

MEASUREX—Materials and Energy Control
through advanced sensor, computer
and software technologies.



CORPORATE PROFILE

Measurex is a leading producer of sensor-based, computer process control systems for use in continuous process industries and energy-intensive applications. The Company is engaged in the design, development, manufacture and marketing of digital systems.

Measurex—an acronym for "MEASUREMENT EXcellence"—has built a worldwide reputation for its customers. The Company's systems use proprietary sensors to measure and improve the management of product qualities.

Principal users of Measurex systems include the paper, pulp, building products, metals, plastics and rubber industries, as well as other energy-intensive industries. By optimizing manufacturing operations, Measurex customers produce more product from a given quantity of raw material, increase output, and gain greater uniformity of finished product. As a result, customers consume less energy

and fewer raw materials while productivity and product quality are improved.

The computer, which receives data from Measurex sensors, is programmed as an integrated display, control and information system. It makes possible precise control of the production process and provides color graphic displays and printouts for use by process operators and plant management.

Measurex has pioneered the development of energy management systems to optimize energy usage in industrial plants. The basic strategy of the Measurex energy system is to reduce the amount of fuel required to meet process steam and electrical demands. This application of digital computer control in the energy management field has broadened Measurex' market base.

With corporate headquarters located in Cupertino, California, in the heart of Santa Clara County's high technology "Silicon Valley," Measurex has 2080 employees around the world. The Company also has a manufacturing facility in Waterford, Ireland, an engineering facility in Cork, Ireland, and operates an engineering and systems assembly and test facility at its wholly owned subsidiary in Tokyo, Japan.

FINANCIAL HIGHLIGHTS

	1980	1979	Percent Change
Revenues	\$122,033,000	\$119,474,000	2%
Net income	\$ 7,323,000	\$ 9,928,000	(26)%
Net income per share	\$ 2.09	\$ 2.82	(26)%
Dividends per share	\$.50	\$.50	—
End of Year:			
Working capital	\$ 48,719,000	\$ 54,474,000	(11)%
Total assets	\$131,668,000	\$136,192,000	(3)%
Total debt	\$ 22,967,000	\$ 33,795,000	(32)%
Shareholders' equity	\$ 75,534,000	\$ 68,164,000	11%
Number of employees	2,080	2,101	(1)%
Revenues per employee (average employment)	\$ 58,000	\$ 61,000	(5)%
Backlog	\$ 30,400,000	\$ 37,800,000	(20)%
Shares outstanding	3,488,000	3,412,000	2%



TO OUR SHAREHOLDERS:

Economic conditions during the past year presented management with a number of challenges. As a result of the effects of inflation on raw material and energy costs, our customers' needs for the savings which Measurex products provide were significantly increased. The recession and high interest rates, however, forced many of them to delay their buying decisions. For the year:

- Incoming orders for equipment were \$83.9 million
- Total revenues for equipment and service were \$122.0 million
- Earnings per share were \$2.09
- Closing order backlog was \$30.4 million

While we maintained our position as the world's leading producer of sensor-based computer process control systems for use in continuous process industries and energy-intensive applications, our financial results were disappointing. Reflecting the softening business conditions in both the United

States and Europe, sales and installation revenues declined. The severe downturn in the automotive and housing industries had considerable impact on several of our markets, including the building products, rubber and plastics businesses.

Service revenues and profits increased substantially as a result of the increased number of systems installed and pricing actions taken during the year. We anticipate continued profitable growth from our service business.

Primarily because of lower shipment levels, net income was \$7.3 million, or \$2.09 per share, 26 percent below the \$9.9 million, or \$2.82 per share, earned in 1979. Rapidly escalating interest rates also adversely affected earnings. While some increase in interest rates was expected, none of us anticipated the magnitude of these increases or the effect they would have on the buying decisions of our customers.

Our asset management programs produced signifi-

cant reductions in debt, reflecting lower accounts receivable and inventories. Borrowings at the end of the year were \$23 million, a reduction of \$11 million during the year. The combined debt of Measurex and its nonconsolidated finance subsidiaries declined by \$19 million. Our success in reducing debt enabled us to partially offset the impact of the high interest rates which prevailed throughout most of 1980.

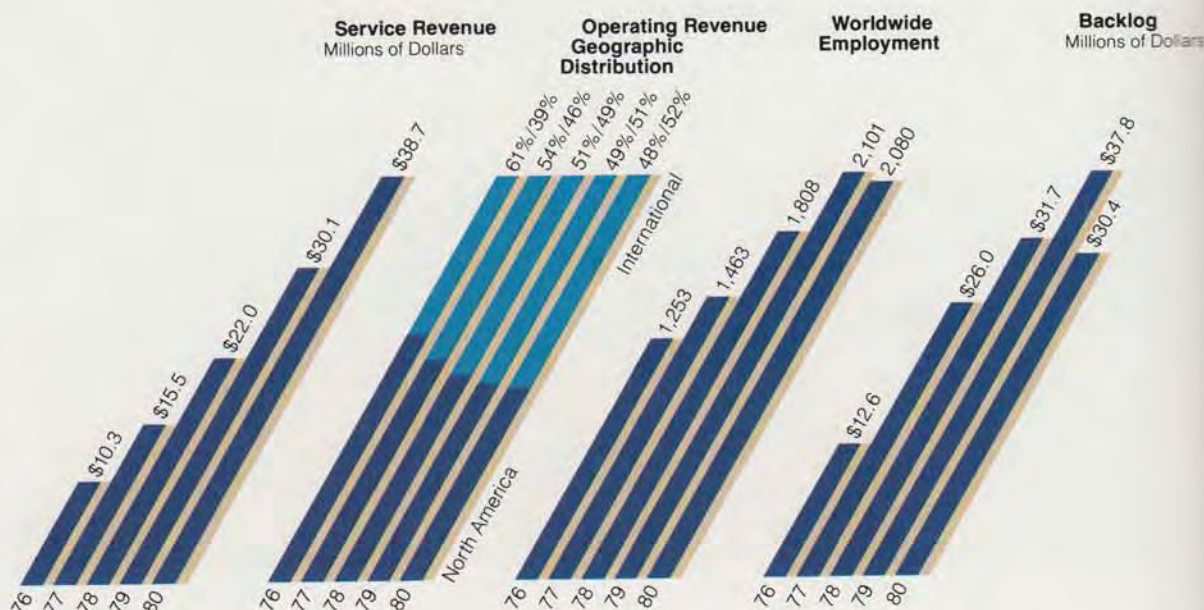
Since its inception in 1968, the primary objective of our company has been to provide industry with more efficient means of reducing costs, conserving energy and raw materials, and increasing productivity. A total of 1477 systems have been ordered from Measurex in 33 countries around the world.

During the past year we have made significant technological improvements in our products. These improvements represent further steps in Measurex' evolution and reflect our ongoing

commitment to serve our customers with the most advanced products to meet their conservation and productivity requirements.

In order for us to sustain the pace of our innovative development and maintenance programs for Measurex systems, we must be proficient in many diverse technological disciplines for application to:

- Sensors, largely involving non-contacting techniques such as infrared and visible light, beta rays, and X rays.
- Digital computer technology involving the design of digital process input/output modules, microcomputers and memory systems.
- Interactive color video displays for the operator interface.
- Control systems involving state-of-the-art control engineering for all of the processes we serve.
- Advanced software systems providing high quality software at minimum cost through the use of preprogrammed BLOC™ language.



- Communication networks to link process units and plants together.

Measurex has made significant investments in each of these areas. In 1980, we announced important new products related to each of them. The principal focus of this year's annual report is on these new products.

As 1980 came to a close, we announced the next generation of the Measurex 2000 series, which will be used in all of the industries we serve. The System 2002 employs state-of-the-art hardware and software in a continuation of the evolutionary development of the Measurex 2000 series. All of the 725 Systems 2000 and 2001 in the field can readily be updated to the 2002 level of technology.

In October, we introduced the DataFreeway™ mill-wide communications network which permits control systems within a plant to be easily connected by a single cable for the exchange of information. Existing and future Measurex,

as well as most non-Measurex computers and instrument buses may be connected to the DataFreeway™ network. The DataFreeway™ network provides a superior method of collecting the information which is required for effective management of equipment, materials, energy, and resources.

New sensors continue to be required in order to control final product variables. During 1980 we announced the availability of the following significant new on-line sensors:

- A full spectrum color and brightness sensor for use in the paper and plastics industries.
- An optical sensor to measure the smoothness of paper during the manufacturing process.
- A multi-wavelength sensor to measure pulp consistency, color and brightness.
- An infrared sensor to measure thin plastic film such as is used in the production of magnetic recording tape.
- The DynaCO™ sensor, a low cost sensor for measurement of the CO and CO₂ content in stack gases, the key to boiler control.

We continued work on the development of Measurex energy systems and have achieved outstanding results in the innovation of controls for many different types of boilers. The most significant announcement relating to our energy product line was the introduction of the 2002 EnergyMaster™ System in December. This is a low cost, easy-to-install system for use in power plants producing as little as 25,000 pounds of steam per hour. A single 2002 EnergyMaster™ system will control up to four boilers. It is based upon the new DynaCO™ sensor for measurement of CO and CO₂ in stack gases as the basis for combustion control. The availability of this system more than doubles the potential use of Measurex systems in energy markets.



If the inflation in raw materials and energy costs continues, technologies like those pioneered by Measurex will be even more essential for improved productivity and the conservation of both energy and raw materials. Our detailed knowledge of the continuous process industries, the wide variety of energy-intensive applications for Measurex energy management systems, and the mill-wide control capability which we have developed will enable our company to help a growing number of industries in their stepped-up efforts to control costs. We expect the increasing acceptance of our Measurex systems to offer our company solid opportunities for profitable growth in the coming years.

I want to express my gratitude to the directors and employees of Measurex for their skill, dedication, and support.

Sincerely,

David A. Bossen
David A. Bossen



Fiber optics technology has made possible the development of the LIGHT-COM™ link for transmitting information between elements of the Measurex 2002 System.

EVOLUTION

The concept of Measurex evolved with the realization that the advent of the mini-computer permitted the design of sophisticated turn-key control systems for the continuous process industries.

With the introduction of the Measurex System 1000 in 1968—the first dedicated sensor-based Computer Control System—Measurex inaugurated a new standard for measurement accuracy and improved product quality controls for the pulp and paper industry. New applications for this technology were soon identified in other industries, rubber and aluminum.

In the early 1970's, it became apparent that customer savings could be improved by expanding system memory. With this

technology, customers could derive greater profits from the system through a broader range of more sophisticated controls and sensors. The introduction of Measurex System 2000 in 1974 provided the solution. The key to its increased effectiveness was a Measurex designed extended memory which permitted the addition of more controls and sensors. It also permitted expansion into the large energy systems market.

The interactive color video displays and improved diagnostics of the System 2000 simplified the plant operator's job and extended system benefits to all levels of plant management.

In 1977, Measurex announced the Measurex 2001 System, "a family of related

Major Product Developments

Measurex System 1000: computer-based sensor measurements and computer processing unit for high measurement accuracy and tighter control of pulp and paper manufacturing processes. Technological advances in 1969 produced the first dedicated sensor-based computer control system, digital sensors, three-point standardization. Electronic profile display and decoupled control software.
1968/69

BLOC™ software. Patented INFRAND® (infinite random scattering) optics. Air-gap temperatures compensation
1000 system for Tire calender control.
1050 system for aluminum rolling mill control
1970-73

Measurex 2000: first system with extended memory, interactive video, distributed intelligence, and serial communications
Mill-wide data links
1080 system for wire fabric calendar control
Measurex 2000 Energy Control System for black liquor recovery boilers
1974

Sensors for steel belted tires
Multiple control communication system
Power boiler and co-generation energy management control systems
2000 systems, for tire calenders and flat die extruders.
1975

Level III controls: caliper profile, stock blending, advance refiner controls
Measurex extruder control system: fully-distributed intelligence, shared data terminal for multi-line communications
Non-contacting caliper sensor
Same-spot infrared sensor for plastic coatings
2040 scanner
"Spectral tuned" X ray sensor for aluminum foil
Advanced control strategies for boiler and turbine generator control and economic optimization
1976

products". The expanded use of microprocessors within this system provided distributed intelligence for sensor support, the video controller, printer/plotter, and operator station for greater reliability and maintainability.

Measurex System 2002 was introduced in December, 1980. It consolidates all of the Measurex System refinements made over previous years and incorporates state-of-the-art technology. New software features enhance the usability of the system while extensive diagnostics simplify maintenance. The System 2002 provides the speed necessary to extend the dimensions of process control.



The energy-intensive paper industry requires heavy investment in product control systems. Measurex systems have found worldwide acceptance in the industry.



Measurex systems help eliminate material waste in continuous process manufacturing operations. In the plastics industry, Measurex systems regulate the thickness of plastic sheet and film. Similar applications are serving the rubber and metals industries.



Measurex offers energy control systems that provide significant reductions in fuel usage and rapid investment paybacks. Measurex' energy systems minimize fuel costs in each boiler by controlling boiler operation near maximum efficiency and allocating steam load optimally within the boiler complex. Flue Gas Analyzers are used to sense stack gases as the basis for both control and environmental monitoring.

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Measurex 2001: first family of systems with fully distributed intelligence, greater reliability and configuration flexibility; microprocessor-based diagnostics

Infrared thickness measurement for plastic films
Autoprofile cross-directional control for extruded sheet and film

Vinyl calender control system

Measurex Flue Gas Analyzer: first digital on-line measurement of principal constituents of flue gas

2001 Tread extrusion control system

Quadrapac™ sensor package: revolutionary sensor housing, environmentally protected, plug-in, modular sensors

Moisture profile control

Energy monitor

Measurex Control Center

Measurex foam extrusion measurement control

Dual measurement sensors for the plastics industry

Intelligent Soot blowing

Optimization incorporated in recovery boiler energy control

CO-based combustion control system for industrial boiler

Electric tie-line control

Biaxially-oriented film systems with Autoprofile control

Wide-gap caliper measurement technology

Hazard-reduced scanners and sensors

High precision caliper sensor

Zoom high resolution profile measurement

Advanced quality lab monitoring

Cross-direction weight controls

Energy control systems to accommodate multiple processes

Measurex System 2002: Electronic consolidation plus new high speed computer, new operator station design, LIGHTCOM™ fiber optics communication.

ULTRA 1™ software

MeasureTest™ diagnostics

DataFreeway™ network

EnergyMaster™ 2002 system

DynaCO™ sensor for combustion control

Versabrite™ pulp sensor

Advanced sensor-based combustion control strategies for bed-fired boilers.

Load shedding energy control system

Hydratrol™ weight profile control

Full-spectrum color and brightness sensor

Smoothness sensor

1977

1978

1979

1980



SYSTEM 2002

The System 2002 was introduced in December 1980. It establishes a new standard for the digital process control industry and provides twice the computing power of System 2001 while utilizing significantly less hardware.

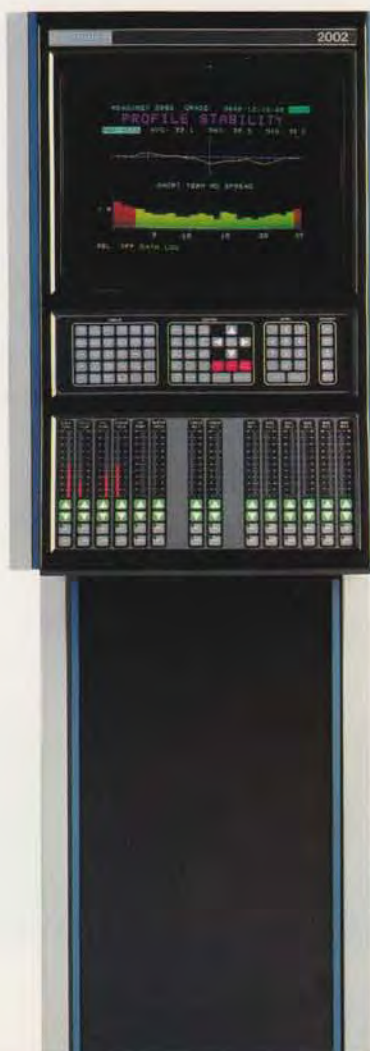
Measurex System 2002 is the most powerful, flexible, and efficient sensor-based digital process control system available today and demonstrates Measurex' continuing commitment to excellence. Its distributed intelligence doubles the electronic speed of previous generation systems and offers a dramatic reduction

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Measurex System 2002 Operator Control Station

New in Measurex System 2002 are SPECTRA™ (software package) for product variability analysis and AIM™ (software package) for faster system start-up and better continuing performance.

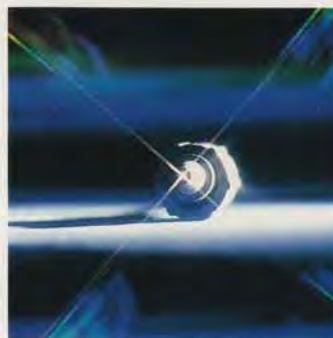
Modular system design and ULTRA I™ software permits a single unit to support multiple scanners, Operator Control Stations and Intelligent Graphic Printers, as well as links to a mill-wide data transmission network.



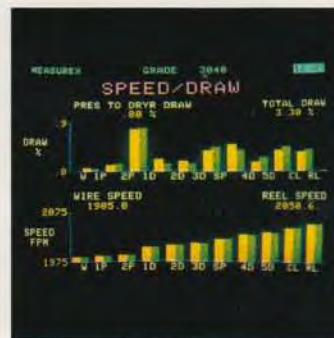
in the number of components for greater reliability. New interactive displays offer the latest in process and product monitoring and control, diagnostic testing, report generation, and sensor and process calibration. Other advanced features include Hydratrol™ weight profile control, Measure-Test™ diagnostics, the DataFreeway™ mill-wide information network, plus new sensors.



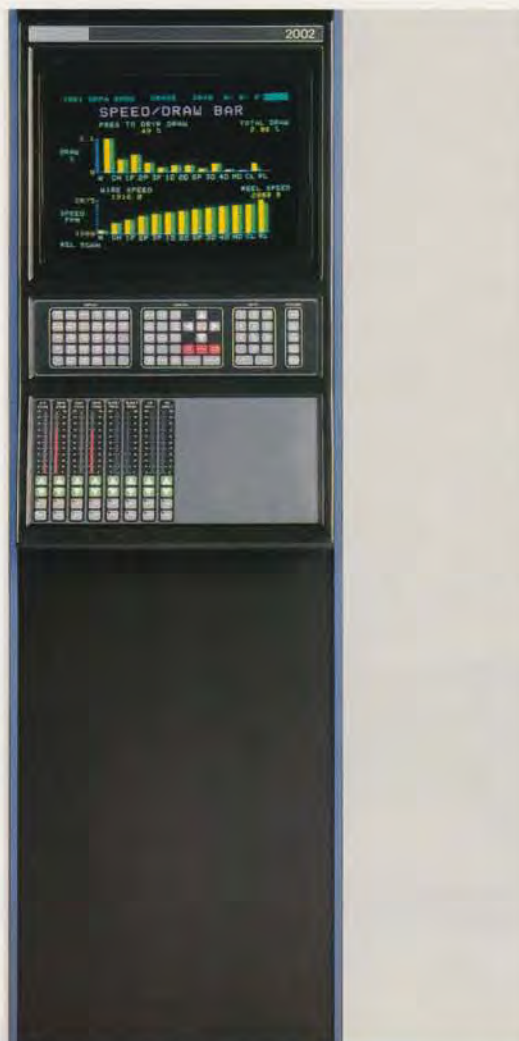
The plasma bar-graph display in System 2002 optimizes operator utilization.



LIGHTCOM™ fiber optics provide immunity to electrical noise, minimize installation cost and enhance system reliability.



System 2002's interactive video displays provide easy operator interface, improved analysis, diagnostic, and maintenance features.



Measurex System 2002 Operator Control Center

Houses the powerful FX computer with SUPRA™ high-speed memory, the Intelligent Support Module that supports all Measurex sensors, scanners and process inputs and outputs, the MEGAPORT™ high-density serial communications interface and the interactive display with control panel and plasma graphics.

Interactive Video Display—operator interface accomplished by buttons labelled with familiar words—operator simply selects display, locates entry box around required change, enters new number.

A compact configuration and environmental protection, plus the new LIGHTCOM™ fiber optics minimizes installation limitations and enhances system reliability.



DataFreeway™ Network

The DataFreeway™ network is a revolutionary new concept in millwide communications that links paper mill, pulp mill and power house control systems to give instant access to information from every mill operation.

The advanced communications technology of the *Measurex DataFreeway™* network results in a plant-wide data network of unrivalled versatility and reliability in product control and raw material, energy and labor resources monitoring. Compatible with

Measurex Management Control Center (MCC)
consolidates and stores information gathered by the DataFreeway™ network, generates reports and displays.

Measurex
Energy
Systems

Measurex
Paper Machine
Systems

Measurex
Pulp Systems



existing and future systems, the DataFreeway™ network uses a single cable to collect information from process-control systems, management computers and instrument buses. The "Passive data bus" design provides a microcomputer at each connection to maximize reliability and to permit new stations to be added without changing the existing system. With its data transmission capacity of one

million bits per second, the DataFreeway™ network will handle the information transfer requirements of even the largest of industrial plants.

Complemented by Measurex' Management Control Center, the capabilities now exist to connect all mill elements to effect mill-wide control of resources and energy.



A simple clamp-on connector attaches to the DataFreeway™ network and gives each unit access to all information.



The central control room for the DataFreeway™ network is the access point for all of the data flowing in from every mill operation.

Non-Measurex
Computer
Systems

Future
Measurex
Products

Measurex
Coater
Systems

Measurex
Extruder
Systems

Non-Measurex
Instrument
Buses





SENSORS

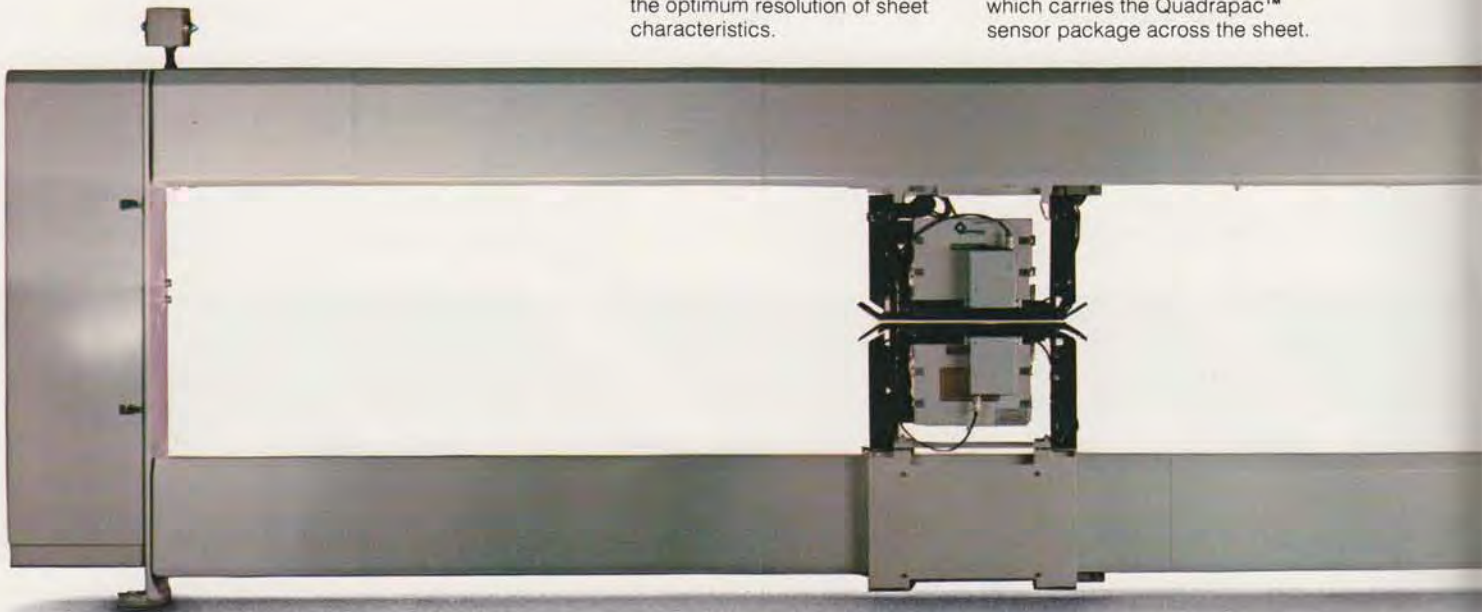
Research and engineering at Measurex are responsible for the development of real-time computer software, sensors, controls, micro-computers, memory systems, scanners, operator displays and communications network products.

Measurex sensors and scanners set the standards for accuracy, reliability, and believability. Using a full range of technologies, these sensors are the key to process control systems for the paper, pulp, building products, metals, plastics, and rubber industries, and steam power plants.

Measurex offers more than 75 sensors to serve these multi-industry applications. Recent introductions

Measurex uses high-accuracy digital sensors in conjunction with high speed signal processing for the optimum resolution of sheet characteristics.

Key to the accurate non-contacting measurements is the precision high reliability mechanical scanner which carries the Quadrapac™ sensor package across the sheet.



include a smoothness sensor and a full-spectrum intelligent color sensor to enhance both system economics and qualitative results in the paper industry. Additionally, in 1980, a multi-wavelength sensor was announced for use in the pulping process to measure consistency, color, and brightness for accurate chemical control. An infra-red sensor to measure thin plastic film as thin as three microns was developed to extend Measurex measurement and control application to the biaxial-film industry.

Measurex flue gas analyzer measurements of CO, CO₂, SO₂, NO and Opacity are used both to optimize combustion and provide environmental monitoring.

To complement the announcement of the Energy-Master™ System, the DynaCO™ Intelligent Sensor was introduced in 1980 to reduce industrial boiler fuel costs by monitoring flue gases. It incorporates a powerful, dedicated micro-computer coupled with fiber optic data transmission to the control computer.

Measurex continues to place emphasis not only on the development of new sensors but also on improving existing sensor products to enhance accuracy and reliability.



The color sensor will be used not only in the paper industry, but in all those continuous process industries in which color is an important product factor.

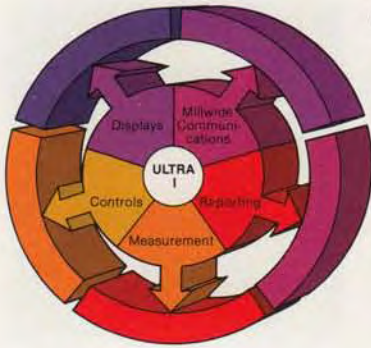


The optical smoothness sensor measures the smoothness of paper in the process of being manufactured. Smoothness is an important determinant of printability.

Fast scanning design provides rapid response to both machine-direction and cross-direction process changes which permits more accurate control.



CONTROLS



Product variability, when uncontrolled, wastes raw materials and energy. Measurex process controls incorporate advanced computer software modules configured for each specific application to minimize material and energy utilization and maximize efficiency. For example, to optimize the paper making process, Measurex has developed over twenty control modules under the ULTRA I™ software system, including the newest dimensions of Total Profile Control which nearly doubles the economic return of previous process control systems.

The Hydratrol™ System utilizes the hydraulic force of water to level the sheet weight profile for higher material savings.

A similar product, the Aquatrol System, is used to level the moisture profile to reduce energy usage and increase speed.

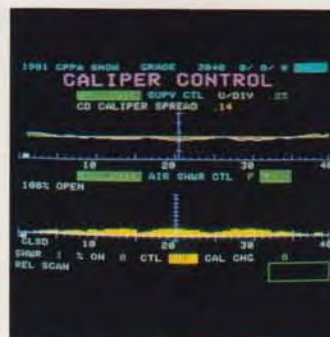


Plastic film and sheet product manufacturers can now use a similar new Autoprofile™ cross-directional control technology to save raw materials, increase productivity, and improve product quality. The sophistication of Measurex' Autoprofile™ System is highlighted by its application to thin biaxial-oriented film for magnetic tape and packaging materials.

Measurex Energy Management and Control systems provide our customers with the capability to control multiple processes involving power boilers, turbine-generators, recovery boilers, and electric utility demand control with a single system. Measurex provides an adaptable multiple process control system focusing on key fuel savings opportunities.



Measurex Total Profile Control provides precise cross-direction control of all three



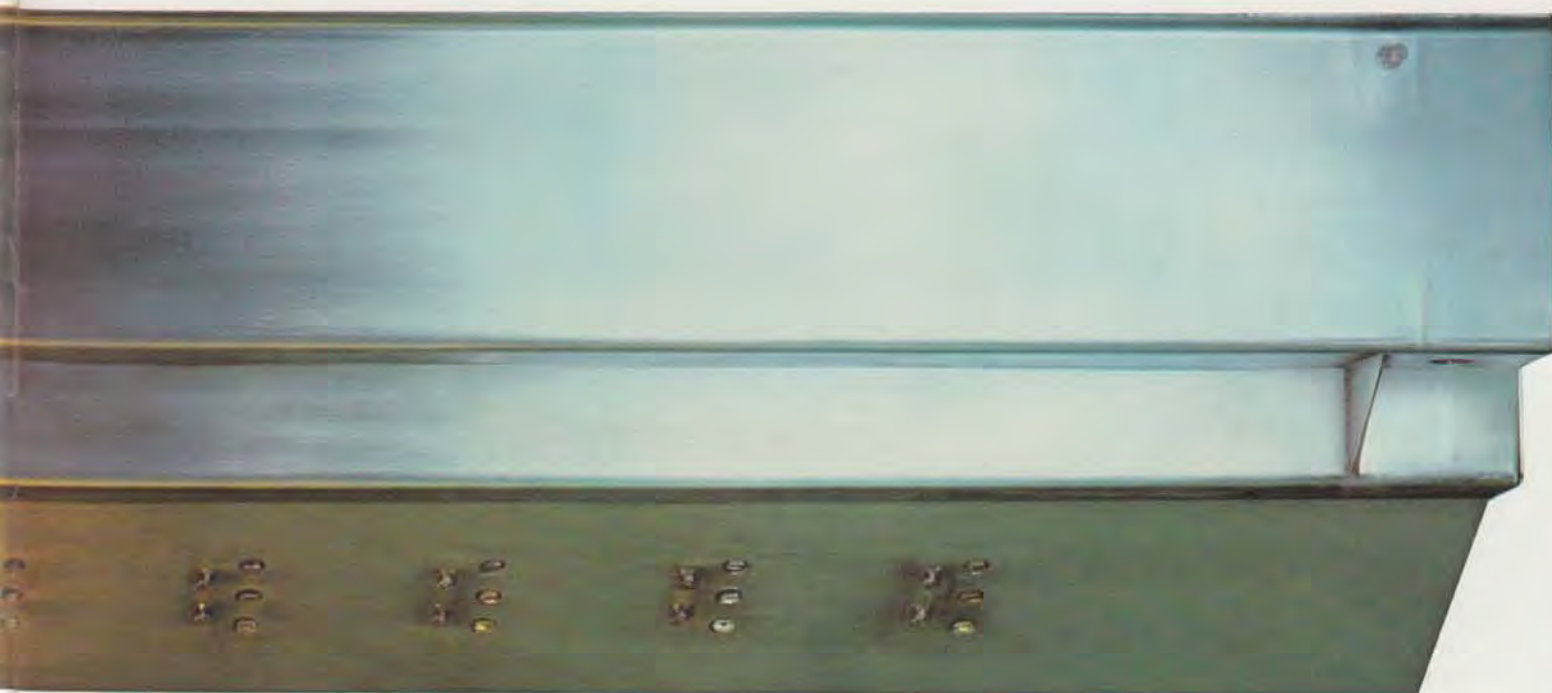
critical profiles—moisture, basis weight, and caliper. It provides the greatest eco-

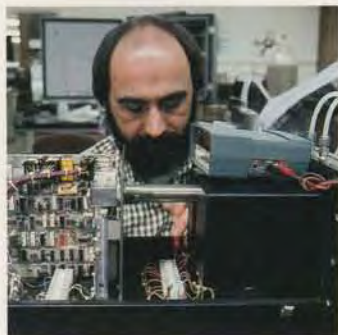


nomic return in the history of paper machine control.

CD controls may be retrofitted to any of the Measurex 2000 series already installed thus doubling the market size in the paper industry.

Cross direction caliper control is provided by regulation of air showers on the calender stack.





Measurex engineering has led the way to positioning Measurex as the leader in energy saving boiler control systems.

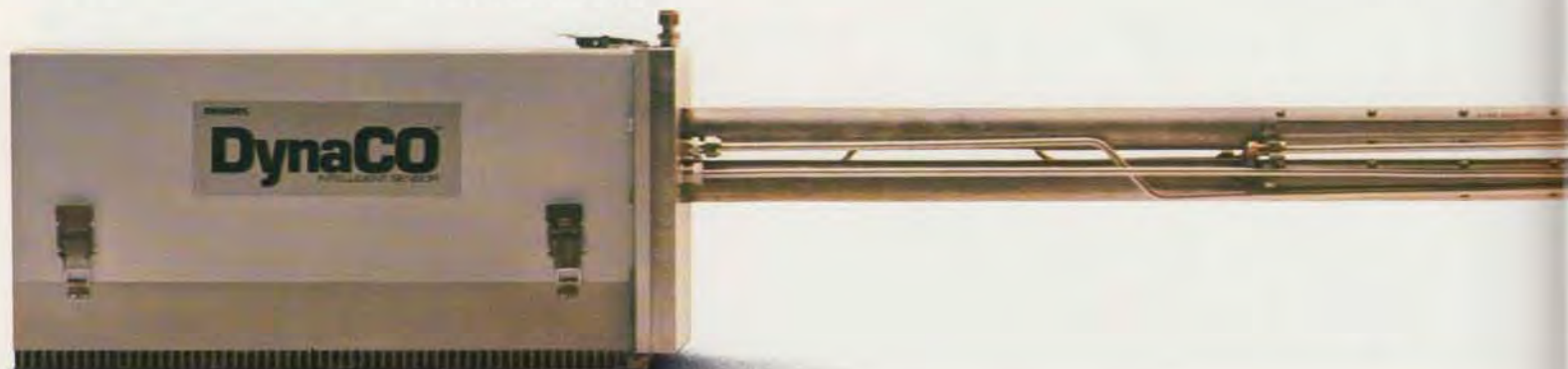
EnergyMaster™ System

The newest addition to the Measurex line of energy system products is the Measurex 2002 EnergyMaster™ System. This is a low-cost, multiboiler control system that uses sophisticated microcomputer and sensor technology to increase the fuel-efficiency of industrial and commercial steam-generating power plants. It can cut fuel cost by four percent, returning the initial capital investment within a year. It has three basic components. A DynaCO™ Intelligent Sensor measures CO and CO₂ by monitoring

Model 2255 DynaCO™ Intelligent Sensor—Sensor unit includes an infrared light source and receiver and signal processing electronics—

Microcomputer converts data from sensor to units of gas concentration and communicates in digital format over fiber optic LIGHTCOM™ link to combustion control system—

Sensor probe is exposed to stream of flue gases in the stack or duct



flue gas emissions with infrared light. The EnergyMaster™ Process Control Station uses these measurements to optimize the individual boiler operating efficiency for varying conditions and steam demands. The EnergyMaster™ System also determines the incremental cost of producing steam for each boiler and automatically allocates steam demand to the most cost effective boiler. An Intelligent Printer summarizes energy cost and boiler performance, in shift and daily reports. The EnergyMaster™ System addresses major areas of economic savings in the powerhouse and is designed for low cost rapid installation... typically one week or less.



Measurex provides a broad range of products that meet industry's conservation objectives. Measurex power boiler and co-generation control systems are used in a wide variety of energy-intensive industries with medium to large-scale steam and electrical generating plants.



The EnergyMaster™ System generates summary performance reports for both operators and management.



The self-contained EnergyMaster™ Process Control Station houses all operator interface functions and allows easy access to all termination points for process inputs/outputs.

Infrared beam travels length of the probe through the gases inside, mirror at tip of probe reflects beam back through the return pipe to infrared detector in sensor unit—

Port admits flue gases into interior of the probe, excludes dust and ash using proprietary filtering technique—

Measures CO, CO₂ and flue gas temperature in each boiler's flue gas.





Measurex Corporation's facility at Cupertino, California is the Company's headquarters. From here worldwide operations are coordinated to assure customers everywhere of convenient, readily accessible servicing for their Measurex installations.

WORLDWIDE SERVICE

In order to derive full economic benefits from Measurex systems, our customers require their almost constant availability. Because these systems must often operate in both remote and environmentally difficult locations, their inherent reliability is of crucial importance. Downtime is costly because it results in off-specification products, excessive material usage

Vancouver, B.C. Canada
Portland, Oregon
Cupertino, California
Houston, Texas
Monroe, Louisiana
Green Bay, Wisconsin
Chicago, Illinois
Columbus, Ohio
Denver, North Carolina
Atlanta, Georgia
Miami, Florida

Montreal, Quebec, Canada
Portland, Maine
Mexico City, Mexico
Cali, Colombia
Maracay, Venezuela
Sao Paulo, S.P. Brazil
Trujillo, Peru
Buenos Aires, Argentina
Santiago, Chile



and energy consumption, and lowered efficiencies.

To assure constant reliability, Measurex representatives provide immediate response to customer needs. The Company's worldwide service network employs over 1000 skilled people serving more than 1400 systems in 33 countries.

The scope and quality of our service organization enables us to serve new industries almost any place in the world with the same competence enjoyed by existing Measurex customers.



The newest Measurex facility is located in Tokyo, Japan. The Company's servicing and manufacturing operations are strategically located to give users of Measurex systems the best possible service.



European customers are served by two modern Measurex facilities in Ireland; European engineering head-



quarters in Cork and a major manufacturing and service operation in Waterford.

Waterford, Ireland
Cork, Ireland
Manchester, United Kingdom
Datchet, United Kingdom
Oslo, Norway
Borlange, Sweden
Helsinki, Finland
Amsterdam, Holland
Brussels, Belgium
Paris, France
Lyon, France

Frankfurt, West Germany
Vienna, Austria
Milan, Italy
San Sebastian, Spain
Lisbon, Portugal
Durban, South Africa
Edenvale, South Africa

Tokyo, Japan
Seoul, Korea
Taipei, Taiwan
Sydney, Australia
Rotorua, New Zealand



SELECTED FINANCIAL DATA

(Dollar amounts in thousands except per share data)

Fiscal years ended November 30

	1980	1979	1978	1977	1976
Operating data					
Revenues	\$122,033	\$119,474	\$ 88,541	\$ 64,123	\$ 52,243
Net income	7,323	9,928	8,763	5,357	2,985
Net income per share	2.09	2.82	2.60	1.65	.93
Dividends per share	.50	.50	.36	.08	—
Financial position at year-end					
Working capital	\$ 48,719	\$ 54,474	\$ 30,798	\$ 29,550	\$ 29,433
Total assets	131,668	136,192	108,140	113,639	115,876
Long-term debt	18,169	27,260	5,660	32,544	42,454
Total debt	22,967	33,795	21,550	46,919	54,594
Statistics and key ratios					
Backlog at year-end	\$ 30,400	\$ 37,800	\$ 31,700	\$ 26,000	\$ 12,600
Net income as a percentage of:					
Revenues	6%	8%	10%	8%	6%
Shareholders' equity at beginning of year	11%	17%	18%	12%	7%
Current ratio at year-end	2.7	2.7	1.8	2.1	2.1
Ratio of external debt to shareholders' equity at year-end	0.3	0.5	0.4	1.0	1.2

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Liquidity and Capital Resources

The Company's ability to generate the cash flow adequate for its needs was demonstrated by its performance during 1980. Continuing emphasis on asset management produced significant results during the year. Inventories were reduced \$3.5 million and accounts receivable decreased \$4.4 million. The cash generated was used to help reduce Corporate debt by \$10.8 million to \$23.0 million at year end.

The current ratio at year end was 2.7 to 1, the same as year end 1979 and up from the 1.8 to 1 at the end of 1978. The ratio of total debt to shareholders' equity at year end was .3, down from .5 at the end of 1979 and .4 at the end of 1978.

At November 30, 1980 the Company had available unused committed lines of credit under its revolving term loan agreement totalling \$13.4 million and an additional \$30.3 million of unused committed short term bank lines of credit.

During the past three years, the Company has approximately doubled its worldwide plant capacity. This program has been substantially completed and no significant near-term capital expenditures are planned.

The Company believes its financial position, future earnings and borrowing capabilities are more than adequate to provide it with the funds which will be required to finance its anticipated growth.

Results of Operations

In 1978, the Company's sales and installation revenues increased \$17.9 million or 37% over 1977, primarily as a result of increased unit shipments. Service revenues increased \$6.5 million or 42% compared to 1977. The increase in service revenues reflected the increased number of installed systems and the added emphasis by the Company in selling spares with systems that were being shipped.

Sales and installation costs increased \$7.4 million or 35% during 1978. This percent increase was smaller than the percent increase in revenues, resulting in an improved gross margin which evidenced the Company's continued efforts to reduce manufacturing costs through the implementation of various cost reduction programs.

In 1978, interest income decreased \$2.1 million or 43% and interest expense decreased \$1.8 million or 33% primarily as a result of transferring substantially all of the lease contract portfolio, and the associated debt, to the Company's nonconsolidated finance subsidiaries in May 1978.

1979 sales and installation revenues increased \$22.8 million or 34% over 1978 primarily as a result of increased unit shipments. Service revenues increased \$8.1 million or 37% due to the greater volume of systems sold and serviced by the Company, increases in service rates charged to customers, and increased sales of spare parts.

Sales and installation costs increased \$10.7 million or 38% during 1979. While this increase is attributable to the revenue increase, it is also due to inflationary pressure on manufacturing costs and installation expenses. Service costs increased by \$7.6 million or 38% primarily due to the increase in the number of field service engineers required to maintain the greater number of systems, the inflationary impact on wages and expenses, and an increase in the spare parts depreciation.

Interest income decreased \$1.8 million or 65% in 1979 as a result of the mid-1978 transfer of substantially all of the Company's lease contracts to the nonconsolidated finance subsidiaries. The interest expense increase of \$1.3 million or 35% was the result of higher interest rates and increased average borrowing which was caused by additions to facilities and equipment, and increases in inventories and receivables.

In 1980, total revenues increased \$2.6 million or 2% to \$122.0 million. Sales and installation revenues of \$83.3 million decreased \$6.0 million or 7% while service revenues increased \$8.6 million or 29%. The recession and extremely high interest rates during much of 1980 delayed the buying decision on the part of many of our customers, resulting in the reduction of unit shipments. Service revenues reflect both an increase in the number of systems being serviced and the inflation affected increases in service rates.

The decrease in sales and installation margins is principally the result of lower volume resulting in under-utilization of manufacturing capacity. Service margins continued an upward trend, a reflection of improved cost control.

Selling expenses increased as a result of inflationary effect on costs, the continued and increasing commitment to our energy division sales organization, and additional promotional expenses for the introduction of the new Measurex 2002 and the Measurex 2002 EnergyMaster Systems. The higher selling expenses were partially offset by lower administration expenses.

Increasing interest expense during the year was due to the significantly higher average interest rates which existed during much of 1980 and which was only partially offset by the lower average borrowings.

CONSOLIDATED STATEMENTS OF INCOME

For the years ended November 30, 1980, 1979, and 1978

(Amounts in thousands except per share data)

	1980	1979	1978
Revenues:			
Sales and installation	\$ 83,324	\$ 89,381	\$66,571
Service	38,709	30,093	21,970
Total	122,033	119,474	88,541
Costs and expenses:			
Sales and installation	38,514	39,196	28,496
Service	34,666	27,633	19,990
Product development	6,317	5,941	4,627
Selling and administrative	28,014	28,020	21,980
Interest expense	5,216	4,832	3,567
Other income and expense	(1,463)	(667)	(2,582)
Total	111,264	104,955	76,078
Income before income taxes	10,769	14,519	12,463
Provision for income taxes	3,446	4,591	3,700
Net income	\$ 7,323	\$ 9,928	\$ 8,763
Net income per share	\$ 2.09	\$ 2.82	\$ 2.60
Dividends per share	\$.50	\$.50	\$.36
Average number of common and common equivalent shares	3,507	3,526	3,370

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

CONSOLIDATED BALANCE SHEETS

November 30, 1980 and 1979

(Amounts in thousands except share data)

Assets	1980	1979
Current assets:		
Cash	\$ 2,422	\$ 3,458
Accounts receivable	40,255	44,673
Inventories	34,470	37,929
Prepaid expenses	797	1,196
Total current assets	77,944	87,256
Lease contracts receivable	3,647	4,078
Service parts	10,612	9,563
Property, plant and equipment	23,649	21,242
Investments in nonconsolidated finance subsidiaries	13,143	11,128
Other assets	2,673	2,925
Total assets	\$131,668	\$136,192
Liabilities and Shareholders' Equity	1980	1979
Current liabilities:		
Notes payable	\$ 4,227	\$ 5,014
Current portion of long-term debt	571	1,521
Accounts payable	4,558	4,049
Accrued expenses	17,044	18,606
Income taxes payable	1,633	2,132
Deferred income taxes	1,192	1,460
Total current liabilities	29,225	32,782
Long-term debt	18,169	27,260
Deferred income taxes	8,740	7,986
Shareholders' equity:		
Preferred stock	—	—
Common stock, without par value:		
Authorized: 15,000,000 shares; outstanding:		
3,487,890 shares in 1980 (1979: 3,411,515)	112	108
Additional capital	34,095	32,335
Retained earnings	41,327	35,721
Total shareholders' equity	75,534	68,164
Total liabilities and shareholders' equity	\$131,668	\$136,192

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

CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY

For the years ended November 30, 1980, 1979, and 1978

(Amounts in thousands except share data)

	Common Stock		Additional Capital	Retained Earnings	Total
	Shares	Amount			
Balance December 1, 1977	3,207,704	\$ 98	\$29,035	\$19,851	\$48,984
Net income	—	—	—	8,763	8,763
Stock issued under employee stock option plans	51,691	3	695	—	698
Dividends	—	—	—	(1,161)	(1,161)
Balance November 30, 1978	3,259,395	101	29,730	27,453	57,284
Net income	—	—	—	9,928	9,928
Stock issued under employee stock option plans	102,120	5	1,311	—	1,316
Stock issued upon exercise of warrants	50,000	2	1,246	—	1,248
Warrants issued to purchase 5,000 shares of common stock	—	—	48	—	48
Dividends	—	—	—	(1,660)	(1,660)
Balance November 30, 1979	3,411,515	108	32,335	35,721	68,164
Net income	—	—	—	7,323	7,323
Stock issued under employee stock purchase and stock option plans	26,375	1	512	—	513
Stock issued upon exercise of warrants	50,000	3	1,248	—	1,251
Dividends	—	—	—	(1,717)	(1,717)
Balance November 30, 1980	<u>3,487,890</u>	<u>\$112</u>	<u>\$34,095</u>	<u>\$41,327</u>	<u>\$75,534</u>

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

CONSOLIDATED STATEMENTS OF CHANGES IN FINANCIAL POSITION

For the years ended November 30, 1980, 1979, and 1978

(Amounts in thousands)

	1980	1979	1978
Financial resources generated			
Operations:			
Net income	\$ 7,323	\$ 9,928	\$ 8,763
Items included in net income not affecting working capital:			
Depreciation:			
Service parts	1,461	1,062	584
Property, plant and equipment	2,374	2,160	1,588
Deferred income taxes	754	2,969	629
Net book value of systems converted from short-term to long-term leases	—	—	207
Operating revenues financed under long-term lease contracts receivable from customers	(1,317)	(2,257)	(6,292)
Provision for noncollection and system returns	1,716	959	1,012
Financial resources generated by operations	12,311	14,821	6,491
Carrying value of lease contracts assigned to nonconsolidated finance subsidiaries, net of current portion	—	—	34,218
Reduction in long-term lease contracts receivable	32	1,114	3,248
Additions to long-term debt	—	4,431	6,388
Reclassification of notes payable to be refinanced	—	19,966	—
Exercise of stock options, warrants, and employee stock purchase plan	1,764	2,564	698
Other, net	1,110	1,432	1,568
Total financial resources generated	15,217	44,328	52,611
Financial resources utilized			
Net additions to service parts	2,510	2,543	2,850
Expenditures for property, plant and equipment	5,639	10,414	6,190
Reductions of long-term debt	9,091	2,797	9,165
Long-term portion of senior bank debt assigned to nonconsolidated finance subsidiaries	—	—	24,107
Investments in nonconsolidated finance subsidiaries	2,015	3,238	7,890
Dividends	1,717	1,660	1,161
Total financial resources utilized	20,972	20,652	51,363
Increase/(decrease) in working capital	\$ (5,755)	\$23,676	\$ 1,248
Changes in elements of working capital			
Increase/(decrease) in working capital by element:			
Cash	\$ (1,036)	\$ (1,135)	\$ 1,901
Accounts receivable	(4,418)	10,234	(427)
Inventories	(3,459)	6,928	11,730
Prepaid expenses	(399)	252	500
Notes payable and current portion of long-term debt	1,737	9,355	(1,515)
Accounts payable	(509)	3,011	(4,340)
Accrued expenses	1,562	(5,452)	(3,975)
Income taxes	767	483	(2,626)
Increase/(decrease) in working capital	\$ (5,755)	\$23,676	\$ 1,248

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

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(Dollar amounts in thousands unless otherwise noted)

Summary of Significant Accounting Policies**Consolidation**

The consolidated financial statements include all subsidiaries (all of which are wholly-owned), other than the wholly-owned finance subsidiaries. The investments in the nonconsolidated finance subsidiaries are reported on the equity basis. Income from the finance subsidiaries included in the Company's consolidated income statements is before income taxes and after elimination of amounts earned from parent companies.

Foreign Currency Translation

Foreign currency balance sheet accounts are translated into United States dollar equivalents at year-end rates of exchange, except for property, plant and equipment, inventories, service parts, and certain other accounts which are translated at historical rates. Income statement accounts are translated into United States dollar equivalents using rates of exchange which approximate the average rates in effect during the year, except that depreciation of plant, equipment, and service parts, and costs of inventory used are translated at historical rates.

Net foreign currency exchange adjustments, including those resulting from forward exchange contracts, are included in net income except for gains and losses resulting from forward exchange contracts which are intended to be a hedge of an identifiable foreign currency commitment. Such forward exchange contract gains or losses are deferred and included in the dollar basis of the related foreign currency transaction.

Revenue Recognition

Revenue is recognized in accordance with the following:

- At the time of shipment if products are sold to customers or third-party financing institutions;
- At the time of shipment if under lease transactions which qualify as sales-type leases; and
- Service revenues are recorded based on performance of services.

Since its inception, it has been the Company's practice to grant its customers an initial period, generally six months following installation, in which to evaluate systems. During the initial period, customers may return systems and require the refund of all rents, service fees or the purchase price paid for the systems. The Company has provided amounts which, in the opinion of management, are sufficient to absorb any such refunds.

Product Development Expenses

The Company is actively engaged in basic technology and applied research and development programs which are designed to develop new or improved products, processes and applications. The cost of these programs is charged to expense as incurred.

Income Taxes

Taxes are provided for items included in the Consolidated Statements of Income regardless of the period when such items may be reported for tax purposes.

Provision has not been made for income taxes relating to distribution of the total accumulated earnings from the Company's Irish and Domestic International Sales Corporation subsidiaries, since it is the Company's present intention to utilize substantially all of the undistributed earnings of these companies in its foreign operations and qualified export activities.

Investment tax credits relating to the acquisition of eligible assets are accounted for using the flow-through method, which reduces the provision for federal income taxes during the year in which the related assets are acquired.

Inventory Valuation

Inventories are stated at the lower of standard cost (which approximates actual cost determined on a first-in, first-out basis) or market.

Inventories are composed of the following:

	1980	1979
Purchased parts and components	\$18,692	\$20,177
Work in process	5,860	8,543
Finished subassemblies and systems	9,918	9,209
	<u>\$34,470</u>	<u>\$37,929</u>

Inventories include amounts which ultimately may be capitalized as service parts.

Depreciation

Property, plant, equipment and service parts are depreciated on a straight-line basis over estimated useful lives which range as follows: buildings and improvements—3 to 60 years; machinery and equipment—2 to 20 years; and service parts—10 to 13 years.

Reclassifications

Amounts relating to service parts and related inventory valuation accounts and deferred income taxes included in the 1979 consolidated financial statements have been reclassified in order to conform to the 1980 presentation. Previously reported total assets, shareholder's equity, and net income were not affected by the reclassification.

Net Income Per Share

Net income per share is computed based on the weighted average number of common shares outstanding during the year adjusted to reflect the assumed exercise of outstanding employee stock options and warrants to the extent these items had a dilutive effect on the computation.

Audit Committee of the Board of Directors

The Company has an Audit Committee of the Board of Directors. This Committee, which includes independent directors only, meets with the Company's financial management and its independent accountants at various times during each year and reviews internal control conditions, audit plans and results, and financial reporting procedures.

Accounts Receivable

Accounts receivable at November 30, 1980 and 1979 are summarized below:

	1980	1979
Accounts receivable	\$41,213	\$45,355
Less:		
Allowance for noncollection and system returns	958	682
	<u>\$40,255</u>	<u>\$44,673</u>

Lease Contracts Receivable

Lease contracts receivable at November 30, 1980 and 1979 are summarized below:

	1980	1979
Lease contracts receivable	\$6,596	\$6,332
Less:		
Unearned financing income	1,506	1,367
Allowance for noncollection and system returns	469	41
	<u>4,621</u>	<u>4,924</u>
Current portion	974	846
	<u>\$3,647</u>	<u>\$4,078</u>

The aggregate amount of payments receivable by the Company in years subsequent to 1980 is set forth below:

Year Ending November 30	Principal	Interest	Total
1981	\$ 974	\$ 532	\$1,506
1982	1,161	421	1,582
1983	1,131	276	1,407
1984	847	156	1,003
1985	443	79	522
Thereafter	534	42	576
	<u>\$5,090</u>	<u>\$1,506</u>	<u>\$6,596</u>

Third-Party Transactions

The Company has, at various times, sold portions of its domestic and foreign lease contracts receivable and the related equipment to certain unrelated third party lessors ("Third Parties") on both a non-recourse and full-recourse basis. The Company generally is entitled to participate with the "Third Parties" in revenues received at the conclusion of the basic lease terms. The Company has also discounted purchase contract receivables to "Third Parties" on a full-recourse basis.

The Company has an agreement with a subsidiary of a bank under which the subsidiary may purchase Measurex systems subject to a lease to Measurex customers. Generally, sales of systems under this agreement are at amounts approximating end user purchase prices and are without recourse to Measurex, except for systems which may be returned during the evaluation period. The Company has agreed to assist, for a fee, in remarketing systems when they come off lease.

At November 30, 1980, the Company was contingently liable to "Third Parties" for approximately \$14.8 million relating to those sales made on a full-recourse basis.

Service Parts

Service parts, net of related valuation accounts, which the Company is required to maintain in order to support its installed systems and which have previously been included in inventories, have been reclassified at November 30, 1980 in order to better reflect their long-term economic usefulness.

At November 30, 1980 and 1979, service parts comprise the following:

	1980	1979
Service parts, at cost	\$14,403	\$11,893
Less:		
Accumulated depreciation	3,791	2,330
	<u>\$10,612</u>	<u>\$ 9,563</u>

Property, Plant and Equipment

Property, plant and equipment are recorded at cost and comprise the following:

	1980	1979
Land	\$ 3,150	\$ 3,178
Buildings and improvements	10,106	9,964
Machinery and equipment	13,477	12,522
Construction in progress	6,041	2,682
Other	72	180
	<u>32,846</u>	<u>28,526</u>
Less:		
Accumulated depreciation	9,197	7,284
	<u>\$23,649</u>	<u>\$21,242</u>

Notes Payable

Details of notes payable, as of November 30, 1980 are presented below:

	Maximum Commitment	Borrowings
Multi-currency Working Capital Agreements:		
Domestic	\$12,000	\$ —
International	20,000	4,227
Canadian Currency Working Capital Agreement	2,562	—
	<u>\$34,562</u>	<u>\$4,227</u>

The Multi-currency Working Capital Agreements are unsecured lines of credit with seven banks which provide for domestic dollar borrowings, Eurocurrency advances or Prime Bankers' Acceptances.

The agreements, which expire during 1981, provide for interest rates ranging from below the prime rate of the particular lending bank to 110% of such rate, depending upon the type of borrowing; maintenance of average non-interest bearing demand deposits (not legally restricted) with lending banks in amounts equal to approximately 10% of each bank's domestic dollar borrowing commitment; and, adherence to certain covenants regarding working capital and indebtedness.

Long-Term Debt

Long-term debt consists of the following:

	1980	1979
Revolving term loan	\$11,648	\$19,966
8¼%, 8¾%, 9¼% mortgages payable in monthly installments through 2009	5,643	5,709
Other borrowings	1,449	3,106
	<u>18,740</u>	<u>28,781</u>
Less:		
Amount due within one year	571	1,521
	<u>\$18,169</u>	<u>\$27,260</u>

On February 13, 1980 the Company entered into an agreement, effective November 30, 1979, with a group of four banks for a five year unsecured revolving \$25.0 million term loan. At November 30, 1980 and 1979, \$2.8 million and \$19.9 million, respectively, of notes payable have been reclassified to long-term debt under this agreement.

During the revolving period, the agreement provides for:

- U.S. dollar advances with interest payable at 105% of the Bank's prime rate plus fees in lieu of compensating balances.
- Bankers' Acceptances with interest computed at the Prime Bankers' Acceptance rate plus commissions.
- Multi-currency advances with interest payable at ¾% over the London Interbank Offered Rate (LIBOR).

On February 28, 1982, all outstanding Bankers' Acceptances are to be repaid and all outstanding U.S. dollar and multi-currency advances convert to three year term debt with twelve approximately equal quarterly payments at the following rates:

- U.S. dollar advances with interest payable at 105% of the sum of the bank's prime rate plus ½% with fees in lieu of compensating balances.
- Multi-currency advances with interest payable at 1¼% over LIBOR.

This loan agreement requires the Company to maintain minimum working capital and indebtedness ratios, interest coverage and a minimum shareholders' equity at November 30, 1980 of approximately \$65.0 million.

Aggregate principal payments on long-term debt in each of the next five years and thereafter are as follows:

1981—\$ 571	1984—\$4,092
1982—\$3,353	1985—\$1,080
1983—\$4,174	Thereafter—\$5,470

Accrued Expenses

Accrued expenses as of November 30, 1980 and 1979 are as follows:

	1980	1979
Accrued payroll and related items	\$ 7,258	\$ 6,760
Accrued initial service	2,781	1,968
Other	7,005	9,878
	<u>\$17,044</u>	<u>\$18,606</u>

Preferred Stock

The preferred stock has a par value of \$1.00 per share. As of November 30, 1980 and 1979, 1,000,000 shares were authorized but none were outstanding.

Warrants

Six year warrants expiring on October 1, 1981 to purchase 200,000 shares of the Company's common stock at \$25 per share were issued in conjunction with 1974 Subordinated Notes, since repaid. Warrants to purchase 100,000 shares have been exercised.

Stock Option Plans

Under the Company's stock option plans, 565,000 shares of common stock have been reserved for issuance to officers and key employees. Options cannot be granted under the Company's most recent plans if the aggregate number of outstanding options at any time exceeds 10% of the common stock outstanding (348,800 shares at November 30, 1980).

Options may be granted at prices not lower than the fair market value of the Company's common stock at the date of grant. Options generally become exercisable in four equal annual installments commencing one year from the date of grant. Options expire, if not exercised, within five years from the date of grant.

In July 1980, the Company granted new nonqualified stock options to purchase 69,300 shares at \$24.88. Options covering the same number of shares at exercise prices in excess of \$26.00 per share were rescinded. Employees rescinding higher priced options lost all vested rights to exercise such options. The new options become exercisable in four equal annual installments commencing July 1981. All options expire, if not exercised, within five years from the date of grant.

A summary of transactions relating to options during 1980 is set forth below:

(Amounts in thousands except per share data)

	Shares Available For Grant	Shares	Options Outstanding	
			Price Per Share	Amount
Balance December 1, 1979	287.9	156.6	\$ 9.75 - \$44.00	\$3,898
Options granted	(247.7)	247.7	21.88 - 35.50	6,239
Options terminated	89.9	(89.9)	9.75 - 44.00	(3,052)
Options exercised	—	(19.5)	9.75 - 33.88	(289)
Decrease for expiration of stock option plan	(39.5)	—	—	—
Balance November 30, 1980	90.6	294.9	\$ 9.75 - \$44.00	\$6,796
Options exercisable at November 30, 1980		43.2	\$ 9.75 - \$44.00	\$ 779

The Company makes no charges to income in connection with its stock option plans.

Other Income and Expense

Components of other income and expense are as follows:

	1980	1979	1978
Interest income	\$1,404	\$948	\$2,718
Income from finance subsidiaries	559	68	309
Foreign exchange adjustments, net	(500)	(349)	(445)
	<u>\$1,463</u>	<u>\$667</u>	<u>\$2,582</u>

Income Taxes

The provision for income taxes consists of the following:

	1980	1979	1978
Current income taxes:			
United States	\$ 666	\$ 576	\$1,038
Foreign	2,479	1,682	1,203
State	295	324	382
	<u>3,440</u>	<u>2,582</u>	<u>2,623</u>
Deferred income taxes:			
United States	(1,359)	952	1,493
Foreign	1,365	989	(371)
State	—	68	(45)
	<u>6</u>	<u>2,009</u>	<u>1,077</u>
	<u>\$3,446</u>	<u>\$4,591</u>	<u>\$3,700</u>

The major components of the provision not currently payable result from:

	1980	1979	1978
Taxes provided on undistributed earnings of foreign subsidiaries	\$863	\$1,620	\$2,083
Tax accounting for finance leases	(866)	256	(2,046)
Investment tax credit carryovers	—	—	570
Unrealized foreign exchange adjustments	160	419	412
Tax accounting for inventory reserves	373	(203)	48
Tax accounting for deferred income	(630)	—	—
Other	106	(83)	10
	<u>\$ 6</u>	<u>\$2,009</u>	<u>\$1,077</u>

The principal items accounting for the difference between income taxes computed at the U.S. statutory rate and the provision for income taxes are as follows:

	1980	1979	1978
Computed tax at 46% (1980 and 1979); 48% (1978) of income before income taxes	\$4,954	\$6,679	\$5,982
Effect of:			
Income of Irish subsidiary not subject to tax	(3,851)	(2,779)	(2,076)
Losses of foreign subsidiaries not providing tax benefit	2,108	975	332
Investment tax and new job credits	(118)	(195)	(545)
Income of foreign subsidiaries taxed at differing statutory rates	354	77	(92)
Other items	(1)	(166)	99
Provision for income taxes	<u>\$3,446</u>	<u>\$4,591</u>	<u>\$3,700</u>
Effective tax rate	<u>32.0%</u>	<u>31.6%</u>	<u>29.7%</u>

The accumulated net income of the Company's Domestic International Sales Corporation for which no provision for income taxes has been made is approximately \$3.3 million at November 30, 1980.

The Company's Irish subsidiary operates under a tax holiday granted by the Government of the Republic of Ireland which extends, at a minimum, to 1993. The accumulated undistributed net income of the Irish subsidiary for which no provision for taxes has been made is approximately \$32.4 million at November 30, 1980.

The United States Internal Revenue Service completed an audit of the Company's federal income tax returns through November 30, 1975, and originally proposed assessments of approximately \$9.0 million, plus interest thereon. The Company and the Internal Revenue Service have reached agreement that the proper increase in taxes for all such years is approximately \$300 thousand, plus interest thereon. The final resolution of this audit had no effect on reported earnings.

Employee Benefit Plans

The Company has an employee cash profit sharing plan for eligible employees, which provides for distributions of up to 10% of consolidated income before provision for income taxes and amounts payable under the plan. The plan is subject to annual renewal and has been renewed for 1981.

The Company has a management incentive plan which provides for payments to officers and senior management employees from an annual incentive fund determined by several factors relating to the financial performance of the Company. The participants in the plan are not eligible for the profit sharing plan.

The Company has a plan which provides for partial matching of eligible employee contributions to Individual Retirement Accounts. Company contributions are based on the years of service and individual employee participation in the profit sharing or management incentive plans.

The Company has reserved 250,000 shares of its authorized but unissued common stock for issuance under an employee stock purchase plan. The plan covers substantially all the employees of the parent company and its domestic subsidiaries. The participant's purchase price is 85% of the closing market price on the last trading day of the fiscal quarter in which the stock is purchased by the employee. The 15% discount is treated as equivalent to the cost of issuing stock for financial reporting purposes. For tax purposes, it is treated as compensation to the employee, and the resulting tax benefit to the Company is credited to Additional Capital.

Business Segments

The Company manufactures and markets sensor-based, computer process control systems for use in continuous process industries and energy-intensive applications. The principal markets for its products include the pulp and paper, rubber, plastic and metals industries and steam generating plants.

No single customer accounted for 10% or more of revenues during 1980, 1979 or 1978.

The Company's products are principally distributed and serviced through its own marketing and service organization. Operations are conducted worldwide and are grouped into three geographic areas: United States, Europe, and Other International (primarily Canada, the Far East, and the Southern Hemisphere countries).

The following table summarizes the geographic operations of the Company:

(Amounts in millions)

1980	United States	Europe	Other	Adjustments and Eliminations	Consolidated
Revenues:					
External	\$48.8	\$48.2	\$25.0	\$ —	\$122.0
Internal	18.7	—	.1	(18.8)	—
Total	\$67.5	\$48.2	\$25.1	\$(18.8)	\$122.0
Operating income	\$ 6.0	\$ 7.5	\$ 1.4	\$ (.4)	\$ 14.5
Identifiable assets	\$67.1	\$47.8	\$21.2	\$ (4.4)	\$131.7
1979					
Revenues:					
External	\$47.7	\$44.9	\$26.9	\$ —	\$119.5
Internal	26.1	.2	.1	(26.4)	—
Total	\$73.8	\$45.1	\$27.0	\$(26.4)	\$119.5
Operating income	\$ 9.3	\$ 6.9	\$ 2.7	\$ (.2)	\$ 18.7
Identifiable assets	\$63.6	\$56.6	\$20.2	\$ (4.2)	\$136.2
1978					
Revenues:					
External	\$41.2	\$32.1	\$15.2	\$ —	\$ 88.5
Internal	17.9	2.4	.3	(20.6)	—
Total	\$59.1	\$34.5	\$15.5	\$(20.6)	\$ 88.5
Operating income	\$ 7.8	\$ 5.3	\$.9	\$ (.6)	\$ 13.4
Identifiable assets	\$50.5	\$49.2	\$12.9	\$ (4.5)	\$108.1

- Internal revenues accrue to the manufacturing operations from product sales to non U.S. subsidiaries which are principally sales and service operations.
- Internal selling prices are designed to allocate manufacturing profits to manufacturing entities and sales and service profits to those entities.
- Operating income is derived by adding interest expense to and deducting other income and expense from income before income taxes.

Of the \$67.5 million of U.S. revenue in 1980, approximately \$12.0 million is export sales, (all to Other). Of the \$73.8 million of U.S. revenue in 1979, approximately \$17.0 million is export sales, (\$2.9 million to Europe and \$14.1 to Other). Of the \$59.1 million of U.S. revenue in 1978, approximately \$12.0 million is export sales, (\$4.0 million to Europe and \$8.0 million to Other).

Income/(loss) before taxes for United States locations for 1980, 1979, and 1978 is \$(.8) million, \$3.9 million, and \$3.5 million, respectively. Income before taxes for foreign locations for 1980, 1979, and 1978 is \$11.6 million, \$10.6 million and \$8.9 million, respectively.

Nonconsolidated Finance Subsidiaries

The combined Measurex Credit Companies, established as of May 31, 1978, consist of Measurex Credit Corporation (U.S.), Measurex Credit (Canada) Limited, and Measurex Credit (U.K.) Limited.

Following is a combined summary of financial information of the nonconsolidated finance subsidiaries:

Combined Balance Sheet	Nov. 30, 1980	Nov. 30, 1979
Assets		
Cash	\$ 169	\$ 86
Lease and other contracts receivable	28,082	33,999
Due (to)/from parent companies	(1,587)	249
Other assets	186	369
	<u>\$26,850</u>	<u>\$34,703</u>
Liabilities and Shareholders' Equity		
Accrued liabilities	\$ 132	\$ 116
Bank debt	15,162	23,210
Shareholders' equity	11,556	11,377
	<u>\$26,850</u>	<u>\$34,703</u>

Combined Statement of Income	Year Ended Nov. 30, 1980	Year Ended Nov. 30, 1979	Six Months Ended Nov. 30, 1978
Interest income	\$3,003	\$3,053	\$1,805
Earnings from parent companies	648	1,577	964
Total income	3,651	4,630	2,769
Interest expense	2,328	2,984	1,409
Other expenses	116	1	87
Income before income taxes	1,207	1,645	1,273
Provision for income taxes	1,028	853	688
Net income	<u>\$ 179</u>	<u>\$ 792</u>	<u>\$ 585</u>

The 1980 provision for income taxes reflects losses of Measurex Credit (U.K.) Limited for which no tax benefit has been provided.

The aggregate amount of lease and other payments receivable by the finance subsidiaries in years subsequent to 1980 is set forth below:

Year Ending November 30	Principal	Interest	Total
1981	\$ 7,084	\$3,048	\$10,132
1982	6,066	2,221	8,287
1983	5,391	1,477	6,868
1984	4,035	912	4,947
1985	2,206	538	2,744
Thereafter	3,300	466	3,766
	<u>\$28,082</u>	<u>\$8,662</u>	<u>\$36,744</u>

The Company has agreed to compensate the nonconsolidated finance subsidiaries if their earnings before income taxes and fixed charges are less than one and one-half times the fixed charges related to their outside indebtedness.

Details of the bank debt, as of November 30, 1980, are presented below:

	Initial Commitment	Borrowings
Multi-currency Working Capital Agreement (expires April 30, 1981)	\$ 9,000	\$ 1,300
Senior Bank Debt:		
Domestic Term Loan Agreement:		
Note I	20,000	7,500
Note II	7,000	3,500
Multi-currency Term Loan Agreement:		
International	7,500	2,862
Canadian	2,135	—
	<u>\$45,635</u>	<u>\$15,162</u>

The Domestic Term Loan Agreement, entered into as of May 31, 1978 with nine banks, is comprised of:

- Note I which bears interest at 8½% and is repayable in sixteen equal quarterly installments of principal, plus interest.
- Note II which bears interest at 9% and is repayable in twenty equal quarterly installments of principal, plus interest.

Repayment on both notes began August 20, 1978.

The Multi-currency Term Loan Agreement, entered into on May 31, 1978 with five banks, provides for:

- Eurocurrency and Canadian Dollar advances with interest payable at varying rates ranging from ¾% to 1½% above the LIBOR for Eurocurrency advances and the Canadian Bank's prime rate for Canadian dollar borrowing.
- Twenty equal quarterly installments of principal, plus interest, beginning in 1982.

The maximum borrowings available under the three loan agreements are based on a formula applied to the amount of lease and other contracts receivable of the nonconsolidated finance subsidiaries. At November 30, 1980, additional borrowings available under the loan agreements aggregated \$8.0 million.

The loan agreements require the Company to maintain shareholders' equity of the nonconsolidated subsidiaries at a minimum of \$10.0 million.

Aggregate principal payments on bank debt in each of the next five years and thereafter are as follows:

1981—\$7,700	1984—\$572
1982—\$4,186	1985—\$572
1983—\$1,272	Thereafter—\$860

Report of Independent Certified Public Accountants

To the Shareholders
Measurex Corporation

We have examined the consolidated balance sheets of Measurex Corporation and Subsidiary Companies as of November 30, 1980 and 1979, and the related consolidated statements of income, shareholders' equity and changes in financial position for each of the three years in the period ended November 30, 1980. Our examinations were made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the aforementioned financial statements present fairly the consolidated financial position of Measurex Corporation and Subsidiary Companies at November 30, 1980 and 1979 and the consolidated results of their operations and changes in their financial position for each of the three years in the period ended November 30, 1980, in conformity with generally accepted accounting principles applied on a consistent basis.

Coopers & Lybrand

San Jose, California
December 22, 1980

Supplementary Financial Data

Interim Financial Information (Unaudited)

The Company's independent public accountants have made a limited review of the 1980 and 1979 interim financial information in accordance with standards for such reviews established by the American Institute of Certified Public Accountants. Their limited review did not constitute an audit and, accordingly, they do not express an opinion on the 1980 or 1979 interim financial information presented below:

(Amounts in thousands except per share data)

	Quarter Ended 1980			
	Feb. 29	May 31	Aug. 31	Nov. 30
Revenues	\$30,614	\$29,719	\$29,884	\$31,816
Gross profit	12,954	11,971	11,897	12,031
Income before taxes	3,798	2,442	2,109	2,420
Net income	2,508	1,735	1,436	1,644
Net income per share	.72	.50	.41	.46
Dividends per share	.125	.125	.125	.125

	Quarter Ended 1979			
	Feb. 28	May 31	Aug. 31	Nov. 30
Revenues	\$26,203	\$28,371	\$31,453	\$33,447
Gross profit	11,979	12,606	14,280	13,780
Income before taxes	3,840	3,415	3,620	3,644
Net income	2,625	2,337	2,477	2,489
Net income per share	.75	.66	.70	.71
Dividends per share	.125	.125	.125	.125

Market for the Registrant's Common Stock and Related Securities Holder Matters

The Company's common shares are listed on the New York and Pacific Stock Exchanges. The price range of the Company's common shares during fiscal 1980 and 1979 follows:

	1980 Price	
	High	Low
1st Quarter	\$39¼	\$32½
2nd Quarter	32¾	20¾
3rd Quarter	32⅞	24⅞
4th Quarter	34	25¾
	1979 Price	
	High	Low
1st Quarter	\$39⅞	\$31¾
2nd Quarter	45¾	35⅞
3rd Quarter	48½	37½
4th Quarter	39⅞	29¼

As of December 31, 1980, the number of recordholders of common stock was 2,316.

The Company has paid dividends quarterly since October 1977. The amount of dividends paid per common share was \$.50 in 1980 and 1979.

CORPORATE DIRECTORY

Directors of Measurex Corporation

* **Paul Bancroft, III**
President,
Chief Executive Officer
Bessemer Securities Corporation
(Private investment company)

** **Dwight C. Baum**
Advisory Director
Blyth Eastman Paine Webber
Incorporated
(Investment banking firm)

David A. Bossen
President,
Chief Executive Officer
Measurex Corporation

William H. Draper, III
General Partner
Sutter Hill Ventures
(Venture capital company)

* **Dr. Orion L. Hoch**
President,
Chief Executive Officer
Intersil, Inc.
(Semiconductor electronic
products manufacturer)

* **John W. Larson**
Partner
Brobeck, Phleger and
Harrison
(Law firm)

** **John W. McKittrick**
President,
Telecommunications Research
Corporation
(Telecommunications
consulting firm)

** **Graham Tyson**
Chairman,
Chief Executive Officer
Dataproducts Corporation
(Manufacturer of computer
printers)

*Member of Compensation Committee

**Member of Audit Committee

Principal Officers of Measurex Corporation and Subsidiaries

David A. Bossen
President,
Chief Executive Officer

Fernand Ostiguy
President
MXI

Jerome Raffel
Senior Vice President
Operations

Dr. William I. Robinson
President
Measurex Europe

Donald L. Waite
Senior Vice President
Finance

Dr. Doris S. Bossen
Vice President
Corporate Communications

John C. Gingerich
Vice President
U.S. Sales and Service

Erik J. Hallman
Managing Director
Measurex Europe

James J. Heffernan
Corporate Controller

Thomas A. King
Vice President
Engineering

Victor Kirk
Vice President, Operations
Measurex Ireland, Ltd.

John W. Larson
Secretary

John F. Lynch
Vice President
Southern Hemisphere

William H. Moore
Vice President
Sales and Service
Pulp and Paper Division

Phillip E. Peterson
Vice President
Personnel

Bill W. Solley
President
Measurex, Japan, Ltd.

Phillip R. Trapp
Vice President
Industrial Energy Division

Glenn R. Wienkoop
Vice President
Pulp, Paper and Industrial Systems

Riley R. Willcox
Vice President
Corporate Development

Norman D. Winton
Vice President
Service

Transfer Agent and Registrar

Bank of America
N.T. & S.A.
San Francisco, CA

Auditors

Coopers & Lybrand
San Jose, CA

General Counsel

Brobeck, Phleger and Harrison
San Francisco, CA

Measurex' common stock is
listed on the New York and
Pacific Stock Exchanges and
trades under the symbol MX.

For a copy without charge of
Measurex' Form 10-K, the Com-
pany's annual report filed with
the Securities and Exchange
Commission, please write the
Asst. Secretary, Measurex Corp.,
One Results Way, Cupertino, CA
95014

Regional Offices

United States

130 East Wilson Bridge Road
Suite 220
Worthington, Ohio 43085
Phone: (614) 888-8034
TWX: 246661 MEASUREX WOGN

1400 E. Touhy Avenue
Des Plaines, Illinois 60018
Phone: (312) 827-9800/07
Telex: 282479 MEASUREX DSP

330 North Belt East
Suite 238
Houston, Texas 77060
Phone: (713) 931-6070
TWX: 910-881-2775
MEASUREX HOU

1500 "D" Street
Suite 3
Vancouver, Washington 98663
Phone: (206) 695-3409

P.O. Box 1232
5111 Cypress Street
West Monroe, Louisiana 71291
Phone: (318) 396-4803
TWX: 510-977-5379
MEASUREX WMOR

2301 South Oneida Street
Green Bay, Wisconsin 54303
Phone: (414) 494-1751
TWX: 910-263-1298 MEASUREX
GRB

2965 Flowers Road South
Suite 135
Atlanta, Georgia 30341
Phone: (404) 451-8611
TWX: 810-757-4238 MEASUREX
ATL

Northport Professional Building
1321 Washington Avenue
Portland, Maine 04103
Phone: (207) 797-2213
Telex: 94-4319 MEASUREX POR

424 Adams Street
Milton, MA 02186
(617) 696-1000

Measurex International
Corporation
7370 N.W. 36th Street
Suite 120
Miami, Florida 33165
Phone: (305) 592-9930/32
Telex: 514715 MXMIA

P.O. Box 526
Denver, North Carolina 28037
Phone: (704) 483-9731

Australia

Measurex Pty. Ltd.
1-3 Atchison Street
St. Leonards, N.S.W. 2065
Australia
Phone: (61) (02) 431409
Telex: MXAUS AA25254

Austria

Measurex International GmbH
Gottfried Keller-Gasse 2/26
1030 Wien
Austria
Phone: (43) (222) 757843
Telex: 076929 MXAUS A

Brazil

Measurex do Brasil
Rua Coelho Neto, 329
13100 Campinas, SP
Brazil
Phone: (55) (192) 31-1993
TLX: 191090 MXBR BR

Canada

Measurex Inc.
981 Pierre Dupuy Street
Suite 136
Longueuil, Quebec, J4K 1A1
Canada
Phone: (514) 651-2410
Telex: 05-267-441 MEASUREX
MTL

Measurex Inc.
3311 No. 3 Road
Suite 204
Richmond, B.C., Canada
Phone: (604) 273-7032
Telex: 043-55686 MEASUREX VCR

Finland

Measurex Oy
P.O. Box 61
02701 Kauniainen, Finland
Phone: (358) (0) 595055
Telex: 121762 MSRX SF

France

Measurex SA
18 Rue de la Pepiniere
75008 Paris, France
Phone: (33) (1) 292-11-58
Telex: MX PARIS 660395F

Measurex SA
31 Quai Rambaud
69002 Lyon, France
Phone: (33) (78) 42-48-08
Telex: MXFRSUD 900034 F

Germany

Measurex GmbH
Frankfurter Allee 27
6236 Eschborn TS., West Germany
Phone: (49) (619) 648791
Telex: 0418352 MXAF D

Holland

Measurex B.V.
P.O. Box 48
4190 CA Geldermalsen
The Netherlands, Holland
Phone: (31) (03455) 1449
Telex: 40542 MXBNL NL

Ireland

Measurex (Ireland) Ltd.
Industrial Estate
Waterford, Ireland
Phone: (353) (51) 72151
Telex: 28674 MSRX EI
Measurex (Ireland) Ltd.
Engineering Department
Mahon Industrial Estate
Blackrock
Cork, Ireland
Phone: (353) (21) 931501
Telex: 24925 MXCK EI

Italy

Measurex Italia S.R.L.
Via P. Martinetti, 7
20147 Milano, Italy
Phone: (39) (2) 4046446
Telex: 333568 MXMED I

Japan

Measurex Japan, Ltd.
2-11 Higashi-kojiya 6-chome
Ohta-ku, Tokyo 144, Japan
Phone: (81) (03) 745-3621
Telex: 2466407 MXTYOJ

New Zealand

Measurex Systems NZ Ltd.
P.O. Box 1547
Rotorua,
New Zealand
Phone: (64) (76) 5659
Telex: NZ 2399 CONROT

South Africa

Measurex SA (Pty.) Ltd.
P.O. Box 18370
Dalbridge 4014
Natal
Republic of South Africa
Phone: (031) 214238/9/0
Telex: 5-50546
Measurex SA (Pty.) Ltd.
3rd Level, Eden Mall
53 Van Riebeeck Avenue
Edenvale, 1610, TVL
South Africa
Phone: (27) (11) 535012
Telex: 8-6227 SA

Spain

Measurex International Corp. (Espana)
Calle San Martin NO. 53-PISO 3.2
San Sebastian,
Guipuzcoa
Spain
Phone: (34) (43) 454947/455956
Telex: 36522 MSRX E

Sweden

Measurex Sweden AB
Cirkelgatan
P.O. Box 326
781 24 Borlange, Sweden
Phone: (46) (243) 80070
Telex: 74149 SWEDMX S

United Kingdom

Measurex International
Systems Ltd.
Measurex House
Slough Road
Datchet
Slough SL 3 9AU
England
Phone: (44) (753) 44271
Telex: 848631 MX EHQ G

Mexico

Measurex International
Corporation
c/o International Mill Supply
de Mexico SA
Avenue Ejercito Nacional 884-302
Mexico 5. D.F., Mexico
Phone: (905) 540-7512, 520-0166
Telex: 01775 612 MYCOME

Portugal

Measurex Portugal—Sistemas De
Controle Limitada
Peritagens Contabilisticas LDA
Av. 5 De Outubro, 35 - 3F ESQ
1000 Lisboa, Portugal
Phone: 575606/656/700
TLX: 13664 COLY P

measurex
CORPORATION

Corporate Headquarters
One Results Way
Cupertino, California 95014
Phone: (408) 255-1500
TWX: 910-338-0242
Telex: 346403 or 346371
MEASUREX CPTO