

TEKTRONIX, INC. ANNUAL REPORT 39TH YEAR, MAY 25, 1985

tek

TEKTRONIX INCOME HIGHLIGHTS in thousands

52 Weeks to May 26, 1984		52 Weeks to May 25, 1985		Increase (Decrease)		
\$1,418,000	100%	\$1,379,000	100%	\$ (39,000)	-3%	Customer Orders, some of which were
338,000	24%	279,000	20%	(59,000)	-17%	Unfilled Orders at year-end.
\$1,332,958	100%	\$1,438,082	100%	\$105,124	8%	Sales Revenue comprised of
564,220	42%	615,341	43%	51,121	9%	Instrument products,
528,942	40%	566,617	39%	37,675	7%	Design and Display products, and
239,796	18%	256,124	18%	16,328	7%	Communications products—sold to
862,944	65%	923,674	64%	60,730	7%	United States customers, and
470,014	35%	514,408	36%	44,394	9%	International customers.
16,461	1%	24,853	2%	8,392	51%	Other Revenue from non-operating sources.
\$1,237,365	93%	\$1,372,754	96%	\$135,389	11%	Less Costs and Expenses to be paid
600,947	45%	605,330	42%	4,383	1%	To Employees who design, produce, sell and service products or who support their efforts;
554,924	42%	635,806	44%	80,882	15%	To Suppliers for materials, components, supplies, services and the use of their property and funds;
6,591	1%	52,375	4%	45,784	695%	To Governments as taxes in the United States and abroad—and to provide
74,903	5%	79,243	6%	4,340	6%	For Facilities depreciation which allows for the use, wear and aging of buildings and equipment.
\$ 112,054	8%	\$ 90,181	6%	\$ (21,873)	-20%	Resulting in Earnings to be reinvested in the business and for dividends to shareowners.
\$ 5.74	100%	\$ 4.41	100%	\$ (1.33)	-23%	Earnings per share based on average shares.
1.00	17%	1.00	23%			Dividends per share paid to shareowners.

Financial information prior to March 1985 has been restated to recognize the acquisition of CAE Systems, Inc.

TEKTRONIX BUSINESS

Since its founding in 1946, Tektronix has played a major role as a supplier of tools that contribute to the advancement of technology. The Company develops, manufactures, sells and services a broad line of electronic measurement, design, display and control instruments and systems that are used worldwide in science, industry and education.

## *Of Tools and Opportunity*

Three stories topped Tektronix' year.

The first is our entry into computer-aided engineering (CAE), and the lever it provides for *all* Tek businesses. Second is the marked improvement in our inventory management. Third is the softening in the electronics industry, led (if that is the word) by an easing demand for computers.

Three separate stories. Yet a common thread connects them all.

The City of San Francisco froze its budget for computer purchases. There was no clear proof, the mayor noted, that they were increasing the efficiency of city government. Sales of personal computers also have slowed, reportedly for somewhat the same reason.

The Information Age risks becoming The Data Drench. Walter Cronkite once noted that Americans are becoming so immersed in noise they can't pick out the signals.

Computers are just great at generating data, often in forms that are hard to make sense of. But they are less great at judging it. Back in the Electronic Stone Age, when computers were bigger than people, programmers coined the term GIGO (Garbage In, Garbage Out), which means no system is better than the data it feeds on, or how that data is managed.

Today, Tektronix has a chance to contribute importantly to computer-aided engineering. Users of CAE workstations like what these sophisticated tools can do. But they are taken aback by the horrendous job of data management the tools foist on them. For every one to four workstations, one administrator has to be assigned, just to prevent data from becoming gibberish. Like buying a tractor and plow and then having a horse pull them, it decreases the net productivity gain.

Tektronix' approach to CAE is founded on easy, efficient use of reliable data. Easier said than done, or someone else would have done it. Our data management has been acclaimed by the industry. We believe data-driven tools will change the face of CAE forever, and make it the giant productivity multiplier it has always billed itself as.

We are uniquely positioned to challenge the leaders in this huge unfolding market. We do not use the word "unique" lightly. Tektronix offers a combination of advantages that no one else has. How we expect to use them is discussed on *pages 6-13*.

We know about data and its management.

As the 80's began, our manufacturing operation was nothing to brag about. (You may recall that several of our annual reports spent time not bragging about it.) Like other very successful engineering-led companies, we'd let manufacturing become an afterthought.

A root cause of the problem was that the data we needed for efficient manufacturing had deteriorated, due partly to overloaded computer systems, but more to inatten-

tion. It wasn't so much whether our manufacturing was doing well or poorly, but that the data was so unreliable we couldn't tell. "Solutions" like massive inventories, padded schedules and fudge-factored purchasing only made it worse. We did keep output and quality high, thanks to excellent people who worked harder and smarter — and longer.

The problem was GIGO on a gigantic scale. To solve it, we began Manufacturing Resources Planning (MRP), a stern computer-aided manufacturing regimen. Its initial thrust was to restore data integrity.

It has taken several years to convert our large company. And it is paying off. We're now at the front in MRP, with world-class bill of material and inventory accuracy.

The MRP program has paved the way for Just in Time manufacturing. Relying on little inventory and hair-trigger response from suppliers, JIT has yielded amazing results in Japanese and other companies.

Aided by JIT and MRP, our cost-of-manufacturing ratio dropped over two percentage points this year—a continuing decline. To give that figure meaning, it represents about 50 cents per share in earnings to you.

Some of the ways we are building better products better are discussed on *pages 13-18*.

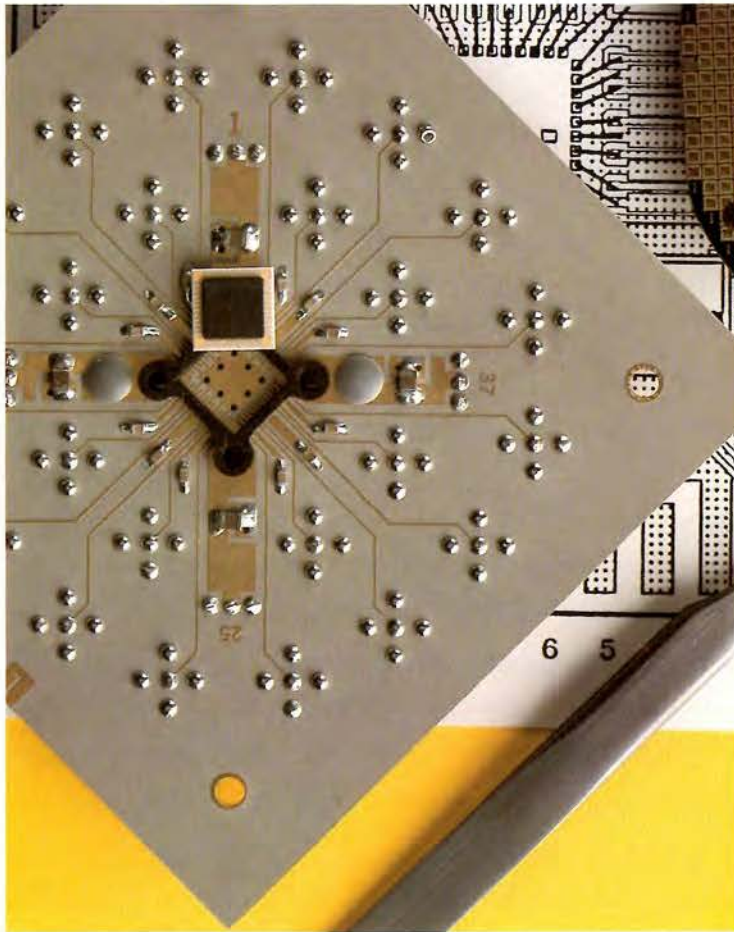
Our entry into CAE is an *opportunity*. Our MRP and JIT systems are *tools*. The payoff, and the challenge, is how well we use them to improve your company's performance.

As to the year itself: If you have read recent financial reports of other electronics companies, you may be prepared for ours. It contains the same minor chording: A softening in capital purchasing. Unlike much of the industry, however, we improved our pretax margins. Further, you can feel at Tek a sense of moving in a clear direction, under solid management. The year's sharps and flats are sounded on *pages 3-6*.

### *Doing All Right in Spite of Everything*

Dour economists hint of a "possible recession." That makes us wonder idly what they call the year we just completed. We're holding our own, however—and, one of our officers notes, holding our breath also.

Both the computer industry and semiconductor makers paid for having broken the law of supply and demand. They had overbuilt and were working off large inventories. Capital buying was curtailed. The US economy, what we saw of it, was down. Our orders were off a bit, sales up a bit. Earnings increased modestly.



PRECISE MEASUREMENTS AND CALCULATIONS AT BLAZING SPEED ARE ENABLED BY USE OF GALLIUM-ARSENIDE INTEGRATED CIRCUITS PRODUCED BY TRI-QUINT SEMICONDUCTOR, INC., A TEKTRONIX SUBSIDIARY. CONTINUING ADVANCES IN GAAS ARE BEING MADE TO EXPLOIT THE SPEED AND POWER-CONSUMPTION ADVANTAGES OF THIS MATERIAL. TEK AND TRI-QUINT ARE AT THE FORE OF GAAS TECHNOLOGY.

Overseas sales did a bit better than those in the US, despite another gain in the dollar's biceps.

Electronics companies had tough sledding. Unlike some of them, we kept our workforce intact. Unlike *many* of them, we saw our gross margin increase — from 49.5 to 51.8 percent of sales.

That improvement was helped by our inventory management. Inventories went down \$41 million (\$75 million in the last two years). Inventory turns improved by 30 percent, from 4.6 to nearly 6; that was our best showing in 28 years.

We boosted our R & D investment to a record 13 percent of sales. A good deal of it was for our CAE product development; some for forward-looking technologies such as artificial intelligence and gallium-arsenide ICs, and some for future generations of our traditional products: oscilloscopes, spectrum and logic analyzers, and graphics products.

## EARNINGS "DOWN," BUT UP

Don't take the earnings decrease on the Highlights page too seriously. Last year's earnings, as you may recall, were skewed on the high side when the Government decided to forgive the deferred taxes associated with Domestic International Sales Corporations (DISCs). That pumped up 1984 earnings by a windfall \$33 million. Hence the drop this year. If you ignore DISC's effect, this year's earnings *increased* by 14 percent. We believe that is the realistic way to view the matter. But, you decide.

There's yet another clinker in the works if you're trying to compare year to year. In March we acquired CAE Systems, Inc. of Sunnyvale, California. Paid for through an exchange of stock, the transaction is considered a pooling of interests and treated that way on the books. Thus, Tektronix and CAE Systems financial figures are merged for this year and past years just as if we had been one company all along.



Consolidated figures for Tektronix, Inc., including CAE Systems:

*Net sales* were \$1,438,082,000, compared with \$1,332,958,000 a year ago, an increase of 8 percent. The *US* portion declined from 65 to 64 percent; the *international* segment went up, from 35 to 36 percent.

*Earnings*, compared to the DISC-inflated 1984 figure of \$112,054,000 moved to \$90,181,000, a drop of 20 percent. (Forgetting DISC, earnings increased 14 percent from \$79,254,000.) *Per share*, the numbers were: With DISC, a decrease from \$5.74 to \$4.41; without DISC, an increase from \$4.06 to \$4.41.

*Incoming orders* for the year came to \$1,379 million. A year ago, they were \$1,418 million. The decline was 3 percent.

We had 20,525 employees at year's end. That was 291 fewer than we had when the year opened.

## WE SEEK EMPLOYMENT CONTINUITY

It's also more people than we have full-time work for at the moment. Some divisions have used short workweeks, long holidays and the like to match workforce to work. For local oversupply that looks longer-term—and to meet the needs of labor-short Tek groups—we employ, and continually tune, our rebalancing program.

Its many steps may make it seem pretty complex. But each represents another layer of confidence that the employee will have a job with us.

Layoffs in other industries have raised our employees' level of concern. So, probably, have the involuntary portions of rebalancing. Even so, and allowing for exceptions in this group or that one, morale in most of our organizations is high or rising or both. That reflects, we believe, a more energetic and upbeat organization.

#### A GOOD YEAR IN THE FAR EAST

Japan has stepped past the struggling European economies to become our number 1 overseas market. Commercial activity quickened all along the Pacific Rim. Our international business is taking a new, forgive the word, orientation.

Sony/Tektronix had an excellent year. That jointly owned company sells and services Tek and Sony/Tektronix products in Japan and builds its own products for Tek to sell worldwide.

In celebration of its 20th year (founding date, March 3) the directors and management of both companies attended a birthday celebration in Tokyo May 16. It coincided with the first Tektronix board meeting to be held in Japan.

Our business throughout the Orient was up. Spectrum analyzers did especially well in Korea and Singapore. We sold more TV test and measurement products in China than we did in the United Kingdom.

Establishment of Tektronix China, Limited in Hong Kong, with staff residing in Beijing, gives us representation in China. This year we contracted with 21st Radio Factory of Shanghai for them to assemble our 2200 family of portable scopes for their domestic market.

The Far Eastern countries affect us also by competing against US companies. Hong Kong, Taiwan, South Korea, Thailand and Singapore are out-Japaning Japan, with their strong work ethic, intentness on economic development and close government-finance-industry coupling. Their companies require a much smaller return than their US competitors, and price accordingly. It's like playing basketball against a team that gets three points per basket to your two.

We don't have direct competition from most of those countries. But many of our customers do. When they lose, or when they resort to offshore operations—or when an increasing portion of the innards of “US” products are produced elsewhere—capital purchasing shifts from this country overseas. That puts Tek at the mercy of the strong US dollar; our products become more costly in local currency and those of, say, Japan, look more like bargains.

#### *CAE: New Tools. A Familiar Marketplace*

We have entered the computer-aided-engineering business. The field is never going to be the same.

That's not entirely cause and effect. For CAE is bound to change dramatically in any case. But we have taken a trailblazing position in what we feel must be its future direction. (TEK ENTERS; ACT 2 BEGINS, read one industry newsletter headline.)

Computers have aided engineers in many fields for years. But "CAE" today is synonymous with interactive workstations used by electronic design engineers. These computer-and-software tools enable an engineer to design an integrated circuit, circuit board or electronic system, simulate it and test it without having to build one to see if it will work.

Workstation software integrates many tools that have been used for separate functions, such as schematic capture, logic simulation and documentation (the "front end" of the design process), and circuit-board or chip layout and testing.

The CAE segment is the cutting edge of the electronics industry. In the past year, it was also one of its few growth segments—and is it ever growing! Its sales increased by nearly 100 percent. One industry authority predicts they will exceed \$1.8 billion by the late '80s.

With only about 5 per cent of it penetrated, that young market now seems about to explode. Companies who have been pondering CAE as perhaps useful find now that to remain competitive they have little choice but to invest in these tools.

That's partly because an increasing variety of products now contain custom and semicustom IC chips—from onboard computers that guide spacecraft to greeting cards that beep out little tunes.

Partly also because design has to speed up; a typical product doesn't live as long as it used to before something better catches the public fancy. But at the same time, product complexity is growing; the one-million-component IC is threatened—make that "promised"—and software content is increasing.

Complexity slows the development process; often designing must be parceled out to teams rather than individual engineers. Some products spend as much time being designed as they do earning profits. A stumble in the development process that delays getting to market can mean the difference between a product being New and Better and being Obsolete so Who Cares?





So engineers seek new tools to improve their productivity by designing right the first time. That will cause products to emerge even faster, their market life to be still shorter . . . a true vicious circle.

Adding to the pressure on electronic designers is that there are too few of them. Although they number over 400,000, that's nowhere near enough. The market's appetite is ravenous for newer products that do more things more reliably.



#### DRAWING A BEAD ON THE LEADERS

We intend to be number 1 in CAE. That's consistent with our goals for *all* our principal businesses.

Tektronix is already viewed as a major player. We're the only instrument company to offer an integrated CAE solution. (Note, however, that "only's are perishable in a fast-moving market.) Thus we're the one most able to couple software tools to test and measurement instrumentation—supporting the entire design process all the way from the gleam in the designer's eye to the prototype test.

The market at the moment is dominated by three companies, whose only product is CAE tools. Small by our standards, they have established strong reputations as reliable suppliers of useful products. They're good.

So, as one Tek manager said, it won't be a cakewalk. But, he added, it should be fun.

#### AN EMBOLDENED STRATEGY

Tektronix had mounted a major in-house effort to develop a CAE toolset. It was making progress, but we had started late and had a lot of time to make up. In a race against a deadline (a crucial trade show in June) we felt the need for what our executive vice-president called a booster rocket. ("When an opportunity window comes by," he noted, "I have an aversion to hitting the window sill.")

More importantly, though, we re-assessed our CAE strategy, and opted for a bolder approach. We had been aiming our effort at software tools that would use a new Tektronix workstation for compute power. But it became ever more clear that the workstation computer market will be shared by many suppliers—and dominated by two, IBM and DEC. So we revised our strategy in favor of software tools that would run on *all* major computer platforms, including our own.

In CAE Systems, Inc. of Sunnyvale, CA, we found a company with a kindred approach and a presence in the market. Tek acquired CAE Systems in March.

D-Day for us was June 22, the Design Automation Conference in Las Vegas. There wasn't much time, and a lot to be done. But in a day-and-night effort that left our people fatigued and bleary-eyed, the two software programs were combined, then integrated with other Tektronix software tools and instrumentation. We made our presence felt with a line of products that debunked forever the idea of CAE as front-end tools only.

Our new CAE Systems division includes CAE Systems, Inc., Sunnyvale; our Logic Design Systems unit, Beaverton, and VR Information Systems, our Texas subsidiary that makes circuit board and IC layout automation software.

The melding of Tektronix and CAE Systems is a happy synergy. We chose them for these reasons:

1. *A very friendly "front end."* The workstations' graphics CRT interface requires almost no keyboarding. Like a MacIntosh, you may be correctly thinking. An electronics-trained person can quickly learn to use it. Engineers use workstations in fits and starts, not continuously. They can forget how to run one if it's complicated; then they have to relearn all the time.

ONE BY ONE, TEKTRONIX INSTRUMENTS ARE BEING COUPLED TO COMPUTER POWER. THE DAS 9100 LOGIC ANALYZER HAS BEEN LINKED BY SOFTWARE TO THE TEKSTATION AT, IBM PC AND DEC VAX, ENABLING BENCHTOP TESTING OF CIRCUIT BOARDS AND OF VERY LARGE-SCALE INTEGRATED CIRCUIT CHIPS.



2. A *managed database*, the most respected in the industry. It replaces incompatible files with a centralized store of data derived at the schematic entry stage, able to flow through standard interfaces throughout all the following design stages. No tedious rekeying, or time- and computer-wasting translation.

3. An *open-systems approach*, expandable so owners of other software and hardware tools can easily “glue” them on, using simple Tek-supplied tool kits. This ability, plus the centralized database, facilitates team engineering. It enables extensive sharing of data by engineers working in parallel. They need that. We are the only CAE company that allows easy data transfer among various computer types.

4. That’s because of our *multi-platform strategy*. Our tools are not myopic, but can run on most major computer platforms—IBM’s PC/AT, DEC VAX and Microvax II, Apollo, and Tek’s new 6000 series of workstations, introduced this year.

5. A *first-rate management team*, with a canny feel for the market’s needs and the ability to match products to them.

6. A range of *well-accepted design tools*, including those for schematic capture, data entry and logic simulation. Our being able to enter the upstream end of the design cycle will have great benefits downstream in sales of our test and measurement instruments.

Tektronix brought equally important ingredients to the joining of forces:

1. Our own *strong software skills*, embodied in most of the products at the trade show.

2. A *reputation for high-quality, innovative products*.

3. A *large installed base of users* of our test instruments and microprocessor development systems. They will be moving now into CAE.

4. A *wide range of component technology*. That should give us a price/performance advantage over competition.

5. A *worldwide sales and service organization*. After-sale service is critical in the CAE field.

In a young market, a running start sure helps. And we weren’t in on the CAE startup phase at all.

However:

Industry surveys agree that dissatisfaction with existing CAE tools is *very* widespread. Entirely new approaches are needed. We will be the first to supply them. And that is where our headstart will come from.

#### GROUSING AND GRUMBLING FROM WORKSTATION USERS

Nothing turns off the buyer of a toy, a turntable—or a workstation—more than the words “Some Assembly Required.”

Today’s vendors now supply the workstation and leave it to the buyer to figure out the controls and the data-management scheme. Most workstations have data for-

mats designed for one application, and assume a fixed sequence of steps. Like a map with only one route marked on it. When they are used in other combinations, the user must jury-rig the connections and translate the data at each step. This process, unaffectionately termed "cobbled CAD" or "rats-nest engineering," is more common than not.

Users also complain that they can't integrate their workstations with their existing design tools, with other computers or with test instruments.

As products grow in complexity, more engineering is done by teams. Team members require concurrent access to data; most workstation databases don't allow that. They also provide few controls to prevent data incompatibility, or to assure that data is distributed in an orderly way.

So serious has the problem of data management become that one administrator has to be assigned for every one to four workstations. The cost in overhead is terrible. But the alternative is chaos.

It seems to us that such workstations have made themselves part of the problem. Our intent is to provide *solutions*.

We believe what matters most is not individual product features, but the efficiency of the entire design process. Data must be manageable, in a uniform base with standardized linkage so it can flow easily from step to step. Data must be easy to enter and retrieve. And share; workstations must support creative team engineering. And they should integrate in a graceful way with existing hardware and software design tools, and with instrumentation as well.

Those approaches will mark the CAE tools of tomorrow. That is the trail we are blazing. And "tomorrow" doesn't mean a year from now. Although our CAE solution is unique in some ways, and ahead in others, we must move fast. Competition will be fierce.

Bear in mind: Computer-aided engineering is an extension of Tektronix' existing markets. For 39 years we have provided top-quality tools for electronic design engineers. That's *our* berry patch the CAE companies are sitting in.

DESIGN AUTOMATION CONFERENCE, JUNE 1985

In a trade show heavy with hustle, in a city famed for glitz and dazzle, Tek still managed to stand out at Las Vegas's Design Automation Conference in June. Billboards, signs in airport and hotels, ads in newspapers and on TV network morning shows and evening news carried the message: Tek has solutions for your design and test needs.

To longtime Tek watchers used to our normally reserved public image, the media blitz may have been like seeing Grandpa break-dancing. But it got our point across: Tek is in computer-aided engineering. Bold face italics. Underlined.

Reinforcing that effort was the presence at the show of most of Tek's top management, a personal commitment.

Our booths drew large crowds. Using several different workstation platforms, we showed an integrated toolset able to computer-aid *all* phases of the design cycle. It included front-end design tools from our CAE Systems and Logic Design Systems groups, combined with Tektronix test and measurement instruments, and our software tools for layout and drafting automation.

Now an engineer can, at the same workstation, create the system concept and verify it; do the schematic capture; and extract from it the database for all following steps: documentation, simulation, testability analysis, layout and prototype testing.

Drawing special interest at the show was the new Tektronix 6030, known as the TekStation AT. Built on the IBM PC/AT platform, this workstation can use both that computer's MS/DOS operating system and UNIX. TekStation AT can, at the push of one button, switch from one system to another, and run both simultaneously. No other workstation can do that.

THE TEKSTATION AT, OR 6030 WORKSTATION, PROVIDES AN UNMATCHED ADVANTAGE FOR TEAM DESIGN ENGINEERING. IT CAN USE BOTH THE MS/DOS OPERATING SYSTEM OF THE IBM PC/AT AND THE VERY POPULAR UNIX SYSTEM. WHAT'S MORE, IT ENABLES USERS TO RUN BOTH SYSTEMS AT THE SAME TIME, AND SWITCH BACK AND FORTH AT THE PUSH OF A BUTTON. THE TEKSTATION IS AVAILABLE WITH AN ECONOMICAL COLOR DISPLAY, ENABLED BY USE OF OUR LIQUID-CRYSTAL COLOR SHUTTER.



Booth visitors also were impressed by the TekStation's use of our liquid-crystal color shutter, a cost-effective way to convert the monochrome CRT image to a vivid color display with knife-sharp resolution.

Also breaking new ground is the unique Testability Measure Analyzer, used together with the Statistical Fault Analyzer.

Designs are so complex today, they can defy testing, or drag it on forever. The TMA analyzes the circuit and figures out how to give full coverage with fewest possible test vectors. The SFA then acts as a quality control, seeing whether the testing has been thorough and listing undetected faults. These products, jointly forming a "smart" fault simulator, add to the existing Multisim family of simulator products. The SFA is an estimated 10 times faster than competitive products.

Using SFA and TMA, an engineer can reconfigure a hard-to-test design into one that is much easier.

Among existing Tektronix products coupled to the workstations were our DAS 9100 logic analyzer, our 8540 integration unit and various software-development tools.

#### *Building Better Products Better*

"Efficiency experts," stern of demeanor and stop watches at the ready, charge a company a fee for studying its work processes and then making recommendations about half as good as the employees performing them would have suggested, if only someone had asked.

We are asking ours. And they are giving us good and innovative answers. Our respect for employees is being converted to *involvement* of employees in redesigning the way work gets done. In our drive to be among the top manufacturing companies, the critical ingredient is People Involvement. We refer to it as PI (not to be confused with pi, which is 3.1416, which is how much faster someone works when timed with a stop watch).

In one division, a 30-person task force is deciding how to set up a high-productivity manufacturing process for the whole organization. Almost all of them are line employees.

That approach is increasingly seen throughout Tektronix. In what our president calls a "deregulation of work," employees are being encouraged to change the company from the ground up, redesign processes, restructure their jobs, decide how they and others will work best together. For nobody knows these things better than they.

Someday, mark our words, someone will walk into one of our Just in Time production areas and ask who's in charge. And he or she will be told:

"We are!"

#### GOOD NEWS AND BAD NEWS AND GREAT NEWS

Our inventory management improvement this past year or two has been phenomenal. To put that superlative into context: We have gone from below average to above average. In short, we've a way yet to travel.

But in many respects we have moved to the forefront. We have multiple plants with near-perfect inventory-accuracy and bill-of-material records. And several of our manufacturing areas are superb by any standard.

We worked off (and wrote off) \$41 million in inventory this year—\$75 million in two years. Still, our inventories are just on the good side of average; we want them to be at the cutting edge of the industry. Cost of sales is down to 48.2 percent of sales. It must go lower. We need still-shorter cycle times, faster response to customers. And if some operations are superb, we need superbity (superbitude? superbishness? whatever) throughout the company.

But the trend is clearly positive. And Tek people are turning to, in a fired-up way, to cut costs, fine-tune processes, eliminate waste, keep meticulous inventory records—and do away with excuses. They're just great. As we've always believed, and often stated, people like to do a good job.

#### MANUFACTURING OUR WAY OUT

How Tek has always gone at it, any time business slid a bit, has been: Engineer our way out. That is, design products so much better that they will command higher prices. No one ever suggested that we manufacture our way out. But that's changing.

We must whet every competitive edge. To be a world-class company (an ill-defined term that we kind of like anyway), the need is for top-notch everything. This year Executive Vice President Wim Velsink has targeted Manufacturing Excellence.

At our first Manufacturing Forum, in November, he stressed his commitment to that goal.

Wim said, in part:

"Tek should be in the top 10 companies as far as manufacturing performance is concerned . . .

"Somehow in the electronics industry we gravitate to final testing as the main solution to insure product or component integrity, rather than figure out what may be needed in our processes to assure that normal people can produce 100 percent good products . . .

"What we need are 'problem-seeing-eyed' people, alert and aware individuals who can cut through extraneous considerations to see the root cause of a problem, and then come up with a solution . . .

"The first thing we have to do is . . . integrate engineering and manufacturing to a greater extent . . . It makes no sense to wait until a product is ready for production to get the benefits of the experience our manufacturing people have gained on similar products . . .

"This kind of interaction may require some changes in attitude. Manufacturing needs to be more pro-active in the pre-production stages, to develop an up-front ownership in the success of new products.

"We also need to reinforce manufacturing as a full-fledged equal with engineering and marketing. The skill sets, though different, are equivalent."

Manufacturing people have been quick to take on a stronger role. In one division, engineers have been required to make important design changes in a planned major product to fit a Just in Time manufacturing process. In the past it sometimes has worked the other way, production people doing backflips and cutting didos to build an intricate design.

Manufacturing and marketing people are also influencing product serviceability. Sophisticated systems now let us measure what it costs when products are hard to repair. Engineers are being required to design for easy and fast service. Our field people wouldn't mind being the Maytag repairmen of the electronics industry.

How does the engineering staff respond to having copilots? Well, those people in TV Products wearing "Cost Busters" caps are all engineers.

#### A TOUGH PROGRAM PROVES ITSELF

Tek greatly prizes the exercise of individual judgment, and views rigid rules as something like hardening arteries. So, at first, to some, our Manufacturing Resources Planning program with its strict disciplines seemed . . . well, counter-cultural.

But MRP, now a solid success, has not proved counter to our culture other than in small ways. (Our open stock rooms, part of the Tek honor system, encouraged too-casual record-keeping.)

Tektronix now is an MRP pace-setter. Eighteen of our plants have met the demanding class A criteria assigned by an independent outside group. One of every six Class A plants in the world is ours. (We must note that many similar efficiency criteria to MRP exist; however, the above ratio stands.)

Tek's is the only Class A integrated-circuit operation anywhere. Our Laboratory Instruments Division is the largest high-tech plant we know of to make Class A—and one of the three or four biggest plants of any kind.

Part of MRP is sophisticated computer support, to keep track of otherwise overwhelming data. But the main part is employee self-discipline and, beyond that, employee enthusiasm. Our people have made MRP their own. "Class A-Plus" is a Tek invention, supplementing Class A specs with a few toughies of our own.



Our MRP is a “push” system, moving material in scheduled batches. Just in Time manufacturing is a “pull” system, in which parts move individually and only when someone calls for them. The one needs the other. Without MRP, the wrong parts are likely to arrive “just in time” to be returned.

To smooth the push vs. pull conflict, some of our groups run MRP computer programs three times a week instead of weekly. Others arm the computer with “pull” software.

SURE, WE REMEMBER JIT

There's a bit of *deja vu* in a Just in Time product line. In a more-structured way, JIT behaves much like Tek did in the one-room plant of our very earliest days: People then learned more than one job; they continually tinkered with the process to make it better; problems were quickly spotted, and jointly solved; waste was discouraged . . .

One JIT manager insists that parts should not stop moving, and that each move should add value. Since unnecessary complexity is unproductive, JIT demands that processes be made ever simpler. And, since no one knows the work better than the workers, a further implication is enormous employee involvement, including cross-training in several jobs. It also demands that materials and process quality be strictly controlled, and that an MRP system exist for orderly deliveries.

So it is that the four interlocking circles forming our Manufacturing Excellence symbol are MRP, JIT, Total Quality Commitment and People Involvement.

People get pretty inventive with JIT. To eliminate wasteful movement of material, one operation has set up its product line in the warehouse. Some others have moved their warehouse onto the shop floor.

Ideally JIT has no materials inventory at all. We're working on that. We deliver CRTs for our lab instruments and hybrid circuits for our portable scopes directly to the shop floor.

In JIT vocabulary, “rework” is a dirty word. Some of it must be done; but rework time is redundant time. Also, the same kind of hunch that says don't bet on a horse named Dobbin tells you a repaired product is not going to be as good as one that never was broken.

Cycle times are improving, the time it takes from raw parts to become finished product.





THE MOST POWERFUL PORTABLE OSCILLOSCOPES IN THE WORLD WERE FURTHER ENHANCED THIS YEAR WITH INTRODUCTION OF THREE TEKTRONIX 2465 SPECIAL EDITIONS. THESE EDITIONS GREATLY SIMPLIFY COMPLEX MEASUREMENTS AND EXTEND THE CAPABILITIES OF THE 2465, ALREADY THE STANDARD FOR THE INDUSTRY. IT PERFORMS MORE KINDS OF MEASUREMENTS FASTER THAN ANY OTHER PORTABLE.

(Claiming to have grown the world's biggest tomato guarantees someone else will stagger in the door with one the size of a pumpkin. So these next figures may not be our "best," but a sort of random sampling of good work:)

Cycle time on terminals has gone from 45 days three years ago to four days. High volume probes have improved from 10 days to under a day. Some portables now take less than a week to assemble; it was once 2 1/2 months. The 1240 logic analyzer has shortened its cycle from 45 days to 10.

Our entire Lab Instruments division last year improved its cycle time by 32 percent. Output per division employee increased 50 percent from the beginning of the year to the end.

As production lines get simpler, fewer people are needed. As inventory drops, fewer stockhandlers are needed.

Also, JIT is frugal with space. Our Unicorn terminal line gets almost seven times more sales-dollar output per square foot than our old processes, and uses one-sixth as many manufacturing employees per dollar of sales.

As we forge better communications links with suppliers, their deliveries get better and better in quality and promptness. Two-thirds of our incoming inspections have been eliminated in two years.

Open space yawns in some Tek buildings where inventory used to accrue dust. And we continue doing away with leased warehousing. Another 100,000 square feet fell by the wayside this year.

### *Management and Leadership*

It's worth noting that, for the first time in some while, our top management team has been intact for a whole year. Having (not always by choice) fed the executive ranks of start-up companies had diluted our own, and slowed our forward movement.

This year's improved company performance reflects that continuity of management. It reflects also the maturing of operating and line managers, and the payoff from remedial programs begun several years ago. And it is a tribute in particular to the focused personal leadership of executive vice-president Wim Velsink, named last August to head all our operating groups.

"Wim, over the years, has shown an uncommon ability to set priorities and stick to them," comments President Earl Wantland. "In his new role, he has also had the courage to 'go public' with his convictions. You know where he's coming from, and why. That's an important part of leadership.

"And he's willing to work harder than anyone else to back those convictions up. That consistency, between what he believes and how he behaves, has brought him respect and trust. What I think is sometimes less recognized is his humor and the empathy he has for people."

Wim, a 25-year Tek veteran, had set two major priorities for Tek this year.

"One was manufacturing excellence—he has been one of our strongest influences in that direction for several years," Earl said. "The other was putting us into position to challenge the leaders in CAE. And I believe the priorities are right on the money.

"With his ability to convey those priorities, and his purposeful leadership, Tek people have the feeling we're back on a winning roll."

Management changes during the year included appointment of George Kersels as vice-president. George is general manager of our Electronic and Mechanical Components Group.

After 25 years of influential service in product-development and manufacturing roles, Vice-President Bill Polits retired in January. Bill, who joined Tektronix out of college in 1950, held a variety of positions, including Vice-President, Engineering, and Group Vice-President, Manufacturing. From 1981 until his retirement, he was director of Corporate Quality Assurance.

Frank Warren, senior outside member of our board of directors, will retire at this year's annual meeting. Frank, who will be 70 in September, has given 21 years service to the board.

Other directors have complimented his quiet wisdom and broad perspective on economic and political trends that have affected Tek. A graduate engineer, he was formerly board chairman of Portland General Electric Company.

His personal counsel and thoughtful viewpoints have greatly benefited the board and affected for the better the fortunes of your company. Thank you, Frank.

### *The New and Future Products*

Computers and measurement instruments continue to marry. This year we linked more of our products to computer power.

Now compatible with the IBM PC (and our new TekStation AT) are our high-performance 7854 lab oscilloscope, the DAS 9100 logic analyzer and the 8540 integration unit for microprocessor development. Tek's GURU toolkit enables a PC to integrate with any GPIB-based instrument.



The DAS also has been interfaced to the DEC VAX, and our low-cost 4100 terminals are now plug-compatible with the IBM 3270.

Most of these linkages were independent of our move into computer-aided engineering. But they will all certainly prove useful to it.

Sales of laboratory instruments showed a gain. Part of the reason was strong defense-related business. Another was introduction of the R7103, rackmount version of our pace-setting 7104 1GHz oscilloscope. It's priced right, nothing comes near it in performance, and users like the rack configuration. Also, our 576 and 577 semiconductor curve tracers had an up year, in the face of a down one for chipmakers, who buy these products.

Logic analyzers had their best year yet; in August of 1985 they followed it up with the introduction of the 1241, which uses our unique color shutter. Spectrum analyzers took the hardest hit a re-energized Japanese competitor could give, and held their own.

The market liked two models of high-performance graphics workstation, the 4128 and 4129. Both provide 3-D images.

The 4129 is the more accomplished of the two. It can depict on its CRT screen solid objects with shaded surfaces in, for what it's worth, up to 1024 separate shades. The

4129 really lets you understand the object. You can simulate any kind of lighting you wish to view it under. You can view its cross-section at any point; and you can even see through the 3-D surfaces, if what's underneath matters to you.

The 4128 provides wire-frame, or skeletal, 3-D images plus 2D features, and can combine the two. Like the 4129, it can zoom, pan and rotate the objects.

Both workstations are expected to be popular for computer-aided drafting. Because of the 4129's shading capability, mapmakers also probably will like it.

Upgradeability is always on our minds. We've made these workstations compatible with our 4100 series terminals and our new 6000 intelligent graphics workstations as well. Our highly popular high-performance 4115 terminal was upgraded into the 4125.

The 6000 family of workstations, announced last fall, offers a wide range of computer power, breadth of product line and depth of software support. It should fit in well with almost any scientific or engineering environment.

The family will meet engineering and CAE needs, including design and simulation of the most complex circuit layouts.

The product line, two models of which are now available, offers interactive state-of-the-art graphics and support for Tektronix' popular 4000 family of display terminals. "Windows" on the screen allow the user to view concurrent processes; thus a 6000 can become several terminals at once.

The 6130 Intelligent Graphics Workstation is designed for engineering data analysis, software development and CAE. The more-powerful 6205 is well-suited for CAE also, as well as CAD applications. All 6000-series products run an enhanced version of the popular UNIX operating system, which can support several users and several tasks at one time.

It's not always the show-stoppers that are winners. Our TM5000 family of modular programmable instruments had excellent growth in sales—down from exceptional the year before. Neither new nor flashy, this line provides reliable mix-and-match versatility, a timeless need across the range of test and measurement.

The television industry is changing—a statement you might make any year. Two major changes affect us. One is the need for lower-price reliable measurement products for the fast-growing "professional" TV field—institutional, educational, cable. Spoiled by the finesse of studio television, this market insists on comparable quality, but at the same time is unwilling to pay as much for it.

Our 1710B is made for this frugal but quality-conscious market. Our first low-cost, easy-to-use waveform monitor, it offers unique burst-phase capability, normally obtainable only on a vectorscope. That enables system timing measurement for about half the cost of existing methods. The TSG170A also aims at professional TV; it is a low-cost, high-performance test signal generator.

Grass Valley Group's model 100 low-cost component switcher, the first GVG product to be sold through dealers, has proved very popular.

The second change is toward ever-greater sophistication: High-definition TV (1025 lines instead of the normal 525); and component television, which seeks better color fidelity by transmitting colors separately rather than mixing them at the studio and decoding them at the receiver.

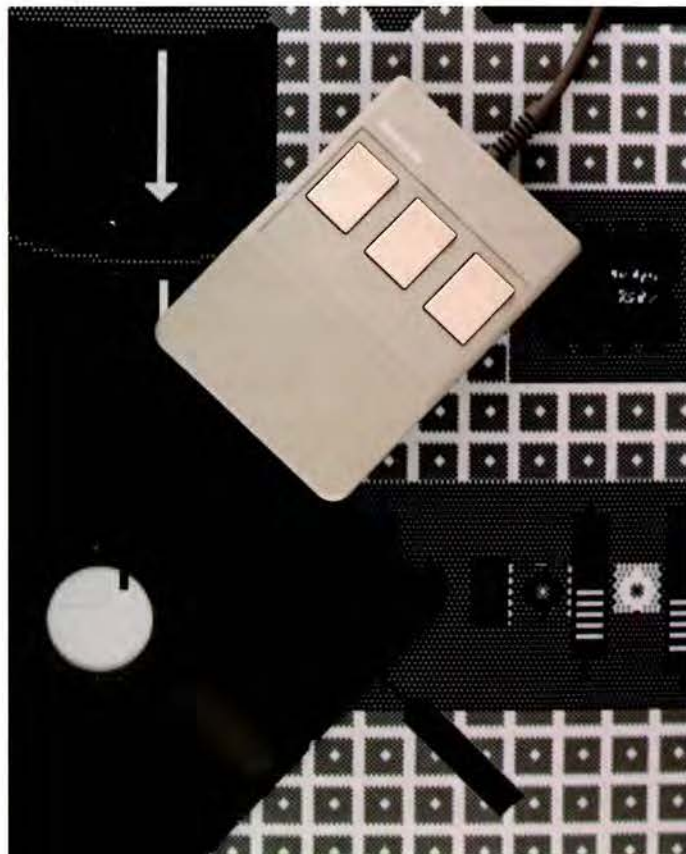
Tek's new TSG300 component television generator will meet the needs of these developing markets, as will the GVG model 100.

#### PRODUCTS AT THE EDGE OF TOMORROW

Our 4404 workstation is an enabling tool for developing artificial intelligence. At half the price and twice the speed of its nearest competitor, it is the first cost-effective and broadly useful implementation of Smalltalk, one of several AI languages it speaks.

The 4404 grew out of a Tektronix Labs research project. Most interest has come from the innovator segment, including corporate research labs, mostly for development of "expert" systems. By embodying the knowledge and perspective of specialists, these modules become surrogate advisors to decision-makers in geology, medicine, computer-aided engineering . . .

TEKTRONIX IS PLAYING A STRONG EARLY ROLE IN THE EMERGING FIELD OF ARTIFICIAL INTELLIGENCE. OUR 4404 ARTIFICIAL INTELLIGENCE SYSTEM IS THE FIRST BROADLY USEFUL IMPLEMENTATION OF SMALLTALK, A HIGHLY INTERACTIVE AI LANGUAGE. MODELS JUST ANNOUNCED OFFER EVEN GREATER POWER AND ADVANCED LANGUAGES.



As more and more 4404s are in the field, and we get a feel for their range of uses, we intend to convert it quickly into applications-specific AI tools, both for use at Tektronix and to embody in products.

As computers thus evolve from a database to a *knowledge* base, able to make inferences—with the goal of someday being able to learn—all human endeavor will be affected; then the mind can soar as on a winged horse. Fittingly, our workstation is called Pegasus.

In August 1985, we followed the 4404's success with announcement of the 4405 and 4406 systems, offering a broader, more powerful range of AI capabilities at prices well below the industry norm. At the same time, Tek introduced its version of the high-performance industry standard AI language—Tek Common LISP.

We believe these products' exceptional price/performance will capture a large portion of the emerging AI market.

The computer-aided engineering of tomorrow may be CASE, computer-aided software engineering. A very useful and cost-effective CASE product is SA Tools, announced this year.

As software systems grow more complex, so does the front-end job of conceptualizing them. Many systems analysts are turning to structured analysis (SA). An orderly set of logical disciplines, SA defines precisely what a system does, in terms of its data flow.

Defining system and software requirements typically is done by hand, covering D-size paper with webs of circles and linking lines. It is tedious and error-prone. There is much erasing.

Now, as efficiently as a word processor attacks writing and editing, SA Tools automates these mental and manual processes. It graphically depicts the system, checks for and corrects errors and generates downstream data for systems designers.

Catching a systems error at the front end—the conceptual stage—costs hundreds of times less than detecting it when the system is tested.

Our CAE exhibit at Las Vegas's Design Automation Conference coupled SA Tools to our new TekStation AT. It also works with VAX computers and our 8560 micro-computer development system.

Gallium arsenide is much faster than silicon. Its applications extend far beyond our own product lines. So this year TriQuint Semiconductor, Inc. was formed as a Tek subsidiary to manufacture and market GaAs ICs. As a Tektronix strategic program unit, it had followed up on GaAs research begun in Tek Labs in the late 1970s.

TriQuint was unflustered by the downturn in the semiconductor industry. Most of that translated into a lower demand for silicon devices.

TriQuint first offered foundry manufacturing services. Then it introduced its first semi-custom device, a high-speed cell array called the Q-Chip. It makes it easier and less costly to introduce GaAs circuits into high-speed systems.

The Q-Chip is unusual; it can be used to build both digital and microwave analog circuits. It provides three to five times the speed of silicon circuits—the fastest ratings of any packaged medium-scale-integration chip. TriQuint also plans a LSI-level gate array with up to 3000 gates.

TriQuint's is one of the world's few high-volume state-of-the-art GaAs manufacturing facilities. The company ranks, we believe, among the small handful of leading producers.

### *Doing Better*

In a market year when just to hold your own was regarded as a pretty fair achievement, we're hard put to say that we did poorly, or did well. It's easier to measure whether we are doing *better*. And, overall, we are.

The line of fine Tektronix tools has been fleshed out by adding and integrating CAE products. Ours may well be the first comprehensive hardware and software toolset for electronics engineers.

Our manufacturing grows ever more efficient, its managers professionals in the best sense. People are involving themselves more directly in the restructuring of their jobs and workgroups. The word "fun" is creeping back into the work vocabulary.

Some areas are showing us how dramatically time to market can be reduced. The time it takes technology to move from lab to product line also is being decreased.

Corporate goals, directions and strategies have been more explicitly defined, and broadly communicated. We're doing better there, too.

But "better" is a journey, not a destination. So the coming year must be one of doing better yet, if we are to become the agile, dynamic company we have in mind—a company saturated in excellence.



**BOARD OF DIRECTORS**

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 Howard Vollum, *Vice Chairman, Tektronix, Inc.*  
 Paul E. Bragdon, *President Reed College*  
 F. Paul Carlson, *President, Oregon Graduate Center*  
 James B. Castles, *retired Vice President, Tektronix, Inc.*  
 Leonard Laster, *President, Oregon Health Sciences University*  
 Donald O. Pederson, *Professor, University of California*  
 Louis B. Perry, *retired President, Standard Insurance Company*  
 William D. Walker, *President, Electro Scientific Industries, Inc.*  
 Earl Wantland, *President, Tektronix, Inc.*  
 Frank M. Warren, *retired Chairman, Portland General Electric Co.*

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Earl Wantland, *President and Chief Executive Officer*  
 Willem B. Velsink, *Executive Vice President*  
 Larry N. Choruby, *Senior Vice President and Chief Financial Officer*  
 John L. Landis, *Senior Vice President*  
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 Bill J. Robinson, *Controller*  
 N. Eric Jorgensen, *Assistant Secretary*  
 Edward J. Lewis, *Assistant Secretary*  
 Barbara J. Block, *Assistant Treasurer*  
 Fletcher C. Chamberlin, *Assistant Treasurer*

**SHAREOWNERS' MEETING**

The annual meeting of shareowners of Tektronix, Inc., will be held on Saturday, September 21, 1985, at 9 a.m. Pacific Daylight Time, in the Assembly Cafeteria Building, S.W. Karl Braun Drive, Tektronix Industrial Park, near Beaverton, Oregon.

**MAILING ADDRESS:**

Tektronix, Inc.  
 Beaverton, Oregon 97077

**TELEPHONE:**

(503)627-7111

**EXCHANGE LISTINGS:**

New York Stock Exchange  
 Pacific Stock Exchange

**TRANSFER AGENT AND REGISTRAR:**

Morgan Guaranty Trust Company of New York, New York

**INDENTURE TRUSTEE:**

Citibank, N.A., New York

**COMMON SHARE PRICES**

The Company's common shares are traded on the New York and Pacific Stock Exchanges. There were 6,134 shareowners of record at August 1, 1985. The market price range and close are the composite prices reported by The Wall Street Journal rounded to full cents per share.

1981	1982	1983	1984	1985	
					First fiscal quarter:
\$70.25	\$61.50	\$54.88	\$86.75	\$64.75	Highest trade
47.50	47.25	34.00	72.00	51.13	Lowest trade
67.63	47.38	37.00	73.75	63.25	Closing share price
					Second fiscal quarter:
69.88	54.75	54.00	86.75	67.00	Highest trade
59.25	45.13	36.75	70.50	54.13	Lowest trade
65.50	53.00	50.75	81.50	59.00	Closing share price
					Third fiscal quarter:
68.50	56.00	75.75	81.50	68.25	Highest trade
50.50	45.00	48.50	56.25	54.25	Lowest trade
52.63	45.00	75.00	58.00	65.63	Closing share price
					Fourth fiscal quarter:
63.25	56.25	76.50	65.75	65.63	Highest trade
51.75	42.38	61.00	55.00	56.50	Lowest trade
60.75	52.63	74.00	56.50	58.00	Closing share price

**DIVIDEND POLICY**

Dividends are paid at the discretion of the Board of Directors dependent upon their judgment of the Company's future earnings, expenditures and financial condition.

## TEKTRONIX MANAGEMENT REVIEW

Tektronix' principal product since its founding in 1946 has been the oscilloscope, an instrument for measuring and displaying graphically the time and magnitude of electrical phenomena. While the oscilloscope continues to be one of the most widely used test instruments and Tektronix its largest producer, oscilloscopes comprise only about one-third of the Company's current sales. Advances in technology, expanding customer needs, and the evolution of other instruments from the oscilloscope and its components have caused Tektronix' product offering to broaden dramatically since 1970. The Company's sales are predominately in the industrialized world and can be divided into three product classes: Instrument products, Design Automation and Information Display products, and Communication products.

Instrument products were 43% of total sales in 1985 and include analog and digital oscilloscopes, their modular plug-ins, counters, multimeters, semiconductor curve tracers, signal generators, timers, waveform digitizers, and related accessories such as instrument carts, probes and recording cameras. Instrument products annual sales growth has averaged 4% for the past five years.

Design Automation and Information Display products sales were 39% of Company sales in 1985. These products include logic analyzers, microprocessor software development systems, semiconductor test systems, computer aided engineering systems, graphic terminals and workstations, copy makers, inkjet printers and plotters. Design and Display products annual sales growth has averaged 12% for the past five years.

Communication products, 18% of 1985 sales, serve the television industry with frame synchronizers, picture and waveform monitors, routers, signal generators, switchers and vectorscopes. Products for the wider communications market are coaxial and fiber optic cable testers, fiber optic links, network analyzers, and spectrum analyzers. Communication products annual sales growth has averaged 13% for the past five years.

1981	1982	1983	1984	1985	
\$507,630	\$567,994	\$526,681	\$564,220	\$615,341	Instrument product sales
391,149	441,420	455,441	528,942	566,617	Design and Display product sales
163,055	186,334	209,363	239,796	256,124	Communication product sales

The Company's customers for this broad offering of instruments and systems are as diverse as the product applications. Key customer industries are aerospace, communications, computers and electrical equipment makers. Wherever there is scientific research; technical education; the design, testing or maintenance of electronics, there is a Tektronix market. The Company is a respected supplier noted for its technology, product reliability, and customer satisfaction. Customer acceptance has enabled most Tektronix' products to be the world leader or a very significant factor in the markets that they serve.

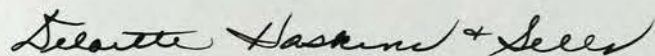
Continued on page 27

## AUDITORS' OPINION

To the Shareowners of Tektronix, Inc.:

We have examined the statements of consolidated financial position of Tektronix, Inc. and subsidiaries as of May 25, 1985, May 26, 1984, May 28, 1983, May 29, 1982, and May 30, 1981, and the related statements of consolidated income and reinvested earnings and of consolidated changes in financial position for the years then ended. Our examinations were made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the financial statements appearing on pages 26, 28 and 30 through 39, present fairly the financial position of the companies at May 25, 1985, May 26, 1984, May 28, 1983, May 29, 1982 and May 30, 1981, and the results of their operations and the changes in their financial position for the years then ended, in conformity with generally accepted accounting principles consistently applied during the period except for the change, with which we concur, in 1983 in the method of accounting for the effects of foreign currencies as described in the notes to the financial statements.



Portland, Oregon  
July 11, 1985

## TEKTRONIX CONSOLIDATED FINANCIAL POSITION in thousands

1981	1982	1983	1984	1985	
\$573,791	\$623,531	\$643,672	\$750,791	\$765,819	<b>Current Assets</b> are assets that should be converted to cash or used in operations within one year.
47,862	74,864	99,919	173,783	232,557	Cash and Investments—bank deposits and short-term investments
204,952	230,583	210,930	280,656	279,771	Accounts Receivable—due from customers after an allowance for doubtful accounts
293,705	290,268	293,585	260,369	219,056	Inventories—materials, accumulated manufacturing costs and finished products awaiting sale
27,272	27,816	39,238	35,983	34,435	Prepaid Expenses—supplies and services that have not been used, and deposits that will be refunded
214,527	233,351	198,103	218,819	228,452	<b>Current Liabilities</b> are obligations that are to be paid within one year
50,175	66,393	33,839	29,045	19,553	Short-Term Debt—borrowed for less than one year and that portion of long-term debt payable within a year
60,405	63,873	79,049	93,842	99,443	Accounts Payable—owed for materials, services, interest and miscellaneous taxes
28,788	23,118	15,280	11,046	17,081	Income Taxes Payable—to United States and foreign governments
75,159	79,967	69,935	84,886	92,375	Accrued Compensation—payable to employees, and their retirement and incentive plans
359,264	390,180	445,569	531,972	537,367	<b>Working Capital</b> is the current assets in excess of the current liabilities
340,912	379,365	398,117	409,301	398,524	Facilities—the cost of land, buildings and equipment after deducting accumulated depreciation
39,050	41,292	50,657	62,076	60,029	Other Assets—investment in unconsolidated companies, receivables due in more than one year, and intangibles
146,143	132,215	152,737	170,475	92,103	Long-Term Debt—funds borrowed for more than one year, less that portion due within a year
30,765	41,124	43,691	21,048	25,057	Deferred Tax Liability—income taxes which have not become payable
4,774	5,387	32,258	28,652	23,722	Other Liabilities—incentive compensation and early retirement expense payable in future years
557,544	632,111	665,657	783,174	855,038	<b>Shareowners' Equity</b> is the "net worth" of the Company owned by the shareowners
52,515	66,102	84,129	112,309	124,837	Share Capital—the proceeds of common shares sold less the cost of any shares repurchased
505,029	566,009	593,887	686,780	757,285	Reinvested Earnings—accumulated earnings that have been reinvested in the business
		(12,359)	(15,915)	(27,084)	Currency Adjustment—accumulated translation of foreign subsidiary financial statements
18,574	18,878	19,335	20,242	20,701	Common Shares—the number of shares outstanding at year-end

The accompanying notes are an integral part of these financial statements.

## FINANCIAL CONDITION

Tektronix' financial position is strong. The Company's funding is for the most part internally generated. As is detailed in the Changes in Financial Position statement, funds from operations have totaled \$470 million, or 12% of sales, for the past three years. Shareowners' equity has averaged 82% of invested capital for those same years. While debt is not currently a major element in the Company's capital structure, \$182 million of credit facilities are presently available if needed.

*Current Assets* Cash and investments have grown an average 46% a year since 1982, and now represent 19% of Tektronix' total assets. Most cash and investments are held by the Company's European subsidiaries. Accounts receivable continue to turn satisfactorily, with sales at 5.8 times average receivables for 1985.

Improvement in inventory levels is the most significant change in Tektronix' financial condition. Five years ago the Company embarked on a program to improve inventory and manufacturing management. As a result of this program, inventory levels remained approximately the same from 1982 to 1983, and since then inventories have been reduced by \$75 million. This improvement was achieved while sales grew 21%, and is more dramatic when expressed as inventory turnovers. Sales were 4.0 times average inventories in 1982, and 6.0 times in 1985—a 50% improvement in inventory investment in three years.

*Current Liabilities* Short-term debt is predominantly foreign currency borrowings by subsidiary sales companies. Short-term debt has declined from 4.0% of invested capital, to 2.0% during the past three years. Other current liabilities have remained relatively constant in relation to the level of business, varying between 13.8% and 14.5% of sales since 1982. Current liabilities have declined 2%, while current assets have increased 23% during the years 1983, 1984 and 1985. Working capital has increased from 32.6% of sales in 1982, to 37.4% at the close of 1985.

*Other Assets and Liabilities* Facilities expenditures for 1985 were the lowest in seven years, amounting to \$78 million. Facilities spending for equipment, buildings and land was \$94 million in 1983, and \$96 million in 1984. The Company has more capacity than it is utilizing. As a result, most current expenditures are for technologically advanced equipment, rather than buildings and land. The Company anticipates facilities expenditures will continue in the \$75 to \$100 million range for the near term. Approximately \$41 million was authorized as of last year-end to complete facilities projects.

Long-term debt has been reduced \$40 million in the past three years. After increasing in both 1983 and 1984, the 1985 debt reduction was \$78 million. Reduced inventories and capital expenditures were the major reasons for lower borrowing. In 1984 United States taxation related to Domestic International Sales Corporation (DISC) earnings was repealed. This removed \$33 million from the deferred tax liability with a corresponding reduction in 1984 income tax expense. Included in other liabilities is the unfunded, but previously accrued, expense associated with a 1983 early retirement program. Over the remaining funding period, \$22 million will be paid into the pension fund for these early retirements, with about two-thirds of that cash outflow offset by already accrued profit sharing and income taxes.

*Shareowners' Equity* The currency adjustment account established by a 1983 change in currency accounting has grown to \$27 million at year-end 1985. The strengthening of the United States dollar has caused this reduction in the translated net asset value of foreign sales operations, even though these investments remain productive in their resident currencies.

In March 1985 CAE Systems was acquired for 1.2 million Tektronix shares. This transaction was accounted for as a pooling of interests and thus CAE figures have been combined with Tektronix from 1982 through February 1985.

Continued on page 29

TEKTRONIX CONSOLIDATED INCOME AND REINVESTED EARNINGS in thousands

1981	1982	1983	1984	1985	
\$1,061,834	\$1,195,748	\$1,191,485	\$1,332,958	\$1,438,082	Net Sales and rentals to customers for products, components and services
513,145	595,340	615,999	672,932	693,442	Cost of Sales—the materials, labor and facilities used in manufacturing products and providing services
548,689	600,408	575,486	660,026	744,640	Gross Income remaining from sales revenue after manufacturing costs
91,147	109,179	126,521	151,813	191,169	Engineering Expense—for research and the development of products and components
157,105	180,651	185,848	199,279	227,291	Selling Expense—for marketing and sales programs, and the distribution system
100,715	109,069	121,350	132,772	139,586	Administrative Expense—for general management and supporting services
61,686	55,267	29,316	45,398	59,023	Profit Sharing—the incentive portion of employee compensation
138,036	146,242	112,451	130,764	127,571	Operating Income remaining from sales revenue after the costs and expenses of operations
25,274	29,537	25,913	25,709	19,338	Interest Expense—the cost of borrowed funds and banking services
19,630	9,535	(25,331)	949	12,220	Non-Operating Income—investment income, joint venture earnings, and other income and expense
132,392	126,240	61,207	106,004	120,453	Income Before Taxes remaining from sales revenue after operating costs and expenses and non-operating items
52,225	46,950	14,400	(6,050)	30,272	Income Taxes—provided for income related taxes levied by United States and foreign governments
80,167	79,290	46,807	112,054	90,181	Earnings remaining from sales revenue for reinvestment in the business and for dividends
441,494	505,029	566,009	593,887	686,780	Reinvested Earnings—from prior years
(16,632)	(18,310)	(18,929)	(19,161)	(19,676)	Dividends—declared for payment to the shareowners
505,029	566,009	593,887	686,780	757,285	Reinvested Earnings at year-end
4.34	4.23	2.45	5.74	4.41	Earnings Per Share—the earnings allocated to each of the weighted average common shares outstanding
.90	.98	1.00	1.00	1.00	Dividends Per Share—received by the shareowners
18,482	18,706	19,069	19,537	20,453	Average Shares—weighted for the number of common shares outstanding during the year

The accompanying notes are an integral part of these financial statements.

## RESULTS OF OPERATIONS

1985 customer orders were down 3%, in contrast to the 26% increase in 1984. The 1985 order decline appears to be due to economic and competitive conditions in the electronics industry and a general hesitancy by United States private sector customers to order new instrumentation. Internationally orders were up slightly based apparently on improved foreign economies due to the export competitiveness of their weaker currencies. The strong dollar, however, continues to make Tektronix products very expensive to our international customers, resulting in depressed volume. Sales in international markets have declined from 41% of the Company's sales in 1981, to 35% in 1984 and 36% in 1985.

*Net Sales* Sales gained 8% in 1985 as unfilled orders from 1984 were shipped. Unfilled orders totaled \$338 million at the beginning of 1985 and \$279 million at year-end. The 1985 sales gain was below the 12% increase in 1984, but improved from the slight decrease experienced in 1983. On a weighted average basis, across the product line, the Company's prices did not change significantly in 1985, while prices increased approximately 2% in 1984.

*Gross Income* A substantial decrease in manufacturing cost of sales has been achieved in each of the last two years due in large measure to the inventory and manufacturing improvement program. 1985 benefited from reductions in LIFO reserves related to inventories acquired in previous years. The gross income margin was 51.8% in 1985, up more than two percentage points from 49.5% in 1984, and from 48.3% in 1983.

*Operating Income* Engineering expenses have been increasing rapidly and in 1985 were at the highest ratio to sales since 1947, when the Company was in its start-up phase. The portion of sales revenue devoted to product development was 13.3% in 1985, 11.4% in 1984, and 10.6% in 1983. With this increased spending, the Company is endeavoring to develop and expand its innovative new products.

Selling expense has remained at about the same in ratio to sales for the past three years, between 15.0% in 1984 and 15.8% in 1985. On that same basis, administrative expense has varied from 10.2% to 9.7%. Profit sharing, explained in the Incentive Plans note to the financial statements, has been increasing along with income before taxes. In 1985 profit sharing was 4.1% of sales, up from 3.4% in 1984 and 2.5% in 1983. Higher operating expenses reduced the gross income to an operating income margin of 8.9% in 1985, down from 9.8% in 1984, and 9.4% in 1983.

*Income Before Taxes* Interest expense was down \$6 million in 1985 from the level of the prior two years. This was primarily a result of debt reduction. In 1983 a nonrecurring early retirement program caused non-operating income to be a \$25 million expense. In 1984 a nonrecurring discount settlement with the United States Government left non-operating income at less than \$1 million. Assisted by rising investment income, non-operating income was a more normal \$12 million in 1985. The significant details of this income are in the Non-Operating Income note to the financial statements. The pretax income margin has been increasing from 5.1% in 1983, to 8.0% in 1984, and to 8.4% in 1985.

*Earnings* The 1984 nonrecurring DISC tax law change reduced the provision for income taxes by \$33 million, which caused a negative tax of \$6 million and earnings to be more than the income before taxes. Income taxes in 1985 were at an effective rate of 25.1%, which compares to the 1983 rate of 23.5%. The Income Tax note to the financial statements reconciles these effective tax rates with the United States statutory rate.

As is explained in the CAE Systems note to the financial statements, combining CAE and Tektronix reduced earnings \$6 million for the first three quarters of 1985, \$6 million for 1984, and \$2 million for 1983. Earnings per share were further reduced by 1.2 million new shares issued in this transaction. The combined effect of the CAE acquisition reduced reported earnings per share by 13% for 1985.

Earnings were 6.3% of sales in 1985, 8.4% in 1984, and 3.9% in 1983. The 1985 manufacturing cost of sales improvement reduced the negative impact on earnings caused by increased operating expenses. The earnings decline in 1985, and in large part the 1984 increase, was caused by the DISC tax windfall. Earnings were at a reduced level in 1983 due partially to the expense of the early retirement program.

Earnings declined 20% in 1985, after gaining 139% in 1984. Without the nonrecurring items which increased earnings \$32.8 million in 1984 for DISC taxes, and reduced earnings \$1.6 million in 1984 for Government discounts and \$11.1 million in 1983 for early retirements—earnings would have increased 12% in 1985 and 40% in 1984.

TEKTRONIX CONSOLIDATED CHANGES IN FINANCIAL POSITION in thousands

1981	1982	1983	1984	1985	
\$ 121,934	\$ 144,534	\$ 140,129	\$ 160,630	\$ 168,763	<b>Funds From Operations</b>
80,167	79,290	46,807	112,054	90,181	Earnings
42,228	56,480	66,860	74,903	79,243	Depreciation Expense
(7,252)	(1,595)	(2,423)	(3,684)	(4,670)	Joint Venture Earnings—Net
6,791	10,359	2,567	(22,643)	4,009	Deferred Income Taxes
		26,318			Unfunded Early Retirement
24,984	15,877	5,995	41,124	(75,336)	<b>Net Financing</b>
4,366	16,218	(32,554)	(4,794)	(9,492)	Short-term Debt
(22,963)	(36,189)	(3,289)	(3,100)	(83,073)	Long-term Debt Reductions
32,910	22,261	23,811	20,838	4,701	Long-term Debt Additions
10,671	13,587	18,027	28,180	12,528	Share Capital
(139,569)	(115,099)	(102,140)	(108,729)	(14,977)	<b>Other Changes in Financial Position</b>
(6,883)	(25,631)	19,653	(69,726)	885	Accounts Receivable
(30,142)	3,437	(3,317)	33,216	41,313	Inventories
(5,132)	(544)	(11,422)	3,255	1,548	Prepaid Expenses
11,371	3,468	15,176	14,793	5,601	Accounts Payable
1,384	(5,670)	(7,838)	(4,234)	6,035	Income Taxes Payable
3,575	4,808	(10,032)	14,951	7,489	Accrued Compensation
(114,065)	(102,660)	(94,059)	(96,204)	(78,476)	Facilities Expenditures
323	7,693	2,058	(1,224)	11,797	Other Assets and Liabilities
		(12,359)	(3,556)	(11,169)	Currency Adjustment
(16,632)	(18,310)	(18,929)	(19,161)	(19,676)	Dividends
(9,283)	27,002	25,055	73,864	58,774	<b>Change in Cash and Investments</b>

The accompanying notes are an integral part of these financial statements.

## TEKTRONIX CONSOLIDATED NOTES TO FINANCIAL STATEMENTS

### ACCOUNTING POLICIES

*Principles of Consolidation* The consolidated financial statements include the accounts of Tektronix, Inc. and its wholly owned subsidiaries (the Company) since dates of organization or acquisition. All material intercompany transactions and balances have been eliminated.

*Investments* Investments in joint venture companies, where the Company holds fifty percent or less of their share capital, are stated at cost plus the Company's equity in their reinvested earnings. Investments in other companies are accounted for on the cost or equity basis depending on the Company's share in their common stock. Investments are included in other assets. All material intercompany income has been eliminated.

*Foreign Currencies* Income of foreign affiliates is translated into United States dollars at average rates of exchange. Most foreign sales operations' assets and liabilities are translated into dollars at current rates of exchange with changes in exchange rates reflected in the currency adjustment to shareowners' equity. Foreign manufacturing operations, and sales operations in highly inflationary economies, translate monetary assets and liabilities into dollars at current rates of exchange and include the gains and losses in non-operating income, while other assets and liabilities are carried at their historic values. All transaction gains and losses are included in non-operating income. Prior to 1983 all foreign affiliates used the currency accounting method now employed by foreign manufacturing operations.

*Inventories* Inventories are stated at the lower of cost or market. Cost is determined on the last-in, first-out basis (LIFO) for most United States inventories, and on the first-in, first-out basis (FIFO) for all other inventories.

*Facilities and Depreciation* Facilities are stated at their original cost when acquired. Depreciation for financial accounting purposes is generally provided by accelerated methods over the estimated useful lives of the facilities ranging from 10 to 48 years for buildings and 3 to 15 years for equipment. Leasehold improvements are amortized on a straight-line basis over the estimated useful life or the lease term, whichever is less.

*Engineering Expense* Expenditures for research, development and engineering of products and manufacturing processes are expensed as incurred.

*Pension Expense* Pensions are funded as accrued, including amortization of past service cost by the declining balance method over 20 years.

*Income Taxes* Investment tax credits reduce income taxes in the year the related facility is placed in service. Depreciation and amortization for tax reporting is provided over the shortest allowable lives. Prior to the 1984 tax law revisions, income tax deferral resulting from Domestic International Sales Corporation subsidiaries was recognized in the provision for income taxes and included in the deferred tax liability.

*Per Share Amounts* The earnings per share are based on the weighted average number of shares outstanding during the fiscal year as restated for the acquisition of CAE Systems.

*Fiscal Year* The Company's fiscal year is the 52 or 53 weeks ending the last Saturday in May. The 52 week years are comprised of 13 four-week accounting periods separated into two 12-week quarters ending during August and November, a 16-week quarter ending during March, and a 12-week quarter ending during May. A 53 week year results in a five-week accounting period and a 13-week quarter at the beginning of the fiscal year.

*Rounding* All financial amounts, except per share, are rounded to the nearest one thousand dollars in the financial statements and tables to the notes.

### CAE SYSTEMS

On March 22, 1985, the Company issued 1,233,000 of its previously unissued common shares in exchange for all of the outstanding shares of CAE Systems, Inc. This acquisition was treated for accounting purposes as a pooling of interests and accordingly the consolidated financial statements have been restated as though the companies were combined since the founding of CAE Systems in June 1981. Sales and earnings of the separate companies through February 1985 were:

1982	1983	1984	1985 (unaudited)	
\$1,195,748	\$1,191,380	\$1,331,309	\$1,057,878	Tektronix' net sales
	105	1,649	6,467	CAE Systems' net sales
79,453	48,714	117,970	66,578	Tektronix' earnings
(163)	(1,907)	(5,916)	(6,289)	CAE Systems' losses



#### BUSINESS SEGMENTS

The company and its affiliates operate predominately in a single industry segment: The design, manufacture, sale and service of electronic measurement, design, display and control instruments and systems used in science, industry and education.

Geographically, the Company operates primarily in the industrialized world. Sales, income and assets in the United States, Europe and other geographic areas were:

1981	1982	1983	1984	1985	
\$ 625,335	\$ 729,369	\$ 734,328	\$ 862,944	\$ 923,674	U.S. sales to customers
71,714	89,212	89,941	97,663	128,654	U.S. export sales to customers
219,976	237,339	228,393	218,628	223,917	U.S. transfers to affiliates
917,025	1,055,920	1,052,662	1,179,235	1,276,245	U.S. sales
322,900	328,469	324,273	327,420	333,214	European sales to customers
2,665	25,756	18,650	46,754	44,620	European transfers to affiliates
325,565	354,225	342,923	374,174	377,834	European sales
41,885	48,699	42,943	44,931	52,540	Other area sales to customers
(222,641)	(263,096)	(247,043)	(265,382)	(268,537)	Inter-area eliminations
<u>\$1,061,834</u>	<u>\$1,195,748</u>	<u>\$1,191,485</u>	<u>\$1,332,958</u>	<u>\$1,438,082</u>	Net Sales
\$ 118,688	\$ 121,342	\$ 83,147	\$ 76,916	\$ 73,465	U.S. operating income
30,132	31,363	36,233	56,426	61,441	European operating income
3,768	4,186	3,829	3,986	6,733	Other area operating income
(8,412)	(2,937)	(1,461)	5,025	(1,169)	Inter-area eliminations
144,176	153,954	121,748	142,353	140,470	Area operating income
(6,140)	(7,712)	(9,297)	(11,589)	(12,899)	General corporate expense
(25,274)	(29,537)	(25,913)	(25,709)	(19,338)	Interest expense
19,630	9,535	(25,331)	949	12,220	Non-operating income
<u>\$ 132,392</u>	<u>\$ 126,240</u>	<u>\$ 61,207</u>	<u>\$ 106,004</u>	<u>\$ 120,453</u>	Income Before Taxes
\$ 680,138	\$ 748,508	\$ 785,278	\$ 821,964	\$ 793,340	U.S. assets
198,702	192,785	184,137	192,133	176,061	European assets
16,383	18,042	14,664	18,600	17,708	Other area assets
(14,395)	(15,992)	(16,330)	(13,861)	(12,135)	Inter-area eliminations
880,828	943,343	967,749	1,018,836	974,974	Area assets
27,011	29,377	31,585	37,511	38,339	Joint venture equity
45,914	71,468	93,112	165,821	211,059	Corporate cash and investments
<u>\$ 953,753</u>	<u>\$1,044,188</u>	<u>\$1,092,446</u>	<u>\$1,222,168</u>	<u>\$1,224,372</u>	Total Assets

Transfers of products and services are made at arms-length prices between geographic areas. The profit on transfers between geographic areas is not recognized until sales are made to nonaffiliated customers. Area operating income includes all directly incurred and allocatable costs, except identified corporate expenses. Identifiable assets are those which are specifically associated with the operations of each geographic area.

Net sales to United States or foreign governments were not more than 10 percent of consolidated net sales in any of the past five years, and no other customer accounted for more than 4 percent of sales.

#### FOREIGN AFFILIATES

The Company has 19 foreign operating subsidiaries located in Australia, Austria, Belgium, Brazil, Canada, Denmark, Finland, France, Germany, Guernsey, Italy, The Netherlands, Norway, Spain, Sweden, Switzerland, and the United Kingdom with a branch in Ireland. The assets, liabilities, sales and income of foreign subsidiaries are included in the consolidated financial statements in these amounts:

1981	1982	1983	1984	1985	
\$208,864	\$218,375	\$233,030	\$315,053	\$299,359	Current assets
68,207	68,548	69,334	77,964	72,901	Current liabilities
28,938	34,787	29,727	34,511	29,615	Facilities less depreciation
410	603	95	257	492	Other assets
8,228	9,449	7,598	26,211	22,764	Other liabilities
\$364,785	\$377,167	\$367,215	\$372,351	\$385,755	Net sales
105,403	109,479	106,268	137,951	146,086	Gross income
34,285	30,808	34,760	61,781	68,418	Operating income
33,301	31,948	34,916	65,005	78,383	Income before taxes
19,401	21,048	21,787	47,515	49,566	Earnings

The Company has investments in joint venture companies in Japan and Mexico. The Company's share of the assets, liabilities, sales and income of these unconsolidated affiliates; as well as the Company's arms-length sales to, purchases from, and accounts receivable consisted of:

1981	1982	1983	1984	1985	
\$32,173	\$33,429	\$31,166	\$36,506	\$38,869	Current assets
16,892	16,166	15,149	14,224	13,979	Current liabilities
8,686	9,114	13,023	13,303	11,492	Facilities less depreciation
4,236	3,895	4,213	3,428	3,427	Other assets
1,417	1,237	1,560	1,868	1,805	Other liabilities
\$59,660	\$61,520	\$57,368	\$57,078	\$63,779	Net sales
23,728	21,613	18,668	20,539	22,683	Gross income
14,181	11,161	7,761	10,327	12,204	Operating income
15,575	10,419	7,966	10,939	13,158	Income before taxes
7,597	4,023	3,636	4,785	5,885	Earnings
\$54,130	\$59,244	\$56,136	\$50,991	\$64,028	Sales to
10,954	10,665	9,288	12,509	7,962	Purchases from
10,143	11,803	9,840	10,128	8,980	Accounts receivable

There are no significant restrictions which prevent dividends to the parent company from foreign affiliates.

#### ACCOUNTS RECEIVABLE

The accounts receivable have been reduced by an allowance for doubtful accounts which was \$2,177,000 in 1981, \$2,186,000 in 1982, \$2,092,000 in 1983, \$2,698,000 in 1984, and \$2,945,000 in 1985. The net charges to this reserve for uncollected credit sales were not material.

#### INVENTORIES

The inventories valued on a first-in, first-out basis (FIFO) approximate current cost. Inventories, less a reserve adjusting these inventories to the last-in, first-out basis (LIFO), consisted of:

1981	1982	1983	1984	1985	
\$254,623	\$263,630	\$279,037	\$266,423	\$209,177	Materials and work-in-process
115,181	130,221	127,170	101,519	103,636	Finished goods
369,804	393,851	406,207	367,942	312,813	Inventories at FIFO
(76,099)	(103,583)	(112,622)	(107,573)	(93,757)	LIFO reserve
<u>\$293,705</u>	<u>\$290,268</u>	<u>\$293,585</u>	<u>\$260,369</u>	<u>\$219,056</u>	Inventories
83%	89%	89%	89%	87%	Inventories valued at LIFO

Inventory reductions in 1985 liquidated lower cost LIFO inventories acquired in prior years and this added approximately \$5,700,000 to earnings.

#### FACILITIES AND DEPRECIATION

The original cost of facilities, additions and disposals consisted of:

1981	1982	1983	1984	1985	
\$ 15,524	\$ 27,656	\$ 28,251	\$ 29,567	\$ 31,430	Land at prior year-end
12,668	1,200	1,698	2,097	50	Additions
(536)	(605)	(382)	(234)	(363)	Dispositions
<u>27,656</u>	<u>28,251</u>	<u>29,567</u>	<u>31,430</u>	<u>31,117</u>	Land at year-end
163,598	195,132	211,945	228,347	228,134	Buildings at prior year-end
34,935	17,790	20,253	2,552	11,133	Additions
(3,401)	(977)	(3,851)	(2,765)	(1,774)	Dispositions
<u>195,132</u>	<u>211,945</u>	<u>228,347</u>	<u>228,134</u>	<u>237,493</u>	Buildings at year-end
193,514	254,126	322,532	392,721	444,701	Equipment at prior year-end
69,119	82,444	83,504	84,628	68,113	Additions
(8,507)	(14,038)	(13,315)	(32,648)	(25,329)	Dispositions
<u>254,126</u>	<u>322,532</u>	<u>392,721</u>	<u>444,701</u>	<u>487,485</u>	Equipment at year-end
30,125	27,468	28,694	17,298	24,225	Construction at prior year-end
(2,657)	1,226	(11,396)	6,927	(820)	Net changes
<u>27,468</u>	<u>28,694</u>	<u>17,298</u>	<u>24,225</u>	<u>23,405</u>	Construction at year-end
<u>\$504,382</u>	<u>\$591,422</u>	<u>\$667,933</u>	<u>\$728,490</u>	<u>\$779,500</u>	Facilities

The accumulated depreciation, depreciation expense and depreciation related to disposals consisted of:

1981	1982	1983	1984	1985	
\$ 37,462	\$ 44,736	\$ 53,769	\$ 62,554	\$ 70,923	For buildings at prior year-end
7,535	9,317	9,923	9,972	9,467	Depreciation expense
(261)	(284)	(1,138)	(1,603)	(775)	Depreciation related to dispositions
<u>44,736</u>	<u>53,769</u>	<u>62,554</u>	<u>70,923</u>	<u>79,615</u>	For buildings at year-end
88,528	118,734	158,288	207,262	248,266	For equipment at prior year-end
34,693	47,163	56,937	64,931	69,776	Depreciation expense
(4,487)	(7,609)	(7,963)	(23,927)	(16,681)	Depreciation related to dispositions
<u>118,734</u>	<u>158,288</u>	<u>207,262</u>	<u>248,266</u>	<u>301,361</u>	For equipment at year-end
<u>\$163,470</u>	<u>\$212,057</u>	<u>\$269,816</u>	<u>\$319,189</u>	<u>\$380,976</u>	Accumulated Depreciation

#### OTHER ASSETS

The other long-term assets consisted of:

1981	1982	1983	1984	1985	
		\$10,008	\$ 8,983	\$ 7,958	Deferred profit sharing
\$10,046	\$ 8,409	6,566	9,542	7,655	Goodwill and other intangibles
27,011	29,377	31,585	37,511	38,339	Investments in joint venture companies
			3,630	3,700	Investments in other companies
<u>1,993</u>	<u>3,506</u>	<u>2,498</u>	<u>2,410</u>	<u>2,377</u>	Long-term contracts receivable
<u>\$39,050</u>	<u>\$41,292</u>	<u>\$50,657</u>	<u>\$62,076</u>	<u>\$60,029</u>	Other Assets

#### SHORT-TERM DEBT

The Company has lines of credit with United States and foreign banks which aggregated \$74 million at May 25, 1985, of which approximately \$57 million was unused. The charges are not significant for those lines that are fee compensated. A summary of short-term borrowings was:

1981	1982	1983	1984	1985	
\$29,458	\$30,640	\$30,714	\$26,326	\$17,543	Borrowings at year-end:
17.1%	16.0%	13.9%	13.5%	12.3%	Outstanding
					Average interest rate
					At accounting period-end:
\$23,144	\$29,855	\$30,080	\$25,840	\$19,040	Average outstanding
15.7%	15.5%	15.1%	13.6%	12.0%	Average interest rate
\$31,224	\$45,312	\$38,320	\$31,605	\$26,874	Maximum outstanding

#### LONG-TERM DEBT

The Company maintains revolving credit commitments which are convertible in 1987 to four-year term loans. These commitments, all unused, aggregated \$125 million at May 25, 1985, and may be borrowed or are available to support commercial paper borrowings. The long-term indebtedness consisted of:

1981	1982	1983	1984	1985	
\$ 31,000	\$ 51,900	\$ 74,500	\$ 74,500		Commercial paper borrowings
75,000	75,000	75,000	75,000	\$75,000	11% Notes due July 15, 1990
35,000	35,000				8 <sup>7</sup> / <sub>8</sub> % Notes due May 15, 1983
20,000					9 <sup>1</sup> / <sub>8</sub> % Note due November 15, 1981
2,720	3,193	507	18,623	13,380	Foreign currency borrowings
3,140	2,875	5,855	5,071	5,733	Other borrowings
166,860	167,968	155,862	173,194	94,113	Long-term borrowings
(20,717)	(35,753)	(3,125)	(2,719)	(2,010)	Current maturities
<u>\$146,143</u>	<u>\$132,215</u>	<u>\$152,737</u>	<u>\$170,475</u>	<u>\$92,103</u>	Long-Term Debt

The 11% Notes may be redeemed at any time at the option of the Company on or after July 15, 1986, at the principal amount together with accrued interest. The foreign currency borrowings are due from December 15, 1988 to April 12, 1994 and are comprised of \$7,889,000 at fixed interest rates ranging from 12.0% to 14.3%, and the remainder at floating interest rates with a weighted average rate of 12.9% at year-end.

Aggregate long-term debt and early retirement principal payments for each of the next five years will be \$6,217,000 in 1986, \$12,024,000 in 1987, \$10,402,000 in 1988, \$5,487,000 in 1989, and \$84,000 in 1990.

#### COMMITMENTS

The Company is committed under operating leases for buildings and equipment in the aggregate amount of \$37,012,000; payable \$10,789,000 in 1986, \$6,641,000 in 1987, \$4,180,000 in 1988, \$3,087,000 in 1989, \$2,531,000 in 1990, and \$9,784,000 thereafter.

The cost to complete facilities projects authorized at May 25, 1985 is approximately \$41 million.

#### SHAREOWNERS' EQUITY

The company has authorized capital of 60 million no par value common shares and 1 million no par value preferred shares. None of the preferred shares have been issued.

In 1983 the Company changed its method of accounting for the effects of foreign currencies. While this change was not applied to prior years, \$4,542,000 of the currency adjustment to equity related to years before 1983.

#### EXPENSE SUPPLEMENT

A summary of selected expense categories is:

1981	1982	1983	1984	1985	
\$14,169	\$15,166	\$16,432	\$18,878	\$17,296	Advertising expense
36,433	38,007	38,907	39,133	36,487	Maintenance and repair expense
16,179	17,591	16,321	14,777	15,631	Rental expense

#### BENEFIT PLANS

The parent company and a domestic subsidiary have defined benefit pension plans which are integrated with social security and cover most United States employees. The weighted average assumed rate of return used in determining the actuarial present value of accumulated plan benefits was 7.5% through 1983, and 9.5% thereafter. The present value of accumulated plan benefits, the plan net assets available for benefits, the unfunded early retirement and pension expense for the year were:

1981	1982	1983	1984	1985	
\$39,577	\$48,788	\$103,961	\$ 85,920	\$ 95,578	Vested benefits
11,864	13,725	12,875	11,530	16,217	Non-vested benefits
<u>\$51,441</u>	<u>\$62,513</u>	<u>\$116,836</u>	<u>\$ 97,450</u>	<u>\$111,795</u>	Plan Benefit Value
\$60,205	\$78,262	\$143,011	\$150,866	\$188,705	Plan net assets available for benefits
		26,318	21,844	17,635	Long-term unfunded early retirement
12,172	14,857	48,248	10,598	10,686	Pension expense

Included in 1983 pension expense is \$30,500,000 providing a pension supplement for employees who accepted a one-time early retirement opportunity. The long-term unfunded portion of this expense is included in other liabilities and accrues interest at 10.75%.

Foreign subsidiaries provide for employee retirement in keeping with the practices and laws of the countries in which they operate. Foreign plans are not considered to be material and are not required to report to United States government agencies. Foreign subsidiary pension expenses were \$2,733,000 in 1981, \$2,900,000 in 1982, \$3,116,000 in 1983, \$3,327,000 in 1984, and \$2,755,000 in 1985.

The Company provides certain health care and life insurance benefits for retired employees. This cost, which has not been material, has been charged to administrative expense as paid.

Amounts owing under pension and incentive plans, included in accrued compensation, were \$33,870,000 in 1981, \$31,078,000 in 1982, \$24,303,000 in 1983, \$32,455,000 in 1984, and \$35,811,000 in 1985.

#### INCENTIVE PLANS

As a part of compensation, most employees receive cash and deferred profit share amounting to 27.5% of income of participating companies after certain adjustments and before profit sharing, incentive compensation, charitable contributions and income taxes. Additional profit share of 7.5% is contributed to a retirement trust for parent company employees.

The Company has incentive compensation plans for executives. The plans provide for compensation based on financial performance over one and three-year periods. Provision for this expense is included in profit sharing.

The Company has stock option plans for selected employees. At May 25, 1985, 1,617,000 common shares were reserved for issuance under these plans. There were 899,000 shares subject to outstanding options, of which 289,000 were exercisable at a weighted average purchase price of \$56.91. The outstanding options are held by 1,185 participants, are exercisable at prices from \$35.90 to \$83.60, and expire between July 7, 1987 and March 28, 1995. There is no material potential dilution to earnings per share from unexercised stock options. The options that have been exercised under these plans are:

1981	1982	1983	1984	1985	
33,294	6,740	38,321	44,994	38,362	Number of shares
\$ 757	\$ 108	\$ 2,039	\$ 2,394	\$ 1,673	Option value

The stock option plans allow stock appreciation rights to be granted to participants. When granted, all or part of an option may be surrendered for shares or payment in an amount equal to the difference between the option price and the market price of the option right surrendered. Provision for the difference between current market price and option price of outstanding stock appreciation rights is included in profit sharing.

Profit sharing expense consisted of:

1981	1982	1983	1984	1985	
\$48,166	\$45,393	\$20,631	\$35,559	\$45,821	Cash and deferred profit share
12,067	11,934	5,092	8,803	11,664	Retirement profit share
(218)		189	2,282	1,373	Incentive compensation provision
1,671	(2,060)	3,404	(1,246)	165	Stock appreciation rights provision
<u>\$61,686</u>	<u>\$55,267</u>	<u>\$29,316</u>	<u>\$45,398</u>	<u>\$59,023</u>	Profit Sharing

Most employees are eligible to participate in an Employee Share Purchase Plan in which 4,072 employees were participants, of 17,219 eligible employees, at May 25, 1985. Under the Plan 251,131 common shares of the Company were reserved at May 25, 1985, and 478,650 at May 26, 1984. During 1985, 227,510 shares with a market value of \$13,298,000 were issued for \$10,638,000 while 160,906 shares with a market value of \$11,344,000 were issued for \$9,075,000 in 1984. The share purchase discount provided in the plan has been charged to non-operating income.

NON-OPERATING INCOME

The non-operating sources of income and expense which comprise non-operating income consisted of:

1981	1982	1983	1984	1985	
\$ 8,183	\$10,489	\$ 9,143	\$11,676	\$ 18,968	Investment income
7,597	4,023	3,636	4,785	5,885	Equity in joint venture earnings
(3,309)	(2,679)	(3,035)	(1,612)	(2,306)	Currency gains (losses)
10,538		(30,500)	(5,000)		Nonrecurring income (expense)
(3,379)	(2,298)	(4,575)	(8,900)	(10,327)	Other income (expense)—net
<u>\$19,630</u>	<u>\$ 9,535</u>	<u>\$(25,331)</u>	<u>\$ 949</u>	<u>\$ 12,220</u>	Non-Operating Income

The nonrecurring income is the sale of the Company's patient monitoring business in 1981. The nonrecurring expense is the actuarial cost of an early retirement program in 1983, and the settlement of sales discount claims with the U.S. Government in 1984.

INCOME TAXES

The provision for income taxes consisted of:

1981	1982	1983	1984	1985	
\$31,225	\$ 28,950	\$ (1,772)	\$(29,150)	\$ (6,132)	United States
7,100	7,100	3,043	5,250	6,589	State
13,900	10,900	13,129	17,850	29,815	Foreign
52,225	46,950	14,400	(6,050)	30,272	Income taxes provided
(4,386)	(4,444)	(3,122)	32,800		Undistributed subsidiary earnings
	(4,667)	(4,808)	(6,127)	(5,663)	Depreciation timing differences
		8,721	(1,013)	(1,013)	Early retirement program
(2,405)	(1,248)	(3,358)	(3,017)	2,667	Other tax deferrals—net
(6,791)	(10,359)	(2,567)	22,643	(4,009)	Income taxes deferred
		12,250			Prepaid for inventory obsolescence
<u>\$45,434</u>	<u>\$ 36,591</u>	<u>\$24,083</u>	<u>\$ 16,593</u>	<u>\$26,263</u>	Income Taxes Currently Payable

The above provisions were less than the amounts which would result by applying the United States statutory rate to income before income taxes. A reconciliation of the difference is:

1981	1982	1983	1984	1985	
\$60,901	\$58,145	\$29,032	\$ 51,483	\$55,408	Income taxes based on U.S. statutory rate
	(3,821)	(3,618)	(5,712)	(7,428)	U.S. research and experimentation tax credits
(5,258)	(6,041)	(6,517)	(6,372)	(4,478)	U.S. investment tax credits
(2,204)	2,054	1,094	(33,978)	(5,520)	Other U.S. adjustments
3,833	3,829	1,643	2,835	3,558	State income taxes net of U.S. tax
(1,552)	(5,365)	(5,561)	(12,105)	(8,561)	Effect of foreign subsidiaries taxed below U.S. rate
(3,495)	(1,851)	(1,673)	(2,201)	(2,707)	Effect of after-tax joint venture earnings
<u>\$52,225</u>	<u>\$46,950</u>	<u>\$14,400</u>	<u>\$ (6,050)</u>	<u>\$30,272</u>	Income Taxes

Included in 1984 other U.S. adjustments is \$32,800,000 (\$1.68 per share), which is a reversal of deferred tax liability due to the repeal of United States taxation related to Domestic International Sales Corporation earnings. In 1985 other U.S. adjustments includes \$5,922,000 of foreign tax credits, offset by \$2,893,000 relating to CAE Systems' losses prior to acquisition.

Undistributed reinvested earnings of foreign subsidiaries amounted to approximately \$282 million at May 25, 1985, of which United States income taxes have been provided on approximately \$48 million. No additional income tax provision has been made for the transfer of undistributed reinvested earnings to the parent company, as the Company has no present intention of transferring those earnings. Equity in the reinvested earnings of joint venture companies amounted to approximately \$37 million at May 25, 1985, all of which has been recognized for United States income tax purposes.

#### INFLATION (unaudited)

The Company has attempted to identify the financial effects of changing prices using the current cost method which is, unlike the historical cost financial statements, dependent upon estimates, approximations and assumptions. The current cost method measures changes in specific prices for the inventories and facilities used in the Company's operations, using appropriate price indexes. The effect of general inflation on the current cost information is based on the U.S. Consumer Price Index for All Urban Consumers and is measured after translation of foreign currency financial statements.

To adjust historical financial information to current costs, the cost of sales is revised to reflect changes in inventory prices for foreign inventories which are not on the last-in, first-out (LIFO) basis. No adjustment is required for United States inventories, which are valued on the LIFO basis, because historical cost of sales approximates current cost. Depreciation expense is adjusted to reflect increased costs to construct facilities at current prices. This revision is based on the same depreciation methods, useful lives and salvage values as used in the historical cost statements. Income taxes are not adjusted because current tax laws do not recognize the effects of inflation.

Changing prices also cause gains or losses in the purchasing power of monetary items which are money or a claim to receive or pay money in an amount which is presently fixed or determinable. Since the Company holds in cash and receivables from customers amounts in excess of that owed creditors, a future loss occurs as these assets are recovered with money that has declined in purchasing power as measured in inflated dollars.

This financial information, stated in average 1985 dollars, has been adjusted for the effects of changing prices:

1981	1982	1983	1984	1985	
<u>\$1,300,083</u>	<u>\$1,345,011</u>	<u>\$1,280,400</u>	<u>\$1,382,944</u>	<u>\$1,438,082</u>	Net Sales
\$ 98,157	\$ 89,187	\$ 50,291	\$ 116,256	\$ 90,181	Earnings
					Adjustments for:
(3,125)	(1,670)	1,469	29	(1,057)	Cost of sales before depreciation
<u>(11,192)</u>	<u>(11,400)</u>	<u>(11,778)</u>	<u>(11,804)</u>	<u>(8,256)</u>	Depreciation expense
<u>\$ 83,840</u>	<u>\$ 76,117</u>	<u>\$ 39,982</u>	<u>\$ 104,481</u>	<u>\$ 80,868</u>	Earnings adjusted for specific prices
\$ 4.54	\$ 4.07	\$ 2.10	\$ 5.34	\$ 3.95	Earnings per share
1.11	1.11	1.08	1.04	1.00	Dividends per share
71.20	57.80	78.54	57.52	56.92	Closing share price
860,497	937,008	957,503	1,040,860	1,063,743	Shareowners' equity
		(7,143)	(1,805)	(4,960)	Aggregate currency adjustment
9,871	6,663	2,120	(262)	(5,342)	Gain (loss) from decline in purchasing power
23,981	(1,831)	12,559	26,915	39,178	Excess of the increase in general inflation over specific prices for inventories and facilities
257.5	280.3	293.4	303.9	315.3	Average consumer price index

At May 25, 1985, the current cost of inventories was \$312,813, and facilities was \$529,562. The 1985 decrease in specific prices for inventories and facilities aggregated \$6,994 in average 1985 dollars. The difference results because the costs of materials and components used in the design and manufacture of the Company's products have not increased as much as general price levels.

#### QUARTERLY FINANCIAL SUMMARY (unaudited)

In the opinion of management, this unaudited quarterly financial summary, restated for the acquisition of CAE Systems, includes all adjustments necessary to present fairly the results for the periods represented:

12 Weeks to Aug 20, 1983	12 Weeks to Nov 12, 1983	16 Weeks to Mar 3, 1984	12 Weeks to May 26, 1984	52 Weeks to May 26, 1984	
\$266,023	\$285,076	\$403,004	\$378,855	\$1,332,958	Net sales
134,157	140,060	197,952	187,857	660,026	Gross income
24,868	27,019	37,028	41,849	130,764	Operating income
19,726	17,250	34,251	34,777	106,004	Income before taxes
12,781	11,515	23,731	64,027	112,054	Earnings
.66	.59	1.21	3.28	5.74	Earnings per share
.25	.25	.25	.25	1.00	Dividends per share
12 Weeks to Aug 18, 1984	12 Weeks to Nov 10, 1984	16 Weeks to Mar 2, 1985	12 Weeks to May 25, 1985	52 Weeks to May 25, 1985	
\$307,020	\$336,156	\$421,169	\$373,737	\$1,438,082	Net sales
155,062	168,286	224,199	197,093	744,640	Gross income
27,548	28,287	39,229	32,507	127,571	Operating income
24,517	28,734	37,003	30,199	120,453	Income before taxes
16,242	20,039	24,008	29,892	90,181	Earnings
.80	.99	1.17	1.45	4.41	Earnings per share
.25	.25	.25	.25	1.00	Dividends per share

In the quarter ended May 26, 1984, earnings exceed income before taxes because DISC deferred taxes were reversed, and in the quarter ended May 25, 1985, earnings nearly exceed income before taxes because of additional foreign tax credits.



**TEKTRONIX CONSOLIDATED FINANCIAL PERFORMANCE**

1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	
30.13	33.88	40.50	49.25	49.75	60.75	52.63	74.00	56.50	58.00	Closing Share Price
61.2%	12.4%	19.5%	21.6%	1.0%	22.1%	-13.4%	40.6%	-23.6%	2.7%	Market appreciation
.6%	.7%	1.4%	1.5%	1.6%	1.8%	1.6%	1.9%	1.4%	1.8%	Dividend yield
14.0%	17.5%	18.9%	21.3%	19.4%	15.5%	13.4%	7.2%	16.1%	11.1%	Return on Equity
8.2%	9.7%	9.5%	9.8%	8.8%	7.5%	6.6%	3.9%	8.4%	6.3%	Earnings margin
1.70x	1.81x	1.99x	2.17x	2.21x	2.05x	2.02x	1.84x	1.92x	1.77x	Equity turnover
12.3%	15.4%	16.7%	18.7%	15.8%	12.3%	11.0%	6.4%	13.5%	10.2%	Return on Capital
8.7%	10.0%	9.8%	10.1%	9.4%	8.3%	7.4%	4.6%	9.0%	6.7%	Preinterest margin
1.40x	1.55x	1.72x	1.85x	1.70x	1.47x	1.48x	1.38x	1.50x	1.52x	Capital turnover
376,000	513,000	650,000	847,000	1,049,000	1,040,000	1,221,000	1,124,000	1,418,000	1,379,000	Customer Orders
14.3%	36.4%	26.7%	30.3%	23.8%	-9%	17.4%	-7.9%	26.2%	-2.8%	Increase
18.6%	25.0%	27.5%	28.2%	30.2%	28.4%	26.3%	22.5%	23.8%	20.2%	Unfilled orders
366,645	454,958	598,886	786,936	971,306	1,061,834	1,195,748	1,191,485	1,332,958	1,438,082	Net Sales
8.9%	24.1%	31.6%	31.4%	23.4%	9.3%	12.6%	-.4%	11.9%	7.9%	Increase
53.8%	56.9%	55.5%	54.3%	52.8%	51.7%	50.2%	48.3%	49.5%	51.8%	Gross margin
15.8%	16.8%	15.7%	15.4%	15.2%	13.0%	12.2%	9.4%	9.8%	8.9%	Operating margin
15.1%	16.6%	16.0%	16.1%	14.1%	12.5%	10.6%	5.1%	8.0%	8.4%	Pretax margin
45.5%	41.9%	40.8%	39.1%	37.9%	39.4%	37.2%	23.5%	-5.7%	25.1%	Income tax rate
30,089	43,971	56,846	77,151	85,072	80,167	79,290	46,807	112,054	90,181	Earnings
14.3%	46.1%	29.3%	35.7%	10.3%	-5.8%	-1.1%	-41.0%	139.4%	-19.5%	Increase
1.71	2.49	3.19	4.28	4.66	4.34	4.23	2.45	5.74	4.41	Earnings per share
.12	.225	.48	.60	.79	.90	.98	1.00	1.00	1.00	Dividends per share
344,860	415,328	491,130	642,907	841,693	953,753	1,044,188	1,092,446	1,222,168	1,224,372	Total Assets
1.15x	1.24x	1.36x	1.44x	1.34x	1.19x	1.20x	1.12x	1.18x	1.22x	Asset turnover
5.90x	6.18x	6.22x	6.02x	5.92x	5.55x	5.73x	5.82x	6.10x	5.83x	Receivable turnover
3.72x	4.32x	4.55x	4.19x	4.02x	3.66x	4.04x	3.91x	4.60x	5.97x	Inventory turnover
4.27x	4.98x	5.75x	5.20x	4.12x	3.51x	3.36x	3.05x	3.33x	3.55x	Facility turnover
273,659	319,287	374,133	493,891	665,343	753,862	830,719	852,233	982,694	966,694	Invested Capital
1.1%	1.7%	2.8%	5.9%	6.9%	6.7%	8.0%	4.0%	3.0%	2.0%	Short-term debt
14.1%	12.5%	9.9%	12.6%	20.5%	19.4%	15.9%	17.9%	17.3%	9.5%	Long-term debt
84.8%	85.8%	87.3%	81.5%	72.6%	73.9%	76.1%	78.1%	79.7%	88.5%	Shareowners' equity
12,970	14,637	19,147	21,291	23,890	24,028	23,241	21,121	20,816	20,525	Employees
3,705	3,906	3,987	4,935	5,921	7,300	7,496	7,795	7,747	7,840	Square feet in use

Returns, ratios and turnovers are based on average assets and capital. Amounts are in thousands except per share and employees.

**CORPORATE OFFICE:**

Tektronix, Inc.  
Beaverton, Oregon

**UNITED STATES  
MANUFACTURING:**

Beaverton, Oregon  
Forest Grove, Oregon  
Portland, Oregon  
Redmond, Oregon  
Vancouver, Washington  
Wilsonville, Oregon

**UNITED STATES SALES AND  
SERVICE:**

Albany, NY  
Albuquerque, NM  
Atlanta, GA  
Baltimore, MD  
Boston, MA  
Chicago, IL  
Cleveland, OH  
Concord, CA  
Dallas, TX  
Dayton, OH  
Denver, CO  
Detroit, MI  
Fort Lauderdale, FL  
Houston, TX  
Huntsville, AL  
Indianapolis, IN  
Irvine, CA  
Kansas City, KS  
Knoxville, TN  
Long Island, NY  
Los Angeles, CA  
Milford, CT  
New Orleans, LA  
Newport News, VA  
Oklahoma City, OK  
Orlando, FL  
Pensacola, FL  
Philadelphia, PA  
Phoenix, AZ  
Pittsburgh, PA

Portland, OR  
Poughkeepsie, NY  
Raleigh, NC  
Rochester, NY  
St. Louis, MO  
St. Paul, MN  
Salt Lake City, UT  
San Antonio, TX  
San Diego, CA  
Santa Clara, CA  
Seattle, WA  
Syracuse, NY  
Washington, DC  
Woodbridge, NJ

**AMERICAS-PACIFIC  
OPERATIONS:**

Tektronix, Inc., Beaverton, Oregon

**EUROPEAN OPERATIONS:**

Tektronix Europe B.V.,  
Amstelveen, The Netherlands  
Tektronix Limited, Guernsey,  
Channel Islands

**INTERNATIONAL  
MANUFACTURING:**

\*Sony/Tektronix Corporation,  
Tokyo and Gotemba, Japan  
Tektronix Guernsey Limited,  
Guernsey, Channel Islands  
Tektronix Holland N.V.,  
Heerenvveen, The Netherlands  
Tektronix U.K. Limited,  
Hoddesdon, United Kingdom  
Tektronix Inc., Buying Office,  
Tokyo, Japan

**INTERNATIONAL SALES  
AND SERVICE:**

Algeria—Tektronix Limited,  
Algiers  
Australia—Tektronix Australia  
Pty. Limited, Sydney, Adelaide,  
Brisbane, Canberra, Melbourne  
and Perth  
Austria—Tektronix Ges.m.b.H.,  
Vienna  
Belgium—Tektronix S.A.,  
Brussels  
Brazil—Tektronix Industria e  
Comercio Ltda., Sao Paulo and  
Rio de Janeiro  
Canada—Tektronix Canada Inc.,  
Barrie, Calgary, Edmonton,  
Halifax, Montreal, Ottawa,  
Toronto, Vancouver and  
Winnipeg  
China—Tektronix China, Limited,  
Hong Kong, Beijing, and  
Shanghai  
Denmark—Tektronix A/S,  
Copenhagen  
Finland—Tektronix Oy, Helsinki  
France—Tektronix, Paris, Aix-en-  
Provence, Lyon, Nanterre,  
Rennes, Strasbourg and Toulouse  
Germany—Tektronix GmbH,  
Cologne, Berlin, Hamburg,  
Karlsruhe, Munich, and  
Nuremberg  
Ireland—Tektronix U.K. Limited,  
Dublin  
Italy—Tektronix S.p.A., Milan,  
Rome and Turin  
Japan—\*Sony/Tektronix  
Corporation, Tokyo, Atsugi,  
Fukuoka, Nagoya, Osaka,  
Sendai, Tama and Tsuchiura  
Mexico—\*Tektronix S.A. de C.V.,  
Mexico City  
The Netherlands—Tektronix  
Holland N.V., Badhoevedorp  
Norway—Tektronix Norge A/S,  
Oslo  
Spain—Tektronix Espanola S.A.,  
Madrid and Barcelona  
Sweden—Tektronix AB,  
Stockholm and Gothenburg  
Switzerland—Tektronix  
International A.G., Zug and  
Geneva  
United Kingdom—Tektronix  
U.K. Limited, Marlow,  
Harpenden, Livingston, and  
Manchester

\*Joint Venture Companies

**SUBSIDIARY COMPANIES:**

CAE Systems, Inc.  
Sunnyvale, California  
Dubner Computer Systems, Inc.,  
Fort Lee, New Jersey  
The Grass Valley Group, Inc.,  
Grass Valley, California  
V-R Information Systems, Inc.,  
Austin, Texas

