

384.1  
R118 + ca.  
1945



**WHAT IT IS**

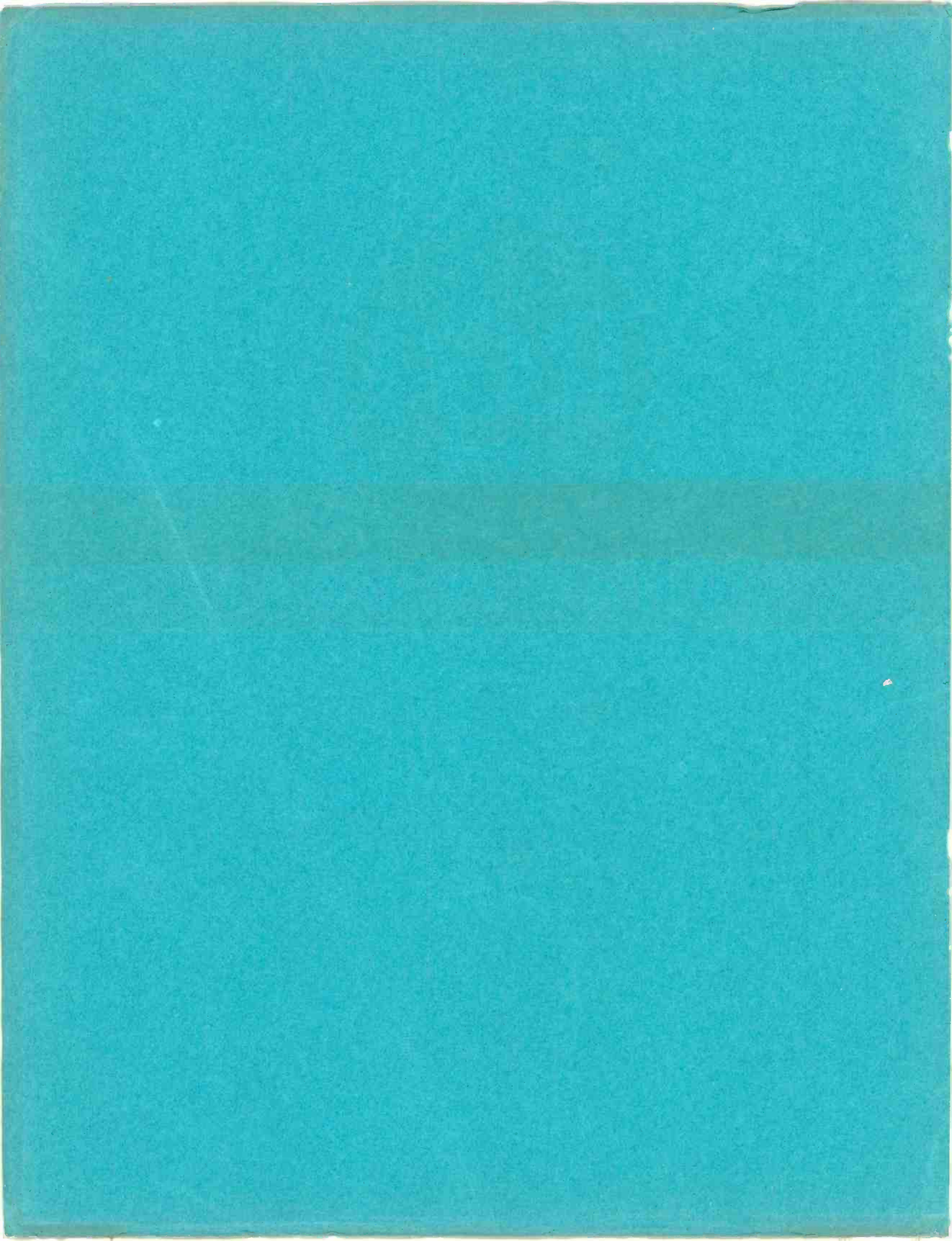
**WHAT IT DOES**

1945

QUESTIONS  
*and*  
ANSWERS

CONN. STATE LIBRARY

JUL 11 1945





WHAT IT IS  
WHAT IT DOES

ANSWERS TO QUESTIONS THAT ARE OFTEN ASKED

(COMPLETE INDEX ON PAGE 46)

1945

**RADIO CORPORATION OF AMERICA**

RCA BUILDING, 30 ROCKEFELLER PLAZA, NEW YORK 20, N. Y.



# Foreword

A new chapter in the history of radio began in 1919. The Armistice of 1918 ended the “wireless” era. Wireless became radio! Wartime developments of the vacuum tube, short waves and the radiophone were new keys to progress. Broadcasting became a new post-war industry with tremendous potentialities for service to the public and to the nation.

War had revealed to America that it should have a world-wide radio communication system that would make it independent of foreign countries in communicating with other nations, with its own outlying possessions, merchant marine, battle fleets and any American Expeditionary Force.

So that America would have this independence, ashore and afloat, in peace and in war, the Radio Corporation of America was formed in 1919 to serve the interests of the public and the government; to establish American preeminence in radio through research, manufacturing and communications. The wireless stations, physical equipment, patent rights and the good will of the Marconi Wireless Telegraph Company of America were acquired

as the nucleus of the new all-American radio organization — RCA. The growth of radio in the United States since that day is a story of radio progress throughout the world.

The United States went to war again in 1941. At once RCA enlisted its laboratory facilities, manufacturing machinery, radio stations and communication services in the all-out effort to help win the war. This dedication of purpose was to continue unabated until Victory, adding constantly to the power of radio's mission as a great force for unity that links free people everywhere.

Since its formation, RCA through research and pioneering, has helped to place the United States in the forefront of every great advance in radio. It has put into practical use many of the outstanding developments in radio science as a service to the public; it leads the way in electronics and television; it has contributed largely to making this Nation the communication center of the world. Maintaining modern and efficient services to the public, to trade and commerce, RCA has continually strengthened and extended the usefulness of radio to this country—on land, sea and in the air.

RESEARCH  
BROADCASTING  
TELEVISION  
MANUFACTURING  
COMMUNICATIONS



# RCA **WHAT IT IS** *and* **WHAT IT DOES**

## **What is "RCA"?**

The letters "RCA" are the initials of the Radio Corporation of America, the parent company of: RCA Victor Division, National Broadcasting Company, Inc., RCA Communications, Inc., Radiomarine Corporation of America, RCA Institutes, Inc., and RCA Laboratories.

•

## **Where are the executive offices of RCA?**

Headquarters of the Radio Corporation of America are in the RCA Building, 30 Rockefeller Plaza, New York City. This building is the tallest skyscraper in Rockefeller Center, popularly known as "Radio City."

•

## **What led to the formation of RCA?**

Prior to and during the first World War, the United States depended largely upon British cables and foreign-owned wireless stations for communication with many important parts of the world. Great Britain was the communication center of the world. The war revealed to Americans that radio offered a new and competitive system; a starting opportunity for dissemination of intelligence. Development of radio would give the United States preeminence in radio communication, independent of other countries.

To accomplish this, RCA was formed by the General Electric Company, as a result of suggestions by officials of the United States Navy. Arrangements were made to acquire the assets of the Marconi Wireless Telegraph Company of America. A charter was granted RCA under the corporation laws of the State of Delaware on October 17, 1919. The business and property of the American Marconi Company were acquired by RCA on November 20, 1919. On December 1, 1919, RCA began business as an all-American organization. Its charter provides that no person shall be eligible for election as a Director or officer of the Corporation who is not at the time of such election a citizen of the United States. The charter also specifies that the Corporation may, by contract or otherwise, permit such participation in the administration of its affairs by the Government of the United States as the Board of Directors deem advisable. A clause in the charter provides that at least 80% of the RCA stock outstanding shall be held by citizens of the United States.

The first Chairman of the Board of RCA was Owen D. Young; the first President, Edward J. Nally; David Sarnoff was Commercial Manager.

←RCA Building, Radio City, New York, is a world-center of radio. It is the home of the Radio Corporation of America and the National Broadcasting Company.



JAMES G. HARBORD

BOARD OF  
DIRECTORS  
of  
RCA



DAVID SARNOFF



FRANK M. FOLSOM



GANO DUNN



EDWARD F. McGRADY



ARTHUR E. BRAUN



JOHN HAYS HAMMOND, JR.



NILES TRAMMELL



EDWARD J. NALLY



DeWITT MILLHAUSER



EDWARD W. HARDEN



BERTRAM CUTLER



**What is the nature of RCA's business, as outlined in its original charter?**

1. To send and receive signals, messages and communications.
2. To create, install and operate a system of communication which may be international.
3. To improve and prosecute the art and business of electric communication.
4. To radiate, receive and utilize electromagnetic waves.
5. To create and manufacture consumer goods, and to hold patent rights in radio, electronics and other fields.

**What are the industrial activities of RCA?**

The Radio Corporation of America is the world's foremost radio organization. Through its various divisions and wholly-owned subsidiaries, it is engaged in every phase of radio: research and engineering, design and development, manufacturing, communications, broadcasting and technical training.

**Is RCA engaged in electronics?**

Yes; RCA has pioneered in the science of electronics, and its Laboratories are a foremost center of radio-electronic research, the key of which is the radio or electron tube. The RCA Victor Division, the world's largest manufacturer of electron tubes, makes a wide variety of electronic apparatus and instruments.

**When did the RCA transoceanic service begin?**

In February, 1920, the stations which the government had taken over from the American Marconi Company during the war, were turned back to the new RCA and a new communication service was inaugurated to foreign lands. One of the principal stations was in New Brunswick, N. J. During that year service was established with England, France, Norway, Hawaii, Japan and Germany.

**How many people are employed by RCA and its subsidiaries?**

On March 1, 1945, RCA and associated companies had 37,770 employees, of whom 49% were men, and 51% were women.



HENRY A. SULLIVAN  
Controller



GEORGE S. De SOUSA  
Vice-President and Treasurer



LEWIS MacCONNACH  
Secretary

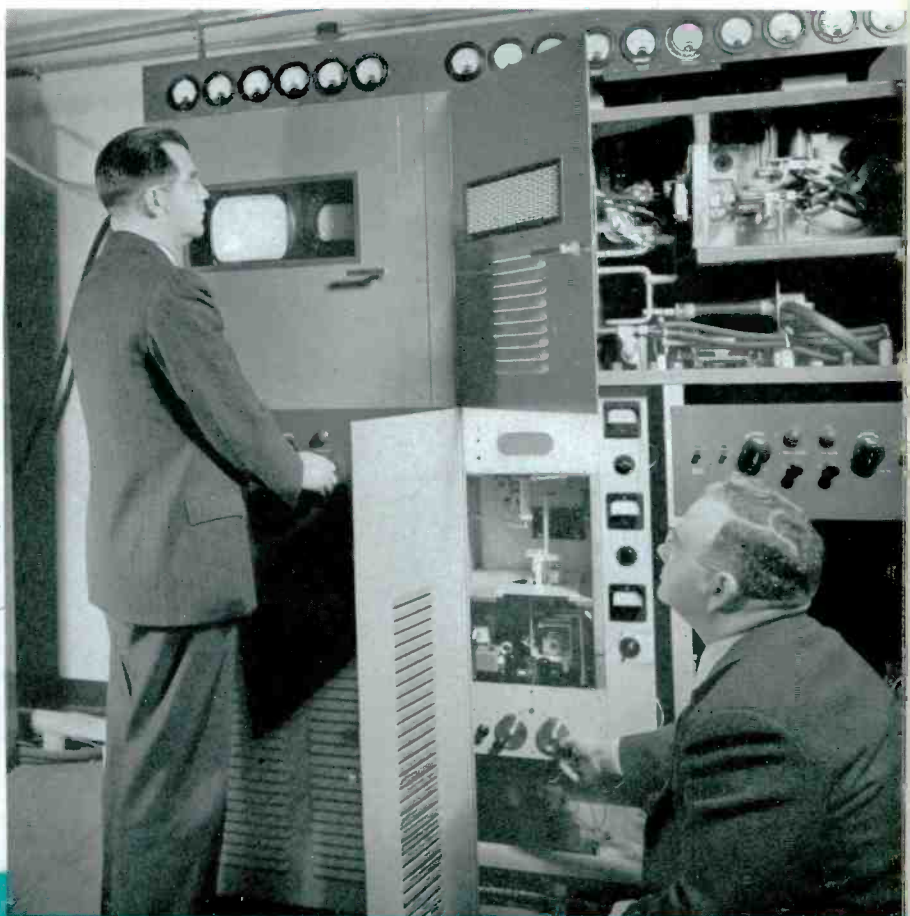
Skilled women workers of RCA play an important part in the assembly of radio equipment. →



← Rigid tests are made by RCA Victor on radio, sound, and electronic equipment designed for use at sea. In this tank, sound communications units are submerged several hours, then tested for water-tightness.



The RCA portable electronic megaphone is a valuable aid in directing marine traffic.



An experimental television transmitter under development at RCA Laboratories operates at frequencies up to 300 megacycles, that is, a wavelength of one meter; with a power output of 5,000 watts.

**What are RCA's personnel and labor policies?**

The management recognizes that the loyal cooperation of employees is of basic importance to the success and progress of RCA. The company maintains, in all of its units, competent personnel administration, and a wide variety of educational training, social, and recreational facilities is provided. Employment is on the basis of merit and efficiency as determined by such factors as character, dependability, skill, intelligence, and physical fitness.

It is the company policy to pay as high wages, under as favorable hours and working conditions in similar classes of work, as those prevailing in the areas in which the company's plants are located or operations are carried on. In instances where employees choose to bargain collectively, the employing company deals willingly and frankly with their authorized representatives. At present, there are in force a number of contracts between the various companies and the unions, of which several are affiliated with A. F. of L., several with C.I.O., and one is independent.

Edward F. McGrady, who for four years had been Assistant Secretary of Labor, in 1938 became RCA's Vice President in charge of Labor Relations and a member of the Board of Directors.

•

**Who owns the Radio Corporation of America?**

Ownership of RCA is widely distributed among approximately 222,000 stockholders, in every state of the Union. No person of record holds as much as one-half of 1% of the stock. Less than 6% of the stock is held by foreign stockholders.

•

**What is RCA's capital structure?**

There are two classes of RCA stock:	Shares Outstanding
\$3.50 Cumulative First Preferred . . . . .	900,824
Common . . . . .	13,881,016

•

**Do RCA stocks pay dividends?**

Regularly quarterly dividends have been paid on the Preferred stock. In 1944 these dividends amounted to \$3,152,801. Dividends at the rate of 20 cents per share have been paid annually on the Common stock during the past eight years. The Common stock dividend in 1944 amounted to \$2,771,123. Total 1944 dividends paid to RCA stockholders amounted to \$5,923,924.

In 1944 net earnings were more than 3.2 times dividend requirements on the First Preferred stock. During the eight-year period, 1937 to 1944, inclusive, net earnings averaged more than 2.9 times these requirements. In the same eight-year period, dividends on Common stock have totalled \$22,167,331 and the company's earned surplus has been increased by \$28,310,438.

**What was RCA's volume of business in 1944?**

The Consolidated Gross Income of RCA for the year 1944 (exclusive of foreign subsidiaries) was \$326,421,913.

<b>WHERE IT CAME FROM</b>	
Manufacturing Division . . . . .	\$244,245,587
Broadcasting . . . . .	56,994,065
Communications Companies . . . . .	22,715,125
Miscellaneous (Less Inter-Company Transactions) . . . . .	2,467,136
Total . . . . .	\$326,421,913

<b>WHERE IT WENT</b>	
Cost of Raw Materials, Supplies, Sustaining Program Talent, Rent, Sales and Advertising; Payments to Associated Broadcasting Stations; Research, Administration, and Other Operating Expenses . . . . .	\$176,259,958
Wages and Salaries to Employees . . . . .	96,190,483
Depreciation and Amortization . . . . .	5,088,612
Provision for Post-War Rehabilitation and for Other Adjustments of Wartime Costs . . . . .	1,580,000
Interest . . . . .	1,783,989
Taxes . . . . .	35,255,580
Dividends to Stockholders . . . . .	5,923,924
Carried to Surplus . . . . .	4,339,367
Total . . . . .	\$326,421,913

**What is RCA's record of earnings for the past 10 years?**

The earnings of RCA during the ten-year period from 1935 to 1944 inclusive, were as follows:

*(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
1935	\$89,228,898	\$6,026,673	\$ 899,800	\$5,126,873	\$.137
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

**What are the working capital and net worth of RCA?**

RCA's working capital (the excess of current assets over current liabilities) at December 31, 1944, amounted to \$57,377,549. RCA's net worth on the same date was \$91,422,861.

The total assets, liabilities and capital of RCA, as shown by its consolidated balance sheet on December 31, 1944, were divided as follows:

ASSETS	
Current Assets	
Cash and Government Securities . . . . .	\$ 96,085,178
Notes and Accounts Receivable (less reserves) . . . . .	42,177,789
Inventories (less reserves) . . . . .	52,366,526
Total Current Assets . . . . .	\$ 190,629,493
Investments in and Advances to subsidiary companies* . . . . .	
Plant and Equipment (less reserves) . . . . .	27,792,244
Patents (less reserve) . . . . .	3,345,312
Other Assets . . . . .	7,566,970
Total Assets . . . . .	\$ 232,664,244
LIABILITIES AND CAPITAL	
Current Liabilities	
Accounts Payable and Accruals . . . . .	\$ 33,542,480
Provision for Federal Income Taxes . . . . .	41,150,141
Dividends Payable . . . . .	3,559,323
Total Current Liabilities including Bank Loans . . . . .	\$ 78,251,944
Bank Loans** . . . . .	55,000,000
Total Current Liabilities including Bank Loans . . . . .	\$ 133,251,944
Reserve for Post-War Rehabilitation . . . . .	4,589,008
Reserve for Contingencies . . . . .	3,400,431
Total Liabilities . . . . .	\$ 141,241,383
Net Worth consisted of	
General Reserve . . . . .	\$ 5,441,301
Capital Stock, at a stated value of . . . . .	42,336,473
Earned Surplus . . . . .	43,645,087
Total Net Worth . . . . .	\$ 91,422,861
Total Liabilities and Capital . . . . .	\$ 232,664,244

\*This includes investments in foreign subsidiaries, at an amount representing approximately 3.1% of net worth. Approximately 90% of the net assets of these foreign investments are located in Canada and Latin America.

\*\*On February 15, 1945, the Bank Loans were reduced by \$20,000,000, and on May 7, 1945, the balance of \$35,000,000 was repaid, the V-Loan Credit was terminated and the current assets were accordingly reduced.

NOTE: The Assets, Liabilities and Capital, as tabulated on this page, are merely a summary of the Consolidated Balance Sheet of RCA on December 31, 1944. For complete facts and figures, please refer to the Annual Report of Radio Corporation of America for the year 1944.

**What is RCA's role  
in the war?**

Radio is a powerful arm of modern warfare. RCA personnel, facilities and services are concentrated to the utmost to make the radio arm of the United States strong and efficient to help in every way possible to win the war. Of the more than 8,090 RCA employees who have joined the armed forces of the United States, 103 have given their lives to the Nation's cause.

Plants of the RCA Victor Division are "arsenals" of radio apparatus essential for successful conduct of the war by the military and naval forces of the United States and its allies. Geared for all-out wartime production, RCA is a bulwark of the nation's radio communication lines. War called for total effort, and the workers on the production lines responded. They increased their efficiency and conserved materials essential to the war effort.

Radiotelegraph circuits normally are operated by RCA Communications, Inc., to over fifty countries, providing the United States with an international web of communication. In wartime these circuits assure continued contact with outposts near and far regardless of enemy activity or control over intervening seas or territories. Since May, 1940, RCAC has sent and received millions of Expeditionary Force Messages—at a special low rate of 60 cents per message.

In RCA Laboratories, research and development have been expanded. Research fortifies the nation's radio communication. Under the impetus and demands of war, achievements of scientists are multiplied. In normal times the inventions of RCA are made available to competing manufacturers by means of licenses. During the war the Government is licensed under RCA patent rights to make, and to have others make, various types of radio apparatus for war use.

In this war, which strikes directly at civilian populations, radio broadcasting, undeveloped in the first World War, now is a powerful factor in both domestic and world-wide communications. The National Broadcasting Company—service of RCA—is helping to keep the people informed. The international short-wave beams of NBC are giant spearheads of truth that penetrate those areas of the world where facts are blacked out.

To every vessel radio is of increased importance in wartime. The Radiomarine Corporation of America is equipping the Liberty and Victory Fleets with radio installations. Through its specially designed marine apparatus, RCA is safeguarding life and property at sea; radio is an invisible guard of the convoy.

To design, operate, and maintain the mighty radio communication system of this nation calls for manpower as well as kilowatts. RCA Institutes, New York, the oldest radio training school of its kind in the United States, has war-radio as its No. 1 Course.

**What are some of  
RCA's wartime  
achievements?**

Through research and engineering over the past twenty-five years, RCA has pioneered and put into practical use many of the outstanding developments in the field of radio. During the war more than 1,000 RCA engineers have concentrated on radio and electronic projects vital to the war effort.

Basic research on microwaves used for radar, instituted by RCA Laboratories as early as 1932, led to important wartime applications.

RCA scientists have designed, and its workers have built, more than 200 new types of electron tubes for a wide variety of applications. Included are new series of miniature tubes which have been utilized in the design of radio equipment for jeeps, tanks and other mobile units.

High-frequency radio heating methods have multiplied the production of many critical war items. The application of radio heat has been used to speed up the treatment of steel, dehydration of food and penicillin, drying of textiles and bonding of laminated woods.

The electron microscope, using electrons instead of light rays to penetrate the hidden mysteries of nature, is one of the greatest contributions which radio has made to the progress of the other sciences and to nature. This achievement has been developed by RCA Laboratories into the most revolutionary laboratory tool of the Twentieth Century. It has played an important part in wartime research.

At the request of military authorities, RCA Communications, Inc., established and operated its own stations in Naples, Rome and Southern France, primarily to care for the huge volume of Government, press and troop messages passing between Europe and the United States. In 1944, 150,000,000 words of radio traffic were handled, a large percentage relating to war.

During 1944, Radiomarine Corporation of America shipped 17 percent more apparatus to the Army, Navy and Merchant Marine than in the preceding year.

Radiomarine also developed a new life-boat radio set which provides two-way radiotelephone and radiotelegraph communication. Still another life-boat radio development is a buoyant, portable two-way radiotelegraph transmitter and receiver employing a hand-driven electric generator as its power supply.

Emblematic of this unflagging attention to war production are the six Army-Navy "E" Flags, the U.S. Maritime Pennant, the Victory Fleet Flag and 20 stars for continued excellence in accomplishment which the U. S. Government services have presented to RCA plants and research laboratories.



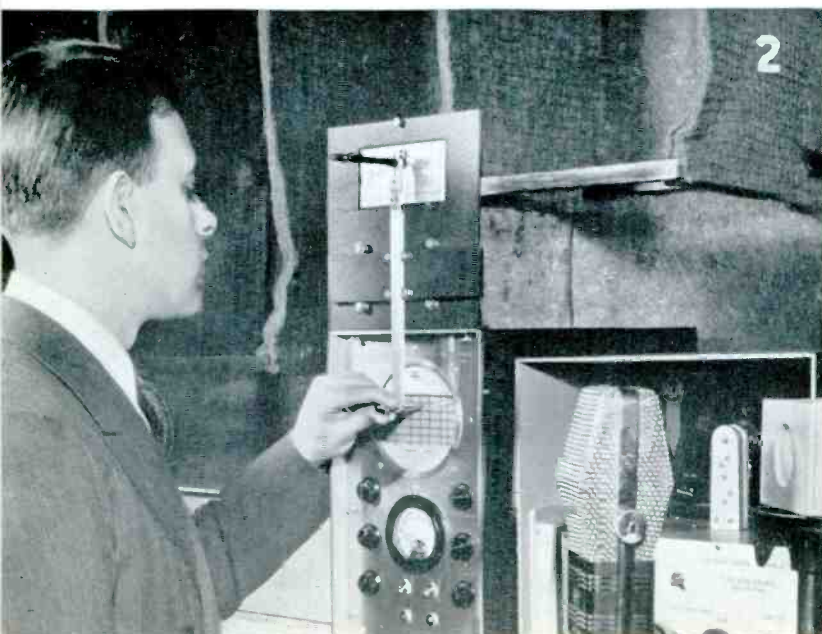
RCA Laboratories, one of world's foremost centers of radio and electronic research, at Princeton, N. J.



(1) Dr. Charles B. Joffe, Vice-President, in Charge of RCA Laboratories.

(2) Sensitive instruments record the performance of a loud speaker being tested in the acoustic laboratory by R. A. Hatkley.

(3) Dr. D. W. Epstein studying a new television optical system, developed by RCA Laboratories, to give larger, brighter pictures.





# RESEARCH and ENGINEERING

**What is the policy of RCA toward scientific research?**

Since its formation, the Radio Corporation of America always has conducted progressive research. It recognizes research as the guarantee of continued progress. Research in radio is basic insurance for the future, for it assures steady growth and increased efficiency as well as successful competition. RCA research activities centralize in RCA Laboratories. First occupied in the Autumn of 1942, the new laboratories at Princeton, N. J., were designed to be one of the foremost centers of radio and electronic research in the world. With more than two years of achievements in these fields to their credit, the new laboratories have progressed far toward realizing the dreams of their designers.

•

**What is the purpose of RCA Laboratories?**

The primary aim of RCA Laboratories is to increase the usefulness of radio and electronics to the nation, to the public and to industry. The further objective is to discover the needs for, and to create new products, services and markets. Scientific investigations continuously conducted by RCA are directed toward constant improvement in methods and devices for every branch of radio and its production processes.

During the war, the concentrated efforts of the Laboratories are turned toward developments for the armed forces. The degree of success attained in this work is evidenced by the award of the Army-Navy "E" flag on May 22, 1943, and three subsequent renewals, with addition of three stars to denote three six-month periods of continued achievement in the war effort.

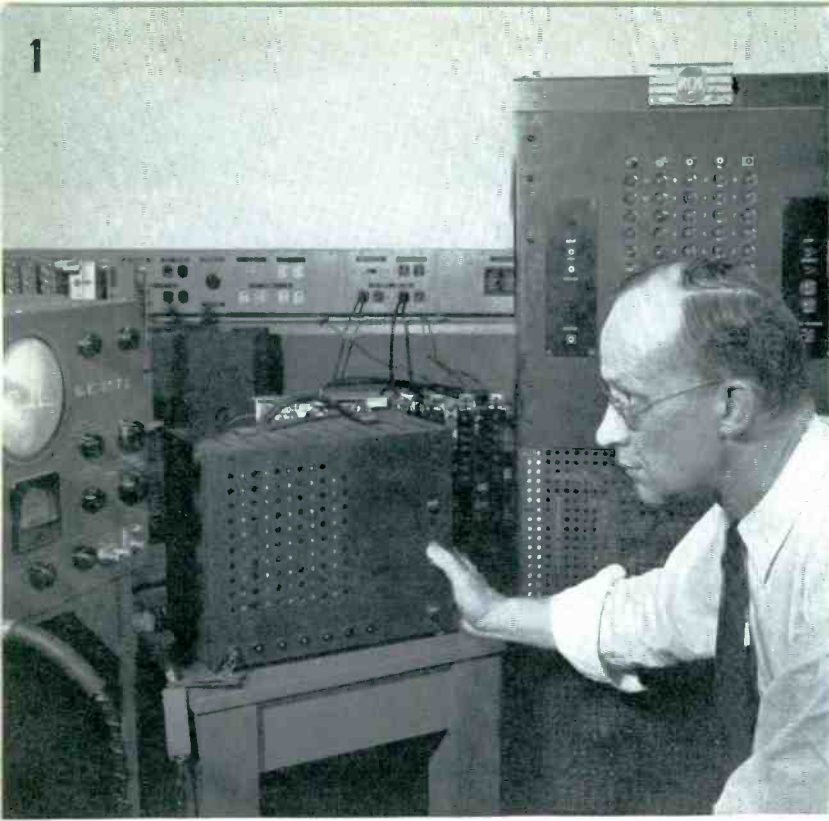
Scientists and engineers in the Laboratories have discovered keys of science that have unlocked the gateways of ethereal communication from international short-wave radio to television. It is through long years of tireless work in the laboratory, and in field tests conducted on a globe-girdling scale, that the utility of radio has been extended as a service to the American people. The horizons of these services are ever-widening. It is research that keeps the sphere of radio spinning in its orbit of technical progress.

•

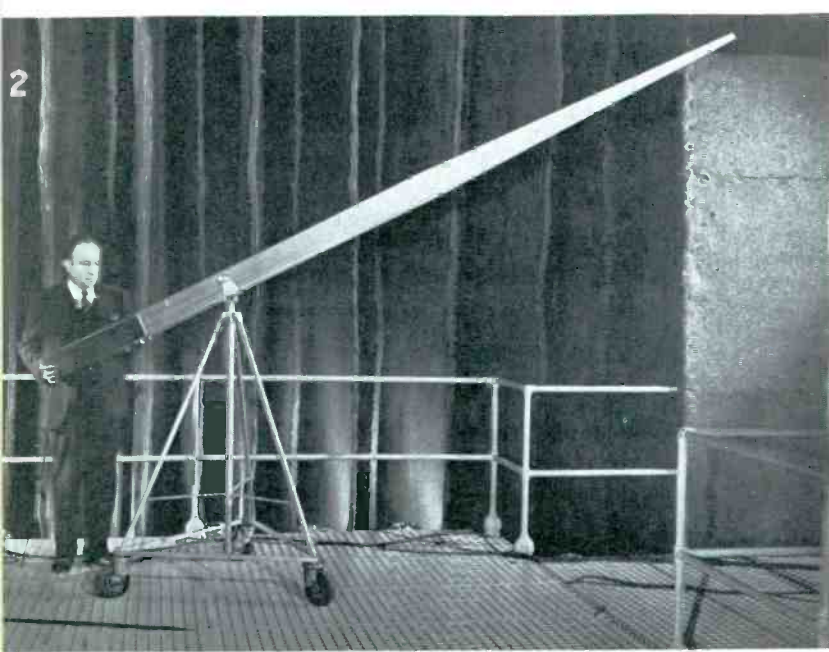
**Is RCA research confined to radio?**

Modern radio is closely allied with many branches of science such as electronics and acoustics and as it progresses, new sciences are continually being brought within its horizon. For example, as a result of research in television, RCA has extended its investigations into the field of optics and chemico-physics. Studies which have grown out of this ever-broadening research are fluorescent and phosphorescent materials, specialized work in plastics and the applications of radio frequency to industrial heat-treating processes. Many important "by-products" have resulted from the investigations in these new fields.

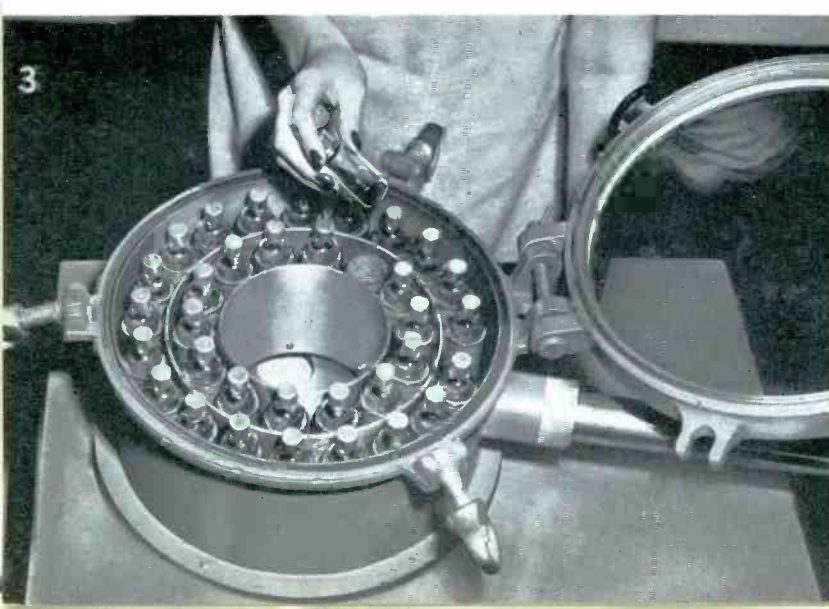




(1) Igor E. Grosdoff testing new model of electronic counter chronograph used for timing speeds of projectiles. Early large panel model shown at right.



(2) Dr. Harry F. Olson, authority in acoustics at RCA Laboratories, prepares test of ultra-directional microphone in free-field sound room.



(3) Vials of the wonder-drug penicillin are placed in vacuum chamber which is then subjected to the radio-frequency heat process perfected in RCA Laboratories to speed up the drying operation.



(4) Dr. James Hillier and Dr. V. K. Zworykin conducting an experiment with the electron micro-analyzer, which makes possible a quick identification of atoms of ultra-microscopic particles of matter.



(5) R. A. Bierwirth and Dr. George H. Brown watch Cyril N. Hoyler as he demonstrates the electronic sewing machine developed in RCA Laboratories.

**Does RCA make its inventions and patents available to other manufacturers?**

RCA has more than 240 patent licensees, competitive manufacturers in radio and other fields. Under the company's license policy numerous sources of supply are open to the Government and to the public. To assist its licensees, RCA Laboratories maintains an Industry Service Division through which licensees are kept informed of new technical developments and are advised how best to apply them.

**What are some of the outstanding developments of RCA research?**

RCA's pioneering work has made many of the foremost contributions to world-wide radio communications. High on the list of developments is the electronic system of high definition television. Pursuing original investigations in ultra-high frequencies, new applications have been made in the spectrum of tiny waves, including uses in television, radar, and in automatic radio-relay stations. Recent tube developments will provide transmitters having a power of five kilowatts at frequencies up to 300 megacycles for post-war television service. Sound being the backbone of radio, widespread research has been conducted with fruitful results in acoustics. Research in television, which led into the realm of electron optics, has brought numerous revolutionary developments, including the RCA electron microscope, which enables the human eye to see deeply into the submicroscopic world. Magnifications up to 100,000 diameters are obtainable. Many types of vacuum tubes have been created for myriad uses in radio and industry. The electron multiplier tube, designed to convert a feeble light impulse into electricity and multiply its strength, is one of the most fascinating devices now in the hands of the scientist.

Explorations in radio have pointed the way to useful developments applicable to other fields; for example, efforts in television research to find a way of eliminating reflections from glass, led to RCA's chemical process for making low-reflection glass, and the Magicote process that greatly increases the efficiency of lenses. Extensive investigations in the field of radiothermics—the applications of heat generated by high-frequency radio waves—have led to numerous new developments, including an electronic “sewing machine” for joining thermoplastic sheet materials and more recently a radio-frequency heating process for drying penicillin.

The RCA radiophoto system brings pictures in a few minutes over long distances, and when war created the need, RCA opened new circuits for reception of photographs from Russia and Australia when no other means of quick delivery were available to match radio's speed. Research made that possible. Facsimile transmission and reception multiplexed with sound is another RCA development.

# PIONEERING

## What are some of the RCA "FIRSTS" in the Radio Field?

World-wide communication inaugurated by RCA in 1920 was greatly extended in 1921 with the opening of "Radio Central" on Long Island, featuring the 200-kilowatt Alexanderson alternators.

Dempsey-Carpentier fight on July 2, 1921, broadcast by RCA from Boyle's Thirty Acres in Jersey City, as the first world's heavyweight championship on the air.

High-speed transmitters and automatic receivers installed on ocean liners in 1923 to handle increased radio traffic.

Short waves applied in 1924 to RCA transatlantic communication featuring vacuum tubes rated at 20 kilowatts.

First radiophoto transmitted by RCA across the Atlantic was of Charles Evans Hughes, sent on July 6, 1924, from New York to London, where it was radioed back across the sea and recorded in New York.

Pictures of President Coolidge, Prince of Wales and others sent by RCA radio facsimile from London to New York on November 30, 1924.

First rebroadcast from London heard on February 14, 1925, through RCA stations WJZ, New York, and WRC, Washington.

Broadcasting transmitters of RCA participated in 24 station hook-up handling Coolidge inaugural in 1925, first event of its kind on the air.

Initial international broadcast program transmitted from Chelmsford, England, picked up at Belfast, Maine, and relayed by short wave to New York, for rebroadcast by RCA's station WJZ, March 1925.

Radio facsimile messages, maps and pictures sent by RCA radiophoto system on May 7, 1925, from New York to Honolulu.

Picturegram of a check sent from London to New York by RCA radiophoto on April 20, 1926, was honored and cashed in New York.

National Broadcasting Company organized as a service of RCA on September 9, 1926, to conduct nationwide network broadcasting.

World series broadcast for the first time by WJZ in October 1926.

Radio receiving sets and tubes designed for complete alternating current operation, introduced by RCA for home use in 1927.

The Radiomarine Corporation of America—a service of RCA—was organized on December 31, 1927 to operate in the marine communication field.

RCA Communications, Inc., organized January 3, 1929, to conduct RCA's international radio-telegraph service, many new circuits having been opened since organization of the Radio Corporation of America in 1919.

RCA radiotelegraph circuits efficiently and expeditiously handled greatly increased volume of transatlantic traffic as earthquake on November 18, 1929, snapped 10 cables on bed of the North Atlantic.

Television on a 6x8 foot screen shown by RCA on January 16, 1930, at RKO Proctor's 58th Street Theatre, New York; pictures transmitted from station W2XBS, 411 Fifth Avenue.

New noiseless system of recording introduced to the motion picture industry by RCA in 1931; also a low-cost sound-picture producer for alternating current operation.

Empire State Building selected in June, 1931, as site for RCA-NBC television station for experimental field tests.

Self-contained, portable ultra-high frequency knapsack transmitter built by RCA in 1932 for use in broadcasts of outdoor events and for military scouts in the field.

Electron multiplier tube developed by RCA Laboratories demonstrated in 1935, multiplies amplification hundreds of thousands of times within a single tube.

Automatic SOS alarm for use on vessels not having a radio operator on constant watch, introduced by RCA in 1935.

First ultra-high frequency automatic relay circuit opened by RCA in 1936, between New York and Philadelphia, transmits simultaneously facsimile and multiple radiotelegraph messages.

Television outdoors demonstrated by RCA on April 24, 1936, at Camden, N. J.

Electron projection "gun" demonstrated on May 12, 1937, by RCA engineers at I.R.E. Convention, projected television pictures on screen 8 by 10 feet.

First full-size symphony orchestra organized exclusively for broadcasting introduced by NBC under Arturo Toscanini, conductor, in 1937.

Testing the range of ultra-short wave television signals, RCA experiment in plane 20,000 feet over Washington, D. C., picked up pictures from NBC studios in Radio City, on October 17, 1939.

Mobile television station of RCA-NBC appeared on streets of New York for first time, December, 1937.

RCA announced on October 20, 1938, at Radio Manufacturers Association meeting, that television sets would be offered to the public in April 1939 as a feature of the New York World's Fair.

Opening ceremonies on April 30, 1939, of New York World's Fair televised by RCA-NBC, including President Roosevelt as first Chief Executive to be seen on television.

Columbia-Princeton baseball game of May 17, 1939, televised by RCA-NBC as "a first from the diamond."

Improved television "eye" called the "Orthicon" introduced by RCA on June 7, 1939, to give greater clarity and depth to television pictures.

First college football game, Fordham-Waynesburg, televised by RCA-NBC on September 30, 1939.

Portable television equipment demonstrated to FCC by RCA on December 1, 1939, supplemented with motor truck mobile stations.

Dr. V. K. Zworykin of RCA Laboratories, in December 1939, at the annual meeting of the American Association for the Advancement of Science, announced that he was working on the development of an electron microscope; in April 1940 he announced the completion of the instrument which has attained magnifications up to 100,000 diameters.

Color television demonstrated to FCC by RCA on February 6, 1940, at Camden, N. J.

Television on 4½ by 6-foot screen demonstrated by RCA at stockholders meeting on May 7, 1940.

Election returns on November 5, 1940, telecast for the first time as RCA-NBC showed teletypes of press associations reporting the news, as well as commentators at the microphone.

Television progress demonstrated to FCC on January 24, 1941, included: home-television receiver with 13½ by 18" translucent screen; television pictures 15 by 20 feet on New Yorker Theatre screen; pictures relayed by radio from Camp Upton, L. I., to New York; also facsimile multiplexed with frequency modulation sound broadcast.

Large-screen television featuring Overlin-Soose prize fight on May 9, 1941, at Madison Square Garden, demonstrated by RCA at New Yorker Theatre; also on following days, baseball games from Ebbets Field, Brooklyn.

Radiophotos, the first ever received in New York from Moscow, picked up by RCA on July 8, 1941.

RCA Alert Receiver turned on and off by a special signal from broadcast transmitter, rings bell, lights electric lamp or blows siren to summon listeners, demonstrated on July 28, 1941, for possible use in civilian defense.

Ground broken on August 8, 1941, for new RCA Laboratories at Princeton, N. J., to be the foremost center of radio and electronic research in the world; cornerstone laid on November 15, 1941.

RCA electron microscope at the University of Pennsylvania magnified the influenza virus 65,000 times, making possible the first photograph ever taken of the virus, as announced on November 22, 1941.

The electron micro-analyzer, growing out of research on the electron microscope, was a new scientific development at RCA Laboratories in 1943. This instrument makes possible the determination of the atomic composition of sub-microscopic particles of matter.

First direct radiophoto circuit between Australia and United States opened by RCA (March 20, 1942); between New York and Cairo (June 24, 1942); New York and Stockholm (February 22, 1943); New York and Berne (September 21, 1943); direct radiotelegraph circuits between New York and Dakar (March 10, 1943); between New York and Quito, Ecuador (May 1, 1943); between New York and "Somewhere in South Italy" (February 1, 1944). For the New York-Italy circuit, RCA set up the first American owned and operated commercial station on the continent of Europe.

Radio-frequency equipment for the bulk dehydration of penicillin was developed and installed by RCA at the plant of E. R. Squibb and Sons at New Brunswick, N. J., on May 5, 1944.

Development of necessary tube and transmitter to provide, for the first time, five kilowatts of output power at 300 megacycles for a television transmitting or relay station was announced by RCA in October, 1944.

Special equipment to measure the muzzle velocity of projectiles was developed by RCA Laboratories in 1944. By magnetizing the shell and aiming the gun between two frameworks placed a certain measured distance apart, sensitive recording devices noted the passage time of the projectile between the two markers.

Advanced types of miniature tubes, not much larger than an acorn, were introduced by RCA in 1944. These small tubes were developed to meet the demands of wartime military equipment but their use in peacetime is expected to make possible smaller radio and television receivers and more effective hearing aids.

An advanced development model of a large screen RCA Victor television receiver producing pictures 16 by 21½ inches was demonstrated to the press on March 15, 1945. Images that were larger, brighter and clearer than obtainable on pre-war receivers were made possible by the combination of a new high voltage cathode ray projection tube, a high-efficiency optical system embodying a spherical mirror and a special correcting lens molded of transparent plastic; an automatic frequency control to eliminate the effects of noise interferences and a surface molded plastic screen.

# BROADCASTING

**How did the idea of broadcasting as a public service originate?**

In 1916, David Sarnoff, then Assistant Traffic Manager of the Marconi Wireless Telegraph Company of America, proposed a "radio music box," in a memorandum to E. J. Nally, General Manager. Said Mr. Sarnoff: "I have in mind a plan of development which would make radio a household utility in the same sense as a piano or phonograph. The idea is to bring music into the house by wireless. . . . For example, a radio telephone transmitter having a range of say 25 to 50 miles can be installed at a fixed point where instrumental or vocal music or both are produced. . . . The receiver can be designed in the form of a simple 'radio music box' and arranged for several different wave lengths, which should be changeable with the throwing of a single switch or pressing of a single button. . . . The same principle can be extended to numerous other fields—as for example—receiving lectures at home which can be made perfectly audible; also events of national importance can be simultaneously announced and received. This proposition would be especially interesting to farmers and others living in outlying districts removed from cities. By the purchase of a 'radio music box' they could enjoy concerts, lectures, music, recitals, etc. which may be going on in the nearest city within their radius. . . . Should this plan materialize, it would seem reasonable to expect sales of 1,000,000 'radio music boxes' within a period of three years."

The World War delayed demonstration of the practical value of the idea, but on November 2, 1920, when the Westinghouse station, KDKA, Pittsburgh, broadcast the Harding-Cox election returns, the "radio music box" became front-page news and again in 1921, when RCA station WJZ broadcast the Dempsey-Carpentier championship fight at Jersey City.

**When did RCA enter the broadcasting field?**

RCA's station WDY, at Roselle Park, New Jersey, licensed September 19, 1921, went on the air December 14, 1921, as a pioneer broadcaster in the New York area.

**How long has the National Broadcasting Company been on the air?**

In September 1926, the National Broadcasting Company was organized as a service of RCA. At that time statistics indicated 5,000,000 homes were equipped with radio, and to serve them the aim of the NBC was "to provide the best programs available for broadcasting."

To accomplish this NBC had two stations in New York. WJZ, originally operated by the Westinghouse Electric & Manufacturing Company at Newark, N. J., had been acquired by RCA in 1923 when the station was moved to New York City atop Aeolian Hall on 42nd Street. Station WEAJ, New York, was purchased by RCA in 1926 from the American Telephone and Telegraph Company.



**Did NBC formerly operate two networks?**

After NBC formed the Red network in 1926, with WEAJ, New York, as the key station, it became apparent that a single network service was not enough to satisfy the demands of the radio audience for diversified programs of national interest and importance. Station owners, particularly in cities where their competitors had made program service arrangements with the Red network, pressed for network affiliations. To accommodate this demand and the public interest, less than two months after the first NBC network service began, a second network—the Blue—with WJZ, New York, as the key station, was formed.

NBC for 15 years operated these two networks. The Blue Network was organized as a separate company on January 9, 1942 and functioned as a wholly-owned subsidiary of RCA until October 1943 when it was sold to the American Broadcasting Company, Inc.

**Where are the NBC studios located?**

Main offices and studios of the National Broadcasting Company are located in the RCA Building, New York City. NBC also has offices and studios in Washington, Cleveland, Chicago, Denver, Hollywood, and San Francisco.

**How many stations are affiliated with the NBC network?**

151 stations are affiliated with NBC. Six of these are owned by the company: WEAJ, New York; WRC, Washington; WTAM, Cleveland; WMAQ, Chicago; KOA, Denver; KPO, San Francisco.

**Does NBC broadcast by short-wave to foreign countries?**

The NBC, through its International Division, broadcasts programs in eight languages by short waves to all parts of the world, totaling 18 hours a day, through its 50,000 watt transmitters WRCA, WNBI, WNRA, WNRI, WNRX and WNRE, located at Bound Brook, N. J. Three of these stations are owned by the government and three are leased to the government on a non-profit basis. Available for use with these six transmitters are more than 20 antennas which beam the radiated energy to the Scandinavian countries, Europe, Africa and Central America.

In addition, NBC has built and is operating for the OWI four 50 kilowatt transmitters at Dixon, Calif., for service to all parts of the Pacific area including Australia, New Zealand, Japan, China and the Philippines. Eventually, the Dixon plant will be altered to one 200 k.w., and two 50 k.w. units.

**Are short-wave broadcasts heard everywhere?**

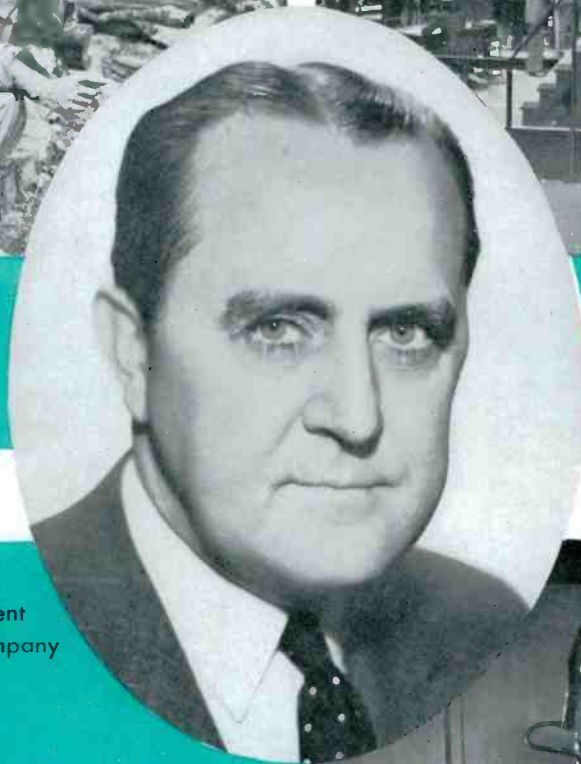
This depends on the transmitter antenna and the frequency (wavelength) used for transmission. Broadcasts from non-directional antennas can be heard over widely scattered areas. However, in short-wave broadcasting on an international scale, the modern practice is to use a highly directional antenna which concentrates and multiplies the signal output in a pre-determined direction, in much the same way that a searchlight casts its beam.



Aided by a Signal Corps detail, George Thomas Fölster, NBC news reporter, broadcasts a description of front-line action from a Bougainville fox-hole.



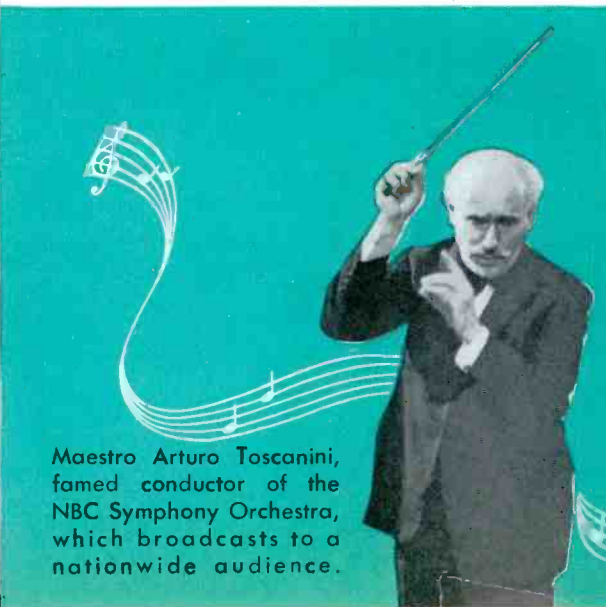
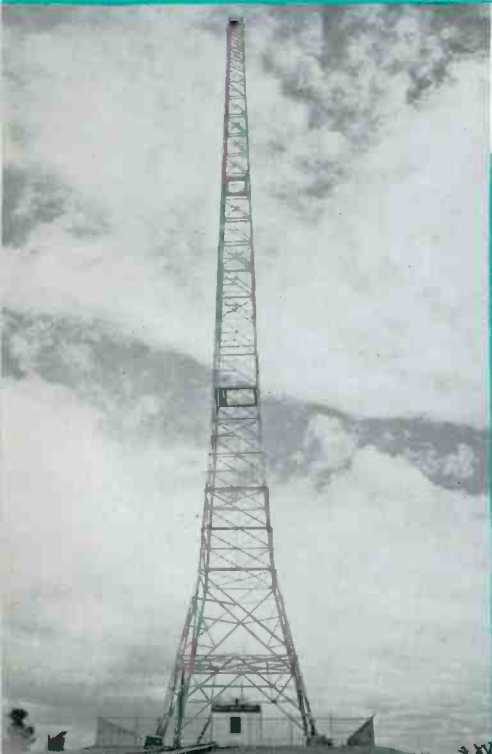
NBC's staff of reporters and news commentators takes over studio 8H—largest radio studio in the world—for the broadcasting of presidential election returns.



Niles Trammell, President National Broadcasting Company

NBC conducts "Welcome Home Auditions" for returned servicemen who believe they have talents that will be useful in broadcasting. Through this service, several applicants have obtained positions with NBC affiliated stations.

From this lofty tower on Long Island, the programs of WEAJ—key station of the NBC network—are broadcast.

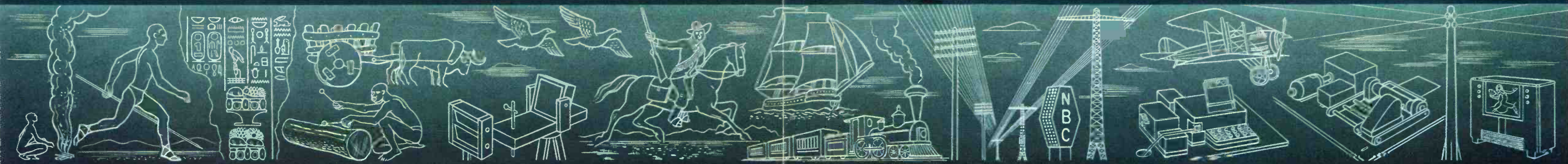
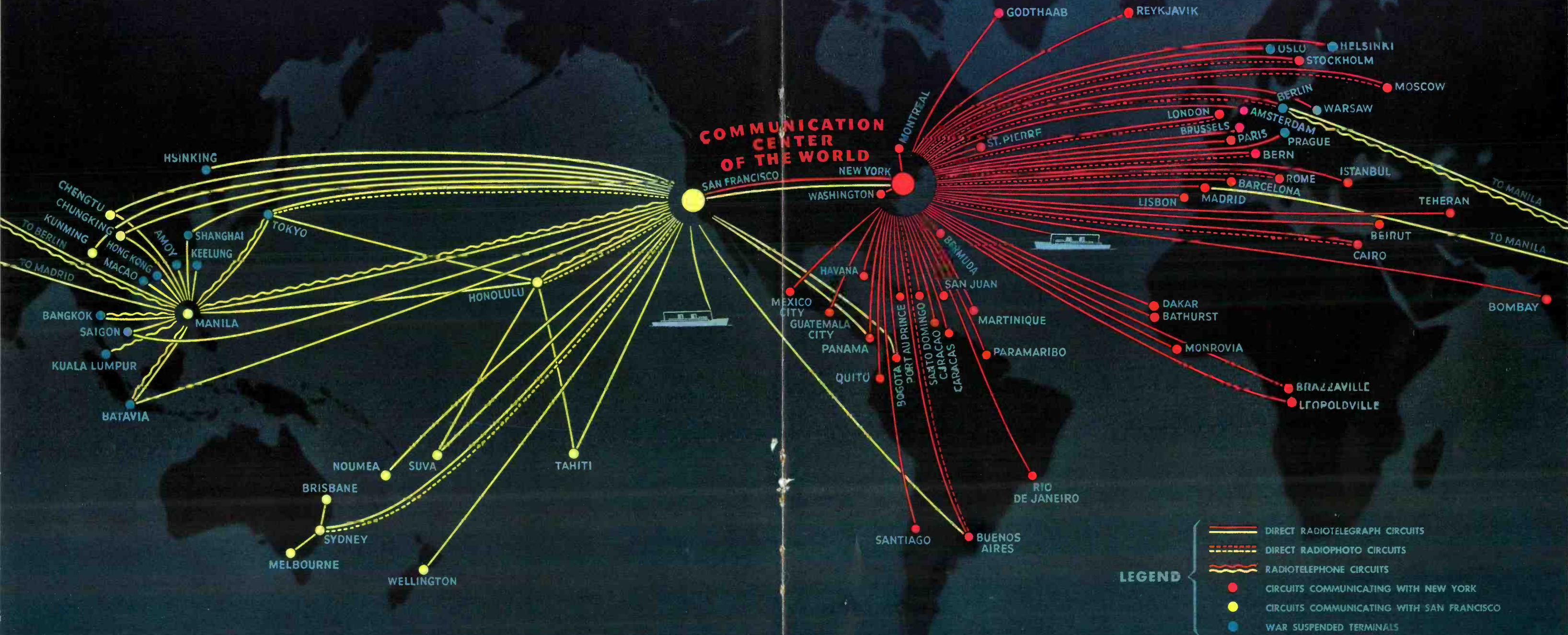


Maestro Arturo Toscanini, famed conductor of the NBC Symphony Orchestra, which broadcasts to a nationwide audience.





# RCA WORLD-WIDE RADIO COMMUNICATION SYSTEM



**R.C.A. COMMUNICATIONS, INC.**  
 A SERVICE OF RADIO CORPORATION OF AMERICA

**What proportion of NBC programs are sponsored by advertisers?**

Approximately half of the total program hours of the NBC network are commercially sponsored. The remaining half are filled with non-commercial programs; that is, programs for which NBC and its affiliated stations furnish time and facilities, and receive no remuneration.

**How many advertisers have programs on the NBC network?**

At the year-end, 1944, seventy-three advertisers had regular program schedules on the NBC network. In addition, the six stations owned by NBC broadcast non-network programs sponsored by local or national advertisers.

**Does the NBC network carry the most popular programs?**

Yes, the entertainment programs broadcast by national advertisers over the NBC network are the most popular in America. Surveys conducted by impartial fact-finding organizations in 1944 credited NBC with an average of eight out of the ten programs that had the largest number of listeners, and thirty-three out of the first fifty. These programs have made a wartime contribution of enormous value to the morale both of the armed forces and of the people at home.

**Does NBC make recorded programs available to stations for broadcasting?**

Yes, nearly 250 broadcasting stations subscribe to NBC Thesaurus, a regular service of musical programs recorded by NBC, comprising a library of over 4,000 selections. In addition, many stations obtain programs especially recorded by NBC for local commercial broadcasts. An additional service to stations and advertisers are the NBC Syndicated Programs, consisting of complete radio shows. During the war, NBC is transcribing regularly many entertainment programs and shipping the records abroad for the benefit of American soldiers and sailors.

**Does the NBC network conduct auditions to find new talent, and if so, how does one arrange for an audition?**

Yes; NBC will give an audition to any person who believes he has talent that will qualify him for broadcasting. The network conducts several thousand auditions a year, on an average of 50 a week in the dramatic field alone. Applications should be made to the Auditions Department. Recently NBC inaugurated Welcome Home Auditions to give servicemen an opportunity to demonstrate their abilities as actors, announcers and vocalists with a view to post-war employment with affiliated stations.

**If one has an idea for a radio script or program, how may it be presented for consideration?**

NBC welcomes new ideas for radio programs, as well as criticism. All program ideas must be submitted in writing on forms which may be obtained from the Program Department. They will not be accepted orally. Program ideas are handled by the Play-Reading Committee of the Script Division.

**What languages does NBC use in international short-wave broadcasting?**

During the daytime, NBC's schedule calls for programs to Europe in English, French, German, Italian, Swedish, Danish, Portuguese and Spanish. At 5:00 P.M. EWT., NBC begins its programs to Latin America in Spanish and Portuguese. Program schedules are worked out in close cooperation with the Government agencies, the Office of War Information for short-waving to Europe and the Co-ordinator of Inter-American Affairs for short-waving to Latin America.

**Are there any radio networks in Latin America?**

Yes, several Latin-American countries have independently operated national networks that function along the same lines as networks in the United States. These networks, together with additional stations, are affiliated in the NBC Pan-American Network, comprising a total of more than 100 stations which rebroadcast many of NBC's short-waved programs.

**Does the NBC International Division accept commercial programs?**

The NBC International Division did operate commercially on short waves, prior to the war, but today all short-wave programs from the United States are non-commercial. Many American sponsors throughout the country make their entertainment programs available for short-wave broadcasting to the armed forces of the United States abroad.

**Do listeners in Europe hear NBC's short-wave programs?**

Letters from many parts of the world, including the invaded countries, express appreciation for NBC short-wave broadcasts and for the accurate news and information which they carry. They recognize the fact that freedom rides these short-wave radio beams from the United States.

**To what extent do NBC programs aid the war effort?**

Broadcast time contributed by NBC to the nation's war effort reached an all-time high in 1944 with a total of 1,311 hours donated to government messages and special programs. These messages have included appeals for blood donations, the discouraging of unnecessary telephone calls, promotion of War Loan Drives, car pooling, and the enlistment of nurses' aides. War effort programs heard regularly over NBC during the year were "The Army Hour" (official program of the U. S. War Department), "Words at War," "Consumer Time," "Pacific Story" and "Doctors at War." In addition, many favorite NBC stars have travelled to all parts of the world to entertain American soldiers and sailors; numerous popular NBC shows put on their regularly weekly broadcasts before audiences at military camps and posts in this country.

**What languages does NBC use in international short-wave broadcasting?**

During the daytime, NBC's schedule calls for programs to Europe in English, French, German, Italian, Swedish, Danish, Portuguese and Spanish. At 5:00 P.M. EWT., NBC begins its programs to Latin America in Spanish and Portuguese. Program schedules are worked out in close cooperation with the Government agencies, the Office of War Information for short-waving to Europe and the Co-ordinator of Inter-American Affairs for short-waving to Latin America.

**Are there any radio networks in Latin America?**

Yes, several Latin-American countries have independently operated national networks that function along the same lines as networks in the United States. These networks, together with additional stations, are affiliated in the NBC Pan-American Network, comprising a total of more than 100 stations which rebroadcast many of NBC's short-waved programs.

**Does the NBC International Division accept commercial programs?**

The NBC International Division did operate commercially on short waves, prior to the war, but today all short-wave programs from the United States are non-commercial. Many American sponsors throughout the country make their entertainment programs available for short-wave broadcasting to the armed forces of the United States abroad.

**Do listeners in Europe hear NBC's short-wave programs?**

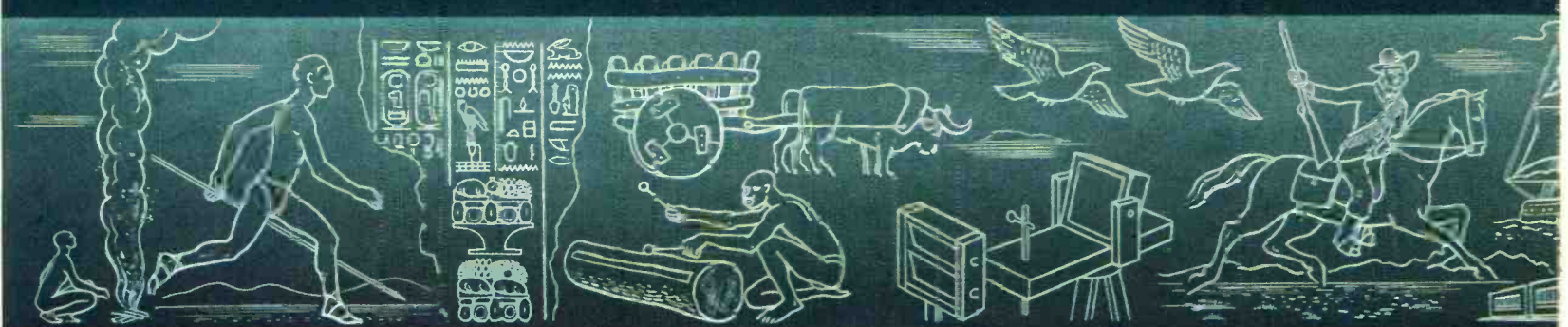
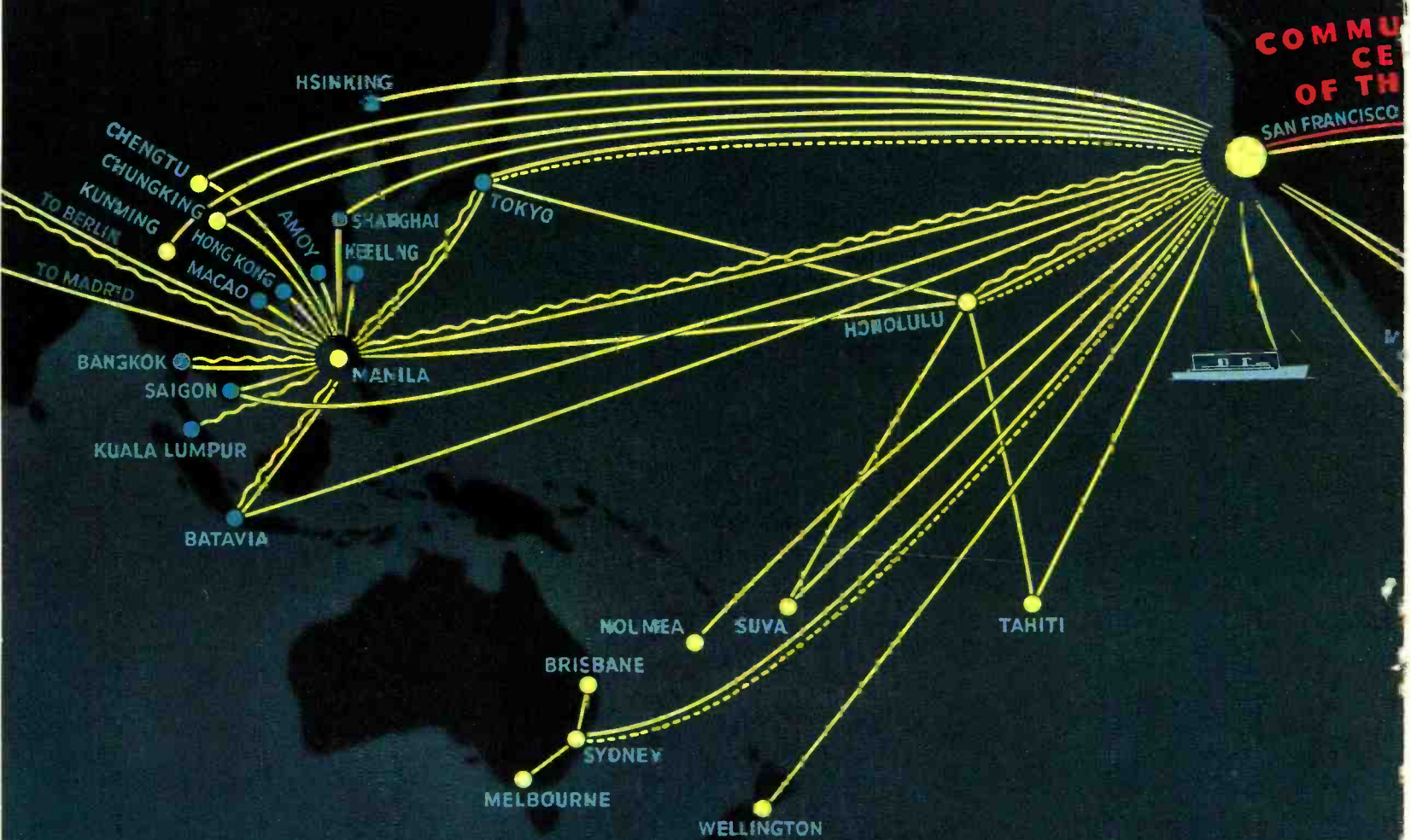
Letters from many parts of the world, including the invaded countries, express appreciation for NBC short-wave broadcasts and for the accurate news and information which they carry. They recognize the fact that freedom rides these short-wave radio beams from the United States.

**To what extent do NBC programs aid the war effort?**

Broadcast time contributed by NBC to the nation's war effort reached an all-time high in 1944 with a total of 1,311 hours donated to government messages and special programs. These messages have included appeals for blood donations, the discouraging of unnecessary telephone calls, promotion of War Loan Drives, car pooling, and the enlistment of nurses' aides. War effort programs heard regularly over NBC during the year were "The Army Hour" (official program of the U. S. War Department), "Words at War," "Consumer Time," "Pacific Story" and "Doctors at War." In addition, many favorite NBC stars have travelled to all parts of the world to entertain American soldiers and sailors; numerous popular NBC shows put on their regularly weekly broadcasts before audiences at military camps and posts in this country.

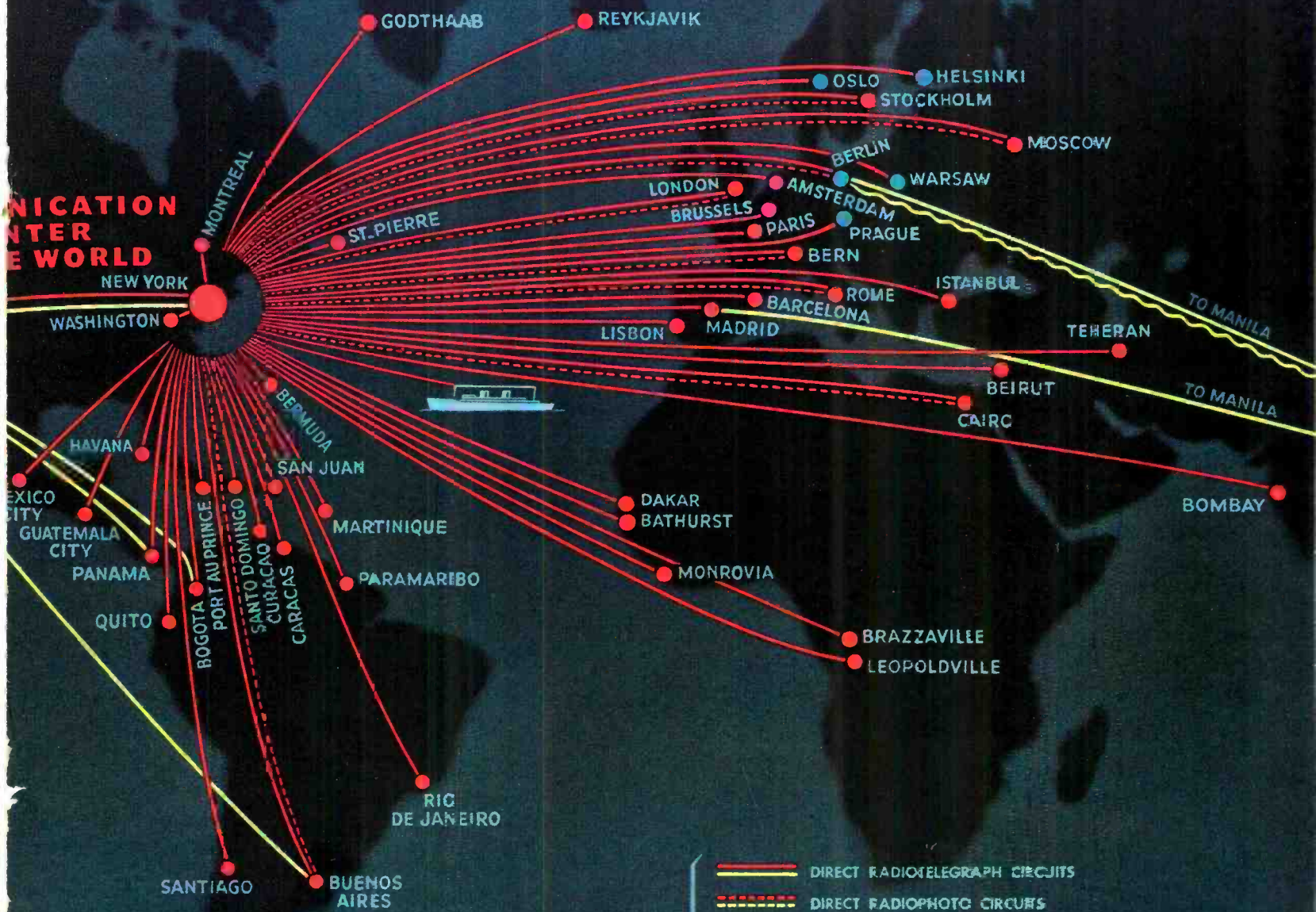
*Continued on Page 26*

# RCA WORLD-WIDE RADIO

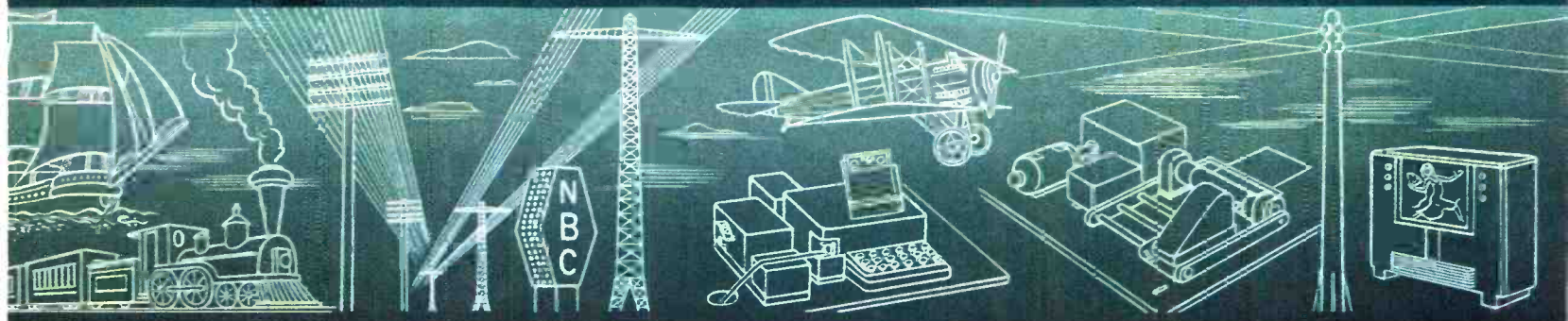


R.C.A. COMMUN  
A SERVICE OF RADIO CA

# COMMUNICATION SYSTEM



- LEGEND**
- DIRECT RADIOTELEGRAPH CIRCUITS
  - DIRECT RADIOPHOTO CIRCUITS
  - RADIOTELEPHONE CIRCUITS
  - CIRCUITS COMMUNICATING WITH NEW YORK
  - CIRCUITS COMMUNICATING WITH SAN FRANCISCO
  - WAR SUSPENDED TERMINALS



**COMMUNICATIONS, INC.**  
CORPORATION OF AMERICA

**What proportion of NBC programs are sponsored by advertisers?**

Approximately half of the total program hours of the NBC network are commercially sponsored. The remaining half are filled with non-commercial programs; that is, programs for which NBC and its affiliated stations furnish time and facilities, and receive no remuneration.

**How many advertisers have programs on the NBC network?**

At the year-end, 1944, seventy-three advertisers had regular program schedules on the NBC network. In addition, the six stations owned by NBC broadcast non-network programs sponsored by local or national advertisers.

**Does the NBC network carry the most popular programs?**

Yes, the entertainment programs broadcast by national advertisers over the NBC network are the most popular in America. Surveys conducted by impartial fact-finding organizations in 1944 credited NBC with an average of eight out of the ten programs that had the largest number of listeners, and thirty-three out of the first fifty. These programs have made a wartime contribution of enormous value to the morale both of the armed forces and of the people at home.

**Does NBC make recorded programs available to stations for broadcasting?**

Yes, nearly 250 broadcasting stations subscribe to NBC Thesaurus, a regular service of musical programs recorded by NBC, comprising a library of over 4,000 selections. In addition, many stations obtain programs especially recorded by NBC for local commercial broadcasts. An additional service to stations and advertisers are the NBC Syndicated Programs, consisting of complete radio shows. During the war, NBC is transcribing regularly many entertainment programs and shipping the records abroad for the benefit of American soldiers and sailors.

**Does the NBC network conduct auditions to find new talent, and if so, how does one arrange for an audition?**

Yes; NBC will give an audition to any person who believes he has talent that will qualify him for broadcasting. The network conducts several thousand auditions a year, on an average of 50 a week in the dramatic field alone. Applications should be made to the Auditions Department. Recently NBC inaugurated Welcome Home Auditions to give servicemen an opportunity to demonstrate their abilities as actors, announcers and vocalists with a view to post-war employment with affiliated stations.

**If one has an idea for a radio script or program, how may it be presented for consideration?**

NBC welcomes new ideas for radio programs, as well as criticism. All program ideas must be submitted in writing on forms which may be obtained from the Program Department. They will not be accepted orally. Program ideas are handled by the Play-Reading Committee of the Script Division.

**Where does NBC get its news?**

From NBC's accredited reporters on all world battle fronts and in major capitals, and from Associated Press, United Press and International News Service teletype machines which give 24-hour service to the NBC News Room. These basic news services, during wartime, are greatly augmented by special reports received by short-wave from NBC's on-the-spot reporters. Since the start of the war, these radio newsmen have accompanied our troops on all major campaigns and in many instances have been first to announce the accomplishments of Allied forces.

•

**How many NBC programs originate overseas?**

No less than 2,173 programs were originated in foreign lands and broadcast over the NBC network during 1944. Throughout the year, the NBC staff of fifty-seven news analysts, commentators, and reporters regularly broadcast up-to-the-minute, first-hand reports from strategic locations all over the globe.

•

**How may tickets be obtained for admission to broadcast programs?**

By writing at least two weeks in advance to the Guest Relations Division of NBC. Cards of admission, if available, will be supplied.

•

**Did NBC have a coast-to-coast network when it started?**

No; there was no coast-to-coast network until January 1, 1927, when the first transcontinental hook-up was arranged by NBC to broadcast a football game in the Rose Bowl at Pasadena, Cal.

•

**What was the first international broadcast?**

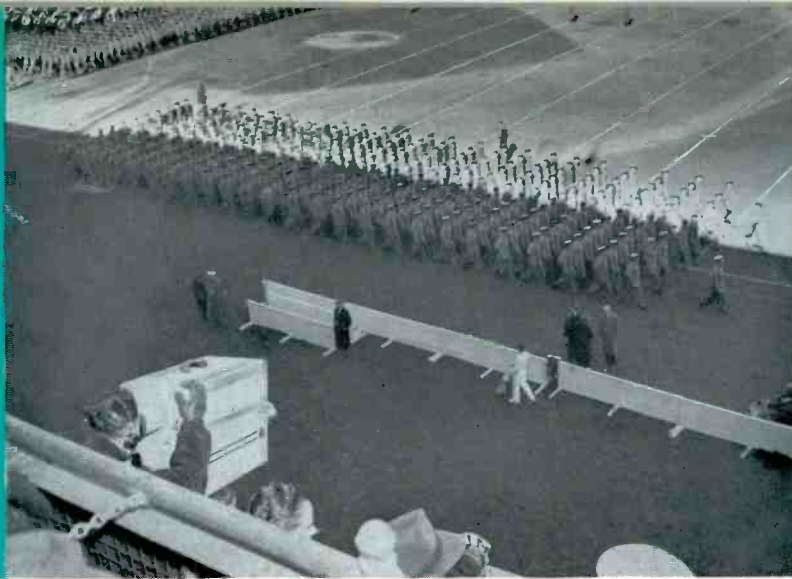
On February 14, 1925, RCA stations WJZ, New York, and WRC, Washington, D. C., rebroadcast a program sent on long waves (1,600 meters) from Chelmsford, England. The signals were picked up at Belfast, Maine, and relayed by short waves to New York. On March 12, 1925, WJZ, New York, and WRC, Washington, rebroadcast the sound of Big Ben atop the House of Parliament, London, for the first time in America.

•

**Is NBC active in FM (Frequency Modulation) broadcasting?**

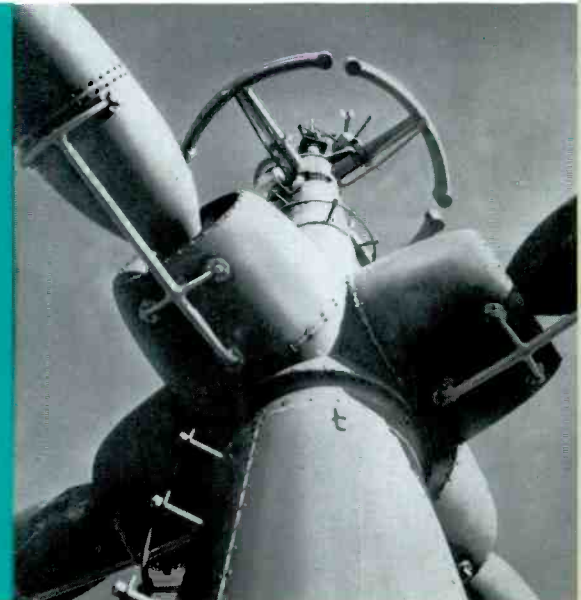
Yes; NBC operates one FM station, WEAJ-FM, in New York and has applied for six additional construction permits for stations in Chicago, Washington, Cleveland, San Francisco, Denver and Hollywood. In addition, NBC has proposed to make its FM programs available to all affiliates owning companion FM stations when network facilities are available.

West Point cadets pass NBC's television camera before the opening of a football game at the Polo Grounds, New York.



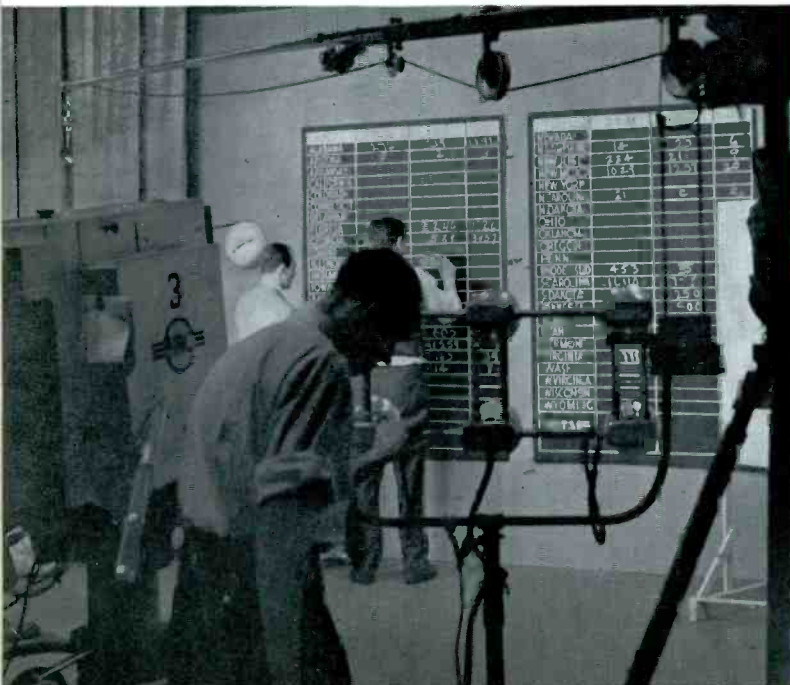
← Wounded sailors at St. Albans Naval Hospital are entertained by television programs broadcast by NBC's pioneer station WNBT, New York.

1,250 feet above the sidewalks of New York, NBC television programs take wing from this modernistic antenna atop the Empire State Building.



In the national election, television carries constantly changing returns as they are chalked on a black-board in WNBT studios. ↓

Group watching a WNBT program on the 16 by 21-inch screen of this RCA advanced development model television receiver. ↓





# TELEVISION

## **When did RCA start work on television?**

All of RCA's activities in research and communications naturally led to television, and in 1925 definite steps were under way in the laboratory to test the possibilities of both mechanical and electronic television as a service to the public. The Iconoscope, which is the "eye" of the television camera, was invented by Dr. V. K. Zworykin, Associate Research Director, RCA Laboratories. The Kinescope, which serves as the "screen" of home-television sets, also was developed by Dr. Zworykin, who demonstrated the electronic system of television based upon these developments in November 1929.

## **Does NBC operate television as a service to the public?**

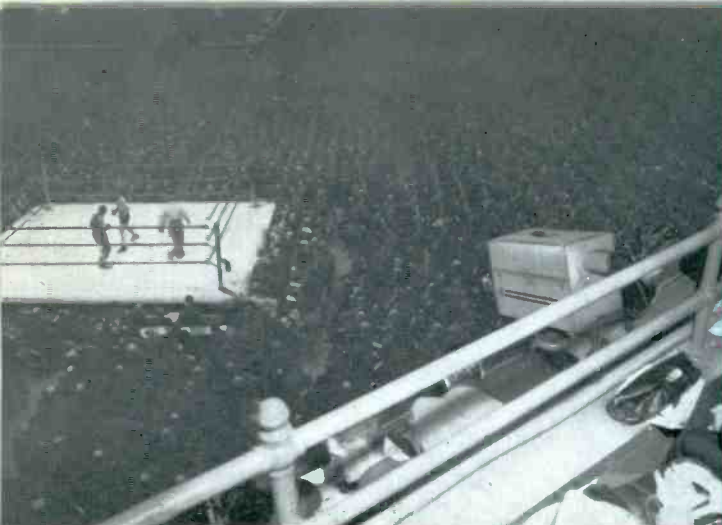
Yes; WNBT, New York's pioneer television station, with studios in the RCA Building at Radio City, is owned and operated by NBC. The transmitter and aerial atop the Empire State Building have been operated by NBC since 1931. Extensive television field tests were instituted by NBC from this transmitter on June 29, 1936. Since that date NBC, in cooperation with RCA engineers, has demonstrated various steps in the development of television apparatus, programs as a service to the public, and television in color.

On April 20, 1939, NBC inaugurated America's first regular television program service to the public, televising the ceremonies opening the New York World's Fair. Commercial operation of television was authorized by the FCC to begin July 1, 1941, at which time WNBT became America's pioneer commercial television station. After the United States entered the war, the station devoted much of its time to air-raid warden instructions, in cooperation with the New York Police Department. Since the latter part of 1943, RCA and NBC have installed thirty-six television receivers in nine service hospitals near New York for the entertainment of wounded war veterans. Live programs are produced several hours each week from a Radio City studio, supplemented by sports events from Madison Square Garden and St. Nicholas Arena.

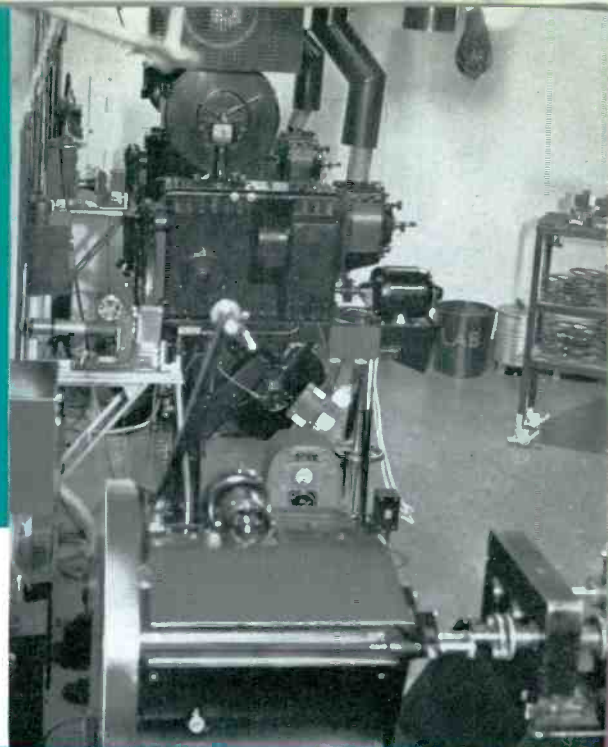
## **Is NBC planning to expand television?**

Yes, as rapidly as trained technicians and apparatus become available. War shortages of materials and man-power have curtailed operations, but since the Fall of 1943, NBC has expanded its programs, with frequent outside events such as boxing and wrestling bouts, the Rodeo and basketball games. This service is to be further extended as conditions permit. Eventually, NBC plans to originate programs in New York for transmission over coaxial cables or radio relay systems to a nation-wide network of television stations. Meanwhile, NBC has applied to the FCC for construction permits for television stations in the four cities, besides New York, where the Company maintains studios — Washington, Cleveland, Chicago and Hollywood.





← Every owner of a television receiver has a riggside seat at sports events.



Film programs of television station WNBT originate in this motion picture studio in Radio City:

An Iconoscope camera catches the charm of a graceful ballerina in WNBT's television studio.



A battery of cameras and banks of lights concentrate on a dramatic scene in a "live" program telecast by NBC.



Engineers, technical directors and producers check all details of the television program from this control room.

**How large a screen will home receivers have?**

Eventually, television receivers will be available with screen sizes to fit any living room. RCA's advanced development model which was shown to the press on March 15, 1945, has a screen 16 by 21 inches. Forty guests were able to view the bright, clear, flickerless pictures with ease. When manufacturing is resumed, RCA will have other models with smaller screens for homes and apartments where space is limited and where only a small family group would normally gather to enjoy the entertainment.

•

**Will television cabinets include broadcast receivers?**

The larger RCA models are expected to include television, standard broadcast, FM and Victrola facilities.

•

**How far do television signals travel?**

The heights of antennas at transmitter and receiver determine how far a station's signals will travel. Television stations operate on frequencies varying from 44 megacycles (7 meters) to 300 megacycles (1 meter). These very short waves travel only to the horizon or slightly beyond. For this reason television antennas are installed on the highest available points. NBC's station WNBT is 1,250 feet above sea level and from this point delivers signals that are picked up regularly 60 miles from the transmitter.

•

**Will television be in natural color?**

Regulations of the Federal Communications Commission provide for the transmission of television pictures in full color when a practicable system is finally developed. RCA-NBC transmitted full color television in 1941 as a laboratory experiment using a mechanical system but authorities agree that color television will not be acceptable to the public until a fully electronic method has been perfected. Research has made good progress on this problem before the war but development was halted soon after Pearl Harbor. It is expected that several years will elapse before television pictures in natural color will be available in the home.

•

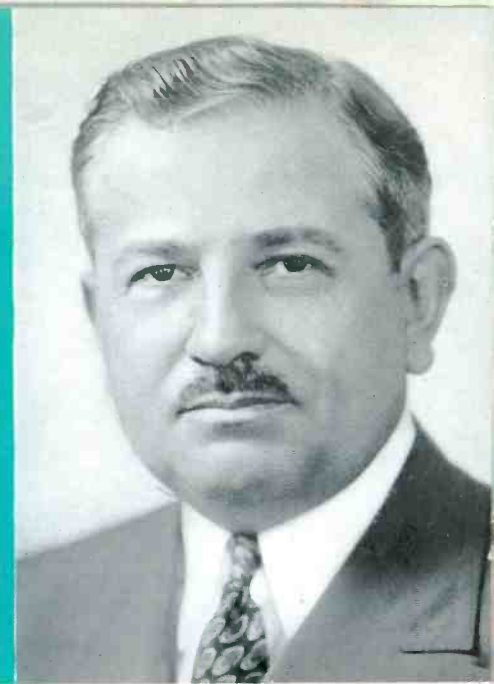
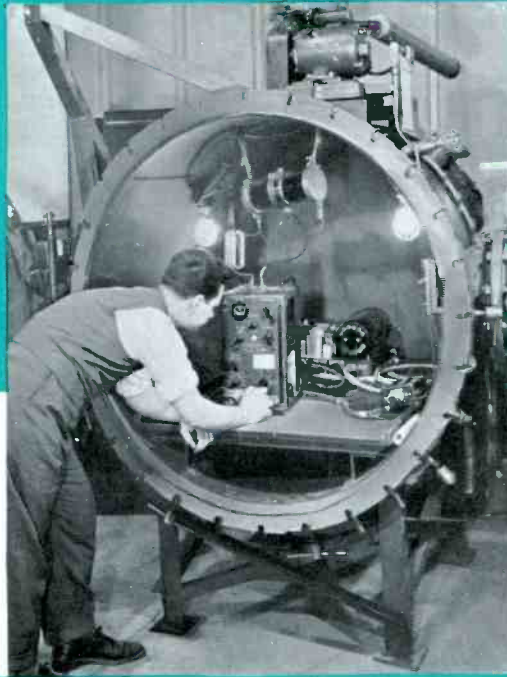
**Will television carry America's favorite programs?**

Not all radio programs are suitable television entertainment but experiments carried out by NBC have proved that some broadcast features will be ideal for television. In general, however, television programs will be specially written and produced to take full advantage of the possibilities of the sight-and-sound medium.



High skill and painstaking labor contribute to the excellency of RCA Victor Division phonograph records and electrical transcriptions.

In this altitude chamber, aircraft equipment produced by RCA is tested under conditions of pressure equivalent to those prevailing at an altitude of 40,000 feet.

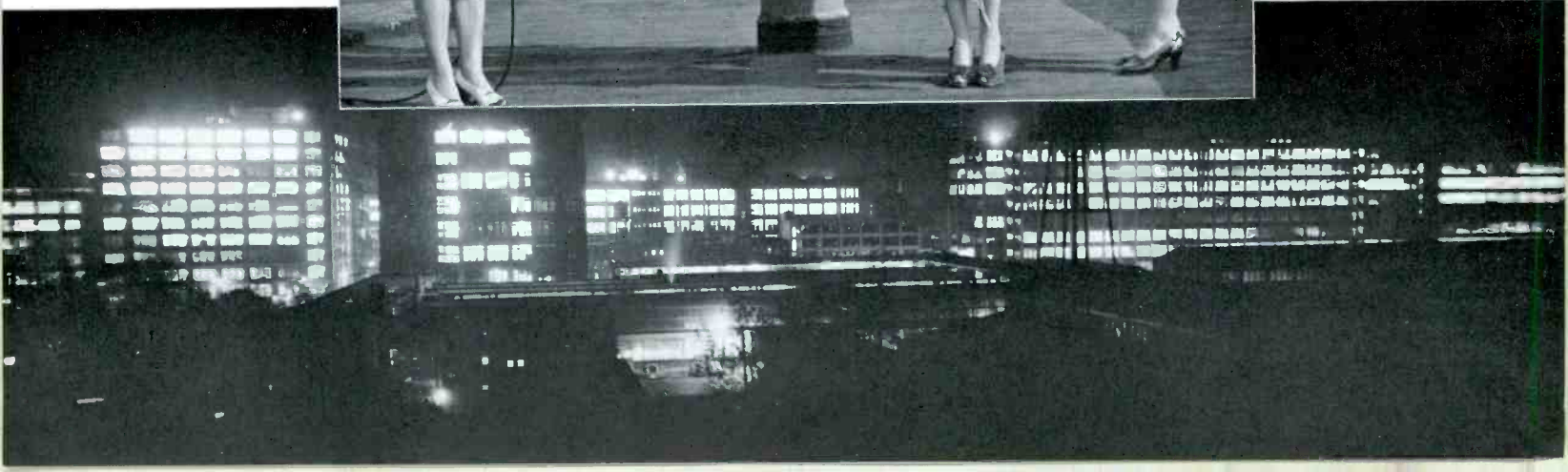


Frank M. Folsom, Vice-President, in Charge of RCA Victor Division.

Six Army-Navy "E" flags have been awarded to RCA for excellence in war production; here, a flag with four stars, each denoting six months additional achievement, is being raised at the RCA Victor plant, Camden, N. J. →



In wartime, RCA manufacturing plants are arsenals of radio, producing equipment for America's armed forces on land, sea and in the air. ↓



# MANUFACTURING

## When was the manufacturing division of RCA organized?

When RCA was formed in 1919 its primary activity was in trans-oceanic and marine radio communications. Shortly thereafter radio broadcasting began. Agreements were made whereby the General Electric Company and Westinghouse Electric & Mfg. Co. would manufacture the radio products and RCA would sell them. So rapid were the developments in the newly created art and industry that by 1929 it became necessary for RCA so to organize its business that it could combine manufacture with sales under unified management.

Therefore, to obtain manufacturing facilities as well as an established phonograph and record business, RCA in 1929 acquired the Victor Talking Machine Company. Arrangements were made in 1930 whereby RCA acquired manufacturing rights and radio manufacturing facilities from the General Electric and Westinghouse Companies. RCA's manufacturing activities may therefore be said to date from 1930, although it was not until the latter part of 1934 that the various units engaged in the manufacture and sale of RCA products were brought together under unified management in the RCA Manufacturing Company, a newly formed, wholly-owned subsidiary of RCA. On December 31, 1942, RCA Manufacturing Company, Inc., was consolidated with Radio Corporation of America, and became the RCA Victor Division of the Company.

•

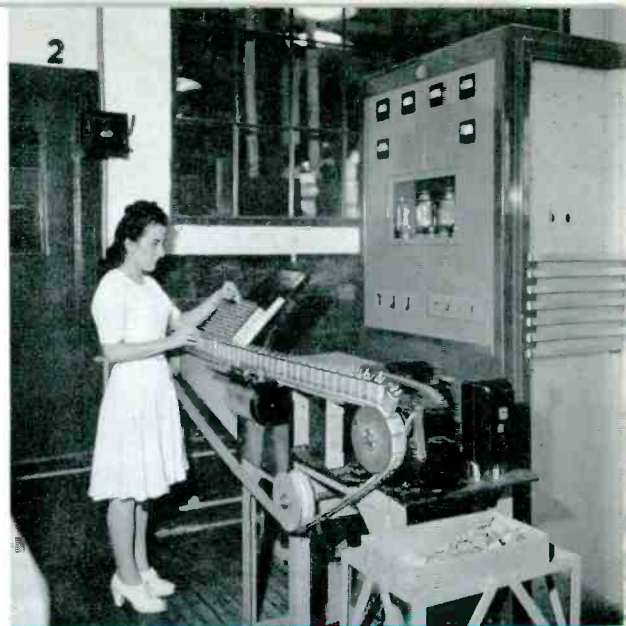
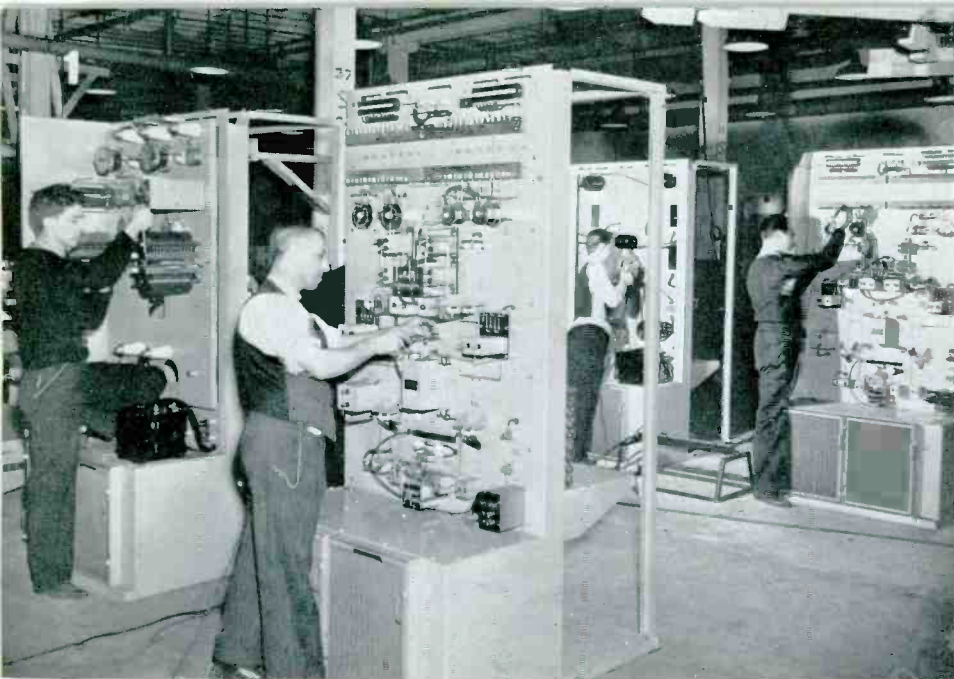
## What are the products of the RCA Victor Division?

Today, production of apparatus for the armed services has the right of way in RCA plants. Most of the principal peacetime products, as listed below, have been adapted to war requirements, or their manufacture discontinued.

Electronic products for home, industrial and other uses  
Apparatus and technical services for the United States and United Nations Governments  
RCA Victor Radio Receivers  
Victrolas—Radio Phonographs  
Radio and Electron Tubes  
Broadcast Transmitters and Studio Equipment including microphones, control panels, etc.  
Television Receivers, Transmitters, Studio and Theatre Equipment  
Radio Communication Systems  
Facsimile Equipment  
Aircraft and Airport Radio Equipment  
FM Receivers, Transmitters, and Associated Equipment  
Inter-office Communications Equipment

Police Radio and Emergency Communication Systems  
Electronic Testing and Measuring Equipment  
Electronic Chimes  
Victor Records—Red Seal, Black Label, Bluebird  
Phonograph Needles  
Sound Equipment for Motion Picture Studios and Theatres  
Motion Picture Screens for theatre and home  
Sound Systems for Educational, Industrial and other Uses  
16 mm. Motion Picture Projectors for Schools, Homes and Industry  
Amateur Radio Equipment  
Electron Microscopes and Associated Equipment  
Faradon Condensers  
Disc Recorders  
Magicote Lens Coating





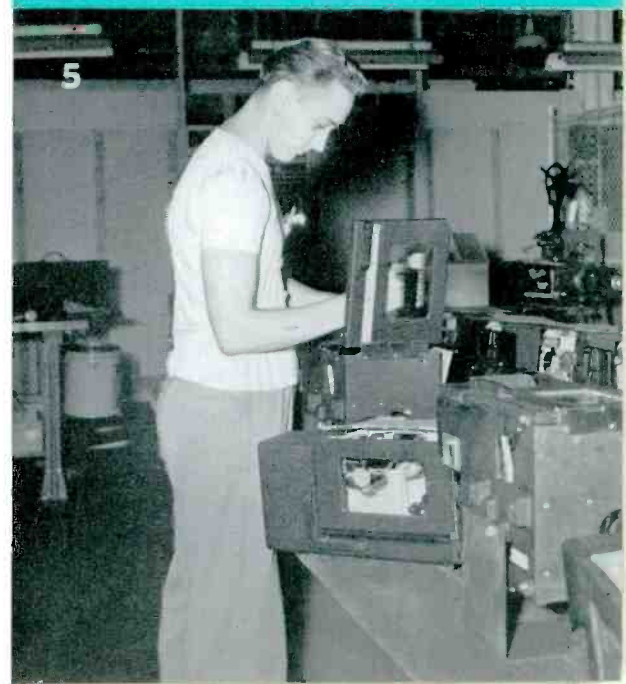
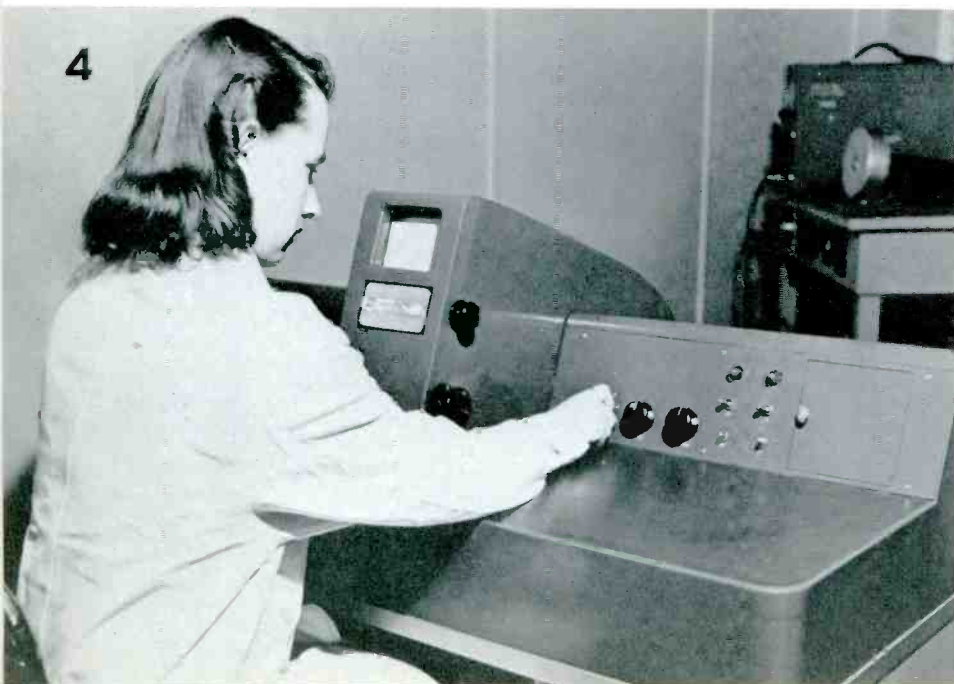
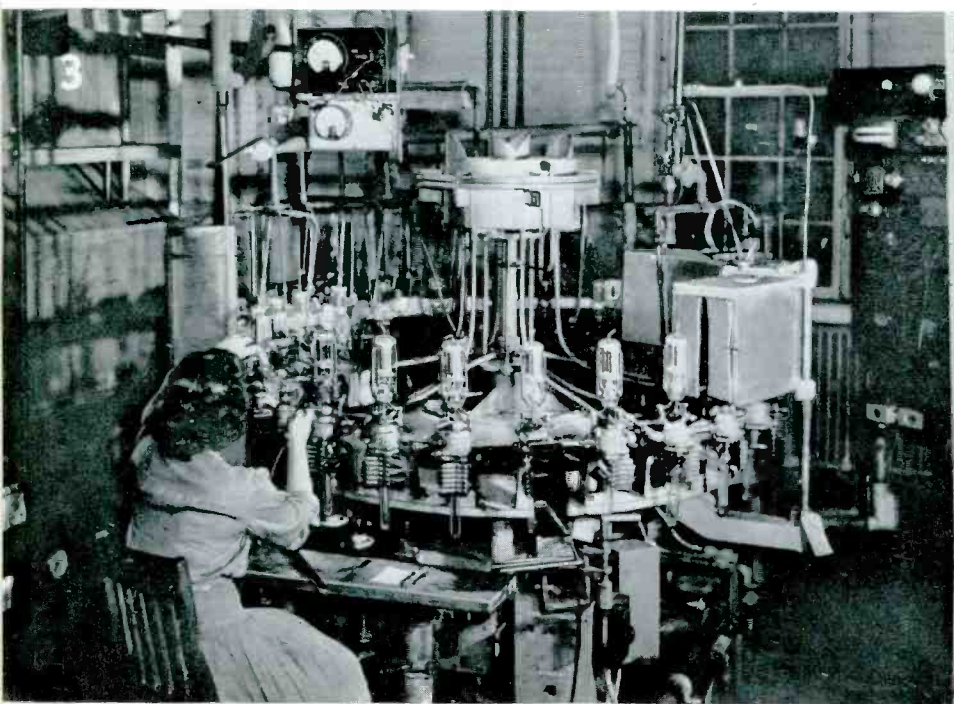
(1) These 7½-kilowatt radio transmitters on the RCA Victor Division assembly line will provide vital communication links between the Allied nations.

(2) Soldering of condenser bases was stepped up from 100 to 2,500 an hour at RCA Victor by using radio-frequency heat.

(3) Applying radiothermics to its own industrial tasks, RCA Victor here uses electronic power to speed production of radio tubes.

(4) This desk-size console electron microscope, introduced by RCA Victor Division, has a wide field of usefulness.

(5) 35-millimeter soundhead mechanism of motion picture projector is inspected and adjusted in final assembly stage at RCA Victor plant.



**Where are RCA manufacturing plants located?**

The RCA Victor Division plants are located in Camden and Harrison, New Jersey; Indianapolis, Bloomington and Monticello, Indiana; Lancaster, Pennsylvania; and Hollywood, California.

**Are home radios being made during the war?**

No. Until the outbreak of the war, RCA Victor sold more than 20,000,000 radio sets, Victrolas, and combination Victrolas (radio-phonographs).

When the war broke out, RCA Victor plants were among the first to discontinue the manufacture of civilian products and convert to war production. Throughout the war, RCA has been producing for the government a wide diversity of highly complex and extremely important electronic apparatus requiring extensive research, development engineering, and manufacturing "know-how".

When commercial production is resumed, this added experience and new skills may be expected to result in the production by RCA Victor of the finest Victrolas, AM and FM radios, television receivers and other products that have ever borne the RCA trademark.

**Does RCA make phonograph records?**

Yes. Phonograph records are performing an important national service in providing entertainment and in maintaining morale at home and among our fighting men. Despite shortages of manpower, manufacturing facilities and materials, RCA Victor has continued to maintain a high standard of quality and to keep up a good flow of records during the war.

RCA Victor—and its predecessor in the phonograph field, the Victor Talking Machine Company—has spent millions of dollars on the continuous development of the Victrola, on improvement of recording methods, in obtaining the world's finest artists, and in promoting wider use of recorded music. Since 1901, "The Music America Loves Best", in every category of taste, has been available on Victor records—Red Seal, Black Label, and Bluebird.

**What products does RCA make for schools and colleges?**

RCA Victor makes a wide range of audio-visual aids for schools and colleges. Among those which will be available in the postwar period are school sound systems, including 16-mm sound motion picture projectors, disc recording equipment, and public address apparatus. Then there will be broadcast equipment such as Standard AM and FM radio transmitters, television transmitters and studio equipment. Also, the famous RCA electron microscope, electron tubes, electronic test equipment, FM and AM radio receivers, Victrolas and Victor records.

**Where can I buy an RCA radio or a Victrola?**

In peacetime, leading retailers throughout the country stock and sell RCA radios, Victrolas, tubes, records and other RCA Victor products.

**What is RCA motion-picture sound?**

RCA scientists have pioneered many fundamental improvements in the recording and reproduction of sound on film. A number of these technical advances have merited the famous "Oscar" awards of the Academy of Motion Picture Arts and Sciences. During the war, RCA motion picture sound is playing a vital role in training, orienting, and entertaining millions of service men.

Throughout the world, in peace and war, theatres equipped with RCA sound equipment reproduce motion pictures that have been recorded with RCA sound in many of the world's most renowned motion picture studios.

**What is RCA plant broadcasting?**

More than 2,000 leading war plants in the United States today provide "music while you work." RCA has pioneered in developing the use of music in factories, and in providing an industrial music service based on the largest library of recorded music in the world. Music for workers is only one important use of RCA plant broadcasting systems. By this means all employees can be reached simultaneously with important messages, announcements, safety precautions, news reports, and lunchtime entertainment.

**What are RCA electronic heating devices?**

RCA is a leader in the development and manufacture of electronic apparatus for generating high frequency power for industrial heating processes. These high frequency devices, operating in war industries, are improving product quality, saving materials, and reducing precious processing time from hours to minutes. In the production of penicillin, for example, RCA electronic heating apparatus will complete in only 30 minutes a major phase of the dehydrating process which requires 24 hours when other methods are employed. The electronic method also cuts operating and maintenance costs, and greatly reduces floor space requirements. Some of the processes for which high-frequency electronic equipment has been designed are preheating of plastics for molding, bonding of plywood, heat treating and drying of textile yarns, and case-hardening, annealing, brazing, and soldering of metals.

**What is the RCA Service Company?**

This company was formed as a subsidiary organization to facilitate the servicing and maintenance of RCA's products. RCA service engineers are serving with the armed forces throughout the world, giving on-the-spot service to radio, sound, and electronic equipment, and training Army and Navy personnel in the use of such equipment.



# INTERNATIONAL

**Does RCA have an international business?**

Yes. RCA's international business is conducted through the RCA International Division. RCA has a thoroughly established, world-wide business in all its products. In more than 100 countries, RCA products, from miniature tubes to complete broadcast stations, are placed in the hands of customers through well organized channels of distribution. To develop further its overseas trade, RCA has recently consolidated its international sales, foreign operating companies, licensing and other activities in the RCA International Division.

•

**What subsidiary companies does RCA have in other countries?**

They are: RCA Victor Argentina, S.A., in Buenos Aires; RCA Photophone of Australia, Ltd., in Sydney; RCA Victor Radio, S.A., in Rio de Janeiro, Brazil; RCA Victor Company, Ltd., in Montreal, Canada; Corporacion de Radio de Chile, in Santiago; RCA Photophone, Ltd., in London, England; Photophone Equipments, Ltd., in Bombay, India.

•

**What products and services are handled by RCA's international subsidiaries?**

In Canada, Argentina and Chile, RCA manufactures phonograph records, cabinets and radios, including special apparatus as well as home receivers. Plastic products are also manufactured in the Argentine plant.

In Mexico, only phonograph records are manufactured at the present time. The Mexican Company also handles distribution of RCA motion picture sound equipment and engineering products in that market. The Brazilian Company is the distribution organization for products manufactured by the RCA Victor Division.

The Australian, Indian and English subsidiaries handle distribution of RCA motion picture sound equipment, including local assembly of reproducers, installation and servicing of theatre installations, and technical service to motion picture studios and their film recording licensees.

•

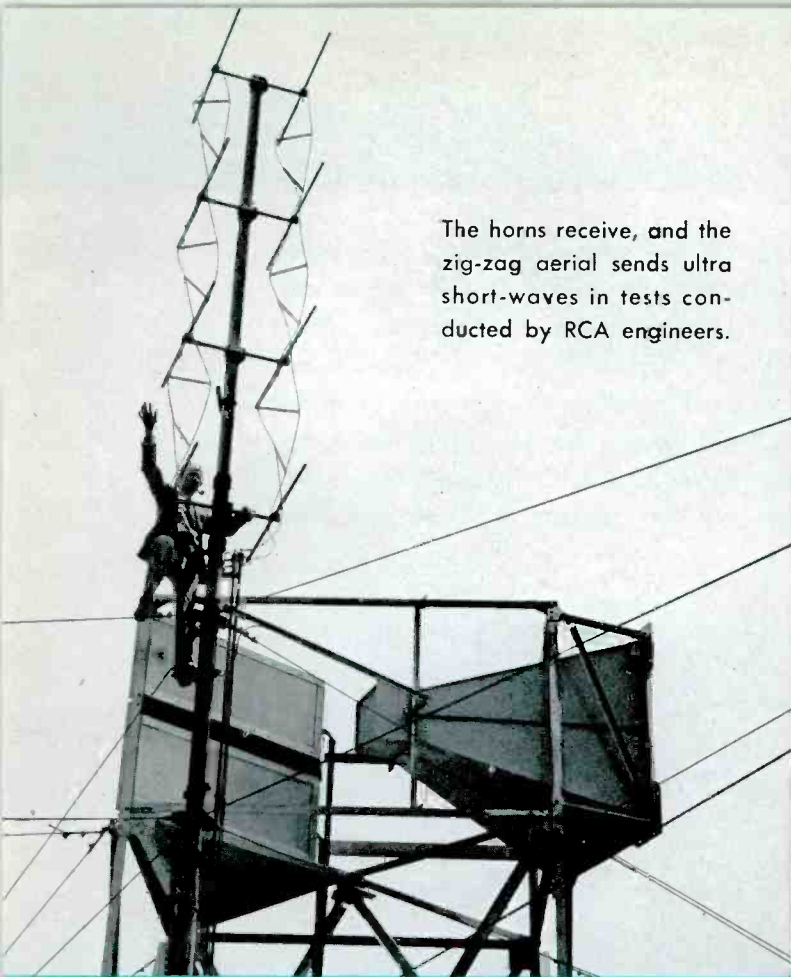
**Does RCA export products from this country?**

Yes. All products manufactured by RCA are marketed abroad. In addition, the International Division handles distribution in export of coin-operated phonographs, which provide a stimulus for increased record sales RCA distributes in the international market, a complete line of theatre equipment, also a number of electrical home appliances other than radio, such as electric washers, ironers, vacuum cleaners and refrigerators.

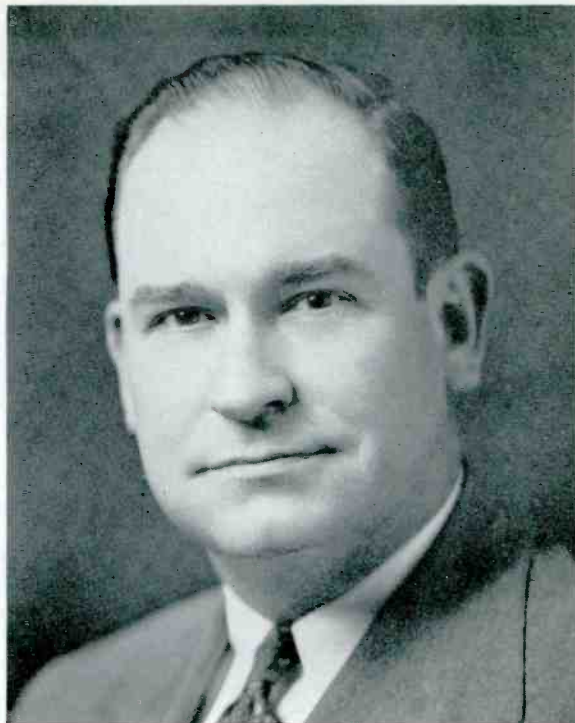
•

**Is RCA planning for more international trade?**

Yes. RCA believes that increased international distribution of its products will aid economic progress. The formation of the RCA International Division on February 1, 1945, is part of a program of active extension of RCA's already well-organized international business.



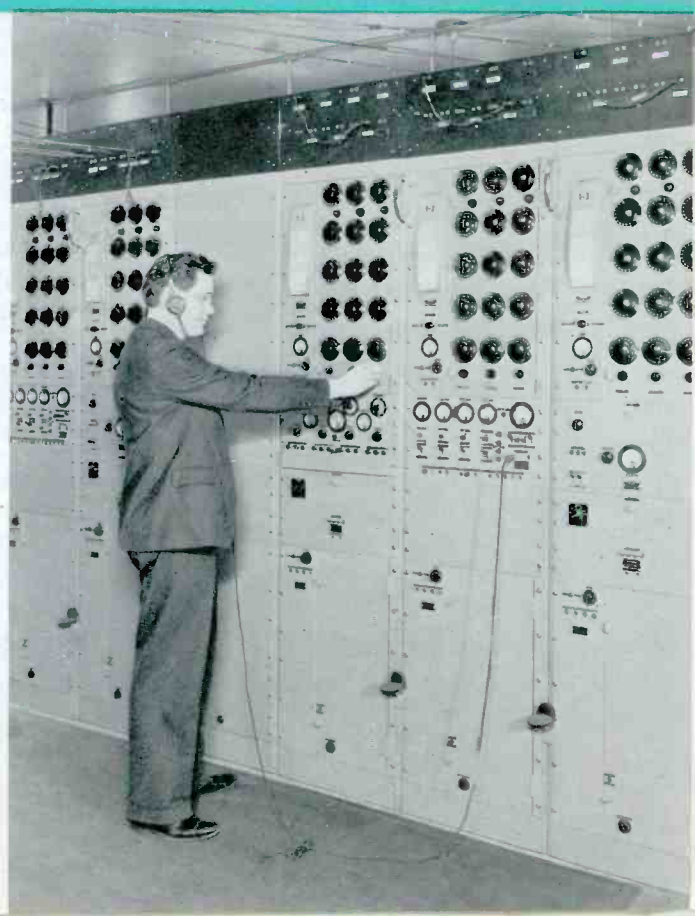
The horns receive, and the zig-zag aerial sends ultra short-waves in tests conducted by RCA engineers.



Lieut. Colonel Thompson H. Mitchell, Vice-President and General Manager of RCA Communications, Inc.

Through the radiotelegraphic circuits of RCA Communications, Inc., important messages are flashed to all parts of the world.

Diversity short-wave receivers, an RCA development installed at "Radio Central's" receiving outpost at Riverhead, Long Island, are a great boon to international reception.



# COMMUNICATIONS

## **What is RCA Communications, Inc.?**

Following its organization in 1919, the Radio Corporation of America promptly undertook the task of establishing an independent 100% American, world-wide radiotelegraph system. RCA's international communication service, therefore, was one of its first activities. By 1929 the system had become so extensive that RCA Communications, Inc., was created as a separate company instead of remaining a department of RCA. It is, however, wholly-owned by the Radio Corporation of America and is engaged primarily in international message (radiogram) communication as a service to the public.

•

## **What is the extent of RCAC radiotelegraph service?**

Direct radiotelegraph circuits with more than 50 countries in Central and South America, the West Indies, Europe, Asia, Africa and Australasia, normally are operated by RCAC. While the war has caused temporary suspension of communication on several of the circuits, it also has resulted in important extensions. Through the available circuits, radiograms are delivered directly or forwarded by relay to practically any place in the world.

•

## **Where are RCAC's main transmitting and receiving stations?**

RCAC's main transatlantic stations are located on Long Island, with the receiving station at Riverhead and the transmitters at Rocky Point. Supplementary transmitting stations are located at New Brunswick and Tuckerton, N. J., and Marion, Mass. All are linked directly with New York and are operated by remote control from the Company's Central Radio Office at 64 Broad Street. Incoming signals received at Riverhead pass on automatically to the Central Radio Office.

The main transpacific office of RCAC is at 28 Geary Street, San Francisco. The transmitting and receiving stations are located respectively at Bolinas and Point Reyes, Cal.

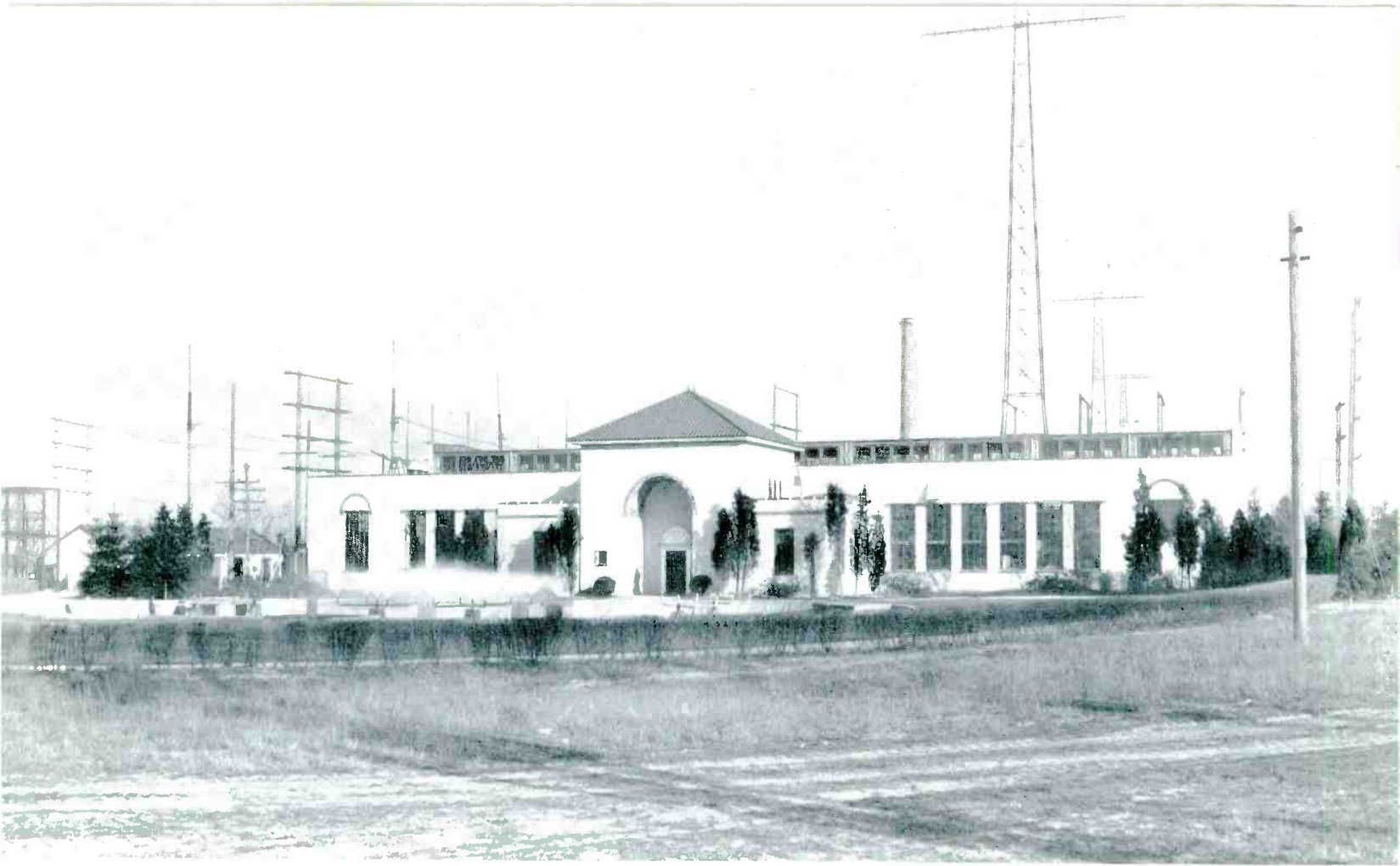
Similar RCAC installations are also in Honolulu, Cuidad Trujillo (Dominican Republic), Port-au-Prince (Haiti), San Juan (Puerto Rico) and Havana. RCAC stations and offices in the Philippines, now being rebuilt, will soon resume operation.

•

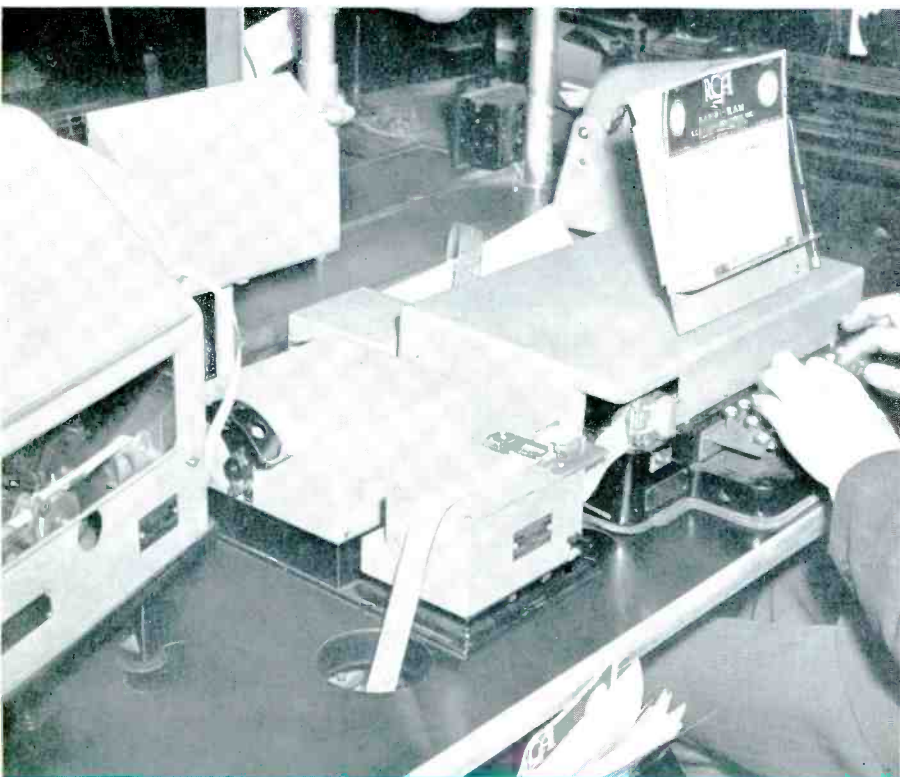
## **How does one send a Radiogram?**

In the United States, RCAC has its own offices in New York, Washington, D. C., and San Francisco. The merger of the Western Union and Postal Telegraph companies makes every telegraph office in the United States an accepting and delivering agency for radiograms "Via RCA." When radiograms are filed in telegraph company offices, the sender should mark on each message the free routing indicator "Via RCA," after the city of destination. Radiograms are accepted for any foreign country where telegraph service is available.





RCA's "Radio Central" at Rocky Point, Long Island, a hub of international radiotelegraphy.



High-speed multiplex radiotelegraph printers at RCA Communications, Inc., dispatch radiograms at the rate of hundreds of words a minute.



Photographs, drawings, and documents travel thousands of miles in a few minutes over RCAC international radiophoto circuits.

**Are RCAC radiograms "broadcast" so that they are heard by people for whom they are not intended?**

No. Radiograms are not broadcast. Directive antennas project the transmitted messages toward the desired receiving terminal in the form of a concentrated beam, somewhat like the beam of a searchlight. High-speed automatic transmitters are used and the messages can be recorded only by special receiving apparatus. Simultaneous transmission of two or more messages on a single radio transmitter—known as multiplexing—results in effective "scrambling" of the message, which can be detected or "unscrambled" only by special synchronized equipment. Most multiplex channels are equipped with RCAC's "seven-unit" automatic printers which eliminate circuit errors.

•

**Does the war impose restrictions on the use of RCAC services?**

Yes, in common with the services of other telegraph companies, all international messages leaving or entering the United States are subject to U. S. censorship regulations. RCAC publishes a booklet periodically giving full particulars of the latest censorship restrictions imposed by the United States and foreign governments. Copies may be obtained upon request at any RCAC office.

•

**Is RCAC's service confined to radio-telegraph messages?**

No; three additional services are operated by RCAC: Program Transmission Service is maintained to provide international program circuits and to pick up foreign programs for the major American broadcasting networks, as well as to transmit American programs to foreign countries. Through the Program Transmission Service facilities of RCAC a large number of the war commentaries from abroad that are heard in this country are delivered on order to the competing American networks for regular broadcast programs.

RCAC also operates direct radiophoto service between New York and London, Moscow, Cairo, Buenos Aires, Berne, Paris, Stockholm and "somewhere in Germany". RCAC's radiophoto terminal at San Francisco serves Melbourne and Honolulu. Until the United States entered the war, direct radiophoto circuits were maintained between New York and Berlin, and between San Francisco and Tokio.

A third service is the precision measurement of transmitter frequencies with an accuracy equal to 2 parts in 10,000,000. Laboratories at Riverhead, New York, and Point Reyes, Calif., are equipped to check the operating frequency of any licensed radio transmitter in the U.S. and other countries. Staffs are maintained on a 24-hour basis to perform this service.



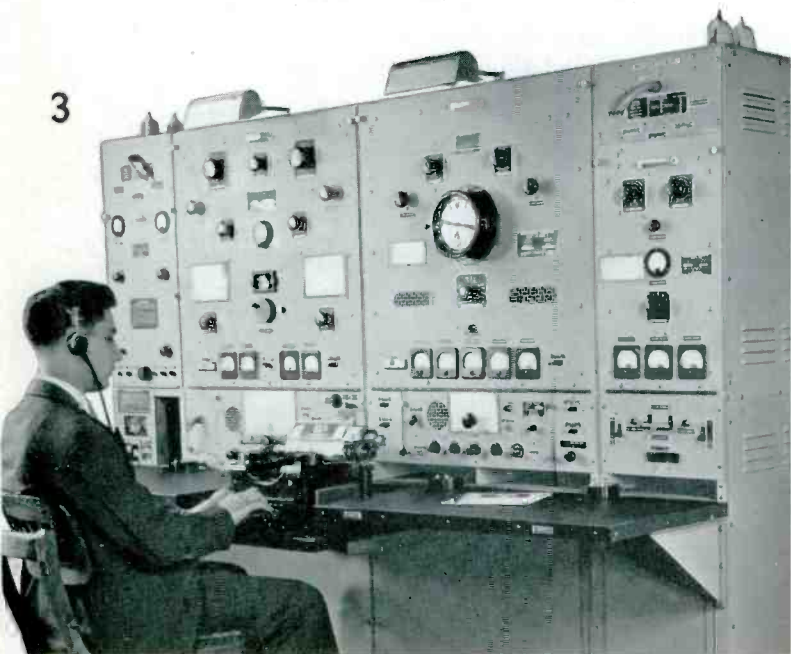
Charles J. Pannill, President  
Radiomarine Corporation of America

(1) Quick, skillful hands of girl employees at Radiomarine Corporation of America help to accelerate the production of radio equipment for the Army, Navy and the Maritime Commission.

(2) Small radio direction finder loops, important navigational aids to American shipping, receive final inspection at Radiomarine.

(3) New console radio equipment designed by Radiomarine for ship-board installation combines three transmitters, three receivers, and an automatic SOS alarm.

(4) New self-powered Radiomarine lifeboat radio has 1,000-mile range with its 300-foot antenna held aloft by balloon or kite.



# MARINE RADIO

## **What is the Radiomarine Corporation of America?**

Radiomarine is the service of RCA engaged in the marine radio field. It is producing both radiotelephone and radiotelegraph equipment for approximately 80% of the American fleet of merchant ships as well as thousands of naval craft engaged in the war effort. Radiomarine engineers have contributed much to the development and design of radio instruments for marine services. In addition to radiotelephone and radiotelegraph apparatus, Radiomarine produces automatic alarms, direction finders and compact emergency radio apparatus for lifeboats. Specially designed equipment is made for the military services.

In recognition of Radiomarine's performance in the war effort, the Corporation has been awarded the Army-Navy "E" flag and the U.S. Maritime Commission "M" pennant and Victory Fleet flag. For continued outstanding production achievement, Radiomarine has been awarded four stars for its Army-Navy "E" flag and four Gold Stars for its Maritime "M" pennant.

## **When was Radiomarine Corporation of America organized?**

RCA has been engaged in marine radio communications since its formation. As the business expanded, the Radiomarine Corporation of America was formed on January 1, 1928, as a wholly-owned subsidiary of RCA entirely devoted to marine radio activities.

## **Does Radiomarine operate branch offices outside of New York City?**

Yes; Radiomarine has 23 service depots in principal ports of the United States, located on the Atlantic, Gulf and Pacific coasts, the Mississippi and the Great Lakes. Radiomarine installs and services marine radio equipment on vessels and at shipyards throughout the country.

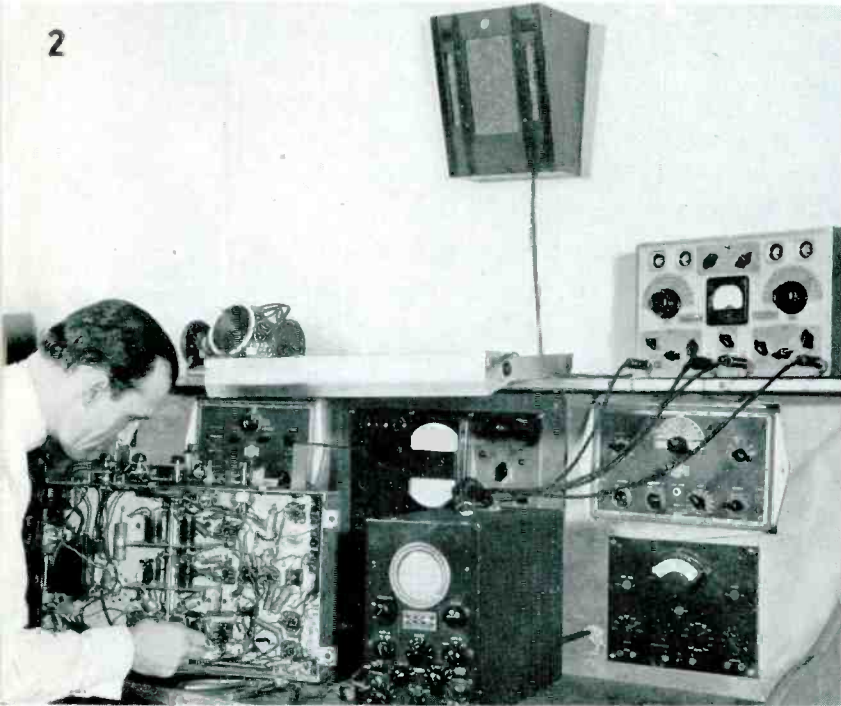
## **Does Radiomarine maintain other services?**

In normal times, Radiomarine, in addition to its many other activities in the marine radio field, is engaged in commercial shore-to-ship and ship-to-shore radio communication, maintaining coastal stations on the Atlantic, Pacific and Gulf Coasts, the Mississippi River, and on the Great Lakes. This service includes radiotelephone at Buffalo and St. Louis and the handling of radiograms, weather reports for the Government, press bulletins and transmission of free medical advice for the benefit of sick and injured personnel on vessels which do not carry a doctor.

## **When was radio first used at sea?**

The history of radio is linked with the sea. The main use foreseen for, wireless in the Nineties was for communication to and from ships. This idea prevailed so strongly that Marconi went to London, the center of world shipping, to demonstrate and to promote his invention. Along the English coast Marconi conducted experiments and endeavored to prove the worth of his wireless, yet it was not until the wreck of the S. S. Republic in 1909, and the S. S. Titanic disaster in 1912, that radio's great value was appreciated.

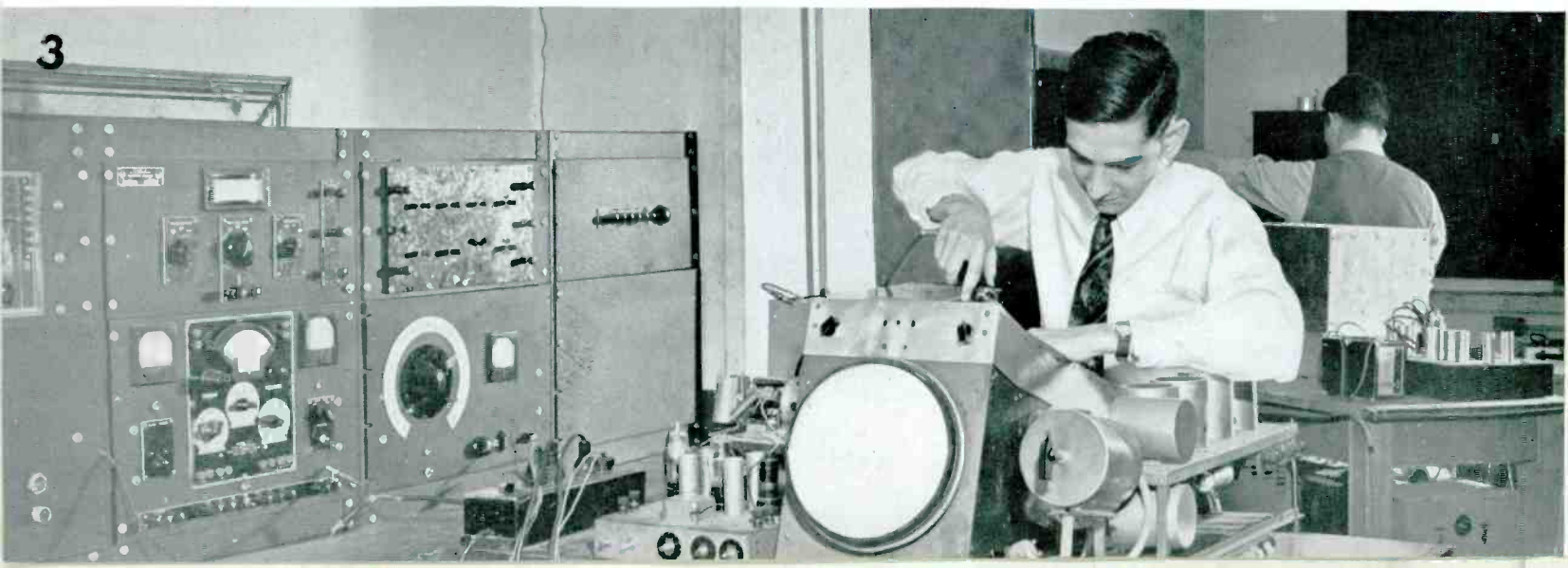




(1) Students of radio learn the actual operation of ultra-high-frequency transmission equipment at RCA Institutes.

(2) Using the most modern testing apparatus, students at RCA Institutes become familiar with radio units they will operate after completing the course.

(3) In a classroom at RCA Institutes, students learn the principles of the cathode ray tube—used in television—as well as the characteristics of standard radio tubes.





# TECHNICAL TRAINING

**What is RCA Institutes, Inc.?**

RCA Institutes is a dual technical school. The vocational part is devoted to the maintenance and operation of radio receiving and transmitting equipment; the technological part includes this training and in addition trains the students in the design of this and associated electronic equipment. Completely equipped laboratory and classroom facilities are maintained at 75 Varick Street, New York City.

**Is the year at RCA Institutes divided according to "college terms"?**

Classes are in session for fifty weeks each year, closing only for the two weeks preceding Labor Day. New terms start approximately the first of March, June, September and December. Detailed information regarding this calendar is given in the school catalog.

**Does RCA Institutes operate day or evening classes?**

Both day and evening classes are conducted. Day vocational courses are either 6, 9 or 12 months in duration. Day technology courses are 1½ or 2 years long, depending on the choice made. Evening courses require approximately twice these intervals, because classes meet fewer hours each week. No home study courses are conducted.

**How much does it cost to take a course at RCA Institutes?**

The cost of tuition varies with the length of the course. Tuition fees are paid weekly in most cases. Complete information concerning the school tuition fees and expenses and a detailed survey of the instruction are contained in the illustrated catalog which may be obtained on request.

**Does RCA Institutes have a course in television?**

Yes. Instruction in television receiver maintenance, adjustment and operation, is given. The design, maintenance and operation of a complete television system is given in the last quarter of the General Course.

**What are the qualifications for a student to enter RCA Institutes?**

Grammar school education is sufficient for the vocational courses, such as radio operating, radio and television servicing and aviation communication. For the General Course, high school work is necessary. Candidates wishing to take the General Course but who lack a high school education may qualify by taking the Institutes' Preparatory Course which includes high school algebra, geometry and physics.

The courses at RCA Institutes are open to men and women, 17 years of age and older, who have an interest in the technical phases of radio and electronics.



# INDEX

	PAGE		PAGE
Foreword .....	2	Did NBC have a coast-to-coast network when it started? ..	27
<b>Radio Corporation of America</b>		What was the first international broadcast? .....	27
What is "RCA"?	5	Is NBC active in FM (Frequency Modulation) broadcasting? .....	27
Where are the executive offices of RCA?	5	<b>Television</b>	
What led to the formation of RCA?	5	When did RCA start work on television? .....	29
What is the nature of RCA's business?	7	Does NBC operate television as a service to the public? ..	29
What are the industrial activities of RCA?	7	Is NBC planning to expand television? .....	29
Is RCA engaged in electronics?	7	How large a screen will home receivers have? .....	31
When did the RCA transoceanic service begin?	7	Will television cabinets include broadcast receivers? .....	31
How many people are employed by RCA and subsidiaries?	7	How far do television signals travel? .....	31
What are RCA's personnel and labor policies?	9	Will television be in natural color? .....	31
Who owns the Radio Corporation of America?	9	Will television carry America's favorite programs? .....	31
What is RCA's capital structure?	9	<b>Manufacturing</b>	
Do RCA stocks pay dividends?	9	When was the manufacturing division of RCA organized? ..	33
What was RCA's volume of business in 1944?	10	What are the products of the RCA Victor Division? .....	33
What is RCA's record of earnings for the past 10 years? ..	10	Where are RCA manufacturing plants located? .....	35
What are the working capital and net worth of RCA? .....	11	Are home radios being made during the war? .....	35
What is RCA's role in the war? .....	12	Does RCA make phonograph records? .....	35
What are some of RCA's wartime achievements? .....	13	What products does RCA make for schools and colleges? ..	35
<b>Research and Engineering</b>		Where can I buy an RCA Radio or a Victrola? .....	36
What is the policy of RCA toward scientific research? .....	15	What is RCA motion-picture sound? .....	36
What is the purpose of RCA Laboratories? .....	15	What is RCA plant broadcasting? .....	36
Is RCA research confined to radio? .....	15	What are RCA electronic heating devices? .....	36
Does RCA make its inventions and patents available to other manufacturers? .....	17	What is the RCA Service Company? .....	36
What are some of the outstanding developments of RCA research? .....	17	<b>International</b>	
<b>Pioneering</b>		Does RCA have an international business? .....	37
What are some of the RCA "firsts" in the radio field? .....	18	What subsidiary companies does RCA have in other countries? .....	37
<b>Broadcasting</b>		What products and services are handled by RCA's international subsidiaries? .....	37
How did the idea of broadcasting as a public service originate? .....	20	Is RCA planning for more international trade? .....	37
When did RCA enter the broadcasting field? .....	20	<b>Communications</b>	
How long has the National Broadcasting Company been on the air? .....	20	What is RCA Communications, Inc.? .....	39
Did NBC formerly operate two networks? .....	21	What is the extent of RCAC radiotelegraph service? .....	39
Where are the NBC studios located? .....	21	Where are RCAC's main transmitting and receiving stations? .....	39
How many stations are affiliated with the NBC network? ..	21	How does one send a radiogram? .....	39
Does NBC broadcast by short-wave to foreign countries? ..	21	Are the RCAC radiograms "broadcast" so that they are heard by people for whom they are not intended? .....	41
Are short-wave broadcasts heard everywhere? .....	21	Does the war impose restrictions on the use of RCAC services? .....	41
What languages does NBC use in international short-wave broadcasting? .....	23	Is RCAC's service confined to radiotelegraph messages? ..	41
Are there any radio networks in Latin America? .....	23	<b>Marine Radio</b>	
Does the NBC International Division accept commercial programs? .....	23	What is the Radiomarine Corporation of America? .....	43
Do listeners in Europe hear NBC's short-wave programs? ..	23	When was Radiomarine Corporation of America organized? ..	43
To what extent do NBC programs aid the war effort? .....	23	Does Radiomarine operate branch offices outside of New York City? .....	43
What proportion of NBC programs are sponsored by advertisers? .....	26	Does Radiomarine maintain other services? .....	43
How many advertisers have programs on the NBC network? .....	26	When was radio first used at sea? .....	43
Does the NBC network carry the most popular programs? ..	26	<b>Technical Training</b>	
Does NBC make recorded programs available to stations for broadcasting? .....	26	What is RCA Institutes, Inc.? .....	45
Does the NBC network conduct auditions to find new talent and if so, how does one arrange for an audition? .....	26	Is the year at RCA Institutes divided according to "college terms"? .....	45
If one has an idea for a radio script or program, how may it be presented for consideration? .....	26	Does RCA Institutes operate day or evening classes? .....	45
Where does NBC get its news? .....	27	How much does it cost to take a course at RCA Institutes? ..	45
How many NBC programs originate overseas? .....	27	Does RCA Institutes have a course in television? .....	45
How may tickets be obtained for admission to broadcast programs? .....	27	What are the qualifications for a student to enter RCA Institutes? .....	45

## FOR ADDITIONAL INFORMATION

•  
*Should further information be desired on the following subjects,  
please write to:*

<b>RADIO MANUFACTURING</b> . . . . .	RCA Victor Division Camden, N. J.
<b>BROADCASTING</b> . . . . .	National Broadcasting Company, Inc. 30 Rockefeller Plaza New York 20, N. Y.
<b>RADIOTELEGRAPH</b> . . . . .	RCA Communications, Inc. 66 Broad Street New York 4, N. Y.
<b>MARINE RADIO</b> . . . . .	Radiomarine Corporation of America 75 Varick Street New York 13, N. Y.
<b>TECHNICAL TRAINING</b> . . . . .	RCA Institutes, Inc. 75 Varick Street New York 13, N. Y.
<b>GENERAL INFORMATION ON RCA AND VARIOUS ACTIVITIES OF RADIO</b> . . . . .	Department of Information Radio Corporation of America 30 Rockefeller Plaza New York 20, N. Y.

Tune in RCA's radio program, "The RCA Show," on the NBC Network  
Sundays at 4:30 p.m., E.W.T.



