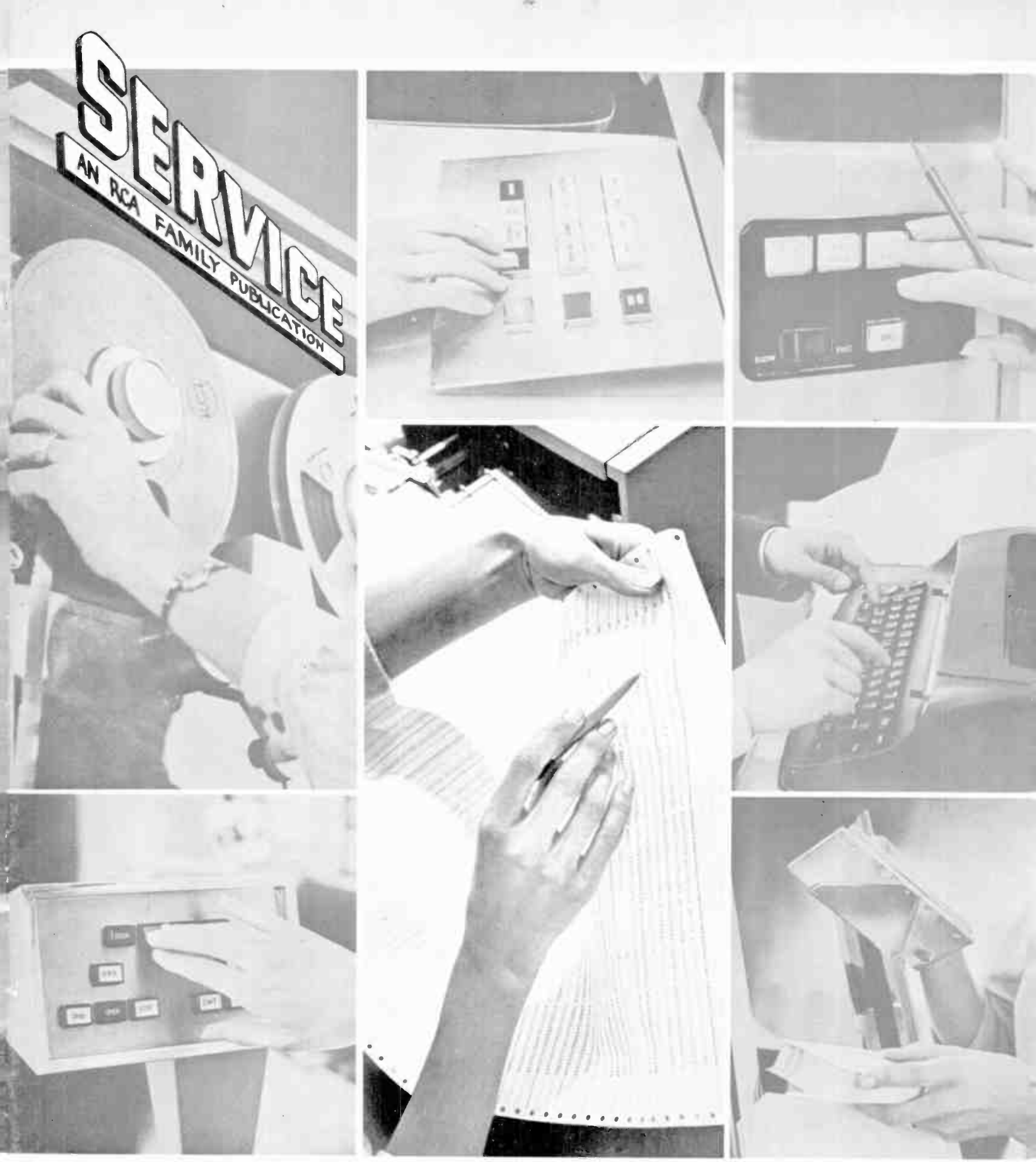

RCA SERVICE COMPANY

September, 1964

RCA SERVICE

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Cherry Hill, Camden 8, N. J.

THE COVER

Hands . . . the busy hands of Electronic Data Processing . . . serving Science and Industry, Commerce and Finance . . . Hands that are reaching out to new fields, new applications in our rapidly changing world.

This month's cover bids for your attention to two articles of particular interest . . . that of RCA Board Chairman David Sarnoff titled "Changing Times" (on this page), and a topical report (page 3) of the RCA Controllers Conference which convened recently in Florida. Together, the two stories seem to point out where we are and where we may be going.

Our Changing Times

"There are those today who wish to see the computer disconnected through fear that it will dehumanize our society. The fact is that we cannot pull the plug on the computer, or on the communications with which it will be integrated, any more than we can return to the covered wagon or the sailing ship."

The words are those of RCA Chairman David Sarnoff, from his address to the American Bankers Association. He anticipated fundamental changes in work, leisure, education, health, and politics brought about by the electronic computer as a special force, and warned against its misuse,

"There are basic human judgments beyond the competence of any mechanized register; moral imperatives beyond arithmetic. The machine cannot be permitted to usurp reasoned judgment or dilute the responsibility of those best equipped by experience to provide guidance. In June, 1940, after weighing all known factors, the computer would doubtless have advised England to seek the best possible terms from Hitler. It would have been tragically wrong, because no computer could ever reckon with, or replace, the indomitable spirit of Winston Churchill."

General Sarnoff emphasized that the dangers and limitations do not offer justification for arresting the development or narrowing the application of computers. "The urgent need," he said, "is to narrow the gaps between technology and social idealism, between the automatic and the rational elements in the human equation. We need, in truth, to concern ourselves less with thinking machines and more with thinking people."

In predicting an explosion in the social sciences over the next twenty years, the RCA Chairman foresaw computer applications extending to such developments as a computerized voting system permitting individual balloting at home; elimination of much of the rush and stress of modern living by making physical presence less essential to the discharge of business; reduction of the work day to four or five hours, and new opportunities for cultural and mental growth in leisure time; a speed-up of the entire educational process by computerized teaching machines; increased longevity, more rapid diagnosis of illnesses, and swift detection of symptoms that warn of epidemics with the aid of computer centers; international executive conferences in which participants remain at home, exchanging information through computers and communications.

"GOLDEN AGE" GUIDELINES SET FOR EDP

RCA CONTROLLERS ANALYZE ELECTRONIC DATA PROCESSING POTENTIALS AT RECENT FLORIDA CONFERENCE

A new "family" of EDP equipment with great potentiality, the internal use of EDP wherever feasible, improved profit performance of existing systems, and a closer liaison between all levels of Management and EDP activities, were highlighted at a recent Controllers Conference in Hollywood, Florida.

The meeting was called by RCA Vice President and Controller Howard L. Letts, and attended by controllers from every division of the Radio Corporation of America.

Mr. Letts proposed an agenda aimed at "improving RCA's operating efficiency, competitive effectiveness and profitability;" recommended that operating management give increased attention to "realizing the full potential of RCA's data processing systems and equipment within the Company," and pointed out the sizeable profit to be realized within RCA by "subjecting all of our businesses to a thoroughly objective reappraisal."

Robert W. Sarnoff, NBC Chairman, was one of several Corporation executives to address the controllers. He told them, "The management that fails to comprehend the ability of the computer to deal with the complex problems and developments of the future will be courting obsolescence and failure."

Theodore A. Smith, Executive Vice President, Corporate Planning, stressed the importance of broad strategic planning, coupled with sound operational practices, capable of meeting the challenges of a changing environment. Such planning is necessarily flexible, he said, and is "creative and non-mechanical but can be aided by computers and mathematical systems." He quoted an article in Harvard Business Review, which noted that "the railroads let others take customers away from them because they assumed themselves to be in the railroad business rather than the transportation business," and said that "there are other less obvious examples of industries that have been and are now endangering their futures by improperly defining their purposes."

EDP's Vice President and General Manager Arnold K. Weber, discussing selected management experience in Electronic Data Processing, said that "control tools are the basic ingredient for the development of profit objectives." A year ago, he illustrated, the problems on the ComLogNet contract seemed beyond quick solution. Basic realistic business practices were used to deal with the problems, and their success resulted in a large expansion contract.

Mr. Weber also discussed EDP's plans for new products and indicated that the new line of equipment will probably be announced this Fall, for delivery about a year later. He also stressed the advantages of increased use of EDP equipment within RCA divisions, stating that "nothing sells like using your own equipment."

CONTROLLER H. A. SEMLER . . . "We succeeded in bringing costs down . . ."

Status. The controllers themselves reported upon the status of Electronic Data Processing within their respective divisions. Controller Herbert A. Semler, representing Service Company and speaking in the area of improved profit performance, presented a case study in the use of management controls to reduce costs in the installation and maintenance of EDP equipment.

"In the early days of the work," he said, "it became obvious that controls had to be established to bring the costs in line with those of competition.

"It was first necessary to learn the business and to determine what the costs would be. We have succeeded in bringing costs down now, but we are still searching for ways to reduce them even further."

The Service Company worked closely with members of the EDP Division, Mr. Semler said, in reviews of operating methods and in close and detailed reporting of actuals. The significant increase in the number of sites from 1959 to 1964 helped to reduce costs per site; however, a substantial part of the cost reduction resulted from management's constant review of the business and direct corrective action.

CONFEREES — (l to r) EDP Vice President and General Manager A. K. Weber; EDP Operations Manager J. A. Scarlett (Palm Beach); RCA Vice President and Controller H. L. Letts.

R. L. OLMSTEAD — Data Processing Manager, Finance.

J. E. STEOGER — EDP Centers Operations Manager.

H. W. JOHNSON — Field Operations Manager, EDP Service.

For example, the redesign of computer equipment to accomplish lower service costs resulted in a reduced investment in parts inventories and test equipment. Improved methods of parts purchasing, interchangeability of inventory parts between sites, and the repair of parts in lieu of replacement purchases helped to lower maintenance cost.

The reduced investment in test equipment resulted from improved training of technicians and improved engineering support. Training costs were reduced through revised training and recruiting methods. High cost areas were pin-pointed, studied, and rearranged to effect reductions in indirect administrative costs.

The savings realized in the five-year period were passed on to the EDP Division and other Service Company customers.

An EDP "Showcase." Service Company, unique among the RCA divisions, is "in" Electronic Data processing with both feet and experienced in almost every phase of the industry.

In addition to field installation and maintenance work for commercial, financial, industrial and other customers, for instance, Service Company operates two EDP Centers at Washington, D. C. and Cherry Hill.

These Centers offer a diversified service to insurance and banking companies, publishing houses, and others requiring the processing of large volumes of paperwork at the lowest cost. In a recent unique application, the Cherry Hill Center processed the RCA three-for-one stock split in their regular maintenance of Corporate Stock Records. It has also acted in a "back-up" capacity for NBC in their EDP prognostication of national election results.

Internal Use. The Cherry Hill installation — two 501s and one 301 — also processes much of Service Company's own paperwork. That portion of the Payroll which is paid from Cherry Hill (more than 10,000 checks on 34 different payrolls and including some 27 different types of deductions) was implemented on the 501 computer in May of this year. Accounts receivable, contract fulfillment, inventory work, and other Service Company accounting operations are computerized at Cherry Hill.

Government Services. Another large and experienced staff of Service Company specialists is engaged in worldwide computer programmming, data processing, and data reduction activities for the U. S. Government — for specialized military computers, for the BMEWS system, and the Missile Test Project in Florida, for examples. This Government Services "team" is adept in the methods of data processing, from system planning and programming to data conversion and work scheduling.

Instruction. RCA Institutes, Inc., in New York City and the RCA Technical Institute at Cherry Hill, both under Service Company jurisdiction, offer preliminary and advanced courses in the study of the Electronic Data Processing arts. The former, oldest technical institute of its kind in this country and graduating hundreds of students annually for responsible technical positions in many areas of the vast elec-

$6 MILLION COMPUTER COMPLEX will link key U. S. industrial naval air stations. EDP's A. K. Weber, with Admiral Pinney (right) and Capt. Laurich, BuWeps.

tronics field, has both Resident and Home Study Schools. The Technical Institute at Cherry Hill conducts day and evening classes.

Both provide a means, for those who are seeking a career in the EDP field, to prepare for employment where the opportunity is high — as well as for experienced workers who are prudently "up-dating" their skills to conform to new and advanced methods of transacting business.

$100 Million Mark. Substantiating management's claims (and RCA's huge investments in the business), domestic orders for RCA electronic data processing equipment in the first six months this year were up 104 per cent in dollar volume over the like 1963 period.

Estimating that its annual revenue in EDP would pass the $100 million mark (for the first time) in 1964, the division stepped up its computer production sharply at the RCA Palm Beach Gardens, Fla., plant, and will add fifty new specialists to its marketing force to handle the growing number of RCA computer customers and installations.

The second quarter of this year saw an exceptional increase in orders for the RCA 3301 data system, as well as the RCA 3488 mass memory unit. Many of these orders were obtained in direct competition with the most recent computer systems announced by other manufacturers. By mid-July, there were more than 740 RCA computer systems either on order or in operation.

SERVICE TRAINEE John P. Jenkins, a former student of the RCA Technical Institute, Cherry Hill.

RCA NEWS NOTES

Good Prospect. RCA's profit momentum is being sustained vigorously into the third quarter, according to Group Executive Vice President W. W. Watts. He told the San Francisco Society of Security Analysts that Color TV, from set manufacturing to broadcasting, accounted for a major share of the company's record earnings; that RCA has advanced to the industry's number three position in the commercial computer field and is aiming at the runner-up position; that despite reductions in government contracts, RCA continues to rank among the top twenty companies in total volume of defense and space business.

* * *

Testing. Eight laser range finders, among the first military devices using lasers to be produced in this country, have been delivered by RCA to the U. S. Army. Tests on four of the devices indicate that in some instances specification requirements were exceeded.

The major advantage of a laser range finder for military use is its capability for rapid, high-accuracy range determination from a single location with a degree of security not obtainable with radar devices.

* * *

Chosen. RCA's Astro-Electronics Division, Princeton, was awarded a design study contract by the U. S. Atomic Energy Commission to develop a nuclear power supply for the Surveyor Lunar Roving Vehicle, involving a means of converting heat emitted by a radioactive isotope into electricity. This radio-isotope thermoelectric generator (RTG) would provide power to propel the vehicle over the lunar surface and operate its exploratory instruments. The generation will be required to produce 40 to 50 watts from a Plutonium isotope, and will weigh less than 30 pounds, fit in a space 24 inches in diameter by 10 inches in height and have an operating life of one year.

* * *

For Emergency. A continent-spanning radio transmitter that uses body heat for frequency control and can fit in a shirt pocket, was developed at the Tucson facility of the RCA Communications Systems Division. First of its kind, the transmitter weighs 10 ounces including batteries, and its antenna weighs only an ounce.

In operation, the user places a miniature metal container, linked to the transmitter and containing frequency-determining crystal elements, under his upper arm and keeps it there where a high degree of temperature stability exists. This is vital to frequency control.

Beyond emergency uses such as those by downed pilots and shipwreck survivors, the little transmitter is believed to fill communications needs of U. S. Peace Corps members, missionaries, explorers, surveyors and others whose activities require distant and often solo travel.

* * *

Expansion. Plans were announced for a million dollar expansion of the RCA Systems Center on Wall Street to meet the rapidly growing demand from stock brokers for outside computer handling of their "back-office" paperwork. The addition of four RCA computer systems — one large-scale 501 and three medium-scale 301's — to the Center's present two 501's and two 301's will make it the world's largest and best equipped Center facility for handling brokerage firm data processing.

The Center now performs some 40,000 "back-office" transactions a day and this number soon will be increased to 100,000 when the work of the Center's new customers is in full prdouction.

* * *

Observation. The RCA Electron microscope's new capability allows scientists to observe the movement of tiny "magnetic domains" in certain metals while they are energized by a magnetic field. Such observation of movement would give metallurgists new insight into what happens to iron, steel and like metals when a magnetic force is applied, increased in intensity and withdrawn . . . knowledge that could be the key to better magnetic materials and improved products.

The studies could lead to the development of new ferromagnetic materials and, in turn, result in much smaller and lighter motors, faster computers, and better magnets.

Now used in virtually every field of research, the RCA electron microscope instrument provides direct electronic magnification of up to 200,000 times, permitting researchers to view molecules and other sub-structures.

NEW BUSINESS

William F. Tait, RCA Government Services Marketing Vice President, announced the award of three new business contracts to the RCA Service Company during the month of July, with an initial booking value of approximately 4.6 million dollars.

Work under these contracts will be performed in Germany, in Puerto Rico, and in Tennessee for the U. S. Air Force in Europe, the Navy Bureau of Weapons and the Air Force Systems Command's Arnold Engineering Development Center.

In Europe. RCA Service Company will furnish technical services of more than 100 engineers and technicians for utilization in support of the 412L Weapon System in Europe. The system consists of radar surveillance locations and a network of air defense weapon control sites.

In Puerto Rico. RCA Service Company will provide technical support services to the Navy at the Atlantic Fleet Weapons Range near Roosevelt Roads. RCA will operate and maintain the command control equipment including data acquisition and tracking radars, transmitters, and telemetry systems on the Range. Also, a comprehensive program of preventive and corrective maintenance of a wide variety of electronic equipment is planned.

In Tennessee. The Arnold Engineering Development Center contract calls for the installation, test, and check-out of solar simulators for the Mark I Aerospace Environmental Test Chamber, the largest aerospace test facility of its kind being developed by the U. S. Air Force. The solar simulators, designed in modular form, will reproduce the effects of the sun on a space vehicle traveling in the region between the earth and the moon.

DIV. VICE PRESIDENT TAIT . . . "a welcomed technical challenge" . . .

In making these announcements, W. F. Tait said that these awards represent a welcome technical challenge to RCA Service Company personnel who have been operating on similar assignments for the U. S. Air Force, Department of the Navy, and the National Aeronautics and Space Administration.

Field Engineering Operations

IN ANKARA

From the U. S. Air Force "Tuslog" newspaper, Ankara, Turkey — "Mr. Anton K. Rappold and Mr. Douglas B. Kenney, RCA Field Engineers, awarded a diploma and prize slide rule to A/2c Larry D. Adkisson, Honor Student in a class of 31 Air Force Electronic Technicians completing the RCA Service Company's Basic Slide Rule Course, held at TUSLOG Det. 6.

The Course consisted of 20 hours of formal classroom instruction and homework, stressing use of the slide rule in the solution of practical electronic problems."

BMEWS

CIVIL ENGINEERING

Through organizational restructuring, BMEWS has established a large new section known as "Civil Engineering," responsible for the operation and maintenance of real and installed property at BMEWS Forward Sites I and II.

The move was made to compensate for the increasing importance of Civil Engineering to the BMEWS O&M contract — a field which has grown to approximately one-third of the total contract, in terms of manpower resources, since award of the first contract in 1962.

The new organization is headed by Robert P. Cowart, recently retired as Lieutenant Colonel after twenty years in the U. S. Air Force. A native of Cowart, Virginia, he attended Virginia Polytechnic and the University of Michigan; holds BS and MSE degrees; is licensed as professional Civil Engineer by the state of Louisiana. During his military service, he spent several years in Saudi Arabia, Scotland, and Italy.

Field Marketing

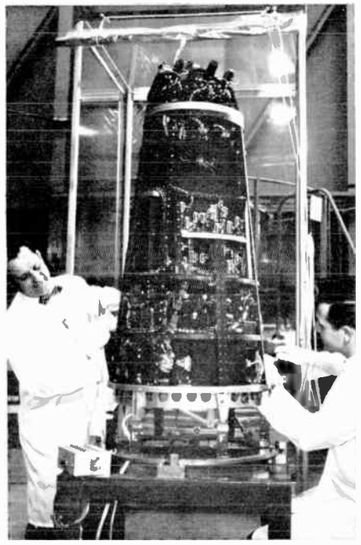
IN ROME, N. Y.

Acting for the Commander, RADC, Northeast Region Manager H. J. Mills recently presented the Armed Forces Communications and Electronics Association Award at the Air Force ROTC awards review, Union College. Mr. Mills is first vice president of the Rome-Utica Chapter of the AFCEA.

One of the three highest presented, the award was won by Cadet Commander A. A. Giardinelli, a senior electrical engineering major.

Cited earlier as a distinguished cadet, he won the award for his outstanding qualities of leadership, high moral character, and aptitude for military service.

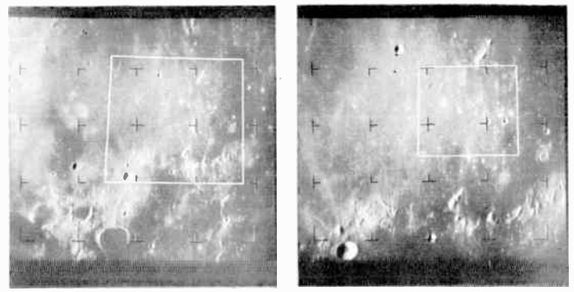
AWARDS — Field Engineers Rappold and Kenney, in Ankara, Turkey, honor A/2c Adkisson. Right, in Rome, N. Y., Region Manager Mills congratulates Cadet Giardinelli (see stories, this page).



PASADENA — Field engineers Wilczynski and Nachbar test Ranger's TV system.

CAPE KENNEDY — Technician Dale Schel adds pre-launch finishing touches.

FIELD PROJECTS' RECOVERY TEAM operates RCA ground equipment at NASA's Pioneer and (below) Echo stations in Mojave Desert. Project Manager O. E. Cole, front row, fifth from left.



Altitude: 480 miles

Altitude: 235 miles

Altitude: 85 miles

Altitude: 34 miles

Altitude: 12 miles

Altitude: 3 miles

MOON PHOTOS show many craters with rounded shoulders. Photo at 3 miles was taken 2.3 seconds before impact.

Service Team Shares in Ranger Triumph

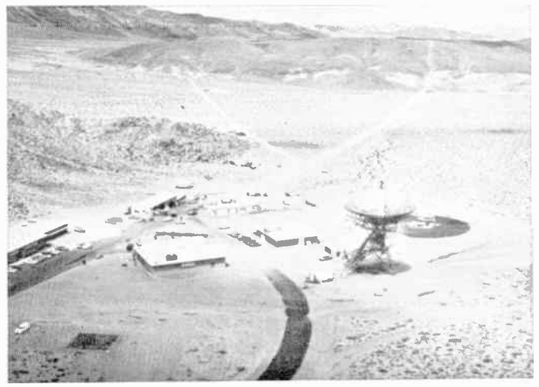
As Ranger VII streaked toward the moon at a speed of nearly 6,000 miles per hour, a group of Service Company engineers and technicians quietly manned the RCA recovery equipment at NASA's Goldstone Deep Space Instrumentation Facility in California's Mojave Desert.

They were among the first to know that the now historic mission was successful. In the thirteen minutes before crash-landing, the "eyes" of Ranger's RCA TV system peered down on the mountains, valleys, craters and huge seas of the moon; began taking pictures about 1,250 miles from the lunar surface, with the last shot sent back to the giant antenna from about 1,000 feet from the moon.

Exceeding all expectations, resolution of the photos turned out to be 1,000 times what had been achieved via the giant telescope on Palomar Mountain. Areas of the moon's surface, previously thought to be smooth, were revealed as pock-marked and too treacherous for a manned landing. Other photos indicated that the surface of the flat seas will probably be firm enough to support an astronaut without his sinking into a deep layer of dust. The first step in seeking a landing site for the Apollo lunar mission had been accomplished.

While it is generally known that the Ranger TV system was built by RCA's Astro-Electronics Division at Princeton, New Jersey, few outside of the industry realize that the NASA "Pioneer" and "Echo" ground stations in the Mojave are also RCA-equipped.

Responsibility for the operation and maintenance of this equipment rests with O. E. Cole, Manager, Ranger Service Project. He heads a roving team of thirty-seven engineers and technicians, some of whom shuttled between assignments at the Jet Propulsion Laboratory at Pasadena, California (where they assisted in the test and checkout of the RCA TV "payload") and Cape Kennedy, Florida (where it was integrated with the Atlas Agena spacecraft).



The group, a part of Government Services' Field Projects, reports directly to J. P. Foley, Manager of Aerospace Systems Service Projects. The section also services the Nimbus Systems Integration Project and Satellite Tracking (TIROS). Eugene L. Klein is Manager of the overall activity which, in addition to the above, also includes Avionics & Communications Service, Pangloss Service, Special and Support Systems Service, and other special projects.

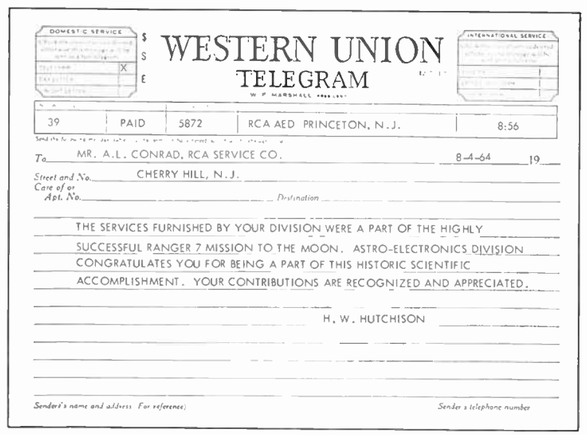
The Ranger success was lauded by Service Company's President A. L. Conrad, who wired to Mr. Cole and his men: "Congratulations to you and your team. The Ranger VII success gave a tremendous lift to the nation's space program and could not have been achieved without superb performance by all elements of the project."

The Jet Propulsion Laboratory of the California Institute of Technology was prime contractor to NASA for the Ranger program. RCA's divisions worked as subcontractors.

ECHO TRACKING SITE — Data Recovery Group awaits transmission of pictures from Ranger's TV cameras.

AFTER IMPACT — Moon pictures are viewed by an awed group of participants. The photos were excellent, surpassing all hopes.

EXULTING in triumph over deep space are (l to r) Don Kindt, Jet Propulsion Lab leader; Ben Dillon, Service Company site leader; Dave Williams and (partially obscured) Jules Nielsen, JPL leaders; Bernie Miller, RCA's AED Project Manager; E. L. Klein, Service Company's Manager of Aerospace and Communications Projects; Ray Hogan, AED's Manager of Special Projects.



DOMESTIC SERVICE | INTERNATIONAL SERVICE

WESTERN UNION
TELEGRAM

39 | PAID | 5872 | RCA AED PRINCETON, N.J. | 8:56

To MR. A.L. CONRAD, RCA SERVICE CO. 8-4-64 19

Street and No. CHERRY HILL, N.J.

Care of or Apt. No. Destination

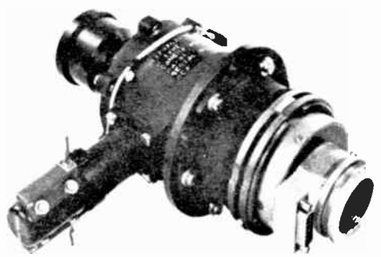
THE SERVICES FURNISHED BY YOUR DIVISION WERE A PART OF THE HIGHLY SUCCESSFUL RANGER 7 MISSION TO THE MOON. ASTRO-ELECTRONICS DIVISION CONGRATULATES YOU FOR BEING A PART OF THIS HISTORIC SCIENTIFIC ACCOMPLISHMENT. YOUR CONTRIBUTIONS ARE RECOGNIZED AND APPRECIATED.

H. W. HUTCHISON

Sender's name and address. For reference:

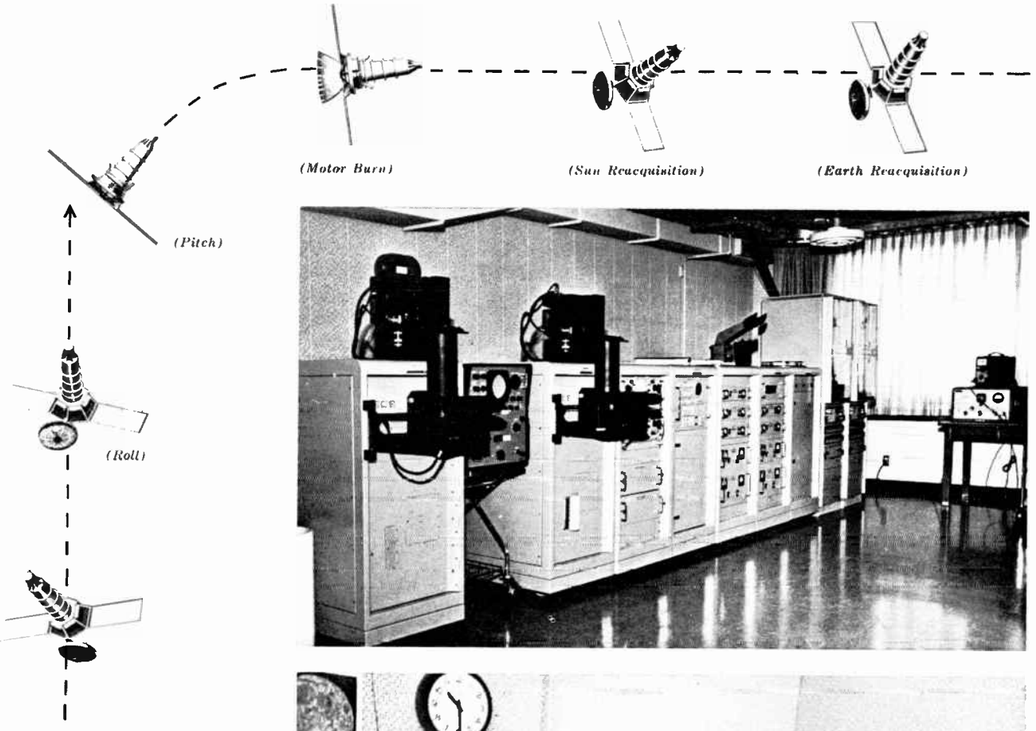
Sender's telephone number

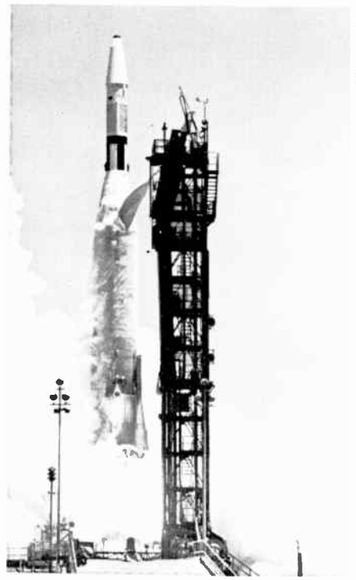
AMONG CONGRATULATORY TELEGRAMS was one from the Astro-Electronics Division, to Service Company's President A. L. Conrad.



NARROW-ANGLE CAMERA OF TV SYSTEM; part of the six-camera payload and associated communications equipment produced by RCA's Astro-Electronics Division.

RANGER MANEUVER





AT GOLDSTONE — A taut and deeply involved group awaits results of the "Moon Shot." At top, the RCA recovery equipment. At left, the Atlas Agena which carried the RCA camera "payload." Above, representatives of the Jet Propulsion Laboratory. RCA's Astro-Electronics Division, and Service Company.

Missile Test Project

RE-ENTRY

Receiving data throughout the flight of the Asset spacecraft (tested from Cape Kennedy in July), the X-band telemetry ground stations built by Service Company's Missile Test Project helped to overcome the telemetry blackout on the vehicle as it re-entered the earth's atmosphere at hypersonic speeds.

Placed at four Air Force Eastern Test Range tracking stations, the X-band equipment — built at a "bargain" cost — received data during the period when VHF signals were blocked by ionized plasma that surrounded the spacecraft as it blazed downrange at almost 13,000 miles per hour.

Contained in vans, the X-band receivers were designed by MTP engineers and assembled in the Patrick AFB engineering support shops which are operated by MTP for the Air Force. Surplus radar and radio stocks were utilized as much as possible, and the stations — worth an estimated $2.5 million if all new components had been used — were built for a total cost of $250,000.

The X-band equipment was designed to combat the telemetry blackout that normally occurs at VHF frequencies when ionization, resulting from extreme temperatures generated by friction from the atmosphere, envelops re-entering spacecraft. The problem is especially acute on Asset because of its airplane-like design, which exposes more surface to the atmosphere, and the craft's shallow glide-path trajectory, which extends the duration of the ionization.

On the July 22 Asset flight, the onboard transmitter, operating at 9300 megacycles frequency, successfully penetrated the ion sheath and data was received by the MTP-built ground stations during the entire re-entry period. The tests are expected to provide a vast amount of information for use in the design of future hypersonic aircraft and advanced re-entry space vehicles.

CHO SANG KWI

An eight-year-old Korean girl is getting her chance at a fuller, happier, hunger-free childhood as the adopted daughter of 39 MTP technicians in the Optics Lab. They provide $15 monthly toward her support through the Foster Parents Plan, donating the money from their departmental "coffee club" profits. The child's family has a total income of $12 monthly earned by three older children and the mother, who earns 15¢ a day gathering and selling edible grasses. The techs hope to adopt a second child, preferably a needy American Indian.

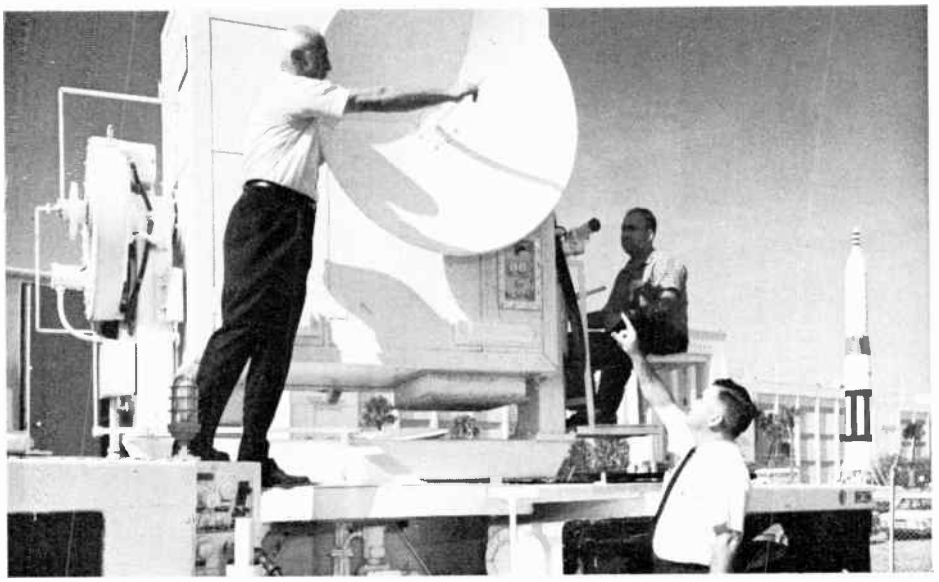
COFFEE CLUB COMMITTEE at MTP Optics Lab (l to r) Ralph Jerauld, Jeananne May, Charlie Eldred, Sven Leonardson and, at right, the Club's daughter, Cho Sang Kwi, adopted through the Foster Parents Plan.

APPOINTED

P. L. Beem. MTP Manager of Quality Control; named president of the Cape Kennedy Reliability and Quality Control Club. Composed of 62 members of aerospace firms, the Club meets regularly to exchange Quality Control information.

H. C. Cox. MTP Manager of Communications, recently attained Professional Engineer appointment. Prior to joining MTP, he was U. S. Executive Officer in an expedition to the Canadian Arctic; later served the Voice of America in Manila, the Philippines, and New York City.

H. C. COX, awarded engineering license and (right) P. L. BEEM, Quality Control expert.



X-BAND TELEMETRY GROUND STATION, one of four built by MTP for Asset spacecraft tests. At right, E. M. Fetner, who proposed utilizing X-Band instrumentation. Left, Tech Andrew Mehalko; seated, Tech C. W. Moore.

Technical Products Service

DRY COPIES

Savin Business Machines Corporation of New York has entered into an agreement with Tech Products Service for the installation and maintenance of their "Sahara" Electrostatic Office Copier, on a national basis.

The "Sahara" is said to be the world's first completely automatic office copier. It actually measures the amount of Electromix toner required, and automatically adds the precise amount to insure high fidelity copies every time. To produce copies, one has merely to insert the original and the machine produces a single copy or multiple copies as required.

The paper, on a roll inside the copier, is automatically cut to the length of the original. The copies produced are completely dry. The machine will also reproduce from originals printed in color, and accommodates to a wide range of sizes.

In the fast moving office machine industry, reprographie is the most rapidly growing segment. The electrostatic copier has already displayed tremendous acceptance in plants and offices world-wide. In 1964, it is anticipated that the industry will sell or lease some 50,000 machines. The growth factor expected for the next five years is estimated to be at the rate of 20% per year.

While the Savin "Sahara" machine has been designed, engineered, and built for ease of maintenance, the great demands placed on each machine will require planned maintenance service. The strong capabilities of Tech Products' Field Service organization in electronics, electromechanical devices, and optics, are expected to play an important part in the successful marketing of the Sahara Office Copier.

Commercial Products

FOR SCHOOLS

The industry's first VHF receiver, specifically designed with remote control, is featured this year in RCA's "educator-specified" line of ETV equipment for schools. Widely promoted by Commercial Products during the summer months, the full line includes seven receiver models and an expanded variety of accessories.

The receivers are designed — not modified — for classroom use, incorporating many suggestions made by the educators themselves. Among these features are glareproof picture tubes, tamperproof backs, and heavy duty power cords with automatic grounding. The wired remote control — optional with the 23-ETV 7 series VHF economy set — can be built into the teacher's desk or into a classroom wall.

Accessories include the new space-saving ceiling mounts and wall brackets which save valuable floor space, provide viewing comfort even in large classrooms, and protect the school's receiver investment.

Other features of the RCA "single source" ETV package — available through lease plan or outright purchase — are RCA's Master-Tenna antenna signal distribution system, and complete installation and maintenance services by RCA technicians in most metropolitan areas. RCA studio transmitting and receiving equipment, if desired, is available to schools through RCA's Broadcast and Communications Division.

RCA ETV can enrich the curriculum, while helping to alleviate pressing problems of increased student enrollments. With the growing numbers of educational telecasting facilities and programming, the future promises extended use of this valuable educational tool. Even now, more than six and a half million students are receiving some form of instruction through television.

FOR HOSPITALS

An expanded line of TV and communications equipment, for use by both patients and staff, has been expressly designed for the hospital and nursing home market. It includes two basic "Mural TV" receivers, and a wired remote control unit that provides the patient with complete bedside control over TV, radio and nurse call functions.

Service Company introduced an economical visual nurse call system, and retained the audio-visual nurse call system in the line. Both enable patients to signal for nurses; both permit the nursing staff to respond quickly to patient calls while keeping patient needs under surveillance.

Two Doctors' In-Out Register Systems also are included in the RCA hospital and nursing home line. A Digital Coded Register System, for larger staff reqiurements, employs a single action key and button operation for registration and paging of physicians at entrances and central keyboards. The system can accommodate up to 1,000 listings. The visual register system provides for message reminders and can easily be tailored to most hospital and nursing home requirements.

OFFICE COPIER — The Sahara 200 is demonstrated by a Savin Customer Service Representative.

SAVIN EXECUTIVES review service policy with Tech. Prod. Market Research and Development Manager Grossman (right).

The RCA line also includes closed circuit television for hospital personnel training, and for patient surveillance.

The system can provide for telecasting of religious programs for non-ambulatory patients as well.

HOTELS AND MOTELS

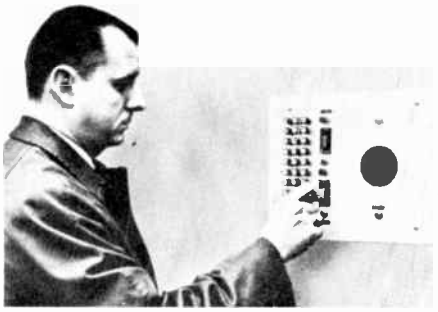
A combination television-radio receiver, a TV model with remote control, and a color consolette highlight the 1965 RCA Victor "Full House" line of hotel-motel equipment.

And complementing the new sets are tea cart and pedestal-styled stands, as well as wall mounts, swivel bases and an attractive cabinet into which the table models fit to create the appearance of a console.

The new line contains six basic series of receivers, with variations of each series to meet specific requirements. All sets provide all-channel VHF and UHF reception, and incorporate volume limiters, tamperproof backs, front-mounted speakers and controls, one-set VHF fine tuning.

Guest service equipment includes wired remote control, customized remote control, and the RCA Room Services Panel that can provide up to five channels of audio entertainment, a TV pilot light indicator, and a "Please-call-desk" signal.

The variety of entertainment and control systems are designed to help hotels and motels achieve greater guest comfort and efficiency. These systems include two-way maid intercom, background music with zone paging, a room status board that tells at a glance the condition of all rooms in the house, and a system for signalling rooms that telephone calls were received while the guest was out.



AT THE HOSPITAL, a digital coded in-out register for doctors. Control station above, entrance station below.

THE "IDEA ROOM" at the Hotel Industry's AMHA Show in Chicago featured two customized TV sets from Commercial Products' "Full House" line.

The complete "package," or any part, is available through Service Company on lease plan or outright purchase. Installation and maintenance services are available for receivers, entertainment and communications systems and on the signal distribution system from Service Company's own technicians in most metropolitan areas.

Hospitality Room. Commercial Products participated, with gratifying results, in the Motelrama "Idea Room" at the 1964 AMHA Show in Chicago. The basic suite consisted of guest room, bathroom, patio and lounge; was demonstrated as graciously serving all the needs of the traveling executive, a family group, the salesman and his "boss," or groups of vacationing tourists.

The "Idea Room" pampered its guests with two RCA Victor customized television remote control units, one furniture-mounted and the other free-standing. Both featured receiver-on pilot light and message-at-desk indicator light. Accessories chosen included the contemporary TV pedestal stand and an adjustable swivel-mount slide shelf which recesses the receiver into the wall.

Educational Services

PRODUCED

Civic-minded Service Company employes will be interested in recent information received from the RCA Institutes' Dean of Administration, regarding a new film available for loan to industry, schools, churches and various other groups.

The film, titled "Your Future in Electronics," describes the various programs offered by RCA Institutes, Inc., and traces the progress of a student from his initial enrollment, to graduation and placement in the electronics industry. Many scenes show the responsibilities of engineering aides and technicians working in the electronics industry and related fields.

Those interested may write to Dean N. Michael Terzian, RCA Institutes, Inc., 350 West 4th Street, New York, N. Y. 10014.

PUBLISHED

McGraw-Hill has announced the publication of a two-volume text on Basic Electronics and Industrial Applications, co-authored by Elonka and Bernstein.

Julian L. Bernstein is Associate Dean of the RCA Institutes Day School. He is the author of a previous book, "Video Tape Recording," and has written a number of articles on audio- and radio-electronics.

Take Care!

Dr. Paul T. Milnamow cautions drivers to play it safe, and discusses some of the "hidden causes" of accidental injury and death on the road.

If you earned your living as I do mine, you'd be very aware of the importance of good safety conduct — and more than a little conscious of the tragic consequences of accidents that, you say, just "happened." High on the list are the dread statistics of America's highways.

And so I'd like to relay some advice to everyone who drives a car, capsuled from an American Medical Association leaflet, which points out that accidents don't "just happen," that perhaps you are not "fit to drive."

Emotional Upsets. A serious problem affecting the emotional stability of the driver is as important as any single factor in maintaining traffic safety. Don't drive when very depressed, angry, badly worried. Don't drive "unless you can keep your mind on the wheel."

Attitude. The aggressive, intolerant driver, one who feels that the other fellow is always wrong, who retaliates with reckless use of tremendous horsepower, is the cause of many accidents. "Check *your* attitude. Be mature!"

Fatigue. A sleepy driver is as big a hazard as a drinking one. On long trips, rest every two hours; drink coffee or cola. Best of all, "pull up and rest up."

State of Health. Some of the health hazards: blurred or otherwise faulty vision, neurological conditions causing convulsions or temporary loss of control, heart disease, circulatory disorders, high blood pressure, uncontrolled diabetes. Ask your Doctor's advice. Also, inquire about the side effects of any drugs you take.

Alcoholic Intake. Two drinks or two beers is sufficient to impair the judgment and reactions of many people. *No one* can take much without becoming a potential menace to himself and others. Avoid alcohol especially when taking medicine of any kind.

HUNTSVILLE — Engineer A. R. Ulman received 30-year award from Govt. Services Vice President Heller.

ROME, N. Y. — (l to r) Engineer E. C. Ballentine, retired; GS Fld. Cont. Mgr. Masters; U. S. Area Mgr. VanDuyne.

LONG SERVICE

August, 1964

20 years:

H. D. BURMAN, Tech. Prod., Oper. Admin.
C. M. KASEY, Tech. Prod., T&I
R. C. MARTIN, Govt. Services, Contracting

15 years:

W. J. BUFFUM, Govt. Services, Field Engrg.
V. CARR, Cons. Prod., TV Branch
R. COYLE, Input Operations
J. W. DRZAL, Cons. Prod., TV Branch
D. C. FIELDS, Cons. Prod., TV Branch
J. E. GAA, Cons. Prod., TV Branch
E. J. HAYES, Cons. Prod., TV Branch
J. L. HOEKSTRA, Cons. Prod., TV Branch
J. A. KIRBY, EAM Operations
J. F. McKAY, Cons. Prod., TV Branch

September, 1964

40 years:

P. V. SMITH, Tech. Prod., Oper. Admin.

35 years:

F. V. SCHMELZER, CP Oper. Admin.
H. W. TAYLOR, Tech. Prod., Oper. Admin.

30 years:

J. FEASLER, Cons. Prod., Contract Ful.
C. GARNER, Tech. Prod., Radiomarine

25 years:

K. FINANGER, Cons. Prod., TV Engrg.

20 years:

A. J. KOMER, Tech. Prod., Oper. Admin.
A. T. SLOVEKOSKI, Tech. Prod., Radiomarine

15 years:

R. K. BENNSKY, Cons. Prod., TV Branch
M. M. BLACKTON, Cons. Prod., TV Branch
C. P. D'ALESSANDRO, Cons. Prod., TV Branch
J. F. DALEY, Cons. Prod., TV Branch
G. W. DAVIDSON, Cons. Prod., TV Branch
A. L. DICKSON, Govt. Services, Field Engrg.
S. F. DYSON, JR., Cons. Prod., TV Branch
J. R. FUHS, EAM Operations
L. R. GARCIA, Cons. Prod., TV Branch
S. GLOVA, Cons. Prod., TV Branch
J. W. HAGUE, Cons. Prod., TV Branch
F. T. HALPENNY, Cons. Prod., TV Branch
E. C. HARDESTY, Cons. Prod., Antenaplex
D. F. HARRINGTON, Cons. Prod., TV Branch
E. E. HARRIS, Cons. Prod., TV Branch
M. E. HUNT, Cons. Prod., TV Branch
J. HURIN, EDPS Site Location
J. E. IVERS, Cons. Prod., TV Branch
G. M. JACOBSON, Cons. Prod., TV Branch
R. L. LEONARD, Cons. Prod., TV Branch
W. D. MILLER, Cons. Prod., TV Branch
F. W. MOYNIHAN, EBS Planning
R. C. PALMER, Cons. Prod., TV Branch
N. W. PARLETTE, Cons. Prod., TV Branch
F. M. PARTLOW, Govt. Services, Field Engrg.
R. PETZ, Cons. Prod., TV Branch
M. RASMUSSEN, Cons. Prod., TV Region
R. K. REH, Cons. Prod., TV Branch
G. E. REILLY, Govt. Services, Field Engrg.
G. V. REMER, Cons. Prod., TV Branch
D. A. RICKETTS, Cons. Prod., TV Branch
E. M. SEITZ, Exec. Admin.

CHERRY HILL — 40-year man P. V. Smith, Tech Products, Operations Admin.

MERRITT ISLAND—Engineer J. F. Ingels (20 years), with (right) E. Sears, Mgr. NASA Base Communications Projt.

MILEPOSTS

Retired: Attorney Daniel R. Creato, Division Vice President of Industry Services, after twenty-nine years with the Corporation, including sixteen with the Service Company. His work encompassed many fields of counsel and guidance: in the interpretation of significant court decisions; in the conduct of litigation; in matters of contracts, leases, sales promotion, trademark, copyright, and the regulations of many governmental agencies. He also maintained close liaison with the leaders of the independent service industry, developing policies and practices which continue to govern company relationships within the service industry.

Retired: Engineer E. C. Ballentine, whose employment dates back to early "radio days" (1924). With RCA Victor/Camden for more than twenty-five years, he was associated chiefly with design and development activities on military equipment and systems. He was, for two years, responsibile for the supervision, layout, antennas design and installation of high-powered radio stations for the Republic of Korea, and acted as consulting engineer on Korean telephone, radio telegraph, teletype and relay systems projects. He joined Service Company in 1956, with Government Services Field Engineering; has engaged in development activities for the U. S. Signal Corps on radio-ionospheric propagation, among many other assignments.

Transferred: CPA Victor Pachter, former Administrator of Field Coordination for Finance; to Plymouth, Michigan, as Manager of Financial Operations, Industrial and Automation Products. He was active in the N. J. Society of CPAs and the Nat'l. Association of Accountants, was a Past President of both the Haddontowne Civic Association and Kiwanis Club, and a member of Cherry Hill's town council. In military service (1942-45), he engaged in twenty-five combat missions over Europe; won the Distinguished Flying Cross, the Air Medal and three Clusters.

RETIRED — D. R. Creato, Division Vice President, Industry Services

SUGGESTION WINNERS — B. V. Dalena and J. E. Fujaros, New England District EDPS Site Leaders. District Manager W. A. Rennie, at right.

Transferred: Karl J. Kurz, from Commercial Services Personnel, where he was Manager of Technical Products Service & EDP Centers Personnel, to the RCA International Division, Clarke, N. J., as Manager of Personnel Plans and Programs. With RCA since 1955, he transferred from Camden Staff Personnel (where he had concentrated in Organization Development and Training activities), to BMEWS in Riverton as Manager of Employment and Personnel Records. In 1960, when Service Company assumed the management and operation of the Air Force Alaskan Long Lines Communication System, Mr. Kurz went to Anchorage as Service Company's first White Alice Personnel Manager. On his return, he was named Administrator of Manpower Planning and Proposals, Government Services Personnel.

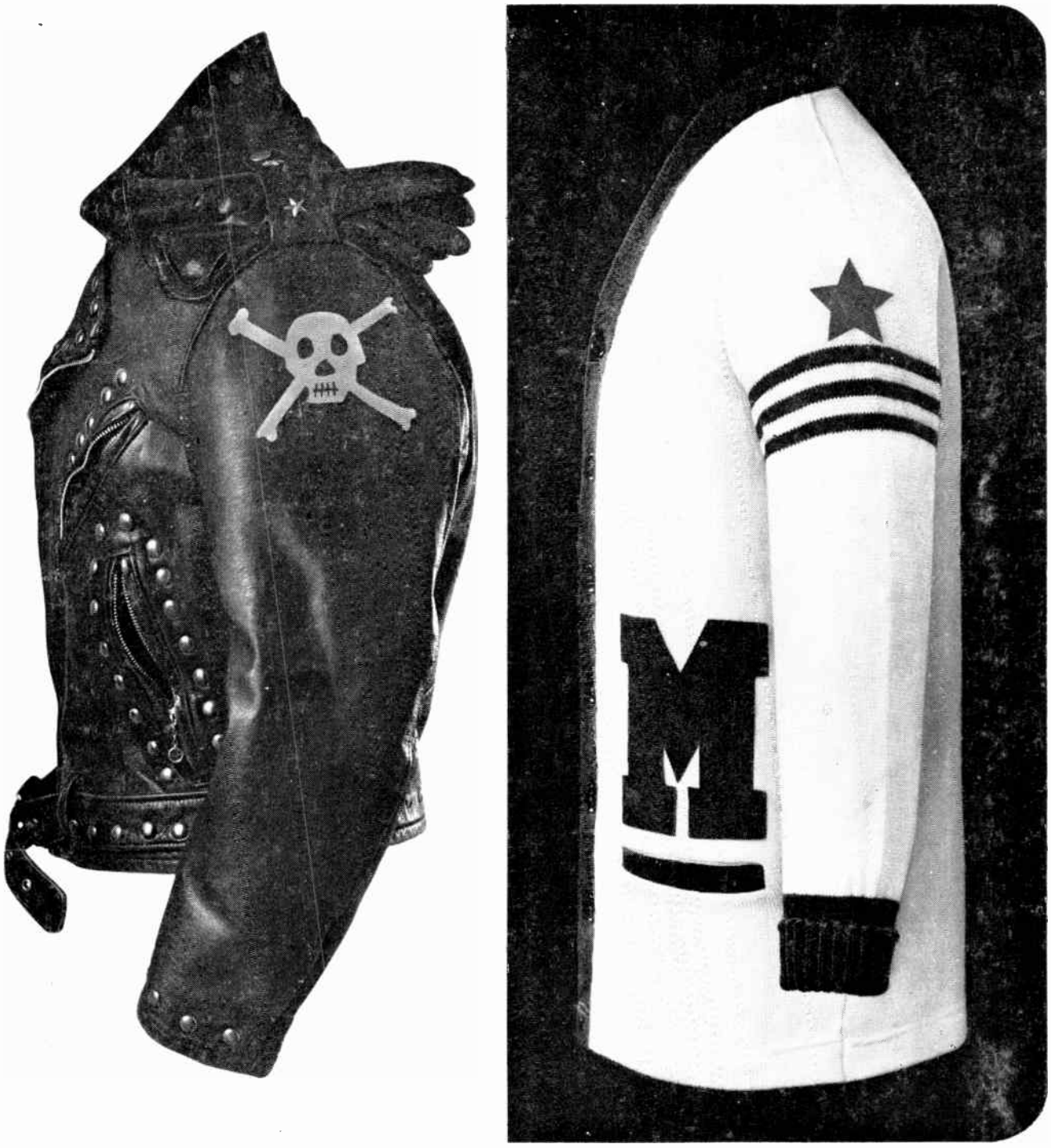
SUGGESTION AWARDS

Fairbanks. The first check ($100 less taxes) and Century Club pin awarded to a DAF Fairbanks employe under the RCA Suggestion Program, was made to Ira Haws for his audible alarm design for the cable pressurization system.

Present at the presentation (see pic, this page) were onlookers (l to r) Ole Johnson (an Alaskan who trained at RCA Institutes, Los Angeles), Walter Marks (Hydro), Chester Ballot (another Alaskan native), and Pat Ham. According to T. E. Wolfe, Jr., Station Manager, the check looked good to all of the technicians who plan to try their own luck via the Suggestion Program.

CENTURY PIN — to Ira Haws, DAF Fairbanks. Station Mgr. Wolfe at right.

Dedham, Mass. Electronic Data Processing Service reports a luncheon and suggestion award presentation for two new Century Club members — New England District Site Leaders B. V. Dalena and J. E. Fujaros. Boston Area Manager M. A. Jarrett, and New England District Manager William A. Rennie made the awards. The suggestion, on pressure pad assemblies, won in excess of the $100 minimum required for Century Club membership.



Your United Way helps change teen-age styles

Driving toward trouble . . . or toward a touchdown? Very often, that depends on you. On your United Way pledge that helps us carry on the recreation, guidance and community programs our young people so desperately need. We are fortunate in having such programs, and in being able to operate them year round, but continuing support is required so that our services for children and teen-agers never stop growing. That support must come from you. Please give generously. **One Gift Works Many Wonders/GIVE THE UNITED WAY**