

S C H L U M B E R G E R

1980 ANNUAL REPORT



Schlumberger Limited

IN BRIEF	1980	1979	1978
<i>REVENUE</i>	\$5,137,115,000	\$3,641,438,000	\$2,683,942,000
<i>NET INCOME</i>	\$ 994,347,000	\$ 658,396,000	\$ 501,973,000
<i>NET INCOME PER SHARE</i>	\$5.21	\$3.45	\$2.63
<i>DIVIDENDS DECLARED PER SHARE</i>	\$0.94	\$0.73	\$0.56

To The Shareholders

The first year of the eighties has been a good year, for the Company as a whole and for each of its units.

Net income for the year was \$994 million and \$320 million for the fourth quarter. For the purposes of comparison, these figures are distorted by two items unrelated to the operations: the profit on the sale of Rowan shares and the loss on foreign exchange.

Approximately 5 million shares of the Rowan company were sold in November 1980, with an after-tax profit of almost \$70 million (36 cents per share). Excluding this nonrecurring gain, net income for the year was \$925 million, up 40% from the previous year; net income for the fourth quarter was \$250 million, up 28% from the fourth quarter last year.

The loss on foreign exchange was \$19 million for the full year, and \$10 million for the fourth quarter, mainly due to the appreciation of the dollar vis-a-vis most European currencies. In 1979, exchange losses were, respectively, \$5 and \$4 million for the full year and the last quarter. Unlike the gain on Rowan shares, foreign exchange losses or gains are recurrent. The world does not seem to be heading towards a period of currency stabilization. Currency fluctuations are becoming more extreme and more brutal.

Revenue for the year was \$5.14 billion, up 41% from the previous year. The increase is somewhat misleading, as in 1979 Fairchild revenue was consolidated only as of July 1, the date of acquisition. Excluding Fairchild in both years, revenue increased 33% in 1980. Revenue for the last quarter of 1980 was \$1.46 billion, an increase of 33% over the same quarter of the previous year. Excluding revenue from the sale of Rowan shares, revenue for the quarter increased 24%.

In response to the continued demand for our services and products, and

to prepare our future, we added more to our resources in 1980 than in any previous year.

- **FIXED ASSETS.** Additions to fixed assets were \$748 million in 1980, an increase of 49%. They are budgeted to reach \$1.1 billion in 1981.
- **RESEARCH & ENGINEERING.** R & E expenses increased 43% to \$188 million.
- **MANPOWER.** Almost 2,000 graduate engineers from 70 countries joined Schlumberger in the oilfields, the laboratories and the manufacturing plants. The increasing size and complexity of our Company has caused us to redouble our efforts to improve internal communications and our understanding of the needs and aspirations of our personnel. From January 1, 1980 to March 1, 1981, options to purchase over one million Schlumberger shares were granted to over 900 key people.

All major units of Schlumberger had a good year. Yet, the oilfield services companies had the most spectacular growth as the worldwide surge for more exploration and production of hydrocarbons went unabated.

WIRELINER SERVICES

Wireline services revenue, our traditional logging business, increased 41% worldwide.

In North America, higher crude oil and natural gas prices, hopes that oil prices and even gas prices would be fully decontrolled with the new Administration, have pushed forward drilling activity. By the end of the year, rig count in the U.S. was 3,300, 31% higher than a year before. In Canada, the rate of increase in our activity slowed

somewhat in the fourth quarter due to unfavorable federal legislation before parliament.

Growth of wireline services in the Eastern Hemisphere and South America was slightly higher than in North America. Increased activity was everywhere, offshore and on land. It was particularly noticeable offshore Mexico; in the Middle East, where operations in Saudi Arabia and the Gulf States more than offset the reduced activity in Iraq due to the war with Iran; in the Far East where widespread exploration offshore resumed. Wireline operations started on land in the People's Republic of China at mid-year; they have grown steadily and are now being extended to offshore.

Customers continue to demand the logging services performed by the CSUs, the newest computerized logging unit. During the year, 260 new CSU units were put in service in the field.

DRILLING & PRODUCTION SERVICES

Combined revenue of these units grew 33% in 1980. Forex Neptune, Flopetrol and Dowell Schlumberger (50% owned) had a strong performance.

All offshore drilling rigs of Forex Neptune were active throughout the year. On land, six heavy rigs drilling in Iraq ceased operations temporarily last September. Two jack-up offshore rigs and one self-erecting workover tender were commissioned during the year. Five jack-ups are under construction. They are contracted for by customers for periods of two to four years. We sold the bulk of our equity in the Rowan drilling company because we did not think that it was either possible or desirable to acquire control of the company.

The Measurement While Drilling (MWD) operations run by The Analysts

have been introduced commercially in the Gulf of Mexico and in the North Sea. It is a slow and prudent start.

MEASUREMENT & CONTROL

In Europe, revenue of these units increased 19%. After-tax profits were above 6% of sales, and return on investment was better than 18%. These are the best results recorded in the last ten years; a creditable achievement at a time when the U.K. is facing a severe depression and the European economies are sluggish with capital investments and housing starts at low levels. The best performance was in the product lines related to nuclear energy, electricity management, automatic test equipment, data acquisition and recording. A major effort is underway to introduce solid-state and digital technologies into the mature products of electricity management. The first prototypes of a solid-state residential watt-hour meter are being tested. Three new plants are in the process of being built and will be completed in 1981: one in Lyon, France for nuclear valves, another in Campinas, Brazil for electricity management, and the last one in Dordrecht, Netherlands for gas and water meters.

In North America, Sangamo Weston revenue increased only 9%. The decline of housing starts hurt the sale of residential electricity meters while stiff competition lowered their price. Public utilities have been hesitant to adopt load-management techniques as the growth of demand for electricity is slowing down. Some specialty products, such as modems sold by Rixon, imaging and communications systems sold by Fairchild-Weston Systems to the military, have met with great success.

FAIRCHILD

As was expected, Fairchild took a

somewhat bumpy course during the year.

The Test Systems division lost some of its key people late in 1979. Management of this division was reorganized. Orders for the large test systems were slow for the first half of the year but improved during the second half; orders for the less expensive subassembly and component testers were strong throughout the year.

Semiconductor sales were very strong until the fourth quarter. The order rate started to slow down in the summer. During the last quarter, the typical downturn of this cyclical industry moved in. Cancellation of orders was accompanied for a number of products by sharp price cuts, particularly in the MOS product line. Fourth quarter profits were lower. Although the year recorded strong gains in sales and profits, at year's end the backlog is lower and the outlook for the immediate future is uncertain.

Ups and downs, shortages followed by overcapacity, price cuts and stiff competition is nothing new in this industry. It is built in. Boom periods often tend to hide many shortcomings, to cover many short cuts. Periods of recession can bring long term benefits; the only question is what one does with it.

MDSI

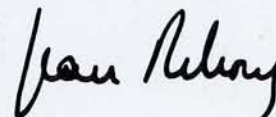
In January 1981, the last step leading to the acquisition by Schlumberger of Manufacturing Data Systems Inc. (MDSI) was completed. This is the entry into the fast growing market of Computer Aided Manufacturing. MDSI has built a very special position, both market wise and in software capability with the large number of numerically controlled machine tool users. This is the beginning of a fascinating new adventure.

These are the basic facts and figures of 1980. The first indications of 1981 confirm the trends of last year.

- Oilfield Services continue strong.
- Order situation at Measurement & Control-Europe is surprisingly good. However, the impact of the hectic currency fluctuations is unpredictable.
- Outlook at Measurement & Control-North America (Sangamo Weston) is still weak, but not getting any worse.
- At Fairchild, the order position is deteriorating. This is the time to stick to our guns, to maintain the Research & Engineering programs, to improve the manufacturing productivity.

Schlumberger is getting bigger and has plenty of opportunities to grow further. The management has to be strengthened. On February 19, 1981, the Board of Directors elected Michel Vaillaud Executive Vice President-Operations, in charge of Oilfield Services and confirmed Roland Génin as Executive Vice President-Operations, in charge of Measurement, Control & Components. Bernard Alpaerts was appointed as Head of Measurement & Control-Europe, replacing Michel Vaillaud.

February 26, 1981



Jean Riboud
Chairman and President



BUSINESS REVIEW

Fairchild's 1980 revenue increased 21% from that of the preceding year. Orders declined 8% and order backlog fell about 9%.

Although the overall business picture was relatively good for Fairchild in 1980, demand slowed in the second half of the year. This trend has continued into early 1981 and the year will be difficult.

Funding for total research and development rose by 59% in 1980, while that for research alone doubled. Capital spending was approximately \$95 million, or 31% ahead of the full year 1979 level. New facilities were added to the Linear division, and construction was completed on a semiconductor assembly plant in the Philippines. A second building for the Test Systems group in San Jose, California was put in operation early 1981.

■ Semiconductor revenue, which accounted for 80% of total 1980 sales, increased 24%. The year started strong with bookings exceeding billings in the first half; however, orders slowed in the second half. By year end, prices of many products were falling and order backlog dropped 12%.

Revenue of the LSI Products group was 34% ahead. Both prices and orders for MOS circuits dropped throughout the second half of the year and into 1981. Bipolar and digital products performed well for most of the year, but the market softened for some products at year end. Prices and demand for microprocessors remained stable for much of the year. The redesigned 16K MOS memory went into production near year end and yields improved steadily. Design of the 64K dynamic RAM has been completed and it is scheduled for sampling with key customers early in 1981. The new 9445 16-bit bipolar microprocessor will go into production during the first half of 1981.

Revenue of the Analog and Components group was up 11% over 1979 as demand remained strong until the third quarter. Fairchild made its first move into fiber optics when the Optoelectronics division shipped its first product of this type to a customer for evaluation. Also, first shipments of large-area liquid crystal displays were started in 1980.

■ Test Systems revenue rose 24% in 1980; year-end backlog was about even with the 1979 level. The effects of the recession were felt early in the year as sales of large, general-purpose LSI test systems declined but then improved during the second half. Demand for subassembly and component test systems remained strong throughout 1980, but orders slowed early in 1981 as a result of the semiconductor business downturn. Sales of memory test systems and printed-circuit board testers were up 75%.

Early in 1981, Great Western Silicon Corporation was sold to General Electric Co. for \$7.7 million. Great Western was 55% owned by Applied Materials, Inc. and 45% by Fairchild.

Late in 1980, Fairchild became aware that certain tests required on some types of military-grade semiconductors had not been fully performed. The company voluntarily notified the U.S. Government, and users of these products, and took immediate corrective actions. No quality problems concerning these products have been reported to Fairchild. The U.S. Government has not completed its consideration of the matter. However, it has audited and recertified facilities producing some of the involved products, while audit and recertification of other facilities are expected to take place in the near future.

Direct step-on wafer processing of bipolar circuits at the South San Jose plant of Fairchild.

ELECTRON BEAM MASK MAKING

In a significant upgrading of integrated circuit design and manufacturing capability, Fairchild installed a second generation electron beam mask making machine in 1980. The new \$2 million machine, the most advanced of its kind, will allow Fairchild designers to double the density of circuits put on a silicon chip as com-

a simple switching device that had a density of about 4,000 components per square inch. Today's 64K random access memory has a density exceeding 2.7 million components per square inch.

Microcircuits are built up in layers on the silicon wafer by a series—as many as 10 or 12—of photographic exposures followed by chemical processing. A key to chip size is the precision of the circuit patterns on the glass photographic plate (mask) that are

New electron-beam mask making machine installed at Mountain View, California.

Fairchild Series 80 System is designed for testing linear integrated circuits.



pared to previous electron-beam machines.

A key to efficient microelectronic circuit manufacturing is the ability to print simultaneously hundreds of circuits, each could be a complete computer memory, side by side on a pure silicon wafer. Manufacturers continually try to reduce circuit dimensions and thus chip size, since the more chips that can be packed on a wafer the better the production yield and the lower the costs.

The first monolithic integrated circuit, made by Fairchild in 1961, was

subsequently transferred to the silicon wafer.

Until the late 1970s masks were made optically using complex digitizing and pattern generating techniques. However, it became apparent that the wavelength of light would soon limit the fineness of detail that could be achieved and electron-beam mask making machines were designed. The circuit design is digitized and recorded on magnetic tape which drives a beam of electrons to create the desired pattern on special electron-sensitive material on the glass mask.

Fairchild began operating the industry's first production E-beam machine in 1977, producing masks with ten times greater accuracy than optical systems. The new second-generation E-beam system essentially doubles this performance having a positional repeatability of 1/400,000 of an inch. The new machine also has twice the scanning rate and can automatically handle nine masks at a time compared with a single mask in the earlier system. In addition to permitting denser circuit designs, the electron-beam process significantly reduces mask making time. In practical terms, a complete mask set for a new circuit design can be produced in a day with the E-beam process, versus several weeks by optical methods.

SERIES 80 ANALOG TEST SYSTEM

The market for large-scale integrated circuits that perform analog functions is growing fast. Such circuits are indispensable in consumer products like high-fidelity audio and television, and also are important in telecommunications, telephones, and military electronics applications. Consequently, semiconductor designers have learned to crowd numerous analog circuits on a single chip and even, in some cases, to combine analog and digital functions on the same chip.

Unlike digital circuits, which can be tested for simple on-off operations, analog or linear circuits must be tested over wide voltage and current ranges at numerous operating points to assure that performance meets specifications. With most commercial testers this can be a slow and costly process.

Recently, Fairchild introduced the Series 80, the first linear component test system based on digital techniques. Digital operation allows high testing rates on production lines, as much as ten times faster than competitive systems. Series 80 also is at the leading edge of accuracy possible in a

production environment: electrical currents as small as 100 billionths of an ampere are measurable.

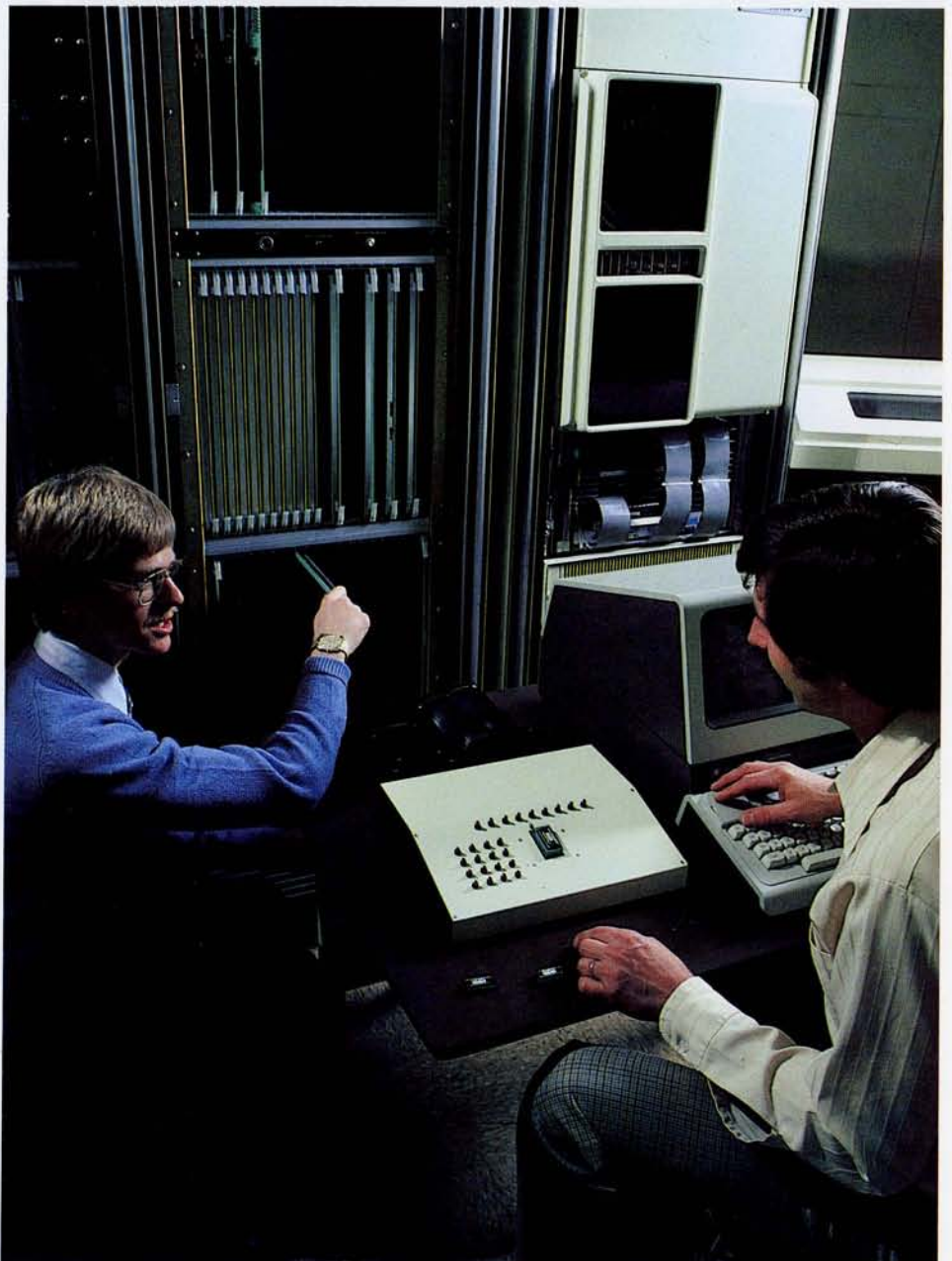
Digital signal processing gives the new system the ability to handle components with mixed analog and digital content. This feature is particularly advantageous in telecommunications uses.

Modular design makes the Series 80 cost effective for engineering development and device characterization as well as high-volume production test-

ing and incoming inspection.

The new analog tester is a stand-alone system that consists of a test station, test station controller bay, operator interfaces, test instrumentation and peripherals. Each of two test heads can accommodate the same or different device programs and can simultaneously measure as many as 14 characteristics.

The Series 80 can be programmed for engineering applications by means of easy to use software.



acquisition systems that enable fast interpretation of logs at the well site, but new concepts and hardware being developed in the Systems Science Department of Schlumberger Doll Research will soon give computers a far more important role than merely that of speedy bookkeepers for downhole tools. Researchers in the Interactive Graphics Program are developing methods of integrating and presenting visual displays of large amounts of geological information, including log data and associated interpretation. Experts in Software Research are devising computer programs that will assist Wireline scientists and engineers in utilizing computer systems for solving complex problems of geology and physics. Eventually, they hope to teach computers to interpret technical language, and to write software programs on their own.

ARTIFICIAL INTELLIGENCE

A major goal of the Systems Science Department is to give computers the ability to interpret logging data. In order to do this, computers must be able to correlate and understand data collected by the sensors of downhole tools and to draw conclusions from them. The idea that a computer can be made to manage complexity and to reason is called artificial intelligence. Its ambitious aim is to develop programs that will enable computers to achieve and exceed human-level performance in analyzing information and in solving problems. In the meantime, computer scientists in Schlumberger Doll's Expert Geology Systems Programs have taken a short cut toward making a truly smart machine. They have modelled human expertise by debriefing some of the leading dipmeter experts in Schlumberger, and by incorporating their special knowledge, skills and decision-making processes into a computer program called the Dipmeter Advisor. After being tested to insure performance, the Dipmeter Advisor will be sent into the field to serve as an interpreter of dipmeter data for Wireline Service clients.

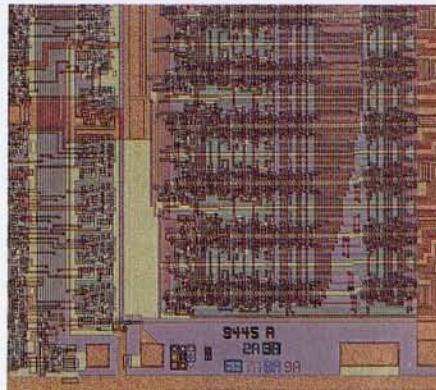
THE FAIRCHILD ADVANCED RESEARCH LABORATORIES

The Fairchild Advanced Research Laboratories are located forty miles south of San Francisco in Palo Alto, California, in the heart of a region that is known as "Silicon Valley" because of its high concentration of semiconductor manufacturers. The laboratories are manned by more than 100 computer scientists, circuit designers, chemists, physicists, and electronics engineers, who perform long-range research and development on advanced solid-state and related technologies for the extensive line of semiconductor devices and automatic test systems which are manufactured by Fairchild's operating groups. Major gains in semiconductor design concepts and process technologies usually evolve over a long period of time. For this reason, Fairchild undertakes research with an awareness that the

development of products having the greatest potential to produce profit requires careful planning, persistence, and a willingness to take calculated technological risks.

Considerable emphasis at the Palo Alto facilities is being placed upon Very Large Scale Integration (VLSI)—a term applied to integrated circuit chips containing more than 16,000 bits of memory, or more than 5,000 logic gates. A 65,536-bit Random Access Memory (known as the 64K dynamic RAM) has already been developed by scientists in VLSI research. With forecasters predicting a \$1 billion market for such devices by 1983, Fairchild's 64K dynamic RAM is being refined by engineers in the Metal-Oxide Semiconductor (MOS) & Bipolar Development Line, whose function is to translate technological innovation into products that can be mass-produced in the operating groups.

VLSI researchers are now pushing ahead to design a 256K dynamic RAM.



A small portion of the 9445 16-bit microprocessor chip. The smallest circuit details visible in this picture, in reality measure less than a 1/10,000 of an inch.

Microprocessors. Advances in software and semiconductor technology have led to the development of tiny integrated circuits, called microprocessors, which are placed on silicon chips smaller than a little fingernail. The microprocessor incorporates all the functions of a central processing unit of a computer. It directs the search of the computer memory, retrieves stored information and makes calculations.

In 1975, the Fairchild Advanced Research laboratory decided to apply a new bipolar

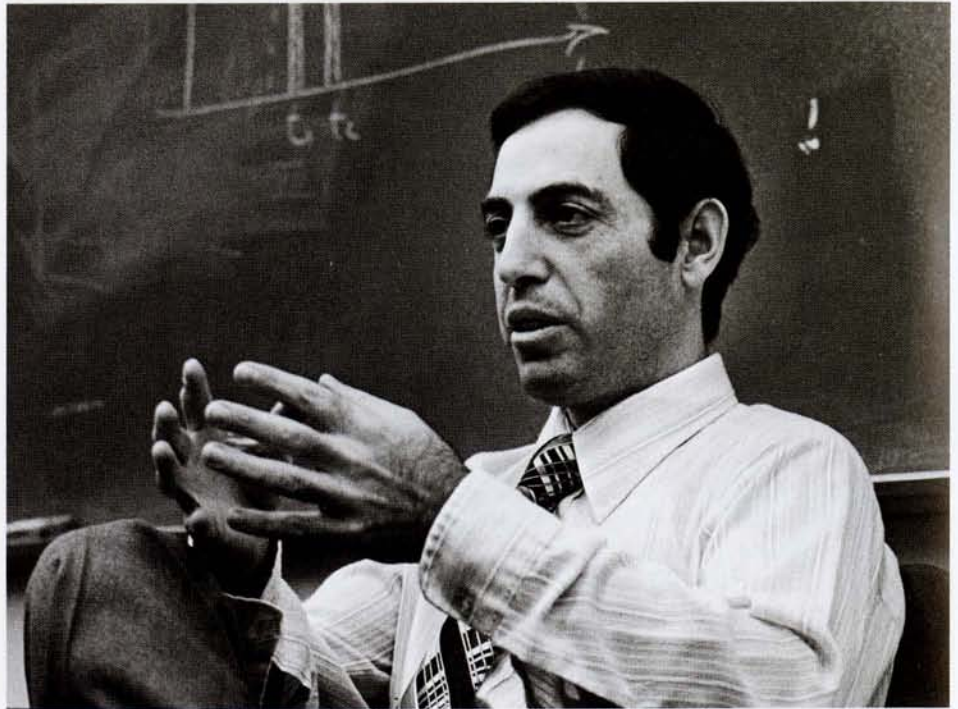
process to construct a 16-bit high performance microprocessor instead of using the lower performance metal oxide semiconductor (MOS) process. The chief advantage of using bipolar transistors in the microprocessor is that the logic gates operate faster and more reliably than those made with MOS transistors.

From the start of the project, there was doubt that it was possible to apply bipolar technology to a complex microprocessor. However, during the five-year project, scientists and researchers at the laboratories succeeded in developing an advanced bipolar circuit and a process technology that enabled them to produce a microprocessor with more than 5,000 logic gates. At the same time, software was designed and a general-purpose development system was created to enable customers to implement the microprocessors in their own systems.

Fairchild's 9445 16-bit bipolar microprocessor is about to be sold commercially. It can execute a basic instruction within 250 nanoseconds—a quarter of a millionth of a second—twice as fast as any other microprocessor on the market. In the future, Fairchild expects to apply bipolar technology in the development of microprocessors that contain more than 10,000 logic gates and that can execute a basic instruction in 50 billionths of a second.

Dan Wilnai

is an electrical engineer who is Technical Manager of the Digital Signal Processing Group at Fairchild's Advanced Research Laboratories. At the present time, he is helping to develop signal processors for use in telecommunications, medical instruments and industrial control equipment. "The digital signal processor will be a specialized computer on a chip containing integrated logic and memory," he explains. "It can translate physical parameters such as blood pressure and temperature from analog to digital form, and it also has the capacity to analyze this type of information even as it is being sensed. Giving the device, the ability to analyze data on the fly will solve a complicated software problem, that had required multiple processors and arrays. We're also beginning to perform research in speech processing. In order to develop a device that can recognize human speech, we must first design a device that can define the basic sound frequencies of each word. Speech recognition will involve the use of high-speed signal processing chips to identify and filter out harmonic pitch. The idea, you see, is to design a machine capable of differentiating between such phrases as 'ice cream' and 'I scream.'"



Other scientists and engineers are working to develop new technologies that will be required for the evolution of advanced-memory devices and microprocessors. (For more information about Fairchild's latest microprocessor, see accompanying story on preceding page.) These technologies include processes for the manufacture of MOS and bipolar semiconductors in high-performance integrated circuits containing logic, as well as the use of advanced optical exposure systems and plasma etching methods to achieve two-micrometer circuit geometries (about 1/10,000 of an inch) upon silicon insulators and metal coatings. Fairchild will also investigate application of electron beam and X-ray exposure systems to achieve one micrometer circuit geometries in the near future.

Research involving revolutionary techniques in modelling and simulation is being conducted in the field of computer-aided design (CAD), and a new laboratory has been set up to explore the applications of artificial intelligence to VLSI circuit design and testing. Important advances are being made in logic technology, and research in gate arrays is expected to result in the development

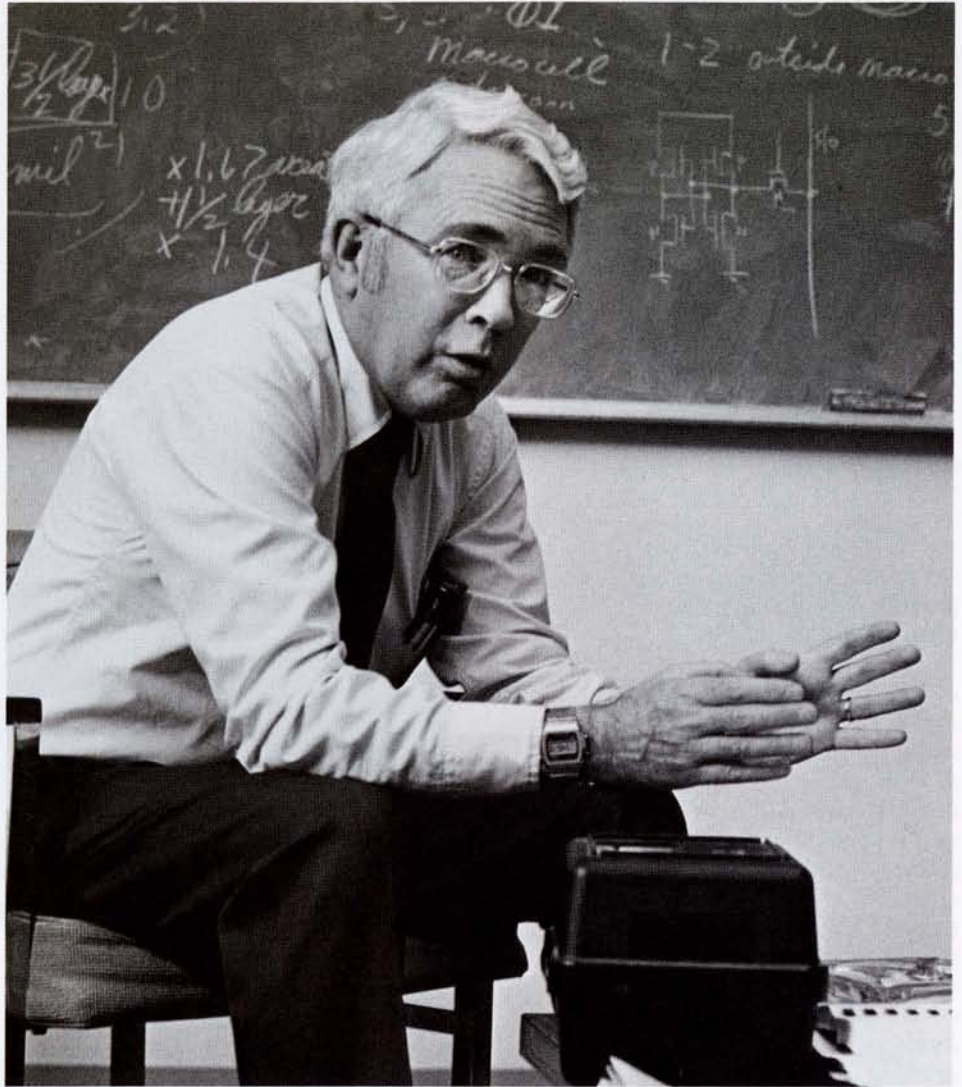
of high-density integrated circuits that are flexible enough to be applied to many different computer systems. The logic gates in such advanced semiconductor devices will be able to make decisions in the span of a nanosecond, which is one-billionth of a second.

A new technology with application in computer memories and image sensing is the Charge Coupled Device (CCD), which employs a technique enabling information to be stored and transported by means of packets of minute electrical charges. CCD will aid in the development of low-cost, dynamic memory units, and CCD solid-state sensors are replacing the vidicon tubes in facsimile transmission equipment and some TV cameras.

In still another area, engineers in the Telecommunications LSI Research Group have succeeded in developing an electronic telephone circuit in which a single bipolar chip handles the functions of dialing, ringing and transmitting speech. Moreover, they have employed similar technology to design circuitry small enough to fit in a bread box, yet capable of carrying out the functions of a central telephone switching office.

Jim Early

Silicon integrated circuits are the long-term goal of Fairchild's semiconductor technology development. Jim Early is manager of VLSI research at Fairchild's research and development laboratory in Palo Alto. Jim, with a fresh doctorate from Ohio State and new to semiconductors, invented the high frequency bipolar junction transistor in 1952 and has been in semiconductors ever since. Jim, an 11-year Fairchild veteran, explains, "A micron is about one percent of the diameter of the human hair. Thirty years ago, the smallest parts of the transistors we built were about the size of a human hair," he recalls. "Since then, ideas, process equipment and process technology have come in wave after wave of advance. Today, with wafer-stepper lithography we are creating a 2 micron technology wave, which is giving us a 262,144 bit memory, that is one capable of answering 262,144 yes or no questions—on a piece of silicon smaller than a child's little finger nail. New equipment and new processes will help us make and ride a submicron technology wave, which should give us a 4 million bit memory chip and act as the technical base for a stream of other products no one yet imagines. We know this is our challenge for the next 7-10 years, the next 2 or 3 waves. New technology comes in waves or cycles, you know, and the trick is to be on the right wave at the right time. Here at Fairchild R&D our business isn't simply riding these technological waves. We are making them."



GIERS

The GIERS is a research and engineering laboratory that occupies part of a large manufacturing complex in Montrouge, near Paris. Here, 40 physicists, mathematicians, electrical engineers and other scientists are developing new technologies and new product concepts for Enertec, Flonic and Sereg—the companies that make up Measurement & Control-Europe.

One of the most ambitious projects at the GIERS is a protection system being developed with Enertec for high-voltage power transmission networks. It is designed to detect short circuits and

other faults in 400 kv power lines, and to prevent mass overload and breakdown of the network through selective, split second cutting off of power to a damaged section of the line. (For more information about the protection relay system, see accompanying story on following page.) A second project involves fully electronic ripple-control equipment for the load and rate management systems that are widely used in Europe. Ripple control is a signal that is superimposed on power-line voltage in order to command multitariff meters to charge different rates at certain times of the day or night. It can also be used to shut off power to selected appliances such as hot water heaters or air conditioners during peak load periods.

through concurrent compulsory contributions from all employers within each industry based on employee salaries. These plans are accounted for on the defined contribution basis and each year's contributions are charged currently to expense.

TAXES ON INCOME

Schlumberger and its affiliated companies compute income taxes payable in accordance with the tax rules and regulations of the many taxing authorities where the income is earned. The income tax rates imposed by these taxing authorities vary substantially. Taxable income may differ from pretax income for financial accounting purposes. To the extent that differences are due to revenue and expense items reported in one period for tax purposes and in another period for financial accounting purposes, appropriate provision for deferred income taxes is made. The provisions were not significant in 1980, 1979 or 1978.

Approximately \$3.0 billion of consolidated income retained for use in the business at December 31, 1980 represents undistributed earnings of consolidated subsidiaries and Schlumberger's pro rata share of 20%-50% owned companies. It is the policy of the Company to reinvest substantially all such undistributed earnings and, accordingly, no provision is made for deferred income taxes on those earnings considered to be indefinitely reinvested.

Investment credits and other allowances provided by income tax laws of the United States and other countries are credited to current income tax expense on the flow-through method of accounting.

NET INCOME PER SHARE

Net income per share is computed by dividing net income by the average number of common shares outstanding during the year.

RESEARCH & ENGINEERING

All research & engineering expenditures are expensed as incurred, including costs relating to patents or rights which may result from such expenditures.

ACQUISITION OF FAIRCHILD CAMERA AND INSTRUMENT CORPORATION

In 1979 the Company acquired Fairchild Camera and Instrument Corporation at a cost of \$425 million (including expenses). The acquisition was accounted for as a purchase and the accounts of Fairchild have been consolidated with those of Schlumberger since July 1, 1979. Cost in excess of the fair value of net assets acquired of \$253 million is being amortized on a straight-line basis over 40 years.

The following pro forma consolidated amounts combine the historical accounts of Schlumberger and Fairchild for 1979 and 1978 and reflect all purchase accounting adjustments as though Fairchild had been acquired January 1, 1978.

	YEAR ENDED DECEMBER 31,	
	1979	1978
Revenue	\$3,956	\$3,208
Net income	\$ 666	\$ 506
Net income per share (dollars)	\$ 3.49	\$ 2.65

FIXED ASSETS

A summary of fixed assets follows:

	DECEMBER 31,	
	1980	1979
Land	\$ 46	\$ 37
Buildings & improvements	384	321
Machinery and equipment	2,439	1,843
Total cost	2,869	2,201
Less accumulated depreciation	1,110	866
	\$1,759	\$1,335

Estimated useful lives of buildings & improvements range from 8 to 50 years and of machinery and equipment from 2 to 15 years.

GAIN ON SALE OF ROWAN SHARES

During the fourth quarter of 1980, the

The Company's business comprises two segments: (1) Oilfield Services and (2) Measurement, Control & Components. The Oilfield Services segment offers well site services to the petroleum industry throughout the world. The Measurement, Control & Components segment manufactures measurement and control products and electronic components, which are sold to public utilities, government, laboratories and industrial plants primarily in the U.S. and Europe. Services and products are described in more detail earlier in this report.

SEGMENT
INFORMATION

Financial information for the years ended December 31, 1980, 1979 and 1978 by industry segment and by geographic area is as follows:

Industry Segment—1980

	(Stated in millions)			CONSOLI- DATED
	OILFIELD SERVICES	MEASUREMENT, CONTROL & COMPONENTS	ADJUST. AND ELIM.	
Operating revenue—				
Customers	\$2,814	\$2,070	\$ —	\$4,884
Intersegment transfers	—	77	(77)	—
	\$2,814	\$2,147	\$(77)	\$4,884
Operating income	\$1,184	\$ 230	\$(14)	\$1,400
Interest expense				(102)
Interest and other income				119
less other charges—\$34				100
Gain on sale of Rowan shares				100
Income before taxes				\$1,517
Depreciation expense	\$ 256	\$ 66	\$ 1	\$ 323
Fixed asset additions	\$ 565	\$ 178	\$ 5	\$ 748
At December 31—				
Identifiable assets	\$2,173	\$1,837	\$(48)	\$3,962
Corporate assets				1,280
Total assets				\$5,242

Industry Segment—1979

Operating revenue—				
Customers	\$2,037	\$1,513	\$ —	\$3,550
Intersegment transfers	1	59	(60)	—
	\$2,038	\$1,572	\$(60)	\$3,550
Operating income	\$ 809	\$ 189	\$(14)	\$ 984
Interest expense				(52)
Interest and other income				81
less other charges—\$11				81
Income before taxes				\$1,013
Depreciation expense	\$ 197	\$ 43	\$ 2	\$ 242
Fixed asset additions	\$ 405	\$ 96	\$ 2	\$ 503
At December 31—				
Identifiable assets	\$1,630	\$1,624	\$(31)	\$3,223
Corporate assets				1,127
Total assets				\$4,350

Industry Segment—1978

Operating revenue—				
Customers	\$1,636	\$ 983	\$ —	\$2,619
Intersegment transfers	1	37	(38)	—
	\$1,637	\$1,020	\$(38)	\$2,619
Operating income	\$ 648	\$ 122	\$(6)	\$ 764
Interest expense				(18)
Interest and other income				51
less other charges—\$14				51
Income before taxes				\$ 797
Depreciation expense	\$ 155	\$ 27	\$ 2	\$ 184
Fixed asset additions	\$ 340	\$ 50	\$ 3	\$ 393
At December 31—				
Identifiable assets	\$1,281	\$ 814	\$(12)	\$2,083
Corporate assets				847
Total assets				\$2,930

Directors

Jacques de Fouchier*

Former Chairman, Compagnie financière de Paris et des Pays-Bas, Paris

Roland Génin*□

Executive Vice President-Operations, Schlumberger

Charles Goodwin, Jr.

Partner, Shearman & Sterling, attorneys, New York City

George H. Jewell○

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Assistant Secretary

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International: *electricity, water and gas meters and related systems manufactured in several countries of Europe and Latin America.*

United Kingdom: *electricity meters, aircraft and industrial instruments, electronic instruments, training systems, transducers and automatic test equipment.*

SANGAMO WESTON

Data Systems: *data acquisition and control systems and magnetic tape data recorders.*

Rixon: *modems and associated products for data communications.*

Energy Management: *watthour meters and equipment for electric power distribution systems.*

Capacitor: *capacitors for both electronic and electric power applications.*

Fairchild-Weston Systems: *optical and electro-optical data acquisition equipment and signal processing systems for aerospace and defense applications, and also controls for nuclear power systems.*

Instruments: *scientific and aerospace instruments, vehicle performance recorders and photoelectric devices.*

FAIRCHILD

Semiconductors-Analog & Components: *discrete components such as transistors and diodes, linear circuits such as operational amplifiers, and optoelectronic devices.*

Semiconductors-LSI Products: *integrated, large-scale integrated and very large scale integrated circuits such as microprocessors and memories using MOS, advanced bipolar and CMOS technologies.*

Automatic Test Equipment: *automatic test equipment for semiconductors, printed-circuit boards and subassemblies.*

MANUFACTURING DATA SYSTEMS INC.

MDSI: *computer assisted software services for numerically controlled machine tools, and other specialized computer services for manufacturing industries.*