1978 Annual Report

MOTOROLA INC.

"In human society there is moral as well as material need. Great technical advances do not preclude for one moment the all-important requirement of moral order. Regardless of the technical marvels, affairs of human beings must be managed by people with justice, wisdom, honesty and ability."—

Paul V. Galvin, from a commencement address, Loyola University, Chicago, 1953.

Contents

Annual Meeting of Stockholders
The annual meeting will be held on Monday, May 7, 1979. A notice of the meeting, together with a form of proxy and a proxy statement, will be mailed to stockholders on or about March 27, 1979, at which time proxies will be solicited by management.

Transfer Agents and Registrars
Harris Trust and Savings Bank
111 W. Monroe Street
Chicago, Ill. 60690

Citibank, N.A.
111 Wall Street
New York, N.Y. 10015

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

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

The Company
Motorola, Inc., one of the world's leading manufacturers of electronic equipment and components, is engaged in the design, manufacture and sale, principally under the Motorola brand, of a diversified line of products. These products include two-way radios and other forms of electronic communications systems; semiconductors, including integrated circuits, discrete semiconductors and microprocessor units; electronic equipment for military and aerospace use; automobile radios; stereo tape players, citizens band radios and other automotive electronic equipment; and data communications products such as high speed modems, multiplexers and network processors. Motorola's products are manufactured for both United States and international markets.

Financial Highlights

(Dollars in thousands, except per share data)	1978	1977*
Sales and Other Revenues	**$2,219,744**	$1,853,514
Earnings before Income Taxes	**220,390**	191,620
% to Sales	**9.9%**	10.3%
Income Taxes	**95,208**	84,669
Earnings	**125,182**	106,951
% to Sales	**5.6%**	5.8%
Earnings per Share	**4.04**	3.46
Earnings per Share, before pooling of Universal Data Systems	**4.06**	3.50
Research and Development	**133,414**	109,729
Fixed Asset Expenditures	**146,377**	128,406
Depreciation	**83,340**	72,770
Working Capital	**619,930**	567,044
Current Ratio	**2.20:1**	2.47:1
Return on Average Invested Capital (stockholders' equity plus long- and short-term debt net of short-term investments)	**12.3%**	11.8%
% of Total Debt (long- and short-term) to Total Debt plus Equity	**24.1%**	26.1%
Book Value per Common Share	**28.49**	25.47
Yearend Employment (approximate)	**68,000**	60,000

*1977 results include Universal Data Systems, acquired in 1978 in a business combination accounted for as a pooling of interests (See Note 2 of the Notes to Consolidated Financial Statements).

Paul V. Galvin (1895-1959), founded Galvin Manufacturing Corporation in 1928 which became Motorola, Inc., in 1947.

Motorola's fiftieth year in business was a strong growth year for the company with record sales and earnings and, more significantly, continued strengthening of product and market positions in key business categories. Each of our major operations achieved record sales.

For the second consecutive year, sales and earnings set records in every quarter of the year. For the 12 months, sales were slightly over $2.2 billion. This represents a 20 percent improvement over the $1.8 billion recorded in 1977. Earnings totaled $125 million, or 5.6 percent of sales, compared with $107 million, or 5.8 percent of sales, in 1977. Return on average invested capital (stockholders' equity plus long- and short-term debt net of marketable securities) was 12.3 percent compared with 11.8 percent the previous year. The above figures include the results of Universal Data Systems, acquired in December, 1978, for both 1977 and 1978.

1978 earnings per share, before adjustment for the UDS acquisition, were $4.06 compared with $3.50 a year earlier. Reflecting the UDS acquisition, earnings per share for the year were $4.04, up from a restated $3.46 in 1977.

Fourth quarter total sales and earnings were $636 million and $33.5 million respectively, compared with restated $525 million and $30.3 million in the previous year. Net margin for the quarter was 5.3 percent compared to 5.8 percent for the year earlier period. Earnings per share in the quarter, and before restatement, were $1.09 vs. $.99 in 1977 and, after restatement, $1.08 and $.98 for the final quarters of the respective years.

1978 earnings gains would have been larger but for the substantially increased costs of improved employee retirement plans which became effective at the beginning of the year.

Review of Operations

1978 was a satisfying year for Motorola's Semiconductor Group with record sales and increased operating margins reported for the year. Throughout the year the group showed record sales for each quarter. Bookings were up by 32 percent, and backlog ended the year 54 percent over a year earlier. Both integrated circuits and discrete products made major contributions to each of these accomplishments.

Of equal importance, the Semiconductor Group continued its outstanding progress in product offerings and market posture, particularly—but not limited to—advanced integrated circuits, memories and microprocessor devices and systems.

Our discrete semiconductor business, due to its continuously strengthening product position and further improvements in manufacturing technology, also achieved record sales and a higher operating margin than in 1977.

The Communications Group achieved record sales in each successive quarter and for the full year 1978, resulting in a 17 percent sales increase for the year. Orders booked increased almost 15 percent over 1977.

The group's earnings and margin performance, while at a good level, were dissatisfying to us. Operating margin, as defined for segment reporting in the Financial Statements, declined to 11.5 percent from 15.9 percent the previous year. There are several reasons for this decline:

- The difficulty and, consequently, the costs of activating a 300,000 square foot highly automated mobile radio facility in Fort Worth, Texas, as well as technical and manufacturing problems incurred in starting production of certain advanced state-of-the-art new products, exceeded our anticipations. These problems are in the process of being remedied.
- The incurring of cost variations on systems contracts, extra and unanticipated warranty obligations, accounts receivable and inventory write-offs, and an addition to the accounts receivable reserve—some of which related to 1978 business and some to prior years.
- At each stage in the growth of our communications busi-

ness, we invest in a high rate of research and development aimed at ever expanding the mix of new businesses. While satisfactory margins were recorded in certain of the traditional two-way radio and paging businesses, the group's overall result was impacted by a continuing high rate of engineering and other costs invested in major new business opportunities. These include 800 MHz products, trunked systems and high capacity mobile radiotelephone systems; mobile and portable data communications products and concepts; and further state-of-the-art advances in basic radio communications technology.

The Automotive Products Division's 1978 sales were higher than in 1977. Earnings were lower due to continuing losses in the Angers, France, alternator facility; the higher cost of imported components and finished products caused by the lower exchange value of the U.S. dollar; and increased investment in major future business opportunities, including electronic engine controls and AM stereo radio. The division's business mix has also been changing. Sales of entertainment products to original equipment manufacturers were down from 1977 while international sales were higher. Electronic systems sales were also higher.

The Government Electronics Division continued to grow and perform well in 1978. Sales and operating margin were up from 1977. Orders booked increased by more than 20 percent over 1977. Yearend backlog was at a record level. Emphasis on long-term growth and diversification continued, with higher spending for Motorola-financed research and development and the activation of a new specialized production center which accounted for almost $30 million in orders booked.

Codex recorded superb financial and operational results. Sales were up by more than 58 percent over 1977, and margin increased. Orders booked were up more than 45 percent due, in large part, to more technologically advanced new products.

Display Systems' sales increased by more than 10 percent with margins also higher. New order bookings grew 14 percent over 1977.

In our 1977 report to stockholders we reported substantial operating losses for CB radio, watch modules, watch crystals and at Autovox, our subsidiary in Italy. Each of these operations showed significantly better results in 1978.

These and other operations' 1978 results are detailed later in this report.

Research and Development

In 1978 Motorola spent $133 million on corporate-funded R&D, compared with $110 million in 1977. These figures do not include government-funded programs in the Government Electronics Division.

For many years the company has decentralized its research and development activities which have been located in the applied research departments of our various divisions and groups. In general, we believe this continues to be the most effective way to manage R&D. However, in order to enhance these efforts and to substantially increase our research in new technological areas not normally undertaken by the groups or divisions, we reassigned part of the Communications Group's existing research effort and the management of the Motorola Integrated Circuits Research Laboratory from the Semiconductor Group to a new Corporate Research and Development Department, established in May 1978. This department reports to Martin Cooper, who was named to the newly created position of vice president and corporate director of research and development.

Universal Data Systems

At the end of the year we acquired the business of Universal Data Systems, Inc. (UDS), a manufacturer of moderately priced equipment used for transmitting digital information between computers, terminals and other business machines. In line with our corporate data communications strategy, UDS will report directly to our Codex subsidiary and will continue to operate

Robert W. Galvin

William J. Weisz

John F. Mitchell

under its present management.

Wage Price Guidelines

We have advised President Carter and the Council on Wage and Price Stability that Motorola is, and intends to remain, in compliance with the voluntary stabilization guidelines. For Motorola overall, these guidelines are not expected to adversely limit our prices or margins.

Management and Organizational Changes

In October, the Semiconductor Group formed a third division—the International Division—under the direction of Pasquale Pistorio as vice president and general manager.

In December, 1978, we formed the Automotive and Display Systems Group, consisting of the existing Automotive Products Division and the Display Systems Unit. Autovox also joins this group as a part of the Automotive Products Division. Carl E. Lindholm, a senior vice president, was named general manager of the Automotive and Display Systems Group, and Levy Katzir was named vice president and general manager of the Automotive Products Division.

In the Communications Group, John Battin was elected a corporate vice president and appointed general manager of the Communications Systems Division to succeed Martin Cooper.

Increased Dividend

As reflected in the January, 1979 payment to stockholders, we have increased our dividend rate from 25 cents to 30 cents per quarter. This December 1978 declaration represents the ninth consecutive year in which the declared dividend has been increased. Future dividend increases depend, of course, on operating results and the financial needs of the corporation from time to time.

In Memoriam

With profound sorrow and regret, and with recognition of his many contributions to Motorola's success as salesman, executive, officer and director over a span of 42 years, we note the death on December 16, 1978, of Arthur L. Reese, member of the board of directors.

People

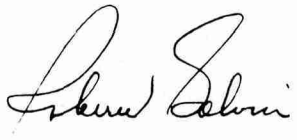
As we mark our golden jubilee and recall the accomplishments of these first fifty years, we look to the future with excitement and with confidence—because of the ever growing opportunity for electronic technology to serve the needs of human beings and help solve their problems, and principally because of our most important resource—the 68,000 talented and dedicated Motorolans, worldwide, whose contributions we acknowledge with sincere respect and appreciation.

Outlook

For the U.S., 1979 is currently regarded by many economists as a year of likely slowing in economic growth, while in most other developed nations the prospects are more favorable. In our planning for 1979 we are attempting both to recognize the real possibility of reduced economic growth and, at the same time, not forego the sales opportunities which the strong order bookings and backlog of our operations now suggest.

Our current judgment is that 1979, the first year of Motorola's second half century, will enable us to achieve another record sales and earnings year.

Yours very truly,



Robert W. Galvin
Chairman

William J. Weisz
President

John F. Mitchell
Executive Vice President

Motorola, Inc., has completed its fiftieth year in business. In that time we have grown from a small electronics company, begun in 1928 as the Galvin Manufacturing Corporation with five employees and a first week's payroll of $63.00, to an international corporation with annual sales of $2.2 billion and 68,000 employees worldwide.

We believe that the long-term outlook for the electronics industry, and for Motorola in particular, seems to be more positive than at any time in the past. The solutions required to satisfy society's needs over the years for such things as better communications, transportation, productivity improvement and many others, have done nothing but enhance the pervasiveness of electronics in our everyday business and personal lives.

Our business strategy in the past ten years has been to develop Motorola into a technologically advanced electronics company that markets its products primarily to commercial, government and industrial users with less emphasis, than in past years, on consumer products. It is in these markets that we see our greatest growth potential.

In 1978 the Communications Group accounted for 43 percent of the company's total sales compared with 44 percent in 1977. The Semiconductor Group contributed 31 percent of our sales followed by the Automotive Products Division with 9 percent compared to 30 percent and 11 percent respectively last year. The Government Electronics Division and other operations accounted for the remaining 17 percent as opposed to 15 percent in 1977.

In the past ten years we have extended our worldwide operations so that we now have 24 major facilities in 16 countries. Our international sales in 1978 represented 24 percent of our overall company sales compared with 23 percent in 1977. We consider that Motorola's successful growth in the long-term is, in part, dependent on our increased involvement in international markets.

Motorola's profit margin in the five-year period between 1974 and 1978 averaged 5.2 percent even with the recession year of 1975 when it fell to 3.4 percent. In 1978 our profit margin was 5.6 percent, compared to 1977's level of 5.8 percent.

Although there have been fluctuations in the levels of net earnings per share, we have still been able to increase our dividend payments per share for the past ten years. Over this period dividends have grown from $0.25 in 1969 to $1.05 in 1978 (see diagram).

Traditionally we have been doubling our sales about every five or six years. Our 20 percent increase in sales in 1978 indicates that we are on target to achieve the goal of $3 billion in sales by 1981.

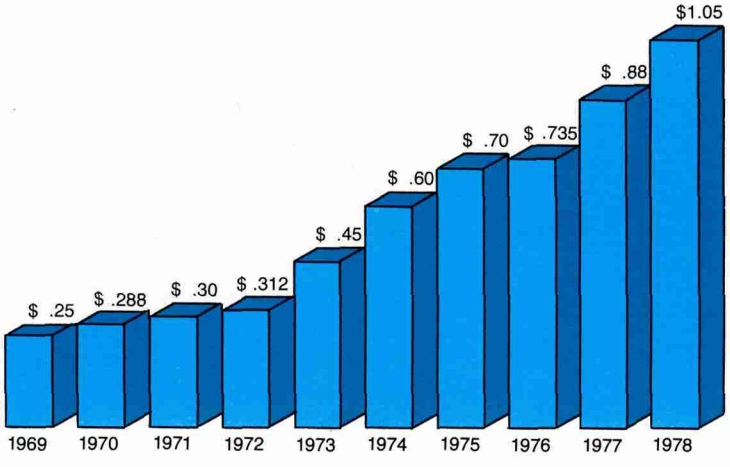
However, we are looking beyond this short-term sales objective to setting a course that will ensure the company's long-term growth. This is being done by building on our traditional strengths and expanding into related electronics fields where we have never been before.

An example of this has been the development of our data communications business. As the speed of distributed processing and digital transmission equipment increases, the U.S. market for data communications equipment grows rapidly. Industry consultants predict that the markets for data communications services and equipment will grow by approximately 30 percent in 1979. We believe that we are now in a position to offer our customers in this rapidly expanding market a wide range of technically advanced equipment.

Another major growth area for us is in electronic engine controls. The increasing demand will affect both our automotive electronics and our semiconductor businesses. We have been involved in the design, development and sale of these types of controls for some years. In 1978 we introduced a distributorless ignition system which we are currently marketing in Europe as well as different types of sensors for engines for U.S. manufacturers. We continue to design a number of custom automotive microprocessor products for leading automobile manufacturers.

In the years to come there will be a great many opportunities in the electronics fields. We believe that Motorola is well positioned to accept the challenges this entails.

Dividends Declared Per Share



1940 saw the formation of the then Communications Division. Initial orders included design and production of two-way radios for allied armed forces during World War II.

Communications Group

The Communications Group reported record sales for 1978. In each successive quarter the group set records in sales over the comparable 1977 period, resulting in a 17 percent increase in total sales over last year. However, as discussed earlier in this report, the group's earnings were lower than the record level of a year earlier.

New order bookings worldwide were up almost 15 percent over 1977 levels. Increased booking levels were reported for both the domestic and international markets, although sales in Canada were lower due to a softening in the Canadian economy.

Strong domestic bookings included substantial increases in the geographic markets which comprised sales to small and medium-sized businesses, as well as the common carrier, petroleum, utility and industrial markets. Motorola does not expect "Proposition 13" and similar limitations on the resources available to state and local governments to adversely impact its communications business in these markets. Bookings in these markets grew by 12 percent in 1978 over 1977. We believe that the operating cost savings and productivity enhancement characteristics of advanced two-way radio systems should provide the opportunity for the continued growth of our business to these customers.

Internationally, the level of new orders booked continued strong in Europe, Mexico, Australia, the Asia/Pacific area and Israel.

New Products

Two new products introduced during the year were the Mitrek™ and Maxar® 80 FM two-way mobile radios, bringing the total number of mobile radio price categories to six.

The Mitrek mobile radio provides premium technical performance specifications and is the first known commercially available FM two-way radio to meet the stringent military design specification 810C for weatherproofing, shock and vibrations.

Maxar 80, the top category in a line of dash mounted radios, was designed to provide improved receiver performance with up to 55 watts of radio frequency (RF) power output. Customers have found that the improved specifications of the Maxar 80 radio make it an excellent economical choice for both urban areas as well as more open rural areas.

A typical example of a Maxar 80 mobile system sale was one made to a group of Michigan school districts to provide an area-wide emergency bus transportation radio network. This system allows transportation personnel to keep in immediate contact for routine and emergency communication requirements.

Markets Expand

In addition to the impact of the Mitrek and Maxar 80 mobile radio introductions, our markets reflected the continuing need for a wide variety of communications services. Orders received by the group ranged from a mobile radio system used by agricultural services suppliers to coordinate their crop spraying operations in California, through a multi-frequency portable radio system operated by pilots in the Mississippi River delta area to ensure the safety and movement of ships, to a radio system through which ABC Network News correspondents in New York and Washington, D.C., can coordinate with their newsrooms live news broadcasts to television audiences.

Highlighting order growth in the common carrier marketplace was the continued demand for radio paging services. Orders received for pagers to telephone companies and radio common carriers were up substantially. An increasing awareness among the general public of the economic advantages of radiotelephones also contributed to the order growth in the telephone and common carrier markets.

Record level energy costs spurred both the search for new energy sources and the conservation of existing sources during 1978. This reflected positively upon orders in many energy related markets. The mass transportation industry continued to turn to communications as a means of operating bus fleets more energy efficiently. To im-

prove that efficiency, the Metrocom II®, a new bus communications system, was introduced. The system combines microprocessor technology with a liquid crystal display allowing voice and data communications in a small single package. The utility market also showed strong growth during the year with demand by power companies for load management systems, in which radio switches are used to help electric utilities shave peak power demands and conserve energy.

The industrial market also experienced growth during 1978. The use of communications included in-plant radio communication systems to expedite material handling; systems to keep machinery downtime at a minimum; and systems to enhance inventory control. An innovative system for the industrial marketplace, the RDX-1000™ Portable Data System, was introduced. The system features a handheld portable data terminal, making possible complete two-way wireless communications with a central computer. Granite City Steel, in Granite City, Ill., is utilizing the RDX-1000 as part of its computerized steel coil location system.

Important orders received in the government markets for communications systems that improve efficiency included a contract from the Chicago Fire Department for a $5 million computer-aided dispatch communications system, enabling more efficient dispatching of fire equipment and reducing response times. Major government contracts were also received from the New York City Police Department, the State of Georgia and the State of Minnesota.

In May, the Federal Communications Commission permitted use, for the first time, of digitally modulated scramblers for federal, state and local law enforcement agencies. Our Digital Voice Protection System (DVP) is designed to provide the user with a very high degree of voice communication privacy. Many cities have purchased systems since the FCC rulings.

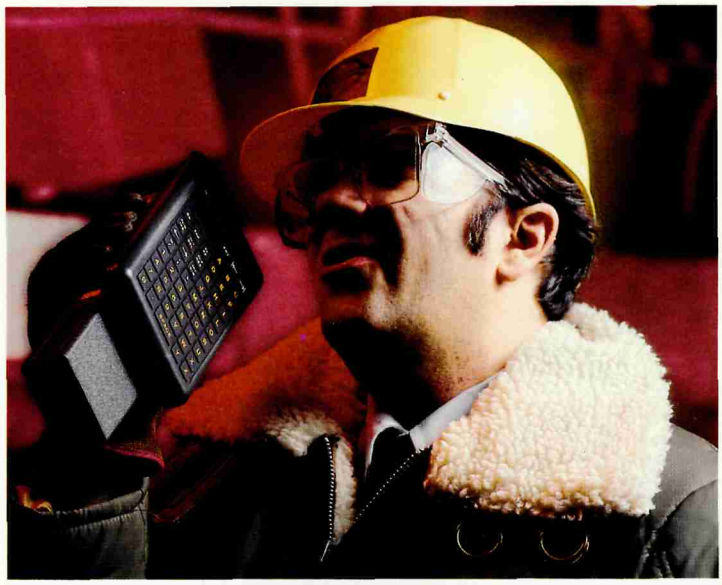
Product offerings in the 800 MHz spectrum were broadened by the introduction of the Motorola trunked radio system. The heart of the system is a microprocessor based central controller which provides efficient system operation and control, featuring automatic channel assignment.

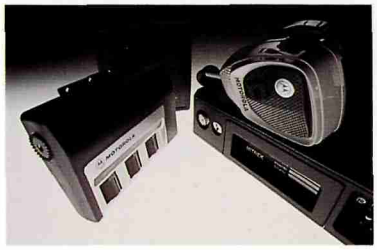
A marine version of the MX-300 FM two-way portable radio was added to the existing portable line. This new portable radio can also be used for ship-to-shore and inter-ship communications.

Our mobile marine line was expanded with the addition of the Nautilus 440™ marine radio. The Nautilus radio is designed to permit customers to select any of 50 channels and have the dealer program the radio on site.

International Orders Up

European operations con-





1978 **The RDX-1000 portable data terminal *(top)* introduced in 1978 provides a wireless link to a central computer and a two-way radio capability. *(Above)* Improved receiver performance with up to 55 watts of radio frequency power output are the hallmarks of the Maxar 80, the latest in the line of Maxar mobile radio systems. The high performance Mitrek radio *(left)* is the first known commercially available FM two-way mobile radio that meets military design specification 810C.**

(Above) **The Digital Voice Protection system used by federal, state and local law enforcement agencies to ensure a very high degree of voice communication privacy.** ***(Below)*** **The Triton VHF Marine Radiotelephone line has been expanded with the introduction of the Nautilus 440 radio.**

tinued very strong, paced by Motorola's paging product leadership. Major contracts included awards from the British Post Office for 5,000 Metrx™ radio pagers for the Motorola designed London area paging system; from the Belgium Post, Telegraph and Telecommunications (PTT) system for 4,000 eight-function pagers for the Semafoon System which covers the Netherlands and Belgium; and from the Helsinki Telephone Company and Netherlands PTT for city-wide paging systems. The recently announced MT-700™ portable two-way radio is an example of our growing European product strength. This portable radio has been designed to meet most European specifications.

Recent technological systems development for the European marketplace include an electronic mobile exchange terminal system designed for the Austrian PTT and the successfully demonstrated Simulcast Base Station for the Hanover, Germany, police.

While the general economy in Canada during 1978 was somewhat soft, a multi-million dollar contract was received from the Royal Canadian Mounted Police including multi-channel mobile radio units and vehicular repeaters.

Increased orders were also recorded in Mexico and Israel. The multi-tiered product lines were significant factors in this growth. Australian order growth was enhanced by the introduction of the Movar™ mobile radio which is a special adaptation of the Maxar product line for the Australian marketplace. This adaptation of basic radio design of a product category to meet requirements in different world markets continues to be a significant factor in international growth.

Expanded Facilities

To keep pace with the ever increasing growth of operations, we unveiled plans for the expansion of the group's present Florida facilities which are being enlarged with the construction of a new 100,000 square foot building. Administrative offices and engineering laboratories will be housed in the new facility, in which radio paging equipment, wireless computer terminals, and portable two-way radios are designed and produced. This is scheduled for completion in 1980.

Internationally, the Basingstoke plant in the United Kingdom was expanded to include a thick-film hybrid laboratory and custom manufacturing facility. Our order growth in Australia has led to the relocation of our headquarters into larger offices and an expansion of manufacturing operations at the Mulgrave, Victoria, facility.

Semiconductor Group

1978 represented a year of solid growth for the Semiconductor Group, with new records established in both sales and earnings. Worldwide sales for the group were up by 23 percent over last year. The group also improved its operating margin. Worldwide new order bookings for the group increased by 32 percent over 1977, while backlog was up by 54 percent.

While the year included many important management and product activities, one organizational development is especially worthy of note. In November, the third operating division of the Semiconductor Group, the International Division, was formed to give closer attention to important market growth areas of the world. This division will be responsible for all marketing activities outside the U.S. and for the group's manufacturing facilities in Toulouse, France, and East Kilbride, Scotland.

Record IC Sales

The group sustained its rapid growth pattern in integrated circuits (IC) throughout 1978 and achieved record sales for the full year. Our new order booking rate for ICs was up substantially from last year, growing more than 50 percent, enabling the group to enter 1979 at a strong run rate. The current backlog for ICs is satisfactory. We do not see an indication of any undue inventory accumulation by customers.

Technological Advances

There were several major accomplishments throughout the year in a number of key IC product areas, including NMOS memories, microprocessors, CMOS, logic and special functions, and bipolar digital and linear circuits. Our 16K dynamic random access memory (RAM) was introduced early in the year and is currently being shipped to customers around the world. As the year drew to a close, a prototype 64K dynamic RAM was developed, using an advanced version of the company's high density HMOS-1 wafer processing technology. Customers will be sampled with 64K dynamic RAMs early in 1979, and it is anticipated that production volumes will accelerate throughout the year.

The sale of microprocessors for both automotive and non-automotive applications increased during 1978. The MC6802 two-chip microprocessor, introduced late in 1977, has been well received by customers this year, as were several newly introduced peripheral components required for microprocessor applications such as video display generation and instrumentation interface circuitry.

The design of a number of custom automotive microprocessor products was also completed under contract to two major automobile manufacturers. We have the opportunity to participate in future automotive electronic development programs with these major customers. The successful completion of these programs could mean sizable production opportunities over the next several years. Several other custom microprocessor components were designed for non-automotive customers during the year.

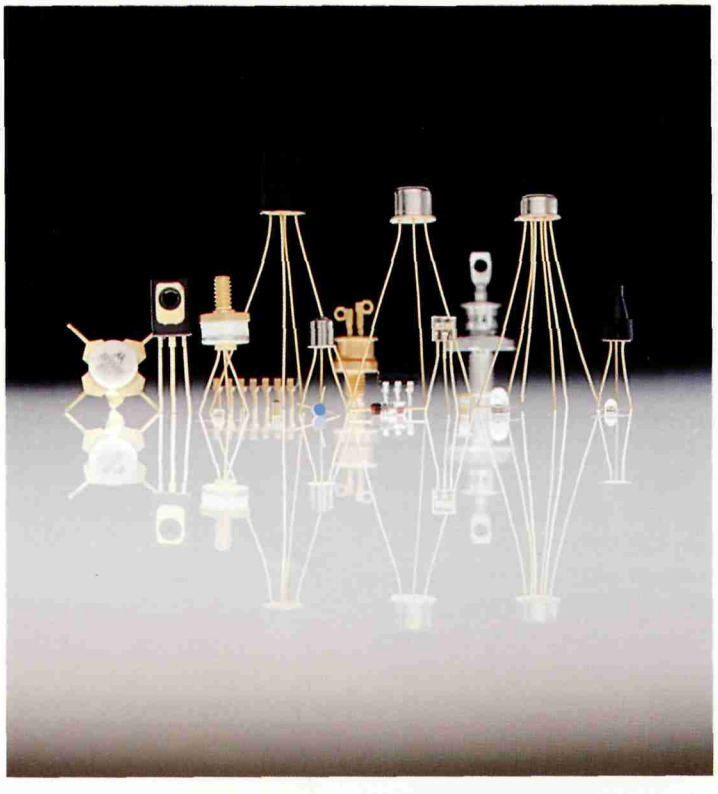
During 1978 our new MC6801 single-chip microcomputer was introduced and is currently being sampled by customers with highly satisfactory results. This microcomputer is already being designed into several major customer programs.

Design is nearly completed for the MC68000 16-bit advanced microprocessor, which we believe will be the highest performance microprocessor available in the market during 1979. This high-end product uses an advanced design which will operate ten times as fast as Motorola's original MC6800 microprocessor and will be aimed at complex and high speed microcomputer applications.

During 1979, we plan to sample customers with a total of six new microprocessors. These multiple product introductions are consistent with the group's strategy of providing an entire spectrum of microprocessors based on the highly successful M6800 product line.

The CMOS logic family of integrated circuits was expanded in 1978 and several special purpose circuits were added during the year. These special circuits were designed for use in smoke

1955 marked the formation of the then Semiconductor Division. One of the first products it manufactured was this germanium power transistor used in car radios.



1978 **The 64K dynamic RAM *(above),* Motorola's latest in an expanding line of MOS memory products, is now being sampled by customers. This RAM has 155,000 components. *(Below)* Examples of the some 200,000 discrete semiconductor device types currently manufactured by Motorola.**

detectors, electronic watches, digital volt meters, and other consumer and industrial products.

Bipolar integrated circuits also had a year of continued growth and expansion. In the digital category, there was solid growth in both emitter-coupled logic (ECL) memories and in low power Schottky, a commodity logic family. Design is well under way on an ECL complex gate array using a newly developed high speed bipolar fabrication process. The large scale integration (LSI) array, intended for high speed computer applications, is finding excellent acceptance among computer-based customers. The new array promises to enhance the cost/performance features of larger computer systems. Continuing sales gains in the low power Schottky product line has led to industry recognition of Motorola as a supplier of these commodity integrated circuit products.

New automotive applications prompted continued growth in our linear IC business this year. Speed control and pressure sensitive devices along with other customer and special circuits designed for automotive customers were put into production during 1978.

A major investment program was initiated to facilitate the process of complex LSI linear circuitry. The first step of this program, the construction of an LSI photo resist area, is expected to be completed by the end of the first quarter, 1979.

Our wafer processing capability in East Kilbride, Scotland, and Toulouse, France, was expanded and this included the introduction of four-inch wafer technology at both locations. At the Mesa, Ariz., plant important additions are being set in place which will expand bipolar digital and MOS wafer processing capabilities. Also, the major expansion program at the Austin, Texas, facility remains on schedule.

A nearly 60 percent increase in orders was achieved in microprocessor software and hardware engineering tools developed and built by Motorola's microsystems unit. These products, in a sense, are key to the future growth of the microprocessor business, since most MPU customers cannot employ microprocessors without first using these developmental programming and testing tools.

We devoted significant resources to the continuing development of integrated circuit processing technology during the year. For example, tools and processes are now in place which will permit future production of ICs having critical line and space dimensions approaching one micron in width (there are 25,400 microns in an inch). Current industry standard geometries are in the 3-6 micron range, but future IC developments will require line and space dimensions of 1-2 microns. This increases the density of chips on a wafer which

reduces costs. The desire to make tomorrow's computers smaller and faster will lead to new applications.

While, to our knowledge, no products employing these minute dimensions are yet in production, we firmly believe that our early work in developing this processing technology will be invaluable in the 1980s when device complexities are expected to reach hundreds of thousands—or even a million—components per chip.

Sales of discrete semiconductors were up substantially, surpassing the record level established in 1973. Both new order bookings and backlog were up significantly over the previous year. The group experienced growth in all its main discrete semiconductor product families, including small signal and power transistors, radio frequency (RF) transistors and modules, rectifiers and zener diodes. Primary reasons for this success include the steady and timely introduction of new or improved products to the marketplace; the continuing emphasis on mechanization and automation programs to help offset inflation and allow us to remain price agressive; and the rapidly growing demand for a variety of discrete components created by microprocessor and other integrated circuit applications.

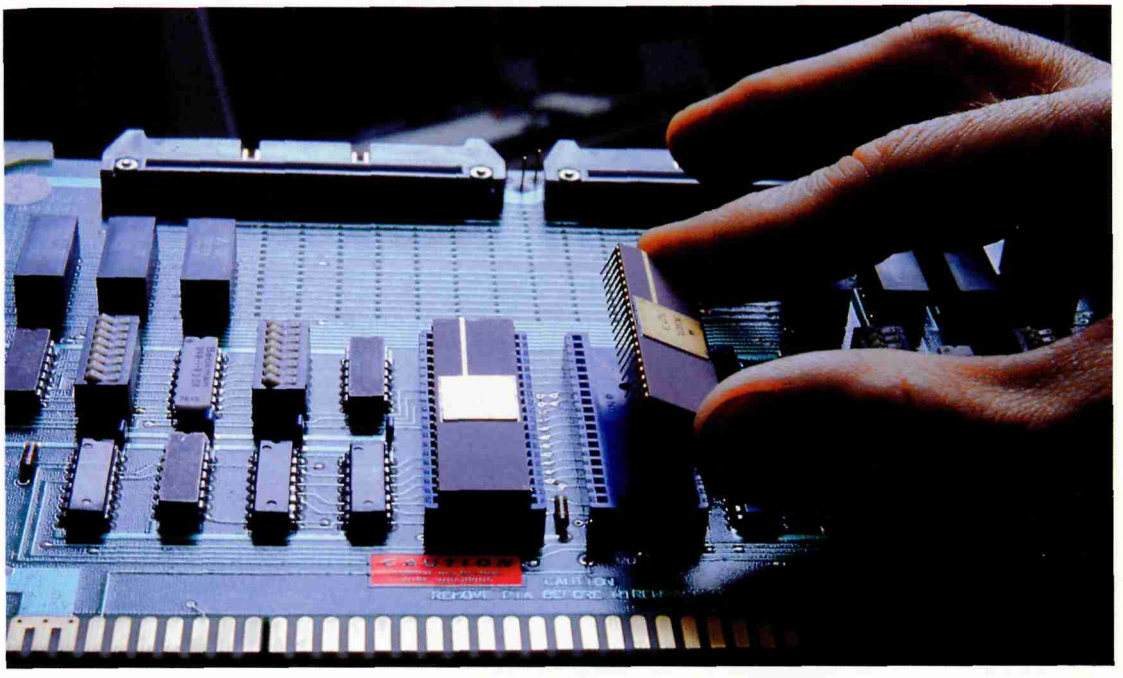
New Discrete Markets

As a result of its development of a number of important new power transistors we are enjoying expanded opportunities and increased market shares. These new devices include deflection transistors, used in television and automotive applications; "Power Base" transistors used in industrial and consumer applications; and an expanded line of "Switchmode" transistors, used in switching power supplies. During 1978, contract commitments were received from most major television manufacturers in the U.S. for high voltage deflection power transistors. We also more than tripled our production of TO-220 plastic-packaged power devices.

In RF products, our worldwide customer base in the industrial and communications markets is being expanded through the introduction of such new devices as microwave and pulse power components, CATV modules, RF modules and 900 MHz RF power transistors.

Orders for small signal transistors have increased in the industrial, computer and distribution markets. New device developments include IC optocouplers, dual-gate MOS-FETs and AM tuning diodes. These products will serve new markets for discrete components, and all represent substantial future growth opportunities.

A new line of fiber optic devices was introduced in 1978. These new technology devices are used to either emit or detect infrared light passed through a fiber optic cable. Fiber optic technology is expected to replace wire cable usage in a variety of electronic applications, including automotive and tele-



Through the use of Motorola's developmental programming and testing modules, microprocessor-based systems can be designed around Motorola's latest available microprocessors. Here an MC6809 microprocessor is placed in a prototype support module.

The MC6801 is a single-chip microcomputer that combines the processor, ROM, RAM, clock timer and IO circuits. This chip includes 40,000 transistors.

communications. We believe that the field of fiber optics represents an important new growth opportunity.

The rapid expansion of microprocessor applications in the consumer, automotive and industrial markets is also providing myriad opportunities for some of the group's older product lines as well. A wide variety of discrete devices, including small signal and power transistors, zener diodes, optoelectronic devices and thyristors, is being required in growing numbers because of the current microprocessor explosion.

Major Mechanization Programs

We continued our investment in important discrete semiconductor mechanization programs begun in 1976 and 1977. Major mechanization programs were continued or completed in such product areas as small signal and power transistors, rectifiers and zener diodes. Programs were also initiated or continued to convert to larger wafer sizes, including four-inch and five-inch. During 1978, the Semiconductor Research and Development Lab (SRDL) continued to develop new products and technologies. The research programs included work on sensors, fiber optic devices and advanced power devices.

In order to better serve our customers, we have continued to concentrate on product reliability improvements during the year. New reliability levels were achieved in several major discrete product lines, resulting in substantially lowered field failure rates. This emphasis on reliability should provide customers with lower systems costs in the future.

The Subsystems Products Unit developed several new products in 1978. The products introduced included linear and switching power supplies, solid state relays and input/output modules. Many of these will be used in microprocessor and other state-of-the-art applications.

Automotive Products Division

The Automotive Products Division recorded a modest increase in sales in 1978. Excellent performance in electronic systems products and an increase in international sales compensated for a decrease in sales of entertainment products to original equipment manufacturers which fell off significantly as Ford continued to supply more of is own entertainment products.

Operating margin for the year was down from 1977. This was principally due to losses at the Angers, France, facility, increased investment in new product development and the negative impact of currency fluctuations on some operations.

Technology Opens Markets

Bookings for electronic ignition modules and related engine control modules were up significantly. Orders for the newly introduced digital appliance controls added to bookings for the year. Export orders increased by more than 30 percent with the majority of this rise coming from Latin America and Europe.

In June, the division began production of dual pressure sensors which are used to monitor both barometric and manifold absolute pressure. Our technology in this area has enabled us to develop new markets for these and related products such as position and knock sensors, so that we will be able to meet the growing demand for different types of sensors in the future. Another major product introduction during the year was the digital tachometer used on farm combine harvesters to monitor engine speed, ground speed and fan speed.

The distributorless ignition for Citröen represents our first major electronic engine control product for the European market. This unit electrically determines spark timing advance and dwell based on engine load and rpm. The successful performance of this product for Citröen gives us a strong base from which this type of product can be marketed to other European firms.

In 1978, our electronic ignition modules continued to provide excellent field reliability both domestically and internationally. Sales of these modules have contributed substantially to the growth in volume of the division's electronic systems products.

In Europe start-up deliveries of a smaller diameter alternator from the Angers, France, facility were made to several large European automotive manufacturers. This alternator fulfills the growing requirement for smaller, lighter, more efficient components as the size of vehicles are reduced for fuel economy reasons.

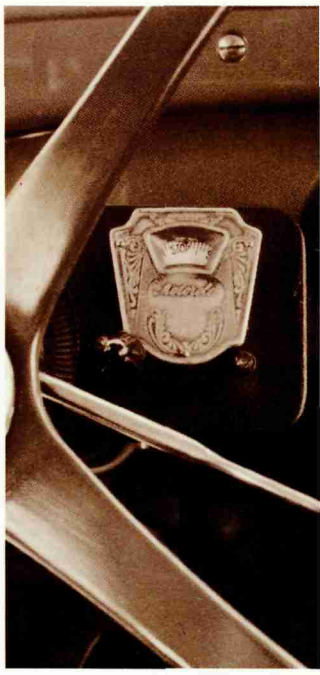
Also during the year, we entered the digital appliance controls market for the home appliance industry. These highly sophisticated electronic modules encompass microprocessor based technology to perform many control functions and are expected to replace the electro-magnetic devices in a large number of home appliances.

AM Stereo

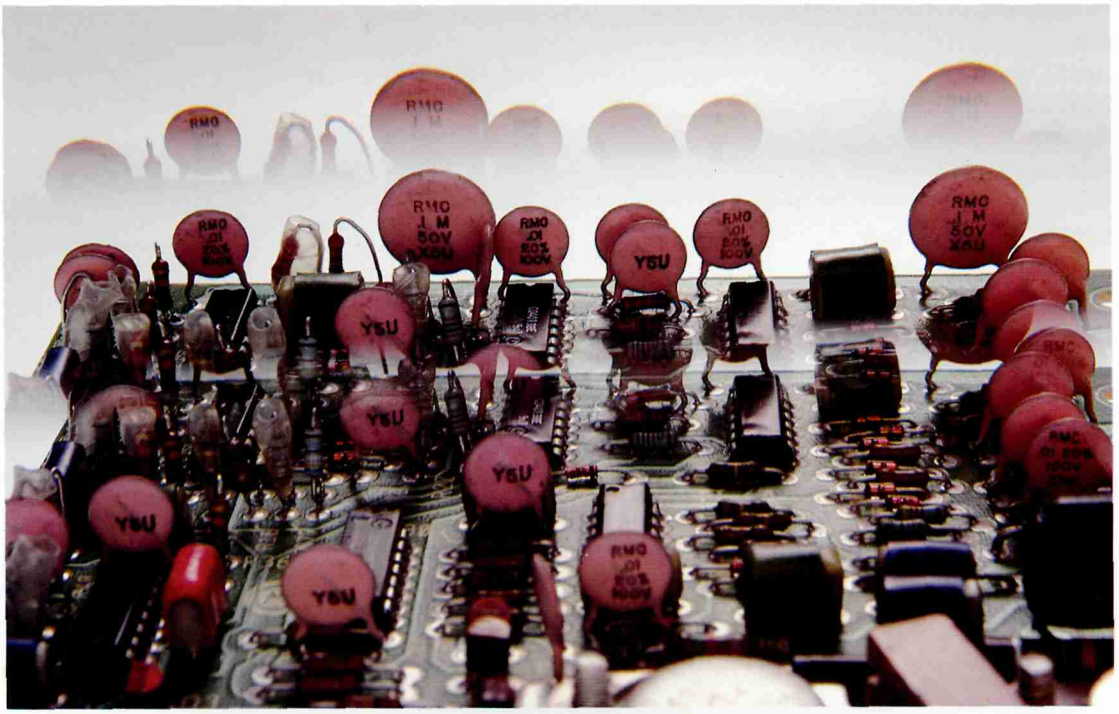
During 1978, we continued our research and development work and promotion of our AM stereo concept with the Federal Communications Commission and the National Association of Radio Broadcasters. We believe that AM stereo is the next exciting breakthrough for in-car entertainment, responding to consumer demand for stereo while offering long-range AM reception as contrasted to restricted line-of-sight FM signals. We fully intend to apply our technological leadership in the AM stereo field and become a leader in this market.

The Lamon Avenue facility in Chicago, which manufactured printed circuit boards, was closed due to decreased volume and added manufacturing expenses resulting from environmental considerations. Its production was transferred to the Communications Group's facility in Franklin Park, Ill. The Midland, Ontario, Canada, facility, which was closed during 1977, was sold during the year.

Motorola also sold its interest in a joint venture in Japan to Alps Electric Co. We are continuing the technology licensing arrangement with the company as well as continuing the sales interface of certain items in that



1929 was the year that the company first began to develop a car radio, and it was in that year the Automotive Products Division had its origins. The company's first commercially successful car radio was manufactured in 1930.



product line. In the early part of 1979, production of digital appliance controls will begin at a new manufacturing facility opened in Puerto Rico.

Our business in electronic systems is expected to increase with continued strong demand for ignition and related products, sophisticated instrumentation to the automotive, agricultural and industrial sector and full scale delivery of digital controls in the home appliance industry.

1978 ***(Above)*** **Motorola's new distributorless ignition system will make an important contribution to both fuel economy and environmental control.** ***(Below)*** **The TC8 90AX, one of the newest autosound systems introduced in 1978. When coupled with our graphic equalizer, it is capable of delivering 30 watts power output and reproducing high fidelity sound in the car.**

Government Electronics Division

The Government Electronics Division has experienced a year of growth with sales, bookings and backlog climbing and profit margins increased over the prior year. The keys to this success were a continuing concentration on high technology, product diversification and expansion of the division's customer base.

These programs included the start-up of a new specialized production center and the decision to relocate radar operations into a new facility in Tempe, Ariz. (scheduled for move-in during April of 1979). Emphasis on long-term growth was also reflected in the continued increase of investment in independent research and development and the higher rate of bid and proposal activity coupled with the development of business in the larger systems and subsystems markets. Potential returns for each of these investments continue to be high as indicated by the substantial increase in new business bookings and backlog.

A specialized production center was established during 1978 marking the division's entry into the very competitive high technology mass production manufacturing business. This center was successful in booking almost $30 million in new business during its first year. Since most of this type of business is made up of multi-year contracts, the impact in terms of sales and profit will not be felt, however, until midyear 1979 and beyond.

R & D Emphasis

Efforts in fuze production have been focused on widening the range of advanced tactical proximity fuzes, with special emphasis on new proprietary small caliber devices. Success in today's research and development activities should create excellent opportunities for the next three- to five-year period in high rate production of these proprietary devices.

Our penetration into the highly classified electronic countermeasures market was significantly broadened during 1978. Development work in surface acoustic wave channelized receivers and special broadband receivers using advanced field effect transistor technology has created a whole range of new multiservice opportunities for Motorola countermeasures systems. During the year a strong passive system capability was added. The division is now in a position to address threats on the basis of complete spectrum coverage. Included are advanced technologies to jam long-range early warning radars, medium-range ground control intercept radars and terminal radars for fire control of guns and missiles.

New Contracts and Bookings

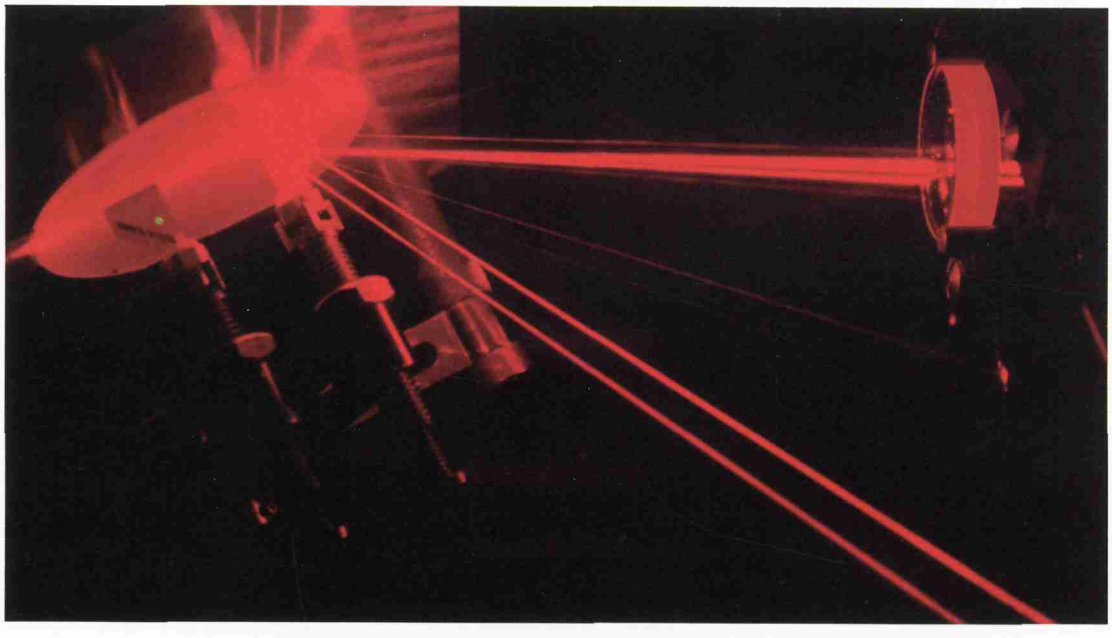
In 1978, we won a number of significant contracts for missile fuzing. These bookings range from study contracts, through research and development, to production and involve such major programs as the Phoenix, Shrike and High-Speed Anti-Radiation Missile (HARM).

Utilizing large scale integration (LSI) technology and microprocessors, aerospace communications continued to expand. New bookings on several major aerospace programs included the Geostationary Operational Environmental Satellite (GOES); Landsat, an Earth resources satellite; the advanced range instrumentation aircraft; the P-80, an Air Force experimental satellite; the global positioning satellite; the tactical data relay satellite system; and space shuttle.

The division's communications operations continued to grow based largely on the growing requirement for more digital communications, particularly the secure communications segment. Additionally, two key radio development contracts for hand-held transceivers were booked.

Soon to move into production is an addition to the division's family of VHF/UHF radios. This family of state-of-the-art radios is for ground-air-ground fixed installation applications. They are designed for more effective communications in a high density air control environment with significantly reduced interference when located in close proximity to other transmitters and receivers. Following the sales pattern of other radios presently in production, major

1950 was the year the Military Electronics Division was formed to handle U.S. government contracts. One of its first systems contracts was for the U.S. Army's AN/MRC-66 Mobile Radio Control. The division changed its name to the Government Electronics Division in 1965.



(Above) **Meinel optical concentrators proposed for the world's largest solar cell energy plant designed by Motorola for installation at Phoenix International Airport, Ariz., being tested.** ***(Below)*** **A helium-neon laser is being used to develop optical waveguides for eventual use in electronic countermeasures equipment.**

orders are expected from both domestic and international customers.

In radar operations a major booking was received from the U.S. Coast Guard for side-looking modular airborne radar. This radar will be used in the surveillance of the 200-mile offshore coastal waters of the United States. The system will also be applicable to international territorial shoreline patrol.

During 1978, a multicolor air traffic control and landing system display, which leads the state-of-the-art in tactical air controller displays, was delivered to the U.S. Marine Corps. Inter-operability options designed into this new display open NATO markets beyond the U.S. military.

Solar Cell Energy Plant

Our design of the world's largest solar cell energy plant, to be located at Phoenix International Airport, was completed in February of 1979. We are confident of being awarded the building and installation phase of the complete system. If Motorola is awarded the contract, this system will use more than 14,000 Motorola Meinel solar concentrators. We believe that new systems using various numbers of these concentrators have great sales potential in both the domestic and international marketplace.

A series of different sized solar arrays, using Motorola microprocessors for tracking and control, is presently in final development for the same

broad world markets.

The division improved its position in the electronic funds transfer market with its Info-guard™ data security products. Five New York savings banks awarded the division a contract calling for a substantial amount of Info-guard equipment. Growing customer acceptance of this line of products was also indicated by shipments made for use in the data communications networks of corporations, financial institutions and government agencies. The division is now in a strong position to capitalize on these growing markets.

Position determining systems continued to show improvement with bookings, sales and earnings up again in 1978. These products are sold to both domestic and international markets.

International bookings for 1978 were nearly twice as high as for 1977. The Canadian, German, French and Japanese markets were major contributors to this growth.

In late 1978, we made a change in the division's international structure by establishing a second marketing region covering Canada, Latin America and the Far East.

Display Systems Unit

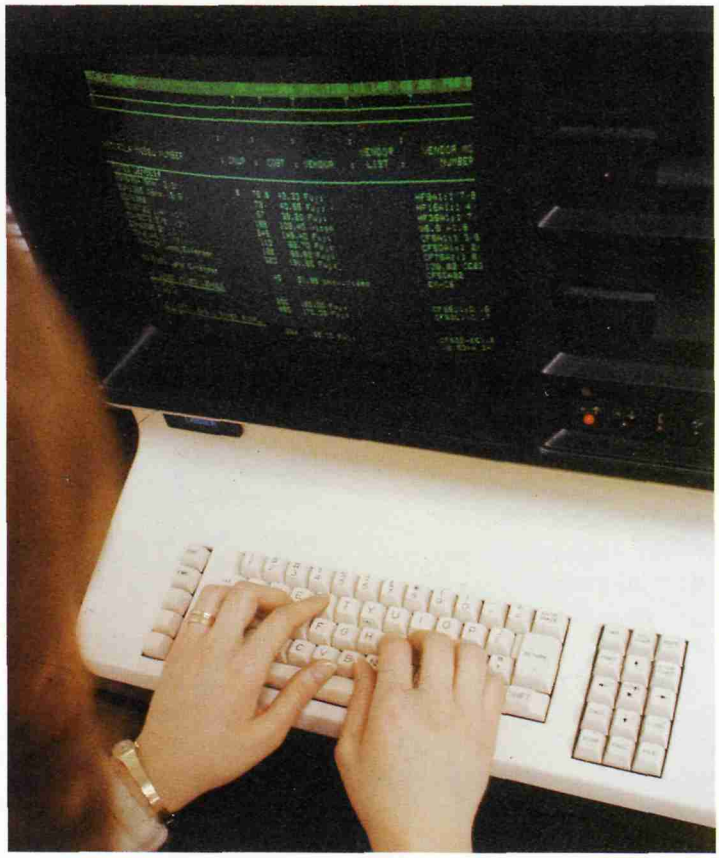
The Display Systems Unit's (formerly called the Data Products Unit) 1978 sales were up more than 10 percent over the previous year with operating margin higher than in 1977. New order bookings were up 14 percent.

Display Module Line Grows

The majority of the unit's growth occurred in the cathode ray tube (CRT) display module line, which is marketed to OEM computer terminal manufacturers worldwide. In the systems' products line, initial shipments of information display systems were made to the health care industry.

In addition to CRT display modules marketed direct to computer terminal manufacturers, we manufacture a complete line of closed circuit television systems, information display systems, which are distributed through Motorola's Communications Distribution Division, and the MagicScore™ bowling scoring system. During the year a $2 million contract for the development and manufacture of a "second generation" MagicScore computerized scoring system was received from AMF's Bowling Products Division.

The CRT display module line is expected to continue as the chief product of the Display Systems Unit with major emphasis placed on introducing new products into the word processing, small business system and home computer terminal segments of the computer industry.



A Motorola 15-inch cathode ray tube (CRT) module is one of the major components of the word processing terminal shown here. The module is a subassembly consisting of a CRT and the electronics required to "light up" data on the face of the tube.

New Facility

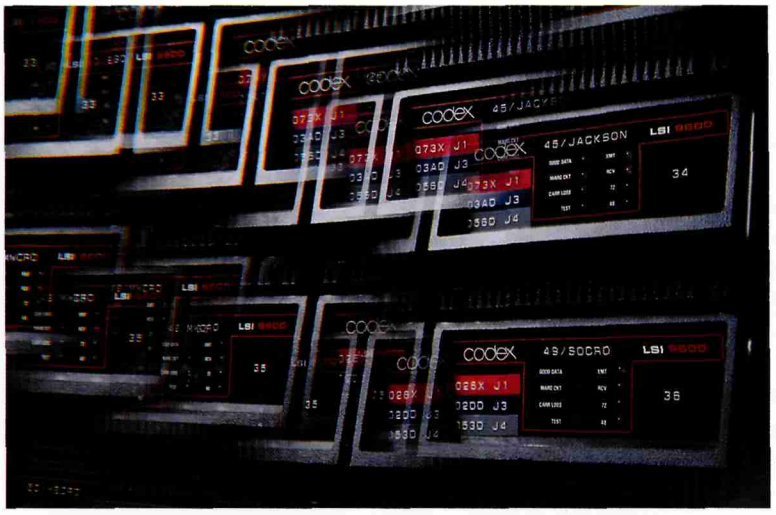
During 1978, we broke ground for the construction of a new 200,000 square foot manufacturing facility in Joplin, Mo. (occupancy first quarter, 1980), and announced the purchase of a 50 acre site in St. Charles, Ill., for future construction of the operation's administrative and engineering headquarters.

Codex

Codex had another record year in 1978 with a significant increase in sales and an improved profit margin over 1977.

New orders booked were up 45 percent with continued strength reported in all traditional markets. Forty percent of the orders were for export. The strongest international markets were West Germany, Italy, the United Kingdom, Sweden, Japan, Australia and Brazil. Both the dollar's poor performance and the company's increasing activities in these markets contributed to export strengths.

In 1978, the markets for modem and multiplexer products continued to expand at the rate of 30 to 35 percent. The international market for our data communications modem, the LSI 96/V.29, for example, is proving exceptional as attested by the purchase of that Codex modem by several major post, telegraph and telecommunications (PTT) authorities during 1978. These included the Swedish, Norwegian and German PTTs and the Australian Telecommunications Commission. Other LSI 96/V.29 contracts included those with the Japanese Travel Bureau and Western Union Information Systems. Major contracts were also awarded by Serpro in Brazil for Codex's 6000 series of Intelligent Network Processors and by Hydro Quebec for the 4800 large scale integration (LSI) series of high speed modems.



In 1978 Codex's markets for modems continued to expand. Products like this LSI high speed modem provide efficient and reliable transmission of data while reducing user costs.

New Products

Three new products were introduced in 1978. They were the Automatic Circuit Quality Monitoring System; the 6010, the newest member of the 6000 family of Intelligent Network Processors; and the LSI 24/24, 2400 two-wire, full-duplex 2400 bps speed modem. The 6010 broadens the 6000 statistical time division multiplexer product line by providing applications support to smaller computer systems. The 24/24's potential market is in dial networks and secure speech applications. They continue the Codex tradition of advancing technology with products of unique capabilities that have practical economic benefit to customers.

New Operations

In May, Codex established a Far East office in Tokyo in order to support its distributors in the Asia/Pacific area. New operations established in Phoenix, Ariz., and Toronto, Canada, will provide Codex with the capability to expand its research and development and manufacturing capabilities more rapidly than in the past.

In November, we moved our worldwide Codex headquarters to a new 90,000 square foot facility in Mansfield, Mass. The building, which shares a 41 acre site with our 125,000 square foot assembly facility, houses executive, research, engineering, marketing and administration offices.

We expect to continue our growth in revenues and income and to expand our participation in the rapidly developing data communications products and systems markets.

Financial Strength

As we have previously stated, a strong balance sheet and conservatively stated asset and earnings figures are key elements in Motorola's corporate financial policy and strategy.

At yearend 1978, total borrowings, long- and short-term, were 24.1 percent (down from 26.1 percent in 1977) of total borrowings plus stockholders' equity. These ratios would be 15.3 percent and 19.6 percent for 1978 and 1977, respectively, if marketable securities of $121 million ($96 million of which results from accumulated profits for subsidiaries operating in Puerto Rico) were offset against borrowings.

The current ratio at December 31, 1978, was 2.20, modestly down from 2.47 a year earlier, but still well within our policy range. Working capital increased from $567 million a year ago to $620 million.

Long-term debt of $198 million includes the proceeds of the October 1977 $100 million eight percent domestic debenture issue, a $56 million revolving credit agreement which supports domestic commercial paper notes and certain short-term non-U.S. borrowings, and long-term borrowings outside the United States.

$173 million of short-term bank lines of credit were additionally available (not being used) at yearend.

Funding Growth

A management concept which has gained a high level of attention within the company in recent years is the "funding of growth." Briefly, this requires an operation which does "fund" its growth to earn and manage its net assets employed so as to provide its reasonable share of the dividend to the stockholders and, at the same time, limit additional borrowings to a modest portion of its retained earnings growth.

With a 20 percent increase in revenues, fixed asset expenditures of $146 million, depreciation of $83 million, dividend payments of $32 million, total debt at yearend increased only slightly from $278 million in 1977 to $281 million.

Puerto Rico

Plans are now near completion and negotiation for approval of the Puerto Rican government is underway covering repatriation in 1979 of the first increment of accumulated profits for subsidiaries operating in Puerto Rico. Adequate provision for the Puerto Rican withholding (tollgate) tax for this and other expected repatriations have been made in our accrued tax accounts.

Foreign Currency

1978 was a difficult year for the U.S. dollar as it devalued vis-a-vis most other major currencies. In this environment, Motorola recorded a $1.1 million foreign exchange loss as defined by the current rules of the Financial Accounting Standards Board (SFAS-8). Included in this amount is a $1.3 million translation loss at Autovox, where for cost and other considerations, it was impractical to neutralize our SFAS-8 exposure. We note that the Financial Accounting Standards Board has indicated its intent to study significant modification of SFAS-8.

Because of the difficulty in predicting currency values, we have continued our policy of monitoring the consolidated exposure position of each currency in which we deal, and attempted to keep our worldwide exposure as near neutral as economically and legally feasible. This policy, which has served us well in the past, will be our guide for the future.

London Listing

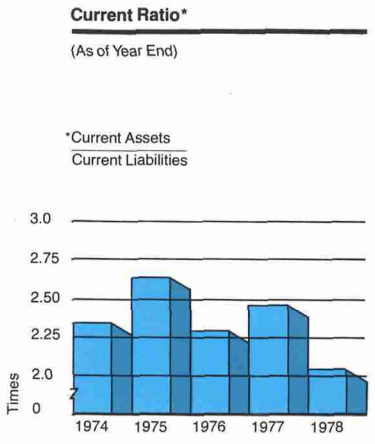
Recognizing the importance of our international markets, the growing number of Motorola employees and stockholders in Europe, and the prominence of London as a financial center outside the United States, Motorola stock has been listed on the London Stock Exchange.

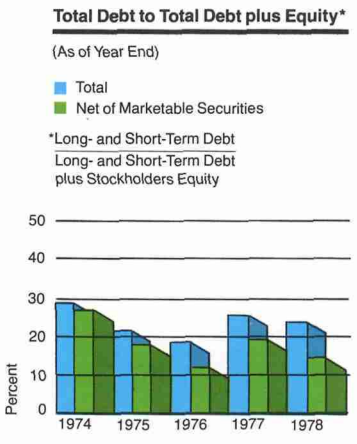
Segment Reporting

Footnote No. 9 to the financial statements contains our continuing compliance with the Statement of Financial Accounting Standards No.14 (SFAS-14).

Although Motorola continues to regard its operations as being predominately in one industry—electronic equipment and components—the data required by SFAS-14 is presented for communications products, semiconductor products and automotive products.

We again advise the stockholders that SFAS-14 provides for presentation of segment profit at the "operating" level, before additions or deductions of general corporate expenses, interest expense and income taxes. Certain of these expenses are not uniformly apportionable, related either to revenues or assets. Therefore, any allocation of these expenses to the indicated segments is necessarily subjective and comparisons to segments of other enterprises may not be meaningful.





Consolidated Balance Sheets

Motorola, Inc. and Subsidiaries, Years Ended December 31

Assets (Dollars in thousands)	**1978**	1977
Current Assets:		
Cash	**$ 35,976**	$ 30,132
Short-term investments, at cost (approximating market)	**121,429**	85,681
Accounts receivable, less allowance for doubtful accounts (1978, $23,775; 1977, $13,543)	**454,245**	381,165
Inventories		
Finished goods	**146,117**	133,608
Work in process and production materials	**292,724**	252,893
Future income tax benefits	**43,762**	32,155
Other current assets	**40,739**	36,403
Total Current Assets	**1,134,992**	952,037
Property, Plant and Equipment:		
Land	**23,651**	21,223
Buildings	**287,249**	263,945
Machinery and equipment	**503,499**	426,965
Accumulated depreciation	**(310,602)**	(269,678)
Property, Plant and Equipment, Net	**503,797**	442,455
Sundry Assets, Net	**17,768**	25,367
Total Assets	**$1,656,557**	$1,419,859

Liabilities and Stockholders' Equity		
Current Liabilities:		
Notes payable—banks and other	**$ 78,502**	$ 73,936
Current maturities of long-term debt	**4,461**	3,782
Accounts payable	**183,339**	135,260
Accrued expenses	**188,378**	131,973
Income taxes payable	**60,382**	40,042
Total Current Liabilities	**515,062**	384,993
Long-Term Debt	**198,091**	200,279
Other Noncurrent Liabilities	**57,866**	46,543
Stockholders' Equity:		
Common Stock, $3.00 par value Authorized: 40,000,000 shares Outstanding: 1978—31,085,178 shares; 1977—30,941,057 shares	**93,256**	92,823
Preferred stock, $100.00 par value issuable in series Authorized: 500,000 shares (none issued)	**—**	—
Additional paid-in capital	**156,376**	152,322
Retained earnings	**635,906**	542,899
Total Stockholders' Equity	**885,538**	788,044
Total Liabilities and Stockholders' Equity	**$1,656,557**	$1,419,859

See accompanying notes to consolidated financial statements

Statements of Consolidated Earnings and Retained Earnings

Motorola, Inc., and Subsidiaries, Years Ended December 31

(Dollars in thousands, except per share data)	1978	1977
Sales and Other Revenues	**$2,219,744**	$1,853,514
Manufacturing and other costs of sales	**1,339,806**	1,139,877
Selling, service and administrative expense	**548,667**	426,304
Depreciation of plant and equipment	**83,340**	72,770
Interest and amortization of debenture discount, expense and premium, net	**27,541**	22,943
Total Costs and Other Expenses	**1,999,354**	1,661,894
Earnings before income taxes	**220,390**	191,620
Income taxes	**95,208**	84,669
Net Earnings	**125,182**	106,951
Retained earnings at beginning of year	**542,899**	462,305
Cash dividends declared (per common share: 1978, $1.05; 1977, $.880)	**(32,175)**	(26,357)
Retained earnings at end of year	**$ 635,906**	$ 542,899
Net Earnings Per Share	**$ 4.04**	$ 3.46
Average shares outstanding (in thousands)	**31,019**	30,933

Statements of Consolidated Additional Paid-in Capital

Motorola, Inc., and Subsidiaries, Years Ended December 31

(Dollars in thousands)	1978	1977
Balance at beginning of year	**$ 152,322**	$ 151,488
Share option plans	**2,962**	748
Conversion of 4½% convertible guaranteed debentures	**1,092**	86
Balance at end of year	**$ 156,376**	$ 152,322

See accompanying notes to consolidated financial statements

Statements of Consolidated Changes in Financial Position

Motorola, Inc., and Subsidiaries, Years Ended December 31

(Dollars in thousands)	1978	1977
Sources of Funds		
Net earnings	**$125,182**	$106,951
Add noncash charges		
Depreciation	**83,340**	72,770
Amortization of deferred debenture discount, expense and premium, net	**204**	551
Funds provided from operations	**208,726**	180,272
Increase in notes payable and current maturities of long-term debt	**5,245**	13,140
Increase in accounts payable	**48,079**	18,500
Increase in accrued expenses	**56,405**	16,928
Disposals and other changes of plant and equipment (and tooling), net	**12,113**	7,324
Increase in long-term debt	**—**	98,941
Issuance of common stock	**4,487**	968
Increase in income taxes payable	**20,340**	—
Decrease in sundry assets, net	**7,599**	—
Other sources, net	**6,783**	2,596
Total Sources of Funds	**369,777**	338,669
Uses of Funds		
Increase in receivables	**73,080**	64,885
Increase in inventories	**52,340**	56,065
Fixed asset expenditures	**146,377**	128,406
Increase in equipment rented to others, at cost	**10,418**	10,715
Decrease in long-term debt	**2,188**	—
Dividends	**32,175**	26,357
Decrease in income taxes payable	**—**	9,088
Increase in future income tax benefits	**11,607**	8,010
Increase in sundry assets, net	**—**	2,471
Total Uses of Funds	**328,185**	305,997
Net Increase in Funds	**41,592**	32,672
Cash and short-term investments		
Beginning of year	**115,813**	83,141
End of Year	**$157,405**	$115,813

See accompanying notes to consolidated financial statements

Accountants' Report

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

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

We have examined the consolidated balance sheets of Motorola, Inc., and Subsidiaries as of December 31, 1978 and 1977 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, 1978 and 1977 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 14, 1979

Notes to Consolidated Financial Statements

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

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

International: The company follows the method of foreign currency translation prescribed in Statement No. 8 of the Financial Accounting Standards Board. Assets and liabilities expressed in foreign currencies, other than principally fixed assets and inventories, are translated at the approximate period ending rates of exchange; inventories and fixed assets are translated at approximate rates in effect when the assets were acquired. The earnings statements are translated at rates prevailing during the year except for depreciation, amortization, and cost of sales which are translated at historical rates. Gains and losses from currency realignments have been reflected in earnings as incurred.

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

Investment Tax Credits: Investment tax credits are recorded as a reduction of income tax expense in the year in which the related assets are placed in service.

Property, Plant and Equipment: Property, plant and equipment is stated at cost. The cost and accumulated depreciation of items of property, plant and equipment sold, retired or fully depreciated are removed from the related accounts and any gain or loss on disposition is reflected in earnings. Maintenance and repairs are expensed as incurred, while major renewals or betterments are capitalized.

The cost of buildings, machinery and equipment is depreciated generally by the declining balance method, over the estimated useful lives of such assets, as follows: buildings and building equipment, 5-50 years; machinery and equipment, 2-12 years. For income tax purposes, the company has selected 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.

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 that the company receives from disqualifying dispositions by optionees of exercised qualified share options, and from the exercise of non-qualified share options is credited to additional paid-in capital.

Earnings per Share: Earnings per share are calculated on average daily shares outstanding.

2. Business Combination: On December 27, 1978, Motorola exchanged 554,375 shares of its common stock for substantially all the assets, liabilities and business of Universal Data Systems, Inc. (UDS), a supplier of data communication equipment. UDS has distributed the Motorola common stock as a liquidating dividend to its shareholders. This combination has been accounted for as a pooling-of-interests and, accordingly, the accompanying consolidated financial statements include the results of operations of UDS for all periods prior to the combination.

For the twelve months ended December 31, 1978, UDS contributed sales and other revenues and net earnings of $11,616 thousand and $1,531 thousand, respectively. Sales and other revenues and net earnings for the year ended December 31, 1977, have been restated as follows:

(Dollars in thousands)	**Sales and Other Revenues**	**Net Earnings**
Motorola (as previously reported)	$1,848,395	$106,265
UDS	5,119	686
Combined (as restated)	$1,853,514	$106,951

The combination also caused the beginning balances for 1977 retained earnings to increase by $645 thousand and additional paid-in capital to decrease by $1,444 thousand.

3. International Operations: A net foreign currency exchange loss of $1,126,000 and a gain of $2,544,000 are included in earnings from operations for 1978 and 1977, respectively. The net earnings from non-U.S. subsidiaries included in earnings from operations are $22,232,000 and $14,458,000 for 1978 and 1977, respectively.

The company's equity in net assets of non-U.S. subsidiaries at December 31 consisted of the following:

(Dollars in thousands)	**1978**	1977
Current assets	**$291,722**	$237,112
Property, plant and equipment net	**109,621**	93,401
Current liabilities	**(162,721)**	(114,393)
Other assets (liabilities), net	**(40,911)**	(17,722)
Equity in net assets of non-U.S. subsidiaries	**$197,711**	$198,398

The company's equity in undistributed earnings of profitable non-U.S. subsidiaries at December 31, 1978, amounted to $91,525,000 ($67,813,000 at December 31, 1977).

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

(Dollars in thousands)	1978	1977
Debt outside the United States:		
4½% convertible guaranteed debentures due July 1, 1983	**$ 5,583**	$ 6,908
8% guaranteed sinking fund debentures due March 1, 1987	**—**	200
Notes payable (generally at prevailing prime rates) due in installments to 1991	**22,924**	18,341
Notes supported by revolving credit commitments from banks	**14,632**	—
Debt in the United States:		
Commercial paper supported by revolving credit commitments from banks	**41,368**	56,000
4¾% debentures due April 1, 1986 (net of debentures held by the company for sinking fund payments, $4,739 at December 31, 1978; $2,480 at December 31, 1977)	**15,261**	19,020
8% sinking fund debentures due October 1, 2007	**99,713**	99,702
Capitalized lease obligations, due in installments at various maturity dates through 1987 at interest rates of 7½% to 8½%	**3,071**	3,890
	202,552	204,061
Less current maturities, included in current liabilities	**4,461**	3,782
Net long-term debt	**$ 198,091**	$ 200,279

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 one thousand dollar 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 101% to 100% of the principal amount thereof. For the year ended December 31, 1978, $1,325 thousand in debentures ($108 thousand for the year ended December 31, 1977) were converted into 33,386 shares (2,720 in 1977). At December 31, 1978, there were 140,784 shares (174,170 at December 31, 1977) of Motorola, Inc., common stock reserved for issuance upon conversion of these debentures.

The 8% sinking fund debentures due October 1, 2007, are redeemable at various dates at redemption prices reducing from 107.4% to 100% of the principal amount thereof. Annual sinking fund payments are required beginning October 1, 1988, in installments of $5 million sufficient to retire 95% of the issue prior to maturity. The net proceeds from the sale of the debentures were used to reduce outstanding domestic commercial paper and redeem the 8% guaranteed sinking fund debentures (issued by Motorola International Capital Corporation) due March 1, 1987.

Under the terms of the revolving credit agreement, which were amended in 1978, the full amount of the agreement ($56 million) extends through December 31, 1981, with $7 million in equal semi-annual reductions thereafter. Any borrowings through June 30, 1981, will be at the prevailing prime commercial rate of interest, for the next two years at the prevailing prime commercial rate of interest plus ¼% and for the last two years at the prevailing prime commercial rate of interest plus ½%. It is the intention of the company to maintain the availability of the revolving credit agreement during 1979, and therefore the debt, both domestic and foreign, is classified as long-term. Domestic debt refers to outstanding commercial paper, whereas foreign debt refers to short-term borrowings undertaken for interest arbitrage or exposure management considerations, the repayment of which is not subject to domestic or foreign exchange control limitations.

The revolving credit agreement restricts retained earnings available for payment of cash dividends. At December 31, 1978, approximately $329 million ($237 million at December 31, 1977) of retained earnings were not restricted for dividend payments. The revolving credit agreement also requires the company to maintain a ratio of consolidated current assets to consolidated current liabilities at not less than 1.75:1.00 and consolidated net working capital (as defined) of not less than $225 million.

The aggregate maturities and sinking fund requirements for long-term debt during the next five years are as follows:

1979	1980	1981	1982	1983
$4,461	$4,402	$3,894	$18,631	$23,584

In 1982 and 1983 maturities and sinking fund requirements include $14 million of commercial paper and foreign notes payable supported by revolving credit commitments.

5. Income Taxes: The company provides for income taxes based on earnings reported for financial statement purposes. Income tax expense differs from amounts currently payable because of timing differences in the recognition of certain income and expense items for tax and financial statement purposes.The amounts reported for 1977 have been restated

to reflect the company's tax return for that year as filed. The components of the provision for income taxes are as follows:

(Dollars in thousands)	1978	1977
Taxes currently payable:		
United States	**$70,720**	$63,844
Other nations	**18,526**	12,232
State income taxes (U.S.)	**7,539**	7,617
Total currently payable	**96,785**	83,693
Deferred Taxes:		
Difference between depreciation recorded for income tax purposes and financial statement purposes	**2,767**	2,604
Income taxes on profits of Domestic International Sales Corporations	**2,387**	3,272
Current earnings of foreign subsidiaries anticipated to be repatriated in the future	**5,035**	—
(Increase) decrease in:		
Future warranty obligations	**(1,215)**	(628)
Inventory valuations	**(8,088)**	(7,201)
Future employee benefits	**(1,022)**	3,051
Allowance for doubtful accounts	**(3,827)**	(742)
Other nations	**2,739**	(2,245)
Other—net	**(353)**	2,865
Total deferred	**(1,577)**	976
Total income tax expense	**$95,208**	$84,669

The company anticipates that payment for current taxes on income will not exceed the provision for income tax expense in the near future by any significant amount. This situation principally arises because of U.S. taxes that must be paid on profits of domestic sales to foreign subsidiaries, the profits of which are eliminated for financial reporting purposes. The amount of intercompany profit included in inventory is principally subject to inventory levels. It is not feasible to forecast inventory levels for the future, and therefore no estimates are provided on the future changes in deferred taxes.

Income taxes have been provided on aggregate earnings of the company's Domestic International Sales Corporation. Income taxes have been provided on that portion of the company's share of the undistributed earnings of subsidiaries that are anticipated to be repatriated in the future. Income taxes have not been provided on the company's share of other undistributed earnings of subsidiaries ($82,179,000 and $67,813,000 at December 31, 1978 and 1977, respectively), where it is intended these earnings will be permanently invested in operations outside the United States. Should these earnings be distributed, foreign tax credits would reduce the additional U.S. income tax which would be payable.

A reconciliation of the statutory corporate tax rate with the financial statement effective income tax rate is as follows:

	1978	1977
Statutory U.S. Federal rate	**48.0%**	48.0%
Increase (decrease) in tax rate resulting from:		
Taxes on earnings in other nations, net of loss operations with no tax benefits and tax holidays	**1.0**	2.4
Tax benefits arising from tax holiday in Puerto Rico	**(4.2)**	(4.8)
Investment tax credits	**(4.1)**	(3.8)
State income taxes	**1.8**	2.1
Other	**.7**	.3
Effective tax rate	**43.2%**	44.2%

At December 31, 1978, certain non-U.S. subsidiaries of the company had loss carryforwards of approximately $7.7 million.

The company's federal income tax returns have been examined and settled through 1973 by the Internal Revenue Service.

6. Contingencies: The company is one of 23 defendants named in a lawsuit commenced on September 20, 1974, by Zenith Radio Corporation ("Zenith") in the United States District Court for the Eastern District of Pennsylvania. Zenith's complaint alleged conspiracies and other violations of the United States antitrust and anti-dumping laws.

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

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

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

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

The company's business under certain United States government contracts is subject to the provisions of the Renegotiation Act of 1951. Renegotiation has been completed through 1970. It is the opinion of management that no significant adjustments will result from the Renegotiation Board's review of the open contract years.

In January 1979, the Federal Court for the Northern District of Illinois issued an order and decision in favor of the Equal Employment Opportunity Commission and a certified class plaintiff that they had prevailed on the issue of liability with respect to hiring of blacks at Motorola's locations in the Northern District of Illinois from November 1968 to December 31, 1975, except for executive and professional positions. The court did not rule upon the amount or measure of damages or injunctive relief, which will be considered later. Motorola intends to appeal at the appropriate time.

Motorola is currently defending two other certified class actions, together with a lawsuit brought by the EEOC, in the Federal Court for the Northern District of Illinois. These suits allege discrimination in the hiring of females and persons of Spanish surname for certain jobs and the promotion and certain employment practices relating to blacks in the Northern District of Illinois for various time segments beginning in 1965. These suits have not been tried. Motorola employs approximately 10,000 persons in northern Illinois.

Motorola is also defending a suit brought as a class action in Federal Court for the Northern District of Georgia wherein the plaintiff claims discrimination with respect to pregnancy leaves of absence. In each of these actions the plaintiffs are seeking injunctive relief together with damages in the form of back pay. In addition, Motorola is contesting an EEOC determination on November 4, 1977, that there is reasonable cause to believe that Motorola has engaged in a pattern and practice of employment discrimination since 1965 at its facilities in the Phoenix, Ariz., area where Motorola employs more than 10,000 persons. In that case Motorola is participating in statutorily mandated conciliation discussions with the EEOC staff. If resolution through those discussions should fail, the EEOC could file suit.

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

7. Share Option Plans: Under the company's employee share option plans, shares of common stock have been made available for grant to employees of the company and certain subsidiaries. The exercise price of options granted may not be less than 100% of market value on date of grant.

The Share Option Plan of 1972 permitted granting of qualified (all of which have been cancelled and replaced with non-qualified options, or have expired) or non-qualified options, exercisable one year from date of grant. Non-qualified options expire ten years from date of grant. Authority to grant options under the 1972 plan was suspended upon implementation of the Share Option Plan of 1977.

The Share Option Plan of 1977 permits the grant of non-qualified options only, which are exercisable in installments commencing one year from the date of grant and expire ten years from such date.

In 1977, outstanding options previously granted to employees of Codex Corporation and its subsidiaries pursuant to the Codex Corporation Qualified Stock Option Plan and the Codex Corporation 1975 Qualified Stock Option Plan were assumed by Motorola. All of the options currently outstanding may be exercised in installments commencing six months after the date of grant, and expire five years from such date.

In 1978, the company authorized the Compensation Committee to request the mutual cancellation of certain of the company's share options previously granted, and the granting of replacement share options at 100% of the market price on the date of grant. Qualifying tendered share options were replaced with share options at the rate of three shares for every four shares offered for cancellation, which are exercisable to the extent at the times, and in the manner of the cancelled share options. Share options for the one share out of every four shares offered for cancellation that was not re-granted were granted to eligible employees in a new share option grant.

Information on share options is summarized below:

	1978	1977
Options outstanding beginning of year (shares)	**1,449,849**	1,221,416
Additional options granted	**1,340,640**	295,765
Options exercised	**(110,712)**	(36,066)
Options terminated for cancellation and regrant and discontinued employment	**(1,382,550)**	(31,266)
Options expired	**(1,858)**	—
Options outstanding end of year	**1,295,369**	1,449,849
Shares reserved for possible future option grants	**811,680**	767,912
Total shares reserved	**2,107,049**	2,217,761
Total options exercisable (shares)	**785,808**	1,135,330
Aggregate exercise price of outstanding options	**$47,633,000**	$67,364,000
Aggregate exercise price of exercisable options	**$28,488,000**	$52,636,000

In addition, 5,775 warrants to purchase common stock were exercised by employees of Codex in 1977.

Options shown have been restated to include stock options of Universal Data Systems, Inc., employees which were outstanding and exercised in 1978 and 1977. There are no options outstanding that were previously granted to purchase shares of Universal Data Systems, Inc., Common Stock.

Options exercised during 1978, including options previously granted to employees of Codex and UDS, were at per share prices of $2.00 to $53.81 ($2.00 to $46.25 in 1977). Options outstanding at December 31, 1978, were at per share prices of $9.96 to $53.13.

8. Employee Benefit Plans: As specified in the Motorola Executive Incentive Plan, amended in 1977, the company may provide up to 7% of its annual consolidated pre-tax earnings, as defined, for the payment of cash incentive awards. Awards made in 1979 for 1978 performance and in 1978 for 1977 performance are payable in full or in installments, or may be otherwise deferred at the option of the participant and with approval of the Compensation Committee. Awards granted in 1976 and prior years are payable generally in equal annual installments over a period of five years and are generally subject to the recipient's continued employment. Amounts of $8,426,000 and $7,625,000 were provided in 1978 and 1977 for such awards, representing 7% of earnings from total operations as defined in the respective years. In 1978, awards of $5,629,000 were made for 1977 performance ($3,985,000 in 1977 for 1976 performance). Awards for 1978 performance have not yet been determined. At December 31, 1978, $10,858,000 was available for such awards.

The company and certain subsidiaries have contributory profit sharing plans in which all eligible employees participate. The contributions to profit sharing funds in the United States and other nations, based upon percentages of pre-tax earnings from total operations, as defined, were $36,123,000 in 1978 and $24,062,000 in 1977. The company's domestic profit sharing plan was amended effective January 1, 1978, to provide among other things, an increased company contribution which resulted in additional company costs.

Prior to January 1, 1978, the company and certain subsidiaries had a voluntary and contributory domestic pension plan. Effective January 1, 1978, a new non-contributory plan was adopted and substantially all domestic employees are automatically covered under this plan after one year of service. The company's policy is to fund pension costs as accrued: $14,114,000 in 1978 and $6,612,000 in 1977. The incremental cost of the revised plan was approximately $6,833,000. Also, at December 31, 1978, vested benefits were fully funded as determined by the latest actuarial valuation, December 31, 1977.

In the event that the amount actually payable annually under the Pension Plan to any officer of the company elected by the Board of Directors does not amount to a specified percentage, as defined, of such elected 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 to such officer will aggregate a maximum of 50% of such officer's rate of salary at retirement, or a minimum of 40% of such officer's rate of salary at retirement, depending upon such officer's seniority as of January 1, 1978, and the year in which such officer attains age 60, (or 30%, in the case of payments to the surviving spouse, of an elected officer's rate of salary upon the officer's death during employment by the company or after retirement from such employment). The company is accruing for these supplementary payments on a current basis.

In addition, certain foreign subsidiaries have varying types of retirement plans providing benefits for substantially all of their employees. Essentially all of the cost of these plans is borne by the company. Amounts charged to earnings for the plans were $5,748,000 in 1978 and $4,200,000 in 1977.

9. Information by Industry Segment and Geographic Area: The Financial Accounting Standards Board in December 1976 issued Statement of Financial Accounting Standards No. 14, "Financial Reporting for Segments of a Business Enterprise", which requires that financial statements for fiscal periods beginning after December 15, 1976, include information about a company's operations in different industry segments, and information about a company's foreign operations. In line with Statement No. 14, the Securities and Exchange Commission in December 1977 adopted "Regulation S-K" which requires that financial statements for fiscal periods beginning after December 15, 1976, include a description of a company's operations by focusing on their industry segments and to present for a five year historical period revenue, profit and asset information relating to their industry segments and geographic areas. Information as to lines of business is permitted to be presented in lieu of industry segment data for years beginning before December 16, 1976. The following disclosures disaggregate elements of the company's financial statements according to the guidelines established by Statement No. 14. However, management in its measurement and review of the company's activities may, from time to time, aggregate or disaggregate operations, or allocate costs among operations as necessary to satisfy internal requirements. Due to the subjective judgements necessary in aggregating similar classes of products into industry segments, comparisons of the company's product operations to similar operations of other enterprises may not be meaningful.

Motorola operates predominantly in one industry, electronic equipment and components. Operations involve the design, manufacture and sale of a diversified line of electronic products, which includes, but is not limited to, two-way radios and other forms of electronic communications; semiconductors, including integrated circuits and microprocessor units; display products, automobile radios, stereo tape players, citizens band radios and other automotive electronic equipment. Within this industry communications product, semiconductor product and automotive product sales account for approximately 83% of total revenues from unaffiliated customers.

Information about the company's operations in different industry segments for the years ended December 31, 1978 & 1977 is summarized below (dollars in thousands):

1978	Sales & Other Revenues Unaffiliated Customers	Intersegment Sales	Total Sales & Other Revenue	Operating Profit	Identifiable Assets	Depreciation & Amortization	Fixed Asset Expenditures
Communications products	$ 959,709	$ 5,221	$ 964,930	$110,954	$ 703,052	$ 30,830	$ 45,633
Semiconductor products	686,779	31,276	718,055	107,346	474,793	37,361	72,062
Automotive products	202,361	3,091	205,452	9,511	145,291	8,785	13,022
Other products	370,895	5,527	376,422	41,548	225,661		
Adjustments and eliminations	—	(45,115)	(45,115)	318	(5,034)		
Total	$2,219,744	$ —	$2,219,744	269,677	1,543,763		
General corporate expenses/assets				(21,746)	112,794		
Interest expense				(27,541)			
Earnings before income taxes				$220,390			
Total assets					$1,656,557		
1977							
Communications products	$ 821,496	$ 1,999	$ 823,495	$130,890	$ 598,463	$ 25,948	$ 55,445
Semiconductor products	551,111	31,189	582,300	79,977	389,946	31,498	53,137
Automotive products	196,906	2,021	198,927	11,237	144,282	8,532	9,676
Other products	283,114	5,690	288,804	11,161	196,271		
Adjustments & eliminations		(40,899)	(40,899)	(1,491)	(3,550)		
Total	$1,852,627	$ —	$1,852,627	231,774	1,325,412		
Equity in net earnings/net assets of 50% owned affiliate			$ 887	887	2,395		
General corporate expenses/assets				(18,098)	92,052		
Interest expense				(22,943)			
Earnings before income taxes				$191,620			
Total assets					$1,419,859		

The company operates manufacturing and distribution facilities outside the United States. No single facility or country outside the United States accounts for more than 10% of consolidated sales and other revenues or total assets.

Operating profit was computed as total revenues less operating expenses. In computing operating profit, none of the following items have been added or deducted: general corporate expenses, interest expense, income taxes, and equity in net earnings of a 50% owned affiliate in 1977, which equity was sold in 1978. Included in operating profit and sales and other revenue for the automotive segment was a gain on the sale of the interest in the aforementioned affiliate. Identifiable assets are those assets of the company that are identified to classes of similar products or operations in each geographical area, excluding internal receivables. Corporate assets are principally cash and marketable securities, the corporate administrative headquarters, and future income tax benefits. Interproduct and intergeographic transfers are accounted for on an arm's length pricing basis and are consistent with rules and regulations of domestic and foreign taxing authorities. Certain re-grouping of assets as identified with industry segments has been made as a refinement of the amounts reported. Investments previously reported in corporate assets, have been reclassified to the communications segment. Accordingly, the amounts reported for the year ended December 31, 1977, were restated, reflecting a transfer of $26,479 thousand.

Sales to United States federal government agencies aggregated $223,148 thousand during the twelve month period

Information about the company's operations in different geographic regions, for the years ended December 31, 1978 and 1977 is summarized below:

1978	Sales & Other Revenues Unaffiliated Customers	Intersegment Sales	Total Sales & Other Revenue	Operating Profit	Identifiable Assets
United States	$1,688,029	$351,828	$2,039,857	$234,426	$1,159,015
Foreign	531,715	284,078	815,793	49,678	428,227
Adjustments & eliminations		(635,906)	(635,906)	(14,427)	(43,479)
Total	$2,219,744	$ —	$2,219,744	269,677	1,543,763
General corporate expenses/assets				(21,746)	112,794
Interest expense				(27,541)	
Earnings before income taxes				$220,390	
Total assets					$1,656,557
1977					
United States	$1,429,162	$244,822	$1,673,984	$202,291	$1,005,427
Foreign	423,465	174,627	598,092	41,170	346,775
Adjustments & eliminations		(419,449)	(419,449)	(11,687)	(26,790)
Total	$1,852,627	$ —	$1,852,627	231,774	1,325,412
Equity in net earnings/net assets of 50% owned affiliate			$ 887	887	2,395
General corporate expenses/assets				(18,098)	92,052
Interest expense				(22,943)	
Earnings before income taxes				$191,620	
Total assets					$1,419,859

ended December 31, 1978. No other single customer (or group of customers under common control) accounted for 10% or more of the company's sales.

The following table sets forth certain lines of business information for each class of similar products or services which accounted for ten percent or more of the total sales and revenues of Motorola.

Sales and Other Revenues (in millions)	1976	1975	1974
Communications products	$680	$614	$584
Semiconductor products	447	348	454
Automotive products	162	126	144

The sales shown in the foregoing table do not include products manufactured by Motorola and incorporated into other products manufactured and sold by Motorola.

The classes of products indicated above for lines of business information are essentially equivalent to those used to present the industry segment information for 1978 and 1977.

10. Lease Commitments: Although the company owns most of its major facilities, it does lease certain office, factory and warehouse space, land, data processing and other sundry equipment.

The company classifies and accounts for leases entered into subsequent to December 31, 1976, in accordance with the provisions of Statement of Financial Accounting Standards No. 13, "Accounting for Leases." This statement requires that a lease that transfers substantially all of the benefits and risks incident to the ownership of the property be accounted for as an acquisition of an asset and incurrence of an obligation. Accordingly, certain computer equipment and land and building leases have qualified for capitalization. At December 31, 1978 and 1977, the gross amount of assets recorded under capitalized leases is $4,187,000 of which $40,000 is included in land, $607,000 is included in building and the remainder is included in machinery and equipment. Associated total accumulated lease amortization was $1,263,000 and $330,000 for the years at December 31, 1978 and 1977, respectively. Amortization of property under capital leases is included in depreciation of plant and equipment. The company has de-

termined that the effect of retroactive application of Statement No. 13 to leases entered into prior to January 1, 1977, is insignificant.

Total rental expense (including taxes, insurance and maintenance when included in rent) for all non-capital leases (including those with terms of less than one year) reduced by sublease rental income (not considered to be material) was $25,727,000 in 1978 and $22,749,000 in 1977.

Minimum future obligations on all noncancelable leases, net of minimum sublease rentals, with initial terms of one year or more in effect at December 31, 1978, are as follows for the periods ending December 31:

(Dollars in thousands)	Capital	Operating
1979	1,342	16,377
1980	1,339	12,313
1981	986	7,663
1982	99	5,664
1983	103	3,011
Later	225	14,864
Total minimum obligations	4,094	59,892
Less executory cost	436	
Net minimum obligation	3,658	
Less amount representing interest	587	
Present value of net minimum obligation	3,071	
Less current portion	911	
Long-term obligation at December 31, 1978	2,160	

Some of the leases contain renewal options for varying periods. Certain leases include options to purchase during or at the end of the lease term. Capitalized leases net of amortization were formerly included in "other sundry assets, net" on the balance sheet. Beginning in 1978, capitalized leases and their related accumulated amortization will be included in "property, plant and equipment" on the balance sheet. 1977 amounts have been reclassified to conform with the 1978 disclosure.

11. Supplementary Data: Company funded research and development expenditures, which are charged against operations as incurred, were $133,414,000 in 1978 and $109,729,000 in 1977.

12. Estimated Replacement Cost Information (unaudited): Requirements of the Securities and Exchange Commission direct the calculation of cost of sales and depreciation expense based on the estimated replacement costs of inventories and fixed assets.

The company's annual review of stated inventory values, confirms level or slightly declining input costs, which coupled with productivity increases traditionally experienced in the electronics industry, indicates that stated costs of inventories and cost of sales approximate a replacement cost basis. Consequently, the company's stated inventory value and cost of sales have not been restated. While the replacement cost of the company's fixed assets would be substantially higher than the stated acquisition cost, and while depreciation charges (straight-line) based on such higher replacement costs would be greater than the 1978 and 1977 depreciation charges in the consolidated financial statements, management believes (but cannot definitely quantify) that lower costs of operation would result from using newer and more efficient fixed assets and that the savings, which would result from these efficiencies, would at least offset the higher depreciation indicated. Because the SEC's requirements exclude the effect of price level changes on assets and liabilities other than inventories and fixed assets, the data cannot be used to estimate the effect of inflation on the company's operation. Also, because of the inherent subjectivity of the replacement cost disclosure requirements and the consequent differences of interpretation between different companies, management believes that this information may not be comparable to other companies.

The company's annual report to the SEC on Form 10-K, a copy of which is available upon request, will contain the prescribed SEC disclosure.

13. Quarterly Financial Data (unaudited): Selected unaudited quarterly financial data for 1978 and 1977 are as follows:

(Dollars in thousands, except per share data)

			Three Months Ended	
1978	April 1	July 1	Sept. 30	Dec. 31
Sales and other revenues	$495,976	$551,031	$537,179	$635,558
Gross profit before depreciation (a)	199,495	225,808	212,301	242,334
Net earnings	$ 27,997	$ 33,366	$ 30,342	$ 33,477
Net earnings per share	$ .90	$ 1.08	$ .98	$ 1.08

			Three Months Ended	
1977	April 2	July 2	Oct. 1	Dec. 31
Sales and other revenues	$420,156	$461,003	$447,090	$525,265
Gross profit before depreciation (a)	166,429	183,753	162,293	201,162
Net earnings	$ 24,154	$ 27,986	$ 24,471	$ 30,340
Net earnings per share	$ .78	$ .91	$ .79	$ .98

(a) Profit after manufacturing and other costs of sales exclusive of depreciation expense.

Peat, Marwick, Mitchell & Co., made a limited review of the 1978 and 1977 quarterly data in accordance with standards established by the American Institute of Certified Public Accountants. Since Peat, Marwick, Mitchell & Co., did not audit the quarterly data for either year, they express no opinion on such data.

Management Discussion and Analysis of Statements of Consolidated Earnings

1978 versus 1977

Sales and other revenues for 1978 increased by $366.2 million (19.8%) over 1977. Improved unit sales volume accounted for substantially all of the sales increase. This sales increase was primarily due to the sales of communications products and semiconductor products which increased approximately 16.8% and 24.6%, respectively, over 1977. Sales of automotive products increased 2.8% reflecting business mix changes in demand from the automotive industry.

Manufacturing and other costs of sales increased $199.9 million (17.5%) over 1977. This increase reflects the mixed effects of increases in gross margins for the semiconductor segment and data communications business offset by a decline in the gross margin for the communications segment. The decline in the communications segment's gross margin is attributable to additional write-offs for cost overruns evident on certain systems contracts, extra unanticipated warranty obligations, additional technical and manufacturing problems incurred in starting production of certain advanced state-of-the-art new products, and a continuing high rate of engineering and other costs invested in major new business opportunities.

Selling, service and administrative expense for 1978 increased $122.4 million (28.7%) over 1977. This change was higher than the 19.8% increase in sales and was attributable to higher distribution costs, higher costs associated with improved pension and profit sharing programs for the company, and a greater than normal adjustment in the communications segment for additional accounts receivable write-offs that became apparent during the year.

Depreciation of plant and equipment for 1978 increased $10.6 million (14.5%) over 1977, as a result of fixed asset expenditures during the past three years of $146 million in 1978, $128 million in 1977 and $98 million in 1976.

Interest and amortization for 1978 increased $4.6 million (20.0%) over 1977. This change was the result of increased borrowings and higher interest rates.

The company's overall effective tax rate decreased from 44.2% in 1977 to 43.2% in 1978, due principally to significant reduction in losses from certain foreign operations which had provided no tax benefit.

Net earnings from continuing operations increased $18.2 million (17.0%) in 1978. The increased earnings were due primarily to higher sales volume, improved margins in the semiconductor segment and data communications business, and significantly improved operating results for citizens band radio, watch module and watch crystal programs and Autovox, an Italian subsidiary.

1977 versus 1976

Sales and other revenues from continuing operations for the year were $1,853.5 million compared with $1,537.5 million in 1976. Substantially all of the 20.6% increase was due to improved unit sales volume.

Sales of communications products increased approximately 20% in 1977 and accounted for more than 40% of the increase in consolidated sales and other revenues. This increase was attributable to an increase in demand with virtually no price increases. Worldwide sales of semiconductor products were up 23% over 1976. This increase was due solely to improved volume, as price decreases made possible because of the continued improvements in productivity, which yield lower unit costs, were passed on to customers. Sales of automotive products increased by approximately 21% reflecting increased demand from the automotive industry.

Manufacturing and other costs of sales increased $199.5 million (21.2%) in 1977. This increase was consistent with the 20.6% increase in sales and other revenues.

Selling, service and administrative expense increased $71.7 million (20.2%) over 1976. This increase was consistent with the 20.6% increase in sales and reflected significantly higher employment costs due to both an increase in personnel and increases in certain employee benefits.

Depreciation of plant and equipment increased $14.9 million (25.7%) over 1976, the result of fixed asset expenditures during the past three years of $128 million in 1977, $98 million in 1976 and $75 million in 1975.

Interest and amortization expense increased $6.0 million (35.2%) over 1976. This change reflected an increase in both long and short-term debt and higher interest rates.

The company's overall effective tax rate decreased from 45.1% in 1976 to 44.2% in 1977, due principally to increased investment tax credits.

Net earnings from continuing operations increased $15.0 million (16.3%) in 1977. This increase reflected level or increased profit margins on the sale of communications, semiconductor and automotive products, offset by start-up costs and operating losses in citizens band radio, watch module and crystal programs, and certain international operations which reduced consolidated profit margins.

Ten Year Financial Summary

(Dollars in thousands, except per share data)

Operating Results from Continuing Operations (1)	**1978**	1977	1976
Sales and other revenues	**$2,219,744**	$1,853,514	$1,537,533
Manufacturing and other costs of sales	**1,339,806**	1,139,877	940,389
Selling, service & administrative expense	**548,667**	426,304	354,602
Depreciation of plant and equipment	**83,340**	72,770	57,916
Interest & amortization of debenture discount, expense and premium, net	**27,541**	22,943	16,967
Total costs and other expenses	**1,999,354**	1,661,894	1,369,874
Earnings from continuing operations before income taxes	**220,390**	191,620	167,659
Income taxes	**95,208**	84,669	75,661
Earnings from continuing operations	**125,182**	106,951	91,998
Return on sales	**5.6%**	5.8%	6.0%
Discontinued operations—profit (loss)	**—**	—	(2,470)
Net earnings	**$ 125,182**	$ 106,951	$ 89,528
Per Share Data			
Earnings from continuing operations	**$ 4.04**	$ 3.46	$ 3.00
Net earnings	**4.04**	3.46	2.92
Dividends declared	**1.05**	.88	.735
Balance Sheet and Other Data (2)			
Working capital	**$ 619,930**	$ 567,044	$ 439,181
Current ratio	**2.20:1**	2.47:1	2.27:1
Short-term debt	**$ 82,963**	$ 77,718	$ 64,578
Long-term debt	**198,091**	200,279	101,388
Stockholders' equity	**885,538**	788,044	706,482
Less short-term investments	**121,429**	85,681	60,972
Total invested capital	**$1,045,163**	$ 980,360	$ 811,476
Return on average invested capital	**12.3%**	11.8%	11.8%
Return on average stockholders' equity from continuing operations	**15.0%**	14.3%	13.9%
Yearend employment (approximate)	**68,000**	60,000	56,000
Average shares outstanding (in thousands)	**31,019**	30,933	30,699

(1) All periods have been retroactively restated to include the results of operation of Universal Data Systems, acquired in 1978 in a business combination accounted for as a pooling-of-interests (see Note 2 of the Notes to Consolidated Financial Statements). In May 1974, Motorola sold its home television receiver business. Consequently, the 1969 through 1973 operating results have been adjusted to remove the effect of the television business.

(2) All periods have been retroactively restated to include Universal Data Systems; the 1969 through 1973 data has not been restated to exclude the home television receiver business.

1975	1974	1973	1972	1971	1970	1969
$1,339,025	$1,389,429	$1,213,795	$ 907,020	$ 719,186	$ 672,378	$ 668,789
859,035	886,556	759,920	609,810	472,292	456,017	439,556
319,401	289,153	242,859	168,233	156,453	124,195	121,530
52,947	44,564	33,825	28,665	25,175	21,865	18,615
20,974	27,686	16,415	10,460	7,808	9,521	11,143
1,252,357	1,247,959	1,053,019	817,168	661,728	611,598	590,844
86,668	141,470	160,776	89,852	57,458	60,780	77,945
41,484	64,222	72,689	41,187	29,879	33,180	42,274
45,184	77,248	88,087	48,665	27,579	27,600	35,671
3.4%	5.6%	7.3%	5.4%	3.8%	4.1%	5.3%
—	(2,184)	(3,477)	4,477	2,202	(6,277)	(1,833)
$ 45,184	$ 75,064	$ 84,610	$ 53,142	$ 29,781	$ 21,323	$ 33,838
$ 1.49	$ 2.56	$ 2.95	$ 1.67	$ .97	$ .99	$ 1.40
1.49	2.49	2.83	1.83	1.05	.77	1.33
.70	.60	.45	.312	.30	.288	.25
$ 408,336	$ 424,845	$ 431,543	$ 326,414	$ 255,539	$ 222,405	$ 237,560
2.62:1	2.33:1	2.42:1	2.36:1	2.30:1	2.37:1	2.47:1
$ 54,458	$ 90,191	$ 69,326	$ 53,957	$ 48,696	$ 35,233	$ 8,949
124,369	154,960	151,088	81,052	64,530	66,098	90,306
627,072	596,626	529,993	443,380	376,204	345,747	329,486
38,116	26,336	21,982	30,092	4,230	6,070	19,704
$ 767,783	$ 815,441	$ 728,425	$ 548,297	$ 485,200	$ 441,008	$ 409,037
5.7%	9.8%	13.8%	9.3%	6.0%	6.3%	9.2%
7.4%	13.6%	18.1%	12.0%	7.7%	8.2%	13.4%
47,000	51,000	64,000	56,000	49,000	37,000	45,000
30,384	30,178	29,865	29,117	28,388	27,853	25,508

Stock Price and Dividend Data

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

	Stock Prices		Dividends	
1978	High	Low	Declared	Paid
1st Quarter	$39.38	$35.00	$ .250	$ .250
2nd Quarter	51.88	38.00	.250	.250
3rd Quarter	54.88	44.88	.250	.250
4th Quarter	45.63	38.38	.300	.250
			$1.05	$1.00

	Stock Prices		Dividends	
1977	High	Low	Declared	Paid
1st Quarter	$56.88	$43.50	$ .210	$ .210
2nd Quarter	46.75	36.25	.210	.210
3rd Quarter	47.25	39.25	.210	.210
4th Quarter	45.37	33.63	.250	.210
			$ .880	$ .840

ROBERT W. GALVIN

WILLIAM J. WEISZ

JOHN F. MITCHELL

JOHN J. ANTALEK,
Retired, formerly Chairman of the Board, J & S Steel Corporation, a warehouser and fabricator of steel

JAMES W. BIRKENSTOCK
President, Intercal, Inc., a management consulting firm

JOHN T. HICKEY

STEPHEN L. LEVY

HOMER L. MARRS

ARTHUR C. NIELSEN, JR.
Chairman of the Board, A.C. Nielsen Company, a market research organization

WILLIAM G. SALATICH
Director of a cable and broadcast television business; former Vice Chairman of the Board, The Gillette Company

ELMER H. SCHULZ
Director Emeritus, I.I.T. Research Institute

WALTER B. SCOTT

B. KENNETH WEST
Executive Vice President, Harris Trust and Savings Bank

Directors Emeritus

DANIEL E. NOBLE
Chairman, Science Advisory Board, Motorola, Inc.

ELMER H. WAVERING
Retired, formerly Vice Chairman and Chief Operating Officer, Motorola, Inc.

		Age	Years of Service
CORPORATE			
Robert W. Galvin	Chairman of the Board and Chief Executive Officer	56	38
William J. Weisz	President and Chief Operating Officer	52	31
John F. Mitchell	Executive Vice President and Assistant Chief Operating Officer	51	26
Homer L. Marrs	Senior Vice President and Assistant to the Chief Operating Office	62	41
FINANCE			
John T. Hickey	Senior Vice President and Chief Financial Officer	53	31
Donald R. Jones	Vice President and Assistant Chief Financial Officer	49	28
Edward J. Harty	Vice President and Controller	63	27
William P. Meehan	Vice President and Treasurer	43	9
Richard H. Weise	Vice President, General Counsel and Secretary	43	10
STAFF			
Stephen L. Levy	Senior Vice President and Chief Corporate Staff Officer	57	15
Martin Cooper	Vice President and Corporate Director of Research and Development	50	25
L. Curtis Foster	Vice President and Corporate Director of Engineering	53	5
R. James Harring	Vice President and Corporate Director of Planning	54	27
C. Travis Marshall	Vice President and Corporate Director of Government Relations	53	8
Vincent J. Rauner	Vice President for Patents, Trademarks and Licensing	51	9
Walter B. Scott	Vice President and Corporate Director of Manufacturing and Facilities	63	33
PERSONNEL RELATIONS			
Robert N. Swift	Vice President and Director of Personnel Relations	55	27
AUTOMOTIVE AND DISPLAY SYSTEMS GROUP			
Carl E. Lindholm	Senior Vice President and General Manager Automotive and Display Systems Group	49	12
Levy Katzir	Vice President and General Manager Automotive Products Division	46	23
COMMUNICATIONS GROUP			
Joseph F. Miller, Jr.	Senior Vice President and General Manager Communications Group	54	27
Jack Germain	Vice President and Assistant General Manager Communications Group	52	29
Arthur P. Sundry	Vice President and General Manager Communications Distribution Division	50	22
Ira W. Walker	Vice President and Assistant General Manager Communications Distribution Division	55	23
Rhesa S. Farmer, Jr.	Vice President and General Manager Communications International Division	52	21
John W. Battin	Vice President and General Manager Communications Systems Division	41	20
John M. Duich	Vice President and Assistant General Manager Communications Products Division	56	11
GOVERNMENT ELECTRONICS DIVISION			
Ralph W. Elsner	Vice President and General Manager Government Electronics Division	58	30
James R. Lincicome	Vice President and Assistant General Manager Government Electronics Division	53	28
SEMICONDUCTOR GROUP			
John R. Welty	Senior Vice President and General Manager Semiconductor Group	56	21
Earl R. Gomersall	Vice President and Director, Precision Electronics, Materials and Manufacturing, Semiconductor Group	48	7
Gary L. Tooker	Vice President and General Manager Discrete Semiconductor Division	39	17
Alfred J. Stein	Vice President and General Manager Integrated Circuits Division	46	3
Pasquale Pistorio	Vice President and General Manager International Division	43	12

Motorola Products

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

Semiconductor Group
Bipolar and CMOS logic circuits
Bipolar linear integrated circuits
Bipolar VLSI macrocell arrays
Custom MOS and bipolar circuits
Electronic materials
Fiber-optic devices
Field-effect transistors
Hobby components
Liquid crystal displays
Memory systems
Microprocessor support systems
Microprocessors
Microwave components
NMOS, CMOS and bipolar memories
Optoelectronics
Power and small signal transistors
Rectifiers
RF modules
RF power and small signal transistors
Semiconductor chips
Solar energy components
Solar energy systems
Surge suppressors
Thyristors
Triggers
Varactors
Watch modules
Zener and tuning diodes

Automotive Products Division
Alternator charging systems
AM, AM/FM antennas
AM, AM/FM car radios
Automotive power amplifiers
Automotive sensors (pressure and position)
Automotive sound equalizers
Automotive speaker systems
Automotive stereo 8-track tape and cassette players
Citizens band radios and antennas
Digital appliance controls
Electronic engine controls
Engine management systems
Regulators
Solid-state ignition systems
Tachometers, speedometers, odometers, hourmeters

Government Electronics Division
Advanced seeker systems
Countermeasures systems
Data security products
Drone communications control and data links
Energy systems, including solar photovoltaics
Fixed and satellite communications systems
Information display systems
Missile and aircraft instrumentations
Missile guidance systems
Positioning and navigation systems
Radar remote sensing surveys
Radar surveillance and display systems
Secure communications
Space communications systems
Tactical electronics systems

Display Systems
Closed circuit TV systems
CRT display modules
Information display systems

Codex
Data communications equipment (modems, multiplexers, network processors, test equipment)

Other Businesses
Industrial process controls
Plasma processing systems

Motorola Worldwide

Major facilities in:
Australia
Melbourne
Canada
Willowdale, Ontario
Denmark
Frederikssund
France
Angers
Toulouse
Great Britain
Basingstoke
East Kilbride
Stotfold
Hong Kong
Kowloon
Israel
Tel-Aviv
Italy
Rome
Korea
Seoul
Malaysia
Kuala Lumpur
Penang
Mexico
Guadalajara
Mexico City
Nogales
Puerto Rico
Arecibo
Vega Baja
South Africa
Johannesburg
Switzerland
Geneva
Taiwan
Taipei

United States
Alabama
Huntsville
Arizona
Mesa
Phoenix
Scottsdale
Tempe
Florida
Fort Lauderdale
Illinois
Carol Stream
Franklin Park
Lombard
Schaumburg
West Chicago
Iowa
Mount Pleasant
Massachusetts
Mansfield
Newton
Missouri
Webb City
New Mexico
Albuquerque
New York
Arcade
Texas
Austin
Fort Worth
Seguin
West Germany
Munich
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