1962
ANNUAL REPORT
TO EMPLOYEES

MARCH 1963
NATIONAL ISSUE
LOG
PRODUCING QUALITY ELECTRONIC COMPONENTS FOR INDUSTRIAL, COMMERCIAL AND MILITARY NEEDS

For almost 37 years we have been supplying electronic components for an ever increasing variety of needs. At the time our Company was founded, in 1926, home entertainment was the prime market with the radio becoming increasingly popular. With the advent of World War II the electronics industry mushroomed and has continued to expand at a truly remarkable rate of speed. It is not by accident that Sprague Electric has become a world leader in the industry – but our position will be challenged by others. For this reason we will continue to devote our energies to developing and producing an increasing line of superior products.

INDUSTRIAL
Computer, data processing, industrial control equipment, communications gear, etc. are all expected to continue to gain in demand.

MILITARY AND SPACE EQUIPMENT
Startling advances have been made in reliability and miniaturization – increased demands will be made and met in the future.

ENTERTAINMENT
Television, stereo, hi-fi, and radio all contain electronic components.
This Annual Report to Employees is published for the information of Sprague employees in the United States. Sprague also operates subsidiary plants in Italy, Belgium, Puerto Rico (2), Mexico, and Hong Kong, primarily to serve local markets. In addition we have a 75% interest in Sprague-TCC (Canada) Ltd., and a 25% interest in the Telegraph Condenser Company, Ltd. of Great Britain.
Dear Sprague employe,

Frequently when we see an accounting of expenditures for a large company we are a bit overwhelmed by the size of the figures, but the costs of operating a company are just like those of your own household, on a larger scale.

In the silver dollars on the opposite page we have shown just how Sprague Electric's income was spent in 1962 - how many cents of each income dollar were needed for each major item.

Our largest single cost item is the money spent for wages and salaries for our employes. Of each dollar we receive, 43.7¢ is returned in pay and other direct benefits for our employes. Our second largest cost is for raw materials and services - the things we need to manufacture our products. Of every dollar received, 36.5¢ are spent for these items.

Like personal income, corporate income is heavily taxed. Sprague Electric paid $7,808,196 in taxes or 8.9¢ of every dollar received. In addition we paid the federal government $363,758 which it claims was due in taxes for the 1941-46 period. This is a highly technical question which we have been contesting in the courts and involves credit for valuable research done by the Company prior to World War II.

Two other major cost items are for the repair and upkeep of our facilities and the interest on money we have borrowed to help operate the Company. The chart on the opposite page shows just how much these items take from our income.

Without profit a company can not long remain in business. Our profit is composed of two items, $4,293,210 which was reinvested in the business, and $1,773,109 which was paid to the stockholders in the form of dividends for the use of their money.

You may be justly proud of the Company for which you work. It is financially sound and will continue to grow in the years ahead. It is also equally true that the success of the Company is due to the loyalty and devotion of its employes.

Cordially,

[Signature]
OUR TOTAL INCOME FOR 1962 WAS $87,402,484

THIS IS WHERE IT WENT

<table>
<thead>
<tr>
<th>OUT OF EACH DOLLAR</th>
<th>TOTAL DOLLARS</th>
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<tr>
<td>Employes - Wages and Salaries</td>
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<td>Suppliers - For Raw Materials and Services</td>
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<td>Interest on Borrowed Money</td>
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<td>Special Item (tax claim 1941-46)</td>
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<tr>
<td>Reinvested in the Business</td>
<td>$4,293,210</td>
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Profit

Net profit for the year was $6,066,319 after deducting the minority interest in the income of a subsidiary amounting to $2,823.

Dividends to Stockholders | $1,773,109 |
OUR MAJOR PRODUCT

DRY ALUMINUM ELECTROLYTICS

Dry aluminum electrolytics were one of the first product lines developed by our Company, and are produced on a large scale today at our Ashe County, North Carolina Plant and at Marshall Street in North Adams. They are devices for filtering or smoothing rectified DC currents, for bypassing AC currents, or for phase-splitting AC currents in starting motors.

Used extensively in radios, television sets, air conditioners, refrigerators, computers, and an ever increasing variety of military electronic equipment, they are now available in much smaller sizes than the original units. The market for aluminum electrolytic capacitors continues to grow, especially in the newer miniaturized types which are being widely used in business machines, electronic-control applications and entertainment electronics.

TANTALUM ELECTROLYTICS

The demand for tantalum capacitors has increased tremendously in the last few years with the growth of the computer and space industries. Originally manufactured in North Adams, we have expanded our operations to Concord and Plymouth, New Hampshire, and Ponce, Puerto Rico.

Tantalum electrolytic types include both foil and sintered pellet designs. The foil type is similar in construction to the dry aluminum electrolytic while the sintered pellet types are made in liquid or gel-filled designs—these are the so-called “wet designs”. In the dry pellet type, a solid semiconductor electrolyte is used. In 1962 Sprague Electric was granted what is believed to be a basic patent on this latter type of construction.

PAPER, PAPER-FILM & PLASTIC FILM CAPACITORS

The forerunner of today’s numerous paper and film capacitors was the “midget” condenser of Sprague Tone Control fame. At the time of its introduction in 1926, it was a radical new design and firmly established the Sprague company in the electronic components field.

Today this line has developed into a broad group of paper, metallized paper, paper-film, film, and metallized film capacitors. Manufactured at Beaver Street, North Adams; Barre, Vermont; Nashua, New Hampshire; and Ponce, Puerto Rico, their uses include black and white and color TV, automobile radios, satellites, missiles, radar, industrial and commercial computers, and industrial control equipment.
The field of large paper and paper-film capacitors is steadily increasing in importance. These capacitors are, for the most part, impregnated with various oils to give the desired electrical characteristics.

In the industrial and commercial field, these capacitors are used in products of air conditioning, refrigeration, fluorescent lights, computers, power supplies, industrial motors and business machines. In the military field, they are used for special photography, power supplies for radar systems, nuclear research, and ground support equipment for missiles.

One of the newest applications for our large oil capacitors is in the energy storage field in which large capacitors are discharged to give a large flow of power for a very short time. Such applications include atomic research, welding and lasers.

Sales of these products, made at our Brown Street Plant, are growing steadily, particularly in the air conditioning field and in energy storage applications.

Ceramic capacitors have a wide variety of uses in electronic equipment of all types, particularly in radio and television. The basic ingredient is a ceramic wafer which is silver coated to form the capacitor plates. In the printed circuits, silver also acts as the connecting wiring. The printed circuits may include carbon or metal film resistor elements which are screened on the wafer.

In 1962, the sale of ceramic products showed a good growth. A large share of the increase is a result of our increased penetration into the computer industry – particularly with Sprague's MONOLYTHIC® capacitors. Sprague Electric is also a major supplier of sonar transducers, a piezo-ceramic product, which is an integral part of the Navy’s anti-submarine warfare effort.

Our ceramic capacitor facilities are located in Nashua, New Hampshire; Grafton, Wisconsin; North Adams, Massachusetts; and Hillsville, Virginia.

Pulse transformers, shift registers and switching transformers are among the magnetic-core components made by the Special Products Division. Plants of the Division which manufacture these units are located at Union Street, North Adams; Visalia, California; and Bennington, Vermont. The Rockville, Maryland Plant of SPD manufactures high-permeability cores of special alloys for use in our own magnetic devices and for sale to others.

During the year the Division became the first major producer of critical magnetic components to meet the highest standards of reliability and participated in several programs of this nature for the Minuteman system as well as for other similarly critical equipment.
OUR MAJOR PRODUCT AREAS continued

TRANSISTORS

One of the relatively new developments in the electronic field, transistors are used instead of conventional vacuum tubes in everything from radios to computers. A transistor switches, amplifies, and generates electrical signals in a solid semiconductor material rather than in the vacuum of a conventional tube. Their very small size and low power consumption make them ideal for packaged and miniaturized electronic equipment and have helped hurdle the barriers of size which had begun to limit the progress of electronics.

The transistor business increased modestly during 1962 with the production of germanium and silicon transistors in increasing quantities for military and industrial markets. Our transistor production is at the Concord, New Hampshire Plant.

FILTERS & PULSE NETWORKS

With the development of increasingly complex electronic equipment, filters have gained in importance. Originally developed to remove static in radios, they now encompass the whole field of "electromagnetic compatibility". We not only manufacture filters to customer specifications, but also maintain the Interference Control Field Service Department to help our customers solve their problems in the field.

Sprague also manufactures precision wave filters for selecting or rejecting signals in communications circuits and in telemetering. Toroidal inductors for filters are furnished by Sprague to equipment manufacturers. Filter production is centered in Marshall Street, North Adams and Visalia, California. We also maintain filter laboratory and sample facilities at Los Angeles, California and Vandalia, Ohio.

Networks are composed of coils and capacitors and vary in size and weight with the largest units weighing over a ton. They are used extensively in radar transmitters where powerful pulses with specific electrical characteristics are required. Networks are manufactured at our Brown Street Plant.

SUB ASSEMBLIES & CIRCUIT PACKAGES

Assemblies of electronic components such as resistors, capacitors, inductors, pulse transformers, semiconductors and interconnecting wiring are important products of our Special Products Division. These discrete circuit packages are furnished to equipment manufacturers who assemble them with other circuits they make or purchase to complete their equipment.

Circuit packages furnished by the Special Products Division may include printed wiring board designs, cast and molded circuit blocks, and cordwood assemblies in which all parts are stacked together between two printed circuit boards.

Circuit packaging is done at Union Street, North Adams; Bennington, Vermont; and Visalia, California. At the Bennington Plant, we also manufacture specialized equipment and other devices to customer specifications.
RESISTORS

Resistors are one of Sprague Electric's oldest product lines, having been manufactured continuously since 1937. All resistor production is carried on at our Nashua, New Hampshire Plant.

Basically speaking a resistor is used to hold back, or impede the flow of electric current. This current flowing through a resistor generates heat and one of the important ratings is the amount of heat it will dissipate safely. Sprague Electric manufactures one of the broadest lines of resistors in the industry. Among types manufactured are metal film and carbon film resistors, precision wire wound resistors and vitreous enamel and ceramic jacketed power resistors. A new silicone-resin coated resistor just being introduced offers precision resistance values at higher power ratings.

Since more resistors are used in electronic circuits than any other single component, the future for our Resistor Division should be a glowing one.

DELAY LINES, INDUCTORS & ELECTRONIC CONTROL NETWORKS

Delay Lines, new to the Sprague family of products, became a part of the sales picture with the purchase of Sky-Borne Electronics, Inc. of Santa Fe Springs, California in 1962. Used in computers and navigational aids such as radar, instrument landing systems and the like, they perform a unique function of delaying electric current for specific periods of time.

Sky-Borne also manufactures a limited number of special filters and custom inductors for the electronic and aerospace industries.

With the purchase of Vec'Trol Engineering of Stamford, Connecticut we entered the field of electrical control devices for use with silicon controlled rectifiers. Applications include motor speed control and temperature control.

MICA & FABMIKA® CAPACITORS

Mica capacitors are used in high voltage or high temperature applications such as diathermy equipment, induction heaters, welders, missiles and nuclear reactors. Sprague Electric has recently designed new cast units to reduce the size and weight and to improve the electrical and mechanical features. Fabmika units are made from natural mica which is broken up into small flakes and made into continuous sheets or rolls of mica film. This permits additional flexibility of design.

Mica and Fabmika capacitors are made at our Brown Street Plant in North Adams.
Research and development have been the animating spirit of your Company since its infancy, and over the years profits have been largest when the percentage of new products has been the highest. Therefore, the opening of the Sprague Research Center in October 1962 was a step of fundamental significance to our continued growth. It provides the specialized facilities and services necessary to the continuation and expansion of a balanced research program and is capable of being expanded to approximately triple its present size on its present location as the need arises. The Center intends to pursue a balanced research program including studies in support of current products, as well as probing research into new technologies and new product areas. Working in the Center is a highly competent team of scientists covering such varied disciplines as physical chemistry, electrochemistry, solid-state chemistry, solid-state and theoretical physics, organic and polymer chemistry, dielectric physics and chemistry, metallurgy, ferroelectric materials, and many others.

Studies of the electrical and chemical properties of matter under our materials research program have already provided your Company with a growing competence in the complex technologies of integrated circuits. These studies include three years of basic investigations on the physical and dielectric properties of silicon-silicon dioxide systems, and on silicon epitaxial planar technology. A Surface Studies Group is extending this knowledge by investigating the nature of super-clean semiconductor surfaces, and by studying methods of surface passivation. Basic investigations are also being conducted on the purification of materials, and on the physics and chemistry of thin films of insulating semiconducting and resistive materials in various combinations.

The rapid advance being made in the design of complex electronic systems demand that the frontiers of knowledge about the electrical behavior of matter be extended beyond the present state of the art. It is the aim of our research scientists to extend these frontiers, and we are confident that the new facility will enhance their ability to do so.

Equally important to the further growth of our business are the Sprague Engineering Laboratories whose responsibility it is to keep our technology ahead of market requirements, to anticipate the needs of our customers for new and improved products, to improve existing products by the use of better materials or processing techniques, and to develop new manufacturing processes and related equipment.

An outstanding example of the combined efforts of our Research and Engineering Laboratories is the
progress made during the past several years in microelectronics, both integrated circuitry and microcomponents. Although semiconductor technology probably has the widest application in microelectronic circuits, it is becoming increasingly apparent that future progress will depend heavily on the ability to integrate a wide range of technologies.

Because of our many years of experience in all of these areas, Sprague Electric is in a favorable position to participate fully in the growth of microelectronics, and has in being a substantial program to play an important part in this field.

Our work in solid-state microcircuits is an outgrowth of many years of research on semiconductor materials as well as the intensive experience of the Transistor Division in the fabrication of both germanium and silicon transistors.

In the area of thin-film microcircuits, our experience extends over a dozen years from early work on ceramic-based printed circuits to the planar microcircuits which are in production today. These units have many advantages in microelectronic systems, particularly for linear circuits where precise wide-range component values are required.

Thin-film techniques are also important in helping to overcome some of the limitations inherent in semiconductor-based microcircuits. Indeed, it appears probable that the best systems of the future will use an integrated approach which combines the advantages of semiconductor technology in fabricating active elements, such as transistors and diodes, with the greater capability of thin metallic films for the fabrication of passive elements, such as resistors and capacitors. We are presently working on thin-film magnetic memories for computers which will incorporate in microcircuit form much of the peripheral circuitry normally associated with such memories.

Although solid-state and thin-film microcircuits offer many advantages to the systems designer, it seems likely that they will in the foreseeable future be applicable only to a limited range of circuit functions. For many applications where moderate but not extreme miniaturization is required, microminiature assemblies of various types will doubtless continue to be widely used.

It will be apparent from the above statements that we view the field of integrated circuits as one of great importance in coming years, and that we have established what we believe to be one of the largest corporate efforts in the electronics industry towards achieving strong position in this new and sophisticated field.
The Dallas Office, covering the states of Texas, Oklahoma, Arkansas and Louisiana, was opened in 1958. It is in the center of the rapidly growing electronic activities in the Southwest and also serves the many air conditioning manufacturers located in this area.

James H. Andrews, Office Manager, joined Sprague Electric almost three years ago. He received his education at the University of Colorado and the University of New Mexico. Prior to joining Sprague Electric he was with the Sandia Corporation. Mr. Andrews and his family reside in Richardson, Texas.

Allen T. Peck, Sales Engineer, joined the Dallas Office team in June 1962. He was formerly associated with Bendix Corporation, Scintilla Division. Mr. Peck is a graduate of Union College, Schenectady, New York.

Nancy P. Scott has been employed at the Dallas Office since it was opened in March 1958. She handles the office duties capably and is a favorite with our many customers. She formerly worked for Collins Radio.
The St. Louis Sales Office opened in September 1953 and handles accounts in Missouri, Iowa, Kansas, Southern Illinois, Eastern Nebraska and Evansville, Indiana. This area has experienced a significant growth in electronics in recent years due to government space programs, military aircraft requirements and the air conditioning industry.

William E. McQueeney, Office Manager, was transferred to St. Louis in August 1962. He previously had worked in North Adams as a Product Specialist. A 1957 graduate of Boston College, Mr. McQueeney was employed by Westinghouse Electric Corporation and United Shoe Machinery Corporation before joining Sprague Electric.

Fay E. Buehre, Secretary and Administrative Assistant, has been with the Company since the St. Louis Office opened. Her duties include account liaison, daily contact with various Sprague plants for follow up and order entry purposes and pricing, in addition to secretarial assistance.

The Winston-Salem Sales Office opened in March 1961 with William B. Kooker serving as District Manager. Territory served by the office includes North and South Carolina; Bristol, Tennessee and Louisville, Kentucky. Their prime customers serve the communications industry.

Mr. Kooker is a former Western Electric Company employee, having worked for the Bell System for over 41 years in several different capacities. From 1946 until he joined Sprague Electric, he was a Supervisor in the Western Electric Purchasing Department at Winston-Salem.

Loudean Jackson, the second member of the staff, has charge of all office procedures such as handling of orders, requests for quotations and necessary correspondence and filing. She also operates the Teletype, Western Union and other office equipment. Before joining Sprague Electric, Mrs. Jackson worked for Western Electric Company.
Any newspaper reporter — whether he be a potential Walter Lippman still admiring his framed journalism degree or an experienced political analyst in Washington — is familiar with the famous five “W’s.” Answers to the five questions — who, why, what, when and where — are the ingredients of a good news story.

Curiously enough, the five “W’s” can also be applied to the important business of writing to your Congressman.

The answers to the first two, “who” and “why”, nibble at the very roots of American democracy. Every citizen has a right to representation, and his Congressman in Washington is elected to preserve and extend those rights. It is perfectly clear, then, that every citizen has (to coin a phrase) a right to write.

The best reason for writing to your Congressman is to make sure that he is, in fact, representing you and will continue to work diligently for the best interests of both his district and the nation. Don’t forget either that your Congressman represents all the people of his district regardless of their political party. Though your views on some issues might differ, he will still be interested in hearing from you.

“What” should you write your Congressman about? This is a difficult question, and the obvious answer may be the best one. You should write when you are deeply affected by an issue or a bill before the Congress. Chances are — if you actually take the time and trouble to write — you believe deeply in a particular viewpoint or bill. You
are expressing the innate desire of man to be understood, to communicate and to have a voice in all decisions affecting his future.

This said, it is best to write your Congressman as though you were talking to him in person. You should be straightforward, sincere and brief. A good crisp letter which explains your position in four or five solid paragraphs is more effective than a rambling, three or four page speech which exhausts both you and the Congressman. In deciding what to write, individuality should be the first consideration. Your Representative wants to know what you feel as a voter and a citizen.

Your Congressman, naturally, is interested in those local problems which relate to the Federal government. While he always wants to hear about specific bills before the Congress, he also wants to know how you feel about such important matters as civil rights, foreign affairs, and domestic issues that are not voted on daily, except indirectly. Another thing to remember is that a vast number of issues involve state and local governments and have no relation to the Federal government. Make certain that the man to whom you write is the one who can be of help to you. Your Congressman can be of little real assistance, for example, in improving the effectiveness of local police. This is strictly a municipal or county matter.

The question of “when” is also vital, as timing always is. A quarterback calls his signals on Saturday and not on Monday. After one game is over, he must begin preparing for the next. Similarly, the time to write is during the strategic preparation stages before a vote of the full House is taken. Obviously, it doesn’t mean much to “Monday morning quarterback” a measure after it has been voted on.

Finally, everyone knows “where” to write his Congressman, but often people fail to realize that many have offices in their districts. Find out where his office is and try to meet him. I, for instance, hold office hours in the larger cities and towns as often as possible and maintain a Congressional office in my hometown.

A few hints may be in order now that general answers have been suggested for the five “W’s”. Four basic essentials to keep in mind are: 1) Know what you are talking about; 2) Tell your Congressman how the proposed legislation will affect you and your business; 3) Believe in the value of a personal letter rather than a form or petition; and 4) Don’t forget to write legibly and always include your address, even on petitions. This can save both time and temper and assures an answer. Above all, remember that more meaning will be placed on the sincere, individual approach. It is possible that one forthright letter will be more valuable than ten signatures scribbled on a petition or twenty “form” letters.

A Congressman receives up to 275 letters a day when pressing issues confront the nation, with a daily average of 150 letters. Since January 9th of this year, my office has answered 125 pieces of mail each day, in spite of the fact that no major legislation is pending as yet. So you can see how important every minute becomes. More than ever before, a Congressman spends his time helping you – his constituents – bridge the growing gap between the individual and ever-increasing big government.

To conclude on a personal note, I encourage the closest possible ties with the people of my district. I want to see them when they are in Washington and talk with them at home. When this is not possible, I ask them to write whenever they wish. I am happy to report that the response has been enthusiastic.

In this way, I feel that I am discharging a portion of my responsibilities in the proper manner. I think that I can sensibly judge the thinking and sometimes actually feel the pulse of my district. Only in this way can a Congressman truly represent his people as their agent and deputy before the highest legislative tribunal in the land.
Sprague Electric employes are active in community service projects. Wherever our plants are located you will find them participating in a wide range of activities including fund drives, service clubs, scouting, 4-H Clubs, hospital boards, YMCA, Civil Defense, PTA, National Guard and armed forces reserve units, Little League and a host of others.

Recognizing the importance of community service, the Company has always encouraged this participation. Shown here are just a few of our employes and the projects they support.

The Red Cross Bloodmobile Program started on a national basis during World War II and has continued to aid those persons in need of blood ever since that time. Sprague Electric Company has always strongly supported this program and allows all employes up to 1 1/2 hours paid time off to donate blood when a mobile unit is in town.

Presently the North Adams program is co-chairmaned by two Sprague employes, Richard O'Neill and Francis Dennett. Sprague employes are enthusiastic supporters of the program. During the February visit of the Bloodmobile, Sprague employes donated 132 pints of the 311 pints collected.

The Bloodmobile visits North Adams three times each year and on the average 50% of the donors are Sprague Electric employes. During each month the local Red Cross receives about 20 calls for emergency donations - about half of these are met by Sprague people.

Three Plymouth Plant employes, Ruth Clark, Mary Currier and Gloria Willette, are actively engaged in aiding the Little Steppers Drum and Bugle Corps which is sponsored by the American Legion Durand Haley Post No. 66 of Plymouth, New Hampshire.

Originally formed with seven youngsters in March 1961, the program has grown to include 57 youngsters and seven adults.

Ruth, Mary and Gloria are all members of the Mothers Club of the Little Steppers. The Club supports the Corps' program by conducting money raising activities, the proceeds from which provide uniform changes, drum and bugle equipment and replacement and fees for hiring the gymnasium for practice sessions.

The Little Steppers plan to participate in numerous events during the coming season.
Fund raising drives are important activities in most communities, and the Community Chest program is a major effort in this field. It also requires a super effort at organization and leadership. An employee of the Nashua, New Hampshire Plant, Louis Arnold, has been active in Community Chest activities for some time and has been elected President of the Community Chest of Nashua and Hudson, New Hampshire for 1963. In 1961 and 1962 Lou served as Campaign Chairman and was responsible for raising the largest sum in the thirty year history of the Chest.

Lou is also active in other Nashua civic groups including the State Advisory Committee on Civil Rights and the Red Cross. He is a Past President of the Industrial Management Club and Past Chairman of the New Hampshire Industrial Conference.

Many Sprague Electric employees are active in the Scouting program and devote countless hours to this worthwhile activity for young people. Employees of the Ashe County, North Carolina Plant are typical of these dedicated people. When the community wanted to reorganize the Lansing Boy Scout Troop No. 272 they turned to Sprague employees for their leadership. Warren Hartsog was named Scout Master and Floyd Richardson and Johnny Powers were named Assistant Scout Masters. Harry Goss, one of the best outdoorsmen in any community, heads the outside activities. At the charter ceremonies held about a year ago, Uncle Sheets, Plant Manager and Chairman of the Ashe County group, presented the charter.

In order to carry on a complete Scouting program it is necessary for the leaders to sacrifice a great deal of their time and any community is fortunate to have such devoted leaders.

A score of employees of the Concord, New Hampshire Plant, inspired by the vision of winning a coveted prize, assembled a parade float which won top honors in their city’s annual Santa Parade last Christmas.

The event marked the Plant’s third entry and its first prize. The parade is sponsored each year by the Concord Junior Chamber of Commerce. The prize-winning float, a live Jack-in-the-Box was built in the Plant after hours. Those participating were: Jeannette Avery, Bertha Barlow, Francis Bernier, Madelyn Buttrick, Jacqueling Cote, Carol Cournoyer, Ronald Daniels, Kenneth Davis, Charles Dean, Shirley Hague, Betsy Keniston, Alba Kern, Doris Miner, Jackie Shelton, Janet Sherbourne, Joanne Steed, Carol Thornton, Edna Woodman and Nancy Woodman.

The prize received was a silver bowl which is a rotating trophy. In order to win the bowl permanently, the Concord Plant must win three consecutive years.

Charles Schumacher of the Company’s Visalia, California Plant, typifies the interest Sprague employees have in the young people of their community. Chuck has been a member of the Visalia Junior Chamber of Commerce for about one year. He recently became Secretary-Treasurer of the local organization. The Jaycees concentrate their activities on such things as Junior golf and tennis, Biddy League basketball and a county track meet. They also man the City of Visalia booth at the Tulare County Fair each year.

Our photograph shows Chuck representing the Jaycees in honoring the “Newsboy of the Month”. Each month a local newspaper boy is selected and given recognition at a dinner where he receives a trophy and his achievements made known.
WE LOOK TO THE FUTURE

In 1962, our Company made good progress towards becoming an important supplier of integrated circuits, or circuits in which a number of individual elements such as a transistor, capacitor, resistor or diode, can be formed in or on the surface of a crystal of semiconductor material or a ceramic plate. Although such circuits today can fulfill only a relatively small portion of the needs of our customers, they do offer to the designer of electronic systems significant reductions in size and weight in certain applications.

As shown on this chart, the total sales of components are currently running a little less than $4 billion a year, including about $35 million worth of miniaturized package assemblies of the type made by our Special Products Division, and about $25 million worth of integrated circuits of the type being developed by our CERACIRCUIT® Development Laboratory and by our Microelectronics Engineering Department. However, growth in use of this type of circuit is expected to be very rapid over the next 10 years, and it is expected that even by 1967, our industry will be using more than one-half billion dollars worth of integrated circuits and packaged assemblies.

The chart also shows industry sales of individual components, including those in which Sprague is an important supplier, and it is interesting to note that shipments of these items, too, are expected to increase substantially in the next 10 years despite the coming of integrated circuitry. Thus, the total component market in 1972 is expected to be about $7 billion, or nearly double its present size; of this amount, something less than 20% is expected to be integrated circuits.

Although the chart does not show the detail figures, the biggest increase is expected to take place in industrial electronics and in military and space electronics, all of which should more than double between now and 1972. The home entertainment market will not increase quite so sharply, but even so should be one-third larger than it is at present as more color television sets and other items are produced.

Therefore, our Company can look forward not only to continued growth of our business in capacitors and other individual components, but also to a growing business in packaged assemblies and integrated circuits of various types.

INDUSTRY SALES OF ELECTRONIC COMPONENTS

...AND SPRAGUE'S KEY ROLE

The largest manufacturer of passive electronic components in the world, Sprague supplies a full line of capacitors for virtually all types of electronic and electrical circuits, as well as anode and power resistors, pulse and switching transformers and precision inductors, interference suppression filters and pulse forming networks, and other components.

Sprague has been active in this field since 1895, and today is a leader in custom packaging of circuit modules including digital circuits, linear circuits and delay lines, as well as complete functional assemblies.

Sprague has been supplying high-speed switching transistors for both military and commercial computers since 1957.

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A total of 777 Sprague employes were presented service award pins at ceremonies held last fall at the Company's numerous operations. Of this number six were admitted to membership in the Quarter Century Club, bringing its membership to 232. Each recipient received a diamond 25-year service pin, gold wrist watch and certificate signifying membership in the Club.

A formal program recognizing length of service was started in 1948 and pins are awarded for 5, 10, 15, 20 and 25 years of service. Over the years the number of employes gaining veteran status with the Company has continued to multiply. In 1959 a total of 498 employes were honored for long service, in 1960 there were 1,080, and in 1961 a total of 930.

### 1962 SERVICE AWARDS

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<td>(Including Sprague International and Sprague Products)</td>
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On the BACK COVER . . .

The Sprague advertisement on the back cover appeared in trade magazines with a circulation of nearly 200,000. It was designed to tell our customers that no matter how big we may grow our first and most important job is satisfying them.

There is also a message here for each Sprague employe. Satisfying our customers is the responsibility of each and every one of us. Without customers there would be no jobs. Customers keep coming back to the company which offers that extra something in personal attention and cooperation.
When is Big too Big?

When you "outgrow" your customers?

When you ration service according to their size?

When you put sales volume ahead of product quality?

When your service loses the personal touch?

When you become so self-important that you stop cooperating with the people who helped build your business?

In short, when you forget that your first and biggest job is satisfying your customers?

We've seen a lot of companies grow too big for their britches. Not so with Sprague!

In today's complex electronics industry, a company must be big! For only bigness—in research, production, and distribution—can bring you the special services you need. But bigness hasn't gone to our heads. We haven't lost the personal touch that helped us grow. Close attention to your needs is still primary with us.

You can depend on our faithful adherence to this policy—just as you can depend on the unmatched quality and selection of Sprague Capacitors.

WORLD'S LARGEST MANUFACTURER OF CAPACITORS