

F.C.C. REGULATIONS REGARDING BROADCASTING APPLICATIONS

Each application shall be specific with regard to frequency or frequencies, power, hours of operation, and all other terms of the instrument of authorization requested. An application for broadcast facilities in the band 550 kc to 1600 kc shall be limited to one specific frequency. An application for a radio station construction permit or license requesting alternative facilities will not be accepted.

Upon proper request by the licensee of a broadcast station, or by the licensee of, or applicant for, a service other than broadcasting, the Commission may grant special temporary authority for the operation of a station for a limited time, or in a manner and to an extent, or for a service other or beyond that authorized in its existing license; *Provided, however*, That if request is for a broadcast station to utilize additional hours of operation, approval may not be granted if another broadcast station is licensed to operate in the same locality during the hours requested.

In any event, no such request will be considered unless:

(a) It is received in the Commission at least ten days previous to the date of proposed operation.

(b) If request is for operation upon a clear channel, it shall be supported by the consent of the dominant clear channel station.

(c) Request for any frequency shall be supported by the consent of each station licensed for operation upon the frequency, where consenting station is located at a distance less than that given in the latest published table of recommended separations.

(d) Request made by a sharing time station shall be supported by the consent of the station with which the licensee requesting the same shares time.

Consent shall be forwarded direct to the Commission by the consenting station and shall show whether the same is for simultaneous operation or whether consenting station is giving up the time sought by applicant.

Any or all of the foregoing requirements of paragraphs (a), (b), (c) and (d), may be waived by the Commission in cases of emergency, the nature of which shall be fully explained by the licensee in the request for authorization.

Where an emergency exists affecting safety to life or property, the Commis-

sion may, in its discretion, waive any part or all of its regulations governing the filing of applications.

The licensee of any radio transmitting station may, during a period of emergency in which the normal communication facilities are disrupted as a result of hurricane, flood, earthquake, or similar disaster, utilize such station for emergency communication service in communicating with points other than those specified in the station license, provided (1) that at the beginning of such emergency use immediate notice be sent to the Commission and the inspector in charge of the district in which the station is located stating the nature of the emergency and the use to which the station is being put, and (2) that the emergency use of the station shall be discontinued as soon as substantially normal communication facilities are again available and the Commission and the inspector in charge be notified immediately when such special use of the station is terminated. The Commission may at any time order the discontinuance of such service.

Any licensee receiving official notice of a violation of the terms of the Communications Act of 1934, any legislative act, executive order, treaty to which the United States is a party or the rules and regulations of the Federal Communications Commission, which are binding upon licensee or the terms and conditions of a license, shall, within 3 days from such receipt, send a written reply direct to the Federal Communications Commission at Washington, D. C., and a copy thereof to the office of the Commission originating the official notice, when the originating office is other than the office of the Commission in Washington, D. C. The answer to each notice shall be complete in itself and shall not be abbreviated by reference to other communications or answers to other notices. If the notice relates to some violation that may be due to the physical or electrical characteristics of the transmitting apparatus, the answer shall state fully what steps, if any, are taken to prevent future violations, and if any new apparatus is to be installed, the date such apparatus was ordered, the name of the manufacturer, and promised date of delivery.

If the installation of such apparatus

requires a construction permit, the file number of the application shall be given, or if a file number has not been assigned by the Commission, such identification as will permit of ready reference.

If the notice of violation relates to some lack of attention or improper operation of the transmitter, the name and license number of the operator in charge shall be given.

a. Broadcast station licenses will be issued for a normal license period of 6 months.

BROADCAST SERVICE

The band of frequencies extending from 550 to 1,500 kilocycles, both inclusive, is allocated for use by broadcast stations. This band of frequencies is referred to herein as the "broadcast band."

CLASSES OF BROADCAST STATIONS

For the purposes of allocation of frequencies, power, and time of operation, broadcast stations are classified as follows:

A. FREQUENCY AND POWER DESIGNATIONS

- a. Clear channel.
- b. High power regional.
- c. Regional.
- d. Local.

B. TIME DESIGNATION

- a. Unlimited time.
- b. Limited time.
- c. Daytime.
- d. Sharing time.
- e. Part time.
- f. Specified hours.

SPECIAL BROADCAST STATIONS

(a) The following frequencies are allocated for assignment to special broadcast stations on an experimental basis: 1530, 1550 and 1570 kilocycles. Two or more stations may be licensed for simultaneous operation on each frequency.

(b) Licenses for special broadcast stations 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 and practical application of high fidelity broadcasting, and will be in addition to and advancement of the work done by regular broadcast stations.

2. That the program of research and experimentation includes a thorough study of advanced antenna design, field intensity surveys and plans for a comprehensive analysis of the response of listeners.

3. That the transmitter and all stu-

dios will be equipped so as to be capable of high fidelity transmission.

4. That the operation and experimentation will be under the direct supervision of a qualified engineer with an adequate staff of engineers qualified to carry on the program of research and experimentation.

5. That the programs transmitted, either sponsored or sustaining, will not interfere with the proper prosecution of the program of research and experimentation.

6. That the applicant is legally and financially qualified and possesses adequate technical facilities to carry forward the program of research and experimentation.

7. That the program of research and experimentation will be reasonably independent of the income derived from sponsored programs.

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

(c) The Commission may require from time to time a licensee of a special broadcast station to conduct experiments that are deemed desirable and reasonable for the development of the service.

(d) The program of research and experimentation as offered in compliance with the requirements of obtaining a license for a special broadcast station, shall be adhered to in the main unless the licensee is authorized to do otherwise by the Commission.

(e) The authorized power of a special broadcast station will not exceed 1 kilowatt. However, the licensee may operate at less than the authorized power where such operation facilitates experimentation.

(f) The licensee of a special broadcast station is not required to adhere to a regular schedule, but shall actively conduct a program of research and experimentation or transmission of programs.

(g) A supplemental report shall be filed with and made a part of each application for a renewal of license of a special broadcast station and shall include statements of the following in the order designated:

1. Comprehensive summary of all research and experimentation conducted.

2. Conclusions and outline of proposed program for further research and development.

3. Number of hours operated, including percentage of sponsored programs.

RADIO STATIONS OWNED WHOLLY OR PARTIALLY BY NEWSPAPER INTERESTS

ALABAMA

The Birmingham Age-Herald.....WSEN
 The Birmingham News
Licensee—The Birmingham News Co., Birmingham.

ARIZONA

Prairie Farmer Publishing Co.....KOY
Licensee—Salt River Valley Broadcasting Co., Phoenix.
 Arizona Publishing Co.....KTAR
Licensee—KTAR Broadcasting Co., Phoenix.

ARKANSAS

Arkansas Gazette Publishing Co....KCHI
Licensee—Arkansas Gazette Publishing Co., Little Rock.
 Gazette Publishing Co.....KLHA
Licensee—Gazette Publishing Co.—16.1% (Arkansas Gazette), Little Rock.
 Texarkana Newspapers, Inc.KCMC
Licensee—KCMC, Inc., Texarkana.

CALIFORNIA

McClatchy NewspapersKERN
Licensee—McClatchy Broadcasting Co., Bakersfield, Cal.
 McClatchy NewspapersKMJ
Licensee—McClatchy Broadcasting Co., Fresno, Cal.
 Hearst Consolidated Publications...KEHE
Licensee—Hearst Radio, Inc., Los Angeles, Cal.
 Merced Sun Star.....KYOS
Licensee—Merced Star Publishing Co., Merced, Cal.
 Monterey Peninsula Herald.....KDDN
Licensee—Monterey Peninsula Broadcasting Co., Monterey, Cal.
 The Oakland Tribune.....KLX
Licensee—Tribune Building Co., Oakland, Cal.
 The Sacramento Bee.....KFBK
 The Fresno Bee
 Modesto Bee
 (All are McClatchy newspapers.)
Licensee—McClatchy Broadcasting Co., Sacramento, Cal.
 American Newspapers, Inc.....KYA
Licensee—Hearst Radio, Inc., San Francisco, Cal.
 Santa Barbara News.....KTMS
 Santa Barbara Press
Licensee—The News-Press Publishing Co., Santa Barbara, Cal.
 Santa Rosa Press-Democrat.....KSRO
Licensee—The Press-Democrat Publishing Co., Santa Rosa, Cal.
 McClatchy NewspapersKWG

Licensee—McClatchy Broadcasting Co., Stockton, Cal.
 Stockholders are Newspaper Publishers KTKC
Licensee—Tulare-Kings Counties Radio Associates, Charles A. Whitmore, Pres., Visalia, Cal.
 Register-PajaronianKHUB
Licensee—F. W. Atkinson, Watsonville, Cal.

COLORADO

Stockholders interested in Oklahoma Publishing Co.; The Gazette & Telegraph; (Daily Oklahoman, Oklahoma City Times and Farmer - Stockman). Oklahoma Publishing Co., 33% stockholder.
Licensee—Outwest Broadcasting Co., Colorado Springs, Colo.
 The Daily Oklahoman.....KLZ
 The Oklahoma City Times
 The Farmer-Stockman
Licensee—KLZ Broadcasting Co., Denver, Colo.

CONNECTICUT

Hartford TimesWTHT
 (Gannett Co., Inc.)
Licensee—The Hartford Times, Inc., Hartford, Conn.
 American-Republican, Inc.WBRY
 Waterbury, Conn.

DELAWARE

Stockholders interested in newspaper publications. WDEL
Licensee—WDEL, Inc., Wilmington, Del.
 Stockholders interested in newspaper publications. WILM
Licensee—Delaware Broadcasting Co., Wilmington, Del.

FLORIDA

The Miami Daily News.....WIOD-WMBF
 (The Metropolis Publishing Co.)
Licensee—Isle of Dreams Broadcasting Corp., Miami, Fla.
 Owner holders 33 1/3% of Society Pictorial WKAT
Licensee—Miami Beach, Fla.
 News-Journal CompanyWCOA
Licensee—Pensacola Broadcasting Co., Pensacola, Fla.
 Highlands Co. Pilot.....WTAL
 Scenic Highlands Sun
 (Avon Park, Fla.)
 Lake Placid News
 (Lake Placid, Fla.)
Licensee—Florida Capital Broadcasters, Inc., Tallahassee, Fla.

Tampa TimesWDAE
Licensee—Tampa Times Company,
Tampa, Fla.

GEORGIA

The Atlanta Journal.....WSB
Licensee—The Atlanta Journal Co.,
Atlanta, Ga.

HAWAII

Officers: Pres., gen'l mgr. and editor KGMB
of Honolulu Star-Bulletin.
Licensee — Honolulu Broadcasting
Co., Honolulu, T. H.
Advertiser Publishing Co., Ltd.....KGU
Honolulu, T. H.
Licensee — Marion A. Mulrony &
Advertiser Publishing Co., Ltd.,
Honolulu, T. H.
Officers: Pres. and general mgr. of KHBC
Honolulu Star-Bulletin; Hilo
Tribune-Herald.
Licensee — Honolulu Broadcasting
Co., Hilo, T. H.

ILLINOIS

News-GazetteWDWS
Licensee—Champaign News-Gazette,
Inc., Champaign, Ill.
Corn Belt Publishers, Inc.....WAAF
(Daily Newspaper)
Licensee—Drovers Journal Publish-
ing Co., Chicago, Ill.
Chicago Tribune News Syndicate, WGN
Inc., publisher of the N. Y.
News. Directors interested in the
Washington Herald; Rockford
Morning Star and Register Re-
public.
Licensee—WGN, Inc., Chicago, Ill.
Prairie Farmer, Stand-By.....WLS
Licensee — Agricultural Broadcast-
ing Co., Chicago, Ill.
Decatur Newspapers Inc.—49%.....WJBL
Licensee—Commodore Broadcasting,
Inc., Decatur, Ill.
Rockford Consolidated Newspapers, WROK
Inc.
Licensee — Rockford Broadcasters,
Inc., Rockford, Ill.
Rock Island Argus.....WHBF
Licensee—Rock Island Broadcasting
Co., Rock Island, Ill.

INDIANA

Elkhart Daily Truth.....WTRC
Licensee — The Truth Publishing
Co., Inc., Elkhart, Ind.
Lake County Times.....WHIP
Licensee — Hammond - Calumet
Broadcasting Corp., Hammond,
Ind.
Central Newspapers, Inc.....WIRE
(100%)
Licensee — Indianapolis Broadcast-
ing, Inc., Indianapolis, Ind.
South Bend Tribune.....WFAM
Licensee—The South Bend Tribune,
South Bend, Ind.

The South Bend Tribune.....WSBT
Licensee—The South Bend Tribune,
South Bend, Ind.

IOWA

Register & Tribune Co.....WMT
Des Moines, Iowa.
Licensee — Iowa Broadcasting Co.,
Cedar Rapids, Iowa.
Register & Tribune Co.....KRNT
Des Moines, Iowa.
Licensee — Iowa Broadcasting Co.,
Des Moines, Iowa.
Register & Tribune Co.....KSO
Des Moines, Iowa.
Licensee — Iowa Broadcasting Co.,
Des Moines, Iowa.
Director interested in The Daven- WHO
port Democrat and Leader, Dav-
enport, Iowa.
Licensee — Central Broadcasting Co.,
Des Moines, Iowa.
Dubuque Telegraph-Herald.....KDTN
Licensee—Telegraph - Herald Co.,
Dubuque, Iowa.
Globe-GazetteKGLO
Licensee — Mason City Globe Ga-
zette Co., Mason City, Iowa.
The Sioux City Journal.....KSCJ
Sioux City, Iowa.
Licensee—Perkins Bros. Co., Sioux
City, Iowa (The Sioux City Jour-
nal).
Principal Stockholder: Tribune Co., KTRI
publisher of Sioux City Tribune
(50%).
Licensee — Sioux City Broadcasting
Co., Sioux City, Iowa.

KANSAS

The Coffeyville Daily Journal.....KGGF
Coffeyville, Kans.
Licensee—Hugh J. Powell & Stanley
Platz, d/b as Powell & Platz, Coffeyville, Kans.
Dodge City Daily Globe.....KGNO
Dodge City, Kans.
Licensee—The Dodge City Broad-
casting Co., Inc., Dodge City,
Kans.
Capper PublicationsKCKN
(U. S. Senator Capper.)
Licensee—WLBK Broadcasting Co.,
Kansas City, Kans.
Hays Daily News.....KSAL
Goodland Daily News
Hill City Times
Licensee—R. J. Laubengayer, Sa-
lina, Kans.
The Topeka Daily Capital.....WIBW
Kansas City, Kans.
(U. S. Senator Capper publications)
Licensee—Topeka Broadcasting As-
sociation, Inc., Topeka, Kans.
The Wichita Eagle.....KFH
Licensee—Radio Station KFH Co.,
Wichita, Kans.

KENTUCKY

Ashland Daily Independent.....WCMJ
Licensee—The Ashland Broadcast-
ing Co., Ashland, Ky.
Lexington Herald Co., Inc.....WLAP
Licensee — American Broadcasting
Corp. of Ky., Lexington, Ky.
Louisville TimesWHAS
Louisville Courier-Journal
Licensee—The Courier Journal Co.
and the Louisville Times Co.,
Louisville, Ky.
Owensboro Publishing Co.WOMI
Licensee—Owensboro Broadcasting
Co., Owensboro, Ky.

LOUISIANA

Capital City Press.....WJBO
Licensee—Baton Rouge Broadcast-
ing Co., Inc., Baton Rouge, La.
Lafayette Advertiser Gazette, Inc.....KVOL
Lafayette, La.
Licensee — Evangeline Broadcasting
Co., Inc., Lafayette, La.
Stockholders interested in KRV, KPLC
KVOL.
Licensee — Calcasieu Broadcasting
Co., Lake Charles, La.
Times Publishing Co., Ltd.....KTBS
The Shreveport Times
Licensee — Tri-State Broadcasting
System, Inc., Shreveport, La.
Times Publishing Co., Ltd.....KWKH
Licensee — International Broadcast-
ing Corp., Shreveport, La.

MAINE

Stockholders are interested in news- WGAN
paper publishing.
Licensee — Portland Broadcasting
System, Portland, Me.

MARYLAND

Hearst Radio, Inc.....WBAL
American Newspapers, Inc.
Licensee—The WBAL Broadcasting
Co., Baltimore, Md.

MASSACHUSETTS

Stockholders interested in news- WLAW
papers.
Licensee—Hildreth & Rogers Co.,
Lawrence, Mass.
The Evening Standard Times.....WNBH
The Sunday Standard Times
The Morning Mercury
(New Bedford, Mass.)
Licensee—E. Anthony & Sons, Inc.,
New Bedford, Mass.
Worcester TelegramWTAG
Licensee—Worcester Telegram Pub-
lishing Co., Inc., Worcester, Mass.

MICHIGAN

Enquirer and News.....WELL
(Federated Publications, Inc.)
Licensee—Enquirer-News Co., Bat-
tle Creek, Mich.
The Detroit News.....WWJ
Licensee—The Evening News Asso-
ciation, Detroit, Mich.

The Daily Mining Journal.....WBEO
Marquette, Mich.
The Rhinelander News
Rhinelander, Wis.
The Iron Mountain News
Iron Mountain, Mich.
Licensee—The Lake Superior Broad-
casting Co., Marquette, Mich.

MINNESOTA

Stockholder: (See WDAY).....KDAL
Forum Publ. Co.
Licensee—Red River Broadcasting
Co., Duluth, Minn.
Stockholders interested in news- WMFG
paper publications.
Licensee—Head of the Lakes Broad-
casting Co., Hibbing, Minn.
Dispatch Pioneer Press.....WTCN
(St. Paul, Minn.)
Minnesota Tribune Co.
(Minneapolis, Minn.)
Licensee — Minnesota Broadcasting
Corp., Minneapolis, Minn.
Times Publishing Co.....KFAM
Licensee — The Times Publishing
Co., St. Cloud, Minn.
Evening TelegramWHLB
Licensee — Head of Lakes Broad-
casting Co., Virginia, Minn.

MISSISSIPPI

The Clark County Tribune.....WCOC
Quitman, Miss.
Licensee—Miss. Broadcasting Co.,
Inc., Meridian, Miss.
The Vicksburg Evening PostWQBC
The Vicksburg Herald
Licensee — Delta Broadcasting Co.,
Inc., Vicksburg, Miss.

MISSOURI

St. Louis Star-Times Publishing Co...KFRU
Licensee—KFRU, Inc., Columbia,
Mo.
Capital NewsKWOS
Post-Tribune
Licensee — Tribune Printing Co.,
Jefferson City, Mo.
Joplin GlobeWMBH
Joplin News Herald
Licensee—Joplin Broadcasting Co.,
Joplin, Mo.
Kansas City Star.....WDAF
Licensee—The Kansas City Star Co.,
Kansas City, Mo.
Stockholders: News Broadcasting KFEQ
Co.; officers and directors asso-
ciated with St. Joseph News and
the Press Gazette.
Licensee — KFEQ, Inc., St. Joseph
Mo.
The Pulitzer Publishing Co.....KSD
Licensee—The Pulitzer Publishing
Co., St. Louis, Mo.
Star-TimesKXOK
Licensee — Star-Times Publishing
Co., St. Louis, Mo.
Springfield Newspapers, Inc.....KGBX

Licensee—Springfield Broadcasting Co., Springfield, Mo.
 Springfield Newspapers, Inc.....KWTO
Licensee—Ozarks Broadcasting Co., Springfield, Mo.

MONTANA

Stockholder interested in Great Falls Tribune. KFBB
Licensee—Buttrey Broadcast, Inc., Great Falls, Mont.
 Lewiston Democrat-NewsKDMC
 Lewiston Telegram
Licensee—Democrat-News Co., Inc., Lewiston, Mont.

NEBRASKA

Clay County Sun (weekly).....KMMJ
Licensee—KMMJ, Inc., Clay Center, Neb.
 Stockholders: Sidels Co., State Journal, Star Publ. Co. KFAB
Licensee—KFAB Broadcasting Co., Lincoln, Neb.
 Stockholders: Sidels Co., State Journal, Star Publ. Co.; Publish Nebraska State Journal, Evening News and Lincoln Daily Star. KFOR
Licensee—Cornbelt Broadcasting Corp., Lincoln, Neb.
 The Norfolk Daily News.....WJAG
Licensee—The Norfolk Daily News, Norfolk, Neb.
 Stockholders interested in State Journal Co., Publishers of Nebraska State Journal and the Evening News; and Star Publishing Co., publisher of Lincoln Daily Star. KOIL
Licensee—Central States Broadcasting Co., Omaha, Neb.

NEVADA

McClatchy NewspapersKOH
Licensee—The Bee, Inc., Reno, Nevada.

NEW MEXICO

Owner of stock in licensee corporation is an officer in following: Albuquerque Publishing Co.; Journal Publishing Co.; Scripps-Howard Newspapers (Rocky Mt. Division), Denver Publishing Co. KOB
Licensee—Albuquerque Broadcasting Co., Albuquerque, New Mex.
 Pecos Enterprise, Pecos, Tex.....KLAH
Licensee—Carlsbad Broadcasting Co., Carlsbad, N. M.
 Lexington Daily Herald.....KICA
 Lexington, Ky.
Licensee—Western Broadcasters, Inc., Clovis, N. M.

NEW YORK

Kniekerbocker NewsWABY
Licensee—Adirondack Broadcasting Co., Albany, N. Y.
 Kniekerbocker NewsWOKO
Licensee—WOKO, Inc., Albany, N. Y.
 Buffalo Evening News.....WBEN

Licensee—WBEN, Inc., Buffalo, N. Y.
 Buffalo Evening News.....WEBR
Licensee—WEBR, Inc., Buffalo, N. Y.
 (By contract)WESG
Licensee—Cornell University, Elmira, N. Y.
 Officers and directors are publishers. WEVD
Licensee—Debs Memorial Fund, Inc., New York City.
 American Newspapers, Inc.....WINS
Licensee—Hearst Radio, Inc., New York, N. Y.
 Olean Times Herald.....WHDL
Licensee—Olean Broadcasting Co., Inc., Olean, N. Y.
 Gannett Co., Inc.....WHEC
 (Newspaper publishers)
Licensee—WHEC, Inc., Rochester, N. Y.

NORTH CAROLINA

Asheville Citizen-TimesWWNC
Licensee—Asheville Citizen-Times Co., Inc., Asheville, N. C.
 The Durham Morning Herald.....WDNC
 The Durham Sun
Licensee—Durham Radio Corp., Durham, N. C.
 Winston-Salem JournalWSJS
Licensee—Winston-Salem Journal, Winston-Salem, N. C.

NORTH DAKOTA

Fargo ForumWDAY
Licensee—WDAY, Inc., Fargo, N. D.

OHIO

Licensee is newspaper publisher....WICA
Licensee—C. A. Rowley, Ashtabula, Ohio.
 Scripps-Howard NewspapersWCPO
Licensee—Continental Radio Co., Cincinnati, Ohio.
 The Cleveland Plain Dealer.....WHK
Licensee—Radio Air Service Corp., Cleveland, Ohio.
 Officers and directors interested in newspaper publishing. WJAY
Licensee—Cleveland Radio Broadcasting Corp., Cleveland, Ohio.
 Dispatch Printing Co.....WBNS
Licensee—WBNS, Inc., Columbus, Ohio.
 The Cleveland Plain Dealer.....WHKC
Licensee—Associated Radiocasting Corp., Columbus, Ohio.
 The Evening News Publishing Co..WHIO
 Springfield Newspapers, Inc.
Licensee—Miami Valley Broadcasting Corp., Dayton, Ohio.
 Owners interested in newspaper publishing. WPAY
Licensee—Vee Bee Corp., Portsmouth, Ohio.
 Stockholders interested in Cleveland Plain Dealer. WKBN
Licensee—WKBN Broadcasting Corp., Youngstown, Ohio.

OKLAHOMA

The Ardmoreite Publishing Co., Inc. **KVSO**
Ardmore, Okla.
Licensee—The Ardmoreite Publishing Co., Inc., Ardmore, Okla.
Enid Morning News.....**KCRC**
Enid Daily Eagle
Licensee — Enid Radiophone Co., Enid, Okla.
Daily Phoenix Times Democrat.....**KBIX**
Licensee—Okla. Press Publishing Co., Muskogee, Okla.
Ft. Worth Star Telegram.....**KTOK**
Ft. Worth, Tex.
Licensee — Oklahoma Broadcasting Co., Inc., Oklahoma City, Okla.
American Newspapers, Inc.....**KOMA**
Licensee—Hearst Radio, Inc., Oklahoma City, Okla.
Oklahoma Publishing Co.....**WKY**
Licensee—WKY Radiophone Co., Oklahoma City, Okla.
Stauffer Publishing Co.....**KGPF**
(newspapers)
Licensee—KGPF Broadcasting Co., Inc., Shawnee, Okla.

OREGON

Astoria-Budget.....**KAST**
Licensee—Astoria Broadcasting Co., Inc., Astoria, Ore.
La Grande Observer.....**KLBM**
Licensee—Harold & Mrs. Eloise Finlay, La Grande, Ore.
Oregon Journal.....**KALE**
Licensee — KALE, Inc., Portland, Ore.
Morning Oregonian.....**KFX**
Licensee—Oregonian Publishing Co., Portland, Ore.
The Oregon Journal.....**KFJR**
Licensee — KALE, Inc., Portland, Ore.
Oregonian.....**KGW**
Licensee — Oregonian Publishing Co., Portland, Ore.
Oregon Journal.....**KOIN**
Licensee — KOIN, Inc., Portland Ore.
Newspaper publishers at Roseburg, Ore.; Klamath Falls, Ore.; and partial interest in Medford, Ore., Mail Tribune. **KRNR**
Licensee—Southern Oregon Publishing Co., Roseburg, Ore.

PENNSYLVANIA

Allentown Call Publishing Co.....**WSAN**
(newspaper business.)
Licensee—WSAN, Inc., Allentown, Pa.
Stockholders interested in newspaper publications. **WEST**
Licensee — Associated Broadcasters, Inc., Easton, Pa.
Morning Telegraph.....**WHP**
The Harrisburg Telegraph
(Telegraph Press)

Licensee—WHP, Inc., Harrisburg, Pa.
The Telegraph Press.....**WKBO**
The Telegraph Newspapers
Licensee — Keystone Broadcasting Corp., Harrisburg, Pa.
Stockholders interested in newspaper publishing. **WAZL**
Licensee — Hazleton Broadcasting Service, Inc., Hazleton, Pa.
Johnstown Tribune.....**WJAC**
Licensee—WJAC, Inc., Johnstown, Pa.
Stockholders interested in newspaper publications (Mason Dixon Radio Group, Inc.) **WGAL**
Licensee — WGAL, Inc., Lancaster Pa.
Public Ledger.....**WHAT**
Licensee—Independence Broadcasting Co., Inc., Philadelphia, Pa.
Pitt Publishing Co.....**WCAE**
(Newspaper publication.)
Licensee—WCAE, Inc., Pittsburgh, Pa.
Pennsylvania Newspaper Co.....**WWSW**
Licensee—Walker & Downing Radio Corp., Pittsburgh, Pa.
Scranton Times.....**WQAN**
Licensee — The Scranton Times, Scranton, Pa.
Sunbury Item, Inc.....**WKOK**
Licensee — Sunbury Broadcasting Corp., Sunbury Pa.
Subsidiary of Sun Gazette Co.....**WRAK**
Licensee — WRAK, Inc., Williamsport, Pa.
Stockholders interested in newspaper publishing (Mason Dixon Radio Group, Inc., Wilmington, Del.) **WORK**
Licensee—York Broadcasting Co., York, Pa.

SOUTH CAROLINA

Independent & Daily Mail.....**WAIM**
Licensee—Wilton E. Hall, Anderson, S. C.
Greenville News (A. M. paper).....**WFBC**
Piedmont (P. M. paper)
Licensee—Greenville News-Piedmont Co., Greenville, S. C.

TENNESSEE

Jackson Sun.....**WTJS**
Licensee—The Sun Publishing Co., Inc., Jackson, Tenn.
Scripps-Howard Newspapers.....**WNOX**
Licensee — Continental Radio Co., Knoxville, Tenn.
Memphis Commercial Appeal, Inc.....**WMC**
Licensee—Memphis Commercial Appeal, Inc., Memphis, Tenn.
Memphis Commercial Appeal, Inc.....**WNBR**
Licensee — Memphis Broadcasting Co., Memphis, Tenn.

TEXAS

Sweetwater Reporter.....**KRBC**
Sweetwater, Tex.

Big Spring Herald
Big Spring, Tex.
North Texas Pub. Co.
Paris, Tex.
Caller-Times Pub. Co.
Corpus Christi, Tex.
Licensee — Reporter Broadcasting
Co., Abilene, Tex.
Globe News Publishing Co., Inc.KFYO
Amarillo, Tex.
Licensee—Plains Radio Broadcast-
ing Co., Amarillo, Tex.
Globe-News Publishing Co., Inc.KGNC
Amarillo, Tex.
Licensee—Plains Radio Broadcast-
ing Co., Amarillo, Tex.
Hearst Radio, Inc.KNOW
American Newspapers, Inc.
Licensee — KUT Broadcasting Co.,
Austin, Tex.
All stockholders interested in news-
papers: Big Spring Herald Publ.
Co., San Angelo Standard, Inc.,
Big Spring Herald, North Texas
Publ. Co., Caller-Times Publ. Co.,
Reporter Publ. Co., etc. KBST
Licensee—Big Spring Herald Pub-
lishing Co., Big Spring, Tex.
Stockholder: owner 14% publ. KGFI
Corpus Christi Caller-Times (W. G.
Kinsolving).
Licensee — Eagle Broadcasting Co.,
Corpus Christi, Tex.
Stockholder: (40%) W. G. Kin- KRIS
solving.
Licensee—Gulf Coast Broadcasting
Co., Corpus Christi, Tex.
The Dallas Daily Times Herald.KRLD
Licensee—KRLD Radio Corpora-
tion, Dallas, Tex.
Dallas NewsWFAA
Dallas Journal
Licensee: A. H. Belo Corp., Dallas,
Tex.
El Paso Times.KROD
Licensee—Dorrance D. Roderick, El
Paso, Tex.
Fort Worth Star-Telegram.WBAP
Licensee—Carter Publications, Inc.
Fort Worth, Tex.
Hunt Broadcasting Assn.KGVJ
Fred Horton, Pres., Greenville,
Tex.
Houston Post Company.KPRC
Licensee—Houston Printing Co.,
Houston, Tex.
Houston Chronicle Publishing Co.KTRH
Licensee—KTRH Broadcasting Co.,
Houston, Tex.
Kilgore Daily News.KOGA
Licensee—Oil Capital Broadcasting
Assn., Kilgore, Tex.
Publisher (Longview Daily News)KWJK
50%
Licensee—Voice of Longview, Long-
view, Tex.
Lubbock Avalanche-JournalKFYO

Licensee—Plains Radio Broadcast-
ing Co.
Santa Ana Daily Register.KPDN
Santa Ana, Calif.
News Journal.
Clovis, N. Mex.
Telegraph-Forum,
Bucyrus, Ohio.
Pampa Daily News
Licensee—R. C. Hoiles, Pampa, Tex.
North Texas Publishing Co.KPLT
Licensee—North Texas Broadcasting
Co., A. G. Mayse, President,
Paris, Tex.
Hubbs Printing Co., Publisher of KIUN
Pecos Enterprise.
Licensee—Jack W. Hawkins and
Barney H. Hubbs, Pecos, Tex.
Newspaper Publisher San Angelo.KGGI
Standard Times
Abilene Reporter-News, Streetwater
Reporter, Big Spring Herald, Paris
News, Corpus Christi Caller-Times
Licensee—KGGI, Inc., San Angelo,
Tex.
Hearst Radio, Inc.KTSA
Licensee—KTSA Broadcasting Co.,
San Antonio, Tex.
The Sherman Democrat.KRRV
Sherman, Tex.
Licensee—Red River Valley Broad-
casting Corp., Sherman, Tex.
Bell Publishing Co.KTEM
Licensee—Bell Broadcasting Co.,
Temple, Tex.
Hearst Radio, Inc.WACO
American Newspapers, Inc.
Licensee—KTSA Broadcasting Co.,
Waco, Tex.
*Newspaper PublishersKGGK
Licensee—Wichita Falls Broadcast-
ing Corp., Wichita Falls, Tex.

UTAH

*Stockholders engaged in newspaper KLO
publishing.
Licensee—Interstate Broadcasting
Corp., Ogden, Utah
Publishers of Salt Lake City Trib- KSL
une, Salt Lake City Telegram.
Licensee—Radio Service Corp. of
Utah, Salt Lake City, Utah.

VERMONT

Burlington Daily News Building WCAX
Corp.
(Newspaper publication)
Licensee—Burlington Daily News,
Inc., Burlington, Vt.
Waterbury RecordWDEV
Licensee—Mary M. Whitehill, Ex-
ecutrix of the Estate of Harry C.
Whitehill, Waterbury, Vt.

VIRGINIA

Ledger-DispatchWTFAR
Virginian Pilot
(Norfolk Newspapers, Inc.)
Licensee—WTFAR Radio Corp., Nor-
folk, Va.

*Newspaper PublisherWPHR
 Licensee—WLBG, Inc., Petersburg,
 Va.
 Times-DispatchWRTD
 Licensee—The Times-Dispatch Pub-
 lishing Co., Richmond, Va.
 Roanoke TimesWDBJ
 World News
 Licensee—Times World Corp., Roa-
 noke, Va.

WEST VIRGINIA

*Newspaper publishersWHIS
 Licensee—Daily Telegraph Printing
 Co., Bluefield, W. Va.
 The Huntington Advertiser.....WCHS
 The Herald-Dispatch
 The Sunday Herald-Advertiser
 Licensee—Charleston Broadcasting
 Corp., Charleston, W. Va.
 Clarksburg ExponentWBLK
 Licensee—The Exponent Co., Clarks-
 burg, W. Va.
 Huntington Publishing Co.....WSAZ
 Licensee—WSAZ, Inc., Huntington,
 W. Va.
 Exponent Co.—89%WPAR
 Licensee—Ohio Valley Broadcasting
 Corp., Parkersburg, W. Va.

WISCONSIN


Controlling stockholders is pub- WEAU
 lisher of Superior Eve. Telegram,

which also owns 3 other news-
 papers in Wis.
 Licensee—Central Broadcasting Co.,
 Eau Claire, Wis.
 FDL Commonwealth Reporter.....KFIZ
 Licensee—Reporter Printing Co.,
 Fond du Lac, Wis.
 Janesville GazetteWCLO
 Licensee—Gazette Printing Co.,
 Janesville, Wis.
 Capital Times Publishing Co.; WIBA
 Capital Times, Madison, Wis.
 Licensee—Badger Broadcasting Co.,
 Inc., Madison, Wis.
 American Newspapers, Inc.....WISN
 Licensee—Hearst Radio, Inc., Mil-
 waukee, Wis.
 The Milwaukee JournalWTMJ
 Licensee—The Journal Co. (The Mil-
 waukee Journal), Milwaukee, Wis.
 Racine Journal Times.....WRJN
 Licensee—Racine Broadcasting
 Corp., Racine, Wis.
 The Sheboygan Press.....WHBL
 Licensee—Press Publishing Co., She-
 boygan, Wis.
 Stockholders interested in news- WEBC
 paper publications.
 Licensee—Head of the Lakes Broad-
 casting Co., Superior, Wis.

Memorandum to FCC as of January 25, 1937

Excerpt from somewhat lengthy

OPINION of the GENERAL COUNSEL
 on
NEWSPAPER OWNED STATIONS



Senator Wheeler inquires:

“Whether, if the Commission has not such authority at the present time, legisla-
 tion could be passed denying the right for all newspapers to acquire radio stations
 in the future and requiring all newspapers within a reasonable time to divest
 themselves of the ownership and control of such stations.”

A careful review of the decisions of the Supreme Court with respect to existing legisla-
 tion which appears to be analogous or similar to that here suggested and those decisions with respect to the regulation of interstate commerce by the Congress and matters bearing a reasonable relation there-
 to, impel me to a conclusion that the constitutional-ity of an act of Congress denying the right to all newspaper owners as such to obtain broadcast licenses in the future and requiring all newspapers to divest themselves of such ownership or control within a reasonable time, is not free from doubt, and, therefore, I think the inquiry does not permit of a categorical answer.

However, let me add, it is established that all radio broadcasting is interstate commerce; that, under the Constitution, the Congress

has the power to regulate interstate and foreign commerce; that the criterion to be applied is whether the proposed legislation has a reasonable relation to a purpose which is within constitutional authority; and, that the power to regulate interstate and foreign commerce is limited only by the provisions of the Constitution itself.

I am of the opinion that the mutual ownership and control of newspapers and broadcast stations bears a reasonable relation to and has an effect upon interstate commerce and, therefore, if the Congress enacted a law of the purport suggested, it should meet the constitutional requirements.

Respectfully,
 HAMPSON GARY,
 General Counsel

INTERNATIONAL BROADCAST STATIONS IN THE UNITED STATES

The following list of International, Experimental and High Frequency stations has been compiled through the cooperation of the Federal Communications Commission. Every effort has been made to present an accurate and informative listing of all outlets operating in the United States. Stations listed are those in actual operation as of Feb. 1, 1938.

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, 11830, 15270, 17760, 21520	10 kw
The Crosley Radio Corp. Mason, Ohio	W8XAL	6060, 9590	10 kw
General Electric Company South Schenectady, N. Y.....	W2XAD	15330	25 kw
General Electric Company South Schenectady, N. Y.....	W2XAF	9530	40 kw
Isle of Dreams Broadcasting Corp. Miami Beach, Florida.....	W4XB	6040	2.5 kw
National Broadcasting Co., Inc. Bound Brook, N. J.....	W3XAL	6100, 17780	35 kw
National Broadcasting Co., Inc. Downer's Grove, Ill.....	W9XF	6100, 17780	10 kw
WCAU Broadcasting Company Newtown Square, Pa.....	W3XAU	6060, 9590, 21520	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, 11790, 15250, 21460	20 kw

EXPERIMENTAL BROADCAST STATIONS

<i>Licensee and Location</i>	<i>Call Letters</i>	<i>Frequency (kc)</i>	<i>Power</i>	<i>Emission</i>
Bell Telephone Labs., Inc. Whippany, N. J.	W3XDD	560, 900, 1340	5 kw	A3
Connecticut State College Storrs, Conn.	W1XEV	86000-400000, 401000 and above	500 w	A3
The Crosley Radio Corp. Near Mason, Ohio.	W8XO	700	500 kw	A3
C. J. MacGregor, Mobile (North Polar Region vic. Ellesmere Island)	W10XAE	2398, 3492.5, 4797.5, 6425, 8655, 12862.5, 17310, 31100, 34600, 37600, 40600, 86000 to 400000	400 w	A3
Donald B. MacMillan Mobile (aboard schooner Gertrude L. Thebaud)	W10XH	8655, 12862.5	100 w	A3
McNary & Chambers Near College Park, Md.	W3XJ	1060	100 w	A3 & Special
Natl. Broadcasting Co., Inc. New York, N. Y.	W2XKI	175000-180000	15 w	A3, A4
Natl. Broadcasting Co., Inc. Bound Brook, N. J.	W3XL	1614, 2398, 3492.5, 4797.5, 6425, 8655, 12862.5, 17310, 31100, 31600, 34600, 35600, 37600, 38600, 40600, 41000, 86000-400000, 401000 and above	100 kw	A1, A2, A3
Natl. Broadcasting Co., Inc. Portable (vicinity N. Y.) ...	W10XF	1614, 3492.5, 4797.5, 6425, 8655, 12862.5, 17310, 25700, 26000, 27100, 31100, 34600, 37600, 40600, 86000- 400000, 401000 and above	25 w	A1, A2, A3
Natl. Broadcasting Co., Inc. Portable (vicinity N. Y.) ...	W10XHD	83500	1 kw	A1, A2
Natl. Broadcasting Co., Inc. Portable (vicinity N. Y.) ...	W10XHE	150000	500 w	A1, A2, A3
Natl. Broadcasting Co., Inc. Portable-Mobile	W10XR	1614, 3492.5, 4797.5, 6425, 8655, 12862.5, 17310, 25700, 26000, 27100, 31100, 34600, 37600, 40600, 86000- 400000, 401000 and above	100 w	A3
Travelers Br. Service Corp. Avon, Conn.	W1XEH	63500	150 w	A2, A3
Westinghouse E. & M. Co. Near Saxonburg, Pa.	W8XAR	980	50 kw to 500 kw	A3
The Yankee Network, Inc. Quincy, Mass.	W1XAC	61500	100 w	A2, A3

HIGH FREQUENCY BROADCAST STATIONS

FREQUENCY GROUPS—Group C—31600, 35600, 38600 and 41000 kc.; Group E (selective)—41600, 86500, 111000 kc.; Group E (selective)— 88000, 120000, 240000 and 500000 kc.

LOCATION Town and State	Call Letters	Licensee	Power Watts	Frequency (kc) or Groups
Albany, N. Y.	W2XOY	General Electric Co.	150	C
Baltimore, Md.	W3XES	Monumental Radio Co.	300	C
Baltimore, Md.	W3XEY	Baltimore Radio Show, Inc.	100	C
Boston, Mass. (tr. Quincy, Mass.)	W1XER	The Yankee Network, Inc.	500	C
Boston, Mass.	W1XKA	Westinghouse E. & M. Co.	50	C
Buffalo, N. Y.	W8XH	WBEN, Inc.	100	C
Charleston, W. Va.	W8XNO	Charleston Broadcasting Co.	50	26100
Chattanooga, Tenn.	W4XBW	WDOD Broadcasting Corp.	100	C
Chicago, Ill.	W9XBS	National Broadcasting Co., Inc.	50	C
Cincinnati, Ohio	W8XNU	Crosley Radio Corp.	200	25950
Cleveland, Ohio	W8XNT	Radio Air Service Corp.	50	C
Dallas, Tex. (tr. Grape- vine, Tex.)	W5XD	A. H. Belo Corp.	100	C
Des Moines, Ia.	W9XTB	Iowa Broadcasting Co.	100	26550
Detroit, Mich.	W8XWJ	Evening News Asso.	100	C
Harrisburg, Ill.	W9XTA	Schonert Radio Service.	100	C
Kansas City, Mo.	W9XER	Midland Broadcasting Co., Inc.	50	C
Los Angeles, Calif.	W6XKG	Ben S. McGlashan	1000	25950
Los Angeles, Calif.	W6XRE	Ben S. McGlashan	500	E
Memphis, Tenn.	W4XCA	Memphis Comm. Appeal Co.	250	C
Milwaukee, Wis.	W9XAZ	The Jour. Co. (The Mil. Jour.)	500	26400
Minneapolis, Minn.	W9XHW	Columbia Broadcasting System	50	C
Minneapolis, Minn. (tr. Rose Township, Minn.)	W9XTC	Minnesota Broadcasting Corp.	150	26050
Newark, N. J.	W2XJI	Bamberger Broadcasting Serv.	100	C
New Bedford, Mass. (tr. Fairhaven, Mass.)	W1XEQ	E. Anthony & Sons, Inc.	100	C
New York, N. Y.	W2XDV	Columbia Broadcasting System.	50	C
New York, N. Y.	W2XDG	National Broadcasting Co., Inc.	150	C
New York, N. Y.	W2XHG	National Broadcasting Co., Inc.	150	C
New York, N. Y. (tr. Alpine, N. J.)	W2XMN	Edwin H. Armstrong.	40,000	E
New York, N. Y.	W2XQO	Knickerbocker Broadcasting Co.	100	26550
Norfolk, Va.	W3XEX	WTAR Radio Corp.	50	C
Oklahoma City, Okla.	W5XAU	WKY Radiophone Co.	100	C
Philadelphia, Pa.	W3XKA	Westinghouse E. & M. Co.	50	C
Philadelphia, Pa.	W3XIR	WCAU Broadcasting Co.	100	C
Pittsburgh, Pa.	W8XKA	Westinghouse E. & M. Co.	150	C
Rochester, N. Y. (tr. Victor Township)	W8XAI	Stromberg Carlson Tel. Mfg. Co.	100	C
Spartanburg, S. C.	W4XH	V. V. Evans, d b as "The Voice of South Carolina"	50	25950
Springfield, Mass. (tr. E. Springfield, Mass.)	W1XKB	Westinghouse E. & M. Co.	500	C
St. Louis, Mo.	W9XOK	Star Times Publishing Co.	100	C
St. Louis, Mo.	W9XPD	Pulitzer Publishing Co.	100	C
St. Paul, Minn.	W9XUP	Natl. Battery Broadcasting Co.	1000	25950
Superior, Wis.	W9XJL	Head of Lakes Broadcasting Co.	80	C
Tallmadge, Ohio	W8XOY	Allen T. Simmons.	100	C

CANADA

STATIONS—REGULATIONS—SURVEY

The following list of stations is arranged in call letter alphabetical order giving page number for complete station data.

Every effort has been made to present accurate and complete information in a self-explanatory method. Data was obtained from questionnaires sent to the stations early in December and corrections were made up to the time of going to press to insure the inclusion of late developments.

Canadian network facilities covered in full on page 158.



Call Letter	City	Frequency in Kilocycles	Power in Watts	See Page
CBF	Montreal, Que.	910	50000	435
CBL	Toronto, Ont.	840	50000	432
CBM	Montreal, Que.	1050	5000	435
CBO	Ottawa, Ont.	880	1000	432
CBR	Vancouver, B. C.	1100	5000	424
CBW	Windsor, Ont.	600	1000 d. 500 n.	433
CFAC	Calgary, Alta.	930	1000	421
CFCF	Montreal, Que.	500	500	436
CFCH	North Bay, Ont.	930	100	430
CFCN	Calgary, Alta.	1030	10000	421
CFCO	Chatham, Ont.	630	100	428
CFCT	Victoria, B. C.	1450	50	425
CFCY	Charlottetown, P. E. I.	630	1000	434
CFGP	Grand Prairie, Alta.	1200	100	422
CFJC	Kamloops, B. C.	880	1000	423
CFLC	Prescott, Ont.	930	100	432
CFNB	Fredericton, N. B.	550	1000 d. 500 n.	426
CFPL	London, Ont.	730	100	430
CFPR	Prince Rupert, B. C.	580	50	423
CFQC	Saskatoon, Sask.	840	1000	439
CFRB	Toronto, Ont.	690	10000	433
CFRC	Kingston, Ont.	1510	100	429
CFRN	Edmonton, Alta.	960	100	422
CHAB	Moose Jaw, Sask.	1200	100	438

Call Letter	City	Frequency in Kilocycles	Power in Watts	See Page
CHGS . . .	Summerside, P. E. I.	1450	50	434
CHLN . . .	Three Rivers, Que.	1420	100	438
CHLP . . .	Montreal, Que.	1120	100	436
CHLT . . .	Sherbrooke, Que.	1210	100	438
CHML . . .	Hamilton, Ont.	1010	100	429
CHNC . . .	New Carlisle, Que.	960	1000	436
CHNS . . .	Halifax, N. S.	930	1000	427
CHRC . . .	Quebec, Que.	580	100	437
CHSJ . . .	Saint John, N. B.	1120	100	427
CHWK . . .	Chilliwack, B. C.	780	100	423
CJAT . . .	Trail, B. C.	910	1000	424
CJBR . . .	Rimouski, Que.	1030	1000	437
CJCA . . .	Edmonton, Alta.	730	1000	422
CJCB-CJCX . . .	Sydney, N. S.	1240	1000	427
CJCJ . . .	Calgary, Alta.	690	100	421
CJCS . . .	Stratford, Ont.	1210	100	431
CJGX . . .	Yorkton, Sask.	1390	100	439
CJIC . . .	Sault Ste. Marie, Ont.	1500	100	431
CJKL . . .	Kirkland Lake, Ont.	1310	100	430
CJLS . . .	Yarmouth, N. S.	1310	100	428
CJOC . . .	Lethbridge, Alta.	950	100	423
CJOR . . .	Vancouver, B. C.	600	500	425
CJRC . . .	Winnipeg, Man.	630	1000	426
CJRM . . .	Regina, Sask.	540	1000	438
CKAC . . .	Montreal, Que.	730	5000	436
CKBI . . .	Prince Albert, Sask.	1210	100	438
CKCD . . .	Vancouver, B. C.	1010	100	424
CKCH . . .	Hull, Que.	1210	100	435
CKCK . . .	Regina, Sask.	1010	1000	439
CKCL . . .	Toronto, Ont.	580	100	433
CKCO . . .	Ottawa, Ont.	1010	100	432
CKCR . . .	Kitchener, Ont.	1510	100	430
CKCV . . .	Quebec, Que.	1310	100	437
CKCW . . .	Moncton, N. B.	1370	100	426
CKFC . . .	Vancouver, B. C.	1410	50	424
CKGB . . .	Timmins, Ont.	1420	100	432
CKIC . . .	Wolfville, N. S.	1010	50	428
CKLW . . .	Windsor, Ont.	1030	5000	433
CKMO . . .	Vancouver, B. C.	1410	100	424
CKNX . . .	Wingham, Ont.	1200	100	434
CKOC . . .	Hamilton, Ont.	1120	1000 d. 500 n.	429
CKOV . . .	Kelowna, B. C.	630	100	424
CKPC . . .	Brantford, Ont.	930	100	428
CKPR . . .	Fort William, Ont.	730	100	429
CKSO . . .	Sudbury, Ont.	780	1000	431
CKTB . . .	St. Catherines, Ont.	1200	100	430
CKUA . . .	Edmonton, Alta.	580	500	422
CKWX . . .	Vancouver, B. C.	1010	100	425
CKX . . .	Brandon, Man.	1120	1000	425
CKY . . .	Winnipeg, Man.	960	15000	426
CRCK . . .	Quebec, Que.	950	1000	437
CRCS . . .	Chicoutimi, Que.	1120	100	435

The following rules for broadcasting stations in Canada, promulgated under the Canadian Broadcasting Act, 1936, went into effect Nov. 1, 1937

Authority.

THE following regulations, numbered 1 to 23 were passed at a meeting of the Canadian Broadcasting Corporation held at Toronto, in the Province of Ontario, on the 8th day of September, 1937, as and for the regulations of the Canadian Broadcasting Corporation, and were made under authority of subsection one of section twenty-two of The Canadian Broadcasting Act, chapter twenty-four of the Statutes of 1936, which reads as follows:—

"The Corporation may make regulations

- (a) to control the establishment and operation of chains or networks of stations in Canada;
- (b) to prescribe the periods to be reserved periodically by any private station for the broadcasting of programs of the Corporation;
- (c) to control the character of any and all programs broadcast by Corporation or private stations;
- (d) to determine the proportion of time which may be devoted to advertising in any programs broadcast by the stations of the Corporation or by private stations and to control the character of such advertising;
- (e) to prescribe the proportion of time which may be devoted to political broadcasts by the stations of the Corporation and by private stations, and to assign such time on an equitable basis to all parties and rival candidates."

Definitions.

1. In these regulations, unless the context otherwise requires,

- (a) The "Act" means The Canadian Broadcasting Act, chapter twenty-four of the Statutes of 1936;
- (b) "Corporation" means the Canadian Broadcasting Corporation;
- (c) "licence" means a license issued to a broadcasting station under the Radiotelegraph Act; and "licensee" means the holder of such licence;
- (d) "private station" means any broadcasting station licensed to a person other than the Corporation;
- (e) "regulations" means these regulations;
- (f) "representatives of the Corporation" means the General Manager of the Corporation, the Assistant General Manager of the Corporation or persons authorized in writing by the General Manager of the Corporation;

(g) "station" refers to stations owned or operated by the Corporation as well as by others and it may also refer to the owner or licensee of a station.

Scope of Regulations.

2. These regulations apply to all stations in Canada and to all matter broadcast by such stations.

3. (1) Each station shall maintain a program log in a form acceptable to the Corporation and shall cause entries to be made therein as follows:—

- (a) date, call letters, location, frequency;
- (b) the time at which each station identification announcement is made;
- (c) the title and brief description of each program broadcast, with the time of the beginning and ending so as to give a continuous record of each day's broadcast. If a mechanical reproduction is used, that fact shall be noted, together with a statement whether or not announcement thereof was made. In the case of a talk or speech, the name of the speaker and the auspices under which the talk or speech was given shall be entered. If the speech is made by a political candidate or on behalf of a political candidate or political party, the political affiliation of the candidate or party shall also be entered;
- (d) the duration of each spot or other similar announcement and the broadcast hour during which it was transmitted;
- (e) the name of the sponsor of any program or announcement for which the station is paid.

(2) Key letters or abbreviations may be used if the explanation of each is plainly given in the log. The logs shall be produced for the inspection of the representatives of the Corporation upon the request of such representatives.

(3) Each station shall keep on file a copy of

- (a) the continuity used for any program;
- (b) all program or other announcements containing advertising matter;
- (c) the manuscript of addresses or talks.

(4) In the case of chain broadcasts these records shall be kept by the originating station.

(5) Such records shall be retained by the station for a period of one year and shall be open for inspection by representatives

of the Corporation upon request of such representatives.

4. The time mentioned in all program logs and contracts used in connection with broadcasting shall be local standard time (or local daylight-saving time if that is in force) unless otherwise specified or agreed.

5. Each station shall, each week, file with the Corporation in a form acceptable to the Corporation an advance copy of its program schedule for the following week, showing the exact hours and how they are to be occupied each day.

6. Each station shall announce its call letters not less than once nor more than four times an hour, during hours of operation.

Programs in General.

7. No one shall broadcast

- (a) anything contrary to law;
 - (b) the actual proceeding at any trial in a Canadian Court;
 - (c) abusive comment on any race, religion or creed;
 - (d) obscene, indecent or profane language;
 - (e) malicious, scandalous, or defamatory matter;
 - (f) advertising matter containing false or deceptive statements;
 - (g) false or misleading news;
 - (h) upon the subject of birth control;
 - (i) upon the subject of venereal disease, or other subjects relating to public health which the Corporation may from time to time designate, unless such subjects be presented in a manner and at a time approved by the General Manager as appropriate to the medium of broadcasting;
 - (j) (i) programs presenting a person who claims supernatural or psychic powers, or a fortune-teller, character analyst, crystal-gazer or the like, or programs which lead or may lead the listening public to believe that the person presumed claims to possess or possesses supernatural or psychic powers or is or claims to be a fortune-teller, character analyst, crystal-gazer or the like.
 - (ii) programs in which a person answers or solves or purports to answer or solve questions or problems submitted by listeners or members of the public unless such programs prior to being broadcast shall have been approved in writing by a representative of the Corporation.
8. (1) Political broadcasts are governed by subsections (3), (4) and (5) of section 22 of The Canadian Broadcasting Act, 1936, which read as follows:—

“(3) Dramatized political broadcasts are prohibited.

“(4) The names of the sponsor or sponsors and the political party, if any, upon whose behalf any political speech or address is broadcast shall be announced immediately preceding and immediately after such broadcasts.

“(5) Political broadcasts on any Dominion, Provincial or Municipal election day and on the two days immediately preceding any such election day are prohibited.”

(2) Each station shall allocate time for political broadcasts as fairly as possible between the different parties or candidates desiring to purchase or obtain time for such broadcasts.

Advertising Content.

9. (1) The advertising content of any program shall not exceed in time ten per cent of any program period.

(2) Notwithstanding the provisions of subsection (1) any station shall upon instruction in writing from the Corporation reduce the total daily advertising content of its programs if the said total daily advertising content in the opinion of the Corporation occupies an undue proportion of the daily broadcast time.

(3) Upon notice in writing from the Corporation any station shall change the quality or nature of its advertising broadcasts.

10. Notwithstanding the provisions of these regulations the Corporation may, upon satisfactory evidence being submitted to it of a contract or contracts for the use of mechanical reproductions outstanding on November 1, 1937, which contain more than the advertising content prescribed in section 9 (1) or which relate to the subjects mentioned in section 7 (j) permit the continued use of the said mechanical reproductions until, but not beyond December 31, 1937.

11. (1) In any program no one shall advertise

- (a) any act or thing prohibited by law;
- (b) the prices of goods or services, except the prices of publications auxiliary to the information services of the Corporation;
- (c) any insurance corporation not registered to do business in Canada;
- (d) bonds, shares, or other securities or mining or oil properties or royalties or other interests in mining or oil properties other than the securities of the Dominion or Provincial governments or municipalities or other public authorities, provided nothing herein shall prevent anyone from sponsoring a program giving quotations of market prices without comment;
- (e) spirituous liquors;
- (f) wine and beer in any province of Canada wherein the provincial law pro-

hibits the direct advertisement of wine and beer, nor in any other province unless immediately prior to the coming into force of these Regulations wine and beer have in fact been directly advertised in such province through the facilities of radio.

(2) Whenever wine and beer are advertised through radio facilities, the following special regulations shall apply:—

(a) no spot announcements shall be used for the direct or indirect advertisement of wine or beer;

(b) all continuities in programs directly or indirectly advertising wine or beer shall, prior to their broadcast, be approved by the Corporation as to the continuity and the form, quantity and quality of the advertising content thereof.

Spot Announcements.

12. (1) "Spot" announcements shall not exceed two minutes for each broadcasting hour, subject always to the provisions of subsection (2) of this regulation.

(2) No "spot" announcement shall be broadcast on week-days between 7.30 p.m. and 11 p.m. nor on Sundays at any time, provided that where exceptional conditions prevail owing to the geographical situation stations may be given permission by the Corporation to broadcast "spot" announcements on week-days during the hours prohibited in this section.

(3) Subsections (1) and (2) of this regulation shall not apply to time signals or weather reports, provided that no advertising other than the name of the sponsor is mentioned.

Foods and Drugs.

13. (1) No continuity advertising an article marketed under the Proprietary or Patent Medicine Act or the Food and Drugs Act may be broadcast until it has been approved by the Department of Pensions and National Health. Continuities submitted for approval shall be forwarded, in duplicate, to the Canadian Broadcasting Corporation, Ottawa, at least two weeks in advance of intended use. The formula for any article bearing a distinctive or trade name distinguishing it from any other product, and marketed under the Food and Drugs Act, shall be submitted with each pertinent continuity.

(2) No electrical transcription advertising an article marketed under the Proprietary or Patent Medicine Act or the Food and Drugs Act shall be broadcast by any station unless certified by an affidavit that the advertising continuity has been approved by the Department of Pensions and National Health.

(3) No announcer may broadcast any

statement concerning any article marketed under the Food and Drugs Act or the Proprietary or Patent Medicine Act that is not contained in the continuity approved by the Department of Pensions and National Health.

(4) Testimonials referring to an article marketed under the Food and Drugs Act or the Proprietary or Patent Medicine Act shall be regarded as constituting a part of the advertising continuity.

(5) No continuity recommending any treatment for any ailment shall be broadcast until it has been approved by the Department of Pensions and National Health.

(6) Inspectors of Food and Drugs, Department of Pensions and National Health, are authorized to act as representatives of the Corporation for the purpose of enforcing this regulation.

News Broadcasts.

14. Stations shall not transmit any news or information of any kind published in any newspaper or obtained, collected, collated, or coordinated by any newspaper or association of newspapers or any news agency or service, except the following:—

(a) Such news bulletins as are released regularly from the various bureaus of The Canadian Press for the express use of broadcasting stations in Canada;

(b) Local news under arrangements to be made by each station individually with its local newspaper or newspapers, or such news as it may collect through its own employees;

(c) News from sources other than those provided for in subsections (a) and (b) herein, shall not be broadcast unless the express permission in writing of the Corporation through its General Manager is secured in advance.

15. Representatives of the Corporation may require the production of material to be broadcast before any broadcast is arranged to take place.

Corporation Programs.

16. Time reserved for the broadcasting of Corporation programs shall be used only for such programs unless approval to the contrary has been received in writing from the Corporation in each specific case.

17. Stations shall upon request of the Corporation give right of way to such Corporation or other programs as the Corporation shall designate. In such event neither the station nor the Corporation shall incur any liability for compensation or damages.

18. No station shall "pick up" and re-broadcast any program unless permission in writing has first been obtained from the Corporation.

Mechanical Reproductions.

19. (1) No station shall use a mechanical reproduction (except when its use is merely incidental as for an identification or background) between the hours of 7.30 p.m. and 11.00 p.m. except with the previous consent of the Corporation in writing.

(2) A mechanical reproduction shall be announced as such immediately before and after the program concerned, except when its use is merely incidental as for an identification or background. The exact form of announcement is not prescribed, but the language shall be clear and in terms commonly used and understood. The following are examples of statements sufficient for the purpose:—

(a) "This is a recorded program."

(b) "This is a program of electrical transcription."

(3) No program of mechanical reproductions shall contain any reference to the name of any person, firm or corporation connected with the manufacture, sale, hire or ownership of the said mechanical reproductions used in the said program.

Chain Broadcasting.

20. Unless permission in writing is first obtained from the Corporation.

(a) no station shall continue to be a part or shall form a part of a chain or network originating outside of Canada;

(b) no chain or network of two or more stations shall continue to be operated within Canada or shall be set up or operated within Canada;

(c) no station shall continue to be or become an outlet for any station, chain or network existing or originating outside of Canada;

(d) no station shall continue to be or become an associate station of or with any station, chain or network existing or originating outside of Canada.

Station Contracts.

21. Every station shall file with the Corporation a copy of the forms of contract used by it and a statement of its charges. Every such contract shall expressly make the enjoyment of the privilege to broadcast conditional upon the observance of these regulations. The licensee of each station shall see that a copy of these regulations is available at the station and that the station employees and persons broadcasting are familiar with them.

22. The Corporation may send a written or telegraph notice to the licensee of any station informing him of any alleged violation of these regulations and he shall have a delay of six days within which to answer in writing, giving in full his reply to the notice. The Corporation may make such investigation of the facts as it shall consider appropriate and for this purpose its representatives may examine the records and question the employees of any station.

23. These regulations shall have full force and effect as of the 1st day of November, 1937, and on and after that date all regulations inconsistent therewith shall be deemed to have been repealed.

NOTE: The penalty for violation of these regulations is provided for under section 22(6) of the Act which reads:

"(6) In case of any violation or non-observance by a private station of the regulations made by the Corporation under this section, the Corporation may order that the license of such private station be suspended for a period not exceeding three months and any such order shall be forwarded to the Minister who shall forthwith communicate the same to the licensee of the station and shall take such steps as may be necessary to carry out the terms of such order."



CANADA—A SURVEY

This official, authoritative survey of Canada is based upon latest reports compiled by the Electrical Division of the Bureau of Foreign and Domestic Commerce, United States Department of Commerce.

General—With population extending over a distance of 3,000 air-line miles, the transmission of radio programs involves numerous outlets, heavy wire charges and timing difficulties due to the existence of five separate time zones in the country. Purchasing power is relatively high in Canada. The length of the winter season, coupled with the centering of much of social activities around the home, tends to promote demand for radio entertainment. Similarly, the great expanse of the country presents a good field for commercial radio communication.

Sets in Use—According to law, an annual license (fee \$2) must be obtained each fiscal year (April 1 to March 31) for radio receivers. During the fiscal year ended March 31, 1937, the number of radio receiver licenses sold was 1,038,500.

According to a survey by Radio Trade Builder, a trade journal, the number of receivers in use in homes in Canada at the end of 1936 was 1,672,000, an increase of 13½ per cent over the estimate of sets in use at the end of 1935.

Toronto is the primary radio center of Canada as the majority of radio manufacturers are located in Ontario; Montreal is second as a manufacturing and distributing center and Winnipeg and Vancouver serve regional markets as jobbing points. Secondary commercial centers include Halifax or Saint John, in the Maritimes, and Regina, Calgary or Edmonton in western areas. Smaller cities serve localized market areas.

Demand—During 1936 members of the Radio Manufacturers Association of Canada reported total sales to dealers as numbering 239,777 with a list value of \$22,347,329, of which A. C. receivers numbered 167,018 valued at \$17,384,541 and battery sets numbered 59,739 valued at \$4,182,933.

Following official statistics of radio sales since 1933 clearly reveal that a widespread market for receivers exists in Canada. It is estimated that the number of sets in use equals 69 per cent of the number of Canadian families.

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

Patents—For several years the more important Canadian radio patents have been under the control of a patent corporation known as Canadian Radio Patents, Limited. This corporation, which has its head office at 159 Bay Street, Toronto, Canada, originally took over for licensing purposes thousands of patents formerly held by individual concerns such as the Canadian General Electric Company, Limited, Northern Electric Company, Limited, Canadian Marconi Company and Standard Radio Manufacturing Corporation, Limited. It has since acquired patents and patent rights on its own account.

Canadian Radio Patents Limited hold the radio receiving sets manufactured by others, or imported into or sold in Canada embodying the following features: (a) Regeneration, feed back, or oscillation; (b) Tuned radio frequency; (c) Grid leak detection; (d) Neutralization of inter-electrode capacity; (e) Power amplification and power supply; or (f) Superheterodyne circuits; are infringements of the patents controlled by the corporation.

The privilege of the Canadian use of the patents controlled by Canadian Radio Patents

is given only to those firms which take out a license with the company and which manufacture in Canada. Even though a firm's receivers may be licensed under United States patents owned by firms also represented in Canadian Radio Patents, Limited, a license under the Canadian company is also required.

Tube Patents—A second patent holding corporation entitled Thermionics Limited, also at 159 Bay Street, Toronto, has announced that it owns or controls numerous basic Canadian patents covering the manufacture and sale within Canada of radio tubes to be used only in the non-commercial reception of public radio telephone broadcasting.

Tariffs and Restrictions—Canadian tariff information is subject to change and should be verified in advance of doing business in Canada.

Electrical transcriptions imported into Canada are subject to special administrative orders relative to the acceptable valuation for duty purposes. Collectors are instructed to appraise electrical transcriptions containing advertising matter imported from the United States at a minimum value of \$7.50 per transcription, which is held to include the United States excise tax of 5 per cent. Transcriptions without advertising matter, usually furnished on a contract basis as a "library service" are valued for duty at a minimum of \$4.00 each.

Television—This development is definitely in the experimental stage in the Dominion and its early practical application is discounted.

Amateur Radio—Amateur radio communication in Canada is organized along similar lines to conditions in the United States. The hobby has attracted many residents and in the last fiscal year a total of 2,821 amateur experimental transmission licenses were issued by the government. A good part of the conversations are with amateurs in the United States and equipment, prices and hookups are often under discussion, thus promoting demand for American lines.

Short Wave—Canadian broadcasting on the short wave bands is chiefly confined to commercial and police services aside from two stations (Toronto and Winnipeg). United States stations are picked up readily and at times when standard band reception from American outlets is unsatisfactory the programs often can be picked up from associated outlets using the short wave.

Broadcasting—Under the Canadian Radio Broadcasting Act, 1936, the Canadian Broadcasting Corporation on Nov. 2, 1936, took over governmental 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 nine honorary governors and a general manager in charge of operations. The legislation charges the corporation to carry on national 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 governmental radio 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.

Although the nationalization of radio in Canada is in the transitional stage, government policy has consistently favored the operation of radio as a public utility and all private broadcasting licenses have been issued with the understanding that the State may take over the facilities and that no value attaches for good will. The Canadian Broadcasting Corporation took over the network established by the Radio Commission which now comprises eight basic stations, namely, CRCV, Vancouver; CRCW, Windsor; CRCX (CRCX), Toronto; CRCY, Toronto; CRCO, Ottawa; CRCM, Montreal, CRCK, Quebec City; and CRCS, Chicoutimi, Quebec. Coverage of the network has been extended through agreements with 20 or more private commercial stations which carry the network program throughout the country.

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 state licenses, change of channel, location or power.

The Broadcasting Corporation has recently completed a detailed survey of the coverage afforded by existing stations and in accordance with the conclusion that additional high-powered outlets were required, two stations are now under construction, both to be 50 kilowatt units. One is to be located at Hornby, near Toronto, Ontario, and the other at Vercheres, near Montreal, Quebec. It is expected that two more key stations will be erected within the next few years, one in the Maritime area and the other in western Canada. Consideration is also being given to a proposal to erect a powerful

short-wave transmitter to permit Canadian participation in direct overseas broadcasting.

Programs—Programs broadcast in Canada may be classified under four categories: First, material presented by the Broadcasting Corporation, which contains no advertising and may be compared with sustaining programs which United States stations offer; second, commercially-sponsored programs which contain direct or indirect advertising and are released on a paid-time basis; third, sustaining programs broadcast by privately owned stations; and fourth, exchange programs from sources outside of Canada, chiefly the United States and the United Kingdom. Commercial programs have much in common with the type of advertising programs employed in the United States except that the limitations of the Canadian market do not permit the elaborate continuities and high-priced talent which is possible with national coverage of a larger consumer market. Canadian programs on exchange with United States stations have become increasingly popular.

Advertising—Radio advertising from privately owned stations and outlets controlled by the Broadcasting Corporation is conducted in the usual manner under established regulations. 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 11:00 p.m., but at other hours they are extensively employed by broadcasting stations. The recording of incoming overseas broadcasts is frequently undertaken to permit more timely release of programs. 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.

Regulations—Statutory authority to suppress radio interference is contained in the Canadian Broadcasting Act. Detailed regulations for control of programs, station operation, news service and advertising were issued by the Canadian Broadcasting Corporation, effective Nov. 1, 1937. In addition the 1936 radio statute itself contains regulatory provisions regarding chain broadcasting hook-ups and political broadcasts. Technical requirements for station equipment are promulgated by the Department of Transport. Federal jurisdiction over radiocommunication was determined by a ruling of the Imperial Privy Council, Feb. 9, 1932.

Sets in Use—1,672,000.

Stations—83.



CANADIAN



STATIONS

Alberta

CFAC

"CALGARY'S FRIENDLY STATION"

CALGARY—EST. 1922

CBC & FOOTHILLS NETWORK

FREQUENCY: 930 Kc. POWER: 1000 Watts.
OWNED BY: Calgary Herald. OPERATED BY: Taylor Pearson & Carson. BUSINESS ADDRESS: Southam Bldg. PHONE: R 10367. STUDIO ADDRESS: Southam Bldg. TRANSMITTER LOCATION: Forest Lawn. TIME ON THE AIR: 6:30 A.M. to 12:00 midnight. NEWS PAPER AFFILIATION: Calgary Daily Herald. NEWS SERVICE: Canadian Press News. TRANSCRIPTION SERVICE: NBC Thesaurus, World Broadcasting System.

PERSONNEL

President H. R. Carson
Commercial Manager Ian McDonald
Chief Announcer Pat Freeman
Station Manager G. S. Henry
Publicity Director Fred McDowell
Musical Director Cecil Kappay
Chief Engineer R. Ericson

POLICIES

CBC regulations rule out all liquor advertising.

Supplies a free merchandising service.

REPRESENTATIVE

All Canada Radio Facilities

CFCN

"THE VOICE OF THE PRAIRIES"

CALGARY—EST. 1922

CBC—ALBERTA EDUCATIONAL NETWORK
FREQUENCY: 1030 Kc. POWER: 10,000 Watts. OWNED BY: The Voice of the Prairies, Ltd. OPERATED BY: Same. BUSINESS ADDRESS: Toronto Gen. Trust Bldg. PHONE: M 1161. STUDIO ADDRESS: Same. TRANSMITTER LOCATION: Strathmore. TIME ON

THE AIR: 6:00 A.M. to 12:00 midnight. NEWS SERVICES: Transradio Press, Radio News Assn. TRANSCRIPTION SERVICES: Standard Radio, MacGregor and Sollie, and Lang-Worth.

PERSONNEL

President H. G. Love
Commercial Manager E. H. McGuire
Chief Announcer Kel Traynor
Station Manager H. G. Love
News Editor D. E. Campbell
Chief Engineer P. M. McCoifery

POLICIES

No spot announcements on Sunday or after 7:30 P.M., except service announcements.

All continuity re foods or medical supplies must be approved by Ottawa.

Merchandising department to assist and work with advertiser on any campaign, etc.

REPRESENTATIVE

Joseph Hershey McGillvra

CJCL

CALGARY

FREQUENCY: 690 Kc. POWER: 100 Watts. OWNED BY: Albertan Publishers, Ltd. OPERATED BY: Same. BUSINESS ADDRESS: Renfrew Bldg. PHONE: R 2001—M 5858. STUDIO ADDRESS: Same. TRANSMITTER LOCATION: 2015 Salisbury Ave. TIME ON THE AIR: 7:00 A.M. to 11:00 P.M. NEWS PAPER AFFILIATION: Albertan Publishers, Ltd. NEWS SERVICE: Canadian Press. TRANSCRIPTION SERVICES: Lang-Worth Features, Titan Library.

PERSONNEL

President Gordon Bell
Chief Announcer M. H. McKenzie
Station Manager H. A. Webster
Sales Manager Rolfe Barnes
Musical Director Leslie Calvert
Chief Engineer Robert Henderson

POLICIES

Liquor advertising not permitted by provincial law. CBC policies prevail.

CFRN

EDMONTON—EST. 1934

CBC

FREQUENCY: 960 Kc. POWER: 100 Watts. OWNED BY: Sunwapta Broadcasting Co. OPERATED BY: Same. BUSINESS ADDRESS: 109 C. P. R. Bldg. PHONE: 23561-267. STUDIO ADDRESS: Same. TRANSMITTER LOCATION: Jasper Place. TIME ON THE AIR: 7:00 A.M. to 11:00 P.M. NEWS SERVICE: Canadian Press, Edmonton Bulletin, Ltd. TRANSCRIPTION SERVICE: Lang-Worth. MAINTAINS ARTISTS BUREAU.

PERSONNEL

Commercial Manager H. F. Nielsen
Artists Bureau Head R. Wright
Chief Announcer S. Lancaster
Station Manager G. R. A. Rice
Sales Manager A. J. Hopps
Publicity Director D. E. Neale
Musical Director R. Wright
Chief Engineer F. Makepeace

POLICIES

No liquor advertising accepted; foreign language accounts accepted providing English translation of all copy sent with program.

Merchandising system of flash circulars which are mailed to all distributors of products advertised, in some cases supply window display cards.

REPRESENTATIVES

Joseph Hershey McGillvra (U.S.A.) (Toronto)
All Canada Broadcasting (Winnipeg-Toronto)

CJCA

"VOICE OF THE GREAT NORTH WEST"

EDMONTON—EST. 1922

CBC—FOOTHILLS NETWORK—NBC

FREQUENCY: 730 Kc. POWER: 1000 watts. OWNED BY: Northwestern Publishers Ltd. "Edmonton Journal." OPERATED BY: Taylor & Pearson Broadcasting Co. Ltd. BUSINESS ADDRESS: Birk's Bldg. PHONE: 2-6131-2-3. STUDIO ADDRESS: Birk's Bldg. TRANSMITTER LOCATION: Belmont. TIME ON THE AIR: 8:00 a.m. to 12:00 p.m. (Sunday), 6:30 a.m. to 12:00 p.m. (weekdays), 6:30 a.m. to 1:30 a.m. (Saturday). NEWSPAPER AFFILIATION: Edmonton Journal. NEWS SERVICE: Canadian Press and local news. TRANSCRIPTION SERVICE: NBC Thesaurus, World Broadcasting System, All Canada Radio Facilities Ltd.

PERSONNEL

Commercial Manager..... Wm. Cranston
Production Manager..... N. Botterill
Station Manager..... Frank H. Elphicke
Publicity Director..... Walter Dales
Continuity Editor..... James Allard
Technical Director..... Hastings McMahon

POLICIES

Does not accept beer and liquor advertising. No sponsored news broadcasts. All continuity subject to approval of station management and Canadian Broadcasting Corporation regulations.

Merchandising service—which includes spot announcements introducing programs—calls on wholesale houses. Direct mail to retailers. Billboard advertising. Arranging window displays. Sales surveys—and participation in station advertising in certain northern Alberta publications.

REPRESENTATIVES

All Canada Radio Facilities Ltd.
Montreal, Toronto, Winnipeg, Calgary,
Vancouver
Weed & Co.
N. Y., Detroit, Chicago, San Francisco

CKUA

EDMONTON—EST. 1927

CBC—ALBERTA EDUCATIONAL NETWORK

FREQUENCY: 580 Kc. POWER: 500 watts. OWNED BY: University of Alberta. OPERATED BY: University of Alberta. BUSINESS ADDRESS: University of Alberta. PHONE: 3-2233-2-2131-12. STUDIO ADDRESS: Dept. of Extension, University campus. TRANSMITTER LOCATION: Campus. TIME ON THE AIR: 1:00 p.m. to 2:15 p.m.—6:00 p.m. to 8:30 p.m. (Monday to Friday).

PERSONNEL

President of the University..... W. A. R. Kerr
Chief Announcer..... H. P. Brown
Station Manager..... Donald Cameron
Program Director..... Sheila Marryat
Chief Engineer..... W. E. Cornish

POLICIES

Educational programs only.

CFGP

GRANDE PRAIRIE—EST. 1937

FREQUENCY: 1200 Kc. POWER: 100 Watts. OWNED AND OPERATED BY: Northern Broadcasting Corp., Ltd. BUSINESS ADDRESS: P. O. Box 175, Edmonton, Alta. STUDIO ADDRESS: Grande Prairie. TRANSMITTER LOCATION:

Grande Prairie. TIME ON THE AIR: Sunday, 9:00 A.M. to 12:00 noon and 2:00 P.M. to 6:00 P.M. Weekdays, 7:00 A.M. to 10:00 A.M.; 11:30 A. M. to 2:30 P.M.; and 5:00 P.M. to 8:00 P.M.

PERSONNEL

Manager H. W. Brooker
 Program Director Paul Guy

POLICIES

All continuities must conform with the requirements of the management and the rules and regulations of the Canadian Broadcasting Corp.

CJOC

"SUNNY SOUTH STATION"
 LETHBRIDGE—EST. 1928

CANADIAN BROADCASTING CORP.

FREQUENCY: 950 Kc. POWER: 100 watts.
 OWNED BY: Lethbridge Broadcasting Co. OPERATED BY: H. R. Carson. BUSINESS ADDRESS: Marquis Hotel. PHONE: 3871-2. STUDIO ADDRESS: Marquis Hotel. TIME ON THE AIR: 6:15 a.m. to 12:15 a.m. NEWS SERVICE: Canadian Press. TRANSCRIPTION SERVICE: NBC Thesaurus.

PERSONNEL

President.....J. G. Hutchings
 Commercial Manager.....A. H. Nicholl
 Chief Announcer.....R. Buss
 Station Manager.....G. Gantz
 Publicity Director.....C. A. Peery
 Chief Engineer.....R. Reach

POLICIES

Does not allow liquor advertising. All continuities must conform to rules and regulations of the Canadian Broadcasting Corporation.

Limited number of foreign language accounts accepted.

Merchandising: The use of billboards calling attention to programs—newspaper listings and window displays are used.

REPRESENTATIVE

Weed & Company



CFPR

PRINCE RUPERT

FREQUENCY: 580 Kc. POWER: 50 Watts.
 OWNED AND OPERATED BY: F. E. Blatt.
 BUSINESS AND STUDIO ADDRESS: Prince Rupert. TRANSMITTER LOCATION: Prince Rupert.

CHWK

"THE VOICE OF THE FRASER VALLEY"
 CHILLIWACK—EST. 1927
 CBC & BC NETWORK

FREQUENCY: 780 Kc. POWER: 100 Watts.
 OWNED BY: Chilliwack Broadcasting Co., Ltd. OPERATED BY: Same. BUSINESS ADDRESS: 16 Wellington Ave. PHONE: 6106-2906. STUDIO ADDRESS: Same. TRANSMITTER LOCATION: Same. TIME ON THE AIR: 8:00 A.M. to 10:30 P.M. NEWS SERVICES: CBC-Canadian Press and Local. TRANSCRIPTION SERVICE: Hollywood Radio Attractions.

PERSONNEL

President C. Casey Wells
 Commercial Manager C. Casey Wells
 Advertising Manager C. Casey Wells
 Chief Announcer R. G. Wells
 Station Manager C. Casey Wells
 Sales Manager C. Casey Wells
 Publicity Director C. Casey Wells
 Musical Director Bertram Turvey
 Chief Engineer Jack Dilling

POLICIES

No contracts accepted for advertising of mail order houses, chain stores, taverns, Sunday sports or amusements, or for advertising liquor, beer or wines.

Merchandising: Full cooperation with merchandising tie-ins. No charge for service.

REPRESENTATIVE

All Canada Radio Facilities

CFJC

KAMLOOPS—EST. 1924

DOMINION BROADCASTING CO.

FREQUENCY: 880 Kc. POWER: 1000 Watts.
 OWNED BY: Review Pub. Co. OPERATED BY: Kamloops Sentinel, Ltd. BUSINESS ADDRESS: 209 Victoria St. PHONE: 1018 and 1000. STUDIO ADDRESS: 322 Victoria St. TRANSMITTER LOCATION: North Kamloops. TIME ON THE AIR: 7:45 A.M. to 1:15 P.M. NEWSPAPER AFFILIATIONS: Kamloops Sentinel, Ltd. TRANSCRIPTION SERVICES: Transco and Hollywood Radio Attractions.

PERSONNEL

President R. E. White
 Commercial Manager D. Homersham
 Station Manager D. Homersham
 Sales Manager J. Harling
 Publicity Director L. Irvine
 Musical Director R. Desmond
 Chief Engineer Geo. Henderson

POLICIES

As laid down under regulations for broadcasting stations made under the Canadian Broadcasting Act.

CKOV

KELOWNA—EST. 1931

CANADIAN BROADCASTING CORP.

FREQUENCY: 630 Kc. POWER: 100 Watts.
OWNED BY: Okanagan Broadcasters, Ltd.
OPERATED BY: Okanagan Broadcasters, Ltd.
BUSINESS ADDRESS: Mill Ave. STUDIO ADDRESS: Mill Ave. TRANSMITTER LOCATION: Kelowna. TIME ON THE AIR: Full Time. TRANSCRIPTION SERVICE: NBC Thesaurus.

PERSONNEL

Managing Director J. W. B. Browne

POLICIES

All contracts subject to the regulations of the Canadian Broadcasting Corp.

REPRESENTATIVES

John E. Baldwin, Vancouver
All Canada Broadcasting System

CJAT

"THE VOICE OF THE KOOTENAYS"

TRAIL—EST. 1931

CBC

FREQUENCY: 910 Kc. POWER: 1000 Watts.
OWNED BY: Kootenay Broadcasting Co., Ltd.
OPERATED BY: Same. BUSINESS ADDRESS: Victoria St. PHONE: 737. STUDIO ADDRESS: Victoria St. TRANSMITTER LOCATION: Warfield. TIME ON THE AIR: 7:00 A.M. to 11:00 P.M. NEWS SERVICE: Canadian Press. TRANSCRIPTION SERVICES: NBC Thesaurus, and All-Canada Radio Facilities.

PERSONNEL

President B. A. Stimmel
Commercial Manager W. W. Baggs
Chief Announcer C. R. Smith
Station Manager T. G. Robinson
Chief Engineer E. C. Connor

POLICIES

Does not accept liquor or foreign language accounts.

REPRESENTATIVES

Weed & Company
All-Canada Radio Facilities

CBR

VANCOUVER—EST. 1925

CANADIAN BROADCASTING CORP.
BRITISH COLUMBIA REGIONAL NETWORK

FREQUENCY: 1100 Kc. POWER: 5000 Watts.
OPERATED BY: Canadian Broadcasting Corp.
BUSINESS ADDRESS: Canadian National Hotel. PHONE: 2511. STUDIO ADDRESS: Same. TRANSMITTER LOCATION: Lulu Island. TIME ON THE AIR: Sunday, 9:00 A.M. to 11:00

P.M.; Week Days, 8:00 A.M. to 11:00 P.M.
TRANSCRIPTION SERVICE: Standard Radio.

PERSONNEL

Manager J. R. Radford

POLICIES

Alcoholic beverage advertising not accepted. Governed by the policies of the Canadian Broadcasting Corp.

CKCD

VANCOUVER

FREQUENCY: 1010 Kc. POWER: 100 Watts.
OWNED BY: Vancouver Province. OPERATED BY: Pacific Broadcasting Co., Ltd. BUSINESS ADDRESS: 198 Hastings West. PHONE: Seymour-2750-5137K. STUDIO ADDRESS: Sarpe. TRANSMITTER LOCATION: Same. TIME ON THE AIR: 7:30 P.M. to 11:30 P.M. NEWSPAPER AFFILIATION: Vancouver Daily Province. NEWS SERVICE: Local and national news tieup.

PERSONNEL

President W. G. Hassell
Commercial Manager W. G. Hassell
Advertising Manager W. G. Hassell
Chief Announcer W. G. Hassell
Station Manager W. G. Hassell
Sales Manager W. G. Hassell
Publicity Director L. F. Hassell
Musical Director Mabel Brown
Chief Engineer H. G. McCrady

POLICIES

CBC policies prevail.

CKFC*

VANCOUVER

FREQUENCY: 1410 Kc. POWER: 50 Watts.
OWNED BY: United Church of Canada. OPERATED BY: Standard Broadcasting System, Ltd. BUSINESS ADDRESS: 1001-1009 Stock Exchange Bldg. STUDIO ADDRESS: Same. TRANSMITTER LOCATION: North Vancouver. TIME ON THE AIR: Shares Time with CKMO.

* No further information available after usual requests.

CKMO

"THE PIONEER VOICE OF B.C."
VANCOUVER—EST. 1922

FREQUENCY: 1410 Kc. POWER: 100 watts.
OWNED BY: Spratt Shaw Schools. OPERATED BY: N. C. Broadcasting System, Ltd. BUSINESS ADDRESS: 812 Robson St. PHONE: Sey. 8778-9. STUDIO ADDRESS: 812 Robson St. TRANSMITTER LOCATION: Sun Bldg. TIME ON THE AIR: 8:00 a.m. to 10:30 p.m. NEWSPAPER AFFILIATION: News Herald. NEWS SERVICES: Canadian Press & News-

Herald (local). **TRANSCRIPTION SERVICE:** Grow & Pitcher and (recorded British Library).

PERSONNEL

President.....R. J. Spott
Commercial Manager.....H. M. Cooke
Chief Announcer.....Gordon Hodson
Station Manager.....H. M. Cooke
Publicity Director.....Phil Baldwin
Musical Director.....Allan Thompson
Chief Engineer.....Earnie Rusicka

POLICIES

Covered by regulations of the Canadian Broadcasting Corp.

Merchandising depends on the sponsor. Tie-up with stores and theaters.

CKWX

VANCOUVER—EST. 1923

FREQUENCY: 1010 Kc. POWER: 100 Watts. OWNED BY: Western Broadcasting Co., Ltd. OPERATED BY: Same. BUSINESS ADDRESS: 801 W. Georgia St. PHONE: Seymour 2188. STUDIO ADDRESS: Same. TRANSMITTER LOCATION: 1220 Seymour St. TIME ON THE AIR: 6:30 A.M. to 9:00 P.M. (average). NEWS SERVICE: Local news from Vancouver Sun. TRANSCRIPTION SERVICES: World Broadcasting System, All Canada Radio.

PERSONNEL

President.....A. Holmstead
Commercial Manager.....Reg. M. Dery
Advertising Manager.....Reg. M. Dery
Program Director.....Fred Bass
Station Manager.....A. Holmstead
Sales Manager.....Reg. M. Dery
Publicity Director.....Reg. M. Dery
Chief Engineer.....Ross MacIntyre

POLICIES

No liquor or foreign language programmes accepted. Station reserves right to edit copy, particularly on patent medicine advertising, although this latter is also passed upon by Dominion Department of Health.

Merchandising: Assists in merchandising programmes whenever and wherever possible. Movable window displays being prepared covering various allied products, which will be scheduled for windows throughout territory. Build-up broadcasting and publicity given, and station carries on small newspaper campaigns in papers throughout area pointing attention to entertainment to be listened to over station.

REPRESENTATIVE

Weed & Company (U.S.)

CJOR

VANCOUVER—EST. 1926

FREQUENCY: 600 Kc. POWER: 500 watts. OWNED BY: G. C. Chandler. OPERATED BY:

G. C. Chandler. BUSINESS ADDRESS: 846 Howe St. PHONE: Trinity 5321. STUDIO ADDRESS: 846 Howe St. TRANSMITTER LOCATION: Richmond Municipality. TIME ON THE AIR: 7:00 a.m. to midnight. NEWS SERVICE: Transradio Press. TRANSCRIPTION SERVICE: NBC Thesaurus.

PERSONNEL

Commercial Manager.....Don Laws
Chief Announcer.....Leo Trainor
Station Manager.....G. C. Chandler
Publicity Director.....R. E. Ford
Musical Director.....L. Trainor
Chief Engineer.....W. B. Smith

POLICIES

No liquor—discourage foreign languages.

REPRESENTATIVE

Joseph Hershey McGillvra

CFCT

VICTORIA—EST. 1923

DOMINION BROADCASTING CO.

FREQUENCY: 1450 Kc. POWER: 50 Watts. OWNED BY: Victoria Broadcasting Assn. OPERATED BY: Victoria Broadcasting Assn. BUSINESS ADDRESS: Radio Centre. PHONE: G-2014. STUDIO ADDRESS: Same. TRANSMITTER LOCATION: Same. TIME ON THE AIR: Unlimited.

PERSONNEL

General and Commercial Mgr....G. W. Deaville
Station Manager.....Bernard Deaville

REPRESENTATIVES

All-Canada Broadcasting System
Joseph Hershey McGillvra

Manitoba

CKX

"THE FRIENDLY STATION"

BRANDON—EST. 1928

CBC

FREQUENCY: 1120 Kc. POWER: 1000 Watts. OWNED BY: Manitoba Telephone System. OPERATED BY: Same. BUSINESS ADDRESS: Brandon. PHONE: 4532. STUDIO ADDRESS: 8th St. TRANSMITTER LOCATION: 1st St. North. TIME ON THE AIR: 8:00 A.M. to 11:30 P.M. (daily); 12:00 noon to 11:30 P.M. (Sunday). NEWS SERVICE: Canadian Press. TRANSCRIPTION SERVICE: All Canada Tran-

scription Library. MAINTAINS ARTISTS BU-
REAU.

PERSONNEL

Commercial Manager O. Craig
Advertising Manager O. Craig
Chief Announcer E. Davies
Station Manager W. F. Seller
Chief Engineer C. E. R. Collins

POLICIES

No liquor advertisements accepted. Governed by Canadian Broadcasting Corporation rules.

REPRESENTATIVES

All Canada Radio Facilities
Weed & Company

C J R C

"MANITOBA'S FRIENDLY STATION"

WINNIPEG—EST. 1933

FREQUENCY: 630 Kc. POWER: 1000 Watts.
OWNED BY: James Richardson & Sons, Ltd.
OPERATED BY: Same. BUSINESS ADDRESS:
Royal Alexandra Hotel. PHONE: 9-2266-7-8.
TIME ON THE AIR: (daily) 7:30 A.M. to mid-
night. (Sunday) 11:00 A.M. to midnight. NEWS
SERVICE: Transradio Press and own news
service. TRANSCRIPTION SERVICES: World
Broadcasting System, Standard Radio, and
Lang-Worth Features.

PERSONNEL

Commercial Manager J. L. C. Macpherson
Advertising Manager Geo. Titus
Chief Announcer J. Thompson
Station Manager H. R. McLaughlin
Publicity Director N. Chamberlain
Musical Director H. Green
Chief Engineer K. Cameron

POLICIES

No liquor advertising accepted.
Maintains a merchandising department.

REPRESENTATIVE

Joseph Hershey McGillvra

C K Y

WINNIPEG—EST. 1922

DOMINION BROADCASTING CO.

CANADIAN BROADCASTING CORP.
FREQUENCY: 960 Kc. POWER: 15000 Watts.
OWNED BY: Manitoba Telephone System. OP-
ERATED BY: Manitoba Telephone System.
BUSINESS ADDRESS: Telephone Bldg. PHONE:
92-191. STUDIO ADDRESS: Same. TRANS-
MITTER LOCATION: St. Francis Xavier. TIME

ON THE AIR: Sunday, 11:00 A.M. to 12:00
midnight. Week Days, 7:30 A.M. to 12:00
midnight. TRANSCRIPTION SERVICE: NBC
Thesaurus, C. P. MacGregor, All Canada Ra-
dio Facilities.

PERSONNEL

Station Director John Lowry
Station Manager William Backhouse
Commercial Manager Percy Gaynor

POLICIES

Governed by the policies of the Canadian
Broadcasting Corp.

REPRESENTATIVES

United Broadcast Sales, Ltd.
Weed & Co.

New Brunswick

CFNB

"THE VOICE OF THE MARITIMES"

FREDERICTON—Est. 1923

CANADIAN BROADCASTING CORP.

FREQUENCY: 550 Kc. POWER: 1000 watts.
OWNED BY: Jos. S. Neill & Sons Ltd. OP-
ERATED BY: Same. BUSINESS ADDRESS:
Fredericton. PHONE: 209. STUDIO ADDRESS:
Same. TRANSMITTER LOCATION: Same.
TIME ON THE AIR: 8:00 A.M. to 12:00 P.M.
NEWSPAPER AFFILIATIONS: St. John Tele-
graph Journal, St. John Citizen. NEWS SER-
VICE: Canadian Press. TRANSCRIPTION
SERVICE: NBC Thesaurus.

PERSONNEL

President John Neill
Commercial Manager J. Stewart Neill
Chief Announcer Cleve Stillwell
Station Manager J. Stewart Neill
Sales Manager J. Stewart Neill
Chief Engineer Thomas B. Young

POLICIES

No liquor announcements and no foreign
language.

REPRESENTATIVE

Joseph Hershey McGillvra

CKCW

MONCTON—EST. 1934

CBC—REGIONAL MARITIME

FREQUENCY: 1370 Kc. POWER: 100 watts.
(1000 applied for). OWNED BY: Moncton

Broadcasting Co., Ltd. OPERATED BY: Moncton Broadcasting Co., Ltd. BUSINESS ADDRESS: K of P Bldg. PHONE: 1302-1432. STUDIO ADDRESS: K of P Bldg. TRANSMITTER LOCATION: Harrisville. TIME ON THE AIR: 8:00 a.m. to midnight. NEWSPAPER AFFILIATIONS: Moncton Transcript, Moncton Times. NEWS SERVICE: Canadian Press. MAINTAINS ARTISTS BUREAU; TRANSCRIPTION SERVICE: World Broadcasting System, and Standard Radio, Inc.

PERSONNEL

President.....J. L. Black
 Commercial Manager.....F. A. Lynds
 Artists Bureau Head.....S. B. Holmes
 Chief Announcer.....E. McCarron
 Station Manager.....F. A. Lynds
 Sales Manager.....A. B. Cooke
 Musical Director....."Whitey" Holmes
 Chief Engineer.....James A. White

POLICIES

All liquor advertising banned.
 French language accounts accepted.
 Complete merchandising department. Routine and novel tie-ins available.

CHSJ

SAINT JOHN—EST. 1934

CANADIAN BROADCASTING CORP.

FREQUENCY: 1120 Kc. POWER 1,000 watts, d.; 500 watts, n. OWNED BY: New Brunswick Broadcasting Co., Ltd. OPERATED BY: Same. BUSINESS ADDRESS: Admiral Beatty Hotel. PHONE: 3-2307. STUDIO ADDRESS: Same. TRANSMITTER LOCATION: Same. TIME ON THE AIR: 6:00 A.M. to 6:15 A.M.—7:30 A.M. to 12:00 P.M. NEWSPAPER AFFILIATIONS: Telegraph-Journal, Times-Globe. NEWS SERVICES: Newspapers, Canadian Press. MAINTAINS ARTISTS BUREAU. TRANSCRIPTION SERVICE: World Broadcasting System.

PERSONNEL

President.....H. P. Robinson
 Commercial Manager.....Geo. Cromwell
 Advertising Manager.....L. W. Bewick
 Artists Bureau Head.....de B. Halley
 Chief Announcer.....de B. Halley
 Station Manager.....L. W. Bewick
 Publicity Director.....Christine Fewings
 Chief Engineer.....J. G. Bishop

POLICIES

No liquor advertisements.
 Merchandising: Keeps in contact with trade interested in programs over our station.

REPRESENTATIVE

Joseph Hershey McGillvra

Nova Scotia

CHNS

"THE KEY STATION OF THE MARITIMES"

HALIFAX—EST. 1926

CBC AND MARITIME NETWORK

FREQUENCY: 930 Kc. POWER: 1000 watts. OWNED BY: Maritime Broadcasting Co., Ltd. OPERATED BY: Same. BUSINESS ADDRESS: Lord Nelson. PHONE: B-8318. STUDIO ADDRESS: Same. TRANSMITTER LOCATION: Bedford, U. S. TIME ON THE AIR: 8:00 A.M. to 12:00 midnight. NEWSPAPER AFFILIATION: Halifax Herald for News. NEWS SERVICE: Canadian Press. TRANSCRIPTION SERVICE: NBC Thesaurus, Standard Radio, and Lang-Worth.

PERSONNEL

President.....Andrew Robb
 Commercial Manager.....J. L. Redmond
 Advertising Manager.....Wm. C. Borrett
 Artists Bureau Head.....L. L. Shatford
 Chief Announcer.....Fletcher Coates
 Station Manager.....William C. Borrett
 Sales Manager.....William C. Borrett
 Publicity Director.....William C. Borrett
 Musical Director.....R. L. Fry
 Chief Engineer.....A. W. Greig

POLICIES

No liquor advertisements accepted. All continuities subject to CBC regulations.

CJCB-CJCX

"DOWN WHERE THE EAST BEGINS"

SYDNEY—EST. 1929

CANADIAN BROADCASTING CORP.

FREQUENCY: 1240 Kc. POWER: 1000 watts. OWNED BY: Eastern Broadcasters, Ltd. OPERATED BY: Eastern Broadcasters, Ltd. BUSINESS ADDRESS: Radio Bldg. PHONE: 209-1412. STUDIO ADDRESS: Radio Bldg. TRANSMITTER LOCATION: South Bar, C.B. TIME ON THE AIR: 8:00 a.m. to midnight. NEWS SERVICE: Transradio Press and local news. TRANSCRIPTION SERVICE: NBC Thesaurus.

PERSONNEL

President.....N. Nathanson
 Commercial Manager.....M. Grant
 Advertising Manager.....R. H. Wright
 Chief Announcer.....T. C. Robertson
 Station Manager.....N. Nathanson
 Sales Manager.....R. H. Wright
 Publicity Director.....C. Nunn
 Musical Director.....Mrs. A. F. McKinnon
 Chief Engineer.....F. G. O'Brien

POLICIES

No liquor advertising.

Merchandising: Periodical contests by station involves all products being advertised during period of contest. Advertisers receiving proof of program's effectiveness.

REPRESENTATIVE

Joseph Hershey McGillvra
(N. Y. & Chicago)

CKIC

WOLFVILLE

FREQUENCY: 1010 Kc. POWER: 50 Watts.
OWNED BY: Acadia University. OPERATED BY: Same. BUSINESS ADDRESS: Wolfville. PHONE: 270. STUDIO ADDRESS: Same. TRANSMITTER LOCATION: Same. TIME ON THE AIR: Part Time.

POLICIES

Non-commercial outlet.

CJLS

"GATEWAY STATION OF THE
MARITIMES"

YARMOUTH—EST. 1934

FREQUENCY: 1310 Kc. POWER: 1000 Watts.
OWNED BY: Laurie L. Smith. OPERATED BY: Same. BUSINESS ADDRESS: Box 684 Yarmouth. PHONE: 500 and 316. STUDIO ADDRESS: Same. TRANSMITTER LOCATION: Grand Hotel. TIME ON THE AIR: 10:00 A.M. to 11:00 P.M. NEWS SERVICE: CJLS News Service. TRANSCRIPTION SERVICES: Langworth Programs, Hollywood Radio Attractions.

PERSONNEL

Commercial Manager Laurie L. Smith
Artists Bureau Head Kaye Colburn
Chief Announcer O. W. Loeb
Station Manager Laurie L. Smith
Sales Manager O. W. Loeb
Publicity Director Miss Elsie Allen
Chief Engineer Laurie L. Smith

POLICIES

No liquor advertising accepted. Spot announcements limited to 100 words. No price mention allowed as per Dominion rules and regulations.

Publicity and complete program log listing in Maritime Provinces' newspapers.

Ontario

CKPC

BRANTFORD—EST. 1928

CBC

FREQUENCY: 930 Kc. POWER: 100 Watts.
OWNED BY: Telephone City Broadcasting.

Ltd. OPERATED BY: Same. BUSINESS ADDRESS: Arcade Bldg. PHONE: 625-1646. STUDIO ADDRESS: Same. TRANSMITTER LOCATION: Mohawk Inst. TIME ON THE AIR: 7:30 A.M. to 2:00 P.M. and 5:00 P.M. to 12:00 midnight. NEWS SERVICES: Canadian Press, Christian Science Monitor, and local news. TRANSCRIPTION SERVICES: World Broadcasting System, and Standard Radio.

PERSONNEL

President A. G. Colvin
Commercial Manager J. D. Buchanan
Chief Announcer Hugh Bremner
Station Manager J. D. Buchanan
Sales Manager J. D. Buchanan
Chief Engineer Hugh Clark

POLICIES

No liquor or beer advertising. No price quotations. No announcements between 7:30 P.M. and 11:00 P.M.

Will circularize the retail trade as merchandising aid.

REPRESENTATIVES

All-Canada Broadcasting Company
United Broadcasting Limited
Associated Broadcasting Co.

CFCO

CHATHAM—EST. 1925

CANADIAN BROADCASTING CORP.

FREQUENCY: 630 Kc. POWER: 100 Watts.
OWNED BY: Western Ontario's Community Station. OPERATED BY: Same. BUSINESS ADDRESS: P. O. Box 275. PHONE: 2626. STUDIO ADDRESS: William Pitt Hotel. TRANSMITTER LOCATION: Chatham. TIME ON THE AIR: Sundays, 9:30 A.M. to 10:30 P.M.; Week Days, 7:30 A.M. to 1:30 P.M. and 4:30 P.M. to 11:15 P.M. NEWS SERVICE: Local and CBC News Service.

PERSONNEL

Owner-Manager John Beardall
Sales & Commercial Director P. A. Kirkey
Program Director Ross Wright
Chief Engineer Gordon Brooks

POLICIES

No liquor advertising. All programs and announcements subject to the approval of the station and must be in accordance with all government regulations.

Station has a complete merchandising service which includes dealer letters, assistance in obtaining window displays and announcements of advertiser's program before it is scheduled.

CKPR

FORT WILLIAM—EST. 1930
CBC

FREQUENCY: 730 Kc. POWER: 100 Watts.
OWNED BY: Dougall Motor Car Co., Ltd.
OPERATED BY: Same. BUSINESS ADDRESS:
Radio Hall. PHONE: South 315. STUDIO AD-
DRESS: Same. TRANSMITTER LOCATION:
Port Arthur. TIME ON THE AIR: 8:00 A.M. to
11:30 P.M. NEWS SERVICE: Own news tie-
up. TRANSCRIPTION SERVICE: NBC Thesaur-
us.

PERSONNEL

President H. F. Dougall
Commercial Manager R. Parker
Advertising Manager J. Hughes
Artists Bureau Head I. Jones
Chief Announcer John Downes
Station Manager H. F. Dougall
Sales Manager Ralph Parker
Publicity Director J. Hughes
Chief Engineer T. Ross

POLICIES

No liquor advertising accepted. Will ac-
cept foreign languages. No spot announce-
ments after 7:30 P.M.

Will handle window display cards and
direct mail campaigns.

REPRESENTATIVE

All-Canada Radio Facilities, Toronto, Montreal,
Winnipeg

CHML

HAMILTON—EST. 1927
CANADIAN BROADCASTING CORP.

FREQUENCY: 1010 Kc. POWER: 100 watts.
OWNED BY: Maple Leaf Radio Co., Ltd. OP-
ERATED BY: Maple Leaf Radio Co., Ltd. BUSI-
NESS ADDRESS: Pigott Bldg. PHONE: 7-1339-
1530. STUDIO ADDRESS: Pigott Bldg.
TRANSMITTER LOCATION: Saltfleet. TIME
ON THE AIR: 7:30 a.m. to midnight. MAIN-
TAINS ARTISTS BUREAU: TRANSCRIPTION
SERVICE: NBC Thesaurus.

PERSONNEL

President Hon. A. C. Hardy
Managing Director Kenneth D. Soble
Assistant Manager F. P. Hardy
Chief Engineer C. R. Snelgrove

POLICIES

Follows the rules and regulations of the
Canadian Broadcasting Corporation.

CKOC

HAMILTON—EST. 1922
CANADIAN BROADCASTING CORP.

FREQUENCY: 1120 Kc. POWER: 1000 watts.
OWNED BY: Wentworth Radio Broadcasting

Co., Ltd. OPERATED BY: Wentworth Radio
Broadcasting Co., Ltd. BUSINESS ADDRESS:
John St., North. PHONE: 2-1445-4661-2.
STUDIO ADDRESS: John St., North. TRANS-
MITTER LOCATION: Fruitland. TIME ON THE
AIR: 7:30 a.m. to midnight. NEWS SERVICE:
Canadian Press. MAINTAINS ARTISTS BUR-
EAU: TRANSCRIPTION SERVICE: World
Broadcasting System.

PERSONNEL

President James A. Midgley
Commercial Manager Gordon Anderson
Advertising Manager Gordon Anderson
Artists Bureau Head Nellie Gray
Chief Announcer Werner J. Bartmann
Station Manager Gordon Anderson
Sales Manager Gordon Anderson
Publicity Director Wm. Guild
Musical Director Chas. Wellinger
Chief Engineer Leslie Horton

POLICIES

No liquor or wine advertising in co-opera-
tion with Canadian Broadcasting Corp. Patent
medicines, etc. subject to approval of Na-
tional Board of Health.

No requests for foreign language broad-
casts.

Merchandising work in co-operation with
agencies throughout Canada.

Studio seating capacity of one studio 135.
Also co-operation of local theaters and ball-
room of Royal Connaught Hotel, Hamilton.

CFRC

KINGSTON—EST. 1923
CBC

FREQUENCY: 1510 Kc. POWER: 100 Watts.
OWNED BY: Queens University and Kingston
Whip-Standard. OPERATED BY: Same. BUSI-
NESS ADDRESS: Kingston. PHONE: 616. STU-
DIO ADDRESS: Fleming Hall. TRANSMITTER
LOCATION: Queens University. TIME ON
THE AIR: 8:00 A.M. to 9:00 A.M.—12:00 noon
to 11:00 P.M. NEWSPAPER AFFILIATION:
Whip-Standard. NEWS SERVICE: Canadian
Press Assoc. TRANSCRIPTION SERVICE:
NBC Thesaurus.

PERSONNEL

Commercial Manager James Annand
Advertising Manager James Annand
Chief Announcer Tom Warner
Station Manager James Annand
Chief Engineer Prof. H. S. Steward, M.S.

POLICIES

No liquor advertisements or patent medi-
cine accounts accepted.

REPRESENTATIVE

Joseph Hershey McGillvray

CJKL

KIRKLAND LAKE—EST. 1933

FREQUENCY: 1310 Kc. POWER: 100 Watts.
OWNED BY: Northern Broadcasting Co., Ltd.
OPERATED BY: Same. BUSINESS ADDRESS:
Arcade Bldg. PHONE: 27. STUDIO ADDRESS:
Same. TRANSMITTER LOCATION: Same.
TIME ON THE AIR: 8:00 A.M. to midnight.
NEWSPAPER AFFILIATIONS: Timmins Press
(Kirkland Lake edition). NEWS SERVICES:
Transradio Press, and Canadian Press News.
TRANSCRIPTION SERVICES: Standard Radio
Library and Titan Library.

PERSONNEL

President R. H. Thomson
Commercial Manager Brian Shellon
Advertising Manager Jack Cooke
Chief Announcer Fin Hollinger
Station Manager Brian Shellon
Sales Manager G. Tonkin
Publicity Director J. Cooke
Musical Director Arthur Poynter
Chief Engineer Wm. Marks

POLICIES

No liquor advertising.

REPRESENTATIVES

Jack Cooke, Toronto
D. L. Bassett, Montreal

CKCR

"THE FRIENDLY STATION"
KITCHENER—EST. 1925
REGIONAL HOOKUP

FREQUENCY: 1510 Kc. POWER: 100 watts.
OWNED BY: W. C. Mitchell, G. Liddle. OP-
ERATED BY: K. W. Broadcasting Co. BUSI-
NESS ADDRESS: Waterloo Trust Bldg. PHONE:
Kitchener 4360—Waterloo 108. STUDIO AD-
DRESS: Waterloo Trust Bldg. TRANSMITTER
LOCATION: 24 King St., Waterloo. TIME ON
THE AIR: 7:45 a.m. to 2:00 p.m. and 4:15 p.m.
to 11:30 p.m. TRANSCRIPTION SERVICE:
Standard Radio.

PERSONNEL

Commercial Manager W. C. Mitchell
Advertising Manager G. Liddle
Chief Announcer Phil Clayton
Station Manager W. C. Mitchell
Sales Manager G. Liddle
Musical Director Phil Clayton
Chief Engineer Tom Hartman

POLICIES

No liquor or beer advertising by order of
the Canadian Radio Commission.

All programs and announcements must com-
ply with Canadian Radio Commission regula-
tions.

REPRESENTATIVES

All-Canada Broadcasting System
Associated Broadcasting Co.

CFPL

LONDON—EST. 1933 (CJGC est. 1922)

CANADIAN BROADCASTING CORP.

FREQUENCY: 730 Kc. POWER: 100 watts.
OWNED BY: Free Press Pub. Co. OPERATED
BY: Free Press Pub. Co. BUSINESS ADDRESS:
London. PHONE: Metcalfe 5200. STUDIO AD-
DRESS: Free Press Bldg. TRANSMITTER LO-
CATION: Hotel London. TIME ON THE AIR:
8:15 a.m. to midnight. NEWSPAPER AFFILI-
ATION: London Free Press. TRANSCRIPTION
SERVICE: NBC Thesaurus.

PERSONNEL

Station Manager Philip H. Morris
Sales Manager Philip H. Morris
Chief Engineer Lloyd York

POLICIES

Adheres to the rules of the Canadian Broad-
casting Corporation.

CFCH

NORTH BAY—EST. 1931

CBC

FREQUENCY: 930 Kc. POWER: 100Watts.
OWNED BY: Northern Broadcasting Co., Ltd.
OPERATED BY: Same. BUSINESS ADDRESS:
Capitol Theatre Bldg. PHONE: 374-837. STU-
DIO ADDRESS: Same. TRANSMITTER LOCA-
TION: Capitol Theatre Bldg. TIME ON THE
AIR: 7:45 A.M. to 12:00 P.M. NEWSPAPER
AFFILIATION: North Bay Nugget. NEWS
SERVICE: Canadian Press News. TRANSCRIP-
TION SERVICES: Standard Radio, Titan Li-
brary.

PERSONNEL

President R. H. Thomson
Commercial Manager T. Darling
Advertising Manager J. Cooke
Chief Announcer Cliff Pickrem
Station Manager Tom Darling
Sales Manager V. Brooks
Publicity Director J. Cooke
Musical Director Bruce McLeod
Chief Engineer Allan Taylor

POLICIES

No liquor advertising accepted.

REPRESENTATIVES

Jack Cooke, Toronto
D. L. Bassett, Montreal

CKTB

"THE STATION WITH A MILLION
FRIENDS"

ST. CATHARINES—EST. 1933

CANADIAN BROADCASTING CORP.

FREQUENCY: 1200 Kc. POWER: 100 watts.
OWNED BY: The Silver Spire Broadcasting
Station Ltd. OPERATED BY: The Silver Spire
Broadcasting Station Ltd. BUSINESS AD-

DRESS: 10 King St. PHONE: 3900. STUDIO ADDRESS: 10 King St. TRANSMITTER LOCATION: Rifle Range, Port Dalhousie. TIME ON THE AIR: (daily) 8:00 a.m. to midnight, (Sunday) 10:45 a.m. to 2:30 p.m. and 4:30 p.m. to midnight. NEWS SERVICE: Christian Science Monitor Newscast. TRANSCRIPTION SERVICE: United Broadcast Sales.

PERSONNEL

President.....E. T. Sandell
 Chief Announcer.....Paul Frost
 Station Manager.....F. Pauline Smyth
 Publicity Director.....J. B. Mitchell
 Musical Director.....W. G. Adamson
 Chief Engineer.....W. H. Allen

POLICIES

Liquor, wine or beer advertising prohibited by Government; accept foreign language programs but not announcements. No spot announcements between 7:30 and 11:00 p.m.
 Offers full merchandising cooperation.

REPRESENTATIVES

United Broadcast Sales Ltd.
 Toronto
 All-Canada Broadcasting System
 Montreal

CJIC

"YOUR RADIO STATION C J I C"
S S MARIE—EST. 1934

FREQUENCY: 1500 Kc. POWER: 100 watts. OWNED BY: Hyland Broadcasting Co. OPERATED BY: Same. BUSINESS ADDRESS: Windsor Hotel. PHONE: 360-1. STUDIO ADDRESS: Same. TRANSMITTER LOCATION: Tarantorus. TIME ON THE AIR: 8:30 A.M. to 8:00 P.M. NEWSPAPER AFFILIATION: The Algoman (Weekly—owned by Station CJIC). NEWS SERVICE: Transradio Press. MAINTAINS ARTISTS BUREAU. TRANSCRIPTION SERVICE: NBC Thesaurus and World Broadcasting System.

PERSONNEL

Station Manager.....J. G. Hyland
 Commercial Manager.....J. G. Hyland
 Advertising Manager.....J. G. Hyland
 Artists Bureau Head.....J. C. Whitby
 Chief Announcer.....Don Sims
 Sales Manager.....J. G. Hyland
 Publicity Director.....J. C. Whitby
 Musical Director.....J. C. Whitby
 Chief Engineer.....S. C. Cusack

POLICIES

No beer or liquor accounts accepted. All programs must conform with CBC rules and regulations.

Merchandising: The Algoman, weekly newspaper turned out by Station CJIC, lists names of programs, sponsors, write-ups at beginning of program and occasional mention later.

REPRESENTATIVE

Joseph Hershey McGillvra,
 Toronto, N. Y. and Chicago

CJCS

STRATFORD—EST. 1927

FREQUENCY: 1210 Kc. POWER: 100 Watts. OWNED BY: F. M. Squires. OPERATED BY: Same. BUSINESS ADDRESS: Windsor Hotel. PHONE: 1675-6. STUDIO ADDRESS: Same. TRANSMITTER LOCATION: Same. TIME ON THE AIR: 7:30 A.M. to 8:30 P.M. NEWS SERVICE: Local news and Transradio Press.

PERSONNEL

President.....F. M. Squires
 Commercial Manager.....F. M. Squires
 Advertising Manager.....F. M. Squires
 Artists' Bureau Head.....F. M. Squires
 Chief Announcer.....S. E. Tapley
 Station Manager.....F. M. Squires
 Sales Manager.....F. M. Squires
 Publicity Director.....F. M. Squires
 Musical Director.....A. L. Smith
 Chief Engineer.....W. J. Stauffer

POLICIES

Usual conditions governing Dominion stations.

CKSO

"NORTHERN ONTARIO'S KEY STATION"
SUDBURY—EST. 1935
 CANADIAN BROADCASTING CORP.

FREQUENCY: 780 Kc. POWER: 1000 watts. OWNED BY: W. E. Mason-Sudbury Star. OPERATED BY: W. E. Mason-Sudbury Star. BUSINESS ADDRESS: 21 Elgin St. PHONE: 280. STUDIO ADDRESS: 21 Elgin St. TRANSMITTER LOCATION: Neelon Township. TIME ON THE AIR: 8:00 a.m. to 2:00 p.m. and 5:00 p.m. to 11:00 p.m. NEWSPAPER AFFILIATIONS: Sudbury Star. NEWS SERVICE: Canadian Press, Sudbury Star (local). TRANSCRIPTION SERVICE: NBC Thesaurus, Standard Radio.

PERSONNEL

President.....W. E. Mason
 Commercial Manager.....J. D. Kemp
 Advertising Manager.....J. D. Kemp
 Chief Announcer.....Wilf J. Woodill
 Station Manager.....J. D. Kemp
 Sales Manager.....J. D. Kemp
 Publicity Director.....Wilf J. Woodill
 Musical Director.....Walter Snider
 Chief Engineer.....L. C. Parkes

POLICIES

CBC rules prevail.
 Foreign language programs subject to approval of station.
 Merchandising aids through newspaper listing, etc.

CKGB

"THE VOICE OF THE NORTH"

TIMMINS—EST. 1933

CBC

FREQUENCY: 1420 Kc. POWER: 100 Watts. OWNED BY: Northern Broadcasting Co., Ltd. OPERATED BY: Same. BUSINESS ADDRESS: Press Bldg. PHONE: 500. STUDIO ADDRESS: Same. TRANSMITTER LOCATION: Same. TIME ON THE AIR: 8:00 A.M. to midnight. NEWSPAPER AFFILIATION: Timmins Daily Press. NEWS SERVICES: Canadian Press, Transradio Press. TRANSCRIPTION SERVICES: Standard Radio and Titan Library.

PERSONNEL

President R. H. Thomson
Commercial Manager W. Wren
Advertising Manager J. Cooke
Chief Announcer Fred Darling
Station Manager William Wren
Sales Manager William Wren
Publicity Director J. Cooke
Musical Director G. Archibald
Chief Engineer Ed. Ryan

POLICIES

No liquor advertising. Accepts any foreign language.

REPRESENTATIVES

Jack Cooke, Toronto
D. L. Bassett, Montreal

CBL

"THIS IS THE CBC"

TORONTO—EST. 1937

CBC—NBC

FREQUENCY: 850 Kc. POWER: 50,000 Watts. OWNED BY: Canadian Broadcasting Corp. OPERATED BY: Same. BUSINESS ADDRESS: 1 Hayter St. PHONE: Adelaide 7051—Lakeside 2817. STUDIO ADDRESS: 805 Davenport Rd. TRANSMITTER LOCATION: Hornby. TIME ON THE AIR: 7:30 A.M. to 12:00 midnight (E.S.T.). NEWS SERVICE: CBC News Service. TRANSCRIPTION SERVICE: NBC Thesaurus.

PERSONNEL

For further information, refer to Canadian Broadcasting Corporation, Commercial Department, 1 Hayter Street, Toronto, Canada.

POLICIES

All programs subject to the regulations of the Canadian Broadcasting Corporation.

REPRESENTATIVE

Canadian Broadcasting Corp.

CBO

"SERVES THE OTTAWA VALLEY"

OTTAWA—EST. 1924

CANADIAN BROADCASTING CORP.
OTTAWA REGIONAL NETWORK

FREQUENCY: 880 Kc. POWER: 1000 Watts. OWNED BY: Canadian Broadcasting Corp. OPERATED BY: Same. BUSINESS ADDRESS: Chateau Laurier Hotel. PHONE: 2-1151. STUDIO ADDRESS: Same. TRANSMITTER LOCATION: Hawthorne. TIME ON THE AIR: Sundays, 10:00 A.M. to 12:00 midnight; Week Days, 7:30 A.M. to 12:00 midnight. NEWS SERVICE: Canadian Press News. TRANSCRIPTION SERVICE: Standard Radio, World Broadcasting System.

PERSONNEL

Acting Station Manager W. C. Anderson
Sales Manager C. Orr
Senior Announcer W. E. S. Briggs
Publicity Director F. McPhee
Chief Engineer W. C. Anderson

POLICIES

Alcoholic beverage advertising not accepted. Governed by the policies of the Canadian Broadcasting Corp.

All advertising limited to 10 per cent of program time.

CKCO

OTTAWA—EST. 1924

FREQUENCY: 1010 Kc. POWER: 100 Watts. OWNED BY: Controller G. M. Geldert, M.D. OPERATED BY: Controller G. M. Geldert, M.D. STUDIO ADDRESS: 372 Somerset St., West. TRANSMITTER LOCATION: Boone Island, Quebec. TIME ON THE AIR: Week Days, 8:00 A.M. to 11:00 P.M.; Sundays, 2:00 P.M. to 11:00 P.M. NEWS SERVICE: Transradio Press. TRANSCRIPTION SERVICE: Lang-Worth.

PERSONNEL

Manager G. M. Geldert

POLICIES

Beer and wine advertising accepted.

REPRESENTATIVE

Joseph Hershey McGillvra

CFLC

"THE VOICE OF THE MIGHTY
ST. LAWRENCE"

PRESCOTT—EST. 1925

FREQUENCY: 930 Kc. POWER: 100 Watts. OWNED BY: Radio Association of Prescott. OPERATED BY: Same. BUSINESS ADDRESS: Ogdensburg. PHONE: 136-7. STUDIO ADDRESS: Prescott, Ont. TRANSMITTER LOCA-

TION: Prescott, Ont. TIME ON THE AIR: 8:00 A.M. to 8:00 P.M. NEWSPAPER AFFILIATION: Ogdensburg Advance-News. NEWS SERVICE: Canadian Press. MAINTAINS ARTISTS' BUREAU. TRANSCRIPTION SERVICE: World Broadcasting System.

PERSONNEL

President Chas. Plumb
 Commercial Manager J. R. Brandy
 Advertising Manager Thos. Whitehard
 Artists' Bureau Head H. J. Frank
 Chief Announcer Bert Lindsay
 Station Manager Loren Knight
 Sales Manager Loren Knight
 Publicity Director Wm. Pearson
 Chief Engineer Loren Knight

POLICIES

No liquor or beer accounts or price mention.

Merchandising: Station's newspaper merchandising and advertising department dovetails with radio affiliation.

CFRB

TORONTO—EST. 1927
 COLUMBIA BROADCASTING SYSTEM

FREQUENCY: 690 Kc. POWER: 10,000 watts. OWNED BY: Rogers Radio Broadcasting Co., Ltd. OPERATED BY: Same. BUSINESS ADDRESS: 37 Bloor St., W. PHONE: MI. 3515-6—MI. 4643-4-5. STUDIO ADDRESS: Same. TRANSMITTER LOCATION: Aurora. TIME ON THE AIR: 7:30 A.M. to midnight. NEWSPAPER AFFILIATIONS: Evening Telegram, The Globe & Mail, The Daily Star. TRANSCRIPTION SERVICE: Standard Radio.

PERSONNEL

President E. S. Rogers
 Commercial Manager E. L. Moore
 Chief Announcer Wes McKnight
 Station Manager Harry Sedgewick
 Musical Director Roy Lockley
 Chief Engineer Jack Sharpe

POLICIES

Usual Dominion policies in effect.

REPRESENTATIVE

Joseph Hershey McGillvra
 (N. Y. and Chicago)

CKCL

"CANADA'S SPORTS MOUTHPIECE"
 TORONTO—EST. 1923
 CBC

FREQUENCY: 580 Kc. POWER: 100 watts. OWNED BY: H. S. Gooderham. OPERATED BY: Dominion Battery Co., Ltd. BUSINESS ADDRESS: 444 University Ave. PHONE: Adelaide 1014. STUDIO ADDRESS: Same. TRANSMITTER LOCATION: 20 Trinity St. TIME ON THE AIR: 7:45 A.M. to midnight. MAINTAINS

ARTISTS BUREAU. NEWS SERVICE: Canadian Press. TRANSCRIPTION SERVICE: Lang-Worth.

PERSONNEL

President Henry S. Gooderham
 Commercial Manager A. E. Leary
 Artists Bureau Head M. Rapkin
 Chief Announcer J. Edgar Guest
 Station Manager Albert E. Leary
 Sales Manager Albert E. Leary
 Publicity Director Maurice Rapkin
 Musical Director Maurice Rapkin
 Chief Engineer Ernest O. Swan

POLICIES

Abides by the rules of the Canadian Broadcasting Corporation. No liquor or beer advertising, only foreign language program is Jewish Hour Sundays at 3:00 P.M. CBC rules cover all other policies of the station.

No special merchandising tie-ups. Special transcription production service with artists and program ideas available. Transcriptions cut in either SOFT discs, or PRESSINGS, as desired.

CBW

"YOUR COMMUNITY STATION"

WINDSOR—EST. 1935

CANADIAN BROADCASTING CORP.

FREQUENCY: 600 Kc. POWER: 1000 watts, d.; 500 watts, n. OWNED BY: Canadian Broadcasting Corp. OPERATED BY: Canadian Broadcasting Corp. BUSINESS ADDRESS: Prince Edward Hotel. PHONE: Dial 4-4282. STUDIO ADDRESS: Prince Edward Hotel. TRANSMITTER LOCATION: Sandwich South. TIME ON THE AIR: (daily) 4:30 p.m. to midnight. (Sunday) 2:00 p.m. to midnight, EST. NEWS SERVICE: Canadian Press.

PERSONNEL

General Manager... Major Gladstone Murray
 Commercial Manager E. A. Weir
 Chief Announcer G. Earle Whitteker
 Station Manager J. T. Carlyle, Toronto, Ontario
 Chief Engineer F. J. Garrod

POLICIES

Alcoholic beverage advertising not accepted. All programs subject to the regulations of the Canadian Broadcasting Corporation and approval of the commercial department.

CKLW

"AT YOUR SERVICE"

WINDSOR

MUTUAL

FREQUENCY: 1030 Kc. clear channel. POWER: 5000 Watts. OWNED BY: Western Ontario Broadcasting Co. OPERATED BY: Same. BUSINESS ADDRESS: Union Guardian Bldg. Detroit. STUDIO ADDRESS: Guaranty Trust

Bldg., Windsor. TRANSMITTER LOCATION:
Sandwich South Township. TIME ON THE
AIR: 6:00 A.M. to 4:00 A.M. NEWS SERVICE:
United Press. TRANSCRIPTION SERVICE:
World Broadcasting System.

PERSONNEL

V-P & Managing Director.....Frank Ryan
Commercial ManagerL. J. Dumahaut
Chief AnnouncerJoe Gentile
Station ManagerJ. E. Campeau
Publicity DirectorVal Clare
Chief EngineerU. J. Carter

POLICIES

Does not accept foreign language accounts;
no liquor accounts as per CBC regulations.

Operates a research and merchandising
department, also run advertising in local pa-
pers for commercial programs; also street car
and bill board.

REPRESENTATIVE

J. Hershey McGillvra

CKNX

"THE ONTARIO FARM STATION"

WINGHAM—EST. 1926

ALL-CANADA NETWORK

FREQUENCY: 1200 Kc. POWER: 100 watts.
OWNED BY: W. T. Cruickshank & B. Howard
Bedford. OPERATED BY: Same. BUSINESS
ADDRESS: Fields Bldg. PHONE: 158-W, 158-J.
STUDIO ADDRESS: Same. TRANSMITTER LO-
CATION: Same. TIME ON THE AIR: 10:30
A.M. to 9:00 P.M. NEWS SERVICE: Chris-
tian Science Monitor and own news editor
and correspondents. MAINTAINS ARTISTS
BUREAU. TRANSCRIPTION SERVICE: Holly-
wood Radio Attractions, and Grow & Pitcher
Agencies.

PERSONNEL

President.....W. T. Cruickshank
Commercial Manager.....B. H. Bedford
Advertising Manager.....H. J. Boyle
Artists Bureau Head.....W. J. Thurston
Chief Announcer.....Reg Douglass
Station Manager.....W. T. Cruickshank
Sales Manager.....B. Howard Bedford
Publicity Director.....B. H. Bedford
Musical Director.....W. J. Thurston
Chief Engineer.....W. T. Cruickshank

POLICIES

Canadian Broadcasting Corp. rules and
regulations apply. Station has local policy
against solicitation of mail to come to its
address, except with special permission. Po-
litical broadcasting takes regular rates.

Merchandising: Weekly circular letter to all
retail dealers handling CKNX products. Regu-
lar calls on retail dealers, setting up dis-
play material. Station build-up and news-

paper publicity for all new features. No
charge for service.

REPRESENTATIVE

Joseph Hershey McGillvra

Prince Edward Island

CFCY

"THE FRIENDLY VOICE OF THE
MARITIMES"

CHARLOTTETOWN—EST. 1924

CBS—MARITIME

FREQUENCY: 630 Kc. POWER: 1000 Watts.
OWNED BY: Island Radio Broadcasting Co.,
Ltd. OPERATED BY: Island Radio Broadcast-
ing Co., Ltd. BUSINESS ADDRESS: Brace Bldg.
PHONE: 741. STUDIO ADDRESS: Brace Bldg.
TIME ON THE AIR: 8:00 A.M. to midnight.
NEWS SERVICE: Transradio Press. MAIN-
TAINS ARTISTS BUREAU. TRANSCRIPTION
SERVICE: Standard Radio, Grow & Pitcher,
Lang-Worth, and Associated Broadcasting
System.

PERSONNEL

President.....K. S. Rogers
Commercial Manager.....L. A. MacDonald
Advertising Manager.....M. E. Rogers
Artists Bureau Head.....L. A. McDonald
Chief Announcer.....L. Peppin
Station Manager.....K. S. Rogers
Sales Manager.....L. A. McDonald
Publicity Director.....K. S. Rogers
Musical Director.....Mrs. K. S. Rogers
Chief Engineer.....J. Q. Adams

POLICIES

Liquor advertising not accepted. Regulations
of Canadian Broadcasting Corporation apply.
Merchandising: Details men contact whole-
salers and retailers on all accounts.

REPRESENTATIVE

Joseph Hershey McGillvra

CHGS

SUMMERSIDE—EST. 1925

CBC

FREQUENCY: 1450 Kc. POWER 500 Watts
(license); 100 Watts (actual operation). OWNED
BY: R. T. Holman, Ltd. OPERATED BY: Same.
BUSINESS ADDRESS: Water St. PHONE: 134.
STUDIO ADDRESS: Same. TRANSMITTER LO-
CATION: Holman Bldgs. TIME ON THE AIR:

7:30 A.M. to 10:00 P.M. NEWS SERVICE:
Christian Science Monitor.

PERSONNEL

President H. T. Holman
Chief Announcer J. E. Mellan
Station Manager R. L. Molson
Sales Manager J. L. Holman
Chief Engineer W. R. Cannon

POLICIES

Liquor advertising not accepted.
Every merchandising assistance given in
spotting window or counter displays in local
stores.



C R C S CHICOUTIMI

FREQUENCY: 1120 Kc. POWER: 100 Watts.
OWNED BY: Canadian Marconi Co. OPER-
ATED BY: Canadian Broadcasting Corp. BUSI-
NESS ADDRESS: Chicoutimi. PHONE: 155.
STUDIO ADDRESS: Same. TRANSMITTER LO-
CATION: Same. TIME ON THE AIR: 5:00
P.M. to midnight. NEWS SERVICE: Local
news.

PERSONNEL

Chief Announcer Vilmond Fortin
Station Manager Vilmond Fortin
Chief Engineer J. E. Roberts

POLICIES

No liquor advertising. Exclusively a French
language station. CBC policies otherwise

CKCH

"BILINGUAL STATION OF THE
OTTAWA VALLEY"

HULL—EST. 1933
CBC (AND PROVINCIAL)

FREQUENCY: 1210 Kc. POWER: 100 watts.
OWNED BY: Hull Broadcasting Co. OPER-
ATED BY: Same. BUSINESS ADDRESS: 85
Champlain. PHONE: 2-1701. STUDIO AD-
DRESS: Same. TRANSMITTER LOCATION:
Chelsae Road. TIME ON THE AIR: 7:45
A.M. to 11:05 P.M. NEWS SERVICE: Cana-
dian Press. MAINTAINS ARTISTS BUREAU.
TRANSCRIPTION SERVICE: NBC *Thesaurus*
and Hollywood Radio Attractions.

PERSONNEL

President..... Josophat Pharend
Commercial Manager..... Paul H. Cornier
Artists Bureau Head..... A. Dupont

Station Manager..... Alexander Dupont
Musical Director..... Dirk Keetboos
Chief Engineer..... J. F. Champagne

POLICIES

Foreign language programs accepted. Beer
and wine deals accepted. Other CBC rules
apply.

REPRESENTATIVE

Dominion Broadcasting Co. (Toronto)

CBF

MONTREAL—EST. 1937

NBC (RED & BLUE)—For Programs With
French Announcements.

FREQUENCY: 329.7 Meters, 910 Kc. POW-
ER: 50,000 Watts. OWNED BY: Canadian
Broadcasting Corporation. OPERATED BY:
Canadian Broadcasting Corporation. BUSINESS
ADDRESS: 1231 St. Catherine St. West, Mon-
treal. PHONE: Mar. 5211. STUDIO ADDRESS:
Same. TRANSMITTER LOCATION: Vercheres,
Que. TIME ON THE AIR: 12:00 noon to 12:00
midnight. NEWS SERVICE: Canadian Press.

PERSONNEL

Commercial Manager J. A. Dupont
Chief Announcer J. DesBaillets
Station Manager John C. Stadler
Publicity Director Leopold Houle
Musical Director Jean-Marie Beaudet
Chief Engineer W. Reid

POLICIES

No liquor advertising accepted.

CBM

MONTREAL—EST. 1933

NBC—(RED)

FREQUENCY: 285.5 Meters, 1050 Kc. POW-
ER: 5000 Watts. OWNED BY: Canadian
Broadcasting Corporation. OPERATED BY:
Canadian Broadcasting Corporation. BUSINESS
ADDRESS: 1231 St. Catherine St. West, Mon-
treal. PHONE: Mar. 5211. STUDIO ADDRESS:
Same. TRANSMITTER LOCATION: Laprairie.
TIME ON THE AIR: 12:00 noon to 12:00 mid-
night. NEWS SERVICE: Canadian Press.

PERSONNEL

Commercial Manager J. A. Dupont
Chief Announcer J. DesBaillets
Station Manager John C. Stadler
Publicity Director Leopold Houle
Musical Director Jean-Marie Beaudet
Chief Engineer W. Reid

POLICIES

No liquor advertising accepted in accord-
ance with CBC rules.

C F C F

(Short Wave CFCX)

MONTREAL—EST. 1918
NBC (Blue) and CBC

FREQUENCY: 500 Kc. POWER: 500 Watts.
OWNED BY: Canadian Marconi Co. OPERATED BY: Canadian Marconi Co. BUSINESS ADDRESS: 211 St. Sacrament St. PHONE: Marquette 7084-5-6. STUDIO ADDRESS: 1231 St. Catherine St. W. TRANSMITTER LOCATION: Mt. Royal Hotel. TIME ON THE AIR: 7:45 A.M. to 1:00 A.M. (daily); 9:00 A.M. to 11:15 P.M. (Sunday). NEWS SERVICE: Transradio Press. TRANSCRIPTION SERVICE: NBC Thesaurus.

PERSONNEL

President.....A. H. Ginman
Commercial Manager.....V. F. Nielsen
Advertising Manager.....V. F. Nielsen
Chief Announcer.....J. A. Shaw
Station Manager.....Victor F. Nielsen
Sales and Publicity Director...Ernest H. Smith
Chief Engineer.....Kenneth R. Paul

POLICIES

No liquor advertising. Advertising for beer and wine only as per government regulations. No special restrictions otherwise.

No foreign language accounts.

No merchandising department maintained at present time.

REPRESENTATIVE

Weed & Company (in the U. S.)

CHLP

"THE SPORTS' STATION"

MONTREAL—EST. 1933

FREQUENCY: 1120 Kc. POWER: 100 watts.
OWNED BY: La Patrie Pub. Co. OPERATED BY: Same. BUSINESS ADDRESS: Sun Life Bldg. PHONE: Plateau 5225. STUDIO ADDRESS: Same. TRANSMITTER LOCATION: 180 St. Catherine St., W. TIME ON THE AIR: 8:00 A.M. to 11:00 P.M. NEWSPAPER AFFILIATIONS: La Patrie, La Presse, Le Canada, Le Devoir, L'illustration, Montreal Daily Star, Montreal Herald, Montreal Gazette. TRANSCRIPTION SERVICE: Standard Radio.

PERSONNEL

President.....Marcel Lefebvre
Commercial Manager.....Marcel Lefebvre
Station Manager.....Marcel Lefebvre
Publicity Director.....Armand Goulet
Musical Director.....M. daSylva
Chief Engineer.....F. F. Tambling

POLICIES

Accepts beer and wine accounts only. French and English announcements only.

CKAC

"CANADA'S BUSIEST STATION"

MONTREAL—EST. 1922

CBS. PROVINCIAL BROADCASTING SYSTEM (KEY)

FREQUENCY: 730 Kc. POWER: 5000 Watts.
OWNED BY: La Presse Pub. Co., Ltd. OPERATED BY: La Presse Pub. Co., Ltd. BUSINESS ADDRESS: 980 St. Catherine St. PHONE: Lancaster 5125. STUDIO ADDRESS: 980 St. Catherine St. TRANSMITTER LOCATION: St. Hyacinthe Place. TIME ON THE AIR: 7:00 A.M. to 1:00 A.M. NEWSPAPER AFFILIATIONS: La Presse, The Star, The Herald-Gazette. NEWS SERVICE: United Press C/cac News Dept. La Presse. MAINTAINS ARTISTS BUREAU. TRANSCRIPTION SERVICE: World Broadcasting System, Lang-Worth and Exclusive Parisian.

PERSONNEL

President.....Hon. P. R. Du Tremblay
Promotion Manager.....Andre Daveluy
Traffic Manager.....Flo Daniel
Artists Bureau Head.....Ferd Biondi
Chief Announcer.....Roy Malouin
Station Manager.....Phil Lalonde
Sales Manager.....Paul Ouellet
Publicity Director.....Louis Marisset
Program Director.....Yves Bourassa
Chief Engineer.....Leonard Spencer

POLICIES

Hard liquor not permitted. Price mentions not permitted. Commercial talks not accepted.

REPRESENTATIVE

Jos. H. McGillvra

CHNC

"THE FRIENDLY VOICE OF THE MARITIMES"

NEW CARLISLE—EST. 1933

CANADIAN BROADCASTING CORP.

FREQUENCY: 960 Kc. POWER: 1,000 Watts.
OWNED BY: Gaspesia Radio Broadcasting Co. OPERATED BY: Gaspesia Radio Broadcasting Co. BUSINESS ADDRESS: New Carlisle. PHONE: 38. STUDIO ADDRESS: New Carlisle. TRANSMITTER LOCATION: Church Line Road. TIME ON THE AIR: (daily) 8:00 A.M. to midnight; (Sunday) 11:00 A.M. to midnight (Atlantic Time). NEWS SERVICE: Canadian Press. TRANSCRIPTION SERVICE: Standard Radio, Titan-Hollywood Radio Attractions-Radio Products Co. & Lang-Worth.

PERSONNEL

President.....George M. Kempffer
Commercial Manager.....Dr. Ches Houde
Advertising Manager.....V. Bernard

Chief Announcer.....C. S. Chapman
 Station Manager.....Dr. Ches Houde
 Sales Manager.....Dr. Ches Houde
 Publicity Director.....V. Bernard
 Musical Director.....V. Bernard
 Chief Engineer.....J. R. McLaugh

POLICIES

Accept beer and wine accounts; has no restrictions on foreign language programs. 100% bilingual (English and French).

REPRESENTATIVE

Joseph Hershey McGillvra
 (N. Y. & Chicago)

CHRC

"THE VOICE OF OLD QUEBEC"
 QUEBEC

FREQUENCY: 580 Kc. POWER: 100 Watts. OWNED BY: CHRC, Limitee. OPERATED BY: CHRC, Limitee. BUSINESS ADDRESS: Victoria Hotel. PHONE: 2-8178. STUDIO ADDRESS: Victoria Hotel. TRANSMITTER LOCATION: Victoria Hotel. TIME ON THE AIR: (daily) 8:00 A.M. to midnight; (Sundays) 12:00 P.M. to midnight. NEWS SERVICE: Own News Service. MAINTAINS ARTISTS BUREAU. TRANSCRIPTION SERVICE: Lang-Worth and own disk library of 12,000 selections.

PERSONNEL

Station Manager.....J. N. Thivierge
 Sales Manager.....J. A. Hardy
 Artists Bureau Head.....Therese Lapointe
 Chief Announcer.....T. H. Burham
 Publicity Director.....J. D. Boudreau
 Musical Director.....Gaston Voyer
 Chief Engineer.....Oscar Marceau

POLICIES

None other than governmental regulations. Merchandising: Merchandising department in operation at convenience of sponsors.

REPRESENTATIVE

Jos. H. McGillvra, N. Y.
 Nate P. Colwell, Toronto
 George Besse, Chicago

CKCV

"LA VOIX DU CANADA FRANCAIS"

QUEBEC—EST. 1925

CANADIAN BROADCASTING CORPORATION

FREQUENCY: 1310 Kc. POWER: 100 Watts. OWNED BY: CKCV, Limited. OPERATED BY: CKCV, Limited. BUSINESS ADDRESS: 142 St. John St. PHONE: 2-1585. STUDIO ADDRESS: 142 St. John St. TRANSMITTER LOCATION: 154 Marguerite-Bourgeois Ave. TIME ON THE

AIR: 7:45 A.M. to 11:30 P.M. NEWS SERVICE: Canadian Press News. TRANSCRIPTION SERVICE: World Broadcasting System.

PERSONNEL

Commercial Manager.....Paul Lepage
 Chief Announcer.....Gilles Duhamel
 Station Manager.....Paul Lepage
 Sales Manager.....Paul Lepage
 Publicity Director.....Jean Nel
 Musical Director.....Edwin Belanger
 Chief Engineer.....Charles Frenette

POLICIES

Rules and regulations of the Canadian Broadcasting Corporation.

REPRESENTATIVE

Associated Broadcasting Co.

CRCK

QUEBEC—EST. 1934

CBC

FREQUENCY: 950 Kc. POWER: 1000 Watts. OWNED BY: Canadian Broadcasting Corp. OPERATED BY: Same. BUSINESS ADDRESS: Room 4002 Chateau Frontenac. PHONE: 5658. STUDIO ADDRESS: Same. TRANSMITTER LOCATION: Charlesbourg. TIME ON THE AIR: 5:00 P.M. to midnight. NEWS SERVICE: Canadian Press.

PERSONNEL

President.....L. W. Brockington
 Chief Announcer.....P. Joubarne
 Station Manager.....A. H. Houde
 Chief Engineer.....Charles Frenette

POLICIES

The advertising of spirituous liquors is prohibited by statute of the Province of Quebec. The advertising of beer and wine is prohibited by a CBC regulation.

REPRESENTATIVE

Canadian Broadcasting Corp.

CJBR

RIMOUSKI—EST. 1937

Canadian Broadcasting Corp.
 Quebec Regional Network

FREQUENCY: 1030 Kc. POWER: 1000 Watts. OWNED AND OPERATED BY: Lower St. Lawrence Power Co. BUSINESS AND STUDIO ADDRESS: Power Bldg., St. John St. PHONE: 119. TRANSMITTER LOCATION: Notre-Dame du Sacre Coeur. TIME ON THE AIR: Weekdays, 9:00 A.M. to 11:00 P.M. Sundays, 12:00 noon to 11:00 P.M.

PERSONNEL

Manager.....G. A. Lavoie

POLICIES

All continuities are subject to the approval of the station management and must comply with the rules and regulations of the Canadian Broadcasting Corp.

CHLT

"THE VOICE OF THE E. T."
SHERBROOKE—EST. 1937

FREQUENCY: 1210 Kc. POWER: 100 watts.
OWNED BY: La Tribune Ltee. OPERATED BY: La Tribune Ltee. BUSINESS ADDRESS: 3 Marquette St. PHONE: 971. STUDIO ADDRESS: Same. TRANSMITTER LOCATION: King St., East. TIME ON THE AIR: 8:00 A.M. to 11:00 P.M. NEWSPAPER AFFILIATION: La Tribune. TRANSCRIPTION SERVICE: World Broadcasting System.

PERSONNEL

President.....Hon. Jacob Nicol
Commercial Manager.....L. A. Vachon
Chief Announcer.....Rolland Bayeur
Station Manager.....Marcel Provost
Sales Manager.....Marcel Provost
Chief Engineer.....C. Charlebois

POLICIES

No special policies excepting usual CBC regulations.

REPRESENTATIVE

Dominion Broadcasting Co. (Toronto)

CHLN

THREE RIVERS

FREQUENCY: 1420 Kc. POWER: 100 Watts.
OWNED AND OPERATED BY: Le Nouvelliste. BUSINESS AND STUDIO ADDRESS: Chateau de Blois. TRANSMITTER LOCATION: Three Rivers. TIME ON THE AIR: Weekdays, 8:00 A.M. to 11:30 P.M. Sundays, 12:00 noon to 11:30 P.M. NEWSPAPER AFFILIATION: Le Nouvelliste. TRANSCRIPTION SERVICE: World Broadcasting System.

POLICIES

Service of program department and announcers, French and English, in arranging and presentation of programs is available.

Saskatchewan

CHAB

MOOSE JAW—EST. 1922

CANADIAN BROADCASTING CORPORATION
NETWORK

FREQUENCY: 1200 Kc. POWER 100 Watts.
OWNED BY: CHAB, Limited. OPERATED BY:

CHAB, Limited. BUSINESS ADDRESS: Grant Hall Hotel. PHONE: 2377, 2378, 2379. STUDIO ADDRESS: Grant Hall Hotel. TRANSMITTER LOCATION: Grant Hall Hotel. TIME ON THE AIR: (Monday to Friday) 7:00 A.M. to 11:30 P.M. (MST); (Saturday) 7:00 A.M. to midnight; (Sunday) 8:45 A.M. to 11:30 P.M. NEWS SERVICE: Canadian Press. MAINTAINS ARTISTS BUREAU. TRANSCRIPTION SERVICE: Lang-Worth and European Recordings.

PERSONNEL

Station Manager.....H. C. Buchanan
Sales Manager.....E. W. Glover
Publicity Director.....J. S. Boyling
Program Director.....L. A. Bourgeois
Chief Engineer.....A. E. Jacobson

POLICIES

Liquor advertising not accepted. Foreign language accounts not accepted.

Merchandising: All national accounts contracted for 26 programs or over are merchandised by the station. This includes personal contact, window display, press notices and spot announcements drawing attention to the series.

REPRESENTATIVE

All-Canada Radio Facilities, Ltd., Canada
Weed & Company, U. S. A.

CKBI

PRINCE ALBERT

FREQUENCY: 1210 Kc. POWER: 100 Watts.
OWNED AND OPERATED BY: R. E. Price and L. E. Moffatt. BUSINESS AND STUDIO ADDRESS: Canada Bldg. TRANSMITTER LOCATION: Prince Albert. TIME ON THE AIR: Week Days, 7:45 A.M. to 11:00 P.M. Sundays, 11:00 A.M. to 10:00 P.M.

PERSONNEL

Manager.....R. E. Price
Technical Director.....L. E. Moffatt

REPRESENTATIVE

All Canada Broadcasting System
Joseph Hershey McGillvra

CJRM

"THE VOICE OF SASKATCHEWAN"

REGINA—EST. 1926

CBC—GRAIN BELT NETWORK

FREQUENCY: 540 Kc. clear channel. POWER: 1000 Watts. OWNED BY: James Richardson & Sons, Ltd. OPERATED BY: Same. BUSINESS ADDRESS: Saskatchewan Life Bldg. PHONE: 8424-6282. STUDIO ADDRESS: Same. TRANSMITTER LOCATION: Belle Plain. TIME ON THE AIR: 7:00 A.M. to 11:30 P.M. M.S.T. NEWS SERVICE: Transradio Press. (Exclusive to this station in the Province of Saskatchewan). TRANSCRIPTION SERVICE: World Broad-

casting Service, Lang-Worth and Standard Program Service.

PERSONNEL

President James Richardson
Commercial Manager F. V. Scanlan
Chief Announcer D. E. (Don) Wright
Mgr. Radio Division H. R. McLaughlin
Station Manager F. V. Scanlan
Sales Manager B. Pirie
Publicity Director N. Chamberlain
Musical Director S. Hillier
Chief Engineer B. (Bert) Hopper

POLICIES

No liquor Advertising Accepted. Foreign language programs accepted. Advertising content and policy subject to the rules and regulations of the Canadian Broadcasting Corporation. All advertising for food products and patent medicines subject to the approval of the Department of National Health and Pensions, Ottawa.

Station will co-operate with the agency or client in any merchandising tie-in or promotion.

REPRESENTATIVE

Joseph Hershey McGillvra

CKCK

"SASKATCHEWAN'S PIONEER BROADCASTING STATION"

REGINA—EST. 1922
CANADIAN BROADCASTING CORP.

FREQUENCY: 1010 Kc. POWER: 1000 watts. OWNED BY: Leader-Post, Ltd. OPERATED BY: Same. BUSINESS ADDRESS: Leader Bldg. PHONE: 8525-6. STUDIO ADDRESS: Same. TRANSMITTER LOCATION: Victoria Plains. TIME ON THE AIR: (Daily) 7:00 A.M. to midnight; (Sunday) 8:00 A.M. to midnight. NEWS-PAPER AFFILIATION: Leader-Post, Ltd. NEWS SERVICES: Canadian Press, Christian Science Monitor. MAINTAINS ARTISTS BUREAU. TRANSCRIPTION SERVICE: NBC Thesaurus, Standard Library, McGregor & Sollie, Radio Producers, Inc., and Transco.

PERSONNEL

Commercial Manager A. J. Ballour
Artists Bureau Head W. A. Spwers
Station Manager M. V. Chesnut
Publicity Director D. McMillan
Musical Director A. R. Smith
Chief Engineer E. A. Strong

POLICIES

No liquor advertising. Usual Canadian restrictions.

Full time merchandising department employed for program exploitation, and for ar-

ranging window displays and theatre lobby displays.

REPRESENTATIVES

Weed & Co. (U.S.A.)
All-Canada Radio Facilities, Ltd. (Canada)

CFQC

SASKATOON—EST. 1923
CANADIAN BROADCASTING CORP.

FREQUENCY: 840 Kc. POWER: 1000 watts. OWNED BY: A. A. Murphy & Sons, Ltd. OPERATED BY: Same. BUSINESS ADDRESS: Saskatoon. PHONE: 5374-7282. STUDIO ADDRESS: 216 First Ave., N. TRANSMITTER LOCATION: Exhibition Grounds. TIME ON THE AIR: 7:30 A.M. to 11:00 P.M. (MST). NEWS SERVICES: Canadian Press, Christian Science Monitor. TRANSCRIPTION SERVICE: NBC Thesaurus.

PERSONNEL

President A. A. Murphy
Commercial Manager Vernon Dallin
Advertising Manager Vernon Dallin
Chief Announcer C. Cairns
Station Manager A. A. Murphy
Sales Manager Vernon Dallin
Publicity Director J. H. Wells
Musical Director C. Cairns
Chief Engineer S. Clifton

POLICIES

Liquor restrictions as per Canadian Broadcasting Corporation.

REPRESENTATIVE

Joseph Hershey McGillvra (USA only)

CJGX

YORKTON—EST. 1928

FREQUENCY: 1390 Kc. POWER: 100 Watts. OWNED BY: James Richardson & Sons, Ltd. OPERATED BY: James Richardson & Sons, Ltd. BUSINESS ADDRESS: Royal Alexandra Hotel. PHONE: Winnipeg 9-2266. STUDIO ADDRESS: Royal Alexandra Hotel. TRANSMITTER LOCATION: Yorkton. TIME ON THE AIR: 7:30 A.M. to 1:00 A.M., EST.

PERSONNEL

Commercial Manager J. L. C. Macpherson
Advertising Manager Geo. Titus
Chief Announcer Jack Thompson
Station Manager H. R. McLaughlin
Sales Manager N. B. LeRoy
Publicity Director N. Chamberlain
Musical Director H. Green

POLICIES

No liquor ads.
Maintains a merchandising department.

REPRESENTATIVE

Joseph Hershey McGillvra

CANADIAN STATIONS WITH NEWSPAPER AFFILIATIONS

Alberta

CFAG, Alberta, Calgary, Albertan, 100 watts, 930 kilocycles. Full time. Gordon S. Henry, mgr.

CJCJ, Alberta, Calgary, Alberta, 100 watts, 690 kilocycles. H. A. Webster, mgr.

CJCA, Edmonton, Journal, 1,000 watts, 730 kilocycles. Full time. Frank H. Elphicke, mgr.

British Columbia

CFJC, Kamloops, Kamloops Sentinel, 1,000 watts, 880 kilocycles. Full time. Ralph E. White, mgr.

CKCD, Vancouver, Vancouver Daily Province, 100 watts, 1010 kilocycles.

Ontario

CFPL, London, London Free Press, 100 watts, 730 kilocycles. Full time. Philip H. Morris, program director.

CKSO, Sudbury, Sudbury Star, 1,000 watts, 780 kilocycles. Full time. J. D. Kemp, mgr.

Quebec

CHLP, Montreal, Montreal La Patrie, 100

watts, 1,120 kilocycles. Full time. Marcel Lefebvre, dir.

CKAC, Montreal, La Compagnie De Publications De La Presse, Ltee., 5,000 watts, 730 kilocycles. Phil Lalonde, dir. (TP), (UP).

CHLT, Sherbrooke, La Tribune, Ltee., 100 watts, 1,210 kilocycles. L. A. Vachon, mgr.

Saskatchewan

CKCK, Regina, Regina Leader-Post, 1,000 watts, 1,010 kilocycles.

The foregoing stations are owned or controlled by newspapers or are stations in which a newspaper has an interest either as an affiliate, part owner, or through an interlocking directorate. Listing includes, in the following order: Station call letters, city in which studio is located, name of paper, power, kilocycle channel, operating time, name of manager and subscription to a commercial press service. The three services offering news for sale to stations are United Press (UP), International News Service (INS), and Transradio Press Service (TP).

CANADIAN AGENCY RECOGNITION

The 15 per cent agency commission is allowed for net station time and, on network contracts it is allowed on wire line costs, exclusive of any charges for special pick-ups which shall be net.

1. Agencies recognized by the C. D. N. A.
2. Agencies not recognized by the C. D. N. A.
3. A second 15 per cent agency commission shall not be allowed except when contracts are negotiated through NBC, CBS or MBS.
4. It is required: -
 - (a) that the agency be free from

client ownership, either direct or indirect.

- (b) that the agency be an independent organization, in a position to serve both the client and the CBC without bias.

- (c) that the agency retain the full commission paid by the CBC and furnish upon request satisfactory evidence that this has been done.

5. Agencies may be called upon to give evidence that their activities are confined exclusively to the placement and service of advertising for their clients and that they do not engage in any other business.

STATIONS OF MEXICO

Despite the chaotic conditions existing the majority of the time, broadcasting in Mexico has made rapid advances within the past year. Today there are one hundred and fifteen stations licensed to operate in Mexico, many of which are heard clearly in the United States.

The list which follows has been checked with the Mexican Consul as of Feb. 1, 1938. The power authorized as listed is not strictly adhered to in all cases.

Call Letters	Location	Frequency Kilocycles	Power Authorized Watts
XEA	Guadalajara, Jalisco	1060	125
XEAA	Mexicali, Baja California	750	200
XEAB	Toluca, Mexico	1060	250
XEAC	Tijuana, Baja California	980	1000
XEAF	Nogales, Sonora	990	750
XEAG	Cordoba, Vera Cruz	1310	10
XEAI	Mexico, Distrito Federal	1250	500
XEAL	Mexico, Distrito Federal	660	1000
XEAM	Matamoros, Tamaulipas	750	25
XEAO	Mexicala, Baja California	660	250
XEAP	Ciudad Obregon, Sonora	1340	50
XEAQ	Tijuana, Baja California	1090	1000
XEAS	Saltillo, Coahuila	1160	50
XEAT	Hidalgo del Parral, Chihuahua	1210	250
XEAW	Reynosa, Tamaulipas	960	100000
XEAZ	T. Calderon, Zacatecas	1230	200
XEB	Mexico, Distrito Federal	1030	10000
XEBA	Ciudad Guzman, Jalisco	1080	20
XEBC	Agua Caliente, Baja California	730	5000
XEBF	Jalapa, Vera Cruz	6090	100
XEBG	Tijuana, Baja California	820	1000
XEBH	Hermosillo, Sonora	930	500
XEBI	Agascalientes, Aguascalientes	1000	25
XEBJ	Merida, Yucatan	1160	20
XEBK	Nuevo Laredo, Tamaulipas	1030	100
XEBL	Mazatlan, Sinaloa	1220	50
XEBM	Mazatlan, Sinaloa	15300	50
XEBO	Irapuato, Guanajuato	1310	25
XEBP	Durango, Durango	1150	250
XEBQ	Mazatlan, Sinaloa	6030	15
XEBR	Hermosillo, Sonora	11820	150
XEBS	Mexico, Distrito Federal	1340	200
XEBT	Mexico, Distrito Federal	6000	500
XEBU	Chihuahua, Chihuahua	1200	50
XEBX	Sabinas Coahuila	640	250
XEBZ	Mexico, Distrito Federal	810	100
XEC	Tijuana, Baja California	1150	100
XECR	Mexico, Distrito Federal	7380	20000
XECU	Guadalajara, Jalisco	6075	45
XECW	Mexico, Distrito Federal	1310	10
XECZ	San Luis Potosi, San Luis Potosi	1370	100
XED	Guadalajara, Jalisco	1160	2500
XEDA	General Anaya, Distrito Federal	1220	200
XEDF	Nuevo Laredo, Tamaulipas	810	100
XEDP	Mexico, Distrito Federal	1080	-----
XEDQ	Guadalajara, Jalisco	9520	100
XEDW	Minatitlan, Vera Cruz	1150	20
XEE	Durango, Durango	1210	50

XEF	Ciudad Juarez, Chihuahua	980	100
XEFA	Tacuba, Distrito Federal		500
XEFB	Monterrey, Nuevo Leon	870	200
XEFC	Merida, Yucatan	550	100
XEFE	Nuevo Laredo, Tamaulipas	980	250
XEFI	Chihuahua, Chihuahua	1440	250
XEFJ	Monterrey, Nuevo Leon	1230	100
XEFL	Tijuana, Baja California	1150	250
XEFM	Leon, Guanajuato	1160	20
XEFO	Mexico, Distrito Federal	940	5000
XEFQ	Cananeh, Sonora	1010	50
XEFT	Vera Cruz, Vera Cruz	9550	12
XEFV	Ciudad Juarez, Chihuahua	1210	100
XEFW	Tampico, Tamaulipas	1310	300
XEFZ	Mexico, Distrito Federal	1370	100
XEG	Monterrey, Nuevo Leon	1230	250
XEGW	Mexico, Distrito Federal	6110	250
XEH	Monterrey, Nuevo Leon	720	250
XEI	Morelia, Michoacan	1370	125
XEJ	Ciudad Juarez, Chihuahua	1020	1000
XEJP	Mexico, Distrito Federal	1130	100
XEJW	Mexico, Distrito Federal	870	500
XEK	Mexico, Distrito Federal	990	100
XEKL	Leon, Guanajuato	1240	500
XEL	Mexico, Distrito Federal	1100	250
XELA	Saltillo, Coahuila	1240	50
XELO	Piedras Negras, Coahuila	580	50000
XELZ	Mexico, Distrito Federal	1370	1000
XEME	Merida, Yucatan	1240	50
XEMO	Tijuana, Baja California	860	5000
XEMU	Piedras Negras, Coahuila	580	250
XEMX	Mexico, Distrito Federal	1280	100
XEN	Mexico, Distrito Federal	780	1000
XENC	Mexico, Distrito Federal	860	50
XENT	Nuevo Laredo, Tamaulipas	910	150000
XEOK	Tijuana, Baja California	760	2500
XEOO	Mexico, Distrito Federal	1150	100
XEP	Ciudad Juarez, Chihuahua	1160	500
XEPN	Piedras Negras, Coahuila	580	100000
XERA	Villa Acuna, Coahuila	840	250000
XES	Tampico, Tamaulipas	990	250
XET	Monterrey, Nuevo Leon	690	5000
XETB	Torreón, Coahuila	1310	125
XETF	Vera Cruz, Vera Cruz	1220	12
XETH	Puebla, Puebla	1210	100
XETM	Villahermosa, Tab	11730	50
XETW	Tampico, Tamaulipas	6045	100
XEU	Vera Cruz, Vera Cruz	1010	250
XEUW	Vera Cruz, Vera Cruz	6020	20
XEW	Mexico, Distrito Federal	890	50000
XEWI	Mexico, Distrito Federal	11900, 6015	400
XEWB	Guadalajara, Jalisco	11710	15
XEWW	Mexico, Distrito Federal	9500, 6080, 15160	10000
XEX	Monterrey, Nuevo Leon	1310	125
XEXA	Mexico, Distrito Federal	11880, 6133	100
XEXB	Jalapa, Vera Cruz	1270	250
XEXC	Aguascalientes, Aguascalientes	810	350
XEXD	Jalapa, Vera Cruz	1340	350
XEXE	Texcoco, Mexico	1270	17
XEXH	San Luis Potosi, San Luis Potosi	1250	250
XEXM	Mexico, Distrito Federal	610	500
XEXP	Monterrey, Nuevo Leon	2500	30
XEXR	Mexico, Distrito Federal	11895, 6065	100
XEXS	Mexico, Distrito Federal	1310, 6200	100
XEXX	Mexico, Distrito Federal	1170	1000
XEYO	Mexico, Distrito Federal	610	500
XEZ	Merida, Yucatan	630	500



TELEVISION



STATIONS

Personnel **Facilities**

•

F.C.C. Regulations

•

Facsimile Broadcasting

•

Television Progress in

England **Germany**

France **Italy**

TELEVISION BROADCASTING STATIONS

As of Feb. 1st, 1938

Group A—2060 to 2100 kc.; Group B—42000 to 56000 kc.; Group C—60000 to 86000 kc.;
Group D—Any 6000 kc. frequency band above 110000 kc. excluding 400000 to 401000 kc.

Licensee and Location	Letters Call	Frequency (kc) or Group	P O W E R	
			Visual	Aural
Columbia Broadcasting System New York, N. Y.....	W2XAX	B. C	50 w C. P. granted for 7500 w	
Don Lee Broadcasting System Los Angeles, Calif.....	W6XAO	B. C	150 w	150 w
Farnsworth Television, Inc., of Pa. Springfield, Pa.	W3XPF	B. C	4 kw	1 kw (C.P. only)
First National Television, Inc. Kansas City, Mo.....	W9XAL	B. C	300 w	150 w
General Television Corp. Boston, Mass.	W1XG	B. C	500 w	
The Journal Company Milwaukee, Wis.	W9XD	B. C	500 w	
Kansas State College of A. & A. S. Manhattan, Kansas	W9XAK	A	125 w	125 w
National Broadcasting Co., Inc. New York, N. Y.....	W2XBS	B. C	12 kw	15 kw
National Broadcasting Co., Inc. New York, N. Y.....	W2XBT	92000, 175000-180000	400 w	100 w (C.P. only)
Philco Radio & Television Corp. Philadelphia, Pa.	W3XE	B. C	10 kw	10 kw
Philco Radio & Television Corp. Philadelphia, Pa.	W3XP	204000-210000	15 w (C.P. only)
Purdue University West Lafayette, Ind.....	W9XG	A	1500 w	
Radio Pictures, Inc. Long Island City, N. Y.....	W2XDR	B. C	1 kw	500 w
RCA Mfg. Co., Inc. (Portable) Bldg. No. 8 of Camden Plant.....	W3XAD	D (124000 to 130000)	500 w	500 w
RCA Mfg. Co., Inc. Camden, N. J.....	W3XEP	B. C	30 kw	30 kw
RCA Mfg. Co., Inc. Portable—Mobile	W10XX	B. C	50 w	
The Sparks-Withington Co. Jackson, Mich.	W8XAN	B. C	100 w	100 w
University of Iowa Iowa City, Iowa.....	W9XK	A	100 w	
University of Iowa Iowa City, Iowa.....	W9XUI	B. C	100 w	
Dr. George W. Young Minneapolis, Minn.	W9XA'T	B. C	500 w	

C.P. denotes that an authorization has been issued to construct a television broadcast station. Upon completion of equipment tests and license application filed, Commission may grant license for television broadcast.

F. C. C. REGULATIONS

Applicable to Television and Facsimile Broadcasting Stations

The term "visual broadcast service" means a service rendered by stations broadcasting images for general public reception. There are two classes of stations recognized in the visual broadcast service, namely: Television broadcast stations and Facsimile broadcast stations.

Television Broadcast Stations

The term "television broadcast station" means a station licensed for the transmission of transient visual images of moving or fixed objects for simultaneous reception and reproduction by the general public. The transmission of the synchronized sound (aural broadcast) is considered an essential phase of television broadcasting and one license will be issued for both visual and aural broadcast as herein-after set out.

A license for a television 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 television broadcast art.

2. That the program of research and experimentation will be conducted by qualified engineers.

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

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

(a) A licensee of a television broadcast station shall not make any charge, directly or indirectly, for the transmission of either aural or visual programs.

(b) In the case of experimental televising of the production of a commercial broadcast program, all commercial announcements not a part of the entertainment continuity shall be eliminated from the television broadcast except

the mere statement of the name of the sponsor or product or the televising of the trade-mark, symbol, slogan or product of the sponsor; provided, however, that when the program transmission is incidental to the experiments being conducted and not featured, and subject to interruptions as the experiments may require, the commercial announcements may be broadcast aurally.

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

(d) The synchronized sound (aural) program of a television broadcast station may be broadcast by a regular broadcast station, provided:

1. That no announcements or references shall be made over the regular broadcast station regarding the operation of the television broadcast station, except the mere statement that the program being transmitted is the sound or aural program of a television broadcast station (identify by call letters).

2. That the call letter designation when identifying the television broadcast station shall be given on its assigned frequency only.

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

<i>Group A</i> 2000 to 2100 kc	<i>Group B</i> 42,000 to 56,000 kc
<i>Group C</i> 60,000 to 86,000 kc.	<i>Group D</i> Any 6,000 kc frequency band above 110,000 kc excluding 400,000 to 401,000 kc.

(b) A licensee of a television station for Group A shall carry forward a comprehensive program of experimentation to determine the secondary or rural coverage of the station, and shall suitably locate receiving equipment and other apparatus, and shall make the necessary measurements to determine the quality and characteristics of the secondary or sky-wave service area. Television transmission only will be authorized in this band, and each license will authorize the entire band. No aural broadcast will be authorized therein.

(c) A license for a television broadcast station in groups B, C or D will specify a frequency band wherein two adjacent carrier frequencies shall be selected, one for the visual and one for the aural broadcast. The lower carrier frequency shall be for visual broadcast and the higher carrier frequency for the aural broadcast.

(d) A licensee will be granted only one station in each frequency group for operation in the same service area.

(e) An application may be made for one frequency band (to include the visual and the aural carriers) in groups B, C and D. However, if it is desired to operate in more than one group, it will be necessary to make separate applications for a station in each group.

(f) Applicants shall specify the band width of the emissions required for the proposed transmission.

(g) Carrier frequencies shall be so selected and emissions controlled that no emission from any cause will result outside the frequency band authorized by the license.

(h) An applicant shall select a frequency band in the group which is believed best suited for the experiments to be conducted and will cause the least or no interference to established stations.

The power output rating of a television broadcast station shall not be in excess of that necessary to carry forward the program of research. The operating power may be maintained at the maximum rating or less, as the conditions of operation may require.

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. Number of hours operated for transmission of television programs.
2. Comprehensive report of research and experimentation conducted.
3. Conclusions and program for further developments of the television broadcast service.
4. All developments and major changes in equipment.
5. Any other pertinent developments.

Facsimile Broadcast Stations

The term "facsimile broadcast station" means a station licensed to transmit images of still objects for record reception by the general public.

A license for a facsimile 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 facsimile broadcast service.
2. That the program of research and experimentation will be conducted by qualified engineers.
3. That the applicant is legally and financially qualified and possesses adequate technical facilities to carry forward the program.
4. That the public interest, convenience and/or necessity will be served through the operation of the proposed station.

(a) A licensee of a facsimile broadcast station shall not make any charge, directly or indirectly, for the transmission of programs.

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

(a) The following frequencies are allocated for assignment to facsimile broadcast stations on an experimental basis provided no interference is caused to the television stations operating in the band 2000-2100 kilocycles:

2012 kc 2016 kc 2096 kc

(b) If the facsimile program of research and experimentation cannot be

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MODERN TELEVISION SYSTEMS

By HARRY R. LUBCKE

Director of Television of the Don Lee Broadcasting System, Los Angeles

Modern television systems may be divided into two groups: the electronic, and the mechanical. In the first group are found the Image Dissector tube of Philo T. Farnsworth, of Farnsworth Television, the Iconoscope of V. K. Zworykin, of the Radio Corporation of America, and the cathode ray tube of antiquity. In the second group, recent advances have made the mechanical disk a superior means for scanning motion picture film, and the Scophony method of multiple light control is a competitor of the cathode ray tube for exhibiting the received image.

The Image Dissector is a glass enclosed vacuum tube containing a uniform photoelectric surface at one end and a tiny aperture at the other. The scene to be transmitted, either live or film, is focused upon the photoelectric plate by a lens. Electrons are given off at each and every point on the surface according to the light intensity striking that point. The "electron image" of the scene thus created is caused to traverse the tube to the aperture, being focused to a sharp image thereat and being deflected systematically thereover to accomplish scanning, thereby producing a television signal. The traverse is effected by applying voltages to the tube electrodes, and the focusing and deflection by magnetic fields produced by current flowing through coils surrounding the tube.

A device known as an "electron multiplier," a current amplifier as distinguished from the ordinary radio tube which is a voltage amplifier, has been developed and made a part of recent Dissector tubes.

The Iconoscope is also a glass enclosed vacuum tube, but contains a special photoelectric surface in its principal enclosure and a cathode-ray "electron gun" in a narrow extension thereof. The special surface is known as the "mosaic" and is composed of an innumerable number of minute photoelectric globules, each insulated from the other, and forming in effect an innumerable number of separate photoelectric cells. The scene to be trans-

mitted is again focused upon the photoelectric surface by a lens. Electrons are given off as before, but this time each globule, since it is insulated, assumes a positive potential proportional to the light that falls upon it. Once each complete scanning of the image, an electron beam constantly emitted from the electron gun discharges each globule and thereby produces the television signal. The charging process takes place all the time, except the instant when the beam discharges the particular globule. This storage process is an important one, although its full possibilities have not been attained at the present time.

These two devices are truly "electric" eyes. They are creations of the modern age. All credit is due the inventors, and the organizations behind them, in making these devices practical tools in the hands of present-day television engineers.

In the transmission of film, certain characteristics of the mechanical arrangement cause the result to be accomplished in a particularly satisfactory manner. Although the modified motion picture projector required to run off the film is a mechanical device itself, the advantage of mechanical pickup is not because it coacts efficiently with another mechanical device, but because a true shading of the image is secured.

The mosaic type pickup tube does not produce the electrical representation of the background of the scene being transmitted. This must be inserted dur-

ing each performance by operation of the "shading controls" which introduce compensating electrical waveforms into the television signal. With the mechanical scanner this manipulation is not required.

The use of this scanner is particularly prevalent in Germany. The Fernseh A. G. ("Television Corporation"), where over one hundred men are engaged in research on all systems of television, have recently made known their high-definition mechanical film scanner. The work of the D. S. Loewe organization in this regard is also known.

In England, "Television" reports that the mechanical film transmissions of the Baird System were more clearly received by the public than the present film pickup with the Emitron mosaic tube. The Scopphony System utilizes a mirror drum for film transmission.

In the United States the Bell Laboratories of the American Telephone & Telegraph Company have developed a mechanical film scanner for use in their coaxial cable work. The Don Lee Broadcasting System uses the mechanical method for film scanning and the mosaic tube for direct pickup.

The modern mechanical scanner is, however, a far cry from its low-definition predecessors. Low-definition television, formerly in use throughout the world, may be defined as television systems employing a standard of from 30 to 120 lines. The present high definition television may be defined as any greater lineage than this, but is usually taken to mean standards of from 240 to 441 lines.

With new principles of operation, the fundamental scanning disk or mirror drum would be incapable of transmitting an accurate image. The mechanical tolerances required transcend the art of the skilled machinist. The manner in which these limitations are overcome has not yet been disclosed by those who have developed this equipment.

In order that the subject matter seen by the electric eyes or taken from motion picture film be reproduced at a distance requires the coaction of a host of cooperating devices.

Scanning sources, which produce electrical waveforms of special shapes, are required to operate pickup tubes and also the cathode-ray tubes at the receiver. Amplifiers, developed from the type utilized in radio, but capable of amplifying a band of frequencies from thirty to over two million cycles per second are used at both transmitter and receiver. Television transmitters and receivers, or a coaxial cable handling this wide band width, must

be utilized to transport the television signal from the point of origination to the distant point of observation. Finally, the receivers must be held in step with the transmitter by a process called synchronization, and the foundation upon which modern television has been built, the cathode-ray tube, is required to display the image.

If sound is to accompany the visual performance, microphone, amplifiers, a transmitter, receivers, and loudspeakers must be provided for a second channel of communication.

The perfection of several of these devices has been required in order to make present high-definition television possible.

Considering these devices in order, we find that present-day scanning sources produce rectilinear (straight-line) "sawtooth" waveforms, to the end that the scanning spot in the camera and on the cathode ray tube screen moves from one side to the other fairly "slowly" (in one thirteen-thousandth of a second!) but returns to start the next trace in less than one-tenth that time. "High vacuum" thermionic tubes are now largely utilized, replacing the former gas triodes, or Thyratrons, although the latter may still be used in simplified receivers.

The amplifiers are usually of the resistance-capacitance coupled type with compensating inductances or feedback to secure the wide frequency band. Transformer coupling, as widely used in radio, is not suitable. It falls to the amplifier, in cooperation with the scanning sources, to provide the various blanking, pedestal, and synchronizing waveforms which must be inserted in the television signal.

The modern television signal is a composite of several waveforms, assembled in a manner hardly known ten years ago. It is universal practice to place the image signal on one side of the axis and the synchronizing pulses on the other side. In usual radio broadcasting, both sides of the axis are occupied by the more or less "sine wave" quality of speech and music. In television, the two sides of the axis are utilized for separate functions, one side for carrying the image variations of intensity, the other side for synchronization purposes. At the receiver the waveform is essentially "split in half" by the synchronizing equipment. The two parts are directed to the proper portions of the receiving apparatus to make the receiver operate as a whole. The synchronizing equipment is nearly human in carrying out this process.

The television transmitters invariably operate on ultra-high frequency chan-

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THE PROBLEM OF SYNCHRONIZATION

By

R. LORENZEN

Television Engineer



REGARDLESS of what type of television system is used, the key problem is always the synchronization of the transmitted and received images. That such is the case is obvious when it is remembered that the image is transmitted point by point. Each point in the picture received must correspond with the one transmitted not only in the intensity of illumination but also as regards its location on the viewing screen. If the received image does not correspond point for point in its position on the viewing screen with the image at the transmitter there will result only a jumble of light and dark areas. This point for point correlation of received and transmitted images is effected by synchronizing the received and transmitted video impulses.

TECHNIQUES EMPLOYED

The techniques employed in obtaining synchronization are largely determined by the manner in which the televised picture is scanned.

SCANNING WAVES

Until relatively recently sine wave scanning, or some variant thereof, was used almost exclusively. Certain apparently insoluble problems temporarily retarded the further development of this method and investigators turned to saw-tooth scanning. By using saw-tooth scanning the problem of synchronization was solved, but only by making the television receiver complicated, critical, expensive, and entirely unsuited for public consumption.

Any worthwhile television system for the home must employ a synchronization technique of such nature that the synchronization is entirely accomplished at the transmitter. From this point of view, a television system which uses saw-tooth scanning is only pseudo-synchronized for, although the transmitter sends out synchronizing impulses, final synchronization is effected at the receiver.

Fortunately, the difficulties encountered in using sine wave scanning have been eliminated and it is now possible to construct a television system in which the synchronization is entirely controlled at the transmitter. Furthermore, when sine wave scanning is employed the television receiver requires less complex circuits and is much simpler to operate. In consequence of this, the receiver could be sold at a lower price than when saw-tooth scanning is used.

FCC AND TELEVISION

The Federal Communications Commission to date has wisely refrained from issuing commercial television licenses for it does not wish the public to spend its money on unsatisfactory television apparatus. Many large corporations, however, have spent huge sums in developing television systems based on saw-tooth scanning. They are now demanding a standardization of television usage which depends on this method despite its proven deficiencies.

The future of commercial television therefore depends largely upon the stand to be taken by the Federal Communications Commission regarding its practice in licensing commercial television stations.

THE ABC OF

Finch Facsimile

RADIO'S MOST
DRAMATIC FORWARD-STEP
OF THE YEAR!



Facsimile Recorder which, early in 1938, pioneer broadcasters will place in test homes for experimental transmission. Hardly more than a foot square; complete in a single unit; automatic; works on any radio.

Facsimile Copy as it issues from the Recorder. Two columns wide; carries news bulletins, photographs, advertising, opening up tremendous new sources of revenue to broadcasters. Recorder holds week's supply of paper; cost to consumer, approx. 20¢ week.

Radio facsimile as a vital public service is here now. Under Finch patents, the following stations have been licensed for facsimile broadcasting, FCC having granted permits for experimental use of regular frequencies, full power, from midnight to six a.m.

- WGH—250 watts—Newport News, Va.
- KSTP—25,000 watts—St. Paul, Minn.
- WHO—50,000 watts—Des Moines, Iowa
- WSM—50,000 watts—Nashville, Tenn.
- WCLE—500 watts—Cleveland, Ohio
- WHR—2,500 watts—Cleveland, Ohio

The laboratories are open to licensed broadcasters for demonstration, by appointment. Call Plaza 5.6570.



Scanning Head with photoelectric eye, in compact, easily operated transmitting apparatus, which plugs into ordinary broadcasting amplifiers without equipment changes; translates printed matter, line-cuts, half-tones, photos, into electrical signals which can be sent over regular channels.

FINCH TELECOMMUNICATIONS LABORATORIES, INC.
27 WEST 37th STREET, NEW YORK CITY

FCC REGULATIONS

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properly carried forward on the frequencies in subsection (a) of this rule due to the characteristics of these frequencies, applicants may request and be assigned any frequency specified in Rule 1073 on an experimental basis.

(c) Other frequencies under the jurisdiction of the Commission may be assigned for experimental operation of facsimile broadcast stations on an experimental basis provided a sufficient need therefor is shown and no interference will be caused to established radio stations.

(d) Each facsimile broadcast station will be licensed for only one frequency except in subsection (b) of this rule more than one frequency may be licensed to one station if need therefor is shown.

(e) Each applicant shall specify the frequency or frequencies desired and the maximum modulating frequencies proposed to be employed.

(f) The operating frequency of a facsimile broadcast station shall be maintained in accordance with the frequency assignments as shown by Rule 980, provided, however, where a more strict adherence to the assigned frequency is necessary to prevent interference, the Commission will specify the tolerance.

(g) A facsimile broadcast station authorized to operate on frequencies regularly allocated to other stations or services shall be required to abide by all rules governing the stations regularly operating thereon, which are applicable to facsimile broadcast stations and are not in conflict with Rules 980 to 986, inclusive, and Rules 1030 to 1039, inclusive, excluding Rule 1035.

The power output rating of a facsimile broadcast station shall not be in excess of that necessary to carry forward the program of research. The operating power may be maintained at the maximum rating or less, as the conditions of operation may require.

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. Number of hours operated for transmission of facsimile programs.
2. Comprehensive report of research and experimentation conducted.
3. Conclusions and program for further developments of the facsimile broadcast service.
4. All developments and major changes in equipment.
5. Any other pertinent developments.

MODERN TELEVISION SYSTEMS

(Con't from page 448)

nels, usually from 44,000 to 72,000 kilocycles. This removes troubles from sky waves and fading, such as found in broadcast and short wave radio, but restricts the useful range of a transmitter to a future maximum of probably eighty-five miles. Compared to present fifty kilowatt broadcast transmitters, most television transmitters are of medium power, rarely exceeding eight kilowatts.

New methods of modulation are often employed. A modified grid bias method has been employed by the Don Lee organization for several years. The Philco organization has recently made known a "transmission line" method where the modulator is placed at the end of a quarter wavelength line properly connected to the transmitter-antenna transmission line.

The original filamentless cathode ray tube of Braun of a half-century ago little resembled the precise instrument of today. Usually employing electrostatic focusing taken from the new field of electron optics, an "electron gun," powered by a heater type cathode filament, produces a small but intense

beam of electrons at the narrow end of a cathode-ray tube. This beam is deflected, either by deflection plates or by deflection coils, over the fluorescent screen which is located on the large or viewing end of the tube. The output of the receiver scanning sources, synchronized by the incoming synchronizing pulses being applied to the plate or coils, causes the moving spot of light, formed on the fluorescent screen by the impact of the electron beam upon it, to be at all times in the same relative position on the receiver screen as is the exploring spot at the transmitter pickup tube or film scanner.

The sound channel of television is essentially a duplicate of present high frequency broadcasting, "apex," facilities.

In this way is modern television accomplished. It employs instrumentalities previously unknown, and others borrowed from parent arts which have been perfected to an unbelievable degree. All this to accomplish a fundamental human desire, the ability to see at a distance, as we are now able to hear at a distance over the radio.

EXPERIMENTAL FACSIMILE BROADCAST STATIONS

(Authorized by FCC as of Jan. 15, 1938)
 AUTHORIZED TO USE REGULAR BROADCAST BAND

The Federal Communications Commission, realizing the value of facsimile broadcasting, has granted 17 experimental licenses to stations to further the advancement of the ever growing service. Eight important stations, servicing rich commercial markets during the regular broadcast periods, are now experimenting with facsimile during the early morning hours. Seven short wave stations are also licensed by the FCC for experimental work in facsimile.

1938, with its many promises for the added advancements in all phases of broadcasting, is already well on its way insofar as facsimile is concerned. Major manufacturing companies are confident that the current year will find the creation of a new market, facsimile, and that by 1939, facsimile will be a household byword.

Call Letters	Licensee and Location	Frequency Kilocycles	Power Authorized Watts
WGH . .	Hampton Roads Broadc. Corp., Newport News, Va...	1310	100
WHO . .	Central Broadcasting Co., Des Moines, Ia.....	1000	50000
WOR . .	Bamberger Broadcasting Service, Newark, N. J.....	710	5000
KSTP . .	National Battery Broadcasting Co., St. Paul, Minn....	1460	10000
KFBK . .	McClatchy Broadcasting Co., Sacramento, Calif.....	1490	5000
KMJ . .	McClatchy Broadcasting Co., Fresno, Calif.....	580	1000
KSD . .	Pulitzer Publishing Co., St. Louis, Mo.....	550	1000
WSM . .	Natl. Life & Accident Ins. Co., Nashville, Tenn....	650	50000
WHK . .	Radio Air Service Corp.....	1390	1000
WGN . .	WGN, Inc., Chicago, Ill.....	720	50000

Short Waves

Call Letters	Licensee and Location	Frequency Kilocycles	Power Authorized Watts
W2XBK . .	W. G. H. Finch Labs., Inc., New York, N. Y.....	1614, 2389, 3492.5, 4797.5, 6425, 8655	250
W10XGU . .	W. G. H. Finch Labs., Inc., New York, N. Y.....	31600, 38600, 41000	250
W1XMX . .	Yankee Network, Inc., Boston, Mass.....	41000	500
W7XBD . .	Oregonian Publishing Co., Portland, Ore.....	1614, 2012, 3492.5	1000
W2XR . .	Radio Pictures, Inc., New York, N. Y.....	1614, 2012, 2398, 23100, 41000, 86000- 400000	1000
W9XAG . .	The Journal Co., Milwaukee, Wis.....	1614, 2398, 3492.5, 4797.5, 6425, 8655	1000
W9XAF . .	The Journal Co., Milwaukee, Wis.....	41000	500

FACSIMILE BROADCASTING



By

W. G. H. FINCH



President and Technical Director, Finch Telecommunications Labs., Inc.



During the early months of 1938 pioneering broadcasters in many sections of the country will inaugurate a new form of radio transmission with vast potentialities for public service and augmented revenue. The name of this new service is facsimile, "first cousin" of television since it shares with it some of the same basic principles.

Unlike its more glamorous and well-publicized relation, facsimile steps into broadcasting service from other communications fields in which it has already proved its capabilities in a quiet but exceedingly effective manner. For facsimile, as most radio men know, has been in daily commercial use for several years in speeding news photos back and forth across the country via telephone circuits, and across the Atlantic by short wave radio.

In spite of the rapid development and use of everyday wire and radio facsimile service, few are aware of its greater capabilities as a mass communications medium in the broadcasting field. This is largely because of the fact that facsimile transmissions have been almost entirely employed to handle press photographs for subsequent newspaper reproduction, and in the average layman's mind this is the limitation of the method. Many, also, confuse television with facsimile and ask why television will not ultimately perform the same duty.

For these reasons, the first questions to be answered are, "What is facsimile, how does it differ from television, and how does it fit into the radio broadcasting picture?"

FACSIMILE OPERATION

Briefly, in non-technical language, facsimile in its electrical communication sense, involves the conversion of illustrations, or other copy such as printed matter, into an electrical signal which can be sent over telephone or radio communications circuits. At the receiving end the signal is automatically converted back into its visible form, appearing as a recorded replica of the original copy. The received copy is permanent and like a printed page can be handled, observed or read whenever desired. It is somewhat as if an amazingly compact printing press, installed at the receiving sta-

tion, were to be remotely controlled by the distant transmitter and in the process effected the printing of a duplicate of the copy seen at the distant point.

TELEVISION AND FACSIMILE

Television, like facsimile, involves the conversion of visible aspects of subjects into electrical signals which can be sent to distant points. However, the speed of this conversion is such that ordinary telephoto circuits or conventional aural broadcasting equipment cannot handle the signal. Costly co-axial cables with associated high frequency signalling ap-

paratus or special ultra-high frequency radio transmitters and receivers are therefore called in to do this difficult job.

In addition, there is as much difference in the technique of the two communications mediums as there is between the making of a newspaper and a motion picture. For primarily, where facsimile is concerned only with the transmission and subsequent recording of copies of still subjects such as pictures, and printed pages, television deals with moving objects or persons. The image on the screen of a television receiver has the basic qualities of a motion picture. The image moves, it is transitional, and when the show is over the screen is blank. Since nothing has been recorded the images will not be seen unless someone watches the screen when they are received.

Facsimile and television thus perform widely different functions. Each will fit into the communications picture as separate services, having fundamental distinctions as widely divergent as those of the public press and the motion picture.

FACSIMILE TRANSMISSION

The more technical phases of facsimile transmission and reception are generally understood by radio and sound engineers. For those who want to know just how radio facsimile transmission is effected a brief description of the Finch Facsimile Transmitter, to be used by the majority of the pioneering facsimile broadcasters as licensees under the Finch patents, will probably clarify some points in question.

The facsimile transmitter of the type to be employed by the pioneering stations in the forthcoming experimental service employs a scanning machine in which the copy to be sent over the air is inserted in what is termed the "copy head." This holds and advances the copy in front of a "scanning head," consisting of a small electric bulb, lens system and photocell. Light from the bulb is focused as a small spot on the surface of the paper carrying the copy, and the reflected light is picked up by the light-sensitive photocell. The scanning head is moved from side to side by an electric motor so that the spot of light traces a series of parallel paths across the copy, which is moved upwards through a distance equal to the diameter of the light spot at the end of each scanning stroke. In this manner, the entire surface of the paper is scanned, line by line, the black, half-tone and white areas reflecting to the photocell varying amounts of light ranging from

minimum to maximum. These variations in reflected light effect a change in the amount of electric current flowing through the photocell, which in turn controls the loudness of a high-pitched, whistle-like tone. The tone, called the "facsimile carrier" with its rising and falling aural characteristics, is then applied to ordinary broadcast amplifiers. These deliver it to the radio transmitter in the same manner in which aural broadcast signals are handled. Any conventional broadcasting receiver tuned to the frequency of the transmitter will then pick up the signals. However, in order for the broadcasting listener to utilize these signals he must have a recording machine to convert them back into their visible equivalents on paper.

FACSIMILE RECORDER

The Finch Home Facsimile Recorder is used for this purpose. The recording machine in many ways is similar to the scanning instrument. What is termed a "receiving copy head" holds the dry electrosensitive recording paper, which is fed as a continuous strip two columns wide from a roll carried in the lower part of the machine. A recording stylus is then moved by a small electric motor from side to side across the surface of the paper, forming marks on the paper corresponding in position and quality to the elements of the copy at the transmitter. When the incoming signal is loudest the line traced is darkest, when it is weakest no trace is formed. At the end of each of these recording strokes the paper is moved up by an amount equal to that of the width of each line element. By means of extremely short low-tone synchronizing control impulses sent out by the transmitter just before the start of each recording stroke and by the use of a small motor turning over at a predetermined speed the recording stylus always moves across the paper in step with the scanning head of the transmitter, recording copy in its proper position, regardless of the type of electrical power supply of the different states in which transmitter and receivers may be located. The recorded copy is built up line by line to appear as a duplicate of the original.

HOME RECORDING SETS

The actual home recording machine, which at present costs \$125.00 because it is made in limited quantities, is small enough to be housed as a complete unit in a cabinet approximately a foot square. It may be connected without auxiliary amplifying equipment to the output circuit of any broadcast receiver having a

power rating of three watts or more. A switch in the loud speaker circuit is then employed to cut the speaker off during the recording of facsimile broadcasts. The broadcasting station from which facsimile signals are sent is tuned in with the receiver as if regular aural programs were to be received. The facsimile recorder is switched on and the volume control of the receiver is turned to the point where copy has the desired contrast. The actual recording operation is wholly automatic and requires no attention.

AUTOMATIC RECORDING

The simple statement that recording is automatic may seem relatively unimportant to the average reader, but it is largely the solution of the automatic recording problem that has made it possible for Finch Telecommunications Laboratories to pioneer in its present work in opening the home facsimile. For until the development of an automatic machine and inexpensive dry recording paper of wide latitude which requires no liquids for moistening or smudgy carbon transfer for printing, the adaptation of facsimile recording methods to home service seemed remote. These conditions were recognized as prerequisites as early as 1933 when first radio tests of the basic Finch facsimile system were conducted over station W10XDF, located at Teterboro Airport. The result is that the home facsimile machine safely operates without attention throughout long facsimile broadcasting periods. The machine holds a roll of dry recording paper which is automatically fed as long as facsimile signals are received. Each roll holds enough paper to provide for a week's recording operations without reloading. Recording papers in a number of different color combinations have been developed, but it is believed that stock on which the facsimile copy appears as black on either white or orange background will be most popular. Other combinations include green on a white background, green on white, and blue on white.

ACTUAL FACSIMILE BROADCASTING

The obvious questions at this point are, "When will facsimile broadcasts occur and what stations will handle them?" The answer is that during the

experimental period and probably thereafter facsimile broadcasts will take place during the early morning hours between midnight and 6 A.M. when aural broadcasting facilities are ordinarily idle. Simple time clocks will turn the radio receiver and recording motor on and off at specified hours. "Printing" of illustrated news bulletins, with latest news flashes, photographs, market reports, weather maps, cartoons, recipes, aural program announcements and illustrated advertisements of all sorts, will thus be effected in homes while their occupants sleep, the machine being practically silent in operation and entirely automatic in its operation. The result is a complete up-to-the-minute two column illustrated news bulletin ready to read at breakfast time.

GENERAL

This, to some who are not familiar with facsimile developments, sounds like one of H. G. Wells' prophecies. That it is not is attested to by the fact that at the present writing some of the leading broadcasting stations in the country have already been granted FCC permits to inaugurate such a service using regular broadcasting frequencies and full power between midnight and 6 A.M. in experimental transmissions to determine public reaction and to obtain basic engineering data for future facsimile services. Stations already licensed on this basis are: WGH, Newport News; KSTP, St. Paul, Minneapolis; WHO, Des Moines; WSM, Nashville; WOR, Newark; WCLE, Cleveland; WHK, Cleveland; WGN, Chicago; KSD, St. Louis; KFBK, Sacramento; and KMJ, Fresno. In addition, other important stations have applied to FCC for similar facsimile permits.

Facsimile transmissions of these stations will start as soon as the necessary equipment has been delivered and installed.

When the experimental period has demonstrated the value of facsimile broadcasting service and when publicity and advertising to consumers gets underway, we anticipate great difficulty in supplying public demand for home recorders. Because facsimile, like television, will inevitably capture the public imagination and when it does another dynamic new industry comparable to aural radio broadcasting will be born.

TELEVISION ★ ABROAD ★

Foreign television during the past year made numerous advances technically. Construction was begun on the most powerful commercial television station yet announced, in Paris. Germany and Italy matched strides in their television advances.

ENGLAND

The decision in England on the advice of the Television Advisory Committee, to adopt a single standard of television transmission for the London station at the Alexandra Palace has had one important immediate effect. The prices of television receiving sets manufactured by "His Master's Voice" and the (British) General Electric Co., Ltd., have been reduced and it is expected that the other manufacturing companies will follow suit shortly.

The "H.M.V." sets are priced at 80 guineas for the model 900, which is a television sight and sound receiver with long, medium and short wave radio, and 60 guineas for the model 901, which is a television sight and sound receiver only. Identical prices have been made by the General Electric Co., Ltd.

Scophony Television, Ltd., has stated that provided demand expands sufficiently, the price of its set may be reduced within 12 months to £50.

Extension of Service

These reductions in price form the first step to popularize television and bring it within the reach of the average listener. The size of the market will depend on price of receivers, quality of programs, and the number of people brought within receiving distance of stations.

The quality of the program depends entirely on the future policy of the B. B. C. and the amount of money made available for program material. Improvement has been noticeable recently and it is obvious that the B. B. C. producers at the Alexandra Palace are benefiting by experience and criticism, despite the fact that they are laboring under severe handicaps of lack of sufficient money and limitations of stage. The number of people now within reach of the programs emanating from the London station is somewhere be-

tween 8,000,000 and 10,000,000. Other stations will be erected in the large cities of the provinces when, in the opinion of the Television Advisory Committee, it is advisable to do so.

When further broadcasting stations are erected, it is by no means unlikely that the Baird Company, which suffered a blow to its prestige by being superseded at the Alexandra Palace by Marconi-E.M.I., will have its share of them. The patent situation is complicated but it is assumed that Baird, being one of the pioneers of television, is in a strong position with respect to patents. In this connection it is interesting to note that the B. B. C. is indemnified against any patent infringement and pays no royalty for its use of television transmitting apparatus.

Television can be extended by the use of the coaxial cable which has been developed in England by Standard Telephones and Cables, Ltd. Birmingham has been connected with London by one such cable and extensions are planned to Manchester and Leeds. While it is possible to transmit television signals over this cable, it will probably not be done for some time.

The Future of Television

Sir Noel Ashbridge, chief engineer of the British Broadcasting Corporation, recently addressed the Royal Empire Society, his subject being television. Most of his talk dealt with what television actually is and how it is done. He was quite frank in discussing the difficulties encountered at present and emphasized the limitations of stage, lighting and make-up. The small size of the stage, he said, was a distinct handicap to artists, although the conditions under which they worked apart from that were no less comfortable than those prevailing in the average motion picture studio.

Speaking of the future, Sir Noel said that he was confident that these difficulties would be overcome and that television could be carried out under ordinary lighting conditions. He felt

FRANCE

that difficulties of depth and fidelity would eventually be surmounted that a consequent improvement in program would be made possible.

Mentioning the use of the coaxial concentric cable, as he called it, Noel said that it would make possible outside broadcasts of such events as the Cup Final (football) or the tennis championships at Wimbledon. Citing his address he said that television had advanced further in England than in any other country.

Strata in the Atmosphere

New radio reflecting layers have been discovered in the upper atmosphere according to Mr. R. A. Watson, Chief Superintendent of the Bawdsey Research Station of the Air Ministry. These new layers were discovered, apparently, at about the same time by himself and his colleagues in England, Mr. Colwell and Mr. Friend in the United States and Professor Mitra in India.

The most important of the new layers is said to be well within the stratum of ordinary winds and meteorological effects and produce the effect of "ghost" images in television. A second image, slightly displaced, appeared on some television receiving screens, notably in Bristol. Apparently one beam from the London television station goes direct to Bristol and another goes up to the layer and is reflected down again, coming in late on the receiver, giving the effect of an "echo" picture or "ghost."

Although Scophony Television Limited was not entrusted by the Government with the provision of the first television broadcasting station of the British Broadcasting Corporation, the company has continued its researches and is producing receiving sets capable of receiving the broadcasts from the Alexandra Palace. The system is different from that used by the Baird Television Company and the E.M.I. Marconi Company, the principal involved is mechanical rather than based on the cathode ray tube.

It is the view of the Scophony engineers that if television is to have a permanent value as entertainment the screen must be enlarged from its present proportions. It is understood that the object is to obtain a screen about the size of the home moving picture and the Scophony engineers believe their system alone is capable of producing this.

The company claims to hold certain basic patents in the optical-mechanical field of television, the number being in this country and abroad, not including over 100 applied for and pending.

The most powerful commercial television broadcasting station yet announced, to be installed at the foot of the Eiffel Tower with the antenna projecting from the top of the flagpole of this structure, has been ordered by the French Ministry of Posts, Telephones, and Telegraphs from the Matériel Téléphonique.

The transmitter will have a peak power of 30,000 watts, fully modulated, at the feeder of the antenna, and will be capable of transmitting television images having a definition of 405 lines. The equipment is the product of research work in the Laboratories of the L. M. T. organization in Paris. The contract specified that the station be put into limited service by July first and operate with full power by the fall.

According to the Ministry of P. T. T., which has been active in presenting transmissions to the public, television has emerged sufficiently from the laboratory to present definite entertainment possibilities. The Ministry has endeavored to keep its equipment abreast of the developments. In 1932 the first transmission was inaugurated using a medium wave sound broadcaster with a power of 10 KW. A mechanical direct pickup device was employed having a definition of 30 lines per picture. This equipment was gradually improved as it was found that higher definition pictures could be successfully received and produced. Early in 1935 a 2 KW transmitter was installed to operate on a wavelength of 200 meters and transmission was begun with a definition of 60 lines per picture. In December 1935 a 2 KW ultrashort wave transmitter operating on 3 meters was inaugurated at the Eiffel Tower, with a scanning definition of 180 lines per picture, and in March 1936 the power was increased to 20 KW.

The technical experts of the Ministry now feel that the progress registered has been of such importance as to warrant the substitution of a more modern and powerful station as an aid and encouragement to the study and popularization of this newest adaptation of electricity to the general diffusion of entertainment and instruction.

For several years the laboratories of "Le Matériel Téléphonique" have been engaged in developing high definition television scanning and transmitting equipment. The first field tests of such

equipment were conducted in 1935, when a transmission with 180 lines per picture was made from the company's laboratories to a demonstration receiver at a distance of several miles. In 1936 further field tests were made over the same distance but using a transmitter of 8 KW peak power and a scanning system with a definition of 240 lines per picture. Since that time development has been continuing on increasing both the transmitter power and the scanning definition.

GERMANY

There seems to have been a subtle change in the development of television in Germany. There is very little that publicity points to this change, but the fact that television developments have been taken over by the German War Department seems to be explanation enough for an extraordinary veil of secrecy which has fallen over efforts in the German television field. The following facts seem self-evident.

1. Publicity regarding television service for the general public has declined tremendously in the local press;

2. Although many radio manufacturers had received virtual instructions from the Government to place television apparatus on sale, not one retail store is carrying any models and not one manufacturer has any price list to offer;

3. It is unofficially reported that present television experiments made either by private companies or by the Post Office Department, which is in charge of all radio-technical matters in Germany, are directed toward the application of radio and television to military purposes;

4. Among television technicians interest now seems to be directed not toward public entertainment programs but toward the development of apparatus for airplanes, especially in the development of apparatus to transmit facsimiles between airplanes and ground stations.

When television was introduced to the public it proved vastly disappointing. Newspapers during 1935 were filled with publicity regarding Germany's leadership in television developments and flowery stories promised television receivers in public homes at fair prices and daily programs broadcast from 12 different German stations. Most people who saw television receiving apparatus on display marvelled not

at the fact that they were seeing something that happened in another section of the country. They expressed disappointment at the size of the image, the flicker of the picture, and the size and tremendous cost of the apparatus itself.

Facsimile

It is rather natural that recent developments behind the public scenes have also included the perfection of apparatus for the transmission of facsimiles. Dr. Arthur Korn, who maintains a laboratory at 25, Schlueterstrasse, Berlin, is the leader in these developments. He is known throughout the world, since in 1906 he obtained world patents covering apparatus for the dispatch of facsimiles by wire. The equipment that is used in the transmission of photographs to newspapers in the United States is based on Dr. Korn's original but now expired patents.

Dr. Korn has been experimenting with facsimile sending equipment for 30 years, and, although he has no commercial company for the production of his apparatus, he nevertheless receives and executes an order about twice a year. The German Police Department uses his equipment between various cities, notably between Berlin and Munich. This is used principally for the fast transmission of photographs and fingerprints of criminals and of photographs and drawings of scenes of crimes.

Television pictures on a screen 1 x 1.20 meters are said to be possible through an invention of Telefunken Gesellschaft, Germany. Heretofore, limits to the possible size of the television tube have kept the dimensions of pictures to within 8 x 10 inches.

With the new instrument, the tube is very small. The end is absolutely flat instead of curved and is 10 mm. thick to withstand outside air pressure. The picture thrown on the end of this tube is only 5 x 6 cm., about 2 x 2½ inches. The end of the tube is fitted to a projection camera lens of large size and picture is thus enlarged and thrown upon a screen which stands separate from the receiver. The loudspeaker is located at the base of the screen.

In order to obtain a particularly clear, sharp and contrasting picture on the end of the tube the tension was stepped up to 20,000 volts. The advantage of this receiver is that the picture thrown upon the screen can be viewed by a large number of people sitting even 6 to 8 meters away.

ITALY

Italian television activity in industry had its inception with SAFAR early in 1930. This is the only firm in Italy which is concerned with television. This company follows courses parallel with those of Baird in England and Telefunken in Germany. It worked in collaboration with the first Italian laboratory of television researches, that of Engineer Arturo Castellani. To this initial activity belong the first successful public tests of television in Italy, carried out in October of the same year at the first National Radio Show at Milan.

In this first display the apparatus employed, constructed entirely in Italy, used both in reception and transmission the Nipkow disk, coupled with a new system of synchronization between transmitter and receiver, supplied by Ing. Castellani, and employing the so-called canalized signals now widely used in various systems of transmitting and receiving by cathode rays.

After these first public tests, the Castellani Laboratory constructed a new complete disk transmitter-receiver, but of 60 lines and 25 images per second, for the transmission of real scenes. As a salient feature this new complete apparatus presented, among the first on the transmission side, the new types of amplifiers equalized by broad bands of frequencies and the batteries of cells with broad luminous spectrum.

On the reception side was brought to notice the first Italian commercial televisor, with mechanical reconstruction of the image, completely on a printed plate and utilizing a flexible disk of great precision, obtained photo-mechanically, coupled with a new type of luminous mercury vapor lamp with hot cathode and control grid.

During the year 1931, the whole television activity of the SAFAR was concentrated, still under the direction of Ing. Castellani, creating also in its own establishments the first vacuum experimental laboratory for the study and construction of luminous gas lamps.

Various types of bulbs were constructed and experimented with, and in the meanwhile repeated studies and experiments were carried out on various types of amplifiers for television currents. Moreover, in order to try out the commercial possibilities of various types of televisors, there were con-

structed, according to more modern concepts of rationality, two types of television receivers with drum of mirrors and spiral of mirrors.

In the year 1932 noteworthy improvements and additions were applied to the existing 60-line disk transmitter, and there was created a new model disk receiver and a mercury vapor lamp, with hot cathode and grid. The complete transmitter-receiver thus perfected functioned in public in October of the same year 1932, at the 3rd National Radio Show at Milan, and a successful regular experimental service was effected throughout the duration of the Show.

Immediately after the said Show there was projected and inaugurated the construction of a new 90-line disk transmitter intended for a circular experimental service of radio-television.

In October, 1933, at the 4th National Radio Show at Milan, experiments took place in radio-television with SAFAR apparatus operated by the Italian Radiophonic Auditions Association and the first SAFAR radio-receivers with the Braun tube were displayed there. The apparatus was operated during the whole of the Show, arousing enormous public interest.

While the new equipment permitted the construction of a perfected cathode ray transmitting tube, Castellian system, construction was also begun of a telecinema transmitter for 180 and 240 lines. This new set permitted the study of televisive currents aroused by analysis of great fineness, and therefore made possible the execution of tests of amplification and modulation with bands from 25 to 1,000,000 periods.

In view of the good results obtained at 180 lines of analysis, the new set for telecinema was presented in public in April, 1934, at the 15th Milan Fair. These receivers employed receivers with Braun gas tubes, Cossor and Ediswan type, the SAFAR types with induced vacuum not being yet ready.

The experimental service was effected alternately at 120 and 180 lines and during the whole period of the Fair enjoyed brilliant success.

The period following this 15th Fair found the television activity of SAFAR directed toward the perfecting of a television cathode tube radio-receiver, with tube of its own manufacture and to tests of a new Castellani tube transmitting system, the "Telepantoscopio" obtaining very satisfactory results in both branches of research.

TELEVISION STATIONS

— IN THE UNITED STATES —

— LOCATION — PERSONNEL — FACILITIES —

W2XAX

NEW YORK CITY

FREQUENCY: 52.5 Mc. POWER: 50 Watts (Construction Permit for 7500 watt transmitter to be located in Chrysler Bldg.). OWNED AND OPERATED BY: Columbia Broadcasting System. BUSINESS ADDRESS: 485 Madison Ave. PHONE: Wickersham 2-2000. STUDIOS: Same. (New studios will be located in Grand Central Terminal Bldg.). TRANSMITTER and ANTENNA LOCATION: Same. (New Transmitter and Antenna will be located in Chrysler Tower).

PERSONNEL

Director of Television Programs,

Gilbert Seldes

Chief Television Engineer,

Dr. Peter C. Goldmark

Assistant Chief Television Engineer,

John N. Dyer

FACILITIES

The Columbia Broadcasting System, Inc., has designed and built a complete experimental 50-watt television transmitter suitable for the present standards of 441 lines, 30 frames per second, operating on a frequency of 52.5 Mc. This transmitter is located in the Columbia Broadcasting System building and is connected by an open wire transmission line to an antenna mounted on the roof.

The system consists of a film scanner using a dissector tube in conjunction with continuously-moving 35 mm. or 16 mm. film. There are no rotating optical elements involved. The dissector is of the Farnsworth type, and is a 9-stage multiplier. The output from the film scanner, after being suitably amplified, is fed to an amplifier in which, after stabilization, the horizontal synchronizing and blanking pulses are injected. The D.C. component is transmitted by cutting the first with plus voltage to zero. After passing aperture correctors and equalizers, the video signal goes through a specially loaded coaxial cable to the modulator, where the signal is again stabilized and the vertical synchronizing pulses are injected. Variable amplitude, single pulse synchronizing system is utilized. The carrier may be modulated in either positive or negative direction.

A great portion of the activity during the past year was represented in the preparation of plans in connection with the new Chrysler Building transmitter and antenna and the Grand Central studio installations.

The transmitter to be installed in the Chrysler Building is now undergoing tests at Cam-

den, N. J., where a complete "electrical reproduction" of the top floors of the Chrysler Tower has been constructed on a baseball field near the manufacturing plant. The test tower of wood and steel covered with wire netting is used for trying out various types of antennas under conditions almost identical with those on the upper floors of the Chrysler Tower itself.

Each of the two transmitters, video and audio, when unmodulated delivers a power of 7500 watts. The output stages are so designed that the video signals can be injected in either "D.C." or "A.C." fashion. The D.C. type of transmission is that in which the carrier amplitudes, when measured from the zero axis, represent the absolute illumination of that portion of the transmitted picture.

The studio will be located in the Grand Central Terminal building where a space 270x60 feet and 45 feet high is available. The studio equipment will comprise live pickup camera and motion picture film channels. The video signal will be carried at a 10 volt peak-to-peak level from the studio to the transmitter through a special coaxial cable.

Transmissions at present are at irregular times.

W6XAO

LOS ANGELES—EST. 1931

FREQUENCY: Sight, 45,000 Kc. Sound, 54,000 Kc. POWER: Sight, 150 Watts; Sound, 150 Watts. OWNED AND OPERATED BY: Don Lee Broadcasting System. BUSINESS ADDRESS: Don Lee Bldg., Seventh & Bixel Sts. PHONE: VAndike 7111. STUDIO AND TRANSMITTER LOCATION: Same. TIME ON THE AIR: Nightly (except Sundays and holidays), 6:30 to 7:15 P.M. Monday, 9:00 to 10:00 A.M. Wednesday, 11:00 to 12:00 A.M. Saturday, 2:00 to 3:00 P.M. Other times experimentally, which are announced on regular schedules.

PERSONNEL

Director of Television.....Harry R. Lubcke

Assistant Director of Television Wilbur E. Thorp

Television Engineer.....William S. Klein

FACILITIES

SYSTEM IN USE: High-definition cathode-ray, 300 lines, 24 frames standard, on account of widespread 50 and 60 cycle power systems in and surrounding Los Angeles. Within the service area of W6XAO one million persons are supplied with 50 cycle power and one million with 60 cycle power.

Film equipment for broadcasting newsreels, shorts and test items.

Mosaic live-pickup camera equipment to be completed and in use during first half of 1938.

PATENTS: United States and foreign patents covering film and live pickup, amplification, scanning sources, synchronization, receivers and cathode-ray tubes of Harry R. Lubcke are used in the work. The methods and equipment of the Don Lee System, though amenable to standardization, are considerably different from those of other television organizations.

RECEIVERS: Over three thousand diagrams on how to build a cathode-ray television receiver have been sent without charge to persons who have sent a large self-addressed envelope to the Television Division. Of these, approximately one hundred are estimated to have television receivers in successful operation in Los Angeles, Hollywood, Inglewood, Wilmington, Long Beach and elsewhere. Reports on reception are invited.

DISTANCE: Mr. Roger Howell, of Long Beach, California, twenty miles airline from W6XAO, has, upon his own initiative, demonstrated his television reception to the officials of his city and to the press, who were favorably impressed.

PUBLIC DEMONSTRATIONS: Since June 4, 1936, public demonstrations of Don Lee high definition television have either been held daily, or at stated intervals, at distances from 1-10 to 10 miles from W6XAO. Approximately ten thousand persons have witnessed the receptions. Requests are currently being handled by ticket, for which a stamped self-addressed envelope is to be sent to the Television Division.

●
W 3 X P F
SPRINGFIELD, PA.

This station has been granted a Construction Permit by the Federal Communications Commission.

FREQUENCY: 42000 to 56000 Kc. and 60000 to 86000 Kc. **POWER:** Sight, 4000 Watts: Sound, 1000 Watts. **OWNED AND OPERATED BY:** Farnsworth Television Inc.

●
W 9 X A L
KANSAS CITY, MO.—EST. 1932

FREQUENCY: Sight, 42000 to 56000 Kc. and 60000 to 86000 Kc.; Sound, same. **POWER:** Sight, 300 Watts: Sound, 150 Watts. **OWNED AND OPERATED BY:** First National Television Inc. **BUSINESS ADDRESS:** 22nd floor, Fidelity Bldg., Ninth and Walnut Sts. **STUDIO LOCATION:** Same. **TRANSMITTER LOCATION:** 34th floor, Fidelity Bldg.

PERSONNEL

Chief Engineer and Technical Director,

C. E. Salzer

Technical Director of Resident Training,

Everett L. Dillard

Chief Operator.....Franklin Burnett

FACILITIES

This station has been operating continuously since October of 1932 and at the present time is undergoing installation in the new quarters of Radio Station KXBY which, along with a technical training school, is operated by the same management.

Numerous systems and ideas have been used since the establishment of the station; however, the Sanabria system of triple spiral 45-line has been used as the basic system. The transmitter under construction will use a system designed for 441-line operation, complete electron scanning, both for transmission and reception and should be complete and in operation about the first of April, 1938.

●
W 1 X G
BOSTON

FREQUENCY: 42000 to 56000 Kc. and 60000 to 86000 Kc. **POWER:** 500 Watts. **OWNED AND OPERATED BY:** General Television Corp.

●
W 9 X D
MILWAUKEE—EST. 1931

FREQUENCY: 42000 to 56000 Kc. and 60000 to 86000 Kc. **POWER:** 500 Watts. **OWNED AND OPERATED BY:** The Journal Co. **BUSINESS ADDRESS:** 33 West State St. **STUDIO AND TRANSMITTER LOCATION:** Schroeder Hotel.

FACILITIES

As the owner of this station is not a manufacturing or research organization the work that has been done has been devoted to the propagation characteristics of television (i.e. effectiveness of antenna, coverage studies and transmission characteristics). Most of the studies made have been on a frequency of 26400 Kc. using the ultra high frequency experimental transmitter, W9XAZ.

●
W 9 X A K
MANHATTAN, KANS.—EST. 1932

FREQUENCY: 2000 to 2100 Kc. **POWER:** 125 Watts, Sound and Sight. **OWNED AND OPERATED BY:** Kansas State College of Agriculture and Applied Science. **BUSINESS ADDRESS:** Department of Electrical Engineering, Kansas State College. **PHONE:** 3-7182. **STUDIO AND TRANSMITTER LOCATION:** Same. **TIME ON THE AIR:** Monday and Wednesday, 7:00 P.M. to 8:00 P.M.

PERSONNEL

Head of the Dept. of Electrical Engineering

R. G. Kloeffer

Chief Operator M. W. Horrell

FACILITIES

This station at the present time is using mechanical scanning, 60 lines, with 20 frames per second.

The circuits and equipment for the use of an iconoscope are being built and a transmitter using this device will be put into use about March 1, 1938. Arrangement can be made for synchronizing sight and sound in conjunction with radio station KSAC of the Kansas State College of Agriculture and Applied Science.

The reception from this station is reported from points as far distant as Houston, Texas, points in Michigan and Ohio, as well as various districts in Illinois.

W 2 X B S

NEW YORK CITY—EST. 1928

FREQUENCY: 42000 to 56000 Kc. and 60000 to 86000 Kc. POWER: Sight, 12000 Watts; Sound, 15000 Watts. OWNED AND OPERATED BY: National Broadcasting Co. BUSINESS ADDRESS: 30 Rockefeller Plaza. STUDIO ADDRESS: Same. TRANSMITTER LOCATION: Empire State Bldg. TIME ON THE AIR: No regular scheduled programs.

PERSONNEL

Chief Engineer O. B. Hanson

FACILITIES

This station uses the RCA television system. Broadcasts are experimental and made to a number of experimental receivers at the homes of NBC and RCA officials and technical personnel.

Reception of this station has been reported in approximately a 45-mile radius.

Besides this station the National Broadcasting Co. has been granted a Construction Permit for another television station which will be operated on 92,000 Kc. and from 175,000 to 180,000 Kc. with a power of 400 Watts for sight transmission and 100 Watts for sound transmission.

HISTORY

Experimental television station W2XBS was originally installed at the RCA Technical and Test Laboratory, Van Cortlandt Park, New York City. The first construction permit was granted on April 4, 1928 and the first temporary license was issued in June, 1928. From time to time various station permits allowed television experimental transmission on 4800 Kc., 2300 to 3300 Kc., 2050 to 2150 Kc., 2000 to 2100 Kc. and 2100 to 2200 Kc. The first permanent license was issued on December 1, 1928 with an assigned frequency band of 2100 to 2200 Kc. In the latter part of 1928 the station was moved to the RCA Telephone Building, 411 Fifth Avenue. On June 27, 1930, it was moved to the Times Square

Studio of the National Broadcasting Company, where on July 7, 1930 it passed from RCA to NBC management.

In 1931 NBC television was carried on from W2XBS's present location on the top of the Empire State Building.

During 1936 and 1937 NBC operated with the new high definition standards, demonstrating television to groups representing the following interests.

- a. Political
- b. Motion Picture
- c. Foreign (political and commercial)
- d. Press
- e. Advertisers (manufacturers)
- f. Advertising agencies
- g. Artists (talent and musicians)
- h. Naval and Military
- i. Educational
- j. Financiers, Bankers
- k. Retailers
- l. Radio Station men
- m. Trade associations
- n. Institutional (4H Club, Atlanta School of Air winners, etc.)

W 3 X E

PHILADELPHIA—EST. 1931

FREQUENCY: 42000 to 56000 Kc. and 60000 to 86000 Kc. POWER: Sight, 10000 Watts; Sound, 10000 Watts. OWNED AND OPERATED BY: Philco Radio & Television Corp. BUSINESS ADDRESS: Tioga and "C" Sts. STUDIO AND TRANSMITTER LOCATION: Same. TIME ON THE AIR: No stated schedule.

PERSONNEL

Engineer in Charge..... Albert F. Murray

FACILITIES

This station uses the Philco Television System. Reception which is heard in the homes of the company's engineers has been reported from points 12 miles from the transmitter.

This station which is used for experimentation and research in connection with television development radiates signals in accordance with the proposed RMA Television Standards. It uses 441 lines and the narrow vertical synchronizing system; it employs the newly developed modulation system and is operating in the 50-56 Mc. channel.

Besides this station the Philco Radio & Television Corp. has been granted a Construction Permit for another television station which will be operated on 204000 to 210000 Kc. with a power of 15 watts.

W 9 X G

LAFAYETTE, IND.—EST. 1932

FREQUENCY: 2000 to 2100 Kc. POWER: 1500 Watts. OWNED AND OPERATED BY: Purdue University. BUSINESS ADDRESS: Elec-

tric Bldg., Purdue University. PHONES: 6475, 2917. TRANSMITTER LOCATION: West Lafayette. TIME ON THE AIR: Tuesday, at 7:30 P.M. Thursday, at 8:00 P.M.

PERSONNEL

Head of School of Electrical Engineering
C. Francis Harding
R. H. George H. J. Heim

FACILITIES

This station uses a television system that has been developed at Purdue University.

W 2 X D R

LONG ISLAND CITY, N. Y.

FREQUENCY: 42000 to 56000 Kc. and 60000 to 86000 Kc. POWER: Sight, 1000 Watts; Sound, 500 Watts. OWNED AND OPERATED BY: Radio Pictures, Inc.

W 3 X A D

CAMDEN, N. J.—EST. 1931

FREQUENCY: 124000 to 130000 Kc. POWER: Sight, 500 Watts; Sound, 500 Watts. OWNED AND OPERATED BY: RCA Manufacturing Co. BUSINESS ADDRESS: RCA Frequency Bureau, 30 Rockefeller Plaza, New York City. TRANSMITTER LOCATION: Portable Laboratories in Camden, N. J. TIME ON THE AIR: No stated schedule.

FACILITIES

This station is an experimental portable unit and no one system is strictly adhered to; a complete description of the basic method used in transmission is given in the Proceeding of the Institute of Radio Engineers (Vol. 22, No. 1, November, 1934).

Several experimental television receivers have been set up within a 2 or 3 mile radius for experimental purposes.

The frequency band occupied by this transmitter is 2.5 mc. on each side of the carrier. This band width is determined by measuring the overall frequency characteristics of the system.

W 3 X E P

CAMDEN, N. J.—EST. 1935

FREQUENCY: 42000 to 56000 Kc. and 60000 to 86000 Kc. POWER: Sight, 30000 Watts; Sound, 30000 Watts. OWNED AND OPERATED BY: RCA Manufacturing Co. BUSINESS ADDRESS: RCA Frequency Bureau, 30 Rockefeller Plaza, New York City. TRANSMITTER LOCATION: Camden, N. J. TIME ON THE AIR: No stated schedule.

FACILITIES

This station is experimental and no one system is strictly adhered to; a complete description of the basic method used in transmission is given in the Proceeding of the Institute of

Radio Engineers (Vol. 22, No. 11, November, 1934).

Several experimental television receivers have been set up within 2 or 3 miles of each other. The receivers are a part of the equipment used in television research.

The frequency band occupied by the transmitter is 2.5 mc. on each side of the carrier. This band width is determined by measurements of the overall frequency characteristic of the system.

W 8 X A N

JACKSON, MICH.

FREQUENCY: 42000 to 56000 Kc. and 60000 to 86000 Kc. POWER: Sight, 100 Watts; Sound, 100 Watts. OWNED AND OPERATED BY: The Sparks-Withington Co. BUSINESS ADDRESS: Jackson, Mich. STUDIO AND TRANSMITTER LOCATION: Same. TIME ON THE AIR: No stated schedule.

PERSONNEL

Chief Engineer, Radio Division . . . H. V. Nielson

W 9 X K

IOWA CITY

FREQUENCY: 2000 to 2100 Kc. POWER: 100 Watts. OWNED AND OPERATED BY: University of Iowa.

W 9 X U I

IOWA CITY

FREQUENCY: 42000 to 56000 Kc. and 60000 to 86000 Kc. POWER: 100 Watts. OWNED AND OPERATED BY: University of Iowa.

W 9 X A T

MINNEAPOLIS—EST. 1933

FREQUENCY: 42000 to 56000 Kc. and 60000 to 86000 Kc. POWER: 500 Watts. OWNED AND OPERATED BY: Dr. George W. Young. BUSINESS ADDRESS: WDG Y Bldg. TRANSMITTER AND STUDIO LOCATION: 909 West Broadway. PHONE Cherry 3377. TIME ON THE AIR: No stated schedule.

PERSONNEL

Manager Dr. George W. Young

FACILITIES

This station is using 125-line definition with a triple, spiral, multiple disk, although it is equipped to use better than 400 lines by making a slight adjustment in the scanning apparatus. Patents on a transmitter have been applied for which will allow scanning at eighteen different points twenty-four frames of continuously moving standard motion picture film and at the same time permit broadcasting from the sound track on the film.

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RULES AND REGULATIONS OF FEDERAL COMMUNICATIONS COMMISSION REGARDING RADIO PRODUCTION

GENERAL

Except Sundays, the licensee of each broadcast station shall maintain a minimum regular operating schedule of two-thirds of the hours that it is authorized to operate during each broadcast day, except that in an emergency when, due to causes beyond the control of the licensee, it becomes impossible to continue operating, the station may cease operation for a period of not to exceed 10 days, provided that the Commission and the inspector in charge shall be notified in writing immediately after the emergency develops.

If the minimum operating schedule herein required is not adhered to, the licensee may, after hearing, be required to share time with other stations, or be limited to operation during daytime or during specified hours.

A licensee of an unlimited time station may operate the station on any schedule of hours during the broadcast day and the experimental period, provided the minimum regular schedule is maintained during the broadcast day.

Share-Time Stations

If the license of a sharing time station specifies the hours of operation, the schedule so specified shall be adhered to until otherwise ordered by the Commission.

If the licenses of sharing time stations do not specify hours of operation, the licensees shall endeavor to reach an agreement for a definite schedule of periods of time to be used by each. Such agreement shall be in writing and each licensee shall file the same in triplicate original with each application to the Commission for renewal of license. If and when such written agreements are properly filed in conformity with this order the file mark of the Commission will be affixed thereto.

1 copy will be retained by the Commission, 1 copy forwarded to the inspector in charge, and 1 copy returned to the licensee to be posted with the station license and considered as a part thereof. If the license specifies a proportionate time division, the agreement shall maintain this proportion. If no proportionate time division is specified in the license, the licensees shall agree upon a division of time. Such division of time shall not include simultaneous operation of the stations unless specifically authorized by the terms of the license.

Departure from the regular operating schedule set forth in a time-sharing agreement will be permitted only in cases where an agreement to that effect is reduced to writing, is signed by the licensees of the stations affected thereby and filed in triplicate by each licensee with the Commission prior to the time of the proposed change. If time is of the essence, the actual departure in operating schedule may precede the actual filing of written agreement, provided appropriate notice is sent to the Commission and the inspector in charge.

If the licensees of sharing time stations are unable to agree on a division of time, the Commission shall be so notified by statement to that effect filed with application for renewal of license. Upon receipt of such statement the Commission will designate the application for a hearing, and, pending such hearing, the operating schedule previously adhered to shall remain in full force and effect.

Limited Time Stations

If the licensee of a broadcast station is required to cease operation of the station at the time of sunset at some point within the United States, the license will specify the hour of the day during each month of the license period when operation of such station shall cease.

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The licensee of a limited time station that is authorized to resume operation at the time the unlimited time station on the same frequency ceases operation, shall, with each application for renewal of license, file in triplicate a copy of his regular operating schedule, signed and approved by the licensee of the unlimited time station. Upon receipt of such operating schedule, properly executed, the Commission will affix its file mark, retain 1 copy, forward 1 copy to the inspector in charge, and return 1 copy to the licensee of the limited time station, who shall post it with the station license, and it shall be considered as a part thereof.

If the licensees of the limited time and unlimited time stations are unable to agree upon a definite time for resumption of operation by the limited time station, the Commission shall be so notified by the licensee of the limited time station. After receipt of such statement the Commission will designate for hearing the applications of both stations for renewal of license, and pending the hearing the schedule previously adhered to shall remain in full force and effect.

Any broadcast station, other than a day or limited time station, that is licensed for operation part time on a channel on which the entire available broadcast time (i.e., the broadcast day) has not been designated for use in the same geographical area, may operate only during the hours specified in the license.

Material Term of License Violations

In all cases where a station licensee is required to prepare and file an operating schedule, any deviation or departure from such schedule, except as herein authorized, shall be considered as a violation of a material term of the license.

In all cases where specific hours of operation are fixed in the license any deviation or departure therefrom, except as authorized by the Commission, shall be considered as a violation of the material terms of the license.

Completion of Construction

Upon completion of construction of a broadcast station in exact accord with

the terms of the construction permit, and prior to the filing of application for license, the permittee is authorized to test the equipment between the hours of 1 a.m. and 6 a.m., local standard time, for a period not to exceed 10 days: *Provided*, That the Commission and the inspector in charge are notified two days in advance of the beginning of such equipment tests: *And provided further*, That the Commission may cancel or change the period and, or date of the beginning of such authority as may appear to be in the public interest, convenience, and necessity.

When construction is completed in exact accord with the terms of the construction permit, and after an application for station license has been filed with the Commission, showing the transmitter to be in satisfactory operating condition, the permittee is authorized to conduct program tests in exact accord with the equipment, power, frequency, and hours of operation specified in the construction permit, for a period not to exceed 30 days: *Provided*, That the Commission and the inspector in charge of the proper district are notified two days in advance of the beginning of such program tests: *And provided further*, That the Commission may cancel or change the period and, or date, of the beginning of such authority as may appear to be in the public interest, convenience and necessity.

Time Changes

If local time is changed from standard time to daylight-saving time at the location of all stations sharing time on the same frequency, the hours of operation of all such stations on that frequency shall be understood to refer to daylight-saving time, and not standard time, as long as daylight-saving time is observed. This provision shall govern when the time is changed by provision of law or general observance of daylight-saving time by the various communities, and when the time of operation of such stations is specified in the license or is mutually agreed upon by the licensees: *Provided, however*, That when the license specifies average time of sunset, local standard time shall be used.

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from standard time to daylight-saving time at the location of all stations sharing time on the same frequency, the hours of operation on this frequency shall be understood to have reference to standard time, and not daylight-saving time, unless said licensees mutually agree upon a new schedule which shall be effective only while daylight-saving time is observed at the location of some of these stations.

The time of operation of any broadcast station which does not share time with other stations on the same frequency shall be understood to have reference to local standard time unless modification of such license with respect to hours of operation is made by the Commission.

Station License

The station license shall be posted in a conspicuous place in the room in which the transmitter is located, and the license of the station operator shall be posted in a conspicuous place in a room occupied by the operator while on duty.

The licensee of each station shall keep a licensed operator or operators of the grade specified by the secretary of the Commission on duty during all periods of actual operation of the transmitter at the place where the transmitting equipment is located.

A licensed operator on duty and in charge of the transmitter may, at the discretion of the licensee, be employed for additional operator's duties commensurate with the grade of operator's license which he holds.

Logs

The licensee of each broadcast station shall maintain program and operating logs and shall require entries to be made as follows:

A. Program

a. An entry of the time each station and call announcement is made, with an indication of the type of announcement.

b. An entry briefly describing each program broadcast, such as "music", "drama", "speech", etc., with the time of the beginning and ending. If a mechanical reproduction is used, that fact shall be noted, together with an indication

whether announcement thereof was made. If a speech is made by a political candidate, the name and political affiliations of such speaker shall be entered.

B. Operating

a. An entry of the time the station begins to supply power to the antenna, and the time it stops.

b. An entry of the time the program begins and ends.

c. An entry of each interruption to the carrier wave, its cause and duration.

d. An entry of the following each 30 minutes:

- (1) Operating constants of last radio stage (total plate current and plate voltage).
- (2) Antenna current.
- (3) Frequency check.
- (4) Temperature of crystal control chamber.

Each log shall be kept by the person or persons competent to do so, having actual knowledge of the facts required, and who shall sign the log when starting duty and again when going off duty. The logs shall be made available upon request by authorized Government representatives.

The exact form of logs is not prescribed, but they shall be kept in an orderly manner, and in such detail that the information required is readily available. Key letters or abbreviations may be used if the explanation of each is given plainly in the log.

Call Letter Announcements

Each licensee of a broadcast station shall announce the call letters and location as frequently as practicable during the hours of operation, and in any event before or after each program being broadcast. In no event shall more than 30 minutes elapse between such announcements, and in so far as practicable these announcements shall be made on the hour and half hour. These requirements are waived when such announcements would interrupt a single consecutive speech; and in such cases the announcement of the call letters and location shall be made as soon as possible.

Mechanical Reproduction

Each broadcast program consisting of a mechanical reproduction, or a series of mechanical reproductions, shall be announced in the manner and to the extent set out below:

1. A mechanical reproduction, or a series thereof, of longer duration than fifteen minutes, shall be identified by

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appropriate announcement at the beginning of the program, at each fifteen minute interval, and at the conclusion of the program; provided, however, that the identifying announcement at each fifteen minute interval is waived in case of a mechanical reproduction consisting of a single, continuous, uninterrupted speech, play, symphony, concert or operatic production of longer duration than fifteen minutes;

2. A mechanical reproduction, or a series thereof, of a longer duration than five minutes and not in excess of fifteen minutes, shall be identified by an appropriate announcement at the beginning and end of the program;
3. A single mechanical reproduction of a duration not in excess of five minutes, shall be identified by appropriate announcement immediately preceding the use thereof;
4. In case a mechanical reproduction is used for background music, sound effects, station identification, program identification (theme music of short duration), or identification of the sponsorship of the program proper, no announcement of the mechanical reproduction is required.
5. The exact form of the identifying announcement is not prescribed but the language shall be clear and in terms commonly used and understood by the listening public. The use of the applicable identifying words such as "a record", "a recording", "a recorded program", "a mechanical reproduction", "a transcription", "an electrical transcription", will be considered sufficient to meet the requirements hereof. The identifying words shall accurately describe the type of mechanical reproduction used, i.e., where a transcription is used it shall be announced as a "transcription" or an "electrical transcription" and where a phonograph record is used it shall be announced as a "record" or a "recording".

General Rulings

The licensee of any broadcast station, may, without authority of the Commission, rebroadcast a program of another broadcast station upon authority of the licensee of the station that originates the program: *Provided*, That no broadcast station shall rebroadcast a program of an experimental relay broadcast station or of any station operating in any other service without express authority of the Commission. The Commission will not consider any application for such authorization unless it is accompanied by the

written consent of the originating station. (A licensee of an experimental relay broadcast station may authorize the rebroadcast of the programs of such station by any station outside the limits of the North American Continent without permission from the Commission. No licensee shall authorize any station within the limits of the North American Continent to rebroadcast the programs of an experimental relay broadcast station without express authority of the Commission, which authority will be granted only after a satisfactory showing that no wire or other facilities exist for reaching the area served by such proposed rebroadcast.)

Attention is directed to section 315 of the Communications Act of 1934, which reads as follows:

If any licensee shall permit any person who is a legally qualified candidate for any public office to use a broadcasting station, he shall afford equal opportunities to all other such candidates for that office in the use of such broadcasting station, and the Commission shall make rules and regulations to carry this provision into effect: *Provided*, That such licensee shall have no power of censorship over the material broadcast under the provisions of this paragraph. No obligation is hereby imposed upon any licensee to allow the use of its station by any such candidate.

Distress Signals

Any violation of this section of the act shall be sufficient grounds for the revocation or denial of a broadcast license. Each station licensee shall give absolute priority to radio communications or signals relating to ships or aircraft in distress, and shall cease transmitting upon such frequencies and at such times, when such transmissions may, in any way, interfere with the reception of radio distress signals or traffic relating thereto.

No station licensee shall resume operations until the need for distress traffic no longer exists, or it is determined that the station will not interfere with distress traffic as it is then being routed and the operation of the station shall again be discontinued if the routing of distress traffic is so changed that the station will interfere. The status of distress traffic may be ascertained by communication with Government and commercial stations. The Commission may hereafter require the licensees of certain stations to keep an effective continuous watch on the distress frequency, 500 kilocycles (410 kilocycles in the Great Lakes area).



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LILLIAN GORDON

WRITER and PRODUCER



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70 EPISODES COMPLETE

HER SECRET HEART

(Romantic Drama)
6 EPISODES COMPLETE

Personal Management

NAT LEE
Hotel Crillon
13th & Michigan Blvd., Chicago, Ill.

FEDERAL TRADE COMMISSION NOT A CENSOR OF ADVERTISING

Only the commercial portions of programs or continuities are required by the Federal Trade Commission for its review of advertising by radio broadcast.

The term "commercial" includes all announcements, statements or assertions tending to or intended to create a demand for or to induce the purchase of any article of commerce, whether such commercial script opens, is interspersed with, or concludes a program.

Those portions of a program are deemed non-commercial and copies are not required, when they are of a purely entertaining, informative, educational or religious nature. Examples of non-commercial script are music, addresses, lectures, political speeches, sermons, discussions of current events, etc.

The criterion of a commercial station is whether its broadcasting is paid for by some sponsor, either as a sales lead or otherwise. Those stations which do not charge for their broadcasting services, and do not advertise their owner's commodities for sale, have been listed as non-commercial and excused from reporting.

Copies of spot announcements by or for local merchants are desired, as these often refer to articles of commerce moved interstate; and in any event every radio broadcast is an interstate matter.

Whenever the commercial announcements appended to or given in connection with a transcription program (electrical or otherwise) are read or delivered by an announcer in the local station, copies of such announcements are to be reported.

Chain programs coming over the networks are reported direct to the Commission by the network companies, and need not be reported by the individual stations.

Where a commercial broadcast is given extemporaneously, it is requested that a typewritten report be sent of any portion construable as sales talk or a sales lead.

The Commission requests that translations be sent of commercial announcements in foreign languages.

Where a commercial announcement once reported is repeated over a period of time, only changed copy need be reported subsequently.

No standard form of report is needed. The carbon copies sent in by the stations serve the purpose.

It is essential, however, and the Commission specifically requests, that the call letters of the station and also the date of the broadcast be printed, stamped or written upon each sheet of continuity submitted.

The name and address of the advertiser should also be indicated where it does not clearly appear.

The Federal Trade Commission does not censor advertising copy broadcast by radio.

A number of stations have erroneously assumed that the Commission would pre-censor their proposed advertising script. The Commission has even been asked to certify as "acceptable" advertising copy that had not yet been broadcast.

For the Federal Trade Commission to thus take part in the writing of advertising copy would be as inappropriate as for a court to approve and outline in advance a course of conduct for a prospective litigant.

The Supreme Court recently described the Federal Trade Commission as a quasi-judicial body. Thus, in its capacity as tribunal, the Commission must maintain its attitude of umpire in the advertising field and not play coach to any particular competitor.

Experience over 22 years with many thousands of advertisements in the entire field of trade, has enabled the Commission and its staff to standardize, for their own guidance, some types of advertising commonly observed. Among these are the following:

Claims based upon false statements or misleading exaggerations;

Claims ambiguous in wording which may mislead;

Claims indirectly misrepresenting a product through distortion of detail;

Claims of an illogical nature and contrary to common sense;

Claims holding out the prospect of excessive profits or earnings;

Misleading price claims;

Contests of a dubious nature, and omission or concealment of any essential factor of a contest;

Lotteries and contests depending upon chance and lottery in their development;

Claims of a doubtful character from a legal standpoint;

Statements tending to disparage competitors;

Pseudo-scientific claims insufficiently supported by accepted authority, and assertions that distort the true meaning or application of statements made by professional and scientific authorities. Closely related to this group are: Remedial, relief or curative claims, either direct inferential, not justified by the facts or by common experience; and testimonial statements, the strict accuracy of which has not been ascertained and established by competent authority.

"As the Jewish Market Goes-- **SO GOES NEW YORK"**

2,225,000 Jews living in Greater New York—a market within a market that's the biggest and most vital factor in the Metropolitan trading area.

You can reach ALL of these people—young and old—by RADIO—the direct means of approach to the *whole family*.

Our programs, prepared and directed by experts who know technique and who know the Jewish field thoroughly, cater not only to the Yiddish-speaking Jews, but to the English-speaking ones as well.

We cooperate wholeheartedly with advertising agencies, to produce the best results for their Clients. Our past and present successes for some of the foremost national advertisers prove the efficacy of our tested methods.

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American Radio Features

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President.

The PROSPECTS of TELEVISION

By

GILBERT SELDES

*Director of Television Programs
Columbia Broadcasting System*



EVERYBODY connected with radio is naturally interested in television, but I think that a saner attitude has been developed in the last two years and that nobody nowadays expects television to arrive overnight. A few years ago scientists with good reputations to protect were making the wildest assertions about television. According to one of them, every home in the United States ought by this time to have a television set on which they could see an explorer making his way up to the top of Mt. Everest. Getting up to the top of Mt. Everest is still a little more difficult than taking a walk in the country and even if we all had television sets there might be a little hitch in watching the mountain climber. First he would have to pack a truckload of transmitting machinery, and second the United States would have to move within a twenty-five mile radius of the Himalayan Mountains. As far as I know, alternatives for this displacement of our country would be either the erection of about one thousand booster stations or running a coaxial cable from every station in America to the heart of Asia.

RADIO ADVANCES

I don't think that the whole thing is probable. I think it is equally improbable that television in its early years will proceed any more rapidly than radio did and we must remember that radio broadcasting was understood by 1915, whereas the great fad which later developed into a substantial and profoundly important social phenomenon did not really begin until the early 1920's. If radio, which is comparatively so easy to handle both at the broadcasting and receiving ends, proceeded slowly at first, you may be sure that the complicated business of television will also have to learn to walk before it learns to run.

PREMATURE TELEVISION

From the point of view of the public this is a mighty good thing. If you are sensible and realistic about the business, you will see that a premature offering of television to the general public would do very little good and might do incalculable harm. There are "bugs" in the mechanism and you might say that there are bugs also in programing. The two things are as a matter of fact connected and their development in equipment produces a new development in the program experiments. For instance, at the moment all experiments are based on the present range of the video signal which means in effect that up to this mo-

ment we think of our television transmissions as covering an area somewhere between twenty-five and forty miles from the point of origin. We do not consider this a final limitation—nothing is final so long as brains are working on the problems. We know already that two methods of extending the range exist: the coaxial cable and micro-wave relay; but the practical problems in connection with both of these are naturally in the experimental stages. Yet you can see that if by some miracle of invention we should overnight learn that our programs could be carried without costly relays or cables from coast to coast, all our plans would be substantially altered.

MICRO-WAVE RELAY

Let me give you a practical example of something which has already occurred. A year ago the material available for telecasting was divided into two parts. You could have a scene in the studio and you could transmit a moving picture. At the time of the Coronation in London the British Broadcasting Corporation handled an outdoor event on the spot by means of cables. Since that time it has been found possible to mount a small transmitting unit on a truck and by micro-wave relay to send a scene over a considerable distance back to the main transmitting station. The Wimbledon

AIR FEATURES

INCORPORATED



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Producers of Spanish radio programs:

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"Radio Dramas"		Showmanship
"Charlie Chan"		Talent
"Famous Jury Trials"		Registered
"Vagabond Adventures"		Musicals
"A Gaucho in Hollywood"		Originals

*Exclusive representatives in the United States
of the principal Latin American Broadcasting Stations*

"BUY YOUR TIME THROUGH A RELIABLE CONCERN AND PROTECT
YOUR BROADCASTING WITH A RESPONSIBLE RADIO STATION."

tennis matches and some football games have already been so sent in England. This definitely adds a third element, the transmission of spot news, as part of the regular television program. It not only gives us another job to do, but it changes the proportions of the other two elements so that we know now that the use of studio talent and of moving pictures will be comparatively less than we thought a year ago. Naturally, if the mobile unit is perfected faster than the indoor cameras, we shall use it more, while the studio equipment increases in range and sensitivity. On the other hand, if the regular scanners are perfected before all the bugs are out of the mobile transmitter, the indoor work will be temporarily more important.

RECEIVING SETS

To say now what television programs will be like is to risk making a fool of oneself even if one does not go to the extreme of the scientist I mentioned at the beginning. The programs will depend upon what the engineers and program directors can create and also upon what the public will like. We do not think that at the moment we are in a position to give them programs they will like sufficiently to purchase sets and become regular spectators; and therefore we think it is a break that the experiments have to be conducted privately. Judging by the experiments abroad and the tests made here, and with some knowledge of the direction in which research work is going, you can, however, make a few guesses. For instance, it is pretty safe to say that you will not need a dark room for your television receiver; you will only want to keep a bright light from shining directly on the screen. On the other hand, it is almost impossible to say what the size of the screen will be because simultaneously invention is proceeding in two directions. In England there has been put on the market a sort of table set which gives I am told, an extremely clear picture about four inches by five inches in area. You sit quite close to this, of course, and it has something of the effect of a miniature. At the other extreme, several developments have been made both here and abroad in using a projection gun which takes the image off a small tube and throws it on a screen which may be two feet square or may approach by several steps the size of a regular moving picture screen. And at the same time fresh researches are going on

to make the present size tube more satisfactory. Your guess is as good as mine as to the size at which the receiver will eventually be fixed, if it is fixed at all, because it is just as likely that several types will be released simultaneously. You may have the large screen to catch news events supplementing the regular program inside a moving picture house; a club or a bar may want the middle size screen as entertainment for the customers; and, depending on the size of your living room and a lot of other conditions, you may want a miniature or a regular size tube receiver.

TELEVISION AND FILMS

No one now connected with television experiments sees any possibility of sending programs which in any way duplicate the work of movies or radio broadcasting. In connection with the movies, it is not only a question of cost—which is important enough. It is also that no studio equipment now available can do what the movies do as well as the movies do it. There is mighty little point in an imitation even if it is well done—there is far less point in an imitation which is not well done. No amount of mere money would make it possible for us to create such a finished product as the movies do. For one thing a moving picture may be shot with half a dozen takes for every scene and the best of these scenes would then be assembled and since they are right there under your hand, you can dovetail the various sequences and avoid the monotony of long scenes by angle shots and interludes—all combined to give the kind of entertainment the movie patron likes. Mechanically all these possibilities are closed to us in television although we can invent parallel studio tricks which are just as legitimate for us and will be equally effective—although not identical with the arts of the moving picture.

TELEVISION AND RADIO

There are at least half a dozen reasons why television in its early years as public entertainment will not duplicate radio entertainment. Of course, the two things are close together and you might put a camera on any radio program and send it out. You might do it, but I doubt whether you would do it very long. It would not be interesting as television—once the novelty had worn off—and in some cases it would definitely work against the radio program. I am speaking now of a radio program without any adaptation to meet television, as for in-

ROY LANGHAM

ASSISTANT DIRECTOR

CBS



JOSEPH BLOOM

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ROMANCE OF SONG

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have recognized Star Radio's better service and higher script quality. That is why Star Radio, in its third year, is the outstanding script organization in America—doing an *international* business! That is why GOOD MORNING NEIGHBOR and the MORNING BULLETIN BOARD are *still* the most successful morning programs on the air—*after three years!*

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STAR RADIO PROGRAMS, Inc.
250 Park Avenue New York City

stance the cycle of Shakespeare's plays which Columbia gave last summer would have been, I think, disturbing to people if they could have seen the actors in their street clothes reading script to the microphones. On the other hand, there are certain current programs which would take to television with hardly any adaptation, Professor Quiz and Major Bowes' Amateur Hour are two examples that come to mind at once.

SIGHT - PLUS - SOUND

Perhaps twenty-five years from now the standard entertainment coming over the air will be sight-plus-sound. At the beginning sight-plus-sound will be a supplementary program. In order to make those early programs satisfactory we will naturally look for the programs which actively need a visual accompaniment; then we will take those which can use it, and as the last step only will add television to programs which are virtually complete without it. I would make one practical exception to this general principle: we will probably add visual background for musical programs even though they do not absolutely require it, right away. On the other hand, I should think that among the last types of program to require television would be news-reports and comedy programs based almost entirely on puns.

TELEVISION PROGRAMS

A lot of things which are now difficult for radio to handle will be made easy when television is working at full blast. I don't think that any program maker has really been anxious to demonstrate the theories of Einstein, but you can see that if any higher mathematics are wanted on the air, the blackboard which television could supply would be a great help. One of the favorite experimental programs in all studios is a fashion parade. Properly handled, this material actually gains a great deal through television. In England one of the popular programs is a visit either of animals to the zoo and another is the practical preparation of food under the direction of an expert chef. In general all these programs are now rather held back because transmitting in formation or giving education on the air is difficult and cannot remain entertaining.

I have been discussing studio programs for the last few paragraphs and rather taking it for granted that the possibilities of transmitting news

events are clear to everyone. They do present problems of their own and balancing them with the other elements of a good show offers a neat exercise in judgment. The third part of a good television program is, as I have said, a moving picture. Here again the basic thing is simple enough—you can take any movie and run it through a film-scanner and it will give you extremely good pictures at the receiving end. But movies are, after all, made to be seen by large numbers of people in front of a very large screen and it is quite possible that not all of them will be suitable for a group of three or four people sitting in a small room. Perhaps we will have movies especially made for our purposes or special versions of regular films. Television may be the great method of keeping good pictures alive because it is very unlikely that any Hollywood studio would allow one of its costly features be shown before it has reached its natural audiences in the movie houses and revivals of good movies are still comparatively rare, so television may serve a good purpose in that field.

GENERAL

All of this is a very sketchy outline of what *may* appear on the television screen. We who are at work in Columbia's Program Department are like our engineering staff, tremendously excited by the unlimited possibilities of television and tremendously concerned by the difficulties and perplexities which we discover. On some days the difficulties seem too great and there are other days when something goes exactly right and we feel again that we are gaining ground. No one I have talked to in the last half year expects an overnight miracle and everyone is confident of an ultimate success. Here at Columbia we have worked out a sort of slogan to guide us and to keep a balance between sudden swings of over-confidence or over-anxiety. We say that it is not our chief concern to know when television should arrive, but it is our business to make sure that, whenever it arrives, it will give the American public the quality of entertainment to which it has become accustomed in radio and the movies. Technically, I am sure, the American standard of entertainment is the highest in the world; nowhere else does the public receive pictures and broadcasts made with so much care and presented with so much consideration for the audience. It would be ruinous for television to start work on any lower basis.

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1611 Cosmo St., Hollywood, Cal. Phone, Hillside 7211. General Manager, G. Curtis Bird; Production Manager, Gordon d'A. Soule; Research Engineer, Herman Brugger. **BRANCH OFFICE:** Transair, Inc., New York, N. Y. **SERVICES OFFERED:** Custom programs, station sustaining programs, all types of recordings.

ALLIED RADIO CORP.

833 West Jackson Blvd., Chicago, Ill. Phone, Haymarket 6800. Manager, Leroy W. Beier. **SERVICE OFFERED:** Recordings.

ALSOP RADIO RECORDING, INC.

29 West 57th St., New York, N. Y. Phone, Eldorado 5-0780. President, Carleton Alsop. **SERVICES OFFERED:** Transcriptions.

AMERICAN RADIO FEATURES SYNDICATE

5658 Wilshire Blvd., Hollywood, Cal. Phone, York 8161. Manager, Frederick C. Dahlquist. **SERVICE OFFERED:** Transcriptions.

AMERICAN RECORD COMPANY OF CALIFORNIA

6624 Romaine St., Hollywood, Cal. Phone, Granite 4134. Manager, G. W. Yates. **BRANCH OFFICES:** 24 West Connecticut St., Seattle, Wash. Phone, Main 6626. 355 9th St., San Francisco, Cal. Phone, Garfield 1723. 1206 Maple St., Los Angeles, Cal. **SERVICES OFFERED:** Transcriptions, recordings.

ASSOCIATED CINEMA STUDIOS

1357 No. Gordon St., Hollywood, Cal. Phone, Hempstead 2131. Manager, Frank W. Parkett. **SERVICES OFFERED:** Transcriptions, recordings, air-check, production.

ASSOCIATED MUSIC PUBLISHERS, INC.

25 West 45th St., New York, N. Y. Phone, Bryant 9-0847. President, M. E. Tompkins. **SERVICES OFFERED:** Transcriptions, library, production, scripts.

ASSOCIATED TRANSCRIPTIONS OF HOLLYWOOD

6604 Melrose Ave., Hollywood, Cal. Phone, Walnut 4736. Executives, Harry E. Walstrum, Thorus E. LaCroix, Willard Wendell Hatch. **SERVICES OFFERED:** Electrical Transcriptions, off-the-air recordings, phonograph records, custom-built transcriptions, production, scripts, talent.

ATLAS RADIO CORP.

1540 Broadway, New York, N. Y. Phone, Bryant 9-3040. President, Herbert R. Ebenstein; Vice-President, Lou R. Winston; Secretary and Treasurer, Harold Hopper. **SERVICES OFFERED:** Atlas produced 28 serial features comprising 900 fifteen minute and half-hour episodes for 1938 release through ATLAS RADIO DISTRIBUTING CORP. 1540 Broadway, New York, N. Y. Phone, Bryant 9-3040. President, Herbert R. Ebenstein; Vice-President, Claude C. Ezell; Eastern Regional Director, Harold Hopper; Western Regional Director, Ray Coffin; Southern Regional Director, Claude C. Ezell; Central Regional Director, Daniel Blank; Advertising and Promotional Manager, Dave Davidson; **BRANCH OFFICES:** 333 No. Michigan Ave., Chicago, Illinois; 2011 Jackson St., Dallas, Tex.; 930 North Western Ave., Hollywood, Cal.; 49 Market St., Sydney, Australia. **SERVICES OFFERED:** Exclusive distribution of all Atlas Radio Corp. productions.

AUDIO-SCRIPTS, INC.

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AUDISK RECORDING CO.

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Chamber of Commerce Bldg., Los Angeles, Cal. Phone, Richmond 6184. Manager, Ted N. Turner. **BRANCH OFFICES:** Exchange Bldg., Seattle, Wash. Phone, Main 6440. Russ Bldg., San Francisco, Cal. Phone, Sutter 5415. **SERVICES OFFERED:** Transcriptions, production, scripts, talent.

Breaking

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The engineering department will be under the direction of Mr. Gordon Jones, assisted by Messrs. H. Roberts, Jr. and F. J. Raufer. Mr. Gordon Jones, six years with Electrical Research Products, Inc., American Tel. & Tel., and Bell Laboratories; Mr. H. Roberts, Jr., four years a mechanical expert with Bell Laboratories, pioneered on talking pictures, one year with Vitaphone and ten years with ERPI; Mr. F. J. Raufer, United Electric Light & Power, three years Bosch Magneto Co., eight years with ERPI, and recently transmission engineer with Muzak, Inc.

The recording equipment is especially designed for these studios and Associated will continue to operate under Electrical Research Products, Inc., license as well as under license agreement with Independent Research Service Co., Inc.

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BROADCAST PRODUCERS OF N. Y., INC.

501 Madison Ave., New York, N. Y. Phone, Eldorado 5-9300. General Manager, George W. Dan Junas; Sales Manager, Fred N. Freidman. **SERVICES OFFERED:** Dramatized 1-2-3 and 5 minute spot announcements; Radio Viso-Scope programs; Audition, Off-the-air, Custom and Live show recording for spot advertisers.

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112 Cedar Ave., Pitman, N. J. Phone, Pitman, 51. President, E. P. Carter. **BRANCH OFFICE:** 307 Walnut St., Louisville, Ky. Phone, Walnut 3773. Manager, George Weiderhold; F. A. Greene. **SERVICES OFFERED:** Custom and Personal Recording Equipment.

CLARK PHONOGRAPH RECORD CO.

216 High Street, Newark, N. J. Phone, Humboldt 2-0880. **SERVICES OFFERED:** Transcription processing, pressings.

COLUMBIA TRANSCRIPTION SERVICE

1776 Broadway, New York, N. Y. Phone, Circle 7-6224. Manager, Wm. G. Monroe. **BRANCH OFFICE:** Chicago, Ill. Manager, Girard Ellis. **SERVICES OFFERED:** Custom Transcriptions, Processing and Pressings, Servicing of all nature. **AFFILIATION:** A division of American Record Corp.

THE COMPO COMPANY LIMITED

131 18th Ave., Lachine, Montreal, Canada. Phone, Dexter 0905. President, H. S. Berliner; Secretary-Treasurer and Manager, E. M. Kirke Boyd; Chief Engineer, S. Ste Eve. **SERVICES OFFERED:** Custom Jobs only.

CONQUEST ALLIANCE CO., INC.

515 Madison Ave., New York, N. Y. Phone, Plaza 3-5650. President, C. H. Venner; Vice-President, A. M. Martinez; Vice-President, F. F. Morr. **BRANCH OFFICE:** 228 No. La Salle St., Chicago, Ill. Phone, State 5096. Vice-President in charge, F. F. Morr. **SERVICES OFFERED:** Custom Jobs, Syndicated programs, Agency for West Coast Producers.

J. RALPH CORBETT, INC.

Carew Tower, Cincinnati, Ohio. Phone, Parkway 1463. President, J. Ralph Corbett. **BRANCH OFFICES:** 520 No. Michigan Ave., Chicago, Ill. Phone, Delaware 3265. Graybar Bldg., New York, N. Y. Mohawk 4-4528. **SERVICES OFFERED:** Transcriptions, productions, scripts.

D'ARCY LABORATORIES

410 South Michigan Ave., Chicago, Ill. Phone, Wabash 2427. President, E. W. D'Arcy. **SERVICES OFFERED:** Scripts, transcriptions, recording.

DECCA RECORDS, INC.

50 West 57th St., New York, N. Y. Phone, Columbus 5-5662. President, Jack Kapp; Vice-President and Sales Manager, E. F. Stevens; Manager Transcription Division, C. D. MacKinnon. **BRANCH OFFICES:** Boston, Detroit, Chicago, St. Louis, Cincinnati, Atlanta, Memphis, New Orleans, Dallas, Los Angeles, San Francisco and Seattle. **SERVICE OFFERED:** Custom Jobs.

EARNSHAW RADIO PRODUCTIONS

6425 Hollywood Blvd., Hollywood, Cal. Phone, Hempstead 5050. President, Harry A. Earnshaw; Secretary-Treasurer, H. L. Earnshaw; Vice-President and Sales Manager, Fenton W. Earnshaw. **BRANCH OFFICES:** 545 Fifth Ave., New York, N. Y. Phone, Murray Hill 2-3376. Manager, Charles Michelson. 12 Rue Abel Ferry, Paris, France. Phone, Jasmin 18-39. Manager, Herbert Rosen, 171 McDermot Ave., Winnipeg, Canada. **SERVICES OFFERED:** Custom Built transcribed or live shows, transcribed and live features for local, regional and national release. Script service for sponsors.

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5546 Melrose Ave., Hollywood, Cal. Owner and Manager, Bert B. Gottschalk. **SERVICES OFFERED:** Air-Check Service, Recordings, Electrical Transcriptions and Recording Equipment.

W. M. ELLSWORTH

75 East Wacker Drive, Chicago, Ill. Phone, Cen. 0942. President, W. M. Ellsworth. **SERVICES OFFERED:** Transcriptions, Custom Jobs.

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FIDELITONE RECORDS, INC.

424 Madison Ave., New York, N. Y. Phone, Eldorado 5-1720. President, Maurice Lichten; General Manager, Floyd Buckley. **SERVICES OFFERED:** Studio Recordings, Transcriptions, Phonograph Records, Processing, Plating and Pressing. Record machines.

FIDELITY SOUND STUDIOS

3819 Wilshire Blvd., Los Angeles, Cal. Phone, Fitzroy 7520. Manager Transcription Dept., Neil P. Jack; Director of Educational Dept., D. Balli. **SERVICES OFFERED:** Educational records and transcriptions. Courses in announcing, mike technique, playwriting.

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420 Madison Ave., New York, N. Y. Phone, WI. 2-3338. **BRANCH OFFICE:** 323 So. Franklin St., Chicago, Ill. Phone, Webster 3285. Manager, Harold Krelstein. **SERVICES OFFERED:** Transcribed programs.

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6006 Kenmore Ave., Chicago, Ill. Phone, Edgewater 1952. President, John Grant. **SERVICES OFFERED:** Custom and personal recordings, air-check.

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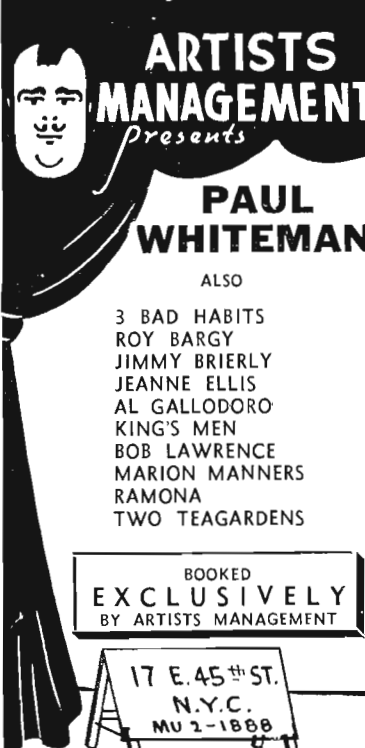


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