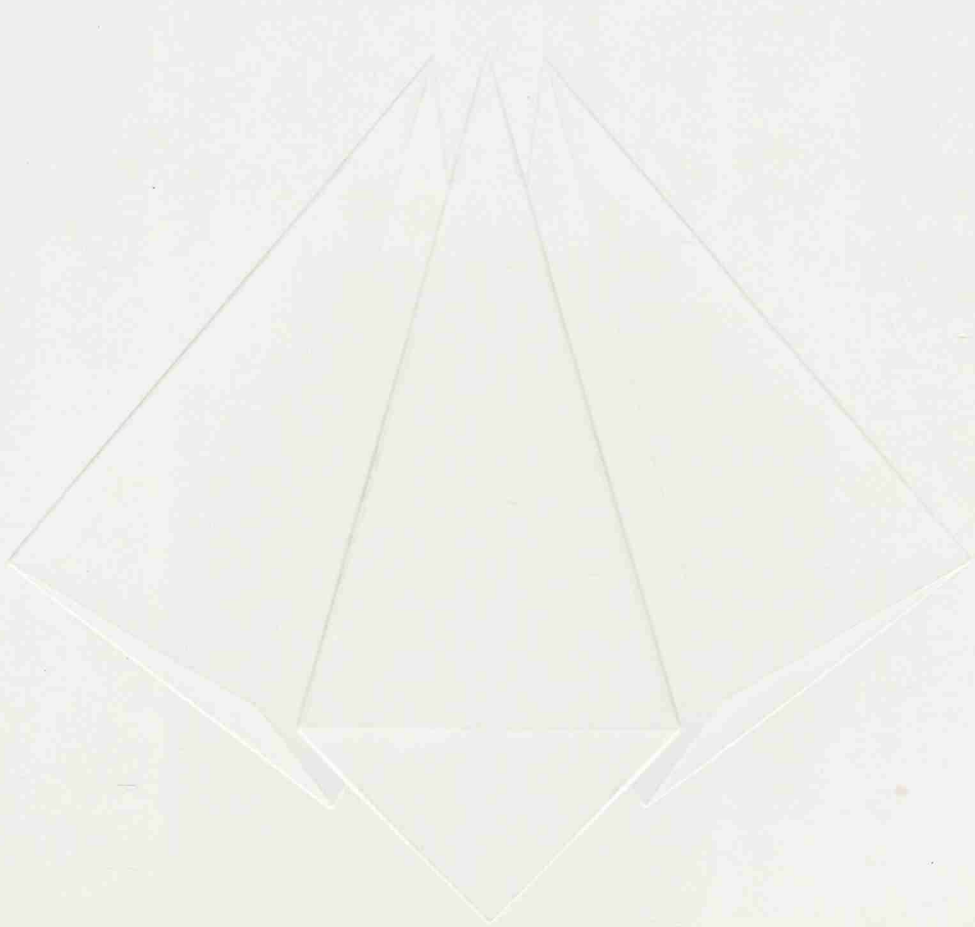
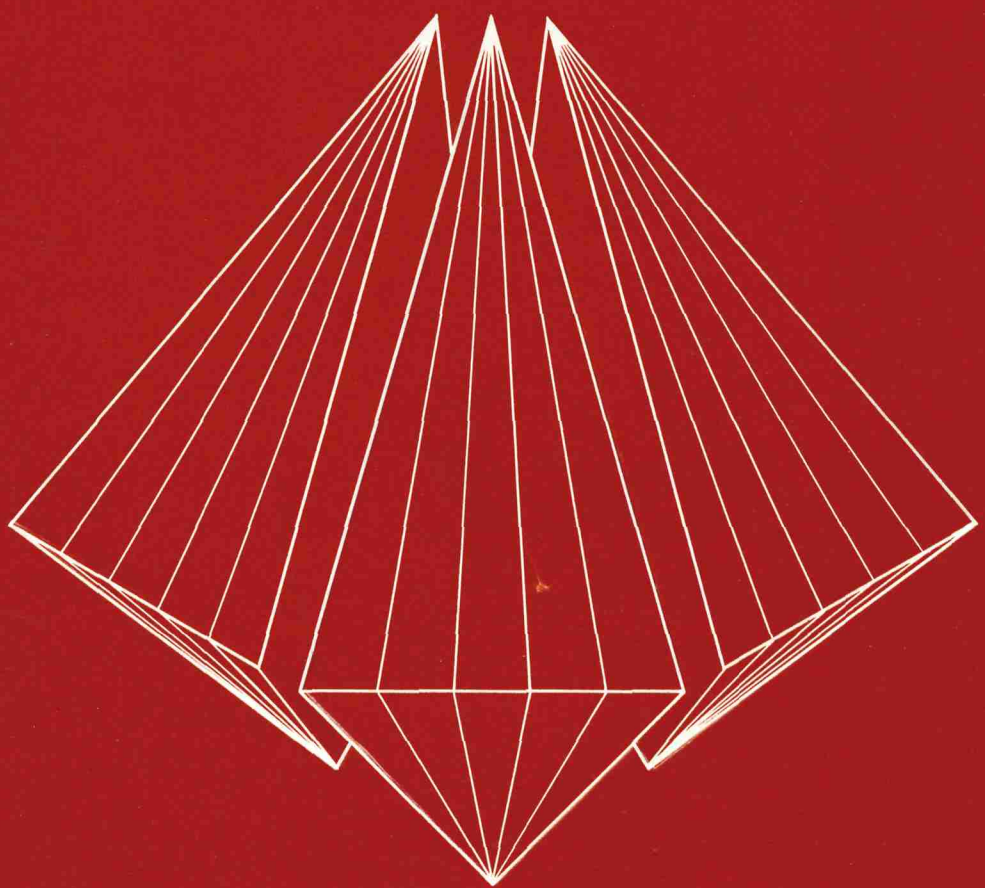
Motorola Annual Report 1973



Contents



To Our Shareholders And Friends:

1973 was the best year in the company's 45-year history as sales and dollar earnings in every quarter, and for the full year, established records.

Sales and other revenues for the year amounted to $1,437,098,629, an increase of 23.5 per cent from last year's $1,163,315,088.

Earnings for the year increased at an even greater rate. They totalled $81,995,862, an increase of 57.6 per cent over the $52,038,120 earned in 1972. Earnings per share were $2.95, compared to last year's $1.91. We are gratified with this improved earnings performance. However, since our margins are only beginning to approach an acceptable level for a technology-oriented company such as Motorola, which must make large investments in the future, it is our objective to achieve continued improvements.

Four of the five operating divisions participated in the establishment of the sales and earnings records. Sales for the consumer products division were less than anticipated at the outset of 1973, and an operating loss was recorded for the year.

Financial

The company's financial position remained strong during the year, as indicated by our current ratio of $2.43 of current assets to every dollar of current liabilities. Our total borrowings—short and long-term—are 29 per cent of borrowings plus shareholders' equity.

In order to reduce short-term debt and enable us to better meet our forecast capital requirements, we entered into an agreement with five major banks in December for a revolving credit of $75 million at the prime interest rate until December 31, 1976. We have the option to convert the revolving credit notes to four-year term notes, at a slightly higher interest rate, any time during the period.

Fixed asset expenditures in 1973 were $85 million, up considerably from the $48 million spent in 1972. As we enter 1974, we are anticipating the largest increase in capital spending in the company's history, with 1974 expenditures approximating $125 million. This large amount is required not only to alleviate production capacity limitations currently being experienced in several of our divisions, but also to facilitize major U.S. and non-U.S. factories coming on-stream during 1974, both for current and new products. While details of various expansion programs can be found in the divisional sections of this report, it should be noted here that these planned expenditures are a clear indication of our confidence in the future of our worldwide markets.

Our spending for research and development totalled $95 million in 1973, up from $76 million the previous year.

To keep the company at the technological forefront, we anticipate a further significant increase in 1974.

Share Distribution

At the company's annual meeting in May, shareholders approved a share-for-share distribution which was subsequently implemented on June 1. The quarterly dividend rate was raised to 12.5 cents per share now outstanding, commencing with the July dividend distribution. The shareholders also approved reincorporation of the company in Delaware.

American Regitel

In early 1974, General Instrument Corporation contracted to acquire the assets and business of our American Regitel subsidiary. The final closing of the acquisition is expected to take place in March, 1974. All losses associated with the disposition of the subsidiary have been provided for in 1973, particularly in the 4th quarter. No additional charges are expected in 1974.

Management Organization

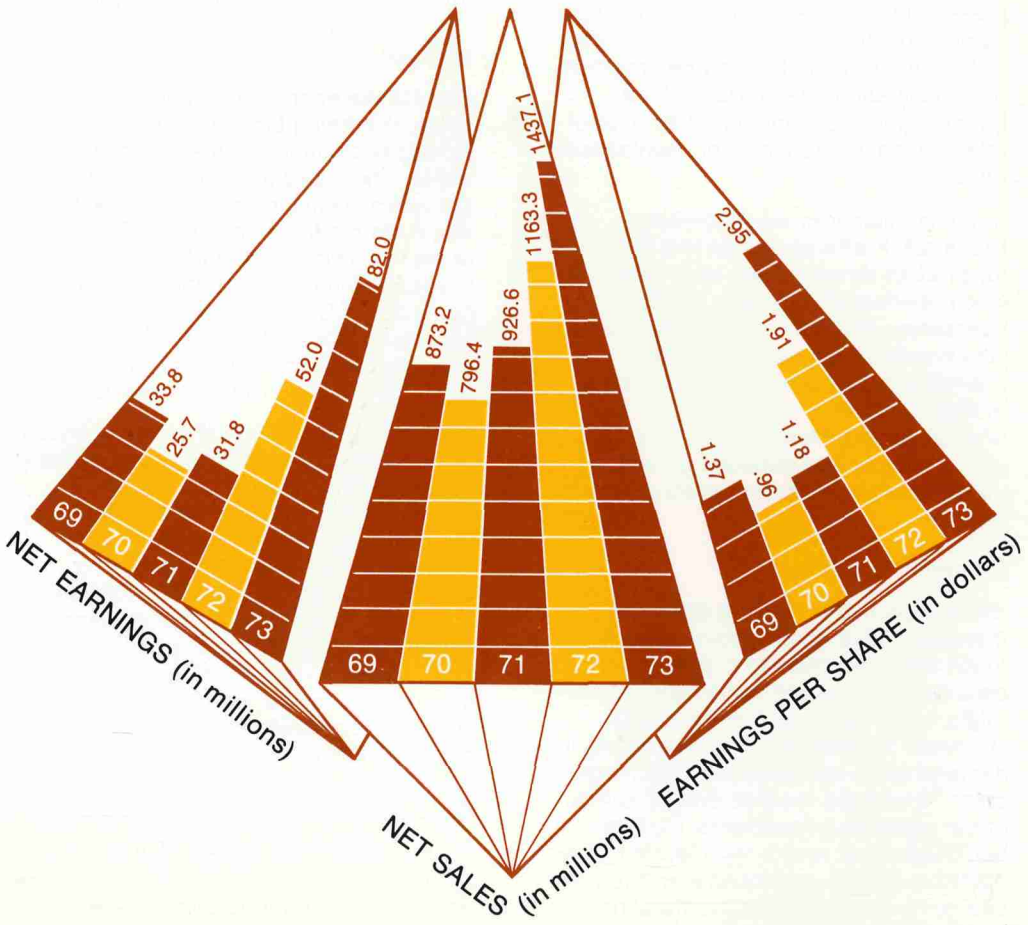
The Board of Directors initiated action in late February, 1974 to add the general managers of the communications and semiconductor products divisions and the chief financial officer to the board. The number of company directors was proposed to be increased from 13 to 16. The shareholders will be asked to elect corporate vice presidents Thomas J. Connors, John T. Hickey and John F. Mitchell to the Board of Directors at the company's annual meeting on May 6, 1974.

It is our policy to constantly review the organization structure and modify it from time to time, in line with our long range plans, and for rotation of executives. In line with this policy, several organizational changes and executive assignments were announced.

On January 25, 1974, the following changes were implemented: The communications division, under the general managership of John F. Mitchell, now reports directly to the Chairman/President's office.

The office of group executive in charge of the automotive products, government electronics and consumer products divisions was established. Homer L. Marrs, vice president and former general manager, equipment divisions, became vice president and group executive. J. Paul Jones, vice president and former director of corporate staff, became vice president and assistant group executive.

Carl E. Lindholm, vice president and former assistant general manager of the communications division, was named vice president and director of corporate staff.



Joseph F. Miller, vice president and former director of distribution for the communications division, was named assistant general manager of the communications division.

During 1973 and early in 1974, the following other changes were made. Patrick D. Lynch, vice president and former director of operations, Bipolar ICs, was named general manager, U.S.A., for the semiconductor products division.

Robert J. Solem, vice president and former assistant general manager of the government electronics division, was named assistant general manager of the automotive products division.

Robert N. Swift, vice president and former director of marketing for the communications division, was named assistant director of human relations for the corporation.

Jack C. Haenichen, vice president and former director of operations, MOS, was named vice president and director of university relations for the semiconductor products division.

Several additional officerships were also established during the year. Donald R. Jones was named vice president and treasurer; Vincent J. Rauner became vice president for patents, trademarks and licensing; and Edward J. Harty was promoted to controller.

Richard P. Abraham became vice president for discrete products operations, semiconductor products division; Rhesa S. Farmer, Jr. was elected vice president for mobile and base products, later becoming vice president and director of international operations, communications division.

In the consumer products division, Richard A. Kraft was elected vice president for product development, later becoming vice president and director of color operations; and Robert C. Warren became vice president for marketing, later changing to vice president and director of black-and-white operations. W. Lee Shevel came to Motorola in March as vice president and assistant general manager of the consumer products division.

Energy

Since early in the fourth quarter, our managers have been keeping closely in touch with customers to improve our sensitivity to changes in demand which might occur as a result of the energy shortage. To date, the only weakening in demand which has been detected involves color TV and the requirements of certain of our automotive customers. Current backlogs are at record high levels in the communications, semiconductor products and government electronics divisions.

Each division and the corporate staff have conducted thorough studies of potentially critical materials, including the effect of the energy problem on our key suppliers —both in terms of cost and their ability to supply. Such materials have been identified, as well as sources for substitutes which could be used if shortages should develop. Here again, we are reasonably confident that our production should not be inhibited by major shortages.

The chairman/president's office has set as a corporate objective the reduction of power and fuel consumption in our facilities by approximately 25 per cent. Thus far, we have achieved an average cutback of about 20 per cent by the careful utilization and conservation of energy in all forms. We will have to modify some operations in order to reach our objective, but the program should not significantly affect production output. Standby energy sources are being arranged for plants which might experience cutbacks in natural gas supplies. Studies at operating locations around the world indicate that we should be able to operate reasonably everywhere with the possible exception of parts of the United Kingdom.

We have also launched campaigns in most of our plant locations to encourage car pooling and other energy-saving activities by our employees. In many cases, preferential parking and other incentives for car poolers are being employed.

Outlook

Despite the energy and economic difficulties being faced in many of the industrial countries of the world, we believe that sales and earnings of the corporation will increase in 1974, although at a more modest rate than in 1973. Four of the five divisions should participate in this continuing growth pattern. Since a decline in U.S. industry color television sales is anticipated, we do not expect the sales performance of the consumer products division to improve over last year.

Our current outlook for the year is based on consideration of the individual markets served by the divisions; the variety of energy-saving products manufactured by the company, such as communications products which sharply increase the efficiency of vehicles in which they are used; and on a careful and continuing evaluation by our managers of the possible effect of the energy shortage and the economy in general on our customers, suppliers, employees and on our ability to maintain scheduled production.

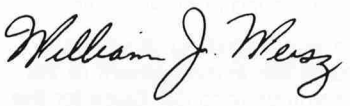
Divisional Summaries

For the remaining sections of this report, we have asked the senior managers of the divisions to respond to some of the questions we receive throughout the year from shareholders, financial analysts and other interested parties. We hope you will find their answers to be candid, interesting and informative.

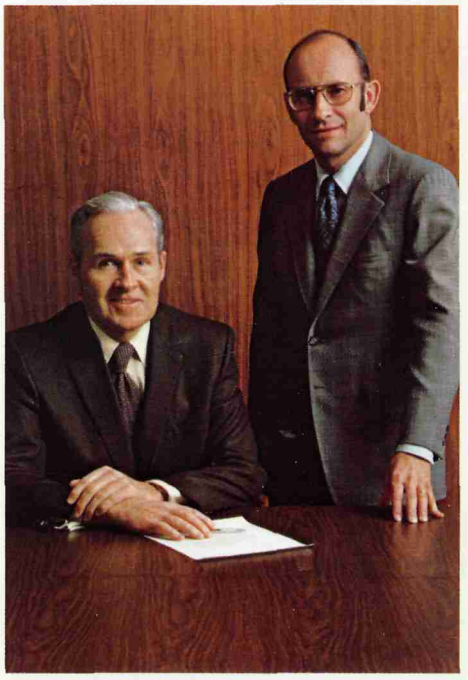
1973's excellent results are due in a major way, to the dedicated efforts and actions of all members of the Motorola family. We acknowledge their contributions with sincere appreciation.

For the Board of Directors,

Robert W. Galvin
Chairman of the Board



William J. Weisz
President



March 25, 1974

Financial Highlights

	1973	1972
Sales and Other Revenues	**$1,437,099**	1,163,315
Income before United States and Other Nations' Income Taxes	**143,523**	92,462
% to Sales	**10.0%**	7.9%
United States and Other Nations' Income Taxes	**61,527**	40,424
Net Earnings	**81,996**	52,038
% to Sales	**5.7%**	4.5%
Per Share of Common Stock	**2.95**	1.91
Weighted Average of Common Shares Outstanding	**27,823,252**	27,296,886
Capital Expenditures	**84,510**	48,008
Depreciation	**35,724**	30,529
Working Capital	**427,715**	323,544
Current Ratio	**2.43**	2.36
Shareholders' Equity	**523,481**	439,611
Book Value Per Common Share	**18.72**	15.94
Yearend Employment (approx.)	**64,000**	56,000

(Dollar amounts in thousands, except per share data)

Additional Information Available

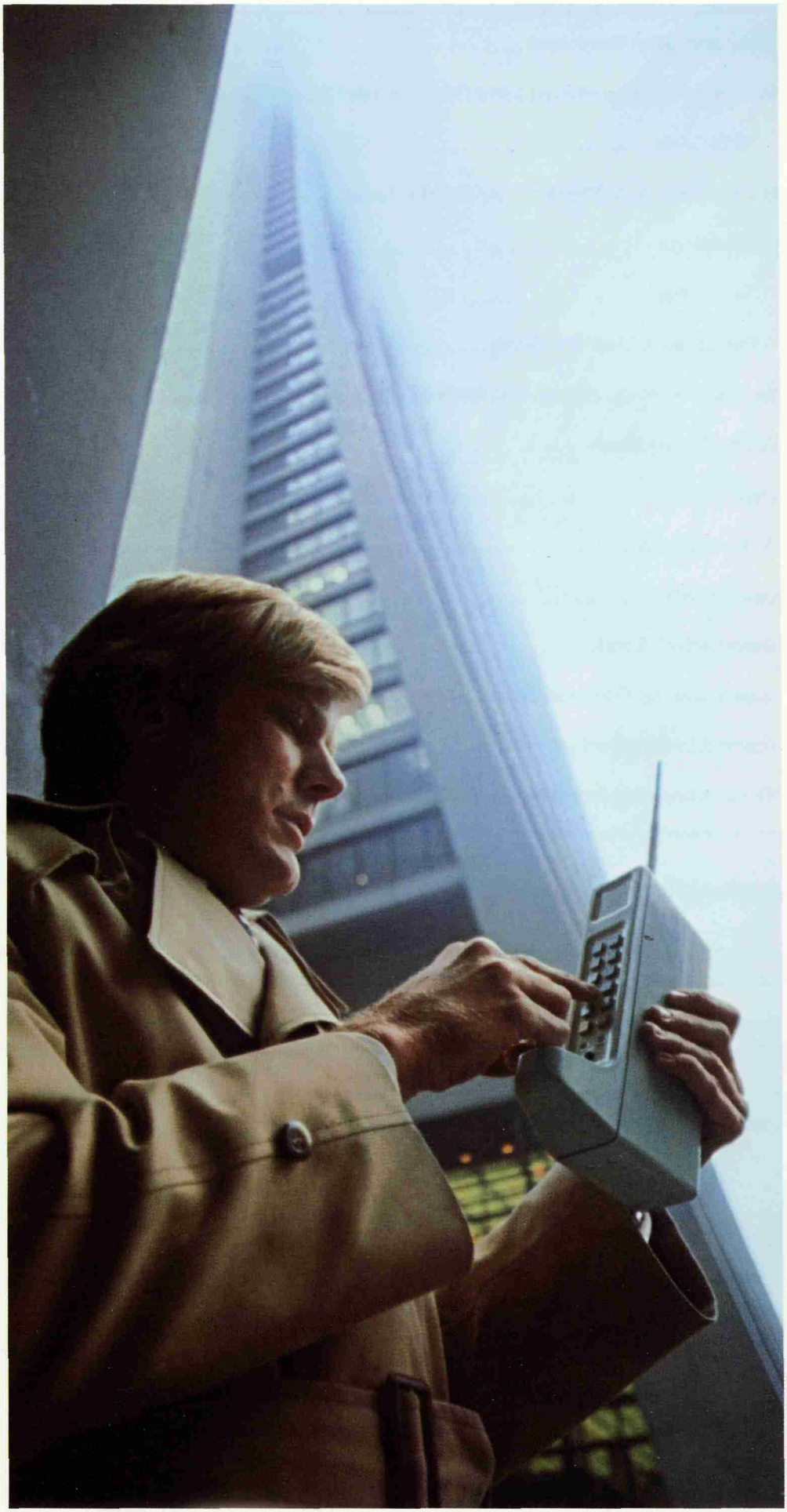
At the close of each fiscal year, Motorola submits a report on Form 10-K to the Securities and Exchange Commission containing additional information concerning its business.

As part of our continuing effort to keep all of our shareholders as fully informed as possible concerning the corporation's activities, we intend to distribute the document to interested shareholders.

Any shareholder who would like a copy of the report may obtain one upon request to the treasury department, 5725 N. East River Road, Chicago, Illinois 60631.

Communications Division

During the past decade, the communications division has achieved an annual growth rate of about 15 per cent. In 1973, the division established new records in both sales and earnings, and substantially exceeded its traditional growth rate. Sales were up more than 25 per cent, while earnings increased substantially faster than sales. Despite uncertainties in the general economy, John F. Mitchell, vice president and general manager, anticipates improved performance in both the U.S. and international markets in 1974.



A product truly ahead of its time, the DYNA-T.A.C. portable radiotelephone system, first demonstrated by Motorola in 1973, is similar to a normal dial telephone, but can be carried with the subscriber and used anywhere within the area of coverage.

Can your division maintain its traditional growth rate during 1974 and beyond?

We plan to continue our historic rate of growth during the coming year and over the next five years as well. We have been able to grow steadily by broadening our product lines into new areas such as command and control, and by our continued dedication to the marketplaces that currently use our products, and we intend to continue to do so. Also, we are supplying total systems software along with our hardware so that our customers actually get the benefits they seek, and this is helping us keep ahead of competition.

But perhaps the most important factor in maintaining our growth rate has been the tremendous versatility and continued development of our people. We are proud of the response and the accomplishments of our division in 1973, and it's our people who made these fine results possible. A major challenge in the future will be to maintain versatility by being able to shift resources at appropriate times to take advantage of new markets as they develop. We've done this well in the past, and we're confident that we will continue to do so.

Did your division add production capacity in 1973?

Yes, we have had to add additional capacity in order to keep pace with our sales growth. In some cases this has meant the addition of new facilities, and in others, additions to existing facilities. During 1973, we announced plans for additions at our facilities in Ft. Lauderdale, Florida, and Willowdale, Ontario, Canada. Our subsidiary in Germany announced that construction on its new European headquarters and production facility in Taunusstein, Germany would begin early in 1974. Also during 1973, we began production at the Mt. Pleasant, Iowa facility, which we leased early in the year. In addition, the quartz production facility in Carlisle, Pennsylvania was modernized and expanded to help meet the growth expected in the coming years.

Has the division's growth in international markets kept pace with its growth in the U.S.?

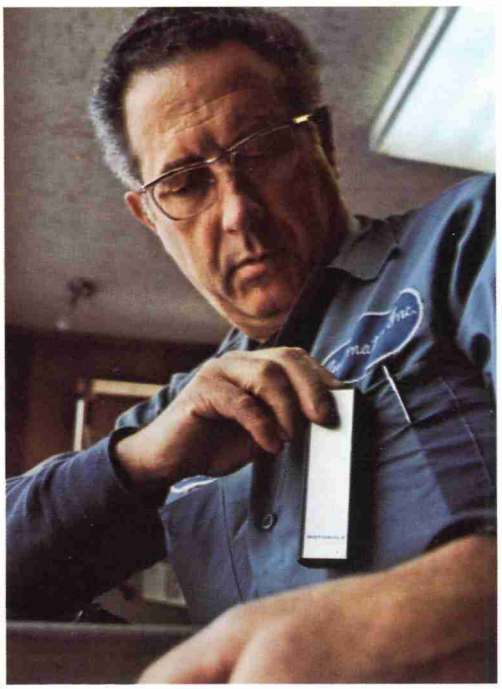
Over the past several years, the international sales growth rate has actually been greater than in the U.S. In particular, we are experiencing rapid growth in Canada and Europe. We anticipate that our non-U.S. growth rate will continue to surpass the U.S. rate for both the short and long terms. We are currently operating production facilities in Canada, Germany and Australia; have joint ventures in Argentina, Israel and South Africa, and a licensee agreement in Brazil.

Since we have a major stake in the future of world trade, we have recently expressed our concern about the upcoming European Economic Community Trade Negotiations. Specifically, we see a trend developing to restrict or place a heavy duty on products moving between E. E. C. countries if the products include a high percentage of non-E. E. C. components. Such restrictions would certainly have an adverse affect on world trade.

Continued emphasis on research and development enables the division to expand into new market areas as well as improve existing product lines. Here, a photographic master for hybrid devices is being designed.

Motorola mobile radios like the MOCOM 70 have enabled users to overcome rising operational costs and fuel scarcities by making more efficient use of vehicles.

A business using the Pageboy II radio pager will remain in touch with its employees in the field. Its small size means the unit can be attached to a belt or carried in a pocket or purse.



Is the division facing increased competition from other U.S. or non-U.S. producers of communications equipment?

Yes we are. Our traditional competitors in the land mobile radio business are remaining active on both the U.S. and non-U.S. fronts. The size of our competitors runs the gamut from some of the world's corporate giants to some small, specialized electronics companies. We have also seen the entrance of entirely new competitors into highly sophisticated segments of the marketplace.

In markets outside the U.S., we have seen increased competition from some Japanese companies, particularly in Latin America and with point-to-point products. Some of our traditional European competitors have also increased their efforts, but on a selective basis.

What factors might affect the division's opportunities for future growth?

No one knows yet, of course, what the full impact of the energy shortage will be. As a negative, the energy problem may impinge on our ability to produce. However, it could well produce some significant positive benefits in our markets, especially since the use of our products frequently enables our customers to use their vehicles more efficiently and, consequently, use relatively less gasoline.

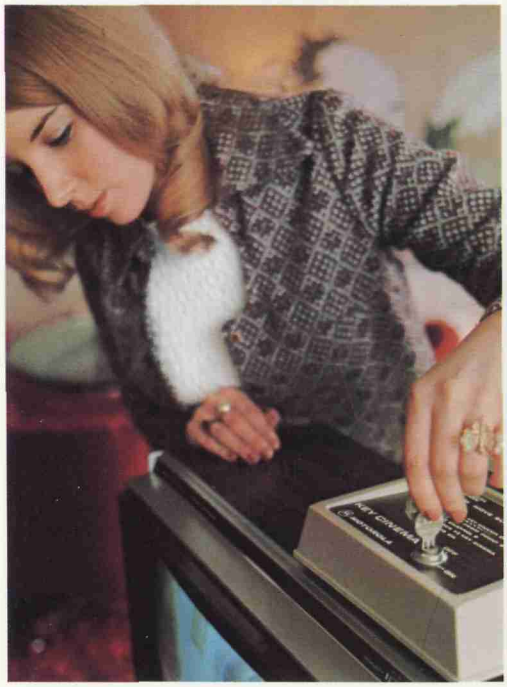
During 1973, we also became concerned about the possible shortage of critical materials and components, and we conducted an in-depth, division-wide study. The results indicated that, at our planned production levels, we should be able to continue to obtain the required material support. However, this is an area we're continuing to watch very closely.

Shortages of gasoline and electrical power could also have an adverse affect on our employees, and on our ability to produce. Consequently, we have made a major effort to conserve energy at all our facilities around the world. Our plants in Schaumburg, Illinois, and Ft. Lauderdale, Florida, for example, had reduced fuel and power consumption by 20 per cent by yearend. As 1974 begins, we are also exploring and implementing a variety of methods to conserve gasoline. Car pooling, busing and the use of other incentives to reduce usage of gasoline by our employees are all being analyzed and evaluated.

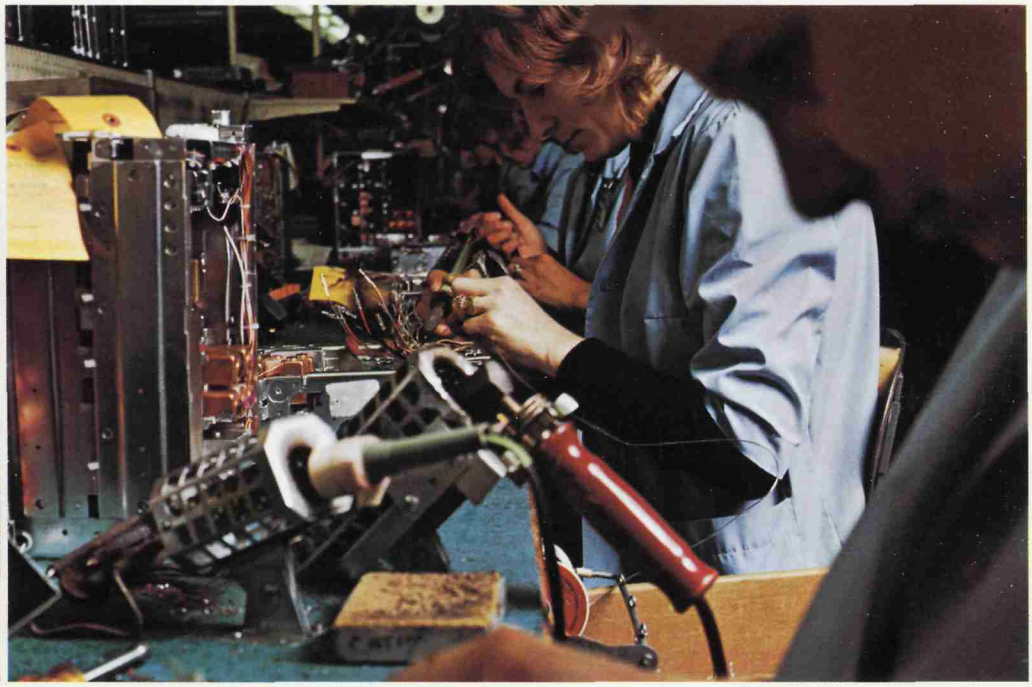
How can the energy problem have a positive effect on your marketing efforts?

From a sales and marketing standpoint, the use of two-way radio has always contributed to the efficiency and profitability of our customers. With gasoline prices continually going higher, and the consequent cost of operating vehicles going up, we expect to experience increased demand for our products. Two-way radio can pay for itself more quickly and easily than ever before. If our communications products were economically justifiable when gasoline was 35 cents a gallon, then they must be an even greater value to our customers as gasoline is priced well above that amount, and becomes increasingly difficult to obtain.

Motorola now offers a unique pay TV package to many hotels and motor inns, providing them with movies and selected live telecasts on individual room sets.



Production of Motorola two-way radios in the Toronto, Canada facility.



Has the availability of frequency spectrum to the land mobile services limited divisional growth in the past, and even more importantly, might it limit future opportunities?

The availability of adequate spectrum in the U.S. and throughout the world has been an essential ingredient in the successful growth of the division. We have historically exercised technological leadership in developing new circuits, devices and systems. In the past, we have led the way toward the efficient use of allocated spectrum. A past example of this is the 450 MHz channel splits which made more channels available in this band. We have anticipated for some years that more spectrum would be required to fulfill the ever increasing public demand for new services. The FCC has responded to those needs by reallocating to land mobile radio some of the lower UHF TV channels in the largest cities in the U.S. Of more importance, long term, the Commission now plans to allocate 115 MHz in the 900 MHz band to Land Mobile Services. This will provide almost three times today's number of land mobile channels. These new allocations, combined with our continuing efforts to use the spectrum more efficiently, will enhance rather than hinder the division's future growth.

Frequency congestion has not yet affected the division's performance in markets outside the U.S. However, the rules and regulations established by various local governments can have a profound influence on this growth. The division has established an international frequency management liaison office to support these local governments with technological and marketing background to permit optimum growth of this important industry in each country.

Is the division presently involved in the generation of any new businesses?

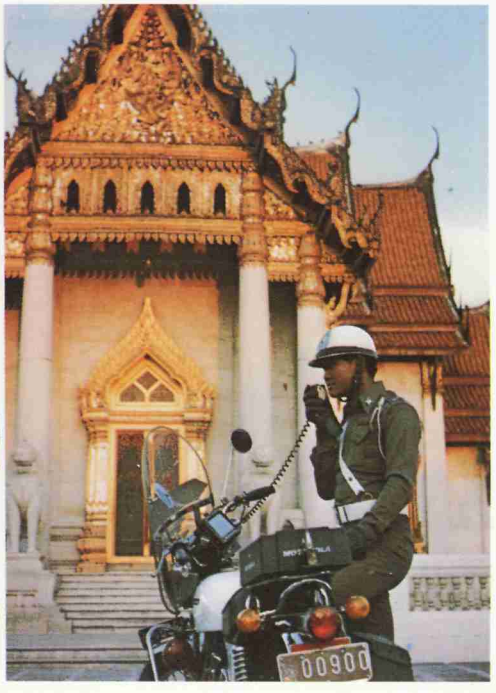
A major long-range opportunity sought by the communications division is the development of the newly allocated 900 MHz band we just discussed. This band presents an opportunity to expand the growth of the increasingly sophisticated and complex individual dispatch systems which today serve such diverse users as the neighborhood plumber and a city-wide public transit operation. In addition, new families of shared user systems which have never been offered before on a large scale basis will be possible. One of these exciting opportunities is the DYNA-T.A.C. portable radiotelephone system first demonstrated during 1973. The DYNA-T.A.C. system will ultimately permit personal radiotelephone service to be offered to hundreds of thousands of individuals in a given city, but will also be economically viable in its early stages with just a few thousand subscribers. The service offered by the DYNA-T.A.C. system is similar to that of a normal dial telephone, but the radio can be carried with the subscriber and used anywhere within the area of coverage.

We are also presently engaged in the hotel/motel pay TV business, and are providing movies in approximately 25 hotels in Chicago and Washington, D.C. We plan to expand this service during 1974 to more hotels in other cities.

The division is also a major producer of quartz crystal resonators for electronic timepieces. This market is expanding, and the division's expertise in manufacturing the heart of the quartz watches is unparalleled worldwide. We plan to expand our efforts in this field during 1974 as the demand for these precision devices increases.

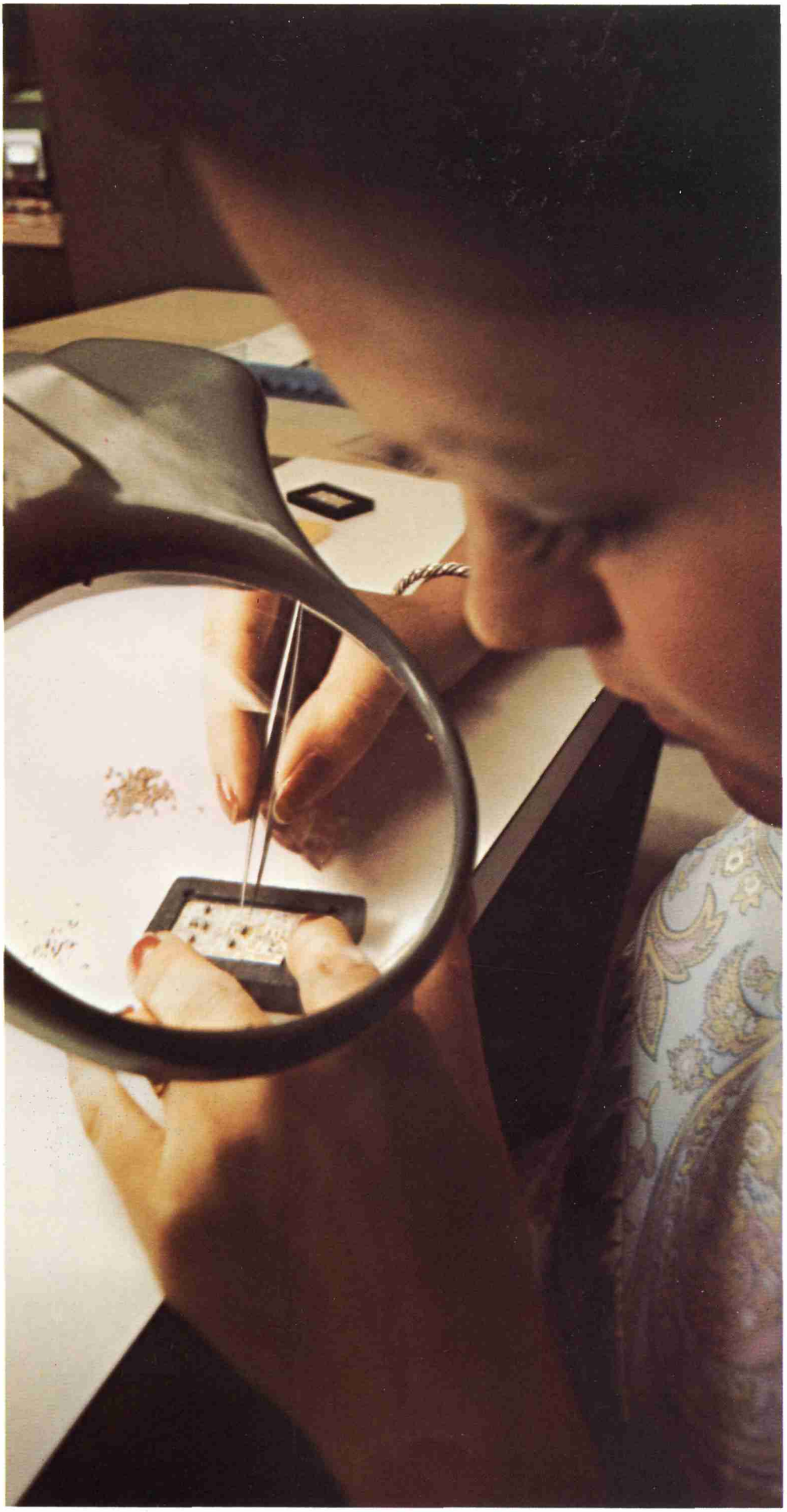
This Command and Control system, installed by Motorola in Huntington Beach, Calif., combines voice and data transmission to serve both police and fire departments.

From this military policeman in Thailand to police and fire departments around the world, equipment ranging from Motorola's Command and Control systems to the division's HT-220 portable radios are helping to fulfill communications needs.



Semiconductor Products Division

Worldwide industry sales of semiconductors totalled about $4.635 billion, or an increase of 37 per cent over 1972. Motorola's worldwide sales were up more than 45 per cent over the previous year, according to Thomas J. Connors, vice president and general manager, while earnings more than doubled to an all-time high.



Motorola's high-frequency RF module permits a number of solid-state components to be placed on a single surface to serve the expanding CATV market.

What is the worldwide outlook for semiconductors in 1974?

We currently expect an additional 10 per cent increase in 1974 in worldwide industry sales to $5.087 billion. The expected growth in worldwide consumption for 1974 breaks down into a 14 per cent increase in the U.S., 10 per cent for Europe, 8 per cent in Japan and 17 per cent for the rest of the world's markets.

In light of this slower industry growth rate, how do you think your division will perform in 1974?

While 1973's increases were extremely gratifying, we can't expect such a growth rate to continue unabated. Our people and our equipment, already operating well over known capacity limits, simply cannot run at this rate indefinitely. In light of the anticipated worldwide semiconductor growth rate of about 10 per cent in 1974, we expect to continue our recent better-than-industry performance, and therefore, our sales should grow by more than 15 per cent this year. We expect this rate to increase in 1975, and we're planning on strong and profitable growth for the balance of the decade. The reason for this optimism is that new markets and new applications for all of our products, coupled with the increasing solid-state penetration of the existing markets, is rapidly turning semiconductors into an all-pervasive, industrial commodity.

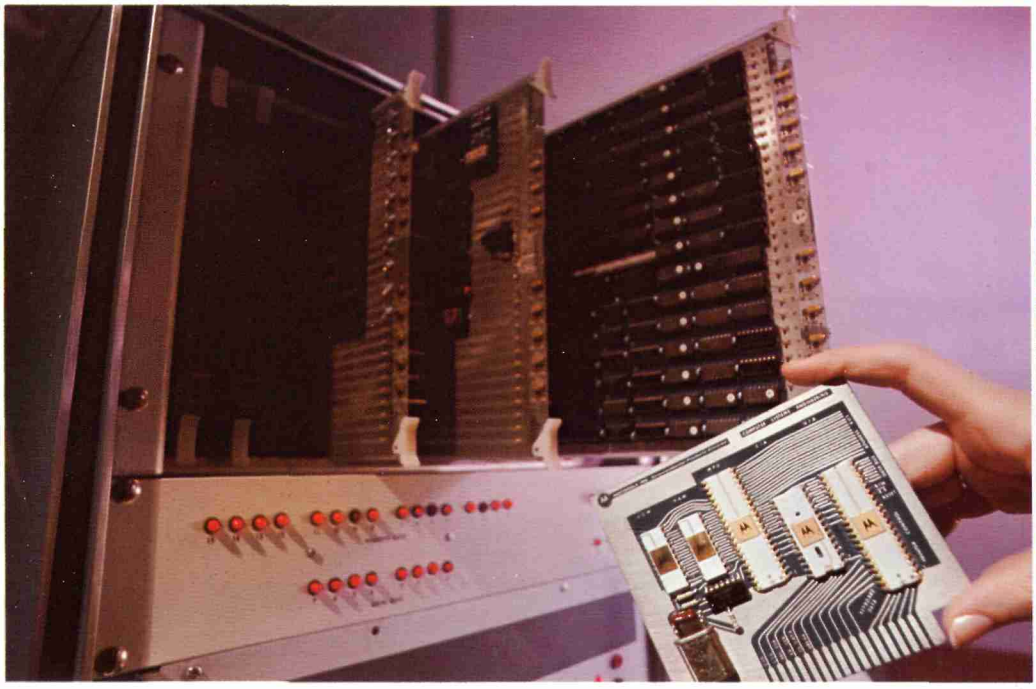
The semiconductor industry is basically dependent on the prospects of each of the end-user segments of the market. How have these segments performed and what is the near term outlook?

U.S. factory sales, for which pertinent data has been estimated, give us the following comparison for each of the major industry segments, 1973 and 1975:

	1973 (%)	1975 (%)
Consumer	22.6	22.1
Computer	28.3	26.9
Industrial	27.6	29.5
Government	21.5	21.5
	100.0%	100.0%

The importance of this data lies not in the minimal shifts detected over the 1973-75 period, but rather in the fact that all end-user markets continue their simultaneous growth. This pattern should help the industry avoid the sharp fluctuations caused in the sixties when the cyclicality of the then-dominant computer and government markets easily swung the fortunes of the semiconductor industry. Such abrupt peaks and valleys have little prospect in the now vastly more mature solid-state industry. Today's demand comes from a wide variety of users, and proliferation of applications should increase dramatically through the foreseeable future.

With just five Motorola packages in the microprocessor family, a customer can build a subsystem that would require at least 250 packages with standard integrated circuits.



Completion of initial buildings of a major MOS production facility in Austin, Texas is expected in mid-1974

Have there been increases in your production capacity to meet this accelerated worldwide semiconductor demand?

In 1973 we dedicated three new facilities: an MOS plant in East Kilbride, Scotland; a wafer processing plant in Vega Baja, Puerto Rico; and the second module of our discrete product plant in Guadalajara, Mexico, more than doubling the size of that facility. We also effectively added over 100,000 square feet of production floor space in Phoenix by transferring some in-plant support operations to leased quarters. In addition, ground was broken for two additional plants: a major MOS production operation in Austin, Texas, and an assembly plant in Kuala Lumpur, Malaysia. Further, in mid-year we received the necessary government approval for a joint venture in Japan, with Alps Electric Co., for the manufacture and marketing of semiconductors in the Japanese market. Despite these moves, mostly catch-up for capacity expansion which was deferred in the 1970-72 period, it may take until early 1975 before we have sufficient capacity on-stream to start back toward more normal scheduling of people, equipment and orders.

There appears to be a shift to non-U.S. markets in the worldwide demand for semiconductors. Is Motorola participating in this international growth?

Five years ago, U.S. consumption of semiconductors was 52 per cent of world consumption. Today, U.S. consumption has dropped to about 42 per cent of the world total, and we believe it will shrink further—to less than 39 per cent—by 1978. During the past five years we have taken aggressive strides to keep up with the international market's growth rate. We intend, through our global network of production and marketing facilities, to not only grow along with non-U.S. markets but to continue capturing an increasingly larger share of those markets.

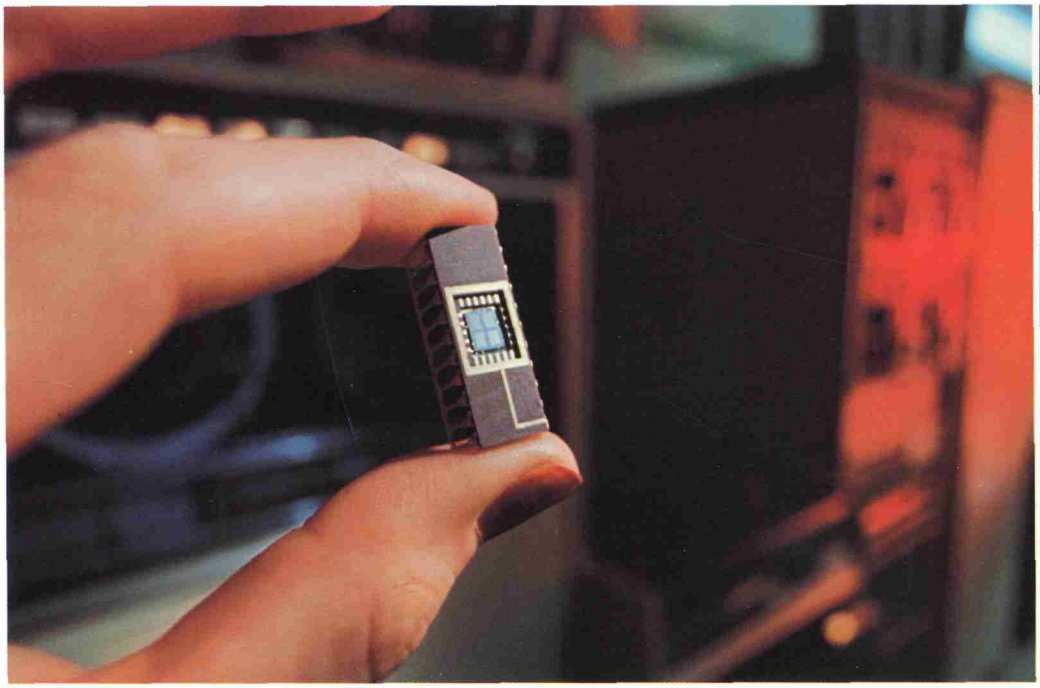
What is the trend in the relative mix of demand for the major semiconductor device categories?

While our dollar sales and unit volumes have both increased quite significantly in discrete devices, their overall market percentage has declined as the newer integrated circuit technologies expanded. In 1968, discrete dollar volume accounted for 76 per cent of industry demand. Today, we estimate they have shrunk to 60 per cent of the industry product mix. By 1978, we believe discretes should command about 44 per cent, and integrated circuits the remaining 56 per cent—comprised of 36 per cent bipolar and 20 per cent MOS devices.

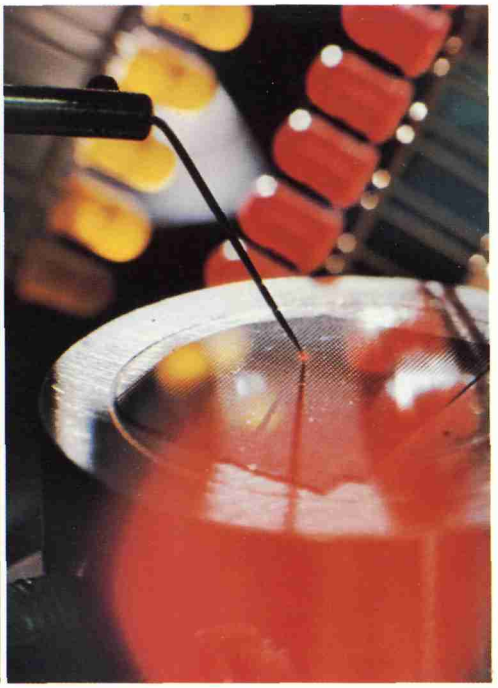
Has Motorola continued its leadership position in the discrete device product line?

Contrary to many forecasts, the discrete market grew at a record rate during 1973, primarily because of the lower-than-expected vulnerability of discrete products to replacement by integrated circuits. To extend Motorola's worldwide leadership in the discrete product area, 130 new products were introduced in 1973. These new products, together with cost reduction programs and capacity expansion, all contributed to record sales, profits and backlogs, further strengthening our leadership position in discrete devices.

Motorola's 4,096-bit MOS RAM (Random Access Memory) integrated circuit should become a truly cost-effective alternative to magnetic cores for computer memory.



Motorola produces red, yellow and green Light-Emitting Diodes (LEDs) for a variety of indicator applications.



While the division has improved its position with more mature discrete products, what has been its recent experience with the newer bipolar integrated circuits?

We are continuing a high rate of technical development in large scale integration (LSI), and our exclusive "gate array" concept in bipolar LSI makes it possible now to achieve higher circuit density than previously available in the bipolar industry. With it, 400-gate complexities can be provided on a one-eighth inch square chip. The process offers a simple method for custom interconnection, and at least a 10-to-1 reduction in the number of packages required for a given application.

We have enjoyed increasing success in the emitter coupled logic (ECL) market with our MECL 10,000 line, which has become an accepted standard in the industry. Motorola has a large lead on competition in this important area, and we plan to increase this lead through the addition of new devices to the product line. In addition, we are currently developing the next generation of MECL devices.

In two older digital logic lines, RTL and DTL, we are continuing to enjoy both high volumes and good profits.

In transistor-transistor logic (TTL), we increased our sales volume in 1973. This business is also profitable now that we have improved our yield and rounded out the product line.

Motorola produces the broadest line of linear integrated circuits in the semiconductor industry. We are active in virtually every consumer and industrial linear market, and hold a front position in the automotive and TV portions of the consumer market. We continue to increase our share of the linear market because of our ability to respond quickly to design changes and production requirements.

During the past two years the division has emphasized its metal oxide semiconductor (MOS) integrated circuit product family. Have results to date confirmed this decision, and is the future outlook favorable?

The early commitment to complementary MOS (CMOS) and N-channel MOS (NMOS) has resulted in our possessing an outstanding capability for exploiting the long range growth potential of these technologies. In the case of CMOS, Motorola started 1972 with 7 standard products. At the end of 1973, 80 CMOS products were available in what has become the largest standard product range in CMOS in the industry. The development of several key NMOS memories, including a 4,096-bit random access memory, together with a comprehensive microprocessor program, has provided an excellent product base. A rapidly rising sales curve in the newer technology areas has served to demonstrate positive results. We believe that the future market in MOS, in particular CMOS and NMOS, provides considerable long term potential. The development of a suitable product and process base indicates that Motorola is in an excellent position to exploit this long range opportunity.

Does the division feel the microprocessor market represents a new business opportunity for the semiconductor industry? If so, to what degree will Motorola participate?

The burgeoning microprocessor market is presenting the industry with a radical opportunity to engineer into electronic systems significant benefits not previously possible. The true extent to which microprocessors will be adopted is not yet apparent, even though the current picture indicates a possibly phenomenal market whose growth rate could eclipse that of today's fastest growing semiconductor categories. Motorola has a major commitment to the microprocessor market, and we intend to secure a significant share. Development in this area has reached an advanced stage.

Processing on a 3-inch wafer gives Motorola 2¼ times as much surface on which to build semiconductors than with processing on a 2-inch wafer.

Wire-bonding integrated circuits at the division's facility in Guadalajara, Mexico.

Consumer Products Division

While 1973 distributor-to-dealer unit sales of color TV for Motorola's consumer products division were slightly ahead of the 1972 total, the division's sales growth trailed the industry growth pattern for the first time in three years. Edward P. Reavey, vice president and general manager of the division, anticipates decreased color TV sales for both the industry and Motorola in 1974.

With Quasar "Works-in-a-Drawer" color TV, Motorola was one of the first American manufacturers to introduce a solid-state modular chassis, followed by Insta-Matic color tuning.

How many color TV receivers were sold by the industry in 1973?

Distributor-to-dealer unit sales in the U.S. totalled about 9.5 million in 1973, establishing a new industry record. This compared with total industry unit sales in the U.S. of 8.5 million the previous year. While the industry's long-term trend in color TV unit sales has been up, the general growth pattern is expected to be down somewhat in 1974, with total industry unit sales easing off to approximately 8.8 million units. Even so, such a rate would represent the second highest industry volume in color TV sales in history. The growth pattern should resume in 1975, according to industry estimates.

How does that compare with Motorola's results?

We trailed the industry growth rate for the first time in three years, although our color TV unit sales were slightly ahead of 1972. The leveling off of our Quasar color TV sales was partially due to suggested list prices that were somewhat higher than many competitive brands in the marketplace. We had increased prices on certain color models late in 1972, within the price guidelines, but our move was not generally followed by the industry.

Also, our advertising budget in 1973 was reduced from the previous year, and probably contributed to the slow-down of the momentum we had built up with the Quasar color TV program.

How were 1973 industry sales for black-and-white television sets?

Total industry distributor-to-dealer unit sales in the U.S. for black-and-white television sets declined by some 13 per cent from the previous year's level, dipping to about 7.2 million units, compared with about 8.3 million units in 1972.

Did your division also trail the industry in black-and-white set sales?

No, we actually out-performed the industry in black-and-white unit sales. We achieved a distributor-to-dealer unit sales increase of some 20 per cent over 1972.

Did your division earn a profit in 1973?

No, it did not. Because of our less-than-anticipated volume, because of drastically increasing costs in many parts of our operation, and because of the continued shift to lower margin portable and small screen color as well as black-and-white TV receivers, we recorded a loss for the year.

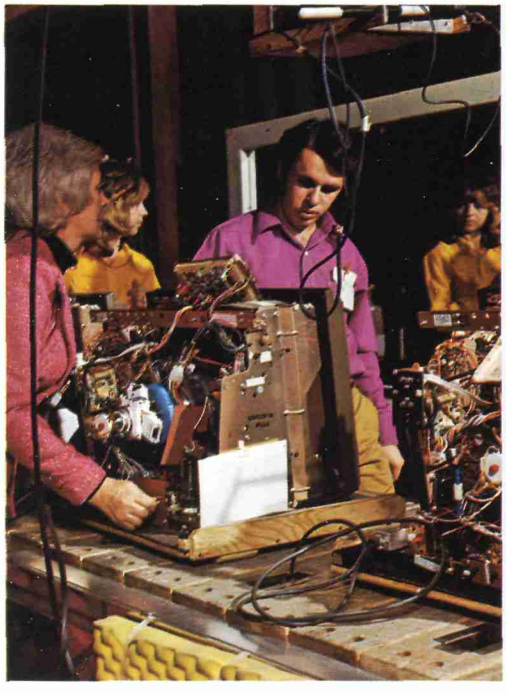
Does non-U.S. competition continue to have a significant impact on the industry's performance?

The changes in currency exchange rates that took place in 1973 overcame some of the selling price advantage enjoyed by non-U.S. manufacturers in the black-and-white TV marketplace in the U.S. over the past several years. Consequently, non-U.S. label black-and-white TV sales were down somewhat in 1973. Sales of non-U.S. label color receivers, however, continue to increase, primarily because of the continued growth of the color TV market in this country. Non-U.S. label import brands have generally been very competitive in the growing portable sector of the U.S. market, but they have not yet achieved a substantial percentage of the total color TV market.

Is the consumer preference shift from console to portable color receivers continuing?

Yes, it is. It's a gradual shift that began three or four years ago, but more and more customers are turning away from big screen console sets in favor of smaller portable and table models. This definite trend is adversely impacting both average unit selling prices and profit margins. It is also having a particularly severe effect on Motorola's performance because we have traditionally enjoyed a relatively larger share of the industry's large screen and console color TV sales.

Intermediate color TV testing in the division's Canada facility.



As data is transmitted from a centralized computer to this Motorola display monitor, the operator punches out a reply on the keyboard controller.

Has the division experienced any shortages of key materials during the year?

Yes, we have. In fact, a major and severe cost factor that emerged in 1973 centers around steep price rises for materials and components that were in increasingly short supply.

A very critical shortage developed in plastics near the end of 1972. During the first half of 1973, similar shortages arose in wood and wood products, steel and steel products, high grade aluminum and copper used in wire.

Typical price increases in the U.S. which confronted the division included 30 per cent for wood solids and 47 per cent for base copper. Raw polystyrene prices were increased about 16 per cent and kraft paper was higher by about 13 per cent. Prices for these same materials, when purchased abroad, were up even more drastically.

Careful planning between the division's purchasing department and suppliers, with back-stop sources arranged in many instances, should result in adequate material support for 1974, contingent upon our suppliers receiving sufficient fuel to operate their own plants.

In terms of fuel requirements of the division's plants, a concentrated program of energy conservation was enacted early last Fall, and secondary fuel supplies are being obtained where considered necessary.

What is the outlook for future expansion into new products by the consumer products division?

It is our objective to enter new businesses in the future. With that mind, and to optimize the concentration of our resources, we restructured the division during 1973.

Separate operations organizations were created for color TV, black-and-white TV, display and international. Each of these businesses is now a profit center and each has its own engineering, marketing, manufacturing and business management resources.

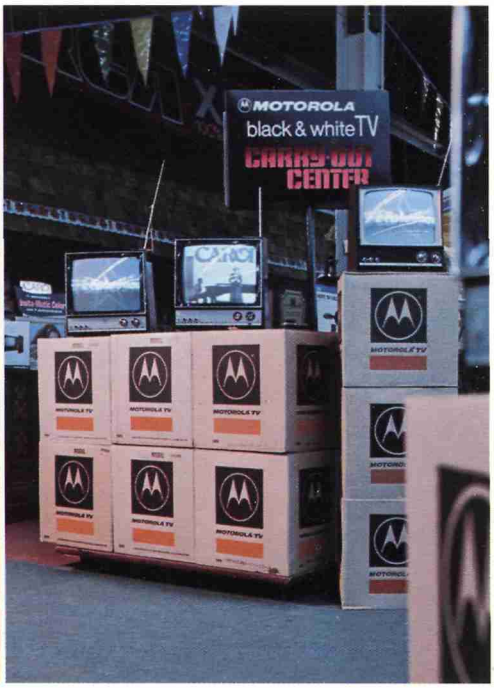
Additionally, five major support functions were established with responsibility across the entire division. These include manufacturing, materials, services and branches, business management and technology.

The department of technology represents a new unit in our division, and has prime responsibility for strategic planning, advanced engineering, advanced product development and new business development. From this group, we expect new extensions of existing products as well as the emergence of new types of business for the division. It is our hope to enter at least one such new business in 1974.

Incidentally, display products are a good example of a new extension of an existing product line. The strategy behind the formation of this group was to extend the solid-state technology, developed for TV products, into new uses in computer peripheral equipment, closed-circuit TV systems and the new electronic games market. This business has done very well, with dollar and unit sales showing a marked increase during 1973.

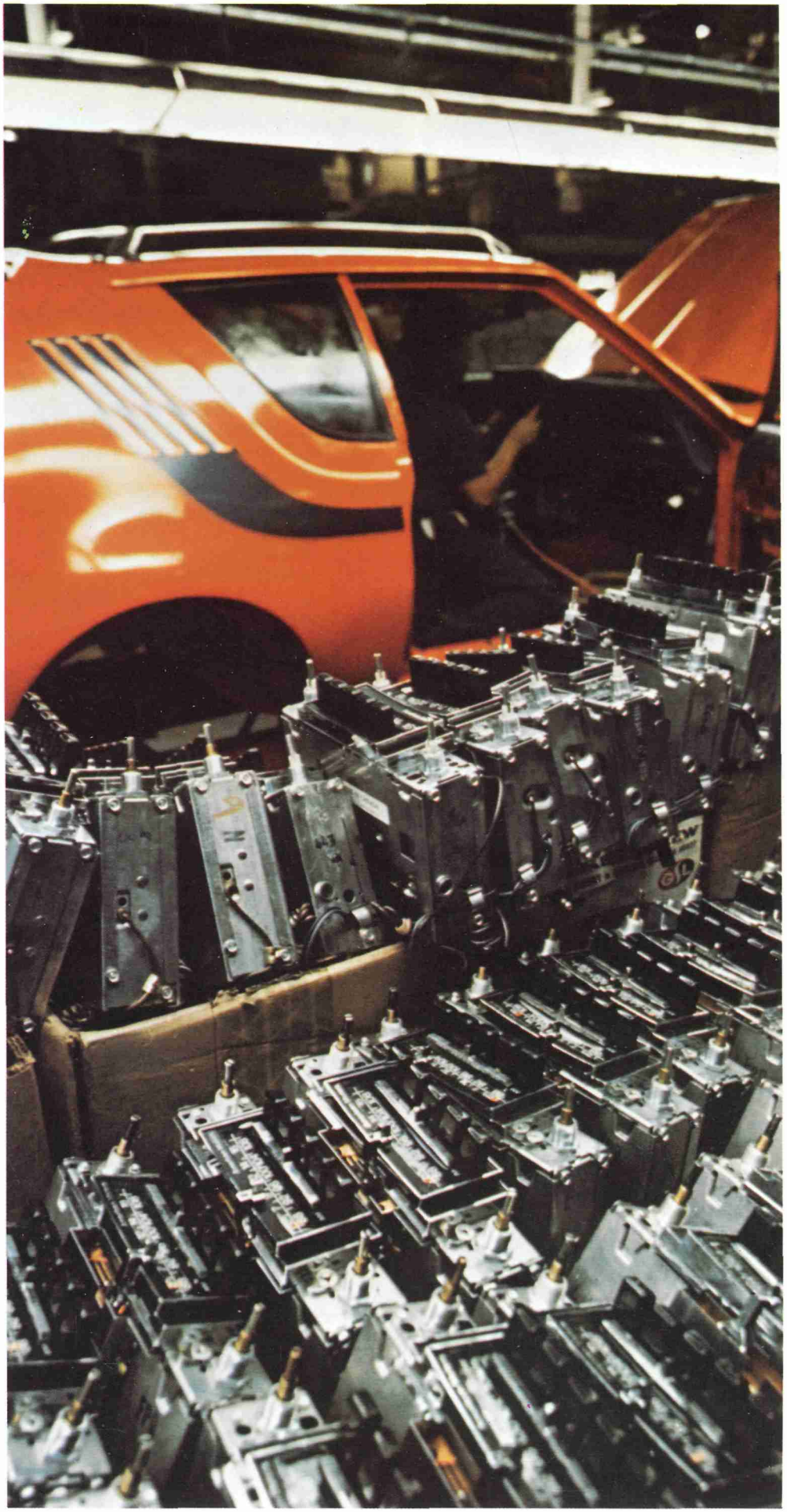
Subassembly operations in CPD's Taiwan facility.

Motorola black-and-white TV is currently being merchandised as an impulse item.



Automotive Products Division

Since 1970, sales of the automotive products division have tripled, including since 1971, 100 per cent of the Autovox subsidiary. Sales for 1973, according to Oscar P. Kusisto, vice president and general manager, established a new record. The future outlook is for continued growth and diversification.



Moving with the trend to smaller cars, APD provides factory-installed AM/FM stereo radios to American Motors for 1974 Gremlins and Hornets.

Did your division also set an earnings record in 1973?

Yes, our earnings set a record in absolute dollars, but our margins were less than expected. This was due to changes in currency rates, material supply problems which caused lost production and inefficiencies, price increases from U.S. suppliers, new product introduction costs and production capacity limitations.

What is the outlook for the U.S. automotive industry in 1974?

Primarily because of the energy crisis, our outlook for the automotive industry is mixed and cautious. Many people are expecting a 10 to 15 per cent industry decrease in unit sales. Another important consideration is the shift in product mix, with perhaps 50 per cent of the demand this year for compact and sub-compact models.

How do you expect your division to perform in this environment?

Despite these industry trends, we're looking for both increased sales and improved margins in 1974. One of the major reasons is that the trend to smaller cars has not diminished the demand for higher priced options such as entertainment centers with AM/FM stereo radios and 8-track tape players. If anything, the demand for sophisticated electronic entertainment systems—which we provide in large volume to three of the top four automotive manufacturers—should continue to grow in the future.

Another reason is that each new vehicle, whether large or small, requires an alternator charging system and an ignition system, both of which we also supply to certain auto manufacturers.

Sales of imported cars are also faring well, and we expect this to represent an important segment of our 1974 business. For example, our division supplies entertainment products and alternators for Volkswagens sold in North America, and our subsidiary in Italy is a major supplier of entertainment products to Fiat.

What major contracts did your division receive in 1973?

We received several major contracts which, in some cases, reach beyond the 1974 model year, and provide one basis for our optimistic sales outlook for 1974. These include, for example, a three-year, multimillion dollar contract to supply entertainment centers and FM radios to Ford for selected 1974, 1975 and 1976 models. We are also the sole outside supplier of entertainment products for Chrysler's 1974 models, and the principal supplier of entertainment products and alternators to American Motors. We received a three-year contract from Ford for electronic ignition modules, which we expect to account for several million dollars of annual sales.

What percentage of the division's sales are derived from the international marketplace?

Our international sales, which include both exports and the sale of products manufactured outside the U.S. and provided to non-U.S. auto manufacturers, accounted for about 25 per cent of our total sales in 1973. We expect our international activity to continue to expand rapidly in the future.

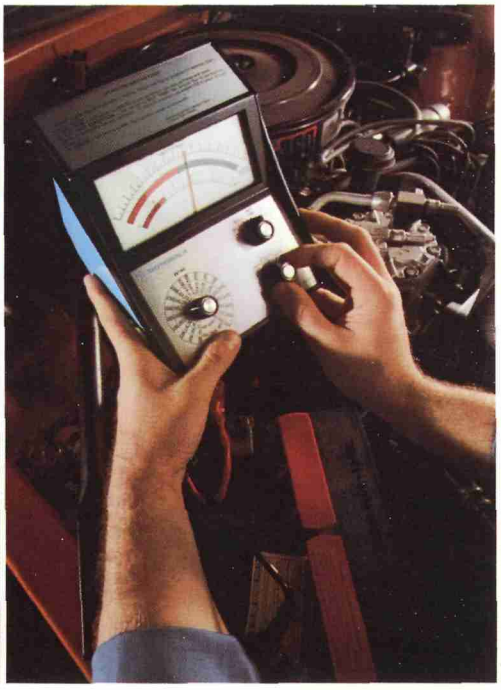
We now have manufacturing subsidiaries in Canada, the United Kingdom and Italy. Our sales and profits in Canada recorded a healthy growth in 1973. Our subsidiary in the U.K. achieved record sales and earnings for the year, and barring continued severe problems in the British economy, the outlook for 1974 is for continued progress. Autovox, our majority-owned subsidiary in Italy, increased sales and showed a profit in 1973, and we also expect further improvements in 1974, provided the energy problem eases in Europe.

Alps-Motorola, our 50/50 joint venture company in Japan, greatly increased sales in 1973 and anticipates a similar incremental increase in 1974. Profits for this activity, however, were down slightly from a year ago, primarily because of the dramatic increase in costs being experienced in Japan. We expect margins to improve in 1974.

Also, we signed licensing agreements with many Japanese 8-track and car radio manufacturers in 1973, which will bring us additional royalty revenue in 1974 and beyond.

Motorola-produced entertainment centers supplied to Ford Motor Company for selected 1974 models include AM, FM, FM stereo radios and 8-track stereo tape players in compact, instrument panel mounted units.

Motorola is presently market-testing a new generation electronic battery tester with a capacity up to 1,000 amperes.



Are you currently increasing your production capacity?

Yes, we're currently making major investments in additional production capacity both inside and outside the U.S. One of our serious problems with entertainment products in 1973 was the fact that our sales were limited by our production capacity. This problem will be somewhat alleviated when our new 175,000 square foot car radio and tape player plant in Seguin, Texas comes on-stream in 1974.

In addition, we're building a plant in Angers, France, also 175,000 square feet, which will be completed in 1974. This facility will provide voltage regulators, alternators and electronic ignition systems for European auto manufacturers.

Is the division exploring any new products in the automotive field?

Yes, we certainly are. The day may come when electronics could account for 20 per cent of the manufactured cost of an automobile. This should provide us many new product opportunities. Electronic ignition, fuel injection, anti-skid systems, alternators, voltage regulators, digital clocks and a variety of instruments and sensors all represent present or future possibilities. We are currently devoting a lot of time, talent and money to research and development programs in several of of these areas.

Incidentally, there are also many opportunities for innovation in our existing product lines, and we're paying equal attention to them. We believe, for instance, that 4-channel discrete car radios and tape players are on the horizon. Although some discrete 4-channel tape players are already on the market, 4-channel radios will not appear until the FCC approves changes in existing FM broadcast standards to permit discrete 4-channel transmission. However, we are now proceeding with the development and design work necessary to put the division in a favorable technical position when the FCC does approve 4-channel discrete broadcast standards.

In the automotive instrument segment of our business, we are market-testing a new generation 12-volt battery tester with a capacity up to 1,000 amperes. We also plan to accelerate the growth of this business through such products as electronic speedometers and sensor tachometers.

Is the division being adversely affected by vertical integration by U.S. car manufacturers?

No, I don't believe so. Although there is continuous movement by some of our customers to produce more of their own requirements, especially entertainment products, we are and intend to continue being a major supplier to the automotive industry. The major contracts we continue to receive are a testimony to that fact.

More importantly, we believe that the major auto manufacturers recognize the necessity and desirability of maintaining outside sources, at least for products such as ours, where the technologies and markets are in a dynamic and fast moving state.

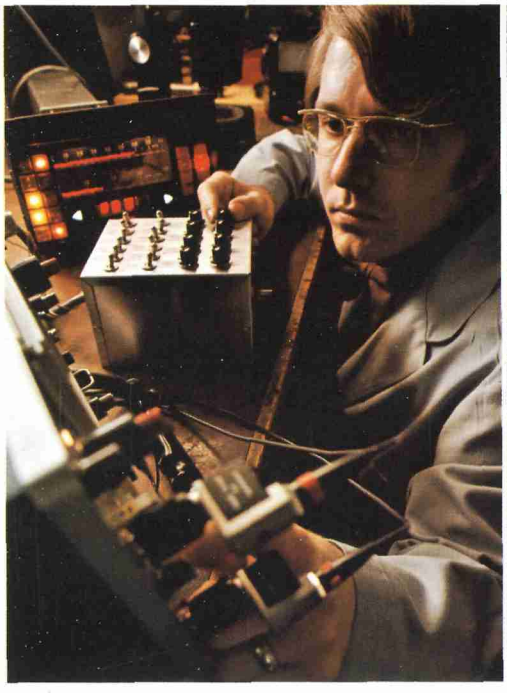
Aside from auto radios and tape players, what are the division's other products?

Our two largest volume products, other than entertainment products, are alternator charging systems and electronic ignition systems. These two products currently represent about 20 per cent of the division's total sales. Ford, Volkswagen and American Motors are our largest customers for these underhood products, but they are also sold extensively in the aftermarket to commercial fleet operators and to other smaller OEM customers. Automotive instruments, as noted earlier, is our newest and smallest family of products.

It might also be indicated here that a growing portion of entertainment products is sold to non-automotive OEM customers. For example, we supply private label tape decks to many major home entertainment manufacturers, in both 8-track and 4-channel versions. Private label sales are steadily increasing each year.

Sales of Motorola-branded aftermarket automotive entertainment products are also increasing steadily. We are greatly expanding this activity and have entered new markets, such as direct sales to major retail accounts, the recreational vehicle market and the marine market. Motorola-branded entertainment products sales doubled between 1972 and 1973.

This model of a computerized instrument panel/display was built to study the feasibility of replacing current truck instrument panels. The unit monitors 22 operating functions such as mileage, oil pressure and transmission oil temperature.



A new facility in Angers, France will be operational in 1974 and will produce alternators and electronic voltage regulators for European automakers.

Government Electronics Division

While the total military and space electronics market has not grown over the past several years, Motorola's government electronics division in Scottsdale, Arizona has been able to consistently improve its sales and earnings performance. In 1973, the division attained record sales and dollar earnings. According to Ralph W. Elsner, vice president and general manager, the division continues to look forward to sound, stable growth.

To what do you attribute the division's successful performance, not only last year, but over the past several years?

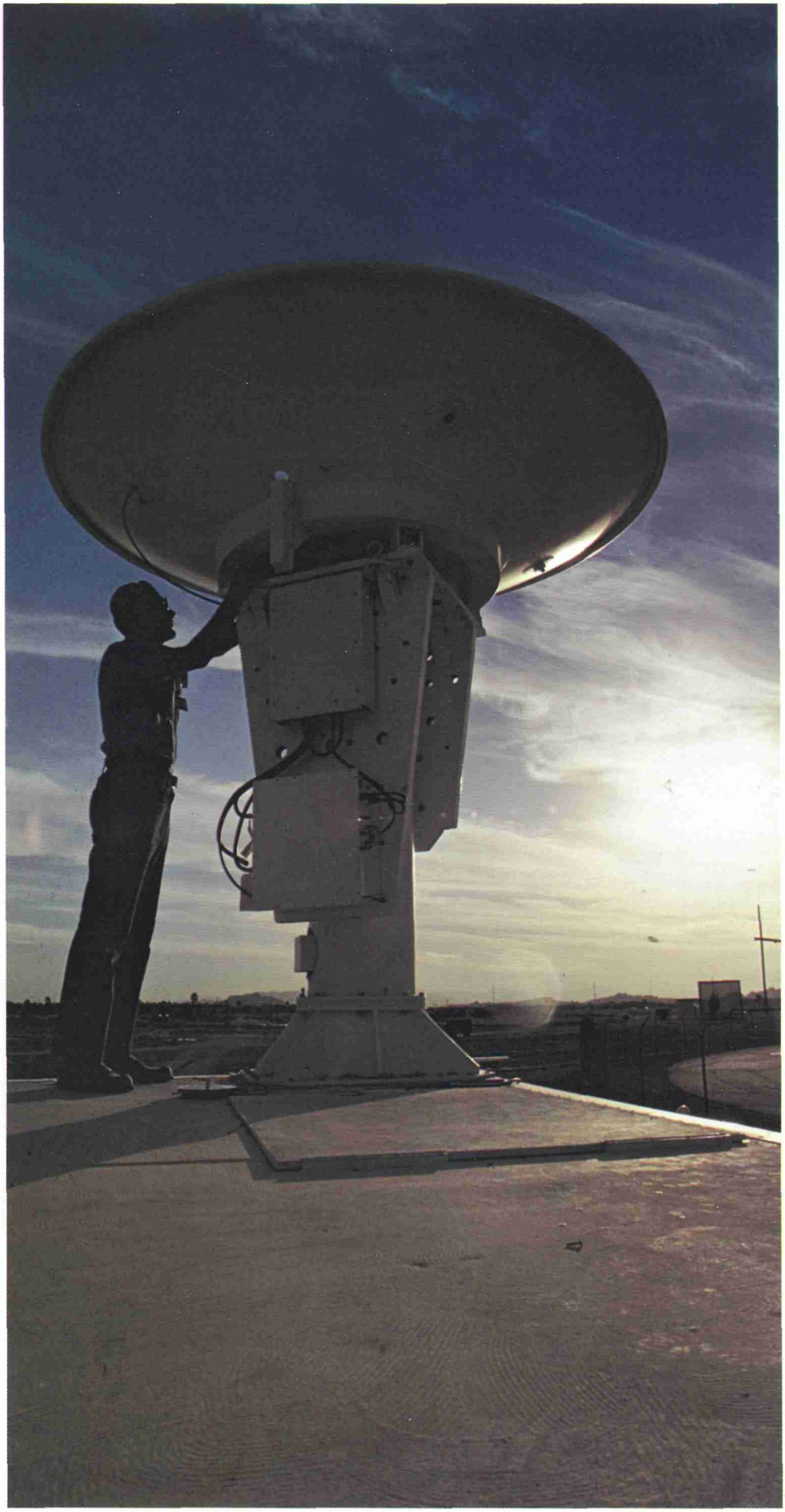
There is, of course, no single reason why any company leads in its particular field of endeavor. In our case, I think there are three primary reasons. The first is organization, the second is concentration, and the third is what I call "self-imposed limitation."

How is your division organized, and why is that a key factor?

We're organized into three separate operations: radar, communications and tactical electronics. Each of these is small enough that its director can be directly involved with the problems, progress and results of every program. Also, the director of each operation has his own senior managers in charge of marketing, program management and engineering, respectively. This allows us to provide our customers the quick reaction, understanding and dedication to individual needs offered by small companies. At the same time we offer the stability, financing, depth and breadth of technology, facilities and financial resources of a large corporation.

How does "concentration" affect your division's performance?

We concentrate our efforts in areas where high technology is critical for development or production. We simply choose not to compete with organizations having only minimal facilities, poorly trained people, or which provide practically no engineering resources. We do choose to compete with the half a dozen or so top companies in each of our various business areas which are the only ones capable of meeting the requirements of a sophisticated system or advanced equipment.



Deliveries of tri-service systems for simultaneous command and control of multiple drones continue under Navy contract.

What do you mean by "self-imposed limitation"?

By that I mean we will not allow more than 20 per cent of our capability to be dedicated to any single program. We will not allow more than 50 per cent of our capability to be dedicated to any one of our principal customers—the Army, the Navy, the Air Force or NASA.

What's the purpose of such limitations?

They have proven to be valuable in two ways. First, by avoiding single, very large programs we minimize the likelihood of major employment variations in case the government should terminate a single program. Second, we force customer diversity which in turn provides a wide base of technology. We also avoid heavy dependency on any single government agency.

Have you found these restrictions growth-limiting?

These restrictions do not limit *sound* growth. Each time we have approached an upper limit we have been successful in adding new business in other areas or with other customers in order to keep the division within the prescribed balance. The primary tools in achieving this are strategic planning, careful channeling of research and development and a concentration of marketing effort.

Does the division engage in both development and production contracts and, if so, to what extent in each?

So much emphasis is often placed on our advanced military and space R&D activities that it is easy to lose sight of the fact that about 60 per cent of our dollar volume is manufacturing. Our manufacturing activities, like our engineering, involve high technology and extremely diversified products. It's a natural follow-on since our manufacturing is almost exclusively devoted to products we previously developed.

Would you cite some examples of manufacturing programs?

Our manufacturing programs range from building a dozen or so devices under "clean room" conditions to the automated production of thousands of units. Typical of the systems and equipment we build are space communications and data handling equipment, computer interactive displays, drone, missile and spacecraft tracking and control systems, transponders, UHF air traffic control systems, target detecting devices, vehicle positioning systems, electronic jammers and satellite terminal equipment.

Among the major contract awards we received in 1973 was a $3.1 million award from the National Space Development Agency of Japan for advanced space telemetry tracking and command electronic units for scientific research satellites. This equipment will be manufactured in Scottsdale, Arizona, and exported to Japan. I might also mention our $14 million Air Force contract for ordnance devices, and a $14 million contract from the U.S. Navy for receiving terminals for a satellite-to-ship communications system.

What percentage of your billings comes from each of the armed services?

In 1973, about 10 per cent of our contracts came from the Army; 30 per cent from the Navy; 30 per cent from the Air Force; 10 per cent from NASA, and about 20 per cent from other customers.

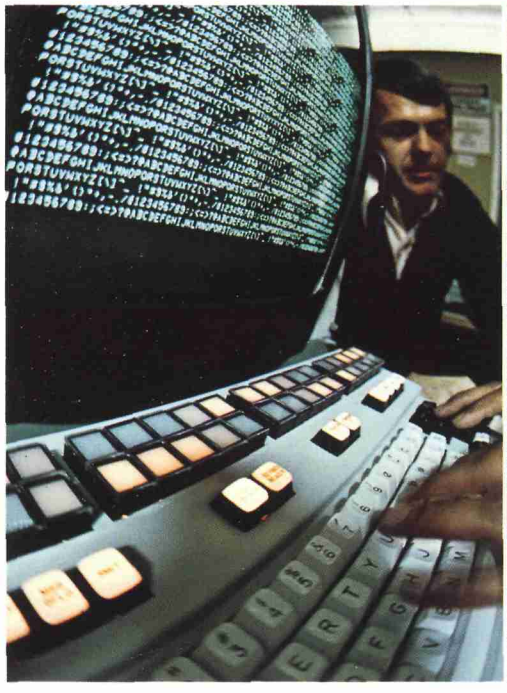
Are any of your products being used in civilian applications?

Yes, there are an increasing number of civilian uses of our equipment. A good example is the side-looking airborne radar (SLAR), which we developed for use in military surveillance. This equipment can see through any weather or darkness while "recording" radar maps of a wide area of terrain. It is now used in surveying flood damage, plotting ice floes and iceberg movements in shipping lanes, locating geologic faults, detecting oil slicks and for many other purposes. Also, our proprietary positioning systems are being used in a variety of applications which require accurate positioning of dredging or oil survey vessels.

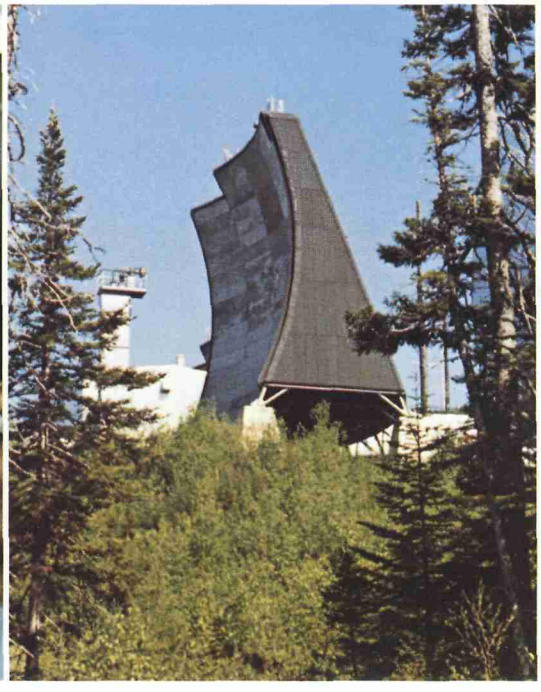
What is the outlook for continued growth in the government electronics market?

We are looking forward to continued sound, stable growth. At the end of 1973, the division had established a new business backlog record exceeding 1972's all-time high by 14 per cent.

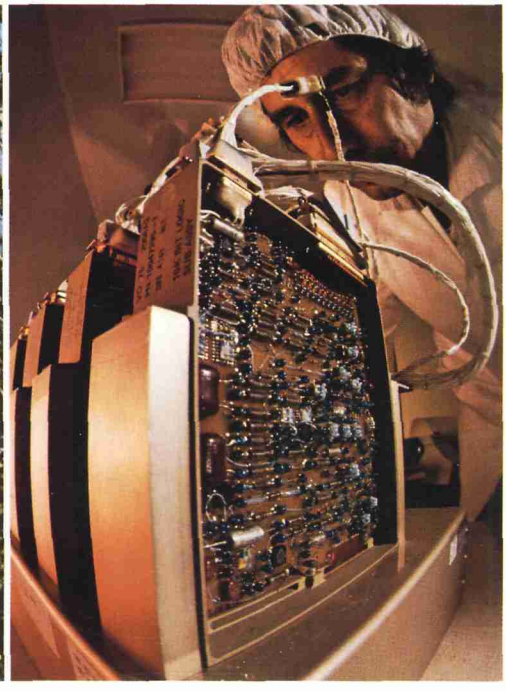
Off-the-shelf Totalscope II performs a variety of computer-interactive display functions . . . simply by adding or removing plug-in modules.



In 1973, GED won a multimillion dollar Bell Canada contract for troposcatter radios.



Motorola is building a major portion of the electronics for the NASA/JPL Viking Orbiter spacecraft scheduled to orbit Mars in 1975.



New Ventures Activity

When organized in January 1972, the new ventures activity was charged with the responsibility to seek out, encourage, test, monitor and foster the growth of internally generated new businesses and to also seek out, evaluate and recommend opportunities for growth through external acquisitions. Stephen L. Levy, vice president and former general manager of the semiconductor products division, is in charge of the activity, which includes a research laboratory in Phoenix.

What criteria do you use in evaluating acquisition candidates?

There are several criteria that are significant to us in selecting an acquisition candidate, dealing primarily with the nature of the business, growth, sales volume, management depth, profit potential and market position. In general, however, the two most significant factors are that the business should fit well with Motorola's background as a high-technology company, and that the profit and growth potential should be consistent with Motorola's overall objectives.

Have any acquisitions yet been made under the new ventures activity?

Although our group has reviewed a substantial number of candidates over the past year, for a variety of reasons we have not made any acquisitions.

Has the new ventures activity developed any new business opportunities generated by Motorola employees?

While several ideas have been evaluated, and some of them given in-depth study, only one new business has been formalized to date, and a second has reached an advanced stage of evaluation. The formalized venture is called Motorola Teleprograms Inc., and has been operating for nearly a year. This company's main product line is a library of law enforcement training films designed for police agencies, and industrial and institutional security organizations. The company has sold one or all of its 20 film titles to more than 500 customers to date. Several other new business ideas are currently in various stages of development.

What is the present status of the electronic timepiece program?

During 1973, the timepiece electronics unit expanded its capability to serve the broad range of market demands for electronic watch and clock componentry. At present, Motorola is the only major supplier which can provide watch manufacturers a complete kit of electronic components—CMOS integrated circuits, rotary motors and quartz crystals—for analog watches (those with conventional faces and hands). The three components can be purchased separately as well.

Of significance during the year, Motorola developed an advanced digital timekeeping system—one that gives continuous readout of numbers to tell time. Digital systems, we feel, are going to have a substantial impact on the market as suppliers begin to meet the already high existing demand. Industry projections for these all-solid-state watches call for a modest one per cent of total free world market production in 1974, growing to 12.5 per cent in 1978.

Is Motorola expanding its line of products and services to the lodging industry?

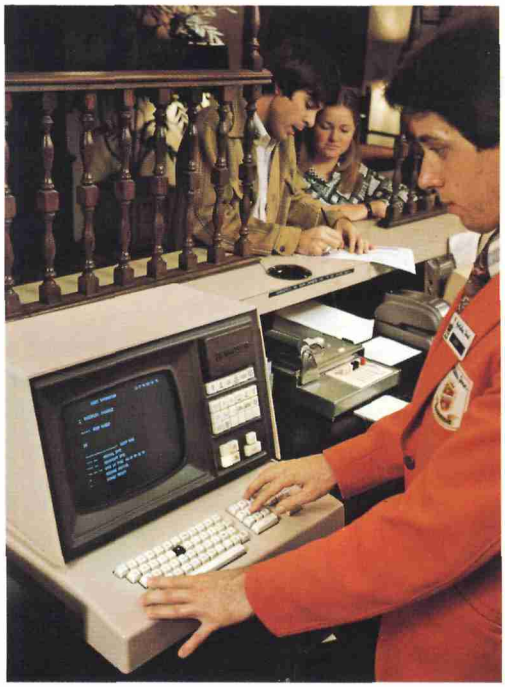
Yes. We introduced the Inn-Scan 400 computerized management system for the lodging industry last year. This system, which aids hotel operators in recording room status, reservations, housekeeping and billing, has already been introduced in about 20 hotels in the U.S.

In addition, sales of Motorola television sets and a variety of communications equipment to the lodging industry increased approximately 40 per cent last year over 1972 and, thus, has established Motorola as one of the major suppliers to this market.

Are there any other applications for Inn-Scan beyond those in the lodging industry?

Our systems designers currently have one pilot program in the health care industry and another in early development. We based much of our original software programming on a computer logic that would have universal applications, rather than narrowly defined for just one use. Lodging was the first market selected because of our depth of knowledge in that market, but now we are exploring other areas where similar data bases can be used.

With pushbutton ease, the Inn-Scan 400 computerized management system aids hotel operators to quickly record room status, reservations, housekeeping status and billing.



Motorola is the only major supplier which can provide watch manufacturers a complete kit of electronic components—CMOS integrated circuits, rotary motors and quartz crystals—for analog watches.

Directors

Robert W. Galvin

J. Paul Jones

Oscar P. Kusisto

Stephen L. Levy

Homer L. Marrs

Arthur C. Nielsen, Jr.

Arthur L. Reese

Elmer H. Schulz

Walter B. Scott

Edwin P. Vanderwicken
Chairman, Finance and Audit Committees

Elmer H. Wavering

William J. Weisz

Kenneth V. Zwiener

Director Emeritus:
Daniel E. Noble
Chairman,
Science Advisory Board

Officers

		Age	Years of Service
Robert W. Galvin	Chairman of the Board and Chief Executive Officer	51	33
William J. Weisz	President and Chief Operating Officer	47	26
Benjamin W. Borne	Vice President, Human Relations	49	2
Edward J. Harty	Controller	58	22
John T. Hickey	Vice President for Finance and Secretary	48	26
Donald R. Jones	Vice President and Treasurer	44	23
J. Paul Jones	Vice President and Assistant Group Executive	50	22
Stephen L. Levy	Vice President, New Ventures	52	10
Carl E. Lindholm	Vice President and Director of Corporate Staff	45	7
Homer L. Marrs	Vice President and Group Executive	57	36
Vincent J. Rauner	Vice President for Patents, Trademarks and Licensing	46	4
Walter B. Scott	Vice President and Director of Manufacturing and Facilities	58	28
Lewis D. Spencer	Vice President and General Counsel	57	23
Robert N. Swift	Vice President and Assistant Director of Human Relations	50	22
Communications Division			
John F. Mitchell	Vice President and General Manager	46	21
Joseph F. Miller	Vice President and Assistant General Manager	49	22
Martin Cooper	Vice President and Director of Systems Operations	45	20
Rhesa S. Farmer, Jr.	Vice President and Director of International Operations	47	16
Jack Germain	Vice President and Director of Product Operations	47	24
Semiconductor Products Division			
Thomas J. Connors	Vice President and General Manager	44	10
John R. Welty	Vice President and Assistant General Manager	51	16
Richard P. Abraham	Vice President for Discrete Products Operations	44	6
Christian J. Goodman	Vice President and Director of Business Resources	53	12
Jack C. Haenichen	Vice President and Director of University Relations	38	15
Patrick D. Lynch	Vice President and General Manager—U.S.A.	40	14
Consumer Products Division			
Edward P. Reavey, Jr.	Vice President and General Manager	50	7
W. Lee Shevel	Vice President and Assistant General Manager	41	1
Herbert D. DeBorde	Vice President and Director of Materials	54	7
Richard A. Kraft	Vice President and Director of Color Operations	45	24
Robert C. Warren	Vice President and Director of Black-and-White Operations	48	5
Automotive Products Division			
Oscar P. Kusisto	Vice President and General Manager	60	25
Robert J. Solem	Vice President and Assistant General Manager	44	17
James A. Torrence	Vice President and Assistant General Manager	43	21
Fred P. Hill	Vice President and Director of Entertainment Products and International Operations	53	35
Government Electronics Division			
Ralph W. Elsner	Vice President and General Manager	53	25

Consolidated Balance Sheets

Motorola, Inc. and Subsidiaries as of December 31	1973	1972
		(Note 11)
	(Thousands of dollars)	
Assets		
Current Assets		
Cash	**$25,262**	20,040
Short-term investments, at cost (approximating market)	**21,982**	30,092
Accounts receivable	**294,276**	254,387
Allowance for doubtful accounts	**(7,520)**	(6,843)
Costs recoverable under United States government contracts, less progress billings	**9,711**	8,766
Inventories, at the lower of cost (first-in, first-out) or market		
Finished goods	**106,264**	59,520
Work in process and production materials	**230,202**	157,913
Future income tax benefits	**26,341**	21,392
Other current assets	**20,873**	16,626
Total Current Assets	**727,391**	561,893
Plant and Equipment, at Cost		
Land	**14,522**	12,481
Buildings	**175,966**	152,784
Machinery and equipment	**219,263**	179,175
Accumulated depreciation	**(159,160)**	(143,460)
Net Plant and Equipment	**250,591**	200,980
Sundry Assets, net	**15,539**	12,631
	$993,521	775,504

See accompanying notes to consolidated financial statements

	1973	1972
		(Note 11)
	(Thousands of dollars)	
Liabilities and Shareholders' Equity		
Current Liabilities		
Notes payable—banks and other		
United States	**$23,181**	31,376
Other nations	**40,907**	19,473
Current maturities of long-term debt (note 3)	**2,289**	3,026
Accounts payable	**98,818**	87,262
Accrued compensation	**19,974**	17,555
United States and other nations' income taxes (note 4)	**19,235**	12,593
Other (including withheld) taxes	**17,006**	12,272
Contribution to employees' profit sharing funds (note 7)	**21,906**	13,897
Product and service warranties	**16,780**	14,070
Accrued expenses and other	**39,580**	26,825
Total Current Liabilities	**299,676**	238,349
Long-Term Debt (note 3)	**150,338**	80,302
Other Non-Current Liabilities (note 11)	**17,971**	14,382
Minority Interest in Majority-Owned Subsidiaries	**2,055**	2,860
Shareholders' Equity (note 9)		
Common stock, $3.00 par value (notes 3 and 5)		
Authorized: 1973, 40,000,000 shares; 1972, 20,000,000 shares		
Outstanding: 1973, 27,959,424 shares; 1972, 13,785,488 shares	**83,878**	41,356
Preferred stock, $100 par value issuable in series		
Authorized: 500,000 shares (none issued)	**—**	—
Additional paid-in capital (notes 3 and 5)	**128,210**	114,645
Retained earnings (notes 2 and 3)	**311,393**	283,610
Total Shareholders' Equity	**523,481**	439,611
	$993,521	775,504

Statements of Consolidated Earnings and Retained Earnings

Motorola, Inc. and Subsidiaries, Years ended December 31	1973	1972
	(Thousands of dollars, except per share figures)	
Sales and Other Revenues	**$1,437,099**	1,163,315
Manufacturing and other costs of sales	**945,005**	808,286
Selling, service and administrative expense (notes 6 and 7)	**296,811**	222,888
Depreciation of plant and equipment	**35,724**	30,529
Interest and amortization of debenture discount, expense and premium, net	**16,316**	10,417
Minority interest in earnings (losses) of majority-owned subsidiaries	**(280)**	(1,267)
Total Costs and Other Expenses	**1,293,576**	1,070,853
Income before United States and other nations' income taxes	**143,523**	92,462
United States and other nations' income taxes net of investment credit of $2,506,000 in 1973, $1,922,000 in 1972 (note 4)	**61,527**	40,424
Net Earnings	**81,996**	52,038
Retained earnings at beginning of year	**283,610**	240,106
Share-for-share distribution—par value of 13,889,899 shares transferred to common stock (note 9)	**(41,670)**	—
Cash dividends declared (per common share: 1973, $.45; 1972, $.312) (note 9)	**(12,543)**	(8,534)
Retained Earnings at End of Year (note 3)	**$ 311,393**	283,610
Earnings Per Weighted Average Common Share Outstanding During the Year (note 9)	**$ 2.95**	1.91

See accompanying notes to consolidated financial statements

Statements of Consolidated Changes in Financial Position

Motorola, Inc. and Subsidiaries, Years ended December 31	1973	1972
		(Note 11)
	(Thousands of dollars)	
Working Capital Provided		
Net earnings	**$ 81,996**	52,038
Add expenses not requiring outlay of working capital:		
Depreciation	**35,724**	30,529
Amortization of deferred debenture discount, expense and premium, net	**426**	555
Minority interest in earnings (losses) of majority-owned subsidiaries	**(280)**	(1,267)
Working capital provided from operations	**117,866**	81,855
Disposals and other changes of plant and equipment (and tooling, net)	**667**	3,971
Increase in long-term debt (note 3)	**76,103**	29,334
Proceeds from issuance of common stock	**14,417**	20,210
Increase in other non-current liabilities	**3,589**	3,016
Total Working Capital Provided	**212,642**	138,386
Working Capital Used		
Additions to plant and equipment (includes subsidiaries acquired: 1973, $462,000; 1972, $1,126,000)	**84,972**	49,134
Equipment rented to others, at cost	**1,030**	2,127
Reduction of long-term debt	**6,067**	12,812
Cash dividends	**12,543**	8,534
Increase (decrease) in sundry assets (exclusive of debenture amortization reflected above)	**3,334**	(1,177)
Decrease (increase) in minority interest in majority-owned subsidiaries (exclusive of current year's earnings)	**525**	(438)
Total Working Capital Used	**108,471**	70,992
Increase in working capital	**$104,171**	67,394
Increase (Decrease) in Components of Working Capital		
Cash	**$ 5,222**	972
Short-term investments	**(8,110)**	25,862
Accounts receivable, net	**39,212**	44,096
Costs recoverable — United States government contracts	**945**	1,783
Inventories	**119,033**	37,118
Future income tax benefits	**4,949**	4,364
Other current assets	**4,247**	(461)
Total Current Assets	**165,498**	113,734
Notes payable and current maturities of long-term debt	**12,502**	6,800
Accounts payable	**11,556**	19,934
Accrued compensation	**2,419**	6,194
United States and other nations' income taxes	**6,642**	1,710
Other (including withheld) taxes	**4,734**	249
Contribution to employees' profit sharing funds	**8,009**	5,320
Product and service warranties	**2,710**	4,315
Accrued expenses and other	**12,755**	1,818
Total Current Liabilities	**61,327**	46,340
Increase in working capital	**$104,171**	67,394

See accompanying notes to consolidated financial statements

Statements of Consolidated Additional Paid-in Capital

Motorola, Inc. and Subsidiaries, Years ended December 31	1973	1972
	(Thousands of dollars)	
Balance at beginning of year	**$114,645**	95,349
Share option plans (note 5)	**11,673**	12,848
Conversion of 4½% convertible guaranteed debentures, (principal amount: 1973, $2,782,000; 1972, $8,786,000) (note 3)	**2,022**	6,448
Equity change in affiliate	**(130)**	—
Balance at end of year	**$128,210**	114,645

See accompanying notes to consolidated financial statements

Notes to Consolidated Financial Statements

1 **Accounting policies.** Following is a summary of significant accounting policies followed 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 other investments in which the company ownership is 20% to 50% (affiliates) are carried on the equity method of accounting, and investments of less than 20% ownership (not material in amount) are carried at cost unless a permanent decline in value is deemed to have occurred. 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 yearend 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 the year was $2,443,000 (1972 was a loss of $56,000) of which $1,661,000 has been credited to earnings for the year and $782,000 has been credited to deferred translation gains. At December 31, 1973 the total translation gains deferred was $1,000,000 which amount is included in Accrued expenses and other.

The company's equity in undistributed earnings of non-U.S. subsidiaries and affiliates included in consolidated retained earnings at December 31, 1973 amounted to $26,904,000 ($11,814,000 in 1972). 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 cost (first-in, first-out) 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 taxes. The company follows the practice of providing 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 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 into 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.

Research and development. R & D expenditures are charged to operations as incurred.

Advertising and sales promotion. The costs of advertising and promotional programs are charged to operations during the year generally in relation to sales, and are fully expensed by the end of the year. Anticipated future promotional costs on current sales are also charged against operations in the current year.

Product and service warranties. Anticipated costs related to product and service warranties are recorded at the time of the sale of the products.

2 At December 31, 1973 and 1972 net assets of consolidated operations outside the United States aggregated $116,500,000 and $98,000,000, respectively.

Export sales of U.S. companies, and sales and other revenues of operations outside the United States were 23% and 20%, respectively, of 1973 and 1972 consolidated amounts.

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

	1973	1972
	(Thousands of dollars)	
Debt outside the United States:		
4½% convertible guaranteed debentures due July 1, 1983	$ 16,066	18,848
8% guaranteed sinking fund debentures due March 1, 1987	25,000	25,000
Notes payable (generally at prevailing prime rates) due in installments to 1981	9,063	10,224
Debt in the United States:		
Revolving credit notes (at prevailing prime rates)	75,000	—
4¾% debentures due April 1, 1986 (net of $989,000 in 1973, $1,000,000 in 1972 debentures held by the company for sinking fund payment)	25,011	26,000
4⅜% notes due in annual installments to 1976	1,500	2,000
Notes payable (generally at prevailing prime rates) due in installments to 1977	987	1,256
	152,627	83,328
Less current maturities, included in current liabilities	2,289	3,026
Net long-term debt	$150,338	80,302

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 103½% to 100% of the principal amount thereof. In 1973, $2,782,000 in debentures ($8,786,000 in 1972) were converted into 70,095 shares (221,386

in 1972). At December 31, 1973, there were 404,905 shares (475,000 in 1972) 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 notes to a four-year term loan on or prior to December 31, 1976 at the then prevailing prime commercial rates 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 1974 and therefore the debt is classified as long-term debt.

The revolving credit agreement restricts the payment of cash dividends which are not to exceed $25,000,000 plus earnings (as defined) after December 31, 1973. It also requires the company to maintain consolidated working capital (as defined) of not less than $275,000,000.

4 The provision for taxes on income includes $9,030,000 in 1973 ($4,077,000 in 1972) for other nations. The effective tax rate is computed as follows:

	1973	1972
United States federal tax rate	48.0%	48.0%
Increase (reduction) in tax rate resulting from:		
Investment tax credit	(1.8)	(2.1)
Taxes on earnings in other nations, net of tax benefits arising from operating loss carryforwards, loss operations with no tax benefits and tax holidays	(3.7)	(2.2)
Other	.4	—
Effective tax rate	42.9%	43.7%

5 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 grant, and become exercisable one year from date of grant. Qualified options expire at the end of five years and non-qualified options expire at the end of ten years. Data on share options are summarized as follows:

	1973	1972
Options outstanding beginning of year	963,836	1,029,690
Options granted	333,215	329,140
Options exercised	(318,353)	(387,994)
Options terminated	(10,000)	(7,000)
Options outstanding end of year	968,698	963,836
Shares reserved for possible future options	526,365	849,580
Total shares reserved	1,495,063	1,813,416
Aggregate option price of outstanding options	$50,108,000	42,753,000
Aggregate option price of exercisable options	$32,231,000	21,804,000
Excess of the option price over the par value of shares issued	$ 9,216,000	10,201,000
Tax benefit resulting from disqualifying dispositions by optionees	$ 2,457,000	2,647,000

(See note 9.)

6 An Executive Incentive Plan provides that the company and certain subsidiaries may reserve 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 recipients' continued employment. Reserves of $4,114,000 and $2,642,000 representing 4% of defined earnings were provided in 1973 and 1972, respectively, for such awards. Awards of $2,577,000 were made in 1973 ($1,632,000 in 1972), and $5,383,000 (limited to approximately $3,000,000 for United States employees because of Cost of Living Council restrictions under the Economic Stabilization Act of 1970) was available for awards at December 31, 1973 ($3,846,000 in 1972).

7 The company and certain subsidiaries have contributory profit sharing plans in which all eligible employees participate. The companies' contributions to profit sharing funds in the United States and other nations, based upon percentages of pre-tax earnings, were $21,906,000 in 1973 and $13,897,000 in 1972.

The company and certain subsidiaries have a voluntary contributory pension plan. The company's policy is to fund pension costs accrued, 1973, $2,995,000, 1972, $2,416,000. At December 31, 1972, date of the latest actuarial determination, vested benefits were fully funded. 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 at least 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.

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

9 During the year, the Board of Directors and the shareholders approved an increase in the authorized common shares of the company from 20,000,000 shares to 40,000,000 shares and a share-for-share distribution. Comparative per common share data for prior years has been restated to give effect to this distribution. In addition, 500,000 shares of $100 par value preferred stock were authorized, none of which had been issued as of December 31, 1973.

10 Rental expense under all lease commitments (including noncancellable leases) totaled $15,613,000 in 1973 and $12,553,000 in 1972. Minimum rental commitments related to the noncancellable leases are not material, and if all financing leases were capitalized the impact on net earnings would be insignificant.

11 During 1973 the company adopted the practice of segregating non-current items on its consolidated balance sheet. The 1972 balance sheet presentation has been restated to conform with 1973.

12 On March 12, 1974, the company announced that it had reached an agreement in principle to sell the home television receiver business in April, 1974 to a subsidiary of Matsushita Electric Industrial Co. Ltd. of Japan, subject to certain approvals, terms and other conditions, for cash. The company expects its net proceeds from the disposition of the home television receiver business (including the net proceeds from the disposition of certain assets not being sold to Matsushita) to be slightly in excess of book value.

The operations of the television receiver business are summarized as follows:

	1973	1972
	(Thousands of dollars)	
Sales and other revenues	$241,073	255,721
Earnings (loss) before the following items	(3,128)	13,787
Interest expense	3,014	2,041
Employees' profit sharing and executive incentive	2,894	2,143
Earnings (loss) before income taxes	(9,036)	9,603
Income taxes (see note 4)	(5,220)	3,767
Net earnings (loss)	$ (3,816)	5,836
Net earnings (loss) per common share	$ (.14)	.21

Interest is charged to the business on the basis of borrowed funds required. Employees' profit sharing and executive incentive contributions are determined on the basis of pretax earnings (as defined) of the companies but are charged to the business on the basis of eligible employees serving that business.

The net assets of the television receiver business at December 31, 1973 are:

	(Thousands of dollars)
Current assets	$125,970
Current liabilities	41,969
Net current assets	84,001
Plant and equipment—net	24,156
Other non-current—net	480
Net assets	$108,637

Accountants' Report

Peat, Marwick, Mitchell & Co.
Certified Public Accountants
222 South Riverside Plaza
Chicago, Illinois 60606

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

We have examined the consolidated balance sheets of Motorola, Inc. and Subsidiaries as of December 31, 1973 and 1972, 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 examinations were 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, 1973 and 1972, 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 5, 1974,
except as to note 12 which is as of March 12, 1974.

Ten Year Financial Summary

Motorola, Inc. and Subsidiaries

	Sales and Other Revenues	Income before United States and Other Nations' Income Taxes	Net Earnings	Earnings Per Common Share*	Working Capital	Net Investment in Plant and Equipment	Share-holders' Equity
1973	**$1,437,099**	**$143,523**	**$81,996**	**$2.95**	**$427,715**	**$250,591**	**$523,481**
1972	1,163,315	92,462	52,038	1.91	323,544	200,980	439,611
1971	926,593	62,055	31,750	1.18	256,150	184,219	375,897
1970	796,418	51,813	25,663	.96	222,117	174,530	344,085
1969	873,224	71,843	33,793	1.37	235,593	167,500	326,134
1968	775,124	57,376	28,261	1.15	176,414	145,582	238,778
1967	629,975	34,571	18,816	.77	131,358	136,963	206,286
1966	682,375	60,013	32,953	1.35	128,159	127,219	192,598
1965	516,973	57,839	31,839	1.31	118,015	81,083	165,002
1964	419,067	38,927	20,667	.86	107,626	67,837	137,533

Thousands of dollars, except per share figures

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

The conversion of 4½% debentures and the exercise of outstanding share options would not result in a significant dilution of earnings per common share.

Earnings per common share shown above do not include $.05 of non-recurring charge from discontinuance of color TV picture tube manufacturing operation in 1970.

Motorola Worldwide

Major facilities in:

Canada
Markham
Midland and
Willowdale, Ontario

France
Toulouse

West Germany
Wiesbaden

Great Britain
East Kilbride, Scotland
Stotfold, England

Hong Kong
Kowloon

Israel
Tel-Aviv

Italy
Rome

Korea
Seoul

Mexico
Guadalajara, Jalisco
Mexico City
Nogales, Sonora

Puerto Rico
Vega Baja

Switzerland
Geneva

Taiwan
Taipei

United States
Chicago
Franklin Park
Pontiac
Quincy and
Schaumburg, Illinois
Mesa
Phoenix
Tempe and Scottsdale, Arizona
Fort Lauderdale, Florida
Arcade, New York
Seguin, Texas
Webb City, Missouri
Mount Pleasant, Iowa

Motorola Executive Institute in:
Oracle, Arizona

New production facilities were announced or under construction in 1973 in:
Tempe, Arizona
Angers, France
Kuala Lumpur, Malaysia
Joplin, Missouri
Austin, Texas
Seguin, Texas
Taunusstein, West Germany

Motorola Products

Automotive Products Division
Car radios
Stereo tape players
Alternator charging systems
Solid-state ignition systems
Electronic instrumentation

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

Consumer Products Division
Quasar color television
Monochrome television
Display products

Government Electronics Division
Fixed and satellite communications systems
Tactical electronics systems
Radar surveillance and display systems
Range positioning and navigation systems
Undersea electronics
Space communications systems
Countermeasures systems
Missile guidance and drone control systems
Electronic ordnance devices

Semiconductor Products Division
MOS and bipolar integrated circuits
Linear integrated circuits
MSI/LSI 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

New Ventures Activity and Other Businesses
Training and educational films
Hotel/motel electronic management, communications and entertainment systems
Timepiece electronics

Annual Meeting. The annual meeting will be held on Monday, May 6, 1974. A notice of the meeting, together with a form of proxy and a proxy statement, will be mailed to shareholders on or about March 26, 1974, 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.

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