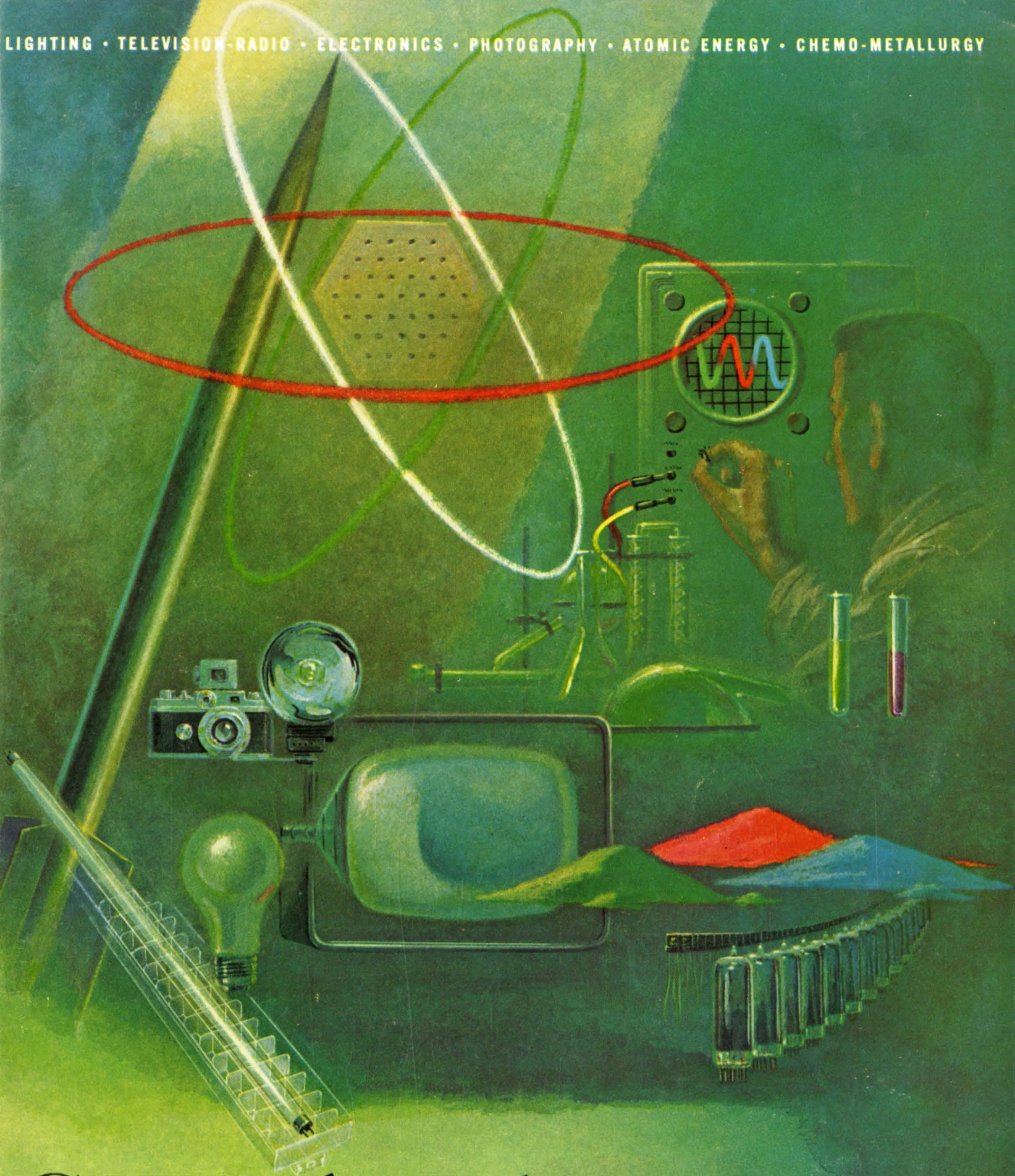
LIGHTING • TELEVISION-RADIO • ELECTRONICS • PHOTOGRAPHY • ATOMIC ENERGY • CHEMO-METALLURGY



# SYLVANIA

## ANNUAL REPORT 1956

# DIRECTORS

DON G. MITCHELL, *Chairman and President*

LAWRENCE A. APPLEY
*President, American Management Association*

MAX F. BALCOM
*Retired Chairman, consultant to the Company and Director of various corporations*

RICHARD L. BOWDITCH
*Chairman of the Board, C. H. Sprague & Son Co., Boston, Mass.*

JAMES P. HALE
*President of C. F. Hallin Co., Salem, Mass.*

FRANK J. HEALY
*Vice President of the Company*

CHESTER F. HOCKLEY
*Chairman, Davison Chemical Company Division of W. R. Grace & Co., Baltimore, Md.*

EDWARD J. POOR
*Retired Chairman*

WILLIAM J. WARDALL
*Director of various corporations*

WILLIAM WHITE
*President, Delaware & Hudson Co.*

# OFFICERS

DON G. MITCHELL, *Chairman of the Board and President*

MATTHEW D. BURNS, *Vice President – Operations (Electronic Tubes)*

BENNETT S. ELLEFSON, *Vice President – Engineering and Research*

CURTIS A. HAINES, *Vice President – Facilities Planning*

W. BENTON HARRISON, *Vice President – Finance*

FRANK J. HEALY, *Vice President – Operations (Lighting)*

ROBERT E. LEWIS, *Vice President – Operations (President, Argus Cameras Division)*

ARTHUR L. MILK, *Vice President – Government Relations*

MARION E. PETTEGREW, *Vice President – Operations (Radio & Television Sets, Tungsten & Chemical, Parts)*

HOWARD L. RICHARDSON, *Vice President – Operations (Electronics)*

BARTON K. WICKSTRUM, *Vice President – Marketing*

WALTER R. SEIBERT, *Treasurer*

ARTHUR L. B. RICHARDSON, *General Counsel & Secretary*

LEON C. GUEST, JR., *Controller*

EXECUTIVE OFFICE
1740 Broadway, New York 19, N.Y.

CORPORATE OFFICE
60 Boston Street, Salem, Mass.

DATA PROCESSING CENTER
Camillus, N.Y.

TRANSFER AGENTS
Second Bank – State Street Trust Co.
Boston, Mass.
The Hanover Bank, New York, N.Y.

REGISTRARS
Old Colony Trust Co., Boston, Mass.
Guaranty Trust Co. of New York,
New York, N.Y.

Annual Report 1956

# SYLVANIA

**SYLVANIA ELECTRIC PRODUCTS INC.**

**LIGHTING**

**TELEVISION-RADIO**

**ELECTRONICS**

**PHOTOGRAPHY**

**ATOMIC ENERGY**

**CHEMO-METALLURGY**

## Contents

# HIGHLIGHTS OF 1956

**SALES** **$332,344,159** (combined with Argus)
**$311,021,046** (without combination with Argus)
Sales exceeded previous record.
See Chairman-President's letter for additional background.

**NET INCOME** **$14,835,389** (combined with Argus)
**$13,706,189** (without combination with Argus)
The second figure was slightly below all-time high in 1955 and equalled $4.03 per common share.

**DIVIDENDS** **$6,972,927**
Twenty-ninth consecutive year of dividends.

**NEW PLANTS & EQUIPMENT** **$18,000,000**
More than $18,000,000 spent on new plants and equipment; total productive area now 5,600,000 sq. ft., 48 plants and 21 laboratories in 41 communities in 13 states.

**RESEARCH & ENGINEERING** **$15,000,000**
The cost of Sylvania's research and engineering activities, at all levels of the Company, equalled about 6% of our non-military sales, or $15,000,000.
In addition, a large amount of research and development work is being done for the Government.

**EMPLOYEE EARNINGS** **$133,427,717**
Wages and salaries paid to Sylvania's employees, plus non-wage labor costs, set new Company records.

# FOUR-YEAR COMPARISON OF SALES AND EARNINGS

| | 1956 | | 1955 | 1954 | 1953 |
|---|---|---|---|---|---|
| | Combined With Argus | Without Argus | | | |
| Net sales | $332,344,159 | $311,021,046 | $307,371,315 | $281,641,987 | $293,267,408 |
| Net income | $ 14,835,389 | $ 13,706,189 | $ 13,812,970 | $ 9,480,941 | $ 9,536,181 |
| Preferred dividends | $ 393,217 | $ 380,717 | $ 835,995 | $ 1,202,780 | $ 1,253,765 |
| Earned on common stock | $ 14,442,172 | $ 13,325,472 | $ 12,976,975 | $ 8,278,161 | $ 8,282,416 |
| Shares of common outstanding on December 31 | 3,515,267* | 3,300,206 | 3,020,871 | 2,827,390 | 2,668,812 |
| Earnings per share on the number of common shares outstanding December 31 | $4.10* | $4.03 | $4.29 | $2.92 | $3.10 |
| Common share dividend | $2.00* | $2.00 | $2.00 | $2.00 | $2.00** |

*Adjusted to reflect the combination
**Plus 10% Stock Dividend

*"... the vital importance of highly diversified product lines..."*

March 12, 1957

*To the Share Owners and Employees:*

THE VITAL IMPORTANCE of highly diversified product lines, reaching a variety of customer groups and influenced by different market conditions, was reflected in your Company's operations during 1956. The continued growth in demand for our wide range of lighting products, electronic components, and related lines proved to be an effective counterbalance to unusually intensive competition in the television market.

As a result, Sylvania's net sales exceeded the previous record high established in 1955, and net income held up well.

In reporting to you our sales and earnings for 1956, the figures are presented in two forms: first, in combination with Argus Cameras, Inc. which joined Sylvania on January 2, 1957, and, secondly, without combination with Argus, so that you can make a direct comparison between Sylvania's sales and earnings in 1956 and those of previous years.

Reflecting the combination of Argus with Sylvania, net sales were $332,344,159, and net income was $14,835,389, which was equal to $4.10 per share on the total of the Sylvania common shares outstanding December 31, 1956, and the Sylvania common shares issued to Argus share owners on January 2, 1957.

Net sales of Sylvania, without combination with Argus, totaled $311,021,046 last year, exceeding the previous record of $307,371,315 in 1955. Net income totaled $13,706,189, against $13,812,970 the previous year. Income before federal taxes on income amounted to $25,906,189, comparable income in 1955 having been $27,912,970.

After provision for federal income taxes, and after $380,717 of dividends on the $4.00 preferred stock, the earnings per share of common were $4.03, with 3,300,206 shares of common outstanding on December 31, 1956. This was in contrast to $4.29 per share in 1955 on fewer outstanding shares.

Going into the events leading up to Argus joining Sylvania, your management decided last year to broaden the Company's activities in the consumer product field, and, specifically, photographic products, because of our leading position in photographic lighting and the enormous potential in the entire photographic field. Argus, a major producer of still cameras, projectors, and other photographic equipment, accepted our offer to combine their business with Sylvania, and Argus became an autonomous division of Sylvania on January 2, 1957. This joining of forces created one of the photographic industry's major diversified producers, and provided an excellent basis for expansion into other lines.

## *Progress throughout the Company*

Highly significant progress was made last year throughout the Company's operations. Our laboratories developed a number of extremely successful new products, as well as improvements in existing products. Further advances were made in our manufacturing processes and techniques, indicating again the constant objective of assuring the highest of product quality at the lowest possible cost to the consumer. To translate this scientific, engineering, and manufacturing progress into broader sales of Sylvania products, our marketing organization was substantially expanded.

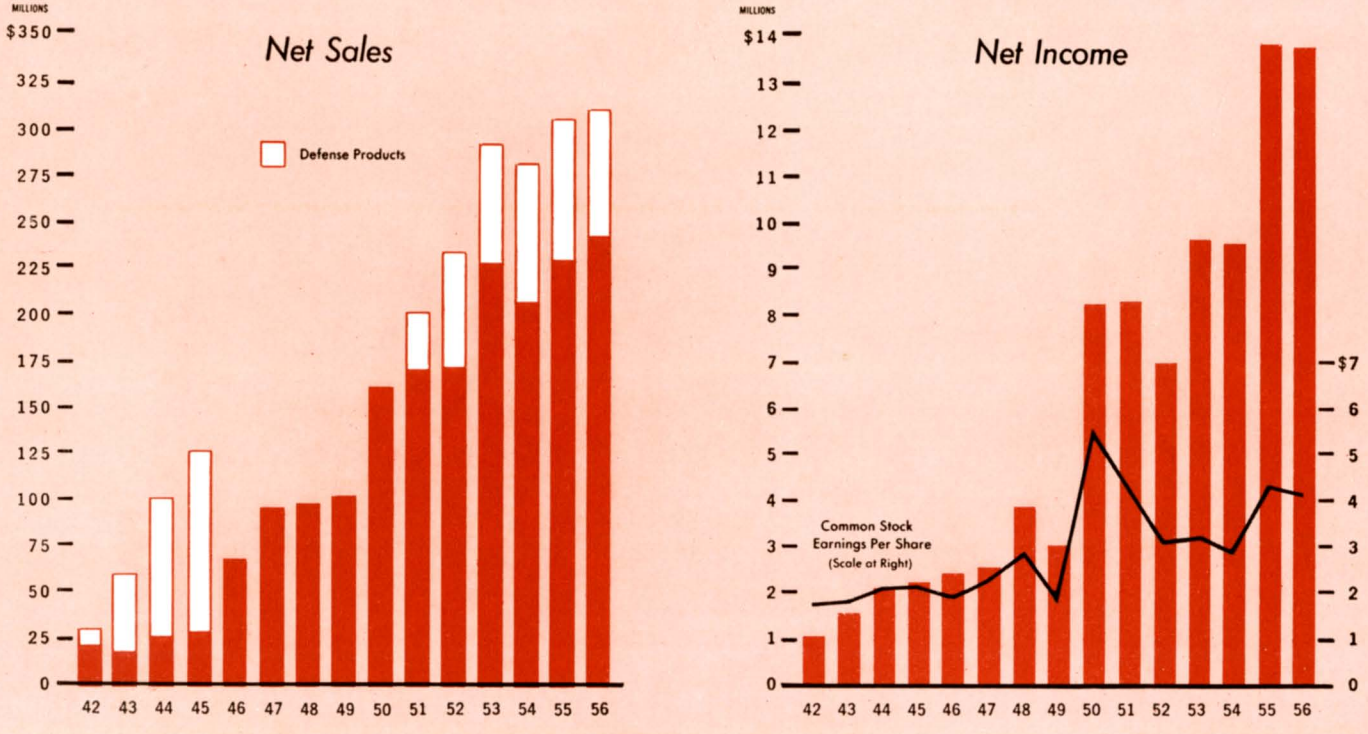
The achievements of the Company's more than 2,000 scientists and engineers during 1956 spanned an extremely broad front. In the lighting field, we introduced a new fluorescent lamp which produces two and one-half times as much light as conventional models, thus opening up many additional applications. Sylvania's leadership in highly advanced military projects was demonstrated by our development of the electronic passive defense system for the U. S. Air Force's first supersonic bomber, the Convair B-58.

In television, the Company's engineers developed a revolutionary new picture tube which is 20 per cent lighter and considerably shorter than conventional tubes. Capitalizing on this accomplishment, our television engineers produced a lighter and more compact 17-inch portable set of new design. These two developments have set a new trend in the television industry.

In the area of electronic components, many new types of receiving tubes were developed to meet growing demands in both commercial and entertainment electronics. Continued technical progress in the design of transistors, one of the industry's newest and most promising devices, enabled us to increase production substantially and to broaden their application.

## *Net Sales and Net Income 1942-1956*

**(without combination with Argus)**



## *New joint enterprise in atomic energy*

An especially significant step was taken in a field with a long-term potential—atomic energy. Last November, Sylvania and Corning Glass Works announced their plan to form a jointly-owned "Sylvania-Corning Nuclear Corporation", for the purpose of expanded research, development, and production activities in atomic energy. The new organization, which will be formed in the near future, will take over the two companies' atomic energy businesses, thus acquiring Sylvania's extensive experience in metallurgy and Corning's leadership in ceramics. The availability of both of these major technical backgrounds is expected to open up many new opportunities, especially in fuel elements, materials, components, and fuel recovery processes for atomic-electric power plants.

## *World's fastest-growing major industry*

These have been only the highlights of last year's developments, which are reviewed more fully in subsequent sections of this Report. However, in reviewing the various phases of our operations during 1956, the progress made by the Company and our plans for the future cannot be fully evaluated without keeping in mind the general economic trends of which we are a part, especially the growth of the electrical-electronics industry.

Although the major appliance business, including television sets, is going through a period of readjustment stemming from intense competition and over-production, the electrical-electronics industry continued to expand last year. Total shipments of all products reached a new record of $19.6 billion, and it is estimated that output will total $21.5 billion in 1957. Without question, this is the world's fastest-growing major industry.

This anticipated increase in production will parallel a continued growth in the consumption of electric power—both of which appear to be well on their way toward doubling in the next decade. Two of the major participants in this growth will be the lighting and electronics businesses, in which Sylvania is a leading producer.

The continued expansion of the electrical-electronics industry will be the largest single factor in the steadily rising living standards of our growing population. With this progress will come increased leisure time for recreation and travel, which will provide a large potential for our photographic lines. Moreover, atomic energy will play an increasingly important role in assuring sufficient electric power to meet the needs of our expanding economy. In both of these fields, Sylvania is preparing for unprecedented opportunities.

## *Planning for the future*

In planning for the years ahead, your management is continuing to study various areas of possible further expansion and diversification. These include not only fields which are closely related to our present operations but also new main streams of activity, which would complement our current activities and provide especially important benefits to Sylvania's future.

## *Acknowledgment*

In submitting this Report to you, the Board of Directors wishes to extend its sincere appreciation both to the share owners for their continued interest and support, and to the men and women throughout the Sylvania organization for their vital contributions to the Company's progress during the year.

*By Order of the Board of Directors*

CHAIRMAN AND PRESIDENT

# THE YEAR IN REVIEW


## *Continued expansion of our marketing activities; strong acceptance of our products*

*Sylvania's lighter, shorter 17" TV has set a new trend in the industry.*

STRONG MARKET acceptance prevailed in virtually all of Sylvania's product lines last year, our strengthened field sales and distribution organizations enabling us to increase or maintain our positions in the face of heavy competition.

Strategically located in key market areas across the country, the Company's 29 sales offices and 19 distribution centers provide broad market coverage and efficient customer service. This nationwide organization is being further expanded to bring greater coverage in established markets and to build our volume in newer areas.

Indicative of Sylvania's aggressive marketing were the wide varieties of advertising, merchandising, and sales promotion programs conducted during the year, each of them tailored to meet the specialized needs of the individual product lines. On a Company-wide front, our new television show, "The Buccaneers", sponsored by all of the consumer products, has built a very favorable rating, reaching an average weekly audience of nearly 20 million persons through 103 stations throughout the country.

### *Gains in Lighting and Electronics*

The sales of lighting products in 1956 exceeded the volume of the previous year by a substantial

margin. Both incandescent and fluorescent lamps showed large gains in volume. In the photoflash lamp field, in which Sylvania produces more than half the industry output, expanded sales were achieved.

Our electronic tube business, including both receiving tubes and television picture tubes, reflected Sylvania's position as one of the two largest producers. The replacement market was particularly strong, and attained a total volume considerably ahead of the previous year. Customer awareness of the Sylvania brand-name continued to increase, especially in "Silver Screen 85" aluminized picture tubes.

### *Intense Competition in TV*

Like many companies in the television industry, Sylvania's dollar volume in television sets was below expectations last year. This was due principally to an industry-wide condition of excessive inventories in the channels of distribution and the resultant unusually intensive competition. A further factor was the shaking-down process which prevailed during the year in the overcrowded major appliance field. Dollar volume and operating results on our TV set business were markedly affected.

Color television is gradually moving ahead, but no rapid increase in sales by the industry is foreseen this year.

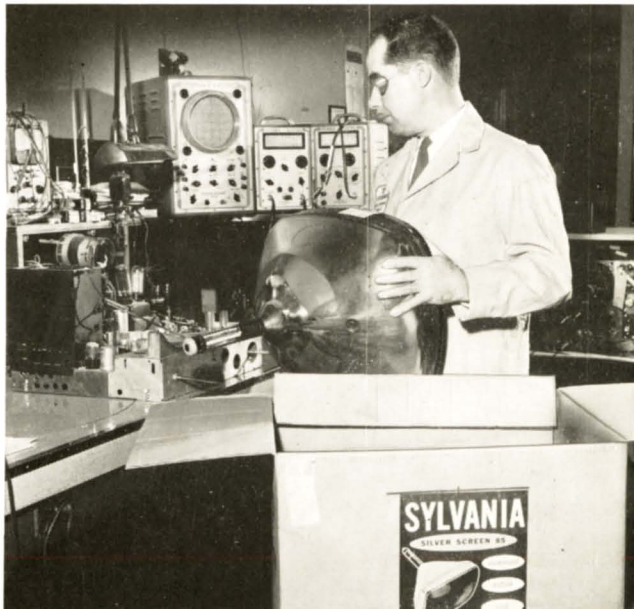
### *Defense Business $70 Million*

Sylvania's defense business last year amounted to approximately $70 million, or about one-fifth of total sales, which was nearly the same proportion as in 1955. The current backlog of unfilled defense orders is about $39 million, and the total will increase as major developmental projects reach the production stage.

Sales of specialized electronic products, including transistors and diodes, were well ahead of the preceding year, and new records were set by tungsten and chemical products and the large variety of metallic and plastic parts.

### *Argus Sales Hit New High*

Although Argus Cameras did not join the Sylvania organization until January 2, 1957, it should be noted that they attained new record sales in the commercial product lines last year, with strong volume not only in cameras but other photographic products.


**(top)** ***Sales of Sylvania photoflash bulbs and Argus cameras established new records.*** **(center)** ***Incandescent and fluorescent lamp sales showed large increase.*** **(bottom)** ***Consumer demand for Sylvania "Silver Screen 85" picture tubes continued to grow.***

# *Our world-wide markets*

## CANADA

CANADA'S STEADY economic growth and the aggressive selling of our subsidiary raised net sales of Sylvania Electric (Canada) Ltd. to a new record substantially ahead of the previous year, and almost six times the volume of four years ago.

These results are not included in the parent company's sales figures.

Sales of lighting products showed a large increase with particularly good results in fluorescent lamps. Photoflash volume continued to grow. The industry-wide television set business in the Dominion was at a level behind the previous year, but our subsidiary maintained its competitive position. Radio and hi-fi billings increased sharply. The receiving and picture tube business increased substantially, and the production of specialized electronic devices held up well.

Various possible additions to the subsidiary's products are under consideration. A steady increase in business is anticipated, in step with favorable economic trends.

## INTERNATIONAL

SYLVANIA'S INTERNATIONAL business grew at a very satisfactory rate in 1956, exceeding the previous year's sales by a wide margin. This activity covers a broad range of electrical-electronic products, both U. S. and foreign manufactured.

Our activities in key world markets were expanded, and a decentralized organization for Latin America is being created, similar to the coverage of Europe, Africa, and Asia by Sylvania International Corp., Switzerland.

Favorable economic conditions prevailed through most of the year in Europe, although adverse effects of the unsettled Middle East situation began to be evident by year-end. This was substantially offset, however, by the continued upward trend in Latin America and the Far East, and the over-all world outlook is extremely favorable.

## GREAT BRITAIN

DESPITE THE less favorable economic climate in Great Britain, Sylvania's associate, Thorn Electrical Industries Ltd., strengthened its position as one of that nation's leading electrical manufacturers. Our associate's volume in TV sets, under the Ferguson trademark, continued to increase, enhancing their position as Britain's largest producer. In fluorescent lamps, Thorn's output exceeds the total of its competitors, and incandescent volume is expanding. Softlight, developed by Sylvania, was introduced last year. Our associate's sales of Tricity electric ranges and aircraft components showed considerable gains.

Last October, the new home of Sylvania-Thorn Colour Television Laboratories was dedicated. The laboratories are engaged in the development of color TV equipment, semiconductor devices, and other projects.

Thorn's overseas trade continues to expand, despite strong competition and the loss of several markets due to import restrictions.

## LATIN AMERICA

IN ARGENTINA, our associate, E. Lix Klett & Cia., for many years a leader in lighting products, will begin production of TV picture tubes this year and shortly after will add TV sets. The potential in all these products is substantial.

Our new Mexican subsidiary, Semsa Electronica, S. A., began the production of Sylvania-branded picture tubes during the year, and output is increasing steadily. Entering the radio set manufacturing field, Sylvania became associated with Radios Universal.

Focos, S. A., our associate in the lighting field, is increasing its volume in fluorescent, incandescent, and photoflash lamps.

## EUROPE AND FAR EAST

OUR FLUORESCENT lamp manufacturing affiliation in France was realigned during the year, and the sales outlook greatly improved. In several additional countries, manufacturing expansion projects are under consideration in the TV-radio, electronics, and lighting fields. In Japan, a technical assistance agreement has been reached with New Nippon Electric Co., Ltd., covering receiving tubes and lighting products.

# EXPANSION

THE OPPORTUNITIES for growth in Sylvania's multi-product operations are reflected in the expansion projects completed or initiated during 1956, including a substantial increase in productive floor space and the installation of new and improved manufacturing equipment.

More than $18 million was spent last year on new plants and equipment, raising the total gross investment in land, plant, and equipment to nearly $116 million, more than 75% of which has been added in the past six years.

Nearly 350,000 square feet in completed projects brought the Company total at year-end to 5,600,000, including 48 plants and 21 laboratories in 41 communities in 13 states.

Continuing the Company's pioneering in the development and construction of highly advanced types of semi-automatic and automatic high-speed manufacturing equipment, large new installations were made in various plants producing incandescent and fluorescent lamps, electronic tubes, and television and radio sets. The latter equipment involves the automatic assembly of major TV set components.

### *Most Advanced Plastics Plant*

The most advanced plastics plant in industry, a 110,000-sq.-ft. facility, was completed at Warren, Pa., by the Parts Division.

To meet the need for expanded transistor production, a facility was purchased in Hillsboro, N. H., and our parts business was further expanded by the acquisition of Formatic Machine Co., Naugatuck, Conn., a producer of eyelet machine parts.

Established during the year were two new laboratories of the Electronic Systems Division — the Applied Research Laboratory at Waltham, Mass., one of three now in that locality, and the Microwave Physics Laboratory, the third at Mountain View, Calif.

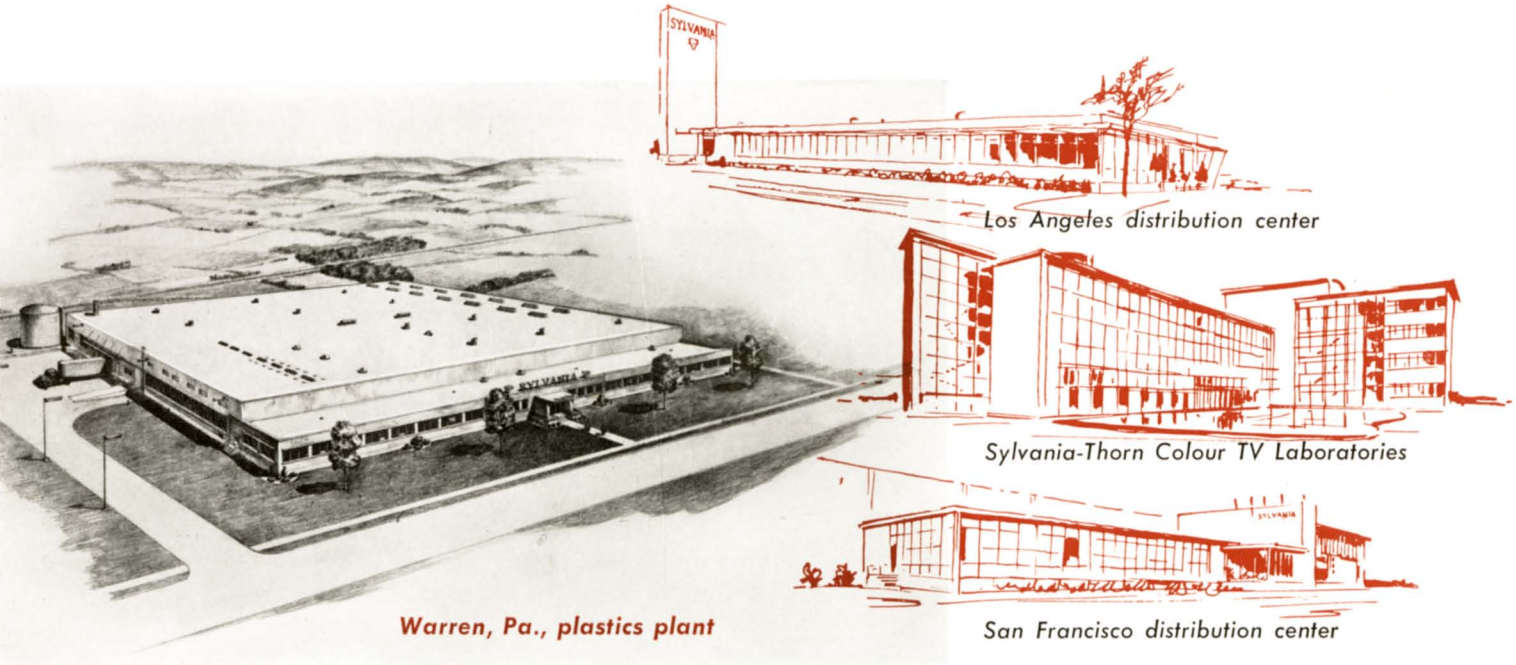
Large new distribution centers were opened in Atlanta, San Francisco, and Los Angeles, providing greatly increased space to keep pace with expanding sales.

### *Large Projects Under Construction*

Construction began last year on a 118,000-sq.-ft. expansion of the fluorescent lamp plant in Danvers, Mass., the largest and most advanced such plant in the world. At Woburn, Mass., a 50,000-sq.-ft. addition is being made to the semiconductor and special tube plant, and at Towanda, Pa., a 48,000-sq.-ft. facility for engineering and pilot production in tungsten and chemical products is under construction.

A 190,000-sq.-ft. receiving tube plant will be built in Altoona, Pa., to replace an existing older facility in that locality, and an engineering development center for electronic systems and equipment is planned for Amherst, N. Y.

An Atomic Center is proposed for Andover, Mass. This will be the headquarters and principal facility of the Sylvania-Corning Nuclear Corp.



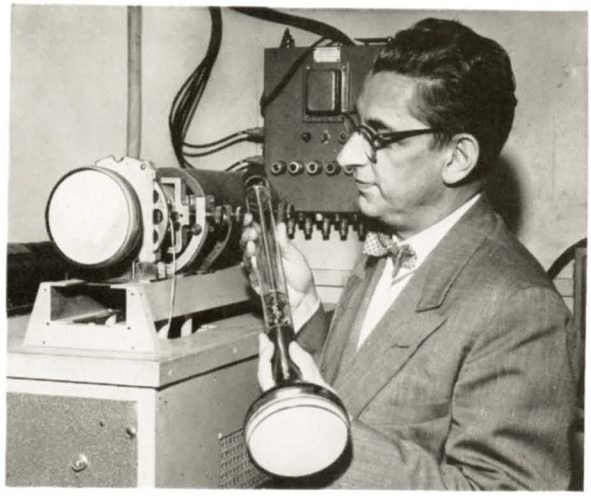

Warren, Pa., plastics plant

Los Angeles distribution center

Sylvania-Thorn Colour TV Laboratories

San Francisco distribution center

# *Assuring tomorrow's progress*

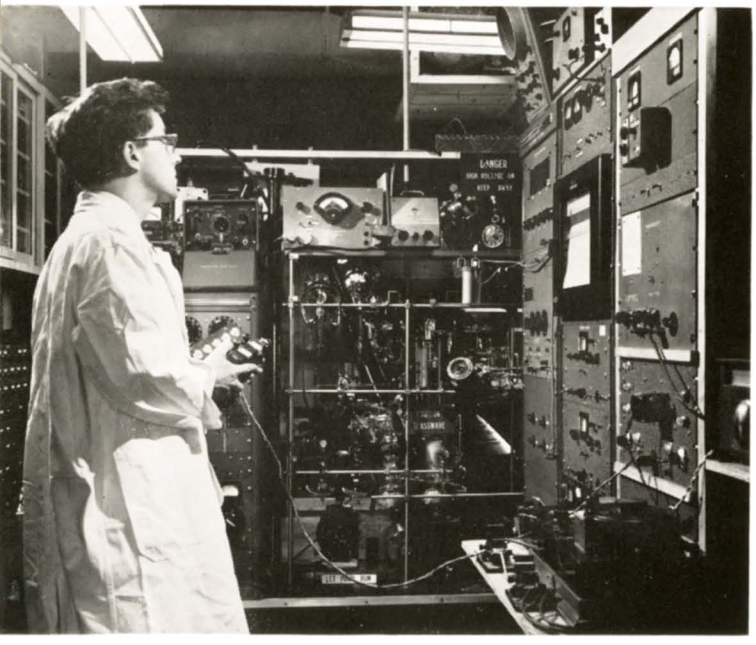


*Scientist demonstrates "Wamoscope", new type of tube for radar, microwave TV, and other uses.*

THE RATE AND SCOPE of technological change in the electrical-electronics industry is without parallel. In no industry is the word "obsolescence" more meaningful, nor is there a greater premium on finding new and better ways of doing things. This constant search involves every major field of science and technology, and its accomplishments are felt throughout the economy.

To the individual company, this presents a far-reaching challenge. Only through broad-scale research and engineering can today's markets be expanded and new lines of endeavor created for tomorrow. This is the assignment of Sylvania's more than 2,000 scientists and engineers, whose projects throughout all levels of the Company last year represented the expenditure of about 6 per cent of each non-military sales dollar, or nearly $15 million – in the broad fields of lighting, electronics, television-radio, chemo-metallurgy, photography, and atomic energy. In addition to these Company-financed projects, a large amount of research and development work is being done for the Government.

*Invaluable to research is the mass spectrometer, used to measure atoms electronically.*

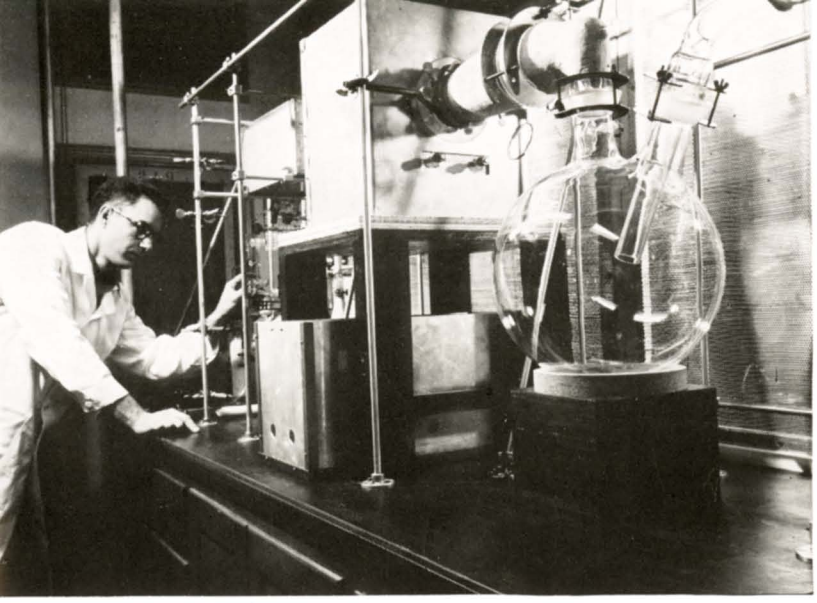


During 1956, the Research Laboratories made many contributions to Sylvania's technological progress. Their accomplishments included the development of new and improved analytical techniques, materials, and fabrication techniques, together with unusually significant developments in circuitry and new products.

## *One Atom Among 10 Billion*

Since the over-all quality of electronic products is greatly dependent upon the relative purity of their component materials, Sylvania scientists place strong emphasis on analytical techniques which can detect almost infinitesimal quantities of impurities. Their work has progressed to a point where, for example, one atom of boron can be found among 10 billion atoms of silicon, thus helping to assure the high quality of this material used in semiconductor devices.

In the development of new materials, Sylvania's work extends into many areas. One of the most promising is "electroluminescence," the result of the excitation of certain phosphors placed in an electric field. This principle is used in Sylvania's "Panelescent" lamp, the area source



*Materials of extremely high purity and special electrical characteristics are required for semiconductor devices such as transistors and diodes.* **(above)** *Pure silicon being produced for research.* **(below)** *Measuring characteristics of silicon and other semiconductor materials.*

of light which takes the form of luminous panels. Personnel of the Research Laboratories and the Lighting Division have developed new information which will lead to improved electroluminescent powders and new applications. Other research, on germanium and silicon, has been translated into improved manufacturing processes in our Semiconductor Division.

The Laboratories' work on fabrication techniques during the past year has included new methods of producing so-called "printed circuits," which are fundamental to the production of electronic products and components by automation, as well as improved techniques for joining metal and ceramics and for producing high-quality

*Scientists examine light-weight traveling-wave tube, new device with large military and commercial potential.*

ceramic parts, used in many types of electronic components.

New developments in electronic circuitry point the way to important improvements in communication and specialized military equipment.

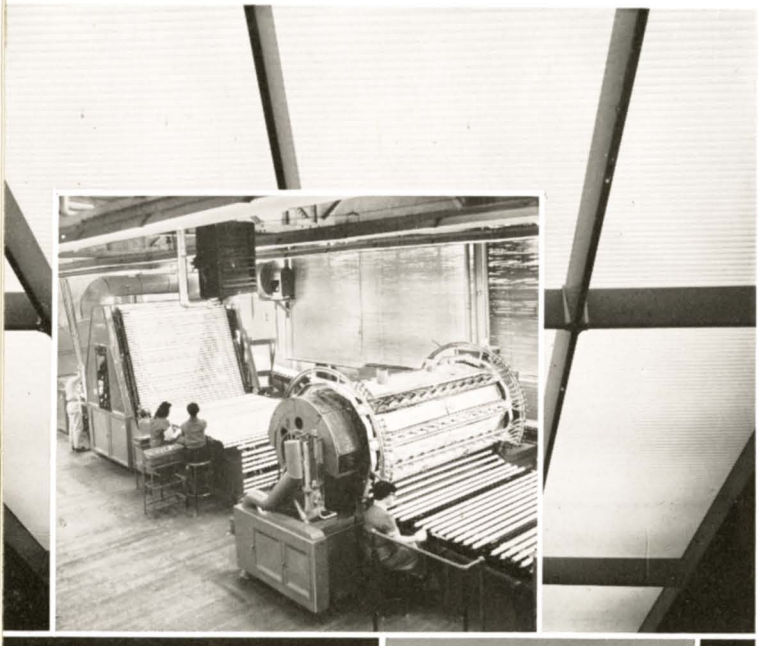
### *New Light-Weight Electronic Device*

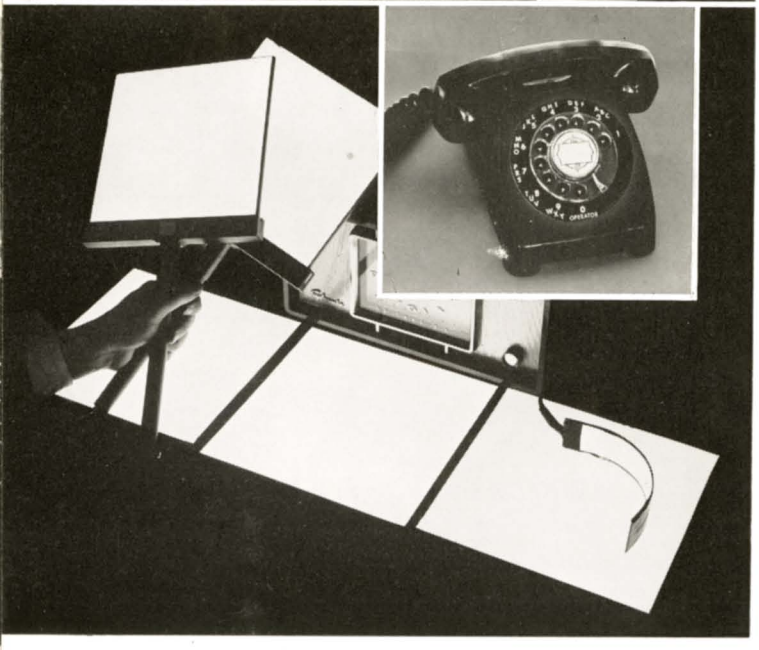
An important requirement in the operation of high-performance military aircraft was met through a traveling-wave-tube device which is 80 per cent lighter than electronic equipment previously performing the same function. The new light-weight device, a development of the Microwave Tube Laboratory of the Electronic Systems Division, utilizes small yet extremely powerful permanent magnets to focus a traveling-wave tube. This development is believed to have a large potential in both military and commercial applications.

The "Wamoscope", a new type of cathode-ray tube for radar, microwave TV, and other electronic "picture" applications was developed in cooperation with the Navy. Representing a significant step in the simplification, increased reliability, and versatility of many types of electronic equipment, it combines most of the essential functions of a microwave receiving set in a single tube. It thereby eliminates several of the tubes and components required by a conventional receiver.

Throughout the laboratories of the Company's operating divisions, many other technical developments were recorded during the year. They are described in the following section.

*Many new and improved products introduced during the year*





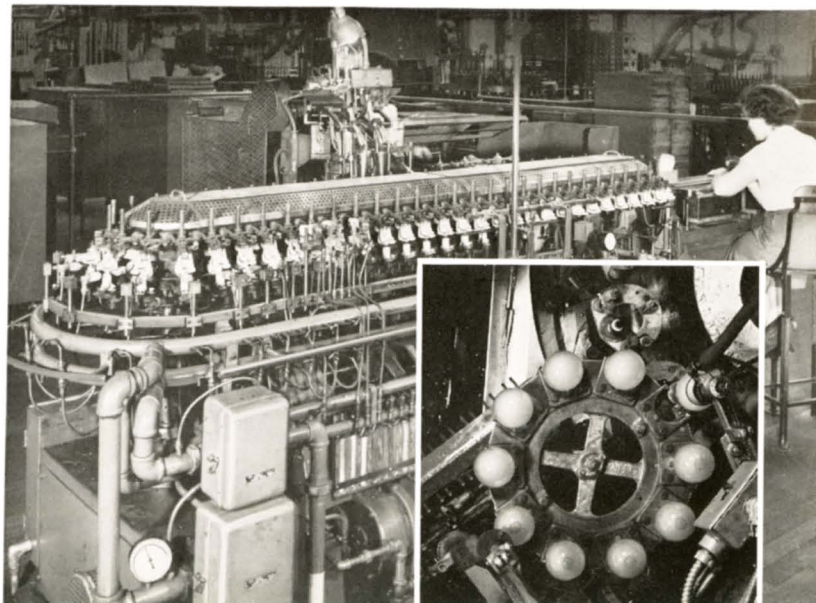
## LIGHTING PRODUCTS

TWO COMPLETELY NEW LAMPS in the fluorescent field were introduced by Sylvania last year. Providing two and one-half times as much light as conventional models and universal in its application, the new "VHO" lamp goes beyond any previous achievements in high-intensity fluorescent lamp sources.

A second fluorescent lamp features an internal reflecting surface which results in 70 per cent more downward light. This marked the first time an American manufacturer has marketed a fluorescent lamp with directional distribution.

In the incandescent field, Sylvania added the aqua-tinted "Cool-Light" bulbs, which extend the "Decorate with Light" concept originally started

***(left, top) Fluorescent lamps in production. In background, a Sylvania lighting system. (left, bottom) Various intensities of Panelescent lighting being demonstrated; clock radio and telephone have Panelescent dials. (below) Incandescent lamps in production. Inset, Sylvania trademark being put on finished bulbs.***



*Frank J. Healy, (right) Vice President—Lighting Operations, and George C. Connor, general sales manager—photolamps, examine billionth "Press 25" made at Montoursville, Pa., plant. At right, transport landing at N. Y. International Airport (Idlewild) descends over Sylvania "Strobeacon" approach lighting system.*

by the Company with "Softlight" two years ago. The consumer now has the choice of "warm" or "cool" lighting to produce the desired effect.

The Company's fixture business continued to grow, with two new types introduced during the year. These included the "Mohawk" series, especially designed for low ceilings, and the first fixture for the new "VHO" lamp. Continued leadership was shown in the development of complete lighting systems.

Providing a higher degree of highway safety and better illumination of business and residential streets, two new types of mercury-vapor lamps were introduced. The high light output and improved color quality of the "Silver-White" lamp makes it an ideal lamp for highways, street lighting and industrial applications. The "Golden" lamp has opened up an entirely new concept of safety on streets, highways, and other danger zones.

Sylvania's "Panelescent" lamp, the Company's trademark for its lamp which produces a panel of light by electroluminescence, celebrated a milestone last December. The 200,000th lamp was produced, with the prediction that another 200,000 would be produced in 1957 alone. Fourteen new "Panelescent" products have been introduced, and new production techniques, using improved phosphors and metal instead of glass, have been developed.

## PHOTOGRAPHIC LIGHTING

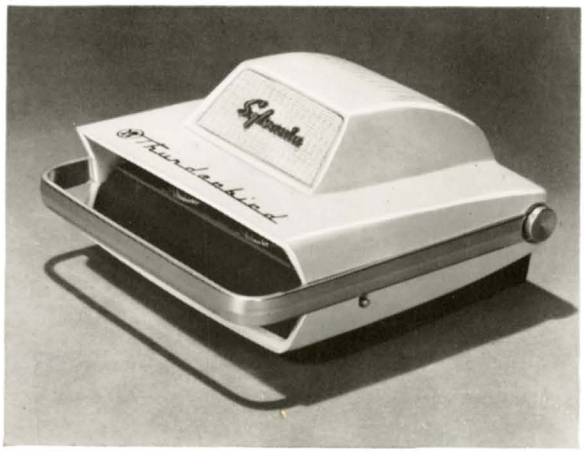
The production of photographic flashbulbs in the U. S. reached a record 590 million units last year, more than half of them produced by Sylvania, or enough to fill 900 freight cars. About 95% of this total was used by amateur photographers. In step with this enormous increase in amateur photography, industry production should reach 650 million this year, and continue to climb steadily. A billion of one type alone, the "Press 25," have been produced by the Company's Montoursville, Pa., plant.

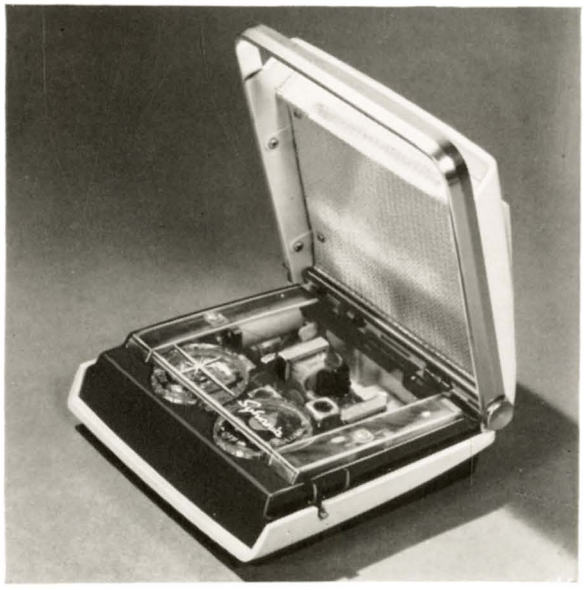
Along with its aggressive photolamp marketing, Sylvania introduced two new photographic lighting products in 1956 – the RF lamp and the "Tru-Focus" projection lamp. The RF meets the need of the motion picture industry for an extremely intense, highly concentrated light source to facilitate film printing. The Tru-Focus has permitted entirely new design concepts in motion picture and slide projectors. Providing greater light, it is focused with complete accuracy, and will burn in any position.

## AIRPORT LIGHTING

An electronically timed streak of light, resembling a white-hot football traveling at supersonic speed, is guiding aircraft into N. Y. International Airport (Idlewild) and Newark, N. J. Airport. This is Sylvania's EFAS – electronic flash approach lighting system – which guides pilots to safe landings during periods of limited visibility. Installations are underway at other locations.

The equipment consists of a line of Sylvania "Strobeacon" lamp units along the approach lane to the runway. Each unit fires a brilliant 30-million candlepower flash twice every second in sequence toward the runway, pointing the way for the pilot.



*The all-transistor "Thunderbird" portable radio, in carrying position and open to show chassis.*

## TELEVISION, RADIO, HI-FI

Several major developments are featured in Sylvania's line of television sets. A radically different 17-inch portable represents the combination of a new type of picture tube which is lighter and shorter than previous models, and a unique type of chassis. This is the first such set marketed in the industry, and has proved extremely successful.

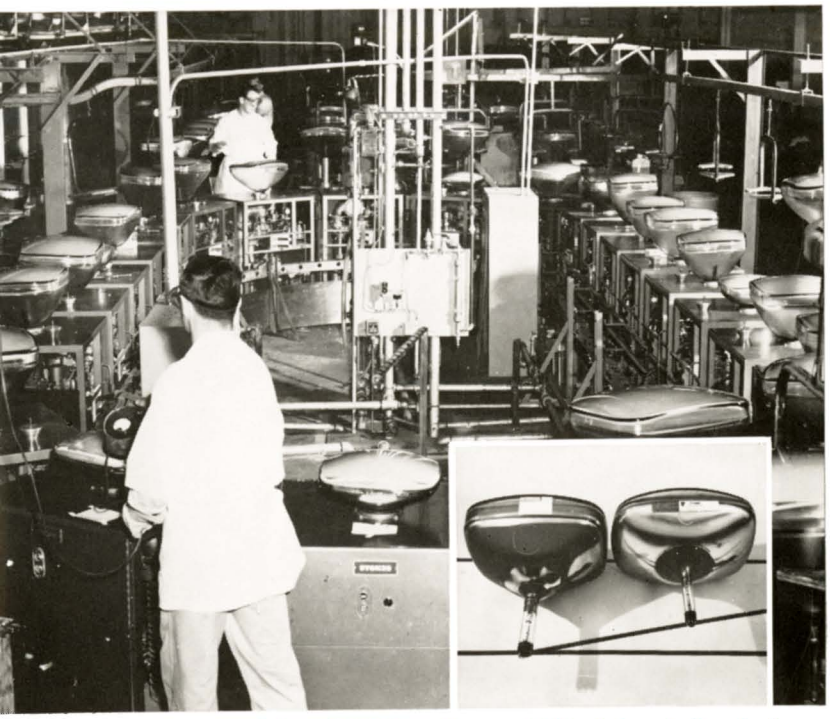
In the consoles and table models, "Magic Touch" and "Magic Power" tuning make possible the selection of channels with the flick of a finger. These sets also retain Sylvania's exclusive "Halo-Light" and "Cabinet of Light" concept, which surround the picture with a soft frame of light, thus providing greater viewing comfort. The high performance of these sets makes them especially effective in the fringe areas of TV station coverage.

### *The All-Transistor "Thunderbird"*

The unusual design of Sylvania's new all-transistor portable, the "Thunderbird", makes large-radio performance possible, and eliminates the traditional rectangular design of portables. When not being carried, the set can be opened to reveal clearly the plastic-covered chassis section and to permit maximum performance of the four-inch speaker, largest in transistor radios. The radio line also includes several clock and table models, and conventional portables.

Two portable hi-fi phonographs and three console models with four speeds were introduced, in line with the steady growth in this field.

*17-in. portables, the first such TV sets with 110° picture tube, rolling off assembly line at Batavia, N.Y. plant.*



*(above) "Silver Screen 85" picture tubes being aluminized. Inset compares shorter 110° tube with previous model. (upper right) Sylvania has produced far more than a billion receiving tubes. Process shown is step in joining tube stem to bulb. (lower right) New tube types developed for auto radios.*

## RECEIVING TUBES

Maintaining its position as one of the two major producers of receiving tubes, Sylvania introduced nearly 200 new types last year, adding to the hundreds used throughout the entertainment, commercial, and military electronics fields.

Varying widely in design and performance characteristics to meet an almost infinite variety of applications, the Company's many lines of tubes are noted for their high quality and dependability.

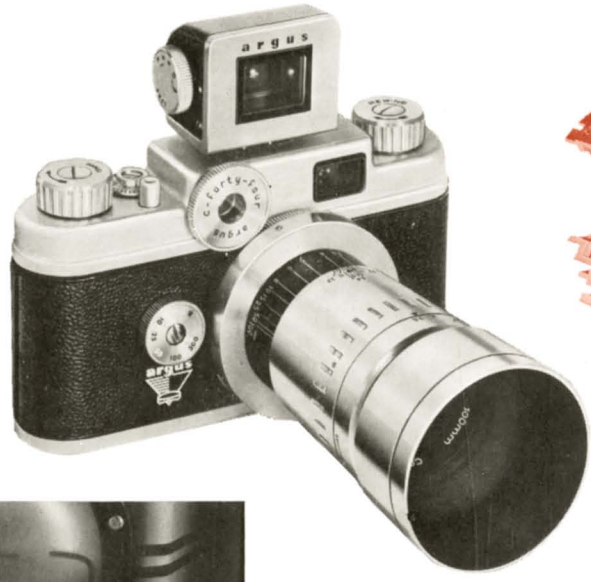
Among the new developments were premium-performance and ceramic stacked tubes for guided missiles, incorporating the most advanced designs in tube structure. Other types were introduced for TV sets using Sylvania's new 110° picture tube, and for so-called "hybrid" auto radios using tubes and transistors. A "series-string" of tubes was developed for new types of TV sets, to reduce complexity of construction and to improve performance.

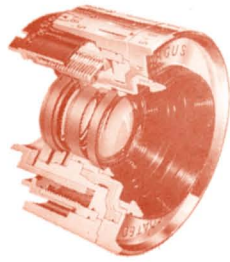
## TV PICTURE TUBES

One of the most highly mechanized phases of the Company's operations is our TV picture tube production, totaling millions of units a year, making Sylvania one of the two principal producers. These tubes are used in sets produced by Sylvania and other manufacturers, and also occupy a leading position in the renewal market.

By far the major portion of this production consists of the "Silver Screen 85" aluminized tubes, which provide twice the brightness of non-aluminized tubes, greater picture contrast, improved clarity, and more uniform screen color. A mirror-like aluminum film is applied on the inner surface of the silver-activated picture tube screen. This coating acts as a light reflector, and that part of the light which formerly dissipated itself in the tube's funnel portion is now directed toward the viewer, producing markedly increased picture quality. Included in the "Silver Screen 85" line is the new lightweight and compact 110° tube.

Developmental work continues on various new types of color tubes, together with limited output of existing production models.



*The Argus C-44 35mm camera with variable power view finder. At right, cutaway of 4-element lens.*

(above) *High product quality assured through exacting tests.* (below) *This diamond-grinding process shapes lenses from raw optical glass.*

## ARGUS CAMERAS

From a small manufacturer of radios, Argus has grown to become the leading manufacturer of 35mm cameras and color-slide projection equipment. Other principal products include reflex-type cameras, auxiliary lenses, exposure meters, viewers, camera accessories, and projector accessories. Although Argus recently celebrated its 25th anniversary, several years were devoted exclusively to military projects, and the Company has actually been in the camera business only for 16 years. The greatest growth has been since 1950, when commercial product sales were about $5.3 million, in contrast to nearly $21 million in the calendar year 1956.

Several major new products were introduced during the past year. The new Argus C-44 is the only American-made 35mm camera with a bayonet lens mount which provides a simple interchangeable lens system and is within the price reach of amateur photographers. A new four-element lens, designed especially for this camera with the full use of the latest techniques in high-speed electronic computation, utilizes high-index rare-earth glass and provides excellent optical quality. This new camera has been enthusiastically received.

The new line of 300-watt projectors has strong sales appeal because of the variety of models in different price brackets. The success of these projectors indicates the steady growth in popularity of color slide-film photography.

Additional new products are in the planning stage.

The dollar volume of industry-wide camera and projector sales has doubled in the past decade, and the Division's plans are aimed at taking full advantage of this trend.

*Processing high-purity chemicals used for many electronics applications. Inset, testing of germanium for semiconductor devices.*

*Some of the many hundreds of different parts produced for a wide variety of industries. Nearly two-thirds of output goes outside Sylvania.*

## TUNGSTEN AND CHEMICAL PRODUCTS

In step with the rapid growth of the semiconductor business, volume in germanium was very high, with more and more customers requiring large production quantities. This Division also attained production quantities of pure silicon, another semiconductor material, thus making Sylvania the only source in this country producing both germanium and silicon on a large commercial scale.

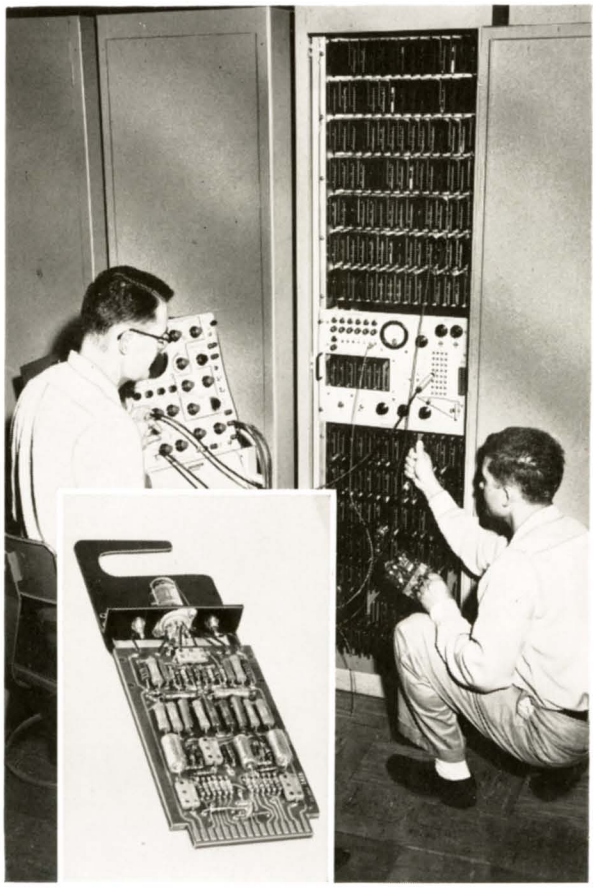
Sylvania is one of the largest producers of phosphors for fluorescent lamps and television picture tubes, and sales of this product were at a strong level. Shipments of molybdenum and tungsten pellets reflected the growing importance of these materials in high-temperature alloys. Tungsten products, especially metal powder, were in heavy demand, and sales of alloy and plated wires were excellent.

## METALLIC AND PLASTIC PARTS

Paced by sales to fields outside electronics, the Company's business in millions of wire, weld, metal and plastic parts recorded a large gain over the preceding year. As described on P. 9, capacity was greatly expanded by the addition of two facilities to meet growing demands. Starting solely as a supplier to Sylvania, this Division now places more than 60% of its expanding volume with other companies. These products include parts for TV tubes and electric lamps, radio cabinets, clock cases, camera parts, special wires, and hundreds of other items.

A single company's requirements for quality-controlled plastic products, electronic parts, wire and ribbon products, and metal stampings can be supplied by this one Division, thus materially easing the problems of design engineers and purchasing agents in many industries, who would normally depend on several different suppliers.

(above) *Sylvania developed the electronic passive defense system for B-58, first supersonic bomber of U.S.A.F.* (below) *Special-purpose computing system. Inset, plug-in unit for system.*



## ELECTRONIC SYSTEMS

Sylvania's highly advanced work for National Defense is symbolized by the invisible shield of electronics it has created as the passive defense system for the U. S. Air Force's first supersonic jet bomber, the Convair B-58 Hustler. This airborne defense system stands ready to baffle enemy radar which would guide missiles against the delta-wing bomber.

Under a Navy-sponsored project based on extensive research by the University of Pennsylvania's Moore School of Electrical Engineering, the Company is developing UDOFT – Universal Digital Operational Flight Trainer – a flexible new type of ground trainer whose electronic brain will simulate supersonic flight and combat conditions for many types of aircraft. Even before he makes his first jet flight, a pilot will be able to get the actual "feel" of a plane's performance beyond the sound barrier.

The Division has made many other important contributions in the fields of avionics, guided missiles, countermeasures, counter-countermeasures, communications, radar, computers, and control systems. In the commercial and industrial field, data processing systems, as typified by communication, computer, and related equipment, are receiving strong attention.

## SEMICONDUCTOR DEVICES

The transistor business is going through a period of tremendous growth. Industry-wide production of these tiny devices, which switch and amplify electrical impulses in many types of electronic products, reached 13 million units last

*Semiconductor business, typified by these power transistors, is in period of rapid growth.*

year, and will probably double in 1957. Sylvania's production and sales in 1956 were substantially ahead of the preceding year's total, and it is estimated that 1957 will show further increases.

The strength of the Company's position in transistors stems from its research, development and production of crystal diodes, of which Sylvania has been a major producer for years with a total production to date of more than 30 million units.

Sylvania transistors are currently used in portable radios, computers, auto radios, many industrial applications, including control equipment, and various military applications. It is believed that applications which cannot now be foreseen will require from one-third to one-half of the industry's total volume by 1960.

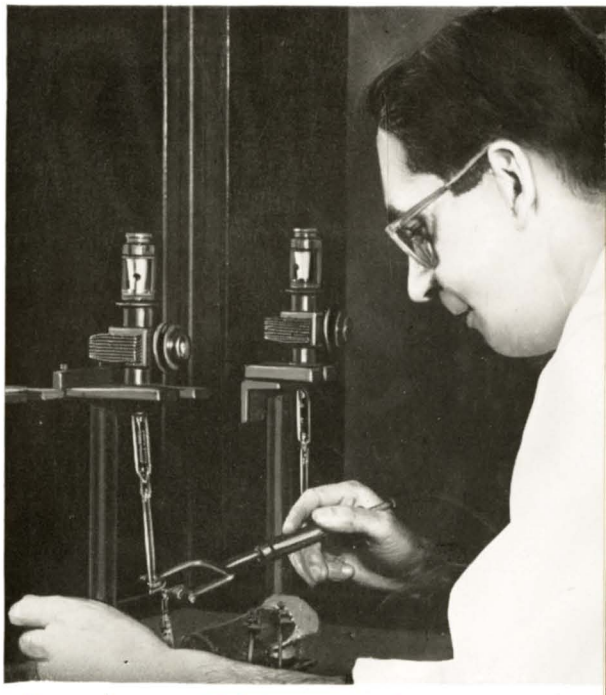
## ATOMIC ENERGY

With the formation of the Sylvania-Corning Nuclear Corp., and the construction of the Atomic Center, the foundation will be laid for great future growth in the atomic energy field. It is estimated that more than $300 million will be spent by private industry on atomic power research and development in the next three or four years. This, together with the fact that there are now more than 200 atomic reactor projects, indicates the broadening scope of this new field.

Sylvania made considerable progress last year in attacking the over-riding problem of the atomic power industry – the need for fuels capable of operating at the extreme temperatures generated by reactors, or atomic "furnaces", as well as being relatively inexpensive to fabricate and to reprocess. Other areas of our work include a wide range of components and materials for reactors.

## SPECIAL TUBES

In the special-purpose tube field, Sylvania is a major producer of traveling-wave tubes, klystrons, magnetrons, and other microwave devices for military and industrial purposes, together with many commercial tubes. The newest device is a backward-wave magnetron which has the power-producing capability of the magnetron used in radar, combined with the ability to tune extremely rapidly by electronic instead of mechanical means across a wide frequency range. This tube is particularly useful in electronic defense applications. Another versatile device is the traveling-wave tube, which can carry hundreds of electrical impulses simultaneously and is an essential part of military aircraft electronic systems and equipment.



(left) *Atomic fuel elements are being processed by semi-automatic equipment.* (right) *Among the special tubes for military applications are magnetrons, produced at the Woburn, Mass., plant.*


AT YEAR END, the number of share owners of Sylvania's preferred and common stock totaled 32,124, a new record of about 20% greater than our total employment. The holdings of common stock are extremely widespread, the average holding being 106 shares without giving consideration to the many share owners whose stock is held by nominees. This number further increased on January 2, 1957, with the addition of more than 2,000 former Argus share owners.

### *Renegotiation of Government Sales*

About $70 million or 22% of 1956 sales are related to defense projects subject to renegotiation. This is about 6% below 1955. The formal renegotiation proceedings for 1955 and 1956 have not been concluded, but your management is of the opinion that the net profit realized on such sales is reasonable and that no refund will be required.

### *Depreciation Policy*

The electrical-electronics industry is characterized by extremely rapid technological change, not only in product designs but also in production facilities. To assure that the Company's plants and equipment reflect this situation, your management follows a conservative depreciation policy. During 1956 $9,467,350 of depreciation expense was taken against current year's income, representing 9% of depreciable assets. Amortization of facilities covered by necessity certificates issued by the government under the National Defense program exceeded normal depreciation by $1,791,158.

Because the total depreciation reserve at year-end 1956 is believed to provide a sufficiently conservative position, the more rapid depreciation of facilities acquired after December 31, 1953, as permitted under the Revenue Code, amounting to $1,442,000, is reflected only in the Company's Federal Income Tax return.

FRANK A. POOR
1879-1956

*Frank A. Poor, Founder and Vice Chairman of Sylvania, died June 17. He was 76 years old.*

*A pioneer whose career spanned more than half a century in the electrical industry, Mr. Poor formed Sylvania's first predecessor company in Middleton, Mass., in 1901, to produce light bulbs.*

*When Mr. Poor formed Hygrade Incandescent Lamp Co. in 1909, his brother, Edward J. Poor, was made President, and Frank Poor became General Manager and Treasurer, the only offices he would hold. Later they were joined by a third brother, Walter E. Poor, in charge of engineering and production.*

*Under Frank Poor's leadership, Hygrade grew to become a leading producer of electric lamps, and also entered the radio tube field. In 1931, Hygrade merged with Nilco Lamp Works, Inc. and Sylvania Products Co., both of Pennsylvania, forming the nucleus of Sylvania as it is today.*

*Frank Poor became Treasurer of the new company, then Chairman of the Finance Committee of the Board of Directors, and subsequently Vice Chairman of the Board, the post he held at his death. Edward J. Poor, now a director of Sylvania, retired as Board Chairman in 1943. Walter Poor was President from 1943 to 1946, and Chairman from 1946 until his death in 1950.*


***NEW CONCEPT IN AUTOMATION:** Providing information needed for faster, more effective action by all management levels, Data Processing System links Company's nationwide operations (see back cover).* **(left)** *Information reaches Data Processing Center, Camillus, N.Y., via 20,000-mile network.* **(center)** *Magnetic tapes feed data to Univac for computation and summarizing.* **(right)** *Intricate controls assure coordination.*

### *Three-Year Term Loans*

On January 31, 1957, the Company obtained three-year term loans totaling $20 million from a series of banks, and the proceeds were used to pay off short-term indebtedness.

### *Personnel*

WILLIAM WHITE, President and a Director of the Delaware & Hudson Co. and of the Delaware & Hudson Railroad Corp., was elected a Director on April 26, 1956.

DR. BENNETT S. ELLEFSON and MARION E. PETTEGREW were elected Vice Presidents of the Company. Dr. Ellefson is Vice President—Engineering and Research. Mr. Pettegrew is Vice President—Operations, with responsibility for Radio-Television, Tungsten-Chemical, and Parts operations.

In January, 1957, ROBERT E. LEWIS was elected a Vice President. Mr. Lewis is President of the Argus Cameras Division.

### *Executive Stock Option Plan*

Forty-three officers and key executives are participants in the Executive Stock Option Plan, the purpose of which is to encourage key employees to acquire a larger proprietary interest in Sylvania and to furnish them additional incentive.

At January 1, 1956, 92,452 shares of common stock were under option at prices ranging from $28.18 to $45.75 per share. During 1956, additional stock options were granted to the extent of 56,260 shares at $51.25 per share. This price was not less than 95% of the market value of the stock on the date the options were granted. During the year, options previously granted were exercised in the extent of 9,350 shares at an average price of $30.65 per share, and options totaling 2,821 shares expired, leaving options outstanding at year end of 136,541 shares, at prices ranging from $28.18 to $51.25, of which 20,163 shares were exercisable at December 31, 1956. At the beginning and close of 1956, 54,228 and 95,814 shares, respectively, were available for additional options. The latter figure includes the shares available after combination with Argus.

In January, 1957, in connection with the combination of Argus Cameras, Inc., with the Company as the Argus Cameras Division, Sylvania assumed the liability which Argus had under its outstanding stock options held by seven key executive employees who have become employees of Sylvania. These options, which cover 1,598 shares of Sylvania common stock at prices ranging from $12.34 to $28.21, are in addition to and not a part of the Executive Stock Option Plan mentioned above. None of these options were exercisable at December 31, 1956.

### *New Organizations Formed*

Reflecting our expanding activities in the development and production of transistors and diodes, the Semiconductor Division was established in January, 1957. Concurrently, the Special Tube Operations were formed because of the Company's growing volume in special-purpose electron tubes for military and commercial applications. Both activities formerly comprised the Electronics Division.


*Employee earnings set new records*

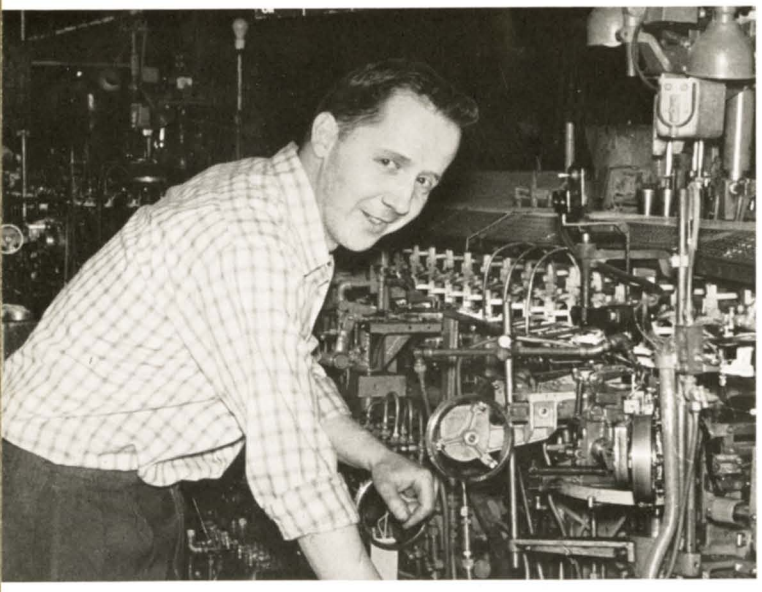
## EMPLOYEE RELATIONS

The Company's nearly 27,000 employees earned a total of more than $122,000,000 in wages and salaries. This amount was greater than Sylvania's total sales only seven years ago.

In accordance with a schedule of wage and salary increases announced in August, 1955, an increase approximating 3% was granted September 3 last year to all employees except officers. A similar increase is scheduled for September 1, 1957.

Two separate cost-of-living adjustments were granted to all employees, effective July 30 and October 29, 1956, totaling 3 cents per hour for hourly employees and $6 per month for salary employees except officers.

Membership in the Savings and Retirement Plan, one of the foremost in industry, increased during the year to more than 18,300 or 99% of those eligible to join. The Company's contributions last year amounted to $3,325,607, and members contributed $2,475,269. Payments under the Plan in 1956 to those members who left the Company for all reasons, as well as to beneficiaries and pensioners, amounted to $1,610,890, leaving $33,625,566 in assets of the Savings and Retirement Fund on December 31, 1956.



***Year's highest suggestion award, $1,000 for a process improvement, was won by Paul Cormier, a group leader at Loring Ave. plant, Salem, Mass.***

## PUBLIC RELATIONS

To assure the greatest possible mutual understanding and respect between the Company and the millions of persons who comprise its various publics, the entire organization views as one of its basic responsibilities the maintaining of effective communication with investors, employees, customers, plant communities, education, government, and industry.

This responsibility is viewed as especially important in the electrical-electronics industry, whose activities strongly influence virtually every phase of every-day life. During 1956, our communications programs included announcement conferences at which new research and product developments were described to principal cross-sections of the public, institutional advertising and information programs, plant tours and ceremonies, and related activities.

For the sixth consecutive year, a committee of prominent persons conferred the Sylvania Television Awards on individuals and organizations who made outstanding contributions to advancing the quality of TV programming.

## LEGAL

In January, 1956, three antitrust actions were filed against the Company and various other members of the incandescent lamp industry. The plaintiffs, Solar Electric Corporation, Dura Electric Company, and Quality Vacuum Products Corporation, alleged violations of the antitrust laws in the incandescent lamp field and claimed treble damages in large amounts against all defendants in all three cases.

The Quality Vacuum Products case has been settled for a small amount, and the Dura Electric case was dismissed recently by the U. S. District Court for New Jersey, where the suit was originally brought. An appeal is now pending. In the opinion of counsel for the Company, Sylvania has substantial defense in the Solar action.

## SIMPLIFIED PROFIT AND LOSS STATEMENT

**(These figures do not reflect the combination of Argus Cameras, Inc. with Sylvania)**

### SYLVANIA RECEIVED

| | | |
|---|---|---|
| From sale of products and services | $311,021,046 | 100% |

### IT COST SYLVANIA

| | | |
|---|---|---|
| For materials, manufacturing, selling and administrative expenses | $137,863,683 | |
| For new machinery as old wears out | 9,467,350 | |
| For taxes (exclusive of social security taxes) | 14,584,984 | |
| For interest on debentures and loans | 1,971,123 | |
| For wages, salaries and non-wage labor costs | 133,427,717 | |
| These items total | $297,314,857 | 95.5% |
| Leaving as Net Income | $ 13,706,189 | 4.5% |

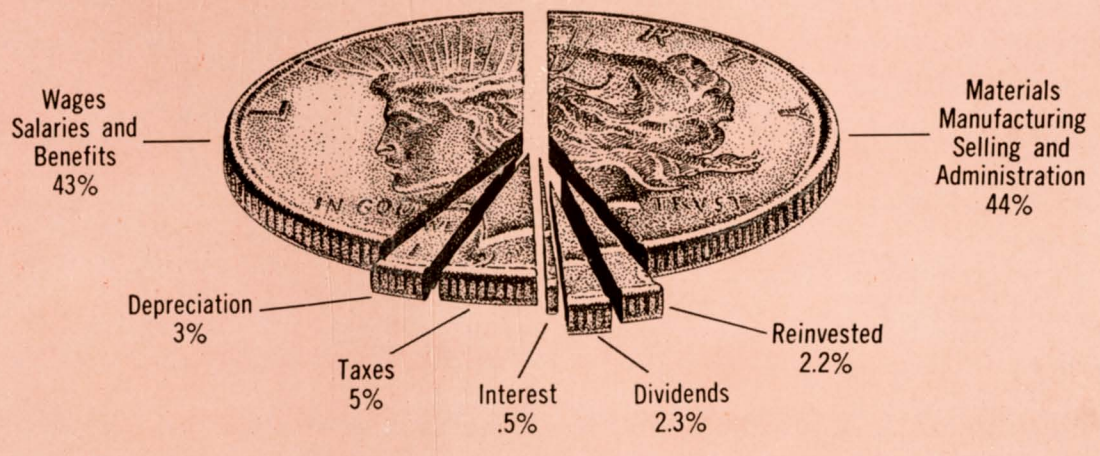
### SYLVANIA DISTRIBUTED

| | | |
|---|---|---|
| To stockholders as dividends | $ 6,972,927 | 2.3% |

### THERE REMAINED

| | | |
|---|---|---|
| To be reinvested in the business | $ 6,733,262 | 2.2% |

### THE SYLVANIA SALES DOLLAR AND HOW IT WAS DISTRIBUTED



## TWENTY-FIVE YEAR REVIEW

| Year | Net Sales | Net Income | COMMON STOCK Earnings Per Share* | Dividends Paid Per Share* | Federal Income Taxes Per Share* | Common Dividends Paid | Preferred Dividends Paid | Total Amount Preferred & Common Dividends | % of Net Income Distributed | Reinvested in Business |
|---|---|---|---|---|---|---|---|---|---|---|
| 1932 | $ 5,777,332 | $ 851,528 | $1.83 | $1.00 | $ .00 | $ 385,368 | $145,777 | $ 531,145 | 62.4 | $320,383 |
| 1933 | 7,080,487 | 655,073 | 1.33 | 1.00 | .11 | 385,368 | 140,881 | 526,249 | 80.3 | 128,824 |
| 1934 | 7,949,648 | 874,417 | 1.90 | 1.00 | .32 | 385,368 | 140,855 | 526,223 | 60.2 | 348,194 |
| 1935 | 7,913,989 | 776,851 | 1.66 | 1.00 | .31 | 385,368 | 138,549 | 523,917 | 67.4 | 252,934 |
| 1936 | 10,234,322 | 1,034,737 | 2.25 | 1.50 | .66 | 604,319 | 136,917 | 741,236 | 71.6 | 293,501 |
| 1937 | 9,417,035 | 868,064 | 1.79 | 1.50 | .52 | 614,052 | 135,723 | 749,775 | 86.4 | 118,289 |
| 1938 | 7,957,066 | 438,691 | .74 | .375 | .26 | 153,513 | 135,720 | 289,233 | 65.9 | 149,458 |
| 1939 | 11,022,424 | 856,807 | 1.76 | 1.00 | .65 | 409,368 | 135,720 | 545,088 | 63.6 | 311,719 |
| 1940 | 14,358,809 | 880,625 | 1.80 | 1.25 | 1.03 | 517,960 | 136,025 | 653,985 | 74.3 | 226,640 |
| 1941 | 20,561,246 | 1,067,186 | 1.78 | 1.25 | 2.60 | 549,210 | 152,739 | 701,949 | 65.8 | 365,237 |
| 1942 | 32,338,870 | 1,057,760 | 1.76 | 1.25 | 4.97 | 642,960 | 150,755 | 793,715 | 75.0 | 264,045 |
| 1943 | 60,473,821 | 1,567,936 | 1.79 | 1.25 | 6.47 | 984,527 | 73,543 | 1,058,070 | 67.5 | 509,866 |
| 1944 | 100,398,043 | 2,053,235 | 2.04 | 1.25 | 7.26 | 1,218,618 | — | 1,218,618 | 59.4 | 834,617 |
| 1945 | 125,750,512 | 2,136,279 | 2.05 | 1.25 | 6.22 | 1,256,250 | 76,000 | 1,332,250 | 62.4 | 804,029 |
| 1946 | 69,313,127 | 2,384,017 | 1.97 | 1.25 | (1.02) (cr.) | 1,257,025 | 399,396 | 1,656,421 | 69.5 | 727,596 |
| 1947 | 95,715,638 | 2,507,075 | 2.10 | 1.40 | .34 | 1,409,170 | 397,414 | 1,806,584 | 72.0 | 700,491 |
| 1948 | 99,347,751 | 3,823,382 | 2.84 | 1.40 | 1.96 | 1,549,170 | 395,474 | 1,944,644 | 50.9 | 1,878,738 |
| 1949 | 102,539,866 | 3,052,840 | 1.82 | 1.40 | 1.36 | 1,951,670 | 394,004 | 2,345,674 | 76.8 | 707,166 |
| 1950 | 162,514,814 | 8,221,185 | 5.37 | 2.00 | 7.55 | 2,913,100 | 392,280 | 3,305,380 | 40.2 | 4,915,805 |
| 1951 | 202,806,387 | 8,253,973 | 4.18 | 2.00 | 9.64 | 3,513,100 | 475,868 | 3,988,968 | 48.3 | 4,265,005 |
| 1952 | 235,023,437 | 6,960,625 | 3.04 | 2.00 | 5.72 | 3,736,012 | 1,265,328 | 5,001,340 | 71.9 | 1,959,285 |
| 1953 | 293,267,408 | 9,536,181 | 3.10 | 2.00† | 5.60 | 4,851,162† | 1,253,765 | 6,104,927 | 64.0 | 3,431,254 |
| 1954 | 281,641,987 | 9,480,941 | 2.92 | 2.00 | 3.14 | 5,417,200 | 1,202,780 | 6,619,980 | 69.8 | 2,860,961 |
| 1955 | 307,371,315 | 13,812,970 | 4.29 | 2.00 | 4.66 | 5,938,244 | 835,995 | 6,774,239 | 49.0 | 7,038,731 |
| Sylvania without Argus 1956 | 311,021,046 | 13,706,189 | 4.03 | 2.00 | 3.69 | 6,592,210 | 380,717 | 6,972,927 | 50.9 | 6,733,262 |
| Sylvania combined with Argus | 332,344,159 | 14,835,389 | 4.10** | 2.00** | 3.73** | 7,040,050 | 393,217 | 7,433,267 | 50.1 | 7,402,122 |

**Adjusted to reflect the combination of Argus Cameras, Inc., with Sylvania, Jan. 2, 1957.

*Earnings Per Share, Dividends Paid Per Share and Federal Income Taxes Per Share are adjusted for the two-for-one stock split in September, 1941. Otherwise amounts per share are based upon shares outstanding at the end of each year.

†In addition to a cash dividend of $2.00 per share a 10% stock dividend was issued.

NOTE: In 1931 Sylvania Products Company, Emporium, Pa., and Nilco Lamp Works, St. Marys, Pa., merged with Hygrade Lamp Company of Salem, Mass., and the name was changed to Hygrade Sylvania Corporation. In 1942 the name was further changed to Sylvania Electric Products Inc.

# STATEMENTS OF INCOME AND EARNINGS RETAINED FOR USE IN THE BUSINESS

FOR THE YEAR ENDED DECEMBER 31, 1956

## INCOME

| | | |
|---|---|---|
| Net sales | | $332,344,159 |
| Cost of goods sold | $240,029,613 | |
| Selling, general and administrative expenses | 46,960,778 | |
| Depreciation | 9,740,397 | |
| Taxes, other than federal taxes on income | 6,702,866 | 303,433,654 |
| Operating income | | 28,910,505 |
| Other income less other deductions | | 1,058,605 |
| | | 29,969,110 |
| Interest on long-term and other debt | | 1,989,721 |
| Income before federal taxes on income | | 27,979,389 |
| Provision for federal taxes on income | | 13,144,000 |
| Net income for the year | | $ 14,835,389 |

## EARNINGS RETAINED FOR USE IN THE BUSINESS

| | | |
|---|---|---|
| Balance, January 1, 1956 | | $ 31,076,051 |
| Net income for the year | | 14,835,389 |
| | | 45,911,440 |
| Deduct: | | |
| Cash dividends on: | | |
| $4 preferred stock | $ 380,717 | |
| 5% preferred stock (redeemed October 31, 1956) | 12,500 | |
| Common stock, $2 per share | 7,040,050 | |
| Excess of redemption price over par or stated value of preferred stocks redeemed | 6,634 | 7,439,901 |
| Balance, December 31, 1956 | | $ 38,471,539 |

# STATEMENT OF ADDITIONAL PAID-IN CAPITAL

FOR THE YEAR ENDED DECEMBER 31, 1956

| | |
|---|---|
| Balance, January 1, 1956 | $ 50,440,839 |
| Excess of: | |
| Stated value of 85,896 shares of $4.40 preferred stock converted into common stock over par value of common stock issued | 6,364,870 |
| Stated value of 469 shares of $4 preferred stock acquired for sinking fund over cost of such shares | 2,894 |
| Option price of 13,079 shares of common stock issued under executive stock option plans over par value of such shares | 236,690 |
| Market value of 8,453 shares of common stock issued under Executive Compensation Plan over par value of such shares | 293,742 |
| Balance, December 31, 1956 | $ 57,339,035 |

The notes on page 31 are an integral part of these statements.

# *Balance Sheet,*

## ASSETS

| | | |
|---|---|---|
| **Current:** | | |
| Cash | | $ 12,046,603 |
| United States Treasury obligations | | 195,875 |
| Accounts and notes receivable, less allowances for doubtful items and cash discounts (including accounts receivable from United States Government, $10,064,350) | | 62,930,808 |
| Inventories, at the lower of cost or market: | | |
| Finished goods | $ 49,930,463 | |
| Raw materials, goods in process and supplies | 25,266,715 | 75,197,178 |
| Prepaid insurance and other expenses | | 2,002,859 |
| **Total Current Assets** | | 152,373,323 |
| **Miscellaneous investments and other assets, at cost or less** | | 6,038,158 |
| **Land, buildings, machinery and equipment, at cost** | 119,171,302 | |
| Less, Allowances for depreciation and amortization | 44,211,922 | 74,959,380 |
| **Deferred charges** | | 1,211,252 |
| | | $234,582,113 |

The notes on page 31 are an integral part of this statement.

# SYLVANIA

## *December 31, 1956*

### LIABILITIES

| | | |
|---|---|---|
| **Current:** | | |
| Accounts payable | | $ 13,866,158 |
| Accrued payrolls, taxes and other expenses | | 15,321,282 |
| Federal taxes on income | | 15,469,473 |
| Portion of long-term debt due within one year | | 1,360,825 |
| **Total Current Liabilities** | | 46,017,738 |
| **Long-term debt** less portion included in current liabilities: | | |
| Notes payable to banks | $ 19,000,000 | |
| 3¾% sinking fund debentures due November 1, 1971 | 20,543,965 | |
| 4% sinking fund debentures due February 1, 1978 | 17,000,000 | |
| 5% mortgage loan, due in monthly installments to 1960 | 167,688 | 56,711,653 |

### STOCKHOLDERS' EQUITY

| | | |
|---|---|---|
| **Preferred Stock:** | | |
| $4 cumulative preferred stock, without par value, authorized 95,581 shares; outstanding 95,112 shares | 9,677,646 | |
| **Common stock,** par value $7.50 per share, authorized 4,000,000 shares; outstanding 3,515,267 shares | 26,364,502 | |
| **Additional paid-in capital** | 57,339,035 | |
| **Earnings retained for use in the business** | 38,471,539 | |
| **Total Stockholders' Equity** | | 131,852,722 |
| | | $234,582,113 |

The notes on page 31 are an integral part of this statement.

# *Balance Sheets, December*

## ASSETS

| | 1956 | 1955 |
|---|---|---|
| **Current:** | | |
| Cash | **$ 10,404,694** | $ 11,997,844 |
| United States Treasury short-term obligations | | 5,964,725 |
| Accounts and notes receivable, less allowances for doubtful items and cash discounts (including accounts receivable, United States Government: 1956, $10,002,867; 1955, $9,709,027) | **59,891,819** | 57,285,641 |
| Inventories, at the lower of cost or market: | | |
| Finished goods — 1956: **$49,114,411**; 1955: $35,166,919 | | |
| Raw materials, goods in process and supplies — 1956: **23,541,752**; 1955: 21,592,732 | **72,656,163** | 56,759,651 |
| Prepaid insurance and other expenses | **1,933,281** | 1,908,579 |
| **Total Current Assets** | **144,885,957** | 133,916,440 |
| **Miscellaneous investments and other assets, at cost or less** | **5,824,851** | 4,054,337 |
| **Land, buildings, machinery and equipment, at cost:** | | |
| 1956, $115,626,818; 1955, $100,777,445; less allowances for depreciation and amortization: 1956, $42,686,353; 1955, $36,362,160 | **72,940,465** | 64,415,285 |
| **Deferred charges** | **677,483** | 777,597 |
| | **$224,328,756** | $203,163,659 |

The notes on page 31 are an integral part of these statements.

# SYLVANIA

## *31, 1956 and 1955*

### LIABILITIES

| | 1956 | 1955 |
|---|---|---|
| **Current:** | | |
| Accounts payable | **$ 12,945,984** | $ 13,165,842 |
| Accrued payrolls, taxes and other expenses | **14,811,960** | 14,803,585 |
| Federal taxes on income | **13,812,056** | 16,562,016 |
| Portion of long-term debt due within one year | **1,307,035** | 2,160,491 |
| **Total Current Liabilities** | **$ 42,877,035** | $ 46,691,934 |
| **Long-term debt** less portion included in current liabilities: | | |
| Notes payable to banks | **$ 19,000,000** | |
| 3¾% sinking fund debentures due November 1, 1971 | **20,543,965** | $ 21,850,509 |
| 4% sinking fund debentures due February 1, 1978 | **17,000,000** | 17,000,000 |
| | **$ 56,543,965** | $ 38,850,509 |

### STOCKHOLDERS' EQUITY

| | | |
|---|---|---|
| **Preferred stocks:** | | |
| $4 cumulative preferred without par value, authorized: 1956, 95,581 shares; 1955, 96,051 shares; outstanding: 1956, 95,112 shares; 1955, 95,581 shares | **$ 9,677,646** | $ 9,725,367 |
| $4.40 cumulative preferred without par value | | 8,370,359 |
| **Common stock,** par value $7.50 per share; authorized 4,000,000 shares; outstanding: 1956, 3,300,206 shares; 1955, 3,020,871 shares | **24,751,545** | 22,656,532 |
| **Additional paid-in capital** | **57,644,188** | 50,766,209 |
| **Earnings retained for use in the business** | **32,834,377** | 26,102,749 |
| **Total Stockholders' Equity** | **$124,907,756** | $117,621,216 |
| | **$224,328,756** | $203,163,659 |

The notes on page 31 are an integral part of these statements.

## STATEMENTS OF INCOME AND EARNINGS RETAINED FOR USE IN THE BUSINESS

YEARS ENDED DECEMBER 31, 1956 AND 1955

| INCOME | 1956 | 1955 |
|---|---|---|
| Net sales | $311,021,046 | $307,371,315 |
| Cost of goods sold | $225,346,590 | $225,534,455 |
| Selling, general and administrative expenses | 42,987,547 | 38,647,989 |
| Depreciation | 9,467,350 | 9,102,200 |
| Taxes, other than federal taxes on income | 6,396,973 | 5,282,908 |
| | $284,198,460 | $278,567,552 |
| Operating income | $ 26,822,586 | $ 28,803,763 |
| Other income less other deductions | 1,054,726 | 854,493 |
| | 27,877,312 | 29,658,256 |
| Interest on long-term and other debt | 1,971,123 | 1,745,286 |
| Income before federal taxes on income | 25,906,189 | 27,912,970 |
| Provision for federal taxes on income | 12,200,000 | 14,100,000 |
| Net income for the year | $ 13,706,189 | $ 13,812,970 |

### EARNINGS RETAINED FOR USE IN THE BUSINESS

| | | |
|---|---|---|
| Balance, January 1 | $ 26,102,749 | $ 19,064,018 |
| Net income for the year | 13,706,189 | 13,812,970 |
| | $ 39,808,938 | $ 32,876,988 |
| Deduct: | | |
| Cash dividends on: | | |
| $4 preferred stock | $ 380,717 | $ 383,264 |
| $4.40 preferred stock | | 452,731 |
| Common stock, $2 per share | 6,592,210 | 5,938,244 |
| Excess of redemption price over stated value of $4.40 preferred stock redeemed | 1,634 | |
| | $ 6,974,561 | $ 6,774,239 |
| Balance, December 31 | $ 32,834,377 | $ 26,102,749 |

## STATEMENTS OF ADDITIONAL PAID-IN CAPITAL

YEARS ENDED DECEMBER 31, 1956 AND 1955

| | 1956 | 1955 |
|---|---|---|
| Balance, January 1 | $ 50,766,209 | $ 46,022,739 |
| Excess of: | | |
| Stated value of 85,896 shares (1956) and 61,969 shares (1955) of $4.40 preferred stock converted into common stock over par value of common stock issued | 6,364,870 | 4,596,851 |
| Stated value of 469 shares (1956) and 470 shares (1955) of $4 preferred stock acquired for sinking fund over cost of such shares | 2,894 | 2,702 |
| Option price of 9,350 shares (1956) and 2,375 shares (1955) of common stock issued under Executive Stock Option Plan over par value of such shares | 216,473 | 55,736 |
| Market value of 8,453 shares (1956) and 2,283 shares (1955) of common stock issued under Executive Compensation Plan over par value of such shares | 293,742 | 88,181 |
| Balance, December 31 | $ 57,644,188 | $ 50,766,209 |

The notes on page 31 are an integral part of these statements.

## NOTES TO FINANCIAL STATEMENTS

(1) On January 2, 1957, under a Plan and Agreement dated September 19, 1956, the business of Sylvania Electric Products Inc. and that of Argus Cameras, Inc. and Subsidiaries were combined as a pooling of interests. Under the Agreement, there were distributed to stockholders of Argus one share of Sylvania common stock for each 2.1 shares of Argus stock held by them (an aggregate of 215,061 shares). The financial statements as of December 31, 1956 and for the year then ended (pages 25 through 27) reflect the combination of Sylvania Electric Products Inc. with Argus Cameras, Inc. and Subsidiaries. Financial statements for 1956 without combination with Argus Cameras, Inc. and Subsidiaries are also included in this report (pages 28 through 30) comparative with those for 1955.

(2) On January 31, 1957, notes payable to banks, due within one year and outstanding at December 31, 1956, in the aggregate amount of $19,000,000, were refinanced and the maturities thereof extended to January 31, 1960 with interest at 4½ per cent per annum.

The 3¾% sinking fund debentures due November 1, 1971 are payable $750,000 annually plus contingent payments (limited to $700,000 each year) equivalent to 15% of the excess of net income for the preceding year over 8% of net worth.

The 4% sinking fund debentures due February 1, 1978 are payable $750,000 annually 1959 through 1971 and $1,000,000 annually 1972 through 1977.

The indenture for the 4% sinking fund debentures provides that cash dividends paid from December 31, 1951 on the common stock of the Company are limited to net earnings since that date, as defined, and may not be paid unless after giving effect thereto, working capital amounts to more than one and one-half times funded debt, as defined. Lesser dividend restrictions are contained in the provisions of the notes payable to banks, the 3¾% sinking fund debentures and the $4 cumulative preferred stock. The amount of net earnings free of these restrictions at December 31, 1956 was approximately $15,400,000.

(3) The Company is contingently liable in the amount of $4,150,000 under guarantees of obligations of an unconsolidated subsidiary and in the approximate amount of $350,000 as guarantor of certain financing services for customers.

(4) Expenditures presently authorized for the acquisition of plant and property amount to approximately $19,000,000, of which it is estimated that approximately $16,000,000 will be expended within the year ending December 31, 1957.

(5) Sales during 1956 and 1955 in the approximate amounts of $70,000,000 and $76,500,000, respectively, are subject to renegotiation. It is believed that no excessive profits have been realized which would be required to be refunded. It is also believed that the effects of price redetermination clauses contained in government contracts are appropriately reflected in the financial statements.

(6) The $4 cumulative preferred stock is redeemable at (and is entitled in voluntary liquidation to) $106.50 per share plus accrued dividends, and upon involuntary liquidation is entitled to $100.00 per share plus accrued dividends.

All of the outstanding shares of the $4.40 cumulative preferred stock, of which 86,145 shares were outstanding at December 31, 1955, were called for redemption on February 29, 1956, at the redemption price of $103 per share plus accrued dividend. Pursuant to conversion rights, all but 249 of such shares were converted into common stock.

(7) Comments concerning stock option plan are contained on page 21.

## *Accountants' Report*

### LYBRAND, ROSS BROS. & MONTGOMERY

*To the Board of Directors,*

*SYLVANIA ELECTRIC PRODUCTS INC.:*

We have examined the balance sheets of SYLVANIA ELECTRIC PRODUCTS INC. (combined with Argus Cameras, Inc. and Subsidiaries, Note 1) as of December 31, 1956 and of SYLVANIA ELECTRIC PRODUCTS INC. (without combination with Argus Cameras, Inc. and Subsidiaries) as of December 31, 1956 and 1955 and the related statements of income, earnings retained for use in the business and additional paid-in capital for the years then ended. We were furnished with financial statements of Argus Cameras, Inc. and Subsidiaries for the year 1956 together with the report thereon of other public accountants. 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; since it is not the general practice of the United States Government to confirm accounts receivable, we employed other auditing procedures in respect of such receivables.

In our opinion, based upon our examination and upon the report of other accountants, the accompanying financial statements present fairly:

(A) the financial position of Sylvania Electric Products Inc. (combined with Argus Cameras, Inc. and Subsidiaries) at December 31, 1956 and the results of its operations for the year then ended (pages 25 through 27), and

(B) the financial position of Sylvania Electric Products Inc. (without combination with Argus Cameras, Inc. and Subsidiaries) at December 31, 1956 and 1955 and the results of its operations for the years then ended (pages 28 through 30),

in conformity with generally accepted accounting principles applied on a consistent basis.

New York, February 8, 1957.

Lybrand, Ross Bros. & Montgomery

## SALES OFFICES

ANN ARBOR, MICH., *405 Fourth St. (Argus Cameras)*

ATLANTA 10, GA., *2115 Sylvan Road, S. W.*

BALTIMORE, MD., *5301 Harford Road*

BOSTON, MASS. *(71 Loring Avenue, Salem, Mass.)*

BUFFALO 2, N.Y., *407 Jackson Avenue*

CHARLOTTE, N. C., *225 South Tryon Street*

CHICAGO, ILL. *(2001 North Cornell Avenue, Melrose Park, Ill.)*

CINCINNATI, OHIO, *411 Oak Street*

CLEVELAND 11, OHIO, *4848 West 130th Street*

DALLAS 2, TEXAS, *100 Fordyce Street*

DAYTON, OHIO, *209 Realty Building*

DENVER, COLO., *4700 East 48th Avenue*

DETROIT 38, MICH., *7800 Intervale*

KANSAS CITY 15, KANS., *450 Funston Road*

LOS ANGELES 54, CALIF., *6505 East Gayhart Street*

MILWAUKEE 3, WIS., *805 Wisconsin Tower Building*

MINEOLA, N.Y., *244 Mineola Boulevard*

MINNEAPOLIS, MINN., *711 West Lake Street*

NEW ORLEANS, LA., *8140 Forshey Street*

NEW YORK 19, N.Y., *1740 Broadway*

PHILADELPHIA 31, PA., *4700 Parkside Avenue*

PITTSBURGH 34, PA., *300 Mt. Lebanon Boulevard*

ROME, N.Y., *225 North Washington Street*

ST. LOUIS 9, MO., *5010 Kemper Avenue*

SAN FRANCISCO, CALIF. *(1811 Adrian Road, Burlingame, Calif.)*

SEATTLE 4, WASH., *3466 East Marginal Way*

TETERBORO, N. J., *1000 Huyler Street*

WASHINGTON, D. C. *(2520 Oakville Street, Alexandria, Va.)*

WOBURN, MASS., *100 Sylvan Road*

### INTERNATIONAL DIVISION

NEW YORK 19, N.Y., *1740 Broadway*

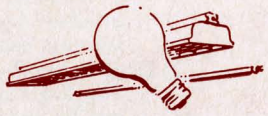
### SYLVANIA ELECTRIC (CANADA) LTD.

MONTREAL, P. Q., CANADA, *522 Shell Tower Building*

TORONTO 15, ONT., CANADA, *70 Clayson Road*

### GOVERNMENT RELATIONS

WASHINGTON 5, D. C., *734 15th Street, N.W.*



## LIGHTING DIVISION

HEADQUARTERS, DIVISION LABORATORY:
*60 Boston Street, Salem, Mass.*

PRODUCTS:
*Incandescent lamps; fluorescent lamps, fixtures, parts, starters, fluorescent sign tubing, including "HaloLight"; "Panelescent" lighting; photoflash, photoflood, enlarger, projection, darkroom, and studio lamps; concentrated arc, germicidial, and insect lamps; infra-red lamps, specialized transformers including wafer coils; tungsten coils; circuit breakers; mercury vapor, reflector, sun, and switchboard lamps; strobotrons; glow modulators; electronic flash tubes; RF lamps; airport Electronic Flash Approach Systems and runway lighting.*

PLANTS:
*Danvers, Mass.; Ipswich, Mass.; Montoursville, Pa.; St. Marys, Pa.; Salem, Mass.; Waldoboro, Me.; Wheeling, W. Va.; Winchester, Ky.*

## RADIO TUBE DIVISION

HEADQUARTERS, DIVISION LABORATORY:
*Emporium, Pa.*

PRODUCTS:
*Receiving tubes; subminiature tubes; special tubes for computers, and military and industrial applications.*

PLANTS:
*Altoona, Pa.; Brookville, Pa.; Burlington, Ia.; DuBois, Pa.; Emporium, Pa.; Houtzdale, Pa.; Huntington, W. Va.; Mill Hall, Pa.; Montoursville, Pa.; Shawnee, Okla.; Williamsport, Pa.*

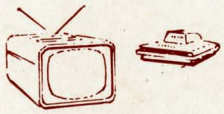
## TV PICTURE TUBE DIVISION

HEADQUARTERS, DIVISION LABORATORY:
*Seneca Falls, N.Y.*

PRODUCTS:
*Television picture tubes; oscilloscope tubes; special purpose cathode ray tubes; general purpose cathode ray tubes.*

PLANTS:
*Fullerton, Calif.; Ottawa, Ohio; Seneca Falls, N.Y.*

# *Plants, Laboratories, and Products*



## RADIO AND TELEVISION DIVISION

HEADQUARTERS, DIVISION LABORATORY:
*Batavia, N.Y.*

PRODUCTS:
*Television and radio receivers; high-fidelity phonographs.*

PLANT:
*Batavia, N.Y.*

## ELECTRONIC SYSTEMS DIVISION

HEADQUARTERS:
*100 First Avenue, Waltham, Mass.*

LABORATORIES:
*Buffalo, N.Y.; Mountain View, Calif. (Electronic Defense Laboratory, Microwave Physics Laboratory, Microwave Tube Laboratory); Waltham, Mass. (Applied Research Laboratory, Avionics Laboratory, Missile Systems Laboratory.)*

PRODUCTS:
*Military electronic systems and equipment, including electronic countermeasures, communications, missile, radar and data processing systems, and associated components; commercial and industrial electronic equipment; microwave tubes (traveling-wave tubes, klystrons.)*

PLANTS:
*Buffalo, N.Y.; Williamsport, Pa.*

## TUNGSTEN AND CHEMICAL DIVISION

HEADQUARTERS, DIVISION LABORATORY:
*Towanda, Pa.*

PRODUCTS:
*Tungsten metal powder, rod, wire, and fabricated parts; plated wire; germanium and silicon metal; lamp and television phosphors; lacquers; high-purity chemicals for radio and television; molybdenum metal powder, pellets, rod, wire, and fabricated parts.*

PLANTS:
*Towanda, Pa.; Troy, Pa.*

## ARGUS CAMERAS DIVISION

HEADQUARTERS, DIVISION LABORATORY:
*Ann Arbor, Mich.*

PRODUCTS:
*Cameras; slide projectors; viewers; lenses; exposure meters; photographic accessories.*

PLANTS:
*Ann Arbor, Mich.*

## PARTS DIVISION

HEADQUARTERS, DIVISION LABORATORY:
*12 Second Avenue, Warren, Pa.*

PRODUCTS:
*Molded receiving tube sockets and associated components; receiving and television tube bases and associated components; fluorescent lamp bases, holders, and starter sockets; custom-molded plastic products, including knobs, dials, closures, vials, radio cabinets, and specialty items; metal stampings; wire and ribbon forms; plated metal and carbonized metal strips; plated, clad, and alloy wires (cold drawn); wire leads for receiving tubes and lamps; fabricated bridge mica; tools, dies, and plastic molds; deep drawn metal parts.*

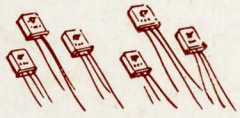
PLANTS:
*Cleveland, Ohio; Nelsonville, Ohio; Warren, Pa.; Titusville, Pa.; Naugatuck, Conn.; York, Pa.*

## ATOMIC ENERGY DIVISION

HEADQUARTERS, DIVISION LABORATORY:
*Bayside, N.Y.*

PRODUCTS:
*Reactor fuels and components.*

PLANT:
*Hicksville, N.Y.*



## SEMICONDUCTOR DIVISION

HEADQUARTERS, DIVISION LABORATORY:
*100 Sylvan Road, Woburn, Mass.*

PRODUCTS:
*Crystal diodes, transistors, and other semiconductor devices.*

PLANTS:
*Woburn, Mass.; Hillsboro, N. H.*

## SPECIAL TUBE OPERATIONS

HEADQUARTERS:
*100 Sylvan Road, Woburn, Mass.*

LABORATORIES:
*Woburn, Mass.; Kew Gardens, N.Y.; Mineola, N.Y.*

PRODUCTS:
*Microwave components and special-purpose tubes, including magnetrons, TR and ATR tubes, counter tubes, rocket tubes, trigger tubes, gas-pressure measuring tubes.*

PLANTS:
*Williamsport, Pa.; Woburn, Mass.*

## RESEARCH LABORATORIES

HEADQUARTERS: *Sylvania Research Center, Bayside, N.Y.*
LABORATORIES: *Bayside, N.Y.; Flushing, N.Y.; Mineola, N.Y.*

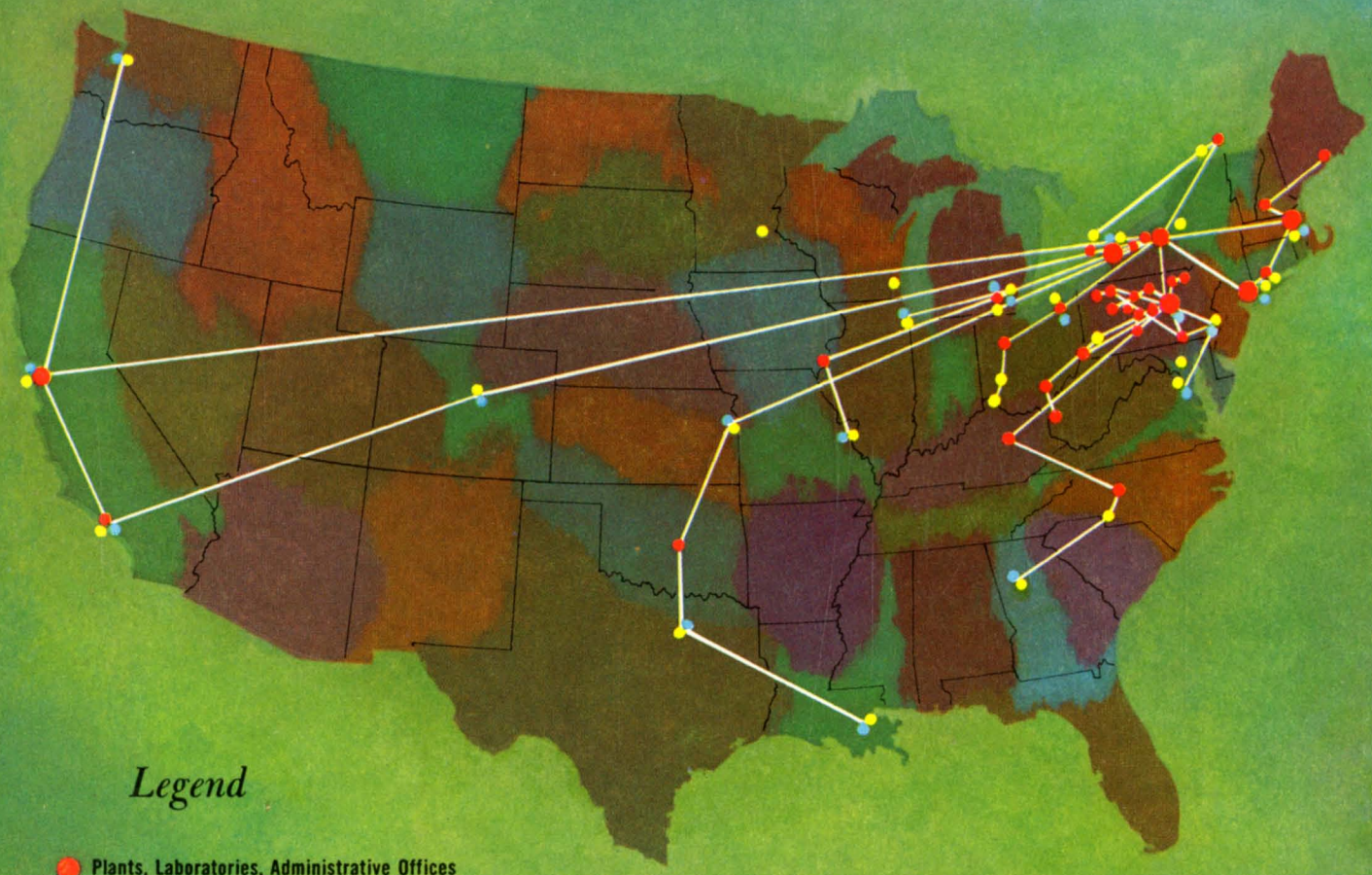
## SUBSIDIARIES

BRAZIL — Produtos Eletricos de Mica Ltda., Rio de Janeiro, *Mica Production and Fabrication.*

CANADA — Sylvania Electric (Canada) Ltd., Shell Tower Building, Montreal, P. Q., *Incandescent, Fluorescent and Photoflash Lamps, TV and Radio Sets, Receiving and Picture Tubes, and Electronic Components.* PLANTS: *Drummondville, P. Q.; Dunnville, Ont.*

PUERTO RICO — Sylvania Electric of Puerto Rico, Inc., Rio Piedras, *Mica Fabrication, and other products.*

SYLVANIA INTERNATIONAL CORPORATION, 22 Bahnhofstrasse, Coire, Switzerland.



*Legend*

- Plants, Laboratories, Administrative Offices
- Distribution Centers
- Sales Offices

## *Sylvania's Nationwide Operations*

The Company's plants and laboratories are located in 41 communities in 13 states. Serving our customers are 19 distribution centers and 29 sales offices. These nationwide operations are connected by a 20,000-mile private communication network and the Data Processing Center.

(For detailed listing of facilities and products, see Inside Back Cover.)