



# SERVICE

AN RCA FAMILY PUBLICATION

THE THIN TWINS

(See pages 10-11)



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RCA SERVICE COMPANY



# SERVICE

Vol. 15, No. 9 May 1959

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## THE COVER

The boy and girl twins on our cover this month typify the young trim lines of the New RCA Victor "Sportable" and "Tote-able" TV sets illustrated on pages 10 and 11 of this issue. Designed with the service technician in mind, they're the easiest-to-service portable TV on the market today.



## SERVICE TALK

### Ground Swell

"There's a ground swell of public enthusiasm building up for color television," President D. H. Kunsman told the Pennsylvania Federation of Radio-Television Servicemen Associations at its annual meeting.

"Undoubtedly," he said, "many of your present customers will be buying color sets. If you can't service their new color set, they'll go elsewhere with their business."

He urged TV servicemen to train themselves to service color TV receivers as soon as possible, and said he believed there are few color TV service problems that can't be solved easily with service data and tips sent out regularly by RCA Service Company.

### Letter of the Month

A sorely troubled woman in Newark, New Jersey, expressed her thanks to Consumer Products TV technician John Payne in a letter which recently reached G. W. Pfister, Vice President and Operations Manager. It read:

"When your man Mr. John Payne came to my house to install our new RCA Television set, my husband was stricken with a heart attack. Mr. Payne was very helpful in my great distress. He tried to get the neighborhood doctors but none available. He then got in touch with the Emergency Police Department and also telephoned my children who live out of town. He did not leave me alone until help arrived."

District Manager F. X. Diamond sums it up this way: "This act, primarily a very human and worthy one which speaks well for our people, is also worth more than all the advertising in the world."

### Legal Appointment Made

Wilbur A. Osterling, recently named General Attorney of the RCA Service Company, has been associated with various RCA product divisions since 1942. He comes to Service Company from the Electron Tube and Semiconductor and Materials Divisions.

### To Van Nuys

Friends at Cherry Hill are congratulating R. B. Niles, Manager of Employment, Insurance & Services, Cherry Hill and Tech Products Service Personnel, on his recent promotion to head up Personnel for the ATLAS program in Government Service. He will headquarter at RCA's new Van Nuys missile and radar plant in the San Fernando Valley, California.

# G. W. Pfister Named Vice President and Operations Manager

**Borgeson, Gray and Johnson also named in Service Company's executive realignment**

Appointment of G. W. Pfister as Vice President and Operations Manager of the RCA Service Company was announced April 17th by D. H. Kunsman, President.

Mr. Pfister will have operating supervision over Consumer Products Service, Government Service and Technical Products Service—the three operating departments of the RCA Service Company—as well as Quality Control and Advertising and Sales Promotion.

## **Joined Service Company in 1950**

He joined the RCA Service Company in 1950 as Manager of Budgets and Procedure Control. In May, 1952, he was appointed Operations Manager, Consumer Products Service and was named Treasurer and Controller in May, 1953. He was elected Vice President, Consumer Products Service in 1957.

Born in Hudson, Kansas, Mr. Pfister attended Wittenberg College and the University of Michigan where he received his Bachelor's degree in Economics and Master's degree in Business Administration. He served in the U. S. Navy during World War II as an officer in the Supply Corps.

## **New Consumer Products V. P.**

Mr. Kunsman simultaneously announced the appointment of L. G. Borgeson as Vice President, Consumer Products Service, the position formerly held by Mr. Pfister.

Mr. Borgeson will direct all the Consumer Products Service activities embracing operations of the Customer Service branches throughout the United States.



**G. W. PFISTER**

He joined the RCA Service Company in Pasadena, Calif., in 1941 as a theatre field engineer after graduation from the California Institute of Technology. In 1946, Mr. Borgeson was named manager of the TV service branch in Los Angeles, the first activity of this type on the West Coast. He was named Manager of Field Operations of Consumer Products Service in September, 1956, a position he held until his election as Vice President.

## **Two Managers Promoted**

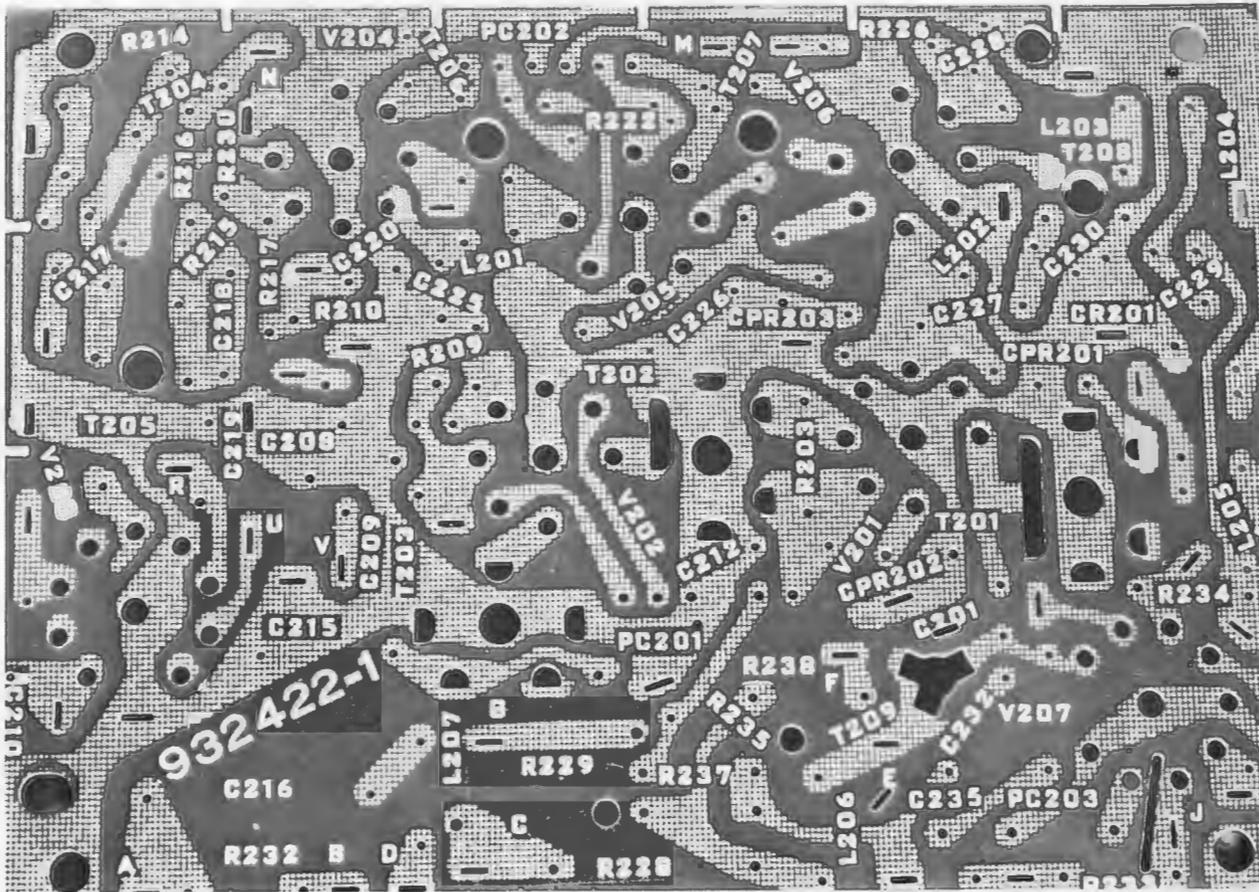
Also named were R. C. Gray as Manager of Field Operations, the post formerly held by Mr. Borgeson, and H. W. Johnson as Manager of Appliance Service, the position formerly held by Mr. Gray.

Mr. Gray joined the RCA Service Company in 1946 following his discharge from the U. S. Navy where he served for six years as an Aviation Chief Radioman. Starting as a TV technician, Mr. Gray served in various management capacities until September, 1956, when he was named Manager, Appliance Service.

Mr. Johnson, a native of Steubenville, O., was graduated from Denison College. He also attended Ohio State University and the University of Chicago. During World War II he was a Lieutenant in the U. S. Navy, and started with the RCA Service Company as a television technician in Chicago in November, 1946. He was named manager of Field Support Services of Consumer Products Service in September, 1956.



**L. G. BORGESON**



## New "Road Map" Saves TV Servicing Time

Development of a new "road map" type of Security sealed Circuit is a major step forward in making the television service technician's trouble shooting far less time consuming, according to D. H. Kunsman, President of the RCA Service Company.

Participating in a panel discussion at the annual meeting of the Printed Circuit Institute in New York, Mr. Kunsman said that this important development—which would have been impossible to achieve with hand-wired chassis—will make TV servicing far easier than with any previous type of chassis—handwired or printed circuit.

"Anyone who can read a simple road map will have no difficulty in locating tubes, components or tracing the circuits with the technician guides printed in white ink on the top side of the Security Sealed Circuit board," he said.

The new "road map" boards include check points, circuit diagram and component and tube locations plainly indicated on the top side of the boards. The new development is featured in the RCA Victor Sportable and Tote-

able television receivers announced earlier this month.

Present plans call for use of the "road map" type circuit boards in future RCA Victor television receivers wherever possible, Mr. Kunsman said.

"Our records show that, on the average, receivers with printed circuit boards have been as easy to service as those with old-fashioned handwired chassis," he said. "With the application of the 'road map' to RCA Victor's Security Sealed Circuits, additional time savers are now possible that never could have been developed for hand-wired chassis sets."

Mr. Kunsman also said that the new type boards were a part of an overall, engineering design program aimed at making the new portable TV chassis more accessible for servicing.

"The fact that 98 per cent of the potential service requirements can be handled by merely removing the back of the new RCA Victor set—without taking the chassis from the cabinet—is a major time saver for the service technician," he said. "The remaining two per cent of service requirements can be met by simply removing the front and then moving the kinescope slightly forward."

## R. N. Baggs Named to Post in RCA Sales . . .

Service Company's congratulations and best wishes are extended to R. N. Baggs on his election as Vice President, Special Sales Accounts, RCA Sales Corporation. Mr. Baggs was formerly Vice President, Sales, of the RCA Service Company.

In his new position he will direct special sales activities of RCA Victor Television and Radio and "Victrola" products among hotels, motels, educational institutions, the military, builders and other specialized accounts.

Mr. Baggs joined RCA in 1930 as a trainee. He served in various posi-

tions in the sales, advertising and sales promotion departments of RCA, before being named Manager of Sales and Merchandising of the RCA Service Company in 1948.

In 1950, as Sales and Advertising Manager of Consumer Products Service, he won the Corporation's Award of Merit for outstandingly successful programs which created an upward trend in the proportion of service contracts to TV sets sold.

A native of Garner, Iowa, he is a graduate of Iowa State College.



R. N. Baggs

## The Gold Key Awards . . .

Tech Products region, field, and home office Service Managers are competing for inscribed gold keys awarded for attaining pre-set budget goals in Theatre & Industrial, Broadcast, Mobile & Microwave, and Radiomarine services.

The keys are supplemented by performance plaques, awarded quarterly for highest percentage above goal. Circulated among winners during the year, the plaques will be claimed permanently by the year's top performers.

First-quarter plaque winners for the four product lines are:

Theatre & Industrial—

J. Mauran, Boston

Broadcast—R. A. Martin, Atlanta

Mobile & Microwave—

P. McDonald, Philadelphia

Radiomarine—G. A. Freeman,

New Orleans—Mobile

The plaque for the region office with the best total performance in the first quarter went to Tech Products' Mid-Eastern Region Service Manager Myron E. Wheaton.



Vice President W. L. Jones (left) presents first-quarter award to Mid-Eastern Service Manager M. E. Wheaton.



Mid-Eastern's P. McDonald, M & MW Manager (right), accepts Gold Key plaque from A. Fischer, Sales & Merchandising Manager.

## President Eisenhower Says . . .

"The readiness of our people to invest their savings into Bonds is one of the features we must count upon if we are to be a successful America; if we are going to be able confidently and permanently to counter the Soviet threat to our form of life."

The President's message opens the U. S. Savings Bond drive, June 8th to 14th (Flag Day). Our savings in Bonds help to build America's Peace Power, help to guard life and liberty for all Americans.

But important as they are to Uncle Sam, U. S. Bonds are also a wonderful way to save for a personal future. They pay good interest—an annual investment yield of 3¼ per cent, com-

pounded semi-annually, when held to maturity.

There is nothing safer—every Bond is backed by the full faith and credit of the United States. You'll always get back what you put in, plus good interest.

And the saving is done for you automatically; the Bonds are delivered to you as take-home pay that grows.

SAVE EACH WEEK	And You Will Have		
	In 3 Years	In 5 Years	In 8 Years 11 Months
\$ 2.50	\$ 404	\$ 695	\$1,330
\$ 3.75	605	1,044	1,997
\$ 5.00	808	1,392	2,663
\$ 6.25	1,010	1,741	3,331
\$ 7.50	1,212	2,089	3,998
\$12.50	2,020	3,483	6,665
\$18.75	3,031	5,226	10,000

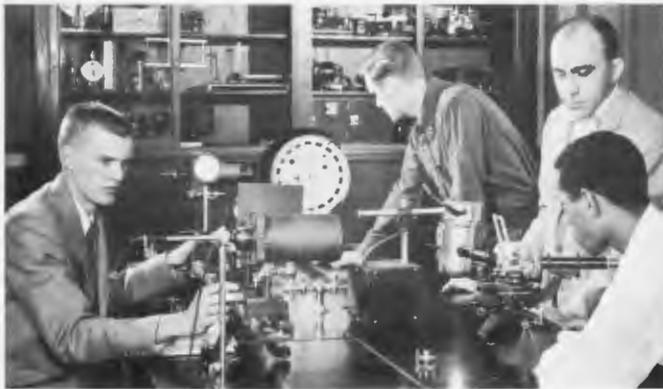




G. F. Maedel, President of RCA Institutes.



General Course students check marine transmitter.



Physics Instructor Engelson (second from right) assists Advanced students in optics experiments.



Television and General Electronics Course student uses a Crosshatch Generator to adjust a color set.

## RCA Institutes and Service Company Amalgamate

In a recent structural adjustment of RCA's Corporate organization, a world-famous RCA electronic training center became a member of the Service Company family.

The jurisdictional change became effective April 1st, in the golden anniversary year of the RCA Institutes' remarkably long and dynamic history. Founded in 1909 as the Marconi School of Instruction, it is the oldest school of its kind in the United States.

Today, the "college" occupies five floors of a nine-story building, located in New York City at 350 West 4th Street, with classrooms and laboratories equipped with thousands of dollars' worth of the latest electronic apparatus and test equipment.

Students come to the Institutes from practically every state and territory of the United States, and from Thailand, Formosa, Brazil, Israel, Burma, Chile, Greece, Nigeria, Venézuella and other nations.

Its two resident schools—the Technical Institute and the Vocational School—have an enrollment of more than 3,000 and there are some 12,000 students now enrolled in the Home Study Schools' correspondence courses.

### Supplies Technical Manpower

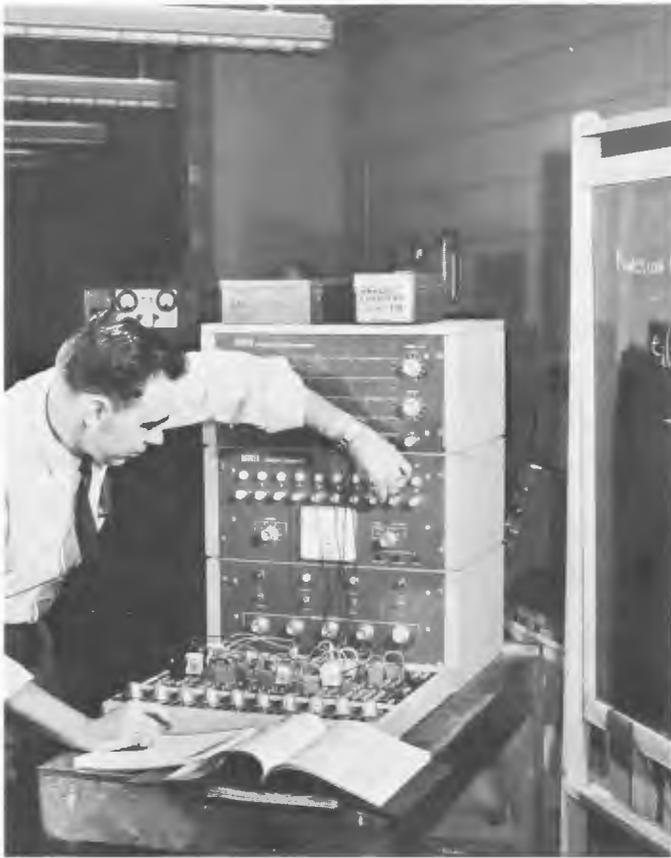
The Institutes have a superior reputation for turning out highly trained technicians and an excellent record for placing graduates. Many large electronic companies send recruiters to interview prospective employees.

"The Institutes' growth," says George F. Maedel, its President, "reflects the increasingly important role technical schools are playing in helping this country to ease its critical shortage of technical manpower."

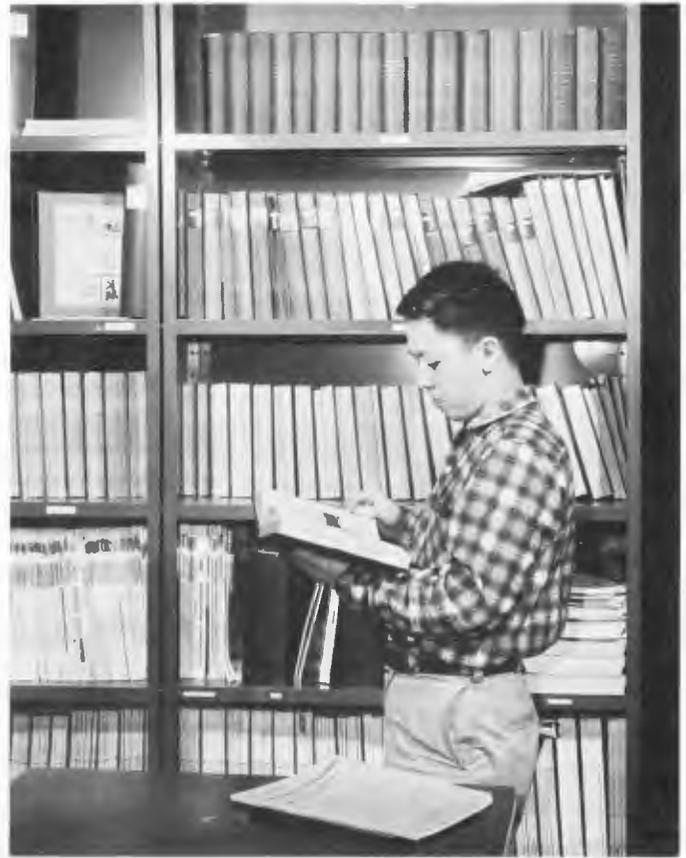
He pointed out that technical institutes, able to produce engineering technicians in two years who are capable of working with a minimum of supervision, are freeing graduate engineers and research scientists from time-consuming routines. In effect, this is the same as increasing the number of top engineers and scientists available to industry.

### Jobs Pay Well

"The Institutes are especially attractive to young men who must work their way through school," Mr. Maedel says. "They can be trained for a well-paying job in two years for about \$2,100—the cost of tuition, books and



This student in the Advanced Course uses an analog computer to solve equations, in the Industrial Laboratory.



A student (from China) in the Advanced Electronic Technology Course uses the Institutes' extensive Library.

## . . . . Famous RCA School Trains Technicians for Industry

supplies. By comparison, a typical four-year college engineering course would cost them about \$4,600."

In the 1958 winter terms, approximately 40 per cent of the beginning students enrolled in the 27-month Technical Institutes' college-level Advanced Electronics Technology Course, which is accredited by the Engineers Council for Professional Development.

The remaining 60 per cent of resident students are enrolled in the Vocational School, taking courses in Television and General Electronics, Radio and Television Servicing and Radio Telegraph Operating. Vocational School courses are shorter in duration and make lesser demands on a student's mathematical ability than does the Technical Institutes' advanced course.

### Computers or Communications

The advanced student is given an option of specializing in either computers or communications during his final term. The computer specialist takes courses in analog computers, digital circuits, numerical analysis, computer laboratory, and digital machines. The communications specialist gets advanced instruction in color television, transmitters, antennas and microwaves. Approximately

one-third of the advanced student's time is spent working in laboratories, each equipped with more than \$20,000 worth of the latest electronic equipment and test apparatus.

### New Home Study Course

Last month a new home study course in Electronics for Automation was added to the curriculum, comprehensively covering the fundamentals and including advanced lessons in nucleonics, photoelectronics, digital techniques, synchros and servomechanisms, data recorders, automatic process controls, telemetering, remote controls, automatic control systems, and other important industrial topics.

Other home study courses include electronic fundamentals, television servicing and color television.

### Night School, Too

Day and evening classes are conducted in all courses, 49 weeks each year. New terms start about the first of March, June, September and December. The school is fully approved for Veterans' Administration sponsorship.

For detailed information, see Catalogs on Resident and Home Study courses, available from RCA Institutes, 350 West 4th Street, New York 14, New York.



R. H. Knell, Manager, RCA Radiomarine Small Craft Equipment Sales, demonstrates the Radio-Phone at the Atlantic City Marina.



The Radio-Phone is demonstrated in an outboard boat at the Atlantic City Marina.



Carleton Mitchell's famous 38-foot yawl, *Finisterre*, carries an RCA Radio Direction Finder aboard.

## MORE FUN THIS YEAR FOR THE SMALL BOAT OWNER

Biggest news in marine communication to come out of the New York Motor Boat Show this year was the new low-cost two-way "citizens" Radio-Phone for amateur yachtsmen. Made for craft such as outboard powered and medium sized boats, it is also ideal as a second communications unit on the larger yacht or cabin cruiser.

Because it functions in the 27-megacycle band of frequencies, set aside by the FCC for the general public, no operator's license is required and practically any citizen can obtain a station license.

Freedom to chatter at will means that members of a yacht club can carry on all forms of conversation—between craft, with the clubhouse and home, and "party line" conversation between skippers in the same boating area.

The "Radio-Phone" has a highly sensitive receiver and a 5-watt transmitter; weighs less than nine pounds; measures nine inches high, seven wide and slightly under five deep. It operates from either a 6-volt or 12-volt battery—such as those carried by many outboard craft for motor-starting purposes. It also operates from the standard 115-volt AC power source.

### New Portaguide and Portagraph

New, too, is the transistorized RCA "Portaguide" direction finder, a combination three-band unit which enables the skipper to "Home," take bearings, receive weather and marine radio traffic and standard entertainment broadcast programs. It weighs only eleven pounds.

A new "Portagraph" fish finder of the recording type can be installed on any craft with 12- or 32-volt DC power supply. In addition to its fish-finding ability, it can be used as a navigation aid in showing depth, bottom detail, shoals, sand bars and other underwater hazards.

The "Portagraph" measures slightly more than ten inches wide, eight high and seven deep. It weighs twenty-two pounds; is transported easily from boat to dock.

### Convenient Servicing

Service Company's Tech Products activity provides service for all RCA Radiomarine equipment at any of 33 locations—on the Great Lakes, on the Mississippi River, along the Pacific Coast and the Atlantic Gulf.

Service personnel handle installation and maintenance on vessels of all sizes, from the small outboard to the large ocean liner.

# BRUSH-UP FOR BRANCH SERVICE MANAGERS

Sixty Consumer Products men win "diplomas" on completion of Home Office Course in branch supervision.

An accelerated course in the operational aspects of service supervision was enthusiastically endorsed by sixty Consumer Products Branch Service Managers, who attended a series of 3-day sessions at Cherry Hill during the month of April.

The unique program was the first of its kind to be presented on a national scale to Supervisors of Branch technical personnel. Designed specifically for the Branch Service Manager, the course covered a variety of subjects—from initial job responsibilities to the conclusive P & L sheet.

## Management Instruction

Highlighted on the comprehensive program were addresses by Vice President L. G. Borgeson (*Responsibilities, Scheduling*); by S. E. Baker, TV & Radio Service Manager (*Supervision, Customer Complaint Reduction*); by Sales & Merchandising Manager, R. W. Redecker (*Selling Service*); by Consumer Products Personnel Manager J. Lippincott, Jr. (*Personnel Relations*), and by Appliance Service Manager H. W. Johnson (*Field Support*).

The curriculum also included presentations by management representatives on Company Organization, Training, Finance, Engineering, Productivity Controls, and Appliance Service.

Developed and administered by M. O. Pyle, Consumer Products Manager of TV Technical Training, and D. L.



R. C. Gray, newly appointed Manager of Field Operations, conducted the course in Appliance Service.

Crosier, Consumer Products Personnel Training Administrator, the program had many "assistants" contributing to its outstanding success. Advice and direction were given by CP management, as well as by a group of field managers, brought into Cherry Hill early in February to guide in pin-pointing subjects of value to Branch Service Managers.

The result was a fast-paced three days for the Branch Service Manager, who received an all-inclusive wrap-up of Service Company methods, plus the advantages of buzz and brain-storming sessions with his confreres from all sections of the country.



Class I of four in Consumer Products Training for Branch Service Managers. (Front row, l. to r.) Phil Smith—Washington, Bob Wolf—Detroit West, Ed Stamp—Cincinnati, Jim Cox—Downtown New York, Mike Schiavone—Baltimore, Jack Murdock—Boston.

(Back row, l. to r.) Jim Light—Washington, Dick Erdlin—Collingdale, Bob Yankanin—N. E. Phila., Don Gill—Oak Park, Joe Fish—Hollywood, Dick Mayerchin—Chicago South, Fred Giegerich—Bronx, Bob Griffiths—Flushing, N. Y., Cliff Olson—Chicago North.

# Sportable, Tote-able, Easy to Service—



The *Eldorado* Sportable.

"Thin Twin" line of Portable TV features front tuning and speakers, and newly-designed transformer-powered chassis.

The new RCA Victor "Sportable" and "Tote-able" television receivers have been "designed with the service technician in mind," James M. Toney said when he introduced four new "Thin-Twin" models to distributor sales representatives. Mr. Toney is Vice President, RCA Victor TV Products.

"Right from the first day these sets went on the drawing boards, our designers and engineers had orders to incorporate new aids to servicing at every step possible," he said. "The end result is, in our opinion, the easiest-to-service portable television receivers on the market today."

## Road-Map Circuitry

Mr. Toney said the new features include one which he described as "extremely simple but amazingly effective in slashing service time on our Security Sealed Circuits."

"The boards have the complete wiring printed in white paint on the component side of the board with the component symbols marked adjacent to the actual component location," he said. "In making a repair on either of the two boards, the technician can go directly to the component and the defective part can be easily removed."

## 98% of all Service

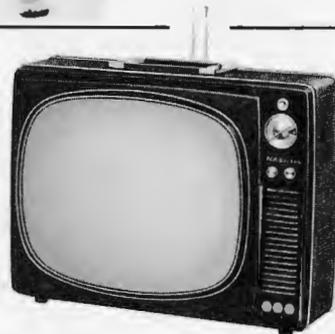
"Over 98 per cent of all potential service requirements can be performed by the simple removal of the back cover," Mr. Toney said. "The kinescope can be moved forward in operating condition, making the rear side of the Security Sealed Circuit boards available, plus the few other components where the remaining two per cent of the service requirement can be handled if needed."



The *Debonair* Tote-able.

(At right) the luxury-styled *Eldorado* has features usually found only in more expensive models.

(At far right) the *Debonair* is Table TV with a difference. Recessed hand grips. Telescoping antenna.



# -the "Veri-thin Twins" are only 12 in. deep

Easiest-to-service portable TV on the market today.  
Almost all servicing can be done by simple removal  
of the back cover.

Serviceability features include no hidden tube sockets, no concealed technician controls, an easily removed chassis with kinescope attached, a provision for conveniently discharging the picture tube, a removable detector diode shield, a readily accessible fuse, and the kinescope can be removed from the front of the set without chassis removal.

In addition, service technician adjustment of the automatic gain control (AGC) and vertical and horizontal controls are accessible without removal of the chassis.

## Outperform any other Portable TV

"Without a doubt," Mr. Toney continued, "these models will outperform any portable TV on the market. For the first time, the consumer will be able to find all the exciting new portable television performance, styling and convenience features in one set."

The two new "Sportables" are luggage-type portables with 17-inch (overall diagonal) picture tubes providing 156 square inches of viewable picture.

The "Tote-able" sets are similarly designed table models with convenient recessed hand grips on each side to make carrying easy.

## New Technical Features

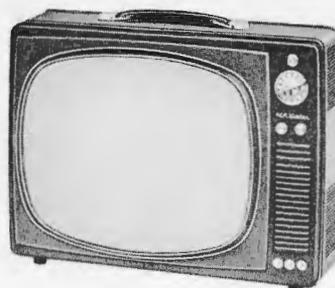
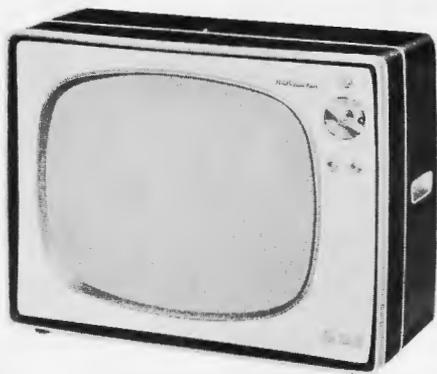
Each of the four new sets have a completely new transformer-powered chassis with 3 IF stages and automatic channel equalizer (keyed automatic gain control) for superior performance and safety, to provide a picture of greater brilliance and contrast, extra sharpness and sparkle. The new RCA Tube Guard adds life to the set, makes every tube (including the picture tube) last longer. And the new Hi-Level Contrast control gives wider contrast range without annoying picture distortion, and also makes for better outdoor and daylight viewing.



The Dennis Tote-able



The Stylist Sportable



(At left) the Stylist has superior picture and sound, high-efficiency built-in "V" antenna, and other top-value features.

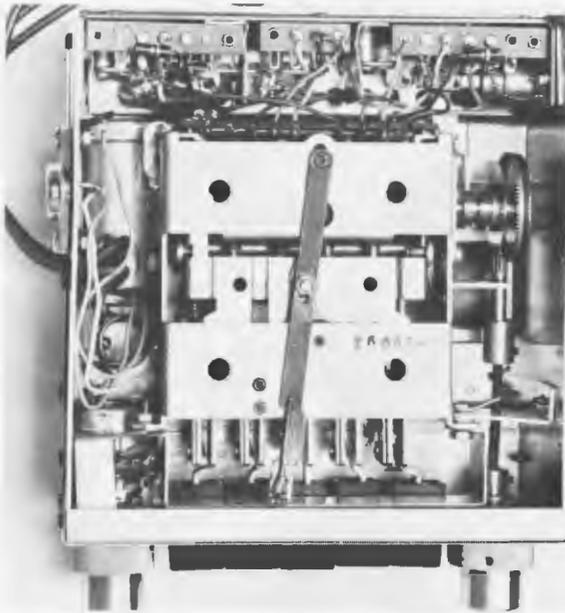
(At far left) the Dennis is a tote-able with Table TV performance plus Portable TV convenience at a low price.

# Industry's First Five-Transistor Auto Radio Disclosed

RCA Engineers describe Low-Cost Auto Radio designed around "Drift" Transistors.



5-Transistor Auto Radio Model



Top View



Bottom View

Development of the electronics industry's first five-transistor automobile radio receiver was described in a paper delivered by two engineers of the RCA Semiconductor and Materials Division at the National Convention of the Institute of Radio Engineers.

The new low-cost transistorized auto radio, according to R. A. Santilli and C. F. Wheatley, co-authors of the paper, is designed around five special RCA transistors which are now commercially available.

Prior to this time, transistorized auto radios utilized seven or more transistors or were "hybrid" versions employing both transistors and electron tubes.

## Has Many Advantages

Advantages provided by the RCA-developed auto radio are:

- Reduced battery drain. Consumes less power than a car's parking lights.
- Instant play. No "Warm-up" time.
- Improved dependability. Transistors are impervious to damage from the normal shock and vibration encountered while automobiles are in motion.
- Greater freedom of dashboard styling.
- Can be operated on either six- or twelve-volt systems, negative or positive ground, with only the slightest change in circuitry.

## Good Circuit Performance

The three RCA "drift" transistors used in the auto radio, according to the authors of the paper, inherently have a high maximum available gain and low feedback capacitance. These features provide good circuit performance with only five stages, thus contributing to low-overall circuit cost.

The auto receiver utilized an RCA-2N640 "drift" transistor as the radio-frequency amplifier, an RCA-2N642 "drift" type as the converter, an RCA-2N641 "drift" type as the intermediate-frequency amplifier, an RCA-2N591 as the driver, and an RCA-2N301 in the single-ended class A audio output stage. The receiver can produce one watt of audio output for a two microvolt rf signal input. The audio circuit is capable of delivering four watts of audio output at less than 10 per cent distortion and has a maximum output of seven watts.

The authors pointed out that a power output of ten watts can be obtained in the audio circuit by using a pair of RCA-2N301 transistors in push-pull Class B operation.



At Bloomington. (l. to r.) Mayor T. L. Lemon, RCA Group Executive Vice President C. M. Odorizzi, Bloomington Civic leaders D. P. Bynum and R. C. Wills.



Production on the Fifth Anniversary Color Television set was speeded to reach the market four months ahead of normal schedule.

## Bloomington Proclaimed "Color TV Capital"

### New Model Commemorates Fifth Anniversary of Compatible Color TV

Bloomington, a city of 35,000 persons in the heart of Indiana, was recently proclaimed "The Color Television Capital of the World."

Mayor Thomas L. Lemon issued the proclamation at a civic luncheon commemorating the production, five years ago, of the first compatible color TV set by the Radio Corporation of America. The Mayor presented a plaque bearing the pronouncement to Charles M. Odorizzi, RCA Group Executive Vice President.

In a speech of acceptance, Mr. Odorizzi announced these two significant developments in the field of color television:

1. The demand for color receivers in intermediate price ranges has increased so much in recent months that RCA has put into production a new model, known as the Anniversary model, which was rushed to the market months ahead of original production plans, and is now available through local dealers.
2. Improvements in the design and engineering of color television receivers have made possible sharp reductions in the cost of service contracts for color sets. Mr. Odorizzi cited this as "the most convincing evidence yet offered, outside of the set itself, of the great engineering advancement RCA has made in color television."

#### Price Drops in Color Contracts

"When the first 15-inch set was introduced five years ago, the price of a complete one-year contract (for installa-

tion and service) was \$149.50," he said. "By last year, the price for this contract had been reduced to \$99.50 for a 21-inch receiver. Then, last June, it was brought down to \$89.50. I am very happy to announce that this has been still further reduced—effective April 1—to \$69.50. This is a full 30 per cent below the cost a year ago."

Mr. Odorizzi said that, with improved sets and with color programming increasing steadily, sales of color receivers have reflected a "definite ground swell of public enthusiasm and excitement about color television."

"Last year, a recession year in the television industry, sales of black-and-white receivers were off 20 per cent, while color sales on the other hand gained materially over the previous year—in spite of the recession—and were the highest ever. This year we again expect to set a record.

"We entered 1959," Mr. Odorizzi said, "with a shortage of some models and our Bloomington plant has recently found it necessary to step up its production schedule of color receivers."

#### Color Programming Increases

Calling attention to the steady increase in color programming, Mr. Odorizzi recalled that in all of the introductory year of color television, only 67 hours of color were provided by the National Broadcasting Company, the most active network in color. This year, he pointed out, in March alone at least sixty-seven hours of color were broadcast by NBC.

# MASTERING THE MOLECULE

The RCA Electron Microscope, easy to install and operate, explores the fields of chemistry, metallurgy, medicine, bacteriology and biology.

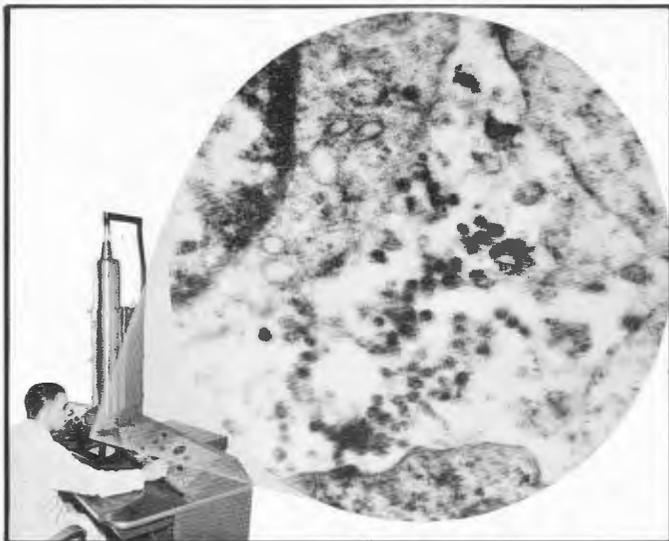
Ever since man first found that transparent stones magnified objects, he has tried to overcome the limitations of the eye and to see into the world of the infinitesimal.

Great progress was made in the 17th century when Anthony Van Leeuwenhoek of Holland developed one of the first compound microscopes. Looking through his crude instrument, this pioneer microscopist was able to give the world the first accurate description of red blood corpuscles.

Two hundred and fifty years later, the electron microscope could magnify objects to such an extent that if we could see them in their entirety, a blood corpuscle would appear the size of a four-foot sofa pillow. A dime would be more than two miles in diameter, and a human hair would be twice as large as a giant California Redwood.

RCA's name has been inseparable from the history of the development of the electron microscope ever since the art was in its infancy. Entering the field in the late 1930s, RCA scientists advanced the design of a practical model so rapidly that, by 1940, the first commercial instrument was on the market.

Today the number of RCA electron microscopes in actual use in major laboratories throughout the world approaches 1000. Direct electron image magnifications up to 200,000X (times) now reveal new orders of ultra-fine structures previously invisible. The shape and structure



Thymus Tumor in induced mouse leukemia. Intercellular space contains a number of virus particles. Project under supervision of Dr. Leon Dmochowski, Chief of Virology and Electron Microscopy Section, The University of Texas M. D. Anderson Hospital and Tumor Institute.

of particles less than 1/12,000,000th of an inch in diameter can be clearly photographed.

## In Medical Research

When the RCA Electron Microscope made visual inspection of viruses possible, medical research took a giant step forward.

Parke-Davis virologists, for example, using an RCA Electron Microscope in developing a large-scale method of poliomyelitis vaccine preparation, were enabled to positively identify isolated polio virus.

Studies of viruses now being carried on at such centers as the Rockefeller Institute and the University of California are expected to throw new light on heredity and mutation. They are also leading to new knowledge of the causes of leukemia and other types of cancer.

## In Industry

Virus research is but one of the varied fields in which the RCA Electron Microscope is aiding man's quest for knowledge. Its use is of prime importance in every field in which such physical characteristics of matter as particle size, shape, distribution and structure must be considered.

Thus the RCA Electron Microscope looks deep into the structure of paper fibers at American Cyanamid; searches into the behavior of metals for International Harvester; helps to make better dyes at General Aniline & Film Corporation; controls the uniformity of paint pigments at the Glidden Company; investigates the characteristics of photographic emulsions at Eastman Kodak; provides National Aluminate Corporation with a satisfactory way to measure sludge particles in diesel fuel oil; helps build better cars at General Motors; helps the New York Central to save \$2½ millions a year on fuel.

## A Tech Products Service

Electron microscope installation is supervised by highly trained Tech Products specialists who have had wide experience with these instruments and receive periodic refresher training courses to keep them abreast of new developments. They also give the customer instructions in basic operating techniques.

The installation is then kept operating at peak performance through an RCA Service Plan of preventive inspection to anticipate service needs in advance. Necessary adjustments or repairs are made, parts replaced, and emergency service provided between regularly scheduled inspections.

# Best First-Quarter in Forty Years

**RCA President tells Shareholders sales and earnings were highest in Company's history**

At the Annual Meeting of Shareholders, May 5, RCA President John L. Burns announced that sales of products and services amounted to \$321,816,000—an increase of 16 per cent. Net profit after taxes, he said, was \$12,931,000 as against \$9,004,000 in 1958. This represents a rise of 44 per cent over the first quarter of last year.

## RCA's Broadening Base

Mr. Burns emphasized that RCA is "broadening its base of activities" to take full advantage of the growing range of opportunity in electronics.

"Last year, alone," he said, "we introduced almost 100 new products or components, ranging in size from tiny television tubes to mammoth radars. If you include the new products that will be brought to the market during this calendar year, the list grows from 100 to nearly 400, a rate of growth that is three times as great as last year."

## Emphasis on Basic Circuitry

The RCA President said that fundamental to RCA's broadening base is its increased emphasis on basic circuitry. Among the company's new developments in basic circuitry he listed the thimble-size Nuvistor tube, the micromodule concept which has produced a radio circuit no larger than a lump of sugar, and an advanced concept of integrated electronics which holds promise, ultimately, of making computer elements almost as compact as the components of the human brain.

"The more improvements we make in our basic circuitry," Mr. Burns said, "the more things we can do with our computing, control and communications equipment."

## Defense and Space Electronics

Mr. Burns said that RCA is building up its defense capabilities all over the country, constructing new plants and adding to existing facilities.

"We are moving ahead in building the Ballistic Missile Early Warning System (BMEWS) of long-range radar bases in the Far North," he said. "With another company as partner under a government contract, we are surveying the Air Force's world-wide communications requirements as the first step in a long-term modernization program. For the Navy, we are developing new communications systems in connection with the Polaris, a missile which is intended for use aboard submarines. We are continually expanding our important missile-tracking work at Cape



RCA President John L. Burns

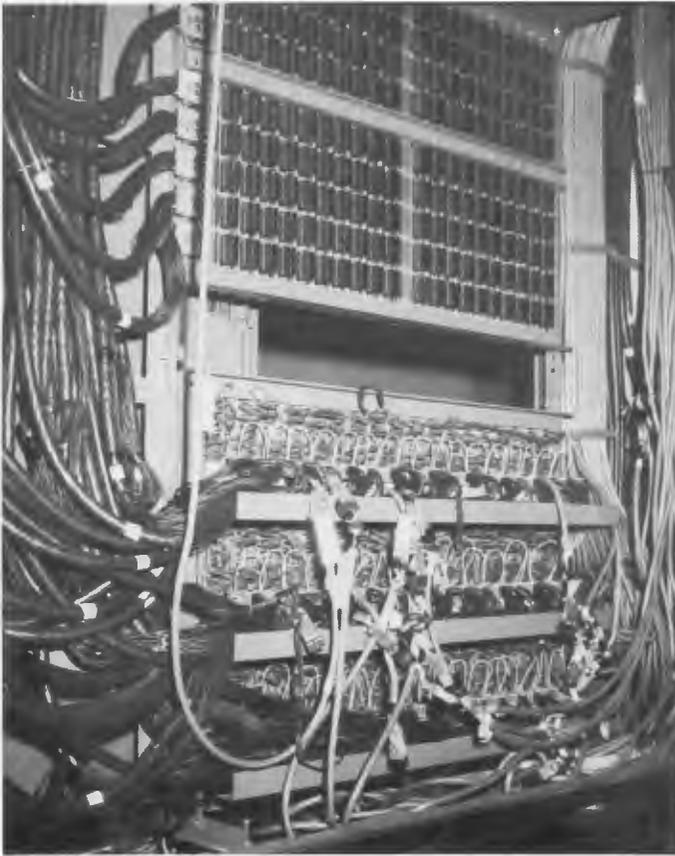
Canaveral, and are now manning a new 'tracking ship' that provides the most accurate data yet collected at sea on missile flights.

"In the exciting new field of space exploration, RCA is involved in a growing number of projects dealing with observation, communications and information handling."

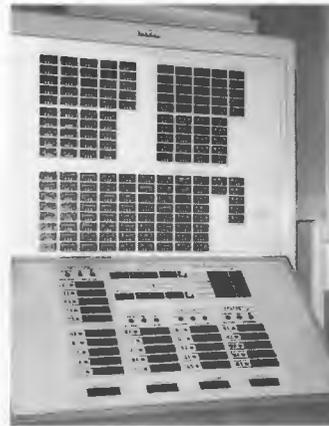
## Progress in Color Television

The RCA President said that in the five years since the company introduced color television, "notable progress has been made in every phase of this new art, science and business.

"Color, like any other new product, has had to go through an incubation period," he said. "In charting the progress of a new product, we sometimes use a flattened 'S' curve. On such a curve, color has now advanced along the base to a point just before the sharp rise. As we see the situation, there are any number of factors that could set off such a rise. In recent weeks, there have been unmistakable signs of a genuine ground swell of enthusiasm and excitement about color TV. For example: Distributors and dealers report a sharp increase in public interest. Advertisers are looking with greater favor on color. TV columnists are increasingly enthusiastic. A survey revealed that TV viewing doubles in homes equipped with color sets."



Miles of cable link the various components together.



The Monitor Console, from which the status of the entire system can be determined at a glance.



Bizmac Field Manager B. Aaront tests Magnetic Tape Transcriber.



Service Company Shift Supervisor J. Payne and OTAC Supervisor L. Kirksey, checking out Bizmac sorter.

## A TEAM OF MEN AND A GIANT...

There's a giant in Detroit, catered to daily by a team of skilled Tech Products Service Engineers and Technicians, that can write at the rate of 600 lines a minute, and read 1,700 words a second. It files, computes, remembers and informs.

It covers 20,000 square feet of floor space, consists of some 220 units of nineteen different but fully integrated types of equipment.

It has over 62,000 diodes, 27,000 vacuum tubes, 200,000 resistors and 70,000 magnetic cores. And over 400 miles of wire and cable.

Named "Bizmac," it keeps track of supply for the Army Ordnance Tank-Automotive Command (OTAC), storing as much information on one 10½-inch reel of magnetic tape as is contained on 120,000 punchcards. From Bizmac, OTAC can get a particular fact about its operations or inventories anywhere in the world in a matter of minutes.

### An RCA Development

The world's largest electronic data processing system, Bizmac was developed by RCA over a five-year period and delivered to OTAC in 1955. The complex system re-

quired eighteen months to install and "check out." Full production started early in 1957.

The Bizmac system now processes information on the stock number, description, quantity, and identifying codes of 750,000 items daily. According to James Payne, Supervisor of Bizmac Computing Services, this involves keeping several catalog files current, the printing of shipping reports, recommendations for stock leveling, reorder recommendations, and the forecasting of supply requirements for each catalog file.

### Mountains to Molehills by Pushbutton

Designed for a wide range of business tasks which normally involve the handling and processing of great volumes of paperwork, OTAC's Bizmac is frequently enlisted in the processing of other procedure, such as the Department of Army's Mutual Aid program.

The system has already saved the Army many times the original cost and continues to do so annually. Bizmac and its newer brother, RCA's new all-transistorized Computer 501, can be easily adapted to any accounting or business use.

# BMEWS builds at Riverton

New building to house administrative and engineering personnel.

Ground was broken in April for a new 35,000 square foot addition to the RCA Service Company's facilities of the Ballistic Missile Early Warning System project at Riverton, New Jersey.

The new building, scheduled for mid-summer completion, will be a one-story addition to the present structure. Of steel and concrete block construction, it will consist of administrative and engineering offices, training rooms, and facilities for the technical publication staff.

Plans also include paving and lighting of a new 180,000 square foot parking lot for employees.

## Radars for the Far North

The Riverton activity is part of the work being done under a multi-million dollar U. S. Air Force contract awarded to Radio Corporation of America to build the Ballistic Missile Early Warning System of long range radar defense bases in the far north.

The Missile and Surface Radar Division, Moorestown, N. J., is prime weapons system contractor for BMEWS. The RCA Service Company as a subcontractor is responsible for the installation of electronic apparatus, training of operation and maintenance engineers and preparation of instruction material.

## A Community Affair

Civic and business leaders of the community joined RCA executives and about 400 employees in the ceremony. J. M. Vinicombe, Jr., Personnel Manager, BMEWS Service, introduced S. D. Heller, Vice President of the RCA Service Company in charge of the Riverton project, who officiated.

Among attending Service Company executives were D. H. Kunsman, President; G. W. Pfister, Vice President



At the ceremony, (l. to r.) Lt. Col. Frederick Scott, USAF; Mayor Charles R. Durboraw; Service Company's President D. H. Kunsman and Vice President of the BMEWS Service Project S. D. Heller.

and Operations Manager; A. L. Conrad, Vice President of Government Services; J. F. Murray, Manager, Personnel; H. S. Cox, Real Estate and Factory Manager.

Mr. Heller expressed appreciation to Cinnaminson Township officials for their splendid cooperation in helping RCA get the Riverton project established in such a short period of time.

"We are very happy," he said, "that we selected this area for the site of our new activity. As we grow, we want to be considered a part of the community and a good neighbor."



Service Company installs the RCA-built long range radar at defense bases in the far north.



Architect's drawing of the 35,000 square foot building being constructed for BMEWS Service at Riverton, N. J.

# Service Company Personalities

G. F. Buchanan had three years of military service with the 1st Cavalry Division in the Pacific, and two years as an Instructor at St. Joseph's College before he became associated with Service Company's Procedures group.

His first assignment (in 1952) as a Procedures analyst was the preparation of standard procedures and operating manuals. His promotion in 1955 to Manager, Procedures and Forms Control, led to the managership of Systems Design (in 1957) and then to Manager of Systems and Procedures in 1958, the post he now holds.

He is responsible for Service Company's Administrative Systems, Procedures and Forms, including Records Management, the issuance of policy matters, and the coordination of Staff, MTP and BMEWS Standard Procedure Instructions.

He is a member of the Systems & Procedures Association of America (he served on the Philadelphia Chapter's Board of Directors for two years), and of St. Joseph's Institute of Industrial Relations.

Occasionally in his busy life he likes to hang out the "gone fishin'" sign.

H. L. Warringer is MTP's Administrator of Fiscal and Staff Plans. His duties encompass the formulation and establishment of instrumentation fiscal policies affecting budgets, allocations and expenditures, and (as Administrative Assistant to the Vice President) the implementation of such policies.

Mr. Warringer started with the Service Company in 1946 as a TV Technician in the Albany, New York, Consumer Products branch. He became Albany TV Branch Manager in 1947, went on to a similar position in Newburgh, New York, and concurrently opened a new Branch at Thompkins Cove. In 1949 he was Syracuse TV Branch Manager, and opened the new Rochester Branch. He then transferred to Home Office as Customer Correspondent.

His association with Government Service began in 1951 as Administrative Assistant to the Manager of Technical Engineering, from which he advanced to Manager of MTP's Fiscal Planning then to his present position.

His avocation is in the realm of magic and, in his three years as a Radar Technician in the Signal Corps and Anti-Aircraft Artillery, he was called upon to perform with the Special Services units.



G. F. Buchanan



D. J. Carpenter



H. L. Warringer



G. B. Whitten, Jr.

D. J. Carpenter is Manager of the Government Service Systems Engineering Facility at Alexandria, Virginia, responsible for the direction and administration of its overall operation.

An Electrical Engineer, he began his RCA career (in 1949) as a TV Technician in the Consumer Products branch at Baltimore.

Transferred to Government Service in 1950, he spent the next two years in Korea, Japan, and Hawaii as a GSD Field Engineer.

In 1952 he was promoted to GSD Group Leader; then to Project Manager in 1954. He became Facility Manager in 1957.

Mr. Carpenter also saw much of the Pacific Ocean area from the deck of a destroyer, when he served as a Radio Technician, USN, in the Pacific Theatre during World War II.

He's a member of the Johns Hopkins Alumna Association and the Armed Forces Communications Electronics Association. An avid music fan, he enjoys everything from Dixieland to Bach, Beethoven and Brahms, and attends concerts whenever and wherever he can.

G. B. Whitten, Jr., is a "man of many hats" in his position as Manager, Cherry Hill and Technical Products Service Personnel.

In the combined job he is responsible for the labor relations programs and administers all other personnel practices for Technical Products Services; directs Employment and Personnel Services for all Cherry Hill offices; supervises Wage and Salary, Organization Development and Training for Service Company Home Office Staff Departments; maintains Service Company's Personnel Records, Insurance, Retirement, Suggestion and Safety Programs.

The Cherry Hill Dispensary and Food Services personnel functions are also within his jurisdiction.

A former Associate Professor at the University of Pittsburgh, Mr. Whitten's entry into Service Company (in 1950) was through Consumer Products Service Operations as a Systems Analyst. He became Tech Products Service Personnel Manager in 1956; was promoted to his present post in 1958.

Not the least of his assignments, in the eyes of your editor, is his astute scanning of Service Company publications prior to press-time.

# A Page from the Family Album



**Patrick Air Force Base, Fla.**—Belated congratulations to Virginia Wharton and W. P. Remaley who achieved 25 years of continuous service in 1958.



**Daytona Beach, Fla.**—Young launchers get guidance from American Rocket Society members (l. to r.): R. Eley, AVCO; O. Whitehurst, GE; H. Pfeiffer, Space Tech Labs; J. F. Thompson, RCA-MTP.



**Circa 1928**—Back row (l. to r.): Don Campbell, (next man unidentified), Jack Bray, (unidentified), Bill Bohlke, Westy Westbrook, Woody Woodford, Bill Witty. Middle row: John Mauran, Pete Calvin, Herb Hucke, H. Connelly, Stew Carter, Al Josephson, Harold Rainier, Paul Pfohl, Ernie Johnson. Front row: (unidentified), A. H. Castor, Matt Bergin, Bill Graham, Henry Clinton, (unidentified).



**Patrick AFB, Fla.**—MTP Engineer E. H. Serveson and his co-author wife present their "Missy the Missile" book for children to Vice President K. M. McLaren.



**Cherry Hill**—Treasurer and Controller E. H. Griffiths presents suggestion awards to T. A. Haverson and eight others in a recent Finance Dept. bonanza. (l. to r.): R. L. Olmstead, J. A. McNelis, J. Wesolowski, H. Miller, R. Stern, L. Havens, G. Gurchick.



**San Francisco**—Young man-on-a-horse is Tom (V. T.) Jones, ex-Bosun Mate, ex-frogman and tugboat captain, now S. F. branch sales manager. He joined Service Co. in 1956 as an apprentice appliance repairman.

# HELP US KEEP THE THINGS WORTH KEEPING



This is Commander W. R. Anderson of the Nautilus, world's first atomic-powered submarine.

Working day after day in the first line of America's defense force, he sees the need for peace firsthand—knows that it's a matter of life or death. And he knows, too, that peace doesn't come easy or cheap. Peace costs money.

Not only money for strength to keep the peace. Money for science and education to help find lasting peace. And money saved by individuals, to keep our economy sound.

We can't all be Sub Commanders. But we can all help strengthen America's Peace Power, simply by buying Bonds for a stronger, safer America. Every Bond you buy helps.

Couldn't you buy a few extra?

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