

Radio News

February, 1937

The Next TEN YEARS

will be

“TELEVISION”

The radio industry has reached the united viewpoint that television will grow to a huge industry in the ten years starting with 1937; a great national industry encompassing broadcasting of sight and sound, a leader in the fields of entertainment, home movies and news distribution. The complexity of the new art makes it imperative that radiomen, technicians, servicemen and experimenters acquaint themselves with and learn all they can about the technical phases of this development to keep up-to-date

By the Television Reporter

AS our knowledge and employment of ultra-short waves increases, radio progress will be speeded up. *The most conspicuous of these advances during the next ten years will be the addition of sight to sound in the service of radio.*—David Sarnoff, president, Radio Corporation of America. With this statement before the Franklin Institute by the head of the logical firm to sound the television starting gun in the U. S. A., and with RCA-NBC television progress being revealed and demonstrated to the press and industry, the next decade can definitely be expected to feature television as radio's future and to convert the short wave playground of radio waves into the playhouse of radio waves!

Monster Industry

Many experts believe that the commercialization of television and its mass public acceptance is just a matter of months; the next ten years will find the new art fully grown into a monster industry. The tingling sensation of a new enterprise is already running through

the industry's veins. Every branch of radio is preparing for the public demand as soon as the Federal Communications Commission grants commercial visual licenses—a move that cannot be placed too far off.

With Philco, Farnsworth and several other firms previously disclosing gigantic television strides and demonstrating them, it was the official demonstration of RCA progress that was awaited most anxiously by the industry. Not only is this firm of vital importance to the start of television through its holding of numerous patents, but its ownership of NBC puts it in a position to handle one vital phase of the new art's introduction—transmitting.

Features Revealed

A series of RCA television demonstrations has already been given to various branches of the industry. They revealed several important features. The press showing was the first under practical working conditions. It included a complete program built for entertainment value as well as a demonstration of trans-

WHAT YOUR RECEIVER WILL LOOK LIKE

In the advancing television period the television receiver installed in a nook in your home and your use of it will be as commonplace as present-type radios are today. Photo shows an RCA television receiver.





THE NEW ART OF TELEVISION "MAKE-UP"

With television "here," broadcast artists must follow more closely the technique of movie actors' make-up for their presentations before the television camera and microphone.



TELEVISION REPORTERS GET THEIR DOPE

Scene at the RCA-NBC television demonstration, where television reporters for the technical magazines and daily newspapers obtained their data for articles in the press.

mission. It also featured the initial exhibition of a new 12-inch cathode-ray tube yielding a 7½ by 10-inch screen—claimed by RCA to be the largest yet employed which is capable of commercializing.

The program embraced a balanced assortment of live and filmed subjects. One highlight was a tour of the television studios and the Empire State Building transmitter by the transmission of a film especially made for the occasion. Lenox R. Lohr, president of NBC, and Mr. Sarnoff were also seen and heard over the sight-and-sound transmitter.

The images were clear and commercially acceptable. There was a bit of interference, but at no time did it materially mar the program. In all, the forty-minute program was satisfactory enough for commercial home reception!

Coaxial Cable Used

A long line of television receivers was installed on the sixty-second floor of the RCA Building for the press demonstration. The programs, originating in the television studio in the NBC section of the structure, were conveyed by coaxial cable

to the transmitter atop the Empire State Building—about three-quarters of a mile away—and received through the air.

Definition of 343 lines was used in the test. This, however, according to company engineers, will be stepped up to 441 lines.

Presentation Technique

It was disclosed that engineers are daily putting tests on the air under "practical" service conditions; the program department is learning the new television technique of continuity writing, make-up, staging and other details and experiments with commercial programs to determine the effectiveness of television to sell goods are being made. Also, technicians are studying the economics of "networking," so that several stations may be linked by either coaxial cable or short-wave relays and are developing material for remote pick-ups.

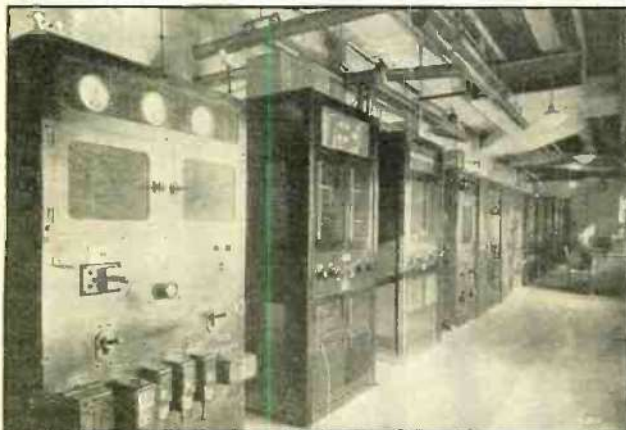
According to Mr. Sarnoff, the RCA development program is three-fold. "First," he declared, "we must develop suitable commercial equipment for television and reception; second, we must develop a program service suitable for network syndication; third, we must

also develop a sound economic base to support a television service." He emphasized that a major problem is that of network syndication. "Our present facilities," he said, "for the distribution of sound broadcasting cover the vast area of the United States and serve its 128,000,000 people. Similar coverage for television programs, in the present state of the television art, would require a multiplicity of transmitters and network interconnection by wire or radio facilities still to be developed." He held that, from the standpoint of research, laboratory development and technical demonstration, television progress in the United States continues to give us an unquestioned position of leadership in the development of the art. He held that in whatever form television progress may be evident in other countries, "we lead in the research which is extending the radio horizon, and in technical developments that have made possible a transmitting and receiving system that meets the highest standards thus far obtainable in field demonstration."

Comparison with progress in other countries was dealt with by the RCA head as follows: (Turn to page 498)

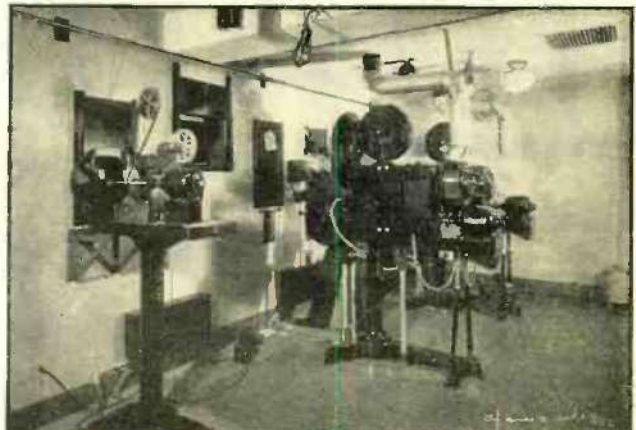
THE TELEVISION TRANSMITTING ROOM

This is the complete RCA television transmitter for sight and sound installed in the Empire State Building, New York City. The call letters of this station are W2XBS.



OF THE UTMOST IMPORTANCE!

Experts have stated that the motion-picture pick-up will be one of the main features of television broadcasting, for news reels, educational reels and motion-picture plays by radio.



BRUSH Spherical Microphone

For remote pickup, "P.A.," commercial interstation and amateur use. Low in price...but built to Brush's traditionally high mechanical and electrical standards. Wide frequency response. Non-directional. No diaphragms. No distortion from close speaking. Trouble-free operation. No button current and no input transformer to cause hum. Beautifully finished in dull chromium. Size only 2 1/2 inches in diameter. Weight 5 oz. Output level minus 66 D.B. Locking type plug and socket connector for either suspension or stand mounting at no extra cost. Full details, Data Sheet No. 13. Free. Send for one.



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For after dinner and convention speakers, lecturers, etc. Gives great mobility. The smallest, lightest microphone on the market. Size 1 1/2 x 1 1/4 x 3/8. Weight with coat attachment less than 1 oz. Special internal construction and rubber jacketed outer case insure quiet operation. No interference from breathing noises, etc. Typical Brush sound cell response and trouble-free operation. Details on request.

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Round Can: Oil-impregnated oil-filled paper section. Hermetically sealed. High-tension pillar terminals. 1000, 1500 and 2000 v. 1, 2 and 4 mfd.

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New CATALOG: More bugs. More choice. Popular prices. Copy on request, with sample of monthly Research Worker.

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(Kruger, Gallagher), heard 8:30-9 p.m. with good strength, (Shamleffer).

KKH, Kahuku, Hawaii, 7520 kc., relays KGMB, Tuesday 12-1 a.m., (Jensen), heard 10-12 p.m., (Sporn).

K10, Kahuku, Hawaii, 25.68 meters, irregular schedule, (Street), 11680 kc., Wednesday, Thursday, 2-2:30 a.m., (Greaves, Beyer), relays KGMB, Tuesday, 12-1 a.m., (Jensen), heard 4-4:30 p.m., through KKQ, (Sesma, Gallagher).

VK5DI, Adelaide, Australia, 21.42 meters relays VK5AD, sometimes operates on 41.24 meters, belongs to the Adelaide S. W. Club, (Street).

VK3LR, Lyndhurst, Australia, 9580 kc., heard mornings, (Dittman), relays dance music from 8:00 to 7:30 a.m., (DeMent), Daily 3:13-8:30 a.m., (Geneve, Beyer), heard 9:15-9:45 with experimental trans., (Hampshire) new schedule 11 p.m.-8:30 a.m., (Partner, Self, Freeman, Edlin, Low), heard 1-2 a.m., (Gallagher, Alfred).

VK2ME, Sydney, Australia, 9590 kc., Sundays 12:30-2:30 a.m., 2:30-8:30 a.m., 9:30-11:30 a.m., (Geneve, Beyer), Edlin, Freeman, Law, Styles).

VK7ME, Perth, Australia, 9590 kc., heard around 6 a.m., (Fallon, Law).

VK8ME, Melbourne, Australia, 9510 kc., heard well as late as 6:30 a.m., daily, (DeLoet), heard at 7 a.m., (Edlin, Sporn, Law), reported on 9480 kc., also (Alfred).

ZLT4, Wellington, New Zealand, 11000 kc., heard phoning at 1:30 a.m., (Cox).

ZLT, Wellington, New Zealand, 11050 kc., heard on phone at 7 a.m., (Gallagher).

KTR, Manila, Philippine Islands, 10910 kc., heard working KYW, (Black).

KAX, Manila, Philippine Islands, 15180 kc., heard evenings phoning Pacific Coast, (Alfred).

FOBAA, Papeete, Tahiti, 7,199 kc., Tuesday and Friday 11 p.m., to past midnight, signs off with "Aloha Oe," reported on the air Wednesday and Saturday, (Kruger, Colieu), announcements in French, (Gallagher). Address: Radio Oceania, Papeete, Tahiti, Friendly Islands, Oceania, (Scala).

VPD, Suva, Fiji Islands, 13075 kc., daily except Sunday 12:30-1:30 a.m., heard frequently in September, (Geneve, Beyer, Bunch), reported on 9540 kc., daily, 5:30-7:30 a.m., (Fallon) excellent QSL card received after five months, (Cox).

VPDQ, Suva, Fiji Islands, 9540 kc., daily 3:30-8:00 a.m., (Pickering).

Readers Who Are Awarded "Honorable Mention" for Their Work in Connection with This Month's Short-Wave Report

Kenneth Dressler, Harold W. Bower, N. C. Smith, Leon Stabler, Grace M. Beck, Walter E. Bishop, Fred A. Pilgrim, E. Geneve, Stan Elchesen, R. F. Shamleffer, Fred Atherton, Thomas Fallon, Jr., Louis J. Horwath, Peyton Black, Fred W. Alfred, M. J. Markuson, Jerry M. Hynek, G. C. Gallagher, G. L. Harris, Irving Sporn, Wade Chambers, E. W. Turner, Barry Sesma, Albert Pickering, Robert Gaiser, Morgan Foshay, Raymond W. Sahlbach, Anton J. Cindal, P. Piorko, H. Westman, Dixon C. Greenwood, Mike Kruger, Jorge Salat, Eddie C. Zarn, J. Wendell Partner, Donald Freeman, Fred Cox, Harold J. Self, Edward DeLaet, L. E. Williams, Walter Lorrivig, George C. Sholin, Harry Lueth, Augusto Anea, Jose Lopez, O. Ingmar Olesen, J. Holden, Matthew Bills, Harold J. Self, Shokichi Yoshimura, Fred Webb, Thomas P. Jordan, J. R. Wood, Walter M. Foy, Ed. Nowak, Doc Davies, W. L. Schuckman, Harry E. Keutzel, Harry J. Potthoff, Jose Rodriguez, R. John Harishorn, Flavio Mascarenhas, Frank W. Edlin, Roy E. DeMent, Byron Silvius, Werner Howald, Paul C. Bird, Archwell T. Bower, F. T. Reilly, Edgar J. Vassallo, Baldonero P. Garcia, Jack Perry, H. Francis Shea, Arthur B. Coover, B. Kashimoto, M. Michaelson, Harry Honda, L. M. Jensen, J. G. Hampshire, Shirley Brown, Frank Andrews, A. Belanger, A. S. Haggerty, Clayton D. Sands, J. N. Street, Edward R. Greaves, Reginald Pick, G. T. Beyer, Richard V. Brian, R. C. Messer, E. L. Frost, David Brensiber, R. Muguet, A. Pettigean, Walter Alligood, Bob Sawada, Carl L. Horton, Stephen G. Spicer, J. O. Farris, Jr., William F. Hobbs, Charles W. Bunger, James C. Keithly, C. J. Burrell, Don Konk, Wilbur Croston, Jack Young, Lee Chaney, Albert L. Bunch, James Lucas, E. Scala, Lionel White, L. R. Frisch, Cliff Jones, Mr. and Mrs. E. T. Patten, Joseph A. Ryan, Harold E. Grey, Carl and Anne Eder, J. C. Kugler, Earle Drew, Vernon Pearson, Delbert Holden, Robert Halliday, O. O. Francis, Wallace Howe, Harold Treskunoff, James H. Nigh, Jr., Francis J. Nugent, James Robert Wood, Melvin Marsley, H. E. Hamilton, Lee Peterson, Warren McBirney, Lloyd Hightower, Edward DeLaet, Erroll R. Birnie, Morris Harwood, George W. Bartlett.

The Recent Sun Eclipse

WASHINGTON, D. C.—Radio observations during the solar eclipse on June 19 in Siberia will have little value according to the National Bureau of Standards. The world was struck by a magnetic storm before and during the eclipse.

Television

(Continued from page 458)

"The distinction between television in this country and abroad is the distinction between experimental public services undertaken under government subsidy in countries of vastly smaller extent and the progressive stages of commercial development undertaken by the free initiative, enterprise and capital of those who have pioneered the art in the United States."

While he recognizes the problems of television as formidable, Mr. Sarnoff believes they will be solved. He holds that, with the establishment of a television service to the public "which will supplement and not supplant the present service of broadcasting," a new industry and new opportunities will have been created.

Speaking at the NBC tenth anniversary dinner broadcast a few days after the press demonstration, the RCA head declared that the only prophecy he would indulge in that night was that "during the coming ten years the millions who now listen in their homes to this celebration will be able to see, as well as to hear, by radio." RCA has also previously revealed its television progress to broadcasters and manufacturing licensees.

It seems quite likely that, at least at the start, television transmissions may be in the hands of present "sound" broadcasters. No doubt there will be much vying for the television channels, though, by many outside interests, particularly moving-picture concerns, newspapers and other organizations bidding for the video frequencies.

Although RCA intends to manufacture receivers at the RCA-Victor plant, its own property, the Television Reporter learns that licensed manufacturers—virtually the entire American industry, comprising 52 set and 12 tube makers—will be kept fully informed, with the granting of facilities to "start even" in competition with RCA. License fees will be on the same basis as the pre-television rates.

Now is the time for the entire industry, including the radio dealer, serviceman and experimenter, to start accumulating television data and acquiring knowledge and familiarity with the new art so as to be on the "inside" when the television programs will be the order of the radio day.

The excellent press demonstration made by Philco, in Philadelphia, and their field tests in that area were described in November RADIO NEWS. This company is ready to manufacture television receivers as soon as a commercial transmitting service starts.

British Developments

The British television system, outlined in the January RADIO NEWS, was formally launched with considerable ceremony. Lord Selsdon, chairman of the BBC Television Advisory Committee, takes a contrasting stand to Mr. Sarnoff in holding that "technically, Britain leads today (in television)." He added: "We shall try, in the words of Sir Antony Gloster, to 'keep our light shining a little front of the rest.'"

British television leadership was also claimed by R. C. Norman, BBC chairman, who declared: "The foresight which secured to this country a national system of broadcasting promises to secure for it also a flying start in the practice of television. At this moment the British Television Service is undoubtedly ahead of the rest of the world. Long may that lead be held. You may rest assured that the BBC will be resolute to maintain it."

Major G. C. Tryon, the British Postmaster-General, declared: "Sound broadcasting has widened our outlook and increased our pleasure by bringing knowl-

edge, music and entertainment within the reach of all. The complementary art of television contains within it vast possibilities of the enhancement and widening of the benefits we already enjoy from sound broadcasting. On behalf of my colleagues in the Government, I welcome the assurance that Great Britain is leading the world in the matter of television broadcasting, and, in inaugurating this new service, I confidently predict a great and successful future for it."

The American industry can accept the British viewpoints as a challenge. The domestic radio firms are all in accord that the U. S. A. leads in the laboratory development of the new art of television. England deserves a hand for being the first to start a public program service, but now that American manufacturers have started field tests, it is the Television Reporter's guess that the U. S. A. will maintain the same leadership in visual broadcasting that it has established in sound transmission.

Radio enthusiasts have come to a new crossroad where the signposts read: "Go! Look! Listen!" The next ten years of radio will certainly be "Television."

Coast Guard Station

(Continued from page 471)

microphone, two 230's as pre-amplifiers, two 56's and two 2A3's push-pull driving two 203-A's as a push-pull Class B modulator make up the audio frequency unit.

The transmitter is remotely controlled from a standard operator's position, including key, microphone, stop-start switches, and a receiver rack. The operator's position is located in another part of the same room. Two transmitters of commercial manufacture are also available. The first is a 200-watt c.w. phone transmitter used on the 80-meter band. The other is a 500-watt c.w. transmitter for 40, and 20 meter bands. Both of these transmitters are also operated from the position mentioned above.

In the ultra-high-frequency bands, the equipment has been mostly in the form of transmitters except for a 50-watt M.O.P.A. 5-meter transmitter. A crystal-controlled outfit is now being constructed, using 802's for oscillator and driver and 834's as power amplifier.

The receiving equipment consists of an HRO communication receiver, and a 1-10-meter ultra-high-frequency receiver, using acorn type tubes.

The laboratory is well equipped with meters, testing equipment, bridges, etc., for use in testing and making measurements. A cathode-ray oscillograph and a beat-frequency oscillator, with associated equipment, is available for checking modulation, distortion, etc. The necessary space and tools for constructing new equipment is also provided.

Considerable success in communications is evidenced by the large number of QSL cards received from all continents. Considering that the time spent in amateur work by the cadets is entirely their own it is apparent that much recreation is obtained in addition to practical experience in radio.

A Radio Stethoscope

MOSCOW, U. S. S. R.—A physician is now enabled to listen in on the heartbeats of an aviator when the aviator is up in the air and the physician on the ground. The device consists of a stethoscope connected to a small radio transmitter in the airplane so the doctor can listen in without exposing himself to the influence of rarefied air or rapid dives and loops.

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The Well Equipped Radio Service Expert Will Cash In Most on 1937's Business

TIME PAYMENTS ON DEPOSITS

N. U. has made arrangements with Clough-Brengle and the Supreme Instruments Corporation so that the initial deposit on the new 1937 models made by these great equipment manufacturers can be financed. Remember, initial deposits are refunded when tube purchases are completed. Get complete details from your distributor.

INSTRUMENTS MADE BY THESE MANUFACTURERS

Study the catalogs and advertisements of leading service equipment manufacturers listed below, select the instruments you want—then find out how you can get them FREE the easy National Union way!

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In addition to instruments, you can get Shop Coats, Radio Tube Carrying Cases, Multi Drawer Steel Cabinets for small parts storage, etc. Be sure to find out how!



About National Union Radio Tubes

National Union manufactures a complete line of radio tubes in glass, metal and G-type. National Union's high quality has made them the outstanding favorites in the radio service profession. All sales policies have been formulated with the idea of making National Union radio tubes the

ideal replacement tube for the radio dealer. This has been backed up with a selling program that means real support and help to the wide-awake dealer. Dealers and jobbers handling National Union radio tubes are the leaders in repair parts and service.

FREE EQUIPMENT!

No need for the alert and aggressive service expert to read about all the fine scientific instruments which service equipment manufacturers are making and wish that he might own them. Why? He can own them! How? By getting them Free with the purchase of National Union radio tubes.

This means that you and every other service specialist who hopes to capture a big share of the profit to be made in the service business in 1937 can equip yourselves with the meters, testers and analyzers so necessary in modern radio servicing.

National Union has given servicemen throughout the United States more than 50,000 pieces of fine equipment. If you're not taking advantage of National Union's service dealer plan, you're missing the greatest opportunity in the radio industry today.

All you do is contract to purchase a few tubes per week, place a small deposit, which is refunded to you after the tube purchase is completed and the instrument you have selected is yours "for keeps", without any strings attached. Meanwhile, remember that you have the use of the instrument all during the time tube purchases are being made.

Make 1937 your biggest profit year by tying up with the National Union Selling Programs. Talk it over with your distributor or send the coupon below for complete details.

—CLIP . . . MAIL—NOW!

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570 Lexington Ave., New York City.

Rush free circular telling how to get instruments the easy N. U. Way.

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