



Financial Highlights

Year Ended April 30,	1969	1968	% Increase
Total Operating Revenues	\$18,056,672	\$16,425,521	+10.0%
Net Income	1,775,823	1,317,844	+34.8%
Cash Flow	2,948,942	2,304,028	+28.0%
Net Working Capital	9,560,994	6,834,648	+39.9%
Net Income Per Share	\$0.58	\$0.46	+26.1%

To Our Stockholders and Employees:

Summary

The year ended April 30, 1969, was one of both challenge and progress. Profits after taxes increased to \$1.8 million from the previous year's \$1.3 million and cash flow went to \$2.9 million from \$2.3 million. Earnings per common share reached 58 cents, an increase of 26 percent over the comparable figure of 46 cents reported for fiscal 1968. Per share earnings were based on an average of 3.1 million shares outstanding for the period compared with an average of 2.9 million shares outstanding for the prior period. These earnings were realized on total revenues of \$18.1 million, up from \$16.4 million in 1968. The above consolidated figures include Industrial Nucleonics and its subsidiaries.

Numerous developments that have been underway for five years or longer came to fruition last year. These and other important company matters are discussed in this report.

Public Offering

Industrial Nucleonics Corporation completed its first public offering of stock in February, 1969. The underwriting and sale of 390,000 shares of common stock were managed by William Blair and Company of Chicago with the participation of 57 other underwriting firms. This offering represented the first equity capital to be taken into the company since 1952. With the public offering, our stockholders now number 2,400. Industrial Nucleonics' stock is quoted daily in national financial publications.

Of interest was the fact that 449 of our 762 employees purchased stock during the recent underwriting. Presently two-thirds of our employees participate in the company as stockholders.

Prior to the underwriting, Industrial Nucleonics, which was originally incorporated in the State of Ohio in 1950, was reorganized and incorporated in the State of Delaware.

In December 1968, the shareholders authorized the creation of 2,000,000 shares of preferred stock. No shares of this new class of stock have been issued or sold.

With the public offering and the authorization of a preferred stock class, our company now has greater flexibility for expansion. As in the past we intend to continue to grow from within. At the same time, we are now in a position to look for compatible outside situations that could result in growth through acquisitions.

The Computer's New Role

The computer is man's most modern and perhaps most powerful tool. Its most recent major use has been in the office and in the scientific laboratory. Here computers have revolution-



Wilbert E. Chope, Chairman.
and David L. Nelson, President.

ized office and scientific procedures. Today the next big step is underway as computers move out of the office and the laboratory and into the factory. It is here that goods and products are made. It is here that quality is imparted to products. It is here that major manufacturing costs are incurred. Currently, product quality and costs loom big in each businessman's mind.

As computers are used for automation of factory processes, they will be linked into corporate-wide management information systems. These systems will then tie together the conventional corporate functions of process and quality control, accounting and cost control. New computer management information systems will truly integrate the operations of large corporations by linking together multiple factories in a complete communications network.

Industrial Nucleonics has pioneered in special purpose computers—some 1,800 of them—in plant automation systems. Real-time management information can be obtained only from continuous measurements of the product being manufactured. Our company will continue to spearhead the use of computers in complete factory automation and management information systems.

New technologies, new components and new methods—many of them created by Industrial Nucleonics—make this expanded role possible.



Recent major installation in a French paper mill typifies growth of international markets.

APM Systems

Last year saw the introduction of the new AccuRay® Process Management Systems—more commonly referred to as APM* Systems. These systems perform at various levels of our customers' business: (1) they provide a high degree of plant automation based upon continuous, real-time measurements, and (2) they form the basis for a corporate-wide management information system which supplies cost, quality and profit data.

Two new systems were introduced. The first is called the APM-800. The digital computer which is an integral and built-in part of this electronic-automation system is supplied by Industrial Nucleonics.

The other is the APM-900. This system works in conjunction with a large-scale, time-shared digital computer in situations where a customer wants to use a computer for additional functions. Our company performs the systems analysis and programming for that part of the system relating to process automation and associated management information.

The new APM Systems sell in the range of \$200,000 to \$1,000,000 per installation. The company's APM Systems are supported by the full services of its 350 marketing and service personnel.

International Operations

Our international operations continue to grow. During the last four years, revenues have increased at an average rate of 48 percent per year. Particularly significant is the interest in the larger computer-based systems.

We hire qualified personnel from various countries and bring them to the United States for an initial two-year training program. They receive instruction and experience in industrial processes and in all aspects of the company's products and systems. Upon assignment to their respective countries, these well-qualified and highly motivated individuals become our account managers, systems engineers and customer-service engineers.

We are optimistic about our growth in world markets. Factors such as growing populations, higher levels of economic activity and higher personal incomes throughout the world all point to an increasing demand for basic manufactured products. Here again AccuRay automation and information system systems can help supply this demand by increasing production of higher quality products.

Planning

A growing company must conserve its fundamental assets and direct them into the most productive channels. Over the

* APM is a service mark of Industrial Nucleonics Corporation.

years, Industrial Nucleonics has followed defined growth plans. Some eight years ago, a separate company planning group was formed. This group prepares one-, two- and five-year growth plans. These are updated year by year.

We are taking a broad overview of our business future. The objective will be to formulate a 20-year plan. It will define and consider our broad assets, our needs and the alternate ways in which the company can grow and prosper. A long-range plan of these dimensions is both realistic and feasible because our young, key personnel can actually be with us to carry it out.

Our Future

We approach the future with optimism. As we peer into the next decade, we can look for unprecedented growth in the economies of this nation and the world. With such growth go soaring demands for more products, goods and services. The demand for basic products for household necessities and luxuries will multiply, and the need for more goods manufactured from such basic materials as steel, rubber, paper and plastics will increase the demand for automated processes.

From a solid base of the past, Industrial Nucleonics has organized to serve the markets of the 1970's. We have the prime corporate assets that are needed—the people, the technologies and the unique services. Of these, our people are

the most important, for it is from them that the other two flow.

The future for our services is summed up well in the recent *U.S. News and World Report* article, "The 'Spectacular '70's'—Preview of the Next Decade":

"Helping to fuel all this [a doubling of goods and services by 1980] will be a 'third industrial revolution,' as astonishing as those that came about through the harnessing of steam power and the general use of electricity.

"The new revolution will flow from industrial applications of nuclear energy, the unfolding of great advances in electronics and continued development of automatic-control systems and computers... The drive for increased efficiency through automation and computerization will be reflected in capital outlays."

We believe that what we have established at Industrial Nucleonics puts us in the mainstream of the 1970's.



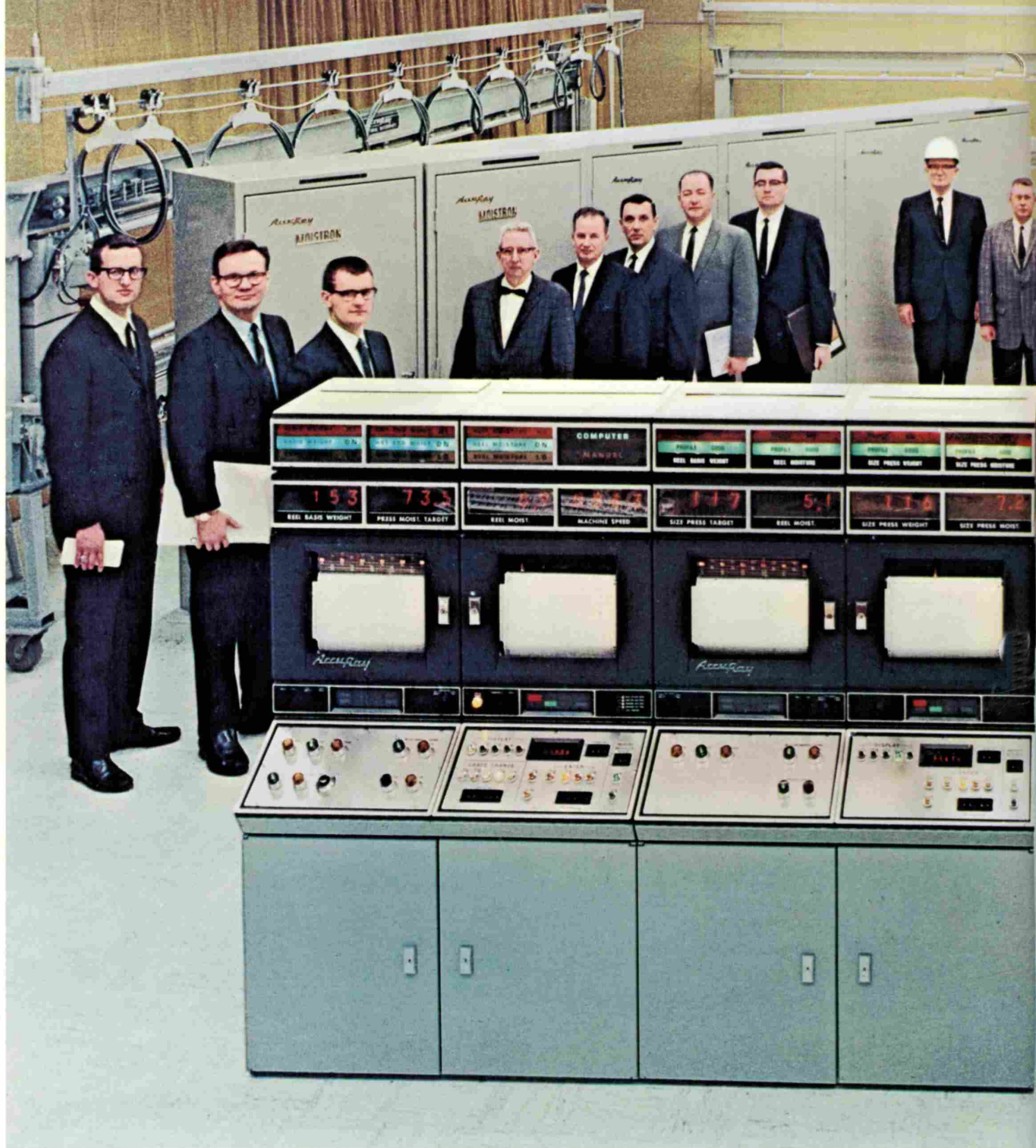
Wilbert E. Chope, Chairman



David L. Nelson, President



Highly skilled scientific personnel work at company headquarters on 45 campus-like acres in Columbus, Ohio.



The first AccuRay APM System shipped to a customer is shown here with the "results operation" team used to plan, design, install, maintain and bring to its highest utilization this

modern computer automation system. Process management systems developed by Industrial Nucleonics incorporate not only advanced technology but a spectrum of services reaching from the

customer's process to his top management. This team includes engineers from company specialties in computer science, custom system design, management science, customer service,

systems engineering and process engineering. The group represents nearly 200 man-years experience at Industrial Nucleonics and 25 college degrees including 4 Doctorates and 8 Masters.



Our Customers -Their Products



Our customers represent a cross section of industry, including the top names in American business. For example, approximately 70 percent of the top 100 companies in the 1969 *Fortune Directory* are our customers. In addition, hundreds of smaller producers employ AccuRay Systems. Many of the products and materials made by our customers find routine use in the home or in the office or become part of fabricated products such as automobiles, refrigerators and television sets.

These systems control a broad range of processes including the following: beverages, building materials, rubber, plastics, foods, paper, chemicals, petroleum, sewage, utilities, metals, mining and tobacco. All in all, some 8,500 AccuRay Systems are at work in industry today.

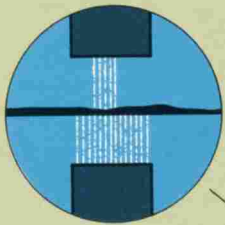
The industries that utilize AccuRay automation and information systems are generally those that have high raw material and processing costs. Processes in these industries are characterized by high speed, continuous production and high dollar throughput of finished products. Raw materials value may range as high as 50 percent of the final product selling price.

Representative annual throughput costs for high production processes are: tandem steel rolling, \$50 million; paper making, \$20 million; and rubber tire calendering, \$8 million. Typical savings in raw materials of 1 to 4 percent in these processes can more than pay for an automation system in a reasonable period of time — from six months to two years. Leased automation-information systems can pay for themselves from current earnings and provide the user with a net return.

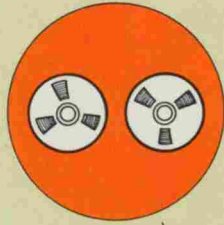
69 of the top 100 U.S. companies use systems made by Industrial Nucleonics.

AccuRay Systems and Services Help Make Everyday Products Better

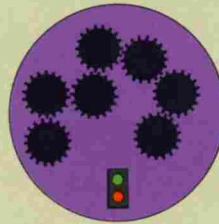
Measurement



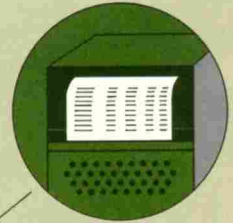
Computers



Automation

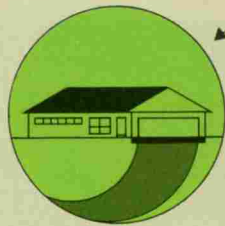


Management Information



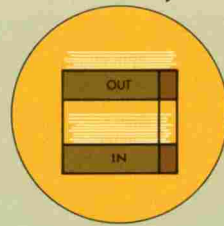
Materials

Metals Beverages
 Rubber Foods
 Plastics Tobacco
 Paper Mining
 Chemicals Sewage
 Petroleum Utilities
 Building Materials



The Home

Asphalt shingles
 Asbestos paper
 Fiber glass insulation
 Aluminum siding
 Wallboard
 Wall covering
 Paper clothes
 Vinyl floor tile
 Glass
 Aluminum doors
 Copper flashing
 Metal garage doors
 Steel furnaces
 Plastic rain gear
 Cement
 Acoustical tile
 Fiber glass filters
 Galvanized gutters and spouts
 Phenolic laminated wall paneling



The Office

Bond
 Carbon paper
 Onion skin
 Photo stock
 Publication paper
 Computer paper
 Newsprint
 Computer card stock
 Duplicating paper
 Catalog stock
 Book paper
 Directory
 Stamps
 Envelope stock
 Laminated plastic desk tops
 Coating solids in coated paper
 Glue for envelopes and stamps
 Paper pulp in the liquid stage
 Floor tile
 Vinyl covers on notebooks
 Steel cabinets and files



Transportation

Body steel
 Vinyl seats
 Aluminum and steel trim
 Bumpers
 Floor mats
 Windshield
 Battery separators
 Vinyl plastic top
 Radiator material
 Steel hood
 Fenders
 Foam-rubber padding
 Paint
 Motor oil
 Antifreeze
 Galvanized steel fuel tank



Food

Applesauce
 Bread dough
 Corn syrup
 Sugar concentrate
 Salt brine
 Starch slurry
 Maleic acid (Pectin)
 Glass containers
 Tin and aluminum cans
 Soybean flakes
 Milk
 Beer
 Soft drinks
 Fruit juices
 Fruit pulp
 Potato water
 Cake batter
 Milk cartons
 Polyethylene wrap
 Cigarettes
 Food papers
 Kraft bags
 Cellophane

Our Customers-What They Do



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Computer automation in aluminum rolling insures adherence to close tolerances.

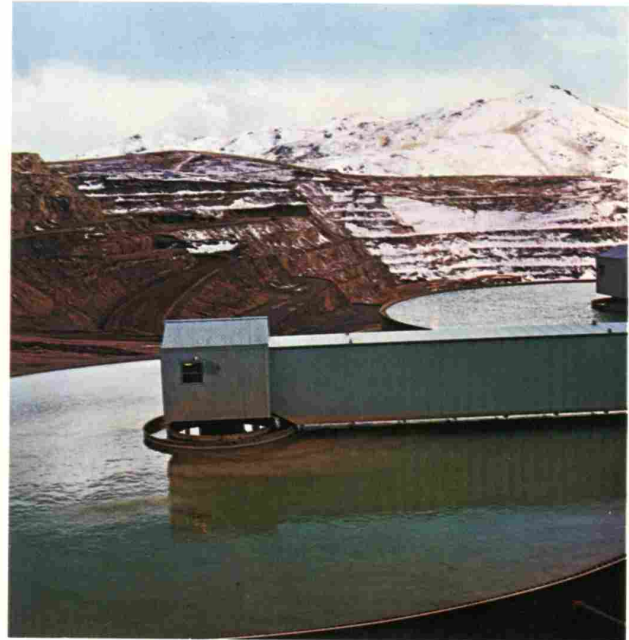


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In 1968 Industrial Nucleonics introduced a new AccuRay APM System in the tobacco industry.

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Density and composition control are critical to chemical operations.



Huge, complex galvanizing line is controlled by an AccuRay System.



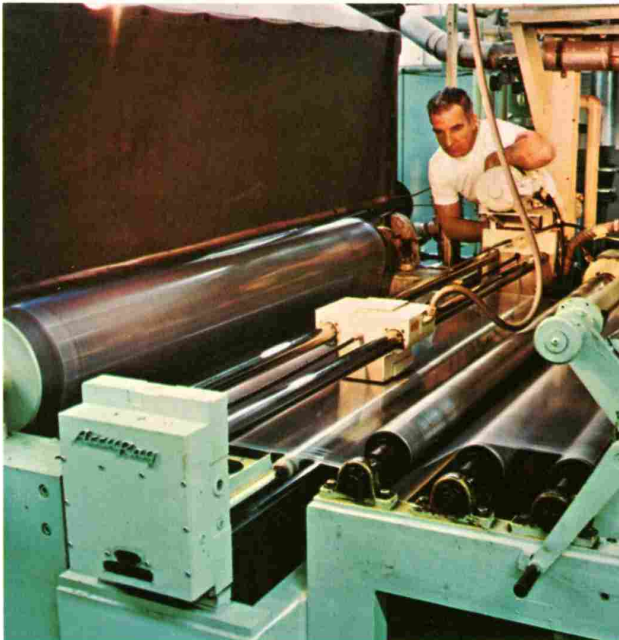
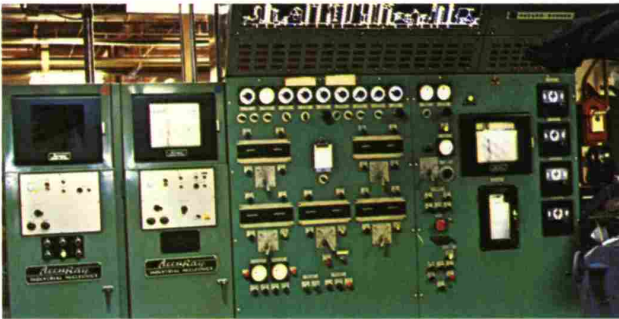
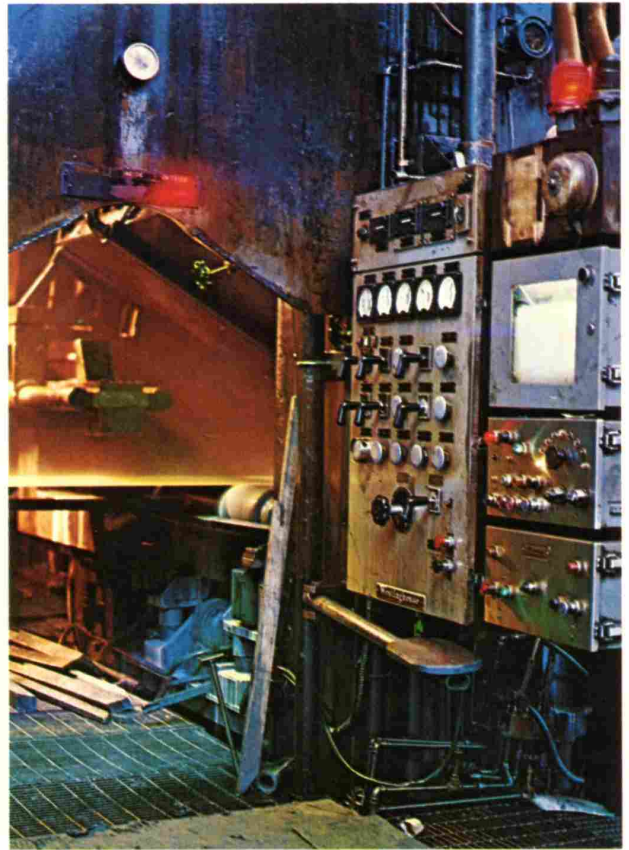
An AccuRay System used for density control in Western gold refining.

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AccuRay Systems control
\$50 million a year of cold
rolled steel in severe
environments.



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A typical installation for water
pollution control.

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AccuRay Systems play a
vital part in automation of
the rubber industry.



An AccuRay APM-900
System can control multiple
plastic extrusion lines.



Each AccuRay paper installa-
tion controls an average of
\$20 million of annual product
throughput.

AccuRay Process Management Systems

Recently the company formally introduced its AccuRay Process Management (APM) Systems. These are computer-based automation and management information systems designed for application to large, high-volume manufacturing processes. They automate operations of complex processes and supply management information on costs, efficiency and product quality.

The company's APM Systems are priced in the range of \$200,000 to \$1,000,000 per installation. The system price or rental rate depends upon the size and complexity of the customer's manufacturing operation, the amount of process cost and quality information he requires and the additional capacity he may require for performing other computing functions in his plant.

The APM Systems are the result of a five-year, \$5 million research and development program. As part of their internal electronics, they incorporate digital computers and memory storage, which are utilized in three basic functions of the complete AccuRay Systems: (1) multiple real-time measurements, (2) automated operations, and (3) management information processing. The resulting systems are based upon advances the company has made in a combination of technical areas including nucleonics, electronic circuits and components, automation and computer technology.

Computers

From the computer standpoint, the new APM Systems embody over 15 years of Industrial Nucleonics computer experience. Our company has manufactured and installed on industrial

processes some 1,800 computers. Most of these have been special-purpose computers of Industrial Nucleonics' own design. They have incorporated both digital and analog functions.

Recently, the costs for digital computer functions have been reduced sharply through the availability of integrated circuits. It is now technically and economically feasible to perform involved digital computations with such components. These new digital integrated circuits are a basic part of the company's APM Systems.

APM-800 Series

The APM-800 System provides a digital computer as a basic and integral part of the measurement, automation and information processing system. The digital computer is "dedicated" only to the functioning of the AccuRay automation and management information system. Full process and systems analysis, computer programming and systems design are accomplished before the APM-800 Systems are shipped from our plant.

APM-900 Series

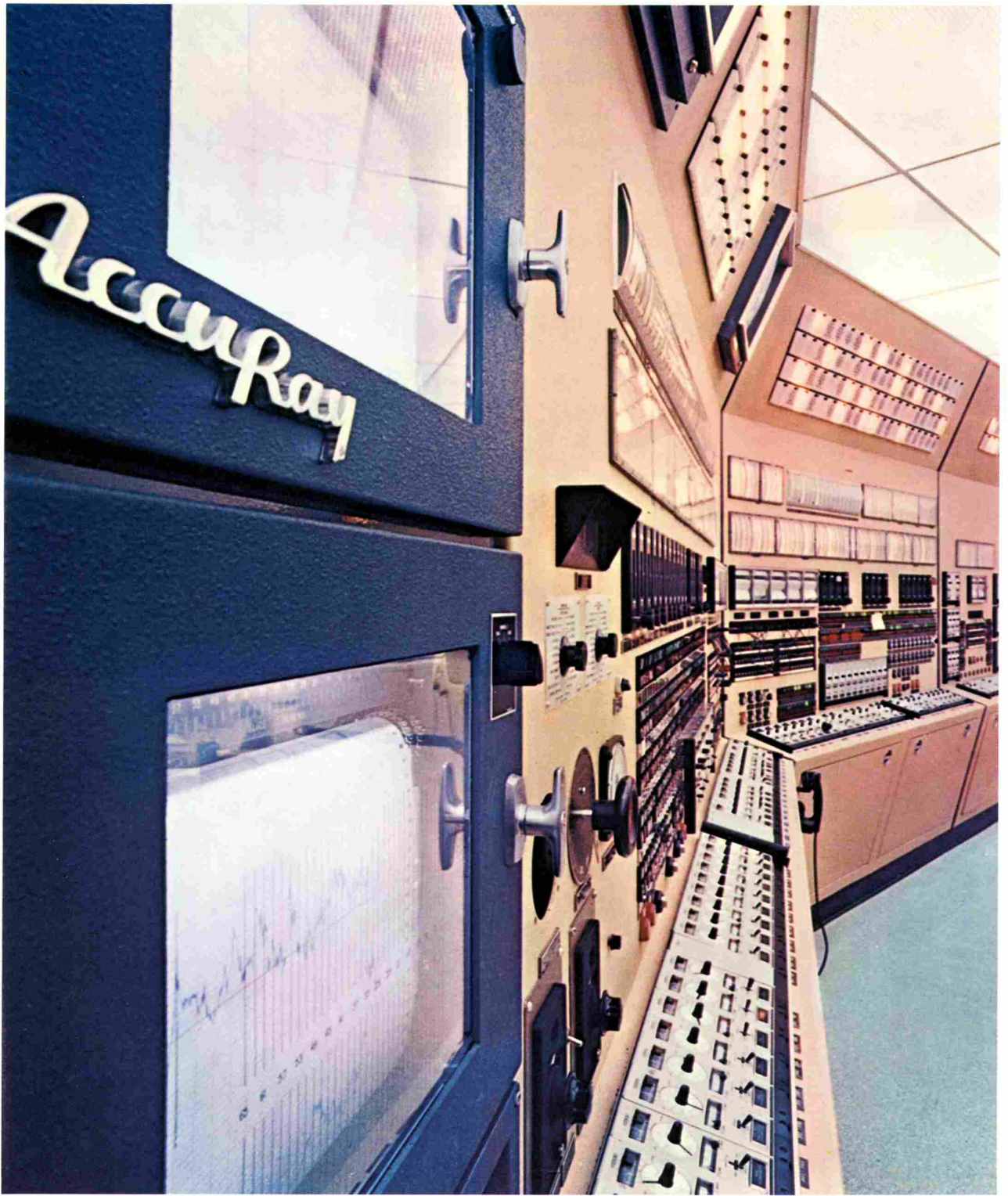
The APM-900 System works in conjunction with a large-scale, time-shared digital computer. In situations in which a customer wants to use the computer for other business functions, Industrial Nucleonics performs the process and systems analysis, programming and systems design for that part of the computer system relating to process automation and its resulting management information readout.

APM Systems—Four Levels of Control and Information

APM Systems perform many tasks relating to customers' manufacturing operations. These systems provide a high degree of automation based on continuous measurements. They supply various levels of management with important information on the process operation and on the products produced. Thus, prompt action can be taken on deviations from product specifications and predetermined standard operating procedures.

The four levels of APM operation are defined as follows:

Level 1—Process Control—At this level, measurement, control and computer parts of the system automatically make adjustments to the process machinery. These adjustments are based upon a process model which is stored in the "memory bank" of the computer. When departures from the required product conditions are measured, the computer selects from



High speed, continuous production processes rely on AccuRay automation-information systems.

its memory bank the appropriate set of corrections. Through successive actions of the preceding type, the product under manufacture is held within tight tolerances. Outstanding results have been obtained with this method of process control.

Level 2—Process Supervision—The machine operator who previously pushed buttons or turned valves in an attempt to run his process now truly becomes its master. The operator receives data on operating conditions and product quality. By activating controls on a display panel, he can cause the APM System to make major coordinated process changes—product grade, weight, thickness.

Level 3—Plant Supervision—Plant supervisory personnel at this level are presented with status information as to how well their overall manufacturing processes are being run. At this level, there is performance and quality information available. Corrective action involving men and machines can be taken promptly when key supervisory personnel have such current information.

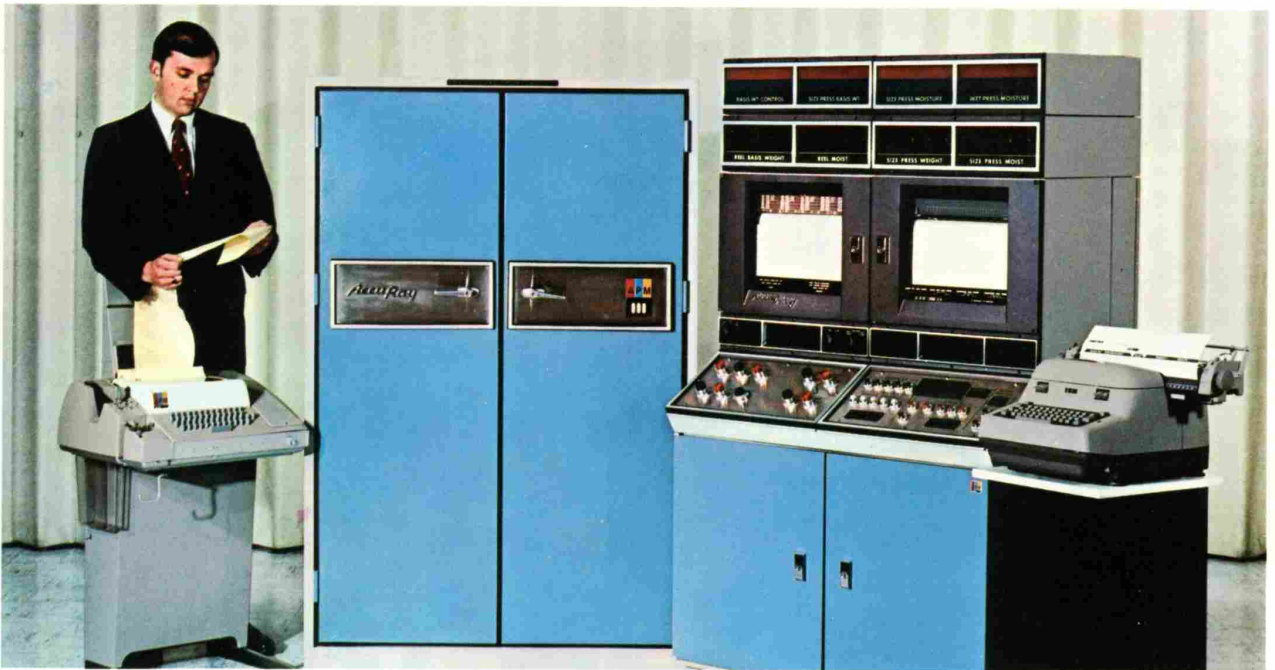
Level 4—Management Information—At this level relevant information is made available on which management may base major decisions. This information can be fed to remote locations within the plant or to an office some distance away. Management information relating to overall plant oper-

ation is printed out or otherwise conveyed to key management personnel. Emphasis is on quantities such as production costs, overall product quality and operating profits, compared against preset standards.

The APM Systems thus provide corporate management of multiple-plant businesses with a new overall management tool. Communication links can now tie together the various plant APM Systems located at widely separated locations. For example, information from widely separated plants (e.g., Los Angeles, Chicago and Atlanta) is automatically transmitted and communicated to headquarters in some central location.

At the corporate level, current plant operating information is further processed. Computed alternatives are presented in terms of economic trends, market conditions, product demands, cost of capital and corporate long-range plans. Such information can be made available to corporate management on a daily, or even hourly, basis rather than after a time delay of weeks or months as is now usually the case.

Industrial Nucleonics has available the headquarters personnel to analyze and simulate overall corporate operations and to design the optimum information systems. These new APM Systems are evidence of our company's continuing application of advanced technologies to the needs of the marketplace.



A major step forward for Industrial Nucleonics and its customers was the recent introduction of the APM Systems, a new generation of process management systems. Shown above, the APM-800.

Computer and Management Sciences

Information analysis and process simulation by Computer Sciences Laboratory.



Two groups in our Columbus plant have played a major part in developing our APM Systems. These are our Computer Sciences Laboratory and Management Sciences Group.

Computer Sciences Laboratory

The Computer Sciences Laboratory is manned by our top systems and computer engineers—all at the M.S. or Ph.D. levels. They are augmented by a group of consultants with backgrounds in computers, industrial processes or data processing. Representatives from Computer Sciences are available for consultation with our own field force and our customers.

The laboratory is equipped with digital computers, analog computers, and peripheral devices. Systems simulations are performed for each major AccuRay automation-information system based on (1) characteristics of the process to be controlled and (2) measurement, control and computer systems components.

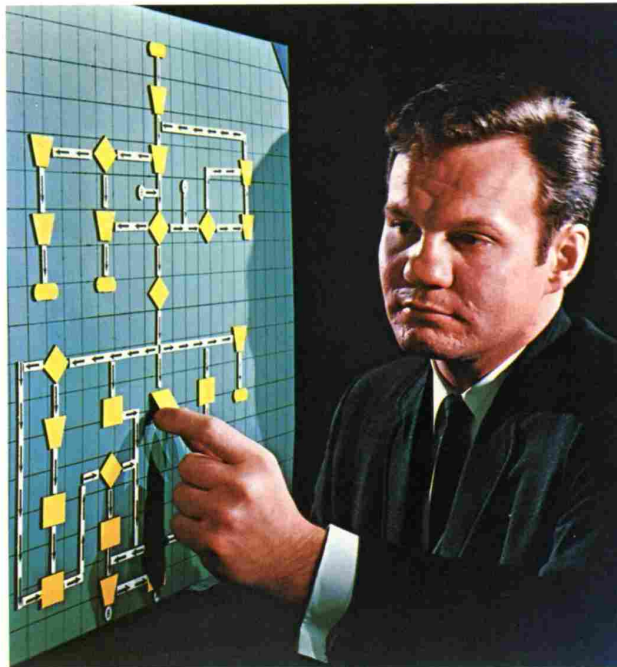
Control and data strategies can be investigated and the best one determined before each system is installed. Thus the AccuRay System is preprogrammed and ready to function when it arrives at the customer's plant. This is important, because in high-production processes lost time for system and computer setup is expensive.

Management Sciences

The Management Sciences Group provides analysis and consulting services relating to information systems. In these services they participate in an overall team effort involving personnel from the marketing and field operations, the Computer Sciences Laboratory, and our research functions.

They work with specific customers to analyze their existing management information systems and propose new ones. A Management Sciences team recently participated in a number of techno-economic audits for such customers. New systems have been set up in which production, quality and cost information is presented in computer reports to various management levels. Groundwork has been laid for the ultimate introduction of APM Systems into the overall customer management information system. As in the case of the company's computer personnel, Management Sciences individuals are available for consultation with our field personnel and customers.

The combination of our field and home office personnel provides a complete systems approach to automation and information handling. This approach requires a closely coordinated team of experts with backgrounds in accounting, computer sciences, programming, systems analysis and process engineering.



Optimum automation depends on integrating production variables into a management information system.

Marketing and Field Organizations

number 350. Today our own field personnel are so deployed throughout the continental United States as to be within two hours' travel time to over 96 percent of our installations.

Our field force consists of account managers, systems engineers, customer-service engineers and installation engineers.

Account Managers are highly trained and skilled engineers located throughout the United States and Canada. They represent the main contacts with present and future customers. Some account managers are assigned to one major account or a selected number of similar accounts. They are experienced in both the technology and economics of our customers' operations. Many have additional degrees in business administration.

Systems Engineers are company specialists available in the field to perform process, systems and economic analyses of customers' processes. They prepare post-installation systems studies to insure that each AccuRay System is providing optimum results.

Customer-Service Engineers maintain and service AccuRay Systems. Downtime for automation and information processing systems is extremely costly to the customer in high throughput processes. Customer-service engineers devote much of their work to preventive maintenance which permits our systems to operate around the clock, day in and day out. In plants with large or multiple installations of AccuRay Systems, individuals are assigned for full-time duty. In this case they are referred to as resident engineers.

Installation Engineers install AccuRay Systems. Some are field based; others are based at the home office and accompany shipments of our automation equipment to assure prompt installation.

There are industry specialists always available from the marketing department in Columbus. In addition, engineering and scientific personnel from our research and development departments stand ready to consult with customers and back up our field staff.

Our field personnel are qualified and experienced—many have 10 to 15 years' experience with us. Of our 100 account managers and systems engineers, substantially all hold degrees in science or engineering. About one-third hold a Master's degree in business administration.

The marketing and field organizations provide Industrial Nucleonics with one of its major assets for growth and expansion.

The automation and information systems of Industrial Nucleonics are sold and serviced through our own marketing and field organizations. The company found in the early stages of its development that maximum results from large systems could be obtained only when such systems are backed up by competent and readily available personnel. To compete across the board in the fields of computers and automation systems requires about nine service and support personnel to back up each sales individual.

In the late 1950's, the company embarked on a program to build a strong marketing and field organization. Personnel in the marketing and field organizations of the company now



Creative marketing fulfills real needs by helping customers save money through process automation.



Systems engineers work with the customer in analyzing his process and documenting his savings.



Our skilled customer service engineers maintain 99 percent reliability.



Industrial Nucleonics engineers supervise installation to insure optimum performance.

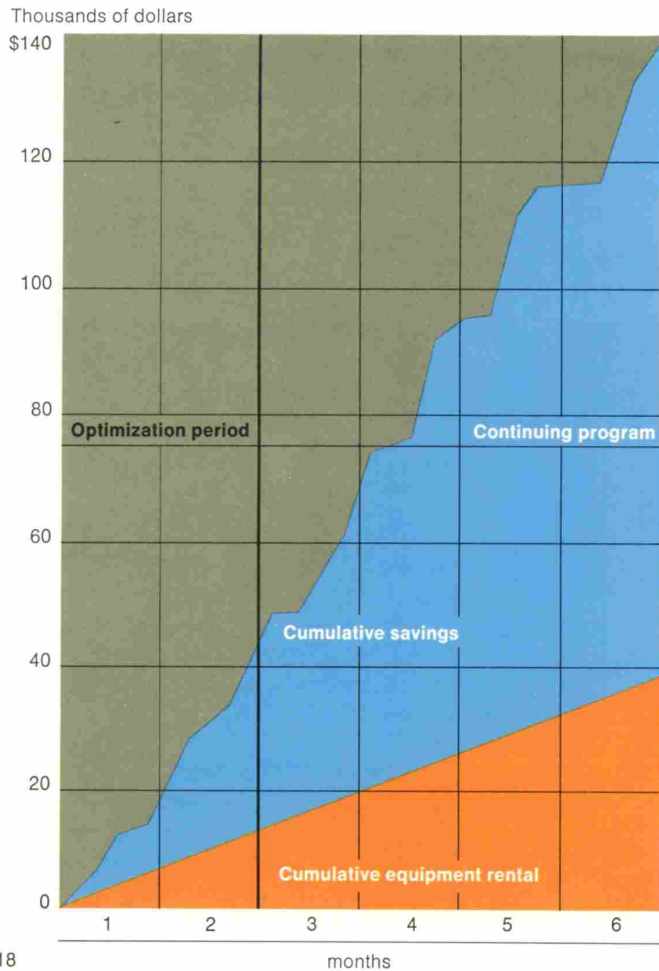
Leasing

Advantages of Leasing

Industrial Nucleonics is a leader in leasing large automation-information systems, and leasing continues to be an important part of our business. Customers benefit from these programs in the following ways:

- Customers may rent complex systems without major capital investments.
- Customers receive the full spectrum of services, including management consulting, systems engineering, process analysis and computer programming.
- Customers are assured of the most modern, reliable and time-proven devices, eliminating any worry about obsolescence.
- Customers can pay for these systems out of savings resulting from their use.

**Customer's Savings from
AccuRay Leasing Program**



AccuRay Leasing Corporation

Rental agreements for leased automation-information systems provide continuing income. Since 1962, all rental agreements with customers have been handled through AccuRay Leasing Corporation, a wholly-owned subsidiary. AccuRay Leasing Corporation provides systems and services under several leasing plans which are designed to meet the specific needs of each customer. Presently AccuRay Leasing Corporation has approximately \$27 million worth of automation-information systems, valued at original systems selling price, under lease to customers in various industries.

Joint Ventures

Our leasing programs are aided by two joint ventures. Their purpose is to purchase AccuRay automation and information systems manufactured by Industrial Nucleonics, then lease these systems to AccuRay Leasing Corporation for subsequent rental to customers.

One joint venture is between AccuRay Leasing Corporation and the St. Paul Leasing Company, a subsidiary of the St. Paul Companies of St. Paul, Minnesota. Fostoria-AccuRay is the other, formed in 1968 between AccuRay Leasing Corporation and Fostoria-Leasco, Inc.

These joint ventures permit Industrial Nucleonics to receive the full income from the sale of its systems and maintain a substantial leasing program without a continuing, severe cash drain and deferment of profit. Since AccuRay Leasing Corporation is a 40 percent owner of each joint venture, we receive a proportionate amount of the future joint venture profits and equipment residual values.

Savings from this Industrial Nucleonics paper installation are typical of many systems which have returned several times their rental. Savings were realized by controlling this machine within close

tolerances which permitted increased speed, area per ton of pulp, and moisture in the final product.



Leased AccuRay Systems pay for themselves out of savings. This installation is on the No. 4 paper machine at EastTex Incorporated.

Industrial Nucleonics People

A growth company depends primarily upon creative, motivated and hardworking people. They are the ones who must apply technologies, creative marketing, innovative management and sound financial judgment to the many challenges that face a company such as ours. During our 19 years we have followed the policy of attracting such individuals, applying their collective talents and promoting them to key positions.

Experienced Management

Most key managers began their careers with the company at an early stage of its growth. Over the years they have developed their capabilities as they assumed greater responsibilities. We believe we now have the most experienced management to be found in any technologically based enterprise. For example, our 20 key managers and professional personnel average 42 years of age and have been with the company an average of 14 years.

Qualified Personnel

Each year we concentrate on recruiting outstanding candidates with business and scientific backgrounds. Currently, 428 of our 762 employees are salaried and professional personnel. About half of our engineers and scientists working directly in research and development have Master's degrees and six are at the Ph. D. level.

Motivating Superior Performance

Industrial Nucleonics has been selective in obtaining capable personnel. But this is just a starting point. We attempt to motivate superior performance by assigning maximum responsibilities to our people. Periodic development reviews help our personnel assess their abilities and performance consistent with our corporate goals and directions. Challenging work, promotion from within and work on the forefront of science all combine to provide motivation for our people.

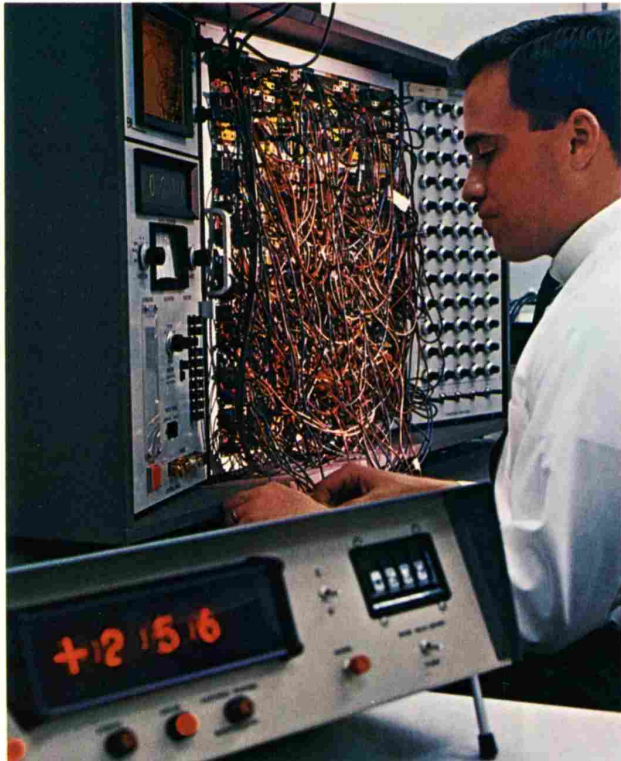
The competence of present personnel, coupled with high standards for new employees, amplifies our confidence in the future.

New Technologies— The Foundation of our Future

Research and Development

Industrial Nucleonics spends annually \$2.5 million on research, development and related technological programs. Technical activities are concentrated in four separate but related technologies: (1) nucleonics, (2) electronics, (3) automation systems and (4) computers. Each of our new developments has required technological breakthroughs. For example, the five-year, \$5 million program leading to the APM Systems required significant advances in each of the above four fields.

The company also performs special studies which underlie both future products and our present systems. Developments now under way offer new and exciting future applications. These will be described in the following sections.



Information systems research is at the forefront of modern technology.



Tracking systems for aircraft and missiles open whole new fields for nucleonic-electronic technology.

Information Systems Research

Since information is the basic ingredient for all control—both process and business—we devote research to new information systems. Information on measured material and process characteristics is the starting point for AccuRay automation systems. Accurate input information is important, and it must be based on continuous, on-line, real-time measurements. "On-line" refers to the ability to measure products as they are being manufactured on the production line. "Real-time" refers to the speed of measurements and the rate at which the automation system can respond. Data received too late is of little use.

Investigations cover numerous basic physical principles such as beta-, gamma-, and x-ray absorption and reflection; optical scanning, and infrared, microwave and radiofrequency interactions with materials. These principles will be applied to future input information devices to measure chemical composition, hardness, thickness, strength and even crystalline or atomic properties of manufactured products. Electronics specialists design the specific devices to provide reliable and accurate information based on such principles.

Further investigations are made into computer and data handling systems which supply process management with the most useful and timely figures on their operations.

New Uses for Electronics and Nucleonics

The blending of electronics and nucleonics has produced some significant technical advances during recent years. Applications for these new techniques fall into three broad areas:

Tracking and distance measuring systems— Programs have already been completed whereby nucleonics-electronics systems track aircraft, missiles and helicopters. Future applications of these techniques are systems that land aircraft automatically, follow traffic on a highway or prevent aircraft collision.

Sensitive gaseous measurements— Under the stimulus of space programs, highly sensitive systems have been developed to measure materials such as cryogenic fuels and low density vapors. A current system of considerable potential measures air contaminants such as sulfur dioxide in exhaust gases and smoke. This system offers promise of being a powerful aid in the control of air pollution.

Flaw and crack detection system— Systems developed in the past have been used to measure continuously flowing products. Yet many mass-produced items such as turbine

blades, propellers and engine pistons are formed as individual units. The company has recently discovered and perfected a new technique for measuring cracks and flaws in such items with a sensitivity a thousand times greater than any other method now available. The new system combines nucleonic, optical and television techniques. It will present a television-type picture of cracks and flaws in objects flowing along a moving conveyor.

Federal Systems Division

Our Federal Systems Division provides a continuing input of new technologies. This division, originally created to engage in government-sponsored research, has performed some fifty research programs during five years. Emphasis has been on high technology programs with potential applications to new markets.

A selected listing of this division's programs reveals their technology level: (1) cryogenic quality meter, (2) rocket-borne mass spectrograph, (3) nucleonics missile tracker, (4) Arctic Region electron-proton detector and (5) shock wave sensor for supersonic aircraft.

As recognition of excellence, two Industrial Research "IR-100" awards were received in recent years for new developments of this research division.

The company's translation of new technologies from the Federal to the private sectors of our economy has been cited by NASA as ideal examples of technology transfer. Because of our commercial and industrial orientation, we have obtained patent positions on many peacetime applications of this sponsored research.

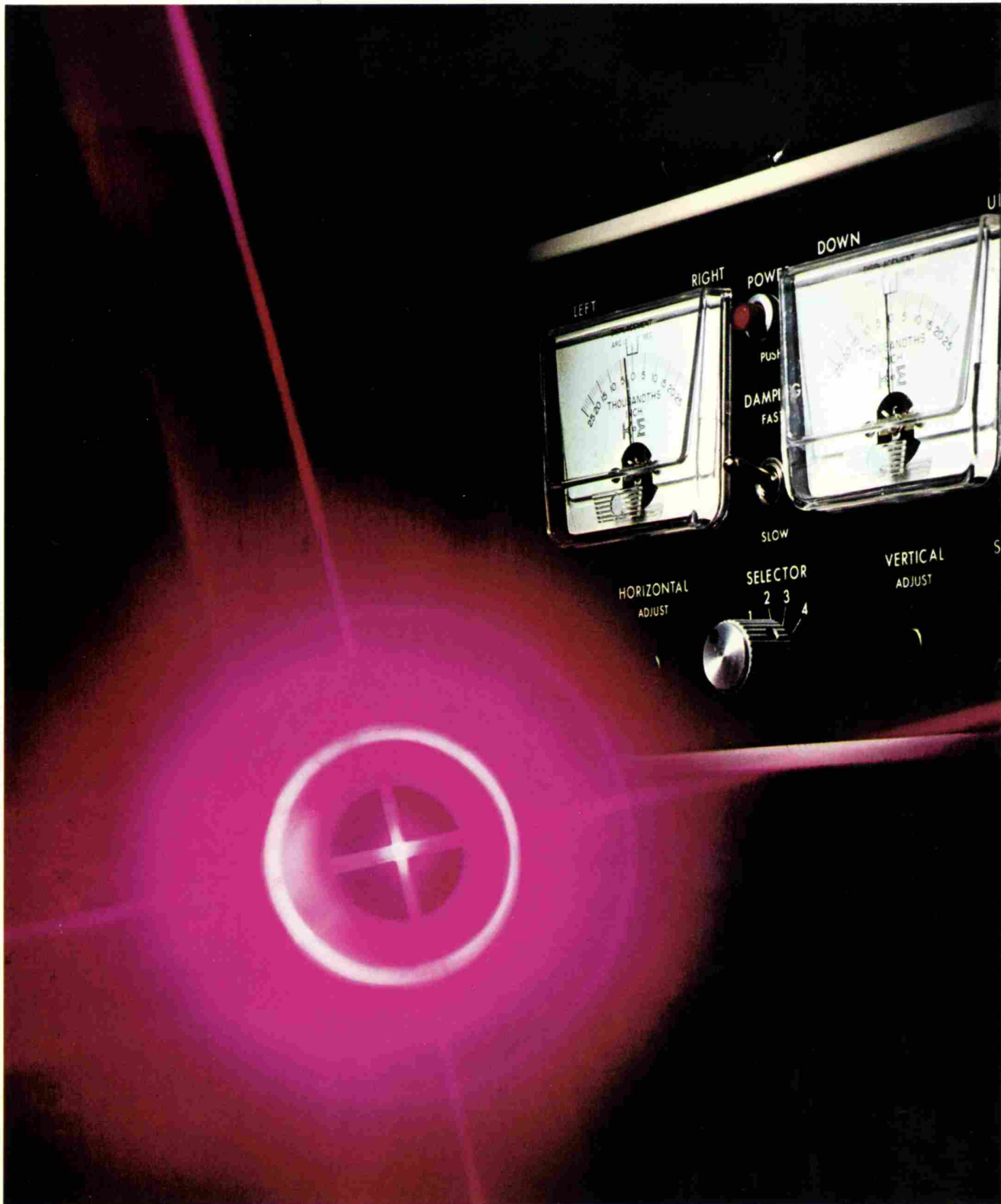
More recently, this division has expanded its activities to include sponsored industrial research and has contracted technical work for our own use.

Patents

There are various measures of creativity. One of them is the number of patents granted on novel inventions. Industrial Nucleonics has pursued a vigorous program of obtaining patents. The company now holds 412 U. S. and foreign patents. In addition to these, approximately 337 of the company's patent applications are pending.

The company's patents, issued or pending, are divided among automation systems, information and data devices, computers, aerospace systems and measuring instruments.

The company intends to continue its policy of applying for patents on new inventions, to prosecute actively pending patents and to protect its patents against infringement.



Continued research in new technologies maintains a constant supply of products for tomorrow.

Directors and Officers

Industrial Nucleonics Corporation The parent company incorporated in Delaware

*Edward McC. Blair
Managing Partner of William Blair & Company

*Gordon B. Carson
Vice President of Business and Finance
The Ohio State University

*Henry R. Chope
Executive Vice President of
Industrial Nucleonics,
National President of Tau Beta Pi,
Director of U.S. Chamber of Commerce

*Directors

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Chairman of the Board of
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*John Eckler
Partner in law firm of Bricker,
Evatt, Barton and Eckler

*David L. Nelson
President of Industrial Nucleonics

*Robert E. Swenson
Vice President—Finance and
Treasurer of Industrial Nucleonics

*George B. Young
Director of Field Enterprises
Director of Chrysler Corporation
Director of First National Bank
of Chicago

Carl J. Cooperrider
Secretary of Industrial Nucleonics

Officers and Managers of Principal Subsidiaries

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Research and development, marketing and manufacturing company incorporated in Ohio

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Assistant Manager



Directors
(left to right):
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Henry R. Chope
Wilbert E. Chope
John Eckler