decreased 3.2% in 1975, while such costs increased during 1974 by 16.3% over 1973. The 1975 cost decline is consistent with the sales decrease of 4.1%. The 1974 increase reflected the impact of severe inflation which produced abnormal increases in purchased materials prices and labor costs, not fully offset by productivity improvements.

Selling, service and administrative expenses increased 9.8% in 1975, and 18.4% in 1974. The 1975 results were due to increases in the Communications, Automotive, Government Electronics and

Data Products operations which more than offset the decreases in the Semiconductor and other operations. In addition, the company increased its ownership to over 50% in two International subsidiaries, as a result, the expenses of these subsidiaries were consolidated for the first time in 1975, and increased these costs by \$5.2 million over 1974. During 1975, we reduced the number of administrative personnel in the Semiconductor Group and Automotive Products Division, however, the full impact of these cost reductions was not reflected in 1975 due to the timing of these cutbacks and the associated severance pay expenses. In 1974, the primary reasons for the increased costs were increased sales expense of the Communications Group, salary increases, and other cost increases due to the high rate of inflation experienced that year.

Depreciation of plant and equipment increased 16.3% and 30.3% in 1975 and 1974 respectively, over the previous periods. These increases are the result of fixed asset expenditures during the past three years of \$70.1 million in 1975, \$131.2 million in 1974, and \$84.5 million in 1973.

Interest and amortization expense declined 25.1% from 1974 due



1973	1972	1971	1970	1969	1968	1967	1966
1,203,217	901,883	717,177	670,189	666,019	559,030	449,926	412,651
755,720	607,695	469,583	451,821	437,439	376,972	301,826	280,064
239,994	166,849	155,527	123,435	121,211	102,548	76,631	71,498
33,340	28,376	25,028	21,745	18,514	15,612	13,237	10,793
16,194	10,299	7,613	9,332	11,121	7,731	6,488	4,995
1,045,248	813,219	657,751	606,333	588,285	502,863	398,182	367,350
157,969	88,664	59,426	63,856	77,734	56,167	51,744	45,301
72,496	41,103	29,878	33,339	42,108	28,954	23,851	20,813
85,473	47,561	29,548	30,517	35,626	27,213	27,893	24,488
7.1	5.3	4.1	4.6	5.3	4.9	6.2	5.9
(3,477)	4,477	2,202	(6,277)	(1,833)	1,048	(9,077)	8,465
81,996	52,038	31,750	24,240	33,793	28,261	18,816	32,953
3.07	1.74	1.10	1.15	1.44	1.11	1.14	1.00
2.95	1.91	1.18	.91	1.37	1.15	.77	1.35
.45	.312	.30	.288	.25	.25	.25	.25
427,715	323,544	256,150	222,117	235,593	176,414	131,358	128,159
250,591	200,980	184,219	174,530	167,500	145,582	136,963	127,219
150,338	80,302	63,780	65,348	90,306	96,601	65,079	66,744
523,481	439,611	375,897	344,085	326,134	238,778	206,286	192,598
2.43	2.36	2.22	2.39	2.47	2.08	1.88	1.96
17.1	11.7	8.2	9.1	12.6	12.2	14.0	13.7
13.0	9.0	6.4	7.0	8.9	7.8	8.9	9.7
64,000	56,000	49,000	37,000	45,000	41,000	36,000	36,000
27,823	27,297	26,822	26,650	24,656	24,534	24,488	24,417

to reductions in debt totaling \$64.5 million and to declining interest rates. The reductions in debt were attributable to the implementation of more stringent administrative controls in both the Automotive Products Division and Semiconductor Group, as well as efforts in other areas of the company to achieve improved management over accounts receivable and inventories. In 1974, interest and amortization expense increased 68.0% over 1973 due to increases in both the rates of interest and debt during 1974.

The company's overall effective tax rate increased from 45.4% in 1974, to 47.6% in 1975, due to losses in certain international operations (principally, the Automotive Products Division's facility in Angers, France, Autovox S.p.A., our 62% owned Italian subsidiary, and the Semiconductor Group's facility in the United Kingdom) for which the company does not receive tax benefits.

The net earnings from continuing operations of the company declined 43.6% on 1975, and 14.7% in 1974, due to the reasons stated above.

Additional comments on the results of operations may be found in the President's letter and other sections of this Annual Report.

#### SALES BY SIMILAR CLASSES OF PRODUCTS

(Dollars in Millions)	1975	1974	1973	1972	1971
Communication Products .....	\$621	\$586	\$469	\$365	\$305
Semiconductor Products .....	\$348	\$454	\$419	\$286	\$230
Automotive Products .....	\$126	\$144	\$144	\$101	\$ 77

The sales of Semiconductor Products do not include the dollar value of Semiconductor Products manufactured by Motorola and incorporated into other products manufactured and sold by Motorola. In addition, the sales of Autovox S.p.A., a 62% owned Italian corporation, are excluded from the sales of Automotive Products reported above.



# Motorola Worldwide

## Major facilities in:

### Australia

Melbourne

### Canada

Midland and Willowdale, Ontario

### Denmark

Frederikssund

### France

Angers  
Toulouse

### West Germany

Taunusstein

### Great Britain

East Kilbride, Scotland  
Stotfold and Warrington, England

### Hong Kong

Kowloon

### Israel

Tel-Aviv

### Italy

Rome

### Korea

Seoul

### Malaysia

Kuala Lumpur  
Penang

### Mexico

Guadalajara, Jalisco  
Mexico City  
Nogales, Sonora

### Puerto Rico

Vega Baja

### South Africa

Bramley, Transvaal

### Switzerland

Geneva

### United States

Carol Stream  
Chicago  
Franklin Park  
Lombard  
Quincy and Schaumburg, Illinois  
Mesa  
Phoenix  
Scottsdale and Tempe, Arizona  
Fort Lauderdale, Florida  
Arcade, New York  
Austin  
Fort Worth and Seguin, Texas  
Webb City, Missouri  
Mount Pleasant, Iowa

### Motorola Executive Institute in:

Oracle, Arizona

**New production facilities were  
announced or under construction in  
1975 in:**

Fort Worth, Texas



# Motorola Products

## **AUTOMOTIVE PRODUCTS DIVISION**

Car radios  
Stereo tape players  
Alternator charging systems  
Solid-state ignition systems  
Electronic instrumentation  
Citizens band radios

## **COMMUNICATIONS GROUP**

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

## **GOVERNMENT ELECTRONICS DIVISION**

Fixed and satellite communications systems  
Space communications systems  
Tactical electronics systems  
Radar surveillance and display systems  
Positioning and navigation systems  
Countermeasures systems  
Missile guidance systems  
Drone control systems  
Troposcatter communications  
Missile and aircraft instrumentation  
Secure communications

## **SEMICONDUCTOR GROUP**

MOS and bipolar integrated circuits  
Semiconductor chips  
Zener and tuning diodes  
RF modules  
Power and small signal transistors  
Field effect transistors (FETs)  
Microwave devices  
Optoelectronics  
Rectifiers  
Thyristors  
Varactors  
Triggers  
Suppressors  
Functional circuits  
Liquid crystal displays (LCDs)

## **OTHER BUSINESSES**

Educational films and materials  
Hotel/motel and medical group practitioner electronic management and communications systems  
CRT display modules  
Closed circuit TV systems  
Microprocessor test equipment  
Information display systems  
Industrial process controls  
Ferrite and iron core components  
Electronic musical instruments and tuning equipment

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## **ANNUAL MEETING OF STOCKHOLDERS**

The annual meeting will be held on Monday, May 3, 1976. A notice of the meeting, together with a form of proxy and a proxy statement, will be mailed to stockholders on or about March 23, 1976, at which time proxies will be solicited by management.

## **TRANSFER AGENTS AND REGISTRARS**

Harris Trust and Savings Bank  
111 W. Monroe St., Chicago, Ill. 60690  
First National City Bank  
111 Wall St., New York, N.Y. 10015

## **AUDITORS**

Peat, Marwick, Mitchell & Co.  
222 S. Riverside Plaza  
Chicago, Ill. 60606





Motorola Inc.  
World Headquarters  
5725 N. East River Rd.  
Chicago, Ill. 60631

**NEW ADDRESS**

As of April 15, 1976, Motorola will move to its new headquarters building in Schaumburg, Illinois. The new address will be:

Motorola Inc.  
Corporate Offices  
Motorola Center  
1303 E. Algonquin Rd.  
Schaumburg, Ill. 60196  
Phone: (312) 397-5000

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**At the close of each fiscal year, Motorola submits a report on Form 10-K to the Securities and Exchange Commission containing certain additional information concerning its business. A copy of this report may be obtained by addressing your request to the Secretary, Motorola Inc., Corporate Offices, Motorola Center, 1303 E. Algonquin Rd., Schaumburg, Ill. 60196.**







