



MOTOROLA INC.

ANNUAL REPORT

1985



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The Company

Motorola, Inc. is one of the world's leading manufacturers of electronic equipment, systems and components produced for both United States and international markets. Motorola products include two-way radios, pagers, cellular radiotelephones and other forms of electronic communications systems, semiconductors, defense and aerospace electronics, automotive and industrial electronic equipment, data communications and information processing and handling equipment. Motorola is one of the few end-equipment manufacturers that can draw on expertise in both semiconductor technology and government electronics.

Financial Highlights

Motorola, Inc. and Consolidated Subsidiaries, Years ended December 31

(In millions of dollars, except per share data)	1985	1984
Net sales	\$5,443	\$5,534
Earnings before income taxes	45	466
% to sales	0.8%	8.4%
Net earnings excluding DISC tax cancellation	72	349
% to sales	1.3%	6.3%
Net earnings	72	387
% to sales	1.3%	7.0%
Net earnings per share excluding DISC tax cancellation	.61	2.95
Net earnings per share	.61	3.27
Research and development expenditures	464	425
Fixed asset expenditures	641	783
Working capital	924	1,001
Current ratio	1.78	1.83
Return on average invested capital (stockholders' equity plus long- and short-term debt, net of short-term investments) excluding DISC tax cancellation	2.4%	14.5%
% of total debt less short-term investments to total debt less short-term investments plus equity	26.9%	18.0%
Book value per common share	19.14	19.19
Yearend employment (approximate)	90,200	99,900

Annual Meeting of Stockholders

The annual meeting will be held on May 5, 1986. A notice of the meeting, together with a form of proxy and a proxy statement, will be mailed to stockholders on or about March 20, 1986, at which time proxies will be solicited by the Board of Directors.

Form 10-K

After 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 without charge by addressing your request to the Secretary, Motorola, Inc., Corporate Offices, Motorola Center, 1303 E. Algonquin Road, Schaumburg, Ill. 60196.

Transfer Agent and Registrar

Harris Trust and Savings Bank
111 W. Monroe Street
Chicago, Ill. 60603

Auditors

Peat, Marwick, Mitchell & Co.
303 E. Wacker Drive
Chicago, Ill. 60601

To Our Stockholders and Friends



Robert W. Galvin



William J. Weisz



John F. Mitchell

While 1985 was a painful year for Motorola, we took measures that have made us more competitive in markets with excellent growth potential. Our semiconductor and computer-related businesses suffered through a severe industry downturn that more than offset the record sales and operating profits in the Communications Sector.

Sales in 1985 declined 2 percent to \$5.44 billion from \$5.53 billion in 1984. Earnings were \$72 million, or 61 cents per share, compared with \$349 million, or \$2.95 per share, a year earlier. The 1984 earnings exclude a nonrecurring DISC tax benefit of \$38 million.

The 1985 results include special one-time costs of approximately \$60 million associated with staff reductions, organizational restructuring, discontinuation of certain product lines, and write-down of obsolete inventory and equipment in the Semiconductor Products Sector, Motorola Computer Systems, Inc., (formerly Four-Phase Systems, Inc.) and Tegal Corp. These costs are net of special one-time income items in these operations.

Operations Overview

Communications Sector sales rose 13 percent, operating profits improved sharply and new orders were up 12 percent. Backlog was up 10 percent from the end of 1984. Results include the Cellular Group, which is now part of the General Systems Group.

The Semiconductor Products Sector's sales were 23 percent lower, while new orders and backlog each declined about 45 percent. The sector had an operating loss, compared with record operating profits in 1984.

The semiconductor industry suffered from excess inventories, selling prices that were sharply lower than 1984, and weak business conditions in important markets such as computers. During 1985 we reduced our costs dramatically. Selling prices stabilized and orders turned upward during the last quarter of the year.

Information Systems Group sales rose 14 percent, while new orders increased 5 percent and backlog was down 7 percent. The group had an operating loss, compared with a small profit in 1984. The results include operations of Motorola Computer Systems, Inc., which is now part of the new General Systems Group.

Government Electronics Group sales increased 13 percent, new orders advanced 27 percent and backlog was 32 percent higher. Operating profits declined.

Sales in the Automotive and Industrial Electronics Group were down 2 percent, orders were 3 percent lower, and backlog was approximately the same. The group continued its long-term pattern of profitability, although operating profits were lower than in 1984.

Sale of South African Operation

We sold our manufacturing facility in South Africa to Allied Technologies Ltd., which continues to service and distribute Motorola products.

Board of Directors, Officers

Wallace C. Doud, a former vice president of IBM, was elected to the Board of Directors at the 1985 Annual Meeting. Several officers were promoted during 1985, and some of our operations were restructured. The list of elected officers on pages 30 and 31 indicates which of the officers advanced in rank or assumed a new position since our last annual report to stockholders.

John T. Hickey elected to retire as executive vice president and chief financial officer after completing 37 years of service with the company, and John R. Welty elected to retire as executive vice president and chief corporate staff officer after 27 years of service. Walter B. Scott, a director since 1955, is not standing for re-election to the board in line with our policy on age and tenure of directors. We acknowledge with appreciation their many contributions to Motorola.

Outlook

The problems faced by our semiconductor and computer-related businesses continue to dampen our short-term growth prospects, but we are seeing positive developments that should enable us to return to a more acceptable growth pattern later in 1986. All of our businesses should benefit from the decline in interest rates and the reduced value of the dollar, as well as the continued emphasis on the resolution of trade issues.

Our employees in 1985 accepted shorter workweeks and reductions in salaries, along with delays in salary increases. We appreciate these sacrifices, which helped our company through a difficult time.

As we continue to focus our efforts on serving our customers, we are making key strategic investments and developing advanced electronic products for a more productive world. We face the future with the confidence that we will continue our leadership in exciting growth markets.

Yours very truly,

Robert W. Galvin
Chairman

William J. Weisz
Vice Chairman

John F. Mitchell
President

Communications Sector

GROUPS & DIVISIONS:

Communications Distribution Group

*Commercial Markets Division
Distribution Service Group
National Markets Division
Special Markets Division
State and Local Government Markets Division*

Communications International Group

European Division

Communications Manufacturing Group

Components Division

Land Mobile Product Group

*Fixed Products Division
Land Mobile Systems Division
Mobile Products Division
Portable Products Division*

Paging Products Division

Data Products Division

Communications Sector sales rose 13 percent in 1985 to a record \$2.31 billion. Operating profits improved sharply as demand grew for advanced systems. New orders increased 12 percent while backlog was up 10 percent from the end of 1984.

These results include the Cellular Group, which became part of the new General Systems Group during the year. Cellular activities are discussed on page 10.

Major domestic gains were led by the state and local government and cellular telephone markets. International new orders also increased.

Advanced Two-Way Radio Systems

Demand increased for state-of-the-art two-way land mobile systems. In 800 MHz advanced trunking systems, for example, the sector received a contract from the Arkansas State Police valued at \$24.5 million over two years for a state-wide system. The award includes STX[®] 20-channel trunked portable radios introduced in 1985. This new synthesized radio is the world's first dual operation portable that can operate on conventional as well as trunked 800 MHz systems. Trunked systems provide computer-aided sharing of a small number of channels by many users.

The City of Tulsa, Okla., awarded the sector \$4.3 million for the second phase

of an advanced trunking system that combines the police and fire departments into a single integrated system. Houston Lighting and Power signed a contract for an advanced trunking system and a data communications system using the KDT 480[®] mobile data terminal.

Motorola introduced the Syntor X[®] 9000 Series mobile radio, featuring an 11-character alphanumeric display that allows the user to scroll through names and instructions. The company also introduced the Maxar[®] 50 mobile radio, its smallest and lowest-priced conventional radio, and a new 97-channel locomotive radio that gives railroads expanded channel and signaling capabilities.

In secure communications, the sector announced Securenet, a lower-cost digital voice protection system featuring several new products. These include the Securenet version of the Syntor X[®] 9000 mobile, the Securenet Expo[®] portable radio, combining secure communications with Motorola's smallest two-way portable radio, and the Secure Smartnet system for 800 MHz advanced trunking systems.

A new Automatic Vehicle Location system is designed to track the location of radio-equipped vehicles automatically. It can be used in commercial, transit, utility and public safety markets.

In microwave communications, Motorola acquired the Gemlink[®] product line from General Electric Co. Gemlink, which complements Motorola's existing products, operates in the 23 GHz band, providing data, voice and video communication links for up to 10 miles. Production was transferred from GE's facility in Owensboro, Ky., to the sector's manufacturing plant in Schaumburg, Ill.

Paging

Motorola enhanced its leadership in paging with several new models, including the Sensor[®] numeric display pager. About the size of a fountain pen and weighing less than two ounces, the Sensor is one-third the size of its nearest

competition. It has a 12-digit display and can store up to 120 numeric characters in five memories.

The new Optrx® Pager/Personal Message Center printer and charger combines the versatility of a pager with the convenience of a charger. Used with an alphanumeric Optrx display pager, the desktop Personal Message Center automatically provides hard copy of messages received while the pager is in the unit and simultaneously charges the pager's battery.

The New York Stock Exchange began operating a Metro-Page 200™ system featuring the BPR 2000™ numeric display pager. Brokers on the floor are paged when they are needed to complete a transaction. The system handles 50,000 pages per day for 1,050 brokers—the highest call traffic per subscriber for any known system.

Portable Radio Data System

The sector installed a shared radio data communications system in the Chicago area. It provides two-way communications between 28-ounce portable computer terminals, mobile terminals and a remote host computer for customers who don't have enough users to require a privately owned system. Several field service and sales organizations are conducting pilot tests on the Chicago system. Systems also are planned for other major metropolitan areas.

The radio data communications system for IBM now covers more than 300 cities. Other private mobile radio/data systems began operating in San Francisco and Concord, Calif., and the northwest suburbs of Chicago for public safety agencies. AAA Cooper Transportation, a trucking company in Dothan, Ala., ordered a system for computer-aided dispatch. A major order was received from a manufacturer for KDT 800™ portable data terminals to provide increased speed and efficiency in warehousing operations.

International Progress

The sector introduced products aimed at strengthening its position in specific geographic markets. For example, the MC micro™ mobile radio and base station series for Europe is offered in versions capable of handling the many forms of advanced signaling necessary to meet the diverse requirements of European markets. It is also one of the smallest mobiles available in Europe.

In Japan, Motorola is now one of the largest suppliers of pagers in the Nippon Telegraph and Telephone Corp. (NTT) system as a result of an increased order. The RC-13 Pocket Bell pagers for NTT have been among the most reliable overall in competition with the best electronics manufacturers in Japan. Motorola began shipping the new, smaller RC-14 Pocket Bell pager, also with excellent results.

Motorola provided equipment for paging systems in Singapore, Korea and Italy and was selected by the French government to participate in new citywide paging services.

Storno Acquisition

In January 1986, Motorola signed an agreement in principle to acquire Storno A/S, a subsidiary of General Electric Co. Storno manufactures land-mobile communications systems and cellular subscriber equipment at plants in Copenhagen, Denmark, Flensburg, West Germany, and Camberley, England. Its sales in 1985 were approximately \$95 million.

Expansion

Motorola occupied a new 130,000-square-foot radio and microelectronics manufacturing facility in Singapore and acquired a smaller plant for manufacturing printed circuit boards.

During 1985, Motorola employees in Mount Pleasant, Iowa, moved from a leased building to a newly constructed radio manufacturing facility. The sector also acquired and occupied a 76,000-square-foot building in Schaumburg, Ill.,

for use as a high-tech service and training facility.

Construction began on a 65,000-square-foot Midwest Area Sales headquarters building in Itasca, Ill., and a 30,000-square-foot manufacturing facility in Leon, Mexico.

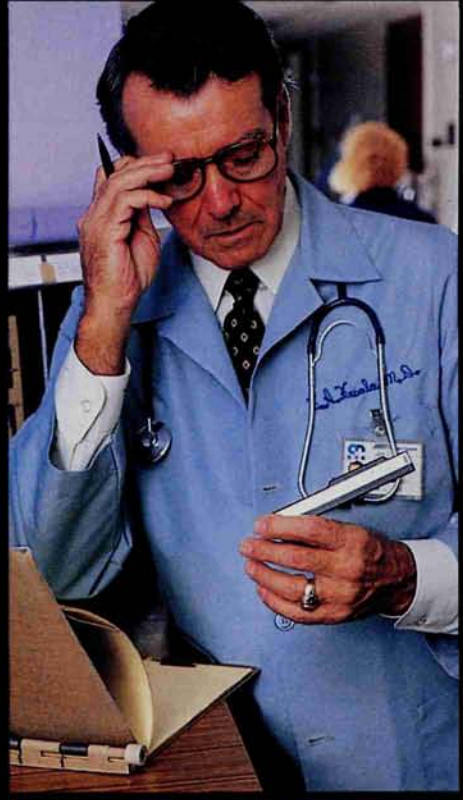
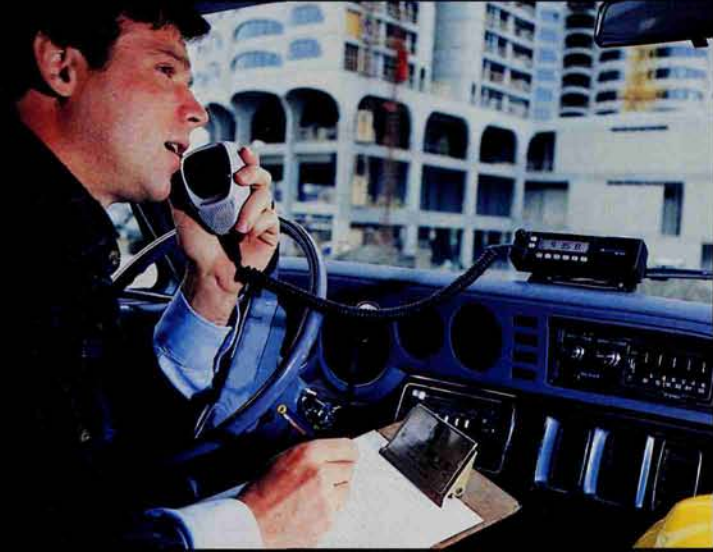
(upper left) The MC micro™ mobile radio is designed to handle the diverse requirements of most European markets.

(upper right) The Sensar® numeric display pager weighs less than two ounces and can store up to five messages.

(lower left) The Syntor X® 9000 mobile radio enables users to scroll through names and instructions on the display. The Securenet version provides for secure voice communication.

(lower center) In a shared radio data system, sales personnel can use 28-ounce portable terminals to communicate with a central computer.

(lower right) The Optrx® Pager/Personal Message Center printer and charger provides hard copies of messages while charging the pager's battery.



GROUPS & DIVISIONS:

Discrete and Special Technologies Group

Low-frequency Power Transistor/Thyristor Products Division
RF and Optoelectronic Products Division
Small Signal and Sensor Products Division
Zener/Rectifier Products Division

Integrated Circuits Wafer Manufacturing Group

Bipolar Wafer Processing Division
MOS Wafer Processing Division

International Semiconductor Group

Asia Pacific Semiconductor Products Division

European Semiconductor Group

Discrete and Analog Products Division (Toulouse)
Logic, ASIC and Microsystems Products Division (Munich)
MOS Memory and Microprocessor Division (East Kilbride)

Microprocessor Products Group

Standard Logic and Analog IC Group

Bipolar Analog IC Division
Bipolar Logic and Memory IC Division
MOS Logic and Analog IC Division

Application Specific Integrated Circuits Division

Assembly Manufacturing and Equipment Engineering Division

MOS Memory Division

The Semiconductor Products Sector (SPS) operating results were significantly lower in 1985, although a stream of advanced new products helped to partially offset generally weak market demand.

Sales declined 23 percent to \$1.73 billion. New orders and backlog each were about 45 percent lower. An operating loss was recorded for the year, due to the combination of lower selling prices, variations in overhead expenses caused by reduced production levels, and revaluation of inventories to reflect pricing declines. Also contributing to the loss were expenses associated with workforce reductions and elimination of unprofitable product lines, along with continued investment in strategic programs.

Reduced market demand that began in mid-1984 continued and deepened during the year, because of the accumulation by many customers of large semiconductor inventories and declining

end-equipment production. As customers reduced excess component inventories, new orders gradually improved in the second half of the year. Most orders had short-term delivery requirements.

Demand was weaker in most major U.S. market segments, with the exception of automotive and federal/military. However, the fourth-quarter order rate improved over the third quarter in the computer, communications and distribution segments.

In key international regions, demand was lower on a year-to-year basis, although the European market declined less than the Asia Pacific and Japanese regions. The order rate rose moderately in all regions during the final quarter of the year.

The sector implemented a series of expense-reduction measures, including voluntary and involuntary workforce reductions; temporary, graduated salary reductions; a special voluntary early-retirement program; shorter workweeks in selected businesses and reduced operating budgets. Further savings were achieved by consolidating and curtailing some operations and delaying the start-up of several new facilities. However, key research, product and process development programs were maintained.

Advanced Microprocessors

Demand was high for 32-bit microprocessors and 8-bit HCMOS (high-performance complementary metal-oxide semiconductor) microcomputers. The 32-bit MC68020 "mainframe computer on a chip" was joined by two key companion products, the MC68881 Floating Point Coprocessor and the MC68851 Paged Memory Management Unit. By yearend, 29 companies had introduced systems based on the 68020 microprocessor, with many more scheduled for introduction in 1986 as a result of more than 500 design-ins. Sampling of a more powerful 20 MHz version began in November.

For communications networking applications, Motorola introduced and began sampling two HCMOS Serial Processor Units that use a modular design approach. The MC68824 Token Bus Controller is the world's first single-chip device to implement standards specified for the General Motors Manufacturing Automation Protocol (MAP). Boards and MicroMAP™ software modules also were introduced. MAP is a communications standard supported by a large number of users for networking all intelligent systems in a factory.

The MC68605 X.25 Protocol Controller is an HCMOS chip for use in long-distance communication over phone lines or satellite links, PBX systems and public data networks. Also introduced was an HCMOS version of the MC68000 16-bit microprocessor that uses 90 percent less power than the original device.

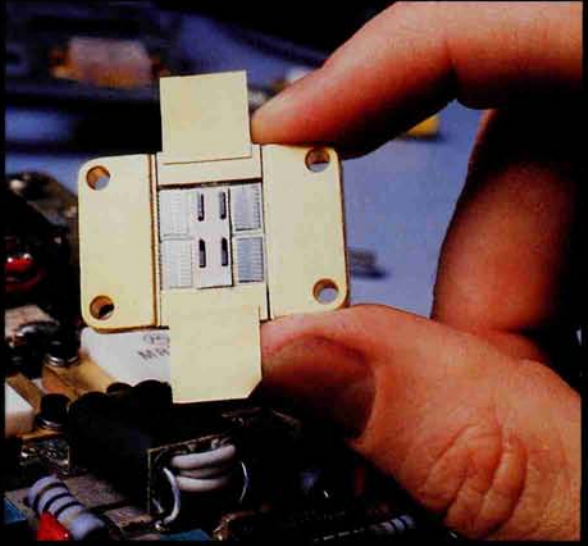
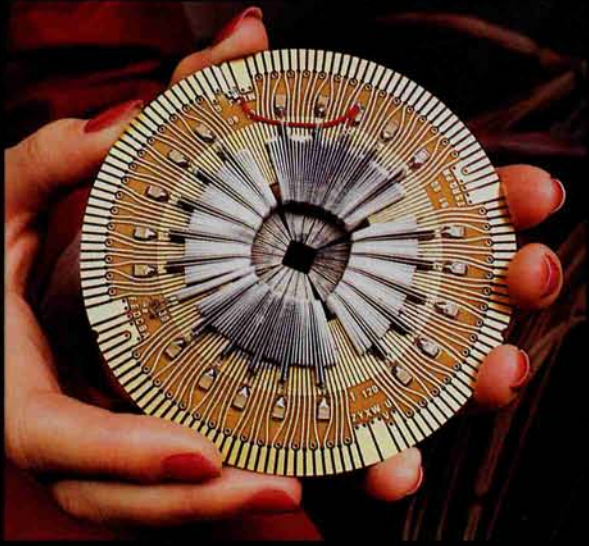
Major design-ins were achieved for advanced 8-bit HCMOS microcomputers, including the MC68HC04, 05 and 11 families. They range from low cost to very high performance, and are used in automotive, communications, consumer and industrial products. Many of them feature on-chip capabilities such as EEPROM (electrically erasable programmable read-only memory), which allows a user to tailor the microcomputer to specific applications.

(upper left) New Motorola-designed probe card can simultaneously link 160 pads on an application specific integrated circuit to automated test equipment.

(upper right) New MRF154 ultra high power transistor enables designers to save space and reduce costs in medical electronics and radio transmitting equipment.

(lower left) "Smart cards" that contain their own memory and logic will be used for electronic payment, individual portable files or access to data banks. Heart of the card is a custom MC6805 microcomputer.

(lower right) Technician at new advanced product research and development laboratory in Austin, Texas.



Motorola's VME (VersaModule™ Eurocard) board format became further established as a major industry standard. SPS introduced more than 30 VME products during the year.

Memory Devices

Motorola expanded its family of HCMOS fast static RAMs (random access memories) and phased down production of dynamic RAMs. Volume production began of the 4K by 4 fast static device and sampling began on very high performance 64K by 1 and 8K by 8 static RAMs, part of a new memory portfolio designed to give the company a leading position in the static RAM market.

Motorola phased down its production of 64K and 256K NMOS dynamic RAMs in the latter part of 1985 because of severe attrition in selling prices. Development continued on advanced high-performance memories, including a 256K CMOS static RAM augmenting the present 64K CMOS static RAM family. Higher density EPROMs also were being readied for introduction.

Discrete Expansion

Motorola expanded its discrete product lines and surface-mount packaging portfolio to extend its position as the world's largest supplier of discrete semiconductors. The power MOSFET (MOS field effect transistor) family grew substantially. More than 100 device types were introduced for communications, industrial and military applications, including an RF (radio-frequency) power transistor with the industry's highest power-handling capability, 600 watts at 100 MHz, for applications such as single-sideband radio transmitters, nuclear magnetic resonator drives and wafer fabrication equipment.

In the SMARTpower™ line, a technology that combines CMOS logic with a power transistor, several new standard products were introduced and new designs for automotive and motor control applications were sampled.

Logic and Analog

Motorola expanded its portfolio of advanced bipolar and CMOS logic circuits, including FAST (Fairchild Advanced Schottky Transistor-logic), high-speed CMOS and MECL (Motorola Emitter-Coupled Logic) 10KH. An older logic line, ALS (Advanced Low-power Schottky) was discontinued, and additional devices were offered in surface-mount packages.

Custom bipolar and MOS circuits were introduced for automotive applications such as powertrain control, body electronics, and instrumentation. For the telecommunications segment, new dedicated integrated circuits included a high voltage CMOS driver/receiver; three pulse/tone dialer devices and several custom CMOS circuits for major communications equipment manufacturers.

Application Specific ICs

In semicustom circuits, Motorola announced its first BiMOS Macrocell Array, a 6,000-gate logic device that combines the best features of bipolar and MOS technologies on a single chip. Under an agreement with NCR, Inc., Motorola began sourcing a three-micron standard cell library, NCR sourced Motorola's HCMOS Macrocell Arrays, and the companies began joint development of a two-micron standard cell portfolio. First shipments of the three-micron standard cell family featuring logic, RAM, ROM, analog and microprocessor cells began in the fourth quarter.

Production began on a line of two-micron HCMOS double-layer metal Macrocell Arrays, including a 4,800-gate device. Motorola's Macrocell Array libraries were implemented on engineering workstations offered by Daisy Systems, Mentor Graphics Corp. and Personal CAD Systems Inc. MOS semicustom operations moved to Chandler, Ariz., from Austin, Texas.

International Developments

In Europe, a new bipolar process was implemented in the Toulouse, France, facility for production of advanced logic and analog devices. More than one million units of a custom 8-bit microcomputer, which was developed by the European Design Center in Geneva, were shipped to Europe's leading producer of "smart cards." These devices, which resemble credit cards, have microprocessors embedded in them.

In Japan, the Aizu Wakamatsu facility began producing several new types of microprocessor, logic and memory devices, and land adjacent to the facility was purchased for future expansion. Nippon Motorola Ltd. bought a 45-acre site about 200 miles northeast of Tokyo for a future semiconductor facility. Product testing capability was expanded at the Hong Kong facility to permit volume testing of microprocessors and microcomputers.

New Manufacturing Group

SPS consolidated its U.S. integrated circuit fabrication operations to form a new organization, the Integrated Circuits Wafer Manufacturing Group. Several fabrication areas were converted to HCMOS capability.

The sector also centralized management of its research functions, and an expanded, advanced capability Bipolar Technology Center became operational in the Mesa, Ariz., facility.

ORGANIZATIONS:

Codex Universal Data Systems International

The Information Systems Group (ISG) provides its customers with products to handle complex data communication needs. Despite an industry slowdown during the year, the group marketed a record number of new products.

Motorola Computer Systems, Inc., formerly Four-Phase Systems, Inc., became part of the General Systems Group in 1985, and its operations are discussed on the following page. The Computer Systems financial results, however, are included with ISG in the following paragraph.

ISG's overall sales rose 14 percent from 1984, while new orders increased 5 percent and backlog was down 7 percent. ISG had an operating loss, compared with a small profit in 1984. The loss includes special one-time costs associated with a consolidation of Four-Phase operations.

Codex

New products from Codex include the 2680, the first modem to offer almost totally error-free transmission at 19,200 bits per second (bps) using eight-dimension trellis-coded modulation. The 2680 includes integrated network management and control and an extensive array of diagnostics. Codex also introduced the 2200 Series of Bell-compatible, error-correcting personal computer modems and the 2300 Series of private-line modems.

The new 4850/4860 network management and control systems, designed with the cooperation of Delta Air Lines, monitor and control networks of up to 3,000 modems. New local area networking (LAN) products include the 4210 SNA gateway, the 4810 LAN manager, the 4010 PC entryway and the 4020 economical asynchronous entryway.

Codex introduced the 6700 Series of distributed communications processors, designed to provide customers operating

medium- to large-scale, multi-vendor networks of 200 to 2,000 terminals with both statistical multiplexing and packet switching in a single nodal processor.

The new 6760 is the most powerful of these processors in the industry. Each 6760 node has a continuous throughput of 40,000 characters per second (cps) and can handle up to 256 channels and four 64,000 bps links. The 6740 is a mid-range multiplexer with a continuous throughput of 15,000 cps. It can statistically multiplex up to 64 channels and support two 64,000 bps links. The processors can communicate with Codex's 6000 Series of intelligent network processors through the Muxport protocol.

Universal Data Systems

Universal Data Systems (UDS) introduced 16 modems during the year, including two error-correcting modems: the EC201C/D, operating at 2,400 bps, and the EC212A/D, operating at 1,200 bps. The new Sync-Up™ 208 A/B transmits synchronous data at 4,800 bps. With the appropriate software, it is compatible with IBM mainframes. Among higher-speed modems, UDS introduced the point-to-point, trellis-coded 14,400 bps modem and 9,600 bps Fastpoll™ modem.

ISG International

New products from the International Division include the 650 and 660 intelligent X.25 processors. They enable smaller network users (100-500 terminals) to construct packet-switched data networks using the internationally accepted X.25 protocol. They also allow users to switch low-end multiplexers that typically function only point-to-point.

ISG International won major awards from PTTs, the government agencies in charge of national telephone networks, and from overseas customers with extensive private data communications networks. Contracts were signed with the Norwegian, Swedish and Japanese PTTs, as well as S.W.I.F.T., an international transactions network serving financial institutions in more than 50 countries.



The Codex 4860 centralized network control system for Delta Air Lines handles the automatic monitoring of more than 3,000 locations connected by more than 400 communication lines in the United States and Canada.

ORGANIZATIONS:

Cellular Group

*Cellular Infrastructure Division
Cellular Subscriber Products Division
Motorola Computer Systems, Inc.*

The General Systems Group, formed in October 1985, combines the Cellular Group and Motorola Computer Systems, Inc., formerly Four-Phase Systems, Inc. The 1985 financial results of the Cellular Group are included in the Communications Sector, and the results of Computer Systems are included in the Information Systems Group.

Cellular Group

Cellular telephone demand increased significantly during 1985 as Motorola remained the leader in the highly competitive industry. With more than 80 systems either in service or scheduled for service, Motorola has received more contracts than any other supplier of cellular systems. Major 1985 contracts included a multi-city award from Metro Mobile CTS and individual city contracts for systems in New York, Dallas, Philadelphia, Norfolk, Va., Greensboro, N.C., and Wilmington, Del.

An award from Petrocom Communications, Inc. calls for a wide-area cellular system to serve the petroleum industry in the Gulf of Mexico. The system will be the first to employ satellite links between offshore cellular sites and onshore switching equipment.

System expansion contracts included a \$22 million award from Cellnet in the United Kingdom. Cellnet, the fastest growing system in the world, has attracted more than 25,000 subscribers served by 100 cell sites in less than one year of commercial service.

Motorola was selected to supply the People's Republic of China with its first 800 MHz cellular system, to be installed in Beijing.

Motorola introduced several new subscriber products, including a lower-

priced 900 MHz Dyna T•A•C® portable telephone for use in both North America and Europe.

International demand for subscriber equipment also increased because of new systems in Hong Kong and Canada and expansion in Scandinavia, Austria, Korea and Japan.

In November, the International Trade Commission affirmed an earlier U.S. Commerce Department determination that Japanese car telephones were being sold at less than fair value in the U.S. and ruled that the U.S. cellular industry had been materially damaged. The finding means that Japanese manufacturers must post dumping duties ranging from 4.77 percent to 106 percent on products and subassemblies imported from Japan.

In Hong Kong, a Motorola joint venture that allows the company to participate in ongoing revenues as a cellular system operator entered commercial service. A Motorola Israel joint venture is expected to begin service in 1986.

Motorola Computer Systems

Four-Phase Systems, Inc. changed its name to Motorola Computer Systems, Inc., effective in April 1986, to more closely reflect the nature of the company's business and its working alliance with Motorola.

While the Computer Systems business suffered from the overall slowdown in the computer industry, substantial efforts were made to improve operations. The business restructured itself to reduce costs and organize around product lines. It formed two new product-line business units, and introduced several new products designed to improve user productivity and open new markets in the office network environment.

A key entry in this area is the Business Assistant™ family of office application software programs for the Series 2000 and 6000 microcomputers. This integrated software offering makes the UNIX

operating system much easier to use and more accessible to the office worker. (UNIX is a trademark of AT&T.)

With the introduction of TransText™, a sophisticated communications software program, Motorola Computer Systems took a leading role in providing a connection between departmental systems and DISOSS, the IBM distributed office support system. With TransText, users have access to the vast data available in other systems linked to the DISOSS network.

New systems included the Model 290, an addition to the UNIX-based Series 2000 family of microcomputers. The Model 290 features a Motorola 68010 microprocessor and supports up to 16 workstations.

Working with the Information Systems Group, Computer Systems won a major contract to supply the State of California's Department of Social Services with a comprehensive office automation network. It will consist of Series 2000 microcomputers, Business Assistant software, Codex local area networks and Universal Data Systems modems.

(left) Dyna T•A•C® portable cellular telephone in Hong Kong, where Motorola is part of a joint venture that operates the system.

(upper right) New laboratory management system at Children's Memorial Hospital in Chicago employs a Series 6000 system from Motorola Computer Systems.

(lower right) New V.33 modem from Universal Data Systems operates at 14,400 bits per second and features trellis-coded modulation. UDS is part of the Information Systems Group (page 9).



ORGANIZATIONS:

Communications Division
Tactical Electronics Division
Aerospace Operations
Radar Operations

Sales for the Government Electronics Group (GEG) increased 13 percent from 1984, while new orders advanced 27 percent. Backlog was 32 percent higher than at the end of the prior year.

Operating profits declined from a year earlier, primarily because of performance shortfalls on some programs. In addition, the increased level of U.S. government audits and systems reviews resulted in additional costs, which contributed to the decline in profits. New orders and sales increased sharply during the latter part of the year.

GEG received several significant contracts during 1985. They include:

- A \$55.7 million follow-on production contract from the U.S. Navy for target detecting devices for the Navy's Standard Missile. This is the largest major production program awarded to GEG's Tactical Electronics Division to date. These types of target detecting devices have been in production for 13 years, and represent the group's longest running program. During the year, GEG shipped its 10,000th unit to the Navy.
- A \$47 million full-scale production award from the Army to manufacture FMU-139/B electronic ordnance devices, which are being produced in an automated facility built in 1985.
- A \$27.3 million development award from TRW to provide an engineering model and prototype unit of a high-speed digital baseband processor for NASA's Advanced Communications Technology Satellite (ACTS), which is due to be launched in late 1989.
- A \$15.3 million development award from the National Security Agency for a low-cost secure voice/data telephone terminal and a secure cellular mobile radio system. Product development is a

Motorola team effort led by GEG, with styling and user interface developed by the Communications Sector, modems developed by UDS, and a custom large scale integration chip set developed by GEG. The product is being designed for high-volume production in AIEG's Seguin, Texas, facility.

- A \$12.2 million follow-on production award from the Navy to produce additional UHF Demand Assigned Multiple Access (DAMA) multiplexer systems, representing the definitization of a \$28 million contract awarded in 1984. The group also received a \$14.3 million production award, which represented exercise of an option on a previous contract. In addition, development work continued on the MACS modem, or mini-DAMA, the next generation of DAMA equipment. The smaller version will eliminate the need for a separate radio and will increase the effectiveness of satellite capabilities for aircraft and submarines.
- An additional \$10 million from the U.S. Army to provide modifications and additional equipment for the Joint STARS ground station. The award is a follow-on to a \$33 million development contract received in 1984 for the airborne, radar-based joint service surveillance system.

A communications transponder, designed and built by GEG nearly eight years ago sent back the first photos of a moving comet, the Giacobini-Zinner. The transponder continues to perform flawlessly aboard the International Cometary Explorer Satellite launched in 1979.

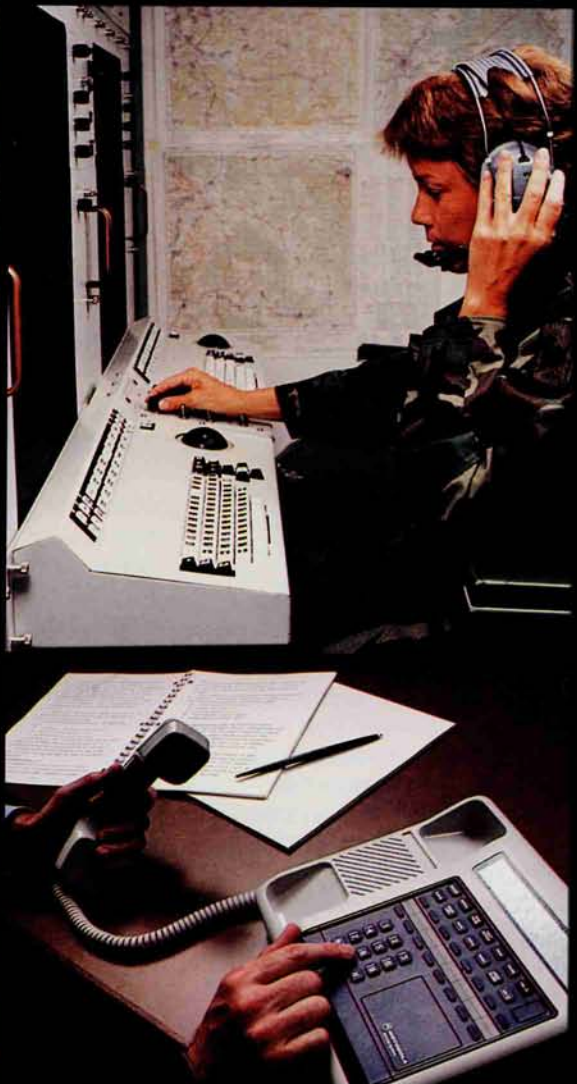
Equipment developed and produced by GEG provided the major link between Voyager 2 and Earth when the spacecraft made its closest approach to Uranus. Motorola's radio frequency subsystem (RFS) transmitted engineering and scientific data as well as still pictures of Uranus obtained by Voyager's cameras. The RFS also receives messages from Earth and forwards the signals to other on-board equipment.

The Voyager 1 and 2 spacecrafts, launched in 1977, transmitted pictures and data of Jupiter and Saturn in 1979, 1980 and 1981 through the Motorola equipment. Voyager 2 will continue toward a rendezvous with Neptune in 1989.

(left) These target detecting devices are used on the Navy's Standard Missile. GEG shipped its 10,000th unit during 1985.

(upper right) This ground-station equipment is part of the Joint STARS airborne, radar-based joint service surveillance system.

(lower right) Motorola is developing a low-cost secure telephone under a contract from the National Security Agency.



ORGANIZATIONS:

**Automotive Electronics
Display and Terminals
Electronic Appliance Controls
International**

Automotive and Industrial Electronics Group (AIEG) results were slightly lower than a year ago, despite a turnaround in international operations. The overall decline reflects softer market conditions primarily in AIEG's non-automotive businesses.

Sales were down 2 percent from a year earlier while new orders declined 3 percent. Backlog was approximately the same as at the end of 1984. The group continued its long-term pattern of profitability, although operating profits were lower than in 1984.

AIEG continued to invest in high-growth product lines serving the automotive, computer/office equipment and appliance control markets, and expanded its worldwide customer support and production capabilities. The group opened a vehicular electronics application/systems laboratory near Frankfurt, West Germany, to serve the European market and plans a similar operation in Detroit to serve U.S. customers. A Taiwan manufacturing facility was completed with first shipments scheduled for the first quarter of 1986.

New Technologies and Products

Demand in the passenger-car and light-truck market remained at a high level while the use of electronics continued to rise. Increased application of engine control systems at Ford Motor Co. and broader use of AIEG's sensor products on fuel-injected engines at Chrysler Corp. resulted in a high level of activity.

The instruments, engine and sensors businesses received several development contracts from manufacturers in the automotive and heavy-vehicle markets. AIEG began developing advanced

recording and monitoring systems for trucks, and was awarded a significant instrumentation contract from a farm-equipment manufacturer. The group also began shipping a new line of brushless alternators that offer up to 160 amps of output, much higher than most other units in the marketplace.

Display Systems received initial orders for its new very-high-resolution monochrome monitor for use in the phototype-setting industry and for its MegaPixel™ family of ultra-high-resolution monitors. The MegaPixel products offer screen sizes up to 19 inches, with resolution greater than 100 pixels, or dots, per inch.

Terminal Systems received its first orders from value-added resellers for new color and monochrome IBM plug-compatible terminals, with production scheduled for the first half of 1986. AIEG also began shipping a full line of 3270 system-compatible terminals.

The Electronic Appliance Controls business began volume production of a new lower-cost midsize control for a major appliance manufacturer and launched production of a microprocessor-based control for dishwashers. The business began to shift a majority of its production to the Taiwan manufacturing facility. Production orders were received for a complete line of microwave oven controls with enhanced features for 1986 shipment and a new control for a laundry product for 1987 shipment.

International Operations

Performance improved substantially in Angers, France, and Stotfold, England, with both facilities in full production of automotive electronics products launched during 1984. The group began manufacturing cellular radiotelephone equipment in Stotfold for the General Systems Group and initiated plans to establish an Asia-Pacific marketing and sales presence in 1986.

Advanced Processes and Systems

AIEG centralized its manufacturing, supply management and computer-integrated manufacturing services to enhance its worldwide capabilities. The reorganization was augmented by heavy investments in the group's quality, supply management, material and manufacturing processes and systems.

(upper left) Chassis dynamometer at AIEG's vehicular electronics application/systems laboratory near Frankfurt, West Germany.

(upper right) The Motorola M179 computer terminal, first in a new family of IBM 3270 plug-compatible terminals.

(lower left) New microprocessor-based appliance controls help create a new generation of automatic dishwashers.

(lower right) Mapped ignition module designed for European passenger cars eliminates the distributor and breaker points required in conventional systems.



Financial Review

Financial Condition

1985 was a particularly difficult year from an earnings perspective, thereby challenging our longstanding policy of maintaining a strong balance sheet. Total debt of the company increased to \$996 million from \$642 million at yearend 1984. The increased debt resulted primarily from the lower-than-normal earnings coupled with continued high investment in strategic fixed assets. Net of short-term investments, the debt to debt plus equity ratio increased to 26.9 percent from 18.0 percent at the end of 1984. This ratio is at the high end of our preferred range and we will strive to reduce it to a more conservative level in the year ahead.

The current ratio was reduced from 1.83 in 1984 to 1.78 in 1985. Working capital decreased by \$77 million to \$924 million, principally due to the large reduction in inventories, as the increase in notes payable was offset by reductions in other current liabilities.

Management believes the company continues to have sufficient capital resources to meet the needs of its businesses.

Debt and Its Makeup

During 1985 the U.S. commercial paper market was the principal source of short-term debt. The \$491 million commercial paper debt outstanding at yearend 1985 was supported by U.S. backup credit facilities totaling \$729 million, including \$345 million of revolving credit agreements and \$384 million of other credit facilities.

During the year additional steps were taken to decrease the percentage of variable rate debt on the balance sheet, thereby reducing our exposure to possible increases in short-term interest rates. In May, \$100 million in Eurodollar debentures were sold, and in July, the equivalent of \$44 million in notes denominated in European Currency Units were sold at fixed interest rates. A variety of other instruments were used to fix the interest rate on an additional \$53 million. Overall, while we have reduced the percent of

variable rate debt to total debt, we believe the dollar amount continues to be high and will seek ways to reduce it further.

Receivables and Inventories

Despite a variety of factors making receivable management difficult in 1985, yearend weeks of receivables were 7.1 compared to 7.0 weeks at yearend 1984. The slight increase results primarily from a shift during the year to a greater mix of complex product and systems orders, which tend to have slower customer acceptance and payment. Yearend receivables totaled \$813 million, or \$4 million less than 1984.

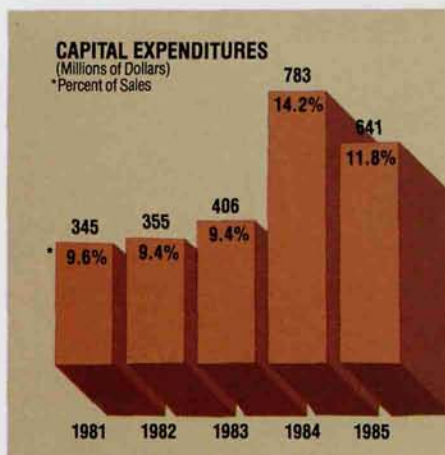
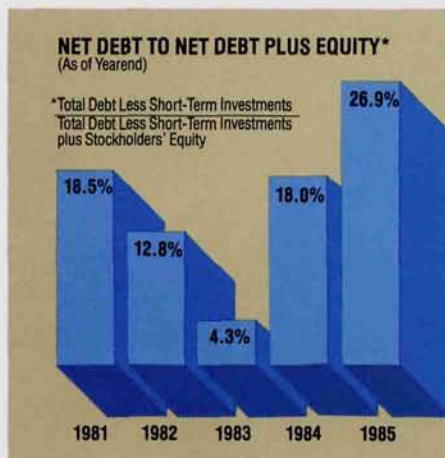
Improvements in inventory management during the year were more dramatic, but the potential for additional progress remains. Inventory turnover, based on cost of goods sold, increased to 2.7 turns from 2.3 turns in 1984. Year-end inventory totaled \$801 million or \$136 million less than 1984.

Fixed Asset Expenditures

While the absolute level of investment in new fixed assets in 1985 declined from a year earlier, 1985 still represented a year of higher-than-average investment, as new product development continued unabated. Expenditures for the year were \$641 million, or 11.8 percent of sales, compared with record expenditures of \$783 million, or 14.2 percent of sales, in 1984. As shown in the segment information on page 25 of this report, the Semiconductor Products segment continues to make the highest dollar investment, although slightly lower than a year ago as a percentage of total expenditures.

Operations

Information on the company's sales, operating profits and assets by product and market segments is shown in Note 8 on page 25 of this report. During 1985 a significant shift occurred in the sales by product segment as the semiconductor industry experienced a sharp downturn, resulting in reduced unit volume and lower selling prices. The Communications Products segment continued to



grow and now represents 41 percent of total sales. The Information Systems and Government Electronics Products also continued a pattern of growth and now represent an increased percentage of the total business. Automotive and Industrial Electronics Products, which is included in the Other Products segment, maintained approximately the same sales volume as in 1984. The Semiconductor Products segment is expected to resume its long-term growth pattern in 1986 and will continue to be a major contributor to sales.

Operating and net profits of the company were sharply reduced in 1985 primarily due to the downturn in the semiconductor and computer-related industries. Operating profit margins were 3.7 percent in 1985 compared with 10.3 percent in 1984 and net profits were 1.3 percent compared with 6.3 percent in the same periods. The reduced profit margins resulted primarily from operating losses in memory products (part of Semiconductor Products); Four-Phase Systems (part of Information Systems Products); and Tegal Corp. (part of Other Products). Automotive and Industrial Electronics Products continued to operate profitably.

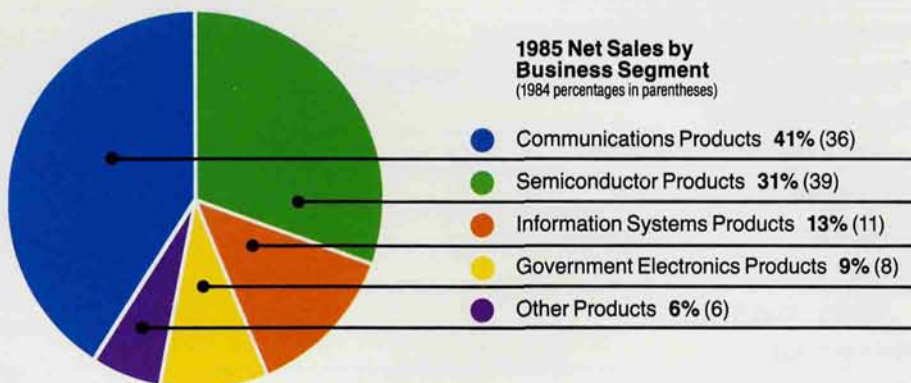
The domestic losses incurred in 1985 were carried back to offset income reported in prior years. The benefit of this carryback is reflected in the \$27 million tax credit in 1985.

Information on the impact of inflation on the company's operations appears on page 28 of this report.

As noted elsewhere in this report, we see favorable signs for each of our businesses that should enable us to return to a more acceptable pattern of profitable growth later in 1986.

Research and Development

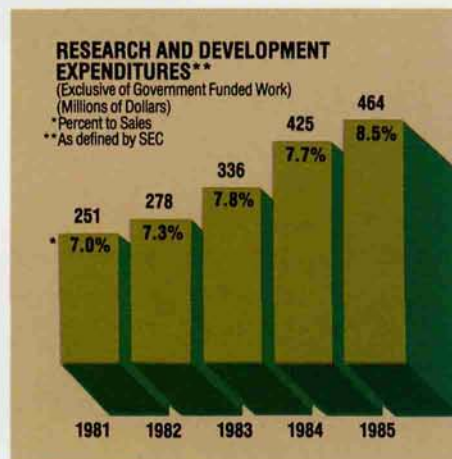
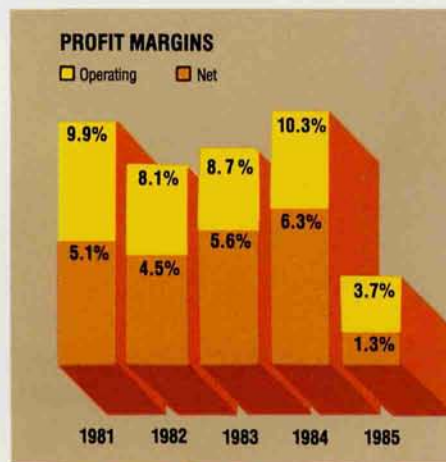
Research and development expenditures, exclusive of government-funded work, reached \$464 million, an increase of 9 percent over expenditures in 1984. The increased expenditures, despite reduced sales volume, further emphasizes our commitment to technological



leadership. The new products funded by this effort should be a critical factor in assuring future market success.

Key Financial Legislative Issues

Last year at this time we expressed approval of the Administration's announced intention to seek simplification and equity in the U.S. tax laws. At the same time, we expressed concern that some of the proposals would be counterproductive to capital formation and thereby reduce the ability of U.S. companies to effectively compete on a global basis. The House of Representatives has passed HR 3838, the Tax Reform Act of 1985. While this bill does include certain desirable provisions, on balance it will be detrimental to our company and may reduce its ability to compete in the high-technology markets on a global basis. Specifically, we are concerned about the proposed elimination of the investment tax credit, lengthened depreciation schedules, and reduced credits for research and experimentation expenditures. A bill is now under consideration in the Senate Finance Committee and it is our hope that its version of the tax bill and the version formulated by the Joint House-Senate Conference will include more acceptable tax provisions for American industries thereby enhancing their ability to compete in the world markets.



Statements Of Consolidated Earnings

Motorola, Inc. and Consolidated Subsidiaries, Years ended December 31

(In millions of dollars, except per share data)	1985	1984	1983
Net Sales	\$5,443	\$5,534	\$4,328
Manufacturing and other costs of sales	3,406	3,206	2,593
Selling, general and administrative expense	1,475	1,475	1,113
Depreciation of plant, equipment, and leased equipment	441	353	289
Interest expense, net	76	34	24
Total costs and other expenses	5,398	5,068	4,019
Earnings before income taxes	45	466	309
Income taxes (benefit) provided on earnings	(27)	117	65
Cancellation of DISC taxes	—	(38)	—
Income taxes (benefit)	(27)	79	65
Net earnings	72	387	244
Net earnings per share	\$.61	\$ 3.27	\$ 2.09
Average shares outstanding (in millions)	119.0	118.5	117.1

See accompanying notes to consolidated financial statements.

Statements Of Consolidated Stockholders' Equity

Motorola, Inc. and Consolidated Subsidiaries, Years ended December 31

(In millions of dollars, except per share data)	Common Stock and Additional Paid-in Capital			Retained Earnings		
	1985	1984	1983	1985	1984	1983
Balances at January 1,	\$834	\$581	\$515	\$1,444	\$1,367	\$1,185
Stock split (3-for-1)	—	237	—	—	(237)	—
Net earnings	—	—	—	72	387	244
Stock option plans	6	16	26	—	—	—
Conversions of debentures	—	—	40	—	—	—
Contributions to Employee Stock Ownership Plan	4	—	—	—	—	—
Dividends declared (\$.64 per share in 1985, \$.61 per share in 1984 and \$.53 per share in 1983)	—	—	—	(76)	(73)	(62)
Balances at December 31,	\$844	\$834	\$581	\$1,440	\$1,444	\$1,367

See accompanying notes to consolidated financial statements.

Consolidated Balance Sheets

Motorola, Inc. and Consolidated Subsidiaries, as of December 31

Assets	(In millions of dollars, except per share data)	1985	1984
Current assets			
Cash		\$ 19	\$ 25
Short-term investments, at cost (approximating market)		157	143
Accounts receivable, less allowance for doubtful accounts (1985, \$32; 1984, \$29)		813	817
Inventories:			
Finished goods		187	161
Work in process and production materials		614	776
Future income tax benefits		170	148
Other current assets		149	133
Total current assets		2,109	2,203
Property, plant and equipment			
Land		81	59
Buildings		1,012	872
Machinery		2,169	1,867
Accumulated depreciation		(1,281)	(1,056)
Property, plant and equipment, net		1,981	1,742
Equipment leased to others, net		157	150
Sundry assets		123	99
Total assets		\$4,370	\$4,194
Liabilities and Stockholders' Equity			
Current liabilities			
Notes payable and current portion of long-term debt		\$ 291	\$ 111
Accounts payable		375	436
Accrued liabilities		455	540
Income taxes payable		64	115
Total current liabilities		1,185	1,202
Long-term debt		705	531
Noncurrent deferred taxes		100	102
Other noncurrent liabilities		96	81
Stockholders' equity			
Common stock, \$3 par value.			
Authorized shares (in millions): 1985, 150.0; 1984, 150.0			
Outstanding shares (in millions): 1985, 119.3; 1984, 118.8		358	356
Preferred stock, \$100 par value issuable in series.			
Authorized shares (in millions): 0.5 (none issued)		—	—
Additional paid-in capital		486	478
Retained earnings		1,440	1,444
Total stockholders' equity		2,284	2,278
Total liabilities and stockholders' equity		\$4,370	\$4,194

See accompanying notes to consolidated financial statements.

Statements Of Consolidated Changes In Financial Position

Motorola, Inc. and Consolidated Subsidiaries, Years ended December 31

(In millions of dollars)	1985	1984	1983
Operations			
Net earnings	\$ 72	\$ 387	\$ 244
Add (deduct) noncash items:			
Depreciation:			
Fixed assets	366	286	225
Equipment leased to others	75	67	64
Change in deferred taxes	(24)	(51)	(28)
Funds provided by operations	489	689	505
Funds provided by (used for):			
Cash	6	0	(4)
Accounts receivable, net	4	(162)	(102)
Inventories	136	(258)	(26)
Other current assets	(16)	(47)	(8)
Accounts payable and accrued liabilities	(146)	238	197
Income taxes payable	(51)	25	52
Sundry assets	(24)	(22)	(22)
Other noncurrent liabilities	15	(1)	18
Total funds provided by (used for):	(76)	(227)	105
Net funds provided by operations	413	462	610
Investments			
Fixed asset expenditures	(641)	(783)	(406)
Disposals and other changes to plant and equipment, net	36	33	14
Net increase in equipment leased to others	(82)	(66)	(60)
Decrease (increase) in short-term investments	(14)	39	(54)
Net funds used for investments	(701)	(777)	(506)
Dividends Declared			
Total funds provided (required)	\$(364)	\$(388)	\$ 42
Financing			
Increase (decrease) in notes payable and current portion of long-term debt	180	103	(1)
Increase (decrease) in long-term debt	174	269	(107)
Issuance of common stock	10	16	66
Net funds provided by (used for) financing	\$ 364	\$ 388	\$ (42)

See accompanying notes to consolidated financial statements.



Certified Public Accountants

Peat Marwick Plaza
303 East Wacker Drive
Chicago, Illinois 60601
(312) 938-1000

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

We have examined the consolidated balance sheets of Motorola, Inc. and consolidated subsidiaries as of December 31, 1985 and 1984, and the related statements of consolidated earnings, stockholders' equity, and changes in financial position for each of the years in the three-year period ended December 31, 1985. 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 consolidated subsidiaries at December 31, 1985 and 1984, and the results of their operations and changes in their financial position for each of the years in the three-year period ended December 31, 1985, in conformity with generally accepted accounting principles applied on a consistent basis.

Peat Marwick Mitchell Co.

January 23, 1986

1. Accounting Policies

A summary of significant accounting policies used in the preparation of these consolidated financial statements follows.

Consolidation: The consolidated financial statements include the accounts of the Company and all majority-owned subsidiaries except for financial subsidiaries, which are not significant and are accounted for on the equity basis. All significant intercompany accounts and transactions have been eliminated in consolidation.

Inventories: Inventories are valued at the lower of average cost (which approximates computation on a first-in, first-out basis) or market (i.e., net realizable value or replacement cost).

Investment Tax Credits: Investment tax credits are recorded under the flow-through method.

Property, Plant and Equipment and Equipment Leased to Others: Property, plant and equipment is stated at cost. Equipment leased to others is stated at cost, net of accumulated depreciation. 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.

Foreign Currency Translation: The Company uses the U.S. dollar as the functional currency for financial reporting. Gains and losses from translation to U.S. dollars are included in the determination of net income in the period in which they occur.

2. Income Taxes

The Company provides for income taxes based on earnings reported for financial statement purposes. Income tax expense differs from income taxes currently payable because of timing differences in the recognition of certain income and expense items for tax and financial statement purposes.

The components of earnings before income taxes are as follows:

(In millions of dollars)	1985	1984	1983
U.S. and U.S. possessions	\$ (10)	\$327	\$236
Other nations	55	139	73
Total	\$ 45	\$466	\$309

The components of income taxes (benefit) are as follows:

(In millions of dollars)	1985	1984	1983
Taxes currently payable:			
United States	\$ (42)	\$ 80	\$ 68
Other nations	34	34	12
State income taxes (U.S.)	5	16	13
Total currently payable	(3)	130	93
Total change in deferred taxes	(24)	(51)	(28)
Income taxes (benefit)	\$ (27)	\$ 79	\$ 65

The Company carried back 1985 U.S. pretax operating losses to reduce taxes provided in prior years. For Federal income tax purposes, investment tax credit carryforwards of \$36 million are available to reduce future income taxes. If not used, these credits will expire in 2000. For financial reporting purposes, all of the investment tax credits were utilized in 1985.

The income taxes (benefit) are different than the amounts computed by applying the statutory Federal income tax rate of 46%. The differences are summarized as follows:

(In million of dollars)	1985	1984	1983
U.S. Federal corporate income tax expense @ 46%	\$ 21	\$214	\$142
Increase (decrease) in tax expense resulting from:			
Taxes on earnings in other nations and U.S. possessions	(10)	(43)	(37)
Investment tax credit	(36)	(36)	(24)
Research and experimentation tax credit	(13)	(21)	(16)
State income taxes	1	9	5
Other	10	(6)	(5)
Tax expense (benefit), excluding DISC tax cancellation	(27)	117	65
Cancellation of DISC taxes	—	(38)	—
Income taxes (benefit)	\$(27)	\$ 79	\$ 65

The Tax Reform Act of 1984 cancelled any future obligations for previously deferred Federal taxes on certain earnings of Domestic International Sales Corporations (DISC). Prior to 1984 the Company had provided such deferred taxes, totaling approximately \$38 million, on the earnings of its DISC which, accordingly, were reversed in 1984.

Income taxes have not been provided on the undistributed earnings of certain of the Company's foreign subsidiaries amounting to \$299 million, \$285 million and \$201 million at December 31, 1985, 1984 and 1983, respectively. It is intended that these earnings will be permanently invested in operations outside the U.S. Should these earnings be distributed, foreign tax credits would reduce the additional U.S. income tax which would be payable.

At December 31, 1985, certain non-U.S. subsidiaries had loss carryforwards for financial reporting purposes of approximately \$25 million.

The Internal Revenue Service has examined the Federal income tax returns for Motorola, Inc. through 1981 and the returns have been settled through 1975. In connection with the audits for the years 1976-1981, the IRS has proposed adjustments to the Company's income for those years which would result in substantial additional tax. The Company disagrees with most of the proposed adjustments and is contesting them. In the opinion of the Company's management, the final disposition of these matters will not have a material adverse effect on the business or financial position of the Company.

An analysis of the changes in deferred taxes is as follows:

(In millions of dollars)	1985	1984	1983
Investment tax credit carryforward	\$(36)	\$ —	\$ —
Completed contract accounting	37	20	—
Cancellation of DISC tax	—	(38)	—
Depreciation	2	16	5
Deferred installment sales	(5)	—	—
Earnings of foreign subsidiaries anticipated to be repatriated in the future	4	7	(2)
Income from long-term lease of equipment	(6)	(10)	(5)
Tax credits recognized as increases (reductions) in deferred taxes	19	(4)	(9)
Inventory valuations	(24)	(24)	(13)
Capitalization of expense items	(6)	—	—
Other, net	(9)	(18)	(4)
Total change in deferred taxes	\$(24)	\$(51)	\$(28)

3. Long-Term Debt and Backup Credit Facilities

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

(In millions of dollars)	1985	1984
Floating Rate Debt:		
Commercial paper supported by revolving credit commitments from banks	\$317	\$317
Variable rate redeemable pollution control revenue bonds supported by revolving credit commitments from banks	28	28
Foreign notes payable (generally at prevailing local rates) due in installments to 1991	10	20
Fixed Rate Debt:		
12¼% eurodollar bonds due December 15, 1994	75	75
12% eurodollar bonds due December 15, 1994	12	—
11½% eurodollar bonds due May 9, 1997	100	—
8¾% ECU bonds due July 16, 1992	44	—
8% sinking fund debentures due October 1, 2007 (callable at 105.2% reducing to 100.0% of the principal amount)	62	62
7¾% industrial revenue bonds due January 1, 2014	20	20
4¾% debentures due April 1, 1986	6	6
Capitalized lease obligations	26	2
Other long-term debt	24	7
	724	537
Less current maturities	(19)	(6)
Long-term debt	\$705	\$531

In 1985, the Company issued \$100 million in 11½% eurodollar bearer bonds and 50 million European Currency Units (ECU) in 8½% bearer bonds exclusively to foreign investors. During 1985, the Company issued \$12 million in 12% eurodollar bearer bonds upon exercise of warrants detached from the 12¼% eurodollar bearer bonds issued in 1984. Outstanding warrants allow the purchase of an additional \$63 million of 12% bearer bonds. For the amount of warrants exercised the Company, at its option, can call a corresponding amount of the original 12¼% bonds to maintain a \$75 million outstanding debt.

The Company had total backup credit facilities of \$1,050 million at December 31, 1985, including \$345 million of revolving credit agreements and \$635 million of annually renewable (but withdrawable at any time) lines of credit. Of the available lines of backup credit facilities \$300 million remained unused at December 31, 1985. The Company pays commitment fees generally of ⅛% of unused lines of credit. Borrowings are generally at the market rate.

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

(In millions of dollars)

1986	1987	1988	1989	1990
19	81	166	135	4

Maturities and sinking fund requirements in the year 1987 and thereafter include commercial paper, notes payable and revenue bonds supported by revolving credit commitments.

4. Leases

The Company owns most of its major facilities, but does lease certain office, factory and warehouse space, land, data processing and other equipment.

Rental expense was \$104 million in 1985, \$100 million in 1984, and \$87 million in 1983.

Minimum future lease revenues as well as the Company's minimum future lease obligations, net of minimal sublease rentals, both of which were based on noncancellable leases in effect at yearend, 1985 were as follows:

(In millions of dollars)

Year ending December 31	Future Lease Revenues	Future Lease Obligations
1986	\$125	\$ 69
1987	66	53
1988	26	36
1989	5	24
1990	4	17
Later	—	100

5. Employee Benefit and Incentive Plans

Management Incentive: The Company may provide up to 7% of its annual consolidated pretax earnings, as defined in the Motorola Executive Incentive Plan, for the payment of cash incentive awards to key employees. Insufficient pretax earnings, as defined in the Plan, were available in 1985 for incentive awards, and as such, none were provided for. However, some awards may be paid from prior accruals. Amounts of \$23 million in 1984, and \$13 million in 1983 were provided for incentive awards.

Retirement Benefits: The Company and certain subsidiaries have profit-sharing plans, principally contributory, in which all eligible employees participate. The Company contributions to profit-sharing funds in the United States and other nations, which are generally based upon percentages of pretax earnings from those operations, as defined, were \$9 million in 1985, \$76 million in 1984, and \$42 million in 1983. No Company contribution for 1985 was provided for the plan covering most domestic employees.

The Company has a noncontributory pension plan covering most domestic employees after one year of service. The Company's policy is to fund the accrued pension cost or the amount allowable based on the full funding limitations of the Internal Revenue Service, if less. Due to the significant excess of plan assets over accumulated benefits, assumption changes have been made in each of the last three years which reduced the contribution and expense accrued. In 1985, the Company began amortizing the excess funding of this plan against the normal costs calculated using the aggregate cost valuation method, thereby reducing pension expense by \$8 million in 1985. No pension expense was recognized in 1985 compared to \$11 million in 1984, and \$12 million in 1983.

During 1985, the Company increased the interest rate assumption from 7% to 8% and increased the salary increase assumption from 5% to 5.5%. These changes in assumptions reduced 1985 pension expense by \$8 million. The Company had reduced the salary increase assumption to 5% from 6% in 1984. This assumption change reduced 1984 pension expense by \$3 million.

Actuarial valuation and plan asset data for this plan is set forth below.

(In millions of dollars)	As of January 1	
	1985	1984
Net plan assets available to pay benefits	\$286	\$273
Actuarial present value of accumulated plan benefits	136	133
Vested accumulated plan benefits	120	109
Interest rate assumed	8%	7%

During September, 1985 the Company offered an early retirement plan to certain employees. Benefits under this plan are payable from the pension plan assets and the present value of these benefits of \$11 million is included in the present value of the accumulated and vested plan benefits detailed above.

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 subsidiaries. Amounts charged to earnings for the plans were \$6 million in 1985, \$8 million in 1984, and \$7 million in 1983.

In addition to providing pension benefits the Company provides certain health care benefits to its retired employees. The majority of its domestic employees may become eligible for these benefits if they reach retirement age while working for the Company. The cost of retiree health care benefits is recognized as expense when claims are paid and totaled \$2 million in 1985. There are no significant post-retirement health care benefit plans in foreign countries.

Stock Options: Under the Company's employee share option plans, shares of common stock have been made available for grant to key employees. The exercise price of each option granted is 100% of market value on the date of grant.

Shares subject to option under these plans during 1985 and 1984 are as follows:

(In thousands of shares)	1985	1984
Options outstanding beginning of year	5,200	4,732
Additional options granted	852	1,207
Options exercised	(555)	(676)
Options terminated, cancelled or expired	(191)	(63)
Options outstanding at end of year	5,306	5,200
Shares reserved for possible future options grants	1,353	2,033
Total shares reserved	6,659	7,233
Total options exercisable	4,444	3,662

Options exercised during 1985, including options previously granted to employees of Four-Phase Systems, Inc. were at per share prices of \$8.41 to \$43.71. Options outstanding at December 31, 1985 were at per share prices of \$11.48 to \$48.21.

6. Other Financial Data

(In millions of dollars)	1985	1984	1983
Interest expense	\$100	\$ 53	\$ 39
Interest income	(19)	(15)	(11)
Interest capitalized	(5)	(4)	(4)
Net interest expense	\$ 76	\$ 34	\$ 24
Research and development expenditures	464	425	336
Foreign currency gains (losses)	(7)	2	8
Accrued liabilities:			
Taxes (other than income taxes)	\$ 65	\$ 59	\$ 46
Contribution to employees' pension and profit-sharing funds	8	85	52
Accrued compensation	135	159	115
Dividends payable	19	19	16
Other	228	218	169
Total accrued liabilities	\$455	\$540	\$398

7. Contingencies

The Company is a defendant in various 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 Government Electronics Group (GEG) has been subpoenaed for records in connection with a federal criminal investigation. The investigation appears to involve whether the Company improperly charged labor expenses under certain government defense contracts. In addition, GEG is being audited by the Department of Defense with respect to government contract pricing, cost allocation and charging matters.

The Company is unable to predict the outcome of the investigation or audits at this time or to estimate the kinds or amounts of claims or other actions that could be instituted against the Company, its officers or employees as a result of such proceedings.

Under government procurement regulations, an indictment could result in a government contractor being suspended from eligibility for awards of any new government contracts for one year and a conviction also could result in debarment from government contracts for one year or more.

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.

8. Information by Industry Segment and Geographic Region

Information about the Company's operations in different industry segments for the years ended December 31, is summarized below
(In millions of dollars and percent of net sales):

	NET SALES			OPERATING PROFIT					
	1985	1984	1983	1985		1984		1983	
Communications Products ¹	\$2,314	\$2,055	\$1,620	\$243	10.5%	\$143	7.0%	\$ 92	5.7%
Semiconductor Products	1,728	2,240	1,612	(38)	(2.2)%	373	16.7%	205	12.7%
Information Systems Products ²	704	618	514	(17)	(2.4)%	1	.2%	(5)	(1.0)%
Government Electronic Products	496	441	369	39	7.9%	52	11.8%	54	14.6%
Other Products	356	370	324	(23)	(6.5)%	15	4.1%	35	10.8%
Adjustments and eliminations	(155)	(190)	(111)	(4)	—	(13)	—	(4)	—
Industry totals	\$5,443	\$5,534	\$4,328	200	3.7%	571	10.3%	377	8.7%
General corporate expenses				(79)		(71)		(47)	
Interest expense, net				(76)		(34)		(24)	
Other, net				—		—		3	
Earnings before income taxes				\$ 45	.8%	\$466	8.4%	\$309	7.1%

	ASSETS		
	1985	1984	1983
Communications Products ¹	\$1,471	\$1,425	\$1,053
Semiconductor Products	1,529	1,495	1,143
Information Systems Products ²	598	592	470
Government Electronic Products	311	233	149
Other Products	194	199	155
Adjustments and eliminations	(32)	(32)	(16)
Industry totals	4,071	3,912	2,954
General corporate assets	251	242	238
Other, net	48	40	44
Consolidated totals	\$4,370	\$4,194	\$3,236

	FIXED ASSET EXPENDITURES			DEPRECIATION		
	1985	1984	1983	1985	1984	1983
Communications Products ¹	\$132	\$170	\$119	\$ 86	\$ 68	\$ 57
Semiconductor Products	325	412	174	197	150	116
Information Systems Products ²	68	72	35	31	26	22
Government Electronic Products	55	36	31	15	13	11

Expenditures and depreciation for property, plant and equipment do not include amounts for equipment leased to others.

¹Includes Cellular Group

²Includes Four-Phase Systems

Information about the Company's operations in different geographic regions for the years ended December 31, is summarized below (In millions of dollars and percent of net sales):

	NET SALES			OPERATING PROFIT					
	1985	1984	1983	1985		1984		1983	
United States	\$5,040	\$5,260	\$4,104	\$113	2.2%	\$434	8.3%	\$290	7.1%
Other nations	1,818	1,870	1,414	76	4.2%	173	9.3%	91	6.4%
Adjustments and eliminations	(1,415)	(1,596)	(1,190)	11	—	(36)	—	(4)	—
Geographic totals	\$5,443	\$5,534	\$4,328	200	3.7%	571	10.3%	377	8.7%
General corporate expenses				(79)		(71)		(47)	
Interest expense, net				(76)		(34)		(24)	
Other, net				—		—		3	
Earnings before income taxes				\$ 45	.8%	\$466	8.4%	\$309	7.1%

	ASSETS		
	1985	1984	1983
United States	\$3,084	\$3,031	\$2,291
Other nations	1,046	950	724
Adjustments and eliminations	(59)	(69)	(61)
Geographic totals	4,071	3,912	2,954
General corporate assets	251	242	238
Other, net	48	40	44
Consolidated totals	\$4,370	\$4,194	\$3,236

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 radio and communications systems; semiconductors, including integrated circuits and micro-processor units; data communication and distributive data processing equipment and systems; electronic equipment and industrial electronic products. The Company operates manufacturing and distribution

facilities outside the U.S. No single country outside the U.S. accounts for more than 10% of consolidated net sales or total assets.

Operating profit was computed as total revenues less operating expenses which exclude general corporate expenses, net interest and income taxes. 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. Intersegment sales, principally semiconductor components, amounted to \$113 million for 1985, \$137 million for 1984, and \$78 million for 1983. Intersegment 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.

Sales to U.S. federal government agencies aggregated \$780 million for 1985, and \$696 million for 1984. No other single customer (or group of customers under common control) accounted for 10% or more of the Company's sales.

Equity in the net assets of non-U.S. subsidiaries amounted to \$657 million at December 31, 1985 and \$613 million at December 31, 1984.

Five Year Financial Summary

Motorola, Inc. and Consolidated Subsidiaries, Years ended December 31

	1985	1984	1983	1982	1981
Operating Results (In millions of dollars)					
Net sales	\$ 5,443	\$ 5,534	\$ 4,328	\$ 3,786	\$ 3,570
Manufacturing and other costs of sales	3,406	3,206	2,593	2,269	2,086
Selling, general and administrative expense	1,475	1,475	1,113	1,013	985
Depreciation of plant, equipment, and leased equipment	441	353	289	244	205
Net interest expense	76	34	24	48	35
Total costs and other expenses	5,398	5,068	4,019	3,574	3,311
Earnings before income taxes and extraordinary gain	45	466	309	212	259
Income taxes (benefit) provided on earnings	(27)	117	65	42	77
Cancellation of DISC taxes	—	(38)	—	—	—
Net earnings before extraordinary gain	72	387	244	170	182
Extraordinary gain	—	—	—	8	—
Net earnings	\$ 72	\$ 387	\$ 244	\$ 178	\$ 182
Net earnings excluding DISC tax cancellation	\$ 72	\$ 349	\$ 244	\$ 178	\$ 182
Net earnings excluding DISC tax cancellation as a percent of sales	1.3%	6.3%	5.6%	4.5%	5.1%
Per Share Data ³ (In dollars)					
Net earnings	\$.61	\$ 3.27	\$ 2.09	\$ 1.62 ¹	\$ 1.70
Net earnings excluding DISC tax cancellation	\$.61	\$ 2.95	\$ 2.09	\$ 1.62 ¹	\$ 1.70
Dividends declared	.64	.61	.53	.53	.53
Balance Sheet (In millions of dollars)					
Total assets	\$ 4,370	\$ 4,194	\$ 3,236	\$ 2,833	\$ 2,615
Working capital	924	1,001	894	924	833
Long-term debt	705	531	262	369	427
Total debt	996	642	270	378	433
Stockholders' equity	\$ 2,284	\$ 2,278	\$ 1,948	\$ 1,700	\$ 1,409
Other Data					
Current ratio	1.78	1.83	2.07	2.57	2.32
Return on average invested capital	2.4%	14.5% ²	12.2%	9.1%	11.2%
Return on average stockholders' equity	3.2%	16.4% ²	13.5%	11.3%	13.7%
Yearend employment (approximate)	90,200	99,900	88,800	78,800	80,800
Average shares outstanding (in millions) ³	119.0	118.5	117.1	109.5	107.1

NOTES

1. Includes the extraordinary gain.
2. Excludes cancellation of DISC taxes.
3. Years 1981 through 1983 reflect the 3-for-1 stock split in 1984.

Supplementary Information On The Effects Of Changing Prices

Statement Of Consolidated Earnings Adjusted For Changing Prices

The following tables present certain information adjusted for the effects of specific price changes as adjusted for equivalent service potential of replacement assets (current cost). Inventories were estimated based on quantities on hand at yearend 1985 adjusted to reflect current replacement cost. Cost of sales was estimated by adjusting the historical cost of sales to reflect LIFO (last in, first out) inventory valuation. The current cost of property, plant, and equipment was estimated by adjusting historical cost by externally generated industrial prices indices relevant to the plant and equipment of Motorola. Depreciation expense was computed assuming straight-line depreciation using the same indices used to develop the estimated current cost of property, plant, and equipment.

Motorola, like other companies, has experienced increases in the cost of its production resources. However, the electronic components and equipment industry (e.g., semiconductors and semiconductor based equipment) has been able to accomplish significant productivity gains in its manufacturing processes, which have reduced the cost of products sold beyond the increase in the costs of production resources. Thereby, over time, selling prices generally decrease. Productivity gains in Motorola's other business have reduced the effects of increased production costs, resulting in price increases over time at rates significantly less than general inflation.

This method of calculating current cost data ignores both productivity gains available from engineering and labor as well as inflationary pressures in selling, general, and administrative costs.

Year ended December 31, 1985 (In millions of dollars)	Historical Cost	Current Cost
Net sales	\$5,443	\$5,443
Manufacturing and other costs of sales	3,406	3,408
Selling, general and administrative expense	1,475	1,475
Depreciation of plant and equipment	441	416
Interest expense, net	76	76
Income taxes (benefit)	(27)	(27)
Total costs and expenses	5,371	5,348
Net earnings	72	95
Gain from decline in purchasing power of net payables		17
Decrease in specific prices (current cost) of inventories and property, plant, and equipment held during the year		(70)
Effect of increase in general price level		114
Excess of increase in general price level over decrease in specific prices		\$184

At December 31, 1985, the estimated current cost of inventories was \$765 million and the estimated current cost of property, plant and equipment, net of accumulated depreciation was \$2,969 million.

The Company uses accelerated methods of depreciation in its historical cost financial statements in part to conservatively value earnings as a result of the increasing prices the Company will have to pay to replace these assets. Had depreciation expense under the current cost method been computed using accelerated methods, the depreciation charged would have approximated \$448 million for 1985.

STATEMENT OF CONSOLIDATED EARNINGS ADJUSTED FOR CHANGING PRICES

Years ended December 31

(In millions of dollars)	1985	1984	1983	1982	1981
Net sales	\$5,443	\$5,728	\$4,669	\$4,213	\$4,219
Net earnings before extraordinary gain	95	454	309	244	236
Gain from decline in purchasing power of net payables	17	10	8	13	20
Net assets	3,114	3,153	2,902	2,785	2,195
Net earnings per share	.80	3.83	2.63	2.23	2.21
Cash dividends declared per common share	.64	.63	.58	.59	.63
Market price per common share	38.88	34.93	49.27	32.27	22.75
Average consumer price index	321.9	311.1	298.4	289.1	272.4

Quarterly and Other Financial Data

Motorola, Inc. and Consolidated Subsidiaries

The principal market for Motorola Common Stock is the New York Stock Exchange. The table below sets forth the high and low sales price per share for Motorola Common Stock as reported by the New York Stock Exchange and the dividends declared and paid for the periods indicated.

(In millions of dollars, except per share data)	1985				1984			
	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Net sales	\$1,322	\$1,372	\$1,301	\$1,448	\$1,256	\$1,416	\$1,377	\$1,485
Gross profit before depreciation	515	519	450	552	541	615	583	587
Net earnings (loss)	41	26	(39)	44	78	98	124	87
Net earnings (loss) per share	.35	.22	(.33)	.37	.66	.83	1.04	.73
Dividends:								
Declared and paid	.16	.16	.16	.16	.13	.16	.16	.16
Stock prices:								
High	39.38	35.25	37.38	40.75	46.92	41.79	44.25	38.00
Low	31.00	29.50	32.38	29.25	35.33	29.25	29.50	31.00

The number of holders of record of Motorola Common Stock on January 30, 1986 was 15,055.

Management's Discussion And Analysis Of Financial Condition And Results Of Operations

Operations: The Company's principal operations are the Communications, Semiconductor, Information Systems, and Government Electronic Product segments. Note 8 to the consolidated financial statements indicates each segment's relative contribution to the Company's overall sales and operating profit for each of the past three years.

For the Company as a whole sales declined slightly, while operating profits were significantly lower. The Company's semiconductor and computer-related businesses suffered through a severe industry downturn during 1985 that more than offset the record sales and operating profits in the Communications Products segment. The Company carried back 1985 domestic losses to reduce taxes provided in prior years. This carryback is reflected in the 1985 tax benefit of \$27 million. Net earnings declined significantly and return on average invested capital decreased to 2.4 percent compared to 14.5 percent in 1984.

Sales in the Communications Products segment rose 13 percent. Operating profits improved as demand grew for advanced systems. The state and local government and cellular telephone markets led the increase in demand.

The Semiconductor Products segment sales were 23 percent lower and the segment had an operating loss compared with record profits in 1984. The loss was caused by lower selling prices, expenses associated with workforce reductions, and elimination of certain product lines while maintaining high investments in strategic programs.

Information Systems Products segment sales rose 14 percent. The segment had an operating loss compared with a small profit in 1984. The loss reflects an industry slowdown, as well as special costs associated with the restructuring of Four-Phase Systems, Inc.

Government Electronic Products segment sales increased 13 percent and operating profits declined because of temporary performance shortfalls on some programs and additional costs connected with U.S. government audits and performance reviews.

Liquidity and Capital Resources: Total debt of the Company increased to \$996 million from \$642 million at yearend 1984 resulting primarily from the lower earnings coupled with continued high investment in strategic fixed assets. Fixed asset expenditures for the year were \$641 million compared with record expenditures of \$783 million in 1984. Net of short-term investments, the debt to debt plus equity ratio increased to 26.9 percent from 18.0 percent at the end of 1984. Note 3 to the consolidated financial statements details the changes in the Company's long-term debt and Note 8 presents the majority of fixed asset expenditures by segment.

The current ratio decreased from 1.83 in 1984 to 1.78 in 1985. Working capital decreased by \$77 million to \$924 million, principally due to the \$136 million reduction in inventories reflecting a better inventory turnover in 1985, as the increase in notes payable was offset by reductions in other current liabilities.

Management believes the Company continues to have sufficient capital resources to meet the needs of its businesses.

Directors of Motorola, Inc.

ROBERT W. GALVIN
WILLIAM J. WEISZ
JOHN F. MITCHELL
WALLACE C. DOUD <i>Retired; formerly Vice President, International Business Machines Corporation</i>
JOHN T. HICKEY <i>Retired; formerly Executive Vice President and Chief Financial Officer, Motorola, Inc.</i>
LAWRENCE HOWE <i>Retired; formerly Vice Chairman, Jewel Companies, Inc.</i>
ANNE P. JONES <i>Partner, Sutherland, Asbill & Brennan law firm</i>
M. JOSEPH LAMBERT <i>Retired; formerly Senior Vice President and Chief Financial Officer, Kraft, Inc.</i>
STEPHEN L. LEVY
WALTER E. MASSEY <i>Vice President for Research and for Argonne National Laboratory, The University of Chicago</i>
ARTHUR C. NIELSEN, JR. <i>Retired; formerly Chairman of the Board and Chief Executive Officer, A.C. Nielsen Company</i>
WILLIAM G. SALATICH <i>Business consultant and commodity trader, Chicago Mercantile Exchange; formerly Vice Chairman, Gillette Company</i>
WALTER B. SCOTT <i>Retired; formerly Vice President, Motorola, Inc.</i>
GARDINER L. TUCKER <i>Retired; formerly Vice President for Science and Technology, International Paper Company</i>
B. KENNETH WEST <i>Chairman of the Board and Chief Executive Officer, Harris Bankcorp, Inc.</i>
DIRECTOR EMERITUS
ELMER H. WAVERING <i>Formerly Vice Chairman and Chief Operating Officer, Motorola, Inc.</i>

Elected Officers of Motorola, Inc.

	As of 12/31/85	Years of
	Age	Service
CORPORATE		
Robert W. Galvin <i>Chairman of the Board and Chief Executive Officer</i>	63	45
William J. Weisz <i>Vice Chairman of the Board and Chief Operating Officer</i>	58	37
John F. Mitchell <i>President and Assistant Chief Operating Officer</i>	57	32
Stephen L. Levy <i>Executive Vice President and General Manager, Japanese Operations</i>	64	21
Levy Katzir <i>Senior Vice President and General Manager, New Enterprises</i>	53	29
FINANCE		
*Donald R. Jones <i>Executive Vice President and Chief Financial Officer</i>	55	35
*David W. Hickie <i>Senior Vice President and Assistant Chief Financial Officer</i>	52	23
*Richard H. Weise <i>Senior Vice President and General Counsel</i>	50	17
Kenneth J. Johnson <i>Corporate Vice President and Controller</i>	50	14
H. Richard Klotz <i>Corporate Vice President and Director of Taxes</i>	59	10
Victor R. Kopidansky <i>Corporate Vice President and Assistant General Counsel</i>	54	20
INTERNATIONAL OPERATIONS		
*Carl E. Lindholm <i>Executive Vice President, International Operations</i>	56	18
*C. Travis Marshall <i>Senior Vice President and Motorola Director of Government Relations</i>	59	15
PERSONNEL		
*James Donnelly <i>Senior Vice President and Motorola Director of Personnel</i>	46	16
James D. Burge <i>Corporate Vice President and Motorola Director of Personnel, United States</i>	51	27
Joseph F. Miraglia <i>Corporate Vice President and Motorola Director of Human Resources</i>	49	7
STAFF		
*Robert N. Swift <i>Executive Vice President and Chief Corporate Staff Officer</i>	62	33
Jack Germain <i>Senior Vice President and Motorola Director of Quality</i>	59	35

	Age	Years of Service		Age	Years of Service		Age	Years of Service
William G. Howard, Jr. <i>Senior Vice President and Motorola Director of Research and Development</i>	44	16	*Kenneth R. Hessler <i>Corporate Vice President and General Manager, Distribution Service Group</i>	52	28	Weldon D. Douglas <i>Corporate Vice President and General Manager, Special Technologies</i>	48	25
Keith J. Bane <i>Corporate Vice President and Motorola Director of Strategy</i>	46	12	*Bradford K. Kroha <i>Corporate Vice President and Director of Sector Sourcing</i>	59	31	Murray A. Goldman <i>Corporate Vice President and General Manager, Microprocessor Products Group</i>	48	16
Toni Dewey <i>Corporate Vice President and Motorola Director of Public Relations and Advertising</i>	57	9	*Jerome C. Leonard <i>Corporate Vice President and General Manager, Paging Products Division</i>	48	24	*Brian O. Hilton <i>Corporate Vice President and Director, Geographic and Distributor Sales</i>	43	18
R. James Harring <i>Corporate Vice President and Motorola Director of Planning</i>	61	34	*William J. Millon <i>Corporate Vice President and General Manager, Mobile Products Division</i>	52	26	*Michael J. Pollak <i>Corporate Vice President and General Manager, Bipolar Logic and Memory Integrated Circuits Division</i>	40	17
Vincent J. Rauner <i>Corporate Vice President for Patents, Trademarks and Licensing</i>	58	15	Lawrence R. Paggeot <i>Corporate Vice President and General Manager, Portable Products Division</i>	45	18	*Dedy Saban <i>Corporate Vice President and General Manager, Logic, ASIC and Microsystems Products Division, European Semiconductor Group</i>	54	8
COMMUNICATIONS SECTOR			SEMICONDUCTOR PRODUCTS SECTOR			GENERAL SYSTEMS GROUP		
Rhesa S. Farmer, Jr. <i>Executive Vice President and General Manager, Communications Sector</i>	59	28	*Robert L. Wasni <i>Corporate Vice President and General Manager, Communications Manufacturing Group</i>	53	29	Frederick T. Tucker <i>Corporate Vice President and General Manager, Bipolar Analog Integrated Circuits Division</i>	45	20
George M.C. Fisher <i>Senior Vice President and Assistant General Manager, Communications Sector</i>	45	9	Gary L. Tooker <i>Executive Vice President and General Manager, Semiconductor Products Sector</i>	46	23	Kenneth G. Wolf <i>Corporate Vice President and General Manager, Application Specific Integrated Circuits Division</i>	45	20
*David K. Bartram <i>Senior Vice President and General Manager, Communications International Group</i>	49	25	*James A. Norling <i>Senior Vice President and Assistant General Manager, Semiconductor Products Sector</i>	43	20	GOVERNMENT ELECTRONICS GROUP		
*Arnold S. Brenner <i>Senior Vice President and Chief, Sector Staff Operations</i>	48	26	*Thomas D. George <i>Senior Vice President and General Manager, Integrated Circuits Wafer Manufacturing Group</i>	45	6	James R. Lincicome <i>Executive Vice President and General Manager, Government Electronics Group</i>	60	35
*Theodore Saltzberg <i>Senior Vice President and Director, Research and New Businesses</i>	58	30	*Gary M. Johnson <i>Senior Vice President and General Manager, Standard Logic and Analog Integrated Circuits Group</i>	41	18	Edward H. Lange, Jr. <i>Corporate Vice President and Director of Group Staff</i>	59	28
Arthur P. Sundry <i>Senior Vice President and General Manager, Communications Distribution Group</i>	57	28	Geno Ori <i>Senior Vice President and General Manager, Discrete and Special Technologies Group</i>	48	23	Robert J. Solem <i>Corporate Vice President and Director of Group Operations</i>	56	27
*Morton L. Topfer <i>Senior Vice President and General Manager, Land Mobile Product Group</i>	49	14	Charles E. Thompson <i>Senior Vice President and Sector Director of World Marketing</i>	56	16	AUTOMOTIVE AND INDUSTRIAL ELECTRONICS GROUP		
Ira W. Walker <i>Senior Vice President and Assistant General Manager, Communications Distribution Group</i>	62	30	*Andre Borrel <i>Corporate Vice President and General Manager, International Semiconductor Group</i>	49	18	*Gerhard Schulmeyer <i>Senior Vice President and General Manager, Automotive and Industrial Electronics Group</i>	47	5
*Raymond S. Balzer <i>Corporate Vice President and General Manager, Special Markets Division</i>	59	29	*Gordon C. Chilton <i>Corporate Vice President and General Manager, Assembly Manufacturing and Equipment Engineering Division</i>	46	5	*Philip D. Gunderson <i>Corporate Vice President and Director, Group Operations and Services</i>	47	17
*R. LaVance Carson <i>Corporate Vice President and General Manager, National Markets Division</i>	56	31	William B. Dimitro <i>Corporate Vice President and Sector Director of Personnel</i>	56	18	<i>*Assumed new title or advanced in rank since previous annual report.</i>		
Gordon Comerford <i>Corporate Vice President and Sector Director of Business Management</i>	49	11						
Robert L. Hammer <i>Corporate Vice President and Sector Director of Personnel</i>	50	12						

Motorola is dedicated to serving its customers with products and services of excellent value and quality. We build quality into products, which is preferable to the more costly, less efficient method of inspecting rejects out. We have been so successful that many of our largest customers accept our parts at their plants without incoming inspections.

Many of our operations have improved productivity and exceeded quality goals several times. Here are some examples of our success:

- In the Semiconductor Products Sector, quality levels improved by 50 percent year-to-year, with many product lines consistently recording defect levels lower than 50 parts per million, or less than one in 20,000.
- The International Semiconductor Group installed an advanced order entry system for its European, Japanese and Asia Pacific regions to provide real-time,



New automated test facility in Austin, Texas, enables Motorola to improve microprocessor quality and productivity and reduce overall testing cycle time through robotics.

global order entry and inventory tracking capability. The East Kilbride, Scotland, facility achieved a threefold cycle time improvement for read-only memory prototype units of microprocessors.

- In the Automotive and Industrial Electronics Group, several assembly and final test processes were completely automated using state-of-the-art robotics and software control, resulting in productivity, quality and reliability improvements.
- *Research and Development* magazine honored the Government Electronics Group as a major contributor to one of the 100 most significant technological products of the year, the Advanced Communications Technology Satellite.
- *Consumer's Digest* magazine selected Motorola as the 1985 Hall of Fame Grand Winner in Electronics/Communications "for pioneering the development and implementation of cellular telephone technology, which dramatically reduced the cost and increased the availability of mobile communications."

CEO Quality Awards

Motorola recognized the achievements of its employees by giving eight Chief Executive Office Quality Awards during 1985. Winners were:

- Employees of the Communications Sector, for the design, production and installation of the most advanced communications system in the history of the Olympic Games.
- Employees of the Military Products Operations of the Semiconductor Products Sector, for achieving outstanding levels of quality.
- Communications Sector's NTT Paging Team in Boynton Beach, Fla., for excellence in Pocket Bell pager field reliability.
- The Automotive and Industrial Electronics Group's Regulator Production Quality Team in Angers, France, for achieving a significant reduction in the level of defects.



Mary Jefferson and Steve Kroll, winners of a Chief Executive Office Quality Award.

- The statistical process control teams at AIEG's Arcade, N.Y., plant, for helping to increase quality tenfold and yields fivefold in one year.
- The Government Electronics Group's M735 Projectile Fuze Team, for perfect final test results for one year.
- Mary Jefferson and Steve Kroll of GEG's Radar Operations, for perfect workmanship on the Mini-Ranger® satellite survey and positioning system program.
- Joan Whiteaker, of the Bipolar I wafer fabrication area of the Semiconductor Products Sector, for 78 weeks of perfect mask alignments.

We also recognized the achievements of our suppliers through the Corporate Quality Supplier Award for Excellence. Winners in 1985 were Air Products and Chemicals Inc., which supplies industrial and specialty gases to the semiconductor industry, and AVX Corp., a supplier of multilayer ceramic capacitors.

New Management magazine summarized our dedication to quality when it gave Motorola its annual award as "the best-managed company in America" because of "unswerving dedication to product quality, customer service, employee development and a steadfast commitment to innovative and creative risk-taking."

Motorola Worldwide

Major facilities in:

Australia
Melbourne

Canada
Ontario
Brampton; North York

Costa Rica
Guadalupe

France
Angers; Toulouse

Hong Kong
Kowloon

Israel
Tel Aviv

Japan
Aizu Wakamatsu; Tokyo

Korea
Seoul

Malaysia
Kuala Lumpur; Penang;
Seremban

Mexico
Guadalajara; Leon;
Mexico City

Philippines
Manila

Singapore

Switzerland
Geneva

Taiwan
Chung-Li

United Kingdom
Basingstoke; East Kilbride;
Stotfold

United States

Alabama
Huntsville

Arizona
Chandler; Mesa;
Phoenix; Scottsdale;
Tempe

California
Cupertino; Novato

Florida
Boynton Beach;
Fort Lauderdale

Illinois
Arlington Heights; Franklin
Park; Schaumburg

Iowa
Mount Pleasant

Massachusetts
Canton; Mansfield

Missouri
Joplin

New Mexico
Albuquerque

New York
Arcade

Texas
Austin; Fort Worth;
Seguin

Puerto Rico
Vega Baja

West Germany
Munich; Taunusstein

Motorola Products

Communications Sector

Base stations
Closed-circuit television systems
Communications control centers
Component products
Digital voice-protection systems
Electronic command and control systems
Health care communications systems
Information display systems
Microwave communications systems
Mobile and portable FM two-way radio communications systems
Mobile/portable data communications systems
Portable data terminals
Radio paging systems
Signaling and remote control systems
Test equipment

Semiconductor Products Sector

Control circuits
Custom and semicustom semiconductors
 Macrocell Arrays, standard cells
Data conversion circuits
Fiber optic active components
Field effect transistors
Industrial control circuits
Interface circuits
Manufacturing Automation Protocol (MAP) products
Microcomputer board-level products
Microcomputer systems
Microprocessors and microcomputers
Microwave devices
MOS and bipolar analog ICs
MOS and bipolar digital ICs
MOS and bipolar memories
Motor control circuits
MPU development system hardware and software
OEM operating systems (SYSTEM V/68,"
 VERSA™ dos)
Operational amplifiers
Optoelectronics components
Power supply circuits
Pressure and temperature sensors
Rectifiers
RF power and small signal transistors
SMARTpower™ products
Telecommunications circuits
Thyristors
TMOS™ and bipolar power products
Voltage regulator circuits
Zener and other diodes

Information Systems Group

Communications processors
Data network analyzers/emulators
Digital service/channel service units
Electronic data switches
Intelligent terminals
Leased-line modems
Limited distance modems
Local area networks
Modems
Multiplexers
Network control and management systems
OEM modem cards
Switched network modems
System processors
Technical control facilities
Video operator stations

General Systems Group

Cellular mobile and portable telephone systems
Conventional car telephone systems
Cellular mobile and portable subscriber products
Electronic Mobile Exchanges (EMX)
High-density cellular base stations
IMTS car telephones

Low-density cellular base stations
Microcomputer systems and peripherals
Minicomputer systems and peripherals
Software for distributed data processing and office information applications:
 Application development
 Communications
 Data entry
 Electronic mail
 Graphics
 Host-emulation
 Inquiry retrieval
 Interactive communications to multiple mainframes
 Micro-to-mainframe links
 Office support services
 PC connectivity
 Relational data base management
 Report generation
 Spreadsheet analysis
 Transaction processing
 Word processing

Government Electronics Group

Antenna and microwave systems
Battlefield management systems (Joint STARS)
C³I systems
Countermeasures systems
Drone command and control systems
Electronic defense systems
Electronic fuze systems
Electronic positioning and tracking systems
Fixed and satellite communications systems
Intelligent display terminals and systems
Missile and aircraft instrumentation
Missile guidance systems
Satellite data systems
Satellite power electronics
Satellite survey and positioning systems
Secure communications
Surveillance radar systems
Survival transceivers
Tactical communications
Tracking and command transponder systems
Video processing systems and products

Automotive and Industrial Electronics Group

Automotive and industrial sensors
CRT display monitors, color and monochrome (5" to 23")
Data and graphics terminals and subsystems
Electronic appliance controls
Electronic and electromechanical instrumentation
Electronic engine controls (gasoline and diesel)
Electronic motor controls
Ignition systems
Telecommunications equipment
Transmission controls
Vehicle charging systems
Vehicle monitoring and recording systems
Vehicle theft deterrent systems
Voltage regulators

New Enterprises

Deposition equipment for the semiconductor industry
Etching equipment for the semiconductor industry
Factory automation computer systems
Semiconductor wafer fabrication automation equipment
Software and hardware for automation of hard disk factories
Software and hardware for hospital intensive care units
Supervisory Control Data Acquisition (SCADA) systems



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