

**26<sup>th</sup> ANNUAL REPORT**  
**RADIO CORPORATION**  
**OF AMERICA**



**YEAR ENDED DECEMBER 31, 1945**

# RADIO CORPORATION OF AMERICA



## BOARD OF DIRECTORS

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## TRANSFER AGENT

THE CORPORATION TRUST COMPANY, NEW YORK 5, N. Y.

## REGISTRARS

PREFERRED STOCK: THE CHASE NATIONAL BANK OF THE CITY OF NEW YORK,  
NEW YORK 15, N. Y.

COMMON STOCK: THE NEW YORK TRUST COMPANY,  
NEW YORK 15, N. Y.

## TO THE STOCKHOLDERS OF RADIO CORPORATION OF AMERICA

IMMEDIATELY upon the victorious conclusion of the war in August 1945, Radio Corporation of America began its change-over to peacetime operations. The primary objective of the Corporation throughout the war years was to contribute in every possible way to final victory for the United Nations.

Since V-J Day, the main objective of RCA, in research and engineering, manufacturing, broadcasting and world-wide communications, has been to serve the world in peace by producing radio instruments and by operating services unsurpassed in quality and dependability.

Considerable progress has been made in the reconversion of RCA VICTOR DIVISION manufacturing plants. Production of civilian radios, phonographs and television receivers, as well as transmitters, electron tubes, and other electronic devices is being expanded as rapidly as possible. RCA still has and expects to continue to have substantial government business.

RCA INTERNATIONAL DIVISION, created on February 1, 1945, has organized its activities to expand the Corporation's operations in foreign trade.

RCA LABORATORIES DIVISION, famous as a world center of radio-electronic research, conducted wartime research in radio, radar, television and various fields of electronics, and completed hundreds of projects for the armed services. Now the same scientists and research men are concentrating their efforts to continue America's preëminence in radio and electronic developments useful in peace and for national security.

NATIONAL BROADCASTING COMPANY, INC., which throughout the war devoted a substantial portion of its program schedule to the war effort, is now on a full schedule of peacetime broadcasting. At the same time, NBC is developing television broadcasting as a service to the public.

RCA COMMUNICATIONS, INC. established a new record with 200,000,000 words of traffic in 1945 over its 58 circuits that connect this country with foreign lands. The year brought about the restoration of radio communication with liberated countries.

RADIOMARINE CORPORATION OF AMERICA, which equipped a large number of ships with radio apparatus during the war, has shifted its operations to normal communication services on the oceans, and on the Great Lakes, rivers and harbors of the United States, and to the manufacture of communication, electronic navigation and other radio apparatus for peacetime use.

## FINANCIAL REVIEW

The financial statements of consolidated income and earned surplus for the years ended December 31, 1945 and 1944, and balance sheets at those dates, together with the certificate of the public accountants, appear on pages 27 to 32.

**Income:** A condensed statement of income for the years 1945 and 1944, excluding foreign subsidiaries, follows:

	1945	1944
GROSS INCOME FROM ALL SOURCES.....	\$279,503,615	\$326,421,913
COST OF OPERATIONS .....	249,019,547	286,210,722
	\$ 30,484,068	\$ 40,211,191
INCOME BEFORE FEDERAL INCOME TAXES...		
FEDERAL INCOME TAXES (including, in 1945, item of \$5,969,000, charged in lieu of taxes to income as explained in Note 5 to Financial Statements) .....	19,167,000	29,947,900
NET INCOME AFTER ALL DEDUCTIONS.....	\$ 11,317,068	\$ 10,263,291
EARNINGS PER SHARE OF COMMON STOCK (Net income after providing for annual dividends on Preferred stock) .....	58.8 cents	51.2 cents

**Taxes:** The 1945 provision for Federal income taxes — normal, surtax and excess-profits — was \$13,198,000 and represents 43.3% of the income before such taxes.

In addition to Federal income taxes, the total of state, local, social security and other taxes for 1945 was \$4,095,302 compared with \$5,307,680 in 1944.

**Dividends:** Regular dividends for 1945 amounting to \$3,152,800 were paid to holders of First Preferred stock.

A dividend of 20 cents a share, amounting to \$2,771,228, was declared on December 7, 1945, and paid on January 29, 1946 to the holders of record of the Common stock as of December 21, 1945.

These dividends on Preferred and Common stocks totalled \$5,924,028.

**Earned Surplus:** After providing for all dividends and adjustments, the total earned surplus at December 31, 1945 amounted to \$49,038,127, an increase of \$5,393,040 over earned surplus at the end of 1944.

**Working Capital:** The following comparative figures show the net working capital at December 31, 1945 and 1944.

	1945	1944
CURRENT ASSETS (Cash, Government securities, notes and accounts receivable, inventories) .....	\$117,690,720	\$190,698,845
CURRENT LIABILITIES (Accounts payable, provision for Federal Income taxes, dividends payable) .....	55,582,602	78,251,944
	<hr/>	<hr/>
NET WORKING CAPITAL .....	\$ 62,108,118	\$112,446,901
BANK LOANS (under V Loan Credit) .....	—	55,000,000
	<hr/>	<hr/>
EXCESS OF CURRENT ASSETS OVER CURRENT LIABILITIES AND BANK LOANS .....	\$ 62,108,118	\$ 57,446,901

During the four-year period from December 31, 1941 to December 31, 1945, the working capital increased \$39,793,279, and amounted on December 31, 1945 to \$62,108,118.

**Foreign Assets:** The Corporation's investment in foreign subsidiaries at December 31, 1945 is carried at the net amount of \$2,697,306 on the consolidated balance sheet.

**Fixed Assets:** Capital additions and improvements during the year in plant facilities and equipment for manufacturing, broadcasting, communications, research and additions to the patent capital account, amounted to \$9,431,811, compared with \$3,374,494 during 1944. At the year-end, total fixed assets (plant and equipment and patents) less reserves, were \$36,306,110, compared with \$31,137,556 for the previous year.

The following tables show the sources and distribution of the consolidated income for 1945 and 1944 of Radio Corporation of America and its domestic subsidiaries:

WHERE IT CAME FROM

	IN 1945	IN 1944	Increase or <i>Decrease</i> over 1944	
MANUFACTURING DIVISION . . . . .	\$193,237,827	\$244,245,587	<i>\$51,007,760</i>	<i>20.9%</i>
BROADCASTING . . . . .	61,270,570	56,994,065	4,276,505	7.5%
COMMUNICATIONS COMPANIES . . . . .	22,568,346	22,715,125	<i>146,779</i>	<i>.6%</i>
MISCELLANEOUS LESS INTER-COMPANY TRANSACTIONS . . . . .	2,426,872	2,467,136	<i>40,264</i>	<i>1.6%</i>
TOTALS . . . . .	\$279,503,615	\$326,421,913	<i>\$46,918,298</i>	<i>14.4%</i>

WHERE IT WENT

	IN 1945	IN 1944	Increase or <i>Decrease</i> over 1944	
COST OF RAW MATERIALS, SUPPLIES, SUSTAINING PROGRAM TALENT, RENT, SALES AND ADVERTISING; PAYMENTS TO ASSOCIATED BROADCASTING STATIONS; RESEARCH, ADMINISTRATION, AND OTHER OPERATING EXPENSES . . . . .	\$156,469,445	\$176,259,958	<i>\$19,790,513</i>	<i>11.2%</i>
WAGES AND SALARIES TO EMPLOYEES . . . . .	83,752,450	96,190,483	<i>12,438,033</i>	<i>12.9%</i>
DEPRECIATION AND AMORTIZATION . . . . .	4,217,943	5,088,612	<i>870,669</i>	<i>17.1%</i>
INTEREST . . . . .	484,408	1,783,989	<i>1,299,581</i>	<i>72.8%</i>
TAXES . . . . .	17,293,302	35,255,580	<i>17,962,278</i>	<i>50.9%</i>
PORTION OF EXPENSES INCURRED FOR POST-WAR REHABILITATION AND OTHER ADJUSTMENTS OF WARTIME COSTS . . . . .	5,969,000	—	5,969,000	100.0%
PROVISION FOR POSTWAR REHABILITATION AND FOR OTHER ADJUSTMENTS OF WARTIME COSTS . . . . .	—	1,580,000	<i>1,580,000</i>	<i>100.0%</i>
DIVIDENDS TO STOCKHOLDERS . . . . .	5,924,027	5,923,924	103	
CARRIED TO SURPLUS . . . . .	5,393,040	4,339,367	1,053,673	24.3%
TOTALS . . . . .	\$279,503,615	\$326,421,913	<i>\$46,918,298</i>	<i>14.4%</i>

Italic figures denote decrease.

## EARNINGS FOR THE PAST TEN YEARS

*(The figures shown for all years prior to 1941 include Foreign Subsidiaries)*

YEAR	GROSS INCOME	NET PROFIT BEFORE FEDERAL INCOME TAXES	FEDERAL INCOME TAXES	NET PROFIT AFTER FEDERAL INCOME TAXES	EARNINGS PER SHARE ON COMMON STOCK
1936	\$101,186,310	\$7,293,037	\$1,137,100	\$6,155,937	.212
1937	112,639,498	11,142,158	2,117,300	9,024,858	.418
1938	99,968,110	9,095,772	1,683,700	7,412,072	.302
1939	110,494,398	10,149,511	2,066,700	8,082,811	.350
1940	128,491,611	13,364,656	4,251,500	9,113,156	.425
1941	158,695,722	26,566,316	16,373,600	10,192,716	.502
1942	197,024,056	28,077,287	19,074,850	9,002,437	.417
1943	294,535,362	36,316,452	26,124,000	10,192,452	.505
1944	326,421,913	40,211,191	29,947,900	10,263,291	.512
1945	279,503,615	30,484,068	19,167,000*	11,317,068	.588

\* Includes item of \$5,969,000 charged, in lieu of taxes, to income as explained in note 5 to Financial Statements.

### RCA SCHOLARSHIP PLAN

On July 6, 1945, the Board of Directors adopted the RCA Scholarship Plan to encourage the training of promising young students of the physical sciences. Students enrolled at universities are selected upon recommendations made to the RCA Education Committee by the college deans. Each student so selected is designated as "the RCA Scholar" at the university where he is enrolled and receives from the Corporation a scholarship of \$600 for the academic year.

The plan provides that for the academic year 1946-47, thirty scholarships will be effective, fifty during 1947-48, and sixty for each academic year thereafter.

### AMENDMENT OF RCA RETIREMENT PLAN

In the operation of the RCA Retirement Plan, which was approved by the Board of Directors on December 1, 1944, and by the stockholders on May 1, 1945, certain modifications were found to be advisable.

In accordance with authority conferred by the stockholders in their resolution of approval of the Plan, the Board of Directors in November, 1945, amended the Plan by removing the twenty-year limitation imposed upon past service credit under the Plan, so that credit will be allowed for all service prior to December 1, 1944, except the first three years; by eliminating the minimum age requirement for participation in the Plan and the corresponding age limitation on past service credit; and by providing for the vesting of past service pension credits after the attainment of age 55 and the completion of 25 years of service.

The allowance of full credit for past service rendered to RCA and its predecessor companies and the elimination of the minimum age requirement for participation in the Plan will more nearly reflect credit for all past service rendered and thereby provide more adequate recognition to employees of long service, and will permit employees who have completed the minimum service requirement (three years) to participate in the Plan without waiting until they reach age 25. The vesting after 25 years of service and attainment of age 55 will give employees the same benefits now afforded to those who have attained age 50 and participated in the Plan for ten years, thus assuring a present employee of long service who has reached age 55 that his pension credits will be available to him in disability or any other circumstance which might induce him to elect retirement before age 65.

## MANAGEMENT AND PERSONNEL

To all employees of Radio Corporation of America, the President and Board of Directors express appreciation for their continued loyalty and outstanding achievement in service and production throughout the year. The same fine spirit of cooperation and devotion to duty that prevailed during the war years has substantially aided the return to peacetime production.

Symbolizing the high order of wartime accomplishment of both management and employees were many letters and emblems of commendation received from the Army, Navy and Government officials and agencies. During the year, awards to RCA for wartime achievements were increased to seven Army-Navy "E" Flags, two U. S. Navy Bureau of Ordnance Flags, the U. S. Maritime Pennant, the Victory Fleet Flag, and a total of twenty-seven stars for continued excellence in operations.

On December 31, 1945, RCA personnel numbered 32,985, a net increase of 10,072 over the total at the year-end in 1939, the last year before national defense activities were reflected in employment figures.

From 1940 through 1945, 8,559 RCA employees joined the armed services of the United States. Of this number, 1,818 had returned to RCA at the end of the year, and others are being employed as they return. To facilitate their re-establishment with the Corporation, RCA has had in effect a policy which goes beyond the Federal laws that protect the re-employment status of service men and women. It includes retraining and upgrading programs, recognition of seniority rights, rehabilitation programs and vacation allowances. Special consideration is given to former employees who have disabilities resulting from service in the armed forces. Wherever possible, the Corporation is utilizing new skills and experience gained by the war veterans.

One hundred and forty-five RCA employees died in the service of their country. Their heroic sacrifice will always live in our memories.



Dr. C. B. Jolliffe, formerly Chief Engineer of the RCA Victor Division, was elected Vice President in Charge of RCA Laboratories Division on March 2, 1945, and subsequently was elevated to Executive Vice President in Charge of this Division. He succeeded Otto S. Schairer, who retired from active service in December, 1945.

J. V. Heffernan, formerly General Attorney of the Corporation, was elected Vice President and General Attorney on April 6, 1945.

Frank M. Folsom, Vice President in Charge of the RCA Victor Division, was elected Executive Vice President in Charge of this Division, on June 1, 1945. At the same time, John G. Wilson was elected Operating Vice President of the RCA Victor Division.

Conway Peyton Coe, formerly United States Commissioner of Patents, was elected Vice President in Charge of the RCA Patent Department on July 6, 1945.

On December 7, 1945, E. W. Engstrom, formerly Research Director, was named Vice President in Charge of Research of RCA Laboratories Division; and E. C. Anderson, formerly Commercial Manager, was elected Vice President in Charge of the Commercial Department of RCA Laboratories Division.

Five executives of the RCA Victor Division were elected Vice Presidents in Charge of Departments as follows: Joseph B. Elliott, Home Instruments; Meade Brunet, Engineering Products; L. W. Teegarden, Tubes; J. W. Murray, Records; and J. H. McConnell, Legal.

FOR THE BOARD OF DIRECTORS:

JAMES G. HARBORD, *Chairman*

DAVID SARNOFF, *President*

New York, N. Y., February 27, 1946.

**Proxies for the Annual Meeting of Stockholders, to be held May 7, 1946, will be requested later.**

**A notice of the meeting, proxy statement and form of proxy will be mailed to stockholders on or about March 8, 1946.**



## REVIEW OF RCA OPERATIONS IN 1945

ON SEPTEMBER 1, 1945, Secretary of the Navy James V. Forrestal wrote to Radio Corporation of America:

“Among the companies which gave our fleet the power to attack, yours has been preeminent. You and all the men and women who have worked with you deserve, therefore, to carry into peace a special pride in a great national achievement. On this day of final victory, the Navy sends you its sincere thanks.”

Lieut. General Brehon B. Somervell, commanding the Army Service Forces, in a letter to RCA dated September 7, 1945, said:

“Your company has played a very important part in producing the equipment and supplies which have been such a decisive factor in winning the war. You and your associates and employees must have a deep sense of satisfaction as you look back upon your accomplishments on the war production front. Now that the war is won, I want to express to you the gratitude and appreciation of the Army Service Forces for the magnificent achievements of your organization.”

In the final quarter of the year, the great momentum of wartime production slackened sharply, and reconversion of the RCA manufacturing plants began with a determination to accomplish the transition to peacetime operations as quickly as possible. Research and engineering shifted from projects of war to the development and application of inventions to peace.

Much of the future of radio as an art and as an industry is based upon advances in science, which promise expansion of commercial radio activity through new services, new products and new processes. Hundreds of new electron tubes, developed to meet the demands of war, have become the keys to these new services, and now are available for peacetime use in communication, transportation and industry. The miniature radio tube, which RCA originated and used in prewar portable radios, was widely used in radar and other wartime services as evidenced by the fact that from 1942 to the end of the war, RCA manufactured more than 20,000,000 of the tiny tubes, many of which were new types.

Another wartime radio invention that was revealed in 1945 was the “proximity fuse”—a miniature radio sending and receiving station encased in the nose of a projectile. Radio waves projected from an automatic transmitter in the shell itself were reflected from targets—as in radar—and received by tiny electron tubes which detonated the charge at the exact moment of its most devastating proximity. RCA assembled more than 5,000,000 of these fuses.

### *The Outlook for Television*

While war halted television for civilian purposes, the research and engineering which applied television techniques to warfare, produced advances that now make possible a greatly improved television system.



THE ARMY-NAVY FOOTBALL GAME AT PHILADELPHIA WAS TELEVIEWED FOR THE FIRST TIME IN 1945 BY NBC TELEVISION CAMERAS.

The many new electron tubes and devices of visual radio, evolved during the past five years for ultra-high frequency military purposes, now are integral parts of television, radio relays and other branches of radio communication.

To reveal the postwar progress of television, the latest developments including vastly improved black-and-white pictures and color pictures in three dimensions, were shown on December 13, 1945, at RCA Laboratories, Princeton, New Jersey.

In this demonstration, the black-and-white pictures, produced by the RCA all-electronic system, featured greater detail, brilliance and contrast than ever before achieved in television—all of which have been made possible by receivers containing new and improved kinescopes, or picture tubes. The television pictures, bright enough to be seen in a fully lighted room, were received at Princeton by radio from WNBT, the National Broadcasting Company's pioneer station atop the Empire State Building in New York, a distance of 47 miles. The clear reception of these pictures in motion on a screen as large as a newspaper page proved beyond all doubt that the RCA black-and-white all-electronic television system is ready for the home.

Indoor studio scenes of live talent in action were picked up directly by the color television camera, and transmitted on a directional beam through the air from RCA Laboratories to the Princeton Inn, two miles away. A new electron tube developed by RCA during the war made this accomplishment possible on a carrier frequency of 10,000 megacycles—a frequency twenty times higher than any previously used in television. In addition, a new method of transmission permitted the sound-and-sight signals to be carried on the same wave. Although the pictures reproduced by the mechanical color system employed in the demonstration showed promise, RCA engineers pointed out that color television is still in the laboratory stage of development, with obvious shortcomings. There is much technical development that needs to be completed before a practical

color television system will be ready for home service to the public. This, the engineers estimated, will require about five years.

### *RCA Television Policies and Plans*

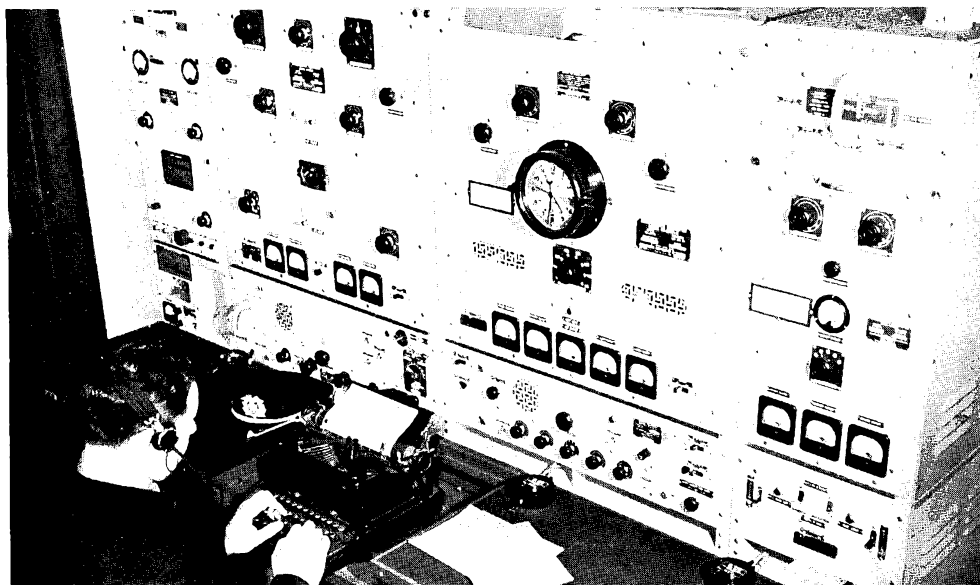
Coincident with the demonstration, the television policies and plans of Radio Corporation of America and its subsidiaries were outlined by Brig. General David Sarnoff, President of RCA, in the following statement:

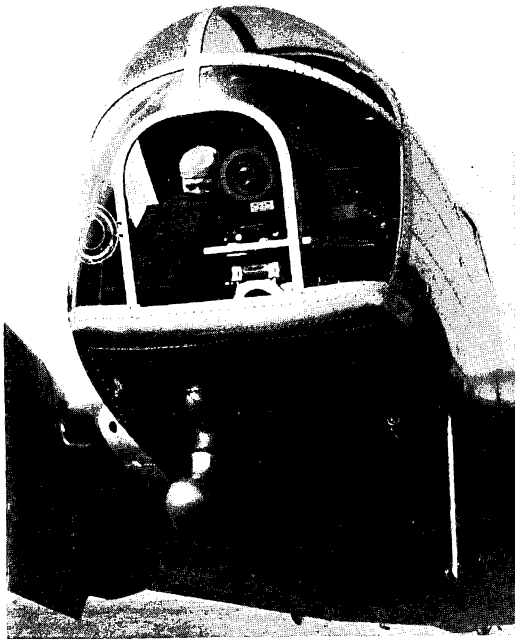
1. The RCA organization will continue research and development in all phases of television. Technically, this includes black-and-white, color, three dimensional views, transmission, reception and network distribution. Artistically and educationally, this means development of program technique through use of motion pictures, live talent, outdoor scenes, news events, sporting events and other features of local and national interest.
2. RCA Victor Division—a pioneer in television engineering and design—will manufacture the finest possible television equipment for sale to broadcasters and the public.
3. National Broadcasting Company—a pioneer in television broadcasting—will continue development of television broadcasting and program service to American homes and schools, and will develop plans for the establishment of a nationwide network of independent television stations.
4. Radio Corporation of America will continue to make available to its licensees all of its inventions in this new field of television as it has done in other fields of radio and electronics.

### *New and Important Developments*

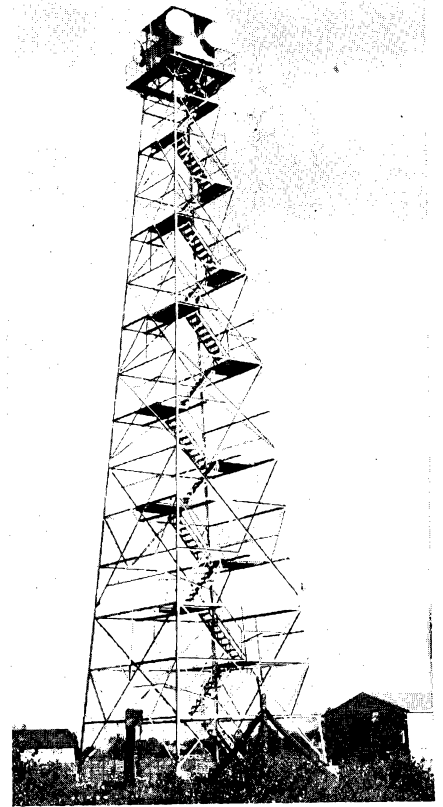
The pioneering of RCA in television and microwaves provided the basic techniques for the Corporation's outstanding contributions to radar. The sight that television gave to radar for war purposes, now provides new

COMPLETE COMMUNICATIONS EQUIPMENT BUILT BY RADIOMARINE AND INSTALLED ON SEVERAL THOUSAND AMERICAN MERCHANT VESSELS.





AIRBORNE TELEVISION SYSTEM DEVELOPED BY RCA EQUIPS AIRPLANES WITH "EYES." WHAT THEY SEE OF THE TERRAIN BELOW MAY BE BROADCAST FOR PICTURE RECEPTION IN THE AIR AND ON THE GROUND.



MICROWAVE RADIO RELAY STATION DEVELOPED BY RCA TO LINK TELEVISION STATIONS INTO NETWORKS AND TO HANDLE RADIO COMMUNICATIONS, INCLUDING TELEGRAPH AND VOICE.

services of safety in aviation and shipping. Radar, for navigation in the air and on the sea, is a new "eye" that sees through darkness and fog.

A further scientific achievement based upon the unique combination of radar and television techniques is Teleran, conceived by RCA as a new and complete system of air navigation for preventing collisions, controlling traffic, performing instrument approaches to airports and assisting in the general navigation of aircraft.

Throughout the history of science is found evidence of the way in which scientists have crossed new frontiers of the radio spectrum. After twenty-two years of research and development, RCA has perfected an automatic, unattended micro-wave radio relay system which it has licensed the Western Union Telegraph Company to use in domestic telegraph business. As a result, Western Union has announced plans for a coast-to-coast system to send telegraph messages between principal cities without the use of poles or wires. Regarded as a revolutionary step in communications, the RCA radio relay system can transmit simultaneously over the same circuits—radiophoto, television, voice broadcast programs and other intelligence, as well as telegrams. The radio beams span distances up to 50 miles between towers and are unaffected by storms.

RCA will open new showrooms on 49th Street in Radio City, New York, during 1946. The latest products and scientific achievements of RCA in radio and electronics will be on display.



## RCA LABORATORIES DIVISION

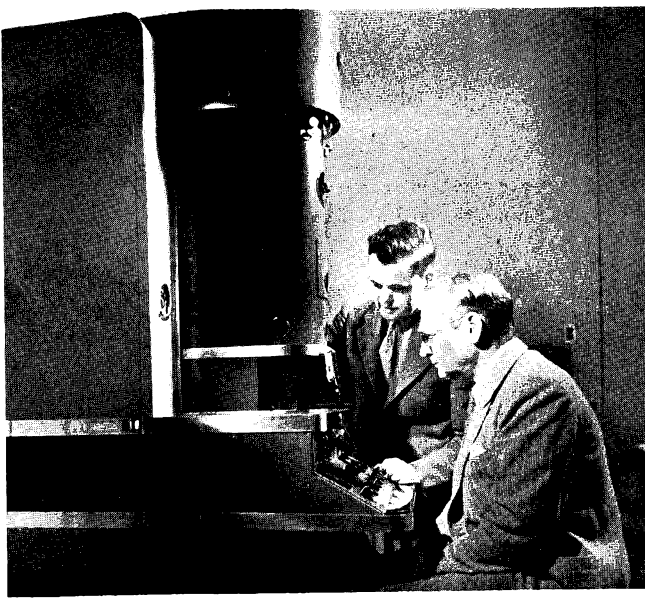
The end of the war found research scientists and engineers at RCA Laboratories Division with an outstanding record of achievement in radio and electronics. So numerous and so full of opportunities for public benefit were these wartime advances that victory brought no breathing spell. The workers in the Laboratories turned at once to the task of applying the new developments to useful peacetime systems and instruments.

RCA Laboratories is now operating on a three-point program: *First*, to develop projects which are speedily applicable to civilian needs and commercial production. *Second*, to conduct research providing for the constant flow of new technical knowledge and developments in radio and electronics. *Third*, to continue close cooperation with the military services of the United States, maintaining appropriate liaison for specific military research in radio and electronics to help guarantee the scientific preparedness and security of this Nation.

In returning to peacetime activities, the research scientists and engineers had the satisfaction of knowing that through their efforts the wartime mission of RCA Laboratories had been accomplished with eminent success, as shown by official commendations. Their war contributions made radio history. They were at the forefront in developing radar, loran (long-range navigation) and sonar (underwater sound)—new applications of radio created by science in response to the challenges of global conflict. Shoran, developed by RCA for military service, was the most accurate

RCA LABORATORIES, A WORLD CENTER OF RADIO AND ELECTRONIC RESEARCH, AT PRINCETON, NEW JERSEY.





THE RCA ELECTRON MICROSCOPE NOW PROVIDES USEFUL MAGNIFICATIONS OF MORE THAN 100,000 DIAMETERS TO ENABLE THE OPERATOR TO SEE DEEPLY INTO THE SUBMICROSCOPIC WORLD AS AN AID TO SCIENCE AND INDUSTRIAL RESEARCH.

system of bombing developed during the war. Capable of pin-point accuracy, shoran has shown great possibilities in air navigation and in mapping the vast unsurveyed areas of the earth.

Cathode-ray tubes, long a specialty in television research and development by RCA, found great use in radar and other services. More than 500,000 of these tubes, manufactured by RCA for wartime purposes, used improved phosphor screens. Much had been learned about the mixture and application of luminescent materials by means of which both television and radar images glow and appear in picture form.

As an outstanding contribution to the advance of television, the Image Orthicon is more than 100-fold more sensitive than any previous television camera "eye." It sees whatever the human eye can see, even in the light of a match or a candle. Thus television is made so effective that its pictures may be transmitted at any time of day or night or from any place either indoors or outdoors, or in a dimly lighted theater.

The kinescope, or picture tube, used in television receivers, also emerged from the war vastly improved. RCA developed a method for backing up the fluorescent screen with a thin metallic film, which greatly intensifies picture brilliance and contrast.

### *New Television Field Tests*

During 1945, a 300-megacycle television transmitter reached the development stage at which field tests could be made of a complete system utilizing such an installation. Pictures of excellent quality were received within a four-mile radius of the Laboratories at Princeton. In order to test the system under conditions more representative of a broadcasting service, the transmitter will be operated in New York City through a new antenna on the Empire State Building.

Radar presented revolutionary antenna problems, and in solving them the men of RCA created new antennas with a wide flexibility of operation that will extend radar's peacetime uses.

A new FM circuit, called a "ratio type detector," has been developed by RCA. It aids in eliminating interference and has superior merit over circuits previously used for FM reception, particularly in low priced receivers.



For use in the broadcasting field, an all-electronic antenna calculator was developed during 1945 at RCA Laboratories. Calculations which formerly required weeks to perform, in order to determine the location and spacing of antenna towers, and other necessary design information, now are completed in a matter of minutes by this electronic computing machine, known as the Antennalyzer.

As a result of RCA research and development of radio altimeters for use in war planes, commercial aviation now has available two main types of radio altimeters. One uses a series of transmitted radio pulses and the other adapts the FM principle to radar. The pulse-type altimeter is particularly useful and accurate in measurement of high altitude—up to 50,000 feet. The FM altimeter is most useful at low altitudes under a few thousand feet.

Research on war projects further led to the development of a number of special receiving and transmitting tubes for operation at frequencies of 500 to 1500 megacycles. One of these is a “converter” tube for super-heterodyne reception. A wide application is anticipated in ultra high-frequency receivers.

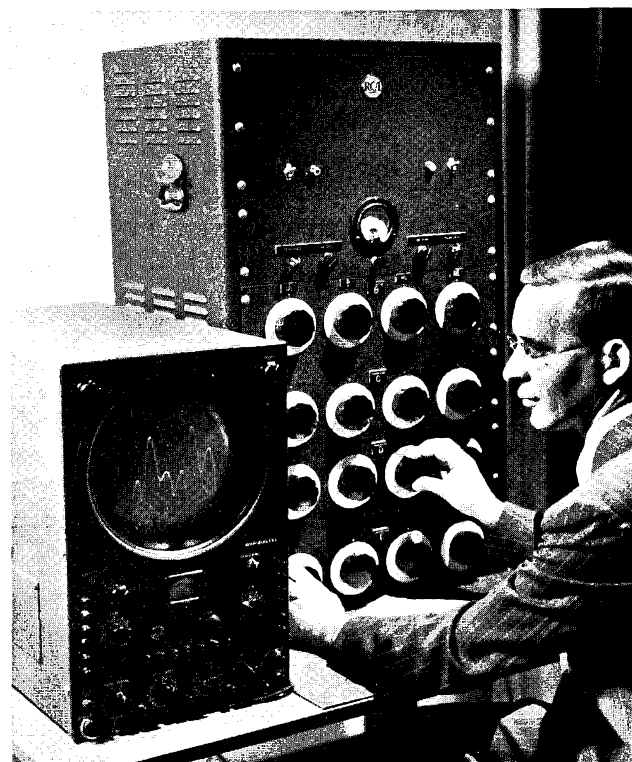
Two transmitter tubes have been developed which provide considerable power for use in the spectrum between 500 to 1000 megacycles. One of these tubes is designed for continuous-wave operation using frequency modulation, while the other is a pulse-type tube applicable to commercial radar and radio communications.

The Industry Service Laboratory of the RCA Laboratories Division, in New York, has completed its war contracts and again is devoting its efforts to the normal function of service for RCA licensees and the radio industry generally. To widen the scope of this service, a new branch of the Industry Service Laboratory will be opened in Chicago to provide facilities and assistance to radio manufacturers located in the Middle West.

Similarly, the RCA Frequency Bureau — another activity of RCA Laboratories Division — has continued to act as liaison in two-way dissemination of information between RCA and its affiliates and the Federal Communications Commission, as well as other Governmental agencies.

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THE ANTENNALYZER, NEW ELECTRONIC COMPUTING DEVICE, DEVELOPED BY RCA SOLVES THE PROBLEMS OF LOCATING AND ARRANGING NEW RADIO ANTENNAS IN A MATTER OF MINUTES COMPARED TO WEEKS OF SURVEYS AND CALCULATIONS HERETOFORE NECESSARY.



## RCA VICTOR DIVISION



Despite drastic terminations of government war contracts, the RCA Victor Division at the end of 1945 had a substantial volume of unfilled government contracts for radio-electronic apparatus and electron tubes.

Nevertheless, the RCA Victor plant at Bloomington, Indiana, and sections of the plant at Camden, New Jersey, began production of civilian radios within eight weeks after V-J Day. Similarly, part of the Indianapolis plant was converted to the manufacture of console Victrola phonographs and automobile radios. Before the year's end, RCA Victor had produced more than 75,000 small radios and table model Victrola radio-phonograph combinations. This quantity was smaller than anticipated, because of an industry-wide critical shortage of radio parts and wood cabinets.

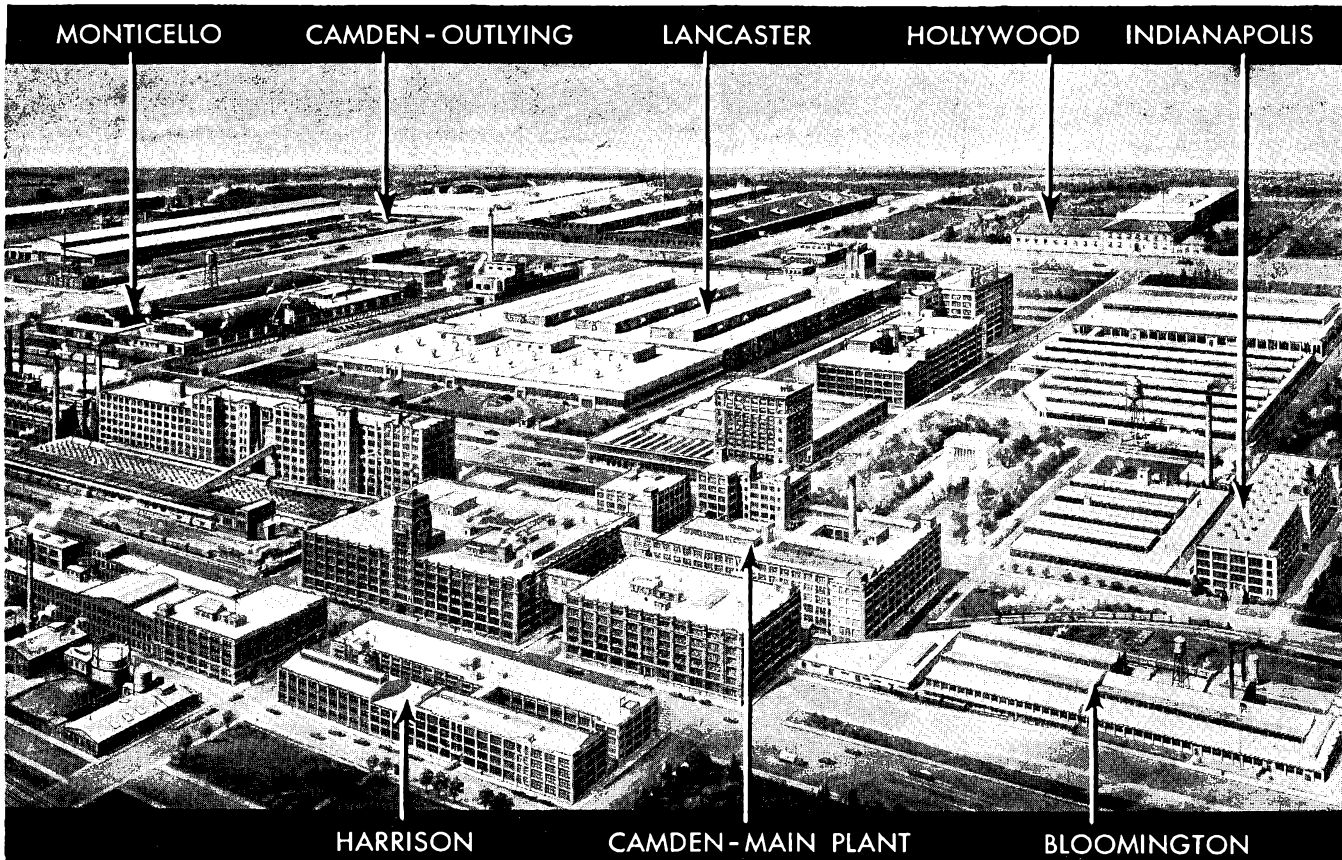
RCA Victor's initial line of civilian home instruments consists of nine models, including a new and more compact "personal" radio, attractively styled table model Victrola radio-phonographs and radios and console types of Victrola radio-phonographs. In July, the Tube Department introduced a complete line of dry batteries bearing the RCA monogram.

The RCA Victor cabinet plant at Monticello, Indiana, was reconverted for the building of radio cabinets and the plant at Hollywood, California, resumed commercial production of RCA Victor records. Heavy cancellations of government electron tube contracts permitted immediate resumption of commercial tube production at Harrison, New Jersey. At Lancaster, Pennsylvania, the manufacturing facilities are being converted from production of special tubes for war applications to provide tubes required for television, broadcast transmitters and industrial uses. In addition, a new plant has been leased in Chicago, for production of RCA Victor automobile radios, and a cabinet factory was acquired at Pulaski, Va.

### *Postwar Deliveries Have Commenced*

When reconversion and modernization of the Camden plant is completed, it will be better equipped than ever for the manufacture of precision, technical apparatus and engineering products. Already deliveries have been made of a new line of improved FM (frequency modulation) broadcast transmitters and of other broadcasting equipment. Deliveries have commenced on a complete new line of emergency communications apparatus, both for mobile and fixed station use. A first public showing has been made of improved apparatus for use by police and commercial vehicles. It operates in the very high frequency band (150 megacycles).

Production of motion picture theatre reproducing and sound-film



**A composite picture of the RCA Victor manufacturing plants with the products assigned to each factory as follows:**

**CAMDEN, N. J.:** Broadcast transmitters, communications equipment, electron microscopes, industrial electronic apparatus, sound systems, home-television receivers, industrial television equipment, Victor records, export radios and many other radio-electronic products.

**HARRISON, N. J.:** Receiving and allied type tubes.

**INDIANAPOLIS, IND.:** Radio and television console sets, Victrola radio-phonographs, Victor records, record changers, auto radios, receiving tubes.

**BLOOMINGTON, IND.:** Small radios and Victrola phonographs.

**MONTICELLO, IND.:** Radio and Victrola phonograph cabinets.

**LANCASTER, PA.:** Power, cathode-ray, photo and special type tubes.

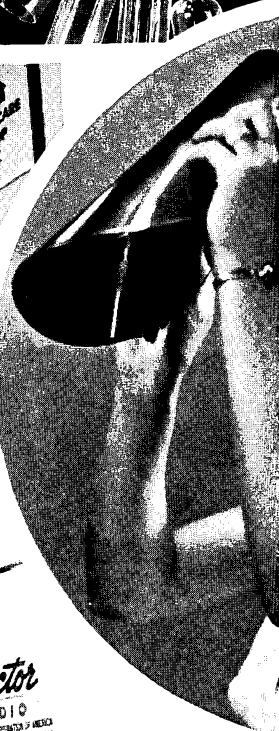
**HOLLYWOOD, CALIF.:** Film and disk recording, manufacture of Victor records.



Assembling automobile radios as they move along the conveyor belts of the RCA Victor plant at Indianapolis, Ind.

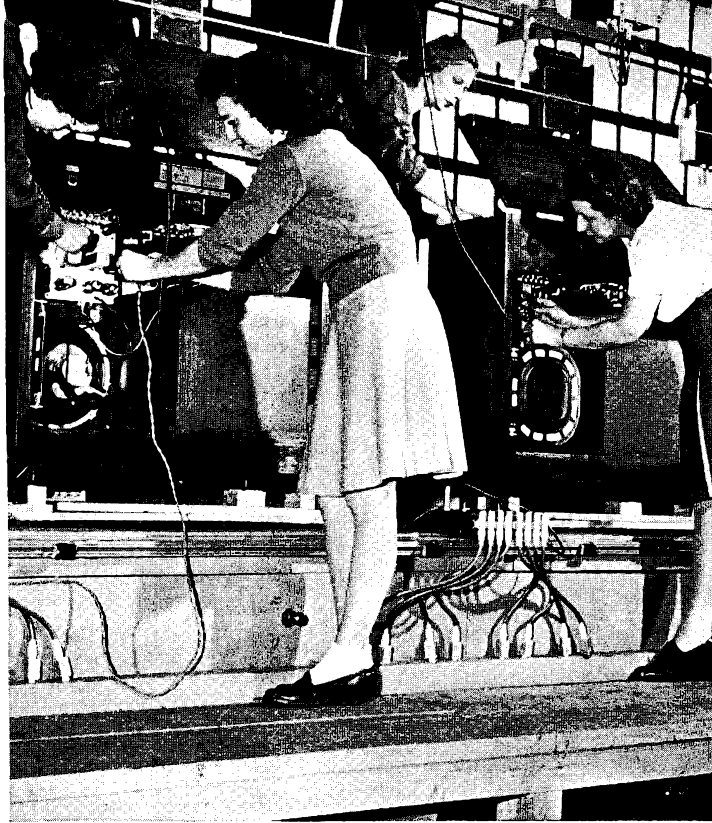
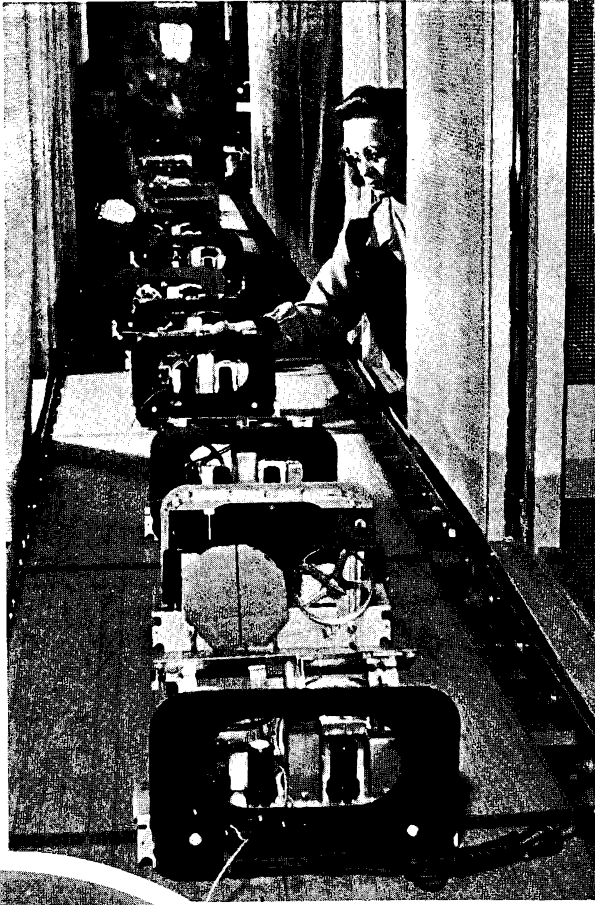
Postwar radios being shipped from the RCA Victor plant at Bloomington, Ind.

New types of RCA miniature electron tubes in the process of production.



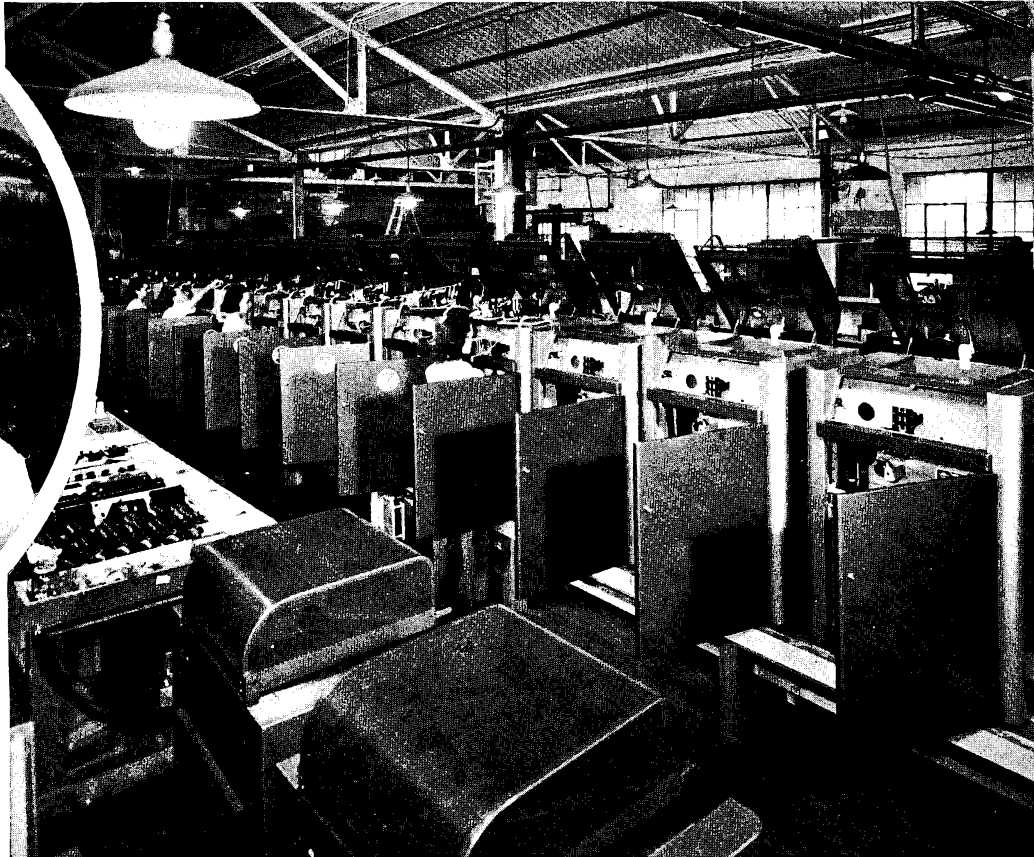
RCA Victor's plastic record advance in ph

New RCA radios are carried on a conveyor belt to test-cages where they undergo calibration tests.

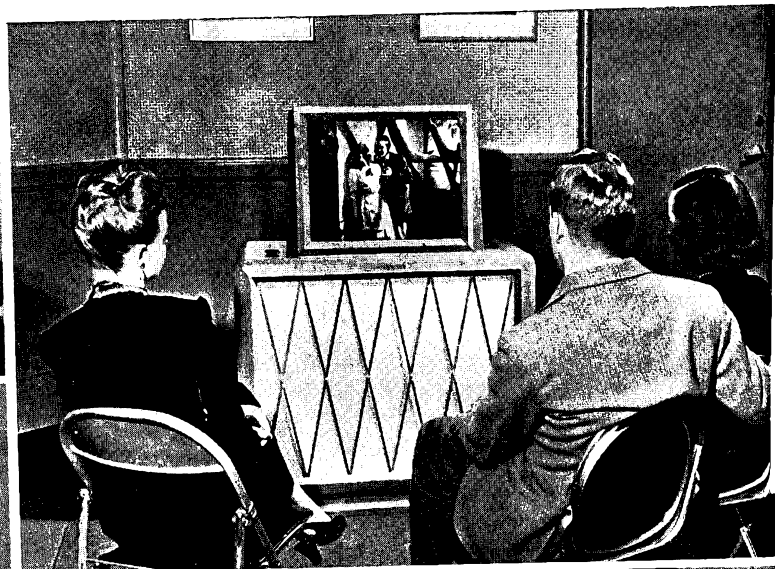
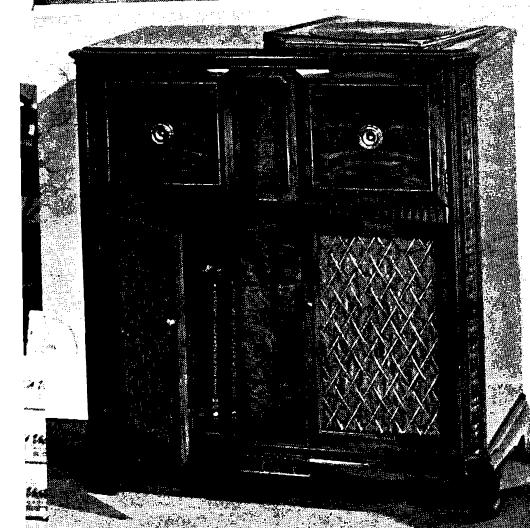
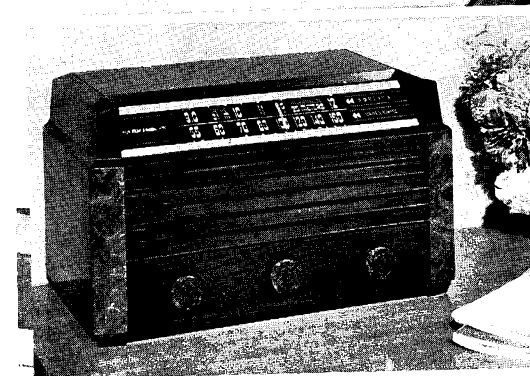
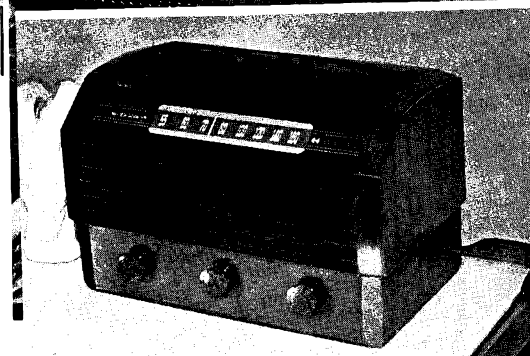
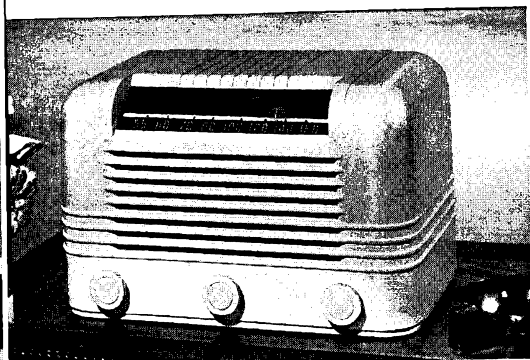


Testing and installing the Magic Loop antenna in RCA Victrola radio-phonographs as they move along the production line.

Radio-heat generators are produced by Victor for use in factories throughout the country.



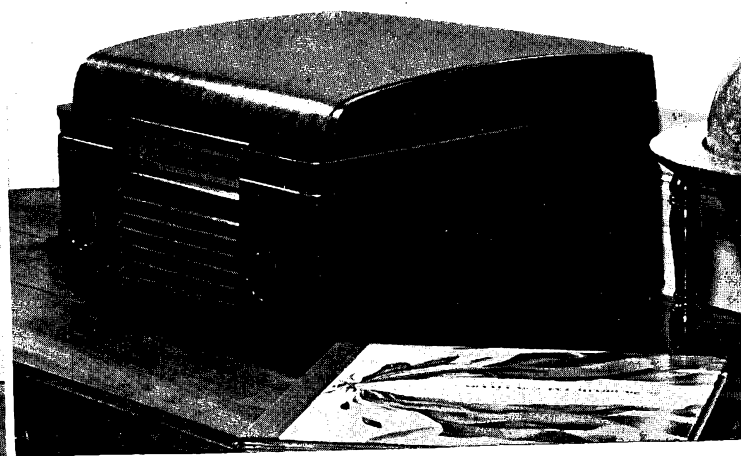
Unbreakable Red Seal  
lauded as "the greatest  
phonorecords in 45 years."



Utilizing the latest developments in television, including the RCA projection system, molded plastic lenses and new electron tubes, this receiver presents pictures of sharp contrast and brilliance on a screen 15 by 20 inches.

Left: Three postwar RCA Victor table model radios.  
 Top: Model 56X2; center: 56X3; lower: 56X5.

Right: RCA's new "personal" radio, Model 54B, is a masterpiece in miniature, built into a plastic case.



New RCA Victrola radio-phonograph, model 59V1, offers matchless tone made possible by RCA Victor's exclusive acoustic system.

RCA Victor's new Victrola phonograph, table model 55U, has an automatic record changer that handles twelve records without attention from the listener. It also features a radio of outstanding merit.

For prices and delivery of the radio instruments shown on this page, see your RCA Victor dealer.

recording equipment, formerly supplying the needs of the armed forces, has been rechanneled to the commercial market. Acquisition, in June 1945, of the Brenkert Light Projection Company in Detroit, Michigan, is the first step to provide increased manufacturing capacity for theatre projection equipment. Since 1941, RCA Victor has been the distributor of Brenkert theatre projectors, arc lamps and related accessories which have outstanding acceptance in the motion picture theatre field. A new and improved 16-mm sound-film projector, incorporating wartime developments, has won exceptional favor with customers in this country and abroad.

### *Radio Heat for Industry*

Radio-frequency power generators built by RCA Victor have found widespread application in industries utilizing controlled heat. Pioneering by RCA in the generation of heat with radio energy led to important wartime applications, which now are extended to peacetime uses in science and industry. In some cases, by the use of radio-heat, manufacturing processes have been reduced from hours to minutes. Wood processing, plastic molding, drying of synthetic yarns, curing of rubber, seaming thermoplastic materials and hardening metals, are but a few of the applications of this new form of heat.

### *Electron Microscopes Aid Research*

Fifty additional RCA electron microscopes were shipped during the past year, most of them under high priorities, for use in war essential research. More than 125 RCA electron microscopes are now in use. With a greatly accelerated production schedule, hundreds of additional instruments soon will be made available for research projects. The electron microscope makes it possible to see infinitesimal particles such as bacteria, cells and fibres, and also to determine their shape and size. Minute analysis of chemical and metallurgical structures is also obtained. In 1942, this instrument made possible useful magnifications of 50,000 diameters, and in 1945 a useful magnification of more than 100,000 diameters was achieved.

### *Television*

Among RCA Victor's new products in this field is the greatly improved television camera utilizing the supersensitive Image Orthicon tube. A micro-wave transmitter and receiver for relaying television programs from athletic fields or other outside points to the main transmitting station also have been developed. Demonstration of an advanced developmental large-screen television receiver for the home has revealed its practicability. This instrument utilizes a projection type of cathode-ray tube and a molded plastic lens to provide a picture at least 15 x 20-inches. An improved direct-viewing cathode-ray tube for television receivers reproduces pictures so bright that they may be viewed clearly in a fully lighted room.

RCA Victor plans to have home television receivers on the market in the summer of 1946. Low-cost instruments, including a table model sight-and-sound receiver with a 6 x 8-inch picture, selling for approximately \$250, will be available first, followed by a receiver with a 4 $\frac{1}{4}$  x 5 $\frac{5}{8}$ -inch picture to sell for approximately \$175. Higher priced instruments, including a de luxe receiver with provision for Victrola phonograph reproduction, and standard band and FM (frequency modulation) as well as short-wave reception, will become available later. New RCA television transmitting equipment is scheduled for delivery in the latter part of the year.

Television is only one of the new services which promise to broaden the market for electron tubes, many new types of which were developed by RCA for wartime use. Millions of tubes will be required by the manufacturers of new radio receivers, and millions for replacements in existing receivers. There is increasing demand as well for transmitting tubes and special purpose tubes.

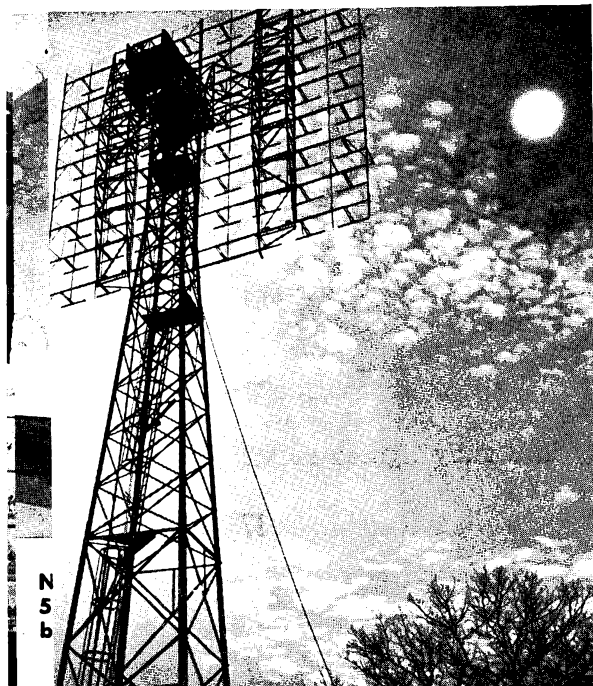
### *RCA Victor Records*

An all-time high was achieved in the production and sale of RCA Victor records during 1945. The RCA Victor record catalog was further enriched in every musical category by one of the most intensive programs of new recordings ever undertaken. Despite increased competition in the record field, RCA Victor improved its market position in both popular and classical records. A significant development heralded as "the most revolutionary development in phonograph records in 45 years," was the introduction of RCA Victor's non-breakable Red Seal de luxe record made of translucent plastic. Providing greatly improved tonal quality, this new type of RCA Victor record marks a milestone in the reproduction of music by the world's great artists. The demand for records so far exceeds productive capacity that considerable expansion of RCA Victor's record manufacturing facilities is planned for 1946.

The resources and manufacturing "know-how" of the men and women that made RCA Victor a radio-electronic "arsenal of Democracy" during the war, will now produce the finest civilian and commercial radio and electronic equipment, with the same high standard of quality which has always distinguished products bearing "RCA" and "RCA Victor" trademarks throughout the world.

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RADAR ANTENNA USED ON JANUARY 10, 1946 BY THE U. S. ARMY SIGNAL CORPS TO BEAM A RADAR SIGNAL TO THE MOON WAS DEVELOPED BY RCA. SEVERAL THOUSAND ANTENNAS OF THIS DESIGN WERE BUILT FOR USE BY THE ARMED FORCES DURING THE WAR.







## RCA INTERNATIONAL DIVISION

Foreign trade activities of Radio Corporation of America were consolidated in the RCA International Division, effective on February 1, 1945. This Division is responsible for the international distribution of products manufactured by RCA and certain non-affiliated companies, for operation of foreign subsidiaries, and for coordination of all RCA international activities.

During the war, a large part of RCA's foreign activities involved the supply, through the operation of lend-lease, of radio-electronic instruments and equipment for the armed forces of the United Nations. At the same time, the Corporation's foreign manufacturing plants, particularly those in Canada, Chile, and England, were largely occupied with the production of goods essential to the war effort.

With the resumption of world-trade since V-J Day, RCA has been expanding its foreign activities. Special attention is being devoted to the building of international good-will for all RCA products and services. In furtherance of this aim, close liaison is maintained with other divisions and subsidiaries of the Corporation in matters affecting their respective interests in foreign countries.

### *Outlook Favorable for Foreign Sales*

The sale of RCA products abroad is made through distributors located in the principal countries. RCA representatives are in the field, and distribution has been strengthened through the appointment of a number of new distributors. While impeded by exchange difficulties, foreign import restrictions and other foreign Governmental regulations, the outlook for foreign sales is favorable.

Radio Corporation of America owns subsidiary companies in Argentina, Australia, Brazil, Canada, Chile, England, India and Mexico. In Canada, Argentina and Chile the RCA companies manufacture phonograph records, cabinets and radio sets. The Mexican subsidiary manufactures phonograph records and distributes RCA motion picture sound and engineering products equipment and the RCA Victrola. The Brazilian company is a distribution organization for all RCA products. The Australian, Indian and English subsidiaries handle distribution and servicing of RCA motion picture sound equipment, including local assembly of reproducers, installations, and technical service to motion picture studios and their film recording licensees.



## NATIONAL BROADCASTING COMPANY

The momentous events which crowded the pages of history in 1945 were sharply reflected in the operations and public services of the National Broadcasting Company. At the year-end, the six broadcasting stations owned by the Company and the 149 others affiliated with the NBC network were prepared to render a peacetime service which—in quality, variety and public interest—would surpass that of any previous year and would maintain the network's leadership in the field of broadcasting. Throughout the year, world news was broadcast to

the American people by sixty-five NBC reporters and commentators, strategically stationed in every quarter of the globe.

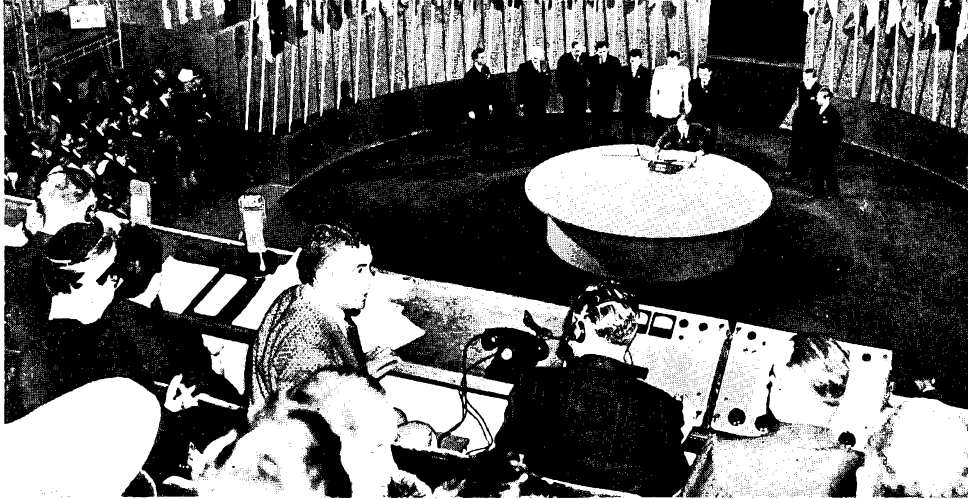
The ARMY HOUR program, which had been broadcast over the NBC network every Sunday for three years and seven months, was discontinued in November 1945 by the War Department, its mission of information and morale building successfully accomplished. It was replaced by THE NATIONAL HOUR, a public service program for interpretation of vital peacetime problems at home and abroad.

A new series of forum discussions, AMERICA UNITED, was inaugurated in January, 1945. This program, for the first time on a national network, made a regular period each week available to major business, labor and farm groups for a joint discussion of mutual problems and objectives.

OUR FOREIGN POLICY—starting in February, 1945—brought to radio listeners each week an informative discussion of the position and purposes of the United States in the world family of nations. This is one of a balanced group of programs which comprise the “NBC University of the Air”. Others are THE STORY OF MUSIC, THE WORLD'S GREAT NOVELS, and HOME IS WHAT YOU MAKE IT.

NBC's weekly discussion program, the UNIVERSITY OF CHICAGO ROUND TABLE, now in its fifteenth year, has been on the air continuously longer than any other program devoted to public affairs. This record is nearly equalled by CONSUMER TIME, in its thirteenth year, the oldest network program in the interest of the Nation's buying public. Cesar Saerchinger's weekly interpretation of news, STORY BEHIND THE HEADLINES, went into its seventh year on the NBC network. PACIFIC STORY provided a series of timely studies of the background of war and peace in the Pacific area.

A weekly program for returning servicemen, VETERAN'S ADVISOR, inaugurated in April, presented timely information concerning the Veteran's Administration, veteran's rights, and matters affecting the welfare of soldiers and sailors returning to civilian life. THE NAVY HOUR, a joint project of NBC and the Navy, was a summer series featuring high-ranking Naval officers, overseas pickups and a Navy symphony orchestra.



THE CHARTER SIGNING AT THE UNITED NATIONS CONFERENCE IN SAN FRANCISCO WAS BROADCAST WORLD-WIDE BY NBC

Radio's pioneer agricultural program, THE NATIONAL FARM AND HOME HOUR, was reinstated on the NBC network in the Fall, as a weekly service to farmers and their families. In addition, five of the NBC-owned stations, which reach a substantial rural audience, presented a daily agricultural broadcast to fit the particular local needs of farmers.

The Company's principal religious programs, directed to national congregations of the three principal religious faiths, were THE NATIONAL RADIO PULPIT, THE CATHOLIC HOUR and THE ETERNAL LIGHT. The first two are the longest established of all regular network religious broadcasts.

In addition to regular weekly programs in every important field of public interest, hundreds of programs for particular occasions included many special broadcasts following President Roosevelt's death, and on V-E and V-J Days; also an eye-witness description of the Japanese surrender on the deck of the *U.S.S. Missouri*. Numerous broadcasts were presented on behalf of the war effort, notably, the Seventh War Loan and the Victory Loan. At frequent intervals network time was provided for addresses by prominent speakers in many fields. President Truman was heard over the NBC network sixteen times in 1945; the network carried thirty-three addresses by Cabinet members and 133 by members of Congress.

### *Outstanding Musical Programs*

Music was well represented on NBC schedules throughout 1945. The NBC Symphony Orchestra, under the direction of Maestro Arturo Toscanini, entered its ninth consecutive season, again sponsored by General Motors Corporation. Guest conductors included Malcolm Sargent, Eugene Ormandy, Dimitri Mitropoulos and Dr. Frank Black.

THE TELEPHONE HOUR, with Donald Voorhees conducting, won fresh laurels for its consistent presentation of fine music and outstanding soloists. THE VOICE OF FIRESTONE, directed by Howard Barlow, and aided by Richard Crooks, Gladys Swarthout and other top-ranking singers, entered its eighteenth season on the air. Other established programs presenting music of a high order included THE WESTINGHOUSE PROGRAM, with John Charles Thomas, Victor Young and Ken Darby; the RCA VICTOR SHOW,

featuring the classics versus jive; General Electric's HOUR OF CHARM, with Phil Spitalny and the all-girl orchestra; Cities Service HIGHWAYS IN MELODY, directed by Paul Lavalle, the oldest sponsored program in radio; AMERICAN ALBUM OF FAMILIAR MUSIC (The Bayer Co.); and WALTZ TIME (Charles H. Phillips Chemical Co.). In October a new musical-dramatic program, sponsored by International Harvester Company, made its debut over the NBC network—HARVEST OF STARS, with Raymond Massey as narrator, Howard Barlow, conductor, and the Lyn Murray chorus. The ORCHESTRAS OF THE NATION series presented the symphony orchestras of America's principal cities. A musical program, voted by the country's radio editors "the best daytime show on the air," was initiated by NBC in June when the FRED WARING PROGRAM was put on the network for a half-hour each morning, five days a week.

The many programs of music, news, public affairs, religion and other subjects which NBC presents each week at its own expense are, of course, made possible by advertisers. It is their financial support of broadcasting which brings the American people the finest talent and the widest variety of radio programs heard anywhere in the world. Looking into the near future, when television will become an important medium for both national and local advertising, it is the earnest desire of NBC that its clients in the field of sound broadcasting will also avail themselves of the facilities of the Company in the broader field of radio sight combined with sound.

### *Leading Entertainment Programs*

In 1945, as in every year since the Company was organized, NBC entertainment programs had more listeners than those of any other network. At the year-end, polls conducted by independent fact-finding organizations credited NBC with seven of the ten most popular weekly programs, and thirty-two of the first fifty. The remaining eighteen of the fifty most popular programs were divided among the three other nationwide networks. Included on NBC's schedule were such well-known shows and talent as Bob Hope, Fibber McGee and Molly, Edgar Bergen-Charlie McCarthy, Jack Benny, Red Skelton, Fred Allen, Abbott and Costello, Kraft Music Hall with Bing Crosby, Great Gildersleeve, Eddie Cantor, Amos 'n' Andy, Fitch Bandwagon, Jack Haley, Dinah Shore, Truth or Consequences, Hildegard, Life of Riley, Bob Burns, George Burns and Gracie Allen, Mr. and Mrs. North, Judy Canova, Kay Kyser, Duffy's Tavern, Can You Top This?, Chesterfield Supper Club with Perry Como, Date with Judy, and Rudy Vallee. Of a more serious character, Mr. District Attorney, Information Please, and duPont's Cavalcade of America also attracted millions of listeners each week.

The "Welcome Home Auditions" of veterans seeking radio careers attracted a steadily increasing number of applicants throughout 1945.

The NBC International Division continued its wartime role of working closely with the State Department. Twenty-four powerful short-wave transmitters carried NBC programs daily to Europe in English, French,

German, Italian, Swedish and Danish, and to Latin America in Spanish and Portuguese. Three shortwave transmitters—WRCA, WNBI and WNRE, located at Bound Brook, N. J.—are owned and operated by NBC.

### *Television Activities Expanded*

NBC's television program schedules underwent rapid expansion during the past year. A weekly series of full-length dramatic productions, including many leading plays of the theatre with top professional talent, were televised in the NBC studio and broadcast by the Company's New York station, WNBT. Boxing bouts from Madison Square Garden and other arenas, baseball, football, hockey, basketball, tennis and other sports events, as well as newsreels, were on the schedule every week. On Navy Day, President Truman was televised for the first time while delivering his Navy Day address in Central Park, New York. The coaxial cable between Philadelphia and New York enabled the New York television audience to witness the Army-Navy football game at Philadelphia on December 1. On February 12, 1946, the cable was put into operation between Washington and New York, and the ceremonies at the Lincoln Memorial in Washington were televised and relayed to New York as the first television broadcast from the Nation's capital.

In addition to its New York station, NBC applied for television station licenses in Washington, Cleveland, Chicago and Los Angeles.

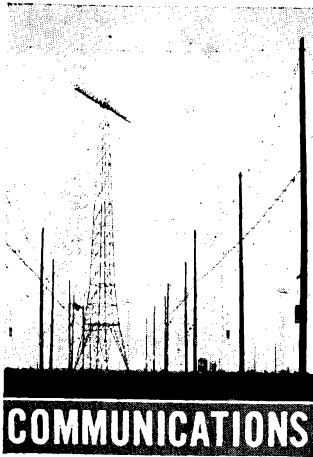
The Company also has applied for FM (frequency modulation) station licenses in Washington, Cleveland, Chicago, Denver and San Francisco. The pioneer FM station of NBC in New York broadcast programs throughout most of the year on a regular schedule of six hours a day.

NBC's principal activities are centered in seven key cities of the network, in six of which NBC owns stations: WEAJ, New York; WRC, Washington; WTAM, Cleveland; WMAQ, Chicago; KOA, Denver; and KPO, San Francisco. NBC's western headquarters are in Hollywood, where the local network station is an affiliate.

National Broadcasting Company, which was organized by RCA in November, 1926, will celebrate its twentieth anniversary this Fall. While the development of the Company has been rapid and successful, it is expected that the future will witness even greater growth and higher levels of achievement.

THE TELEVISION CAMERA OF STATION WNBT SCANNED THE CROWDS IN TIMES SQUARE'S V-J DAY CELEBRATION.





## RCA COMMUNICATIONS, INC.

The volume of international radiotelegraph traffic handled during 1945 was the largest in the history of RCA. There had been a tremendous increase in traffic prior to the end of the war, but even this was greatly expanded by the removal of censorship restrictions soon after V-J Day. Thus, RCA in 1945 had an increase in radiotelegraph traffic of approximately 70 per cent compared with 1944.

*New Circuits:* During 1945, RCA Communications, Inc., in cooperation with the United States Army established new direct circuits with Berlin and Nuremberg, Germany, and Vienna, Austria. These stations, owned by RCA and operated by RCA personnel, have handled a large volume of Government, press and troop messages passing between occupied territories and the United States. In the western hemisphere direct service between San Francisco and Rio de Janeiro also was inaugurated, supplementing the New York-Rio de Janeiro circuit.

Termination of hostilities and the liberation of occupied countries made it possible to restore many direct circuits which had been interrupted during the war. Service on a normal basis was resumed to Holland, Belgium, Norway, Czechoslovakia, the Philippines and Japan, and direct service with Shanghai was reestablished.

New circuits between Manila and Australia and Yungan, China were opened, while the circuits formerly operated from Manila to Hong Kong and Macao were reestablished. Authorization has been given by the Federal Communications Commission for the establishment of new direct circuits with Jugoslavia, Bulgaria and Korea, as well as for the resumption of service with the Netherland East Indies and Poland.

*Radiophoto Service:* The volume of radiophotos handled by RCA in 1945 was 26 per cent greater than in 1944. Direct radiophoto service was extended to France, Italy and Germany. The picture circuits operated by RCA between the United States and Great Britain, Russia, Egypt, Sweden, Switzerland, Argentina, Australia and Hawaii continued to carry an increased volume of radiophotos for the press, Government agencies and private business organizations.

*Government Use of RCA Facilities and Special Services:* Close cooperation between RCA and the mili-

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RADIO TRAFFIC TO AND FROM FOREIGN COUNTRIES FLOWS OVER 58 DIRECT CIRCUITS OF RCA, WHICH HELP TO MAKE NEW YORK THE COMMUNICATION CENTER OF THE WORLD.



tary and various departments of the United States Government continued throughout 1945, although conclusion of hostilities reduced the demand for many special communication services by the Government.

*International Program Transmission Service:* RCA transmitted from overseas a large proportion of the short-wave programs and news commentaries heard on the broadcasting networks. More than 11,000 programs were handled in 1945, representing an increase of 22 per cent over 1944. RCA carried the first program from Nuremberg, Germany, and from the United States Army in Tokyo. Other new points from which programs were picked up for the first time since the early days of the war include Manila, Vienna, Berlin, Paris and Luxembourg.

*New Types of Press Service:* To facilitate dissemination abroad of American news, RCA inaugurated a new type of "Scheduled Press Transmission Service." It enables press associations and newspapers to make use of RCA transmitting facilities on a time basis and to reach a number of destinations simultaneously. The word rate is much lower than the regular press rate.

*Rate Reductions:* In cooperation with the Federal Communications Commission, substantial rate reductions to Europe and South America were instituted by RCA on May 1, 1945. A uniform rate based on 20 cents per full rate word was applied to all Europe and to Central and South America, including the West Indies. Subsequently, the 20 cent rate was extended to include China, the Philippines and Japan.



## RADIOMARINE CORPORATION OF AMERICA

The year 1945 marked completion of the Government's emergency shipbuilding program, with which Radiomarine Corporation of America was closely allied in providing radiotelegraph and radiotelephone equipment and other electronic devices. More than 5,570 vessels were constructed, and Radiomarine Corporation equipped a large percentage of them with radio apparatus. In addition, many special designs of radio instruments were built for military use. During the war, Radiomarine produced more than 40,000 major units of marine radio installations comprising 42 different types of apparatus.

As the ships are converted to peacetime commerce, Radiomarine will furnish new radio designs to equip them as passenger and cargo ships. As part of this project, Radiomarine will make available radar in commercial designs for use in navigation and as an anti-collision device to expedite ship movements under conditions of low or zero visibility. Supplementing radar, loran—a long range radio navigation system—will enable vessels

to determine accurately their positions over distances of many hundreds of miles.

In the radiotelephone field, Radiomarine has begun production of a new type of long distance automatic equipment, particularly suitable for service on the oceans, the Great Lakes and inland waterways. For short distance communication, new frequency modulation equipment will be available for operation on the ultra-high frequency bands. Improved underwater sound devices, also employing frequency modulation, are under development to provide continuous indication of the depth of water under the keel of a vessel. Two-way radiotelephone sets for all types of land vehicles are being developed.

At the cessation of hostilities, Radiomarine immediately moved to reopen its coastal stations, which had been closed during the war. Service was restored during 1945 at Chatham, Mass.; Tuckerton, New Jersey; Savannah, Georgia; Los Angeles and Bolinas, Calif.; Lake Worth, Fla., and Port Arthur, Texas.

All restrictions on maritime radiotelegraph traffic were removed on January 1, 1946, thus permitting a free flow of private and business radiograms between ship and shore.

Comprehensive plans for modernization of Radiomarine coastal stations have been made. The work of relocating, replacing and rehabilitating these stations is under way, to bring them to a peak of efficiency in keeping with progress in the art of radio communication.

It is expected that the postwar use of maritime radio will far exceed prewar records. Thousands of ships, built and equipped with long-range shipboard apparatus during the war, are now able to communicate with their home ports from practically anywhere on the Seven Seas. These shipboard stations provide a far wider field for coastal station operations, and traffic is expected to increase proportionately.

## **RCA INSTITUTES, INC.**

RCA Institutes continued the training in 1945 of radiotelegraph operators and radio technicians in the regular vocational and technological courses. Two vocational courses in operation and repair of radio-electronic apparatus were added to the curriculum, which are particularly popular among the war veteran students.

During the year, special courses in television technology were conducted in New York, Chicago and Los Angeles for the benefit of broadcast station engineers. All local courses are given in the school laboratories and classrooms at 75 Varick Street, New York City. Classes are held for fifty weeks each year with new terms starting in March, June, September and December.

During 1945, approximately 1,000 students attended RCA Institutes, of whom 600 were war veterans sponsored by the Veterans Administration. More than 1,200 students are expected to be enrolled in the 1946 courses which are open to men and women.



**RADIO CORPORATION OF AMERICA AND DOMESTIC SUBSIDIARIES**  
**STATEMENTS OF CONSOLIDATED INCOME AND EARNED SURPLUS**  
**FOR THE YEARS ENDED DECEMBER 31, 1945 AND 1944**

	Year Ended Dec. 31, 1945	Year Ended Dec. 31, 1944
<b>GROSS INCOME:</b>		
From Operations .....	\$278,327,902	\$324,754,150
Other Income, including Interest and Dividends from Other Investments .....	1,091,264	1,627,513
Dividends from Foreign Subsidiaries (Note 6) ..	84,449	40,250
<b>TOTAL GROSS INCOME FROM ALL SOURCES .....</b>	<b>\$279,503,615</b>	<b>\$326,421,913</b>
<i>Deduct:</i>		
Cost of Goods Sold, General Operating, Develop- ment, Selling and Administrative Expenses (Note 3) .....	\$244,317,196	\$277,758,121
Depreciation (Note 4) .....	3,317,943	4,263,612
Amortization of Patents .....	900,000	825,000
Interest .....	484,408	1,783,989
<b>TOTAL .....</b>	<b>\$249,019,547</b>	<b>\$284,630,722</b>
<b>BALANCE BEFORE PROVISION FOR FEDERAL INCOME AND EXCESS PROFITS TAXES AND SPECIAL CHARGES FOR RECONVERSION EXPENSES.....</b>	<b>\$ 30,484,068</b>	<b>\$ 41,791,191</b>
<i>Deduct:</i>		
Normal Tax and Surtax .....	\$ 3,436,000	\$ 4,960,200
Excess Profits Tax (less 10% credit) .....	9,762,000	24,987,700
<b>TOTAL TAXES (Notes 2 and 5) .....</b>	<b>\$ 13,198,000</b>	<b>\$ 29,947,900</b>
Provision for Post-War Rehabilitation and for Other Adjustments of Wartime Costs .....	—	1,580,000
Portion of Expenses Incurred for Post-War Rehabilitation and Other Adjustments of Wartime Costs (Note 1) .....	5,969,000	—
<b>TOTAL DEDUCTIONS (Note 5) .....</b>	<b>\$ 19,167,000</b>	<b>\$ 31,527,900</b>
<b>NET INCOME FOR YEAR, TRANSFERRED TO EARNED SURPLUS .....</b>	<b>\$ 11,317,068</b>	<b>\$ 10,263,291</b>
<b>EARNED SURPLUS AT BEGINNING OF YEAR .....</b>	<b>43,645,087</b>	<b>41,605,651</b>
	<b>\$ 54,962,155</b>	<b>\$ 51,868,942</b>
<i>Add:</i>		
Net Effect of Change in Method of Inventory Valuation Effective January 1, 1944 .....	—	1,372,000
	<b>\$ 54,962,155</b>	<b>\$ 53,240,942</b>
<i>Less:</i>		
Goodwill Written Off, as Authorized by Direc- tors .....	—	3,671,931
	<b>\$ 54,962,155</b>	<b>\$ 49,569,011</b>
<i>Deduct:</i>		
Dividends:	Amount per share	
On First Preferred .....	\$3.50	\$ 3,152,800
On Common .....	.20	2,771,228
<b>TOTAL DIVIDENDS .....</b>	<b>\$ 5,924,028</b>	<b>\$ 5,923,924</b>
<b>EARNED SURPLUS AT END OF YEAR .....</b>	<b>\$ 49,038,127</b>	<b>\$ 43,645,087</b>

See notes to financial statements on pages 30 and 31.

# RADIO CORPORATION OF AMERICA

## CONSOLIDATED BALANCE SHEET

### ASSETS

	Dec. 31, 1945	Dec. 31, 1944
<b>CURRENT ASSETS:</b>		
Cash in Banks and on Hand .....	\$ 33,473,686	\$ 60,174,778
United States Tax Anticipation Notes and Government Bonds, at Cost .....	8,539,374	35,910,400
Notes and Accounts Receivable, including Amounts due from and chargeable to United States Government—1945, \$21,721,095—1944, \$28,901,212 (less reserves—1945, \$1,785,745—1944, \$1,796,831) .....	38,116,956	42,247,141
Inventories (at the Lower of Cost or Market)...	37,560,704	52,366,526
<b>TOTAL CURRENT ASSETS</b> .....	<u>\$117,690,720</u>	<u>\$190,698,845</u>
<b>NOTES AND ACCOUNTS RECEIVABLE MATURING BEYOND ONE YEAR</b> (less reserves—1945, \$2,000—1944, \$27,116) .....	\$ 178,765	\$ 201,609
<b>POST-WAR REFUND OF EXCESS PROFITS TAXES</b> .....	<u>\$ —</u>	<u>\$ 5,469,923</u>
<b>INVESTMENTS AND ADVANCES:</b>		
Wholly-owned Foreign Subsidiary Companies (Note 6) (less reserves—1945, \$1,000,000—1944, \$1,000,000) .....	\$ 2,697,306	\$ 2,763,802
Associated and Other Companies, at cost (less reserves—1945, \$1,686,399—1944, \$1,691,849) .	492,181	497,071
<b>TOTAL INVESTMENTS AND ADVANCES</b> .....	<u>\$ 3,189,487</u>	<u>\$ 3,260,873</u>
<b>PLANT AND EQUIPMENT:</b>		
Factories, Radio Communication and Broadcasting Stations, Laboratories, Warehouses, Service Shops, Offices, etc. (Note 2) :		
Land, Buildings and Equipment at Cost .....	\$ 85,075,070	\$ 81,223,135
Less: Reserve for Depreciation and Write-down of Plant and Equipment .....	53,361,225	53,430,891
	<u>\$ 31,713,845</u>	<u>\$ 27,792,244</u>
<b>PATENTS</b> .....	\$ 14,492,630	\$ 13,532,744
Less: Reserve for Amortization .....	9,900,365	10,187,432
	<u>\$ 4,592,265</u>	<u>\$ 3,345,312</u>
<b>DEFERRED CHARGES:</b>		
Taxes, Insurance, etc. ....	\$ 2,298,766	\$ 1,895,438
<b>TOTAL ASSETS</b> .....	<u>\$159,663,848</u>	<u>\$232,664,244</u>

See notes to financial statements on pages 30 and 31.

# AND DOMESTIC SUBSIDIARIES

AT DECEMBER 31, 1945 AND 1944

## LIABILITIES AND CAPITAL

	Dec. 31, 1945	Dec. 31, 1944
CURRENT LIABILITIES:		
Accounts Payable and Accruals .....	\$ 29,475,143	\$ 33,542,480
Provision for Federal Income and Excess Profits Taxes .....	22,548,031	41,150,141
Preferred Dividend Payable .....	788,200	788,200
Common Dividend Payable .....	2,771,228	2,771,123
	<u>\$ 55,582,602</u>	<u>\$ 78,251,944</u>
BANK LOANS:		
90 Day Notes Payable—Renewable Under V Loan Contract to September 10, 1945 (Inter- est at 2¾%) .....	—	55,000,000
TOTAL CURRENT LIABILITIES .....	<u>\$ 55,582,602</u>	<u>\$ 133,251,944</u>
RESERVE FOR POST-WAR REHABILITATION AND FOR OTHER ADJUSTMENTS OF WARTIME COSTS (Note 1) .....	\$ 3,666,345	\$ 4,589,008
RESERVE FOR CONTINGENCIES .....	<u>\$ 3,599,000</u>	<u>\$ 3,400,431</u>
GENERAL RESERVE .....	<u>\$ 5,441,301</u>	<u>\$ 5,441,301</u>
CAPITAL STOCK (Note 7):		
\$3.50 Cumulative First Preferred, No Par Value:		
Authorized —920,300 Shares		
Outstanding—900,824 Shares		
At a Stated Value of .....	\$ 14,574,441	\$ 14,574,441
(Preference on Involuntary Liquidation \$100 per share or an aggregate of \$90,082,400)		
Common, No Par Value:		
Authorized —18,500,000 Shares		
Outstanding—13,881,016 Shares		
At a Stated Value of .....	<u>27,762,032</u>	<u>27,762,032</u>
TOTAL CAPITAL STOCK .....	<u>\$ 42,336,473</u>	<u>\$ 42,336,473</u>
EARNED SURPLUS .....	<u>\$ 49,038,127</u>	<u>\$ 43,645,087</u>
TOTAL LIABILITIES AND CAPITAL .....	<u><u>\$159,663,848</u></u>	<u><u>\$232,664,244</u></u>

See notes to financial statements on pages 30 and 31.

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**  
**PAGES 27, 28 AND 29**

NOTE 1: A summary of the changes during the year in the reserve for post-war rehabilitation and other adjustments of wartime costs follows:

Balance, January 1, 1945 .....	\$4,589,008
Add: Sundry items (net) (a) .....	466,956
	<u>\$5,055,964</u>
Deduct:	
Portion of reconversion expenses (b) .....	\$1,283,279
Refunds, including voluntary refunds, on 1944 war contracts in excess of specific provision therefor (c)....	106,340
	<u>\$1,389,619</u>
Balance, December 31, 1945 .....	<u>\$3,666,345</u>

- (a) The sundry items represent a credit of \$799,680 from the reserve for depreciation for provisions made in 1943 and 1944 for extraordinary wartime maintenance and rehabilitation less charge for additional specific provisions for prior years' income taxes and other wartime costs.
- (b) The reconversion expenses represent gross costs and losses of \$7,252,279 (for losses on wartime inventories, V-J Day pay which resulted in no production, cost of relocating personnel as a result of termination of war contracts, the net value of emergency plant facilities which were abandoned, and the net operating losses of certain departments during reconversion period prior to attainment of prewar volume) less \$5,969,000 charged to income, equivalent to the relative reduction in current year's Federal income taxes plus claim for refund of taxes previously paid resulting from carry-back of unused excess profits credit.
- (c) The renegotiation of 1944 war contracts was completed in 1945. Since it is believed that no renegotiation refunds will be payable for 1945 (although renegotiation proceedings for that year have not yet been initiated), no specific provision has been made therefor.

NOTE 2: Income had been charged, both on the books and for income tax purposes, at 20% per annum from acquisition to September 30, 1945 (when the President declared the war emergency had ended for tax amortization purposes), for amortization of emergency plant facilities covered by certificates of necessity. The net carrying value of \$1,510,000 at that date for these facilities, which cost \$3,016,000, has been charged off for tax purposes. This resulted in a tax reduction of \$1,165,000, representing \$445,000 for reduction in the current year's taxes (the provision for taxes being reduced by this amount), and a claim for \$720,000 for refund of taxes paid in prior years. Certain of these facilities, having a net value of \$81,000, have been discarded. The claim for refund has been applied in part to reduce the carrying value of the remainder of these facilities by \$543,000, the balance of \$886,000 being carried forward to future years. The aforesaid reduction in carrying value is equal to the estimated future tax saving which would result if the carrying value, before such reduction, were deductible for tax purposes in the future, at a tax rate of 38%. The balance of the claim for refund, \$177,000, has been applied to increase the provision for possible additional taxes of prior years.

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

### PAGES 27, 28 AND 29

NOTE 3: Charges in the income statements for 1944 and 1945 include (a) payments to an insurance company of \$160,000 and \$1,003,407, respectively, to fund fully retirement benefits based on service after December 1, 1944, and (b) payments to the pension trust fund of \$1,210,000 and \$1,421,000, respectively, for funding, in part, retirement benefits based on services rendered prior to the inception of the plan on December 1, 1944. The 1944 payment represented approximately one-tenth of the actuarial valuation of benefits based on prior service computed as of December 1, 1944. The 1945 payment was increased to include one-tenth of the actuarial valuation of additional benefits resulting from the amendments to the original plan adopted in November 1945.

NOTE 4: As a result of revisions in 1945 of the estimated remaining useful life of equipment used for war production only, the provision for depreciation for 1945 was approximately \$600,000 less than the amount which would have accrued on the basis of the estimates used in 1944.

NOTE 5: It is estimated that the provision required in 1945 for Federal income taxes payable is \$13,198,000. Such taxes would have been approximately \$19,167,000 on the basis of the net income before taxes shown on the statements of consolidated income and earned surplus. The difference is caused by the deductibility, in computing taxable income, of the reconversion expenses set forth in Note 1. Consequently, a portion of such reconversion expenses equal to the applicable tax reduction has been charged to income.

NOTE 6: The carrying value of the investments in and advances to the wholly-owned foreign subsidiaries, which have been excluded from the consolidation from January 1, 1941, is based on the value of their net assets in the consolidated balance sheet at December 31, 1940. Current intercompany accounts, which were included under this caption in the annual report for 1944, have been excluded therefrom and classified as current items in the consolidated balance sheet for 1944 included in this report, and the summary of foreign assets for 1944 shown below has also been adjusted. The same procedure has been followed in the 1945 financial statements. A summary of the net assets of these subsidiaries, which are located in Canada, Central and South America, England and Australia, converted at the prevailing export rates at December 31, 1945 and 1944 (with the exception of fixed assets which are converted at the rates prevailing when the expenditures were made) follows:

	<i>Dec. 31, 1945</i>	<i>Dec. 31, 1944</i>
Net current assets .....	\$4,859,032	\$4,544,218
Net fixed assets .....	1,465,734	1,272,732
Other net assets .....	387,907	316,687
	\$6,712,673	\$6,133,637
	\$6,712,673	\$6,133,637

The net income of these subsidiaries for 1945 and 1944 was \$645,532 and \$937,527 more than the dividends received from them during these respective years. This excess is not reflected in the consolidated financial statements.

NOTE 7: There are 16,193 shares of B preferred stock authorized but none are outstanding. The common shares shown as outstanding include the following shares reserved for issue to stockholders of the predecessor company, 1945 — 24,862; 1944 — 25,400.

**ARTHUR YOUNG & COMPANY**  
ACCOUNTANTS AND AUDITORS  
1 CEDAR STREET

**NEW YORK 5, N. Y.**

**CERTIFICATE OF INDEPENDENT PUBLIC ACCOUNTANTS**

*To the Stockholders of  
Radio Corporation of America:*

We have examined the consolidated balance sheet of RADIO CORPORATION OF AMERICA AND DOMESTIC SUBSIDIARIES at December 31, 1945, and the statements of consolidated income and earned surplus for the year then ended, have reviewed the system of internal control and the accounting procedures of the Companies and, without making a detailed audit of the transactions, have examined or tested accounting records of the Companies and other supporting evidence, by methods and to the extent we deemed appropriate. It was not practicable to confirm, by direct correspondence, the amounts due from and chargeable to the United States Government, as to the substantial accuracy of which we satisfied ourselves by other means. Due to war conditions, it was not practicable for the Company to check the book values of work in process at one of its principal plants (which was carried at approximately \$13,000,000 at December 31, 1945) against a valuation based on physical inventories thereof. From our review of the records supporting such book values, we believe that they are not in excess of the lower of cost or market. Our examination was made in accordance with generally accepted auditing standards applicable in the circumstances and included all procedures which we considered necessary.

We have accepted the reports of other independent accountants on the financial statements, at November 30, 1945, for certain foreign subsidiaries (having a gross investment carrying value of less than 1% of the consolidated assets) which have been used in preparing the summary financial statements of the foreign subsidiaries included in Note 6.

In our opinion, the accompanying consolidated balance sheet and statements of consolidated income and earned surplus present fairly the position of Radio Corporation of America and Domestic Subsidiaries at December 31, 1945, and the results of their operations for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

New York, N. Y.  
February 23, 1946.

*Arthur Young Company*

# RADIO CORPORATION OF AMERICA

The principal products and services of RCA are provided by the following divisions and subsidiaries:

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Direction Finders  
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Faradon Condensers  
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Industrial Electronic Products  
Industrial Sound Equipment

Inter-Communication Equipment  
Microphones  
Motion Picture Equipment  
16 mm Sound Film Projectors  
Music Library Service  
Public Address and Plant  
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**RADIO CORPORATION OF AMERICA**  
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