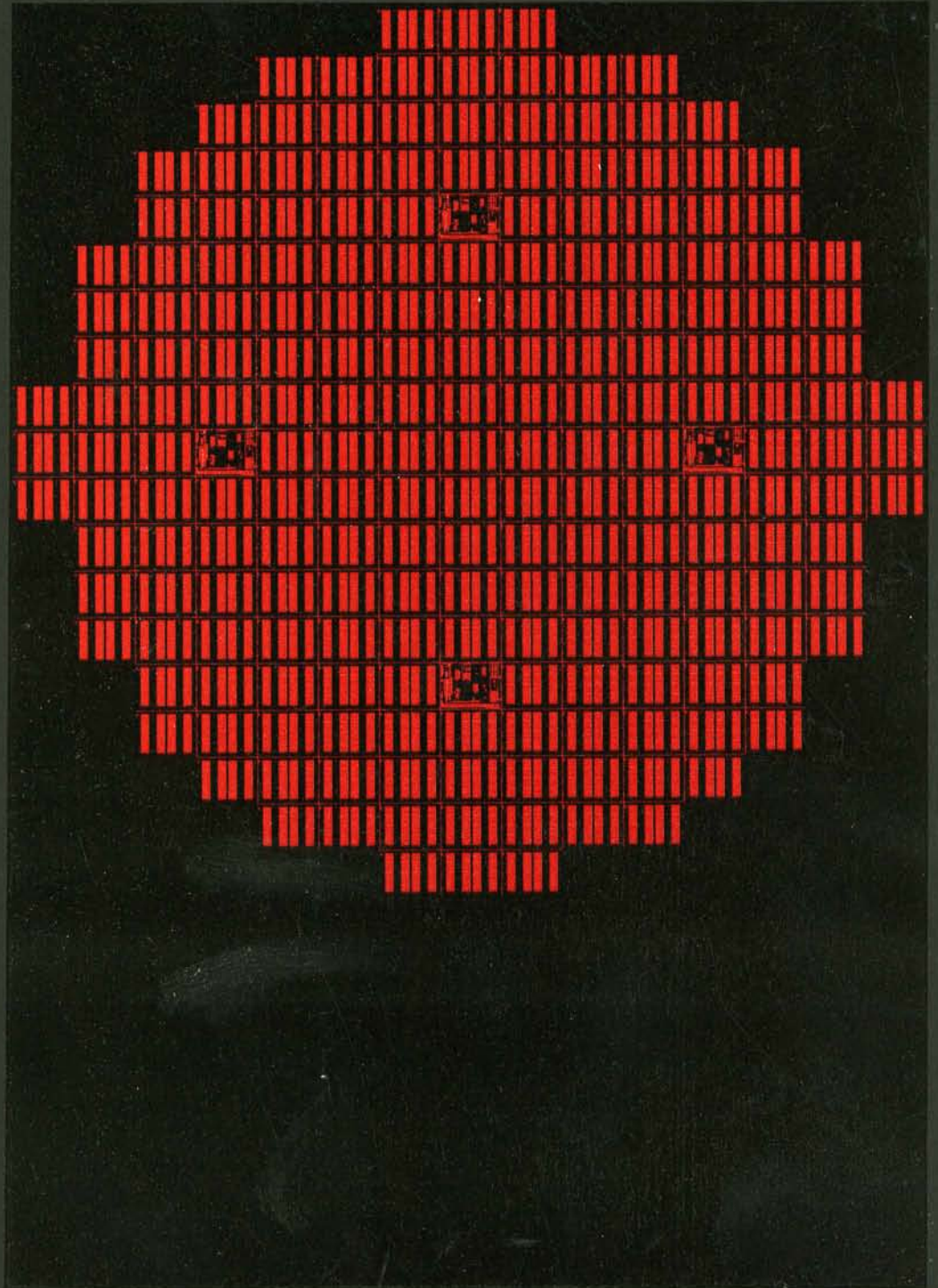


**FAIRCHILD**



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### ON THE COVER

Metallization mask pattern for the 65K CCD memory, the most complex semiconductor memory in production today, was created with the new electron beam technology.

### ANNUAL REPORT ON FORM 10-K

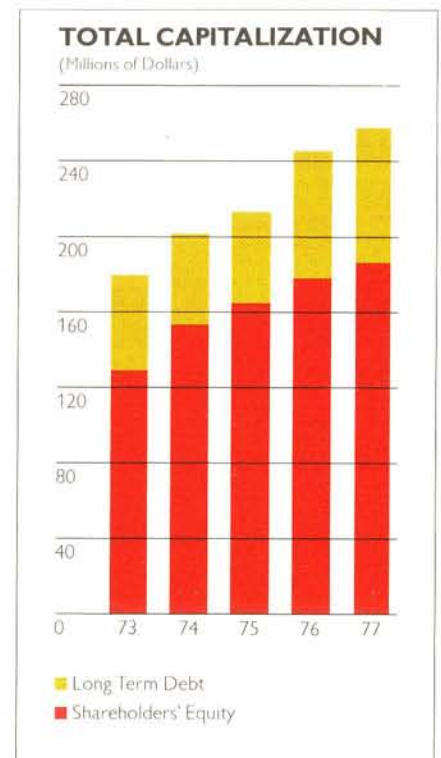
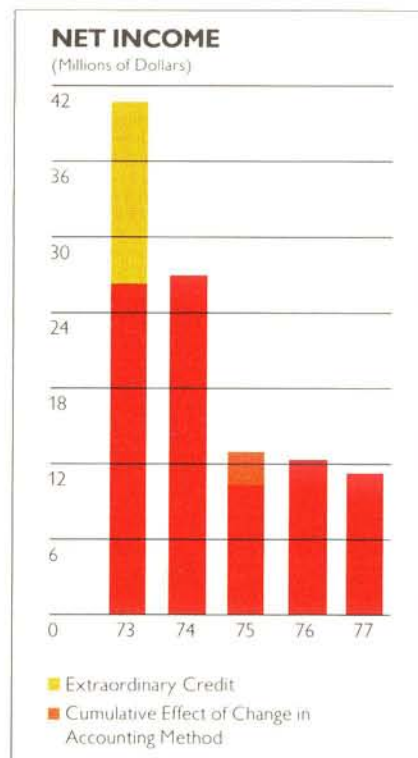
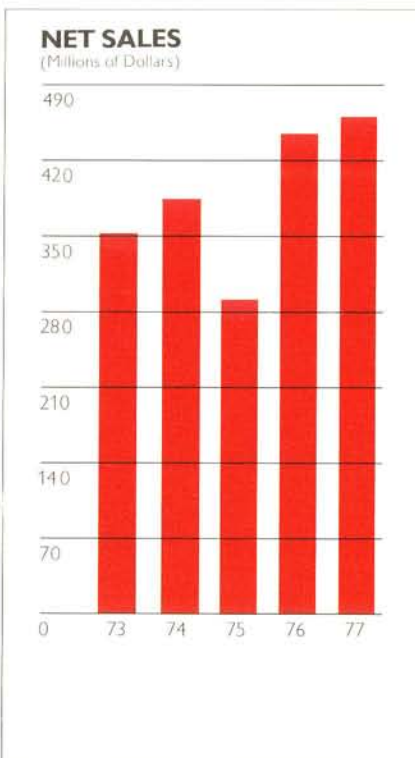
Fairchild's Annual Report on Form 10-K for the year ended January 1, 1978, as filed with the Securities and Exchange Commission, contains additional information about the company and is available to Fairchild shareholders on request, without charge. Please write: Corporate Communications Department, Fairchild Camera and Instrument Corporation, 464 Ellis Street, Mountain View, California 94042.

### ANNUAL MEETING OF SHAREHOLDERS

The Annual Meeting of Shareholders of Fairchild Camera and Instrument Corporation will be held at Rickey's Hyatt House, Palo Alto, California, starting at 10 am on Friday, May 5, 1978.

# FINANCIAL HIGHLIGHTS

	1977	1976	% Change
<i>For the year:</i>			
Net sales	<b>\$460,108,000</b>	\$443,221,000	+ 3.8
Net income	<b>\$ 11,162,000</b>	\$ 12,456,000	-10.4
Average number of common and common equivalent shares outstanding	<b>5,409,116</b>	5,476,865	- 1.2
<i>End of year:</i>			
Working capital	<b>\$121,187,000</b>	\$113,865,000	+ 6.4
Shareholders' equity	<b>\$184,865,000</b>	\$177,609,000	+ 4.1
Number of employees	<b>19,893</b>	21,293	- 6.6
Number of shareholders	<b>11,586</b>	10,429	+11.1
Shares issued	<b>5,371,471</b>	5,359,552	+ .2
<i>Per share statistics:</i>			
Net income	<b>\$ 2.06</b>	\$ 2.27	- 9.3
Shareholders' equity at year end	<b>34.42</b>	33.14	+ 3.9
Cash dividends	<b>.80</b>	.80	-



### **TO OUR SHAREHOLDERS**

Consolidated revenues for Fairchild Camera and Instrument Corporation set a new high in 1977.

Sales reached a record \$460,108,000, compared with \$443,221,000 in the preceding year. Net income amounted to \$11,162,000, or \$2.06 per share, down 10 percent from \$12,456,000, or \$2.27 per share, in 1976.

In the fourth quarter, the company earned \$4,469,000, or 83 cents per share, compared with \$5,158,000, or 94 cents per share, a year earlier. Sales were \$116,191,000, compared with \$118,687,000 in the 1976 period.

### **Operations Review**

The company's most important product lines—semiconductor components and electronic equipment—grew both in

volume and profitability last year. The order input rate for components strengthened in the fourth quarter, and backlog rose to its highest point in 36 months. Equipment order backlog ended the year at a record level.

The only area of decline was in consumer products. The LED (light-emitting diode) watch market shifted early in 1977 from undersupply to massive oversupply, leading to severe price erosion which continued throughout the year.

The resulting reduction in margins, coupled with lowered volume and necessary inventory writedowns, caused the company to sustain a pretax loss of \$24.5 million in consumer products.

Our involvement in the watch marketplace has been sharply scaled back, and focused on the LCD (liquid crystal display) sector. Inventories are now at appropriate levels, and we do not expect this business to have an appreciable negative impact on the corporation in 1978.

The Fairchild programmable video game, based on our F8™ microprocessor, achieved good market acceptance in 1977, its first full sales year.

### **Technical Achievements**

Among our key product introductions was the Fairchild 9440 Microflame™, a complete 16-bit microprocessor capable of executing minicomputer instructions with full minicomputer performance.

Production began on three additional, advanced memory devices—the 4K bipolar static RAM (random-access memory), the 16K N-channel MOS (metal-oxide



semiconductor) RAM, and the 65K CCD (charge-coupled device) memory, the first such product designed for the bulk storage market.

During the year, operations commenced in our new VLSI (very large-scale integration) plant in South San Jose, California, initially to be dedicated to 16K RAMs and 65K CCD memories.

The company also announced the Sentry™ V and Sentry VIII automatic testers, extending our leadership in the fast-growing LSI test systems field. Our government and industrial products divisions introduced a range of new products to their various aerial camera, defense electronics and audiovisual markets.

#### **Asset Management**

Fairchild's management of assets improved considerably

last year. Inventories were reduced by \$18.5 million and accounts receivable by \$9.6 million. In total, the company's positive cash flow exceeded \$16 million for the year.

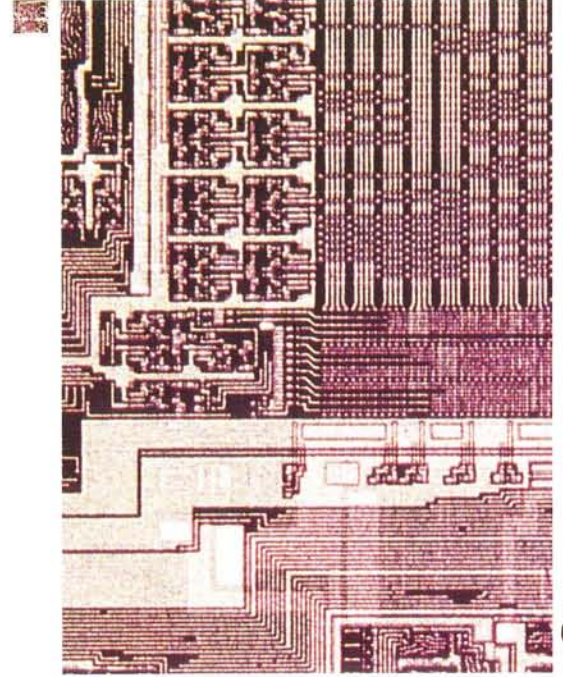
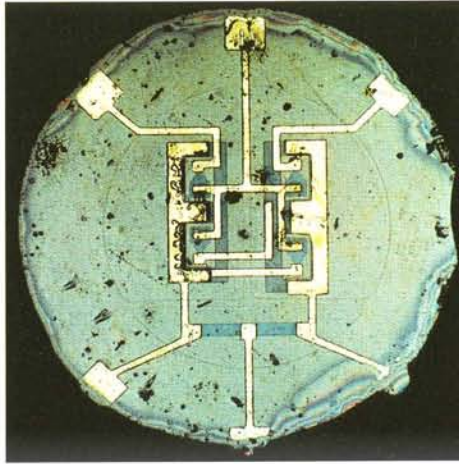
Working capital at the end of 1977 was \$121 million, shareholders' equity \$185 million, and cash and temporary cash investments \$43 million. Capital expenditures approximated \$22 million and spending for research, development and engineering was \$50 million for the year.

#### **Outlook**

Although business uncertainties persist, we expect 1978 to be a good year for Fairchild. We intend to emphasize and increase our participation in the LSI and electronic equipment markets, both in the U.S. and abroad.

Our level of capital expenditures this year will approach \$30 million. These expenditures will be directed toward those high technology areas which we believe will form the basis for increased corporate growth and profitability in the future.

Wilfred J. Corrigan  
Chairman and President  
March 13, 1978



### TECHNOLOGY REVIEW

Nineteen-seventy-seven marked the 20th year of Fairchild's involvement in the semiconductor industry. In retrospect, those two decades constitute an era of technological change almost without parallel.

The company in 1957 provided financing for a new business venture by several West Coast scientists who would subsequently develop a method of mass producing silicon transistors. That became the nucleus of Fairchild's semiconductor operations, today our largest product line.

It was the year that Sputnik launched the world into the space age. Five Fairchild aerial cameras recorded the flight of a Navy jet fighter that set a speed record of 3 hours and 23 minutes from Los Angeles to New York. The pilot was a little-known Marine Corps Major named John Glenn, who later would be the first man to orbit the earth... in a spacecraft equipped with Fairchild's semiconductors.

Over these 20 years, the company has served as a seed-bed for much of today's solid-state electronics industry.

In 1959, Fairchild introduced the Planar\* process, paving the way to the commercial development of the integrated circuit. The first monolithic integrated circuit was introduced by the company in 1961 and spawned a worldwide market for digital electronics that has since grown two thousand-fold.

The integrated circuit of 1961 was a simple switching device called a flip-flop. It contained four transistors and four resistors on a silicon chip just under 2,000 square mils, or a density of 4,000 components per square inch. Today's 16K N-channel RAM contains some 40,000 components on a chip of 35,000 square mils, or a density exceeding a million components per square inch.

The escalation of functions per chip goes on. Last year, Fairchild began manufacturing the complex 65K CCD memory, as well as the 9440 16-bit microprocessor. Based on Isoplanar Integrated Injection

Logic (I<sup>2</sup>L)<sup>TM</sup> the 9440 is the first circuit with the capability of a minicomputer on a single silicon chip.

By 1985, we expect to be producing one-million-bit CCD memories and microprocessors with capacities matching today's large scale computers.

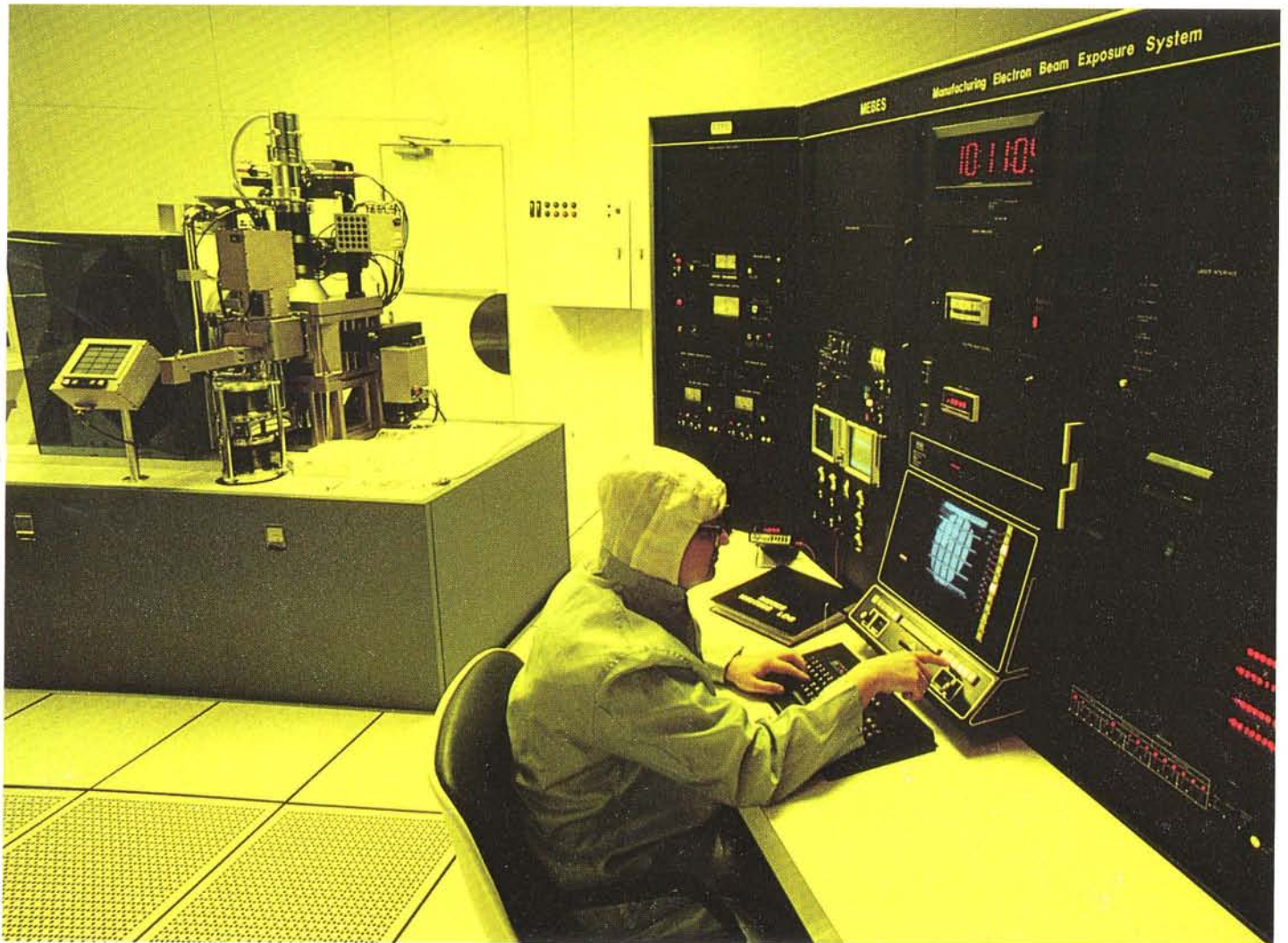
As complexity increases, semiconductor chip size must also grow. Until recently, the limitations of optical mask making restricted the size of chips that could be made at reasonable yields. A new technology called electron beam mask making can now double practical chip size. In mid-1977, Fairchild installed the first production E-beam machine, and is utilizing it for all new LSI circuit designs.

The company broadened its penetration of the microprocessor market last year, supplying the 3870 8-bit microprocessor, the proprietary F8<sup>TM</sup> family, and the 6800 microprocessor. With these products Fairchild is now a major source of microprocessor components for a variety of end markets.

\*Planar is a patented process of Fairchild Camera and Instrument Corporation.

A comparison of the industry's first monolithic integrated circuit, far left, and the 9440 Microflame™ 16-bit microprocessor, dramatically illustrates the increasing complexity of semiconductor technology over the past two decades. Each photograph is magnified 50 times, with only one sixth of the 9440 chip shown. Small squares represent actual chip sizes.

The accuracy of Fairchild's E-beam mask making machine, shown below in filtered light, is an order of magnitude better than previously used optical equipment. The fine-line geometries available with this technology can double present chip size, with the time to make a new photomask set reduced from weeks to days.



# FAIRCHILD



## **SEMICONDUCTOR COMPONENTS**

Semiconductor Components constitute the main business of the company, and last year accounted for approximately 68 percent of total sales. Nine semiconductor divisions are divided into three operating groups all headquartered in Mountain View, California, each of which embraces a variety of products.

## **LSI Products Group**

LSI is the term applied to semiconductor circuits of high complexity and density, ranging up to tens of thousands of components on a single silicon chip. The group consists of the Bipolar LSI Division, and the MOS/CCD Division.

During 1977 the *Bipolar LSI Division* maintained its strong position in the bipolar memory and high-performance ECL

(emitter-coupled logic) markets. The industry's first 4K bipolar static RAMs, introduced late in 1976, gained widespread acceptance during the year and are expected to find growing use in conjunction with high-performance microprocessor systems. These advanced memories utilize the company's Isoplanar technology for enhanced performance and density.





*The Cray I computer, shown here at the National Center for Atmospheric Research in Colorado, is the world's most powerful information processing machine. The CPU (foreground) of each Cray computer contains 250,000 dual subnanosecond ECL gates and 65,000 1K ECL RAMs, all supplied by Fairchild.*



*Ion implantation, above, is a key part of LSI circuit processing in the South San Jose plant. This technique allows extremely precise control of dopant concentrations, particularly in very thin doped layers.*

*Projection masking, right, is the latest technique for exposing wafers to circuit patterns. The glass masks never touch the silicon wafers, thus avoiding degradation of mask quality.*



Fairchild's family of sub-nanosecond ECL logic devices increased its share of the main-frame computer market. A notable user of these high-performance circuits is the Cray I computer, generally recognized as the world's most-powerful data processing system. The division also introduced a subnanosecond ECL programmable logic array during 1977.

The *MOS/CCD Division* found growing demand for Fairchild's F8™ microprocessor components in consumer and industrial end products, ranging from appliance controls and video games to intelligent terminals. The division also shipped quantities of F6800 microprocessor components and 8K EPROMs (erasable programmable read-only memories), as well as the single-chip 3870, a member of the F8 family. The 6800 microprocessor is an established system for data process-

ing applications, while the F8 is designed primarily for control functions. The EPROM is important in the development stages of microprocessor systems.

The company has also made a major commitment to VLSI (very large-scale integration) technology involving devices with a minimum capacity of 25,000 transistors per chip. Production of 16K N-channel RAMs began in the new 265,000-square-foot South San Jose plant, incorporating such advanced process capabilities as automated diffusion, projection printing and ion implantation techniques.

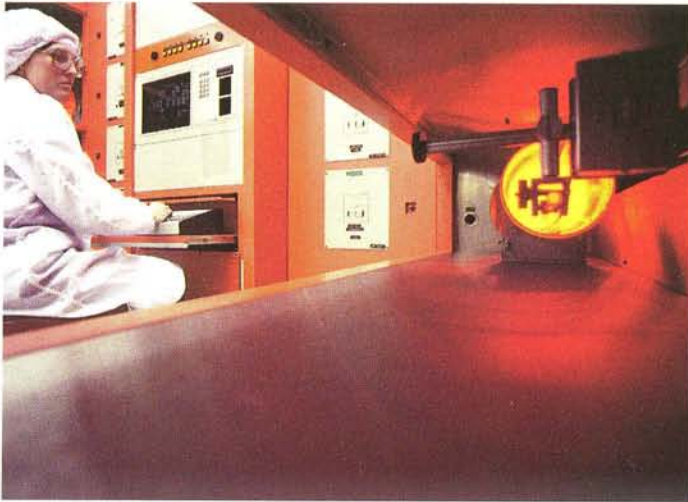
#### **Integrated Circuits Group**

The Integrated Circuits Group includes the Automotive Division, Digital Division, CMOS

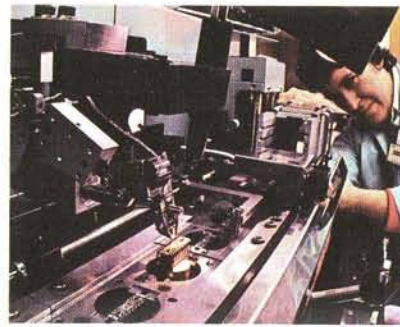
Products Division and Linear Division.

The *Automotive Division* manufactures advanced hybrid subsystems for consumer, industrial and automotive applications. The division supplies high-energy ignition systems in volume for U.S. automobiles, and also has received orders for such systems to be used on European automobiles. Significant sales gains were made in the division's line of high-voltage, high-current voltage regulator modules, used in a wide range of industrial and consumer equipment.

The *Digital Division*, which manufactures one of the broadest lines of standard logic circuits in the industry, improved margin performance despite heavy price competition on these commodity devices. During the year the division further expanded its line of Schottky TTL (transistor-transistor logic) devices, while maintaining volume production of the more mature standard TTL product line. The



Diffusion furnaces, above, in the South San Jose plant are fully automated, with a separate microcomputer for each bank of eight furnaces. Process variables such as time, temperature, dopant concentration and even insertion and withdrawal of wafers are all computer controlled.



Automation is beginning to replace labor-intensive semiconductor operations. The machine, above, in the South Portland plant can be programmed to perform wire-bonding for a variety of circuit designs, tripling the rate of manual bonding.

Digital Division was selected by IBM Corporation to assemble memory modules for IBM computers at Fairchild's South Portland, Maine, facility.

The CMOS Products Division formed in January, 1978, consolidates all of the company's CMOS (complementary MOS) circuit activities within one organization. The move allows the company to capitalize on the division's wafer fabrication facility, which was the first four-inch wafer line in production. The division is developing a number of consumer-oriented circuit designs based on new CMOS devices to be used in conjunction with the F8™ microprocessor, in such areas as digital tuning for TV sets, and systems that display picture-on-picture or words-on-picture for video screens.

The Linear Division saw volume shipments last year of linear components for audio

equipment and for the industrial control and instrumentation markets, where Fairchild supplies both operational amplifiers and fixed or adjustable voltage regulators. Operational amplifiers are the basic building blocks of analog systems, while virtually every piece of industrial electronic equipment uses one or more voltage regulators. Last year the division introduced new products aimed at the digital-to-analog converter marketplace, a growing adjunct of the microprocessor field.

#### Discrete Products Group

The Discrete Products Group includes the Diode Division, Optoelectronics Division and Transistor Division.

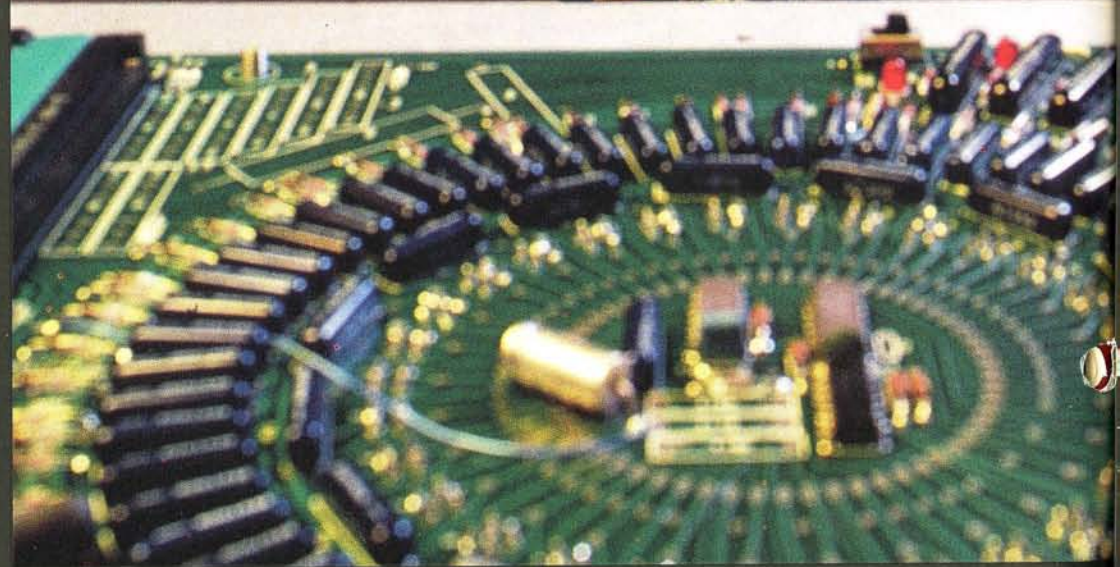
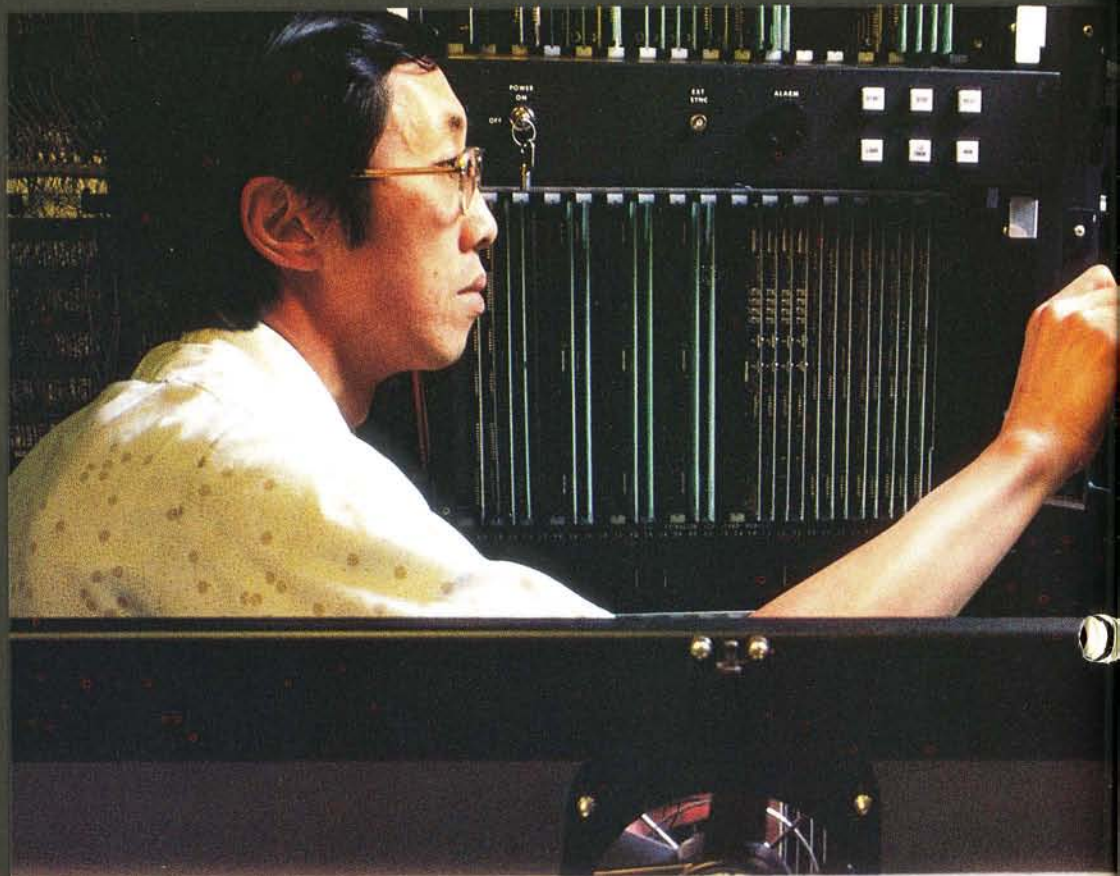
The Diode Division maintained a leading position in the production of silicon diodes, rectifiers, and diode arrays. Substantial gains were made in the area of zener diodes, which are finding new uses in many types of consumer and industrial products as an efficient means of achieving a stable voltage source.

The Optoelectronics Division was affected by adverse condi-

tions in the LED watch industry, with attendant oversupply of components, and has now adjusted to a lower business level. The division continued to serve markets for its line of solid-state lamps, single and multi-digit displays, and optical couplers, as well as its series of Technology Kits for the home hobbyist.

The Transistor Division produces a broad array of small-signal and power transistors, including specially developed power Darlington transistors that are used in the company's hybrid automotive ignition modules. Late in the year the division introduced a line of VMOS (vertical MOS) power transistors that combine high power handling capability with the signal handling characteristics of field effect transistors. These devices will be useful in applications ranging from microprocessor interface systems to audio and TV amplifiers, as well as a variety of industrial uses.

# FAIRCHILD



## COMMERCIAL AND INDUSTRIAL EQUIPMENT

Fairchild's Commercial and Industrial Equipment business consists of the Instrumentation and Systems Group, with headquarters in San Jose, California, and the Government and Industrial Products Group, based in Syosset, New York.

The Instrumentation and Systems Group is responsible for the manufacturing and

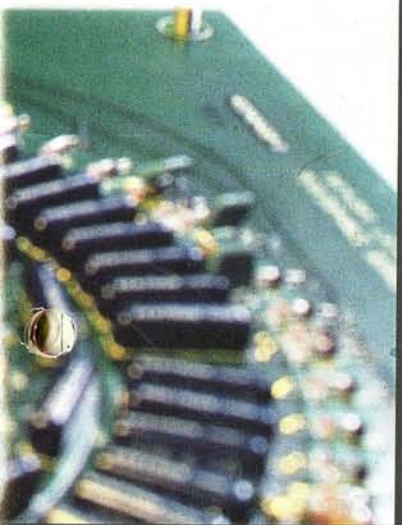
marketing of semiconductor test systems and memory systems.

The Government and Industrial Products Group encompasses aerial cameras, analog-to-digital converters, aircraft weight and balance systems, and flight data recorders; electronic countermeasures equipment; solid-state television cameras and imaging systems; and audio-visual equipment.

## Instrumentation and Systems Group

Sales for this group reached record levels in 1977, primarily due to the continued strong demand for LSI test systems. Foreign sales rose, particularly in Europe and Japan, to represent 21 percent of the group's total.

Fairchild is the industry leader in sales of LSI test systems, including microprocessor



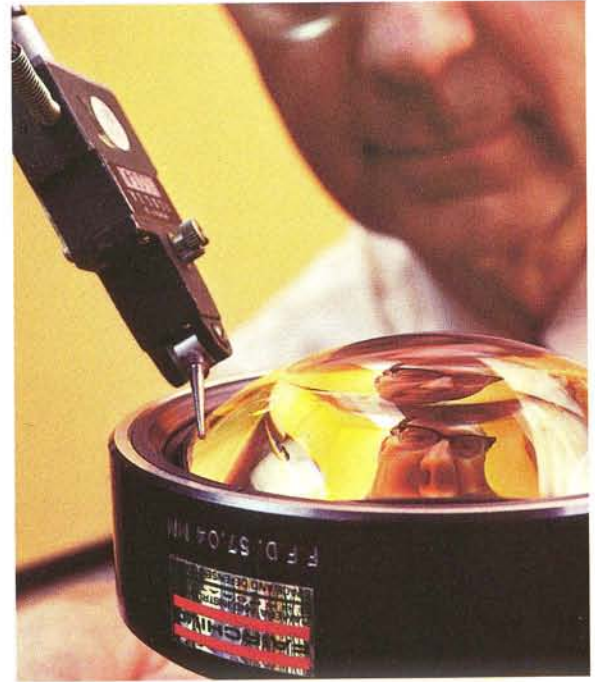
Above left, the Sentry™ VIII semiconductor test system, manufactured by the Systems Technology Division, is shown in final assembly. The system is designed to solve the VLSI (very large-scale integration) test problems of both manufacturers and volume users of solid-state components.

The Fairchild AN/GLQ 3-A special purpose countermeasures set, above, was designed and manufactured by the Space and Defense Systems Division for the United States Army. The self-contained system is used against ground and airborne communications equipment, radar and navigational aids, and is housed in a 5 x 6-foot shelter that is transportable by land or air.



The Fairchild Synchro-Slide 35™, above, a new 35mm slide/sound projector with both front and rear projection capabilities, is put through its final checkout at the Industrial Products Division.

Right, the lens element for an aerial camera, produced by the Imaging Systems Division, is being centered using an electronic indicator.



and complex memory testers. Production of the Sentry™ VIII, designed for testing of VLSI circuits, began during the year. The Sentry VIII incorporates a memory capability that improves testing efficiency by as much as 200 percent over comparable systems.

Another new system introduced in 1977, the Sentry V, offers economical testing to manufacturers and high-volume users of microprocessors and other high-density semiconductor components. The low-cost system reduces per-device test cost by substantially increasing throughput.

The growing demand for high-speed, low-cost systems was recognized with an addition to Fairchild's Xincom dedicated testers—the Quad system. This automatic semiconductor

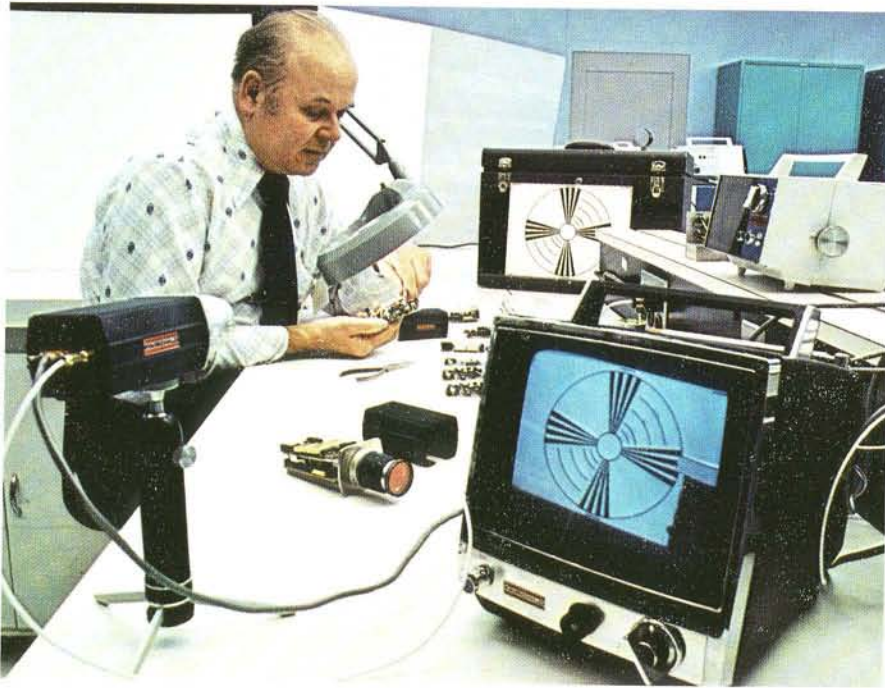
test system can perform a wide range of tests simultaneously on four 16K RAMs at high throughput rates. Despite the increase in performance, there is no degradation of test quality.

Late in the year, Fairchild announced a floppy disc system for its Formulator™ microprocessor design aid. The new option reduces the time required to write, edit, assemble, execute and debug F8™ or F3870 microprocessors systems. The OCM-1, a new microprocessor board for use with F8 systems, can be used in a variety of applications, including low-volume pro-

duction, field testing and systems development.

Fairchild also introduced a flat-pack 3½-digit bipolar digital panel meter. It is the first true alternative to the analog meter and its development represents achievement of a goal set two years ago when the company entered the field.

The year 1977 marked the fifth anniversary of the Instrumentation and Systems Group's training center in San Jose, California. In its five years of operation, some 5,000 management, engineering and service personnel from customer companies and from Fairchild have completed test systems courses. A satellite training center to serve Europe will open in Munich, West Germany, in the first half of the year, with a third planned for Japan later in 1978.



The Fairchild CCD television camera, originally developed for the government, is expected to be used in a variety of commercial and industrial applications. The engineer is testing the complex circuitry prior to assembly.

### Government and Industrial Products Group

Sales of this group increased significantly over 1976 with new military contracts obtained for delivery this year and beyond.

The *Space and Defense Systems Division* shipped the first airborne analog-to-digital/digital-to-analog converter synchronizer unit to the United States Air Force for use in EF-111 aircraft. It provides multiplexing and communications between the crew and various electronics systems.

CCD systems represent a key product area for the *Imaging Systems Division* and, during 1977, Fairchild was awarded significant contracts in this area. Five military oriented projects involve CCD imaging sensor applications ranging from aircraft cockpit television

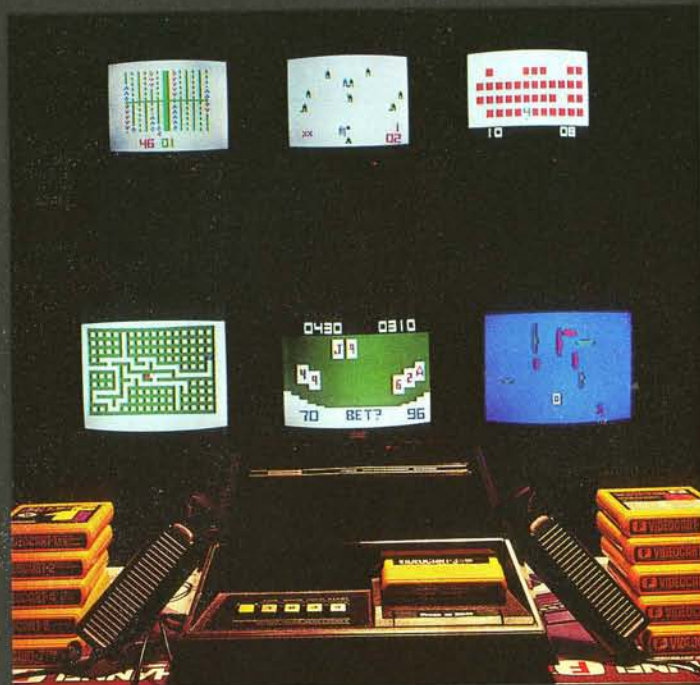
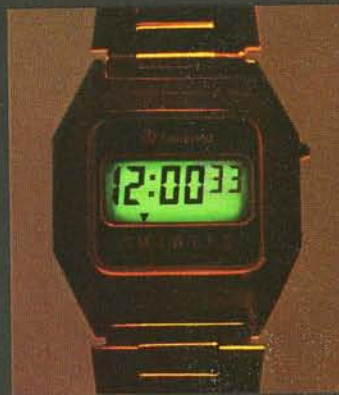
cameras to a low-level obstacle warning system for helicopter pilots.

The division is also working with the U.S. Postal Service to develop a CCD scanner system that will demonstrate the feasibility of a high-speed mail transmission system.

The *RF Systems Unit* manufactures electronics countermeasures equipment used by the military against ground and airborne communications systems. Among its current contracts is a program with the U.S. Army Electronics Command to upgrade existing equipment to all solid-state operation.

In the *Industrial Products Division*, customer acceptance for audio visual products was strong, particularly for the new Synchro-Slide™ Series 35mm projectors. The Galaxy™ Series of 8mm sound rear-screen projectors was introduced to the European marketplace in 1977.

The company is a major supplier of voice and flight data recorders for the aircraft industry. Fairchild's cockpit voice recorder was selected for the Grumman G-II aircraft and for Canadair's Challenger in 1977. The STAN™ integral weight and balance system was approved and installed in Fokker F-28 aircraft.



### CONSUMER PRODUCTS

The Consumer Products portion of Fairchild's business includes the Time Products Division, headquartered in Palo Alto, California, and the Video Products Division, located in Santa Clara, California.

These divisions, respectively, manufacture and market electronic digital watches and clocks, and video entertainment systems for the home.

#### Time Products Division

During 1977, due to adverse market conditions, this division was significantly reduced in size and scope. The division shifted its emphasis from the LED type of digital watch to the continuous readout LCD, reflecting changing customer preference.

Fairchild's 1978 Timeband® line is focused in the \$25 to

\$50 retail price range, and offers a mix of LCD and LED watches for both men and ladies.

Certain LCD models utilize Tritium backlighting, which eliminates the need for button-pushing to illuminate the display. The Time Products Division also produces a full line of LED digital clocks.

#### Video Products Division

The Fairchild Channel F™ system is the first of a new generation of programmable television games. This video entertainment system, utilizing the F8™ microprocessor and associated memory, offers a wide range of programming and play modes to the consumer.

Seventeen program cartridges, representing some 30 games with more than 500 variations, were added to Fairchild's Videocart™ library in 1977, giving the company the broadest array of software available for home TV games. New cartridges include educational, computer interactive and board game formats.

*Left above, six-digit LCD watch features Tritium backlighting.*

*Right, Fairchild video entertainment system is shown with various game formats on TV screens.*

FAIRCHILD



**FIVE-YEAR SUMMARY OF OPERATIONS AND FINANCIAL REVIEW**

	1977	1976	1975	1974	1973
<i>Progress in Operations</i>					
		(In thousands, except share data)			
Net sales	<b>\$460,108</b>	\$443,221	\$291,542	\$384,933	\$351,171
Royalties and other income	<b>10,340</b>	7,157	8,188	10,619	10,397
	<b>470,448</b>	450,378	299,730	395,552	361,568
Cost of sales	<b>342,576</b>	327,381	208,712	264,194	245,450
Administrative and selling expenses	<b>102,392</b>	94,427	69,732	75,882	61,975
Interest expense	<b>7,182</b>	5,504	4,154	3,868	4,176
	<b>452,150</b>	427,312	282,598	343,944	311,601
Income before income taxes, extraordinary credit and cumulative effect of change in accounting method	<b>18,298</b>	23,066	17,132	51,608	49,967
Provision for income taxes	<b>7,136</b>	10,610	6,708	24,576	23,649
Income before extraordinary credit and cumulative effect of change in accounting method	<b>11,162</b>	12,456	10,424	27,032	26,318
Extraordinary credit <sup>(1)</sup>	—	—	—	—	14,506
Cumulative effect on prior years (to December 29, 1974) of change in accounting method <sup>(2)</sup>	—	—	2,649	—	—
Net income	<b>\$ 11,162</b>	\$ 12,456	\$ 13,073	\$ 27,032	\$ 40,824
Per share of common stock:					
Income before extraordinary credit and change in accounting method	<b>\$2.06</b>	\$2.27	\$1.94	\$5.17	\$5.04
Extraordinary credit <sup>(1)</sup>	—	—	—	—	2.77
Cumulative effect of change in accounting method <sup>(2)</sup>	—	—	.51	—	—
Net income	<b>\$2.06</b>	\$2.27	\$2.45	\$5.17	\$7.81
Per share of common stock assuming full dilution:					
Income before extraordinary credit and change in accounting method	<b>\$2.01</b>	\$2.27	\$1.94	\$5.00	\$4.86
Extraordinary credit <sup>(1)</sup>	—	—	—	—	2.59
Cumulative effect of change in accounting method <sup>(2)</sup>	—	—	.47	—	—
Net income	<b>\$2.01</b>	\$2.27	\$2.41	\$5.00	\$7.45
Shares of common stock used to compute primary net income per share	<b>5,409,116</b>	5,476,865	5,372,901	5,228,523	5,224,826
Cash dividends per share	<b>\$ .80</b>	\$ .80	\$ .80	\$ .75	\$ .30

(1) Represents income tax reduction resulting from carryforward of prior years' operating losses.

(2) In 1974 and 1975, the Company adopted improvements in its inventory costing method. The effect of these changes in inventory costing was not material to income before extraordinary credit and cumulative effect of accounting change for any period presented.

NOTE—See "Management's Discussion and Analysis of the Summary of Operations" on pages 18 to 19.

**FIVE-YEAR SUMMARY OF OPERATIONS AND FINANCIAL REVIEW** (Continued)

	1977	1976	1975	1974	1973
<i>Selected Operating Data</i> (In thousands)					
Net sales by line of business:					
Electronic components and systems	(1)	\$400,765	\$256,378	\$344,790	\$301,091
Other products—principally government	(1)	42,456	35,164	40,143	50,080
Income before income taxes, extraordinary credit and change in accounting method by lines of business:					
Electronic components and systems	(1)	17,306	13,041	46,909	45,406
Other products—principally government	(1)	5,760	4,091	4,699	4,561
Net sales of solid state devices	(1)	298,187	226,036	321,548	281,370
Foreign sales	<b>\$141,814</b>	138,466	82,732	113,574	87,730
Royalty income	<b>7,506</b>	6,373	4,766	7,312	7,467
Research, development and engineering <sup>(2)</sup>	<b>49,695</b>	46,939	37,550	40,288	38,251
Depreciation and amortization	<b>18,227</b>	16,663	15,890	14,092	12,039
Capital expenditures	<b>22,047</b>	36,076	20,693	41,342	34,558
<i>Financial Position at Year End</i> (In thousands)					
Cash and temporary cash investments	<b>\$ 43,041</b>	\$ 26,898	\$ 25,194	\$ 33,392	\$ 34,272
Short-term borrowings	<b>8,812</b>	13,618	9,455	6,819	7,265
Working capital	<b>121,187</b>	113,865	100,506	93,892	90,809
Property, plant and equipment, net	<b>132,251</b>	130,404	112,256	108,847	88,040
Long-term debt, including current portion	<b>72,358</b>	68,088	46,825	49,592	51,674
Shareholders' equity	<b>184,865</b>	177,609	166,329	153,875	128,692
<i>Statistics and Key Ratios</i>					
Shares outstanding at year end	<b>5,371,471</b>	5,359,552	5,278,563	5,161,592	5,106,187
Number of shareholders at year end	<b>11,586</b>	10,429	11,179	12,325	10,464
Shareholders' equity per common share at year end	<b>\$ 34.42</b>	\$ 33.14	\$ 31.51	\$ 29.81	\$ 25.20
Employees at year end	<b>19,893</b>	21,293	17,405	18,092	25,525
Net sales per employee (based on average number of employees)	<b>\$ 22,710</b>	\$ 22,100	\$ 17,660	\$ 17,650	\$ 15,800
Backlog of orders at year end (000's)	<b>\$189,000</b>	\$147,000	\$128,000	\$161,000	\$265,000
Income before extraordinary credit and change in accounting method as a percent of:					
Net sales	<b>2.4%</b>	2.8%	3.6%	7.0%	7.5%
Shareholders' equity at year end	<b>6.0%</b>	7.0%	6.3%	17.6%	20.5%
Current ratio at year end	<b>2.4</b>	2.1	2.2	2.0	2.1
Long-term debt to total capitalization at year end <sup>(3)</sup>	<b>28%</b>	28%	22%	24%	29%

(1) The "Electronic Components and Systems" and "Other Products—principally Government" lines of business have been reclassified into three major product groupings: Semiconductor Components, Commercial and Industrial Equipment, and Consumer Products. The product groupings are discussed in detail in Note 6 of the notes to consolidated financial statements on page 26. The "Electronic Components and Systems" line of business for 1976 would have been reclassified as follows: Approximately 20% of net sales and 10% of income before income taxes into the Consumer Products group with the remainder, except for immaterial amounts, included in the Semiconductor Components product group. "Other Products—principally Government" would be included in the Commercial and Industrial Equipment product group. "Solid state devices" would be included in the Semiconductor Components product group. The 1977 revenues other than intergroup sales and general corporate revenues for Semiconductor Components, Commercial and Industrial Equipment, and Consumer Products were \$321,404,000, \$87,536,000 and \$59,068,000, respectively; operating profits (loss) for 1977 were \$45,079,000, \$12,779,000 and \$(24,548,000), respectively.

(2) Stated in accordance with the definition expressed in Note 1 of the notes to consolidated financial statements. Amounts expressed include customer reimbursements.

(3) Total capitalization defined as the sum of long-term debt (including current portion) and shareholders' equity.

**FIVE-YEAR SUMMARY OF OPERATIONS AND FINANCIAL REVIEW** (Continued)

	1977	1976	1975	1974	1973
<i>Selected Operating Data</i> (In thousands)					
Net sales by line of business:					
Electronic components and systems	(1)	\$400,765	\$256,378	\$344,790	\$301,091
Other products—principally government	(1)	42,456	35,164	40,143	50,080
Income before income taxes, extraordinary credit and change in accounting method by lines of business:					
Electronic components and systems	(1)	17,306	13,041	46,909	45,406
Other products—principally government	(1)	5,760	4,091	4,699	4,561
Net sales of solid state devices	(1)	298,187	226,036	321,548	281,370
Foreign sales	<b>\$141,814</b>	138,466	82,732	113,574	87,730
Royalty income	<b>7,506</b>	6,373	4,766	7,312	7,467
Research, development and engineering <sup>(2)</sup>	<b>49,695</b>	46,939	37,550	40,288	38,251
Depreciation and amortization	<b>18,227</b>	16,663	15,890	14,092	12,039
Capital expenditures	<b>22,047</b>	36,076	20,693	41,342	34,558
<i>Financial Position at Year End</i> (In thousands)					
Cash and temporary cash investments	<b>\$ 43,041</b>	\$ 26,898	\$ 25,194	\$ 33,392	\$ 34,272
Short-term borrowings	<b>8,812</b>	13,618	9,455	6,819	7,265
Working capital	<b>121,187</b>	113,865	100,506	93,892	90,809
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<i>Statistics and Key Ratios</i>					
Shares outstanding at year end	<b>5,371,471</b>	5,359,552	5,278,563	5,161,592	5,106,187
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Backlog of orders at year end (000's)	<b>\$189,000</b>	\$147,000	\$128,000	\$161,000	\$265,000
Income before extraordinary credit and change in accounting method as a percent of:					
Net sales	<b>2.4%</b>	2.8%	3.6%	7.0%	7.5%
Shareholders' equity at year end	<b>6.0%</b>	7.0%	6.3%	17.6%	20.5%
Current ratio at year end	<b>2.4</b>	2.1	2.2	2.0	2.1
Long-term debt to total capitalization at year end <sup>(3)</sup>	<b>28%</b>	28%	22%	24%	29%

(1) The "Electronic Components and Systems" and "Other Products—principally Government" lines of business have been reclassified into three major product groupings: Semiconductor Components, Commercial and Industrial Equipment, and Consumer Products. The product groupings are discussed in detail in Note 6 of the notes to consolidated financial statements on page 26. The "Electronic Components and Systems" line of business for 1976 would have been reclassified as follows: Approximately 20% of net sales and 10% of income before income taxes into the Consumer Products group with the remainder, except for immaterial amounts, included in the Semiconductor Components product group. "Other Products—principally Government" would be included in the Commercial and Industrial Equipment product group. "Solid state devices" would be included in the Semiconductor Components product group. The 1977 revenues other than intergroup sales and general corporate revenues for Semiconductor Components, Commercial and Industrial Equipment, and Consumer Products were \$321,404,000, \$87,536,000 and \$59,068,000, respectively; operating profits (loss) for 1977 were \$45,079,000, \$12,779,000 and \$(24,548,000), respectively.

(2) Stated in accordance with the definition expressed in Note 1 of the notes to consolidated financial statements. Amounts expressed include customer reimbursements.

(3) Total capitalization defined as the sum of long-term debt (including current portion) and shareholders' equity.

## DIRECTORS

Wilfred J. Corrigan  
*Chairman of the Board of the Corporation, President and Chief Executive Officer*

C. Lester Hogan  
*Vice Chairman of the Board of the Corporation*

Albert Bowers  
*President, Syntex Corporation; Vice Chairman of the Board, Syntex Corporation (pharmaceuticals and chemicals)*

Walter Burke  
*President, Director and Member of Sherman Fairchild Foundation, Inc.*

Walter J. P. Curley  
*Private Investor and Private Venture Capital Operations*

William C. Franklin  
*Consultant*

Roswell L. Gilpatric  
*Counsel, law firm of Cravath, Swaine & Moore*

Lt. General James B. Lampert  
*(U.S. Army -Retired) Vice President, Massachusetts Institute of Technology*

Louis F. Polk, Jr.  
*Chairman, President and Chief Executive Officer, Leisure Dynamics, Inc. (hobby and game products)*

William A. Stenson  
*Director, Santa Fe National Bank*

## OFFICERS

Wilfred J. Corrigan  
*Chairman of the Board of the Corporation, President and Chief Executive Officer*

### Corporate Staff

Warren J. Bowles  
*Vice President—Industrial Relations*

A. J. Hazle  
*Vice President—Finance*

Frederick M. Hoar  
*Vice President—Corporate Communications*

Thomas A. Longo  
*Vice President—Chief Technical Officer*

Nelson Stone  
*Vice President—General Counsel and Secretary*

James A. Unruh  
*Vice President—Treasury and Corporate Planning*

Ronald J. Alessio  
*Treasurer*

### Operations

Thomas A. Sherby  
*Senior Vice President—Systems and Equipment*

George D. Wells  
*Senior Vice President—Semiconductor Products*

James D. Bowen  
*Vice President and General Manager—Instrumentation and Systems Group*

John A. Duffy, Jr.  
*Vice President—Worldwide Semiconductor Marketing*

Raymond G. Hennessey  
*Vice President—Business Development, Industrial Products Division*

David J. Marriott  
*Vice President and General Manager—LSI Products Group*

Louis H. Pighi  
*Vice President and General Manager—Government and Industrial Products Group*

Gregorio Reyes  
*Vice President and General Manager—Video Products Division*

Richard Franklin  
*Assistant Secretary*

James J. Heffernan  
*Assistant Controller*

Thomas A. Howard  
*Assistant Controller*

G. F. Taylor  
*Assistant Controller*

Stanley Winston  
*Assistant Secretary (attesting)*

### Independent Accountants

Price Waterhouse & Co.

### Transfer Agent

The Bank of New York

### Registrar

Citibank, N.A.

**FAIRCHILD**

**FAIRCHILD**

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Mountain View, California 94042

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