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# TELEDYNE, INC.

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ANNUAL REPORT FOR THE YEAR ENDED OCTOBER 31, 1963

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Henry E. Singleton, *Chairman*

George Kozmetsky

Arthur Rock

Claude E. Shannon

## Officers

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George Kozmetsky, *Executive Vice President  
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Robert B. Sprague, *Vice President*

Teck A. Wilson, *Vice President*

## Counsel

Irell and Manella, Beverly Hills

## Transfer Agent

Bank of America National Trust  
and Savings Association, Los Angeles

## Registrar

Security First National Bank, Los Angeles

## Corporate Offices

12525 South Daphne Avenue, Hawthorne, California



TELEDYNE, INC. ANNUAL REPORT  
Fiscal Year Ended October 31, 1963

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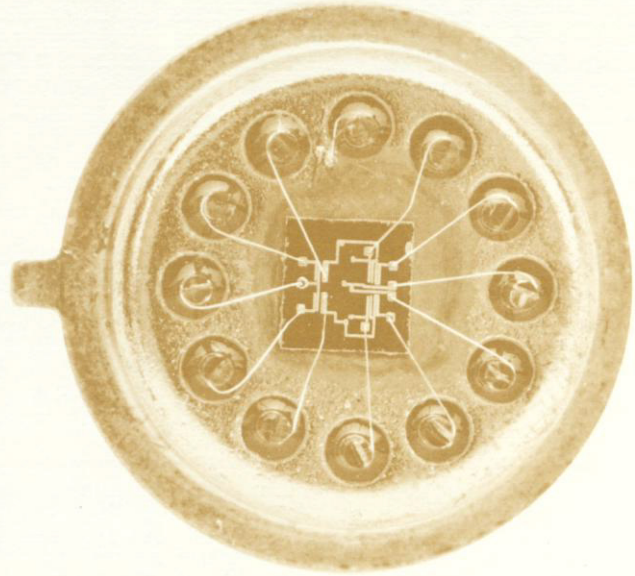
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## HIGHLIGHTS — THREE YEARS IN COMPARISON

	1963	1962	1961
<i>Operating Results</i>			
Sales.....	\$31,924,685	\$ 10,438,367	\$ 4,491,431
Net Earnings.....	1,280,296	331,518	133,190
Net Earnings per Common Share.....	1.40	0.50	0.25
<i>Financial Position (Year End)</i>			
Working Capital.....	\$ 9,262,796	\$ 2,545,723	\$ 1,613,792
Total Assets.....	23,901,085	10,843,760	3,730,811
Shareholders' Equity.....	8,628,957	3,527,448	2,476,781
<i>General Statistics (Year End)</i>			
Shares of Common Stock Outstanding.....	849,461	654,857	519,550
Number of Employees.....	1,900	950	450

*The figures given in this table are taken from the company's annual reports for the indicated years, without adjustment for subsequent poolings of interests. See Note 1 to Notes to Financial Statements.*





### To Our Shareholders:

This report covers your company's third year of operations. Sales for the year totaled \$31,924,685, up 205% from the \$10,438,367 of last year. Earnings, net of applicable taxes, were \$1,280,296, as compared to \$331,518 earned in 1962. Earnings per share advanced 180%, amounting to \$1.40 on the 849,461 common shares outstanding at year end.

The company's financial condition improved substantially during the year. Working capital advanced to more than \$9 million, stockholders' equity to over \$8.5 million, and total assets to nearly \$24 million. At year end current assets were approximately double current liabilities.

The growth Teledyne is experiencing is being accomplished within the framework of the company's original plan, and is a direct measure of the progress the company has made toward meeting its fundamental objective. From its inception the company has planned to become a major manufacturer, for industrial and military applications, of electronic and control systems and equipment, and of the specialized components, instruments, and devices that make up such equipment. The steps we have taken in the past have all been in support of this objective.

During the three years since its formation Teledyne has achieved a significant position in the general field of electronic control systems and equipment. In addition to complete systems, we also manufacture and sell separately various subsystems used in automatic control applications. These basic elements include sensors, controllers, actuators and displays. We are producing a variety of sensors or instruments used in control systems to measure the physical quantities being controlled — devices such as probes for measuring temperature, gyros for measuring attitude, instruments for measuring acceleration and velocity, optical and electromagnetic devices for observing position, and others. In the controller area, we are active on computers for fire control, navigation, temperature control, and other purposes. Among the actuators we make for control applications are electric, hydraulic, pneumatic, and in some cases explosive. We have begun to carry out work in the display and read-out area.

We are devoting a substantial effort to our work on communications equipment to link together the elements of control systems, for applications in which the control system elements are separated by considerable distance. For example, our phase-lock tracking receivers carry out this function in the tracking of satellites and space probes.

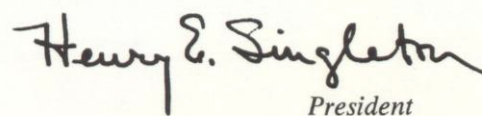
In addition to our work on control systems as such, we develop and manufacture a substantial amount of equipment used for the check-out of control systems and their elements. Our products in this category cover the range from computer-controlled satellite and space vehicle check-out systems, to equipment to check-out the hydraulic systems of commercial transport aircraft. We manufacture equipment not only to check-out operational systems, but also to test systems during the process of their manufacture.

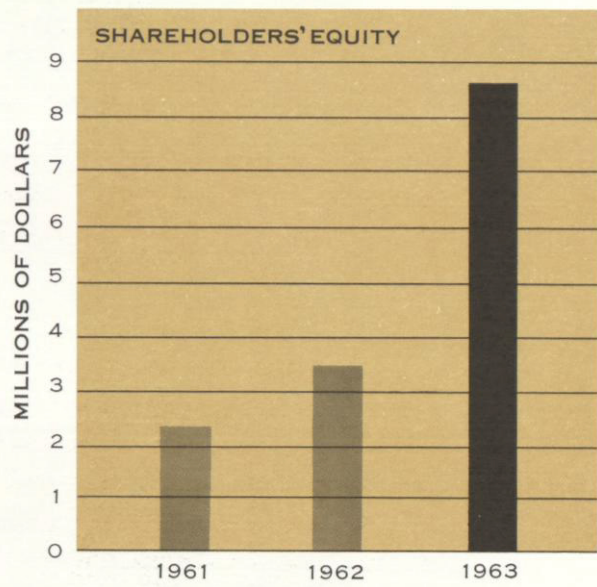
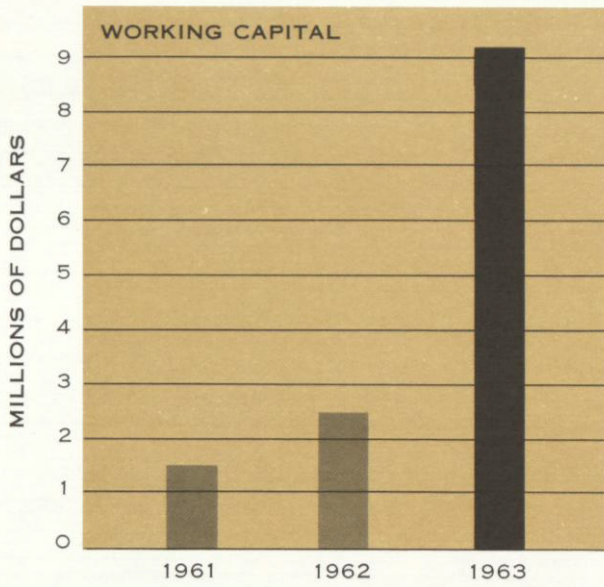
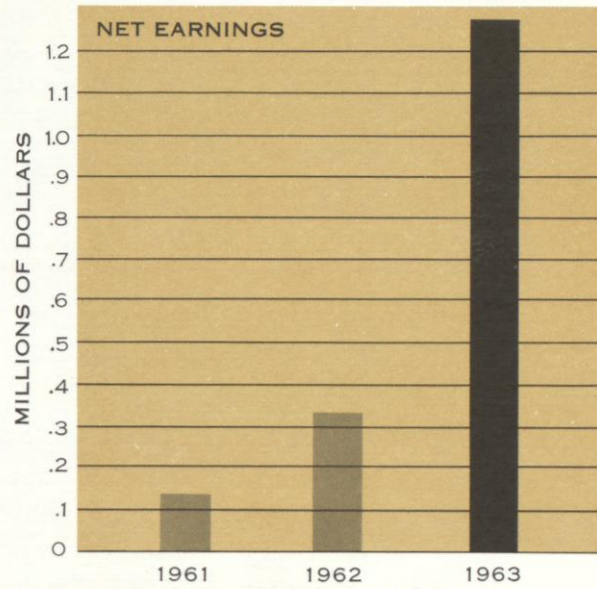
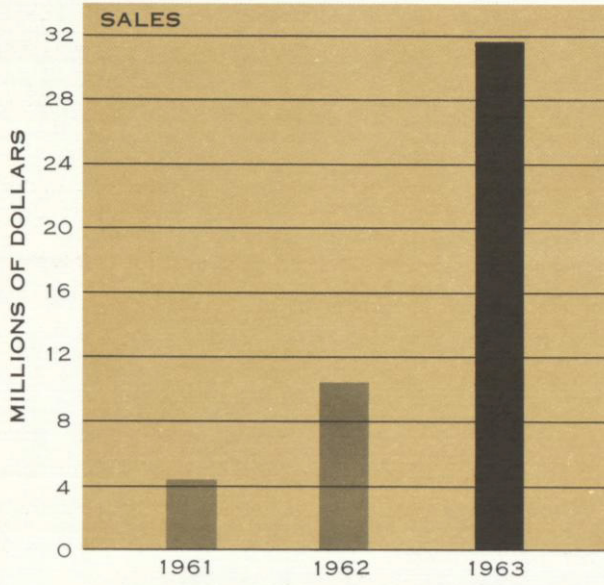
Teledyne's interest in electronic and control systems extends beyond the system itself and its major elements discussed above, to include the basic components of the systems. We have established a substantial competence in control system components, and are now producing a variety of electronic, electromechanical, microwave, electro-optical, electro-explosive, hydraulic and pneumatic components — all of which are extensively employed in the systems we produce.

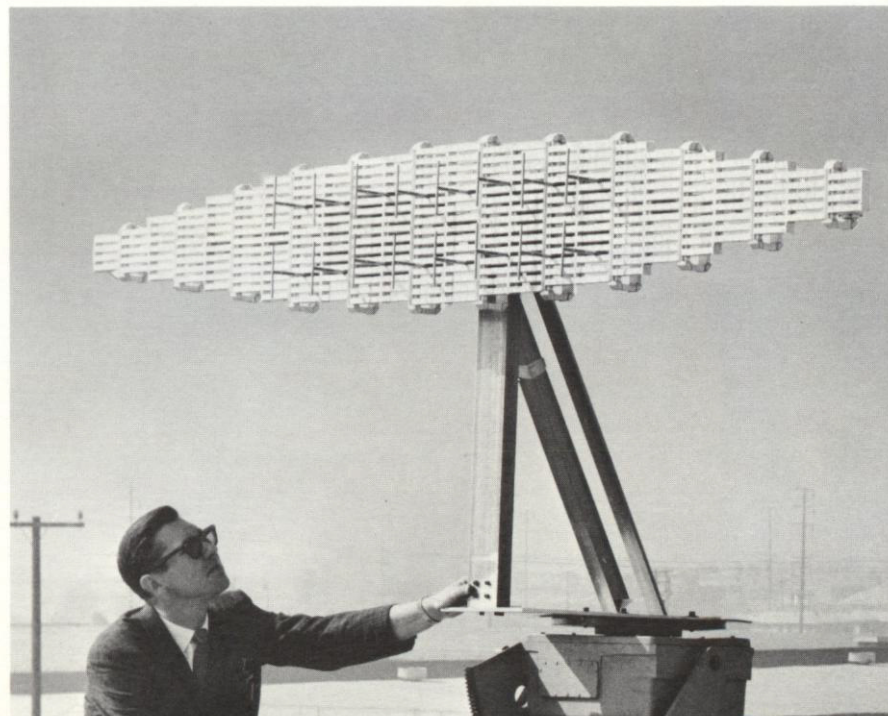
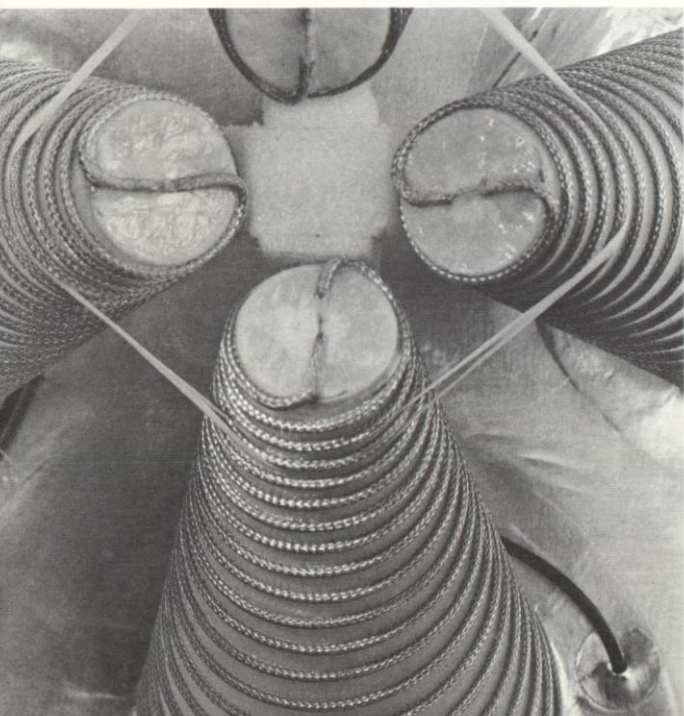
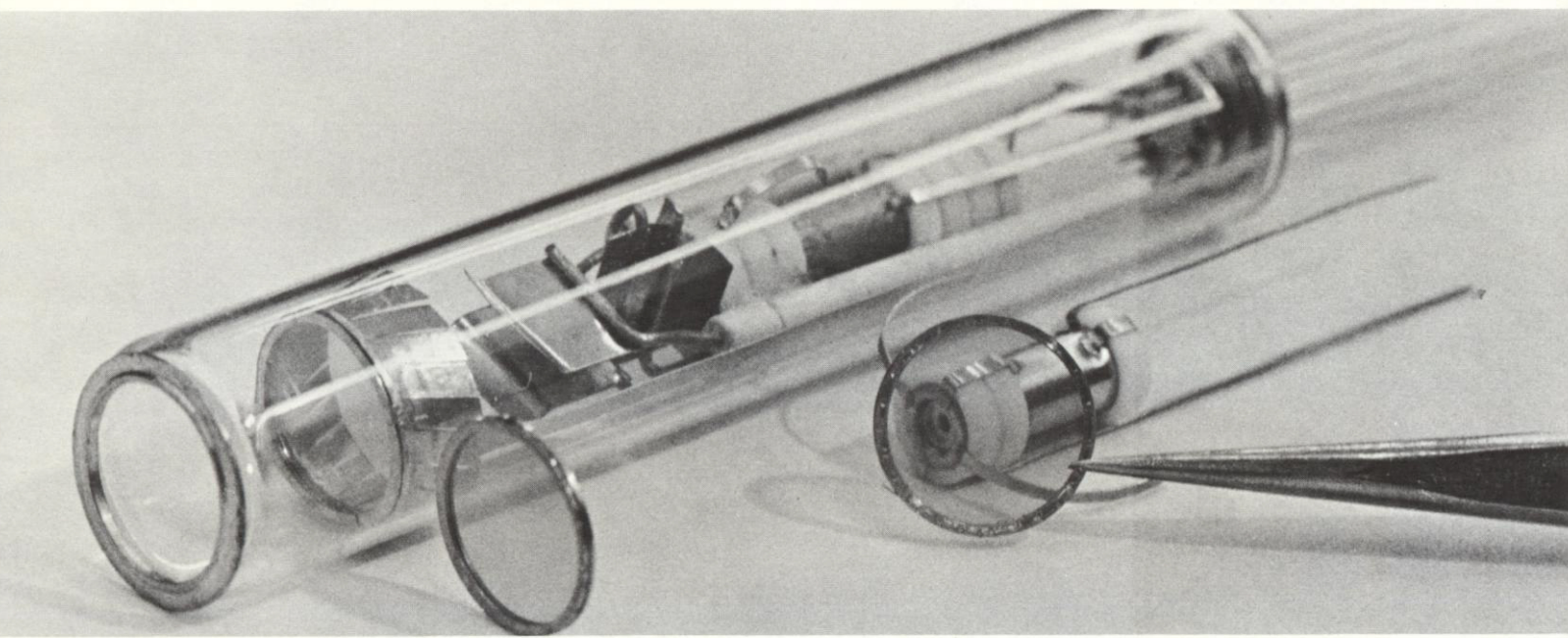
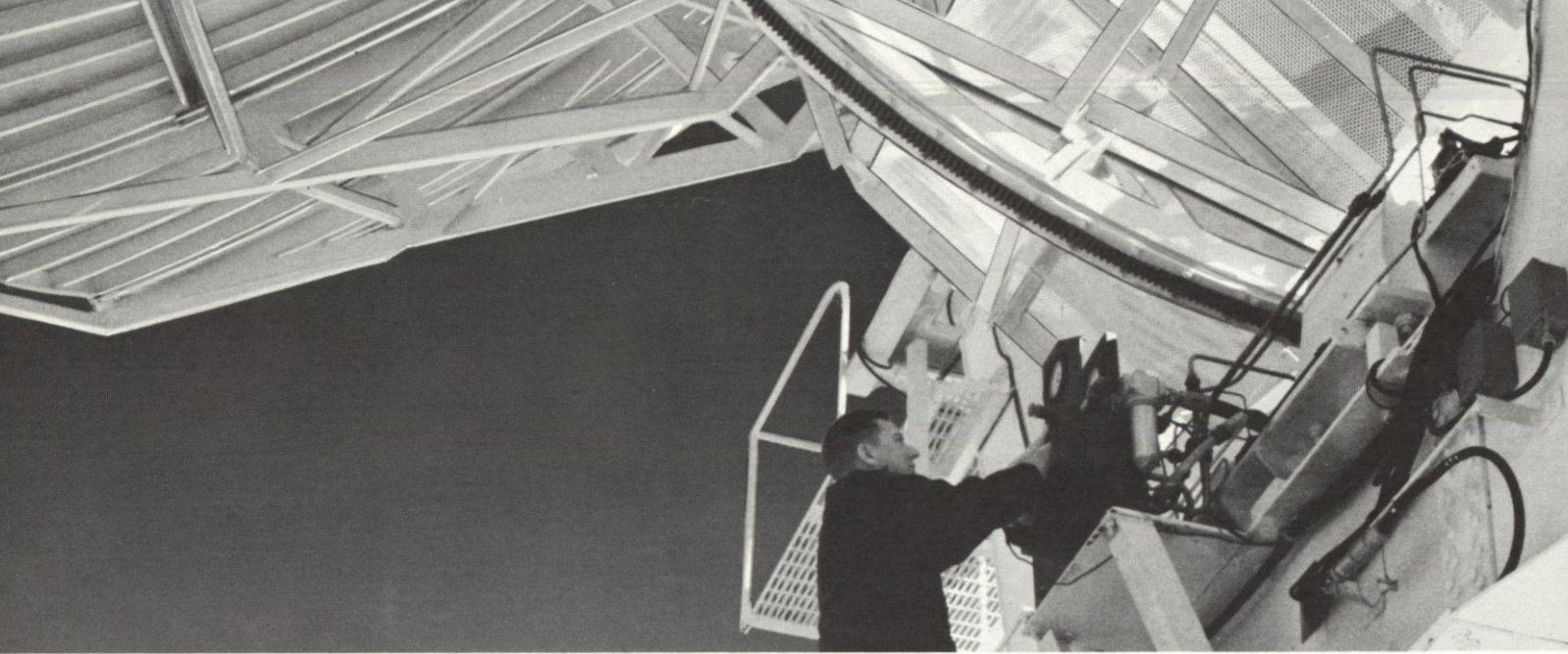
Now operating in twelve plant locations, Teledyne utilizes more than a half-million square feet of engineering and manufacturing floor space. This year saw the addition of plants in Florida and in Arizona, our first plants outside of California. Besides our present owned and leased plant facilities, we have earmarked for new plant construction more than twenty unused acres of company-owned land at three prime industrial locations, and we have options to purchase additional facilities.

While the greatest portion of our effort in 1963 went to support our national defense and space agencies, we continued to make substantial progress towards the development of industrial markets for our products. During the year approximately \$5 million, or about 15% of our output, went to industrial customers for industrial and commercial end use.

The outlook for Teledyne is good. Your company has made significant progress in past years, and expects to do so again in 1964. The concern sometimes expressed over shifting defense department procurement policies is not shared by us — we welcome these changes, which favor the more efficient firms. Our participation in industrial markets continues to expand. We are broadly diversified within our area of interest — a field with an unlimited future. We have a strong and dedicated management group, and highly skilled employees. From the base of these advantages, we look to the future with confidence and anticipation.

  
President







## REVIEW OF OPERATIONS

### ELECTRONIC SYSTEMS AND EQUIPMENT

In Teledyne Systems Corporation we continued our activities in the following fields: computers and data systems, communications, electromagnetic sensors, guidance and control, toxic vapor detection, and integrated electronic and control systems. We also initiated a program in display systems, and expanded our electronic manufacturing and service activities.

*Computers and data systems.* Preliminary design was completed this year on a digital computer that is triply redundant, modularized by function, and designed such that, in the event of a failure in a critical area, the hardware associated with some lesser function automatically replaces that used in the critical area. The logical organization and mechanization of this machine are entirely novel, and result in a great simplification of the programming burden normally associated with digital machinery. The design also achieves truly meaningful modularity, flexibility, and growth capability. Such a computer is made practicable by utilizing special micro-electronic integrated circuits produced by our Amelco Semiconductor division to provide dramatic increases in piece-part reliability, coupled with great reductions in size, weight, and cost.

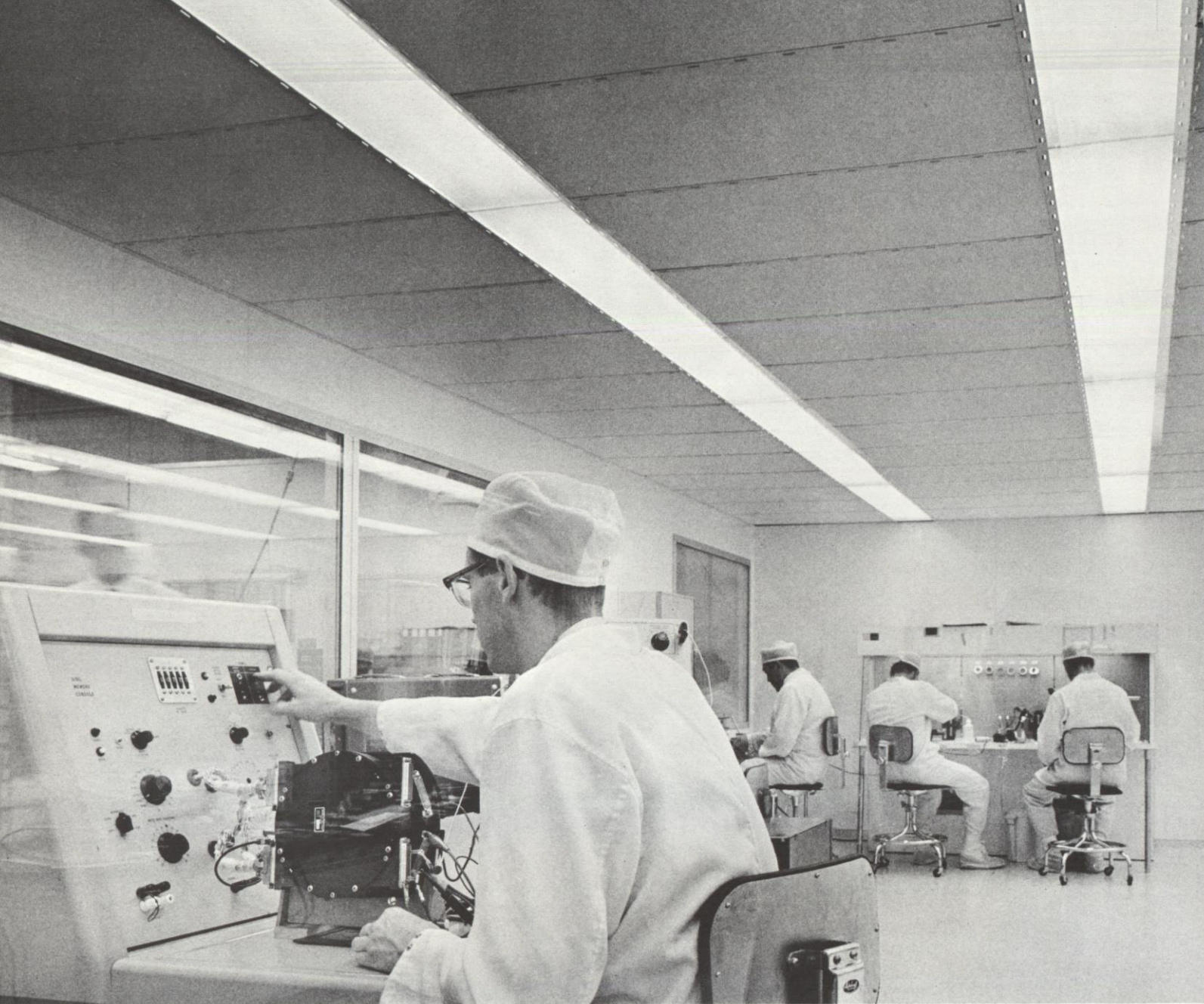
Among several other digital programs underway in Teledyne Systems, of particular interest is our advanced high speed digital data recording and analysis system for McDonnell Aircraft, to be used in the ground support system of the Gemini two-man spacecraft.

Work is also proceeding on the POLYLINGUA system, a computer program system to automatically produce translation programs for the problem-oriented programming languages (such as FORTRAN or COBOL) commonly used by programmers. The sale of such translation programs should prove profitable since the computers which now exist as well as those which are under development all need such programs. More important, the theoretical basis of the POLYLINGUA system has wide application, and should thus lead to important new strides in a number of related areas. For example, these methods have direct application to the machine translation of languages, and to information retrieval; and they may serve as the basis for a new generation of computers, vastly more efficient in their processing of common problems than previous machines. The theoretical basis of POLYLINGUA is being expanded with these applications in mind.

*Upper left: Teledyne field service engineer checks servo and hydraulic drive system used for driving 30-foot parabolic antenna. Installation is at NASA's deep space tracking facility, Goldstone, California.*

*Center left: Microeye vidicon tube, length 2.4 inches, diameter 0.475 inches.*

*Lower left: 1. Experimental model of an unfurlable high gain antenna designed for use on space vehicles. 2. A combination radar and directional IFF antenna for use in radar picket aircraft.*



*Communications equipment.* Teledyne Systems is continuing development of advanced mono-pulse tracking receivers, after successfully phasing into production this year — our first products of this type. In addition to the expansion of this product line, studies are being performed for the Navy on advanced communication systems requirements for future years. Experimental work is being carried out, directed toward the use of parametric converters in various types of communication equipment.

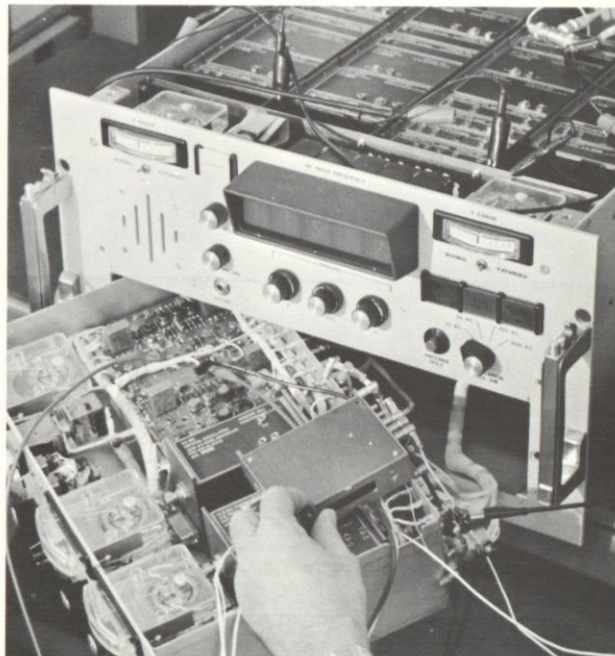
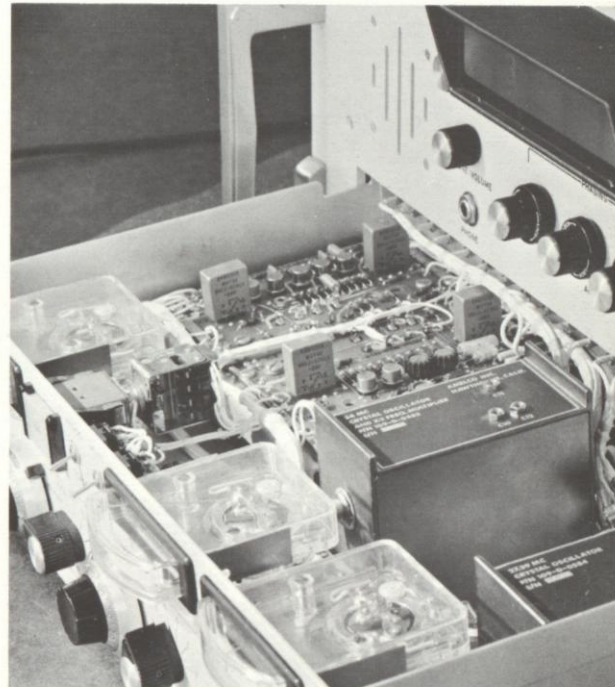
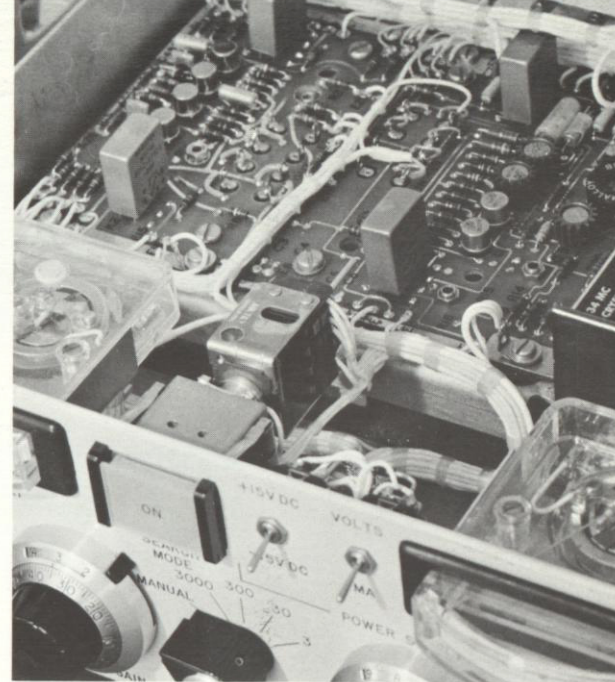
*Electromagnetic sensor systems.* Several antenna programs requiring significant advances over existing technology have been undertaken this year for the Navy and Air Force. An example representative of the advanced techniques being employed in antenna systems design is a program for the development of a combination radar and directional IFF antenna for the Navy. The radar portion of the antenna consists of an X-band waveguide slot array with an elliptical

aperture. Important advances in array design are represented by the wide operational bandwidth of this array, the absence of azimuth beam squint with frequency, its high power handling capability, its modularized construction, and its extremely light weight. The IFF portion of the antenna is an L-band dipole array which is fed with a unique air-dielectric stripline corporate feed with unusually low loss and good impedance characteristics. Other areas of effort include multiple-beam forming systems, ground based navigation antennas, radar cross section enhancement techniques, as well as general systems analysis in areas of basic propagation phenomena, with emphasis on passive ranging. Production requirements for some of these programs are anticipated in future years.

*Guidance and control systems.* The development of high-acceleration inertial devices for the Army Missile Command is expanding to accommodate the need for flight test articles. Similarly, development work is continuing for the Air Force's Aeronautical Systems Division on advanced solid state accelerometers. A program currently in process for the application of microelectronics to gyroscope control circuits shows much promise. Success in this effort would permit the design of integrated inertial navigation systems featuring spectacular reductions in over-all size, weight and power.

In another aspect of Teledyne's control system work, 1963 saw the completion of our electronic servo and hydraulic drive systems for Aerospace Corporation's 15-foot radio telescope and Goldstone Tracking Station's 30-foot parabolic antenna.

*Vapor detection systems and devices.* Our activity in toxic vapor detection equipment expanded during the year. Teledyne



*Left: One of Teledyne Systems' ultra-clean rooms at the main production plant in Los Angeles, with magnetic disc memory under final test in foreground. As tolerances become tighter, contamination becomes more and more significant in assembly operations.*

*Right: Three views of Teledyne's phase-lock tracking receiver, used by NASA in tracking satellites and space probes. Our phase-lock and cross-correlation techniques result in superior performance characteristics and high reliability under severe environmental conditions.*



toxic vapor detectors are now in use at Titan missile sites for the detection of nitrogen tetroxide ( $N_2O_4$ ) and unsymmetrical dimethyl hydrazine (UDMH) vapors. Toxic vapor detection systems are also being supplied for the Gemini, Apollo and Lunar Excursion Module programs. A new, very lightweight portable detector has been developed and is now in production. A system for the detection of fluorine vapor, a new missile fuel, is currently in development.

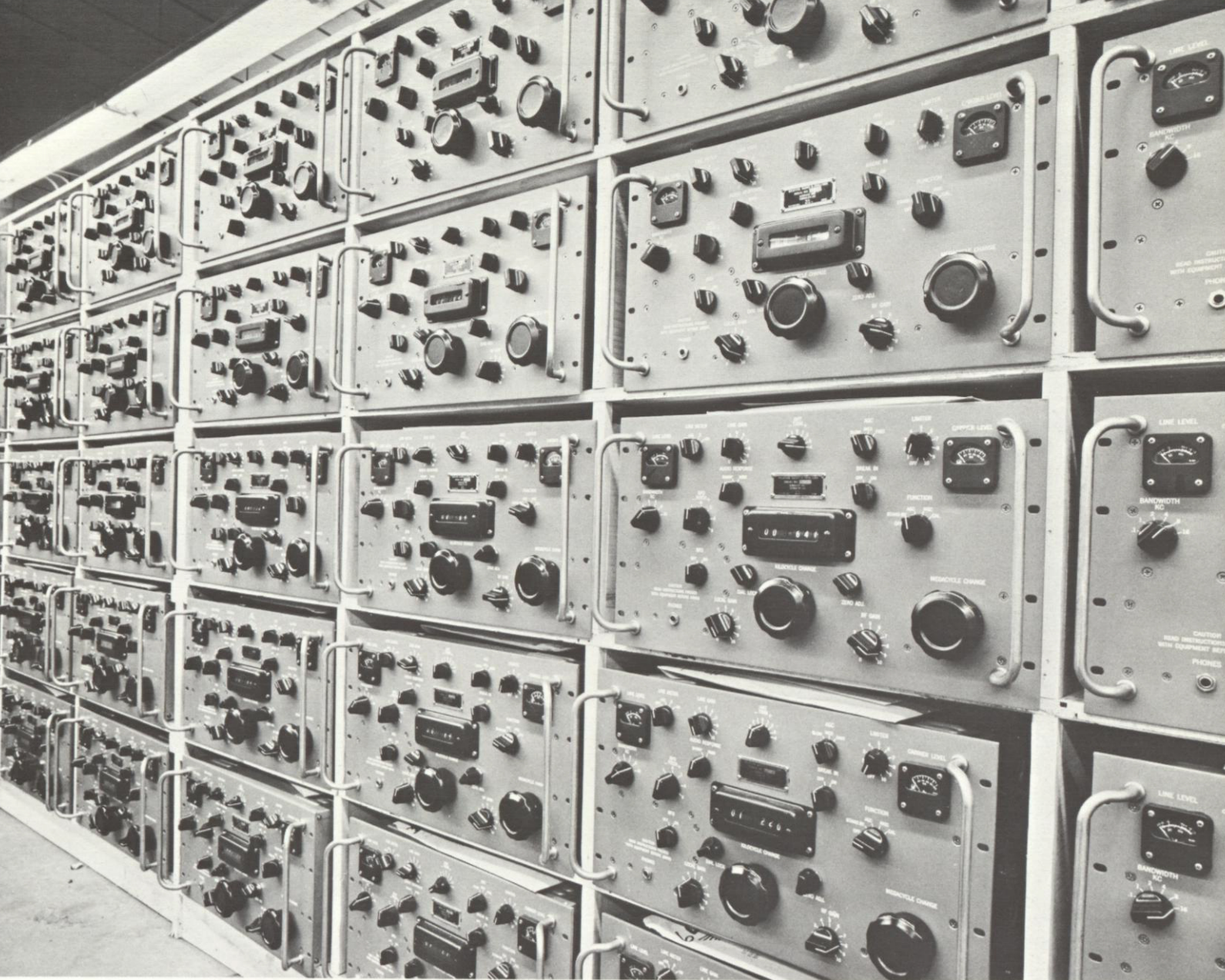
*Display systems.* Early this year saw the start of our Microeye television project. This project represents the first design effort ever attempted in developing a complete camera system specifically for space application. Starting with the image sensor or vidicon, Teledyne has established the necessary design criteria for a new type of ceramic planar vidicon tube that is fused together into one monolithic structure. This tube is presently under construction in the company's ultra-clean electron tube laboratory.

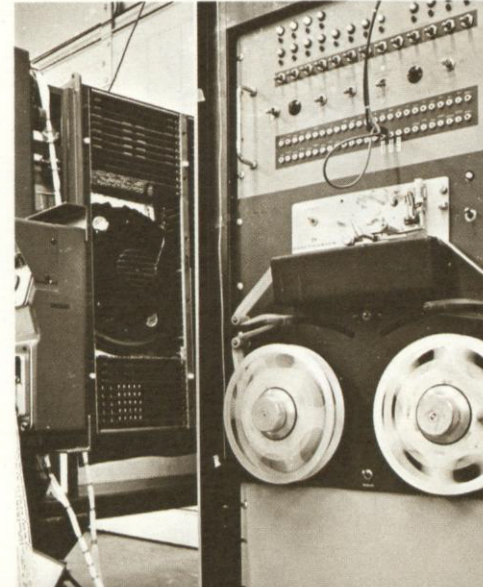
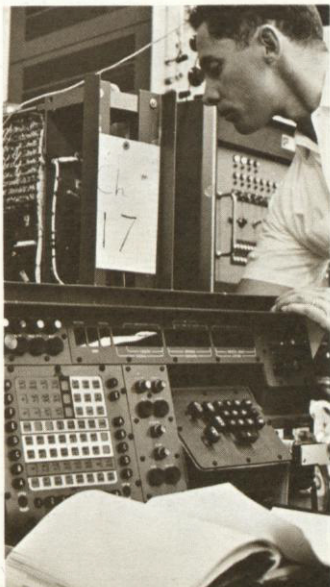
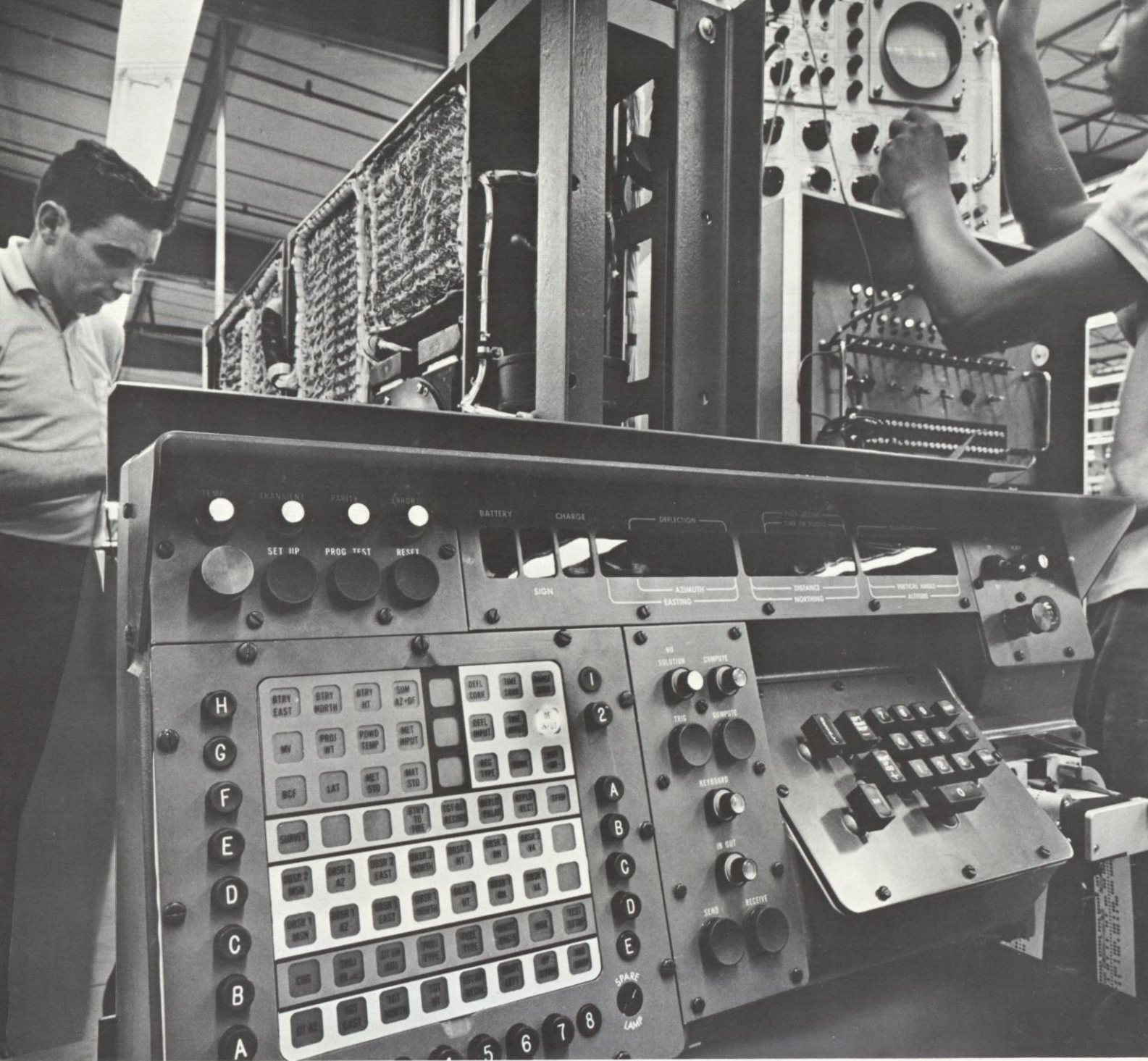
*The R-390 communications receiver shown above and on the following page is currently being used by the armed services for fixed station radio-teletype traffic handling, single side-band reception and general purpose field communications.*

*Above: Units of R-390 coming from the assembly line to test.*

*Upper right: R-390's ready for shipment.*

*Lower right: R-390 assembly operations, with test area in foreground.*





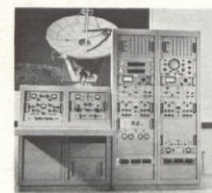
The Microeye camera electronics is designed to provide for both internal and external synchronization. The system is capable of accommodating a variety of types of spacecraft telemetry systems, and makes extensive use of microelectronic elements supplied by Teledyne's semiconductor division.

At present two Government contracts are supporting various phases of this company-originated program. One of these has as its aim the perfection of a system suitable for rocket compartment installation for engine and structure monitoring. The second program is directed toward the problems of human surveillance in the manned capsule.

*Integrated systems.* Late in the fiscal year Teledyne Systems began a detailed program definition study for the Navy on the Integrated Helicopter Avionics System (IHAS) program. This study makes use of the complete spectrum of our systems capabilities, and further draws heavily on the microelectronics capability of our semiconductor division.

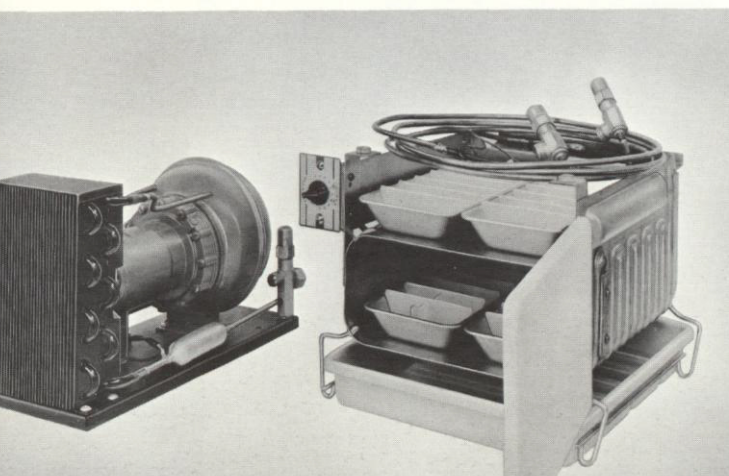
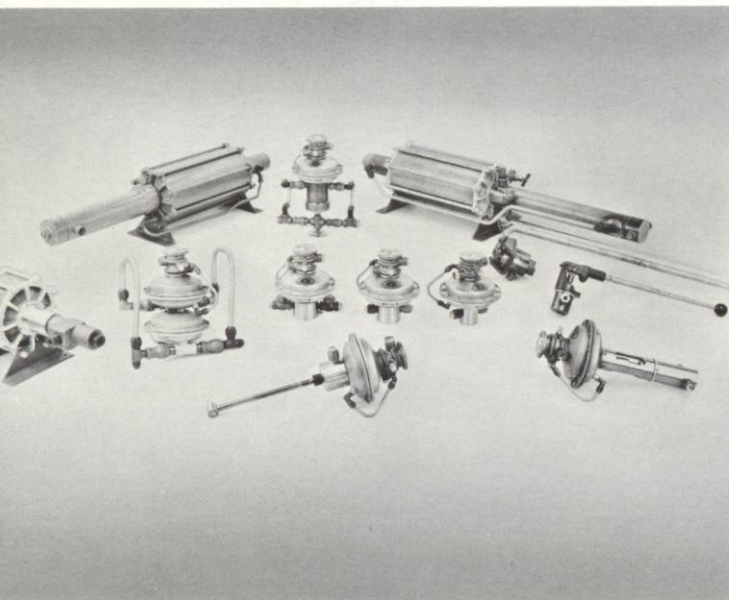
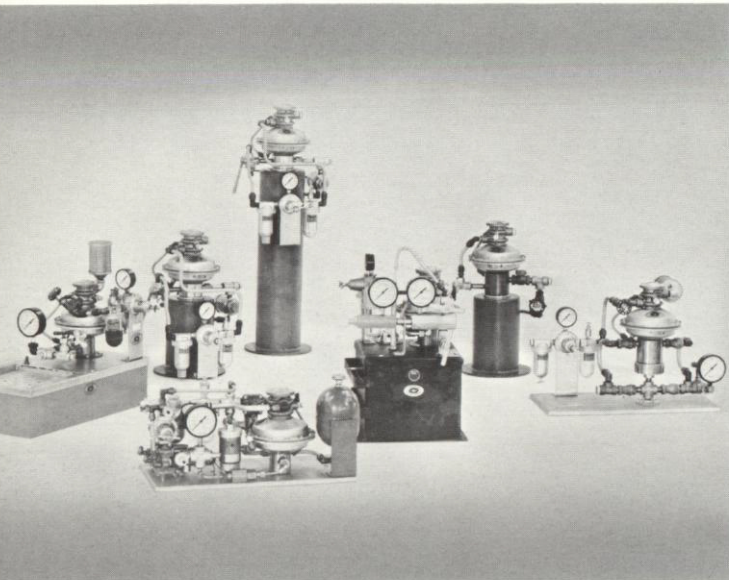
*Production programs.* The significant advances made during the year in research and development were matched by increasing backlog and increasing shipments of production equipment. We are continuing production of FADAC fire direction computers, and of ARC-73 transmitter-receivers for the Army. With a total of over 7,000 R-390 communications receivers now on order, Teledyne has become the nation's largest manufacturer of these equipments. The R-390 is utilized by all three branches of the Armed Services. Accepted this year for tri-service use were the M-21 and M-22 reefing line cutters designed and produced by our Ordnance Specialties group. These explosive actuated devices are used to cut parachute shroud lines automatically in air logistic support operations.

*Service activities.* We continued to provide computer programming services for a variety of applications, and expanded our field service organization for servicing our products in the field. Aerial Control Geotronics, our precision mapping group, operated in nine states this year, rendering services in geodetic engineering, hydrographic and topographic surveying, analytical protogrammetry, missile telemetry, and program development for electronic computation and data reduction. Major customers included the oil, natural gas, electric utility and communications industries, as well as various Government agencies.



Upper left: *FADAC large scale general purpose digital computer in final test before shipment from Teledyne Systems' Los Angeles plant. This machine utilizes a precision gas spin bearing magnetic memory, also manufactured by Teledyne Systems.*

Lower left: *Other views of FADAC final test.*



## FLUID CONTROL SYSTEMS AND POWER EQUIPMENT

A diversified product line in the fields of hydraulic and pneumatic test equipment and precision electrical power conversion and generating systems was added when Sprague Engineering became a division of Teledyne.

*Hydraulic and pneumatic equipment.* Extensive product history dating from 1946 has firmly established Sprague Engineering as a major supplier for the aerospace and industrial markets in the field of aircraft service and test equipment. Standard proven proprietary equipment is supplied for system testing and service of hydraulic, pneumatic, refrigeration, supercharger, and other fluid and gas systems. Equipment for test of components prior to installation on new aircraft or after overhaul is provided for aircraft systems utilizing liquids or gases.

Sprague's industrial product line includes its air-driven hydraulic pumps, supplied in a wide range of output pressures from 100 pounds per square inch to 50,000 pounds per square inch. These pumps are capable of performing many industrial jobs which would be impractical or too expensive by other means. Our air-driven gas booster permits boosting of air, nitrogen or helium to pressures as high as 8,000 pounds per square inch for aircraft and missile test work.

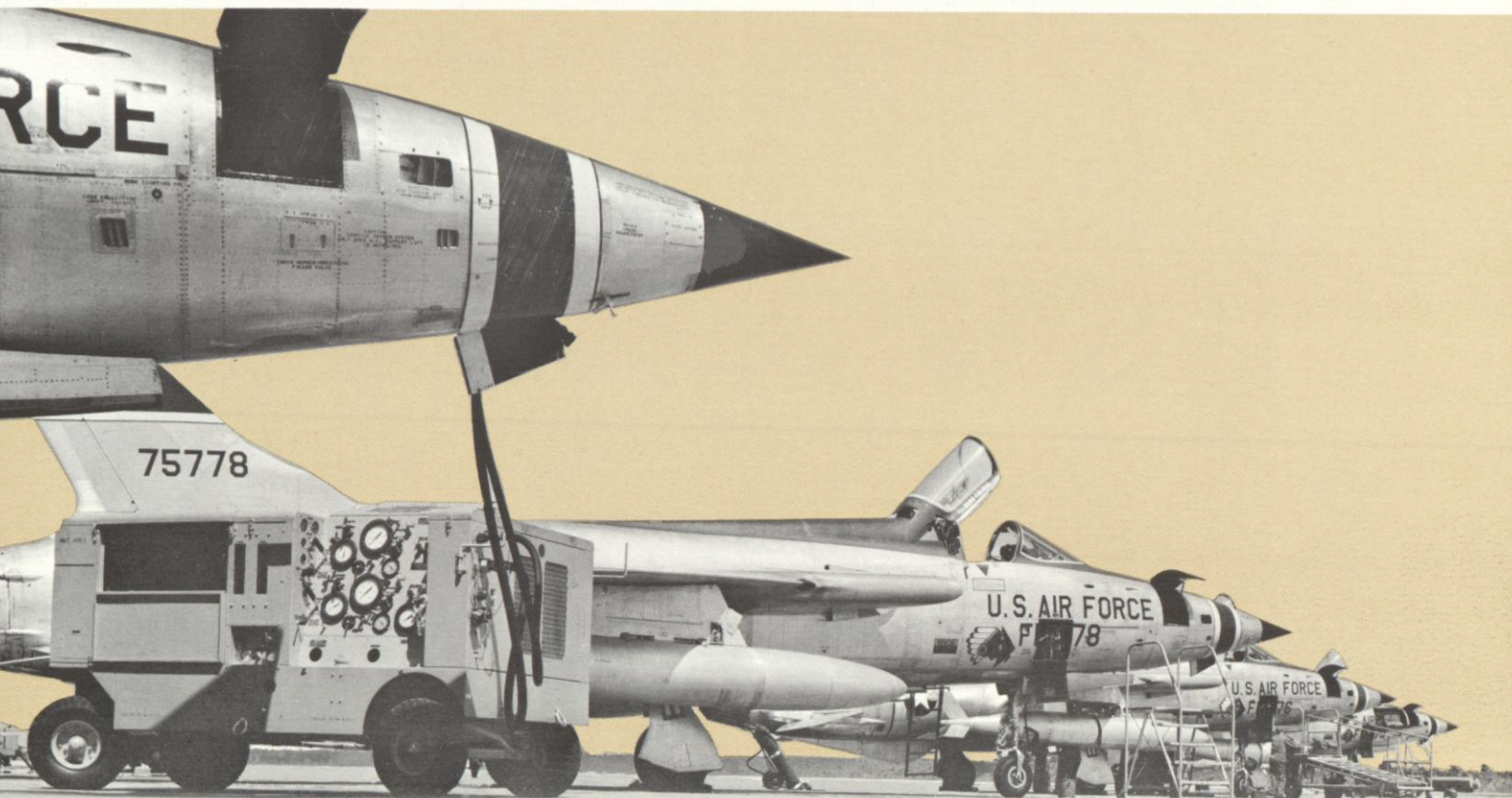
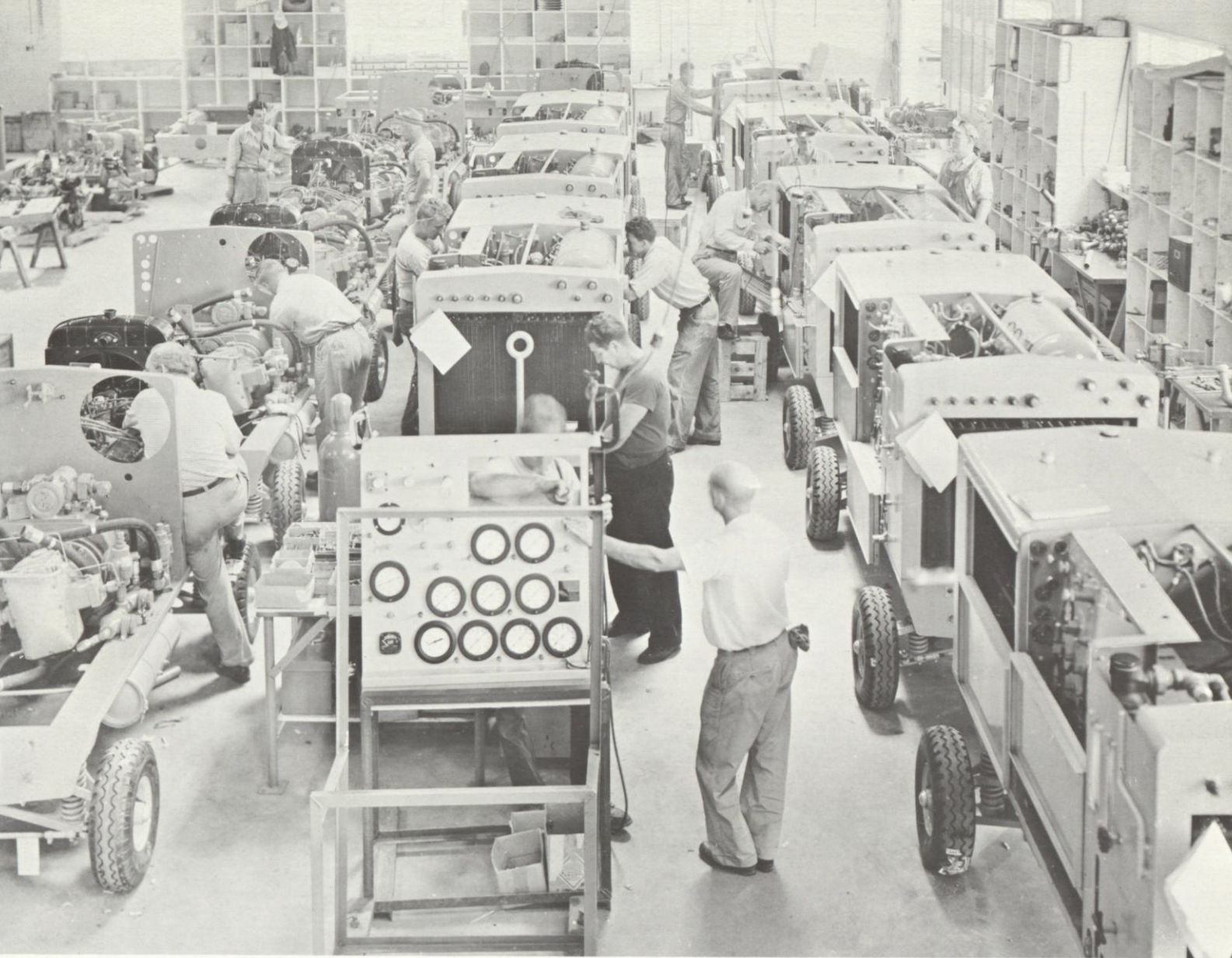
Sprague has been building jet engine starters since 1953. At that time gas turbine starting units were proving to be noisy, undependable, and expensive to maintain. Sprague developed and introduced a new concept using positive displacement blowers, gasoline engine driven. During the following years additional improvements have been made. We believe the current model is the best jet

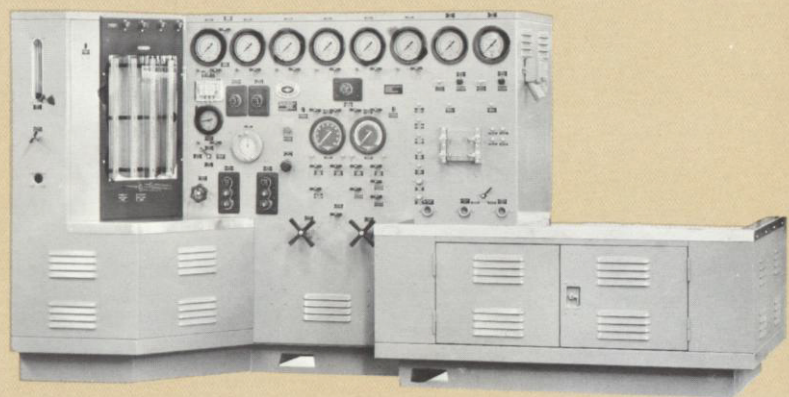
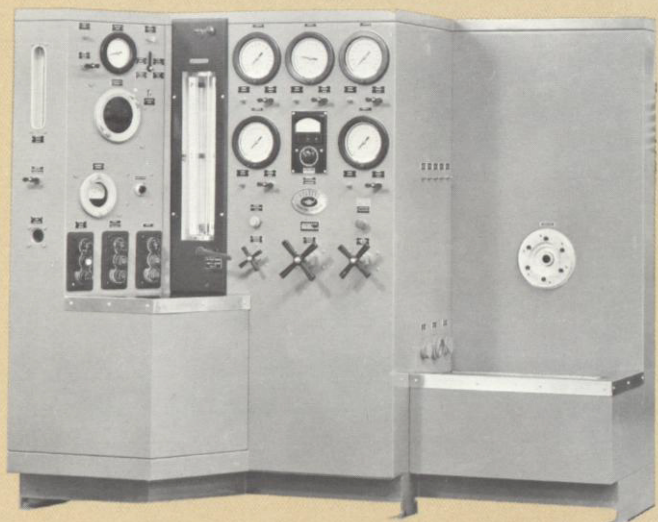
Left (reading down): 1. Sprague and Inet facilities total over 135,000 square feet. 2. Sprague Power Units are notable for their small size, light weight and high pressure output. 3. Air boosters and air driven hydraulic pumps. 4. Magna-Kold refrigeration unit.

Upper right: Assembly line for portable hydraulic test stands.

Right: Sprague MJ-2A hydraulic system tester on flight line with F-105's.







engine starter available. Simplicity, low initial and maintenance costs, and economical fast sure starts characterize Sprague jet starters. Users of various models include most of the major airlines, most of the jet aircraft manufacturers, and several manufacturers of jet engines.

The Magna-Kold compressor, a basic refrigeration unit operating on DC power, is gaining acceptance for boat and trailer refrigeration requirements. This item is also adaptable to a wide variety of uses in other mobile equipment requiring refrigeration units such as trucks, buses, aircraft, trains, and mobile vendors.

*Static and Rotary Power Equipment.* The Inet Power Equipment Division of Sprague has over many years proven its capability as a supplier of precise high frequency power for a variety of industrial and military ground support applications. A major item in the Inet product line is our brushless synchronous motor-generator set, manufactured in ratings from 1 to 250 KW. The design eliminates the brushes and the brush friction, assuring minimum maintenance and trouble-free long life. Inherent in the design is maximum suppression of electronic interference. Unlike magnetic amplifier systems, no excitation power is drawn from the machine terminals, so that the wave form is that which is natural to the generator, a nearly perfect sine wave.

During the year we introduced a line of static frequency converters. The static converter eliminates wear, since it has no moving parts; it is free from noise and mechanical vibration; it gives high performance combined with high reliability and long life; and it permits electronic frequency control. These advantages give the static converter immediate applications to variable speed machine tools and pumps, to controlled speed processes, and to high frequency lighting.

Utilizing the latest semiconductor developments in such areas as high power silicon controlled rectifiers, our design technique has resulted in static converters superior to those previously available. This development is expected to assist materially our planned penetration of the field of industrial process control. With a present producible range of sizes through 6 KVA, significant inroads have been made into this rapidly expanding market.

Upper left: *Sprague jet engine starter in service.*

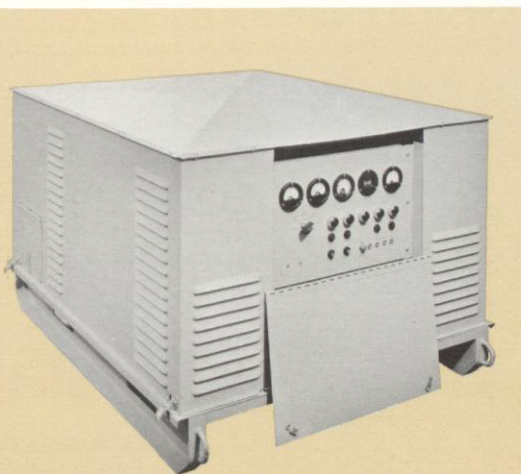
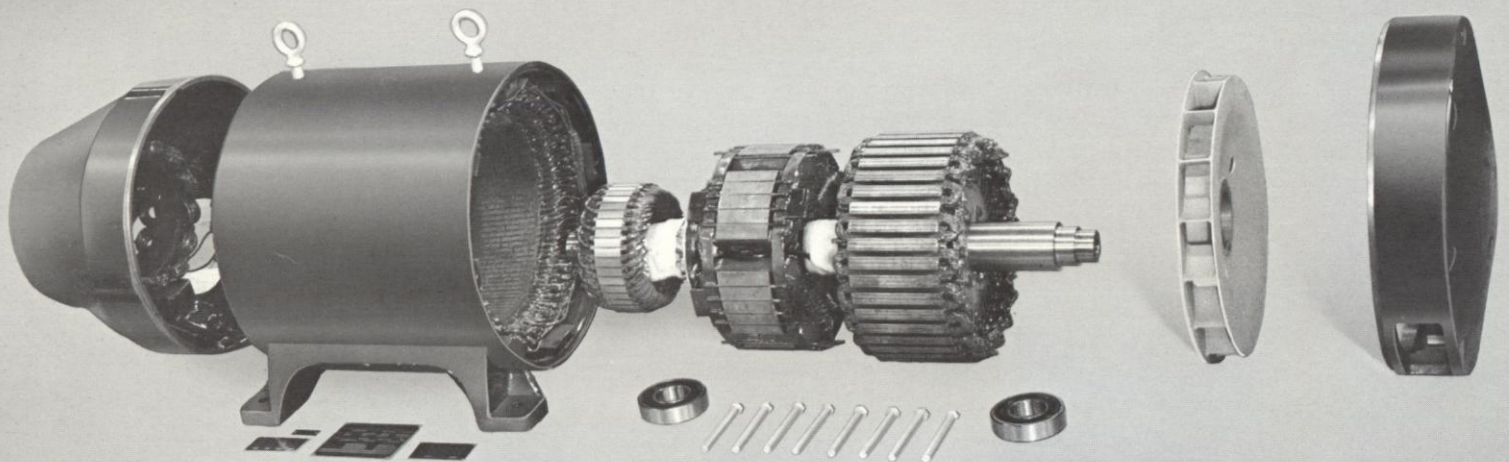
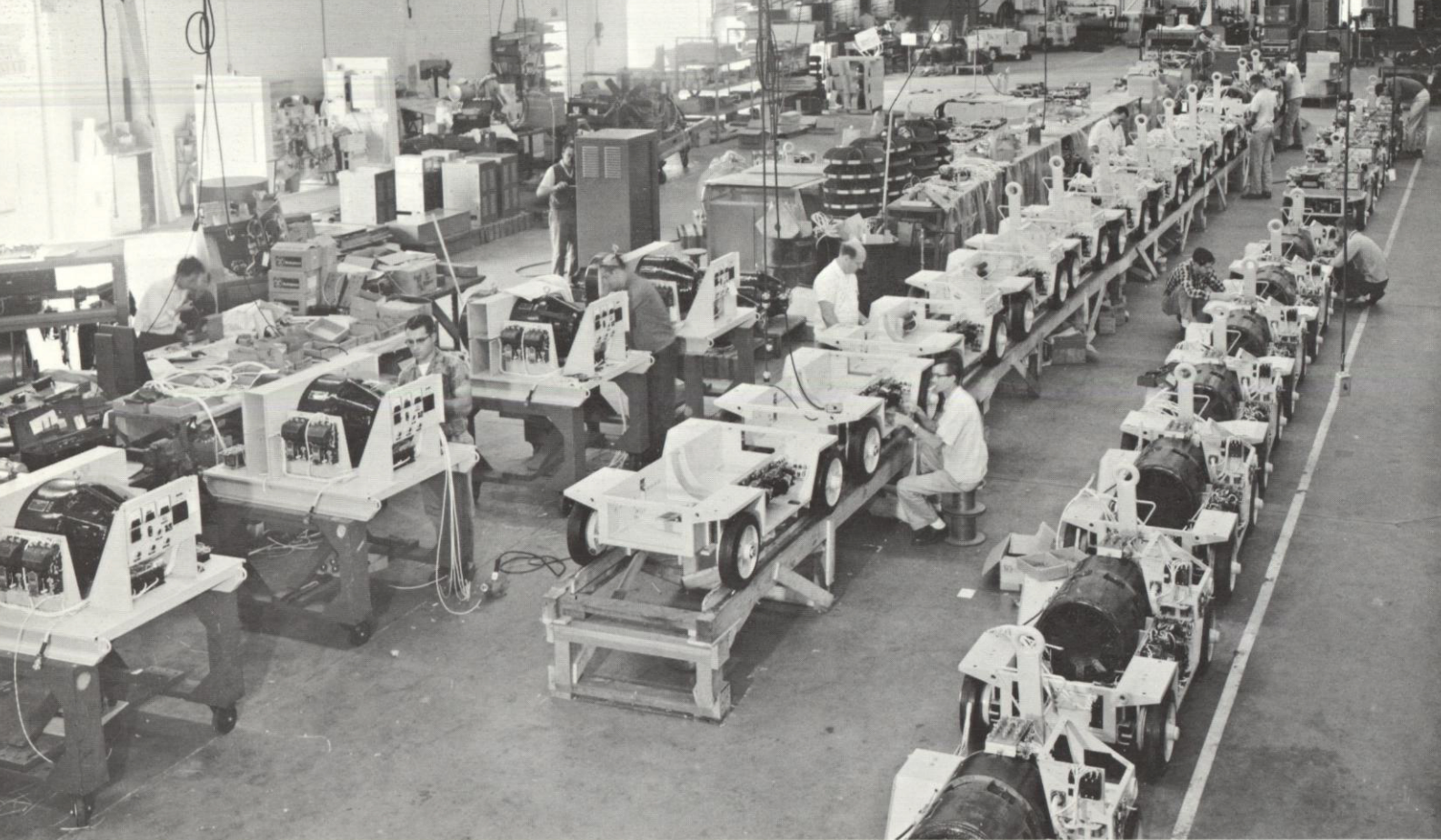
Middle left: *1. Fuel components test stand — designed to test fuel system components for all U. S. makes of jet engines.*

*2. Fuel pump test stand — tests all types of engine driven fuel pumps.*

Lower left: *The hydraulic systems of the X-15, world's most tested aircraft, are checked out by Sprague hydraulic test stands.*

Right: *Inet mobile engine generator power supply, for providing 400 cycle and DC flight line power.*





*Top: Inet mobile engine generator units in assembly.*

*Middle: Exploded view of the brushless synchronous motor generator.*

*Bottom: Two different configurations of power supplies utilizing the Inet motor generator.*

## MICROWAVE COMPONENTS

During the year our proprietary position in precision microwave components was broadened through the acquisition of the Quantatron line. These reliable high speed devices, used for rapid switching of RF and microwave power, employ either a "make-before-break" design, or a unique fail-safe mechanism. Our microwave switches are the smallest and lightest available. They are currently being utilized in a variety of operational systems, such as the Hawk and Talos missile systems, and in the airborne radar and communications subsystems employed on the A3J, A5C, and F4H carrier-based aircraft.

## FLUID SYSTEM COMPONENTS

During 1963 Teledyne's Afco Linair Division became the nation's leading supplier of hydraulic and pneumatic fittings for aircraft and missiles.

In addition to increasing our proprietary line of standard precision fittings, Afco Linair qualified this year as one of the only two sources approved for the production of MC precision fittings for NASA procurement requirements.

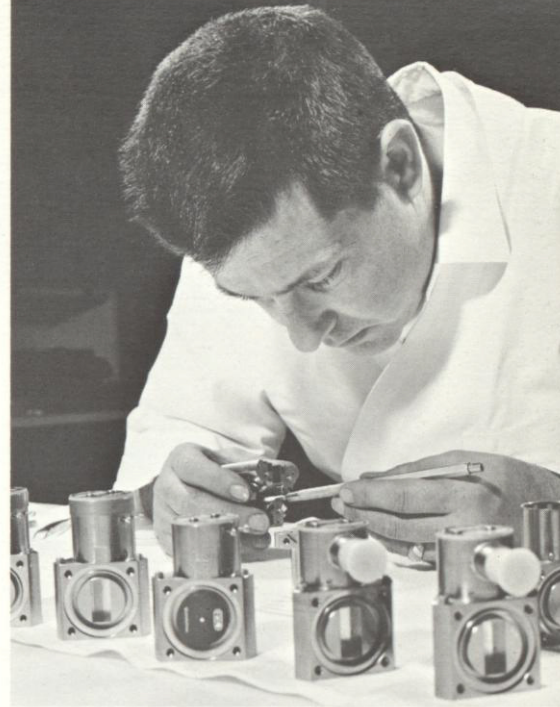
Also this year we completed the development of an entirely new patented type flareless fitting for very high pressure commercial and industrial applications. These fittings, to which we have given the trade name "Flomet", have successfully passed rigid laboratory tests and have been released for production and sale. The Flomet fitting has a unique close coupling feature — it can be assembled easily, and is capable of operating at twice the internal pressures of equivalent competitive fittings available elsewhere.

To fulfill the stringent requirements imposed by our national space program, we have designed, constructed, and tested a precision tube-flaring machine which furnishes consistent flares in all types of tubes,

*Upper right: Assembling W-6XA (X-band) waveguide switches. The W-6XA switches in less than 7 milliseconds and weighs only 7 ounces.*

*Right: Producing fittings on Afco Linair's own design tool rotating transfer machine. This machine, adaptable for making all types of fittings, turns out one part every 4 seconds and holds tolerances to 0.00005 inches.*

*Below: Afco Linair's facility in Dania, Florida has 72,000 square feet of floor space utilized exclusively for the production of precision military and industrial fittings.*

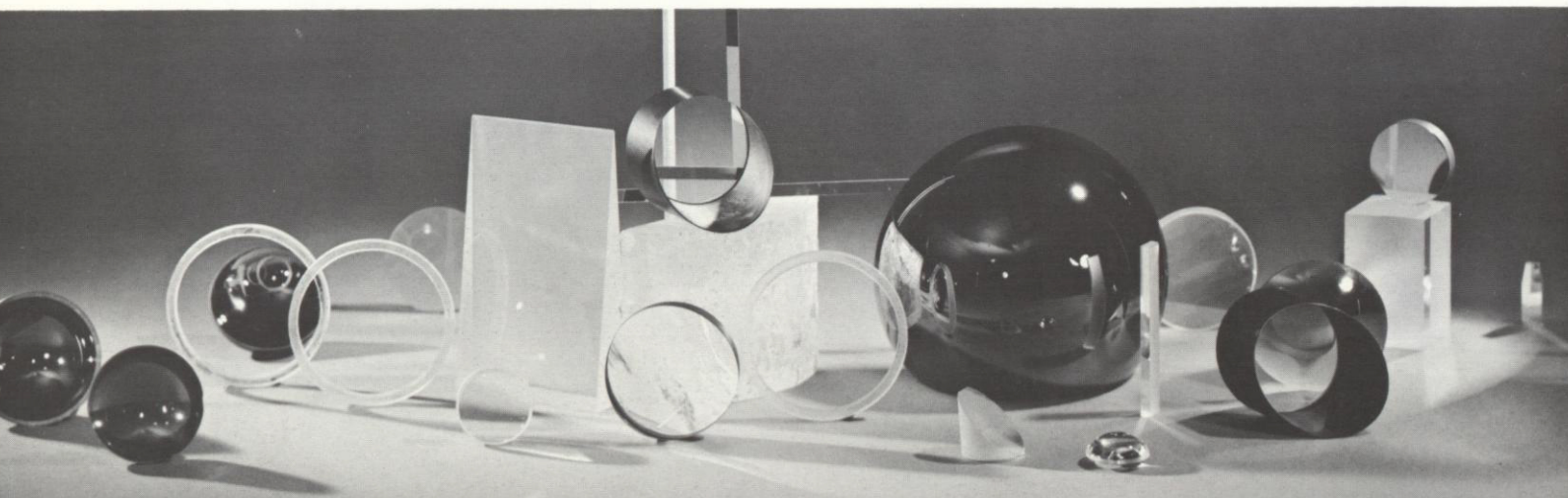
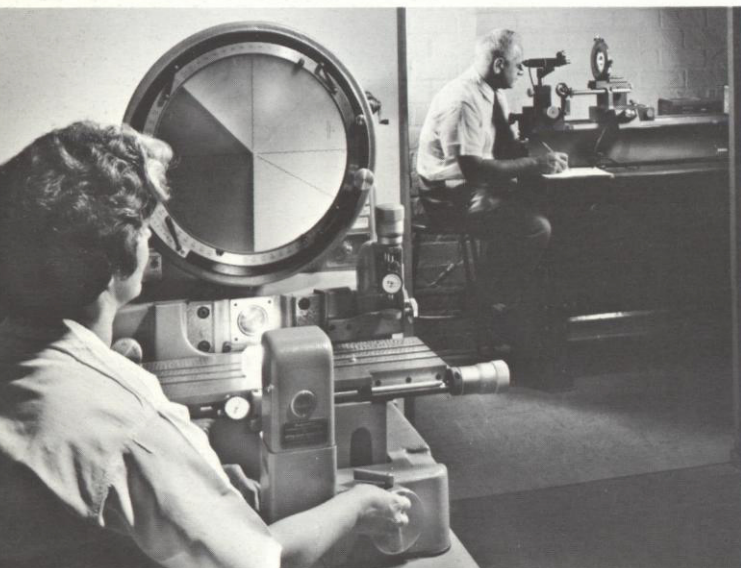
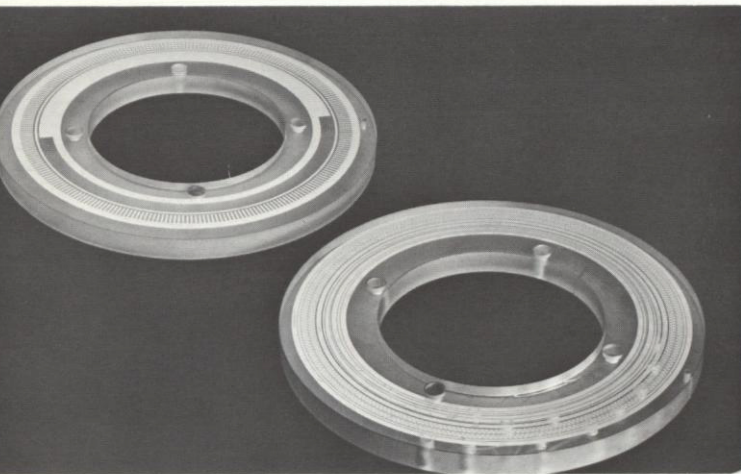




within the precision tolerances necessary to assure leak-tight joints. Our machine uses a completely new technique in flaring. Flares are produced with measurements accurate to better than a thousandth of an inch. Tubing material that cannot be flared at all using conventional methods, can be quickly and precisely flared using our technique. These machines will be manufactured and introduced for sale in 1964.

## OPTICAL SYSTEMS AND COMPONENTS

In keeping with our plan of developing know-how in specialized components of significance in electronic systems and equipment, 1963 saw the formation of Teledyne Optics. As the science of optics has been extended from the range of visible light to cover more of the electromagnetic spectrum, the techniques of optical production have grown in complexity and refinement. Teledyne Optics was formed by acquiring and combining three companies with complementary capabilities in development, design, and fabrication of optical components and systems. Typical applications are to automatic navigation devices, tracking cameras and telescopes, observation satellites, visible ultraviolet and infra-red detection systems, and orbiting observatories. The Red Eye, Shillelagh, and Falcon missiles, all heat seekers, employ the Teledyne Optics Irdome, through which the missile sees the target's infra-red radiation. Teledyne Optics also supplies the lens assembly for an optical character reader employed in a nationally used business machine system. Cylindrical, aspheric, anamorphic and multiple lens elements are fabricated on a regular production basis. In addition to the traditional glasses, Teledyne Optics has wide experience in silicon, sapphire, germanium, arsenic trisulfide, fused silica and strontium titanate. A cooperative program, involving the joint efforts of Teledyne Optics and Teledyne Systems, is planned for the application of their combined know-how to advanced electro-optical systems.



## ELECTRONIC COMPONENTS

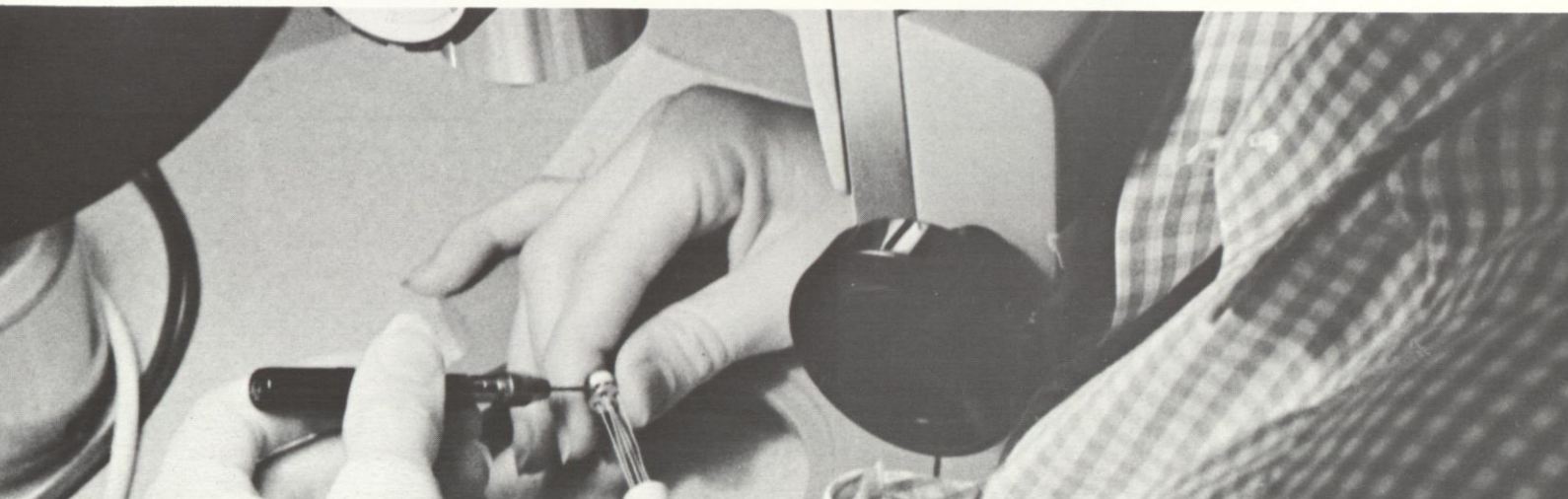
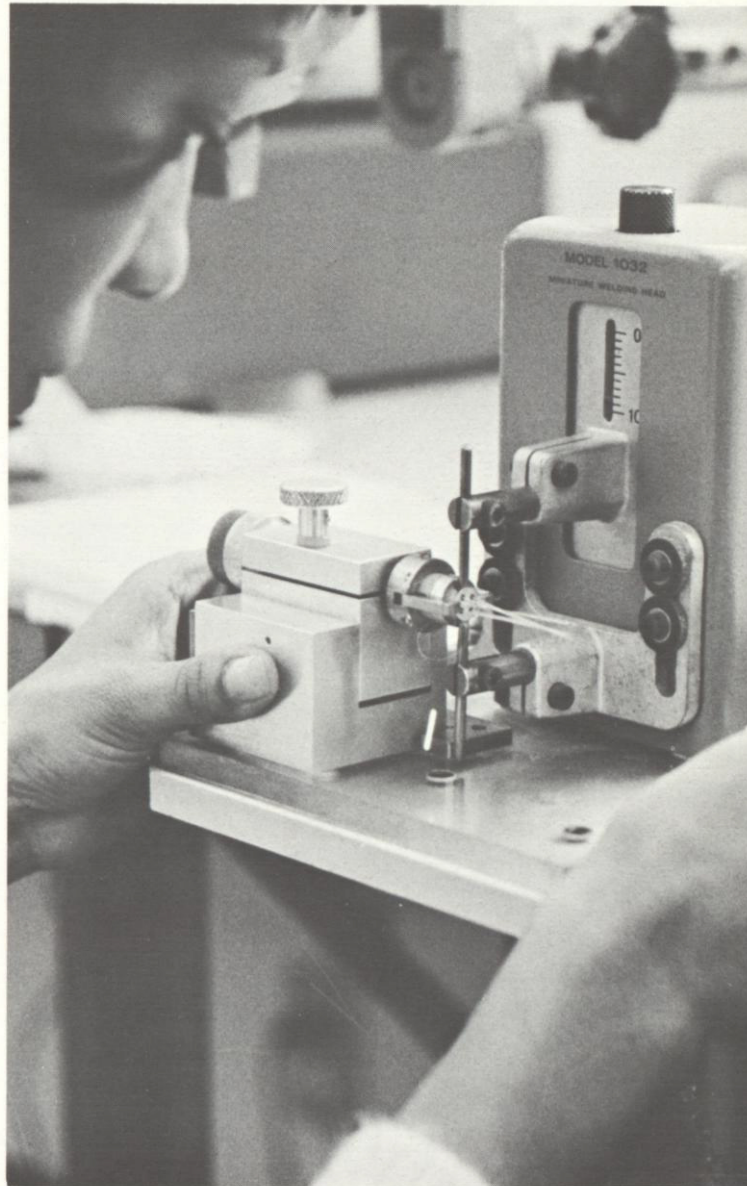
Teledyne Precision, Inc. continued to expand its product line during the year — a line that now includes relays, potentiometers, switches, quartz crystals, temperature controlled component enclosures, thermal probes and temperature sensing devices, temperature oriented control and test equipment, and military and commercial slip ring and brush assemblies. The acquisition of Control Dynamics Corporation complemented TPI's sub-miniature electro-mechanical relay business by adding a line of full and half-size crystal can relays, plus a number of different designs of microminiature types.

The addition of Electro Development Company enhanced our switch business and established us as a supplier of high quality slip ring assemblies. Electro Development originated the hot pressure molded method of manufacturing military and commercial slip ring and brush assemblies. Our slip rings are widely used to transfer electrical power and signals between structures rotating relative to each other, as in synchros, gyros, and various navigational devices.

In the area of more complex devices, Teledyne Precision has under development for the Martin-Marietta Company a 100-pole double-throw switch to be used for relaying telemetry signals from the Titan III missile. Each of these complex switches utilizes 100 of our ultra-miniature TO-5 relays.

Left from top: 1. Teledyne Optics' plant in Monrovia, California. 2. This complex evaporated metal pattern on a close tolerance glass disc is the heart of a high resolution angular transducer. 3. Checking accuracy of prism angles on projection comparator. 4. Optical elements including lenses, mirrors, prisms and windows.

Right from top: 1. Teledyne Precision's plant in Hawthorne, California. 2. Microminiature relay assembly. 3. Adjusting microminiature relay under microscope.





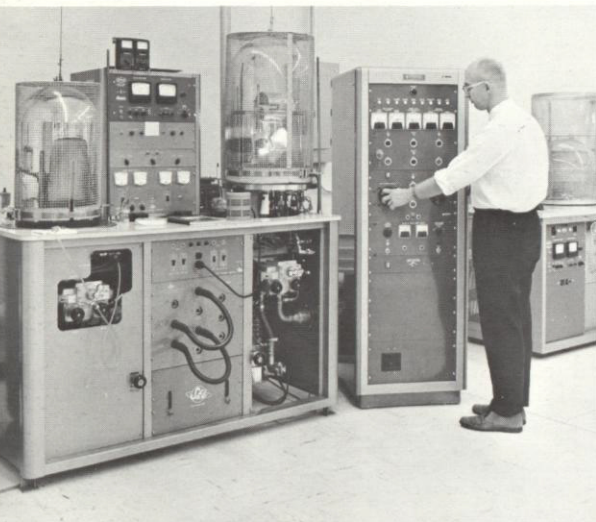
## SEMICONDUCTOR DEVICES AND INTEGRATED CIRCUITS

The business of our Amelco Semiconductor Division may be separated into four specialized categories of proprietary products: advanced silicon planar transistors; differential amplifiers, and other special assemblies of discrete devices; integrated circuits; and field effect transistors. These products were selected because the high degree of technology currently required for their production allows us to compete effectively with other larger suppliers, and because we believe these products will eventually account for the majority of semiconductor production.

During the year our position in each of these product categories continued to improve, and we introduced to the market several new products in each area. We have become a major supplier of differential amplifiers, and our field effect transistors are, we believe, more widely used than those of any other supplier. We expect the use of field effect devices to increase very rapidly as they become better known and more generally available to the electronic circuit designer. Now utilized principally in military applications, large industrial markets should open up as the production cost of these devices is brought into line with those of conventional transistors.

In the field of integrated digital microcircuits our OMIC (optimized microcircuits) line was recently introduced. This line, in which the transistor design and interconnections have been developed from the viewpoint of the particular circuit application, numbers twelve basic logic circuits and is now being shipped from stock in production quantities.

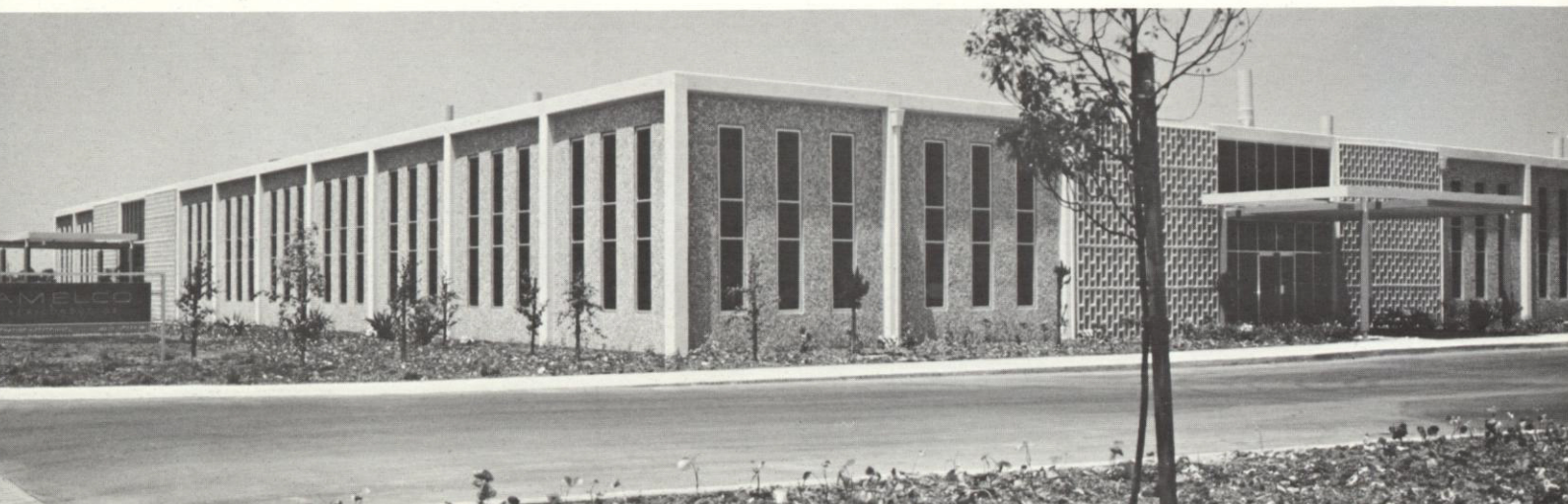
During the year Amelco Semiconductor has continued to cooperate closely with Teledyne Systems on a variety of projects. Among these is circuit design work on the IHAS program, development of microelectronic circuits for the Microeye miniature vidicon, and the development of very low power integrated logic elements aimed at high component density systems for space applications.



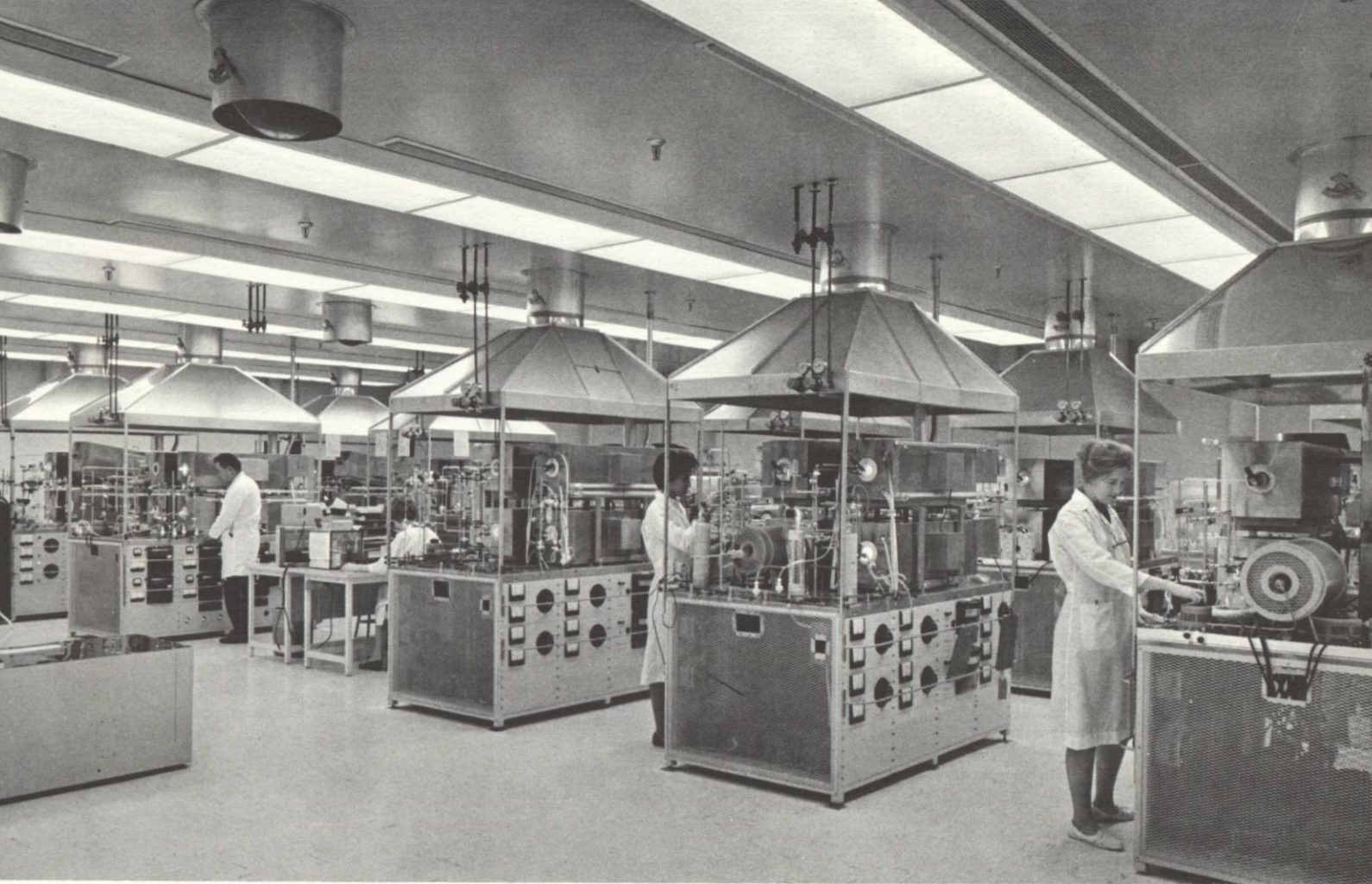
Left (reading down): 1. Semiconductor assembly operation. 2. Thin film vacuum evaporation equipment. 3. Entrance and new 55,000 square foot Amelco Semiconductor facility completed this year in Mountain View, California.

Upper right: Diffusion furnaces. These precision furnaces are used in processing the most advanced types of semiconductor devices.

Right: One of the semiconductor assembly areas.







# TELEDYNE, INC. AND SUBSIDIARIES

## CONSOLIDATED BALANCE SHEET October 31, 1963

### ASSETS

#### CURRENT ASSETS:

Cash.....		\$ 1,008,875
Receivables (Note 2) —		
Accounts receivable less reserve.....		4,148,552
Accrued receivables under defense contracts in excess of amounts billed.....		3,919,908
Inventories, at the lower of cost (first in, first out) or market, less progress billings of \$1,881,547.....		9,228,813
Prepaid expenses.....		363,022
Total current assets.....		\$18,669,170

#### PLANT AND EQUIPMENT, at cost:

Land (\$1,638,800, including \$1,365,000 representing cost of land held for expansion) and buildings.....	\$3,044,676	
Less — Noncurrent portion of trust deed note payable (Note 3).....	1,350,000	
	\$1,694,676	
Equipment and improvements.....	4,142,280	
	\$5,836,956	
Less — Accumulated depreciation and amortization.....	2,091,003	3,745,953

#### OTHER ASSETS:

Excess of cost of businesses acquired over equities in underlying book value at dates of acquisition (not being amortized).....	\$ 955,818	
Investments and long-term notes receivable.....	432,696	
Deferred charges, rent deposits, etc.....	97,448	1,485,962
		\$23,901,085

*The accompanying notes are an integral part of this balance sheet.*

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## LIABILITIES

### CURRENT LIABILITIES:

Notes payable to banks.....	\$ 3,088,636
Current portion of long-term debt and trust deed note payable....	1,280,000
Other notes payable.....	306,457
Accounts payable.....	2,950,828
Accrued liabilities.....	1,503,493
Federal income taxes.....	276,960
Total current liabilities.....	<u>\$ 9,406,374</u>

LONG-TERM DEBT (Note 2)..... 3,365,754

SUBORDINATED DEBT (Note 2)..... 2,500,000

### CAPITAL STOCK AND SURPLUS:

Preferred stock, \$1 par value — authorized 500,000 shares; out- standing 92,827 shares Series A (Notes 1 and 5).....	\$ 92,827	
Common stock, \$1 par value — authorized 1,500,000 shares; out- standing 849,461 shares (including 16,700 shares issued subsequent to October 31, 1963, in connection with poolings of interests — Notes 1, 2, 4 and 5).....	849,461	
Capital surplus.....	5,084,386	
Earned surplus (Note 2).....	2,602,283	8,628,957
		<u><u>\$23,901,085</u></u>

# TELEDYNE, INC. AND SUBSIDIARIES

## CONSOLIDATED STATEMENT OF INCOME

*For the Year Ended October 31, 1963*

SALES.....	\$31,924,685
COST OF SALES.....	25,543,610
Gross profit.....	\$ 6,381,075
SELLING AND ADMINISTRATIVE EXPENSES.....	4,307,640
Profit from operations.....	\$ 2,073,435
INTEREST EXPENSE.....	568,139
Net income before provision for Federal income taxes.....	\$ 1,505,296
PROVISION FOR FEDERAL INCOME TAXES (after reduction of approximately \$549,000 due to carryforward of losses of acquired subsidiaries incurred prior to dates of acquisition).....	225,000
Net income including Federal income tax reduction.....	<u>\$ 1,280,296</u>

## CONSOLIDATED STATEMENTS OF SURPLUS

*For the Year Ended October 31, 1963*

	Capital Surplus	Earned Surplus
BALANCE, OCTOBER 31, 1962:		
Previously reported.....	\$2,336,771	\$ 535,820
Earned surplus of pooled companies (Note 1).....	—	817,957
	<u>\$2,336,771</u>	<u>\$1,353,777</u>
ADD OR (DEDUCT):		
Net income for the year including Federal income tax reduction.....	—	1,280,296
Amounts representing differences between —		
Fair value and par value of capital stock issued in acquisition of businesses, etc. (Note 1).....	354,525	—
Par value of capital stock issued in connection with poolings of interests and capital stock and capital surplus of pooled companies, less costs incurred of approximately \$180,000 (Note 1).....	2,313,240	—
Sales price and par value of capital stock sold under stock option plan (Note 4).....	79,850	—
Cash dividends paid by pooled company prior to date of pooling.....	—	(31,790)
BALANCE, OCTOBER 31, 1963 (Note 2).....	<u>\$5,084,386</u>	<u>\$2,602,283</u>

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

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

October 31, 1963

### NOTE 1. Mergers and acquisitions—

Since October 31, 1962, the company has issued common and Series A preferred stock in exchange for all of the outstanding capital stock or net assets of several companies. These transactions have been accounted for as poolings of interests, and the results of operations of these companies for the year ended October 31, 1963, have been included in the consolidated statement of income. Depending upon future income of certain of these companies and the market value of the company's common stock, additional common stock may be issued. A total of 58,334 shares have been reserved for this purpose.

During the year, the company also purchased the net assets of a business and has included its operations since the date of acquisition in the accompanying consolidated statement of income.

If the results of 1962 operations of companies pooled in 1963 (as shown by unaudited financial statements) had been included in the company's consolidated statement of income for 1962, previously reported net income of \$331,518, including Federal income tax reduction, would have been \$466,013.

### NOTE 2. Long-term and subordinated debt—

#### Long-term debt—

At October 31, 1963, long-term debt consisted of the following:

	Interest Rate	Due Date	Collateral	Amount
Bank installment note	5¾%	November, 1966	Proceeds of defense contracts*	\$3,000,000
Other installment notes—	5 to 6½%	1965 to 1969	Land and buildings	491,854
	None	1965	None	350,000
Liability under short-term equipment leases with purchase options (accounted for as equipment purchase contracts).....				467,235
Other Notes.....				156,665
				<u>\$4,465,754</u>
Less — Current portion.....				1,100,000
				<u>\$3,365,754</u>

\*Receivables of \$4,028,000 at October 31, 1963, were assigned to bank to secure this note and certain other indebtedness.

#### Subordinated debt—

At October 31, 1963, subordinated debt consisted of the following:

5¾% Convertible Subordinated Notes, payable in annual installments of \$83,333 from May 1, 1966 to 1977 with the balance due May 1, 1978. The notes are redeemable at the company's option from May 1, 1966 at 105¾% of face amount to 1978 at face amount and convertible at the holders' option into shares of common stock at the rate of \$27.50 per share until May 1, 1968 and \$35.00 thereafter.....	\$2,000,000
6½% Convertible Subordinated Debentures, payable in annual installments of \$100,000 starting February 14, 1966, redeemable at the company's option at face amount and convertible at the holders' option at any time prior to maturity or earlier redemption into shares of common stock at the rate of \$27.50 per share.....	500,000
	<u>\$2,500,000</u>

Under the terms of loan agreements covering certain of the foregoing indebtedness, the company has agreed to maintain minimum amounts of working capital and consolidated net worth plus subordinated debt, and not to pay any dividends or redeem (except as specifically permitted) any of its capital stock unless the total of such dividends and redemption does not reduce consolidated tangible net worth below \$2,800,000 or exceed 50 per cent of consolidated net earnings since October 31, 1962. These requirements were complied with at October 31, 1963, and at that date earned surplus of \$640,148 was not restricted under the terms of the agreements. The loan agreements also provide certain restrictions with respect to borrowings, purchase and sale of assets or capital stock and require that the company utilize proceeds from any subsequent sales of long-term debentures or capital stock to liquidate the 5¾% note payable to bank.

The company has reserved 90,910 shares of its common stock for issuance upon conversion of the subordinated debt.

### NOTE 3. Trust deed note payable—

The trust deed note payable is due in semiannual installments to September 1, 1967, at which date the unpaid balance (\$900,000) is due. The note bears interest at 5 per cent and is secured by a deed of trust on land and buildings carried at a cost of \$1,900,157. Since the holder of the note can look only to the property securing it for satisfaction thereof, the unpaid balance (less \$180,000 due within one year) has been deducted from the cost of the land and buildings on the accompanying consolidated balance sheet.

NOTE 4. *Stock options*—

At October 31, 1963, 129,812 shares of common stock were reserved for issuance to key employees under a restricted stock option plan. Options to purchase 67,110 of these shares at prices from \$1 to \$25 per share, of which 19,843 were exercisable, were outstanding at that date.

NOTE 5. *Preferred stock*—

The outstanding Series A preferred shares are entitled to voting rights, cumulative annual dividends at the rate of \$1 per share and preference of \$30 per share (\$2,784,810 in total) in the event of liquidation. They are redeemable in whole, but not in part, at \$33.33 per share at the company's option at any time subsequent to June 1, 1965, and are convertible, at the holders' option, into common stock on a share for share basis at any time prior to five days before a date fixed by the company for redemption. The company has reserved 92,827 shares of its common stock for issuance upon conversion of the preferred stock. No cash dividends may be paid on common stock until all accumulated dividends on preferred stock are paid or provided for. Earned surplus restricted under this provision is less than the amount restricted under the terms of the loan agreements set forth in Note 2.

NOTE 6. *Commitments and contingent liabilities*—

A substantial portion of the facilities and equipment used by the companies (including equipment with a net book value of approximately \$850,000 sold and leased back during the year) is held under long-term lease agreements. Aggregate future rentals of approximately \$7,000,000 are payable under the terms of lease agreements which expire at various dates to 1983.

The company is contingently liable as guarantor of notes payable by certain stockholders in the amount of \$545,690. These notes are secured by pledge of 18,192 shares of the company's common stock owned by the stockholders.

ARTHUR ANDERSEN & CO.

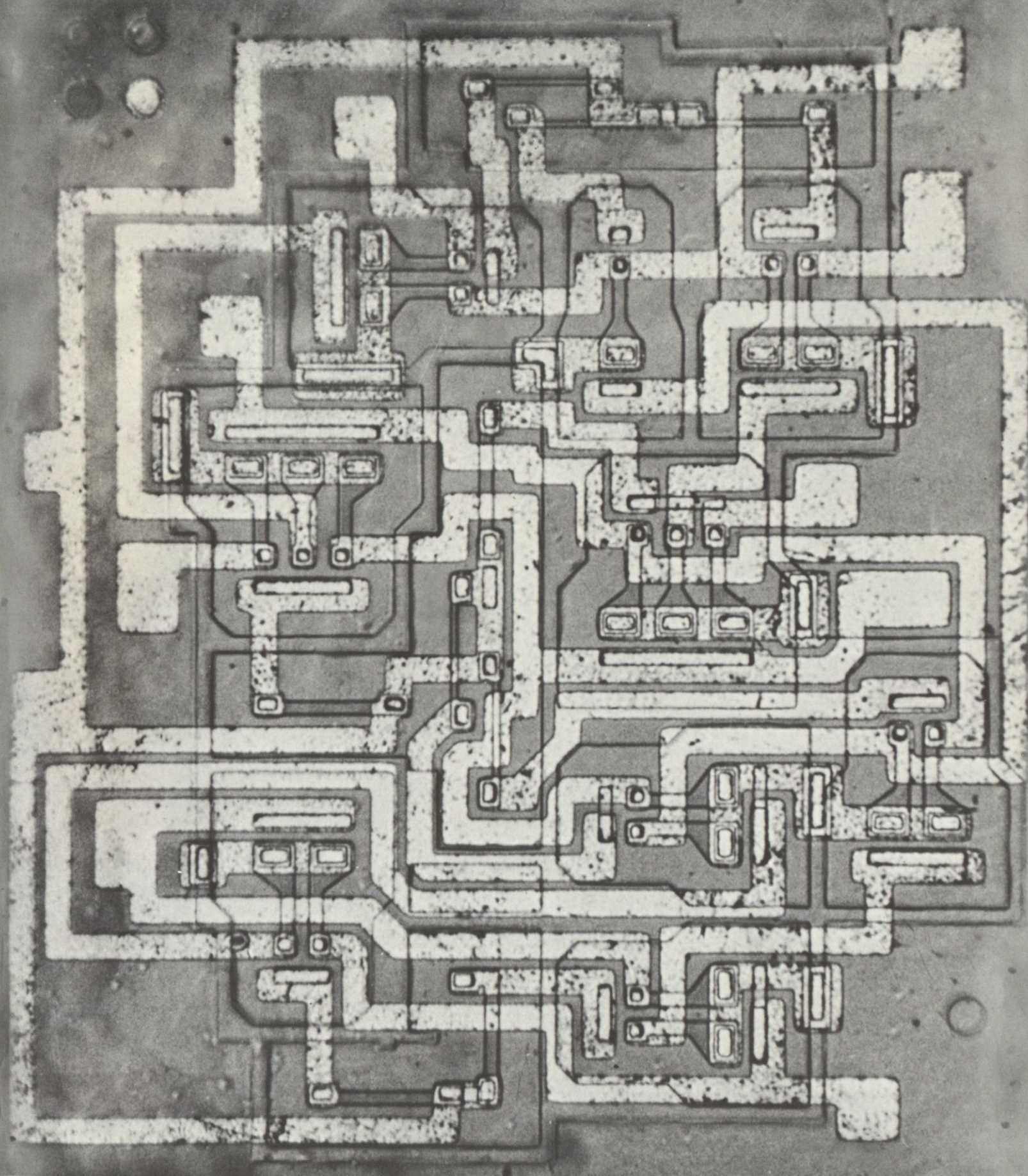
To the Stockholders and Board of Directors,  
Teledyne, Inc.:

We have examined the consolidated balance sheet of TELEDYNE, INC. (a Delaware corporation) and subsidiaries as of October 31, 1963, and the related statements of income and surplus for the year then ended. Our examination was 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. We did not examine the financial statements of a consolidated subsidiary whose assets and sales amount to approximately 18 per cent of consolidated assets and sales, but we were furnished with a report thereon by other public accountants who have made such examination.

In our opinion, based upon our examination and the aforementioned report of other public accountants, the accompanying financial statements present fairly the consolidated financial position of Teledyne, Inc. and subsidiaries as of October 31, 1963, and the results of their operations for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Los Angeles, California,  
January 15, 1964.

ARTHUR ANDERSEN & CO.



*Photomicrograph of OMIC R-Element (full shift register) manufactured by Teledyne's Amelco Semiconductor Division. Actual size 0.08 inch by 0.09 inch, here magnified 10,000 times. This circuit contains 19 transistors and 28 resistors, making it one of the most complex integrated circuits made to date.*

# **TELEDYNE, INC.**

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12525 South Daphne Avenue, Hawthorne, California