NEW JERSEY: Samuel M. Hollander, Military Park Bldg., 60 Park Place, Newark, N. J.
NEW MEXICO: Frank E. Hickey, 812-19 Security Bldg., Denver, Colo.
NEW YORK: (Address Nearest Office) American Society of Composers, Authors and Publishers, 30 Rockefeller Plaza, New York, N. Y.
Sidney S. Wallens, 17 Court Street, Buffalo, N. Y.
Earl I. Freshman, 200-201 Heffernan Bldg., Syracuse, N. Y.
NORTH CAROLINA: I. T. Cohen, 906 First National Bk. Bldg., Charlotte, N. C.
NORTH DAKOTA: Dwain M. Ewing, 911-921 Metropolitan Bk. Bldg., Minneapolis, Minn.
OHIO: (Address Nearest Office) Frenkel & Bentley, 1103 First Nat. Bank Bldg., Cincinnati, O.
Frankel & Frankel, 1520 Guarantee Title Bldg., Cleveland, O.
OKLAHOMA: Milsten and Milsten, 807 Tulsa Loan Bldg., Tulsa, Okla.
OREGON: Herman Kenin, 1412 Public Service Bldg., Portland, Oregon.
PENNSYLVANIA: (Address Nearest Office) (Western Part) Edward A. Montgomery, 2615 Grant Bldg., Pittsburgh, Pa.
(Eastern Part) H. A. Brown, 1638 Lincoln Liberty Bldg., Philadelphia, Pa.
RHODE ISLAND: R. W. Rome, 44 School Street, Boston, Mass.
SOUTH CAROLINA: I. T. Cohen, 906 First National Bank Bldg., Charlotte, N. C.
SOUTH DAKOTA: Dwain M. Ewing, 911-921 Metropolitan Bank Bldg., Minneapolis, Minn.
TENNESSEE: American Society of Composers, Authors and Publishers, 30 Rockefeller Plaza, New York, N. Y.
TEXAS: Frank H. Hemby, 412 Tower Petroleum Bldg., 1905 Elm Street, Dallas, Texas.
UTAH: Hugo B. Anderson, 623 Continental Bank Bldg., Salt Lake City, Utah.
VERMONT: R. W. Rome, 44 School Street, Boston, Mass.
VIRGINIA: I. T. Cohen, 906 First National Bank Bldg., Charlotte, N. C.
WASHINGTON: American Society of Composers, Authors and Publishers, 30 Rockefeller Plaza, New York, N. Y.
WEST VIRGINIA: Edward A. Montgomery, 2615 Grant Bldg., Pittsburgh, Pa.
WISCONSIN: Robert A. Hess, Plankinton Bldg., Milwaukee, Wis.
WYOMING: Hugo B. Anderson, 623 Continental Bank Bldg., Salt Lake City, Utah.
EUROPEAN REPRESENTATIVE: Hugo Bryk, 27-33 Champs-Elysees, Paris (8e), France.
JAPAN: Dr. W. Plage, Taiyo Building, Tokyo, Japan.
ARGENTINA: G. Giacompol, Sante Fe 1548, Buenos Aires, Argentina.
HAWAII: Samuel M. Roeder, 1302 Humboldt Bank Bldg., San Francisco, Calif.
CUBA: Dr. Ricardo E. Viurrun, 7 O'Reilly Street, Havana, Cuba.

•

Associated Actors and Artistes of America

25 West 45th Street—Room 1604, New York City, N. Y.
Phone: BRyant 9-9237.

OFFICERS

President-Executive Director ..... Frank Gilmore
Executive Secretary ..... Paul Dullzell
1st Vice-President ..... Jean Greenfield
2nd Vice-President ..... Kenneth Thomson
Treasurer ..... Leo Fischer
Counsel ..... Paul M. Turner

FUNCTIONS

Associated Actors and Artistes of America, generally known as the Four A's, holds the international charter from American Federation of Labor covering theatrical entertainers. Actors' Equity, American Federation of Radio Artistes, Screen Actors Guild, Chorus Equity, etc., are granted charters via Four A's.

Association of National Advertisers, Inc.

330 West 42nd St., New York, N. Y.
BRyant 9-6330

OFFICERS

Chairman of Board ..... Allan T. Preyer
(Vick Chemical Co.)
Vice-Chairman ..... A. O. Buckingham
(Cluett, Peabody & Co.)
Vice-Chairman ..... Kenneth Laird
(Weco Products Co.)
Vice-Chairman ..... D. P. Smelser
(The Procter & Gamble Co.)
President ..... Paul B. West
Treasurer ..... H. W. Roden
(Johnson & Johnson)
Secretary ..... G. S. McMillan
Counsel ..... I. W. Digges

DIRECTORS

Lee H. Bristol, Bristol-Myers Company; Northrop Clarey, Standard Oil Company (N. J.); Gordon E. Cole, Cannon Mills, Inc.; P. C. Handerson, The B. F. Goodrich Co.; Wm. A. Hart, E. I. duPont de Nemours & Co., Inc.; Carleton Healy, Hiram Walker Incorporated; M. H. Leister, Sun Oil Co.; Leo Nejelski, Swift & Co.; Stuart Peabody, The Borden Company; H. M. Shackeltord, Johns-Manville Corp.; Harold B. Thomas, The Centaur Company.

FUNCTIONS

The Association of National Advertisers is composed of the leading companies of the United States who use advertising. Its function is to represent them and further their interests as buyers of advertising.

•

Association of Radio Transcription Producers of Hollywood, Inc.

Hollywood Blvd. at Cosmo, Hollywood, Calif.
HOllywood 3545

OFFICERS

Vice-President ..... Gerald King
Secretary ..... R. U. McIntosh
Treasurer ..... C. P. MacGregor
General Counsel ..... John J. Wilson

DIRECTORS

Gerald King, C. P. MacGregor, R. U. McIntosh, Walter Biddick.

FUNCTIONS

This organization is a cooperative trade association of companies active in the transcription business in Hollywood. Membership is composed of: Allied Phonograph & Record Co.; Walter Biddick Co.; Radio Recorders; Radio Transcription Co. of America, Ltd.: C. P. MacGregor Sound Studios; R. U. McIntosh & Associates; Mertens & Price, Inc.; American Record Co.; Ray Morgan & Co.; Standard Radio, Inc.; Recordings, Inc.

•

Authors' Club, Inc., Hollywood

6525 Sunset Blvd., Hollywood, Calif.
HIllside 7497

OFFICERS

President ..... Rupert Hughes
Honorary President ..... Irvin S. Cobb
Vice-President ..... Lee Shippey
Vice-President ..... Gene Lockhart
Vice-President ..... James G. Swinnerton
Secretary ..... Grover Jones
Treasurer ..... Philbrick McCoy

BOARD OF DIRECTORS

A. Gaylord Beaman, E. Manchester Boddy, Don Gilman, Richard Hageman, Harold Hurlbut, Harry Kohr, Robert Wildhack, Marek Windheim.

FUNCTIONS

The Authors Club operates the Writers' Registration Bureau, which offers a protective service on ideas of any kind. This service includes the filing of an idea in graphic form at its offices.

●

Authors' Guild

6 E. 39th St., New York, N. Y.
AShland 4-5141

OFFICERS

President.....Hendrik William van Loon
Vice-President .....Henry F. Pringle
Secretary .....Margaret Widdemer

●

Authors' League

6 E. 39th St., New York, N. Y.
AShland 4-5141

OFFICERS

President .....Marc Connelly
Vice-President .....Elmer Davis
Secretary .....Inez Haynes Irwin
Treasurer .....Luise Sillcox
Assistant Secretary.....Jocelyn Tong

FUNCTIONS

The Authors' League of America, Inc., is the national organization of authors, dramatists, screen writers and radio writers. It was organized in 1912 in order to procure adequate copyright legislation, both international and domestic; to protect the rights and property of all those who create copyrightable material of whatever kind or nature; to advise and assist all such in business matters relating to the disposal of their productions and to obtain for them prompt remuneration therefor; to disseminate information among them as to their just rights and remedies. Its membership is approximately 4,000.

●

Canadian Association of Broadcasters

Suite 1014, Metropolitan Bldg., Toronto, Ont., Canada
Elgin 5623

OFFICERS

President .....Harry Sedgwick
Vice-President.....H. Gordon Love
Secretary-Treasurer .....T. Arthur Evans

FUNCTIONS

The Canadian Association of Broadcasters is a trade association comprising 57 privately owned radio stations.

Canadian Performing Right Society, Ltd.

1003 Royal Bank Bldg., Toronto, Canada

OFFICERS

President-Managing Director...H. T. Jamieson, F.C.A.

BOARD OF DIRECTORS

Gene Buck, Louis Bernstein, John G. Paine, Ralph Hawkes, Holmes Maddock, H. T. Jamieson.

●

Catholic Actors Guild of America, Inc.

Hotel Astor, New York, N. Y.
CIrcle 6-5566

OFFICERS

President.....George M. Cohan
First Vice-President .....Gene Buck
Second Vice-President .....Hugh O'Connell
Honorary Vice-Presidents:
Walter Connolly, Bing Crosby, Dan Healy, Pat O'Brien
Chaplain.....Very Rev. Edward F. Leonard
Treasurer .....Rev. John F. White
Recording Secretary.....Brandon Peters
Counsel .....Hon. Alfred J. Talley
Historian .....Lida Kane
Executive Secretary .....George Buck
Chairman of Executive Board.....William David
Social Secretary (Theatrical).....Helen Namur
Social Secretary (Non-Theatrical)
Mrs. Cornelius J. Gallagher

FUNCTIONS

The Catholic Actors Guild is a charitable, benevolent and social organization for the people of the theatre, non-sectarian in scope.

●

Catholic Writers Guild of America, Inc.

128 W. 71st St., New York, N. Y.
ENdicott 2-0411

OFFICERS

President .....Eugene A. Colligan
1st Vice-President .....Joseph A. Durkin
2nd Vice-President .....Daniel D. Halpin
3rd Vice-President .....Joseph M. Branigan
Treasurer .....Hugh A. O'Donnell
Financial Secretary .....Edwin P. Kolroe
Recording Secretary .....Clarence E. Heller
Corresponding Secretary .....Gertrude D. Healy
Counsel .....J. Hilary Bouillon
Spiritual Director .....Rev. John B. Kelly
President Emeritus .....James J. Walsh

BOARD OF DIRECTORS

Thomas F. Woodlock, Very Rev. Fulton J. Sheen, Joseph A. Durkin, Victor Ridder, Rev. Joseph A. Daly, Hugh A. O'Donnell, Mrs. Philip A. Brennan, Rev. Eckhard Koehle, Kenton Kilmer, Richard Reid, Nicholas Farley, Katherine Edgerly, Charles H. Moran, Alex J Morrison.

●

Comite International de la Radioelectricite

39, Rue du General Foy, Paris, France
Laborde 25-28

OFFICERS

President.....M. A. de Bustamente
Honorary Presidents.....Rafael Altamira, A. Tirman, Baron Firman Van Den Bosch
Vice-President.....Barbosa de Magalhaes
Vice-President.....Commander T. A. M. Craven
Secretary-General.....Robert Homburg
Treasurer.....M. Mingaud
Secretary.....Paul de la Pradelle

FUNCTIONS

The purpose of this international organization is to codify the multiplicity of facts and interests into general regulations and to form a doctrine which can be used as a basis of international radio law. Membership is composed of all those interested in radio from the technical, social, and economic phases of business and to this end international congresses are held, a bibliography of international documents has been compiled, and a permanent board of international arbitration has been formed.

●

Educational Radio Division

United States Office of Education,
Washington, D. C.

OFFICERS

U. S. Commissioner of Education...J. W. Studebaker
Director .....William Dow Boutwell
Business Manager.....Richard Philip Herget
Production Director.....Philip H. Cohen
Musical Director .....Rudolf Schramm

FUNCTIONS

The Educational Radio Division is attempting to make educational programs interesting to a larger majority of radio listeners. In doing this it conducts experimental demonstrations in the use of radio in the service of education.

•

Federal Communications Bar Association

National Press Bldg., Washington, D. C.

OFFICERS

President.....Frank Robertson
First Vice-President.....Philip J. Hennessey, Jr.
Second Vice-President.....Paul M. Segal
Third Vice-President.....Alfred Geiger
Secretary.....John Little Page

FUNCTIONS

To promote the proper administration of the Communications Act of 1934 and related acts, to uphold the honor of practice before the Federal Communications Commission, and to encourage cordial intercourse among the practitioners.

•

Financial Advertisers' Association

231 South La Salle St., Chicago, Ill.
STate 5547

OFFICERS

President.....George O. Everett
(First Citizens Bank & Trust Co., Utica)
First Vice-President.....Stephen H. Fifield
(Barnett National Bank, Jacksonville)
Second Vice-President.....Robert J. Izant
(Central National Bank, Cleveland)
Third Vice-President.....Victor Cullin
(Mississippi Valley Trust Co., St. Louis)
Treasurer.....Fred W. Mathison
(National Security Bank, Chicago)
Executive Vice-President.....Preston E. Reed

DIRECTORS

Roy H. Booth, Jr., National Shawmut Bank, Boston; Granville Bourne, Nashville Trust Co., Nashville; Dorcas Campbell, East River Savings Bank, New York City; Merrill J. Campbell, Marine Trust Co., Buffalo; J. F. Cornelius, First National Bank, Spokane; Clifford DePuy, Northwestern Banker, Des Moines; Clyde O. Draughon, Merchants National Bank, Mobile; Lewis F. Gordon, Citizens & Southern National Bank, Atlanta; J. J. Harris, Fenner & Beane, New York City; J. Lewell Lafferty, Fort Worth; John J. McCann, Jr., National Savings Bank, Albany; William H. Neal, Wachovia Bank & Trust Co., Winston-Salem; Chester L. Price, City National Bank & Trust Co., Chicago; R. P. Purse, The Purse Co., Chattanooga; G. L. Spry, The Canada Trust Co., London, Ont.; Richard H. Wells, State-Planters Bank & Trust Co., Richmond.

FUNCTIONS

This organization is an international non-profit association of financial institutions for the betterment of public relations. In the accomplishment of this purpose, the association publishes a monthly publication in which a section is devoted to radio; permanent portfolios on the subject are maintained.

•

Institute of Radio Engineers, Inc.

330 West 42nd St., New York, N. Y.
MEdallion 3-5661

OFFICERS

President.....R. A. Heising
Secretary.....Harold P. Westman

International Broadcasting Union

(Union Internationale de Radiodiffusion)

Palais Wilson, 52, rue des Paquis, Geneva Switzerland
Telephone: 29.055

OFFICERS

Secretary General.....A. R. Burrows
Assistant Secretary General.....M. Dovaz
Director of Technical Observation Station..R. Braillard
Assistant Director of Technical
Observation Station.....Prof. E. Divoire

TECHNICAL OBSERVATION STATION

32, Avenue Lancaster, Uccle 3 Brussels, Belgium.
Phone: 44.17.97.

FUNCTIONS

The International Broadcasting Union has been founded to establish relations between the various European and non-European organizations operating broadcasting services, to centralize the study of all questions of general interest arising from the development of broadcasting, and to promote the interest of the latter in every domain. On the technical side, the Union acts as expert for the European administrations in all questions relating to the application of the European Broadcasting Convention, which determines the distribution of wavelengths among the different European broadcasting stations. Its Brussels office checks the frequencies of broadcasting stations daily. In connection with its work the Union publishes monthly bulletins for its members as well as other information in the form of booklets and books on the subject of broadcasting service.

•

International Short Wave Club

923 Vine Street, East Liverpool, Ohio
1685-R Main

OFFICERS

President & Editor.....Arthur J. Green
Board of Advisors.....Joseph B. Sessions
Board of Advisors.....Jacob N. Kleimans
Board of Advisors.....Charles H. Schroeder
European Representative.....Arthur E. Bear

BRANCH OFFICES

New York Chapter: Jacob N. Kleimans, Sec.; London (England) Chapter: Arthur E. Bear, Sec.; Manchester (England) Chapter; Officers to be elected monthly; Brighton (England) Chapter: John Bennett. Sec.; Guernsey (England) Chapter: F. S. LaPavoux, Sec.

FUNCTIONS

The purpose of the organization is to gather information, helpful hints, station schedules, etc., and send this to members of the organization. The club has members in 141 countries and possessions that act as news reporters.

•

The Lambs

130 W. 44th St., New York, N. Y.
BRyant 9-8020

OFFICERS

Shepherd.....William Gaxton
Boy.....Fred Waring
Corresponding Secretary.....Dr. M. S. Taylor
Recording Secretary.....Raymond Peck
Treasurer.....J. C. Cuppia
Librarian.....William J. Rapp

MEMBERS OF THE COUNCIL

A. O. Brown, Arthur Hurley, R. L. Hague, Kenneth Webb, J. W. Powell, Martin Gillen, James E. Meighan, Earl Benham, Hiram C. Bloomingdale, John Hayden, Al Ochs, Leonard Liebling, dward C. Lilley, John McManus, Arthur Pierson, R. H. Burnside, Frank Crumit, Percy Moore, Edwin Burke and each of the officers.

Market Research Council

444 Madison Ave., New York.
ELdorado 5-6400

OFFICERS

President ..... D. E. Robinson
(Federal Advertising Co.)
Vice-President ..... Arthur Hirose
(McCall Corp.)
Secretary-Treasurer ..... Arno H. Johnson
(J. Walter Thompson Co.)

EXECUTIVE COMMITTEE

D. E. Robinson, Arthur Hirose, Arno H. Johnson, John J. Karol (Columbia Broadcasting System), Stanley Clark (News-Week, Inc.).

•

The Masquers

1765 N. Sycamore Ave., Hollywood, Calif.
HOllywood 2164

OFFICERS

Harlequin ..... William Collier, Sr.
Pierrot ..... William B. Davidson
Ponchinello ..... Stanley Taylor
Croesus ..... Howard B. Henshey
Pantaloon ..... George Meeker
Reader ..... Frank Campeau

JESTERATE

Charles Chase, Frank McHugh, Alan Mowbray, Pat O'Brien, Berton Churchill, Benjamin W. Shipman, Lloyd Corrigan, William H. Dunn, David H. Thompson, Robert Armstrong, Joseph Cawthorn, Francis McDonald, Ernest Hilliard, Frank M. Flynn, Jed Prouty.

•

Music Publishers' Protective Association, Inc.

45 Rockefeller Plaza, New York, N. Y.
CIrcle 6-3084

OFFICERS

Chairman of the Board ..... Walter G. Douglas
President ..... E. H. Morris, Jr.
Vice-President ..... Lester Santly
Treasurer ..... Max Dreyfuss
Secretary ..... Jack Mills
General Manager ..... Harry Fox

•

National Advisory Council on Radio in Education

60 E. 42nd St., New York, N. Y.
MUrray Hill 2-3420

OFFICERS

President ..... Dr. Robert A. Millikan
Vice-President ..... Dr. Livingston Farrand
Vice-President ..... Miss Meta Glass
Vice-President ..... Dr. Robert M. Hutchins
Vice-President ..... Dr. Robert G. Sproul
Vice-President ..... Dr. Walter Dill Scott
Chairman of the Board ..... Dr. Harry W. Chase
Vice-Chairman of the Board ..... Dean James E. Russell
Treasurer ..... Col. William J. Donovan
Secretary ..... Dr. Levering Tyson

FUNCTIONS

The National Advisory Council on Radio in Education was organized to promote the more effective utilization of the art of broadcasting in the general field of American education. Its membership includes representatives in the field of education, government and industry as well as the general public.

National Association of Broadcasters

Normandy Bldg., 1627 "K" Street, N. W.,
Washington, D. C.
National 2080

OFFICERS

President ..... Neville Miller
Secretary-Treasurer ..... Edwin M. Spence
Director of Public Relations ..... Edward M. Kirby
Director of Labor Relations ..... Joseph L. Miller
Director of Research ..... Paul F. Peter
Auditor ..... Everett E. Revercomb

BOARD OF DIRECTORS

District
1—John Shepard, 3rd*, The Yankee Network
2—Harry C. Wilder, WSYR, Syracuse, N. Y.
3—Clair McCollough*, WGAL, Lancaster, Pa.
4—John A. Kennedy, WBLK, Clarksburg, W. Va.
Frank M. Russell, WRC, Washington, D. C. (director-at-large)
John Elmer, WCBM, Baltimore, Md. (director-at-large)
Edward A. Allen, WLVA, Lynchburg, Va. (director-at-large)
5—W. Walter Tison*, WFLA, Tampa, Fla.
Lambdin Kay, WSB, Atlanta, Ga. (director-at-large)
6—Edwin W. Craig, WSM, Nashville, Tenn.
7—Mark Ethridge, WHAS, Louisville, Ky.
8—John E. Fetzer, WKZO, Kalamazoo, Mich.
9—Walter J. Damm*, WTMJ, Milwaukee, Wisc.
10—John J. Gillin, Jr., WOW, Omaha, Nebr.
11—Earl H. Gammons*, WCCO, Minneapolis, Minn.
12—Herbert Hollister, KANS, Wichita, Kans.
13—O. L. Taylor*, KGNC, Amarillo, Tex.
Harold Hough, WBAP, Fort Worth, Tex. (director-at-large)
Elliott Roosevelt, Hearst Radio, Inc. (director-at-large)
14—Eugene P. O'Fallon, KFEL, Denver, Colo.
15—Ralph R. Brunton*, KJBS, San Francisco, Calif.
16—Donald W. Thornburgh, KNX, Los Angeles, Calif.
17—C. W. Myers*, KOIN, Portland, Ore.

* One-year terms.

EXECUTIVE COMMITTEE

Neville Miller, Edwin W. Craig, Mark Ethridge, Walter J. Damm, Herbert Hollister, Frank M. Russell, John Elmer.

•

National Association of Educational Broadcasters

Exec. Secy., Radio Station WILL, Univ. of Illinois, Urbana, Illinois

OFFICERS

President ..... Carl Menzer
(WSUI, Iowa City, Iowa)
Vice-President ..... Harold A. Engel
(WHA, Madison, Wisconsin)
Treasurer ..... W. I. Griffith
(WOI, Ames, Iowa)
Executive Secretary ..... Frank Schooley
(WILL, Urbana, Illinois)

FUNCTIONS

To further the interests of educational broadcasting stations and educators broadcasting over commercial stations.

•

National Association of Performing Artists

630 Fifth Ave., New York, N. Y.
CIrcle 7-8194

OFFICERS

President ..... Fred Waring
Vice-President ..... Meyer Davis
Vice-President ..... Paul Whiteman
Secretary ..... Frank Crumit
Treasurer ..... Don Voorhees
General Counsel ..... Maurice J. Speiser

BOARD OF DIRECTORS

Fred Waring, Chairman; Connie Boswell, Bing Crosby, Frank Crumit, Meyer Davis, Benny Goodman, Jascha Heifetz, Lewis James, Hal Kemp, Guy Lombardo, Grace Moore, Ray Noble, Walter O'Keefe, Josef Pasternack, Fritz Reiner, Lawrence Tibbett, Rudy Vallee, Don Voorhees, Paul Whiteman, Efrem Zimbalist.

FUNCTIONS

The object of the Association is to protect the performances of its members and the prevention of their unauthorized use primarily by broadcast stations, coin-operated machines, etc.

●

National Committee on Education by Radio

Room 308, One Madison Ave., New York, N. Y.
LExington 2-7142

OFFICERS

Chairman ..... Arthur G. Crane
(Pres., University of Wyoming)
Vice-Chairman ..... H. J. Umberger
(Dir., Division of Extension, Kansas State College)
Secretary ..... S. Howard Evans

FUNCTIONS

Acts as spokesman in radio matters for organized education. Aids and encourages non-commercial radio stations. Promotes cooperation between educators and commercial broadcasters. Acts as clearing house for information about education by radio.

●

National Industrial Advertisers Association, Inc.

100 E. Ohio St., Chicago, Ill.
Superior 8140

OFFICERS

President ..... Stanley A. Knisely
(Republic Steel Co.)
Vice-President ..... Richard P. Dodds
(Truscon Steel Co.)
Vice-President ..... Charles McDonough
(Combustion Engineering Co.)
Vice-President ..... Theodore Martin
(Hercules Powder Co.)
Vice-President ..... Herbert V. Mercready
(Magnus Chemical Co.)
Vice-President ..... William D. Murphy
(Sloan Valve Co.)
Vice-President ..... Vincent R. Young
(Canadian General Electric Co.)
Secretary-Treasurer ..... A. E. Hohman
(Blaw-Knox Co.)
Past President ..... F. O. Wyse
(Bucyrus Erie Co.)
Headquarters Secretary ..... M. R. Webster

DIRECTORS

Roy D. Baldwin, Simonds Saw & Steel Co.; A. R. Keene, Pneumatic Scale Corp.; H. D. Payne, Chicago Molded Products Co.; H. H. Simmons, Crane Co.; Howard K. Kenyon, The Armco Culvert Mfrs. Assn.; W. D. Shannon, Allis-Chalmers Mfg. Co.; H. E. Van Petten, B. F. Goodrich Co.; Paul Teas, Paul Teas, Inc.; E. C. Howell, The Carboloy Co.; H. G. Doering, Truscon Laboratories; Terry Mitchell, Frick Co.; James G. Kuester, Read Machinery Co.; James M. Jewell, Reeves Pulley Co.; P. Newton Cook, P. R. Mallory & Co.; P. C. Ritchie, Waukesha Motor Co.; E. J. Goes, The Koehring Co.; F. A. McLean, Canadian Ingersoll-Rand Co.; H. E. Van Scoyoc, Canada Cement Co.; Harry M. Carroll, General Motors Corp., Hyatt Bearings Division; Kenneth W. Bailey, Thomas A. Edison, Inc.; Robert A. Wheeler, International Nickel Co.; Edward A. Phoenix, Johns-Manville Corp.; A. O. Witt, Schramm, Inc.; R. E. Lovekin, R. E. Lovekin Corp.; K. E. Kellenberger, Union Switch & Signal Co.; D. Clinton Grove, Blaw-Knox Co.; L. C. Blake, Curtis Pneumatic Machinery Corp.; Carl B. Dietrich, Wagner Electric Corp.; R. Louis Towne, Surface Combustion Corp.; Richard C. Carr, Meldrum & Fewsmith; G. A. Brace, Ferranti Electric, Ltd.; W. H. Evans, Minneapolis-Honeywell Regulator Co.; Paul L. Callahan, Truscon Steel Co.; Ralph S. Gildart, General Fireproofing Co.; E. V. Creagh, American Chain & Cable Co.; A. J. Brady, Timken Roller Bearing Co.

FUNCTIONS

This organization is a trade association devoting its efforts exclusively to the advancement of industrial advertising and marketing technique and practice.

●

National Research Council of Japan

Imperial Academy House, Ueno Park, Tokyo, Japan
Phone: Shitaya No. 43

OFFICERS

Chairman ..... H. Nagaoka
Secretary ..... H. Honda

●

National Variety Artists, Inc.

223 W. 46th St., New York, N. Y.
COlumbus 5-2638

OFFICERS

President ..... Louis Handin
First Vice-President ..... Al Edwards
Second Vice-President ..... Ernie Van
Treasurer ..... William Marble
Executive Secretary ..... Henry Chesterfield

DIRECTORS

Joe Verdi, Wilbur Held, Charles H. Preston, Mrs. George Primrose, Rose Crouch, Harry Brooks, Joe McInerney, Lester Rose.

●

Pacific Advertising Clubs Association

645 Rialto Bldg., San Francisco, Calif.
Ex. 7337

OFFICERS

President ..... Harold R. Deal
Senior Vice-President ..... Norton W. Mogge
Secretary-Treasurer ..... Charles Rupp
Executive Secretary ..... Florence Gardner

FUNCTIONS

This association is composed of advertising clubs in twenty-three cities on the Pacific coast from Phoenix, Arizona to Vancouver, British Columbia, including Ogden, Utah and Boise, Idaho. Its work is educational, advancing the interest and function of all phases of advertising. A convention is held annually.

●

The Proprietary Association

701 Otis Bldg., 810 Eighteenth St., N. W.,
Washington, D. C.

OFFICERS

President ..... George H. Miller
(The Musterole Co.)
Honorary Vice-President ..... Dr. V. Mott Pierce
First Vice-President ..... Charles S. Beardsley
(Miles Laboratories, Inc.)
Second Vice-President ..... Robert L. Lund
(Lambert Pharmacal Co.)
Third Vice-President ..... Alvin G. Brush
(American Home Products Corp.)
Secretary-Treasurer ..... Charles P. Tyrrell
(Syracuse Medicine Co.)
General Representative ..... Dr. F. J. Cullen
Counsel ..... Rogers, Ramsay & Hoge

FUNCTIONS

This organization is a trade association devoting its efforts to the mutual cooperation and advancement of its members who are manufacturers of packaged medicines, cosmetics and proprietary articles. Its Advisory Committee on Advertising reviews copy (including radio scripts) in the association's campaign of self-regulation of the industry in an effort to improve advertising standards and practices and to assist members of the industry in the preparation of copy that will be in compliance with the requirements of the law and to further assist wherever possible with other advertising problems. Members are furnished with digests of FTC Cease and Desist orders or Stipulations issued against advertising in the proprietary field.

Radio Broadcast Engineers and Technicians, I.B.E.W. L.U. 913

Room 1611-12, 265 W. 14th St., New York, N. Y.
WAtkins 9-6709

OFFICERS

President.....Louis J. Kleinklaus
Vice-President.....Bernard J. Fuld
Recording Secretary.....Paul G. Hale

FUNCTIONS

An American Federation of Labor organization to bargain collectively for Radio Broadcast Engineers & Technicians covered by a charter from the I.B.E.W. with full autonomy in the Broadcast field for Greater New York and Vicinity. Known as—RADIO BROADCAST ENGINEERS & TECHNICIANS I.B.E.W. LOCAL 913.

●

The Radio Club of America, Inc.

11 W. 42nd St., New York, N. Y.
LOngacre 5-6622

OFFICERS

President .....John Miller
Vice-President.....F. A. Klingenschmitt
Corresponding Secretary.....Fred Miller
Recording Secretary .....Keith Henney
Treasurer .....Joseph Stantley

FUNCTIONS

Object of the club is the promotion of cooperation among those interested in scientific investigation and amateur operation in the art of radio communication.

●

Radio Manufacturers Association

1317 F Street, N. W., Washington, D. C.

OFFICERS

President.....A. S. Wells
(Wells-Gardner & Co.)
Executive Vice-President-General Manager
Bond Geddes
Vice-President.....James S. Knowlson
(Stewart-Warner Corp.)
Vice-President.....B. G. Erskine
(Hygrade Sylvania Corp.)
Vice-President.....Arthur Moss
(Solar Manufacturing Corp.)
Vice-President.....J. McWilliams Stone
(Operadio Manufacturing Co.)
Treasurer.....Leslie Muter
(The Muter Co.)
General Counsel .....John W. Van Allen
(Buffalo, N. Y.)

DIRECTORS

Ben Abrams, Emerson Radio & Phonograph Corp.; Powel Crosley, Jr., The Crosley Radio Corp.; Octave Blake, Cornell-Dubilier Electric Co.; James C. Daley, Jefferson Electric Co.; B. G. Erskine, Hygrade Sylvania Corp.; Jerome J. Kahn, Standard Transformer Corp.; James S. Knowlson, Stewart-Warner Corp.; Philip C. Lenz, Lenz Electric Manufacturing Co.; E. F. McDonald, Jr., Zenith Radio Corp.; Arthur Moss, Solar Manufacturing Corp.; H. E. Osmun, Centralab; J. McWilliams Stone, Operadio Manufacturing Co.; G. W. Thompson, Noblitt-Sparks Industries, Inc.; P. S. Billings, Belmont Radio Corp.; P. V. Galvin, Galvin Manufacturing Corp.; David Sarnoff, RCA Manufacturing Co.; David T. Schultz, Rayethon Production Corp.; James M. Skinner, Philadelphia Storage Battery Co.; Harry G. Sparks, The Sparks-Withington Co.; Ernest Alschuler, Electric Research Laboratories, Inc.; W. R. G. Baker, General Electric Co.· Roy Burlew, Ken-Rad Tube & Lamp Corp.; A. H. Gardner, Colonial Radio Corp.; George A. Scoville, Stromberg-Carlson Tel. Mfg. Co.; A. S. Wells, Wells-Gardner & Co.

Honorary Directors: Hebert H. Frost, A. Atwater Kent, Paul B. Klugh.

FUNCTIONS

RMA, non-profit and cooperative, was organized in 1924 to promote all interests of the radio industry. The organization is divided as to interests into four groups: (1) the Set; (2) Tube; (3) Parts, Cabinet, and Accessory; (4) Amplifier and Sound Equipment. RMA promotes sales, both domestic and export; opposes legislation detrimental to the interests of its members; directs industry standardization; informs members of new patents issued through a weekly bulletin; aids in improving merchandising practices; distributes credit information to members and assists members in collecting, investigation of fraud, etc.

●

Radio Manufacturers Association of Canada

159 Bay St., Toronto, Ont., Canada
Adelaide 1531

OFFICERS

President.....A. L. Brown
(Northern Electric Co.)
Executive Secretary.....K. H. Smith
Director of Engineering.....R. A. Hackbusch
(Stromberg-Carlson Tel. Mfg. Co.)

FUNCTIONS

This association is a non-profit and cooperative organization founded in 1926 to promote all interests of radio industry. To accomplish this purpose it is divided into four groups: set division; parts, cabinet and accessory division; engineering division; and service division.

●

The Radio Writers' Guild of the Authors' League of America, Inc.

6 E. 39th Street, New York, N. Y.
AShland 4-5141

OFFICERS

President .....Kenneth Webb
First Vice-President.....Knowles Entrikin
Second Vice-President.....Katharine Seymour
Third Vice-President.....Courtenay Savage
Secretary .....Lilian Lauferty
Executive Secretary.....Luise Sillcox

FUNCTIONS

The Guild is one of the Guilds of The Authors' League of America, Inc. The Guild is primarily a protective organization for writers in the radio field.

●

Society of European Stage Authors and Composers, Inc. (SESAC)

113 W. 42nd St., New York, N. Y.
BRyant 9-3223

OFFICERS

President .....Paul Heinecke

FUNCTIONS

Licensing use of copyrighted music.

●

Society of Jewish Composers, Publishers and Song Writers

152 W. 42nd St., New York, N. Y.
LOngacre 5-9124

OFFICERS

President .....Mr. Sholom Secunda
Vice-President .....Rev. Pinchus Jassinowsky
Treasurer .....Mr. Alexander Olshanetsky
Secretary .....Mr. Henry Lefkowitch

FUNCTIONS

This association licenses public performance rights of music copyrighted by its members and on which they collect royalties. Association owns approximately 95 percent of the Jewish compositions.

●

University Broadcasting Council

230 N. Michigan Ave., Chicago, Illinois
CEntral 2015

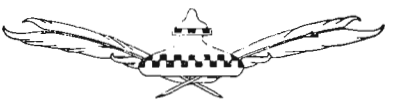
OFFICERS

Director .....Allen Miller

FUNCTIONS

The purpose of the Council is to promote education by radio. It is made of an affiliation of three universities in Chicago area; University of Chicago, Northwestern University and DePaul University; Chicago radio stations; and three major networks cooperating.

THE EDUCATIONAL AND CULTURAL SIDE



Knowledge

Knowledge is of two kinds. We know a subject ourselves or we know where we can find information upon it.

—Samuel Johnson

NATIONAL ASSOCIATION OF EDUCATIONAL BROADCASTERS

As of December 1st, 1938

Call	*Institution*	*Address*	*Director*
KFDY	S. Dak. State College	Brookings, S. D.	S. W. Jones
KFJM	Univ. of N. Dakota	Grand Forks, N. D.	D. R. Jenkins
KFKU	Univ. of Kansas	Lawrence, Kansas	Harold G. Ingham
KFUO	Concordia Theol. Semy.	St. Louis, Mo.	Herman H. Hohenstein
KOAC	Oregon State College	Corvallis, Oregon	Luke L. Roberts
KUSD	Univ. of S. Dakota	Vermillion, S. D.	R. E. Rawlins
KWSC	State College of Wash.	Pullman, Wash.	Kenneth E. Yeend
WBAA	Purdue University	Lafayette, Ind.	Gilbert D. Williams
WCAL	St. Olaf College	Northfield, Minn.	M. C. Jensen
WCAT	S. Dakota School of Mines	Rapid City, S. D.	C. M. Rowe
WESG	Cornell University	Ithaca, N. Y.	Wilmer S. Phillip
WHA	Univ. of Wisconsin	Madison, Wis.	H. B. McCarty
WHAZ	Rensselaer Poly.	Troy, New York	W. J. Williams
WILL	Univ. of Illinois	Urbana, Ill.	Jos. F. Wright
WNAD	Oklahoma University	Norman, Okla.	Homer Heck
WOI	Iowa State College	Ames, Iowa	W. I. Griffith
WOSU	Ohio State University	Columbus, Ohio	R. C. Higgy
WRUF	Univ. of Florida	Gainesville, Fla.	Garland Powell
WSAJ	Grove City College	Grove City, Pa.	H. W. Harmon
WSUI	State Univ. of Iowa	Iowa City, Iowa	Carl Menzer
WTAW	Texas A. & M. College	College Station, Tex.	Eugene P. Humbert
WIXAL	World Wide Broadcasting Foundation	Boston, Mass.	Walter S. Lemmon
	Cleveland College	Cleveland, Ohio	Gazella P. Shepherd (Mrs.)
	University of Kentucky	Lexington, Ky.	Elmer G. Sulzer
	University of Michigan	Ann Arbor, Mich.	Waldo Abbot
	Western State College	Kalamazoo, Mich.	W. G. Marburger

CONCRETE EXPERIMENTS IN EDUCATIONAL BROADCASTING

By

LYMAN BRYSON

Professor of Education, Teachers College, Columbia University;
Chairman of Columbia Broadcasting System
Adult Educational Board

WHEN the Adult Education Board of the Columbia Broadcasting System was organized in January, 1938, there was nobody who doubted that there was a large audience for education by radio. The programs of the major networks and the larger stations had already demonstrated that fact. The purpose of the new Board was to study the special uses to which the radio could be put, and to attempt to make improvements in the material offered.

After a year of experience it can confidently be said not only that the radio industry is interested in this field, but also that radio workers can devise ideas for programs that are both good broadcasting and significant education.

Experimental Programs

Four experimental programs on the Columbia Broadcasting System were set up under the direct guidance of the Adult Education Board. "Americans at Work," began in April and is still on the air after thirty-six broadcasts. This is a series of dramatic pictures of the things that men and women do, of their working lives and of their reasons for pride of workmanship. Not only the picturesque workers, such as tunnel diggers and firemen, have been presented. The labor that seems humdrum and routine has also been made vivid.

The second of the programs that is still continuing in its original form is the Sunday evening, dinner table conversation, "The People's Platform." This began in July and has been heard twenty-two times. It is entirely spontaneous and unrehearsed and is educationally important as a stimulus to the discussion of important public and social questions and also because it gives examples of vigorous but courteous differences of opinion.

Two experimental programs were given a trial period and then withdrawn so that further study might be made of their possibilities. "Living History," dramatizations with interpretative comment by eminent historians, was on the air twenty-two times. "Adventures in Science" ran through twenty-two broadcasts from May to September. It will be resumed in January in a slightly altered form.

Other Educational Examples

Nine other educational programs, not specifically guided by the Adult Education Board, have been presented for mature listeners during the year. "Of Men and Books," is a stimulating weekly review of current literature by Professor J. T. Frederick of Northwestern University. "Highways to Health," given in cooperation with the New York Academy of Medicine, and "Men Behind the Stars," in cooperation with the Hayden Planetarium, are both good examples of successful popularization. The new United States Department of Education program, "Americanse All—Immigrants All," which endeavors to depict the contributions of various nationalities to American culture, is of great social value. On "Europe Calling" world leaders have been brought to the microphone to discuss international affairs. "The Farmer Takes the Mike" has brought together farmers and agricultural leaders to discuss their mutual problems. "Headlines and Bylines," the Sunday evening series of news comment, has presented analyses of the news of the day and the week, and the "Columbia Workshop" has continued its noteworthy experiments in the production of dramas written specifically for radio. "Men Against Death," dramatizations of the books of Dr. Paul De Kruif, has pictured the battleground of medical research. This list does not include the

regular broadcasts of the "American School of the Air," designed for children but listened to by great numbers of adults also.

Current Opportunities

The best comment on the present state of education on the air is given by the citation of these concrete experiments which have made their way in competition with broadcast entertainment. The fact that they are listened to by millions shows the educational opportunity that broadcasters have before them. They will all be changed from time to time, improved or supplanted by other and better ideas. In education, as in all other activities of the radio, what is being done today is only a promise of what can be done tomorrow.

RADIO SCRIPT EXCHANGE OF THE AMERICAN RED CROSS

In the spring of 1938, the American Red Cross announced a catalog of 46 educational radio scripts in its exchange at National Headquarters, Washington, D. C. This catalog was offered to users of the Educational Radio Script Exchange of the United States Department of the Interior, Office of Education, and many took advantage of the opportunity to obtain the Red Cross scripts which have a wide usefulness to schools, colleges, drama groups and social agencies.

Now the Red Cross, as of September 15, has issued a supplement to the main catalog, listing 13 additional radio plays. All have been tested in actual broadcast.

Those desiring copies of the supplement, which contains order blanks to be used in securing scripts, should write for "Supplement to ARC 1113."

For the main catalog, request "ARC 1113." There is no charge for catalog, supplement or scripts. Address all communications to:

Public Information Service American Red Cross Washington, D. C.

CBS Establishes First Radio Institute For Teachers

A Radio Institute for Teachers, designed to show educators how educational programs can be utilized as an aid to classroom teaching, was recently established by the Columbia Broadcasting System in connection with its "American School of the Air."

This is the first permanent body ever organized to demonstrate to educators the possibilities of radio in the schoolroom. The Institute started to function with the opening of the tenth season of the School Monday, October 10.

This Institute was formed as the result of the realization that one of the greatest barriers to a wider adoption of "School of the Air" broadcasts by teachers throughout the country was the lack of training in the utilization of these programs. The teachers who have used them are all self trained. These self trained experts will be invited to participate in the panel discussions that precede the audience discussion.

Two experiments, each hailed as a complete success by teachers, have been made along lines the Institute will use. The first was at Atlantic City last February where 3,000 superintendents of schools watched the demonstration, and the other was in New York in June when the National Education Association convention was in progress.

The NEA, with a membership of 750,000 teachers, and the Progressive Education Association, with 10,000 more, collaborated with "School of the Air" officials in the organization of the Institute.

Dr. William Bagley, of Columbia University, Chairman of the Board of Consultants of the "American School of the Air," was the chairman at the first meeting, October 10. A week later, October 17, Sterling Fisher, CBS's Director of Education and Talks, took over the chair. William N. Robson, who has gained nation-wide notice with his "Columbia Workshop" dramatizations, directed the dramatized portions of "Frontiers of Democracy."

Different groups of teachers and students are invited for the classroom discussions which follow the broadcasts each Monday.

☆ Non-Commercial ☆ Educational Broadcast Stations

"The Commission regards the establishment of the Non-Commercial Educational Broadcast Stations," says Chairman McNinch, "as an important step in line with its established policy of encouraging education by radio, and it expresses the hope that the radio facilities now made available solely for this purpose will be used to the fullest extent for the general advancement of education."

After enactment of Section 307 (c) of the Communications Act of 1934, and in accordance with the requirements thereof, the Commission conducted extensive hearings on the question of the advisability of making a definite allocation of broadcast facilities to non-profit making activities. Upon the conclusion of these hearings, a report was made to the Congress on January 22, 1935. The Commission recommended therein "that at this time no fixed percentages of radio broadcast facilities be allocated by statute to particular types or kinds of non-profit radio programs, or to persons identified with particular types or kinds of non-profit activities." This report further proposed that a conference be held in Washington to perfect plans for closer cooperation between broadcasters and non-profit organizations.

A conference was held in Washington May 15, 1935. As a result of this conference the Federal Radio Education Committee was created by the Communications Commission in cooperation with other Governmental departments. Dr. John W. Studebaker, United States Commissioner of Education, accepted Chairmanship of the Committee. An outline of the work of the Federal Radio Education Committee headed by Doctor Studebaker will be found in the Commission's Third Annual Report to the Congress.

Thereafter and on June 15, 1936, there was held an informal engineering conference in Washington, for the purpose of discussing the allocation of radio facilities for all purposes. At this conference Doctor Studebaker presented a statement outlining the need for the establishment of a class of broadcast stations to be devoted to the advancement of education in connection with the country's school system.

As a result of the foregoing, the Commission announced that it had established a class of high frequency broadcast stations to be known as "non-commercial educational broadcast stations," to be licensed to organized non-profit educational agencies for the purpose of transmitting educational programs directed to specific schools in the system for use in connection with the regular courses as well as for routine and administrative material pertaining to the school system. This class of stations is also authorized to transmit educational and entertainment programs to the general public. In accordance with the rules governing these stations, the broadcast service to be rendered must be primarily of an educational character and no sponsored or commercial programs of any character may be broadcast.

Twenty-five channels in the ultra-high frequency band between 41,000 and 42,000 kilocycles are allocated for assignment to non-commercial educational broadcast stations. These channels will provide adequate facilities for service to every city and town. The power of the stations is 100 watts to 1000 watts. Thus satisfactory signals can be delivered to cities and small counties under favorable conditions. However, due to the propagation characteristics of the frequency, state wide coverage cannot be expected except in cases of the smallest states and under most favorable conditions. Rapid technical progress is being made in the development of the service on the ultra-high frequencies and it is reasonable to expect that in the near future there will be a marked improvement in the coverage obtainable.

EDUCATION VIA RADIO

By

Professor KENNETH L. BARTLETT
Syracuse University

With a Foreword by
DR. JOHN W. STUDEBAKER
U. S. Commissioner of Education

Courtesy of
THE NATIONAL ASSOCIATION OF BROADCASTERS

FOREWORD

EVERY radio station should be the voice *of* the community as well as a voice directed *at* the community. The basis for that statement is to be found in the instruction of the law. And because this voice is inevitably a chorus composed of the voices of schools and charities, colleges and clubs, public services and sports, leaders and laymen; a chorus swelling with all the magnificent variety of free American life, I welcome this helpful working guide. I am sure that it will aid the many voices of our communities to become clearer and more understandable to listeners.

To educators and other citizens to whom it is addressed I say: be humble in the presence of a microphone. We must begin in the kindergarten of a long process of training and experience to master the new, difficult art of radio.

To radio station staff members I say be patient and helpful with the public servants, educators and citizens who come to you. Yours is the task of teacher and counselor.

As chairman of the Federal Radio Education Committee it has been my duty and pleasure to work for closer cooperation between broadcasters and educators. Therefore I am glad to recommend what follows as another practical guide to the goal toward which we all march side by side; that radio in the United States, under the present general conception of the "American system of broadcasting," shall ever broaden its service in "the public interest, convenience and necessity."

J. W. STUDEBAKER,
United States Commissioner of Education.

Importance of American Radio Broadcasting

To some, the importance of broadcasting in the United States is best illustrated by the size of the radio audience. Reliable figures indicate that twenty-seven million families own approximately thirty-seven million radio receivers; that approximately seventy-five per cent of these are "on" every day; and that the average set operates 5.1 hours daily. A radio set has almost become a twentieth century necessity.

To others, and greater in significance than the mere size of the audience, is the fact that radio here, in contrast to radio in other nations, is *free*—free in the sense that, apart from the laws of libel and slander, and in matters of good taste, the individual can say what he pleases without government interference; free in that there is ample opportunity for the exchange of opposite ideas; free, too, in the sense that most sections of the country offer daily service, 18 hours a day, from one or more stations and this without tax on the listener. This bringing of men and events into the home by stations offering almost continuous service puts a greater premium on creative and critical effort than any single development since the invention of the printing press.

To still others, the importance of radio is not so much in the size of its audience, or even in the freedom of the people who use it, as in the mere nebulous factor of the response people have to what they hear. Here more than elsewhere is where the educative factor occurs. Thorough studies of the effect programs have on listeners are now being completed. Until those in charge have made their reports we must depend upon existing data.

We know, for example, that radio has become our favorite recreation. that it has "psychologically cemented" the family circle at a time when an evening at home for the whole family was almost unheard of; that most people would rather hear a speech than read one; that it is a source of discussion at the family table; that it has given the public school an unusual and striking supplementary teaching device and that through education-on-the-air the desire of all educators to have the educational process continued long after school days are over has been enhanced. It has changed our social environment, conditioned behavior, and has become a powerful factor in moulding public opinion. We know, too, that irrespective of whether educational groups use radio, radio will continue to have educational effect.

While radio has gone far in nineteen years, its educational programs have frequently lagged. This was partly because the medium was new and there were few interested in trial-and-error testing, and partly because educators and civic groups assumed that the old forms of presentation would be sufficient. Now we know that the best results are obtained when educators and civic groups combine their knowledge, background and traditions with the knowledge and background of the broadcaster. The radio station is aware that if its programs are to reflect local as well as national interests; to present all sides and not just one; to disseminate worthwhile information and not just entertainment; to mirror present tastes and develop others, it must work with the school and other civic groups. Progressive educators, too, are increasingly aware that if we are to touch those fifty million Americans whose education does not extend beyond the eighth grade and widen the influence of thought, they must take advantage of the audience radio can give.

In short, if radio is to serve, there must not only be a mutual understanding between the two, but we must recognize the general importance of radio in the past and present and its educational importance in the future.

What Educational and Public Service Organizations Can Contribute to Radio

One of the most obvious things that educational and public service organizations can contribute to radio is to offer worthwhile material that will reflect local and sectional interests. Every school and civic organization has material that is news-worthy and significant. The problem is to see it.

An individual who spends a lifetime at an occupation, acquires a knowledge and a philosophy that is worth listening to. Students digging up this information and adapting it to the air, not only learn the technique of broadcasting — which might be incidental to the educational process—but, more important, begin the process of integrating many different

classroom subjects. Persons in charge of local Public Health Units, the Parent-Teachers' Association, Children's organizations, Y. W. and Y. M. C. A.'s, Community Chest Agencies, the Red Cross, Missions, Libraries, and all kinds of social service agencies have worthwhile information that is directly applicable to the community or district. Colleges and universities might offer educational radio fare at a more advanced level, such as the interpretation of world and local events, round-tables or forums for the discussion of public issues, explanation of the new things in science. Programs of this kind help locate talent and give it an opportunity it might not otherwise have. Such contributions, well handled, not only have intrinsic merit, but go far in giving stations a more varied offering. It helps balance serious entertainment with light entertainment; local interests with national offerings; amateur performance with professional. In fact, it makes local groups articulate and does for radio the things the weekly newspaper does for Journalism and the Little Theater does for Drama.

Educational groups might provide "Follow-ups" for their own and national programs. The educational program is only the start of the process. The effect occurs in the home and unless some method is provided for individuals to "follow-up" what they have heard, much of what has been done may be lost. Making books available in local libraries, or periodically arranging discussion groups to carry on where the programs left off, etc., are obviously things that can better be done by schools and organizations acting within their own community.

In many ways, the most important contribution the Educational Group can make to radio is to pave the way for the broader acceptance of the educational program. The President of the National Association of Broadcasters, Mr. Neville Miller, has said:

> "Radio is, after all, a mirror of the genius, of the talent and the thought of the American people. Its level can be no higher than the general level of education and culture in the country. It will never be any better as an educational medium than the educators who use it; it will never be any better as a vehicle of drama than the playwrights and actors of the theater; and it will never be any more intelligent as a forum on public affairs than the people who do our thinking on public affairs.
>
> "If we would increase and widen the cultural and educational effectiveness of radio, more than the allotment of time and the development of new program techniques are called for. We must, through the spread of education to all sections of our population, pave the way for the acceptance of such programs. Let me make the point clear: radio will continue to do its part to elevate the level of American taste; to popularize things cultural; to bring the questions of the day straight and instantly to the American fireside, *but radio cannot do the job alone.*"

It should be remembered that radio programs, by and large, have not generally had the advantage of *professional criticism.* Literature of all types and kinds has had its professional critics and classroom criticism. Standards have been developed. In radio this has not yet occurred on a broad and significant scale and the result has been that listeners seldom take the trouble to evaluate a program. It is either "good" or "bad" and dismissed as such. Every program is not built for the same audience. Purposes and types differ and until a listener has evaluated a program on the basis of the audience for whom it was intended, and the type of thing it purports to be, he has not judged it wisely. An occasional discussion of the better programs in the school, radio discussions by dramatic and literary groups and Parent-Teachers Associations and the like, is an effective method in developing standards and appreciation for the better programs. The providing of worthwhile material, educational "follow-ups" of national programs, locating talent and giving experience that might otherwise be lost, making schedules reflect civic interests, and paving the way for the broader acceptance of educational programs are only a few of the things that education and civic groups can contribute to the radio station.

What Can Radio Do for Education

The radio station offers to the educator its facilities and its audience, and in so doing, widens the scope of the educational institution's work. It breaks the barrier of the classroom and presents an auditorium of great though indeterminate size. It enables the school and civic group to have an opportunity to enter the home and present its material there.

Licensed to serve public interest, it makes an effort to give the public what it wants. In offering its facilities it attempts only to protect its audience from programs that are not interesting to the audience for whom they are intended. Built up over a long period of time, and

from approximately fifteen thousand programs a year that presumably give the station a certain personality, that audience is the most valuable thing the station possesses. Without it the station could not exist, and so it is to be expected that the station will do everything in its power to protect that audience. This means offering its facilities to the worthy and rejecting those programs that are of questionable taste or those not carefully prepared.

In addition to the necessary equipment, stations also have specialists with years of radio programming experience who assist in putting the program on the air. These specialists are available for the asking. They will meet with your committee, advise, and take your program through rehearsal. They are the station's representatives in all matters of detail.

The Problem of Adapting Educational Material to the Air

Both the educational institution and the civic organization on the one hand and the radio station on the other have something to offer in making education a more important force in radio—and vice versa!

For those anxious to do something soon, a conference with the station will provide the necessary details that a sketchy outline of this nature cannot do. For those interested in investigating the possibilities of Education-by-Radio further, the many books in the field, college courses, plus experience in high school and university Radio-Workshops will provide the necessary trial-and-error demonstration.

One thing must not be lost sight of, however: present-day American radio, to the listener at least, is an entertainment medium. This does not necessarily mean that it is not educational to the listener. *It means that education must be interesting, provocative, and, therefore, though incidentally, entertaining. One significant difference between the sponsor's program of education is that the former is entertainment for entertainment's sake with the education an unnecessary, though desirable attribute, while the latter is primarily education with entertainment a necessary, though secondary attribute. Both must be entertaining. Both need not be educational. In that sense, radio is still to the listener an entertainment medium and programs should be planned with that in mind.*

For Those Who Would Inspire A Richer Community Life

THOSE who would inspire a richer community life; those who would develop a deeper understanding of the social and civic problems confronting their neighbors; those who would extend the frontiers of knowledge beyond the class room—the broadcasters of America welcome you to our studios and place in your hands the above that you may the better accomplish these worthy objectives through radio.

For in American Radio we have something beyond the opportunity of listening—*we have also the opportunity to be heard.*

If there were no other distinction between the American System of Broadcasting and that of other lands, this one distinction in itself is sufficiently significant. It is the distinguishing mark of our democracy, one which American Radio vigorously and wholesomely reflects.

Our thanks go out to Professor Bartlett for his very capable work, so that educational and public service institutions in hundreds of communities throughout the nation might have the technical information and assistance with which to achieve broader results from radio.

NEVILLE MILLER, *President,*
National Association of Broadcasters.

COLLEGES AND UNIVERSITIES IN THE UNITED STATES OFFERING COURSES IN RADIO BROADCASTING

As of January 1st, 1939

With Names of Instructors and Credit Hours
Compiled by the Educational Radio Script Exchange, Radio Division, Office of Education, Washington, D. C.

On September 30, 1938, the Educational Radio Script Exchange, of the Office of Education, mailed a questionnaire to the 1,686 colleges and universities in the United States asking for information regarding specialized courses in the field of radio. Replies were received from 916 institutions. A total of 310 institutions reported at least one regular course in radio. In addition, 210 colleges and universities reported extra-curricular activities involving some phase of radio, but such reports were not included in this summary. The survey also indicated that 237 colleges and universities were broadcasting over the facilities of 272 radio stations.

The following code should be used to interpret the listings in this survey, the courses being indicated by letters as follows: (A) General Course in Radio, (B) Radio Program Planning and Production, (C) Education by Radio, (D) Radio Script Writing, (E) Radio Announcing, (F) Radio Speech, (G) Radio Dramatics, (H) Radio Music, (I) Radio Station Management, (J) Radio Advertising, (K) Technical Courses in Radio, (L) Television, and (M) Radio Law.

Whenever credit hours were reported for any course, the number of hours will be found bracketed with the identifying letter of that particular course. For example, (D-2) (E) indicates a course in Radio Script Writing for which 2 credit hours are given and a course in Radio Announcing for which no credit hours were reported. The symbol (F and G-4) signifies that a course involving both Radio Speech and Radio Dramatics is offered with 4 hours of credit given. The symbol (K-varies) means that technical courses in radio are available for which credit hours vary. Included with each listing will be found the name of an instructor who is in charge of radio instruction. These persons should be consulted for further information.

College	*In Charge of Radio*
Abilene Christian College, Abilene, Tex. (D & F-3)	Mrs. A. B. Morris
Akron, University of, Akron, Ohio. (F-3)	O. A. Hitchcock
Alabama University of, University, Ala. (A) (D) (E) (F) (K)	Clyde B. Crawley
Alabama College, Montevallo, Ala. (A-2)	Nora Landmark
Alabama Polytechnic Institute, Auburn, Ala. (A-2) (K-varies)	Woodrow Darling
Adelphi College, Garden City, N. Y. (A)	S. E. Frost, Jr.
Alliance Technical Institute, Cambridge Springs, Pa. (A-3)	F. Kowalko
Antioch College, Yellow Springs, Ohio. (K-6)	C. D. Barbulesco
Arizona, University of, Tucson, Ariz. (K)	R. G. Picard
Arkansas, University of, Fayetteville, Ark. (K-3)	C. W. Janes
Armour Institute, 3300 Federal Street, Chicago, Ill. (K-4)	A. W. Sear
Asheville Normal and Teachers College, Asheville, N. C. (A)	Hazel Gebbany
Augustana College, Rock Island, Ill. (A-3) (G)	Theodor Le Vander
Augustana College, Sioux Falls, S. Dak. (F) (G)	Hugo A. Carlson
Bard College, Annandale-on-Hudson, N. Y. (K & L-8)	Harold Hughes
Baylor University, Waco, Tex. (A-3 1/3)	Sara Lowrey

College	In Charge of Radio
Berry College, Mt. Berry, Ga. (K-2)	L. E. McAllister
Birmingham Southern College, Birmingham, Ala. (A-3)	Dr. M. F. Evans
Blue Ridge College, New Windsor, Md. (G)	Mme. Barry-Orlova
Bob Jones College, Cleveland, Tenn. (B-2)	Elizabeth Adams
Boston College, Chestnut Hill, Mass. (K-8)	Rev. John A. Tobin
Boston University College of Business Administration, Boston, Mass. (B-2) (D-2) (J-2)	Ralph L. Rogers
Bradley Polytechnic Institute, Peoria, Ill. (A-3) (F-2) (K-12 (I-12)	F. E. Duce
Branch Agricultural College, Cedar City, Utah. (E-5)	R. L. Halverson
Brigham Young University, Provo, Utah. (A) (D) (G) (I) (J)	Dr. T. Earl Pardoe
Bucknell University, Lewisburg, Pa. (K-3)	George A. Irland
Butler University, Indianapolis, Ind. (F-3) (K-6)	L. Gray Burdin
California, University of, Extension Division, Los Angeles, Calif. (B) (D) (G)	Margaret Wotten
California, Institute of Technology, Pasadena, Calif. (K-12)	S. S. Mackeown
California Polytechnic Junior College, San Luis Obispo, Calif. (A-3) (H-2) (K-6)	B. G. Eaton
Canisius College, Buffalo, N. Y. (A-2) (D-2)	Charles E. Brady
Capital University, Columbus, Ohio. (B-3)	Prof. W. C. Craig
Carnegie Institute of Technology, Pittsburgh, Pa. (K)	Charles Williamson
Carroll College, Waukesha, Wis. (F-3) (K)	V. P. Batha
Carson Newman College, Jefferson City, Tenn. (A-3)	Alex Chavis
Case School of Applied Science, Cleveland, Ohio. (K-3)	J. R. Martin
Catholic University, Washington, D. C. (D-1) (E-1) (G-1)	Rev. G. V. Hartke
C. C. N. Y. School of Technology, New York, N. Y. (A-3) (K-3)	Alexander H. Wing, Jr.
Centenary Junior College, Hackettstown, N. J. (A-1)	Ellen C. Crouch
Chicago, University of, Chicago, Ill. (A-3 1/3) (D-7) (F-3 1/3)	Charles Newton
Chicago Musical College, Chicago, Ill. (A) (B) (C) (D) (E) (G) (H)	Belle Forbes Cutter
Chicago School of Expression and Dramatic Art, Chicago, Ill. (A) (B) (D) (E) (G)	Helen C. Espie
Chicago Teachers College, Chicago, Ill. (C-2)	Luella Hoskins
Cincinnati, University of, Cincinnati, Ohio. (K-varies) (L-2)	W. C. Osterbrock
Cincinnati College of Music, Cincinnati, Ohio. (A-4) (B-4) (G) (H)	Uberto Neely
Cincinnati Conservatory of Music, Cincinnati, Ohio. (A) (D) (G)	Hubert Kockritz
Citadel, The, Charleston, S. C. (A-6)	N. F. Smith
Clarkston College, Potsdam, N. Y. (K-varies)	J. L. Stiles
Clemson College, Clemson, S. C. (K-2)	Prof. A. B. Credle
Coe College, Cedar Rapids, Iowa. (A-2) (F)	J. Dale Welsch
Colgate University, Hamilton, N. Y. (A-3)	C. L. Henshaw
College of St. Scholastica, Duluth, Minn. (A-1)	Sister Bernard
College of St. Teresa, Winona, Minn. (B) (G)	Sister M. Marcelline
College of Wooster, Wooster, Ohio. (A-4)	Earl W. Ford
Colorado College, Colorado Springs, Colo. (K-3)	Howard Olson
Colorado School of Mines, Golden, Colo. (K-6)	Myron G. Pawley, Raymond Dickinson
Colorado State College, Fort Collins, Colo. (A-3)	Frank P. Goeder, Ph.D.
Colorado State College of Education, Greeley, Colo. (A-4)	F. L. Herman
Columbia College of Drama and Radio, Chicago, Ill. (A) (B-2) (C) (D-2) (E-2) (F-2) (G-4)	Norman Alexandroff
Columbia University, New York, N. Y. (A-2) (D-3)	James C. Egbert
Compton Junior College, Compton, Calif. (K-5)	Jesse E. Hathaway
Connecticut State College, Storrs, Conn. (K-3)	Dr. R. B. Corbett
Cornell College, Mount Vernon, Iowa. (A-3) (B-3)	Albert Johnson
Cornell University, Ithaca, N. Y. (A-2) (K-4)	Chas. A. Taylor
Cornish School, The, Seattle, Wash. (A-3) (B-2) (D-2) (E-2) (F-2) (G-3) (J-3)	Donald MacLean
Creighton University, Omaha, Nebr. (B-3) (D-3)	Edwin Puls
Cummock Junior College, Los Angeles, Calif. (F)	Josephine Dillon
Dayton, University of, Dayton, Ohio. (A-3)	Prof. Louis Rose
Denison University, Granville, Ohio. (A-3)	Richard H. Howe
Denver, University of (School of Commerce), Denver, Colo. (B-2½) (D-2½) (F-2½)	Roscoe K. Stockton
Detroit, University of, Detroit, Mich. (A-2) (F)	E. A. McFaul
Doane College, Crete, Nebr. (A-2) (B) (G)	Dr. E. Russell Wightman
Drake University, Des Moines, Iowa (A-2) (B-2) (D-5) (G-2) (I-3) (J-2) Note: Drake offers a major in radio.	Edwin G. Barrett
Drexel Institute of Technology, Philadelphia, Pa. (K)	R. T. Zern
Dubuque, University of, Dubuque, Iowa. (A-4) (K-4)	R. G. Wilson
Duke University, Durham, N. C. (K-3)	W. J. Seeley
Duquesne University, Duquesne, Pa. (A-3)	Madeleine S. Foust
East Central Teachers College, Ada, Okla. (A-2)	D. J. Nabors
Eastern Washington College of Education, Cheney, Wash. (K-2)	James S. Lane

College	In Charge of Radio
Elmira College, Elmira, N. Y. (F)	Geraldine Quinlon
Emerson College, Boston, Mass. (A) (D) (E) (G)	Arthur F. Edes
Emory University, Emory University, Ga. (A-5) (K)	J. B. Peebles
Emporia, College of, Emporia, Kans. (A-4)	R. F. Miller
Florida, University of, Gainesville, Fla. (F-3) (K-varies)	Garland Powell
Florida Agricultural and Mechanical, Tallahassee, Fla. (A-2) (K-4)	H. R. Orr
Florida Southern College, Lakeland, Fla. (A-1)	Miss Alma Johnson
Fort Hays Kansas State College, Hays, Kans. (A-3)	Harvey A. Zinszer
Frances Shimer College, Mount Carroll, Ill. (D-2) (G-3)	George E. Hoffman
Franklin University, YMCA, Columbus, Ohio. (A) (K)	E. E. Dysart
Friends University, Wichita, Kans. (B-2) (E-1) (G) (K-5)	Irene Vickers Baker
George Peabody Teachers College, Nashville, Tenn. (E-2)	A. L. Crabb
George Washington University, Washington, D. C. (A-3) (K)	Prof. W. Hayes Yeafer
Georgetown University, Washington, D. C. (A) (M-2)	P. J. Donovan
Georgia, University of, Athens, Ga. (D & E-5)	Prof. Edward C. Crouse
Georgia School of Technology, Atlanta, Ga. (A-3) (D & EF-3) (K-3)	Irving H. Gerks
Glendale Junior College, Glendale, Calif. (A-3) (F-2)	B. L. Griffing
Gonzaga University, Spokane, Wash. (K-4)	Richard A. Brown
Grove City College, Grove City, Pa. (A-4) (G) (H) (K-4)	Prof. R. A. Walters
Harding College, Searcy, Ark. (A-5) (H-3)	Leonard Kirk
Hardin-Simmons University, Abilene, Tex. (F-3)	Katherine Boyd
Harvard University, Cambridge, Mass. (K)	Dr. R. W. Hickman
Hastings College, Hastings, Nebr. (A-2) (F)	Charles J. Thurmond
Haverford College, Haverford, Pa. (A-3) (K-3)	J. D. Elder
Houston, University of, Houston, Tex. (K-3½)	Harvey W. Harris
Howard College, Birmingham, Ala. (K-2)	Paul D. Bales
Idaho, University of, Moscow, Idaho. (A-2) (K-varies)	Prof. R. H. Hull
Illinois, University of, Urbana, Ill. (K)	Josef F. Wright
Illinois State Normal University, Normal, Ill. (F-2)	Harvey F. Admire
Illinois Wesleyan University, Bloomington, Ill. (A-4)	Wilson B. Paul
Indiana State Teachers College, Terre Haute, Ind. (B-4) (D-4) (F)	Dr. Clarence M. Morgan
Indiana University, Bloomington, Ind. (A-3) (B-3) (C-3) (D-3)	Dr. Lee Norvelle
Iowa, State University of, Iowa City, Iowa. (A-3) (F-3) (G-3) (J-2) (K-3) (L-2)	Bruce E. Mahan
Iowa State College, Ames, Iowa. (D-3) (F-3) (K-4) (L-4)	W. L. Griffith
Iowa Wesleyan College, Mount Pleasant, Iowa. (A-3)	Roger M. Morrow
Ithaca College, Ithaca, N. Y. (D) (G-2)	Dr. Winn F. Zeller
John B. Stetson University, Le Land, Fla. (G-6) (H-6) (K-6)	Dr. Robert I. Allen
John Brown University, Siloam Springs, Ark. (A-3) (B-3) (I-3) (K-varies) (M-2)	Harold Fristoe
John Carroll University, Cleveland, Ohio. (B-3) (D-3) (E-3) (G-3)	Wm. A. D. Millson
Johns Hopkins University, Homewood, Baltimore, Md. (K-3)	Ferdinand Hamburger, Jr.
Juilliard School of Music, 130 Claremont Avenue, New York, N. Y. (A)	Robert A. Simon
Kanawha Junior College, Charleston, W. Va. (A-2)	Ann Ferguson
Kansas, University of, Lawrence, Kans. (G-2)	Harold G. Ingham
Kansas State College, Manhattan, Kans. (A-3) (B-2) (D-2) (F-2) (H-2) (J-3) (K-4)	H. B. Summers
Kansas State Teachers College, Emporia, Kans. (A-2)	S. Winston Cram
Kent State University, Kent, Ohio. (A-3)	G. Harry Wright
Kentucky, University of, Lexington, Ky. (K-3)	Elmer G. Sulzer
Lafayette College, Easton, Pa. (A-3) (K & L-6)	C. H. Page
La Grange College, La Grange, Ga. (F-3)	Mae Kirkland
Lamon School of Music, Denver, Colo. (A-2) (B-2) (E) (G-2)	James Lehman
Lehigh University, Bethlehem, Pa. (K-varies)	Assoc. Prof. H. C. Knutson
Lenoir Rhyne College, Hickory, N. C. (A-3)	Karl Z. Morgan
Lincoln University, Jefferson City, Mo. (A)	Albert A. Kildare
Little Rock Junior College, Little Rock, Ark. (G) (H-1)	Dell Park McDermott
Long Beach Junior College, Long Beach, Calif. (F-6)	Miss Edith Hitchcock
Louisiana Polytechnic Institute, Ruston, La. (C) (K)	D. R. Armstrong
Louisiana State University, University, La. (A-3) (D-3) (F-3) (I-3) (K-3)	Ralph W. Steetle
Louisville Municipal College, Louisville, Ky. (K-4)	Donald A. Edward
Loyola University, Los Angeles, Calif. (A-2) (D-2) (G-1) (J-1)	Martin H. Work
McMurray College, Abilene, Tex. (B-3)	Harold G. Burman
Mac Phail School of Music, Minneapolis, Minn. (A & F-4) (H-4)	Don Tuttle
Macalester College, St. Paul, Minn. (K-4)	R. B. Hastings
Madison College, Madison College, Tenn. (A-4) (K-4)	Bayard D. Goodge
Maine, University of, Orone, Maine. (F-2) (K-2)	W. J. Creamer
Manhattan College, New York, N. Y. (K-6)	J. Francis Reintjes

College	In Charge of Radio
Marin Junior College, Kentfield, Calif. (K-2)	C. E. Cherry
Marjorie Webster School, The, Rock Creek Park, Washington, D. C. (B-3) (D-3) (G-3)	Miss Florence McCracken
Marquette University, Milwaukee, Wis. (A-2) (F-2) (K-3)	Wm. R. Duffey
Marshall College, Huntington, W. Va. (A-3)	Dr. Frank A. Gilbert
Maryland, University of, College Park, Md. (A-2)	Dr. Ray Ehrensberger
Massachusetts Institute of Technology, Cambridge, Mass. (K-varies)	Prof. Edward L. Bowles
Massachusetts State College, Amherst, Mass. (K)	Francis C. Pray
Miami University, Oxford, Ohio. (D-3) (F) (G)	A. Loren Gates
Michigan, University of, Ann Arbor, Mich. (A-2) (C-2) (D-2) (E) (G-2) (J-4) (K-12) (L-2).	Prof. Waldo Abbott
Michigan College of Mining and Technology, Houghton, Mich. (K-6) (I-3) (L)	G. W. Swenson
Michigan State College, East Lansing, Mich. (K-2) (E-3) (F-5) (G-3) (K-2)	Robert J. Coleman
Milton College, Milton, Wis. (K-4)	C. F. Oakley
Minnesota, University of, Minneapolis, Minn. (F-3) (K-3)	E. W. Ziebarth
Mississippi College, Clinton, Miss. (A-3)	Prof. Henry A. Carlock
Mississippi State College, State College, Miss. (A-3) (M-3) (K-6)	Horace M. Trent
Missouri, University of, Columbia, Mo. (A-4) (K-4)	Prof. C. M. Wallis
Missouri Valley College, Marshall, Mo. (K-3)	Dwight M. Pasek
Modesto Junior College, Modesto, Calif. (A-2)	Leonard I. Bartlett
Montana State College, Bozeman, Mont. (K-3)	Prof. C. F. Bowman
Moore School of Electrical Engineering, Philadelphia, Pa. (B-2) (D & F-4)	Knox McIlwain
Moravian College, Bethlehem, Pa. (A-3)	Cyril N. Hoyler
Mt. Holyoke College, South Hadley, Mass. (K & L-3)	Rogers D. Rusk
Mount Mary College, Milwaukee, Wis. (A-1) (B-2) (F)	S. M. Louis Downey
Muhlenburg College, Allentown, Pa. (A-4) (K)	Dr. Carl W. Boyer
Mundelein College, Chicago, Ill. (D-2)	Miss Louise Litten
Murray State Teachers College, Murray, Ky. (K-4)	Charles Hire
Muskingum College, New Concord, Ohio. (A-2)	W. H. Ewing
National University, Washington, D. C. (M-4)	Howard S. LeRoy
Nebraska, University of, Lincoln, Nebr. (K-4)	Ferris W. Norris
Nebraska State Teachers College, Wayne, Nebr. (A-4)	Prof. J. E. Brock
Nebraska Wesleyan University, Lincoln, Nebr. (A-3) (B-3)	J. C. Jensen
Nevada, University of, Reno, Nev. (K-3)	Assoc. Prof. I. J. Sandorf
New Mexico, University of, Albuquerque, N. Mex. (B-3) (D) (G-3) (H-3) (K-4)	Dr. Herbert L. Jones
New River State College, Montgomery, W. Va. (A-3 (L-3) (M-3)	Ritter F. Maxwell
New Rochelle, College of, New Rochelle, N. Y. (D-4)	Margaret C. Richard
N. Y. State School of Agriculture, Alfred, N. Y. (K-6)	G. F. Craig
New York University, New York, N. Y. (A) (B) (D) (I) (K) (L)	Paul A. McGhee
North Dakota State School of Science, Wahpeton, N. Dak. (K)	Wm. J. Duvall
Northeastern University, Boston, Mass. (K)	Wm. C. White
Northern Illinois State Teachers College, DeKalb, Ill. (A-4)	H. W. Gould
North Texas State Teachers College. Denton, Tex. (A-3)	Mrs. Olive M. Johnson
Northwestern University, Evanston, Ill. (A-2) (B & G-2) (D & E-2) (J)	Albert R. Crews
Norwich University, Northfield, Vt. (K-3)	D. E. Howes
Notre Dame, University of, Notre Dame, Ind. (B) (C) (D-3) (E) (G) (H) (I) (K-3)	Rev. Eugene Burke
Oglethorpe University, Oglethorpe, Ga. (A-4)	J. W. Comer
Ohio, University of, Athens, Ohio. (A-3) (B-3) (D-3) (G) (F) (K-4)	Vincent Jukes, D. B. Green
Ohio State University, Columbus, Ohio. (B-3) (C-3) (D-3) (F-3) (H-3) (I-2) (J-3) (K-4)	W. L. Everitt, H. W. Bibber
Ohio Wesleyan University, Delaware, Ohio. (A-2)	R. C. Hunter
Oklahoma, University of, Norman, Okla. (B-2) (D-2) (F-2) (G-3) (J-2) (K-varies)	H. H. Leake
Oklahoma College for Women, Chickasha, Okla. (F)	B. H. Mayall
Oklahoma Agricultural and Mechanical College, Stillwater, Okla. (K-3)	Benj. A. Fisher
Omaha, University of, Omaha, Nebr. (A-1) (D) (G)	Lucile Ruby
Oregon, University of, Eugene, Ore. (A-3)	Mr. Luke Roberts
Oregon Inst. of Technology, Portland, Ore. (A) (E-2) (K-varies) (M)	C. D. Newman
Oregon State Agricultural College, Corvallis, Ore. (F) (G-2)	C. B. Mitchell
Pacific, College of the, Stockton, Calif. (A-1) (B-2) (F-2)	John C. Crabbe
Pacific Union College, Angwin, Calif. (B-2)	Charles E. Weniger
Pasadena Junior College, Pasadena, Calif. (A-3) (B-3)	N. Vincent Parsons
Paterson, The College of, Paterson, N. J. (D-3)	Carl N. Walton
Phoenix Junior College, Phoenix, Ariz. (A-4) (B-2) (K-2)	Donald F. Stone
Pittsburgh, University of, Pittsburgh, Pa. (K-2)	Prof. H. E. Dyche
Polytechnic Institute of Brooklyn, 99 Livingston Street, Brooklyn, N. Y. (K-5)	Frank E. Canavaciol

College	In Charge of Radio
Presbyterian College, Clinton, S. C. (B-6) (D-3) (F-3)	Prof. John H. Thatcher
Purdue University, Lafayette, Ind. (A-3) (K-3) (L)	Dr. C. F. Harding
Redlands, University of, Redlands, Calif. (A-2) (K-4)	Prof. Lynn W. Jones
Reed College, Portland, Ore. (A) (D) (E) (G)	Laurence C. Rodgers
Rensselaer Polytechnic Institute, Troy, N. Y. (K-3)	Wynant J. Williams
Rhode Island State College, Kingston, R. I. (K-3)	Wesley B. Hall
Rice, Institute, Houston, Tex. (K-8)	S. H. Van Wambeck
Robert E. Lee Institute, Goose Creek, Tex. (K)	E. L. Langston
Rochester, University of, Rochester, N. Y. (A-3)	Chas. H. Dawson
Rollins College, Winter Park, Fla. (E) (G)	Prof. Harry H. Pierce
Rosary College, River Forest, Ill. (A-2) (D-2) (E-1) (G-1)	Sister Mary Peter
Rutgers University, New Brunswick, N. J. (A-3) (K-6)	P. L. Hoover
St. Catherine, College of, St. Paul, Minn. (B-1) (C-1) (D-1)	Thomas Rishworth
St. Joseph College, Adrian, Mich. (F & G-2)	Sister M. Leonilla
St. Lawrence University, Canton, N. Y. (A-3)	Ruth F. Williard
St. Mary's College, South Bend, Ind. (B) (F)	M. Winifred Hanley
St. Mary's University of San Antonio, San Antonio, Tex. (A-6)	Louis P. Thein
Sacramento Junior College, Sacramento, Calif. (B-2)	Vernon Mickelson
San Francisco Junior College, San Francisco, Calif. (A-10)	L. Hollingsworth
San Francisco State College, San Francisco, Calif. (K-2) (F-3)	Carlos S. Mundt
San Mateo Junior College, San Mateo, Calif. (A & I-3) (E) (G)	Harry E. Redeker
Santa Barbara State College, Santa Barbara, Calif. (G) (K-3)	Frederick Hile
Scranton, University of (Formerly St. Thomas College), Scranton, Pa. (A-1) (D-1) (F-1)	Dr. Austin J. App
Seventh-day Adventist Theological Seminary, Washington, D. C. (F-1)	Prof. C. E. Weniger
Sherwood Music School, 410 So. Michigan Ave., Chicago, Ill. (D) (G) (H)	Walter A. Erley
Shorter College, North Little Rock, Ark. (B) (E) (H)	Pres. G. A. Gregg
Simpson College, Indianola, Iowa. (K-2)	Lester Spring
Smith College, Northampton, Mass. (K-3)	James F. Koehler
South Carolina, University of, Columbia, S. C. (A-6) (K)	A. C. Carlson
South Dakota State School of Mines, Rapid City, S. Dak. (A-2) (K-3)	E. E. Clark
Southeastern University, Washington, D. C. (M-2)	Joseph E. Keller
Southern California Junior College, Arlington, Calif. (A-2) (K-2)	L. H. Cushman, M. S.
Southern California, University of, Los Angeles, Calif. (A-2) (B-2) (I-2) (K-2)	Richard E. Huddleston
Southern Junior College, Collegedale, Tenn. (K-4)	R. W. Woods
Spokane Junior College, Spokane, Wash. (A-2) (K-2) (M-2)	Robert D. Oliver, Raymond F. Crisp
Spring Hill College, Spring Hill, Ala. (K)	Frank E. Benedetto
State College of Washington, Pullman, Wash. (B-1) (C-1) (D-3) (E-1) (H-1) (K-varies)	Kenneth Yeend
State Teachers College, Bloomsburg, Pa. (B) (C) (D) (E) (G) (H)	John C. Koch
State Teacher's College, Buffalo, N. Y. (C-3)	Ben H. Darrow
State Teachers College, Indiana, Pa. (A-2)	Edna Lee Sprowls
State Teachers College, Kearney, Nebr. (C-3)	C. G. Ryan
State Teachers College, La Cross, Wis. (A-4)	Ross D. Spangler
State Teachers College, Paterson, N. J. (A-3) (K-3)	Dr. Lawrence E. Loveridge
State Teachers College, Peru, Nebr. (A-2)	C. R. Lindstrom
State Teachers College, Superior, Wis. (A-3)	E. H. Schrieber
State Teachers College, Warrenburg, Mo. (K-2½)	W. C. Morris
Stephens College, Columbia, Mo. (A-3) (B-3) (D-3)	E. Gordon Hubbel
Sterling College, Sterling, Kans. (A-3)	Martin S. Maier
Syracuse University, Syracuse, N. Y. (A-3) (B-2) (D-2)	Kenneth Bartlett
Temple University, Philadelphia, Pa. (K-3½)	J. Lloyd Bohn
Texas, University of, Austin, Tex. (A-3)	Thos. A. Rausse
Texas Christian University, Fort Worth, Tex. (B-3) (F & G-3) (K-3)	Dr. Newton Gaines
Texas Dental College, Houston, Tex. (G)	McKinley Rhodes
Texas Technological College, Lubbock, Tex. (F-2)	Richard Flowers
Thiel College, Greenvile, Pa. (K-4)	G. R. Bradshaw
Toedo, University of, Toledo, Ohio. (K-3)	C. G. Brennecke
Trinity College, Hartford, Conn. (K-3)	H. D. Doolittle
Trinity University, Waxahachie, Tex. (A-3)	Miss Yetta Mitchell
Tri-State College, Angola, Ind. (A-5) (K-5) (L-2½) (M-1½)	Wm. A. Pfeifer
Tufts College of Engineering, Medford, Mass. (K)	Edwin B. Rollins
Tulsa, University of, Tulsa, Okla. (A-2) (D) (F-2)	Ben G. Henneke
Tuskegee Institute, Tuskegee Institute, Ala. (A-5) (K-5)	W. C. Curtis
U. S. Coast Guard Academy, New London, Conn. (K-4)	Lt. J. D. Harrington

College	In Charge of Radio
U. S. Naval Academy, Annapolis, Md. (K)	Lt. Com. E. T. Woolridge
Upper Iowa University, Fayette, Iowa. (K-3)	C. J. Black
Utah, University of, Salt Lake City, Utah. (D-3) (G-3)	Dr. I. O. Horsfall
Utah State Agricultural College, Logan, Utah. (A-3) (B-3) (D-3) (E-3) (F-4) (K-4)	Prof. S. R. Stock
Vassar College, Poughkeepsie, N. Y. (F-1)	Christine F. Ramsey
Ventura Junior College, Ventura, Calif. (A-6)	Burt Richardson
Vermont University of, Burlington, Vt. (K-3)	E. R. Mckee
Villanova College, Villanova, Pa. (A-4)	H. S. Bueche
Virginia Junior College, Virginia, Minn. (C) (D) (G)	Mary E. Asseltyne
Virginia Polytechnic Institute, Blackburg, Va. (K-3)	R. D. Michael, Webster Richardson
Wake Forest College, Wake Forest, N. C. (K-4)	Dr. Sherwood Githens, Jr.
Walla Walla College, College Place, Wash. (E-2) (F-2) (G-2) (K-3)	M. L. Neff
Wartburg College, Waverly, Iowa. (K-3)	A. A. Aardal
Wartburg Seminary, Dubuque, Iowa. (E) (H)	E. H. Schalkhauser
Washington, University of, Seattle, Wash. (D-3) (E-2) (K-varies)	Prof. L. B. Cochran
Washington College, Chestertown, Md. (K-4)	J. J. Coop
Wayne University, Detroit, Mich. (A-2) (B-2) (C-2) (D-2) (F-2) (G-2) (K & L-4)	Garnet R. Garrison
Webster College, Webster Groves, Mo. (B-1) (D)	Anna McClain Sankey
Wellesley College, Wellesley, Mass. (A-3)	Louise S. McDowell
Wesleyan University, Middletown, Conn. (K-5)	Karl S. Van Dyke
West Liberty S. T. C., West Liberty, W. Va. (A-2) (K-3)	Dr. Paul N. Elbin
West Virginia State College, Institute, W. Va. (A-3)	J. C. Evans
West Virginia University, Morgantown, W. Va. (A-3) (K-3)	A. W. Friend
Western Illinois State Teachers College, Macomb, Ill. (A-4)	W. H. Eller
Western Reserve University, Cleveland, Ohio. (G-2)	Grazella P. Sherherd
Western State Teachers College, Kalamazoo, Mich. (K-4)	W. G. Marburger
Westminster College, Fulton, Mo. (K-4)	Albert C. Kreuger
Westminster College, New Wilmington, Pa. (D-1)	Wallace R. Biggs
Whitman College, Walla Walla, Wash. (A-2)	John W. Ackley
Whittier College, Whittier, Calif. (A-2) (B-2) (D-2)	W. Theron Ashby
Wichita, University of, Wichita, Kans. (A-2)	K. V. Manning
Willamette University, Salem, Ore. (B) (H)	Cameron Marshall
William & Mary College, Williamsburg, Va. (G & E-3)	Althea Hunt
Williams College, Williamstown, Mass. (K-3)	H. P. Stabler
Winona State Teachers College, Winona, Minn. (B) (G) (H)	Dr. Ella Murphy
Wisconsin, University of, Madison, Wis. (A-2) (C-2)	H. B. McCarty
Woman's College of University of N. C., Greensboro, N. C. (K-3)	Calvin N. Warfield
Worcester Polytechnic Institute, Worcester, Mass. (K-2)	Prof. H. H. Newell
Wyoming, University of, Laramie, Wyo. (F-2) (K-3)	Louis A. Mallory
Xavier Downtown College, Cincinnati, Ohio. (F-2)	James P. Glenn
Y. M. C. A. College, Dayton, Ohio. (A) (D-4) (E-2)	Wm. Y. Conrad

PRIVATE SCHOOLS

(Offering Miscellaneous Instruction)

Bliss Electrical School, Takoma Park, Md.
Capitol Radio Institute, 3308 14th Street NW, Washington, D. C.
Coyne Electrical School, 500 So. Paulina Street, Chicago, Ill.
First National Television, Inc., 1320 Main Street, Kansas City, Mo.
Frank Wiggins Trade High School, 1646 Olive Street, Los Angeles, Calif.
International Correspondence Schools, 100 Wyoming Avenue, Scranton, Pa.
Massachusetts Radio and Telegraph School, 18 Boylston Street, Boston, Mass.
Modern School of Dramatics, 1767 Broadway, New York, N. Y., Columbus 7043, William Luftig.
Motion Picture Engineering Institute, 4128 Beverly Boulevard, Hollywood, Calif. Federal 7588.
National Academy of Broadcasting, 2017 S Street NW, Washington, D. C. Alice Keith.
National Radio Institute, 16th and U Streets NW, Washington, D. C.
New Wayburn's Dancing, Singing and Dramatic School, 625 Madison Avenue, New York, N. Y., Wickersham 2-4300.
Pestalozi Froebel Teachers College, 410 South Michigan Avenue, Chicago, Ill.
Radio Institute of America, 160 W. 73rd Street, New York, N. Y. Director: Frank Nagler.
R. C. A. Institutes, 75 Varick Street, New York, N. Y. W. A. Aufenanger.
Spokane Telegraph School, 102 N. Monroe Street, Spokane, Wash. C. E. Frazier, Mgr.
Utilities Engineering Institute 404 N. Wells Street, Chicago, Ill.

☆ RADIO GLOSSARY ☆

A WORKBOOK OF TERMS USED IN THE PRODUCTION OF RADIO PROGRAMS

Students and other non-professional groups who are turning in increasing numbers to the production of radio programs find themselves dealing with a new art and a new industry. Like other new arts and industries, radio is building its own language to meet its needs. The glossary is offered as a tentative compilation with the knowledge that terms vary in different parts of the country.

U. S. Dept. of the Interior, Office of Education, Washington

I. CONTINUITY

The radio programs you hear begin with an idea which is created by a—

•

SCRIPT WRITER

One who prepares the text or dialogue with the accompanying directions for sound effects, musical cues, and transitions for a radio production. He is sometimes called a—

•

CONTINUITY WRITER

Because in the period before dramatization became popular the chief activity of a radio writer was to keep the program continuously on the air with reading material to fill in the time between musical numbers.

•

CREDIT WRITER

One who writes the advertising material for a commercial program.

•

SCRIPT

Or "continuity" is the text of a program looking not unlike the pages of a play, since it lists the speakers or actors and the lines they speak, as well as suggestions to the director and cast. Script applies usually to radio plays whereas—

•

CONTINUITY

Usually applies to text prepared to be read by an announcer only, such as introductions of musical numbers, introductions of speakers, commercial announcements, etc.

•

CREDIT

Also known as "plug". This is the material designed to acquaint the listener with an advertiser's product. It may be given by the announcer or by actors.

•

SHOW

The entire program which is to be broadcast.

•

SUSTAINING SHOW

A program on which time is not purchased by a commercial company. Since broadcasting companies must maintain service throughout the time span agreed upon, that time which is not sold must be filled with "sustaining" programs.

COMMERCIAL

A program paid for by an advertiser. This includes payment for time on the air as well as for the talent and script.

•

NETWORK SHOW

A program released simultaneously over two or more stations which are connected by telephone wire.

•

LOCAL

A program released only through a single station.

•

THEME

The same music, sound, or talk which opens and identifies a program from day to day or week to week.

•

TAG LINE

The final speech of a scene or play exploding the joke, or the climax speech resolving the scene or play to its conclusion.

•

GAG

A joke or comedy situation. A gag-show is a program made up of a succession of jokes or alleged jokes.

•

TIE-IN ANNOUNCEMENT

A commercial announcement given by the local station announcer immediately after a prearranged cue given on the network. For example, the network program may conclude one minute early, whereupon the local announcers in the stations carrying the network program will then consume the remaining minutes with a commercial announcement dealing with the product advertised on the network program and stating details such as where this product may be purchased locally.

•

TRANSITION

Or moving from one scene to another. This may be done by an announcement describing the new scene to follow, by music, by fading out of the microphone, or a short period of silence.

•

ACROSS THE BOARD

A program scheduled five days a week at the same time.

BRIDGE

Sound effects or music used to link dramatic episodes.

II. PRODUCTION

PRODUCTION DIRECTOR

This person is responsible for every detail of the program including the announcer, engineer, actors, musicians, and sound men. He builds and shapes the program by bringing all these factors into harmony. He may make corrections and any revision he deems desirable in the script whenever he feels such are necessary for an improved program. On his shoulders rests the complete responsibility for the quality of the program.

•

CAST

As a noun, the people who appear on the program not including musicians.

As a verb, the process of selecting those who are to take the speaking parts.

•

AUDITION

A studio test of talent or a show or both prior to a broadcast to determine whether that talent, show or both should be broadcast.

•

M C

Master of ceremonies.

•

JUVENILE

An actor whose voice carries an age quality of 17 to 24.

•

INGENUE

An actress whose voice carries an age quality of 16 to 24. She should have a sweet sympathetic youthful vocal quality.

•

LEAD

An actor or actress whose voice carries an age quality of 25 to 35. The voice should be clear, definite, heavier in quality than the juvenile or ingenue and should have a quality of authority.

•

CHARACTER

An actor or actress with an older voice, 35 to 60, who can do dialects or who has eccentricity of speech and characterization.

•

CHARACTER JUVENILE

(17 to 24) male voice in dialect or having peculiar vocal quality.

CHARACTER INGENUE

(16 to 24) female voice in dialect or having peculiar vocal quality.

•

BIT

A small part in the cast which usually consists of a few short speeches.

•

PICK UP YOUR CUE

A command by the production director to an actor to begin speaking his lines immediately after the last word of the preceding speaker's last sentence.

•

CUE

A signal, either verbal or by sign.

•

AD LIB

Impromptu speaking

•

READ-Y

A quality of unnaturalness by an actor speaker giving the listener the feeling that he is reading rather than talking.

•

SNEAK IT IN

A command by the production director to the sound man or orchestra conductor to begin the sound effect or music very quietly and gradually increase the volume.

•

FLUFF OR BEARD

Any word or phrase accidentally mispronounced or in any way distorted resulting in an imperfect reading.

•

IN THE MUD

A lifeless delivery with very uninteresting quality resulting from a speaker's or actor's improper pitch and lack of nuance. Also the sound heard when the voice is spoken into a closed microphone and picked up faintly on a live microphone at a distance.

•

SCHMALZ IT

A command by the production director to the orchestra conductor to have the music played in a sentimental style.

•

ONE AND ONE

One verse and one chorus of a musical number.

CUT

A deletion of material whether spoken or musical in order to fit the prescribed time. It is also a term used by the production director in the form of a command to the engineer to close all microphones so that nothing more can go out on the air.

•

CLEAN IT UP

A command by the production director to the orchestra conductor to rehearse a musical number until it is perfectly rendered, or to a dramatic cast to remove all hesitancies or defects in the delivery of lines.

•

PACE

Or speed of delivery. A variation of pace is used to express a variation of thought.

•

LIGHT AND SHADE

Variations from calmness to tenseness, softness to shouting, which keep a production from dull sameness.

•

ACCENT

Or change of emphasis in a sentence or group of sentences. This is necessary for shade of meaning, relief from monotony, and for quality of speech.

•

CLEARING MUSIC

Determining whether the station has a license to perform the musical number or numbers proposed to be played or sung on the air.

•

TIGHT

A program which in rehearsal times a few seconds over the allotted time and should either be cut or played rapidly, provided the material permits the rapid treatment.

•

DRESS

A program rehearsed for the last time exactly as it is to be broadcast.

•

STAND-BY

A command by the production man to the cast to be ready to go within a few seconds.

Also, a program whether dramatic, musical, or straight talk which is relied upon as an emer-

TAKE IT AWAY
Cue to begin a program given by a production director to engineer who relays it via direct telephone wire to an engineer at the program's point of origin.

•

DROOLING
Padding a program with talk in order to fill the allotted time.

•

DEAD SPOT
Also known as "white space" or period of silence when a program is supposed to be on the air.

•

CUSHION
When a program runs shorter on the air than it did during rehearsal, identifying theme melody is used as a "cushion" to fill in the extra time. Sometimes an extra paragraph of credit is used instead of theme.

•

ON THE NOSE
A program which, while on the air, appears to be on time to the second.

•

ON THE HEAD
A program which concluded on the exact second.

•

ACROSS-MIKE
This term is applied when sound is directed across the face of the microphone.

•

BACKGROUND
Music or sound effects used behind or under dialogue or song.

•

BITE IT OFF
A direction to stop the music in a radio program.

•

CROSS-FADE
Where one set of sound, music or otherwise, is being faded out while simultaneously other sound is being faded in. A technique commonly used to make transitions between dramatic scenes.

•

FUZZY
A term usually applied to vocal sounds which are not clear.

•

HOLD IT DOWN
A command to the engineer at controls to reduce volume.

MONITORING
Means listening to a production for the purpose of studying it. Monitoring is very important in determining the proper levels for sound effects.

•

BLANKOUT
To reduce volume of the microphone and then turn it completely off.

•

BLASTING
A distortion of sound caused by overloading the microphone, speaker, or other transmitting equipment.

•

BRING IT UP
A direction to increase volume.

•

LOG
A record required by law of every minute during which a station broadcasts.

•

DEFINITION
Clarity of transmission. It is that characteristic of a good production which enables the listener to distinguish between actors in a drama or to identify various musical units in an orchestra.

III. SOUND

SOUND MAN
One who creates, either by recorded effects or by manual effects the sounds required by the script.

•

PANCAKE TURNER
One who operates a sound effect machine for the purpose of playing recorded music on the air.

•

PLATTER
Musical records played on a sound effect machine.

•

ELECTRICAL TRANSCRIPTION
Sound transferred to a 16-inch disk, which revolves at a speed of 33⅓ revolutions per minute, made for broadcast purposes and having high fidelity.

•

PHONOGRAPH RECORD
Sound transferred to a shellac composition disk of 10 or 12 inches diameter which does not have as high fidelity as an electrical transcription and is manufactured chiefly for home use. It revolves at a speed of 78 revolutions per minute.

IV. ENGINEERING

CONTROL ROOM
A small room usually enclosed in glass from which the engineer and production man control the program.

•

V. I.
Or "volume indicator"—a delicate instrument containing a needle which indicates the volume of sound, enabling the engineer to determine whether the "level" is too high or too low.

•

P. A.
Public Address system consisting of a microphone, amplifier, and loudspeaker. Certain types of microphone require a pre-amplifier in addition to an amplifier.

•

GAIN
The increase in volume of sound obtained in the amplifier.

•

RIDING GAIN
Controlling the amount of increase or volume of sound. The engineer does this with the aid of a volume indicator.

•

PEAKS
High points in the variation of sound which are the natural result of changes of pitch, accent, and explosions of certain consonants and vowel sounds causing the volume indicator to fluctuate in accordance with the volume of those respective sounds.

•

GIMME A COUPLE OF PEAKS
A request by the engineer via telephone line to an engineer at a remote point before the broadcast asking the remote engineer to speak into his microphone in order to determine whether the lines are clear. The phonetic yardstick used by the engineer in testing lines is "Woof" spoken explosively.

•

LEVEL—OR VOICE LEVEL
A test of a speaker's voice for tone and volume to determine proper distance from the microphone for best listening qualities.

•

BALANCE
Blending different kinds of sounds to achieve proper volume relationships such as musical background for a dramatic sequence. If the music is so loud that the dramatic dialogue is lost, a poor "balance" results. Also, the arrangement of musical groups to obtain a natural blending of tone.

CUT A PLATTER
Means to make a recording.

•

DAMPEN THE STUDIO
To increase absorption of sound by using such portable sound absorbance equipment as monks cloth screens, drapes and rugs or by bringing more people into the studio.

•

LIVEN THE STUDIO
By taking sound absorbing materials out of the studio, pushing back curtains exposing window and wall surfaces, and by setting up sound reflecting screens.

•

DEAD END
The part of the radio studio which has the greatest sound absorption.

•

LIVE END
The part of the studio giving the greatest sound reflecting qualities.

•

DUBBING
Refers to the process of transposing recorded material from one record on to a new record.

•

REMOTE CONTROL
Refers to the engineering aspect of controlling a program produced outside the regular studio and relayed by shortwave or wire to the studio.

•

"NEMO"
A term frequently used by radio engineers to designate any program broadcast by a radio station which does not originate in their local studios.

•

KEY STATION
The station where a network program is produced.

•

HAM
An amateur radio transmitter operator.

•

LEG
A branch or link of stations in a network.

•

A PIPED PROGRAM
A program which has been transmitted over wires.

•

PICK UP
Acoustical value of program. Also location of microphones in relation to program elements. The origination point of a broadcast. Also a device containing an electromechanical member which vibrates when in contact with a moving phonograph record, a modulated

electric current for the purpose of making the record audible from a loudspeaker. Primary apparatus used to convert sound to electrical energy.

•

ECHO CHAMBER

A small room with resounding walls, used to give a hollow effect to certain dramatic scenes. The studio output is run into the echo chamber on a loud-speaker and picked up again on another microphone thus giving the boomy echo effect. Latest developments are rendering the echo chamber obsolete. The echo effect is produced in modern studios by running the studio output through a mechanism which delays part of the sound, then feeds it back into the main line. The result is a distorted hollow effect.

•

MIKE

Short for microphone—an electrical device for translating sound vibrations into tiny electrical impulses which can be then transmitted over a wire or through space to a remote receiving station and there translated back into the original sound.

•

CARBON MIKE

Microphone which accomplishes the translation of sound into electrical impulses by the use of small carbon grains contained between two thin metal plates, called diaphragms, which are vibrated by the sound. It is no longer used for broadcast purposes in most studios because of its tendency to produce an annoying hiss.

•

CONDENSER MIKE

Microphone which accomplishes what the carbon mike does without the use of carbon granules by using the two diaphragms as the plates of what is known as an electrical condenser. The vibration of the plates caused by the sound correspondingly varies the electric current in the condenser and amplifier. This microphone is less sensitive than most other types and therefore requires a small amplifier within a few feet of the microphone itself and is usually built into the microphone casing or into the base of its mounting stand. There are many standard cases for this type of microphone and the various names sometimes given to it are usually descriptive of the case—the mike itself being fundamentally the same. A few examples are: camera mike, bullet mike, and desk condenser. These mikes are still used in some studios although they are gradually being replaced by the "velocity" or "ribbon" mikes.

•

VELOCITY OR RIBBON MIKE

Derives its name "ribbon" from the fact that it translates the sound into electrical impulses by means of a suspended metal ribbon which vibrates in accordance with the sound between the poles of a permanent magnet. This mike is so directional in its response that sounds coming from the sides of the microphone are only faintly heard over the loudspeaker, if at all. Actors can perform "fades" very easily on a ribbon mike by merely shifting their position from in front of the mike to the side.

•

DYNAMIC MIKE

Microphone which obtains its name from the dynamic loudspeaker, the principle of which is just the reverse of the dynamic microphone. Whereas the dynamic speaker transmits the impulses in a moving coil of wire which is in a magnetic field, to a diaphragm which in turn translates these impulses into corresponding sound vibrations understandable by the human ear, the dynamic mike receives the sound vibration upon the diaphragm and translates these into electrical impulses in the moving coil. Although this microphone was being generally replaced by the velocity mike, it is now finding favor again in many studios in a new, improved form called the—

•

BALL MIKE

(or any other name by which it may be called, as, eight-ball, billiard, etc.) which is essentially a dynamic microphone about the size and shape of a billiard ball. This microphone is non-directional and sounds are therefore picked up with equal intensity from any angle, thus allowing a large cast to work around a single mike.

•

BRUSH MIKE

A very rugged type of microphone which looks like the frame of a metal hairbrush. Its small size and dependable ruggedness combined with high fidelity make it an excellent mike for portable and outdoor radio pickups or public address systems.

Sign Language of Radio Studios

Radio not only has its own verbal language, but it also has a silent language which came into being out of necessity.

During the broadcast the director is usually found in the control booth where he can watch his actors through a glass panel, and, at the same time, hear the production as it is heard by the radio audience. No matter how carefully a show is rehearsed, the director must be able to communicate with the actors when the program is on the air. For example, by observing his time notes in minutes and half minutes marked on his script, the director can tell at any moment whether his program needs to be slowed down, speeded up, or whether it is "on the nose". If the program is running too slowly, he will communicate with a sign meaning—"actors pick up the tempo".

The following list explains the sign language most commonly used in radio studios: (If you intend to use these signals in broadcasting it would be well to check them with the studio director, for some directors use signals other than those listed below.)

Message—Sign

Increase volume—Move hands up, palms up.

Decrease volume—Move hands down, palms down.

Begin your speech—Direct point at actor.

"Stretch it out"—Draw hands apart slowly as in stretching a rubber band.

Speed up—Turn hand, with index finger extended, clockwise rapidly.

Message—Sign

Move away from "Mike"—Move hand away from face.

Move toward "Mike"—Move hand toward face.

Cut—Draw index finger across throat, "Cut-throat" motion.

Avoid the provisional cut—Tap head.

Watch me for cue—Point to eye.

Give the network cue—Show clenched fist to announcer.

Fade-out—Lower hands slowly, palms down. Turn clenched fist slowly.

O. K.—Form circle with thumb and forefinger. Other fingers extended.

Is program running according to planned time schedule?—Touch nose—quizzically. (studio sign)

The production is proceeding as planned—Touch nose.

How is the balance?—Touch ear with forefinger, balance with both hands, palms down. (studio sign)

Start the theme melody—Form letter "T" with forefingers. (Music Director usually uses baton and fingers.)

Take the first ending and repeat the chorus—Hold one finger vertically.

Take the second ending and conclude—Hold two fingers vertically.

Repeat—Same as above.

Play entire arrangement—Lower hands, palms vertically.

Conclude with the chorus—Clench fist during selection.

Play the chord—Clench fist during program.

Play predetermined fanfare—Salute.

Start at the beginning of musical number—Point up.

FOREIGN

U. S. International Stations

•

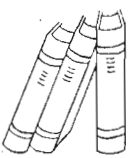
Regulations; International Broadcast Stations

•

Department of Commerce Activities

•

World Markets Survey



INTERNATIONAL BROADCAST STATIONS

IN THE UNITED STATES

The term "international broadcast station" means a station licensed for the transmission of broadcast programs for international public reception. Frequencies are assigned according to international agreement between 6000 and 26000 kc. No charge may be made for transmission of such programs although the use of commercial programs broadcast simultaneously with standard broadcast stations is permitted. Purpose of this type of station is for experimentation and research for the improvement of international broadcast service.

Licensee and Location	Call Letters	Frequency (Kc)	Power
Chicago Federation of Labor York Township, Ill.	W9XAA	6080, 11830, 17780	500 w
Columbia Broadcasting System, Inc. Near Wayne, N. J.	W2XE	6120, 6170, 9650, 11830, 15270, 17830, 21570	10 kw
The Crosley Radio Corp. Mason, Ohio	W8XAL	6060, 9590, 11870, 15270 17760, 21650	10 kw C.P. 50 kw
General Electric Company South Schenectady, N. Y.	W2XAD	9550, 15330, 21500	25 kw C.P. 100 kw
General Electric Company South Schenectady, N. Y.	W2XAF	9530	40 kw C.P. 100 kw
General Electric Company Near Belmont, Calif.	W6XBE	9530, 15330	20 kw (C.P. only)
Isle of Dreams Broadcasting Corp. Miami Beach, Florida	W4XB	6040	5 kw
National Broadcasting Co., Inc. Bound Brook, N. J.	W3XL	6100, 17780	35 kw
National Broadcasting Co., Inc. Bound Brook, N. J.	W3XAL	9670, 21630	35 kw
WCAU Broadcasting Company Newtown Square, Pa.	W3XAU	6060, 9590, 15270, 21520, 25725	10 kw
Westinghouse Electric & Mfg. Co. Millis, Mass.	W1XK	9570	10 kw
Westinghouse Electric & Mfg. Co. Saxonburg, Pa.	W8XK	6140, 9570, 11870, 15210, 17780, 21540	40 kw
World Wide Broadcasting Corp. Boston, Mass.	W1XAL	6040, 11730, 11790, 15250, 21460, 15130	20 kw

INTERNATIONAL BROADCAST STATIONS

Digest of Regulations Governing Their Establishment and Operation, as of January 1st, 1939, Together with Available Groups of Frequencies.

The term "international broadcast station" means a station licensed for the transmission of broadcast programs for international public reception. Frequencies for these stations are allocated from bands assigned (between 6,000 and 26,600 kilocycles) for broadcasting by Article 7, General Radio Regulations, annexed to the International Telecommunication Convention, Madrid, 1932.

A license for an international broadcast station will be issued only after a satisfactory showing has been made in regard to the following, among others:

1. That the applicant has a program of research and experimentation which indicates reasonable promise of substantial contribution to the development of the international broadcast service.

2. That the station will render an international broadcast service.

3. That the program production and experimentation will be conducted by qualified persons.

4. That the applicant is legally and financially qualified and possesses adequate technical facilities to carry forward the program.

5. That the public interest, convenience and necessity will be served through the operation of the proposed station.

Provisions for Commercial Program Transmission

(a) A licensee of an international broadcast station shall not make any charge directly or indirectly for the transmission of programs, but may transmit the programs of a regular broadcast station or network, including commercial programs, if the call letter designation when identifying the international broadcast station is given on its assigned frequency only and the statement is made over the international broadcast station that the program of a broadcast station or network (identify by call letters or name of network) is being broadcast. In case of the rebroadcast of the program of any broadcast station, Rule 177 applies.

(b) No licensee of any other broadcast station or network shall make any additional charge, directly or indirectly for the simultaneous transmissions of programs by the international broadcast station, nor shall commercial accounts be solicited by a licensee of another broadcast station or network or by others acting in their behalf upon representation that the commercial program will also be transmitted by an international broadcast station.

(c) Station identification and program announcements shall be made with international significance suited for the foreign nation or nations for which the ser-

vice is primarily intended or in which the reception is believed to be best on account of the frequency, season, hour of operation, etc.

Frequencies Allotted

(a) The following groups of frequencies are allocated for assignment to international broadcast stations on an experimental basis:

Group A	*Group B*	*Group C*	*Group D*
6020 kc	9510 kc	11,710 kc	15,110 kc
6040	9530	11,750	15,150
6060	9570	11,770	15,150
6080	9590	11,790	15,190
6100		11,810	15,210
6140		11,830	15,230
		11,850	
		11,870	
		11,890	

Group E	*Group F*	*Group G*	*Group H*
15,250 kc	17,760 kc	21,460 kc	25,625 kc
15,270	17,780	21,480	25,650
15,290	17,800	21,520	25,675
15,310		21,540	25,725
15,330			25,750
			25,800
			25,825
			25,850
			25,875

Separate Licenses

(b) A separate license and call letter designation will be issued for each frequency except that where frequencies in two or more groups are required to maintain a particular international broadcast service to certain foreign country or countries, one frequency from each of the groups required may be authorized by one license and one call letter designation. In such cases these frequencies shall be used consecutively during a day as required and they shall not be used simultaneously either on the same transmitter or different transmitters.

(c) Not more than one frequency in any group in subsection (a) of this rule will be assigned to a station.

(d) An applicant shall select the frequency which it is believed is best suited to the experiments to be conducted, for reception in the foreign country or countries for which the service is intended, and for a minimum of interference to other international broadcast stations.

(e) Applicants shall file a separate application for each frequency or frequencies requested in different groups as provided in subsection (b) of this rule.

Power Requirements

(a) No international broadcast station will be licensed for a power output rating less than 5 kilowatts.

(b) While conducting apparatus experiments and in case adequate signal is delivered in the foreign country being served, the operating power output may be less than 5 kilowatts.

A supplemental report shall be filed with and made a part of each application for renewal of license and shall include statements of the following:

1. The number of hours operated on each frequency.

2. A list of programs transmitted of special international interest.

3. Outline of reports of reception and interference and conclusions with regard to propagation characteristics of the frequency assigned.

4. Research and experiments being carried on to improve transmission and to develop international broadcast and the frequency assigned.

5. All developments or major changes in equipment.

6. Any other pertinent developments.

THE DEPARTMENT of COMMERCE and its ACTIVITIES REGARDING RADIO

By

JOHN H. PAYNE

Chief, Electrical Division

Washington, D. C.

THE Bureau of Foreign and Domestic Commerce has as it main objective comprehensive service to American industry, principally along the line of business promotion. Because of the nature of this activity, it is frequently possible to supply information in regard to other phases of the radio industry, such as engineering, statistics, applications, etc., which may be asked either by students or laymen outside of industry.

Emphasis is placed on foreign business inasmuch as this is where the greatest service can be rendered. American companies, obviously, do not need assistance in their domestic business to the same extent that it can be of use in their foreign activities.

Radio assumes a leading position in the Electrical Division's activities, since it is the largest item or group of items classified as a unit, in our exports. Recently, it has represented 25 to 30 per cent of the total exports of all electrical commodities from the United States to the rest of the world.

The Bureau serves industry through three rather distinct organizations—first, its 25 District and 53 Cooperative Offices located throughout the United States, through which it has facilities for intimate contact with all American individuals or businesses wishing to avail themselves of its services; second, through 34 Foreign Offices located in the capitals of the more important countries of the world, making close foreign contacts on behalf of American industry; third, a highly specialized headquarters organization in Washington, providing experienced people in each phase of industry and in several commercial services.

For an exporter, a District or Cooperative Office can perform such services as these: indicate where there is a market for American goods; explain how best to enter a market; specify the terms on which goods are ordinarily sold in a particular market; provide data as to the competition to be encountered from foreign sources; furnish lists of buyers in the principal markets of the world; and render many other services.

The Foreign Offices form a vital element in the Bureau's service. They constantly provide data on all the significant economic, commercial, and financial developments of the various countries. They report on the general business situation in a specific foreign market—the competition between American goods and the products of other countries—the import duties and restrictions that may be imposed—sales methods and credit terms—and the foreign-exchange situation, when pertinent. They conduct surveys covering specific commodities in definite foreign markets, and provide a variety of other current special data.

While the Industrial Divisions in Washington render specialized services to specific industries, there are in the Bureau seven divisions giving intensive study to various distinctive phases of foreign business characteristics. In response to inquiries from industry, they can supply information not otherwise obtainable on some of the highly specialized aspects of foreign trade.

These Divisions include:

Commercial Intelligence—compiles lists of foreign buyers or sellers. There are 32,000 such lists now available to American business. The Division maintains a "World Trade Directory" report giving commercial information on approximately 650,000 foreign buyers or sellers. Information on credit and collection conditions, and credit payment terms in foreign countries, through the "Credit Situation Abroad" service.

Commercial Laws—distributes information on the laws of all countries which relate to commerce and industry, including laws for transacting business, organization, commercial acts, and taxation, property problems (trade-marks, patents, copyrights, unfair competition, etc.), foreign insurance, factory, labor, and social-security laws affecting the cost of doing business abroad.

Finance—collects information regarding foreign banks and banking affairs, foreign monetary and exchange conditions, foreign trade financing in general, and related subjects. Is a prime source of statistics on (a) the balance of international payments of the United States; (b) foreign securities publicly offered in the United States; (c) American investments abroad; (d) foreign investments in the United States; and (e) data on related subjects such as war debts, etc.

Foreign Tariffs—current detailed records of customs tariffs, quotas, trade regulations, and commercial policy of all foreign countries, reports to American firms changes in this important field. Information on trade agreements concluded with foreign countries, and on all other phases of foreign customs requirements.

Foreign Trade Statistics — gathers, compiles, and disseminates statistics on American imports and exports. Also contributes to numerous general statistical studies sponsored by the Industrial Divisions to meet the indicated requirements of individual industries.

Regional Information—furnishes general information about economic conditions aboard. A high degree of specialization is attained in this Division through placing the work under the supervision of regional specialists in charge of the European, Far Eastern, Latin American, and Russian Sections.

Transportation — collects and analyzes data from both foreign and domestic sources on such subjects as ocean shipping, packing and packaging, tourism, materials handling, inland waterways, railway and motor transport, communications and postal services, warehousing, bills of lading, industrial traffic management, etc.

The Bureau maintains twelve Industrial Divisions, staffed by experts conversant with the details of each industry. These divisions bring the Bureau into direct touch with producers and exporters, making possible the establishment of mutually helpful relationships. For each industry, there is provided a specialized service, satisfying some of its peculiar and characteristic needs for statistical and other information. Essential information and data are collected under competent supervision, and is disseminated to the many trades in the most efficient ways that can be devised. Most of the material is provided by representatives of the Departments of Commerce and State stationed in foreign countries; the information covers a wide field of industrial and trade activities and is released to business in periodical and special bulletins.

The Electrical Division, one of the twelve similar industrial divisions, renders broad commercial services to the American electrical and radio industries. Its Radio Section serves the manufacturers of broadcasting and receiving equipment, as well as the broadcasting operators. Wide distribution of U. S. A. short wave programs has been established in cooperation with the Radio Manufacturers Association, whereby a compilation of all beamed American short wave programs is made available to publishers throughout the world.

The Division concentrates on obtaining and offering data which industry lacks the means of securing through its own endeavors. With respect to radio, the Division collects information regarding the widely varying conditions in other nations, in order to be able to inform American industry of world developments, prospective markets, needed adaptations, and other related matters.

Radio surveys have been made to develop the effectiveness of American short wave broadcasting throughout the world Both its good qualities and its limitations as brought out in these surveys are passed on to the American short wave operators for their guidance.

Criticism from the radio or other electrical industries is solicited by the Division, in order that it may improve and make its serivces more useful to all interested in using them.

EXPORT MARKET SURVEY

• *An International Digest* •

The comprehensive survey of the foreign radio market, immediately following, was prepared with the assistance of the far-flung Foreign Offices of the Departments of Commerce and State. Statistical information in each instance reflects the latest available data.

ARGENTINA

General—There are about 1,250,041 receiving sets in Argentina, approximately half of which are in the near vicinity of Buenos Aires. Several years ago the annual sales were about 150,000 sets a year, but for the past two years this volume has increased to 200,000. The selling season begins to decline in December, and rises again in March or April. The basic type of set which accounts for most of the sales at present is the 5-tube medium and short wave table model with horizontal cabinet, and with 8-inch speaker. The AC-DC set is now preferred to the exclusively AC set. Local electric service is 220 volts. Design and number of tubes generally follow American practices.

Under the provisions of the Cairo Conference (1938) Argentina may employ the tropical frequencies between 2,300 and 2,500 kilocycles (130 to 120 meters) for broadcasting, concurrently with mobile services.

Sources of Supply—The U. S. furnishes about 55 per cent of the radio sets imported, in point of value, and about 80 per cent of the tubes. The second supplier is Philips in both cases, with 35 and 20 per cent, approximately. Germany and the United Kingdom furnish some material of all classes, but holds no important percentage of the total business.

Domestic Production—An overwhelming percentage of the sets sold in Argentina are assembled locally. The component parts may be either imported or made in the country. Some of the well-known American makes are assembled largely from domestic parts; for others most of the parts have been imported.

Tariffs and Restrictions—The Argentine import tariff schedule is applied equally on shipments from all countries, aside from a few exceptions which do not include radio. Specific rates and classifications may be obtained from the foreign tariffs division of the Bureau of Foreign and Domestic Commerce on application. There is an Argentine sales tax of 1.25 per cent on the wholesale invoice value. There are no other outstanding restrictions as to imports or sales except the matter of exchange control.

Television—No developments.

Amateurs—The most recent issue of the "Guia Radio," published in Buenos Aires, shows 705 amateurs licensed.

Facsimile—Buenos Aires is connected with New York, London and Berlin by direct circuits for facsimile transmission. There is no internal service in the Republic. Facsimile transmission is increasing, news photos accounting for most of the business.

Short Wave—Argentina is definitely short-wave minded, and at least 80 per cent of the sets now being sold include the 6-15 megacycle band in addition to the regular broadcast band. There is considerable interest in both the American and European short wave stations. Of the European transmitters, the German and British have the best reception, followed by the Italian, French, Dutch, and Russian stations. Most of the important European transmitters now use Spanish-speaking announcers.

Within the past year short wave reception of 2 or 3 American short wave stations has improved considerably, although there is still a tendency for German and other powerful European transmitters to blanket the American programs.

Advertising—At present, practically all Argentine stations are supported by advertising. Some advertisers use this medium exclusively.

The basic evening rates charged by the principal Buenos Aires stations range from 200 to 500 pesos per half hour, depending on the time, frequency, and nature of the program. An additional 150 to 300 pesos per evening half-hour is charged by the two principal chains to include their affiliate stations.

Transciptions—A few of the leading radio stations have transcription libraries. Two Buenos Aires stations which have their own transcription machines record from programs during the daytime and transmit from records at night. Arrangements for broadcasting transcriptions are made directly with the stations or through agents. Most stations will accept transcriptions from advertisers, although the present use is largely restricted to theme songs, music, and spots for provincial stations.

Regulations—Argentine radio broadcasting is under the jurisdiction of the Director General of Posts and Telegraphs. The basic radio law, dated May 3, 1933, and slightly modified by subsequent regulations, covers naval, news, broadcasting, experimental, and amateur transmissions.

Sets in use—1,250,041.

Stations—48.

AUSTRALIA

General—On June 30 there were 1,157,911 listeners' licenses in force, an increase of 113,843 over a year previous. As one license entitles the holder to operate as many sets as he wishes, it is estimated that the actual number of sets is at least 1,250,000. Dealers estimate that 1938 sales will reach a total of 250,000.

Types of Sets—By far the largest demand is for sets of 5 tubes. Short wave sets are growing in popularity.

Sources of Supply—Owing to high import duties there is no importation of receiving sets in commercial quantities, except that a few are brought in from New Zealand, under preferential tariff rates. The insignificant number that come in from the United States are those brought in by manufacturers as samples. The big demand for tubes—for factory equipment—is now met largely by the two tube factories operating in Australia. For the tubes which are still imported, the United States remains the principal supplier. All classes of radio equipment are now manufactured in Australia, Amalgamated Wireless (A/sia) Ltd. having the dominant position.

Patents—The radio trade in Australia is dominated by Amalgamated Wireless. This company was originated in 1913, owns the perpetual right to use and exploit the Marconi patents in Australia, and in addition holds the Australian rights for some of the most important American patents relating to radio apparatus.

Virtually all worthwhile patents relating to receiving sets are controlled by a pool known as Australian Radio Technical Services and Patents, Ltd., at 47 York St., Sydney.

Television—While there have as yet been no television transmissions, the subject is being closely followed by the Postmaster-General's Department and Amalgamated Wireless.

Facsimile—Facilities exist for facsimile transmissions between Australia and London and Australia and Canada through the service of the Beam Wireless system, operated by Amalgamated Wireless.

Short Wave—Australia was the first British Dominion to establish a regular overseas broadcast service to the world, on September 5, 1937. This service is operated by Amalgamated Wireless and its purpose is to keep overseas countries informed of the resources and tourist attractions of the Commonwealth. This world-wide short-wave service is operated from VK2ME, Sydney, VK3ME, Melbourne, and VK6ME, Perth.

Airways Radio—Two radio navigation systems have been adopted, a radio range system on the routes from Adelaide to Brisbane via Melbourne and Sydney, and between Melbourne and Hobart.

Broadcasting—The broadcasting set-up in Australia combines the features of both the English and American systems, in that there are some stations operated by the Government and others owned privately as a separate class. The former are known as "National Stations" while the latter are called "Commercial Stations."

At the end of June, 1938, there were 24 National stations. They are owned by the Postmaster-General's Department and are operated by the Australian Broadcasting Commission. These stations derive their income from the license fee paid by receiving set owners. The listener's license fee is 21 shillings a year; 9 shillings is retained by the Postmaster-General's Department, which is responsible for the maintenance of the equipment, while the remaining 12 shillings go to the Commission to provide programs, rent, and other costs.

At the end of June, 1938, there were 94 Commercial stations, which receive no part of the listener's licensee fee but depend solely on the broadcast of advertisements or sponsored programs for their revenue. As a rule these stations are owned and operated independently, but there are several so-called networks.

Advertising—All of the Commercial stations broadcast advertising. This may be in the form of a sponsored program, or a brief announcement between program items. Radio is now recognized as an important advertising medium in Australia.

Transcriptions—Transcriptions are widely used for broadcast programs in Australia. Some transcriptions are now made in Australia, but the United States remains among the principal sources of supply. Several companies in Australia are now engaged in the importation of transcriptions from the United States for distribution to broadcasting stations in Australia.

Sets in use—1,250,000.

Stations—118.

#

BAHAMAS

General—It is estimated that 1,200 sets are in use; although a license is required dealers believe that the licenses issued represent but a limited part of the total, and the license figures therefore do not represent the situation. Annual sales are not known.

Sources of Supply—Practically all sets on sale are imported from the U. S. There is no commercial importation from Europe.

Patents—Patents have not been used to interfere with sales of American radio.

Short Wave—Because of atmospheric interference, which maintains throughout the year, and the interest in reception of British Empire programs, short waves are required by buyers.

Broadcasting—During 1937 a low power broadcasting station was opened at Nassau, and a short wave auxiliary is planned. The station is operated by the Government on 610 kilocycles (492 meters) with 400 watts.

Sets in use—1,200.

Stations—1.

#

BERMUDA

General—At present 8,047 receiving sets are licensed for use in Bermuda. This figure is undoubtedly in excess of the number of sets actually in operation, since when a receiver is discarded there is no obligation to report the matter and have the license cancelled. Annual sales average approximately 700. Although a satisfactory demand exists for the console or cabinet type radio, as might be expected in a country of modest financial resources, the sales of table instruments predominate.

Sources of Supply—While U. S. sets prevail, if American products are to hold their dominance in this market it is important that improved models be made available from time to time and in particular that the apparatus be especially designed for sea air and sub-tropical conditions such as those existant in Bermuda and other humid areas. There is now a Dutch export set on the market which is said admirably to resist the dampness of Bermuda, as concerns the metal and the wood in the cabinet. Both portions have been specially treated, with local conditions in view.

Patents—No patent claims have interfered with U. S. selling.

Tariffs and Restrictions—American and other foreign receivers, parts and tubes pay an import tariff of 25 per cent ad valorem, against a British Empire preferential duty of 10 per cent. This discrepancy has thus far been successfully overcome by the popularity of American equipment. There are no exchange restrictions, import quotas or other restrictions.

Amateurs—There are but two or three amateurs. There have been no developments in facsimile and police radio.

Short Wave—Short wave reception is, on the whole, much more satisfactory than broadcast frequencies, although the medium band reception from the United States and nearby Latin-American stations is excellent when static is at a minimum. Nearly all foreign countries as far as eastern Europe are audible on the short wave.

Sets in use—3,047.

Stations—none.

#

BELGIUM

General—On March 1 the total number of sets in use in Belgium was 1,002,045, an increase of 119,497 over the same date in 1937. Belgium should offer a substantial market for radio sets for many years, but under present conditions the prospects for expanding the sales of imported receiving sets do not appear promising. The European long wave band is required by most purchasers in order to receive the Luxemburg station as well as the long wave broadcasts from England, France, the Netherlands, and Russia.

Sources of Supply—Among the foreign receiving sets more commonly sold in Belgium are: His Master's Voice and Ecko (British), Telefunken, Point Bleu, Seibt, Saba, Nova, Loewe, Lorenz, and Strassfurt (German), Philips (also made in Belgium), and Stokvis (Dutch), and eight American makes.

Tariffs and Trade Restrictions—There are no restrictions on the importation, sale, or ownership of receiving sets or parts, except the import duty. Under the terms of the agreement concluded between the United States and Belgium in 1935, there was a reduction in the rate of duty on complete sets and the supplement tax per tube socket was reduced about 15 per cent. The import duty on complete sets at present is 17 francs per kilogram on the chassis and cabinet, plus 8.50 francs per tube socket and 1.45 francs per tube.

Television—Extensive experiments and research have been conducted by the Philips Corporation for the development of television in recent years, and as a result demonstrations were begun in their studios in Brussels in January, 1938, in the presence of Belgian and foreign government officials. The previews disclosed that considerable success has been achieved in their developments. Projections were made on a screen of unpolished glass 16x20 inches and transmitted a distance of 50 feet from the first to the second floor of the building. The transmitters operated at a very high frequency of 43,208 kilocycles for vision and 39,708 kilocycles for sound.

Short Waves—Short wave broadcasts are very popular in Belgium and such programs from France, Italy, England, Germany, Spain, Sweden and the United States are sought with eagerness, though the difference in time renders the short-wave broadcasts from the United States very inconvenient and only the radio enthusiast derives much benefit from the better American programs. When there is no serious interference, good reception may be obtained on ordinary short-wave radio receivers from the principal stations in the United States after 1 p.m. Greenwich time in winter, and after 4 p.m. in summer. A few other American stations are also heard, but the reception is often unsatisfactory.

Advertising—Since the unofficial stations must depend solely on revenue producing propaganda for their operating income, a more diligent effort is being made to popularize radio advertising in Belgium, but the advertising campaigns have so far been of local character and the rates charged for this service are quite nominal.

Sets in use—1,002,045.

Stations—9.

BRAZIL

General—There is at present a good market for radio sets and a fair one for accessories and public address equipment. During the last 2 or 3 years fairly high powered broadcasting stations were constructed and a marked improvement was effected in the quality of the programs broadcast, with the result that the interest of owners and listeners has become aroused and sales of sets and equipment have increased considerably as compared with previous years. Nevertheless, the demand is not so large as might be expected from a territory of this size and population, being adversely affected by low average earning power. Total annual sales may not exceed 750,000 sets, although no official statistics are available. Sets in use are estimated at about 450,000.

Sources of Supply—Philips (Netherlands) continues to be the most serious competitor to American radio manufacturers in this market.

The fact that Philips receivers are offering increasing competition to American radios cannot be attributed altogether to the more favorable sales terms offered by the former. Local distributors of American radios freely admit that while Philips sets are not as selective as our receivers and lack their superior tone qualities, the latter are better adapted for use in this climate.

Patents—Patent claims have not interfered with the sale of radio equipment.

Tariffs and Trade Restrictions—Radio sets and accessories and parts (excepting tubes) fall under Article No. 1583 of the Brazilian tariff, with duty payable according to the weight of the unit. Present exchange regulations provide that drafts covering imports can be paid on due date for immediate remittance abroad by presenting the following documents for approval: Consular invoice, commercial invoice, certified by a Chamber of Commerce and Brazilian Consul, and Brazilian customs clearance certificate.

Television—No developments.

Facsimile—No developments.

Short Waves—Short wave reception is very popular in Brazil. About 10 per cent of the sets in use are able to receive the United States and Europe regularly, although United States stations are largely under the disability of interference from European stations, with directed waves. American broadcasts, however, are not entirely satisfactory to Brazilians, because of language difficulties.

Advertising—The use of radio as a medium for advertising has increased considerably in recent years. This development may be attributed largely to the substantial upswing in receiver sales which has afforded wider listener coverage, as well as to the improved quality of programs available. Estimates as to the coverage available through this medium vary widely. It is believed, however, that the 420,000 radio sets currently in use in the country serve a total of between 1,800,000 and 2,500,000 listeners, a majority of whom fall into the higher income groups. One major deterrent to the more widespread use of radio advertising in this country has been the lack of a network which might afford national coverage and the relatively limited radius within which any particular station or groups of stations may be heard. Aside from a lack of power, certain peculiar interferences are found here with reader reception poor within relatively restricted areas. These conditions are accentuated considerably during the warm months (November to March) when excessive humidity increases atmospheric noises.

Radio advertising rates vary widely.

Sets in use—460,000.

Stations—65.

BRITISH INDIA

General—Importations into India of radio receiving sets and apparatus have been continually increasing during the past several years and a fairly good demand for ordinary sets can be considered to exist. There are, however, various factors which militate against the increased use of radios. One of the chief factors at present is poor quality of broadcasting. At least 50,000 sets are in operation, it is estimated.

Sources of Supply British manufacturers are apparently paying more attention to the Indian market. They have successfully introduced short wave receivers and it is expected that the development of a short wave broadcasting system in India will react favorably on sales of British equipment which, of course, enjoys a preferential duty.

In the North-West (Karachi area) the major market is held by instruments of American manufacture but they are encountering keen competition from Philips, which are now estimated to hold about 30 per cent of the sales volume. It is reported that the chief reason for the popularity of Philips sets is because of the good results obtained with their AC-DC sets.

Tariffs and Restrictions Radio apparatus of all kinds, including tubes, is dutiable at 50 per cent ad valorem. A 10 per cent preference is given to manufacturers of the United Kingdom, but this has been of very little, if any, assistance to British exporters. This high duty naturally enhances the cost of radios and is a particularly severe handicap in a country where its purchasing power is as low as it is in India.

Short Wave Interest in short wave is extensive. Programs are received from most of the important world-class stations, although American stations seldom come in well. The Government is giving special attention to short waves as a means of more readily covering India with broadcasting service.

Under the All-India Radio's short-wave expansion program, demand for sets covering 13 to 100 meters is bound to increase materially during 1939. Only a few American sets are available at present with this range and it is reported that the prices asked for these sets are almost prohibitive. However, one satisfactory American receiver has been introduced and although it sells at a high price the importing firm is highly optimistic as to its future in this market, pointing out that they have high-class clientele who are prospects for just this type of set.

Broadcasting The principal broadcasting stations in India are owned and operated by the Government India under the Posts and Telegraphs Department, the operating authority being known as "All-India Radio" (formerly the Indian State Broadcasting Service).

It is believed that several private broadcasting services with amateur licenses give purely local programs of phonograph records, etc., in various localities.

The Government of India has authorized an expenditure of 4,000,000 rupees on broadcasting and this sum has already been allocated for expenditure on different projects. Installation of the stations decided upon is progressing rapidly.

Advertising There are no sponsored programs at present on the air in India. This form of advertising was tried out, but met with very little success, and has been practically discontinued, although facilities are still available.

Regulations—Amateur transmitting licenses are granted only to subjects of British India or Indian States. Radio dealers have to operate under 3 licenses from the Government, each costing 10 rupees; one for operating radio, the second is dealer's license, and the third for demonstration of sets in prospective buyers' houses.

The law forbids the sale of a radio set unless the purchaser can produce a license which has been purchased from Government authorities.

Sets in use—50,000.

Stations—8.

#

BULGARIA

General—The market for radio sets has been improving, with a 40 per cent increase in imports in 1937, which, in turn, were 70 per cent larger than 1935 imports. The imports during the first quarter of 1938 show an increase of 14 per cent over the imports for the same period in 1937. Improvements in broadcasting facilities have developed much greater interest in radio, and adequate service has been extended to much new territory. The completion of the new 100 kilowatt national broadcasting station has greatly encouraged the market for radio sets in this country.

The most popular sets are table model, 5 or 6 tubes, with short and medium wave bands, with or without the long wave. Only a small number of sets without the short wave feature are now being offered. Console sets are usually too expensive for this market because of the high customs duty based on weight.

Sources of Supply There are about 40 different makes of radios on the Sofia market. Of these more than half are of American origin, while the rest are from Germany, Austria, Netherlands, Italy, France, Hungary, United Kingdom and Bulgaria. Of the European radios sold the most important are Philips, Telefunken, Kortin, Blau Punkt, Saba and Standard. American imports of radio sets in Bulgaria in 1937 were only 8 per cent of the total imports, while Germany had the leading place with 49 per cent. The loss of American leadership was due principally to a change in the customs tariff effected in 1936.

Patents—No patent interference with the sale of American sets and tubes has been experienced.

Tariffs and Restrictions—Bulgarian radio import business is now financed entirely by arranging "compensation" or barter transactions, as import permits, under which normal trade could be carried on, are not used for these products. Importers who are not prepared to handle the compensation export trade usually arrange with other business men for the transfer of credits, but the premiums charged for these transactions amount to about 35 per cent for business with the United States at the present time. Merchandise should not be exported to Bulgaria on credit under present conditions, since residents of this country, even if willing and financially able to meet their obligations, are not permitted to transfer their funds abroad, except along the lines indicated above.

Short Wave—There is a definite interest in short wave reception, although the subject is not given a great deal of attention. Nearly all sets sold have the short wave feature. European short wave programs are usually obtainable on the middle or long wave bands, but broadcasts from other continents are received on the better sets usually in a satisfactory manner. The 19 and 25 meters short wave band usually give the best reception in this country.

Advertising—Although there is some income from radio advertising, the policy has been a moderate one, and radio advertising has not over-burdened the regular broadcasting program. Most of the commercial advertisements are offered with music or some kind of entertainment, and only a small number are in the form of advertising copy. Only 10 minutes of the daily program are devoted to radio advertising (5 minutes at noon and 5 minutes in the evening).

Number of sets—35,000.

Stations—3.

CANADA

General—At the end of the fiscal year, March 31, 1,104,207 receiving licenses were outstanding.

It is estimated that 76 per cent of all Canadian families own receivers. The fall and winter seasons are the principal selling periods for sets. New models are usually announced late in the summer. In the last 4 years 41 per cent of annual sales to dealers have been made during the last quarter and 32 per cent in the third quarter.

Principal factors which handicap radio sales include the relatively high cost of receivers in Canada as compared with prices in the United States, lack of local broadcasting services in some areas, and the language handicap in Quebec where most of the listeners prefer French language programs.

Types of Sets—The design of sets sold conforms to that in the American market. The most popular sets are of 5 tubes, AC. Consoles of this class account for 7.5 per cent of the total sales, and mantel models 10.5 per cent. AC 6-tube consoles account for 7.2 per cent of the total and 8-tube consoles for 7.3 per cent. Up to 6-tube battery sets amounted to 24.8 per cent. Four-tube AC sets have lost in favor to the larger chassis, but this size still leads in the battery set market. All types and sizes have appreciable sale, however.

Domestic Production—Twelve companies manufacture radio receivers in Canada and because of patent control and electrical inspection requirements, these firms dominate the market.

Patents—Since 1927 the more important Canadian radio patents have been under the control of a patent corporation known as Canadian Radio Patents Limited. This corporation, at 159 Bay Street, Toronto, originally took over for licensing purposes numerous patents formerly held by individual concerns. It has since acquired patents and rights on its own account and has rights under foreign patents as well.

Tariffs and Restrictions—Canadian tariff information is subject to change and should be verified in advance of doing business in Canada. Complete current information can be obtained on inquiry of the Bureau of Foreign and Domestic Commerce. Radio receivers and most component parts, including tubes, are dutiable under Tariff Item 445d which provides free entry under the British preferential rate, 25 per cent ad valorem under the intermediate rate, and 30 per cent under the general tariff.

Television—This development is definitely in the experimental stage in the Dominion and its early practical application is discounted. Television presents a difficult geographic problem in Canada and as yet no concern has been inclined to provide television broadcasts because of the indeterminate nature of technical developments and the lack of a concentrated population area large enough to warrant the installation expense.

Short Wave—Canadian broadcasting on the short wave bands is chiefly confined to commercial and police work, aside from a few stations which release standard band programs on the short wave and the Broadcasting Corporation's regular stations which provide free messenger service to remote northern areas, not covered by commercial line wire service.

Broadcasting—Under the Canadian Radio Broadcasting Act, 1936, the Canadian Broadcasting Corporation on November 2, 1936, took over Government operation of the national broadcasting service and the control of all radio programs from the former Canadian Broadcasting Commission. Technical control of broadcasting stations reverted to the Department of Transport under the Radiotelegraph Act. The Government-owned corporation is headed by a board of 9 honorary governors and a general manager in charge of operations. The legislation charges the corporation to carry on broadcasting in Canada and authorizes it to establish, maintain and operate stations, to acquire or make operating agreements with private stations, produce programs, and otherwise function as a government broadcasting agency. The legislation envisages gradual extension of public ownership of radio in Canada and enlargement of coverage consistent with Federal finances. The principal difference between the Corporation and the Canadian Radio Broadcasting Commission which it replaced is that under the Commission authority to act in matters of policy and administration were combined in one body, whereas in the Canadian Broadcasting Corporation the board of governors will deal with questions of policy and administrative matters will be conducted separately. Broadcasting is considered a business controlled by a public service type of corporation (Government-owned) rather than an activity under an administrative governmental organization. The Corporation reports to Parliament through the Minister of Transport. Operations are financed by license fees for receiving and broadcasting sets and by revenue from commercial radio business. Further, the Act provides that by order-in-council up to $500,000 may be borrowed from the government for the extension or improvement of broadcasting facilities. In addition, working capital not to exceed $100,000 may be advanced by order-in-council.

In March 1934 a Parliamentary inquiry into the operations of the Radio Commission suggested "that, pending nationalization of all stations, greater cooperation should be established between privately-owned stations and the Commission," and that for the present the legislation which established the Commission be extended. A second Parliamentary committee of inquiry, appointed in 1936, was the basis of legislation which established broadcasting under control of a government-owned corporation. In 1938 a House of Commons committee reported favorably upon the results secured under the operation of the Canadian Broadcasting Corporation.

Licenses for broadcasting are issued by the Department of Transport after the application has been referred to the Corporation for recommendation. The new radio law also specifies that the Minister of Transport will receive recommendations from the Broadcasting Corporation in connection with new private licenses, change of channel, location or power.

Programs—Effort has also been made to build up Canadian radio talent and develop creative program writers. Canadian programs on exchange with United States stations have become increasingly popular and highly satisfactory exchange relationships exist between the Corporation and United States broadcasting systems.

Canadian broadcasting cannot hope to escape keen competition for listeners' attention from United States stations which are readily picked up in most areas of the Dominion. In meeting this competition programs are prepared to incorporate viewpoints and preferences in agreement with Canadian ideas and ideals. Effort is also made to avoid the more objectionable advertising features of commercially-sponsored broadcasting.

Advertising—Station time is usually sold through advertising agencies and rates vary according to the time of broadcasting and the coverage offered by individual stations. The advertising content of any program is limited to 10 per cent of the program period and specific regulations cover permissible material in advertising continuities.

Transcriptions—The use of transcriptions is generally prohibited between 7:30 and 1:00 p.m., but at other hours they are extensively employed by broadcasting stations.

Special recording apparatus of the Marconi-Stille type has been installed in the Broadcasting Corporation's station at Ottawa for recording important events for rebroadcasting at later dates. Special short wave receiving apparatus is located at Ottawa for recording or standard band release of overseas programs.

According to law, an annual license (fee $2.50)

must be obtained each fiscal year (April 1 to March 31) for radio receivers. One license is good for only one receiver in a single household; a separate license being necessary for each additional set in a household and also for an automobile set operated by the householder. No rebate is provided for sets destroyed or retired from use but a license may be transferred to cover a new set bought during the year. Tourists temporarily in Canada are not taxed on their automobile radios. Receiving station licenses are issued to blind persons free of charge.

Sets in use--1,104,207.

Stations—87.

#

CHILE

General--The Chilean market is largely dominated by American manufacturers whose standard practice is to appoint a distributor in Chile, who in turn appoints local retail dealers throughout the Republic. It is estimated that the total number of receiving sets in operation in Chile at the beginning of 1938 was between 75,000 and 80,000. This represents a steady increase from 1935, when the number was estimated at approximately 50,000 sets.

Sources of Supply—The United States supplied 97 per cent (by value) of Chilean imports of receivers and sets in 1934; 88 per cent in 1935, and 89 per cent in 1936; 88, 36 and 100 per cent, respectively, of the transmission apparatus and 59, 70 and 81 per cent, respectively, of the radio tubes.

Manufacture--A large American radio manufacturer established a branch assembly and manufacturing plant late in 1936. Production in 1937 is estimated at 8,000 sets, mostly 4 and 5 tube models. Outside of this one manufacturer, no industry may be said to exist, although a few sets are locally assembled by radio dealers.

Patents and Trade Marks--There is no patent interference with the manufacture or sale of American sets and tubes in Chile. Sufficient protection both for patents and trade marks is available under Chilean law. The law is specific and providing that the manufacturer is careful to comply with it, there is little danger of infraction.

Television—There have been no developments.

Short Wave--Two stations, CB15 and CB960, both in Santiago, are short wave and another is in the course of construction. Atmospheric changes, the barrier of the Andes, and other factors strongly affect the receiving of short wave programs. The 49 meter band is oftentimes too noisy for stations outside of South America, while the 31 meter band is very crowded. The best American station in the latter group formerly lost much by the London and Berlin broadcasts, but considerable improvement was noticed in both the case of Schenectady and Pittsburgh during the early months of 1938.

Broadcasting--There are 66 broadcasting stations in Chile, of which 59 are in operation, 6 under construction, and 1 under reconstruction. The foregoing represents an increase of 8 stations during 1937. Five stations are listed at 5,0000 watts and 1 at 10,000 watts.

Programs—Phonograph records are still depended upon to a great extent for programs. This type of entertainment is accepted with good grace by the Chilean public, as it definitely prefers good music from records to poor music executed by mediocre talent. Occasional lectures, skits and daily news broadcasts about complete the picture.

Advertising—Radio advertising is still in its initial stages in Chile and has yet to be placed on a sound commercial basis. Rates are definitely subject to bargaining. . . .

Transcriptions—The use of transcriptions is practically unknown in Chile, although one station made an arrangement to use the library service of an American broadcasting system some months ago.

Regulations--Broadcasting stations are divided into two categories. Those of the first category must have a power equal to or greater than 1,000 watts and must have wave lengths included between 300 and 545 meters, those in the same zone to be separated by a frequency of not less than 20 kilocycles. Those of the second category must have a power of not less than 100 watts and are to have wave lengths between 200 and 300 meters, 220 meters being reserved for movable maritime services.

Sets in use—80,000.

Stations—57.

#

COSTA RICA

General--Radio reception is best in Costa Rica during the dry season, as considerable atmospheric disturbances are generated during the period. Reception is generally inferior along the hot, low coastal regions, but uniformly satisfactory anywhere in the Central Plateau region. Principal world stations are distinctly heard under normal conditions. In 1936 1,740 sets were sold in Costa Rica, and the 1937 total was about 2,000. The total number of sets in use is estimated by the Government Department of Radios at 10,000, and by local dealers at 12,000 to 15,000.

Sources of Supply--About 90 per cent of the sets imported are from the United States. Foreign competition is represented principally by the Dutch Philips and German Telefunken sets. The Telefunken agent is said to be preparing a strong sales drive during the coming year. Both European lines range higher in price than American.

Patents—There is no patent interference with sales.

Tariffs and Restrictions—The basic duty on radio sets and apparatus is 1 colon per gross kilogram, plus a 4 per cent consular surcharge on this duty and an additional tax of 2½ centavos per gross kilogram. There is also a general surtax of 2 per cent or 5 per cent of import duty according to the port of entry. There are no import quotas, and exchange is freely obtainable.

Short Wave--Three commercial stations in Costa Rica broadcast on short waves. All receiving sets should be equipped for short wave since foreign stations cannot be heard on the broadcast band. Reception from all principal world stations is generally good in late afternoon and evening during the dry season. In the wet season atmospheric interference is met with. During the forenoon the best reception is heard at about 18 m.c., in the afternoon 15 m.c., and at night, 9 and 12 m.c.

Programs—All stations operate by agreement between the hours of 6 a.m. and 1 p.m. and from 2 p.m. to 11 p.m.

Programs are almost entirely phonograph discs of dance and folk music, with miscellaneous advertising talks interspersed. The Spanish language is invariably used, American dance music and theme music is very popular, especially when first heard at moving picture theatres.

Advertising—A great deal of advertising is done by all the stations listed.

A flat rate of $10.00 (U. S. currency) for regular commercial advertising, to be repeated "several times each day," the exact number of times not stated.

Number of sets--10,000.

Stations--30.

CUBA

General—The importation of radio products is handled almost entirely through the Port of Habana, which is easily the most important center of demand. It is estimated that during the sugar-grinding season from January to May, 60 to 75 per cent of the entire sales of sets are made in Habana as against 25 to 40 per cent in the interior centers. During the so-called "dead season," sales in the latter drop to about 15 to 20 per cent of the total. The more important interior centers of demand are Santiago de Cuba, Camaguey, Santa Clara, and Cienfuegos. Manufacturers in the United States as a rule appoint an importing distributor in Habana, with exclusive franchise.

Demand for Sets—Various estimates of the number of sets in use range from 100,000 to as high as 250,000 sets. Inasmuch as manufacturers in the United States have supplied most of the radio sets and components shipped to Cuba, United States exports are a reasonably accurate measure of the market. The 1937 sales are considered to have approximated 41,000 new sets. The largest volume of sales, probably 75 per cent of the total, is composed of table-model all-wave sets of 5 to 7 tubes.

Sources of Supply—U. S. manufacturers supply most of the radio products sold in Cuba. According to Cuban export statistics, of a total of 1,208,372 pesos worth of radio apparatus shipped to the Island, American sources provided 1,165,082 pesos worth. The only trade of any importance from other countries consists of sets from the Netherlands.

Patents—There is no patent interference with the sale of American sets and tubes.

Short Wave—Short wave sets are so popular in Cuba that there is no demand whatever for sets with broadcast wave only. Reception of short wave broadcasts from the United States and European countries is only partially satisfactory, extreme fading being the principal difficulty.

In general the quality of American radio programs and their superiority over domestic broadcasts are well recognized. It is believed, however, that the majority of listeners prefer to tune in on their local stations and that re-broadcasts in Cuba of foreign programs have very much more chance of being listened to, than have the same programs by direct tuning. That announcement rebroadcast locally are in Spanish, and that tuning is easier, with less interference and fading are the principal reasons. There has been a notable reduction in interference between American and European stations.

Broadcasting—A reallocation of November 1, 1938, under a decree of October 24, greatly revises the frequencies on which Cuban stations are operating. The power designation, "100-200 watts" is not explained as to whether stations are to be assigned a specific power rating at a later date or are to broadcast with the reduced power at night.

Programs—Operators of Cuban stations claim that Cubans prefer local stations to foreign, and that there is a strong liking for so-called "typical music" such as rumbas and other native forms. Many American programs, especially musical, are well liked, especially if obtainable through Cuban stations. Increasing facilities for such rebroadcasts are being made available by American systems. This is considered an important factor in improving the general character of programs.

Advertising—Broadcast time charges range from $5 to $50 an hour. Considerable use is made of 35-word announcements, generally broadcast at program breaks and especially just preceding popular programs. Announcements may consume as much as 15 minutes time before the new program starts. Rates are subject to discounts for contracts. In general, rates are so low that large volume is necessary for stations to operate profitably. There is only a comparatively small amount of use of transcriptions.

Sets in use—200,000.

Stations—82.

#

DENMARK

General—Most Danish radio manufacturers are also wholesalers and it is estimated that about 50 per cent of the production is sold direct by the manufacturers to the retailers, while the other 50 per cent is sold through wholesalers. There are approximately 1,000 retailers, of whom some 50 to 100 are important and are estimated to account for 50 per cent of the sales.

A total of 746,864 sets were registered as of June 31, 1938, as compared with 686,640 on the same dae of the preceding year, a gain of some 60,000 sets, or about 9 per cent. Total sales are estimated by the trade to approximate 90,000 sets a year. Most of the sales are for the replacement of old sets.

Sources of Supply—The domestic industry, comprising 9 manufacturers of importance, of whom 7 are Danish and 2 branch plants (Philips and Telefunken) satisfy practically the entire demand. The only imported set of any importance is the Italian Marconi. Only chassis are imported, cabinets being made locally. Makes enjoying the best sale are Philips, To-R, Telefunken, B. & O., Telavox, Neutrofon, Superfon, Tik, Unica, and Marconi. Very few, if any, American sets are sold in this market. Prospects were very good for American sets until the establishment of governmental control over imports, since which practically no permits have been issued for American sets.

Patents—Tube patents are controlled by Philips, and the local office is active in asserting rights possessed or claimed.

Tariffs and Restrictions—The duty rate on radios and loudspeakers as well as parts and accessories is 20 per cent ad valorem. Imported sets with tubes pay in addition 1.50 crowns for each tube. Tubes imported alone are also assessed 1.50 crowns each.

Imports of nearly all kinds of merchandise are controlled by the official Foreign Exchange Control Board, import licenses issued by the board being required before goods are permitted entry. Because of the pressure exercised by the two countries that are the largest purchasers of Danish exports, Germany and the United Kingdom, Denmark is compelled to import from these countries to the greatest possible extent. As a consequence import permits are granted rather freely for goods originating in those countries. This operates to the disadvantage of American trade.

Short Wave—Short wave reception is popular locally and practically all sets sold during the past two years are equipped to receive on short wave. Best reception is on the 19 and 25 meter bands. Local short wave broadcasting has been limited to a single wave of 31.51 meters, and has been the subject of considerable criticism, owing to poor reception, especially in the United States. Experiments are being made in revising the aerial and in use of 19.78 and 16.90 meter waves.

Advertising—Prohibited.

Regulations—The government, on account of the monopoly, does not permit others to broadcast. Regulations governing amateurs are given in a ministerial decree of March 27, 1935. Receiving licenses costing 10 crowns per year are required.

Sets in use—751,744.

Stations—3.

DOMINICAN REPUBLIC

General—It is estimated that there are between 4,000 and 4,500 sets in use. Import statistics give the only accurate indication of annual sales. The demand is increasing from year to year, especially for small sets capable of receiving Cuba and Puerto Rico. With increasingly better programs from local stations, use of these small and inexpensive sets will be greater among the class of people in the lower income brackets. Radio sets generally in demand are of 5 and 6 tubes, and priced generally between $50 and $75.

Sources of Supply—Radio sets, tubes, and parts come principally from the United States. Since there is no domestic production, import statistics are a satisfactory guide as to the sources.

Patents—No interference with sales.

Tariffs and Restrictions—By the law of Internal Revenue No. 854 of March 13, 1935, a sales, use, and consumption tax of 30 per cent ad valorem is imposed on radio sets imported into the Dominican Republic. No sales or exchange restrictions exist. There is a charge of 50 cents imposed annually on owners and operators of receiving sets.

Short Waves—Radio sets now imported are usually all-wave. A majority of the people prefer foreign programs. The stations holding most interest for Dominicans are: Schenectady, Pittsburgh, Boston, London, Berlin, and Habana. In general wave lengths of 13, 14, and 19 meters are more favorable during the day from November to April. At night all year 25, 31, and 49 meters are favorable, especially during the winter.

Programs—Programs of Dominican stations are general in nature, but have not been highly developed artistically.

Advertising—Advertising rates are subject to alteration according to the type and length of programs which may be accepted.

Transcriptions—Transcribed programs are being used by 2 or 3 American firms at the present time. Difficulties encountered here have been limitations as to time allotment. The American firms using transcribed programs prefer evening hours, but this is not the most advantageous time because reception in the evening is more likely to be of foreign stations. In general Dominican stations are anxious to make contact with prospective advertisers by transcriptions. Turntables are all 33 r.p.m.

Sets in use—4,500.

Stations—28.

#

ECUADOR

General—Sets in use are estimated at about 6,000. Of this number, about 2,750 are in Guayaquil, and most of the remainder in Quito. Total sales for the year 1937 are estimated to have been about $44.000. As stocks are not maintained to any extent, sales approximate importations. The type of set most popular in Ecuador is a 6 to 8 tube table model retailing at from 1,300 to 1,500 sucres ($99 to $102).

Sources of Supply—The United States occupies a dominating position in the Ecuadorian radio market and is now supplying about 75 per cent of the receivers and 90 per cent of the parts and accessories imported. Twelve American set manufacturers are at present actively represented in this market by distributor agents and several additional makes are represented less actively. Sales of the leading American make constitute about 60 per cent of the total set business.

Patents—No sales interference has arisen.

Tariffs and Restrictions—Radio receivers, parts, accessories, and radio merchandise in general are classified under Article 1158 of the recently-revised Ecuadoran customs tariff and are subject to an import duty of 40 per cent ad valorem. Merchandise from the United States under this classification enjoys a preferential reduction of 30 per cent of the amount of the basic duty, under the terms of a modus vivendi. Similar merchandise from Germany, Brazil, Belgium, Chile, Czechoslovakia, Netherlands, and France also receiving the same preferential traiff reduction.

Short Wave—Short wave reception has been growing in popularity and at present six Ecuadoran stations broadcast on these bands. Foreign stations most frequently heard are Colombian, German, British, American, Peruvian, and French, respectively.

Broadcasting—All broadcasting stations in Ecuador are independent. Most are commercial, although two stations, in Quito and Guayaquil, are concerned primarily with missionary activities conducted by means of radio.

Programs—No material improvements has been manifest in the quality of programs broadcast from Ecuadoran stations, which programs consist largely of recorded music broken by intervals of advertising. Although to the American mind these programs are almost totally devoid of interest, they are well accepted locally.

Advertising—The demand for time for radio advertising is growing rapidly in Ecuador, but rates remain far below those customary in the United States.

Regulations—Decree No. 166 of May 12, 1937, provides that non-commercial stations broadcasting publicity for Ecuador are exempt from a tax generally applied on transmitters, amounting to 1 sucre per watt, imposed by Article 29 of the Stamp Tax Law of February 13, 1936.

Sets in use—6,000.

Stations—24.

#

EGYPT

General—In the 12 months ended June 1, 1937, 63,815 receiving licenses were issued in Egypt. Dealers estimate that 5 to 10 per cent of the sets used are unlicensed, indicating a probable 70,000 sets in use. Estimates indicate that about 65 per cent of the licensees are Egyptian.

Sources of Supply—The most serious competitor to American Equipment is Philips, followed by British, German and Hungarian makes. Some progress was made by a Belgian make (Radio-Bell) recently introduced on account of its close resemblance to American models.

Apart from a few expensive sets and radio parts purchased by Egyptian State Broadcasting, the United Kingdom occupies the third place as radio supplier, largely because of sales to the British troops stationed in Egypt and to British residents. A favorable trend towards buying British products has also developed among Egyptian prospects due to the efforts of British exporters who are giving more consideration to the possibilities offered by this market since the ratification of the Anglo-Egyptian treaty.

Patents—The patent situation has not offered any difficulty in the sale of American radio equipment.

Tariffs and Trade Restrictions—Under paragraph 785 of the Egyptian Tariff, wireless telephone and telegraph apparatus is assessed 12 per cent ad valorem, on substantially the c.i.f. value. A quay tax of 1/10 of the duty is added, as well as an import tax of 3 per cent ad valorem.

Radios individually imported are treated as ordinary merchandise with the exception that the customs authorities keep a record of the destination of the radio as check upon the payment of the annual license fees.

Short Wave—The "British Empire Program," as well as several European and American stations stimulate the demand for short wave sets which is steadily increasing.

Broadcasting—Egyptian State Broadcasting, through the Marconi Wireless Telegraph Company Ltd. of London, now operates all broadcasting. The Marconi Company has a 10-year monopolistic concession, to operate as agents for the Egyptian government, receiving 60 per cent of the listener's license fees. The main studios are in Cairo in a specially constructed building.

Advertising—None.

Regulations—The Marconi concession constitutes the regulations governing broadcasting. Dealers are required to report all sales of radio with the identity of the purchasers. An annual receiving set tax is applied, amounting to 80 piastres ($4) plus 5 piastres (25c) per tube. Antagonism to this taxation is general.

Sets in use—70,000.

Stations—5.

#

FRANCE

General—On Sept. 30, 1938, 4,548,293 receiving licenses were outstanding, representing an increase of 621,391 during the preceding 15 months. The increase has continued, according to estimates, but no authoritative estimate exists as to the number of sets now in use. The French are inclined to consider radio more of a luxury than a necessity, which somewhat retards the market, but the general rate of sales is good. There is a distinct winter peak.

Sources of Supply—Radio imports are chiefly from the United States and the Netherlands, with some competition from Germany and the United Kingdom. The French industry accepts the fact that American design and technical practices are about 2 years ahead of the best they have been able to do in France, and adjusts its production, both as to price class and quantity, accordingly. The French radio industry is fairly large. Its principal drawback is its inability to finance frequent changes of equipment that would permit producing competitive sets in the more profitable classes.

Tariffs and Restrictions—Radio sets when imported into France pay an ad valorem duty of 22.6 per cent, plus the 8 per cent tax levied on all finished products entering France, and are subject to an import quota, the annual allotment to the United States being 4,000 metric quintals. Tubes are also under quota, the annual allotment to the United States being 429 metric quintals; the import duty levied being 12.30 per cent ad valorem, plus the 8 per cent tax levied on finished products.

Television—France is one of the leading countries in television experiment, and experimental transmissions have been made since April, 1935. The transmitter has been in the Eiffel Tower since November of that year, and has just been replaced by improved equipment. The antenna projects above the flagpole on top of the tower. The transmitter has a peak power of 30,000 watts, fully modulated, at the feeder of the antenna and is capable of transmitting television images having a definition of 400 lines. The transmitter is connected with studios in the Post Office building and in the Exposition, through coaxial cable.

Broadcasting—French broadcasting stations are of two categories, government and private. The Government stations are operated by the Ministry of Posts, Telegraphs, and Telephones, and are supported by the proceeds of license fees, while the private stations are operated on a basis somewhat similar to that in the United States.

Advertising—The Government stations do not broadcast advertising. However, advertising constitutes the principal means of revenue for the private stations, in which they have been sufficiently successful that income from this source is now subject to a special tax. Chain broadcasting has been started by only one group, "Radio Information," made up of Radio Mediterranee, Poste de l'Isle de France, Radio Toulouse, Radio Bordeaux Sud Este and Radio Enghien, the two last being interconnected.

There are two methods of advertising, "communique publicitaire" and "concerts patronees." The former consists of series of advertising transcriptions, usually involving musical interludes. The second classification refers to sponsored programs, which are in almost every case of 15-minute length. Besides the usual French advertising, there is a growing industry in English publicity, especially for trans-channel reception. The most popular hours for this are 8 to 9 a.m., 12 to 2 p.m., and after 5 p.m. The largest users of radio advertising are manufacturers and dealers in foods, household equipment, and similar products.

Sets in Use—3,916,902.

Stations—26.

#

FRENCH MOROCCO

General—According to the Protectorate's Department of Posts, Telegraphs, and Telephones, there were 34,240 licensed sets in use in French Morocco at the beginning of 1938, an increase of 1/6 over the 29,448 sets at the beginning of the preceding year. Local dealers estimate sales during 1937 at 5,000 to 5,500 sets, most of which, according to them, consisted of small-powered sets of European manufacture. Prior to the devaluations of 1937 and 1938, American makes led the market, but at present the leading make is Philips, with French makes as close competitors. The chief demand is for small and inexpensive sets, which is being met principally by the Dutch and French manufacture.

According to dealers, the most popular types of radios are: European 5 and 6 tube sets, American 7 to 9 tube, all-wave table models.

Sources of Supply—The principal sources of supply of radio equipment are at present, in order of importance, the Netherlands, France, and Germany.

Patents—No interference with radio sales.

Tariffs and Restrictions—There are no sales taxes, import, sales, or exchange restrictions.

Short Wave—Standard broadcast wave lengths are more frequently listened to in French Morocco than short waves, inasmuch as the local station and most French stations on the middle band are receivable. The short wavelengths most used are 6, 9, 12, and 16 megacycle bands.

Broadcasting—The only station in French Morocco is Radio-Maroc, at Rabat, operated by the Protectorate government. The wavelength is 499 meters and frequency 601 k.c., the nominal power, seldom fully used, being 25,000 wats. The government has restricted all broadcasting service to this station.

Advertising—Advertising was discontinued July 1, 1938.

Regulations—The Protectorate government maintains a monopoly on broadcasting and does not permit the importation of radio transmitting equipment except for licensed amateurs. There are no restrictions governing the importation, sale, ownership, licensing, and use of receiving equipment except an annual license fee of 50 francs.

Sets in use—34,320.

Stations—1.

GERMANY

General—Listeners are increasing at the rate of about 1,000,000 a year, a rate that has maintained since 1934. Domestic sales from 1934 to 1937 totalled, respectively, 1,750,000, 1,440,000, 1,310,000, and 1,560,000 sets. Total production in each year exceeded sales by about 100,000. The number of sets in use in Austria as of July 1, 1938, was about 620,000, approximately 92 per 1,000 population, while in the "old" Reich in May, 1938, there were sets in 55 per cent of the homes. The average annual increase in registrations from 1928 to 1932 was 418,000, and 1933 to 1937 956,000. The largest sales come in the fourth quarter, though for the Volksempfaenger the heaviest sale is in December. The increases in registrations continues until about Easter.

Sources of Supply—There is no market in Germany for imported radio equipment. Patent exchange agreements reserve the German market for German manufacturers. Under prevailing import and exchange regulations it is impossible for an American exporter to sell in Germany.

As a result of a patent dispute, however, an agreement was reached between Telefunken, the principal patent holder in Germany, and Philips of the Netherlands, whereby the latter was licensed to do business in Germany. By the same agreement, Philips allows a certain amount of German participation in the Dutch market, including East and West Indian possessions.

Domestic Production—The number of German radio manufacturers has been limited by decree of the Minister of Economics to 28 companies. After the incorporation of Austria the total was increased to 33 with the inclusion of 5 Austrian manufacturers. A cartel regulates prices and discounts. Of the entire production 92.5 per cent by number and 89 per cent by value is accounted for by domestic sales.

Patents—German radio patents are controlled by Telefunken which also holds the rights in several other European countries. The company's position in Germany appears to be unassailable.

Tariffs and Restrictions—In general imports from the United States are restricted to those products considered essential, which cannot be obtained locally or from countries having clearing agreements with Germany. Permits from the foreign exchange control authorities for all imports and for all exchange transactions, are required.

Television—Germany was one of the first, and for a long time one of the foremost countries in the world to bring television to its people. For several years there has been one central sender and one relief station handling programs three times a week and a number of other transmitters are planned. Although announced some time ago, however, these have not yet been built. The station in operation uses intermediate film, 441 lines, 25 frames per second. Direct scanning is also sometimes used. A speed truck operating in Berlin picks up events and transmits them by either method, principally by film. Accompanying sound is recorded on steel tape by the magnetic method.

Television patents are under the same control as those for other radio apparatus.

Some manufacturers claim to produce television receivers at less than 500 marks, but purchase of such receivers is difficult. The Post Office is in charge of television developments and is making constant experiments. Although extensive progress has been claimed, little of this has been reflected in either private receivers or transmissions, indicating that the reported progress is probably more in the field of military developments.

Public television service in Berlin was announced for October, 1938, but has been postponed indefinitely, because of labor shortage and other considerations.

At the recent Radio Show, table television sets were exhibited with a frame size of 17 x 20 cm., which are intended as supplementary apparatus to regular radio receivers. Small television sets have been developed which incorporate both television and sound or sound only. The frames in these are very small. There are also receivers projecting pictures on a screen by means of the Braun'sche tube, giving 40 x 50 cm. views. So far regular production of television sets has not been undertaken.

Facsimile—German facsimile service is carried on by cable within Europe and by radio with oversea countries. There are direct wireless connections between Nauen, the German facsimile station, and New York, Buenos Aires, and Bangkok. Siemens and Halske have developed a box set for newspaper reporters to enable them to send pictures from any postoffice wherever they are. This apparatus was tried out for the first time at the winter Olympic Games at Germisch-Partenkirchen. German newspapers and commercial circles are already making great use of the facsimile service, particularly for transmission within Europe.

Short Wave—Interest in short wave reception is high, and most important world stations may be received. The Zeesen transmitters, located north of Berlin, are among the most ambitious installations in the world for this purpose, and have a world-wide coverage through their several directional beams.

Broadcasting—Broadcasting is under Government control, and all stations belong to the Post Office Department. The Government-owned corporation Reichsrundfunk Gesellschaft, under the Ministry of Public Enlightenment and Propaganda, operates the stations. The short waves transmitters total 14.

Programs—Since the programs are prepared by a Government agency, strict censorship is applied.

Advertising—None.

Transcriptions—There is a considerable use of various types of recordings, but all those used are made within the broadcasting organizations.

Regulations—The operation of both receiving sets and of broadcasting equipment, with the exception of military radio, is under the control of the Government through the Ministry of Posts.

Sets in use—11,000,000.

Stations—35.

#

GREECE

General—Athens and Piraeus being the principal sales areas for radios in Greece, it is customary to cover the entire country by means of an exclusive distributor located in Athens. Official statistics are not available, but about 23,000 sets of all types are now estimated in use throughout the country. Of these, no less than 70 per cent are believed to be in the Athens-Piraeus area.

The type of radio now in general demand in Greece is all-wave, covering frequencies from 22 megacycles to 140 kilocycles.

Sources of Supply—Fully 75 per cent of the radios sold in Greece are of American manufacture and all the better known American makes are represented. Among the foreign makes sold, Philips and Telefunken are the only sets worth mentioning, sales of all other makes being negligible. American sets enjoy a high reputation.

Patents—No interference with sales has occurred from patent claims.

Tariffs and Restrictions—Radio receiving sets and parts are subject to an ad valorem import duty of 20 per cent, calculated on the certified c.i.f. cost price. In addition there are various import surtaxes totalling 75 per cent of the basic duty and a 3 per cent excise tax calculated on the landed cost plus duties.

Amateurs—The possession and use of radio transmitting equipment by private individuals was recently prohibited in Greece. At present there are only 3 amateur radio transmitters in service, these being covered by special license. Their call letters are SVIKE, SVICA, and SVINK. All

operate on the 14 megacycle band and are located in Athens.

Short Wave—Short wave reception is becoming increasingly popular in Greece on account of the satisfactory results obtained during the daytime from European stations. Short waves are an essential feature of almost all the sets sold in Greece at present. American short wave stations are heard only on the larger sets.

Programs from London, especially news bulletins are of keen interest to a large number of listeners, and PCJ in the Netherlands is also popular. The best results are obtained on the 12, 15, 16, and 22 megacycle bands.

Broadcasting—After numerous delays and last minute postponements the Athens broadcasting station began to function about the middle of June, 1938. The station has a 15,000-watt Telefunken transmitter which operates on a frequency of 601 kc, 499 meters wavelength. The station has no call letters, but uses a characteristic of pastoral flute with goat bells in the background.

Advertising—Very little advertising has been done through the Athens station so far and the management of the station confesses to a complete lack of organization in this respect.

Regulations—Owners are required to register their sets with the Ministry of Communications as soon as purchased and to notify the same Ministry of any changes in ownership.

With the opening of the local broadcasting station radio owners have been called upon to pay the receiving licensee fee provided for by law, but never enforced.

Sets in use—23,000.

Stations—1.

#

GUATEMALA

General—While sales in 1937 were considered very satisfactory and showed some gain in the total number of units, the increase was much less marked than in previous years.

The tax figure of 11,842 tax-paid sets is believed to be 10 to 20 per cent below the actual number. Of these, 8,718 were in the Province of Guatemala.

Types of Sets—Owing to inadequate local broadcasting, small middle-band sets have not had any appreciable demand until the present year. The inauguration of the powerful government-operated station in October, 1937, has helped to stimulate this trade somewhat. Practically all radio users demand all-wave sets with a minimum of 5 or 6 tubes. The principal sales are of 8 and 10 tube sets.

It is estimated that from 80 to 90 per cent of the sales are table models.

Sources of Supply—The United States is by far the largest supplier of practically all types of radio equipment imported into Guatemala. At least 90 per cent of the broadcasting equipment, tubes, parts, and accessories, including antennas, amplifiers, etc., are from the United States.

Patents—Patents in no way interfere with the sale of American sets or tubes.

Tariffs and Restrictions—Radio apparatus is assessed in the Guatemalan Tariff under the general grouping including telegraph, telephone, and television apparatus.

Amateurs—Amateurs are somewhat restrained by the necessity of obtaining a government permit to import transmitting apparatus, and only two are operating. Both are members of the technical staff of the government broadcasting station TGW, and transmit under the calls TG9AA and TG9AB.

Facsimile—Up to the present there has been no facsimile transmission of pictures and maps. Newspapers depend upon airmail for rapid transmission of photographs.

Short Waves—The only short wave broadcasting in Guatemala is that of the government stations, TGWA, TGS, TG2X, TG2 and TGQA. Another short wave station is under construction and will be operated on the 49-meter band as TGWB.

Reception of short-wave broadcasting from the more powerful stations in all parts of the world are generally heard satisfactorily in Guatemala.

Programs—Programs for the most part include musical numbers, though there has been an increase in the use of news and educational features. Musical numbers are supplied by local bands and marimba orchestras, and transcriptions are also used.

Advertising—All of the broadcasting stations with the exception of TGC accept advertising.

Transcriptions—Only ordinary phonograph records have thus far been used in Guatemala. The new broadcasting station will, however, use electrical transcriptions.

Regulations—In addition to the regulations covering acceptance of advertising, the law establishing government station TGW provides for receiving licenses and notification of change in ownership of receiver, applications and notices to be on 10-cent stamped paper, and that licenses are to be issued by Station TGW as the government licensing agency. Other provisions deal with broadcasting operations of TGW.

Sets in use—11,842.

Stations—10.

#

HAITI

General—It is estimated that 2,500 sets are in use in Haiti. The principal requirements of the Haitian market are for all-wave sets, both the climate and scarcity of local broadcasting giving short wave reception extra value.

Sources of Supply—Most of the receiving sets and tubes are imported from the U. S. The only foreign makers represented are Philips and Telefunken, which are reported to have sold 2 and 20 sets, respectively, during the past year.

Patents—Patents have not interfered with sales of radio apparatus.

Tariffs and Restrictions—Radio receiving appliances, equipment, and parts are classified under paragraph 11033 of the Haitian customs tariff and pay duty of 30 per cent ad valorem, plus a surtax of 5 per cent of the duty. The trade agreement between Haiti and the United States provides that whenever the Haitian budget calls for expenditures of $8,000,000 or more, the rate on this item is to be reduced to 15 per cent ad valorem. It does not appear that this will occur in the near future.

Short Wave—Much interest is shown in foreign broadcasting, and as French is the official language of Haiti, programs from Paris are preferred by many. Reception of American and European stations is good. Some interference is caused by European stations.

Programs—Programs consist principally of phonograph records. Occasionally music is furnished by local talent.

Advertising—Advertising is accepted by HH2S, HH3W, and HHW. Announcements are made between the playing of phonograph records.

Transcriptions—Transcriptions are not used to any great extent because of the cost. Phonograph dealers exchange the use of records for ad time or mention of the source of the record.

Regulations—The Haitian radio law provides: All forms of radio under the Department of Public Works; broadcasting stations must be licensed after approval by the Department of the Interior; operator must be licensed; receiving license fee 1 gourde per tube per year for private and 1.50 gourdes per tube per year in public places; broadcasting license fee 0.50 gourdes per watt

of output up to 500 watts, 0.75 gourdes over 500; operator license fee 15 gourdes per year, amateur license fee 5 gourdes per year, temporary amateur 3 gourdes per year. Secret code among amateurs is prohibited.
Sets in use—2,500.
Stations—15.

#

HONDURAS

General—No official figures are available, but estimates by local dealers, however, place the number at between 15,000 and 16,000. Approximately 95 per cent of the receiving sets sold in this market are table models.

Sources of Supply—So far as transmitting equipment is concerned, only American products are to be found in this market. It is not thought that equipment from other countries has ever been imported for sale. In other branches there has been a small amount of competition, but none seriously limiting American sales.

Patents—There is no difficulty with regard to patents.

Tariff and Restrictions—The Honduran Customs Tariff under item 2196 stipulates a duty of 0.75 lempira (38 cents) per gross kilogram on radio sets imported into the country. In addition to this there must be paid a surcharge amounting to about 10 per cent of the duty, as well as certain other small taxes amounting to fractions of a cent each.

Short Wave—Sets without a short wave range are of very little value in Honduras. Radio dealers estimate that approximately 95 per cent of the programs received in this country come over short wave.

Broadcasting—There are 3 broadcasting stations in Honduras.

Advertising—All radio stations in the country broadcast advertising, which is believed to be the sole source of revenue for the station operators. There are no listeners licenses. Most of the advertisements broadcast consist of commercial announcements interspersed between musical numbers.
Sets in use—15,000.
Stations—3.

#

HONG KONG

General—On July 31, 1938, there were 9,500 receiving licenses in force. The demand is increasing. Radio is becoming more and more popular in Chinese tea houses, in shops and in the home.

The demand from South China has been negligible since the outbreak of the Sino-Japanese hostilities. There have been heavy purchases by the Chinese Government but such sales have no bearing on the general market situations.

In 1937, only 55 per cent, by value, of Hong Kong's imports of radio apparatus and tubes were re-exported to South China and other nearby countries, as compared with approximately 80 per cent in 1936.

Sources of Supply—In 1937, the United States assumed a dominant position as a supplier of radio equipment to Hong Kong, furnishing 75 per cent of the total value of imports in this category. It was followed by the United Kingdom with a share of 13 per cent, Holland with 5 per cent, Japan with 3 per cent, and Germany with 1 per cent.

Patents—No patent action has affected the sale of American apparatus.

Tariffs and Trade Restrictions—No duty is assessed on radios or parts thereof imported into Hong Kong. No other restrictions exist.

Amateurs—The number of amateur transmitting stations has decreased since the beginning of 1936, and in August, 1938, there were only 14 amateur licenses in force. The demand from this source for equipment continues insignificant.

Short Waves—Short wave reception is popular, and purchasers prefer this feature to be included in their sets. American programs are seldom received because of distance and lack of beam transmission, together with atmospheric interference.

Broadcasting—The broadcasting service in Hong Kong is maintained by the Government. There are no private broadcasting stations, and everything pertaining to radio traffic is Government-controlled.

Transcriptions—Transcriptions play a large part in the local radio programs. All records are purchased from dealers.

Regulations—A broadcast receiving license costs 12 dollars per year, while a dealer's license costs 50 dollars. All radio receiving sets are subject to inspection at any time on order of the Postmaster General, and the license may be cancelled at his discretion. Dealers are required to keep all stocks at a specified place, and are responsible for any misuse of merchandise. They are required to maintain a register of sales.
Sets in use—9,500.
Stations—3.

#

HUNGARY

General—About 365,000 sets are in use. There are about 540 radio dealers, but only about 50 are important. Six Budapest wholesalers handle about all of the trade.

Types of Sets—According to official records, on December 31, 1936, there were in use in Hungary 73,512 crystal sets, 11,754 1-tube, 132,259 2-tube, 107,031 3-tube, 27,072 4-tube, 9,759 5-tube, and 3,957 6-tube and larger. About 85 per cent of the tube sets are socket-power. Crystal and 1-tube sets are rapidly decreasing, while larger sets are increasing in use. The low purchasing power of the public limits the demand to low and medium priced sets.

Sources of Supply—The domestic industry supplies practically all the receiving sets and tubes used in Hungary, except auto sets and military transmitters, both of which come from Germany.

Patents—There has been no interference from patents in the sale of American radio goods.

Tariffs and Restrictions—The import duty on radio sets is 800 gold crowns per 220 pounds.

Television—No developments.
Facsimile—No developments.

Short Wave—The better grades of sets manufactured in Hungary have both the short and long wave bands, in addition to the broadcast. Results appear to be good on all short wave bands including the 49 and 15.

Broadcasting—Broadcasting is a Government monopoly, supervised by the Royal Hungarian Postal Department. The service is under lease to the Hungarian Telephone News Service and Radio Company.

There are two experimental short wave stations at Szekesvehervar operating with 6.000 watts.

In addition there are 59 other transmitters, 6 being on airplanes, 7 on steamers, and 46 in public service and in scientific institutions.

Programs—Budapest broadcasts daily from 6:45 a.m. to 12:10 a.m., and Budapest II from 5 to 10 p.m. The relay stations usually take programs from I, but occasionally from II. HAS3 is on the air Sundays from 3 to 4 p.m., and HAT4

Wednesdays and Thursdays 1 to 2 a.m. and Saturdays and Sundays 12 to 1 a.m.

Advertising—No advertising is broadcast.

Regulations—Regulations are now being prepared by the Royal Hungarian Postal Department.

Sets in use—400,000.

Stations—7.

#

IRELAND

General—There is a good demand for radio sets in Ireland, and the market is steadily expanding. The greatest demand occurs between December and March. In addition to the usual seasonal effects, this period finds the agricultural community, which forms fully two-thirds of the population of the country, in possession of the greatest amount of cash.

According to official figures, there were 112,000 licensed receiving sets in the country December 31, 1937, compared with 104,000 a year previously. No accurate information is available as to the number of sets sold annually, but it is estimated to be in the neighborhood of 30,000.

Sources of Supply—The majority of the sets sold are British, the Netherlands and the United States each furnishing about 10 per cent of the imports.

Patents—No patent activities have interfered with radio sales.

Tariffs and Restrictions—A duty of 50 per cent ad valorem is imposed on all radio sets imported into Ireland. Parts and Accessories are dutiable at 25 per cent ad valorem, with the exception of cabinets, which are assessed at 50 per cent. There is no preferential rate for British products.

Amateurs—The total number of licensed amateurs is about 35.

Short Wave—There is no Irish short wave broadcasting. American and European short wave stations are received regularly.

Broadcasting—Broadcasting is a Government monopoly, under the Department of Posts and Telegraphs.

Programs—All programs are originated at the Dublin studios and transmitted simultaneously by all three stations. The local programs are designed to have a distinctive flavor. Broadcasts to schools are given for one-half hour daily, except Saturdays, Sundays, and holidays.

Advertising—Sponsored programs have been tried out, but the Government does not encourage them.

Transcriptions—Records are broadcast approximately 11 hours weekly. Advertising transcriptions are not used.

Regulations—The stations being Government-owned, no regulations have been adopted for their operation, other than the international and European conventions to which Ireland is signatory. Receiving licenses are required, costing 10 shillings annually.

Sets in use—112,000.

Stations—3.

#

ITALY

General—The number of radio subscribers in Italy at present is about 900,000. The number of sets sold during 1937 is estimated to be about 180,000. Sales during 1938 are expected to reach 200,000 sets. Sales are particularly of a seasonal character, being at the highest point in winter and at the lowest in summer. The type of set having the largest sale is the superheterodyne having 5 tubes.

Sources of Supply—The domestic industry provides now for the entire requirements of radio sets and material. The total import quota of tubes for 1938 is set at 131,576 units of which the United States is allotted 70,000, or 53.2 per cent of the total.

Patents—Some of the more important Italian firms have patent agreements with American, German, Dutch and other companies. The question is not at present active.

Tariffs and Trade Restrictions—Imports of radio sets and tubes are subject to license by the Ministry of Communications. When the import license has been obtained the Ministry for Foreign Trade and Exchange grants the necessary foreign exchange.

Television—Rome and Milan will soon have television transmitting stations with 441 lines of analysis or 28 whole pictures. These stations will be manufactured in Italy as regards the transmitter, while the analyser will be imported. However, an Italian company has been devoting itself for years to the problem of television and has its own systems and patents also as concerns the analysis of the picture.

Amateurs—There is in Italy an association of radio amateurs—ARI. However, as licenses for amateur transmitting are obtainable with great difficulty, their number is very small.

Facsimile—For the wire transmission of photographs 5 plants are installed for newspapers, all supplied by foreign firms. So far the domestic industry has not manufactured equipments for this application.

Short Wave—The interest in short wave transmission has been considerable so that the type of set most in demand, the 5-tube superheterodyne, has the three bands for long, medium and short waves, and the higher price sets have the short waves divided into two or more bands.

Advertising—Advertising has been eliminated in broadcasting. In the case of sponsored programs only the name of the sponsor is announced.

Regulations—Under the decree law of February 8, 1923, radio stations and broadcasting services are a Government monopoly in Italy and colonies. The Government can grant concessions and issue licenses to private companies and public bodies for erecting and operating wireless stations. As indicated above, the broadcasting service has been leased under decree law of 1927, to the E.I.A.R. The direction and supervision of the service is vested in the Ministry of Communications.

Private owners of radio receiving sets are required to pay a fixed annual subscription to the broadcasting company at the rate of 81 lire per annum if paid at the beginning of the year or 85 lire if paid in advance in two semi-annual installments.

Sets in use—900,000.

Stations—30.

#

JAMAICA

General—The demand for radio equipment has been moderate, but it would appear that the market is gradually becoming saturated and will decline in the near future to one almost entirely of replacement. The low purchasing power of a large majority of the population restricts potential users and these are largely supplied. A further adverse factor is the poor reception of overseas broadcests during the summer months. The sales of radio sets are slightly better during the Christmas season than at other periods of the year but, owing to the slight variation in the climate, there is little fluctuation in business at other seasons.

Atmospheric disturbances in the Carribean Sea and the topography of the country affect radio reception to some extent at all periods of the year, but from March until October it is almost impossible to achieve long wave reception. According

to the Superintendent of Telegraphs there were 3,340 receiving set licenses, including 880 original applications, in effect at the beginning of 1938.

Advertising—There are one daily morning paper and one weekly paper published in Jamaica, and dealers advertise in these periodicals at irregular intervals. They also advertise at the better class picture houses.

Sources of Supply—Over 80 per cent of the sets imported are of American manufacture and the United Kingdom supplies about 13 per cent. The imports of tubes are not separately classified but the United States supplies at least 85 per cent of all parts imported, while less than 10 per cent are from the United States.

Patents—There are no patent laws or regulations affecting the sale of American or other foreign products.

Tariffs and Restrictions—With the exception of an important tariff, there are no exchange or other legislative restrictions affecting the market for radio equipment and parts.

Short Wave—Only short wave sets are in demand as long wave reception is unsatisfactory for nine months of the year.

Sets in use—3,340.

Stations—None.

#

JAPAN

General—Japan is at present operating on a full wartime basis of economy, with the Government exercising rigid control over all phases of finance, industry and trade. Imports are being curtailed in order to combat the unfavorable trade balance and to maintain the value of the yen on world money markets. Import licenses are required for receiving sets and equipments. Owing to the well-developed state of the domestic radio manufacturing industry, which is on an export basis, imports during the closing months of 1937 and during the early months of 1938 showed a decided shrinkage. It is believed that total arrivals during 1938 will be considerably below the levels of recent years. The number of licensed radio receiving sets at the last count was 3,402,489.

Opportunities for the sale of American radio receiving sets are extremely limited, owing to the current trade and exchange restrictions, the import duty of 40 per cent ad valorem of the c.i.f. price and the general low-price characteristic of the market.

The Japanese radio manufacturing industry is expected to meet with growing business. The number of sets sold in the domestic market is expected to increase in greater rate for many years to come, due to increase in number and power of broadcasting stations and greater popularity of radio among the masses. Further, the improvement in production is expected to cause continued expansion of exports not only to Asiatic countries but also to the Occident.

Patents—Imitation is a strong feature of Japanese manufacturing, and any imported article should be fully covered by Japanese patents before being placed on sale. Otherwise, it is most certain that as soon as popularity is attained, direct imitations will appear, often with trade marks and cartons in striking mimicry of the original produced and sold at prices far below any at which American goods can be imported.

Tariffs and Restrictions—Radio receiving sets and equipment are dutiable under Japanese Import Tariff Item No. 559 at 40 per cent ad valorem, the duty being assessed on the c.i.f. valuation. Effective October 11, 1937, importers of such apparatus are required to secure import permits from the Finance Ministry for all purchases from abroad exceeding 100 yen in value. This regulation went into force as the result of the promulgation on that date of the Emergency Trade Control Law. While not altogether in the nature of an import prohibition, it has had the effect of limiting imports to products not yet made locally to an extent sufficient to fill domestic needs and then only in curtailed amounts.

Television—A considerable amount of experimental work has been done with television in Japan. Public tests have been conducted during the past several years, the most important of which were held in February 1938. Developments are now being directed by the Japan Broadcasting Corporation at a special laboratory erected for that purpose at Kinuta, on the outskirts of Tokyo. According to Dr. Kenjiro Takayanagi, leading television researcher in Japan and director of the new laboratory, temporary television broadcasts will be started in July 1938, for the express purpose of being sure that regular television service will be available by 1940 when the Olympic Games are scheduled to be held in Tokyo.

The Japan Broadcasting Corporation has constructed a television set that will be made available to the public at the rate of 1,000 yen, equal to $290 each. Further research may bring this price down to 500 yen a set. At this level, it is estimated that about 10,000 sets will be sold, but no greater number is envisaged unless a drastic price reduction is achieved.

Short-Wave Reception—Short-wave reception in Japan is prohibited, the few sets operated being owned by Government officials or foreign diplomats. Satisfactory reception from the United States is reported to be impossible, owing to the fact that the power broadcasting stations are all on the Atlantic seaboard of the United States and also because of climatic and other interference. It is possible that a powerful station on the Pacific coast could be heard in the Orient with some degree of regularity and satisfaction. There is no market for short-wave sets in Japan and the popular American all-wave sets find no appeal here since the short-wave reception bands must be rendered unfit for use.

Broadcasting—Broadcasting in Japan Proper is under the control of a single organization, the Broadcasting Corporation of Japan (Nippon Hoso Kyokai), a semi-official concern closely supervised by the Department of Communications. Programs are subject to strict censorship and nothing that might harm the interests of the country and its people is allowed to go on the air. Advertising of all sorts is prohibited. Political speeches cannot be included in the daily program. Even election campaign speeches and Diet proceedings cannot be broadcast.

Advertising by Radio—No advertising of any description is broadcast by Japanese radio stations.

Transcriptions—Arrangements for transcriptions are usually made locally, both for American and for European music and other material. Two American companies have branch plants in Japan and these firms supply transcriptions to the Japan Broadcasting Corporation. Payment is made for the right to broadcast such material.

Regulations—The original Japanese broadcasting regulations were adopted by ordinance of December 21, 1923, but since amended on a number of occasions.

Sets in use—3,759,047.

Stations—39.

#

LUXEMBURG

General—Responsible dealers are of the opinion that the Luxemburg market is now "saturated," in the sense that practically all persons able or willing to buy radio sets have done so, and future sales must be based on replacements and extra sets, for the most part. The best estimates place

the number of receiving sets now in use at more than 30,000. This is more than one set to every ten of the population. Very large families are the rule in Luxemburg, and in certain regions reception is difficult or of no entertainment value, because of high tension cables, machinery, or other circumstances. Sales have been falling off for months, and at present are mostly replacements. It is believed that under present conditions 35,000 sets would represent the maximum which could be used in this country, and that figure has almost, if not quite, been reached. The most popular selling sets in Luxemburg at present are large table types.

Sources of Supply—Germany, Belgium, and France, in the order named, are the chief countries of supply. Except for a few sets assembled to order by a couple of amateur dealers, there is no local manufacture of radio receiving sets.

Patents—There is no patent interference with the sale of American sets and tubes.

Tariffs and Restrictions—The Grand Duchy of Luxemburg is a member of the Belgo-Luxemburg Economic Union and the customs duties on all imports are the same for both countries. A reduction in the duty on radio tubes and parts imported from America was secured in the trade agreement between the United States on the one hand, and Belgium-Luxemburg on the other. There is no quota restriction on the importation of radio sets and parts into Luxemburg. There are equally no exchange restrictions between Luxemburg and the United States.

Short Wave—The desire to hear programs on the short waves is growing. This is largely because the more expensive sets are equipped for short wave reception rather than any active demand by purchasers. Reception from all countries of the world at loudspeaker strength is possible in Luxemburg nearly every day of the year, with powerful sets. There is no short wave broadcasting in Luxemburg.

Reception of American short wave stations has been greatly improved by the institution of beam directional broadcasts.

Broadcasting—The Grand Duchy of Luxemburg has only one broadcasting station, one of the most powerful and modern in the world, broadcasting at 200,000 watts on a frequency of 232 kilocycles and a wave length of 1293 meters. "Radio Luxembourg" is the name of the station, which has no official call letters. The station is owned and operated by the Compagnie Luxembourgeoisie de Radiodiffusion, 53 Avenue Monterey, Luxemburg, Grand Duchy. The station is in constant operation from 7:00 a.m. until 1:00 a.m.

Advertising—Radio Luxemburg has at present about all of the advertising that it has room to accept. Its rates are not generally made public, and are in some measure a matter of individual arrangement. About 90 per cent of the advertising is in English.

Regulations—A new agreement between the stockholders of Radio Luxemburg and the Grand Ducal government was signed in 1938. The new accord requires payment by the station on the basis of gross receipts rather than the previous arrangement of an annual payment of 30 per cent of the net profits. Station will pay the government on a sliding scale which allows a maximum of 25 per cent of total receipts. Present income is derived from American and English advertising which sponsors 80 per cent of commercial time on the station. Radio-Luxemburg continues its monopoly of broadcasting by the new agreement which incorporates previous regulations contained in the charter of the corporation itself. No taxes or license fees are collected from owners of sets.

Sets in use—30,000.
Stations—1.

MANCHURIA

Including Kwangtung Leased Territory, "Manchukuo," Etc.

General—On January 1, 75,000 subscribers were reported representing a 25 per cent increase in 3 months—owing principally to the interest of the populace in the progress of Japanese invasion of Northern China. Another element responsible for increased sales is the purchase by the government and government-controlled agencies of sets to assure reception of important patriotic and "national benefit" programs. The army is also interested in receivers, especially short wave, and as no Japanese sets are produced with short wave bands, American sets are purchased exclusively for this purpose. For the price market, 3 and 4 tube Japanese sets are the most widely sold. American sets are demanded by those able to afford higher quality.

Sources of Supply—About 60 per cent of the radio imports are from the United States, practically all of the remainder being from Japan. A very few German sets are imported.

Tariffs and Restrictions—Radio equipment is classified in common with Telephone and Telegraph apparatus under No. 244 of the Tariff of "Manchukuo."

Short Wave—The operation of all radio sets is subject to police permit, and all-wave sets are controlled more strictly in order to prevent their unauthorized operation, particularly with reference to the short wave band, the use of which is seldom authorized. At irregular intervals inspections are made and the questionable band cut off in sets of those persons whom the police think should not operate them. For this reason after these inspections local sub-agents are somewhat reluctant to stock sets having short-wave bands, although there is no limitation on the sale of all-wave sets, only in their operation.

Broadcasting—The broadcasting stations are owned and operated by the Manchurian Telegraph and Telephone Co., a semi-official organization.

Advertising—Advertising by radio was inaugurated early in 1937, but has not had the anticipated success. Less than 25 per cent of the important firms have availed themselves of the service, while more recently the military "emergency" has interfered with such developments.

Regulations—All receiving sets are licensed, and the use of sets receiving short waves is prohibited. Regulation is generally under police jurisdiction, generally interpreted according to the Japanese code. Military operations is a frequent cause for imposition or suspension of some rulings, which, however, do not seriously interfere with the continued operation of broadcasting.

Sets in use—75,000.
Stations—7.

#

MEXICO

General—It is estimated that between 300,000 and 350,000 sets are in use. As the U. S. is the principal supplier, with only limited competition, sales are generally parallel to U. S. exports. In 1937 sets so shipped numbered 111,661. The sales during the first 6 months of 1938 were 50 per cent below those during the same period of 1937. The principal reason given is the high rate of exchange.

Mexican preference is for low-priced 5-tube table models, costing from 140 to 180 pesos. In that field short wave is not considered important. Those who can pay a higher price prefer the

7-tube all-wave class, usually table models. Domestic radio manufacturing is very small.

Sources of Supply—Transmitting equipment is almost exclusively from the U. S., while the U. S. furnishes 92 per cent of the total radio imports of Mexico, the remainder being from the Netherlands and Germany. The principal competition is from Philips. The trade estimates that Philips business in Mexico doubled in 1937. German makes include Telefunken, Punto Azul, Saba, Lorenz, and Mende.

Patents—There are no patent difficulties in the sale of radio equipment.

Tariffs and Restrictions—Duties were increased in January, 1938, and again changed April 30. The present rates are: Transmitters, 8 centavos per legal kilo, receivers with cabinet, 2.50 pesos per legal kilo, receivers without cabinet, 1 peso per legal kilo, tubes, 15 centavos each, antennas 40 centavos per legal kilo, separate loudspeakers 40 centavos per legal kilo, cabinets with loudspeaker 1.20 pesos per legal kilo, cabinets 1.20 pesos per legal kilo, and parts 40 centavos per legal kilo. Parts must be specifically for radio to come under this rate.

Short Wave—With the growing popularity of all-wave reception, there is an increasing interest in United States short-wave programs. Practically all short wave stations in the United States are clearly receivable. Other western and European stations are heard regularly and are popular. Progressive improvement in Mexican broadcasting stations and other transmitters have improved reception and eliminated interference.

Chain Broadcasting—There is no chain broadcasting at present, although special hookups are arranged for outstanding occasions, such as addresses by the President. Authority to require chain operation for the transmission of the official bulletins which every station is required to broadcast is given in the regulations.

Programs—Vocal and instrumental Mexican music, news, classical musicals, comedies, dramas, and comic dialog make up the typical Mexican program. The requirements regarding program content outlined in the regulations brings special emphasis on nationally characteristic material.

Advertising—The largest users of radio advertising time appear to be breweries and manufacturers of medicinals, beauty preparations, and cigarettes. These four industries advertise on a national scale. Other radio users are largely localized. Rates do not as a rule include talent. Stations reserve the right to maintain artistic standards. Some stations make extra charge for announcers' services. Rates for one of the leading stations range from 65 to 155 pesos per half hour, each hour of the day being priced differently. Quarter hour rates are about 60 per cent of the half hour charge. Discounts on contracts range up to 20 per cent for more than 100 broadcasts.

Transcriptions—Transcriptions are used quite freely. Regulations require that any speech be in Spanish.

Sets in use—350,000.

Stations—100.

#

NETHERLANDS

General—The number of sets registered in the Netherlands on March 31, 1938, was 705,156. Sales were again quite seasonal, especially during the Christmas season when the variation is quite pronounced. Philips, supplying 70 per cent of the market, has discontinued a 15 per cent summer discount.

It is estimated that between 40,000 and 50,000 sets are sold annually. As a result of increased prosperity of the past 2 years, the volume of business has become quite satisfactory. The potential demand has been estimated at 170,000 sets annually.

Patents—The importation of American radios in the Netherlands on a commercial basis is not permitted because of the control of basic patents by the Philips Company. Although doubt has been expressed of the validity of these patent rights, any dealer attempting to import American radios is liable to an injunction action in the courts of this country. No case up to the present has been carried to the highest court of appeal, so that the question is still in abeyance, but the position of Philips is considered to be a strong one. As a practical matter the Philips concern continues to enjoy control of the market.

Television—Television in the Netherlands is still in the experimental stage, although the progress already made in overcoming technical difficulties would, it is reported, justify the utilization of television in the Netherlands to the same extent as is being done in England, where performances are being given regularly. The Philips concern has secured a number at its laboratories at Eindhoven. The reproductions obtained with the company's newly developed 22-tube sight-and-sound receiver are considered satisfactory even when compared with the best obtained thus far elsewhere. With iconoscopes built in it own laboratories, both outdoor scenes and motion picture films can be transmitted direct, without the intervention of photography, by so-called interlacing at 25 pictures per second; in this manner, larger and clearer pictures are obtainable. There are still many improvements needed, but Philips has introduced complete television transmitters and receivers. This is some indication that the technical difficulties are being surmounted.

Short Waves—More all-wave sets are now being offered for sale in the Netherlands because the Netherlands is interested in developing short wave broadcasting with its colonies and because listeners desire the option of tuning in on the short wave band. In general, however, the average listener prefers the long and standard wave transmitters from Hilversum and Kootwijk. On the same band, he has the long and standard wave programs of neighboring countries at his disposal. Little or no interest has been displayed in the ultra short wave.

American short wave programs can be received in the Netherlands but the great obstacle is the difference in time which makes clear reception possible only with very selective sets. Programs coming from the United States which are only to be had with difficulty and at an inconvenient time possess some novelty; this, however, is soon lost especially when the average listener, with a moderate priced set, may tap the long and standard wave stations of nearby European countries offering good and diversified programs.

Broadcasting—Broadcasting in the Netherlands derives its revenue almost entirely from voluntary contributions to one of the four broadcasting associations in the Netherlands. These associations publish periodicals, subscriptions to which as well as advertising therein are an important source of revenue. Owners of receiving sets pay no license fee but every set must be registered with the postal authorities.

Advertising—Broadcast advertising is prohibited by law.

Transcriptions—Considerable use is made of phonograph records for broadcasting but the market for American transcriptions, even without advertising, is negligible.

Sets in use—705,156.

Stations—4.

NETHERLANDS INDIES

General—There were 54,462 sets in use at the end of 1937 in the Netherlands Indies, compared with 39,028 at the end of 1936. The sharp increase was partly due to better economic conditions and partly to the introduction by Philips of a comparatively cheap model at 89.50 florins. Early 1938 sales have held up well. About 65 per cent of the sets are owned by Europeans, 19 by natives, and 16 by other Asiatics.

The country offers a promising potential market since broadcasts are universally popular. Only a limited number of models have been available, and these offered at relatively high prices. The native market offers the greatest promise, but because of limited purchasing power, this cannot be developed until cheap, efficient sets are available. A good all-wave model costing 25 to 35 florins would meet a demand of several thousand sets a year.

Sources of Supply—The most popular sets are Philips and Erres, both Dutch, but some British GEC and Austrian Minerva are sold. The German Mende was recently introduced, but the Korting and Blau Punkt are now seldom found. Under an agreement with Philips, German concerns are permitted to import 600 and British 250 per year, according to reports.

Patents—Owning tube patents, Philips has succeeded in definitely holding Netherlands Indies as a market closed to American tube sets. The closure developed as a result of the popularity of American sets during the early days of broadcast development, and earlier among amateurs. Philips using the right to refuse licenses as a means of preventing importations in competition. The right of individuals to buy sets abroad for delivery in the country has never been decided by the courts, although Philips agents usually notify such an importer that suit will follow if he accepts delivery. Generally the matter is dropped, however, if the importer gives sufficient assurance that the set is for "amateur" use and will not be offered for sale.

Short Waves—The tropical climate of the Netherlands Indies has restricted radio developments to short waves almost exclusively.

Programs—Seventeen stations broadcast primarily for European audience and 7 for the native. According to the terms of the NIROM concession programs must be developed to meet the public interest. Questionnaires are regularly distributed to listeners.

Advertising—Although there appears to be no prohibition of advertising over NIROM stations, no efforts have been made to sell this service. Other stations are prohibited broadcasting anything for monetary return other than the free contributions of their listeners.

No. of sets in use—54,462.

Stations—59.

#

NETHERLANDS WEST INDIES

General—According to official figures there are now 2,378 radio sets in the Netherlands West Indies. Seven to 11-tube table models for short and long waves combined are the most popular sets.

Patents—Philips controls patents, the colonies coming under the same patent jurisdiction as the Netherlands. Licenses to other firms have been consistently denied, with the exception of certain German companies with whom Philips has a working agreement regarding concessions in their respective patent agreement territories. Threats of civil and criminal prosecution of importers and dealers have prevented the importation of other sets for sale.

Tariffs and Restrictions—There are no governmental restrictions on the importation of radio apparatus except for a duty of 15 per cent ad valorem on the factory price.

Short Wave—Foreign stations received are London, Berlin, Eindhoven, and nearly all stations in the Western Hemisphere.

Broadcasting—There is only one broadcasting station in the Netherlands West Indies, located at Curacao and operated by the Curacaosche Radio Vereeniging. Programs consist mainly of electrical transcriptions of dance bands of the U. S. and Latin America.

Advertising—Advertising is broadcast and advertising practices resemble those used in the U. S., and are at least 95 per cent of American products.

Transcriptions—Most of the transcriptions used are of American origin. No advertising transcriptions have been use.

Regulations—A permit must be obtained for the installation of a transmitter or receiver.

Sets in use—2,378.

Stations—1.

#

NEWFOUNDLAND

General—Owing to the geographical situation of the Island, owners of radio receiving sets in Newfoundland are able to receive programs broadcast by American, Canadian, and European stations. As a rule, however, reception in St. John's is poor, owing to the almost continuous leakage from street and house lighting wires, as well as from the street railway system. An additional cause of poor reception in Newfoundland is said to be the electrical phenomena associated with the Aurora Borealis and geological formations at the point of reception, which limit satisfactory short-wave reception to the late hours of the night. The street cars stop running at midnight and the improvement in reception after that hour is noticeable. During the summer months short wave reception is fairly satisfactory.

The few large department stores in St. John's, as well as a large number of manufacturers' agents, handle American radio receiving sets and equipment. All distribution is through St. John's, the capital, which is also the principal commercial center of the Island.

Sources of Supply—During the 1937 fiscal year the United States supplied 93.35 per cent of the imports of radio receiving sets and equipment into Newfoundland, only 4 per cent having been supplied by the Canadian Marconi Company. It is estimated that 3 prominent American makes satisfy approximately 70 per cent of the demand for American sets, the remaining 30 per cent being shared by 12 or 15 other manufacturers.

Patents—There are no patents held by Newfoundlanders which affect the radio trade. Several foreign patents appear to have been registered in Newfoundland, but this circumstance has had little of no effect on sales. The preference which seems to be shown by officials of the Department of Posts and Telegraphs for the Canadian Marconi Company is believed to be based on the fact that it is an Empire undertaking, and has no reference to any patent rights.

Tariffs and Restrictions—It should be noted that imports for the fiscal years 1930 to 1934, inclusive, were assessed at 55 per cent ad valorem. However, the new Customs Import Tariff, which was promulgated January 1, 1935, assesses im-

ports of radio sets and equipment at 30 per cent ad valorem, with no preferenee being given to sets and equipment of British manufacture. This reduced tariff has resulted in a considerable increase in the importation of American equipment.

Short Wave—Receiving sets, to enjoy any great demand, must have short-wave bands. American and European short-wave programs are received in St. John's. There is no local short wave broadcasting.

Advertising—Advertising over the local radio broadcast stations is done almost entirely through the medium of short announcements by station announcers and through phonographic transcriptions, all of which are obtained from the United States.

Transcriptions—Stations VONF, VOGY and VOCM use transcriptions and popular dance recordings to form 60 per cent of their programs. Imports of transcriptions (15-minute recordings) valued at approximately $3,000 U. S. currency, were made by these stations during 1937. All such transcriptions were obtained direct from the U. S. They are rented out to individuals or organizations wishing to advertise over the radio. They are never sold outright. However, some of the local firms representing American manufacturers import their own transcriptions advertising the merchandise which they represent.

Sets in use—12,000.

Stations—6.

#

NEW ZEALAND

General—Radio sales in New Zealand have increased with rapid strides in recent years, particularly since 1934. This trend is illustrated by the steady annual increase in the number of licenses which has maintained since 1924 without a break. Although the retail demand has recently been reported to be slackening and retail dealers to be somewhat overstocked, sales have more recently improved, and import figures indicate that sales in 1938 may considerably exceed those of 1937.

On June 30, 1938, licensed receiving sets in use numbered 296,065, including 1,213 dealers' sets and 1,033 experimental sets. As compared with the same date in 1937, total sets increased by 41,741 or 14.6 per cent.

Sources of Supply—During the calendar year 1937, the principal countries supplying numbers of imported sets were the United States (62 per cent), United Kingdom (19 per cent), and Australia, 15 per cent. Values of importations were apportioned as follows: United States, 50 per cent; United Kingdom, 28 per cent, and Australia, 18 per cent.

Patents—A patent pool known as the Australian Radio Technical Services and Patents Company, Limited, with headquarters in Sydney, Australia, is authorized to form agreements between patent holders and local dealers and manufacturers.

Tariffs and Restrictions—The General Tariff covers imports from the United States.

Short Wave—Short wave sets are extremely popular and their use has been increasing in recent years. The principal demand is for all-wave sets. Reception of American stations, however, is poor in most sections of the Dominion. On the other hand, good reception is reported for the United Kingdom, France, Germany, Russia and Japan. There is no local short wave broadcasting other than experimental. The government has announced that it plans to establish a short wave station, but no definite steps have yet been taken. Wave bands giving the best reception are reported to be 25, 32, 19, and 16 meters.

Broadcasting—Radio broadcasting in New Zealand is controlled by the government, which, through the Minister of Broadcasting, owns and operates 17 stations, 4 of which broadcast advertising. There are also 8 privately owned stations controlled and subsidized by the government, which are not permitted to broadcast advertising matter.

Government stations are separated in two distinct services, the administrative heads of which are responsible to the Minister of Broadcasting. The National Broadcasting Service, comprising 12 non-commercial stations, is administered by a Director of Broadcasting in Wellington. The National Commercial Broadcasting Service, comprising 4 advertising stations, is administered by a controller, with offiees in Wellington.

Advertising—The National Commercial Advertising Service, Dixon Street, Wellington, gives the following rates for the commercial network, which includes stations in the 4 principal cities. The "D" rate, 15 minutes, for individual stations is by comparison, casual, 3 pounds 12 shillings for Dunedin, 6 pounds 19 shillings 6 pence for Wellington, 5 pounds 10 shillings for Christchurch, and 8 pounds 5 shillings for Auckland.

Transcriptions—The major portion of local broadcasts consists of transcriptions. The market for American transcriptions is very good, both of advertising numbers and otherwise. American records comprise about 50 per cent of those used, the balance being principally English and Australian. A few transcriptions are made in New Zealand. Transcriptions are imported either by indent agents specializing in handling radio parts or by advertising placement firms. Turntable speeds are 78 and 33 r.p.m. Records used are mainly 12- and 16-inch, although 8- and 10-inch are also in demand.

Sets in use—293,819.

Stations—25.

#

NICARAGUA

General—The latest estimate for radio receiving sets in use in Nicaragua is 4,000. No official figures are available, as no taxes on sets are levied. It is roughly estimated that 150 sets were imported in January to August, 1938. Demand occurs principally in December and January. It is not believed that the coming season will be especially good.

The preference is strongly for all-wave sets, principally table type, 5 to 12 tubes. Sets with 8 or 9 tubes are most popular among these. Dials should be marked in kilocycles rather than with the names of stations, since American practices, rather than European, are more familiar.

Sources of Supply—Practically all radio goods of any nature imported into Nicaragua come from the United States. There has been no competition, but the German Telefunken has established an agency which will offer severe price competition, owing to the ease and cheapness with which askimarks can be purchased, as contrasted with the difficulty and high prices attendant upon the purchase of dollars.

Patents—There have been no difficulties in selling radio arising from patents.

Short Wave—American and other foreign short wave reception is good during the later hours of the afternoon and during the evening, except when there is interference from local stations. Short waves are popular, and sets of any but the cheapest class are seldom purchased unless this band is covered. During the daytime reception is understood to be best on 16-19 meters, and on 31-49 meters at night.

Broadcasting—Nicaragua has 5 broadcasting stations, all commercial, all short wave, and all located in Managua.

Sets in use—4,000.

Stations—5.

NORWAY

General—There has been a steady increase in the sales of radio sets in Norway. Set registrations increased from 137,968 on Jan. 1, 1934, to 300,722 for Jan. 1 last.

Sources of Supply—The Dutch Philips, the Hungarian Tungsram, and the German Telefunken sets accounted for the larger part of the value of imported sets in 1937. Total imports from those countries constituted 44.2, 13.6, and 13.0 per cent, respectively, compared with 29.6, 15.5, and 41.6 per cent of the Norwegian imports in 1936. The remainder of the 1937 imports chiefly applied to Belgian, American, British, Latvian, and Swedish sets. While the United States ranked fifth in importance in 1937, as against the fourth in 1935 and 1936, there was, nevertheless, an increase in its share of the market, the percentage of the total value veing 5.6 in the year under review, compared with 3.9 and 4.9 in 1935 and 1936.

Radio receiving sets are manufactured in Norway, both from domestic and from imported parts. The bulk of the Norwegian production of radio receiving material is shared between 7 firms, all in Oslo. There are no firms engaged in the assembly of sets, nor are there any firms importing radio chassis and providing cabinets locally.

Patents—A patent pool, consisting of certain European and American manufacturers, is offering a license agreement for the importation of American radio receiving sets, upon payment of a royalty of 4 per cent of the gross list price, less 30 per cent. American tubes, which formerly could not be imported on any basis, are now admitted to sale, providing they do not contain more than four electrodes and do not infringe the pentode or hexode patents. The Schottky (screen grid) and the Langmuir (grid frame) patents, which were great obstacles to the importation of American tubes, have expired. There are still, however, a few patent infringement and validity suits pending in Norwegian courts, namely the Philips pentode tube patent, the Telefunken padding condenser patent, and the Hazeltine image-suppressor patents. The latter is represented in Scandinavia by Aga-Baltic.

Tariffs and Restrictions—Radio tubes, including rectifiers, are classified under Item No. 158 of the Norwegian Customs Tariff, with a duty of 50 ore each, plus surcharges of 50 per cent and 20 per cent, or a total of 90 ore per tube. All other radio equipment is classified under Item No. 159, a duty of 20 per cent ad valorem plus the surcharges, or a total of 36 per cent ad valorem being levied thereon. In addition there are harbor and traffic dues. There is also an internal revenue tax of 10 per cent of the retail price to be paid on all radio receiving sets, except on sets which retail at 120 kroner or less. On such sets an internal revenue tax of 1 krone is levied. Radio equipment is not subject to any other taxes or to any exchange restrictions.

Short Wave—All radio receivers sold in Norway are equipped with a short wave band, generally covering 16, 19, 25 and 49 meters. Increased interest has lately been felt in receivers with the 13 meter band, and a good number of sets will in the future be thus equipped.

Broadcasting—Broadcasting in Norway dates from 1925, when a private company was granted a concession by the State for the construction and operation of a radio broadcasting station in Oslo. Similar concessions were granted to private companies in Bergen and other cities, and revenues were provided by the imposition of an internal revenue tax of 10 per cent on sales of radio apparatus and equipment, and a "listeners' tax" of 20 kroner per annum. This latter will probably be reduced to 15 kroner from January 1, 1939.

Sets in use—300,722.

Stations—17.

PALESTINE

General—The number of sets in use in Palestine at the beginning of 1938 was 28,515, according to license statistics, an increase of 8,000 during the year. That the greatest demand is among the Jews is shown by the fact that 65 per cent of the license applications in 1937 were filled out in Hebrew.

All-wave sets are in greatest demand, 6 to 8-tube table models being popular. There is a limited market for consoles. Phonograph combinations are not selling at present, but most of this business came from restaurants and similar places.

The tendency among the Arabs was to favor 3 and 4-tube battery medium-and-long wave sets, with which Ramallah and Cairo could be received. Dealers report, however, that the Arab trade is also turning to all-wave sets.

Sources of Supply—The United States is the principal supplier, with about 65 per cent of the average annual market. The Netherlands average about 15 per cent, with the United Kingdom, Germany, Austria, and Hungary each participating to a smaller extent.

Patents—No interference with sales.

Tariffs and Restrictions—Radio sets and parts are dutiable at 12 per cent ad valorem under serial No. 434 of the tariff.

Short Wave—Owing to atmospheric conditions, reception from Europe on the medium wave band is not good, as a rule. The Jewish population is interested in European reception and short wave is therefore very popular with this group. American short wave broadcasts can be received on only the more powerful sets.

Broadcasting—The Palestine broadcasting station at Ramallah is government owned and operated, and has a frequency of 668 kilocycles, 449 meters, and a power of 20,000 watts.

Regulations—The Palestine radio regulations are based on the Wireless Telegraphy Ordinance of 1924, which has been amended on several occasions.

Sets in use—28,515.

Stations—1.

#

PANAMA

General—The number of sets in use in either the Republic or Canal Zone cannot be definitely determined, but trade estimates are that the number is around 10,000. Imports during the first 6 months of 1938 amounted to 628 sets, of which the United States provided 584, and during the calendar year 1937 3,140 sets, of which 3,068 were from the United States.

The demand is principally for table models equipped with a complete short wave band and of not less than 5 tubes. The most popular price range is for sets that retail from $50 to $100. Console sets and also radio phonograph combinations are in fairly good demand by those in the limited group with higher income.

Sources of Supply—Eight popular American makes are on sale in addition to Philips, which supplied 36 sets in 1937 and 17 during the first half of 1938, and Telefunken, with 12 in 1937 and 9 during the first half of 1938. Most accessories are also of American manufacture.

Patents—There has been no patent interference with sales.

Tariffs and Restrictions—Radio receiving sets, parts, and apparatus for radios are assessed 15 per cent ad valorem as an import duty plus 3 per cent ad valorem on the f.o.b. value of the invoice as a consular fee.

Short Waves—Short wave reception is popular and required in all but the cheapest sets. Stations of the world class are regularly received.

Regulations—Canal Zone. According to a circular Dated March 9, issued through the Executive Department of the Panama Canal, no special permission is required for the installing or operating of any well-constructed non-radiating radio receiver in the Canal Zone, except that within the limits of military and naval reservations the installation is subject to regulation by the military or naval authorities. An inside antenna may be installed without permission. For the installation of an outside antenna application must be made to the District Quartermaster.

Sets in use 10,000.

Stations 11.

#

PARAGUAY

General—Various trade sources estimate the number of sets in use in Paraguay at from 5,000 to 10,000, but perhaps 6,000 is the most accurate figure. Annual sales amount to about 1,000 sets. At least 90 per cent of the population have low purchasing power, making the demand for any but the most inexpensive sets extremely limited.

Sources of Supply At least 90 per cent of the sets in Paraguay are of American origin. A few Philips and Telefunken sets are sold. Tubes come from the same sources proportionately.

Patents There has been no patent interference with sales. Registration in Paraguay is advisable to avoid piracy.

Tariffs and Restrictions There are no import or exchange restrictions. Radio sets, tubes, and parts pay duty to 37½ per cent under paragraph 694 of the tariff plus additional taxes of 5 and 1½ per cent levied on dutiable merchandise.

Short Wave—Night reception of European and American stations on adequate receivers is good. European stations, especially Berlin, London, Rome and Paris, are heard well even during the day. American stations are received best after 8 p.m. during the winter months, May through September. Daytime reception of American station is always poor. The 25 and 31 meter bands are best. 16 and 19 meters are good, but the 49 meter band is noisy. Short wave reception is popular. Dealers find it almost impossible to sell medium wave sets, even though Buenos Aires is satisfactorily received.

Broadcasting—All broadcasting in Paraguay is privately operated.

Regulations—There are no well defined regulations governing broadcasting other than a specification of the number of stations permitted to operate, and authorizing the Director General of Posts and Telegraphs to assign calls and frequencies and require stations to adhere to them.

Sets in use 6,000.

Stations—9.

#

PERU

General—Atmospheric conditions in Lima, where most of the demand for radio is found, favor good reception. Conditions along the whole coast generally are good, with exceptions made for the regions of Chimbote and Pisco, where ships, as well as receivers on land, report frequent difficulty.

Of 14 broadcasting transmitters, 12 are of American manufacture and 2 Marconi. The majority are of 100 to 250 watts, and cost from 3,000 to 10,000 soles, delivered but not assembled. Dealers believe that the United States will continue to be the principal source of supply of transmitters that may be replaced or installed in the future, and of the spare parts purchased, with the exception of the equipment that may be required by the government stations operated by the Marconi Company.

Sources of Supply—Dealers state that the 1937 and 1938 sales comprise about 85 per cent American, 10 per cent Dutch and 5 per cent German. Four American and Philips sets dominate the market, but several German makes are progressing. Philips is actively pushed, particularly since the retail sale financing plan was instituted in 1937. Over 30 American makes are represented. German makes offered include Mende, Punto Azul, Telefunken, and Koerting.

Patents There are no patent requirements interfering with the introduction or sale of radio sets and tubes in Peru. It is advisable to register trade marks. The cost of registration is about 140 soles.

Tariffs and Restrictions There is no tariff discrimination or restriction with reference to imports of radio receivers, parts, or materials, of American or other origin.

Short Wave—A powerful long and short wave government station was inaugurated in January, 1937, in Lima, and other stations have been improved. Short wave sets are more popular than medium wave sets. Short wave reception of South and Central American stations is satisfactory. Reception of the principal European stations is also satisfactory, especially those providing directional services to this area, such as the German and British stations. American stations are good, but do not come up to the standards of these two European countries in covering Peru.

Broadcasting—Of the 10 broadcasting stations in Peru, 4 operate simultaneously on short and medium wave. For local reception medium wave is preferred. Best reception is on the 9, 12, 16, and 20 megacycles.

All stations operate independently and, with the exception of the Radio Nacional OAX4A, all are privately owned.

Advertising All of the broadcasting stations are supported by advertising.

Transcriptions Transcriptions are used extensively, both with and without advertising. The usual period of time sold is 15 minutes. Most of the transcriptions are of advertising with musical interludes.

Regulations New radio regulations were adopted June 30, 1937, covering the entire field of radio. Stricter control was established on communications. All new transmitting licenses are for one year and renewable. All private stations are taxed 10 per cent of their receipts from advertising for the maintenance of service from the government station.

Sets in use—35,000.

Stations 15.

#

POLAND

General—On Jan. 1 last there were in Poland only 861,100 registered receiving sets, of which 546,600 were in urban areas and 311,300 were in rural areas. This total represents an increase of 97,400 sets, or 12.9 per cent, from the 763,700 sets registered on June 1, 1937. The number of registered sets as of July 1, 1938, in all Poland was officially reported to be 901,002, divided 556,855 tube sets, 341,839 crystal sets, and 2,308

tube sets used by the military authorities, mainly for experimental purposes. This total shows an increase of 4.7 per cent over that of January 1.

Sources of Supply—Outside of the large domestic manufacture, Poland secures a small quantity of radio receiving sets from foreign countries. Germany is the principal source of imports of sets, parts and accessories, followed by Austria and Holland. Small quantities are also received from France, England, the United States and Switzerland. Both imports and exports of receiving sets and parts were smaller in 1937 than in 1936. Germany and Holland were the principal destinations of the exports with small amounts going to Finland, Bulgaria, Palestine and Yugoslavia.

The demand for American sets in Poland in 1937 was even smaller than it was in 1936 and remains greatly limited by present market conditions. High import duties are apparently the greatest deterrent to sales since American sets are well known and well liked but customers are not willing to pay the high retail prices of these sets nor will they pay the high duties on complete sets, therefore, few sets are imported with cabinets. American-built chassis are imported and mounted in locally-built cabinets of all types, the customers being able to order any type desired.

Patents—According to Item No. 384 of Journal of laws No. 39 of 1928, the law for the protection of inventions, patents, models and trade-marks, patents and trade-marks can be protected by registration. In order to secure protection on a patent it is necessary to file an application accompanied by two copies of a description in Polish of the item to be patented and three drawings, one of which must be an original in ink. The registration fee is 36 zlotys and gives protection for the first year.

Tariffs and Restrictions—Radio receiving sets are classified under tariff item No. 1118, paragraph 1, which has "normal" rates of from 2,000 to 5,000 zlotys per 100 kilograms and conventional rates of from 1,400 to 3,600 zlotys. Conventional rates apply to imports from the United States and since imports from there consist chiefly of chassis without tubes the rate under 1118-1-C covering chassis without tubes weighing up to 50 kilograms included in the treaty with England would apply. This rate is 3,000 zlotys per 100 kilograms.

Quotas for the importation of American radios are not established officially, but it is understood that at present allocations of import permits are being made to the extent of 450 kilograms net weight per quarter. This quantity is apparently sufficient to cover the demand at present.

Short Waves—Reception of American short wave programs, even with 6 and 7 tubes, is fairly good. This is likewise true of such far-away stations as Buenos Aires, Argentina, and Tokyo, Japan.

Broadcasting—Broadcasting in Poland is under the control of Polskie Radio (The Polish Radio Co.), which is a government owned and operated enterprise. The broadcast programs, which still have room for some improvement from an American standpoint, are supported by subscription fees paid by radio owners. At its beginning only 40 per cent of the Polskie Radio was owned by the government but in 1935 this percentage was increased practically to the exclusion of private interest except for technical purposes. Poland has 10 long-wave broadcasting stations.

Sets in use—901,000.

Stations—12.

PHILIPPINE ISLANDS

General—There was a very good demand among Chinese purchasers in the Philippine Islands in the latter part of 1937, following the outbreak of hostilities in China, but it has fallen off somewhat recently. There are 30,449 licensed sets in use.

The majority of Filipino purchasers are interested principally in price and volume, rather than quality or high fidelity. Distant reception is becoming more important, especially in the provinces. Sales in this class represent 50 to 55 per cent of the market. Chinese purchasers have about the same requirements, with particular attention to distant reception.

Sources of Supply—The United States furnishes nearly all of the radio material used in the Philippines. Philips has a small business.

Patents—There has been no patent interference with sales.

Tariffs and Restrictions—American radio equipment is free of duty into the Philippines, if shipped direct or in bond through countries contiguous to the United States. Duplicate commercial invoices are required. Complete information as to requirements may be obtained from the Foreign Tariffs Division of this Bureau. There are no trade or exchange restrictions.

Short Wave—Until recently short wave reception was so poor that the feature was of little interest to set owners. With the establishment of a short wave broadcasting station in Manila, however, all-wave sets have met with increased demand, as this medium gives much better reception in the outlying provinces. Reception of American programs is unsatisfactory. European transmissions come in well.

Programs—Programs are general in nature, about 20 per cent of the total time on KZRM being used for educational features and slightly less for news, weather reports, and similar services.

Advertising—All stations broadcast advertising, mostly arranged by local firms, though some represent American products. About 40 per cent of the KZRM sponsored programs are live talent. KZEG does not offer sponsored programs but gives spot announcements at a fixed rate of 1 peso per time. KRM rates are 25.20 pesos per quarter hour daytime and 42.50 pesos at night, 40 word spots 3.60 and 6 pesos, respectively. Other period rates are proportionate, with discounts on contracts.

Regulations—The receiving license fee is 1 peso per year for crystal sets and for tube sets of less than 5 tubes in the zone including and immediately adjacent to Manila, 7 tubes in the second zone and 9 tubes in the third zone. Larger sets are licensed at 5 pesos per year. Other regulations have no unusual features.

Sets in use—30,449.

Stations—3.

#

PORTUGAL

General—The most important distribution centers for radio equipment are Lisbon and Oporto. Ordinarily it is found that the best arrangement for the Portuguese market is to appoint as exclusive agent a Lisbon importer having a branch or good agency in Oporto for the northern district. At the present the Lisbon district is the best market, but country-wide distribution is dependent upon the ability of the exclusive agent to obtain aggressive and energetic sub-agents in the larger cities and towns in other sections.

Advertising—Advertising is carried on fairly extensively by all the leading radio importers and dealers in Portugal. The principal media are the daily newspapers, and it is estimated that the Lisbon newspapers obtain from 80 to 90 per cent of all radio advertising.

Sources of Supply—The United States has for many years been the principal source of radio imports, with the Netherlands ranking second and Germany third. However, despite the fact that imports from the United States increased in 1937 by 17 per cent, the American share of the total imports dropped to only 43 per cent, as compared with 51 per cent in the previous year.

Patents—There is no patent interference with the sale of American receivers or tubes.

With regard to trade-marks, it is suggested that these should be registered in Portugal by the American manufacturer, rather than in the name of the manufacturer's local representative.

Tariffs and Restrictions—Radio receivers are classified under Article 651 of the Portuguese Customs Tariff, and are subject to a specific duty of 0.60 gold escudo per kilogram. This rate is subject to a surtax of 20 per cent on sets weighing up to 5 kilograms, and of 5 per cent on those weighing more than 5 kilograms (in accordance with the terms of a commercial agreement with the Netherlands).

Short Wave—Local dealers state that it is now practically impossible to sell receivers in Portugal which do not have a short wave band. It is doubted that this band is used to any great extent by the majority of radio owners, but they nevertheless desire it for use on occasions of special interest.

Of foreign short wave stations, it is reported that reception of the French and German is best in Portugal, although American, British, and Italian short wave programs also come in well. Reception of the American stations is best after 10 or 11 p.m.

Broadcasting—At present there are 24 broadcasting stations in Portugal, of which 2 are owned and operated by the government and 2 by the Radio Club Portugues. Only these 4 are of any considerable importance, the remaining 20 being stations of low power and small coverage, known locally as "amateurs." An additional station, which with a power of 30 kilowatts will be the most powerful in the country, is now under construction for Radio Club Portugues.

None of the stations in Portugal have sufficient power to cover the entire country. The government "Emissora Nacional," of 20 kilowatts, is heard in most sections, and the 5-kilowatt station of the Radio Club Portugues covers Southern Portugal. This latter will be changed to the short wave band upon completion of the new 30-kilowatt station.

Sets in use—69,000.

Stations—24.

#

RUMANIA

General—The use of radio by individuals has increased slowly since 1930. The economic crisis and the trading restrictions introduced in 1932 have curtailed imports of equipment and increased retail prices. These conditions have brought about the establishment of a domestic radio industry, which has met part of the demand for medium and low priced receiving sets since 1934.

The restrictions have especially affected the development of a market for American radio apparatus and equipment. The demand for an inexpensive set of good quality, good appearance and performing satisfactorily both in winter and summer, such as American sets have proved to be, is growing and is subject to development if properly handled.

Official statistics showed 215,808 sets in use on January 1, 1938. Approximately 10 per cent thereof are crystal sets. Estimates place unlicensed sets at 150,000.

Sources of Supply—The Rumanian market is supplied about 75 per cent by European manufacturers, 8 per cent by American, and the remainder by domestic industry.

Short Wave—All-wave sets have been in demand since 1933 as a result of demonstrable superiority of reception during the summer months over medium band sets. Short wave reception is excellent the year round, and popularity is growing from year to year. Approximately 90 per cent of current sales of imported sets are for those with short wave tuning, as well as about 80 per cent of the domestic.

Broadcasting—Two broadcasting stations are operating, "Radio Bucaresti" at Otopeni, near Bucharest, on 823 kilocycles and 12,000 watts, and "Radio Romania" at Bod, on 160 kilocycles, 150,000 watts.

Advertising—The broadcasting company has placed all advertising arrangement in the hands of a concern entitled "I. F. A. Gr. Grigorescu" of Calea Victorici 25, Bucharest. Announcements are made on a musical background.

Sets in use—365,000.

Stations—2.

#

SPAIN

General—While there is no official estimate of the number of sets in use, unofficially it has been estimated at 500,000. Owners of private receiving sets pay a tax of 25 pesetas per annum. Owners of receiving sets in bars, cafes, restaurants, etc., pay a tax of 100 pesetas per annum.

Broadcasting—There are low-powered long wave broadcasting stations in almost every town of any size in Nationalist Spain; they use no call letters, but announce "Radio ——" giving the name of the town where located. A few, owned by Union Radio, sell advertising for local programs.

Short Wave—There are some 30 or 40 short wave broadcasting stations now operating.

Advertising—Stations owned by government agencies broadcast no advertising.

Sets in use—500,000.

Stations—Unknown.

#

SWEDEN

General—On June 30 last receiving licenses numbered 1,156,781, or 174.1 per 1,000 inhabitants. This represents a steady increase from 1926, when the number was 242,559, and 1937 with 1,074,473.

The trade estimates that sales of sets during 1937 were about 175,000. About the same as in 1936. Sales of foreign sets appear to be increasing. Swedish manufacturers supply about 75 per cent of the total.

Sources of Supply—Philips, among the leading European suppliers, increased its sales of sets considerably in 1937 to between 40,000 and 45,000 units, according to estimates, although this is believed somewhat high. Telefunken lost ground, but is now making strenuous efforts to recover, having reorganized its staff in Sweden, among other things. Great Britain has been getting a good share in the portable set business which

has become more significant in the past year, and Marconi is also an important factor in the growing demand for phonograph combinations.

Patents—The patent pool is no longer a factor of significance in the marketing situation. For practical purposes, accordingly, the pool scarcely exists, even though many suits are still pending in the courts.

Tariffs and Restrictions—The Swedish customs tariff provides a basic duty of 10 per cent ad valorem plus an additional duty of 10 per cent, making a total of 20 per cent ad valorem applicable to assembled radio sets, loudspeakers and parts.

Amateurs—There are 380 licensed amateur transmitters in Sweden, according to Telegrafstyrelsen (The Telegraph Board).

Short Wave—There are two short wave broadcasting stations in Sweden, both at the Motala plant. Tekniska Hogskolan (Technical High School), Stockholm, operates an experimental broadcasting station which regularly retransmits the Riksprogram.

Broadcasting—Swedish broadcasting is a monopoly, except that a number of radio clubs operate stations in places where there are no monopoly stations, regularly relaying monopoly programs.

Regulations—The monopoly stations are owned by the Royal Telegraph Board, a division of the government with supervisory control over all broadcasting. It als operates the telephone and telegraph systems.

Sets in use—1,156,781.

Stations—34.

#

SWITZERLAND

General—With 12 per cent of the population holding licenses for receiving sets, Switzerland ranks sixth among the countries of Europe in the number of registered listeners. The latest official figures gave 480,347 licensed listeners, distributed as follows: 414,712 ordinary radio sets, 42,516 telephone wire receiving sets, and 23,119 sets for reception by private wire.

In the infant years of radio broadcasting and until 1932, Switzerland was a promising market for American manufacturers. The failure of American manufacturers to maintain the reputation of their products, which was impaired by imports of obsolete models sold at high prices; constant threats of patent litigation against dealers selling American sets and tubes; severe import restrictions; the resultant growth of the domestic radio industry accompanied by extensive advertising campaigns, while distributors of American radios discontinued advertising, were the principal steps in a development which led practically to the loss of the Swiss market to American manufacturers.

The lack of dials on American radios showing the names of European stations, the greater selectivity of domestic products, and the preference for cabinets of domestic shape were likewise contributing factors in this unfortunate development.

Sources of Supply—Domestic manufacturers supply most of the requirements for receiving sets. Imports from foreign countries represent only 10 per cent of the total sales. The principal sources of foreign supply are Netherlands, Germany, and the United States. For tubes the chief sources of supply are the United States, Germany and Netherlands.

In former years the United States supplied from 60 to 70 per cent of the demand for receiving sets. Severe import restrictions, which were put into effect in 1932, encouraged domestic production. With the improvement in the quality of their product, Swiss manufacturers can now compete favorably with low and medium priced American makes.

Patents—Insofar as American radios are concerned, patent interference is, in effect, no longer an obstacle.

Tariffs and Restrictions—Under the Trade Agreement with Switzerland the import quota for American radios and parts was fixed at 800 quintals, with a provision that this amount should correspond to 5,600 sets, regardless of weight. As a result of various adverse factors, mentioned elsewhere in this report, importers are unable to utilize fully the higher contingents available at present. Owing to the fact that the demand for American radios has declined, the existing import restrictions are, in effect, only nominal. Any licensed dealer is now able to obtain a contingent adequate for his requirements without difficulty.

Amateurs—Short wave amateur stations are growing in popularity. The "Union of Swiss Short Wave Amateurs" (Union Schweiz. Kurzwellen-Amateurs) has local branches in the principal cities and publishes a monthly organ under the name "Old Man." The strict requirements in connection with the operation of a short wave station have been relaxed and at present there are approximately 80 amateur stations in this country.

Short Wave—There are no regular short wave broadcasting stations in Switzerland.

Regulations—The regulations governing the operation of amateur stations is under the control of the Telegraph and Telephone Division of the Swiss Post Office Department. A special concession is required for the operation of such stations, and failure to comply with this regulation is punishable. The transmission of communications by amateur stations is subject to a fine not exceeding 1,000 francs. The operator is also required to obtain a license following examination as to qualifications. The fee for this examination is 20 francs.

Sets in use—414,712.

Stations—7.

#

TURKEY

General—It is estimated that there are approximately 29,000 sets in use. The demand has been growing rapidly in recent years and the potential demand is, according to importers and dealers, large. The market will, however, probably depend to a large extent upon the development of local broadcasting, particularly after the new station is in regular operation. There is always the possibility that the government, in order to have at hand a means of propaganda which could be used for the furtherance of the educational and agricultural programs might facilitate the use of radio sets through lower customs duties, or other means.

In the absence of definite statistics, it is reliably estimated that sales of radio sets in Turkey during the season 1937-38 were approximately 15,000 sets, as compared with 7,200 for the previous year.

Probably the principal brake on radio sales generally is the low average purchasing power.

Types of Sets—The appearance of the radio cabinet has a great deal to do with the sale of radio sets in Turkey. Very frequently the appearance is the deciding factor rather than the salesman's exposition of the superior quality and mechanical advantages of the set. There is no particular preference as to dials. However, dials showing the names of stations are highly appreciated.

Sources of Supply—Of the estimated 15,000 sets sold during the 1937-38 season, about 7,200 were from

the United States, 3,500 from the Netherlands, 1,500 from the United Kingdom, 825 from Germany, 400 from Sweden, and 200 from Hungary -- 48 per cent American and 52 per cent European.

A feature of the Turkish radio market during the past two years has been the shift in preference from European to American sets.

Patents—There is no patent interference with the sale of American sets and tubes. While both the United States and Turkey are signatories to the International Convention for the Protection of Properties, it is desirable for American companies doing or planning to do any business in Turkey to register their trade-marks in their own names rather than that of local representatives.

Tariffs and Restrictions—There are no restrictions on the importation of American radio items.

Broadcasting—There are at present only 2 broadcasting stations in Turkey, both operated by the Direction Generale des P.T.T., as follows: Ankara, TAE, 230 kilocycles, 7,000 watts; Istanbul, TAL, 186 kilocycles, 8,000 watts.

Programs—There is a considerable difference of opinion as to the popularity of programs broadcast by the local stations. In general, the older generation and the middle and lower classes prefer local broadcasts as they always include native Turkish music. The better classes, particularly the younger people, usually prefer broadcasts from European stations.

Advertising—While radio advertising is allowed and the advertising rates fixed by law a few months ago, it has so far been very little used. Some advertising has been done over the Istanbul station, but is believed to have met with but limited success.

Regulations—Regulations are covered by a law of June 9, 1937, whereby all radio transmitting and receiving sets were placed under government control.

Broadcasting is a government monopoly and amateurs are forbidden to own or operate transmitting sets.

Sets in use—29,000.

Stations—2.

#

UNION OF SOUTH AFRICA

General—Approximately 200,000 receiving licenses are now in effect, but as each license covers all the sets owned by an individual, the number of sets in use is considerably larger. Imports number about 75,000 sets annually, indicating a total number of sets about double that of the licenses. Nearly half the licenses issued are to persons in the Transvaal, and most of the rest in the Cape provinces and Natal. There is a steady and rather consistent demand for standard type sets with 5 to 11 tubes.

Sources of Supply—The United Kingdom is the chief source of supply for transmitting equipment used in South Africa. Two English companies, Marconi and Standard, supply practically all of the transmitting equipment used. American equipment is considered excellent but prices on it are usually out of line. The United States, however, furnished the bulk of radio receivers imported for several years. During the 8 months ending August, 1938, the United States supplied 76 per cent of the sets imported as compared to 78 per cent during the year 1937. In value the proportion dropped from 71 to 61 per cent. The United Kingdom share increased from 8 to 11 per cent by number and 11 to 18 per cent by value. The Netherlands and the United Kingdom are the only other important suppliers to the Union and between these three countries 98 per cent of the business is held. The United States is also the most important supplier of radio accessories.

Patents—There has been no interference with the sale of sets, tubes, or other radio equipment arising from patents.

Tariffs and Restrictions—Import duties now in effect are as follows: Under Item 154 of the Customs Tariff of the Union of South Africa, radio or wireless telegraphy and telephony instruments, apparatus, and accessories, but not including batteries, when imported for merchant ships or for aircraft or by persons licensed by the Postmaster-General to conduct a public radio service, are admitted free, but otherwise pay ad valorem rates of 5 per cent minimum, 15 per cent intermediate, and 20 per cent general. All importations are subject to the intermediate duty, except British, which pay the minimum rate.

There are no other duties or taxes affecting American importations into the Union.

Short Wave—The popularity of short wave in all of Southern Africa receives particular impetus by the remoteness of the territory and the lack of variety in local programs.

The South African Broadcasting Corporation at the present time is broadcasting on short wave from four stations. England, Germany, Italy, and France have been beaming programs to South Africa for some years. Germany and England in particular are well received during most of the year. American programs are highly considered, but have been difficult to receive. Best reception is on 9, 13, and 16 megacycles.

Broadcasting—The Broadcasting Act of 1936 provided for the formation of the South African Broadcasting Corporation which has now taken over the monopoly of broadcasting formerly held by the African Broadcasting Co., Ltd. The Corporation is a quasi-governmental company designed to operate free from political control or influence under a Board of Governors appointed by the Governor General. Programs are about 60 per cent musical, including about 35 per cent lighter compositions. Educational programs account for about 40 per cent of the total time. The lack of local talent is a serious obstacle.

Advertising—There is no radio advertising in the Union, but a commercial station at Lourenco Marques, Portuguese East Africa, offers some coverage of the country.

Transcriptions—Considerable use is made of recordings. Both English and American are used, the American being slightly more popular. A receiving station to record foreign programs for rebroadcast is contemplated.

Regulations—Licenses are required for the ownership and operation of receiving sets, the fees being graduated according to a zone system.

Sets in use—400,000 (estimated).

Stations—11.

#

UNION OF SOVIET SOCIALIST REPUBLICS

General—The foreign trade of the Soviet Union is a monopoly of the State and is conducted under the supervision of the Peoples' Commissariat for Foreign Trade by a number of trading companies, each of which specializes in certain commodities. Purchases of American goods are made in the United States by a trading agency maintained in New York. On Jan. 1, 1936 (last statistics available) there were 350,000 receiving sets in the Soviet Union. Most of the sets in use are 4-tube table models.

Radio equipment on the market is almost exclusively of domestic manufacture.

Patents—Soviet industry is engaged in copying on

an extensive scale machinery and other articles which have been invented and patented in other countries, samples or descriptions of which it has obtained by purchase or otherwise. The Soviet government is not a party to the Convention for the Protection of Industrial Property (Paris, 1888) or to any of its revisions.

Tariffs and Restrictions—The Collection of Customs Tariff of the U. S. S. R. 1935 provides, under item 92, minimum and maximum rates on radio apparatus of 25 and 30 per cent ad valorem.

Central Receivers—There are reported to be over 10,000 central receiver systems, with approximately 3,000,000 outlets.

Television—Considerable television experiment is in progress and there is a regular transmission system in Moscow.

Short Wave—American short wave broadcasts are received by good sets, but this class of short wave receivers is rarely seen, most of those in use belonging to foreigners. American broadcasts have occasionally been rebroadcast in the Union.

Programs—The All-Union Radio Committee and local committees in 70 areas of the Union have general charge of the programs. Each committee has divisions devoted to art, socio-political, juvenile, educational, and local programs.

Advertising—There is no broadcast advertising, other than service broadcasts indicating where commodities may be purchased. This is without any competitive character.

Transcriptions—About one-third of the total broadcast time devoted to music is of recorded material. No advertising transcriptions are used.

Sets in use—350,000.

Stations—72.

#

UNITED KINGDOM

England, Scotland, Wales, Northern Ireland, and Minor Islands

General—The total number of licenses in force at the end of 1937 was 8,479,600. This does not represent the total number of radio sets in use in the country, as one license may cover more than one set and there is doubtless a certain additional number of unlicensed sets being operated illegally. In one month there were 373 successful prosecutions against individuals operating radio sets without a license. There are about 11,500,000 homes in Great Britain.

Demand for Sets—It is estimated that during the last 2 years the majority of the business has been in replacements. The sales of sets to new users will continue slowly, but in the future the replacement business will be the most important. Makers are doing everything they can to urge home owners to install more than one set, one company going so far even as to suggest a radio in the bathroom. The most popular sets in the United Kingdom are those costing between £9 9s, and £15 15s, table models with from 6 to 8 tubes, and operating on 3 wave bands, long medium and short. The demand for short wave sets, or rather all-wave sets, continues to increase. Radio costs have gone up in general with other raw materials, and radio sets in Great Britain cost more today than a year ago.

Sources of Supply—The British Radio Manufacturers' Association has been active for several years in developing expedients by which foreign goods may be excluded from competition in the British market, especially through pressure upon wholesalers and retailers. Several plans have been tried, employing both punitive measures against dealers in foreign goods through restricting their supplies of British products, and by rewarding dealers handling British goods exclusively through added discounts. The "Mutual Trading Agreement" or the convention between British radio manufacturers and wholesalers formed in 1931, was terminated at the end of May. By this agreement or convention which had been originally sponsored by the British Radio Manufacturers' Association, manufacturers had agreed to limit the value of foreign components incorporated in a radio set or phonograph combination to 5 per cent of the retail value of the set.

Patents—The sale of American sets on the British market until late August was severely handicapped by the activities of the Patent Pool, whose policy it was to exclude if possible American sets. This the pool had been successful in doing to a great degree and the imported American sets on sale were as a rule bootlegged into the market. Some American manufacturers have overcome this difficulty in part by manufacturing in England. On August 28, 1938, there was a collapse of the patent pool and the license A-4 expired. On that date all patents vested in the pool reverted to the individual companies which were members of the pool.

Tariffs—It must be understood that information regarding any foreign tariff rate is especially unstable and should be verified as nearly to the date of importation as possible. By communicating with the Division of Foreign Tariffs of the Bureau of Foreign and Domestic Commerce, the latest cabled data regarding any commodity to any country may be obtained. The current import duty on radio receiving sets in the United Kingdom is 20 per cent ad valorem, on tubes 33⅓ per cent, and on radio-phonographs 33⅓ per cent. These duties are levied on landed cost values.

Television—See television section.

Short Waves—The BBC has been a leading factor in the development of world-wide short wave. Its facilities were instituted primarily to reach all parts of the British Empire, but as the service became popular shortly afterward, non-British countries have been given special attention, both with regard to directional broadcast, and as to language. The Daventry stations now transmit in several languages, especially in Arabic and Turkish for the Near East and Spanish and Portuguese for Latin America. Six transmitters are in use and two more are soon to be installed.

Government Control—Broadcasting in the United Kingdom is operated by the BBC a semi-governmental organization operating under a charter granted by the Postmaster General with the approval of Parliament. Early in the year, the charter which expired at the end of 1936 was renewed for another period of 10 years. No commercial or sponsored programs are permitted by the charter of the BBC, which is responsible for all programs transmitted through the National and Regional stations and the Empire transmitters as well.

Programs—The program policy of the BBC remains with a few slight changes the same as in past years. Greater emphasis is being placed on broadcasts to schools and talks than hitherto. The pro-

gram time is allotted on the following scale of program importance: light music, opera and serious music, dance music, news, commentaries and communiques, children's hour and religious services, drama and talks. Recorded programs are used principally during the earlier hours of the broadcasting day and are widely used in the Empire broadcasts. The departments of the BBC are Music, Variety, Drama, Outside Broadcasts, Dance, News, School Broadcasts, Religion, Program Planning, Television, and the Empire Services.

Advertising—As a policy of the BBC, no advertising is broadcast. There is no prohibitory law, however.

Regulation—Every owner of a radio set is required by law to obtain a license which costs 10 shillings annually and is good for 12 months. One license will cover any number of radio sets in one house but a separate license is required for car sets. The only exemption from this license fee applies in the case of blind persons. Receipts from the license fees are applied to the cost of programs after a percentage has been deducted for the use of the National Exchequer. The BBC receives 6 to 7 shillings of each 10-shilling licensee fee.

Licenses in use—8,689,850.

Stations—17, plus 16 short wave.

#

URUGUAY

General—In view of the foreign exchange restrictions now in force which serve to handicap imports both of sets and parts for assembly, the demand for radio sets and equipment is greater than the supply. No census of radio receiving sets in use is available, but the number is estimated at 125,000. It is estimated that annual sales of receiving sets numbers 20,000. Large majority of sales are made in Montevideo.

Sources of Supply—The United States is by far the leading source for sets and parts. The United States has a secure position in this market which has yet to be seriously challenged.

Approximately 90 per cent of the market's requirements are of domestic assembly.

Patents—No patent interference with the sale of American sets and tubes has been experienced.

Tariffs and Trade Restrictions—The duty on radio sets and loudspeakers is 120 per cent of a fixed valuation of one peso per kilogram, or 1.20 pesos per kilogram; 25 per cent of this duty must be paid in gold or in currency to the equivalent of Uruguayan gold par. The duty on spare parts and accessories is 120 per cent of a fixed valuation of 80 centesimos per gross kilogram.

Short Wave—The demand for short wave sets is gradually increasing. European and American stations are received, although the latter have been heavily blanketed, especially by the Berlin transmitters. Local interference causes considerable difficulty.

Broadcasting—Thirty-nine stations are reported to be operating. In addition there are 24 short wave stations, all in Montevideo.

Programs—Most of the domestic programs consist of the playing of records, interspersed with announcements. The official government station given no advertising and frequently plays long symphonies or opera selections without interruption; it also broadcasts concerts, meetings, speeches, etc. The programs are popular as there are often as many as 25 stations on the air simultaneously in Montevideo alone.

Advertising by Radio—Advertising is done on practically all but the official station. The general practice is to make two announcements between phonograph records.

Sets in use—125,000.

Stations—63.

#

YUGOSLAVIA

General—Registrations of sets totalled 122,455 on May 31, 1938. There is believed to be a considerable number of unlicensed sets. About 60 per cent of the registrations are in the Belgrade district. It is estimated that from 15,000 to 20,000 sets are sold annually. The demand is distinctly seasonal, highest in winter.

The chief demand is for cheap sets. Table model 5-tube superheterodynes, with dials showing the names of the stations are most popular. Console models with illuminated dials showing station names are also in some demand.

Sources of Supply—Foreign competition is confined to a few large firms. The first of these is Philips, represented by Philips Jugoslovenska Trgovacko A.D., a subsidiary. The second firm is Telefunken, with other firms, well known but less important, such as Ingelen, Orion, Standard, and Blaupunkt, as well as a few American.

Patents—Patents are controlled by the local Siemens-Halske subsidiary, representing Telefunken. This firm has sued several important importers of American sets for infringement, and has obtained favorable decisions in local courts, so that importers of American sets are forced to pay a royalty of 100 dinars per set.

Tariffs and Restrictions—Radio sets and parts, together with certain other merchandise is prohibited from importation into Yugoslavia when from countries having no clearing agreement with that country. The United States has no such agreement. The only exception is that permits may be issued when the importer undertakes to export a compensating amount of Yugoslav goods to the United States. This is very difficult of accomplishment.

Short Waves—In addition to the Belgrade short wave station, others in Asia, Africa, and the Western hemisphere as well as Europe are received readily. American stations do not come in well during the usual listening hours in Yugoslavia.

Broadcasting—Yugoslavia has 4 broadcasting stations.

Broadcasting is organized by the Government, which reserves all rights of supervision and control. Concessions are granted for 10- and 20-year periods. The service is supported by license fee receipts.

Programs—The three medium wave stations operate frequently as a chain, each on occasion serving as key station. Programs are general and varied. International programs are often relayed. The short wave station broadcasts in French, Italian, English, German, Hungarian, Greek, Turkish, and Albanian. The programs are general, but are designed rather to illustrate Yugoslav customs to foreign listeners than for Yugoslav reception. There is, however, an effort to serve Yugoslav emigrants abroad.

Sets in use—122,455.

Stations—4.

People in Showbusiness Everywhere Are Turning To Postal Telegraph

Because Postal Telegraph is BIDDING for their business with speedier and more accurate service . . . because Postal Telegraph, operating in the face of stern, competition, MUST give superior service to expand . . . Your message by Postal Telegraph MUST GO THROUGH with speed, accuracy and dependability.

Of Special Interest to Those in Showbusiness

Postal Telegraph's low cost Money Order Service . . . (Special Collection Service) for changing cash into checks for safe transfer of funds . . . Good anywhere . . . Available any office of Postal Telegraph . . . Convenient . . . Inexpensive.

Always Use

Postal Telegraph

And Its Affiliated cable and radio services, Commercial Cables, All America Cables, and Mackay Radio and Telegraph.

(To Phone a Telegram: Say to Telephone Operator, "Give me Postal Telegraph, Please" . . . Charge Tolls to Phone Bill)

Your Lucky

IVORY Soap, Old Gold, Wheaties, Oxydol, all enjoyed large distribution in New York as a result of their English radio programs. But, their progressive Agencies realized that to reach the separate and distinct Italo-American market of approximately 1,500,000, it was necessary to advertise "The Italo-American Way."

Since the start, their programs have paid large dividends. That's why they, like many others, have been continuous Advertisers with us! You, too, can be number **1** in the number **1** market—a 13 week's trial will convince you of that!

WOV NEW YORK 1000 WATTS **WBIL** NEW YORK 5000 WATTS

THE INTERNATIONAL BROADCASTING CORPORATION, NEW YORK

Radio Combination

THIS is a very simple story. Philadelphia is your number three market. It has three large foreign language populations, namely, Italian, Jewish and Polish.

Our station talks to these three *separate* markets in their native tongue. Naturally, we enjoy a *large* and *loyal* audience . . . with a *tremendous* buying power. That's why the Advertisers you see here use our facilities for at least one language, or all three! Simple, in fact just as simple as your one, two threes!

WPEN PHILADELPHIA 1000 WATTS

WM. PENN BROADCASTING COMPANY, PHILADELPHIA

"In Radio and Television
—it's RCA All the Way"

RCA Institutes, Inc.
R.C.A. Communications, Inc.
National Broadcasting Company
RCA Manufacturing Company, Inc.
Radiomarine Corporation of America

RADIO CORPORATION OF AMERICA

RADIO CITY, NEW YORK, U. S. A.